

GLM 4™ Release Note

Genelec Loudspeaker Manager

Software Version 4.1.0



GENELEC®
the sonic reference

Software Release Note

GLM 4 Version 4.1.0 for Mac and Windows PC computers

GLM 4.1.0 is a free upgrade to the hugely popular GLM 4 software for audio monitor system setup, calibration and control.

This update is highly recommended for all GLM 2 and GLM 3 users.

This update is also highly recommended for GLM 4 users as it offers firmware updates for products. To get all the benefits and improvements, please update the GLM software and perform all the firmware updates that the new GLM 4.1.0 suggests for devices in your system.

Computer requirements

	Windows 10 (64-bit)	macOS 10.11 – 11.0.x Intel CPU	macOS 11.0.x Apple Silicon CPU
GLM 4 application with Cloud AutoCal2	Compatible	Compatible	Compatible (uses Rosetta)
Local AutoCal Package	Compatible	Compatible	Not compatible
Hard Disk Space	2 GB minimum		
Internet Connection	An internet connection is needed during GLM installation and during GLM AutoCal calibration for <ul style="list-style-type: none"> • downloading software* • using GLM AutoCal for calibration**. • getting a microphone calibration file automatically at the first use of the Local AutoCal package. 		

* Link to the software download is www.genelec.com/glm

** A separate install for the Local GLM AutoCal (v1) Package is available for computers having no Internet connectivity.

Improvements in GLM Version 4.1.0

GLM 4 software updates

AutoCal 2

GLM 4.1's new AutoCal 2 room calibration algorithm takes advantage of detailed background information of each monitor in a system, producing a quicker and more accurate discrimination between direct and reflected sound. The fast calibration speed is further enhanced by a completely new 64 bit architecture and fresh, lean code. Improvements include:

- Better frequency response result – objective and subjective flatness.
- Better Time of Flight calculation.
- Improved use of filters.
- Improvement for the symmetrical calibration. Use of LF filters individually and HF filters symmetrically makes this calibration method more efficient.

Please note that AutoCal 2 is only available in the Genelec Cloud.

If instead you only wish to run AutoCal locally on your computer, then the relevant AutoCal v1 files can be downloaded separately from GLM 4 download page. Please download and install this package after you've installed GLM 4.

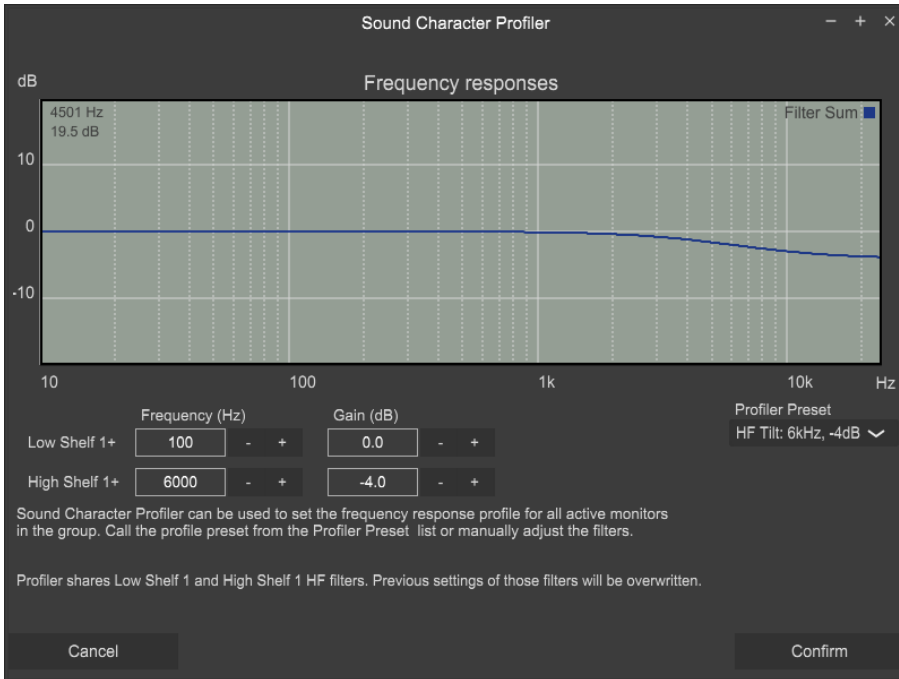
Sound Character Profiler improvements

The Sound Character Profiler (SCP) is used to set personalised equalisation for the system. Earlier versions of SCP used two high shelves and because of re-allocating filter use, changes to the SCP were needed.

