



**SIEMENS**

The information in this document contains general descriptions of the technical options available, which do not always have to be present in individual cases and are subject to change without prior notice.

The required features should therefore be specified in each individual case at the time of conclusion of the respective contract.

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What you need to know about hearing.

How we hear and what to do if we have a hearing impairment.



Life sounds brilliant.

# Why good hearing is so important in our everyday lives ...



Most people with normal hearing don't even think twice about what it means to have good hearing. Chatting with friends, listening to the sounds of nature, enjoying music or hearing warning signals – they take it all for granted.

It is only when hearing starts to deteriorate noticeably that we realize just how important good hearing is in our everyday lives. And how much we miss out when we no longer hear well.

Our hearing plays an important role in how we interact with the world around us. It facilitates the forming of relationships, and opens up a wealth of sensory experiences. It is also very complex and extremely sensitive. So let's give it the attention it deserves ...

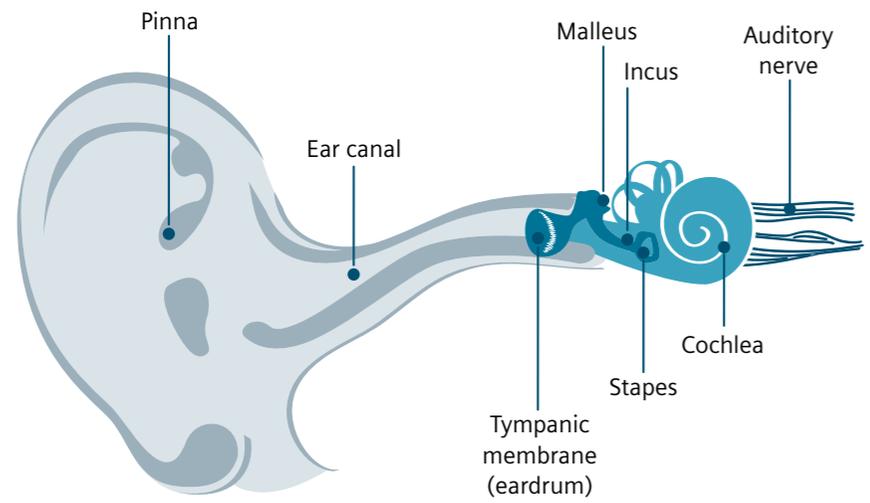


About hearing

# The ear – a miracle of nature.

The ear is an amazing and incredibly skilled organ that performs the wonderful and highly complex task of hearing. It can distinguish between 7,000 different pitches and enables the brain to locate sound sources.

