

AXIOMETRIX SOLUTIONS

Military Communication Systems

Axiometrix Solutions

APPLICATION NOTE // By Lars Winberg

Precision Testing Solutions for Military Communication Systems

In mission-critical environments, clear and reliable communication is essential for operational success and personnel safety. GRAS Sound & Vibration and Audio Precision, both part of the same trusted group of companies, provide cutting-edge testing equipment for the development, evaluation, and optimization of military communication systems. Together, we deliver unmatched expertise and solutions to ensure your communication devices meet the highest standards of performance and durability.

Comprehensive Testing Solutions for Military Communication Systems

Our advanced acoustic and audio testing equipment is designed to meet the rigorous demands of military communication systems, including headsets, microphones, and communication radios:

- **GRAS Measurement Microphones:** Industry-leading microphones for precise acoustic measurements, enabling accurate testing of communication headsets and microphones in demanding environments.
- **Head-and-Torso Simulators (KEMAR):** Realistic testing setups that simulate human anatomy and hearing, ensuring optimal performance of communication devices in real-world scenarios.
- **Audio Precision Analysers:** The gold standard in audio analysis, providing high-precision testing for signal quality, distortion, latency, and other critical parameters of communication systems.
- **Impulse Noise Testing:** Specialized tools for evaluating communication devices' performance in high-noise environments, such as combat zones or military vehicles.



Applications in Military Communication

Our solutions are ideal for developing and testing a wide range of military communication systems:

- **Headsets and Microphones:** Ensure clarity, durability, and reliability in high-noise and mission-critical environments.
- **Radios and Communication Devices:** Evaluate audio signal quality, transmission performance, and noise immunity to ensure flawless communication in the field.
- **Noise-Cancelling Technologies:** Test and optimize active noise-cancellation features to maintain clear communication in extreme environments.

Why Choose GRAS and Audio Precision?

- **Proven Expertise:** With decades of experience, GRAS and Audio Precision are trusted by defense organizations and manufacturers worldwide.
- **Integrated Solutions:** Together with Audio Precision, we provide a complete range of acoustic and audio testing tools, from microphones to analysers, ensuring seamless workflows and reliable results.
- **Unmatched Precision:** Our equipment delivers industry-leading accuracy and repeatability, essential for military-grade communication systems.
- **Global Standards Compliance:** Our solutions support testing in accordance with military and international standards, ensuring your products meet stringent requirements.



Advancing Military Communication Technology

GRAS and Audio Precision are committed to supporting the development of innovative military communication systems that enhance operational effectiveness and protect lives. From acoustic measurement to audio analysis, our solutions empower you to create communication devices that perform under the most challenging conditions.



GRAS 45BC-10



GRAS 46AE



APx517



GRAS 45CB



GRAS 46AQ

Recommended Solution Configuration

Based on the application requirements and environmental conditions, Axiometrix recommends a tailored measurement solution combining high-precision microphones, signal conditioning, and analysis systems to ensure reliable, repeatable, and standards-compliant results in demanding defense environments.

Typical recommended solutions may include:

These type of headsets das often 2 functions

1. Communication, Sound Quality
2. Protection of the solders hearing.

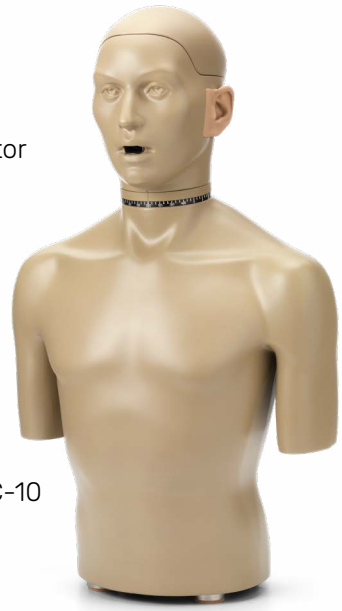
This means that the test can be divided up in two different test setups.

Equipment for the communication part:

- **GRAS 45BC-10** KEMAR with Mouth Simulator and Anthropometric.
- **GRAS 46AE**
- **APx517**

Equipment for the protection part:

- **GRAS 45CB**
- **GRAS 46AQ**
- **APx517**



GRAS 45BC-10



GRAS 45CB

© 2026 Axiometrix Solutions / All Rights Reserved — date 2026-05

About Axiometrix Solutions

Axiometrix Solutions is a global leader in advanced test and measurement solutions, supporting customers across aerospace, automotive, defense, audio, and electronics industries. With a strong focus on precision, reliability, and innovation, Axiometrix delivers technologies that enable accurate measurement and analysis in even the most demanding environments.

Axiometrix Solutions brings together three world-class brands:

- **GRAS Acoustics** – Specialists in high-precision measurement microphones and acoustic solutions, trusted for their accuracy, durability, and repeatability.
- **imc Test & Measurement** – Experts in intelligent data acquisition systems and real-time analysis for mechanical and mechatronic testing.
- **Audio Precision** – The industry standard in audio analyzers and electroacoustic test solutions.

Together, these brands provide a comprehensive portfolio of solutions that empower engineers and researchers worldwide to measure, analyze, and improve performance across a wide range of applications. Axiometrix Solutions operates globally through subsidiaries and distributors in more than 40 countries. Learn more at www.axiometrixsolutions.com