Now SCP has low shelf and high shelf controls, and those will be applied to all monitors in the group. If all monitors in the group are using compatible technology (*), positive gain (max. +3 dB) for the low shelf is available. Any legacy model in the group will set the max gain to 0 dB.

The high shelf has max +3 dB for all monitor models.

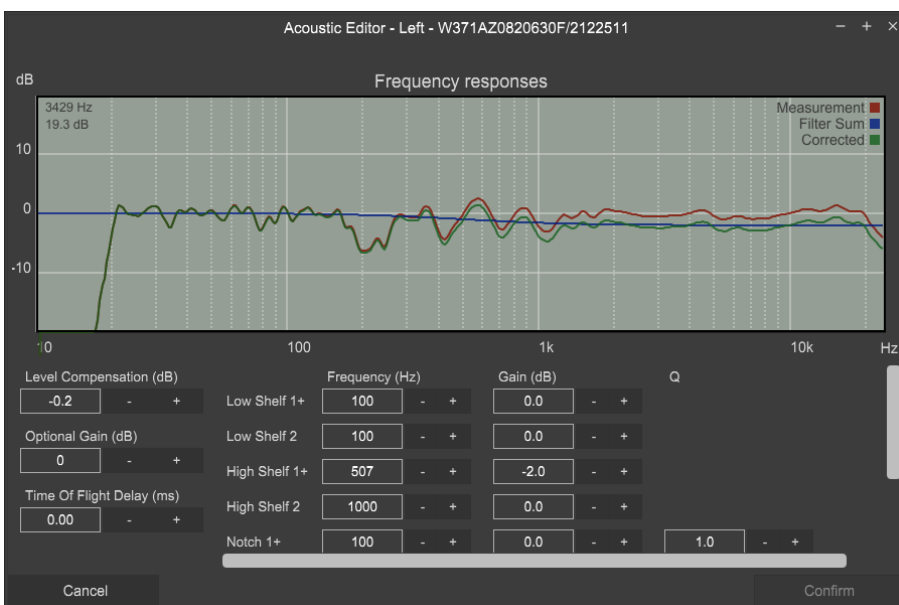
These filters will be disabled in the Acoustic editors if the SCP is in use. To enable these again, the SCP needs to be cleared by selecting 'None' from the Profiler Preset list.



EQ Filter Changes

There are three filters that can have positive gain. Those filters are marked with '+' sign after a filter name. High Shelf1 has been available earlier and it's available for all monitor models. Low Shelf1 and Notch1 with positive gain are now available for all monitors that are using compatible technology (*).

Low shelf1 and High shelf1 filters are shared with SCP and are disabled in the acoustic editor if SCP is in use.



