

## GENELEC 8240A

They're Genelecs Jim, but not as we know them.

**Text:** Greg Walker



► A new speaker model from Genelec is a rare thing. The Finnish company takes great care with its product design and the manner in which it brings them to market (witness the 10 year gap between the 1000 series and the recently released 8000 models), and each new product is intended to have a long shelf-life in a very competitive market. So the introduction of digital converters and complex digital filtering in the latest releases is indeed a big step.

Genelec's new DSP nearfields are the 8240A and 8250A two-way monitors, which are offered in a standalone option or accompanied by the Genelec Loudspeaker Management package (which I'll refer to as GLM from here on in). GLM greatly enhances the speakers' capabilities by introducing digitally controlled room calibration, EQ adjustment, phase measurement, delay compensation and a host of other useful tools courtesy of the accompanying control software and measurement hardware. A variety of subwoofer options are available to complement these monitors but we'll concentrate on the slightly smaller two-way 8240As here, as there's no shortage of territory to cover.

### THE MONITOR THAT MULTI-TASKS

At the heart of these new Genelecs are the A/D and D/A converters built into each unit. The converters are optimised for 24-bit/192k inputs and the speakers accept digital input via AES/EBU (S/PDIF and AES3id formats can also be used via impedance converters). The introduction of DSP into a Genelec monitor is sure to cause a bit of a stir in the industry (I can already hear some of the purists shuffling uncomfortably in their seats), but when you see what Genelec has done with this technology, you start to realise the immense power and flexibility of this approach.

With the GLM system you can do accurate acoustic measurements of your room, then generate fine detail EQ curves to compensate for the room anomalies (for each individual speaker) and identify where untreated phase cancellations are occurring. The system also allows you to time and phase adjust multiple speaker setups with scientific accuracy, adjust individual subwoofer crossover points for maximum effectiveness and correctly balance the sound at any listening point (particularly useful in asymmetrical speaker layouts). Other properties of the system include the ability to store EQ and balance settings for any of the different spaces you might work in regularly, and you can even use the GLM system as a sophisticated acoustic design aid. Of course, all these bells and whistles are only useful in so far as they enhance the accuracy of

the listening experience, and the proof ultimately is in the pudding – how well the monitors do their job and how good they sound.

### STAND ALONE

Before we delve into the powerful DSP side of these monitors I should point out that the 8240As can operate in 'standalone' mode via the analogue or digital XLR inputs, but this *doesn't* mean the converters are bypassed. Regardless of how you're running the speakers, the converters are always in the signal path. In 'standalone' mode you have access to a series of rear-mounted dip-switches which allow for treble and bass attenuation in three steps of 2dB, as well as bass roll-off for use when the speakers are placed near a wall.

When I first received the Genelecs, the Mac version of the GLM software was still to be released, so I actually used the 8240As in standalone mode (utilising the analogue inputs) for some weeks before the software arrived. This was a blessing in disguise in fact, as it gave me the chance to really compare the 'before' and 'after' benefits of the new DSP technology.

The first thing that struck me with the 8240As was their ability to punch well above their weight in terms of bass response. The speakers utilise a 0.75-inch metal dome tweeter and a 6.5-inch bass driver but pack the low frequency grunt and overall volume level of a considerably bigger enclosure. Rubber 'iso-pod' footings do a good job of isolating the enclosures from coupling problems and allow you to tilt the speakers for a better aim at the listening position.

The modern Genelec look is all soft curves and any pretence of the speaker being a wooden box is well and truly in the past. The 8240As are finished in very dark grey with a little sparkle thrown in (a touch presumably added to imply a certain air of high-priced exclusivity, although the effect is somewhat dubious). The speakers also sport a small LED which indicates power status, flashes green during calibration and red when peaking is imminent. The carefully designed 'waveguide' (the oval-shaped indent surrounding the tweeter) guides the high frequency information in such a way that imaging and coherency are very good through quite a wide listening area. Tonally, when using them in standalone mode I found them to be a quite lush-sounding, full spectrum monitor, not too dissimilar to the sound of the industry standard 1031, though with a bit more sharpness in the high frequencies. Having got used to them in this

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‘unprocessed’ state it was now time to get the gloves off and explore the digital realm that lay beyond.

