

**Intelligent.
Powerful.
Accurate.**

Genelec 1234 SAM™ System



GENELEC®

Intelligent. Powerful. Accurate.

Genelec's new 1234 Smart Active Monitoring (SAM™) system and its Remote Amplifier Module RAM- XL are designed to achieve accurate and powerful sound reproduction in demanding recording and mixing environments. Providing extremely well controlled directivity leading to neutral sound reproduction, the 1234 SAM system represents the most modern technology and the highest performance in large, flush-mounted main monitoring systems.

Power and precision

The 1234 has a system frequency response from 29 Hz to 21 kHz and it is capable of delivering 125 dB SPL at 1 meter through a combination of efficient Class D amplifiers providing 2x 750 W, 400 W and 250 W of short term power for the woofers, midrange and tweeter channels respectively. The 160 litre enclosure features two 12 inch woofers and a Genelec proprietary 5 inch midrange driver as well as a 1 inch tweeter mounted in a large Directivity Control Waveguide (DCW™).

The remote amplifier module RAM-XL is a 3U high unit, fitting a standard 19 inch rack. Its powerful Digital Signal Processing algorithms are used to implement a number of advanced features: Precise driver equalization allows very smooth magnitude responses; efficient driver overload protection enables high system reliability; accurate crossover filtering allows precise transition between drivers. DSP is also used to implement very flexible room response compensation filters.

Intelligent accuracy

Although the quality of the room acoustic design is the basis for accurate sound reproduction, Genelec intelligent SAM technology can integrate the 1234 system into the listening environment by automatically compensating for detrimental room acoustic anomalies, particularly at low and low-mid frequencies. Adaptation to the room acoustics is supported for any number of listening positions or even over an area. We call this technology GLM AutoCal™.

Genelec SAM systems are controlled via the Genelec proprietary Loudspeaker Manager (GLM™) network and software enabling all networked monitors and subwoofers to be aligned and adjusted for level, time-of-flight, and room response compensations.

A large, stable audio image

1234 main monitors reproduce full and accurate sound image for applications where just simply being loud is not enough. Genelec's revolutionary Directivity Control Waveguide technology developed and refined over more than 30 years greatly improves the performance of direct radiating multi-way monitors.

The Genelec DCW technology shapes the emitted wavefront in a controlled way, allowing predictable tailoring of the directivity (dispersion) pattern. It results in excellent flatness of the overall frequency response as well as uniform power response. This advanced DCW technology minimizes early reflections and provides a wide and controlled listening area achieving accurate sound reproduction on- and off-axis. Minimized early reflections and controlled, constant directivity have another important advantage: the frequency balance of the room reverberation field is essentially the same as that of the direct sound from the monitors. Sound image width and depth, critical components in any listening environment, are well represented not only for on-axis listening, but also off-axis. This enables more than just one engineer to hear the sound representation accurately, accommodating the typical workflows occurring in larger control rooms. The Genelec DCW technology is an important component in delivering a reliable monitoring experience!

Pioneering technology – Made in Finland

Since its founding Genelec's design philosophy has been based on sustainable development and environmental values, aiming to deliver performance-driven, tonally neutral monitor and subwoofer systems for audio professionals. Conservation of natural resources and efficient use of materials and energy as well as long product lifetime are essential to us.

The Genelec 1234 SAM system packs the most modern and intelligent technology in a powerful, high performance main monitoring solution. All electronics, amplifier circuitry, drivers and enclosure are designed, assembled, tested and individually calibrated in the Genelec factory in Finland.



