Data Sheet	AUM-4537L-HD-R

PUI Audio's all-new **HD Series** microphones use premium-grade MOSFETs and diaphragms for high sensitivity and superior signal-to-noise ratio. Each microphone features GSM buzz-blocking capacitors. Upgrade the ECM microphone that you use today with a PUI Audio **HD Series** microphone.

The 10mm diameter **AUM-4537L-HD-R** is a cardioid/uni-directional microphone designed for extreme fidelity and focused recording of acoustic sources directly on-axis with the face of the microphone.

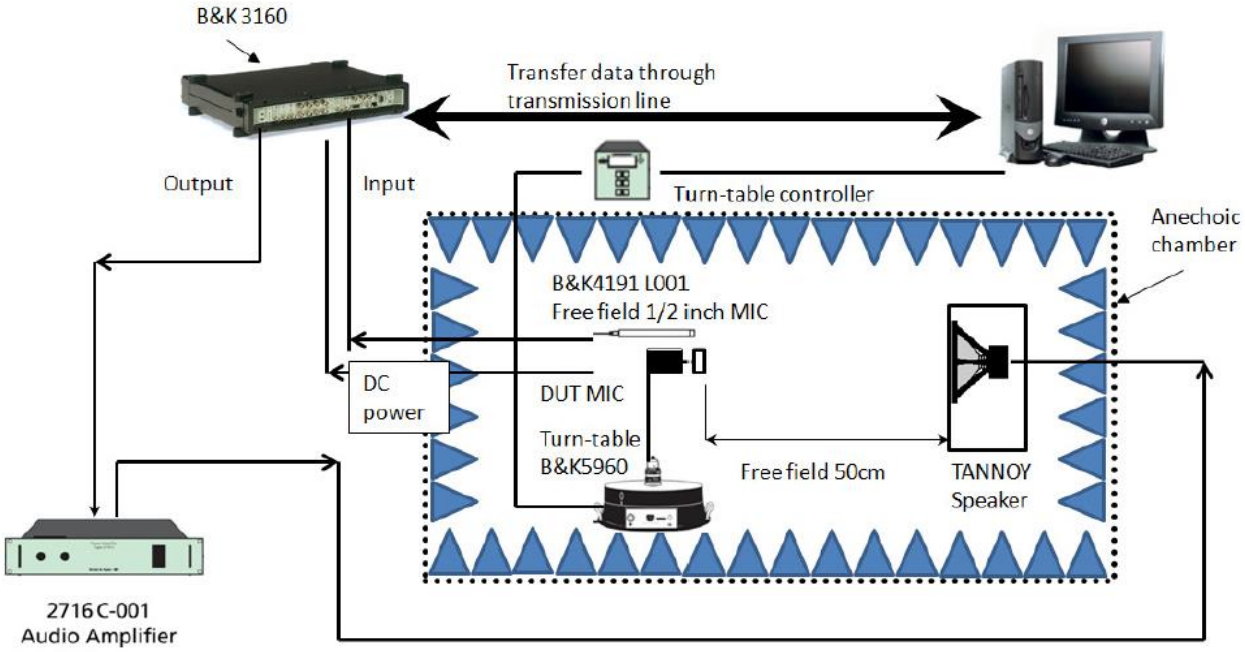
Features:

- 10mm diameter
- 4.5mm height
- -37 dB sensitivity
- 69 dB signal-to-noise ratio
- Cardioid pickup pattern

