Genelec 1038A
Tri-amplified Monitoring System
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 extended low frequency response 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.

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.

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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.

APPLICATIONS

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

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

Three channel amplifier is housed in the speaker cabinet

Horizontal mounting

Vertical mounting
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.

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.

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 reference axis lies between midrange and tweeter drivers.

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.

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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: \( \leq 33 \text{ Hz} \)

Upper cut-off frequency, -3 dB: \( \geq 20 \text{ kHz} \)

Free field frequency response of system: 35 Hz - 20 kHz (\( \pm 2.5 \text{ dB} \))

Maximum short term sine wave acoustic output on axis in half space, averaged from 100 Hz to 3 kHz:
- \( @1\text{m} \) \( \geq 120 \text{ dB SPL} \)
- \( @0.5\text{m} \) \( \geq 126 \text{ dB SPL} \)

Maximum long term RMS acoustic output in same conditions with IEC-weighted noise (limited by driver unit protection circuit):
- \( @1\text{m} \) \( \geq 116 \text{ dB SPL} \)
- \( @0.5\text{m} \) \( \geq 122 \text{ dB SPL} \)

Self generated noise level in free field @ 1m on axis: \( \leq 15 \text{ dB} \)

Harmonic distortion at 95 dB SPL:
- @ 1m on axis:
  - freq: 50...100 Hz \(< 1\%\)
  - \( > 100 \text{ Hz} \) \( < 0.5\%\)

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

Weight: 60 kg (130 lb)

Dimensions: Height 810mm (31 7/8")
  - Width 480mm (18 3/4")
  - Depth 420mm (16 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/\( \mu \text{s} \)

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 \( \geq 100 \text{ dB} \)
- Midrange \( \geq 100 \text{ dB} \)
- Treble \( \geq 100 \text{ dB} \)

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

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

Voltage operating range at 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 \( @ 33 \text{ Hz} \)

Bass tilt control in 2 dB steps:
- from 0 to -8 dB \( @ 80 \text{ Hz} \)

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.