## Outer ear   Middle ear   Inner ear

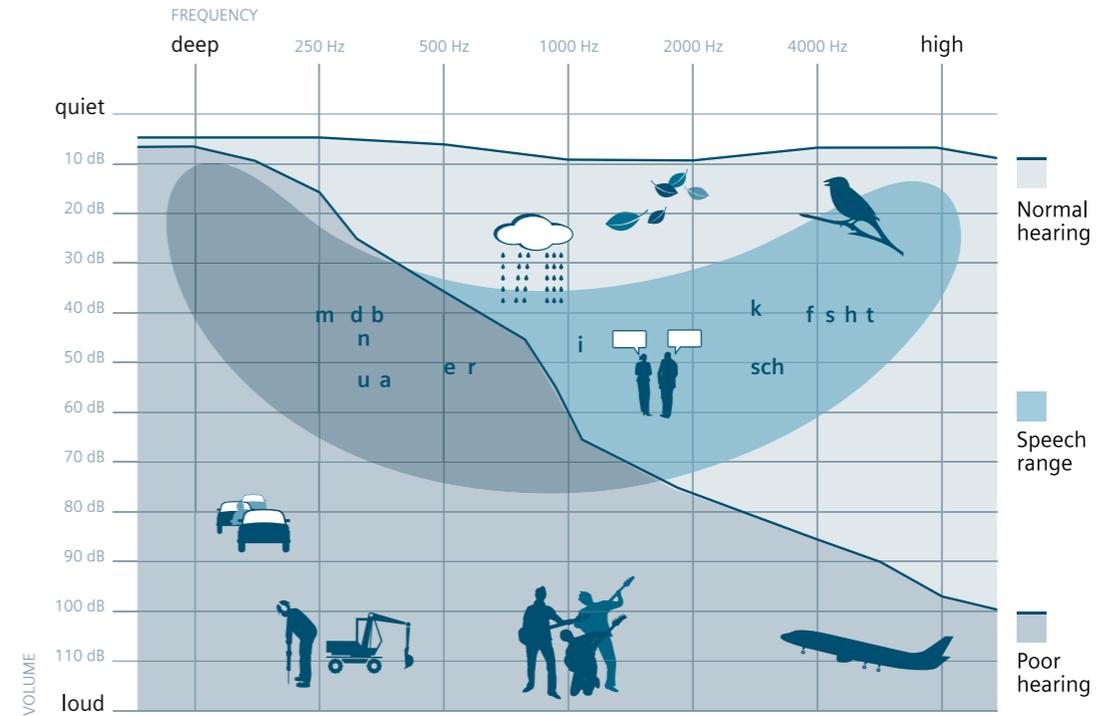


### How hearing works:

**Outer ear:** The outer ear picks up sound and transmits it to the eardrum via the ear canal.

**Middle ear:** The sound makes the eardrum vibrate and is amplified by the ossicles (three tiny bones Malleus, Incus, Stapes).

**Inner ear:** The cochlea converts movements of the ossicles into electrical signals. The auditory nerve transmits the signals to the brain.



What you need to know about the ear

### What does hearing loss mean?

No two cases of hearing loss are the same. However, most often people with a hearing impairment are unable to distinguish soft tones and high pitch sounds and have difficulties hearing sounds such as whispers, children's voices or bird-song. The understanding of speech also suffers because, as the graphic shows, many of the sounds important for understanding speech, are soft, high pitch sounds such as "s" or "th". These are sounds that help us determine the difference between "path" and "pass". And, however paradoxical it may sound, increasing the volume is of limited help. Most likely, people with a hearing impairment need clarity, not volume.

Hearing impairments can occur in all parts of the ear; dysfunctions of the outer or middle ear can generally be treated with medication or surgery. However, a good 80% of all hearing impairments are caused by dysfunctions of or damage to the inner ear. Today, modern hearing instruments can compensate for most inner ear damage.

### Possible causes of hearing loss:

- Infections or chronic illnesses
- Injuries
- Genetic factors
- Medication that can damage hearing
- Exposure to ongoing or extreme noise
- General wear and tear

# What are the different types of hearing instruments?



As a rule, hearing instruments are categorized according to type. There are two basic types: Behind-the-Ear (BTE) and In-the-Ear (ITE) systems. The type that is right for you depends on your hearing impairment and on the anatomy of your ear, as well as on your personal requirements with regard to technology and design. Your Hearing Care Professional will be happy to advise you.

BTE systems:



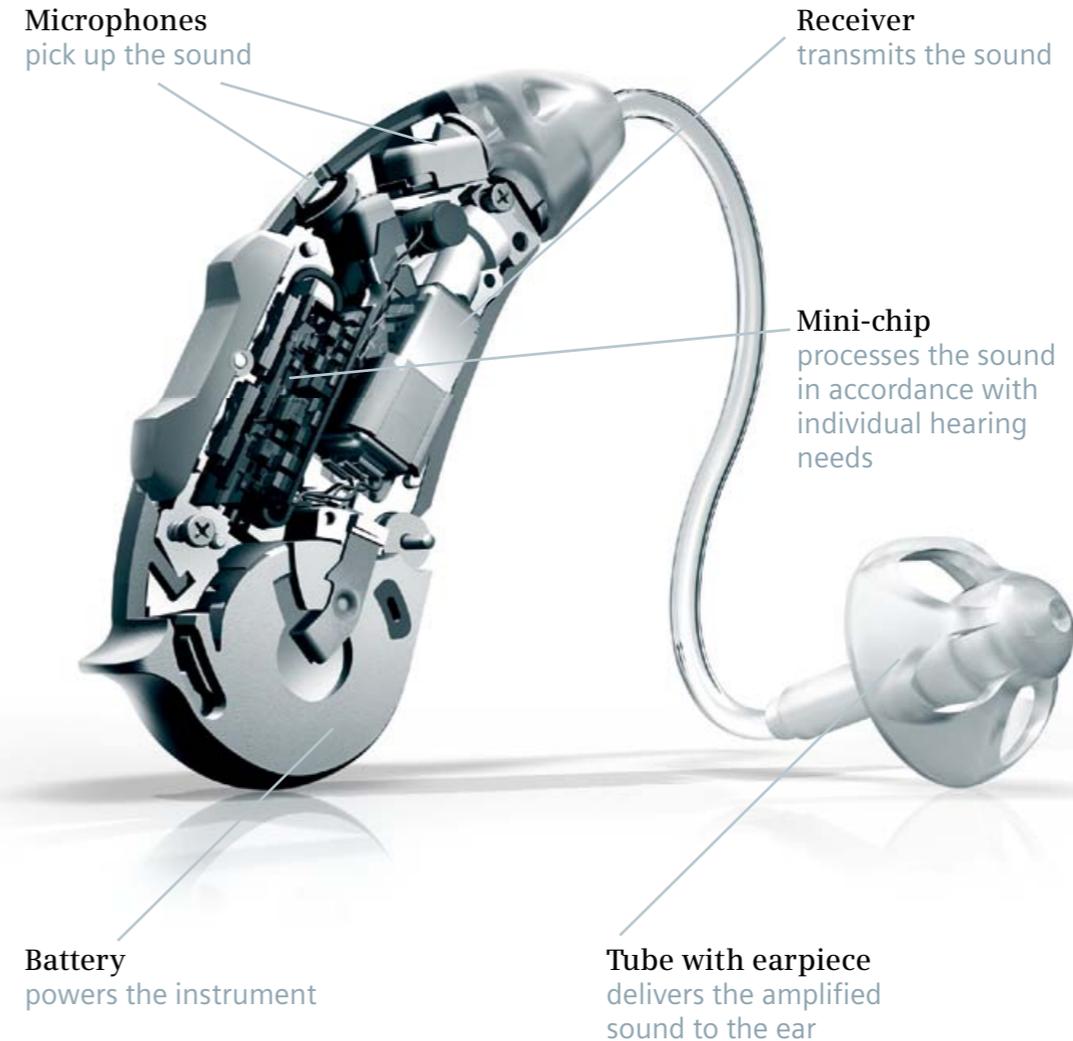
Behind-the-Ear hearing instruments are inconspicuous and comfortable as they do what the name says: they sit behind the ear. BTE hearing instruments are available in two variants: with a tube that delivers the sound from the hearing instrument into the ear, or with an external receiver that sits directly in the ear canal. BTE hearing instruments are available in different performance levels and in many individual colors and designs.

ITE systems:



In-the-Ear hearing instruments are worn directly in the ear. They are custom-made based on the anatomy of the wearer's ear. They sit either in the bowl of the ear or deep in the ear canal.

## Components of a hearing instrument:



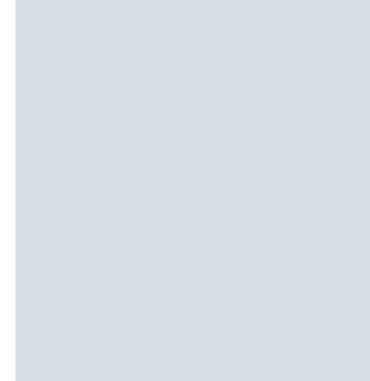
Hearing instruments  
– types and designs

# Better hearing – in every situation.



Hearing instruments have made dramatic advances in the past few years, and there is now a solution to compensate for almost every type of hearing impairment. Modern hearing instruments are not just small and inconspicuous, they are also extremely powerful and versatile. They can do much more than simply make sounds louder. Intelligent technologies based on microprocessors help to compensate for various forms of hearing impairments.

