GENELEC®
ACTIVE MONITORING

1037B

DATA SHEET

Genelec 1037B
Tri-amplified Monitoring System

1037B Tri-amplified Active Monitoring System

AudioArt Recording Studio, Atlanta. Photo courtesy of Joe Paban.

APPLICATIONS

Project studios

Broadcast Control Rooms

TV Control Rooms

Drama and music studios

Post Production

CD Mastering

SYSTEM

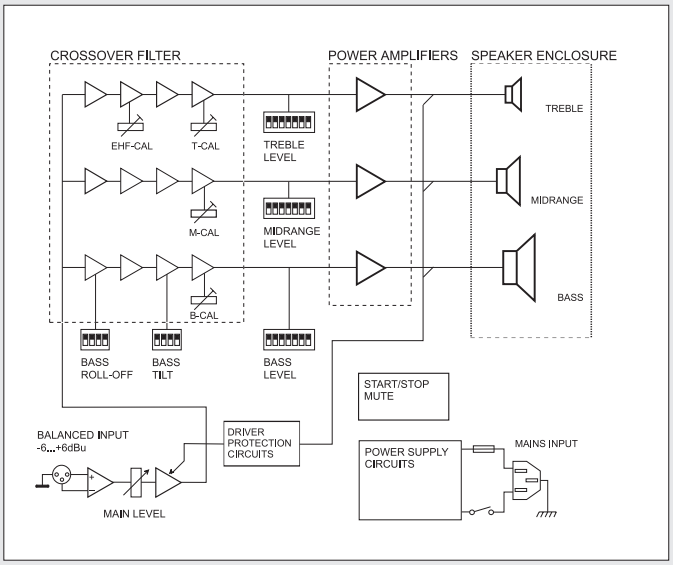
The Genelec 1037B is a three-way active monitoring system including loudspeaker drivers, speaker enclosure, multiple power amplifiers and active, low signal level crossovers. Designed for moderate sized control rooms this system is ideal for project studios, general purpose broadcasting and television studios, digital workstations and postproduction facilities.

The 1037B is designed to perform well both as a free-standing monitor and flush mounted into the control room wall.

The unique Directivity Control Waveguide (DCW) Technology used provides excellent stereo imaging and frequency balance even in difficult acoustic environments. The fast, low distortion amplifiers are capable of driving the stereo system to peak output levels in excess of 126 dB SPL at 1.7 m with program signals. Versatile crossover controls allow for precise matching of the speaker system to different acoustic conditions. The system can be used in both vertical and horizontal orientations by simply rotating the DCW unit.

INTEGRATED CONSTRUCTION

The system is very easy to use as only mains power and an input signal are needed. The performance is optimsed because the loudspeakers and amplifiers are built as a single integrated, matched and calibrated package. The rugged amplifier is mounted into the enclosure with vibration isolators which also act as quick release hinges making maintenance operations very easy and straightforward. The speaker cabinet is constructed of veneered MDF, which is heavily braced to eliminate structural resonances.



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

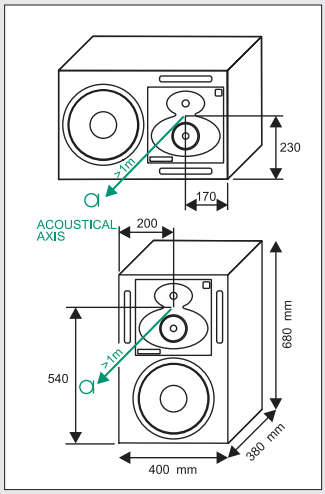
Three channel amplifier housed in the speaker cabinet

AMPLIFIERS

The bass, midrange and treble amplifiers each produce 180W, 120W and 120W, respectively of short term power with very low THD and IM distortion. Special attention is paid to the electronic design to achieve the best subjective sound quality currently possible. To improve the acoustic transient response the output impedance of the woofer amplifier is made negative. The system incorporates special circuitry to protect the drivers from overload. Thermal protection is included for the amplifiers.

