

# Smart Active Monitoring™ Series

Full line Catalogue 2016



**GENELEC®**



Smart Active  
Monitoring™  
10 years



**GENELEC®**

the sonic reference since 1978

# A Decade of SAM™ Development

In 2006, the creation of Smart Active Monitoring (SAM™), changed forever the way in which monitoring systems interact with their acoustic environments. For the first time, automated calibration was in the hands of every user.

The idea of adaptability has been a part of Genelec monitors and subwoofers since 1978, but with the advent of SAM, Genelec surpassed the need for manual switch adjustments. In the decade that followed, the unique SAM blend of performance and flexibility has proven itself an indispensable tool within countless studios. At the same time, it has driven improvements in acoustics, electronics and features, all described in this catalogue.

Genelec – the leader in active monitoring technology since 1978 – has now refined SAM to become the definitive technology in accurate and reliable monitoring. Today, SAM is the essential solution for every music, broadcast or post-production facility on any scale.



## 2006

Representing an industry breakthrough, the first Genelec Loudspeaker Manager (GLM™ 1.0) offered computer control of five revolutionary products; the 8240 and 8250 active monitors and 7260, 7270, and 7271 subwoofers.

## 2007

A year later, the GLM concept was extended to the SE (Small Environment) Systems, representing the perfect marriage of the specially coded 7261 DSP subwoofer, GLM SE software, and the 8130 digital input monitor.

## 2009

As GLM and AutoCal™ solidified their positions as the industry's trusted Smart monitoring technologies, the 3-way 8260 was launched. Mixing the aesthetic appeal of the 8000 Series, it featured a high resolution Minimum Diffraction Coaxial (MDC™) midrange/tweeter driver together with a traditional 10" woofer.

## 2011

Following the release in 2010 of the 1038CF, the 1238CF became a perfect SAM™ solution with space-saving dimensions, high directivity control and strikingly powerful sound pressure level (SPL).

## 2013

SAM grew again, this time making a home in larger studios thanks to a multi-purpose designed amplifier module, the RAM-L, and three higher resolution monitors, the 1237, 1238, and 1238AC.

## 2014

Now a cornerstone technology, SAM expanded with major introductions including GLM 2.0, encompassing a radically redesigned UI, plus the Compact SAM Series with the 8320, 8330 and 7350.

Also new, the 8351 was greeted as the most innovative Genelec monitor yet, featuring a Minimum Diffraction Coaxial (MDC™) driver plus a large Directivity Control Waveguide (DCW™) and two acoustically concealed woofers. With SAM, the 8351 redefined the monitoring experience.

## 2015

The mighty RAM-XL sparked the creation of the 1234, housing dual 12" drivers and a large DCW. More powerful still was the 1236 – the Genelec SAM flagship, delivering more than 130 dB and extending below 20 Hz.

## 2016

The 8340 and 8350 Smart monitors plus 7360 and 7370 Smart subwoofers have made SAM Smarter than ever – for both analogue and digital applications. Smart subwoofers also connect to any 7.1 digital audio source via the 9301 AES/EBU Multi-channel Interface.

A world's first, the Genelec 8430 IP allows direct monitoring of Audio-over-IP (AoIP) streams supporting the industry standard AES67.



## Smart Active Monitoring - Evolving for 10 Years

Built for today's fast-paced studio environment, SAM technology is designed to meet your workflow and help you improve. As space becomes more limited, listening areas are more confined and acoustic problems more prevalent. SAM is designed to adapt and assist.

SAM draws on Genelec's decades of experience and expertise to create an intelligent, flexible network of monitors and subwoofers that can adapt to your requirements. Use Genelec Loudspeaker Manager (GLM™) 2.0 software to create configurations ranging from traditional stereo to immersive audio, or even experimental systems; rely on the proprietary power of AutoCal™ and the intelligence within every SAM system, to make the best of your monitoring system and environment.

# Features and Benefits

## Unprecedented Power

- Management of up to 30 Smart monitors and Smart subwoofers covering all configurations from traditional stereo to immersive audio and more.
- Handling both digital and analogue inputs on separate XLR connectors (analog only on 8320).
- Level control functions via GLM software master fader or external wired controller for calibrated listening, covering all possible applications.
- Flexible control of Solo, Mute, Bypass, Bass Management and expanded audio delay compensation for high definition and broadcast video environments.

## Why Guess When you can Be Sure

- Controlled via Genelec's proprietary Loudspeaker Manager (GLM) network and software, AutoCal provides the industry's first integrated process for complete automated measurement, analysis and adjustment of every monitor on the network, achieving accurate sound reproduction in just a few clicks.
- AutoCal automatically optimises and aligns each Smart monitor and Smart subwoofer for relative levels, time of flight, subwoofer crossover phase as well as individual room response compensations. Additionally, full manual editing of all acoustic settings remains in the hands of the user for adjustment as required.
- SAM integrates the monitoring system into the listening environment by automatically compensating for most detrimental room influences, particularly the challenging modern reality of compromised room acoustics.
- SAM will rapidly implement a neutral and consistent monitoring environment even in an unfamiliar or improvised working environment, saving you time and cost.
- GLM allows you to switch and compare calibration results with just one click.

