

Understanding wireless technology for hearing aids

This factsheet explains how you can wirelessly connect your hearing aids to different devices, such as your phone or a hearing loop, to help you hear better. You can also find out how you can easily control your hearing aid settings through remote controls and apps.

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Technology terms explained

Throughout this factsheet, we have highlighted in **bold** the terms that are explained here.

Android device

This is a device that runs on Google's Android operating system (see opposite). It may be a smartphone, tablet or e-reader.

App

App is short for 'application' and refers to a piece of software that runs on a smartphone or tablet. To use an app, you usually just click or tap its icon on the home screen of your smartphone or tablet.

Smartphones and tablets come ready loaded with basic apps – such as news and weather – but you can download many more for free or at low cost.

Most apps for smartphones and tablets are designed for Apple or Android devices. You can get apps for Apple devices from the App Store, and for Android devices from Google Play.

Apple device

This usually refers to an iPhone, iPad or iPod, but it can also include a MacBook (laptop) and iMac (desktop computer). The iOS operating system runs on iPhones, iPads and iPods; the macOS system runs on MacBooks and iMacs.

Operating system

Every smartphone and tablet has an operating system (OS) that allows it to work and run apps (see left). Apple's iOS is exclusively for Apple iPhones, iPads and iPods, while Google's Android OS is used in Android devices from companies such as Samsung, HTC, LG, Sony and Motorola. Other operating systems include Blackberry's BlackBerry OS and Microsoft's Windows Phone.

Pairing

Devices are said to be paired when they establish a connection through wireless technology.

Smartphone

A smartphone is a mobile phone that has many of the features of a computer or tablet – it can connect to the internet and do much more than just make telephone calls. Most smartphones have a touchscreen and a camera.

Tablet

A tablet is a slim, handheld computer that can connect to the internet, usually through Wi-Fi or mobile broadband. It has a touchscreen and comes in different sizes but is larger than a smartphone.

What is wireless technology for hearing aids?

Wireless technology for hearing aids has been around for a while, but it's progressing all the time to help you get the most out of your hearing aids.

It allows your hearing aids to wirelessly connect to:

- each other, to help you understand speech over noise
- remote controls, so you can easily control your hearing aid settings
- compatible assistive listening devices (see below), so you can move around freely while using them
- devices such as **smartphones, tablets** and MP3 players (you may need a streaming device for this - [see page 4](#)).

There are different types of wireless technology and each hearing aid manufacturer has its own.

What are assistive listening devices?

These are accessories that you can use with your hearing aids to make listening easier in 'challenging' environments, such as when watching the TV, using the phone, dealing with background noise and taking part in a group conversation. They help you to focus on the sound you want to hear over the clutter of background noise.

If you have digital hearing aids, you'll be able to use wireless assistive listening devices. However, whether a device is compatible with your hearing aids depends on the manufacturer and model of your hearing aids.

Hearing aid manufacturers often produce their own range of wireless devices to use with their hearing aids. You may need to use these, because it's likely that devices from other manufacturers won't work with your hearing aids. Always check before you buy.

What is Bluetooth technology?

Bluetooth is a type of wireless connection that uses a specific radio frequency to transmit information. It is currently the universal wireless connection for products like **smartphones**, MP3 players and TVs.

Devices that use Bluetooth display this logo:



When a device, such as a **smartphone**, is capable of **pairing** with other devices, it is said to be Bluetooth-enabled (or Bluetooth-compatible).

How can I pair my hearing aids with Bluetooth-enabled devices?

To **pair** with Bluetooth-enabled devices, most hearing aids will need a Bluetooth streamer. This is a small device that provides a wireless connection between the hearing aids and the electronic device. However, some new hearing aids, called Made for iPhone (MFi) hearing aids, can connect to **Apple devices** directly (see opposite).

Once you're connected, all sound (including music and phone calls) will go directly into your hearing aids, helping you to hear better over background noise.

Using a streamer

You usually wear the small Bluetooth streamer around your neck or place it in a pocket. Once it's set up, it will pick up the Bluetooth signal from your **smartphone**, for example, and send it to your hearing aids.

Using a streamer, you can connect to three or four Bluetooth devices at the same time. So, for instance, you can switch between your **smartphone**, home phone, TV and remote microphone ([see page 5](#)). The battery life of a streamer can vary, from four to eight hours to a lot more. It really depends on how often you use it – and what you're streaming. We suggest you recharge it every night, even if the battery isn't completely drained.