### **ZEROS & ONES**

Let me set the scene a little here: I am – and have always been – a home recordist, and while my equipment, my production techniques and my ears have improved a lot over the years, my ‘studios’ have inevitably been a compromise between expense, practicality and happenstance. My current room is a 100 year-old house with high ceilings, lots of timber and, being out of the ‘burbs, it’s very quiet. It’s a great place to work but it’s anything but purpose-built for monitoring. In many ways, this makes it an ideal space in which to test the merits of a DSP system – asymmetrical room and speaker positions, nothing purpose built and all acoustically untreated. It was time to press on and see what the DSP technology had to offer...

The first step in setting up the DSP system is to do a very simple install of the GLM software and this went off without a hitch (PC and Mac versions are available). Once the software is installed, the speakers must be connected in series via (supplied) Ethernet cables to the GLM network interface – a small black box that connects to your computer via USB. In addition, a mini jack plug must be connected from the interface to your computer’s audio input and it’s required that you normalise your audio input settings. On the other side of the network interface is another mini jack plug to accommodate the (supplied) Genelec 8200A measurement microphone. This small pencil condenser is a proprietary model supplied with power from the interface, and comes with a curious rubber stand mount. You place the mic in the listening position, (taking care that it’s occupying the same height as your ears do when you’re sitting in the chair), then power up the monitors and click on the GLM icon to run the System Setup Wizard. Firstly the program tells you how many speakers and subwoofers are connected to the network, then it asks you whether you’d prefer to run the ‘Rapid’ or ‘Manual Cabling’ Wizard. The Rapid option takes care of most standard scenarios such as stereo and 5.1, meanwhile the Manual option allows you to customise your setup, in the same way an SLR camera allows you to manually adjust light parameters etc. The program then identifies each speaker in the setup by its unique serial number and you’re ready to calibrate your monitors to your room.

### **THE THIN GREEN LINE**

Genelec has taken monitor calibration technology to new heights with the 8200 series. Using the GLM software you have the ability to individually tune each speaker in any





The Genelec waveguide is designed to minimise edge diffraction... and look amazing!

listening format, from the standard stereo pair right through to complex surround systems (the network caters for the management of up to 25 loudspeakers and five subwoofers). For many, the great asset of these speakers will be their ability to 'translate' in a variety of workspaces. For example, if you need to track music in different locations and then bring it all home to mix you can recalibrate for each space and be confident of a more consistent monitoring reference on each occasion. For on-the-move editors and recordists with portable rigs, this is a heart-warming scenario indeed.

The calibration process is straightforward enough. From the setup menu select the Acoustic Setup Wizard and choose the 'AutoCal' option. After entering the unique serial number of the measurement microphone you then select between single and multi-point measurements.

For a simple stereo setup like mine the single-point measurement is preferred. Confirm that the microphone is correctly placed in the listening position and then hit the magic yellow button – this is where the real fun begins. Each speaker performs a full-spectrum filter sweep, and once you hit the 'calculate' icon, the program draws a detailed spectrum analysis of your listening environment. In the Interactive Response Editor window you can view all the anomalies of your space (represented by a red line), the corrective equalisation curves applied to your monitors by the AutoCal process (blue line) and the resultant optimised frequency response of the speakers in the room (green line).

My room, being an old shop-front, had its fair share of inconsistencies and most of these were automatically rectified. It was instructive to see a few areas in the bottom end where phase cancellation was a problem (and consequently no corrective EQ had been applied – to do so would be the equivalent of pouring water down an open drain and hoping it will eventually fill up!), and this highlighted the frequencies where acoustic treatment would be required to improve my room's sonic integrity. So I found that there were several unexpected benefits to this process – through trial and error I was able to find the best location for my speakers relative to walls, corners etc. and I was also able to clearly identify the type of treatments needed to further improve my listening environment – a nice little bonus indeed.

Along the way I had some fun putting the measurement mic in radical off-axis positions (even creating a 'client's couch' preset), and in each case the results were quite amazing, with the 8240As acting almost like follow-spots around the room. There is additional facility to modify the EQ curves manually so you can add or cut tops, bottoms etc to taste once you settle on a preset you like (there are four shelf and four notch filters for each monitor) and it's a breeze to save these EQ settings into the monitors themselves for future software-free operation.