## More Flexibility

- SinglePoint™ and MultiPoint™ microphone positions provides flexibility when defining a small sweet listening spot or a wider listening area.
- Calibration settings for different listening positions and different listening areas can be instantly recalled with each monitor Group.
- An on-screen, real-time SPL reading of the active group facilitates precision monitoring of a production's sound pressure level.
- Designed for flexibility, SAM systems can be used in stand-alone mode without a computer; all parameters can be stored in each individual Smart monitor and Smart subwoofer if the GLM network needs to be disconnected.



## GLM 2.0 User Kit

Adapt to the acoustic properties of your room and turn your monitoring system into the reference it needs to be with SAM and GLM 2.0.

Comprising intuitive software, a measurement microphone and network adapter, the GLM 2.0 User Kit delivers ultimate control over all Smart Active Monitor (SAM) systems. The indispensable tool for the modern studio, its feature-rich user interface offers rapid set-up and quick calibration on either Mac or Windows.

AutoCal provides an automated analysis and calibration of every Smart monitor and Smart subwoofer on your network. After automated calibration, based on one or more listening position, AutoCal provides:

- Frequency response calibration with relevant compensation in the low and low-mid frequency bands
- Level adjustments

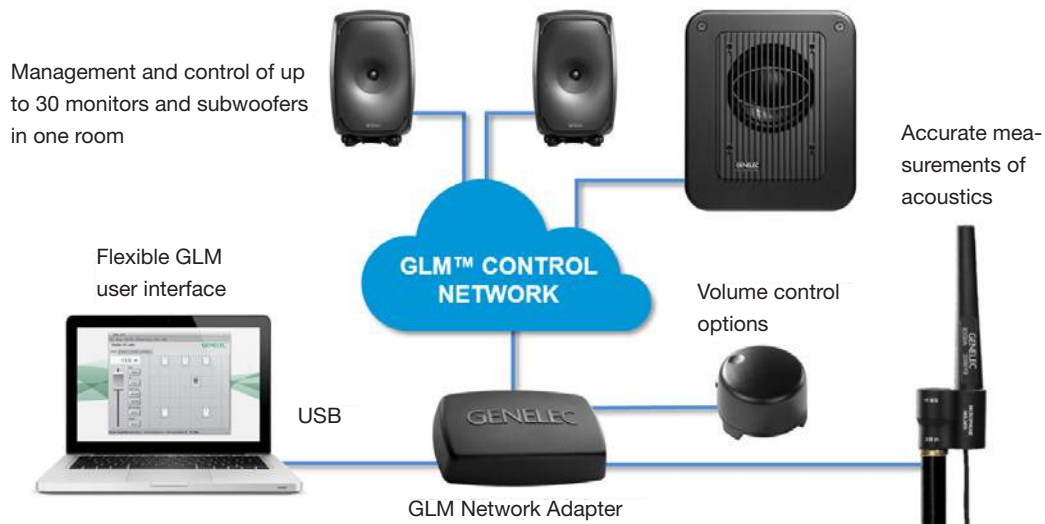
- Precise time alignment (time-of-flight)
- Phase adjustment at Smart monitor/subwoofer crossover frequency

GLM 2.0, the industry's most flexible and advanced management and control system, provides:

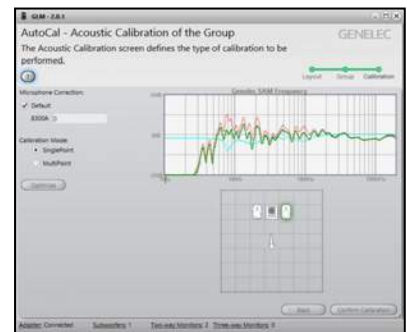
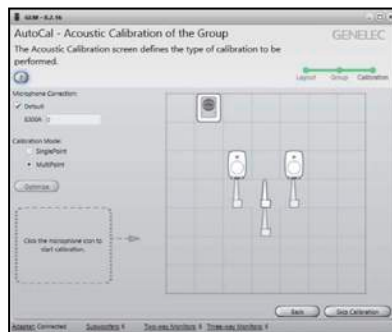
- Five independent monitor Groups in each setup
- Unlimited setup files on your computer
- Settings that can also be stored into Smart monitors and Smart subwoofers
- A permanently up-to-date interface via Genelec Cloud software
- An intuitive, easy-to-learn, fully automated setup



# GLM System Basic Setup



## GLM 2.0 Software



### Windows

#### Operating System

Windows 10, Windows 8 or 8.1 (32- or 64bit), Windows 7 SP1 or newer (32- or 64bit), Vista, XP

**Processor** Intel Pentium or compatible, 1.6 GHz minimum.

**GPU\*** DirectX 11.0 class or better.

**RAM** 2GB minimum

**Disk space** 1GB minimum

**Display** 1024 x 768 or higher-resolution monitor.

### Mac

#### Operating System

OS X 10.11 El Capitan, OS X 10.10 Yosemite, OS X 10.9 Mavericks

**Processor and GPU\*** Mac has a qualified Processor and GPU if Mac is running either of the operating systems above.

**RAM** 2GB minimum

**Disk space** 1GB minimum

**Display** 1024 x 768 or higher-resolution monitor.

\*GPU - Graphics Processing Unit

# SAM Compact Series

Smart tools for audio monitoring



## 8320

<b>Maximum sound pressure level<sup>1</sup></b>	100 dB
<b>Free field frequency response</b>	55 Hz – 23 kHz (-6 dB)
<b>Accuracy of frequency response</b>	± 1.5 dB (66 Hz – 20 kHz)
<b>Drivers</b>	Woofer 4 inch + Tweeter 3/4 inch metal dome + DCW™
<b>Amplifier power per channel</b>	Woofer 50 W + Tweeter 50 W
<b>Dimensions H x W x D</b>	242 x 151 x 142 mm, 9 <sup>1</sup> / <sub>2</sub> x 6 x 5 <sup>5</sup> / <sub>8</sub> inch, with Iso-Pod™
<b>Weight</b>	3.2 kg / 7.0 lb
<b>Connectors</b>	1 x XLR analog input, 2 x RJ45 control network
<b>Management and control system</b>	GLM 2.0



