GENELEC®

ACTIVE MONITORING

Genelec 1031A
Bi-amplified Monitoring System

Data sheet

1031A Bi-amplified Active Monitoring System

APPLICATIONS

Near Field Monitoring

Broadcast Monitoring

TV Control Rooms

Mobile Vans

Video Post Production

Project Studios

Digital Workstations

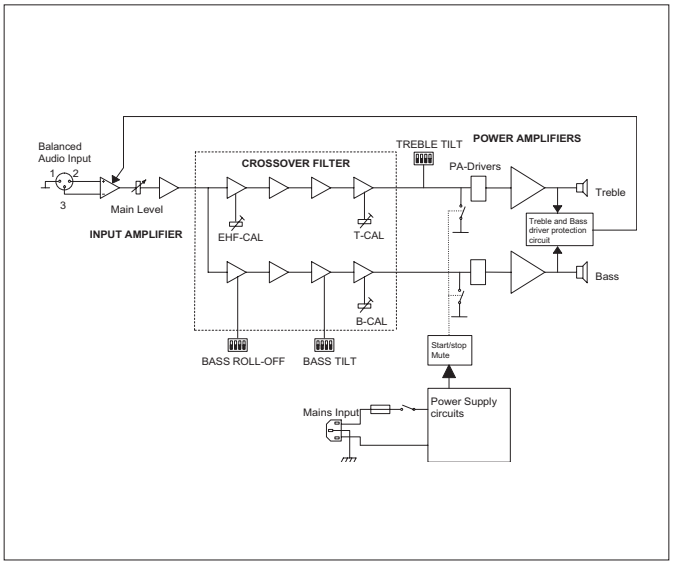
SYSTEM

The Genelec 1031A is a two-way active monitor system, consisting of a vented enclosure with a multiple amplifier unit set into the back. The amplifier unit contains a low signal level active crossover, two power amplifiers and overload protection for each driver. This design provides high output, low coloration and broad bandwidth. 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.

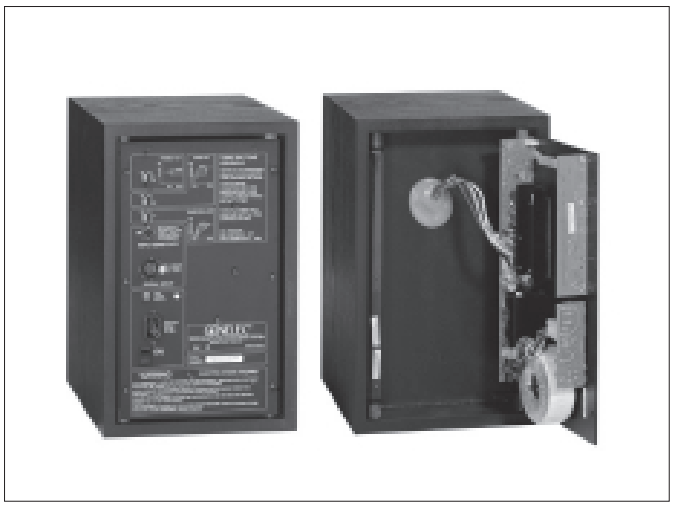
Genelec's unique Directivity Control Waveguide (DCW) Technology is used to provide excellent stereo imaging and frequency balance, even in difficult acoustic environments. This is enhanced by the versatile crossover controls, which allow the precise matching of the speaker system to its surroundings. It is capable of producing peak acoustic levels of over 120 dB SPL at 1m. The system can be used in both vertical and horizontal orientation.

INTEGRATED CONSTRUCTION

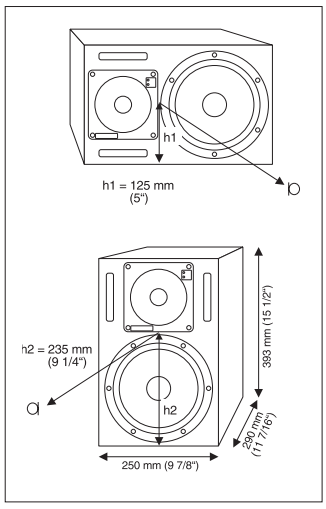
The only connections to the system are the mains supply and the input signal, making it very easy to use. The cabinet, constructed from veneered MDF, is heavily braced and carefully damped to eliminate resonances, and the effects of port ringing, found in conventional designs, have been eliminated by using non resonant



The block diagram showing active crossover filters, power amplifiers and driver units.



