



COUNTRYMAN ASSOCIATES INC

E2 EARSET MICROPHONE



Supplied with cable, carrying case, black and white cable clips, wind screen and protective cap.

Pure Sound, Nearly Invisible

The E2 Earset redefines pure sound in a virtually invisible package that is easier to use than even a lavalier or podium microphone. Like the classic E6 Earset, the E2 rests over the ear, but has a much shorter boom. Its hypercardioid polar pattern provides nearly the isolation of an E6 Omni at the mouth, but with significantly less visibility. With an equalizing circuit built into the audio connector, the frequency response is tuned so you can experience full-bodied bass and precise highs that are indiscernible from an E6 Omni at the mouth. The element, boom, and new sub-miniature connector are all easily hidden on the user's face; the position near the ear eliminates breath pops and makes fitting quick and easy. This results in the smallest and most discreet professional-quality microphone available.

Excellent Isolation

In all kinds of acoustic spaces, the E2 achieves nearly the isolation (gain-before-feedback) of an E6 Omni positioned at the user's mouth. We tested the two mics in several large and small venues and confirmed that the E2 gain-before-feedback was within 3 dB of the E6 at the mouth.

There are two aspects of the E2 design that allow this to be possible so far away from the mouth: strong off-axis rejection and precisely-tuned frequency response. The off-axis rejection, as shown to the right as the difference between the solid and dashed blue curves, is strong for all frequencies in the audio band—not just 1kHz as with many competitive directional mics—so the feedback-rejection is equally effective in smaller or larger venues.

For on-axis interferences, the frequency response tuning in the connector of the E2 allows us to fully capitalize on the proximity boosting effect of the mic to achieve even stronger isolation in the voice band. Comparing the on-axis frequency responses at 5 in. (solid blue) and 24 in. (dashed black) shows that sources even a couple of feet away from the user's head will be strongly attenuated compared to the desired sound. We tuned the frequency response of the E2 to be as flat as possible in use by taking into account the frequency-shaping properties of the head, and the acoustics of the mic itself. This results in full sound, and high gain-before-feedback.

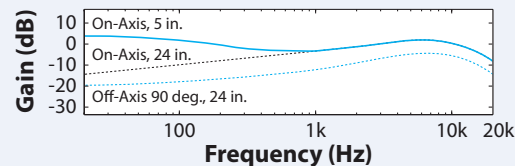
Frequency Response : 20 Hz to 20 kHz
Operating Current : 500 μ A
Operating Voltage : 1 to 2 Volts
Weight : .07 oz (2 grams)

The E2 Earset is available in two sensitivities:

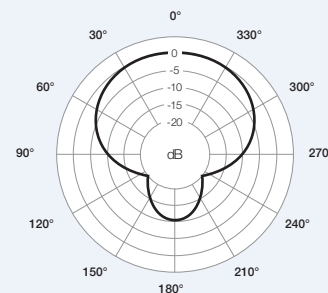
Model E2W5 for general speaking
Sensitivity: 3.0 mV/Pascal
Equivalent Acoustic Noise: 34 dBA SPL
Overload Sound Level: 130 dB SPL

Model E2W6 for loud speaking and vocals
Sensitivity: 1.0 mV/Pascal
Equivalent Acoustic Noise: 39 dBA SPL
Overload Sound Level: 140 dB SPL

Frequency Response



1 kHz Polar Response



E2 Earset Features and Operation

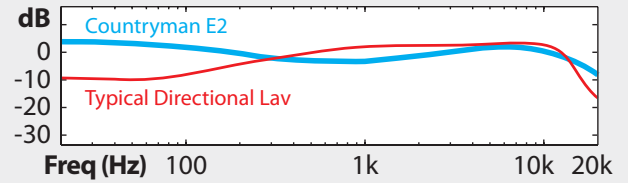
Countryman E2 vs. Competitor Directional Lavaliers

No lavalier mic can achieve the same gain-before-feedback as industry-standard Countryman Earsets. The E2 is no exception. Directional lavaliers are a step closer to the E2 in terms of isolation, but have significant sound reproduction and usability concerns.

Head facing forward

The E2 is worn approximately 5" from the mouth; a typical directional lav is positioned on the chest 8" - 10" away.

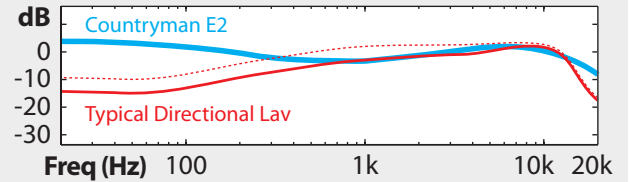
The E2 is much better at preserving the bass than the directional lav and will never sound thin or distant.



Countryman E2 and typical cardioid lavalier on the chest, approximately gain matched for the voice band at the mix board.

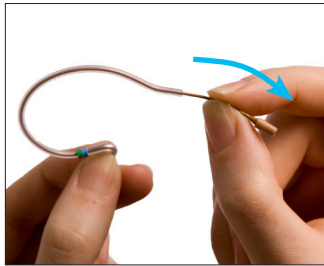
Head turned to the side

When the user turns to the side, the E2 pickup remains full and accurate. As the directional lav moves off-axis and farther from the mouth, it dramatically drops the lows, distorting the user's sound. Correcting on the fly greatly increases the chances of feedback.



The E2 is unaffected by head position; directional lavs change their gain and frequency response.

How do I wear an E2 microphone?



1. Curve the boom so that it will rest against your face when worn.



2. Put the loop over the ear with the base behind the earlobe and the capsule toward the mouth.



3. Tip the mic to point toward the mouth. The mic should be barely visible, resting against the face mid cheek or completely hidden by the hair.



4. Always use the collar clip to reduce clothing and cable noise. Use the windscreen outdoors.

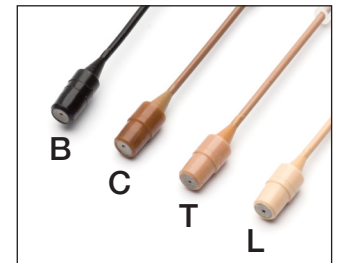
New Sub-Miniature Connector

Like the connector we use for the industry-standard E6, we designed the connector for the E2 to be tougher and more water resistant than anything else available. And smaller: the connector is smaller than the miniature E6 connector and features a flexible plastic overmold to create a positive seal against moisture. The plastic is matched in color to the protective cap on the mic, the boom, and the cable, ensuring that every component of the E2 remains hidden against the user's skin.



How do I choose the right color?

Choose your E2 color based on whether it will rest against the skin or hide entirely in a sideburn. Either way, the E2 is so small that it will virtually disappear on the user's face, even at a very short distance. For skin, tan is the most popular color choice, because it works perfectly for average Caucasian skin tones as well as olive complexions. Light beige works well in theatrical applications due to its slightly pink undertone, which is also appropriate for extremely fair skin. Cocoa is the ideal choice for African American skin tones ranging from very light to chocolate, and black is appropriate for extremely dark skin or for situations where you want the mic to be visible. When in doubt, a darker option tends to blend better and draws less attention.



Which E2 sensitivity should I choose?

Making a mic more sensitive to catch soft sounds means it will overload sooner for loud sounds. Because sound pressure levels vary between individuals and applications, we provide two sensitivities for the E2:

- The standard gain (**W5**, no colored band) is for almost all applications, including vocals and speaking.
- The lower gain (**W6**, blue band) is for powerful vocals requiring the highest overload.