## 8330

<b>Maximum sound pressure level<sup>1</sup></b>	104 dB
<b>Free field frequency response</b>	45 Hz – 23 kHz (-6 dB)
<b>Accuracy of frequency response</b>	± 1.5 dB (58 Hz – 20 kHz)
<b>Drivers</b>	Woofer 5 inch + Tweeter 3/4 inch metal dome + DCW™
<b>Amplifier power per channel</b>	Woofer 50 W + Tweeter 50 W
<b>Dimensions H x W x D</b>	299 x 189 x 178 mm, 11 <sup>7</sup> / <sub>8</sub> x 7 <sup>1</sup> / <sub>2</sub> x 7 <sup>1</sup> / <sub>16</sub> inch, with Iso-Pod™
<b>Weight</b>	5.5 kg / 12.1 lb
<b>Connectors</b>	1 x XLR analog input, 1 x input / 1 x output XLR digital AES/EBU, 2 x RJ45 control network
<b>Management and control system</b>	GLM 2.0



## 8340

<b>Maximum sound pressure level<sup>1</sup></b>	110 dB
<b>Free field frequency response</b>	38 Hz – 22 kHz (-6 dB)
<b>Accuracy of frequency response</b>	± 1.5 dB (44 Hz – 20 kHz)
<b>Drivers</b>	Woofer 6 1/2 inch + Tweeter 3/4 inch metal dome + DCW™
<b>Amplifier power per channel</b>	Woofer 150 W + Tweeter 150 W
<b>Dimensions H x W x D</b>	365 x 237 x 223 mm, 14 <sup>3</sup> / <sub>8</sub> x 9 <sup>3</sup> / <sub>8</sub> x 8 <sup>13</sup> / <sub>16</sub> inch, with Iso-Pod™
<b>Weight</b>	8.4 kg / 18.5 lb
<b>Connectors</b>	1 x XLR analog input, 1 x input / 1 x output XLR digital AES/EBU, 2 x RJ45 control network
<b>Management and control system</b>	GLM 2.0

<sup>1</sup>) Maximum short term sine wave sound pressure level averaged from 100 Hz to 3 kHz, measured on axis in half space at 1 meter



# SAM Compact Series

Smart tools for audio monitoring



## 8350

<b>Maximum sound pressure level<sup>1</sup></b>	112 dB
<b>Free field frequency response</b>	33 Hz – 22 kHz (-6 dB)
<b>Accuracy of frequency response</b>	± 1.5 dB (38 Hz – 20 kHz)
<b>Drivers</b>	Woofer 8 inch + Tweeter 1 inch metal dome + DCW™
<b>Amplifier power per channel</b>	Woofer 200 W + Tweeter 150 W
<b>Dimensions H x W x D</b>	452 x 286 x 278 mm, 17 <sup>13</sup> / <sub>16</sub> x 11 <sup>1</sup> / <sub>4</sub> x 10 <sup>15</sup> / <sub>16</sub> inch, with Iso-Pod™
<b>Weight</b>	12.8 kg / 28.2 lb
<b>Connectors</b>	1 x XLR analog input, 1 x input / 1 x output XLR digital AES/EBU, 2 x RJ45 control network
<b>Management and control system</b>	GLM 2.0

## 8430 IP – SAM Gets Even Smarter

A world's first, the Genelec 8430 IP is the only professional solution for directly monitoring Audio-over-IP (AoIP) streams in modern networking applications. Making SAM even Smarter, the 8430 IP supports the industry's AoIP interoperability standard AES67, and is compatible with the networking protocols of today and tomorrow. Crucially, it is also a fully developed SAM System, enabling fast and accurate multichannel or immersive audio system calibration to suit your requirements.

Also featured are Minimum Diffraction Enclosure (MDE™) and DCW technologies, a flow optimised reflex port, high sound pressure level (SPL), low noise and wide uncoloured response in a very compact enclosure. With Genelec's Class D amplification and universal mains voltage, the 8430 IP is an industry first that's ready to work.



## 8430 IP

<b>Maximum sound pressure level<sup>1</sup></b>	104 dB
<b>Free field frequency response</b>	45 Hz – 23 kHz (-6 dB)
<b>Accuracy of frequency response</b>	± 1.5 dB (58 Hz – 20 kHz)
<b>Drivers</b>	Woofer 5 inch + Tweeter 3/4 inch metal dome + DCW™
<b>Amplifier power per channel</b>	Woofer 50 W + Tweeter 50 W
<b>Dimensions H x W x D</b>	299 x 189 x 178 mm, 11 <sup>7</sup> / <sub>8</sub> x 7 <sup>1</sup> / <sub>2</sub> x 7 <sup>1</sup> / <sub>16</sub> inch, with Iso-Pod™
<b>Weight</b>	5.5 kg / 12.1 lb
<b>Connectors</b>	1 x XLR analog input, 1 x RJ45 (etherCON compatible) for AES67, 2 x RJ45 GLM control network
<b>Management and control system</b>	GLM 2.0

<sup>1</sup>) Maximum short term sine wave sound pressure level averaged from 100 Hz to 3 kHz, measured on axis in half space at 1 meter



## SAM Coaxial Series

As beautiful as they are innovative, Genelec's Coaxial Series products feature Genelec's breakthrough Minimum Diffraction Coaxial (MDC™) midrange/tweeter driver and Directivity Control Waveguide (DCW™). Together, the two key technologies produce controlled directivity both on- and off-axis over a wide bandwidth, delivering outstanding imaging and clarity.

