

AE2500

Dual-Element Cardioid Instrument Microphone



artist elite® live sound microphones



Features

- **Revolutionary dual-element design features two elements (condenser and dynamic) enclosed in a single housing**
- **Designed specifically for kick drum; also excels on guitar/bass cabinets and percussion**
- **Dynamic element delivers the aggressive attack of the beater while the condenser captures the round tonalities of the shell**
- **Elements are positioned in a perfect phase relationship, something practically unachievable with two separate microphones**
- **Includes a 5 m (16.5') cable (5-pin XLR-type to two standard 3-pin XLRM-type connectors) for separate control over each element**
- **Robust all-metal design for enduring dependability on the road**
- **Isolation clamp provides secure mounting, versatile positioning, and effective dampening of unwanted mechanical noise**
- **Integral 80 Hz high-pass filter switch and 10 dB pad switch (condenser element)**

Description

The AE2500 dual-element instrument microphone features cardioid condenser and dynamic capsules enclosed in a single housing. Audio-Technica developed the revolutionary dual-element design to offer the distinct advantages of two different capsule types (condenser and dynamic) positioned in a perfect phase relationship, something practically unachievable with two separate microphones. Designed especially for kick-drum pickup, the AE2500 also provides exceptional audio reproduction for a wide range of musical instruments.

The microphone requires 11V to 52V phantom power only to the condenser output of the supplied cable.

The cardioid polar patterns of the microphone are more sensitive to sound originating directly in front of the elements, making them useful for controlling feedback and reducing pickup of unwanted sounds.

The microphone includes a 5 m (16.5') output cable terminating in a 5-pin XLR-type to two standard 3-pin XLRM-type connectors for separate control over each element. The output of the microphone is a 5-pin XLRM-type connector.

The microphone's condenser element is equipped with a switchable 10 dB pad and a switch that permits choice of flat response or low-frequency roll-off (via integral 80 Hz high-pass filter).

Two layers of resistive mesh form multiple densities over the dynamic element's side-entry ports, exercising precise control over the time at which off-axis signals arrive at the diaphragm.

The microphone is enclosed in a rugged housing with a multi-stage grille design. The included AT8471 isolation clamp permits mounting on any microphone stand with $\frac{5}{8}$ "-27 threads. A soft protective pouch is also included.

Operation and Maintenance

The AE2500 requires 11V to 52V phantom power only to the condenser output of the supplied cable.

Output is low-impedance (Lo-Z) balanced. The included 5 m (16.5') shielded cable features a 5-pin XLR-type input connector and two standard 3-pin XLRM-type output connectors. The balanced signals appear across Pins 2 and 3 (condenser) and Pins 4 and 5 (dynamic). Pin 1 is ground (shield). Output is phased so that positive acoustic pressure produces positive voltage at Pins 2 and 4.

To avoid phase cancellation and poor sound, all mic cables must be wired consistently: Pin 1-to-Pin 1, etc.

An integral 80 Hz hi-pass filter on the condenser element provides easy switching from a flat frequency response to a low-end roll-off. The roll-off position reduces the pickup of low-frequency ambient noise (such as traffic, air-handling systems, etc.), room reverberation and mechanically coupled vibrations. To engage the high-pass filter, use the end tip of a paperclip or other small pointed instrument to slide the switch toward the "bent" line.

The microphone is also equipped with a switchable 10 dB pad on the condenser element that lowers the microphone's sensitivity, thus providing higher SPL capability for flexible use with a wide range of users and system configurations. To engage the 10 dB pad, use the end tip of a paperclip or other small pointed instrument to slide the switch toward the -10 position.

Avoid leaving the microphone in the open sun or in areas where temperatures exceed 110° F (43° C) for extended periods. Extremely high humidity should also be avoided. Take care to keep foreign particles from entering the windscreen. An accumulation of iron or steel filings on the diaphragm, and/or foreign material in the windscreen's mesh surface, can degrade performance.

