

How Hearing Aids Work

Why they help and how they keep getting better.



Age-old problem, modern-day solution



Hearing loss has been around since the beginning of time. While it's difficult to pinpoint exactly when people began experimenting with ways to improve their hearing, (like using a cupped hand), we know that in 1588, Italian physician and scientist, Giovanni Battista Porta described early hearing aids in his published work *Magia Naturalis*.¹

Needless to say, hearing aids have come a long way since their early beginning. But the premise behind them, amplification, is still considered the best treatment for most types of hearing loss.

Batteries 101

Years ago, the hearing aid industry standardized batteries. Today, batteries come in four common sizes, all with a corresponding (and standardized) colored tab. From smallest to biggest:

<i>Size 10</i>	→	<i>Yellow Tab</i>
<i>Size 312</i>	→	<i>Brown Tab</i>
<i>Size 13</i>	→	<i>Orange Tab</i>
<i>Size 675</i>	→	<i>Blue Tab</i>

How long batteries last depends on the hearing aid type, battery type, and the amount and type of hearing aid usage — but typically average 3-10 days for normal use.

Starkey hearing aids are a smart solution

More than ever, the best solution for many individuals with hearing loss is hearing aids. Like all high-tech devices, hearing aids have improved significantly over the past several years in terms of performance and appearance.

Today's hearing aids still amplify sounds, but thanks to digital and technological advances, they're much smarter and more selective in what they amplify. Here are the latest cutting-edge technologies:



Help with listening in noise



Works with your phone



Wireless connectivity



Invisible devices

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An amp for your ear

In its simplest form, think of hearing aids as a miniature PA system with four basic components:

1. *Microphone*
2. *Amplifier*
3. *Speaker (receiver)*
4. *Power supply (batteries)*

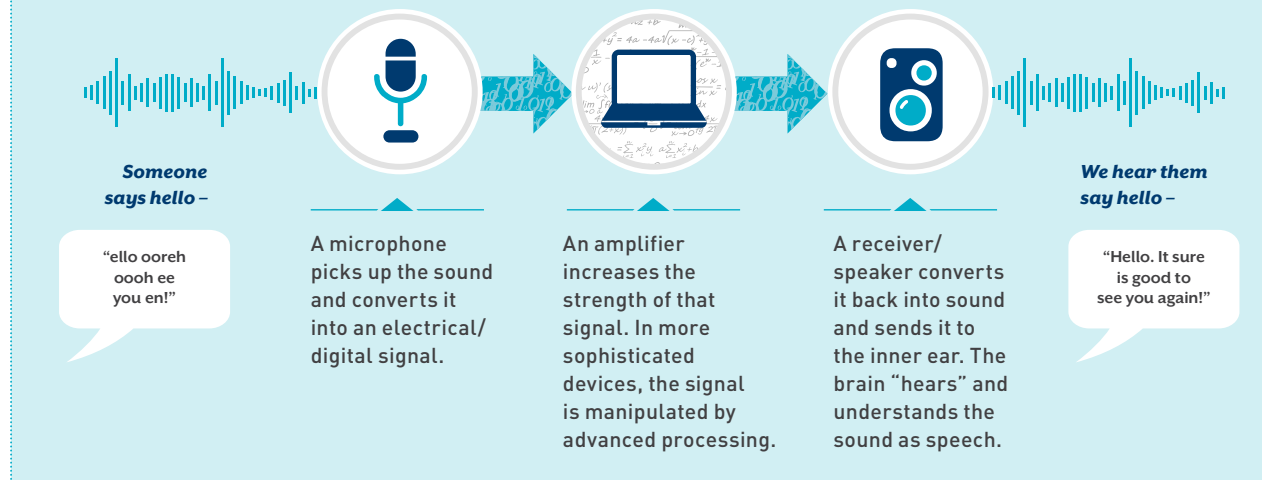
No matter what style you get, no matter what size it is, all hearing aids consist of these four components.



Microphones and **receivers** are transducers, meaning they convert energy from one form to another. The microphone gathers acoustic energy (sound) and converts it into an electrical signal. The receiver gathers electrical signals from the amplifier and converts them back into acoustic energy (sound).

Located between the microphone and receiver, the **amplifier** increases the amplitude of the signal supplied by the microphone before transmitting it to the receiver, which sends it to your inner ear.

How do hearing aids work?



¹ Washington University School of Medicine. [n.d.]. Timeline of Hearing Devices and Early Deaf Education. Hearing Device Timeline. Retrieved from: <http://beckerexhibits.wustl.edu/did/timeline/>

For more details about how hearing aids process daily sounds, talk to your clinician.

The
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Hearing**
Company



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