

What is special about the rugged NVH microphones?

GRAS 146AE, 147AX and 147EB microphone sets (Figure 43) are the first microphones we released that are specifically designed to overcome some very specific challenges found in Automotive NVH testing. Here there is a list of some of their more impressive characteristics:

- They are the first water and dust protected measurement microphones in the world (IP67 rated).
- They have an extended temperature performance compared to any other measurement microphone: -40 to 125 °C (-40 to 257 °F) without permanent sensitivity loss.
- Shock absorbing design: Both the diaphragm and preamplifier's internal circuitry are protected against the eventual shocks and drops that can happen in rough testing conditions.
- 146AE and 147AX have a power-on indicator for visual confirmation of the microphone status and TEDS chip reading.
- 147EB has three layers of protection to keep the microphone safe while measuring in the toughest conditions, including protection against high particle velocity impacts (like rocks and gravel). It also uses a cable with a rubber sleeve to protect the connector from salty environments and high velocity particle impacts.
- 147AX uses a magnetic mounting system called MagMount™ (Figure 44): The backside of the 147AX microphone housing has a strong built-in magnet which makes it possible to place the microphone on any magnetic surface without compromising the measurements. It is also possible to fix it easily anywhere by using a metal mounting disc allowing for fast, precise and repeatable mounting of the microphone – even in confined spaces.



Figure 1. GRAS Automotive NVH rugged microphones.



Figure 2. GRAS 147AX MagMount™ mounting system.