

## Data Sheet

AOM-5024L-HD-R

PUI Audio's all-new **HD Series** microphones use premium-grade FETs 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 9.7mm diameter **AOM-5024L-HD-R** is designed for extreme fidelity in even the quietest settings from 20 Hz to 20 kHz.

### Features:

- 9.7mm diameter
- 5mm height
- -24 dB sensitivity
- 80 dB signal-to-noise ratio
- True 20 Hz to 20 kHz performance

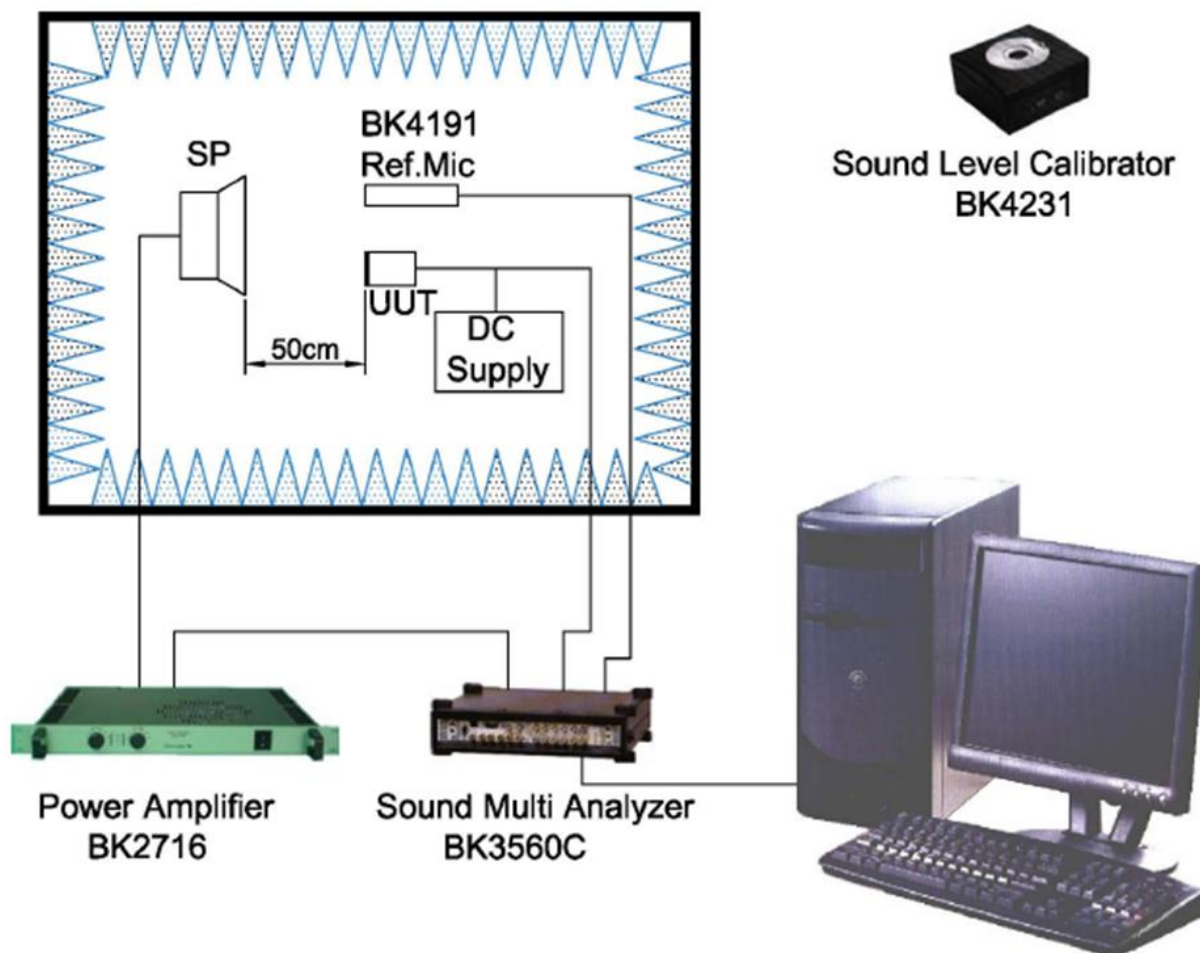
### Specifications

Parameters	Values	Units
Sensitivity (1 kHz @ 50cm) 0 dB=1V/Pa	-24 ±3	dB
Rated Voltage	3	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)	80	dB
Decreasing Voltage (3VS to 2VS)	-3	dB
Frequency Range	20 ~ 20,000	Hz
Operating Voltage Range	1 ~ 10	VDC
Maximum SPL Input (THD<3%)	110	dB
Directivity	Omni-directional	-