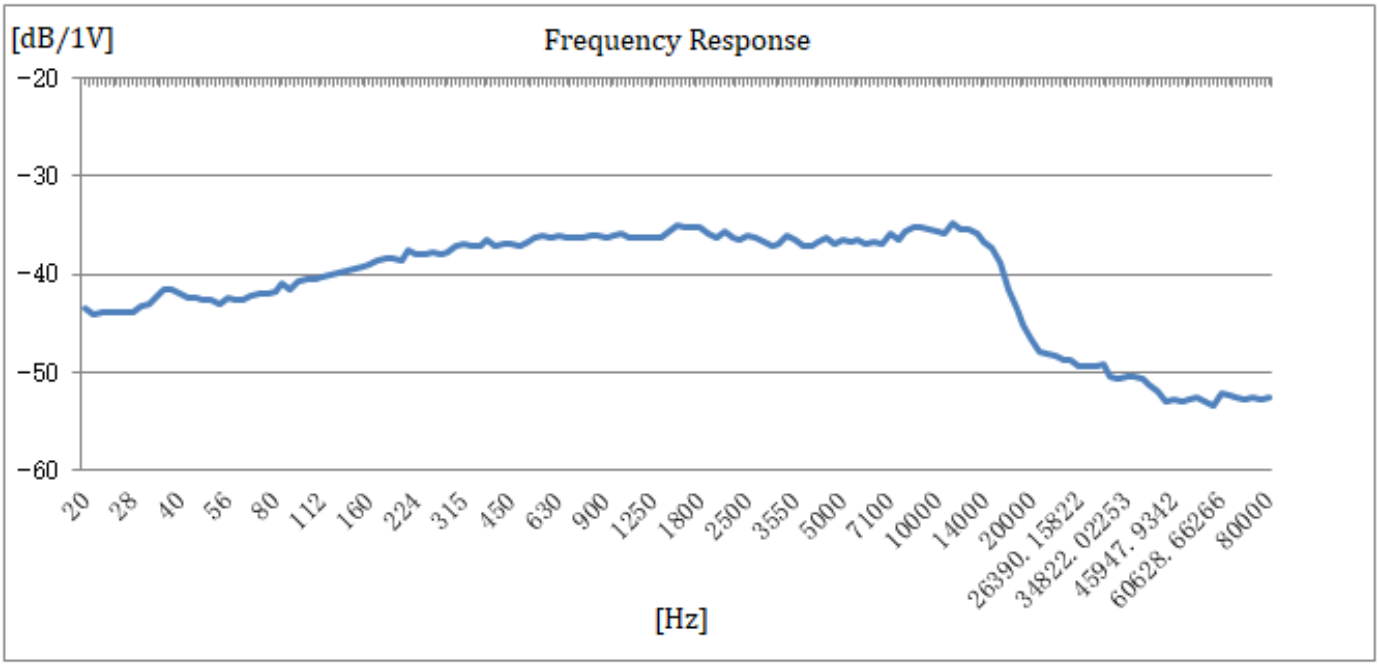
Specifications

Parameters	Values	Units
Sensitivity (1 kHz @ 50cm) 0 dB=1V/Pa	-37 ±3	dB
Rated Voltage	1.5	VDC
Output Impedance (@ 1 kHz)	2.2	kΩ
Current consumption (3VS with 2.2 kΩ RL)	500	µA
Signal-to-Noise Ratio (1kHz, 94 dB input, A-weighted)	69	dB
Decreasing Voltage (1.5V to 1V)	-3	dB
Frequency Range	20 ~ 20,000	Hz
Operating Voltage Range	1 ~ 10	VDC
Maximum SPL Input (THD<3%)	110	dB
Directivity	Uni-directional	-
Operating Temperature	-30 ~ +70	°C
Storage Temperature	-40 ~ +85	°C
Weight	<0.5	Grams