Extended Phase Linearity for The Ones

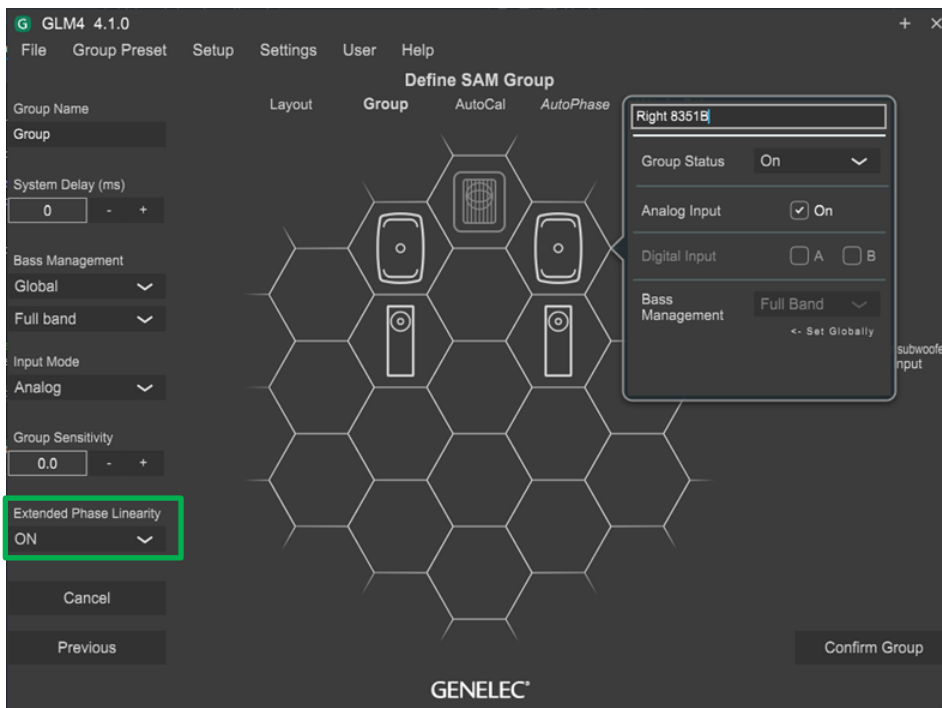
The Extended Phase Linearity is available in the Group definition page when you are using The Ones monitors (8331A, 8341A, 8351B or 8361A) in the group.

The 'ON' setting maintains a constant input-to-output delay down to about 100 Hz and has a slightly higher input-to-output latency. The 'ON' setting is a default setting for The Ones in GLM and will only affect The Ones models.

The 'OFF' setting keeps a constant input-to-output delay down to about 500 Hz and has a low input-to-output latency.

With coaxial monitors, phase linearity is a valuable feature because it improves off-axis performance and stabilises UNF (Ultra nearfield) imaging too. If using The Ones with other models that have wide linear phase characteristics, the Extended Phase Linearity (ON) setting is highly recommended.

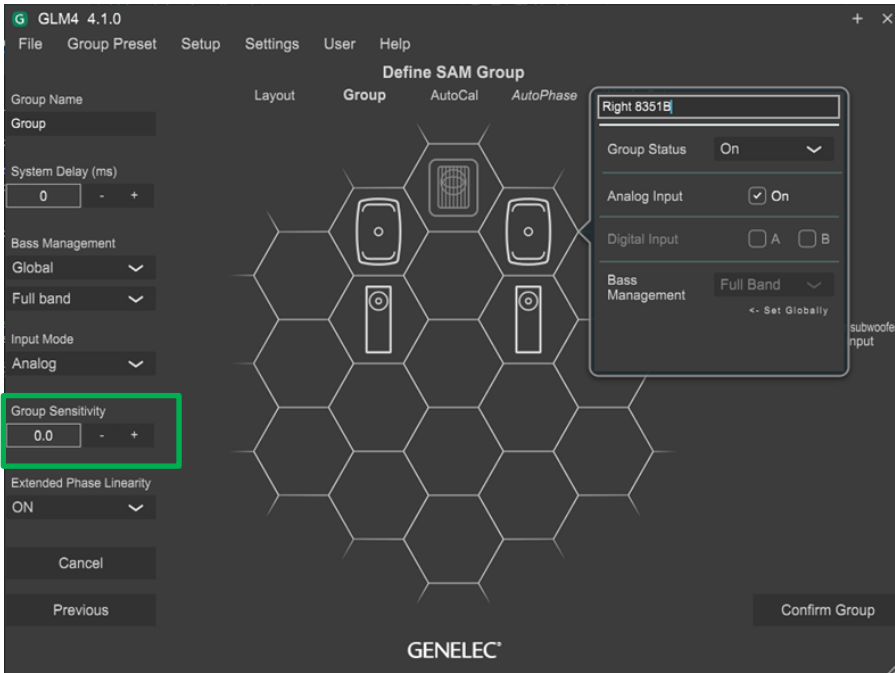
Note: Firmware may have to be updated to enable this feature. The **Firmware updates for SAM monitors, subwoofers and the GLM adapter** chapter explains how to check and update the firmware.



