
POINT SOURCE EXCELLENCE
THE ONES
FROM NEARFIELD TO MAIN MONITORING

GENELEC®



# HEARING WITH THE BRAIN

Our ears receive vastly more information than we can actually perceive. All senses are filtered this way, and bring conscious awareness of only a tiny fraction of the data registered by the body. Hearing is our most precise sense, timing-wise, involving substantial “pre-processing” in the brainstem and several reflexes ahead of conscious recognition.

The outer ears are sophisticated entry points that are needed to identify the direction from which sounds





arrive, but we're not just carrying around two very personal, directional microphones. Our ears and brain work together in a continuous feedback loop with an abundance of nerve impulses going back and forth to fine-tune reception in the middle and inner ear, over a range of 60 dB. We also use head movements to reach out for detail, such as discriminating between direct sound and reflections in a room, and the brain's left/right ear comparisons rely on the most energy-consuming nerve synapses of the body.

Therefore, only a trained listener can perceive the finer nuances of auditory sensation. Musicians and audio professionals learn to attain a heightened awareness of imaging, pitch, spectral balance, transients and other qualities. The acuity of a trained listener cannot be overestimated, and that is the type of user for which THE ONES have been designed.




# ULTIMATE POINT SOURCE MONITORS

The positioning of microphones, where even minute movements can make a difference, is a critical aspect of recording. Microphone placement, understandably, is based on listening, which in turn requires an equal amount of accuracy from the studio monitoring system. Mixing and mastering are other critical phases where being able to entirely trust what you hear is essential for the outcome – including how well content translates to other rooms and playback conditions.

Traditional studio monitors utilise displaced drivers that generate coloured reflections – forcing a critical




listener to sit in one fixed position without moving, and therefore the point source principle has long been regarded as the holy grail of monitor design. However, previously attempts came with disadvantages; including limited frequency range, distortion, uneven dispersion or inadequate SPL, to name just a few.

THE ONES are uncompromised three-way point source monitors whose dispersion is tightly controlled in both planes, thanks to large, integrated waveguides. They not only promote faster and more consistent production decision making, but also allow longer listening times than a traditional monitor – because unnatural imaging, a main contributor to listener fatigue, is minimised. For demanding applications calling for ultra-nearfield to medium-distance listening, precision imaging and long, fatigue-free working hours, these three-way monitors are in an elite league of their own.

