



Data Sheet

PUM-2745L-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 6mm diameter **PUM-2745L-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.

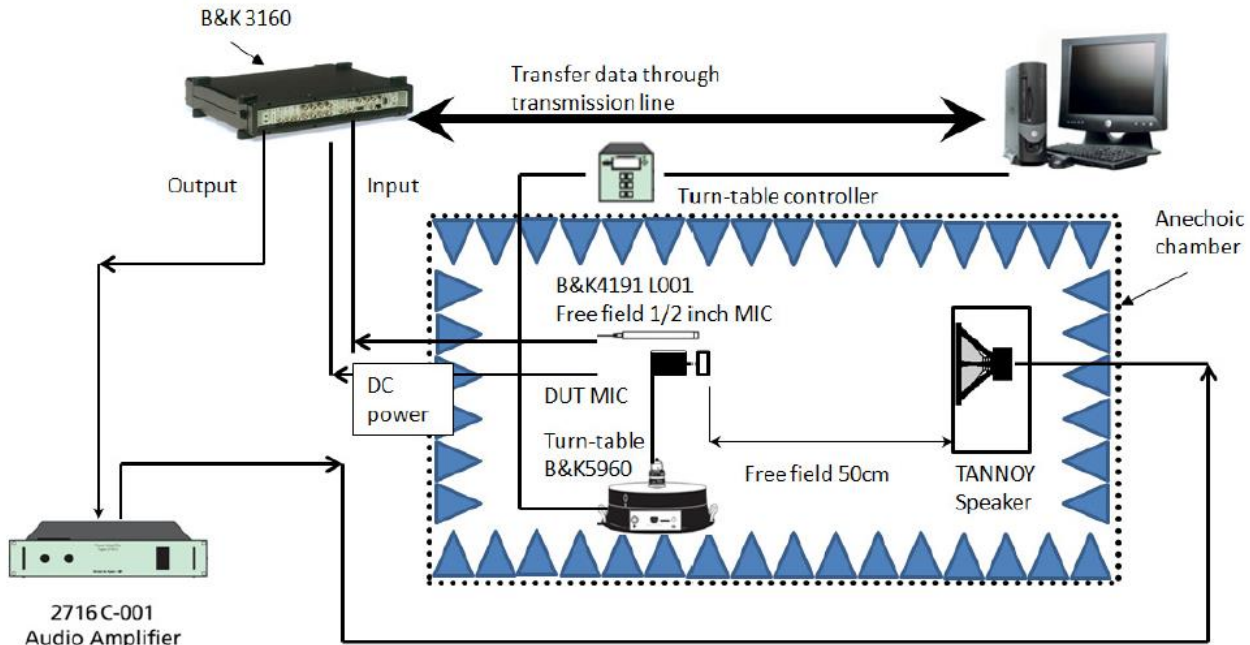
Features:

- 6mm diameter
- 2.7mm height
- -45 dB sensitivity
- 71 dB signal-to-noise ratio
- Cardioid pickup pattern