Two channel amplifier is housed in the speaker cabinet



The reference axis lies between bass and tweeter drivers.

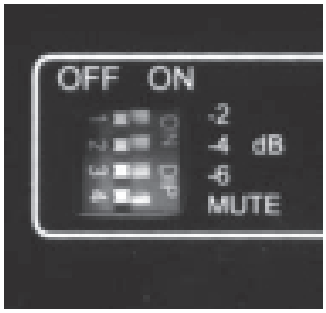
Horizontal mounting

Vertical mounting

port techniques. Uniform performance is obtained by the integration of the amplifiers and speakers as a complete matched and calibrated package. The simple, rugged construction and the pivoting anti-vibration mounting makes maintenance very easy and straightforward.
A more roadable producer's version of the 1031A is available (see Options). This has a hard wearing, textured outer surface, with rounded corners.

AMPLIFIERS

The bass and treble amplifiers each produce 120 W of short term power with very low THD and IM distortion. Special attention has been paid to the electronic design to ensure the highest subjective sound quality currently possible. The system incorporates special circuitry for driver overload protection. Amplifier thermal overload protection is also included.



Calibrated Tilt switch. MUTE disconnects the channel for testing.

The tweeter driver is mounted in a DCW to match the dispersion characteristics to that of the bass driver. The DCW may be rotated for horizontal or vertical mounting.

DRIVERS

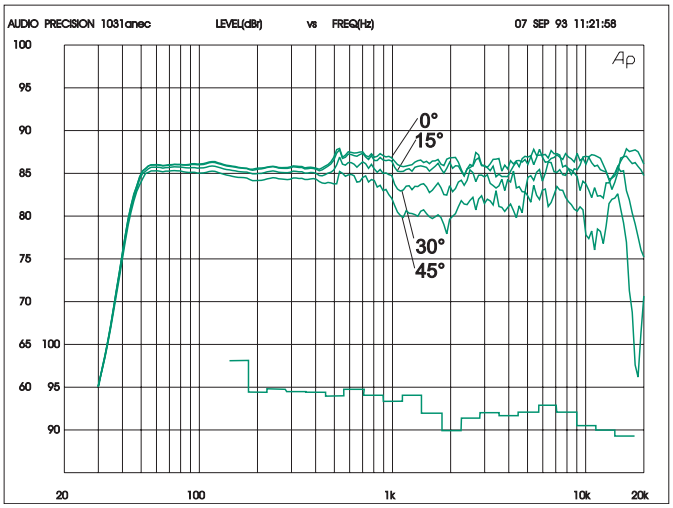
The high frequencies are reproduced using a 25 mm (1") metal dome tweeter, housed in a proprietary DCW, which has pure piston behavior upto 23 kHz.
The bass driver is a high efficiency 210 mm (8") polymer composite cone driver loaded in a 15 litre (0.54 cu. ft.) vented cabinet. The -3 dB frequency is 47 Hz and the low frequency response extends down to 43 Hz.
Both drivers are magnetically shielded for applications such as video post production, where the stray magnet field must be minimised.

CROSSOVER FILTERS

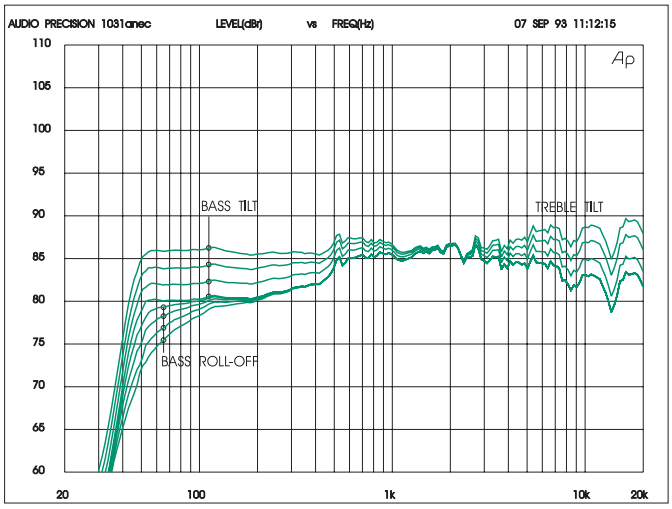
The crossover frequency is 2.2 kHz. To maintain uniform frequency balance in differing acoustic environments, three special calibrated controls are included in the active crossover network: treble and bass tilt and bass roll-off switches. These make adjustments in 2 dB steps and also allow channels to be muted, for test purposes. A high pass filter in the LF channel protects the woofer from subsonic signals. The crossover network is driven by an active balanced input stage, with adjustable sensitivity, to allow accurate level matching with the mixing console output.