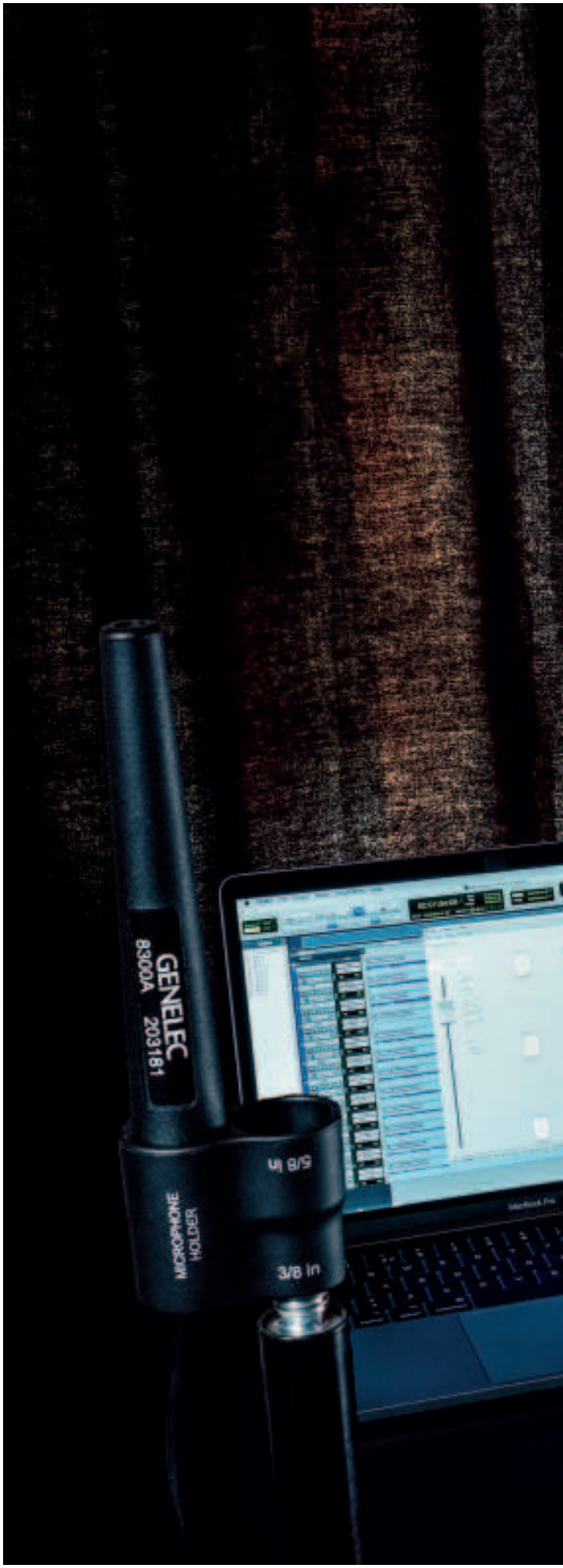
# GLM AND REFERENCE MONITORING

The frequency response of all monitors will change depending on their placement in a room, and therefore each needs to be aligned and calibrated after positioning to ensure reliable listening conditions. Genelec monitors have always featured manual EQ switches to compensate for placement, but THE ONES enable even more accurate automated compensation, allowing reference listening under previously intolerable conditions.

Using GLM™ (Genelec Loudspeaker Manager) software, Genelec smart active monitoring systems such as THE ONES can be easily installed, calibrated and managed, and the same monitors may even be used in more than one setup. In the GLM configuration pictured, you can switch between six calibrated setups: Mono, stereo, 5.1, 7.1, 7.1.2 and 7.1.4. When working in stereo, simply switch between multiple nearfield and main monitors using the same physical two-channel output from a workstation. GLM supports all reproduction systems, even those with a very high monitor and subwoofer count.

Drawn from decades' worth of data gathered from thousands of studios, the GLM application quickly aligns the level, distance and frequency response of all monitors on the network; ensuring that setups work reliably and in compliance with the latest standards, independently of any external processing.

Moving beyond nearfield listening, a major challenge in reference monitoring is to obtain a low frequency response without pronounced peaks and dips, particularly with systems not built into a studio's walls. GLM integrates closely with the new W371 Adaptive Woofer System to make such concerns a thing of the past, by creating free-standing monitoring systems uncompromised by LF colouration.




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# POINT SOURCE EXCELLENCE

## POINT SOURCE

Midrange and tweeter drivers in the centre of a diffraction-free aluminium enclosure. Dual woofers hidden behind waveguide. All drivers on the same acoustical axis.

## THREE-WAY COMPACT

The most compact three-way monitors available, with LF directivity control comparable to much larger monitors. Spectacular industrial design by Harri Koskinen.

## LIGHT ENVIROMENTAL FOOTPRINT

Sustainable production and use: Made in Finland using renewable energy and recycled aluminium. Low power consumption and long life.

## HORIZONTAL OR VERTICAL

No sonic compromise in either orientation. Iso-Pod included for flexible tilt. Wide variety of mounting options available.

## FULL-SIZE WAVEGUIDE

Integrated waveguide without discontinuities, covering the entire front, for excellent directivity and precise imaging.



# FROM NEARFIELD TO MAIN MONITORING

## SETUP AND CALIBRATION

Management network for system-building and GLM auto-calibration. Analogue and digital inputs, universal mains voltage power supply. Standard fixing points for flexible mounting.

## UP TO 72 CHANNEL SYSTEMS

Build systems from stereo to immersive. Use GLM as an integrated monitor controller offering level calibration, mute, solo, and switching between setups.



## MAIN MONITORING

Enable extended listening distance, higher maximum SPL and more headroom by using the W371 Adaptive Woofer System in conjunction with the 8341, 8351 or 8361.

