

FREQUENTLY ASKED QUESTIONS

What makes earplugs high-fidelity?

Most earplugs reduce sound more in the high frequencies than the lows and mid-range, which produces unnatural, muffled sound. Etymotic’s high-fidelity earplugs reduce sound evenly at all frequencies so sound is unaltered, just quieter.

How much noise is too much?

Noise-induced hearing damage depends on the intensity, duration and frequency of exposure (how loud, how long, and how often). Some persons are more susceptible to hearing damage from loud sound than others. Tinnitus (ringing in the ears) and temporary hearing loss can occur from a single concert, sporting event, or sudden loud noise like a firecracker or gunshot. Over time, tinnitus and hearing loss can become permanent. This damage usually occurs so gradually that it isn’t noticed until it’s too late. Noise-induced hearing damage is permanent, and there is no cure. The best treatment is prevention.

How do I know if I need standard or large?

Both sizes fit most ears, but the standard earplugs are more comfortable for many users with smaller ear canals. Studies by Etymotic Research and an independent, accredited lab show that most users can achieve a seal with the standard fit. Ear size cannot be predicted by a person’s physical size, age or gender.

About Noise reduction rating (NRR)

NRR is a single number based on a formula required by the Environmental Protection Agency (EPA) to indicate the amount of noise reduction expected from hearing protectors.

ETY-Plugs and ER-20XS earplugs provide 20 dB of protection (attenuation) across frequencies. Their NRRs (12 dB for ETY-Plugs and 13 dB for ER-20XS earplugs) underestimate the protection of these plugs when properly fitted.

MusicPRO electronic earplugs provide either 9- or 15-dB of attenuation across frequencies, yet have an NRR of 25 dB.

Both examples, along with decades of research, illustrate that the NRR is an outdated label that usually does not represent the actual protection achieved by the user.

WHICH EARPLUG IS RIGHT FOR ME?

READY•FIT EARPLUGS



**ETY•Plugs®** are ready-fit high-fidelity earplugs, developed as an alternative to Etymotic’s original custom Musicians Earplugs. Both ETY•Plugs and ER•20XS earplugs have the highest fidelity of any non-custom earplugs available today.



**ER•20XS** earplugs are small, discreet high-fidelity earplugs that match the response of ETY•Plugs. They give the most options when it comes to proper fit and comfort. Choose 3-flange or foam eartips. Advanced technology lowers sound levels evenly by 20 decibels. Music sounds natural and clear, only safer.

ELECTRONIC EARPLUGS



**Music•PRO®** electronic earplugs provide a choice of either 9 or 15 dB automatic sound reduction. They are ideal for persons who want natural hearing when sound levels are safe, and automatic protection when sound exceeds permissible levels. This minimizes the inconvenience of removing earplugs to hear soft sounds and speech. There is instantaneous protection from loud percussive sounds, and 6 dB of amplification if desired.

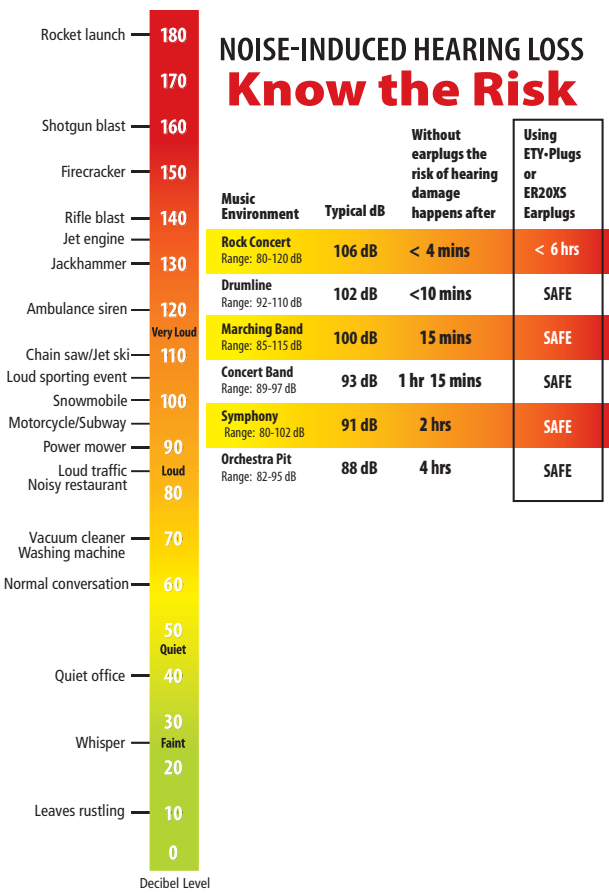
CUSTOM•FIT EARPLUGS



**Musicians Earplugs™** are a customized product made from ear impressions and purchased from hearing professionals. The combination of custom molds and Etymotic’s attenuators (filters) produces a resonance that replicates the response of a normal ear canal, resulting in smooth, flat sound reduction. Interchangeable filters are available in three levels of sound reduction: 9 dB, 15 dB and 25 dB.