Genelec has eliminated the compromises found in traditional coaxial design, allowing the MDC driver to provide high reproduction accuracy and a flat, diffraction-free frequency response. The result is remarkably accurate imaging in which the most subtle details and small transients are perfectly reproduced.

The unique Genelec 8351 also features dual Acoustically Concealed Woofers (ACW™) which contribute to create an acoustically coaxial three-way system featuring an extremely large waveguide across the entire front baffle. The 8351 breaks new ground with precise directivity control in both vertical and horizontal orientations.



# SAM Coaxial Series



## 8351

<b>Maximum sound pressure level<sup>1</sup></b>	111 dB
<b>Free field frequency response</b>	32 Hz – 35 kHz (-6 dB)
<b>Accuracy of frequency response</b>	± 1.5 dB (38 Hz – 21 kHz)
<b>Drivers</b>	2 x oval Woofers (8 1/2 x 4 inch) + Coaxial Midrange/Tweeter MDC™ (5 and 3/4 inch) + DCW™
<b>Amplifier power per channel</b>	Woofer 150 W + Midrange 120 W + Tweeter 90 W
<b>Dimensions H x W x D</b>	452 x 287 x 278 mm, 17 3/4 x 11 1/3 x 11 inch, with Iso-Pod™
<b>Weight</b>	19 kg / 42 lb
<b>Connectors</b>	1 x XLR analog input, 1 x input / 1 x output XLR digital AES/EBU, 2 x RJ45 control network
<b>Management and control system</b>	GLM 2.0



## 8260

<b>Maximum sound pressure level<sup>1</sup></b>	113 dB
<b>Free field frequency response</b>	23 Hz – 40 kHz (-6 dB)
<b>Accuracy of frequency response</b>	± 1 dB (29 Hz – 21 kHz)
<b>Drivers</b>	Woofer 10 inch + Coaxial Midrange/Tweeter MDC™ 5 / 3/4 inch coaxial + DCW™
<b>Amplifier power per channel</b>	Woofer 150 W + Midrange 120 W + Tweeter 120 W
<b>Dimensions H x W x D</b>	593 x 357 x 347 mm, 23 3/8 x 14 1/16 x 13 5/8 inch, with Iso-Pod™
<b>Weight</b>	27.5 kg / 60.5 lb
<b>Connectors</b>	1 x XLR analog input, 1 x input / 1 x output XLR digital AES/EBU, 2 x RJ45 control network
<b>Management and control system</b>	GLM 2.0

<sup>1</sup>) Maximum short term sine wave sound pressure level averaged from 100 Hz to 3 kHz, measured on axis in half space at 1 meter

# SAM Subwoofer Series



## 7350

<b>Maximum sound pressure level<sup>2</sup></b>	104 dB
<b>Free field frequency response</b>	22 Hz - 100 Hz (-6 dB) LFE 22 Hz - 160 Hz (-6 dB)
<b>Drivers</b>	8 inch
<b>Amplifier power</b>	150 W
<b>Dimensions H x W x D</b>	410 x 350 x 319 mm, 16 <sup>1</sup> / <sub>8</sub> x 13 <sup>3</sup> / <sub>4</sub> x 12 <sup>5</sup> / <sub>8</sub> inch
<b>Weight</b>	19 kg / 41.8 lb
<b>Connectors</b>	5.1 inputs / 5 outputs XLR analog, 1 x input / 1 x output XLR digital
	AES/EBU, 2 x RJ45 control network
<b>Management and control system</b>	GLM 2.0



# SAM Subwoofer Series



## 7360

<b>Maximum sound pressure level<sup>2</sup></b>	109 dB
<b>Free field frequency response</b>	19 Hz - 100 Hz (-6 dB) LFE 19 Hz - 150 Hz (-6 dB)
<b>Drivers</b>	10 inch
<b>Amplifier power</b>	300 W
<b>Dimensions H x W x D</b>	527 x 462 x 365 mm, 20 <sup>3</sup> / <sub>4</sub> x 18 <sup>3</sup> / <sub>16</sub> x 14 <sup>3</sup> / <sub>8</sub> inch
<b>Weight</b>	27 kg / 59 lb
<b>Connectors</b>	7.1 analog XLR inputs / outputs, 1 x input / 1 x output XLR digital AES/EBU, 2 x RJ45 control network
<b>Management and control system</b>	GLM 2.0



## 7370

<b>Maximum sound pressure level<sup>2</sup></b>	113 dB
<b>Free field frequency response</b>	19 Hz - 100 Hz (-6 dB) LFE 19 Hz - 150 Hz (-6 dB)
<b>Drivers</b>	12 inch
<b>Amplifier power</b>	400 W
<b>Dimensions H x W x D</b>	625 x 555 x 496 mm, 24 <sup>5</sup> / <sub>8</sub> x 21 <sup>7</sup> / <sub>8</sub> x 19 <sup>1</sup> / <sub>2</sub> inch
<b>Weight</b>	48 kg / 106 lb
<b>Connectors</b>	7.1 analog XLR inputs / outputs, 1 x input / 1 x output XLR digital AES/EBU, 2 x RJ45 control network
<b>Management and control system</b>	GLM 2.0



## 9301 AES/EBU Multichannel Interface

The Genelec 9301A AES/EBU Multichannel Interface has been designed to expand the 7300 Series Smart subwoofers AES/EBU stereo inputs and outputs to 8 channels of AES/EBU inputs and outputs.