## DIRECTIVITY EXTENDING TO VLF

Adaptive Woofer System concept increases directivity to low frequencies and offers neutral, minimum ripple in-room frequency response, typically continuing below 20 Hz.

## UNIQUE LF ADAPTATION

Novel in-room adaptation of both LF and VLF performance, optimised using the latest GLM application, improves bass responsiveness and enables truly neutral character.

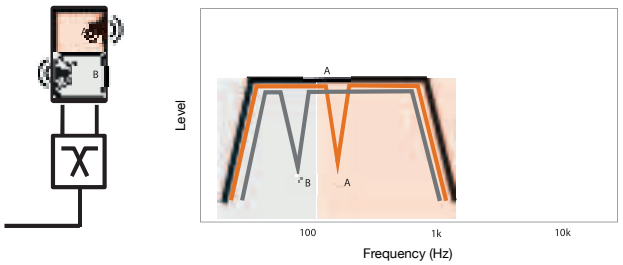
# MAKE YOUR FAVOURITE ROOM SOUND EXCEPTIONAL

THE ONES offer precision monitoring with excellent translation at all listening distances, from just 50 cm up to several metres - enabling uncompromised monitoring even in acoustically challenging studios. From ultra-nearfield stereo monitoring in small rooms, with head movements preserved and room sound excluded, to large-scale immersive setups, THE ONES family provides a fully scalable solution for a huge range of room sizes, listening distances and SPL requirements.

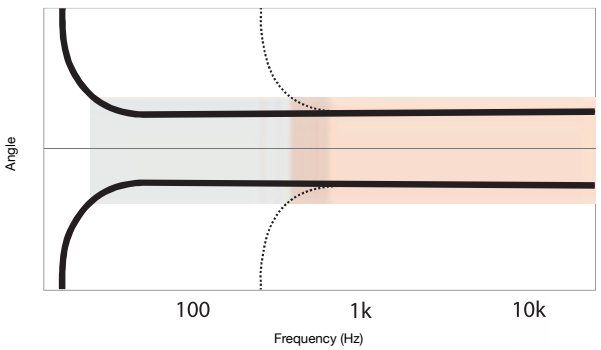
From music recording to mastering to post production, you really don't know how good your room can sound until you have experienced THE ONES' unique combination of neutral direct sound and controlled acoustic room reflections; qualities simply not obtainable from traditional monitors.

The W371 Adaptive Woofer System features two independent woofers in acoustically different physical locations within the room, and unlike traditional systems, both units overlap in their range of operation. THE ONES monitors can work with the W371 as a single full-range system, with the W371 offering three different operating modes to yield a choice of either flat and neutral LF response avoiding room-induced peaks and notches plus increased maximum SPL, or continued directivity of the main monitor down to the lowest LF frequencies, or reduction of detrimental reflections by the walls, ceiling or floor.  After selecting the monitor locations, each W371 uses GLM's AutoCal function to pick and tune the signal processing for the best LF radiation mode, taking into account the monitor location and listening position.

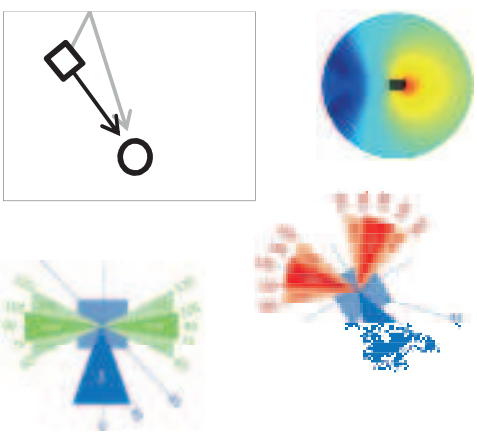
The horizontal and vertical directivity plots on the next pages demonstrate that sound radiated into the room is neutral. This is difficult to convey completely by using just a few numbers, and impossible to truly understand without experiencing it for yourself!




