# Hearing Aids

There are many different hearing aids available with different styles, features, and cosmetic solutions that can greatly enhance your daily life without hindering your individual lifestyle.

All modern hearing instruments have certain characteristics in common:

- They are made to selectively increase the volume of the sounds you want to hear
- They can make soft sounds audible, whilst at the same time making moderate or loud sounds comfortable, thus providing relief in both noisy and quiet situations.
- No hearing instrument can solve every hearing problem or restore normal hearing, but they are designed to provide clear, crisp sound enhancement so that you can hear and understand better.

A hearing instrument is basically a miniature amplification system with the following components:

- A **microphone** (to pick-up incoming sounds)
- An **amplifier** (to analyse, process and selectively amplify the sounds)
- A **receiver** (miniature speaker to enable you to hear the amplified sound)
- An **earmould, eartip** or **custom-fitted shell** (to fit the device to your particular ear)
- A **battery** (to power the device)
- A **control** (to control functions on the device)

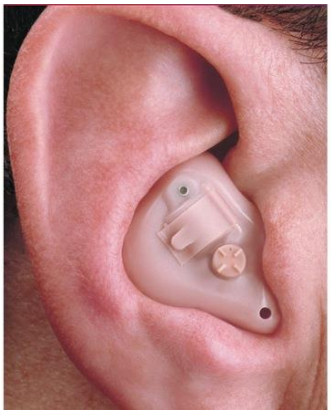
## Different styles of hearing aids

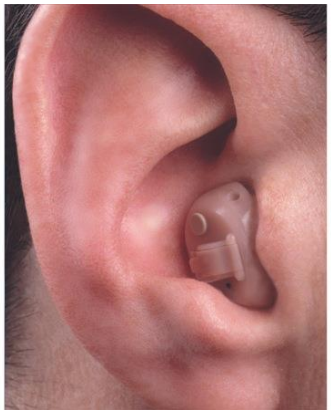
There are several different styles of hearing instruments, with multiple design and color options. Each hearing instrument is designed and fitted to each person's hearing needs.

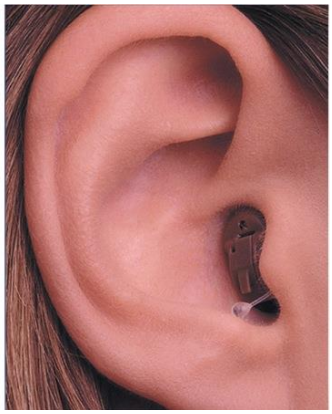
The place where hearing instruments are worn is the simplest way of categorizing the different types. Basically, hearing instruments are worn **in the ear** or **behind the ear**.

- ITE is the abbreviation for a hearing instrument style worn "In-the-ear." ITEs are often called "custom" hearing instruments because they need to be custom-made to fit each individual ear. The term encompasses several different styles of In-the-Ear hearing aids.
- BTE is the abbreviation for the "behind-the-ear" hearing aid styles and also encompasses many variations including the most popular style of instrument, the Receiver-In-Canal or RIC.

## In-The-Ear (ITE)

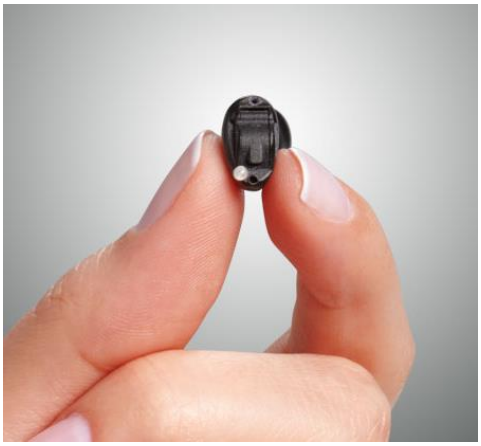






Custom In-the-Ear hearing instruments are used for mild to severe hearing loss. Custom instruments sit entirely within the ear and are fitted individually based on an impression of the wearer's ear. The picture illustrates the range of styles from the CIC "Completely-in-the Canal" (right) which fits completely in the ear canal to the full-shell hearing instrument, which completely fills the bowl of the ear.

A new type of very small "Completely-in-the Canal" instrument has recently been developed; often called an invisible hearing aid (or IIC for "Invisible-In-Canal") it is even smaller than the traditional CIC, but is not suitable for smaller ears or for people with reduced dexterity or certain types of ear or hearing problems.




**Behind-The-Ear (BTE) - conventional:**

BTEs are used for all types of hearing loss from mild to profound. They come in a variety of styles from miniature models to the larger SuperPower instruments. Many offer multiple directional microphone systems for improved understanding of speech in noisy situations.

Behind-the-ear systems can be open or closed. Closed means that the fitted earmould almost completely fills the outer ear and ear canal and provides a good seal to the ear. They are versatile and suitable for a variety of hearing losses but in recent years have been superseded by smaller and more effective types. The conventional BTE offers more power and may offer easier handling because of their larger size.

The earmould connects a BTE instrument to the ear and is individually shaped for each wearer. It is important because it fulfills multiple functions for acoustics and better hearing. One of the most important tasks of the earmould is to conduct the amplified sound to the eardrum. It also improves the positioning and hold of the hearing instrument behind the ear. An important aspect of the earmould is to seal the auditory canal. This acts as a block and prevents acoustic feedback; the annoying high pitched whistling sometimes associated with older hearing instruments.

**Behind-The-Ear (BTE) – open fitting:**

Open fittings use a thin tube in place of an earmould to connect the BTE instrument to the ear. Open fittings are more comfortable and avoid the collection of moisture in the ear. They are only suitable for certain hearing losses, but the advantages include sound quality and comfort.


WIRELESS
MICRO RIC 312


**Receiver-In-Canal (RIC):**

RIC open fittings look quite similar to the open fittings discussed above. But unlike most conventional Behind-The-Ear instruments, the receiver (loudspeaker) is placed within the ear canal and connected to the unit via a very thin tube. Since the receiver is no longer within the behind-the-ear unit, Receiver-in-canal (RIC) instruments are particularly small, light, and inconspicuous. These are a relatively recent development and today offer a very flexible, powerful and sophisticated solution that is very comfortable, both physically and in hearing. RIC hearing aids are rapidly becoming the most popular style of hearing aid.

## Instant Fit

A variety of instant-fit or hearing amplifier products also exist.  Some provide relatively little amplification and are a cheap, but not very satisfactory option for mild hearing losses.  A custom tuned product (adjusted to suit the wearers hearing) is a half-way house between these devices and fully adjustable, sophisticated hearing aids.