

The Future of Automotive In-cabin Acoustic Testing is here!

GRAS PR0003 & PR0004 AutoArrays

The Gold Standard in Cabin Acoustic Measurements

Today's drivers expect more than just horsepower—they demand a quiet ride, free from intrusive noise, and an immersive audio experience. Whether it's an internal combustion engine vehicle or an EV, in-cabin acoustic quality has become a key differentiator in automotive design. From benchmarking sound systems to tuning them for optimal listening and minimizing unwanted noise for improved NVH performance, precise and repeatable measurements are essential.

The GRAS PR0003 and PR0004 AutoArrays are robust, 6-microphone arrays engineered for precise and repeatable in-cabin acoustic measurements. The PR0003 features a "Cross" configuration based on established test methodologies used by companies such as Harman. In contrast, the PR0004 adopts an "AES" configuration aligned with the AES TC-AA (Audio Engineering Society Technical Committee on Automotive Audio) guidelines. These arrays enable high-resolution spatial characterization of vehicle interiors, empowering automotive OEMs and audio engineers to accurately quantify and optimize cabin soundscapes.

With the GRAS AutoArray, automotive manufacturers gain the precision, consistency, and ease of use needed to deliver world-class in-cabin audio experiences—today and into the future.

Why It Matters

- Automotive OEMs and car audio system manufacturers need a reliable, repeatable method for measuring the key performance attributes of their audio systems.
- As EVs eliminate engine noise, other sound sources become more prominent—from HVAC systems to road noise, electric motor noise and wind noise.
- Today's customers benchmark cabin acoustics, expecting whisper-quiet rides and flawless in-car entertainment.
- To fine-tune cabin acoustics, audio playback, and NVH characteristics, OEMs need trustworthy, high-quality data.



How the GRAS AutoArray supports your work

The GRAS PR0003 and PR0004 AutoArrays are precision-engineered tools developed in collaboration with leading automotive audio experts. Aligned with the AES TC-AA recommendations and established test methodologies used by industry leaders, they enable high-resolution spatial characterization of the in-cabin acoustic field.

Here's how they support your sound optimization journey:

True-to-life testing – Accurately captures how passengers perceive sound from real seating positions.

Repeatable results – Precision positioning tools ensure consistency across vehicles, test campaigns, and laboratories.

Benchmarking support – Ideal for comparing vehicles, audio systems, and tuning setups using standardized protocols.

Faster development – Simplified setup, internal cabling, and a single-connector design make deployment quick and efficient—whether in R&D or end-of-line testing.



Key Features

Optimized for 1/4" Microphones

Compatible with GRAS 46BC, 46BL-1, 46BD, and 46BE microphones.

Two Configurations, One Solution

- PR0003 AutoArray – Cross Configuration: Adheres to established methodologies employed by industry leaders such as Harman.
- PR0004 AutoArray – AES Configuration: Conforms to AES TC-AA in-car acoustic measurement recommendations.

Adjustable Pitch Angle

The array's pitch angle can be fixed at the standard 30° or freely adjusted to other angles as needed. A magnetic inclinometer is included for accurate pitch angle measurement.

Flexible Seat Mount

A durable, adaptable mount that ensures consistent and repeatable array placement on the vehicle seat.

Single-Cable Convenience

All six microphone signals are internally wired and routed through a single 7-pin LEMO connector –streamlining setup and minimizing cable clutter.

Robust Build Quality

Engineered for daily use in real-world testing environments, with rugged materials and secure microphone holders.

Precise Positioning Tools

Includes bull's-eye spirit levels, rulers, and a magnetic inclinometer to ensure accurate array alignment and reproducibility across test setups.

Pair It with the Best: GRAS 46BC and 46BL-1 microphones

GRAS 46BC – High-Sensitivity 1/4" Multifield Microphone

Specifically designed for non-ideal in-cabin acoustic environments, the 46BC delivers accurate, repeatable measurements even in the complex sound fields found inside vehicles.

GRAS 46BL-1 – High-Sensitivity 1/4" Pressure Microphone

Offers an exceptional signal-to-noise ratio, making it ideal for capturing low-level audio signals—perfect for today's quiet EV cabins and high-performance audio systems.

The Complete Automotive Acoustic Measurement Solution

Together, the GRAS AutoArrays and these microphones deliver unmatched precision, consistency, and reliability—empowering automotive engineers to optimize cabin acoustics with confidence.

Built for the Automotive Test Lab

Designed specifically for in-cabin acoustic testing, the GRAS AutoArrays are ideal for:

- Audio system performance testing and characterization
- Audio system tuning and optimization
- Cabin acoustic benchmarking and comparison
- Sound field mapping and analysis
- In-cabin NVH (Noise, Vibration & Harshness) measurements

They can also be deployed in any acoustic testing scenario that benefits from multi-microphone array setups.

