

# EMM8 Electret Measurement Microphone

IBF-EMM8  
omnidirectional measurement microphone



User Guide

# Introduction

## General Description

The IBF-EMM8 is an accurate microphone. It utilizes a small, accurate omni directional capsule, in a carefully crafted, rugged aluminium/steel body. Due to its small diameter (approx. 5/16") and long size (12.4") it has less influence on the sound field. Operating the mic is very simple. Use a good quality, shielded RF phono cable with plugs on both sides and connect the IBF-EMM8 to an microphone preamp such as the IBF-MP21 which provides bias power with at least 0.5 mA of current available. Adjust the preamp gain to the level required for testing.

## Features

- audio frequency range
- low noise
- low power consumption
- less influence on the soundfield for accurate measurements
- rugged anodized aluminium housing with stainless steel front end
- no shock mount needed
- calibration data on disc
- fits to standard mic clamps
- accessories: mic clamp included

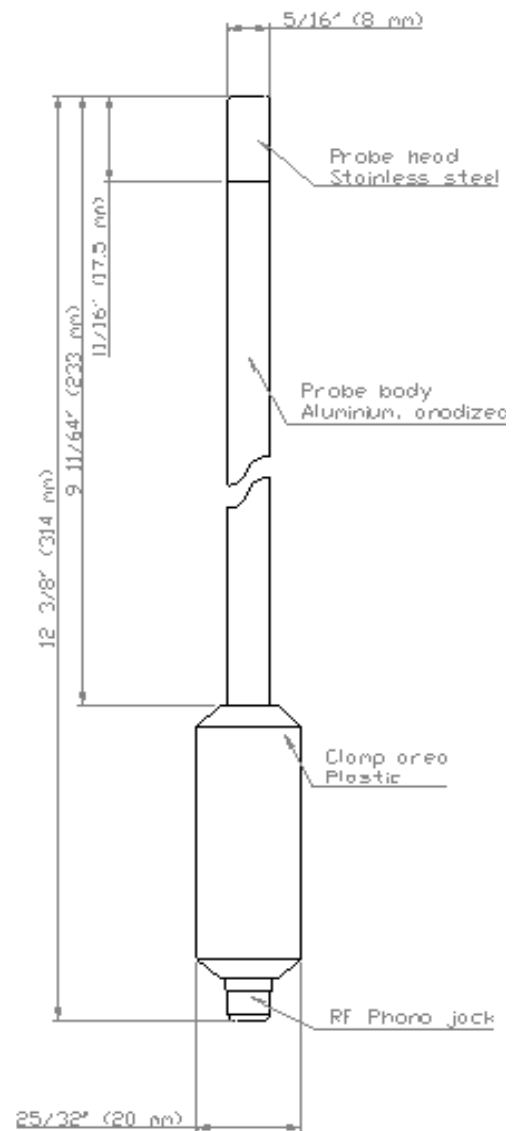
## Operational Notes

### *Why omni*

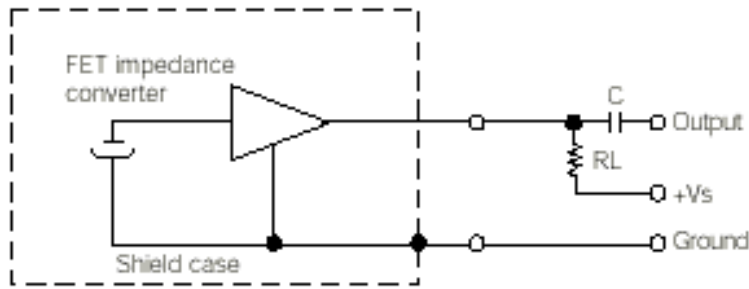
Our goal was to develop an accurate mic at low cost applicable for room acoustic and speaker measurements. It should be as precise as necessary with less coloration on acoustic signals. Therefore we have designed what you see or rather hold in your hands. A microphone for medium SPL with no cage but a grill in front of the diaphragm. This avoids heavily sound colorations contributed by resonances and reflections in such cages.

### *The electret microphone*

An electret MIC is the best value for money omnidirectional microphone you can buy. Those microphones are used in many applications where small and inexpensive microphones with good performance characteristics are used.



It is a modification of the classic condenser microphone. Whereas a condenser mic needs an applied phantom power, the electret condenser has a built-in charge. The bias voltage of around 1-10V is needed to supply the built-in FET buffer and should be applied using a 1-10kOhm resistor. Normally an electret capsule is a 2 terminal device that works like a

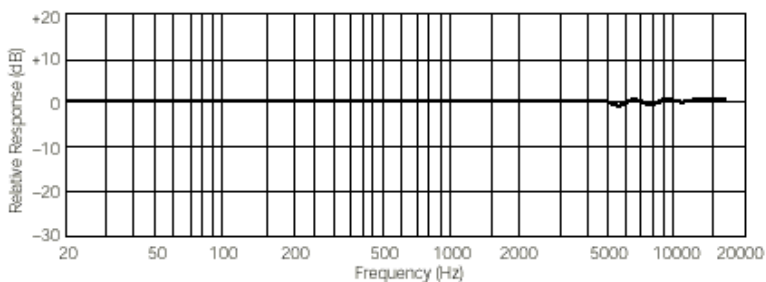


a current source when biased. The bias voltage should be kept clean, because the noise in this will get to the microphone output.

## Appendices

### Specifications

on axis frequency response      20 - 20.000 Hz +- 2dB



polar pattern (directivity)      omnidirectional

Sensitivity      6mV / Pa / 1kHz +- 4dB @bias 2.5V , 2.2 kOhm

Power requirements      1.5 - 10V / approx. 0.5 mA

peak acoustic input      > 120 dB SPL

output connector      RF phono jack

Noise      S/N ratio >58 dB

dimensions      probe dia : approx. 5/16", 8 mm  
length : 12 3/8" , 315 mm  
max dia : 25/32" , 20 mm

weight      1 1/2 oz, 42 grams (without clamp)

calibration      individually calibrated. The calibration microphone and preamp for this is the Bruel & Kjaer condenser B&K 4133 (1/2" freefield) and B&K 2639 preamp.

*Accessories*

microphone clamp included

