

System Includes

- ER•4 MicroPro earphones
- 5' cord with 3.5 mm stereo phone plug
- ¼" stereo phone adapter plug
- 6 white flanged eartips
- 10 foam eartips
- Filter changing tool
- 4 replacement filters
- Shirt clip
- Zippered pouch
- Storage box



Eartips

The earphones fit into the ear canals with either flanged soft plastic eartips or foam eartips. The plastic eartips can be cleaned and reused.

Important: For best performance and the most solid bass response, eartips must be inserted deeply in the ear canals.

Foam Eartips

Beige foam eartip (sm—optional)



Black foam eartip (med—included)



Yellow foam eartip (lg—optional)



Other Attachments

Airline audio jack adapter (optional)



Cable to convert "P" to "S" (optional)



About ETYMOTIC RESEARCH, Inc.

Etymotic Research, Inc. (ER) is a research, development and manufacturing company that designs products to measure, improve and protect hearing. ER has developed some of the most innovative hearing technology available today. ER products are used by musicians and others who insist on superior sound quality. Etymotic means "true to the ear."

Other ETYMOTIC RESEARCH consumer products:

- ER-6 Isolator Earphones
- ER-9, 15, 25 Musicians Earplugs
- ER-20 High Fidelity Earplugs

Warranty

Etymotic Research, Inc. warrants this product against defects in material or workmanship for a period of 1 year from the date of purchase. Proof of purchase is required. ER will repair or replace the defective product at its option if returned within the warranty period to our service facility at the address below. This warranty is in lieu of all other warranties, expressed or implied, including, but not limited to, any implied warranty of merchantability or fitness for a particular purpose.

Specifications

- Frequency response:** 20 Hz to 16 kHz \pm 4 dB
- Acoustic polarity:** + electrical = + acoustic
- Transducer type:** dynamic
- 1 kHz sensitivity (ER-4B/ER-4S):** 108 dB SPL for a 1.0 volt input
- 1 kHz sensitivity (ER-4P):** 108 dB SPL for a .25v input
- Impedance (ER-4B/ER-4S):** 100 Ohms nominal
- Impedance (ER-4P):** 27 Ohms nominal
- Maximum output:** 122 dB SPL
- Maximum continuous input (ER-4B/ER-4S):** 3.0 Vrms
- Maximum continuous input (ER-4P):** .75 Vrms
- Weight:** less than 1 oz.

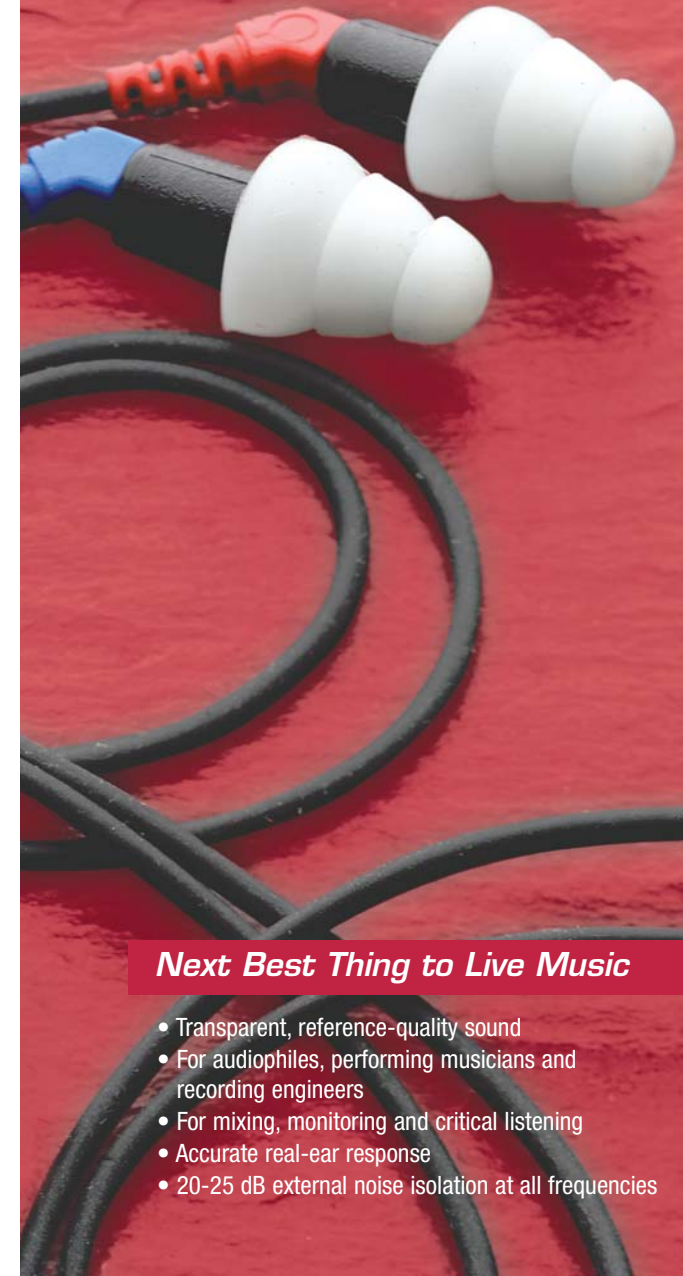
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ER-6 Isolator™ and ER-4 MicroPro™ are trademarks of Etymotic Research, Inc. KEMAR™ is a registered trademark of Knowles Electronics, Inc. The ER-4 MicroPro™ Earphones and ER-6 Isolator™ Earphones are covered by one or more of the following U.S. patents: #4,677,679, #4,763,753, #5,887,070 and other patents pending.