GLM 2.0 software



Remote Amplifier Module RAM XL



Network adapter and measurement microphone


- **Directivity Control Waveguide (DCW™)** technology provides a wide and controlled listening area, minimizing early reflections for accurate sound reproduction on the acoustical axis and off-axis.
- **High SPL and low distortion** thanks to high efficiency drivers and high power Class D amplifiers.
- **Quality electronic design** and precision DSP algorithms ensure high dynamic range and extremely low self-generated noise.
- **Temperature controlled forced air cooling** makes RAM- XL extremely silent. It can also be installed in the listening space.
- **Dual woofer design** enhances the directivity control along the shorter front baffle dimension.
- **Genelec AutoCal™** measures the response in the listening area and applies relevant compensation in the low and low-mid frequencies to minimise the detrimental room acoustic anomalies as well as the differences between various listening positions.
- **Smart Active Monitoring systems** eliminate guesswork in system configuration and acoustic performance.
- **Sustainability and green values.** Efficient use of materials, low energy consumption and extremely long life time by design.


Features and benefits


- Complete solution-oriented Smart Active Monitoring systems eliminate guesswork in system configuration and acoustic performance.
- Genelec AutoCal measures the response in the listening area and applies relevant compensation in the low and low-mid frequencies to minimise the detrimental room acoustic anomalies as well as the differences between various listening positions.
- Genelec GLM computer control allows for repeatable, consistent performance
- Genelec advanced Directivity Control Waveguide provides a wide and controlled listening area, minimizing early reflections for very accurate sound reproduction on- and off-axis.
- Dual woofer design extends the control of the directivity along the short front baffle dimension.
- The RAM-XL features high efficiency Class D amplification providing high SPL and dynamic range as well as high reliability with very low distortion.
- Thoughtful thermal design makes RAM-XL extremely silent in order to be installed in the listening space
- Genelec Intelligent Signal Sensing (ISS™) circuitry switches the system to standby when no audio input is detected, providing significant power consumption savings
- Genelec quality and reliability ensure a long term security of investment, low energy consumption, and outstanding audio quality.


Note: the RAM-XL unit visible on the front cover image features Genelec optional brushed aluminum front panel.


Technical specifications 1234 SAM™ System


 125 dB¹


 420 Hz and 3.2 kHz


 H 700 x W 890 x D 383 mm
(27 9/16 x 35 x 15 in)
RAM XL: H 132 x W 483 x D 286 mm
(5 3/16 x 19 x 11 1/4)


 29 Hz – 21 kHz (-6 dB)

 2 x Woofers 305 mm (12 in),
midrange 125 mm (5 in),
tweeter 25 mm (1 in) + DCW™

 Enclosure: 73 kg / 161 lb
RAM XL: 11.2 kg / 25 lb

 ± 2 dB (34 Hz - 20 kHz)

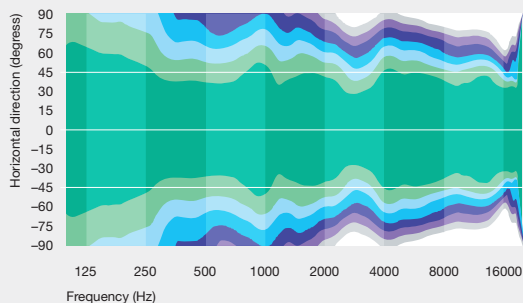
 Woofers 2x 750 W,
midrange 400 W,
tweeter 250 W (all Class D)

 1x XLR analogue input
2x XLR AES/EBU input / output
2x RJ45 control network

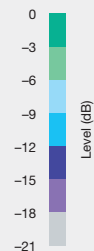
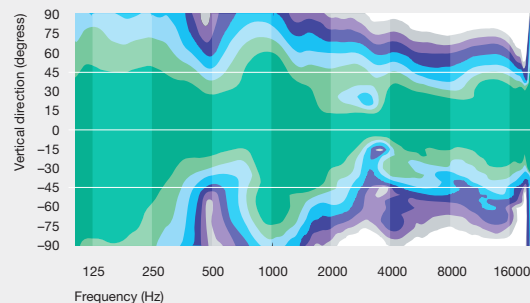
¹ Maximum short term sine wave acoustic output averaged from 100 Hz to 3 kHz, measured in half space at 1 meter.

For more detailed technical information and specifications, please consult the product's Datasheet.

1234/RAM-XL
Horizontal Plane Directivity
(normalized with on-axis)



1234/RAM-XL
Vertical Plane Directivity
(normalized with on-axis)



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