<b>Channels</b>	7.1 XLR digital audio in- and outputs 1x XLR subwoofer output link
<b>Digital audio format</b>	AES/EBU (AES3)
<b>Word length</b>	16...24 bits
<b>Sample rate</b>	32...192 kHz Inputs are sample rate converted
<b>Dimensions H x W x D</b>	43 x 483 x 105 mm, 1 <sup>11</sup> / <sub>16</sub> x 19 x 4 <sup>1</sup> / <sub>8</sub> inch
<b>Weight</b>	2 kg / 4.4 lb
<b>Management and control system</b>	GLM 2.0

<sup>2</sup>) Maximum short term sine wave sound pressure level averaged from 30 to 85 Hz, measured in half space at 1 meter

# SAM Master Series



## 1237

<b>Maximum sound pressure level<sup>1</sup></b>	118 dB
<b>Free field frequency response</b>	32 Hz – 22 kHz (-6 dB)
<b>Accuracy of frequency response</b>	± 2.5 dB (37 Hz – 20 kHz)
<b>Drivers</b>	Woofer 12 inch + Midrange 5 inch + Tweeter 1 inch metal dome + DCW™
<b>Amplifier power per channel</b>	Woofer 500 W + Midrange 250 W + Tweeter 200 W
<b>Dimensions H x W x D</b>	680 x 400 x 380 mm, 26 <sup>3</sup> / <sub>4</sub> x 15 <sup>3</sup> / <sub>4</sub> x 15 inch
<b>Weight incl. RAM L amplifier</b>	42 kg / 93 lb
<b>RAM L size</b>	3U / 19 inch
<b>Connectors</b>	1 x XLR analog input, 1 x input / 1 x output XLR digital AES/EBU, 2 x RJ45 control network
<b>Management and control system</b>	GLM 2.0



## 1238CF - with Integrated Rear Panel Amplifier

<b>Maximum sound pressure level<sup>1</sup></b>	117 dB
<b>Free field frequency response</b>	50 Hz – 20 kHz (-6 dB)
<b>Accuracy of frequency response</b>	± 2 dB (57 Hz – 20 kHz)
<b>Drivers</b>	Woofers 2 x 8 inch + Midrange 5 inch + Tweeter 1 inch metal dome + DCW™
<b>Amplifier power per channel</b>	Woofer 150 W + Midrange 120 W + Tweeter 120 W
<b>Dimensions H x W x D</b>	610 x 470 x 235 mm, 24 x 18 <sup>1</sup> / <sub>2</sub> x 9 <sup>1</sup> / <sub>4</sub> inch
<b>Weight</b>	42 kg / 93 lb
<b>Connectors</b>	1 x XLR analog input, 1 x input / 1 x output XLR digital AES/EBU, 2 x RJ45 control network
<b>Management and control system</b>	GLM 2.0



## 1238DF - with RAM L Remote Amplifier Module

<b>Maximum sound pressure level<sup>1</sup></b>	117 dB
<b>Free field frequency response</b>	50 Hz – 20 kHz (-6 dB)
<b>Accuracy of frequency response</b>	± 2 dB (57 Hz – 20 kHz)
<b>Drivers</b>	Woofers 2 x 8 inch + Midrange 5 inch + Tweeter 1 inch + DCW™
<b>Amplifier power per channel</b>	Woofer 500 W + Midrange 250 W + Tweeter 200 W
<b>Monitor H x W x D</b>	610 x 470 x 235 mm, 24 x 18 <sup>1</sup> / <sub>2</sub> x 9 <sup>1</sup> / <sub>4</sub> inch
<b>RAM L size</b>	3U / 19 inch
<b>Monitor weight</b>	36 kg / 79 lb
<b>RAM L weight</b>	6 kg / 12 lb
<b>Connectors</b>	1 x XLR analog input, 1 x input / 1 x output XLR digital AES/EBU, 2 x RJ45 control network
<b>Management and control system</b>	GLM 2.0

<sup>1</sup>) Maximum short term sine wave sound pressure level averaged from 100 Hz to 3 kHz, measured on axis in half space at 1 meter

# SAM Master Series



## 1238

<b>Maximum sound pressure level<sup>1</sup></b>	121 dB
<b>Free field frequency response</b>	30 Hz – 22 kHz (-6 dB)
<b>Accuracy of frequency response</b>	± 2.5 dB (35 Hz – 20 kHz)
<b>Drivers</b>	Woofer 15 inch + Midrange 5 inch + Tweeter 1 inch metal dome + DCW™
<b>Amplifier power per channel</b>	Woofer 500 W + Midrange 250 W + Tweeter 200 W
<b>Dimensions H x W x D</b>	810 x 480 x 420 mm, 32 x 19 x 16 1/2 inch
<b>Weight incl. RAM L amplifier</b>	57 kg / 126 lb
<b>RAM L size</b>	3U / 19 inch
<b>Connectors</b>	1 x XLR analog input, 1 x input / 1 x output XLR digital AES/EBU, 2 x RJ45 control network
<b>Management and control system</b>	GLM 2.0