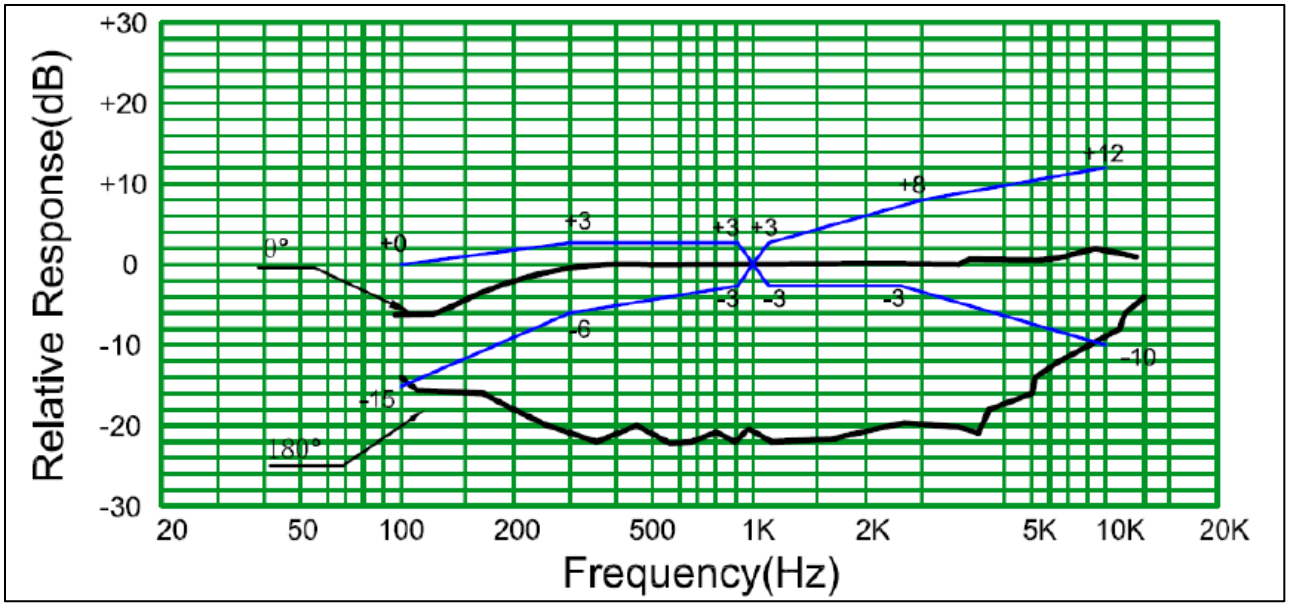
Measurement Method (in Anechoic Chamber)



Typical Frequency Response (Measured at 50cm with 1.5V input and 94 dB source)