ER4-5000-7/03

ETYMOTIC RESEARCH, INC.

ER•4
microPro™
reference quality earphones



Next Best Thing to Live Music

- Transparent, reference-quality sound
- For audiophiles, performing musicians and recording engineers
- For mixing, monitoring and critical listening
- Accurate real-ear response
- 20-25 dB external noise isolation at all frequencies



Background

Etymotic was first

Etymotic Research introduced the ER-4B and ER-4S insert earphones in 1991. The ER-4B (binaural) earphone was designed for listening to precision binaural recordings. It was developed from the ER-1 earphone that was referenced to a flat diffuse field and used primarily for research. The ER-4S was designed to compensate for the high frequency emphasis in all CD recordings, in order to provide accurate sound reproduction. The high accuracy and exceptional sound isolation of the ER-4S have made these earphones popular with musicians. Performing musicians often use them as in-ear monitors because the response of the ER-4S matches the response of most typical monitor loudspeakers. While wearing the ER-4S, musicians can hear each instrument distinctly while hearing the blend clearly. The isolation of outside sound makes it possible to listen at reduced levels, which prevents hearing damage and ear overload distortion from excessive volume levels.

Prior to the introduction of the ER-4P, the ER-4S was the preferred earphone because it had a wider range of audio applications. Some ER-4S users reported that they required a headphone amplifier to obtain enough loudness when listening to portable CD players and other low-power portable devices.

The ER-4P was designed to produce 10 dB greater output at high frequencies and 13 dB greater output at low frequencies than the ER-4S, to accommodate the wide range of personal players and airline audio systems. For greater flexibility, a connector is available to convert the ER-4P earphones into ER-4S earphones.

ER is still the leader

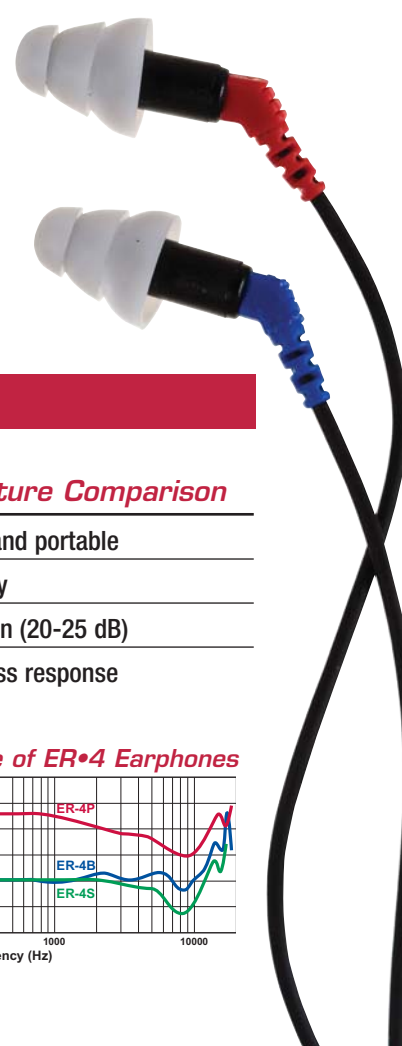
Other in-ear-earphone designs have tried to match the ER-4 MicroPro earphones, but not one is comparable to the high fidelity, reference-quality sound or the isolation of the ER-4. The word Etymotic means "true-to-the-ear," and ER-4 MicroPro earphones produce the highest sound quality of any earphones available.