## 1238AC

<b>Maximum sound pressure level<sup>1</sup></b>	121 dB
<b>Free field frequency response</b>	30 Hz – 22 kHz (-6 dB)
<b>Accuracy of frequency response</b>	± 2.5 dB (35 Hz – 20 kHz)
<b>Drivers</b>	Woofer 2 x 10 inch + Midrange 5 inch + Tweeter 1 inch metal dome + DCW™
<b>Amplifier power per channel</b>	Woofer 500 W + Midrange 250 W + Tweeter 200 W
<b>Monitor H x W x D</b>	350 x 950 x 453 mm, 13 3/4 x 37 3/8 x 17 7/8 inch
<b>RAM L size</b>	3U / 19 inch
<b>Monitor weight</b>	60 kg / 130 lb
<b>RAM L weight</b>	6 kg / 12 lb
<b>Connectors</b>	1 x XLR analog input, 1 x input / 1 x output XLR digital AES/EBU, 2 x RJ45 control network
<b>Management and control system</b>	GLM 2.0

## Remote Amplifier Module RAM L



<sup>1</sup>) Maximum short term sine wave sound pressure level averaged from 100 Hz to 3 kHz, measured on axis in half space at 1 meter

# SAM Master Series



## 1234

<b>Maximum sound pressure level<sup>1</sup></b>	125 dB
<b>Free field frequency response</b>	29 Hz – 21 kHz (-6 dB)
<b>Accuracy of frequency response</b>	± 2 dB (34 Hz – 20 kHz)
<b>Drivers</b>	Woofers 2 x 12 inch + Midrange 5 inch + Tweeter 1 inch + DCW™
<b>Amplifier power per channel</b>	Woofers 2 x 750W + Midrange 400W + Tweeter 250W
<b>Monitor H x W x D</b>	700 x 890 x 383 mm, 27 <sup>9</sup> / <sub>16</sub> x 35 x 15 <sup>1</sup> / <sub>16</sub> inch
<b>RAM XL size</b>	3U / 19 in
<b>Monitor weight</b>	73 kg / 161 lb
<b>RAM XL weight</b>	11.2 kg / 25 lb
<b>Connectors</b>	1 x XLR analog input, 1 x input / 1 x output XLR digital AES/EBU, 2 x RJ45 control network
<b>Management and control system</b>	GLM 2.0



## 1236

<b>Maximum sound pressure level<sup>1</sup></b>	130 dB
<b>Free field frequency response</b>	17 Hz – 26 kHz (-6 dB)
<b>Accuracy of frequency response</b>	± 2 dB (21 Hz – 20 kHz)
<b>Drivers</b>	Woofers 2 x 18 inch + Midrange 2 x 5 inch + Tweeter 2 inch compression driver + DCW™
<b>Amplifier power per channel</b>	Woofers 2 x 1000 W + Midrange 800 W + Tweeter 400 W (all Class D)
<b>Monitor H x W x D</b>	960 x 1180 x 650 mm, 37 <sup>3</sup> / <sub>4</sub> x 46 <sup>1</sup> / <sub>2</sub> x 25 <sup>5</sup> / <sub>8</sub> inch
<b>RAM XL size</b>	3U / 19 inch
<b>Monitor weight</b>	182 kg / 401 lb
<b>RAM XL weight</b>	11.2 kg / 25 lb
<b>Connectors</b>	1 x XLR analog input, 1 x input / 1 x output XLR digital AES/EBU, 2 x RJ45 control network
<b>Management and control system</b>	GLM 2.0

## Remote Amplifier Module RAM XL



RAM XL with the optional brushed aluminium front panel.

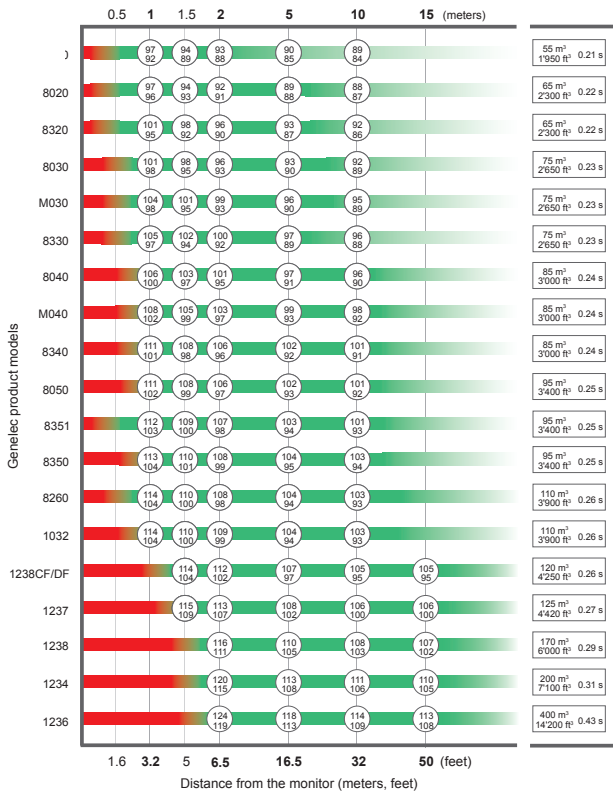
<sup>1</sup>) Maximum short term sine wave sound pressure level averaged from 100 Hz to 3 kHz, measured on axis in half space at 1 meter





GENELEC

# Listening Distance and Sound Pressure Level



**Room volume**



**Room reverberation time (RT60)**

**Short-term sound pressure levels**

Maximum short-term sine wave sound pressure level averaged from 100 Hz to 3 kHz, measured in half-space, on-axis, at 1 meter.