The Bluetooth connection range for a streamer is usually up to 10m (unless there are 'barriers', such as walls), but it can be longer.

Made for iPhone hearing aids

These new hearing aids connect directly to certain **Apple devices** – the iPhone, iPad and iPod touch – without a streamer. You can connect to one device at a time. They are called Made for iPhone (MFi) hearing aids because the technology was developed with Apple (manufacturer of the iPhone).

You can also control the settings of your MFi hearing aids with an **app** that you can download. Through the **app**, you should be able to control the volume, tone and level of noise and speech you want to hear, as well as the direction of your hearing aids' microphones. With some apps, you can also control the sound picked up through an assistive listening device that is connected to your hearing aids.

MFi hearing aids and Android devices

While MFi hearing aids only connect directly to **Apple devices**, you can control the settings of your MFi hearing aids through an app on an **Android device**.

If you want to stream sound from an **Android device** to MFi hearing aids, you'll need to buy a small device called a Phone Clip and keep this on you.

How can I use hearing aid remote controls and apps?

Most hearing aids can now be **paired** with a remote control, which allows you to change settings easily and is particularly helpful if you dislike fiddling with small buttons.

As hearing aids continue to get smaller, buttons for controlling the settings are beginning to disappear and remote controls are becoming the norm.

A basic remote control will probably limit you to changing the volume and programme settings. With a more advanced remote control, you'll also be able to change the settings for each ear individually – as well as the sound in specific pitches (tones). This can make background noise more comfortable, and make speech clearer.

As mentioned on [page 4](#), hearing aids that can pair with **smartphones** come with **apps**. These apps also function as a remote control that you can use to adjust the sound settings of your hearing aids.

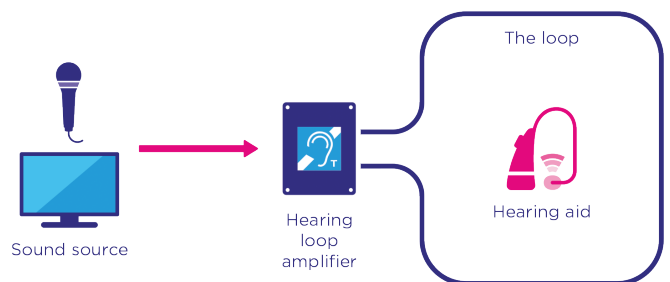
What is a hearing loop and how can it help?

A hearing loop (often called a 'loop' or 'induction loop') is a special type of sound system that helps people with hearing aids to hear more clearly over background noise. It converts sound from a specific source (for example, the loop system's microphone or a TV that is connected to the system) into a magnetic signal.

This signal is picked up and amplified (made louder) by hearing aids switched to the hearing loop setting (formerly called the 'T' setting).

Your audiologist may need to activate the loop setting on your hearing aids before you can use it – ask them if you're unsure.

When your hearing aids are switched to the loop setting, the internal microphones are turned off and only the signal from the loop is amplified by your hearing aids. This allows you to focus on a specific sound, whereas your hearing aids normally amplify all noises in the area.




People who don't use hearing aids can still benefit from a loop system by using a loop listener, a portable device that has earphones or headphones.

You can get different types of hearing loops and they are often available in cinemas, theatres, banks and post office counters, shops, transport ticket offices, places of worship and crematoriums. They should be clearly advertised by this sign:



You can also get loops for use at home and in the car. And some landline and mobile phones (including smartphones) have built-in loop technology ([see page 7](#)).

 To find out more about hearing loops, see our factsheet *Assistive listening equipment*.

What are remote microphones and how can they help?

All hearing aids contain microphones that pick up sounds, which are then transmitted into the ear. These microphones adjust automatically in most situations. But, as you've probably found, in more challenging environments, like noisy bars or restaurants, the microphone picks up the background noise as well as the speech. This makes it hard for you to hear what's being said. A small remote microphone that can wirelessly connect to your hearing aids can be very useful in these situations.

You can place the microphone next to the person speaking, so that it predominantly picks up their speech and sends it directly into your hearing aids. This will make it easier to follow what's being said when there's background noise.

Some of the new remote microphones are also paired with an **app**, so you can adjust the sound you are hearing. Typically, this allows you to adjust the way the remote microphone picks up sounds; for example, from all around (omnidirectional) or from a specific angle (directional). You can also adjust the volume and, in some cases, the tone.