DCW TECHNOLOGY

The revolutionary Directivity Control Waveguide Technology is a means of greatly improving the performance of a direct radiating multiway loudspeaker under normal listening conditions. One of the basic ideas is to match the performance of the drivers in terms of both frequency response and directivity. This results in a smoother overall frequency response on and off axis. In addition, the improved directivity control causes more direct sound and less reflected sound to be received at the listening position. This provides improved stereo imaging and ensures the system is less sensitive to differing control room acoustics than any conventional direct radiator design. The DCW Technology improves the drive unit sensitivity by +2 to +6 dB thus increasing the system maximum sound pressure level.



The upper curve group shows the horizontal directivity characteristics of 1031A in its vertical configuration measured at 1 m. The lower curve is a $^1/_3$ octave band power response, measured in an IEC approved reverberation chamber.



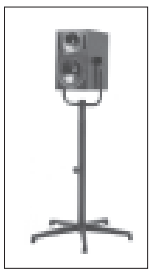
The upper curves show the effect of the 'bass tilt' control on the free field response. The lower curves show the effect of the 'treble tilt' and 'bass roll-off' controls.

Options

Opt-01
Flight case
Order Code
1031-401

Producer
Version
Order Code
1031-412

Opt-04
Wall Mount
Order Code
1031-404-V
1031-404-H



Opt-05
Floor stand
Order Code
1031-405-V
1031-405-H

Opt-09
Grille
Order Code
1031-409

GENELEC®
ACTIVE MONITORING

1031A SYSTEM SPECIFICATIONS

Lower cut-off frequency, -3 dB: ≤ 47 Hz

Upper cut-off frequency, -3 dB: ≥ 22 kHz

Free field frequency response of system: 48 Hz - 22 kHz (± 2 dB)

Maximum short term sine wave acoustic output on axis in half space, averaged from 100 Hz to 3 kHz:

@ 1m	≥ 110 dB SPL
@ 0.5m	≥ 116 dB SPL

Maximum long term RMS acoustic output in same conditions with IEC weighted noise (limited by driver unit protection circuit):

@ 1m	≥ 101 dB SPL
@ 0.5m	≥ 107 dB SPL

Maximum peak acoustic output per pair on top of console, @ 1 m from the engineer with music material: ≥ 120 dB

Self generated noise level in free field @ 1m on axis: ≤ 10 dB (A-weighted)

Harmonic distortion at 90 dB SPL @ 1m on axis:

Freq:	50...100 Hz	< 1%
	> 100 Hz	< 0.5%

Drivers:	Bass 210 mm	(8") cone
	Treble 25 mm	(1") metal dome

Both drivers are magnetically shielded

Weight: 12,7 kg (28 lb)

Dimensions:

	Height 395 mm	(15 9/16")
	Width 250 mm	(9 7/8")
	Depth 290 mm	(11 7/16")

AMPLIFIER SECTION

Bass amplifier output power with an 8 Ohm load: 120 W

Treble amplifier output power with an 8 Ohm load: 120 W

Long term output power is limited by driver unit protection circuitry.

Slew rate : 80 V/µs

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: 100/200 V or 115/230 V

Voltage operating range at

230V setting:	207 - 253 V	(± 10%)
115V setting:	104 - 126 V	(± 10%)

Power consumption:

Idle	30 W
Full output	160 W

CROSSOVER SECTION

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 -6 dBu

Input level for maximum short term output of 110 dB SPL @ 1m: variable from +16 to +4 dBu

Subsonic filter below 45 Hz : 18 dB/octave

Ultrasonic filter above 25 kHz: 12 dB/octave

Crossover frequency, Bass/Treble: 2.2 kHz

Crossover acoustical slopes: 24 dB/octave

Treble tilt control operating range in 2 dB steps: from +2 to -4 dB & MUTE

Bass roll-off control operating range in 2 dB steps: from 0 to -8 dB @ 40 Hz

Bass tilt control operating range in 2 dB steps: from 0 to -6 dB & MUTE

The 'CAL' position is with all tone controls set to 'off' and input sensitivity control to maximum.

GENELEC®
Genelec Oy, Olvitie 5
FIN - 74100 IISALMI, FINLAND
Phone: +358 - 17 - 813311
Telefax: +358 - 17 - 812267
Email: genelec@genelec.com
Web: http://www.genelec.com

Data Sheet No. 1031-0107-6