Horizontal mounting

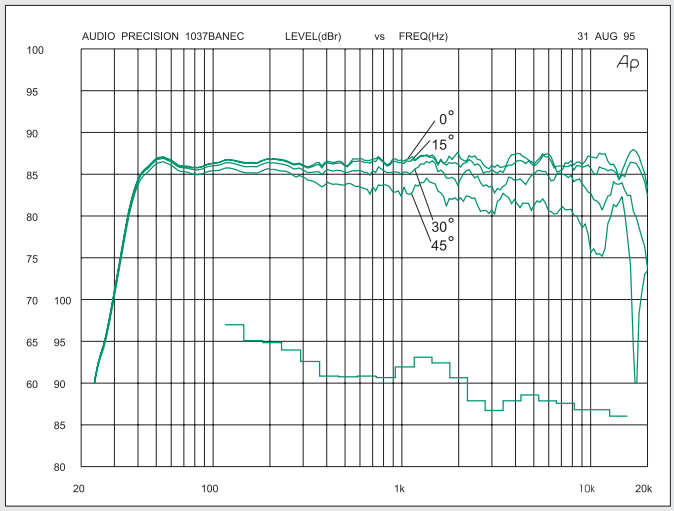
Vertical mounting



The reference axis lies between midrange and tweeter drivers.

CROSSOVER FILTERS

The crossover frequencies of the active crossover network are 420 Hz and 3.2 kHz. In order to obtain uniform frequency balance in different acoustic conditions, special calibrated controls are included in the crossover. The Bass, Midrange and Treble level controls operate in 1 dB steps. Moreover, the low frequency Tilt and Roll-off controls both have four 2 dB steps to allow refined LF response tailoring. A high-pass filter is included in the LF channel to protect the woofer from subsonic signals. The crossover network is driven by an active balanced input stage. Variable input sensitivity allows for accurate level matching to the mixing console.

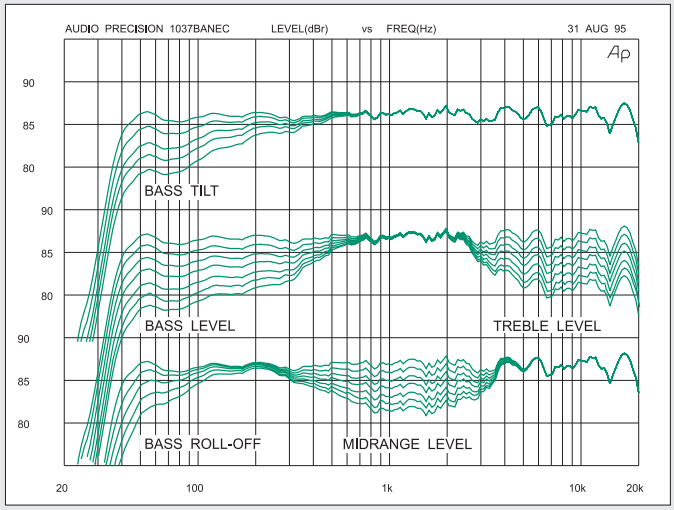


The upper curve group shows the horizontal directivity characteristics of 1037B in its vertical configuration measured at 1 m. The lower curve is a 1/3 octave band power response.

DRIVERS

The bass frequencies are reproduced by a 305 mm bass driver loaded with a 65 litre vented box. The -3dB point is 35 Hz and the low frequency response extends down to 33 Hz.
The midrange frequencies are reproduced with a very carefully designed 130 mm direct radiating driver loaded with a proprietary DCW. The high frequency driver is a 1" metal dome tweeter that is also loaded by a DCW. A magnetic shielding option is available for applications where the stray magnetic field must be minimized.

Calibrated ‘Level’ switch. MUTE disconnects the channel for testing.



The curves above left show the effect of the 'bass tilt', 'bass level' and 'bass roll-off' controls on the free field response. The curves to the right show the effect of the treble and midrange 'level' controls.