Group Sensitivity

The Group Sensitivity is available in the Group definition page and is very useful for matching levels between different group presets, or lowering the system sensitivity, or to reduce the idle channel noise level generated by an audio source.

For example, to compensate for a level difference of -24 dB between an analog and a digital signal source, you would keep the group sensitivity for the analog group preset at 0 dB, and set the group sensitivity for the digital group preset to -24 dB. Then, the playback levels will match when changing between the analog and digital group presets.



GLM Level Panel

When the GLM main window is inactive, for example while GLM is in the background of a DAW application, the GLM Level Panel can display a selection of information including:

- master level
- microphone level
- setup name
- GLM status
- group preset name

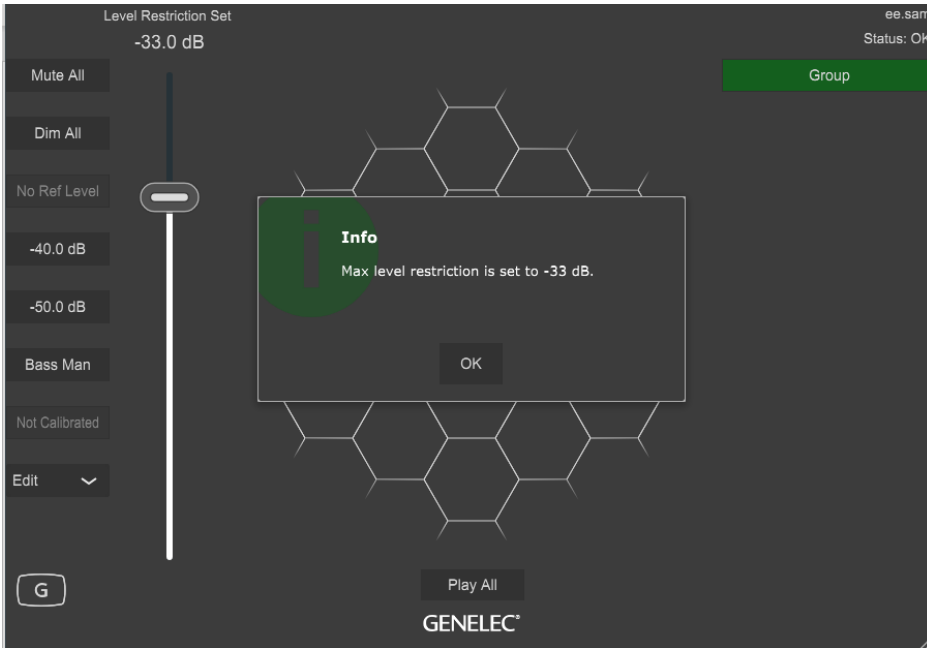
Settings | Level Panel | Visible switches the Panel on or off, and controls the duration of visibility after any change of GLM group, or volume-related settings. To disable the Level Panel, set Visible to ‘never.’

Settings | Level Panel | Position sets the location of the Panel on the computer display.



Max Level Restriction

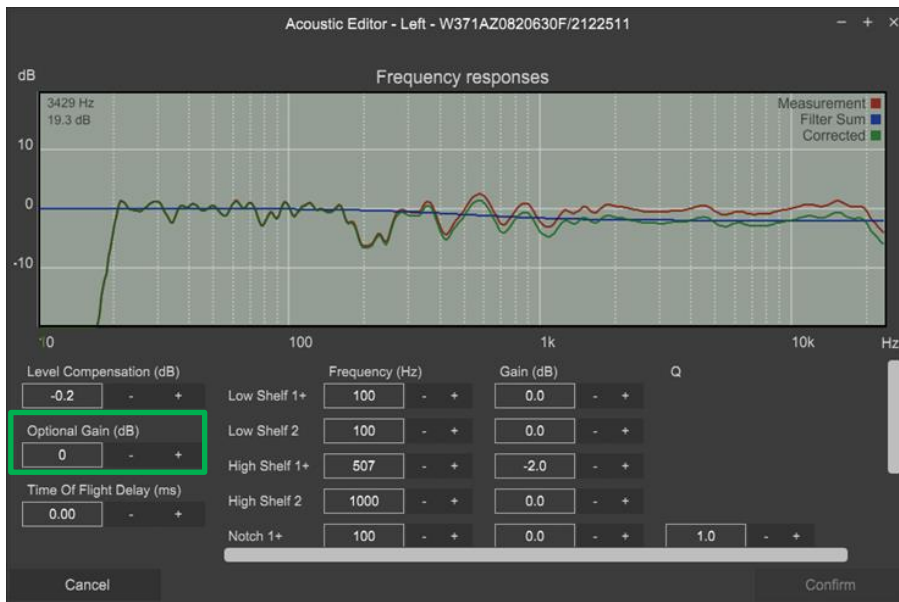
The Max Level Restriction restricts the system level to be no higher than desired. e.g when using wired/wireless volume controllers.