You can only connect your hearing aids to one remote microphone, and each remote microphone can only be picked up by one hearing aid, or a pair. So, for example, you and another person who uses hearing aids can't connect to the same remote microphone at the same time.

If you're somewhere noisy, where two or more people are speaking, you can't use multiple microphones to hear different people. A remote microphone is really suited to a one-to-one conversation or for listening to a single sound source, like a lecture or watching the TV.

For group conversations and meetings, a table microphone is more suitable, as this is designed to pick up sound from all around the table.

Some hearing aid manufacturers only allow you to connect to their own remote microphone. To make sure you get the right remote microphone for your hearing aids, speak to your audiologist.

What are FM systems or radio aids and how can they help?

An FM system, also referred to as a radio aid, is an assistive listening device that uses an FM signal to transmit sounds wirelessly. It can be bulkier than similar devices, but just one FM transmitter, worn by the speaker, can be picked up by multiple FM receivers. So it's ideal in the classroom or in meetings.

Several manufacturers make FM systems but they can all be used with any hearing aid. All you need to do is use

the compatible receiver (this is usually attached to the bottom of your hearing aids). Your audiologist can advise which receiver is required, and they will link your hearing aids to it.

What are multiple wireless connection devices?

Some devices can now connect to multiple devices so that you can choose which function you would like to use. This includes remote microphones that are Bluetooth-enabled and can also pick up hearing loop and FM signals. This means you can connect in multiple ways, to multiple devices, with just one device. For example, if you're going out, you'll only need to take one device to use a loop or have one-to-one conversations or group discussions. Before you buy one, speak to your audiologist or the retailer to make sure it is compatible with your hearing aids.

What can help me hear on the phone?

Hearing aid compatible phones

If you struggle to hear on the phone, you can get 'hearing aid compatible' landline and mobile phones to use with your hearing aids on the loop setting.

These phones have built-in hearing loop technology, so when your hearing aids are switched to the loop setting, only the signal from your phone's earpiece

is amplified by your hearing aid. This may make people's voices clearer and easier to hear.

Most **smartphones** are hearing aid compatible. To find out if yours is, check the accessibility features in its 'Settings' folder.

Receiving calls through your hearing aids

If you have a Bluetooth streamer or MFi hearing aids ([see page 4](#)), you can wirelessly connect to your **smartphone**. This lets you hear the voice of the person you're speaking to directly through your hearing aids. The main advantage is being able to hear more clearly on your smartphone when you're in a noisy place. You'll hear calls in both hearing aids – not just in the ear you are holding the phone to. And you won't have to remove your hearing aids to listen to music.

Some hearing aid manufacturers produce landline phones that connect to your hearing aids automatically when you're in range of the phone. This means you don't have to change the setting on your hearing aids. Contact your hearing aid manufacturer to find out if they produce such phones.

Some manufacturers also have a device that sticks to the back of a mobile phone or **smartphone** to allow you to stream the sound from your phone into your hearing aids.

How do I find the device that's right for me?

Not all assistive listening devices are compatible with all hearing aids. As we outlined earlier in this factsheet, most hearing aid manufacturers produce their own range of assistive listening devices, which are only compatible with their hearing aids.

As hearing aid technology progresses even further, new models of assistive listening devices will only be compatible with newer models of hearing aids. So, speak to your audiologist before you buy a device, to make sure it will work with your hearing aids. If your audiologist is unsure, ask the retailer.

Where can I get more information about wireless technology?

Visit your hearing aid manufacturer's website to find out about the latest technology and devices that you can use with your hearing aids. You can also get information from reputable retailers.

You may also be interested in the other factsheets in our **Products and technology** range:

- *Enjoying TV*
- *Assistive listening devices*
- *Alerting devices*

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Information you can trust

The Information Standard certifies us as producers of high-quality, evidence-based information. This factsheet was produced by our **Technology Research Manager, Jesal Vishnuram**, and **Product Technologist, Kevin Taylor**, and was published in September 2017.

Did you find this factsheet helpful?

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Our expert information covers everything you need to know about:

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- tinnitus
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- hearing aids and cochlear implants
- useful products and technology
- communication tactics and support
- benefits and grants
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Visit our website actiononhearingloss.org.uk or call our Information Line ([see last page](#)) for information, support and publications. You can also find out about services in your area, our hearing research, and how you can get involved.



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To find out more about what we do and how you can support us, go to www.actiononhearingloss.org.uk

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