

Genelec 1038A
Tri-amplified Monitoring System



1038A Tri-amplified Active Monitoring System



Stockholm City Theater Control room 1

APPLICATIONS

- Main monitor for medium sized control rooms
- Project Studios
- Video/Film Post Production
- Broadcast Monitoring
- CD Mastering

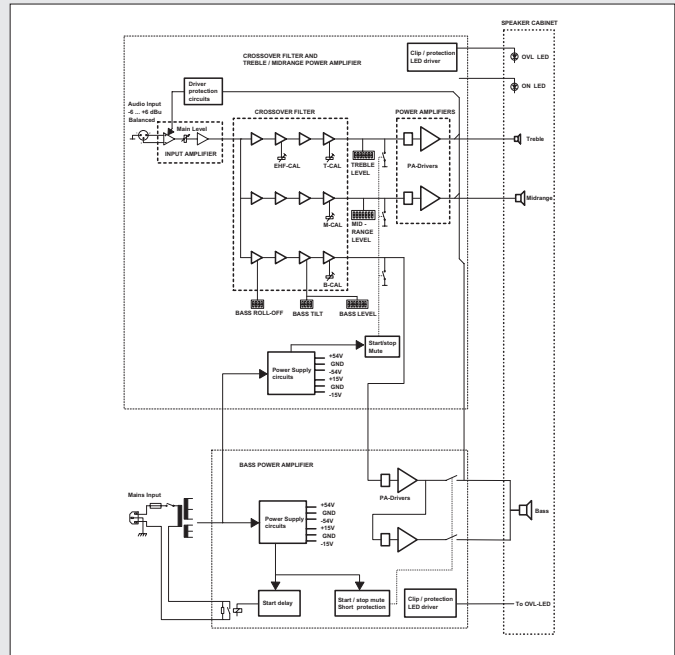
SYSTEM

The Genelec 1038A is a three-way active monitoring system including loudspeaker drivers, speaker enclosure, multiple power amplifiers and active, low signal level crossovers. Designed for medium sized control rooms this system is ideal for project studios, film and video post-production and broadcast monitoring. CD mastering is also tailored for, where broad bandwidth, high SPL's and extended low frequency response are essential. The 1038A 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

124 dB SPL at 2 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. Uniform performance is obtained through the integration of the loudspeakers and amplifiers as a complete 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 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

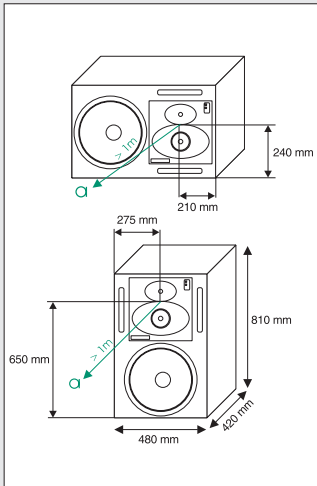
The bass, midrange and treble amplifiers each produce 400W, 120W and 120W, respectively of short term power with very low THD and IM distortion. Special attention has been paid to electronic design to ensure the highest subjective sound quality currently possible. The system incorporates special circuitry for drivers overload protection. Thermal protection is also 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 410 Hz and 3.0 kHz. In order to obtain uniform frequency balance under different acoustic conditions, special calibrated controls are included in the crossover. The Bass, Midrange and Treble level controls operate in 1 dB steps. Furthermore, 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, fed by a 3 pin XLR. Variable input sensitivity allows for accurate level matching to the mixing console.

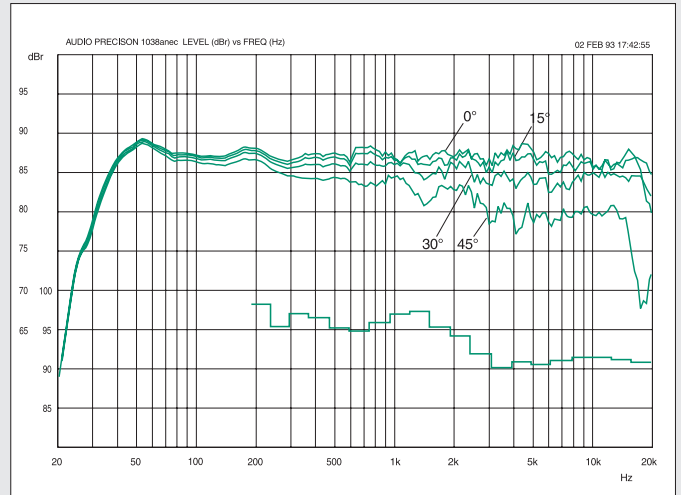
DRIVERS

The bass frequencies are reproduced by a 385 mm (15") bass driver loaded with a 110 liters vented box. The -3dB point is 33 Hz and the low frequency response extends down to 29 Hz (-6 dB).