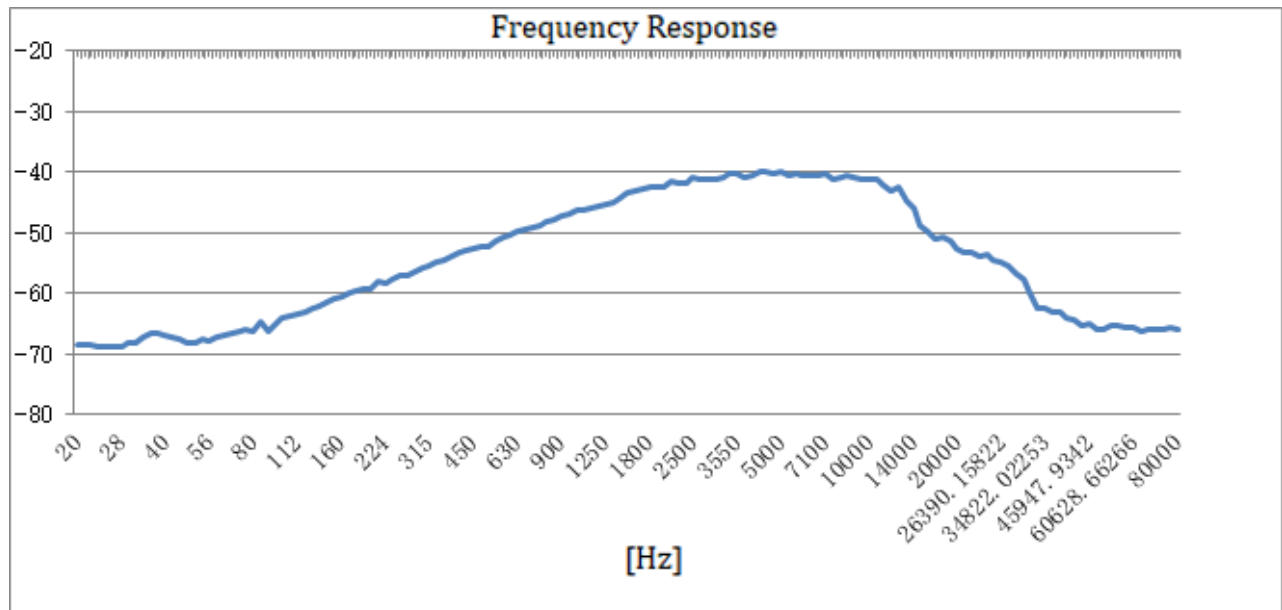
Specifications

| Parameters | Values | Units |
|--|-----------------|-------|
| Sensitivity (1 kHz @ 50cm) 0 dB=1V/Pa | -45 ±3 | dB |
| Rated Voltage | 2 | VDC |
| Output Impedance (@ 1 kHz) | 2.2 | kΩ |
| Current consumption (2VS with 15 kΩ RL) | 110 | μA |
| Signal-to-Noise Ratio (1kHz, 94 dB input, A-weighted) | 71 | dB |
| Decreasing Voltage (2V to 1.5V) | -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 |

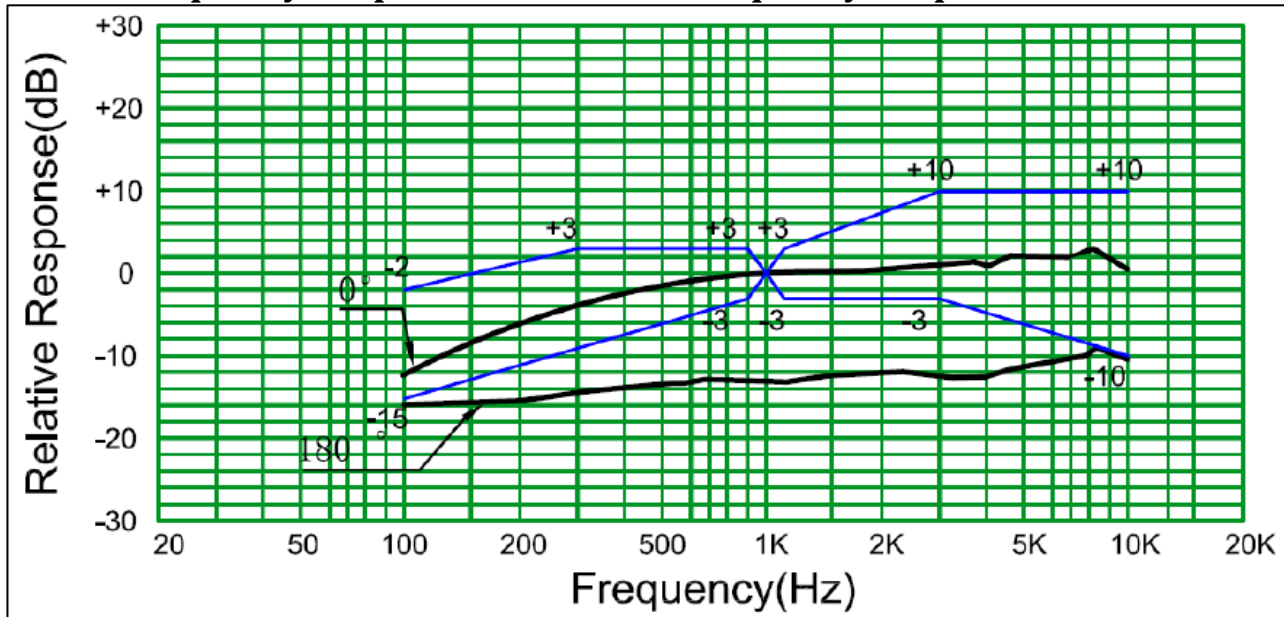
Measurement Method (in Anechoic Chamber)