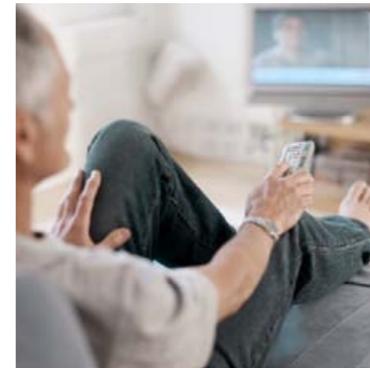
Type of hearing problem	How technology can help
You have trouble understanding conversations in loud environments, for example in restaurants or at parties.	In loud environments, speech is accentuated and ambient noises are suppressed.
People around you seem to mumble.	High pitches that are important to understanding speech correctly are amplified but low pitches (which add volume) are not.
You cannot clearly identify the direction from which sounds come.	Innovative microphone technology in the hearing instrument improves the localization of sounds and noises.
Music sounds very muffled and dull.	High pitches that the ear cannot detect are amplified and accentuated so that music sounds clearer and more brilliant.
You can only understand television and radio programs if the volume is high.	With suitable accessories, sounds can be transmitted directly and wirelessly to the hearing instrument from devices such as TVs, phones and MP3 players.



When listening to music



When watching television



Improvements experienced with hearing instruments today

In restaurants



When making phone calls



At parties



When taking part in sports and leisure activities



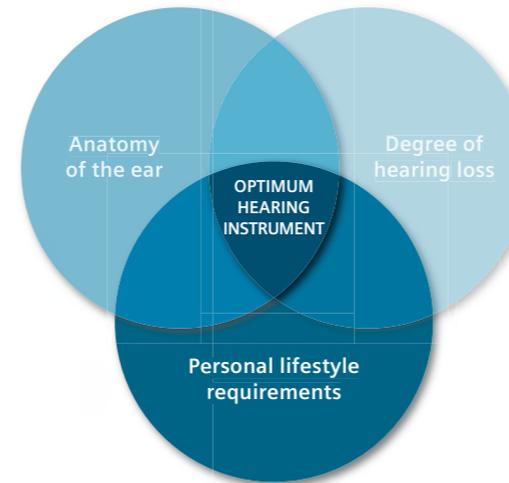
# Solutions for individuals.

## Individual solutions

There is no “one size fits all” answer to hearing loss. Each solution is as unique as the individual impacted. When choosing a hearing instrument, many factors have to be taken into account, particularly the degree of hearing impairment and the individual ear anatomy.

However, it’s not just restoring the hearing loss that is important. Other important considerations arise from your own individual lifestyle requirements. For example, do you want a particularly unobtrusive, discreet instrument, or are you more interested in an attractive design or fully automatic control? It is also essential to consider the situations in which you want to achieve improvements. Are you dependent upon good hearing at meetings or on the telephone? Do you go out a lot – to the theater or restaurants – or are you more the type to stay at home? These are all things to consider when choosing the type of hearing instrument that is right for you.

Your Hearing Care Professional will be happy to help you select and configure all aspects of your hearing instrument.





# What do you need?



Wearing a hearing instrument can take some getting used to, so it's important you feel that you've made the right choice from the outset.

To help you decide on the right hearing instrument, we have put together ten questions that you should ask yourself before visiting your Hearing Care Professional.

## In which of the following situations do you wish you could hear better?

	very important	important	not important
During a one-on-one conversation in a quiet environment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
When talking in restaurants or at parties	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
At meetings or conferences	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
When driving	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
When watching television, listening to music or in the cinema	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## What is particularly important for you in a hearing instrument?