Optional Gain

The Optional gain in the Acoustic Editor is available for high output capacity monitors and subwoofers that supports this feature (*). The optional gain can be adjusted in 6 dB steps (levels 0, +6, +12, and +18 dB). This feature is used when the audio source cannot produce a signal level that is high enough. However, using this feature may increase the idle channel noise level created by the source.

* The Optional Gain is available for 8351A, 1237A, 1238A, 1234A, 1234AC 1236A, 1235A, S360A, 8351B, 8361A, 7380A, 7382A, and W371A.

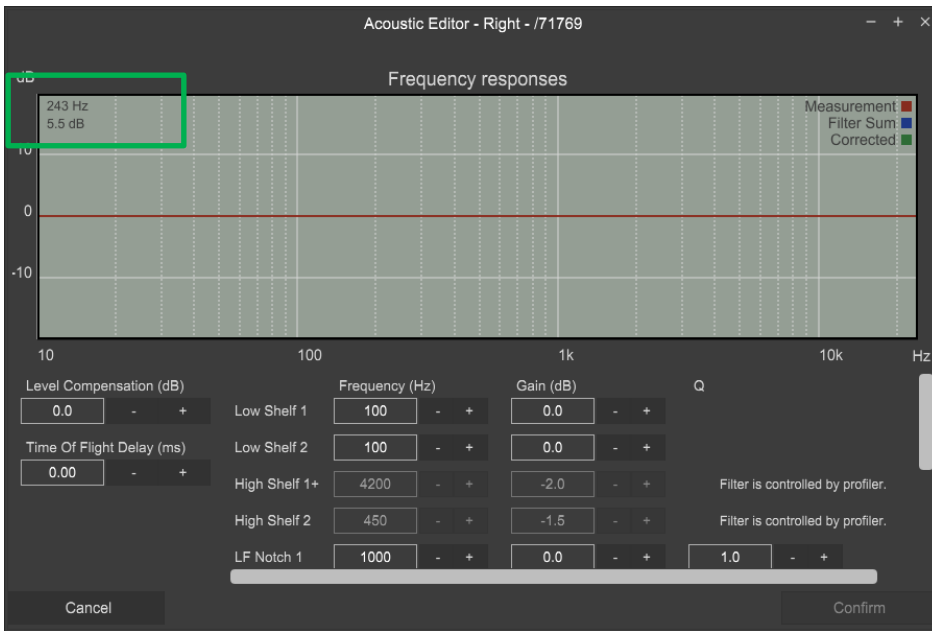


Extended Language Support

GLM is now available in 10 different languages including Chinese, English, Finnish, French, German, Italian, Japanese, Korean, Portuguese and Spanish. The language can be changed from the Settings | Language menu.

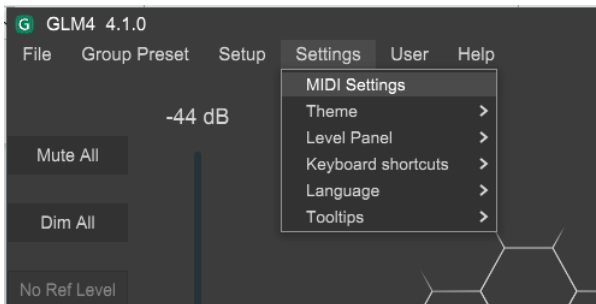
Frequency and Gain Indicators

This feature displays the current cursor position frequency and gain readings in the frequency graph.



