

Galileo® GALAXY™ 816 Network Platform



The Galileo GALAXY™ 816 Network Processor is a sophisticated loudspeaker management tool for controlling all Meyer speaker types. The GALAXY loudspeaker processor harnesses open-source AVB technology to extend a new level of audio control in driving and aligning loudspeaker systems with multiple zones. It provides a powerful tool set for corrective equalization (EQ) and creative fine-tuning for a full range of applications from touring to cinema.

Users can readily program the GALAXY processor using Compass software running on a host computer or via the Compass Go application for the iPad. Compass control software includes custom-designed settings to integrate families together, as well as for each family of speakers. For example, the Delay Integration feature matches the phase characteristics between Meyer speaker families to ensure the most coherent summation.

The GALAXY audio processing sample rate is 96 kHz; A/D and D/A conversion are 96 kHz/24 bits; the AVB streams are 24 bits/96 kHz. GALAXY satisfies the Avnu Alliance certification for network transmission, timing, and synchronization.

Processing tools for inputs and outputs include U-Shaping and parametric EQs, and delay. Output processing also includes All Pass filters, polarity reversal, atmospheric correction, and

Low-Mid Beam control.

The built-in summing and delay matrices allow a user to easily assign gain and delay values, respectively, at each cross point. This capability greatly facilitates using one loudspeaker to satisfy multiple purposes.

Front panel controls let a user intuitively and quickly operate the GALAXY 816 processor without a computer during live use.

The rear panel includes two SIM bus ports for direct connection to Meyer Sound’s SIM® 3 audio analyzer, allowing the GALAXY 816 processor to function as a line switcher for the analyzer. With this capability, a user can take measurements from any selection of GALAXY inputs and outputs without patching beyond a single connection to the analyzer.

The GALAXY 816 has the following I/O:

- Inputs A-H can receive analog, AES3, or AVB signals
- Outputs 1-16 can be analog or AVB signals

The GALAXY 408 and GALAXY 816-AES3 processors have the same audio processing capability with different I/O. See their data sheets for comparison.

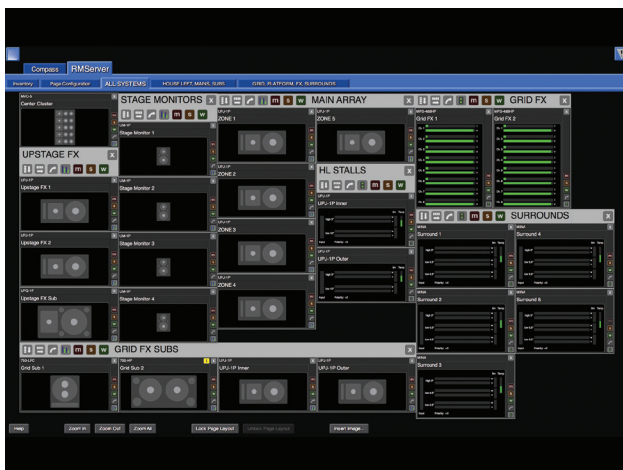
FEATURES AND BENEFITS

- Complete parameter control with Compass desktop software for Mac® and Windows®
- Mobile parameter control with the Compass Go application for iPad
- 5-band U-shaping on inputs and outputs
- 5-band parametric EQ on inputs and 10-band parametric EQ on outputs
- High/low pass filters with slopes up to 48 dB per octave
- Fixed latency over all channels: 0.6 ms for analog-to-analog
- Optional asynchronous sample rate converters for AES3 inputs
- Cross point delay and summing matrix
- Atmospheric correction filters
- Avnu-certified AVB device communicates via asynchronous AM824 packets
- Synchronize multiple GALAXY processors and other clock-driven devices using the System Clock, which can be set to internal or external
- Input voltage ranges between +16 dBu and +26 dBu make it compatible with most consoles
- Integrates with SIM 3 Audio Analyzer System and other system measurement tools
- Access protection policies can restrict the GALAXY settings accessible to each engineer
- Easily integrates with third-party controllers, such as AMX and Crestron

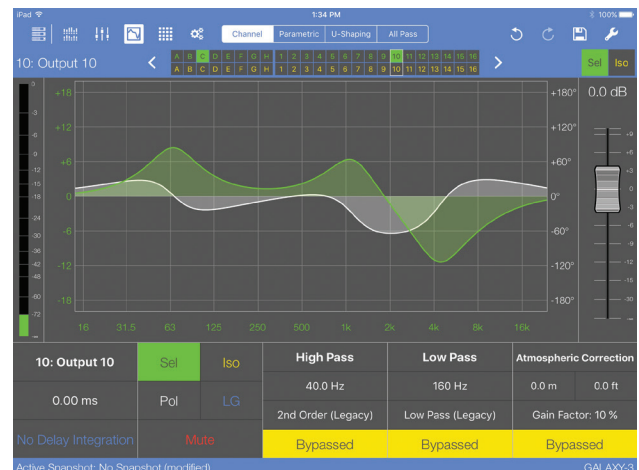
COMPASS SOFTWARE

The Compass control software provides comprehensive control of the GALAXY processor from an intuitive graphical user interface hosted on a Mac or Windows-based computer. Compass software allows the user to control all features on multiple units.

