GENELEC®

DSP Monitoring Systems

dsp

GLM

AutoCal™

GENELEC® 8200A 100006

GENELEC

GENELEC®

Genelec DSP Systems - 8200 bi-amplified monitor loudspeakers and 7200 subwoofers

For decades Genelec has measured, analyzed and calibrated its monitoring systems in customer work environments as well as in its own testing chamber. From the very beginning in 1978 we provided tools in our products to assist in correct acoustic integration into real-world working spaces. These tools are an essential part of Genelec's pioneering active technology. As modern digital production environments become more commonplace, vast amounts of digital audio will be produced, processed and transported around the globe. DSP allows us to expand the toolset to reach a new target resolution for acoustic calibration of monitoring systems. In our view, however, harnessing dsp power, in an attempt to make the fundamental performance of a speaker reach an acceptable level, is hardly a worthwhile effort.

It is well known that any room imparts its own signature on to any monitor system. After all, a monitor is only as good as its acoustic integration into a room. The advancements made in the development of the 8000 MDE™ series and 7000 LSE™ series products provide performance gains, both in the test chamber and in conjunction with customer control rooms. The solid foundations of the 8000 and 7000 series are essential in taking the next step into the digital world.

Genelec has spent many years developing its new DSP Systems. The simultaneous development of our 8000 and 7000 series analog products along with dsp/networked systems was a challenging opportunity, and we believe the result will speak for itself when our customers audition any of these advanced dsp monitoring systems.

In creating a digital monitor system network there are many questions to ask. Keeping in mind our customers' success, the answers provide us with a broad template for addressing the needs of the most critical listening environments. Genelec's new DSP Systems are designed for wide ranging application: post-production in film and video, broadcast environments large and small and the varied and demanding world of music recording, mixing and mastering.

Among the many criteria, first and foremost a Genelec DSP monitoring system, like any other Genelec monitoring system, must be robust and reliable. Also important is its versatility, adaptability, consistency and ease of use. Through these criteria the Genelec DSP Systems must take our customers further toward purity of sound reproduction while saving them time and earning them satisfied customers. That is the measure of our success.

dsp

digital
signal
processing

GLM

Genelec
Loudspeaker
Manager

AutoCal™

Automated
dsp filter
Calibration

- **Genelec 8200 and 7200 systems have utilized DSP to allow for all standard AES/EBU formats of digital audio.**

- **The 8200/7200 series will accept sampling rates ranging from 32 kHz to 192 kHz.**

- **8200 series will also accept traditional analog signals and perform with all the features and benefits of Genelec 8000 series products.**

- **Genelec Loudspeaker Manager (GLM™) is a computer program that provides necessary control of all loudspeakers on the network.**

- **Up to 25 loudspeakers and 5 subwoofers are definable and controllable via standard CAT5 cabling.**

- **All functions and settings are stored in custom user setups or directly into each loudspeaker.**

- **AutoCal™ is an automated algorithm that runs within GLM™ using a calibrated Genelec measurement microphone (included).**

- **Correctly sets levels, distance delays, phase (for subwoofers) and room response equalization.**

- **SinglePoint™ and MultiPoint™ microphone locations for one, two or three-person mixing environments.**

- **Interactive Response Editor provides visual readout of measured and corrected response curves.**
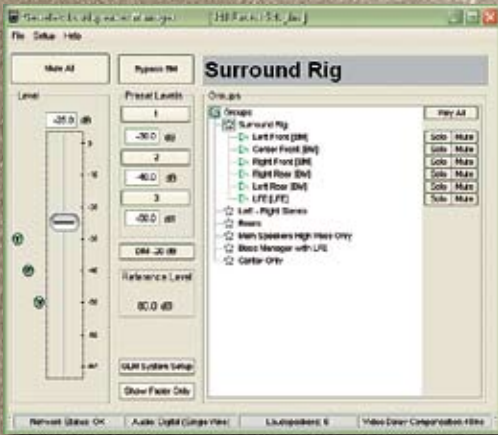
8240A

8250A

7260A

7270A

7271A

GLM™ – Genelec Loudspeaker Manager™

GLM™ software brings the entire DSP system together under computer network control