MIDI support

The MIDI support enables a MIDI device to control the GLM volume, mute or group selection via MIDI commands. MIDI support can be enabled/disabled in the 'Settings : MIDI settings' menu. Please read more about MIDI in the GLM operation manual.



Other improvements

- The system level is common for all group presets. The system level is stored in the system setup file, so that the level set before saving the system setup file is restored when the system setup file is opened.
- The Level Preset buttons will set the system level fader to a preset level. The Level Preset button state will be unselected when you move the master level fader.
- Memory for GLM window position. GLM remember its position and size when closed.
- Keyboard shortcuts can be used when the GLM window is on the top and selected. The shortcuts can be enabled/disabled in the 'Settings' menu.

Function	Key
Group selection, previous	Left arrow
Group selection, next	Right arrow
Volume up	Up arrow
Volume down	Down arrow
System mute	Space bar
Direct group selection, groups 1-10	Number keys 1-9 and 0 for group 10

- Solo X in the Click mode selection. The clicked monitor will be soloed and others will mute. Clicking a muted monitor will solo the monitor and any previously soloed monitors will mute, so you will only have one monitor playing at any one time. To clear the 'Solo X' state, click a monitor again, click on an empty cell or use the right click and select 'Play all'. With ctrl -button down multiple monitors can be soloed.
- The LFE channel assign bug for 72xx-serie subwoofers has been fixed. This bug meant that the LFE channel wasn't ever set and LFE +10 dB didn't work, for instance.
- Issues with Serial/UniqID text fields have been fixed.
- Text hints have been added.
- The woofer system crossover and mode are now shown in the W371 info popup.

Firmware updates for SAM monitors, subwoofers and the GLM adapter

Firmware updates are necessary to ensure that your SAM system can support all the features, continues to have the highest performance, and to make your system and calibration work better. Firmware updates may also be suggested by GLM 4.1.0 for other products, if these products have not been updated earlier. Please see the instructions below to check if updates are available.

The firmware update is started in the GLM **info feature**, in the GLM software. The steps required to check and update firmware depend on whether you have previously run any system setups.

GLM Adapter firmware update

GLM 4.1.0 offers a firmware update for GLM adapters. This firmware update enhances handling of the USB interface power control in Mac and Windows computers such that the adapter always receives the necessary amount of power, and this improves system stability for all power-down situations. This firmware update is recommended for all adapters.

This firmware update also expands the range of 9310 volume controllers that can be used with the GLM adapter, for adapters manufactured since the start of 2017. If you have a GLM adapter manufactured prior to 2017, it will continue to work with full performance and with all 9310A volume controllers, but it may not remain fully compatible with all the future 9310 models. If you have an 9310A volume controller, it will continue to work without any changes, for all compatible GLM adapters.

Steps to apply firmware updates for users that have completed at least one system Setup, and this setup is now actively running.

- One at a time - right click on each monitor, subwoofer or Network Adapter icon in the GLM software Main page and choose "Show Info" to open the info popup.
- See the Firmware Version info field. The update button is active if an update is available, then press the "Update" – button to update the firmware.
- **Wait until the device is back online. This usually takes less than one minute.**
- Repeat the process for all monitors on the GLM Network.

Steps to apply firmware updates for users that are setting up for the first time and have not completed any System Setup yet.

- Connect the GLM adapter to the computer and connect monitors and subwoofers to the GLM adapter.
- Launch GLM and create a system layout.
- Define a Group.
- Skip AutoCal and skip AutoPhase (press 'skip' button).
- Save the Setup with any name.
- The main window will now open.
- Right click on each monitor, subwoofer or Network Adapter icon in the GLM software Main page and choose "Show Info" to open the info popup.

- See the Firmware Version info field. The update button is active if an update available, then press the “Update” – button to update the firmware.
- **Wait until the device is back online. This usually takes less than one minute.**
- Repeat the process for all monitors on the GLM Network.
- Do the acoustic calibration by selecting Group: Edit Group menu.

