

# GENELEC®

ACTIVE MONITORING

Genelec 1037A  
Tri-amplified Monitoring System

Data sheet



# 1037A Tri-amplified Active Monitoring System



## APPLICATIONS

- Project studios
- Broadcast Control Rooms
- TV Control Rooms
- Drama and music studios
- Post Production
- CD Mastering

## SYSTEM

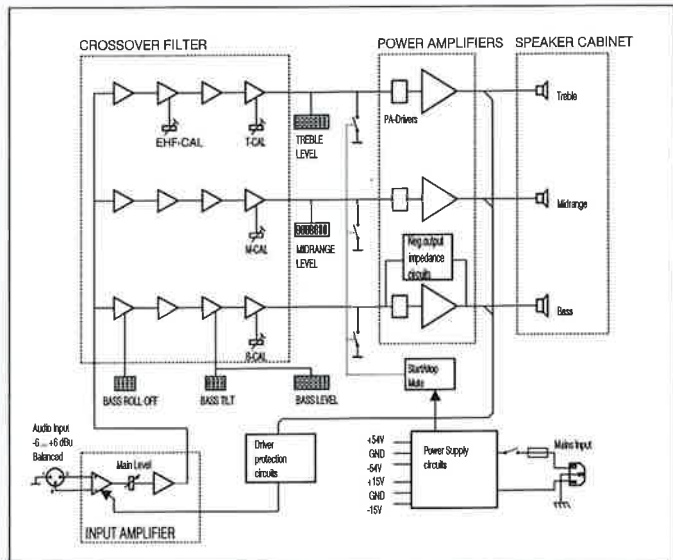
The Genelec 1037A is a three-way Active Monitoring System including loudspeaker drivers, speaker enclosure, multiple power amplifiers and active, low signal level crossovers. Designed for moderate sized control rooms this system is ideal for project studios, general purpose broadcasting and television studios, digital workstations and postproduction facilities. The 1037A 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 125 dB SPL at 1.7 m with program signals. Versatile

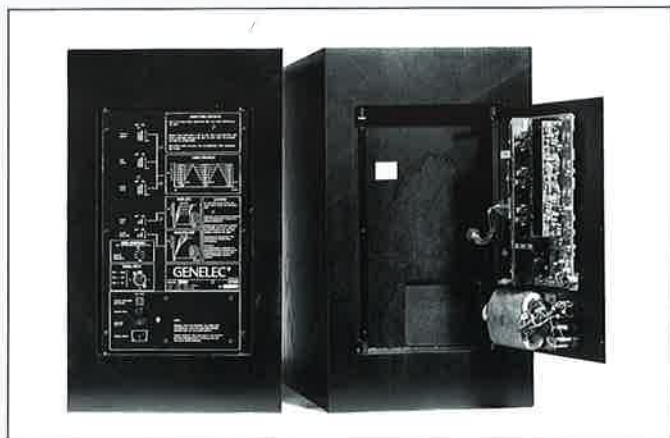
crossover controls allow for precise matching of the speaker system to different acoustic conditions. The system can be used both in vertical and horizontal orientation by simply rotating the DCW unit.

## INTEGRATED CONSTRUCTION

The system is very easy to use as only mains power and input signal are needed. The performance is consistent 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 acts 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 is housed in the speaker cabinet.

## AMPLIFIERS

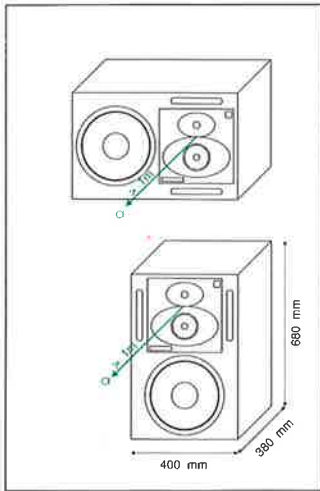
The bass, midrange and treble amplifiers each produce 160 W, 160 W and 120 W, respectively of short term power with very low THD and IM distortion. Special attention is paid to electronic design to achieve the best subjective sound quality currently possible. To improve acoustic transient response the output impedance of the woofer amplifier is made negative. The system incorporates special circuitry for protecting 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 acoustical 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.