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



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

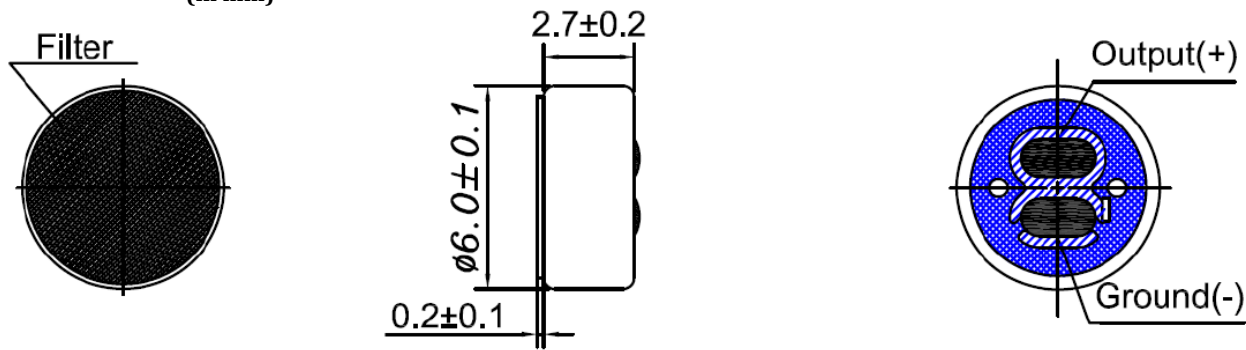


Reliability Testing

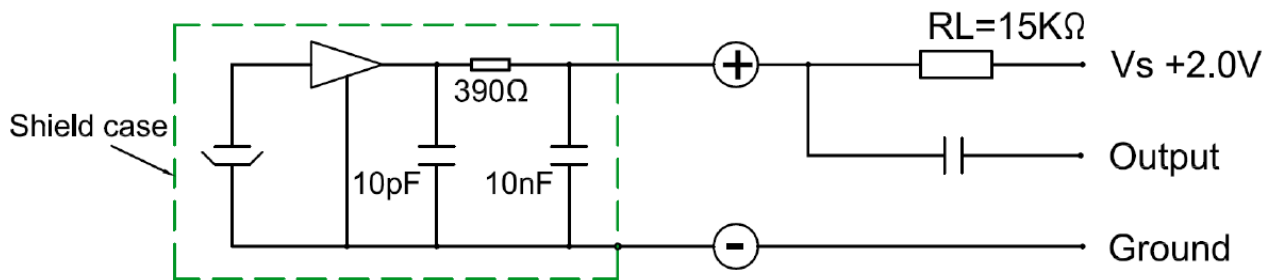
| Type of Test | Test Specifications |
|----------------------------------|--|
| High Temperature Test | 200 hours at +70°C ± 3°C followed by two hours in normal room temperature |
| Low Temperature Test | 200 hours at -25°C ± 3°C followed by two hours in normal room temperature |
| Humidity Test | 200 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) | <ol style="list-style-type: none"> Contact discharge - Discharge 6000 VDC from capacitor into microphone output through 330Ω resistor ten times. 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



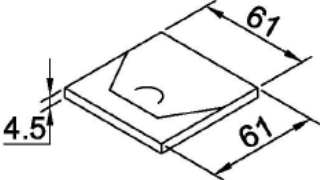
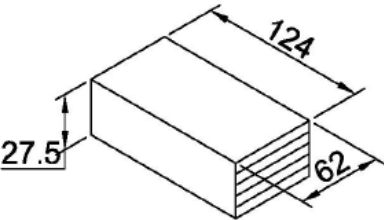
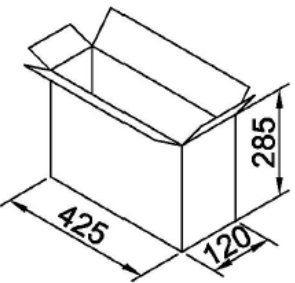
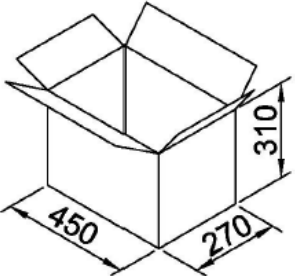
Microphone Handling Precautions

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 $360^\circ\text{C} \pm 10^\circ\text{C}$ ($680^\circ\text{F} \pm 50^\circ\text{F}$)
- 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 | 61 × 61 × 4.5 | Paper |
| Inner Package |  | 1000 (10 × 100) | 124 × 62 × 27.5 | Paper |
| Middle Package |  | 50000 (50 × 1000) | 425 × 120 × 285 | Paper |
| Outer Package |  | 100000 (2 × 50000) | 450 × 270 × 310 | Paper |

Specifications Revisions

| Revision | Description | Date |
|-----------------|---------------------------|-------------|
| - | Released from Engineering | 6/21/2021 |

Note:

1. Unless otherwise specified:
 - A. All dimensions are in millimeters.
 - B. Default tolerances are $\pm 0.5\text{mm}$ and angles are $\pm 3^\circ$.
2. Specifications subject to change or withdrawal without notice.
3. This part is RoHS 2015/863/EU Compliant.