Combining the key functionalities of the Compass software and the simplicity and mobility of the iPad, the Compass Go application makes system setup and tuning easier and more intuitive. Download the free app from the Apple App Store, and connect it to Galileo, Galileo Callisto, and Galileo GALAXY processors on the same Wi-Fi network.



Compass Screen



Compass Go Screen

SPECIFICATIONS

INPUTS	
Input Section	8 analog/AES3 inputs (gold-plated XLR-F) or 8 AVB processed inputs (RJ-45 network ports)
Selectable Maximum Input Level	+16 dBu or +26 dBu into 10 k Ω
Metering	4-segment LED ladder meters on each input
Input Processing	Gain, 500 ms delay range at each input (non-fading), 5-band parametric EQ, 5-band U-Shaping EQ
OUTPUTS	
Output Section	16 analog outputs (XLR-M), or 16 AVB outputs (RJ-45 network ports)
Selectable Maximum Output Level	+16 dBu or +26 dBu into 50 Ω
Metering	LED lights: green to indicate signal presence; red for clipping on each output
Output Processing	Gain, 2000 ms delay range, polarity reversal, 10-band parametric EQ, 5-band U-Shaping EQ, delay integration, Low-Mid Beam Control, atmospheric correction, simultaneous low- and high-pass filters with slopes up to 48 dB per octave.
MATRIX ¹	
Summing Matrix	Sparse 32 x 16 summing matrix
Delay Matrix	Sparse 32 x 16 tap Delay Matrix; 500 ms delay range at each cross point (non-fading)
PROCESSING	
Digital Conversion	24-bit resolution, 96 kHz sample rate
Internal Processing	Up to 64 bits, 96 kHz
Processor	FPGA-based audio processing
NETWORK CONNECTORS	
Network Control	Two RJ-45 ports for audio and client control from a Mac or Windows-based computer
AVB Network Audio ²	8 AVB processor inputs, 16 AVB processor outputs; AM824 non-blocking, asynchronous packetization at 24 bits/96 kHz with 8 channels per stream
SIM	Two SIM bus port to link the GALAXY 816 processor to the SIM 3 audio analyzer
AC POWER	
Connector	PowerCon 20
Operating Voltage Range	100–240 VAC, 50/60 Hz
Current Draw	115 VAC: 0.35 A rms 230 VAC: 0.17 A rms 100 VAC: 0.40 A rms
PHYSICAL	
Dimensions	2 RU: W 19.00 in (483 mm) x H 3.48 in (88 mm) x D 16.14 in (410 mm)
Weight	16.8 lb (7.6 kg)
ENVIRONMENTAL	
Temperature	Operating Range: 0° C to +45° C; Non-Operating Range: < -40° C or > +75° C
Humidity	to 95% at 35° C non-condensing
Operating Altitude	0 – 2000 m (6560 ft)

NOTES

- Each matrix has eight processed inputs as well as 24 unprocessed matrix inputs. Up to 232 of 512 cross points can be set simultaneously.
- The GALAXY processor can listen to up to eight AVB input streams, each containing eight channels.
- The GALAXY processor can transmit up to four AVB streams: outputs 1-8, outputs 9-16, input splits, SIM probe points.

ARCHITECTURAL SPECIFICATIONS

The network processor shall include 96 kHz audio processing and utilize variable length integers with up to 64 bits of resolution for up to eight AVB, analog or AES3 input channels and 16 AVB or analog output channels. Input channels shall include dedicated processing for mute, gain, delay, U-Shaping, and 5-band parametric equalization; output channels shall include mute, gain, delay, polarity reversal, U-Shaping equalization, 10-band parametric equalization, and delay integration, as well as high- and low-pass filters, atmospheric correction filters, and subwoofer integration.

Analog and AES3 input connectors and analog output connectors shall be balanced, gold-plated XLR connectors with high-current line drivers capable of supplying output voltages up to +26 dBu, without clipping, into loads of 50 Ohms or higher. The system's sophisticated digital matrix processor shall allow routing and gain delays from any input, or combination of mixed inputs, to any combination of outputs with cross point delays and a fixed latency for GALAXY (AD/DA) regardless of the processing applied to the signals.

The front panel shall include a two-line LCD display for device, current snapshot, and firmware information, as well as LED indicators for audio signal metering, AVB Sync, Audio Clock, Power, Controller, and SIM3 connections. The front panel shall also include illuminated mute switches and signal/clip indicators for output channels.

Password protection shall be available to avoid unwanted parameter changes. The unit shall be controlled remotely from a Mac or Windows-based computer via Ethernet or wirelessly from an iPad; the client server control software shall have bidirectional communication to ensure that parameters are in sync.

The loudspeaker management system shall include direct connectivity to Meyer Sound's SIM 3 audio analyzer so that measurements can be taken directly from the unit.

The unit shall be housed in a two-space, 19-in rack-mount cabinet, measuring 16.14 in (410 mm) in depth, and weighing just 16.8 lb (7.6 kg). Its AC inlet shall be a powerCON 20 A locking connector to prevent unwanted power disconnections. Its two network inlets shall be EtherCON RJ45 connectors. The network processor shall be Avnu Pro-A certified.

The network processor shall be the Meyer Sound Galileo GALAXY 816 and its software shall be the Compass control software.