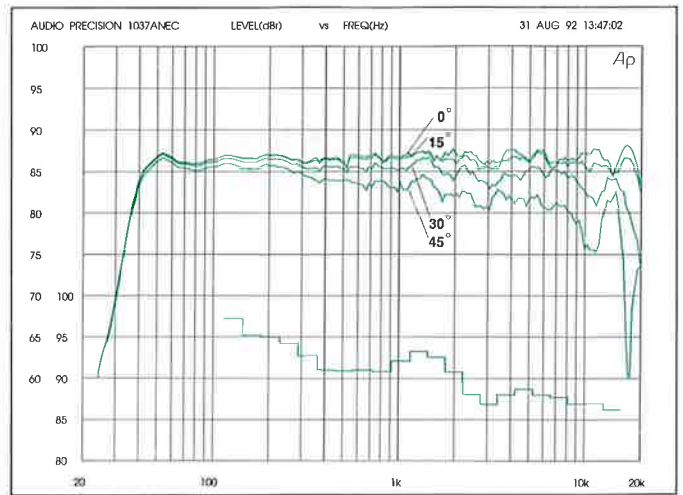
### DRIVERS

The bass frequencies are reproduced by a 305 mm bass driver loaded with a 65 liters vented box. The -3 dB point is 38 Hz and the low frequency response extends down to 35 Hz.

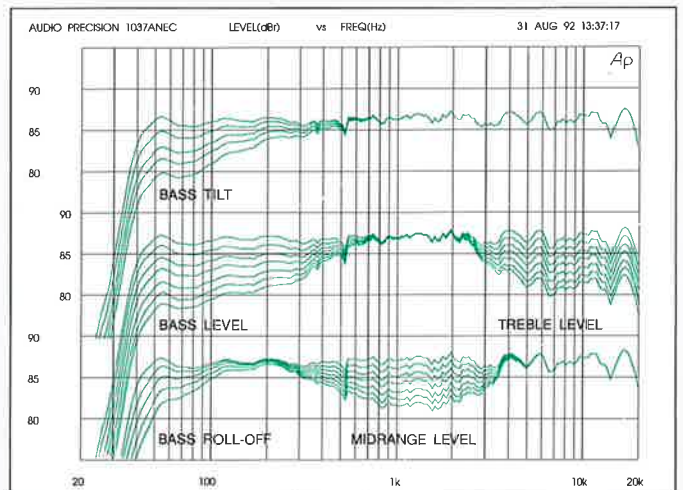
The midrange frequencies are reproduced with a very carefully designed 130 mm direct radiating driver loaded with a proprietary DCW. The high frequency driver is a 1" metal dome also loaded by a DCW. A magnetic shielding option is available for applications where magnetic stray field must be minimized.



Calibrated 'Level' switch. MUTE disconnects the channel for testing.



The upper curve group shows the horizontal directivity characteristics of 1037A 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 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 of the system. 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 system maximum sound pressure level.



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



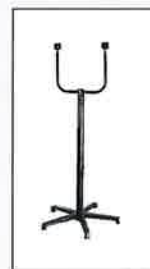
Opt-01  
Flight case  
Order Code  
1037-401



Opt-11  
Rack adapter  
Order Code  
1037-411



Opt-03  
Magnetic shielding  
Order Code  
1037-403



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



Opt-06  
Handles  
Order Code  
1001-406



Opt-09  
Grille  
Order Code  
1037-409

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A C T I V E M O N I T O R I N G

## SYSTEM SPECIFICATIONS

Lower cut-off frequency, -3 dB:  $\leq 38$  Hz

Upper cut-off frequency, -3 dB:  $\geq 22$  kHz

Free field frequency response of system: 39 Hz - 21 kHz ( $\pm 2.5$  dB)

Maximum short term sine wave acoustic output on axis in half space, averaged from 100 Hz to 3 kHz:  
@ 1 m  $\geq 114$  dB SPL

Maximum long term RMS acoustic output in same conditions with IEC-weighted noise (limited by driver unit protection circuit):  
@ 1 m  $\geq 106$  dB SPL

Maximum peak acoustic output per pair on top of console, @ 1.7 m from the engineer with music material:  $\geq 125$  dB

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

Harmonic distortion at 95 dB SPL at 1 m on axis: freq.  $\leq 100$  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: 35 Kg (77 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 6 Ohm load: Short term 160 W

Midrange amplifier output power with a 4 Ohm load: Short term 160 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/ $\mu$ s

Amplifier system distortion at nominal output:  
THD  $\leq 0.05\%$   
SMPTE-IM  $\leq 0.05\%$   
CCIF-IM  $\leq 0.05\%$   
DIM 100  $\leq 0.05\%$

Signal to Noise ratio, referred to full output:  
Bass  $\geq 100$  dB  
Midrange  $\geq 100$  dB  
Treble  $\geq 100$  dB

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

Voltage operating range at 230 V setting: 207 - 253 V ( $\pm 10\%$ )

Power consumption:  
Idle 50 W  
Full output 300 W

## CROSSOVER SECTION

Input connector: XLR female pin1 gnd  
pin2 +  
pin3 -

Input impedance: 10 kOhm

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

Input level for maximum short term output of 114 dB SPL @ 1 m: variable from +20 to +8 dBu

Subsonic filter below 35 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 @ 38 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.

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