Color options: Clear, Beige, Brown, Blue and Red



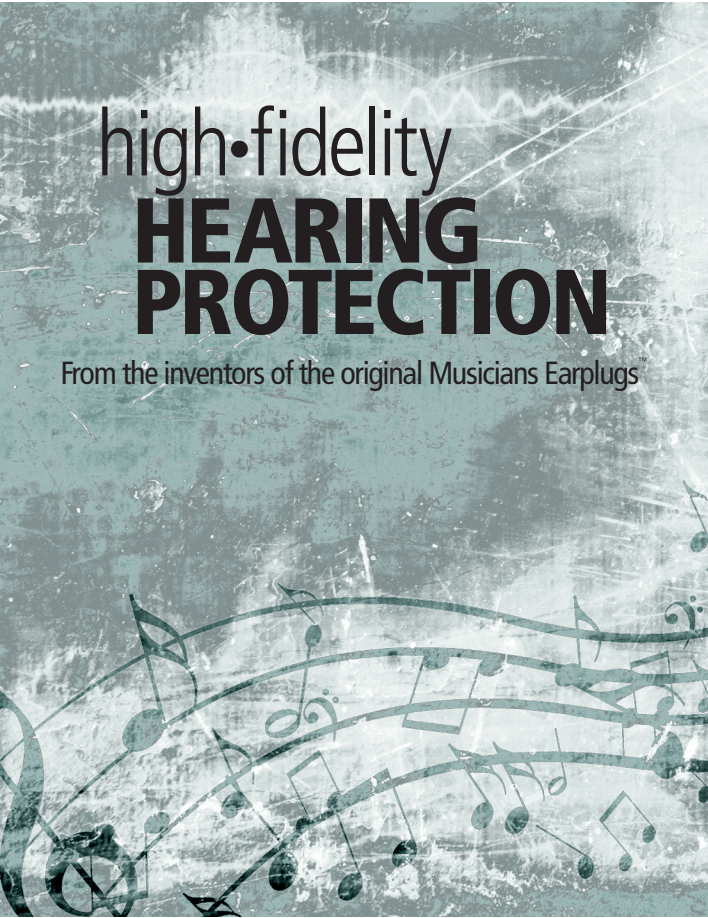
ABOUT ETYMOTIC

Etymotic Research is committed to protecting and enhancing the listening experience for musicians, music educators, audio professionals and consumers. For over 30 years, Etymotic has manufactured products to help people hear better now, and preserve their hearing for the future.

ETYMOTIC RESEARCH

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ETYMOTIC  
“true to the ear”



- Ready-fit and electronic earplugs
  - Sound is reduced evenly
  - Communication is clear
- Fatigue from noise is reduced
- Richness of music is preserved

**ER•20XS**  
High-Fidelity Earplugs

**musicians**  
earplugs™

**ETY•Plugs®**  
earplugs

**Music•PRO®**  
High-Fidelity Electronic Musicians Earplugs

Noise-Induced Hearing Loss Can Be Prevented

Hearing loss is cumulative over a lifetime. Using high-fidelity hearing protection reduces the risk of hearing damage from noise in the workplace, loud music at concerts and excessive noise at venues such as air shows, parades, athletic events and motor sports.

A little time may be required to acclimate to any earplugs. Ultimately, most musicians report that when they use high-fidelity earplugs they can hear their own instrument better, as well as the balance and blend with those around them.

History of Musicians Earplugs

Musicians Earplugs are the original high-fidelity earplugs, developed over 25 years ago by Etymotic Research, based on a design by the late Elmer Carlson, an engineer at Knowles Electronics. Carlson’s design replicated the natural response of the ear canal so that sound heard with these earplugs would have the same quality as the original, only quieter.

In 1985, while consulting with the Chicago Symphony Orchestra, Mead Killion PhD, CTO and founder of Etymotic, concluded there was a real need for Carlson’s earplugs. Killion’s study revealed that musicians are at risk for occupational hearing loss just like workers in industry, but musicians need special hearing protection that allows them to hear clearly and without compromising sound quality. Musicians Earplugs were the first high-fidelity hearing protection available to musicians. The filters attenuate by 9- 15- or 25 dB, and attach to custom earmolds. These custom products are made from ear impressions and are purchased from hearing professionals.