The Complementary Mode can circumvent any reduction in sound level at certain frequencies (known as 'acoustic notching') at the listening location, by placing the two independent woofers within the W371 at different physical locations in the room - and by then using the woofer that is best able to radiate audio to the listening location. In addition, GLM also equalises the W371 with The Ones for neutral audio, delivering uncoloured low frequency sound with great dynamics.




The Continued Directivity Mode uses the two woofers in the W371 simultaneously, to generate constant directivity which matches that of The Ones monitor being used with the W371. This creates a four-way monitoring system that has continued directivity on the horizontal plane right down to the lowest audible bass frequencies.



The Anti-reflection Mode uses the two woofers in the W371 simultaneously to generate regions of silence (known as 'nulls') in certain orientations. These nulls reduce the levels of reflected audio in the operating frequency range of the W371 caused by various surfaces in the listening room. This also reduces the acoustic coupling of low frequency energy into room reverberation, thus reducing any detrimental effects of the room's acoustics.


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# MEASUREMENTS



8331A



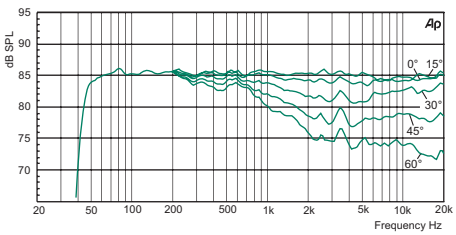
8341A

## Specifications

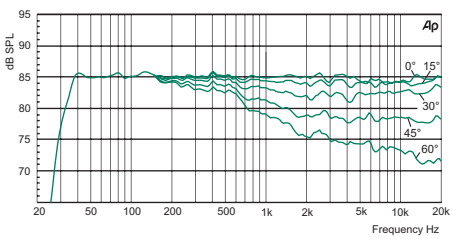
| | | |
|---|---|---|
| SPL max short-term | 104/110 dB (1/0.5 m) | 110/116 dB (1/0.5 m) |
| Frequency Response | 45 Hz - 37 kHz (-6 dB) | 38 Hz - 37 kHz (-6 dB) |
| Accuracy of Freq Resp. | ± 1.5 dB (58 Hz - 20 kHz) | ± 1.5 dB (45 Hz - 20 kHz) |
| Self generated noise | < 0 dB (A weighted, 1 m) | < 3 dB (A weighted, 1 m) |
| Bass drivers, dual | 142 x 76 mm obround<br>(5 5/8 x 3.0 in) | 178 x 97 mm obround<br>7 x 3 7/8 in |
| Mid driver | 90 mm, 3 1/2 in. Coaxial | 90 mm, 3 1/2 in. Coaxial |
| Treble driver | 19 mm, 3/4 in. Coaxial | 19 mm, 3/4 in. Coaxial |
| Amplifier Power | 72 + 36 + 36 W | 250 + 150 + 150 W |
| Audio inputs | Analogue, AES/EBU | Analogue, AES/EBU |
| GLM Network | Dual RJ45 (CAT5 cable) | Dual RJ45 (CAT5 cable) |
| In-situ Calibration | AutoCal or DIP switches | AutoCal or DIP switches |
| Dimensions H x W x D | 305 x 189 x 212 mm<br>11 3/4 x 7 1/2 x 8 3/8 in | 370 x 237 x 243 mm<br>13 3/4 x 9 3/8 x 9 1/2 in |
| Weight | 6.7 kg, 15 lb | 9.8 kg, 22 lb |

