Genelec 1038AC
Tri-amplified Monitoring System

Data sheet
The Genelec 1038AC is a dedicated center channel speaker for three channel (LCR) and Surround systems. Its slim and compact cabinet has been designed for optimum placement in the limited space above, below or in vertical orientation, on either side of a video monitor or screen.

As its name suggests, the Genelec 1038AC is best suited for use as a center channel speaker with a pair of standard Genelec 1038A active monitors. The 1038AC employs the same mid and treble drivers and Directivity Control Waveguide as a standard 1038A and the amplifier unit is also the same to ensure complete tonal compatibility.

Genelec 1038AC is a three-way active monitoring system including magnetically shielded loudspeaker drivers, speaker enclosure, multiple power amplifiers and active, low signal level crossovers. Although designed for film and video post-production and medium sized control rooms this system is also ideal for project studios and broadcast monitoring. DVD mastering is also well tailored for where broadband, high SPL's and extended low frequency response are essential.

The separate amplifier unit is built into a rack mount chassis for easy fitting into a standard 19" equipment rack. A 10 meter connecting cable set to go between the amplifier and speaker is standard. The 1038AC is recommended to be flush mounted into the control room wall, but it can also be used as a free-standing monitor.

The unique Directivity Control Waveguide (DCW) Technology provides excellent stereo imaging and frequency balance even in difficult acoustic environments. The fast acting, 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 orientations by simply rotating the DCW unit.
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. Note that the free-field mid-range ripple is substantially reduced when the speaker is flush mounted as recommended.

**DRIVERS**

The bass frequencies are reproduced by two 250 mm (10") bass drivers 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 25 mm (1") metal dome also loaded by a DCW.

The 1038AC is magnetically shielded in order to minimise interference with video monitors.

**CROSSOVER FILTERS**

The crossover frequencies of the active crossover network are 410 Hz and 3.0 kHz. In order to obtain a 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. Variable input sensitivity allows for accurate level matching to the mixing console.

**INTEGRATED CONSTRUCTION**

Uniform performance is obtained through the matching of the loudspeakers and amplifiers as a complete, calibrated package.

The rugged amplifier is mounted into a rack mount chassis with vibration isolators which also act 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.

**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 overload protection circuitry for the drivers. Thermal protection is also included for the amplifiers.

**DRIVERS**

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 (see previous page).
**1038AC SYSTEM SPECIFICATIONS**

**AMPLIFIER SECTION**

- **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 (±2.5 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):**
- \( @1\text{m} \geq 116 \text{ dB SPL} \)
- \( @0.5\text{m} \geq 122 \text{ dB SPL} \)

**Maximum peak acoustic output per pair @2m from the engineer with music material:**
- \( \geq 124 \text{ dB SPL} \)

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

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

**Drivers:**
- **Bass:** 2 x 250 mm (10") cone
- **Mid:** 130 mm (5") cone
- **Treble:** 25 mm (1") metal dome

**Speaker weight:** 60 kg (130 lb)
**Amplifier weight:** 14 kg (31 lb)

**Speaker dimensions (horizontal mounting):**
- **Height:** 350 mm (13 3/4")
- **Width:** 910 mm (35 1/2")
- **Depth:** 453 mm (17 7/8") *

**Amplifier dimensions:**
- **Height:** 530 mm (20 7/8")
- **Width:** 480 mm (18 1/2")
- **Depth:** 113 mm (4 7/16") *

* Without connecting cable. Cable connectors require additional 100 mm (4") of space behind the speaker and the amplifier.

**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

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

- **Voltage operating range at 230V setting:**
  - 207 - 253V (±10%)
  - 104 - 126V (±10%)

- **Power consumption:**
  - **Idle** 60W
  - **Full output** 500W

- **Signal to Noise ratio, referred to full output:**
  - **Bass** \( \geq 100 \text{ dB} \)
  - **Midrange** \( \geq 100 \text{ dB} \)
  - **Treble** \( \geq 100 \text{ dB} \)

- **Bass roll-off control in 2 dB steps:**
  - from 0 to -6 dB @33 Hz

- **Bass tilt control in 2 dB steps:**
  - from 0 to -6 dB @80 Hz

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