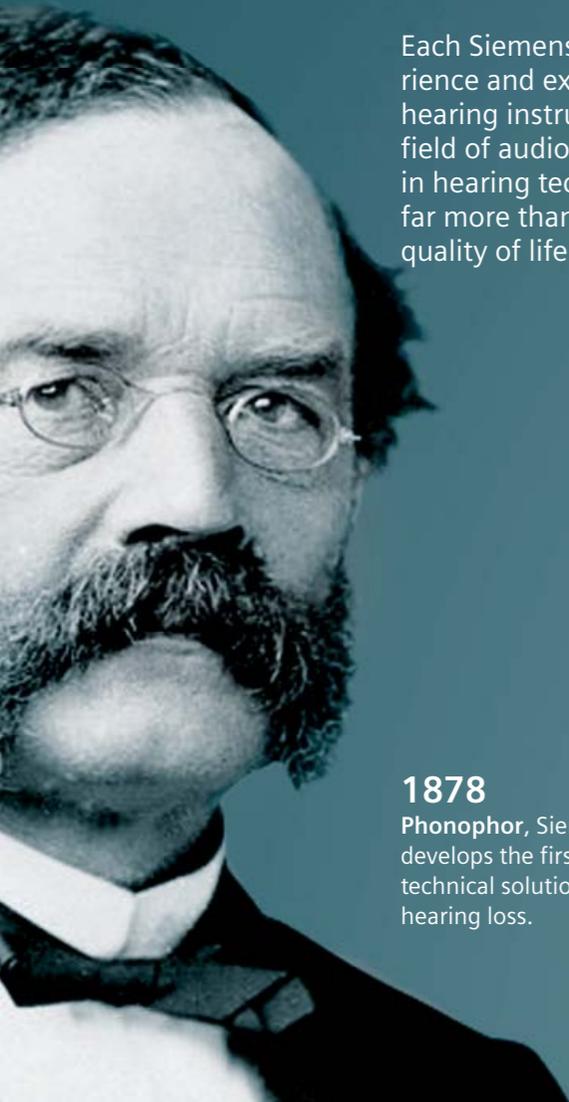
	very important	important	not important
Maximum discretion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ease of use	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Automatic control	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Discreet remote control	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Compatibility with modern entertainment and communication technology, such as television, PC, mobile phone	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Your wishes and requirements

# Siemens has been helping the world to hear – for more than 130 years.



Each Siemens hearing instrument incorporates more than 130 years of experience and expertise. In 1878, Werner von Siemens developed the Phonophor hearing instrument and became a pioneer for many other innovations in the field of audiology. Today Siemens BestSound™ Technology sets new standards in hearing technology. We take a holistic view and our instruments aim to do far more than simply compensate for loss of hearing: our goal is to enhance the quality of life for hearing impaired individuals.



**1878**

**Phonophor**, Siemens develops the first technical solution for hearing loss.

**1910**

**First line of hearing instruments**, Siemens begins the first serial production of hearing instruments.



**1949**

**Phonophor Alpha**, Siemens presents the first pocket-size hearing instrument.



**1959**

**Auricullete 326**, Siemens launches its first Behind-the-Ear hearing instrument.



**1966**

**Siretta 339**, Siemens presents the first In-the-Ear hearing instrument.



**1997**

**Prisma**, the first digital hearing instrument featuring a Twin Mic.



**2004**

**Acuris™**, Siemens introduces the first hearing instrument featuring a wireless system, e2e™ wireless, small enough to fit in CICs.



**2010**

Siemens writes a new chapter in hearing instrument technology.



**2011**

**Aquaris™**, the first truly waterproof digital hearing aid from Siemens.



You will find information about our hearing instruments in our brochure "Individual solutions for better hearing", as well as on the Internet at [www.siemens.com/hearing](http://www.siemens.com/hearing). Or just ask your Hearing Care Professional.