On-Axis Frequency Response vs. Off-Axis Frequency Response

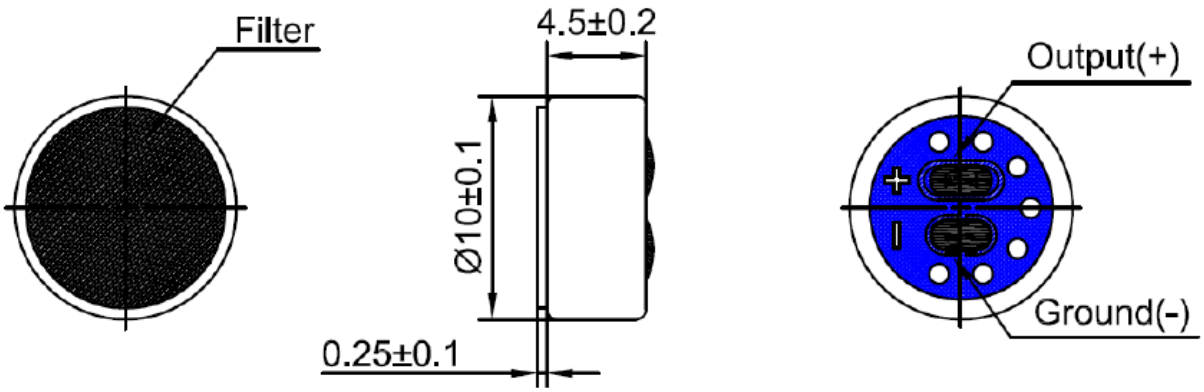


Reliability Testing

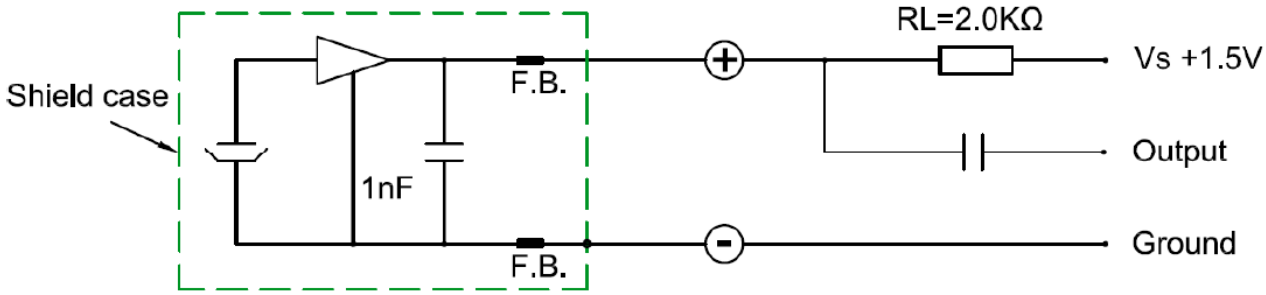
Type of Test	Test Specifications
High Temperature Test	200 hours at +70°C ± 3°C followed by two hours in normal room temperature
Low Temperature Test	200 hours at -25°C ± 3°C followed by two hours in normal room temperature
Humidity Test	200 hours at +40°C ± 3°C with relative humidity at 90% to 95% followed by 2 hours in normal room temperature
Temperature Cycle Testing	30 minutes at -25°C, 10 minutes at 20°C, 30 minutes at +70°C, 10 minutes at 20°C for five cycles, followed by 2 hours in normal room temperature
Vibration Test	10 to 55 Hz for 1 minute with 1.52mm distance, followed by a two hour 3 axis test in packaging
Drop Test	Drop microphones in packaging onto concrete floor from 1 meter height in each of 3 axis
ESD Test (according to IEC 6100)	1. Contact discharge - Discharge 6000 VDC from capacitor into microphone output through 330Ω resistor ten times. 2. Air discharge - Discharge 8000 VDC into sound hole of the microphone ten times.

After each test, the speaker's SPL shall be ±3 dB of the original SPL

Dimensions (in mm)



Recommended Drive Circuit

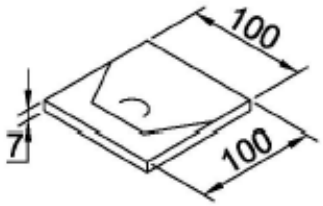
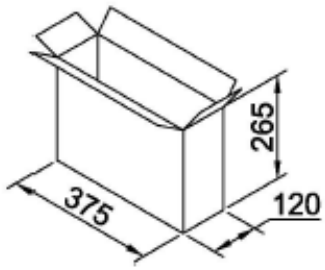
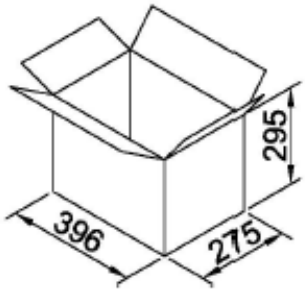


Microphone Handling Precautions

High temperature and/or static electricity may damage microphones. To ensure careful handling, we suggest following these precautions:

- Ensure the power rating of the soldering iron is below 90 watts
- The temperature of the soldering iron must be limited to 360°C ±10°C (680°F ±50°F)
- Soldering duration for each terminal shall be at or under 2 seconds
- Avoid the rear sound holes when soldering
- If practical, use a metal fixture to hold the microphone in-place and to act as a heatsink. A fixture should have appropriate diameter holes drilled through the entire fixture to prevent pressure from being placed on the diaphragm (as below)

Packaging

	Drawing	Qty (pcs.)	Size(mm) L×W×H	Material
Packing		100	100×100×6.5	Paper
Middle Package		10000 (100×100)	375×120×265	Paper
Outer Package		20000 (2×10000)	396×275×295	Paper

Specifications Revisions

Revision	Description	Date
A	Released from Engineering	5/27/2021

Note:

1. Unless otherwise specified:
   A. All dimensions are in millimeters.
   B. Default tolerances are ±0.5mm and angles are ±3°.
2. Specifications subject to change or withdrawal without notice.
3. This part is RoHS 2015/863/EU Compliant.