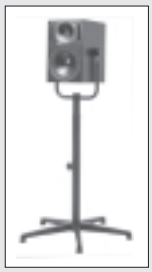
DCW TECHNOLOGY

The revolutionary Directivity Control Waveguide Technology is a means of vastly improving the performance of a direct radiating multiway loudspeaker in normal listening conditions. The basic idea is to match the different drive units precisely, both in terms of frequency response and directivity. This will result in a smoother and a virtually uncoloured off-axis response. Also, due to improved directivity control especially in the midrange frequencies, more direct sound and less early boundary reflections are received at the listening position. This gives more accurate stereo imaging and makes the system less sensitive to differing control room acoustics than any conventional direct radiator design. The DCW Technology improves drive unit sensitivity from +2 to +6 dB thus increasing the maximum sound pressure level produced by the system.

The tweeter and the sealed midrange driver are mounted on a DCW to match their dispersion characteristics. The DCW can be rotated for horizontal mounting.

Options

Opt-01
Flight case
Order Code
1037-401



Opt-05
Floor stand
Order Code
1037-405-V

Opt-11
Rack adapter
Order Code
1037-411

Opt-06
Handles
Order Code
1001-406

Opt-03
Magnetic
shielding
Order Code
1037-403

Opt-09
Grille
Order Code
1037-409

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SYSTEM SPECIFICATIONS

Lower cut-off frequency, -3 dB: ≤ 35 Hz
Upper cut-off frequency, -3 dB: ≥ 22 kHz

Free field frequency response
of system: 37 Hz-21 kHz (±2.5 dB)

Maximum short term sine wave acoustic output on axis in half space, averaged from 100 Hz to 3 kHz:
@1m ≥116 dB SPL

Maximum long term RMS acoustic output in same conditions with IEC-weighted noise (limited by driver unit protection circuit):
@1m ≥107 dB SPL

Maximum peak acoustic output per pair on top of console, @ 1.7m from the engineer with music material: ≥126 dB

Self generated noise level in free field @ 1m on axis: ≤15 dB (A-weighted)

Harmonic distortion at 95 dB SPL at 1m on axis:
freq. ≤100 Hz <3%
freq. >100 Hz <0.5%

Drivers:
Bass 305 mm (12") cone
Mid 130 mm (5") cone
Treble 25 mm (1") metal dome

Weight: 37 kg (82 lb)

Dimensions:
Height 680 mm (26 3/4")
Width 400 mm (15 3/4")
Depth 380 mm (15")

AMPLIFIER SECTION

Bass amplifier output power with a 4 Ohm load:
Short term 180 W

Midrange amplifier output power with a 8 Ohm load:
Short term 120 W

Treble amplifier output power with a 8 Ohm load:
Short term 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
Midrange ≥100 dB
Treble ≥100 dB

Mains voltage: 100/200V or 115/230V

Voltage operating range: nominal ±10%

Power consumption:
Idle 50W
Full output 300W

CROSSOVER SECTION

Input connector:
XLR female pin 1 gnd
pin 2 +
pin 3 -

Input impedance: 10 kOhm

Input level for 100 dB SPL output @1m:
variable from +6 to -6 dBu

Input level for maximum short term output of 116 dB SPL @1m:
variable from +22 to +10 dBu

Subsonic filter below 32 Hz :
18 dB/octave

Ultrasonic filter above 25 kHz:
12 dB/octave

Crossover frequency:
Bass/Mid 420 Hz
Mid/Treble 3.2 kHz

Crossover acoustical slopes:
18 - 24 dB/octave

Crossover level control operating range in 1 dB steps:
Bass from 0 to -6 dB
Mid from 0 to -6 dB
Treble from 0 to -6 dB

Bass roll-off control in 2 dB steps:
from 0 to -8 dB @35 Hz

Bass tilt control in 2 dB steps:
from 0 to -8 dB @80 Hz

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

All data subject to change without prior notice

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