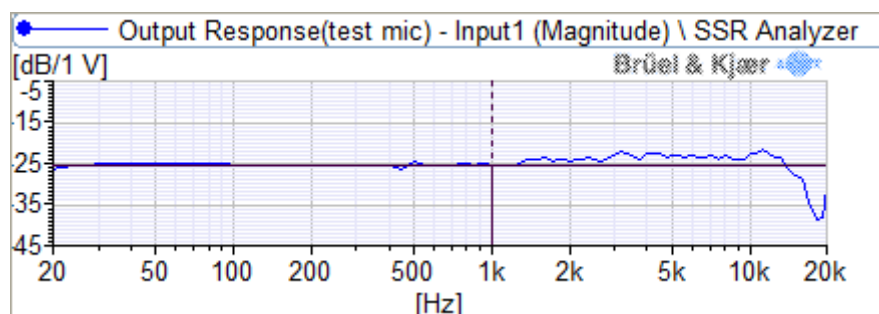
## Specifications (continued)

Operating Temperature	-30 ~ +70	°C
Storage Temperature	-40 ~ +85	°C
Weight	<0.3	Grams

## Measurement Method (in Anechoic Chamber)



## Typical Frequency Response (measured at 50cm with 3V input and 94 dB source)

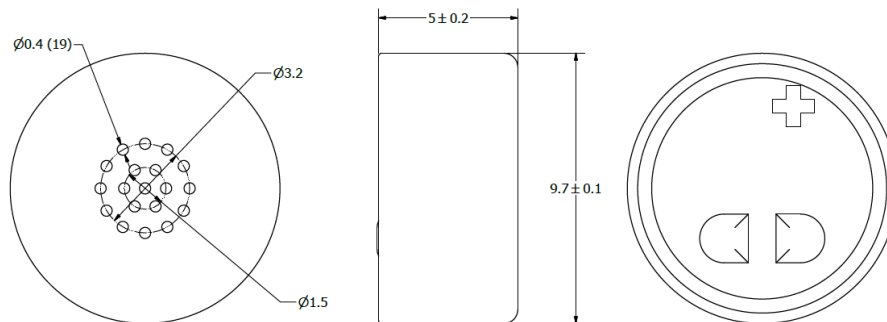


## Reliability Testing

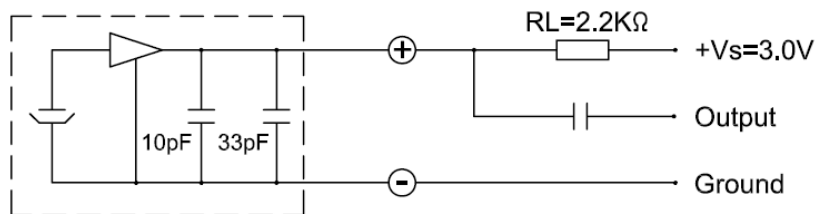
Type of Test	Test Specifications
High Temperature Test	200 hours at $+70^{\circ}\text{C} \pm 3^{\circ}\text{C}$ followed by two hours in normal room temperature
Low Temperature Test	200 hours at $-25^{\circ}\text{C} \pm 3^{\circ}\text{C}$ followed by two hours in normal room temperature
Humidity Test	200 hours at $+40^{\circ}\text{C} \pm 3^{\circ}\text{C}$ with relative humidity at 90% to 95% followed by 2 hours in normal room temperature
Temperature Cycle Testing	30 minutes at $-25^{\circ}\text{C}$ , 10 minutes at $20^{\circ}\text{C}$ , 30 minutes at $+70^{\circ}\text{C}$ , 10 minutes at $20^{\circ}\text{C}$ 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"> <li>1. Contact discharge - Discharge 6000 VDC from capacitor into microphone output through <math>330\Omega</math> resistor ten times.</li> <li>2. Air discharge - Discharge 8000 VDC into sound hole of the microphone ten times.</li> </ol>

After each test, the speaker's SPL shall be  $\pm 3$  dB of the original SPL

## Dimensions



## Recommended Drive Circuit



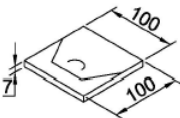
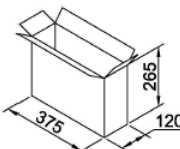
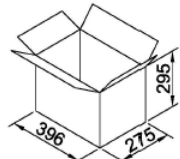
## Microphone Handling Precautions

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
- 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**

<b>Revision</b>	<b>Description</b>	<b>Date</b>
-	Released from Engineering	6/6/2017

**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 2011/65/EU Compliant.

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