## Horizontal directivity characteristics measured at 1 m

**8331A**



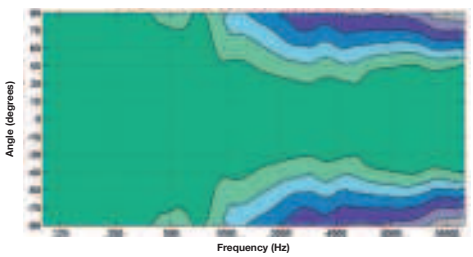

**8341A**



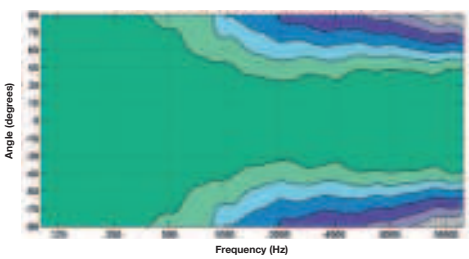

## Horizontal Plane Directivity (normalised with on-axis)




**8331A**



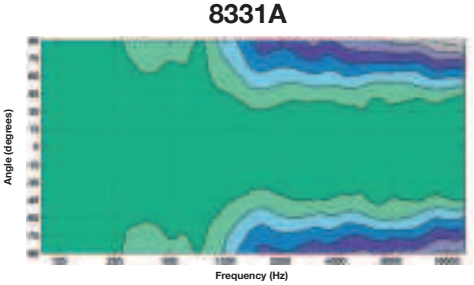

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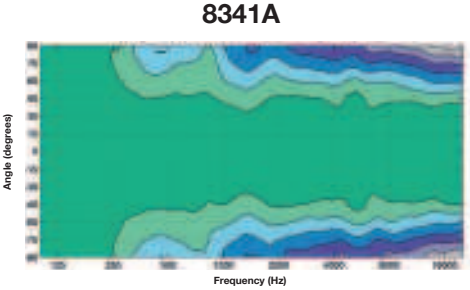

## Vertical Plane Directivity (normalised with on-axis)




**8331A**




**8341A**





## 8351B

| | |
|---|---|
| 113/119 dB (1/0.5 m) | 118/124 dB (1/0.5 m) |
| 32 Hz - 43 kHz (-6 dB) | 30 Hz - 43 kHz (-6 dB) |
| ± 1.5 dB (38 Hz - 20 kHz) | ± 1.5 dB (36 Hz - 20 kHz) |
| < 5 dB (A weighted, 1 m) | < 5 dB (A weighted, 1 m) |
| 218 x 101 mm obround<br>8 5/8 x 4 in | 263 x 137 mm obround<br>10 3/8 x 5 3/8 in |
| 130 mm, 5 in. Coaxial | 130 mm, 5 in. Coaxial |
| 25 mm, 1 in. Coaxial | 25 mm, 1 in. Coaxial |
| 250 + 150 + 150 W | 500 + 150 + 150 W |
| Analogue, AES/EBU | Analogue, AES/EBU |
| Dual RJ45 (CAT5 cable) | Dual RJ45 (CAT5 cable) |
| DIP switches or AutoCal | AutoCal or DIP switches |
| 452 x 287 x 278 mm<br>17 3/4 x 11 1/3 x 11 in | 593 x 357 x 347 mm<br>23 3/8 x 14 x 13 5/8 in |
| 14.3 kg, 31 lb | 31.9 kg, 70 lb |



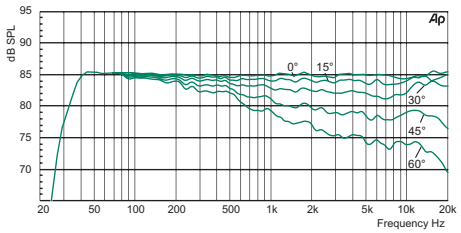
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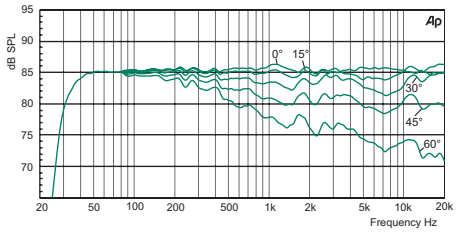
## W371A

| | |
|---|---|
| SPL max short-term | 120 dB (1 m) |
| Frequency Response | 23 Hz - 500 Hz (-6 dB) |
| Accuracy of Freq Resp. | ± 3 dB (25 Hz - 450 Hz) |
| Self generated noise | < 15 dB (A weighted, 1 m) |
| Front driver | 356 mm (14 in) |
| Rear driver | 305 mm (12 in) |
| | |
| Amplifier Power | 400 + 400 W |
| Audio inputs | Analogue, AES/EBU |
| GLM Network | Dual RJ45 (CAT5 cable) |
| In-situ Calibration | AutoCal |
| Dimensions H x W x D | 1108 x 400 x 400 mm<br>43 1/2 x 15 6/8 x 15 6/8 in |
| Weight | 61 kg, 135 lb |