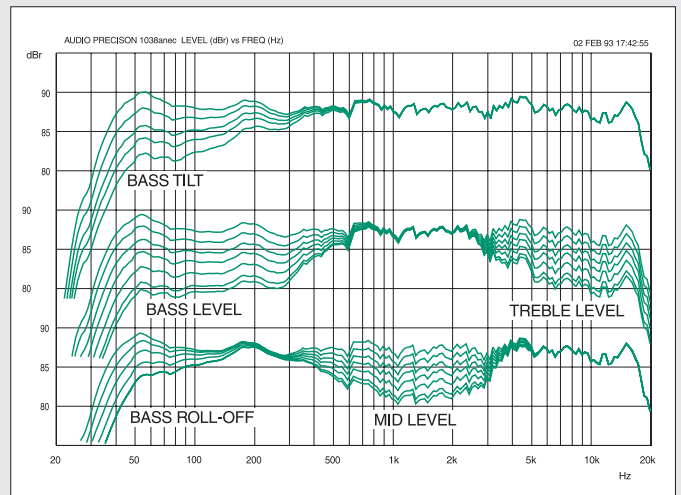
The midrange frequencies are reproduced by a proprietary 130 mm (5") direct radiating cone driver loaded with a DCW. The high frequency driver is a 25mm (1") metal dome also loaded by a DCW. A factory-installed magnetic shielding option is available for applications where magnetic stray field must be minimized.



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



The upper curve group shows the horizontal directivity characteristics of 1038A 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
1038-401



Opt-09
Grille
Order Code
1038-409



Opt-03*
Magnetic
shielding
Order Code
1038-403



Opt-11
Rack adapter
Order Code
1038-411



Opt-06*
Handles
Order Code
1001-406

* Only available as a factory-installed kit.

SYSTEM SPECIFICATIONS

Lower cut-off frequency, -3 dB: ≤ 33 Hz

Upper cut-off frequency, -3 dB: ≥ 20 kHz

Free field frequency response of system: 35 Hz - 20 kHz (± 2.5 dB)

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

@1m ≥ 120 dB SPL
@0.5m ≥ 126 dB SPL

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

@1m ≥ 116 dB SPL
@0.5m ≥ 122 dB SPL

Maximum peak acoustic output per pair @ 2m from the engineer with music material: ≥ 124 dB SPL

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

Harmonic distortion at 95 dB SPL @ 1m on axis:

freq: 50...100 Hz $< 1\%$
 >100 Hz $< 0.5\%$

Drivers: Bass 385mm (15") cone
 Mid 130mm (5") cone
 Treble 25mm (1") metal dome

Weight: 60 kg (130 lb)

Dimensions: Height 810mm (31 $\frac{7}{8}$ ")
 Width 480mm (18 $\frac{7}{8}$ ")
 Depth 420mm (16 $\frac{9}{16}$ ")

AMPLIFIER SECTION

Bass amplifier output power with a 4 Ohm load: 400W

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

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

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

Slewrate : 80V/ μ 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	≥ 100 dB
Midrange	≥ 100 dB
Treble	≥ 100 dB

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

Voltage operating range at 230V setting: 207 - 253V ($\pm 10\%$)
115V setting: 104 - 126V ($\pm 10\%$)

Power consumption:

Idle	60W
Full output	500W

CROSSOVER SECTION

Input connector: XLR female pin1 gnd
pin2 +
pin3 -

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 120 dB SPL @1m: variable from +26 to +14 dBu

Subsonic filter below 33 Hz : 18 dB/octave

Ultrasonic filter above 25 kHz: 12 dB/octave

Crossover frequency:

Bass/Mid	410 Hz
Mid/Treble	3 kHz

Crossover acoustical slopes: 24 - 32 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 @ 33 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.