Akustik Elektronik Messtechnik

dipl.ing.(FH) wolfgang frank * alexanderstr. 66 * 68519 Viernheim * Germany
fon / fax : +49 (0) 6204 6608 * email : wfrank@t-online.de
url :http://www.ibf-akustik.de

EMM8 Electret Measurement Microphone

IBF-EMM8
omnidirectional measurement microphone

User Guide

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(C) Wolfgang Frank
Ingenieurbuero f. Akustik, Elektronik, Messtechnik
Alexanderstr. 66
68519 Viernheim
Germany

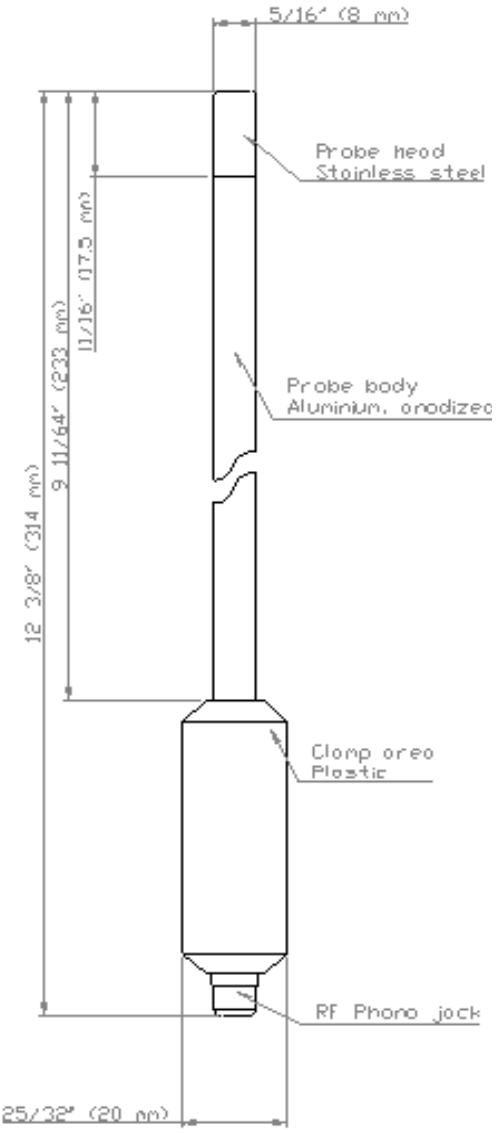
Tel. +49 (0) 6204 6608
Fax. +49 (0) 6204 6608
email. sales@ibf-akustik.de

www.ibf-akustik.de

Introduction

General Description

The IBF-EMM8 is a 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

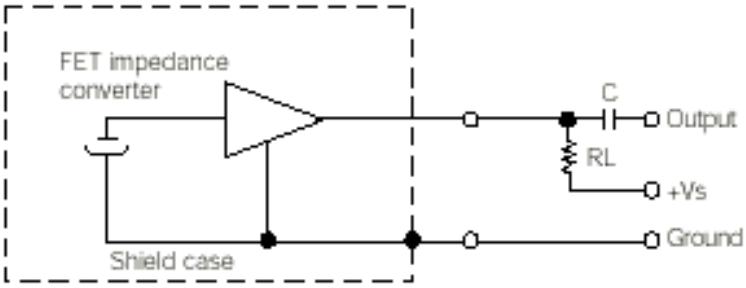
Why omni

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 inexspensive microphones with good performance characteristics are used.

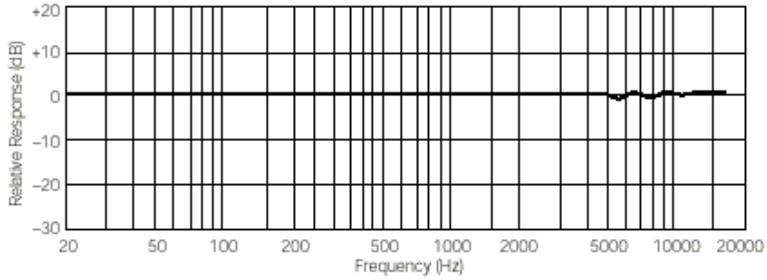
It is a modification of the classic condensor microphone. Whereas a condensor mic needs an applied phantom power, the electret condensor has a build in charge. The bias voltage of arround 1-10V is needed to supply the build-in FET buffer and should be applied using a 1-10kOhm resistor. Normally an electret capsule is a 2 terminal device that works like a 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 condensor B&K 4133 (1/2" freefield) and B&K 2639 preamp.

Accessories

microphone clamp included