**Long-term sound pressure levels**

Maximum long-term RMS sound pressure level, measured in half-space, on-axis, with simulated programme signal according to IEC 60268-5 (limited by driver unit protection circuit), at 1 meter

**Listening distances and sound pressure levels**

The short-term and long-term sound pressure levels (SPL) listed take into consideration typical room environments parameters for each product (ITU-R BS.1116-1 Recommendation):

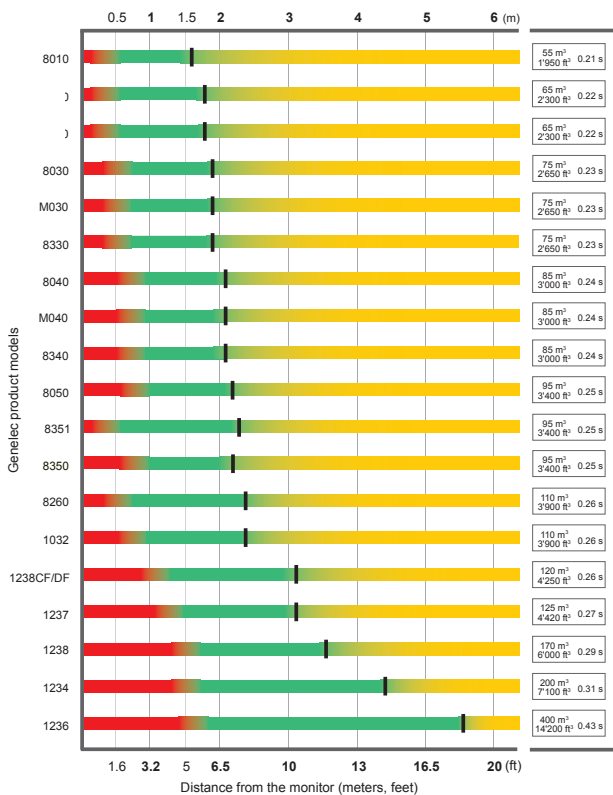
- a) variable typical room volumes
- b) variable typical room reverberation times (RT60)

If the room reverberation time is longer, it will mainly affect the long-term sound pressure levels that will be higher than the ones shown.

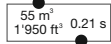
**Not recommended distances**

When the distance to the monitor is too short, summing of sound from multiple drivers is not happening as designed, and this affects the flatness of the frequency response. A flatter and more stable frequency response is obtained at a larger distance.

# Direct Sound Dominance



**Room volume**



**Room reverberation time (RT60)**

**Not recommended distances**

When the distance to the monitor is too short, summing of sound from multiple drivers is not happening as designed, and this affects the flatness of the frequency response. A flatter and more stable frequency response is obtained at a larger distance.

**Direct sound dominates**

Within this distance the direct sound from the monitor has a higher level than the reverberant sound in the room. Placing the monitor within this distance range is advantageous in minimizing the tendency of the room reverberation to change the character of the monitored sound colour and affect the precision of stereo imaging. The level of the direct sound relative to the reverberant sound progressively reduces as the distance to the monitor increases.

**Critical distance**

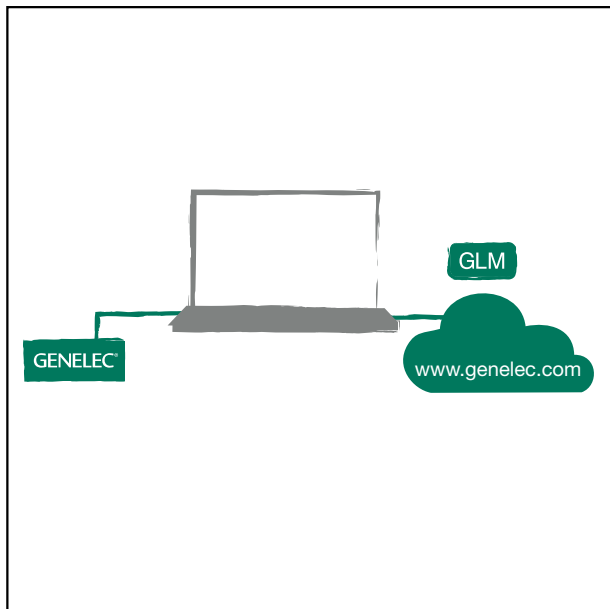
The critical distance is the distance where the direct sound from the monitor and the reverberant sound in the room have equal level. The critical distance is affected by the room volume, the room reverberation time (referred to ITU-R BS.1116-1 Recommendation), and the directivity of the monitor