General info about GLM 4

GLM 4 offers the users of Genelec Smart Active Monitors the benefits of Mac Catalina and Big Sur compatibility, an elegant new user interface, and a host of valuable new features. By minimising the room’s distractive acoustic influence on the sound quality, GLM 4 provides an unrivalled and truthful sonic reference - wherever the user chooses to work. GLM 4 therefore powers creativity, producing mixes that translate consistently to other rooms and playback systems.

New Look and Feel

Created in conjunction with leading industrial designer Harri Koskinen, the GLM 4 user interface fuses clean, attractive aesthetics with a unique character that users will find logical and hugely satisfying. Koskinen’s inspired hexagonal design also supports the idea of natural growth, in the sense that GLM helps develop the user’s own listening skills and allows a monitoring system to be easily expanded from mono to complex immersive as the user’s needs evolve.

Dark and Light Themes

GLM 4 comes with light and dark colour themes and installs with the dark theme as the default setting. The theme can be selected in the menus.

Language Options

GLM 4 supports multiple languages. It installs with English as the default language and enables the user to select Chinese, Finnish, French, German, Italian, Japanese, Korean, Portuguese and Spanish languages.

Genelec Cloud GLM AutoCal Supports Advanced Room Calibration

GLM 4 integrates decades of research data from thousands of studios worldwide. GLM 4 integrates with the DSP within each Smart Active Monitor, allowing each monitor and subwoofer to be individually calibrated for the user’s acoustic environment, supporting systems ranging from mono and stereo system to immersive layouts containing over 80 monitors and subwoofers. GLM’s reference microphone allows the user’s room acoustics to be accurately analysed, after which GLM’s AutoCal feature optimises each monitor and subwoofer for level, distance delay, subwoofer crossover phase and room response equalisation. GLM 4 uses Genelec Cloud computing service to calculate the AutoCal calibration, offering important benefits in always enabling the newest calibration algorithms to be used.

Import of GLM 3 Setup Files

GLM 3 Setup files can be imported into GLM 4. The original GLM 3 setup file remains unchanged and can be still used with GLM 3. The imported file content defaults to be saved in the GLM 4 working area. The imported GLM 4 formatted setup file cannot be opened in GLM 3. Retain the original GLM 3 setup file for that purpose.

Support for 8300-416 GLM Adapter and Measurement Microphone

GLM 4 software calibrates and controls Genelec SAM monitors and subwoofers using Genelec Network Adapter model 8300-416 (see image). GLM 4 supports the GLM Kit containing this adapter and a



measurement microphone calibrated at the Genelec factory in Iisalmi, Finland.

Continuing Compatibility for All SAM Monitors and Subwoofers

GLM 4 supports all the SAM monitors, subwoofers and woofer systems, making GLM 4 and Genelec Smart Active Monitors an extremely secure, scalable and future-proof long-term investment. All Genelec Smart Active Monitors since 2006 are supported. Please consult the table below for a complete list of the compatible SAM products.

SAM Monitors models include **8200 monitor family:** 8240A, 8250A, 8260A; **8300 monitor family:** 8320A, 8330A, 8340A, 8350A, 8331A, 8341A, 8351A, 8351B, 8361A, W371 woofer system; **8400 monitor family:** 8430A; **1000 and 1200 monitor families:** 1032C, S360A, 1237A, 1238A, 1238AC, 1238CF, 1238DF, 1234A, 1234AC, 1235A, 1236A; **SE system:** 8130A when used with SE7261A subwoofer (SE System)

SAM Subwoofer models include SE7261A, **7200 family:** 7260A, 7270A, 7271A; **7300 family:** 7350A, 7360A, 7370A, 7380A, 7382A

Other SAM devices include 9301A AES/EBU Interface, 8300-416 GLM Adapter

Unlimited MultiPoint Measurement Positions

GLM 4 supports unlimited calibration microphone positions. During the GLM AutoCal process, the primary microphone position is measured first and then the user is free to continue measuring as many microphone positions as needed to cover the listening area.

More information

For more information about GLM 4 software, please click link [GLM](http://www.genelec.com/glm) (<http://www.genelec.com/glm>). Here you can download the latest GLM 4 software. If you have any questions, please do not hesitate to contact us!

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