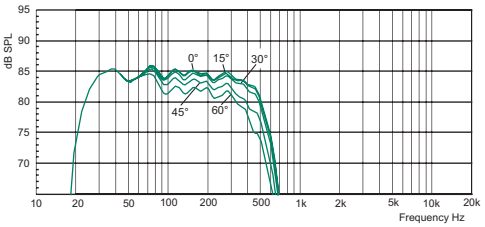
### 8351B



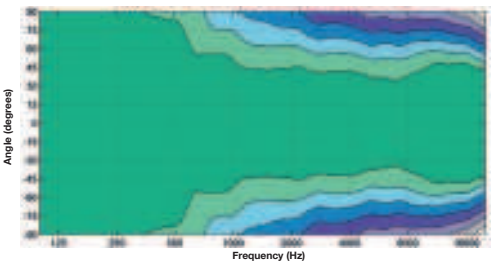

### 8361A



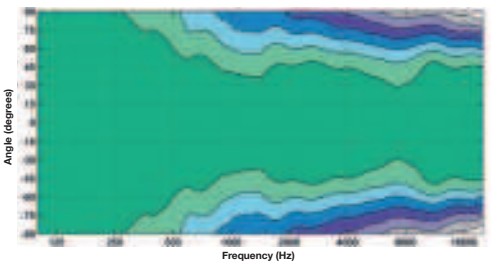

### W371A



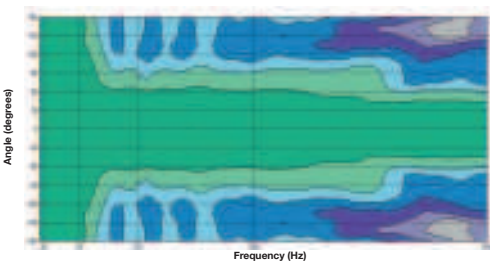

### 8351B



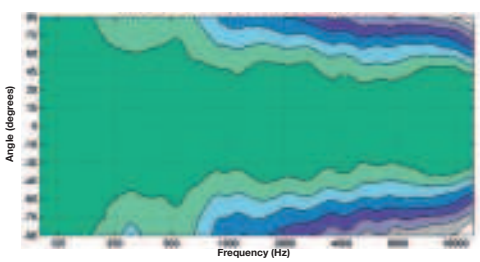

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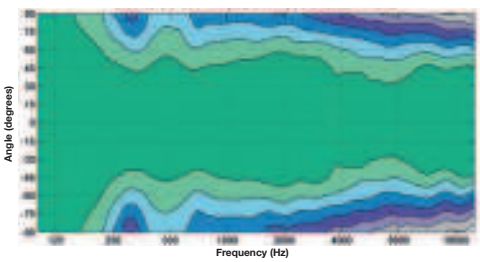

### W371A




### 8351B




### 8361A





# HIGH IN PERFORMANCE. EASY ON RESOURCES



Genelec's history forms a 40-year continuum of remarkable monitoring inventions, with one pioneering and cutting edge design following another. Performance has been driven up time after time, with THE ONES being the latest additions to this chain of breakthroughs.

Production methods, materials-use, energy consumption and serviceability show a similar systematic trend: towards ever more sustainable production and use, with a long and responsible support for spare parts.

All the technology within the THE ONES - including electronics, amplifiers, transducers and system configuration - is entirely designed, handmade and individually tested by craftsmen at our factory in Iisalmi, Finland, which itself is certified to run on renewable energy.

Visit www.genelec.com to view our full and comprehensive range of monitor selection guides, mounting accessories, technical papers, training programs and much more.

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Detailed Datasheets and Operating Manuals of all Genelec models and other useful information can be downloaded at genelec.com

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