Architect's and Engineer's Specifications

The microphone shall be a dual-element design with separate condenser and dynamic elements mounted in a single housing. It shall have a cardioid polar pattern with a uniform 120° angle of acceptance and a frequency response of 20 Hz to 17,000 Hz (condenser) and 30 Hz to 10,000 Hz (dynamic). The microphone shall operate from an external 11V to 52V DC phantom power source (condenser). It shall be capable of handling sound input levels up to 148 dB (158 dB with 10 dB pad) with a dynamic range of 124 dB (condenser). Nominal open-circuit output voltage shall be 2.8 mV (condenser) and 1.9 mV (dynamic) at 1V, 1 Pascal. Output shall be low impedance balanced (100 ohms-condenser; 600 ohms-dynamic).

The output of the microphone shall be a 5-pin XLRM-type connector. A 5 m (16.5') cable with a 5-pin XLR-type to two standard 3-pin XLRM-type connectors shall be included, for separate control over each element. The microphone's condenser element shall be equipped with a switchable 10 dB pad and a switch that permits choice of flat response or 80 Hz low-frequency roll-off.

The microphone shall be 165.0 mm (6.50") long and have a maximum diameter of 55.0 mm (2.17"). Weight shall be 390 grams (13.8 oz). The microphone shall include an isolation clamp and a soft protective pouch.

The Audio-Technica AE2500 is specified.

Specifications

Elements	Condenser, dynamic
Polar pattern	Cardioid
Frequency response	20-17,000 Hz (condenser) 30-10,000 Hz (dynamic)
Low frequency roll-off	80 Hz, 12 dB/octave (condenser)
Open circuit sensitivity	-51 dB (2.8 mV) re 1V at 1 Pa (condenser) -54 dB (1.9 mV) re 1V at 1 Pa (dynamic)
Impedance	100 ohms (condenser) 600 ohms (dynamic)
Maximum input sound level	148 dB SPL, 1 kHz at 1% T.H.D. (condenser); 158 dB SPL, with 10 dB pad (nominal)
Dynamic range (typical)	124 dB, 1 kHz at Max SPL (condenser)
Signal-to-noise ratio¹	70 dB, 1 kHz at 1 Pa (condenser)
Phantom power requirements	11-52V DC, 3 mA typical (condenser)
Switches	Flat, roll-off; 10 dB pad (nominal) (condenser only)
Weight	390 g (13.8 oz)
Dimensions	165.0 mm (6.50") long, 55.0 mm (2.17") maximum diameter
Output connector	Integral 5-pin XLRM-type
Cable	5 m (16.5') dual shielded, 8-conductor cable, 5-pin XLRF-type connector at microphone, two 3-pin XLRM-type output connectors
Audio-Technica case style	R8
Accessories furnished	AT8471 isolation clamp for 5/8"-27 threaded stands; 5/8"-27 to 3/8"-16 threaded adapter; soft protective pouch

In the interest of standards development, A.T.U.S. offers full details on its test methods to other industry professionals on request.

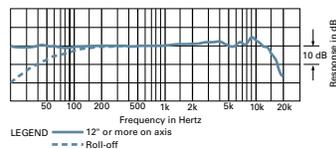
1 Pascal = 10 dynes/cm² = 10 microbars = 94 dB SPL

¹ Typical, A-weighted, using Audio Precision System One.

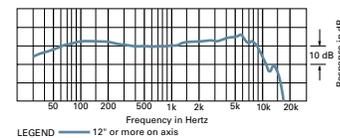
Specifications are subject to change without notice.



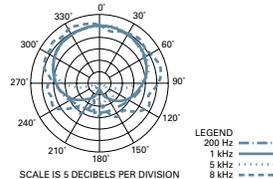
condenser frequency response:
20–17,000 Hz



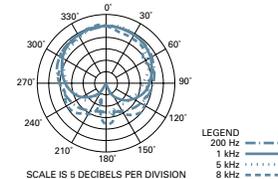
dynamic frequency response:
30–10,000 Hz



condenser polar pattern



dynamic polar pattern



 **audio-technica**

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