**Reverberant sound dominates**

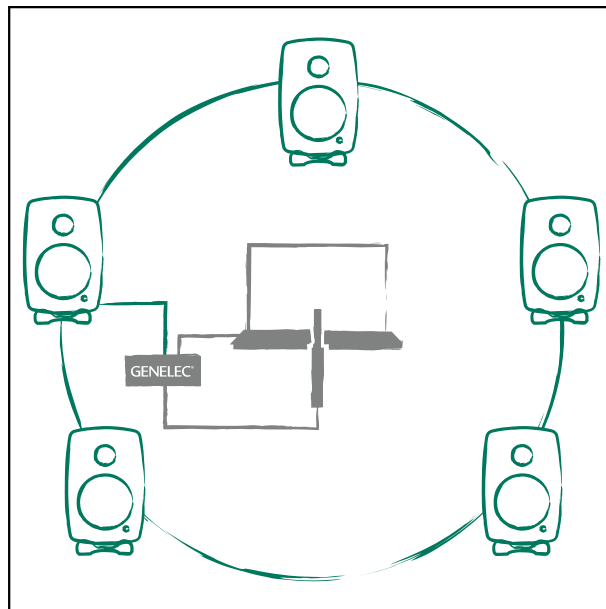
At these distances the reverberant sound in the room has a higher level than the direct sound from the monitor. This balance progressively increases as the distance from the monitor increases. The monitor can be used in these distances, but the sound character is strongly affected by the reverberation characteristics of the room, and this has a progressively increasing effect on the sound colour and stereo imaging accuracy.

# GLM System - Quick Start

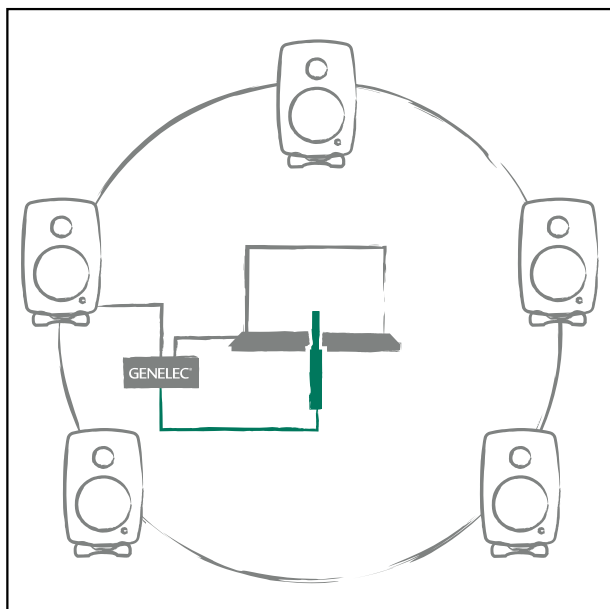
1) Download and install the GLM 2.0 software from [www.genelec.com](http://www.genelec.com) and connect the GLM Network Adapter.



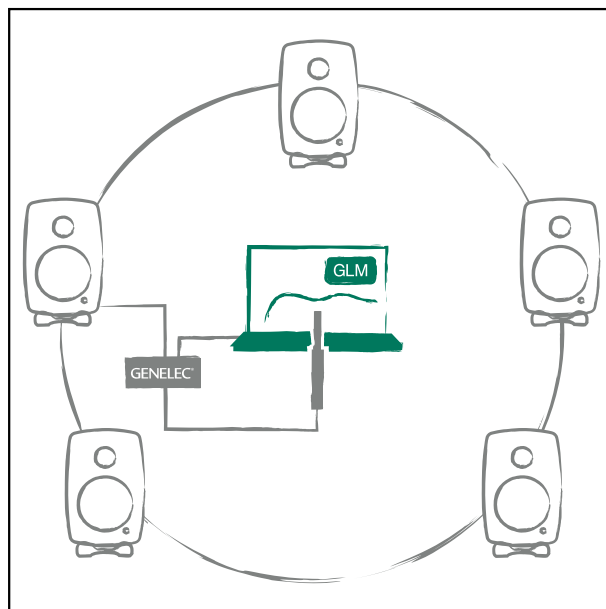
2) Place your monitoring system and connect each monitor to the GLM network in a daisy chain manner, regardless of the connecting order.



3) Place the Genelec measurement microphone at the listening position at typical ear height and connect it to the GLM Network Adapter.



4) Start the GLM 2.0 software and follow the instructions in order to define your monitors' location and setup configuration.



5) Follow the instructions to automatically calibrate the system using one or more measurement positions.

Once the calibration is done, you can use the GLM 2.0 software to control your monitoring system conveniently. If needed, you can also store all settings in individual Smart monitors and Smart subwoofers and disconnect the GLM network.

# Innovative Technologies

## Genelec Smart Active Monitoring (SAM™) Systems



Networked Smart Active Monitor (SAM™) systems feature automatic calibration to the acoustic environment.



Directivity Control Waveguide (DCW™) for flat on- and off-axis response.



Minimum Diffraction Enclosure (MDE™) for uncoloured sound reproduction.



Each transducer is driven by its own optimized amplifier.



Active crossover operating at low signal levels.



Sophisticated drive unit protection circuitry for safe operation.



Advanced reflex port design for extended low frequency response.



Highly efficient Laminar Spiral Enclosure (LSE™) provides accurate low frequency reproduction



Minimum Diffraction Coaxial (MDC™) transducer reproduces outstanding sound image.



Versatile mounting options for all installation needs.



Vibration decoupling Iso-Pod™ stand improves sound image definition.



Intelligent Signal Sensing (ISS™) for power consumption reduction in stand-by mode.

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Detailed Datasheets of all Genelec models, Quick Setup, Guides and other useful information can be downloaded at

[www.genelec.com](http://www.genelec.com)

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