Features:

- High fidelity custom hearing protection
- Sound quality is clear and natural, not muffled
- Noise fatigue is reduced

Musicians Earplugs are designed to replicate the natural response of the open ear. Sound heard with these earplugs has the same quality as the original, only quieter. The result is that speech and music are clear—you still hear the blend clearly, feel the bass, and distinguish each tone.

Accurate sound reduction is achieved by combining a patented filter with the specific acoustics of a custom earmold. The combination of the two produces a resonance at approximately 2700 Hz (as in the normal ear) resulting in a smooth, flat attenuation.

Three types of attenuator buttons are available: ER-9, ER-15 and ER-25. The number corresponds with the amount of sound reduction provided in dB.

- **ER-9**
  Provides 9 dB flat sound reduction through the mid range, with the same high-frequency attenuation as the ER-15.

- **ER-15**
  The first Musicians Earplug; the standard from which all other ER attenuators were designed. Provides uniform 15 dB sound reduction across frequencies.

- **ER-25**
  Provides 25 dB of relatively flat attenuation across frequencies.

Which Musicians Earplug is Right for You?

Musicians practice and perform in a variety of different settings and they are exposed to high levels of sound, sometimes for long periods. They require different amounts of protection depending on the sound levels they encounter during rehearsals and performances. Some musicians use different filters in each ear (e.g., ER-9 in one ear and a ER-25 in the other) depending on the location of the sound source.
<table>
<thead>
<tr>
<th>Small strings</th>
<th>ER·15</th>
<th>ER·25</th>
<th>Harmful Sound Comes From:</th>
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<tbody>
<tr>
<td>Own instrument, other strings</td>
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<tr>
<td>Brass, percussion</td>
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<td>Own instrument, other brass</td>
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<td>Percussion</td>
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<td>Own instruments, other percussion</td>
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<td>Own voice, speakers, monitors</td>
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<td>Drums, speakers, monitors</td>
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<td>Speakers, monitors</td>
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**Musicians Earplugs Technical Specifications:**

What Makes Musicians Earplugs High Fidelity?
Musicians Earplugs replicate the natural response of the ear canal so that sound heard with these earplugs has the same quality as the original, just quieter.

**ER·15**
ER·15 buttons have a diaphragm which functions as an acoustic compliance, while the volume of air in the sound bore of the custom earmold acts as an acoustic mass. The combination of the two produces a resonance at approximately 2700 Hz (as in the normal ear), which results in a smooth, flat attenuation.

**ER·9**
The ER·9 has reduced diaphragm stiffness for less attenuation.

**ER·25**
The ER·25 has an increased diaphragm stiffness and an acoustic-mass channel molded into the button for more attenuation.
Open ear response of the average ear measured in a diffuse field or reverberant room. The response of the ER-15 Musicians Earplug indicates a 15 dB reduction in eardrum sound pressure at each frequency.

**Musicians Earplugs Instructions for Use:**

**Insertion**
Moisten the earmold for ease of insertion. Pull the ear outward and upward while easing the earmold into the ear canal.

**Cleaning**
Remove button from earmold. Use water and mild soap on the earmold only. Dry earmold thoroughly before replacing the filter button.

**Replacement**
If shrinkage, cracking or hardening of earmold material occurs, replace the earmold.

**Identifying The Earmolds**
Right ear: red dot
Left ear: blue dot or no marking
Musicians Earplugs Frequently Asked Questions:

Q What's wrong with conventional earplugs?
They muffle speech and music. Conventional earplugs reduce sound more in the high frequencies than in the low and mid frequencies, which makes music and voices unclear and unnatural. Deeply-inserted foam earplugs not only muffle the sound, but can provide 30-40 dB of sound reduction when only a small amount is needed.

Q How much protection do people need?
Hearing loss is a function of exposure time, the average sound level, and the peak level of very loud sounds. Some persons are more susceptible to hearing loss from high-level sound than others. Most musicians do not need maximum protection, and many industrial workers can be adequately protected with as little as 10 dB of sound reduction. The majority of eight-hour-equivalent noise exposure in industry falls between 85 and 95 dB.

Q Why are deep earmolds required for Musicians Earplugs?
Earmolds need to seal deeply in the bony portion of the ear canal or the wearer will hear a hollow or boomy sound in their own voice when speaking, singing or playing a brass or wind instrument. This unpleasant or distracting sound is called the occlusion effect. Deep earmolds (past the second bend of the ear canal) will eliminate this problem.

Q Is there a non-custom high fidelity earplug?
Yes. ER•20 High Fidelity Earplugs are ready-fit earplugs that preserve sound quality while reducing sound levels approximately 20 dB at all frequencies. ER•20s reduce harmful sound without distorting speech and music.

Q What does NRR mean?
The EPA requires manufacturers to print a noise reduction rating (NRR) on all non-custom earplugs. The NRR for ER•20s is 12 dB, but actual clinical measurements of properly inserted ER•20s indicate that these earplugs provide almost equal sound reduction (20 dB) at all frequencies in real ears. The required formula used to determine NRR includes an adjustment for individual variability and for those persons who do not wear ear protection as instructed. Many investigators have found no consistent rank order correlation between the real-world NRRs and labeled NRRs. NRR is computed from laboratory data that are not representative of the values attained in the real world by actual users.