	ER-9	ER-15	ER-25	ETY•Plugs® ER-20XS	Harmful Sound Comes From:
Small strings	●	●	●	●	Own instrument
Large strings	●	●	●	●	Brass section
Woodwinds		●	●	●	Brass section
Brass		●	●	●	Own instrument, other brass
Flutes		●	●	●	Percussion
Percussion		●	●	●	Own instruments, other percussion
Vocalists	●	●	●	●	Own voice, speakers, monitors
Acoustic guitar	●	●	●	●	Drums, speakers, monitors
Amplified instruments	●	●	●	●	Speakers, monitors
Marching bands	●	●	●	●	Instruments behind
Music teachers	●	●	●	●	Multiple sources
Recording engineers	●	●	●	●	Speakers, monitors
Sound crews	●	●	●	●	Speakers, monitors

Ref: Chasin, M. Musicians and the Prevention of Hearing Loss. Singular Publishing Group. 1996.

ETY•Plugs®  
earplugs

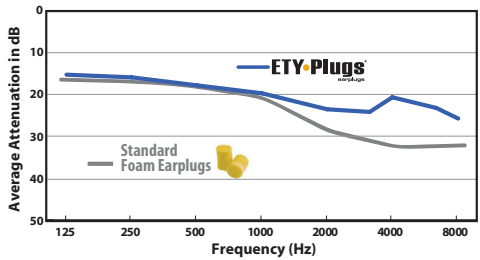


Reusable  
**READY•FIT**  
earplugs



**ETY•Plugs** use a tuned resonator and acoustic resistor to replicate the natural response of the ear canal. Their unique construction and proprietary sound path reduce sound levels evenly across the frequency range. When sound enters the earplug, it is reduced without changing sound quality—the same as the ear would hear it, only quieter.

- Reduces sound evenly by 20 decibels
- Reusable
- 2 sizes: standard and large
- Removable neck cord



ETY•Plugs provide almost equal sound reduction across the range of hearing. Foam earplugs reduce high frequencies more than lows, which degrades the quality of speech and music.



- Includes:
- 1 pair earplugs
  - Neck cord
  - Pouch
  - Instructions

ER•20XS  
High-Fidelity Earplugs

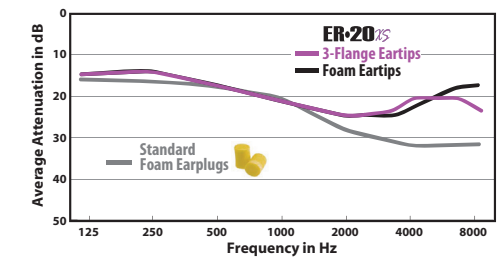


Discreet & reusable  
**LOW PROFILE**  
earplugs



**ER•20XS** high-fidelity earplugs give the most options when it comes to proper fit and comfort: choose 3-flange or foam eartips. Advanced technology lowers sound levels evenly by 20 decibels. Music sounds natural and clear, only safer.

- Reduces sound evenly by 20 decibels
- Reusable
- Discreet, in-ear low profile design with pull tabs for easy removal
- Three sizes of interchangeable foam and 3 flange eartips.
- Removable neck cord



Frequency response characteristics and performance of ER•20XS earplugs are essentially the same as those of ETY•Plugs.



- Includes:
- 1 pair earplugs with pull tab
  - Neck Cord
  - Pouch
  - Instructions

Music•PRO®  
High-Fidelity Electronic Musicians Earplugs

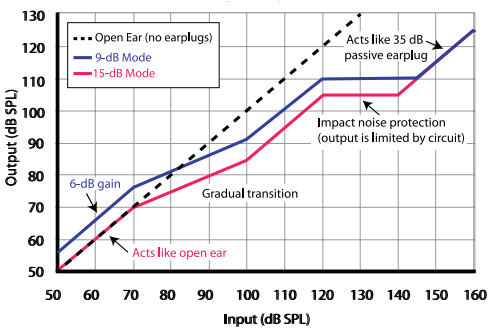


The only  
high•fidelity  
**ELECTRONIC**  
Musicians Earplugs



**Music•PRO** circuitry automatically changes output levels as sound input levels change. Hearing is natural, as if nothing is in the ears, until sound exceeds safe levels. As sound levels increase, earplugs gradually provide 9- or 15-dB sound reduction. Natural hearing is restored when sound returns to safe levels.

- Provides either 9-dB or 15-dB protection
- Enhances soft sounds if desired
- NRR=25dB. When deeply sealed, earplugs provide 35-40 dB of sound reduction for very loud sounds.



- Includes:
- 1 pair earplugs
  - ACCU•Fit™ eartips
  - Flexible neck cord
  - Filter tool and ACCU•Filters™
  - Cleaning tool
  - #10 Batteries
  - Protective case