- GLM™ provides connectivity for up to twenty-five 8200 series loudspeakers and up to five 7200 series subwoofers
- Enables multiple custom User Setups with all settings and functions able to be stored in GLM™ setup or directly to each loudspeaker
- Step-by-step Wizard guides user through complete cabling connections and speaker labeling
- Rapid Cabling setups for most common system configurations
- Manual Cabling setups for customized system configurations
- Groups for both Channels and Loudspeakers may be customized by User
- Solo/Mute function for all Loudspeakers and Groups
- Volume controlled via computer, 3rd party USB device or customer console
- Video Display Compensation for inherent video delays in digital video devices
- GLM™ provides interface to AutoCal™ automated acoustical self-calibration algorithm

Genelec 8200/7200 DSP systems support three modes of operation:

- **Stand Alone:** This mode re-creates the standard operation of Genelec 8000/7000 products with a standard set of room response controls and sensitivity adjustment found on the connector panel DIP switches.
- **GLM™ Computer Assisted:** Once the network is connected and running, all DIP switches on the connector panel are ignored. All acoustic parameters of the loudspeakers set through AutoCal™ or User Adjustment are controlled by GLM™. This mode allows user defined setups to facilitate a wide variety of mixing requirements.
- **Stand Alone Stored Settings:** all acoustic parameters made in GLM™ can be safely stored to all speakers and the network can then be removed, providing users with the confidence of secure and consistent performance.
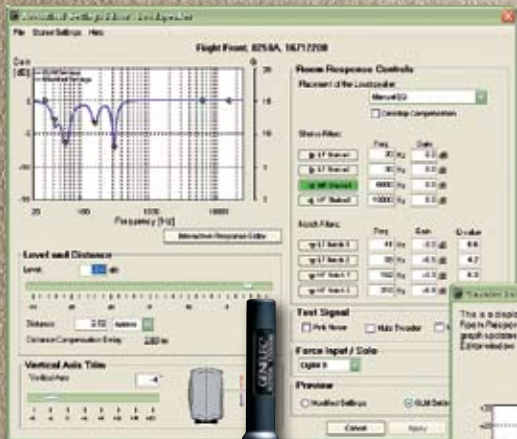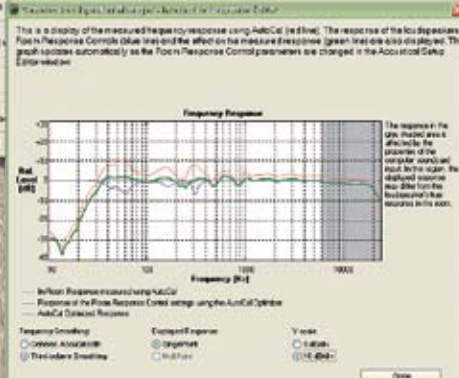

8200 DSP Series back panel

7200 DSP Series connector panel

AutoCal™ – Fast, easy and consistent acoustic self-calibration

AutoCal™ provides the industry's first integrated process for complete automated measurement, analysis and adjustment of every loudspeaker in the network to correctly integrate each of them into the mixing environment.

- Uses calibrated Genelec acoustic measurement microphone (included)
- AutoCal™ microphone automatically creates compensation file for host soundcard
- AutoCal™ provides compensation for both Level and Distance
- 8200 Bi-amp systems can utilize 4 notch filters and 4 shelving filters

- 7200 subwoofers utilize 4 notch filters, plus bass Roll-Off controls
- Adjusts correct phase for all subwoofers on the network
- Vertical Axis Offset for settings where loudspeaker acoustic axis cannot be physically optimized
- Display Editor provides accurate graphical display of measured response, filter compensation and resulting system response for each loudspeaker on the network
- SinglePoint™ and MultiPoint™ microphone positions provide measurements for one, two or three-person mixing environments