ER•4 Earphone Descriptions

ER-4P (power) earphones have enhanced bass and higher sensitivity. ER-4Ps can be used with portable CD, MP3, DVD and other players without requiring an additional amplifier. The ER-4P has 10dB greater sensitivity at high frequencies and 13 dB more at low frequencies than the ER-4S. The higher sensitivity and enhanced bass of the ER-4P have made it the most popular earphone for most uses.

ER-4S (stereo) earphones have the same frequency response as the ER-4P (except for the bass boost), but are less sensitive overall. To compensate for reduced sensitivity, ER-4S earphones can be used with a headphone amplifier when using low power portable devices. ER-4S is the earphone preferred by musicians.

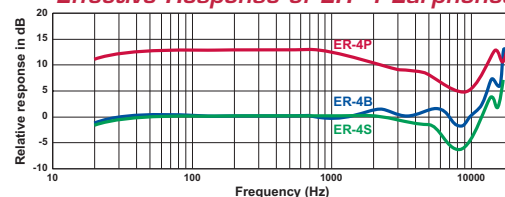
ER-4B (binaural) earphones are for the binaural recording enthusiast. The ER-4B is an ideal earphone for use with material that has not been equalized for loudspeaker playback.



ER•4 Feature Comparison

- ● ● Lightweight and portable
- ● ● High accuracy
- ● ● Noise isolation (20-25 dB)
- Enhanced bass response

Effective Response of ER•4 Earphones

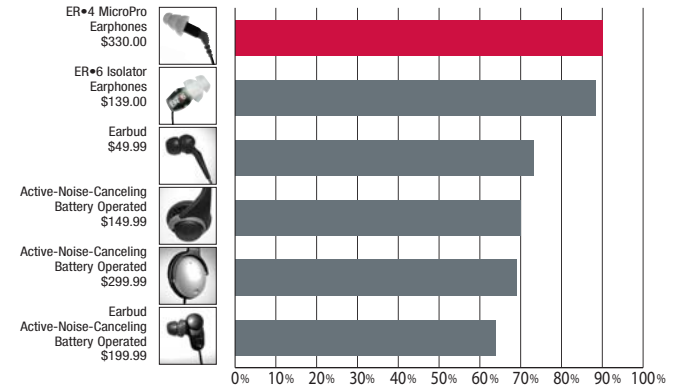


The Data



Response Accuracy

ER•4 MicroPro Earphones are designed to match the acoustic response of the open ear. Music is naturally bright, but not harsh. The lack of coloration results in smooth treble, full bass, clear and natural piano, percussion and orchestral music.

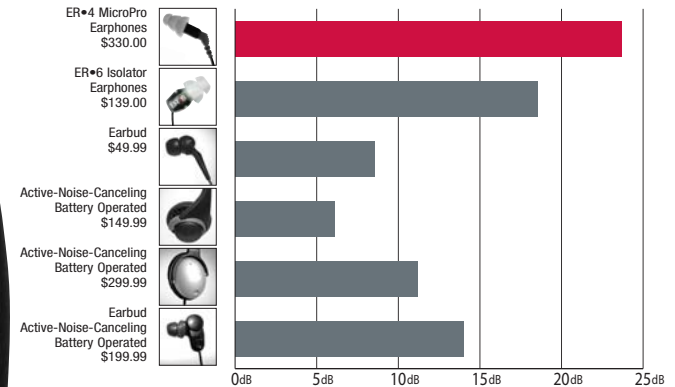


How We Measure Response Accuracy

Earphone response was measured on a KEMAR[®] manikin which has the same acoustic properties as the average head and ear. 25-band accuracy scores are calculated by summing the difference between the earphone response and the target response in each 1/3-octave band from 50 Hz to 12.5 kHz.

Noise Isolation

ER•4 MicroPro Earphones provide 20-25 dB of sound isolation. ER-4 MicroPro earphones reduce sound *naturally*, without the internal noise of electronic noise cancellation.



How We Measure Noise Reduction

A calibrated 84 dB SPL broad-band pink noise was generated in a reverberation room using four uncorrelated noise sources spaced around the room. The sound pressure developed in the ear was measured with a 2.5-mm microphone located deep in the ear canal. The external noise reduction of each earphone was calculated as the difference between the noise level in the open ear and the noise level with the earphone in place.