My impression of the Genelecs post-calibration was that they sounded far more accurate and controlled, with a much better tonal balance and image than they had beforehand – so far so good, but I still had to put them properly through their paces in a project situation.

### TESTING TIME

In the following month I worked extensively on a number of projects, including tracking and mixing an entire album with a singer-songwriter from interstate and the Genelecs didn't get much of a breather. After this I was able to tick what I consider to be a few very important boxes where monitors are concerned. The 8240As didn't fry my ears during extended sessions the way some metal dome tweeter systems can, the bottom end was detailed enough for me to make good calls on kick/bass relationships and the like, without any sense of the monitors being too small for the job and, most importantly, my mixes translated beautifully into the 'real world'.

Apart from the above comments I'd say the most pleasing aspect of the 8240As was the resolution in the midrange. I found making decisions on tone and fine EQ adjustment very easy on critical elements like vocals, guitars, snare drums etc. and my overall feeling was that these Genelecs made tracking and mixing faster and easier (as quality speakers should) because my options were clearer and decisions easier to make.

I've mixed a fair bit on the older Genelec 1031s and I'd say that these new DSP models are really quite a different beast once the room calibration is switched in. For my taste, the 1031s (and for that matter the un-calibrated 8240As) have a tendency to subtly flatter your sounds, but with the DSP engaged the 8240As are more accurate – 'flatter' as it were – and to my ears more truthful, encouraging you to work a little harder for a better result.

A few things to note about the 8200A series – without the GLM package you can't access the room calibration and EQ potential of the speakers. This doesn't mean however, that everyone need buy this additional system. Anyone's Genelec calibration mic and software can be used to perform this function, provided the results of the room analysis are then stored in the loudspeakers by simply selecting the 'store in all loudspeaker' option from the menu. So provided you know someone with a calibration system, this purchase isn't compulsory. Assuming, however, you can't con one of your mates into buying the calibration system (so you can use their's), the combination of the speakers and the DSP package works out to be quite a considerable investment.

### BASS DRIVER SOLOS

There's a lot more to say about these monitors that just won't fit in this (already long) review – there's scads of information in the comprehensive manual about calibrating and controlling subs, different cabling regimes, every variety of surround setup, time delayed arrays and so forth. You can save a preset for every room you ever work in, solo individual drivers within each cabinet, digitally set operating levels, adjust phase at the bass/tweeter crossover point... the list goes on.

I've had a lot of speakers through my studio in the last few years and I guess it's a testament to Genelec that I'm finally biting the bullet and buying these 8240As. I'm travelling a fair bit when I record at the moment and I'm also in the process of building a studio, so I like the idea of speakers that will work consistently in a variety of spaces – kind of future-proofing me for what's to come. I'm also going to use the 8240As as a valuable measurement tool during the studio construction process and I'll probably help a few mates out with their spaces too.

Overall, the new Genelecs are a big step into the future by the Finnish maestros and I think they've come up with a very impressive package that's got bucketloads of selling points. I've no doubt their vision will find many willing followers in the market for a true sounding, comprehensive and flexible monitoring solution. ■



### NEED TO KNOW

#### Price

\$5998 a pair  
GLM Package: \$1049  
GLM Expansion Package: \$649

#### Contact

Studio Connections  
(03) 9874 7222  
enquiries@studioconnections.com.au  
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#### Pros

Great sounding mid-sized monitors.  
A comprehensive, well conceived package suitable for stereo, and multi-point surround systems.  
Room calibration software substantially improves results in non-pro rooms.  
Outstanding bass response for its comparatively small size.

#### Cons

Expensive.  
The (optional) GLM package is *necessary* to get the most out of them.  
Those freaked out by the additional A/D and D/A stage will take some convincing.

#### Summary

There are no shortage of bells and whistles in Genelec's 8200A series. The flexible setup possibilities make the 8240As an attractive package for mid- to high-end facilities and mobile producers, engineers, editors and the like. A big, true sound from a small monitor that's reproducible across disparate spaces. Bonus points for room measurement software that can double as a studio builder's new best friend.