Specifications in brief	8240A	8250A	7260A	7270A	7271A
Drivers Bass Treble All drivers are magnetically shielded	165 mm (6.5") 19 mm (3/4") metal dome	205 mm (8") 25 mm (1") metal dome	254 mm (10") n/a	305 mm (12") n/a	2 x 305 mm (12") n/a
Free field frequency response of system	48 Hz - 20 kHz (± 1 dB)	38 Hz - 20 kHz (± 1 dB)	19 Hz - 100 Hz (± 3 dB)	19 Hz - 100 Hz (± 3 dB)	19 Hz - 100 Hz (± 3 dB)
Maximum peak SPL output per pair on top of console @ 1 m with music material	115 dB SPL	120 dB SPL	n/a	n/a	n/a
Maximum short term sine wave SPL output @ 1 m on axis in half space, averaged as specified	(from 100 Hz to 3 kHz) 105 dB SPL	(from 100 Hz to 3 kHz) 110 dB SPL	(from 30 Hz to 85 Hz) 108 dB SPL	(from 30 Hz to 85 Hz) 112 dB SPL	(from 30 Hz to 85 Hz) 118 dB SPL
Crossover frequency	3 kHz	1.8 kHz	n/a	n/a	n/a
Self generated noise level in free field @ 1 m on axis (A-weighted)	10 dB	10 dB	15 dB	15 dB	15 dB
Harmonic distortion at 90 dB SPL @ 1 m on axis Freq: 50…100 Hz > 100 Hz	< 2 % < 0.5 %	< 2 % < 0.5 %	n/a n/a	n/a n/a	n/a n/a
Harmonic distortion at given dB SPL @ 1 m in half space 2nd 3rd	 n/a n/a	 n/a n/a	@ 90 dB SPL from 30 to 85 Hz 3 % 3 %	@ 95 dB SPL from 30 to 85 Hz 3 % 3 %	@ 100 dB SPL from 30 to 85 Hz 3 % 3 %
Input signal Analog AES/EBU (single wire and dual wire)	1 XLR female 1 XLR female	1 XLR female 1 XLR female	n/a 4 XLR female	n/a 4 XLR female	n/a 4 XLR female
Output / Thru signal AES/EBU (single wire and dual wire)	1 XLR male	1 XLR male	4 XLR male	4 XLR male	4 XLR male
Digital audio Word length Sample rate	16 - 24 bits 32 - 192 kHz	16 - 24 bits 32 - 192 kHz	16 - 24 bits 32 - 192 kHz	16 - 24 bits 32 - 192 kHz	16 - 24 bits 32 - 192 kHz
Control network Type Connection	proprietary GLM™ network 2 RJ45, CAT5 cables	proprietary GLM™ network 2 RJ45, CAT5 cables	proprietary GLM™ network 2 RJ45, CAT5 cables	proprietary GLM™ network 2 RJ45, CAT5 cables	proprietary GLM™ network 2 RJ45, CAT5 cables
GLM™ software frequency response adjustment * Notch filters Shelving filters	2 LF and 2 HF 2 LF and 2 HF	2 LF and 2 HF 2 LF and 2 HF	4 LF n/a	4 LF n/a	4 LF n/a
System calibration *	AutoCal™, GLM™ manual, Stand-alone	AutoCal™, GLM™ manual, Stand-alone	AutoCal™, GLM™ manual, Stand-alone	AutoCal™, GLM™ manual, Stand-alone	AutoCal™, GLM™ manual, Stand-alone
Bass amplifier output power Treble amplifier output power (Long term output power is limited by driver protection circuitry)	90 W 90 W	150 W 120 W	120 W n/a	250 W n/a	500 W n/a
Power consumption Idle Full output	14 VA 110 VA	17 VA 170 VA	15 VA 150 VA	21 VA 250 VA	36 VA 500 VA
Dimensions Height Width Depth Height with Iso-Pod™	350 mm (13 13/16") 237 mm (9 3/8") 223 mm (8 13/16") 365 mm (14 3/8")	433 mm (17 1/16") 286 mm (11 1/4") 278 mm (10 15/16") 452 mm (17 13/16")	527 mm (20 3/4") 462 mm (18 3/16") 363 mm (14 5/16") n/a	625 mm (24 5/8") 555 mm (21 7/8") 490 mm (19 5/16") n/a	755 mm (29 3/4") 803 mm (31 5/8") 490 mm (19 5/16") n/a
Weight	9.4 kg (20.8 lb)	14.6 kg (32 lb)	27 kg (59 lb)	51 kg (112 lb)	82 kg (180 lb)

* The notch and shelving filters adjustments, AutoCal™ and GLM™ manual system calibration features are part of the Genelec Loudspeaker Manager (GLM™) software.

GLM™ Genelec Loudspeaker Manager

Operating system support	Windows XP, Mac OS X
Number of loudspeaker supported	30
Number of audio channels supported	24 (AES/EBU single-wire),12 (analog, AES/EBU dual-wire)
System calibration	AutoCal™, GLM™ manual
Major components included	GLM™ interface device, 8200A Calibration microphone and holder, GLM™ network cable, USB cable, Measurement signal cable, Software CD, System Operating Manual

GLM™ Multiroom Expansion

Major components included	GLM interface device GLM network cable USB cable

GENELEC ®

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

www.genelec.com