

By Stephen O. Frazier
and Sally Schwartz

Neck loops are a “headset” for those who wear hearing aids equipped with telecoils or who have a telecoil-equipped cochlear implant. Literally any device that can be used with a headset (with or without a mic) may be used with a neck loop.

With the dramatic increase in awareness and use of hearing loops in homes, churches, live theater, meeting halls and other locations, another form of hearing loops—the neck loop—has been somewhat overlooked. This incarnation of induction loop technology can turn a hearing aid (or a cochlear implant) into a versatile and sophisticated personal listening system.

Think of a neck loop by itself as simply a headset for telecoil (sometimes called t-coil) equipped hearing aids. Just like a headset needs some type of audio source, so does the neck loop and they come in amplified and non-amplified versions. The amplified version comes in two forms:

- Bluetooth® for cellular and some cordless home phones
- Corded styles for cell phones, cordless phones, personal amplifiers and other devices

The one requirement for using a neck loop with hearing aids is that the hearing aids must have telecoils and there must be a manual control for the telecoils. Some so called “automatic” telecoils have no manual control, they are activated by the magnet in the telephone earpiece.

They will not sense a neck or room loop and activate, so those telecoils are useless for any purpose other than telephone use. Some automatics in both hearing aids and cochlear implants have a manual override so they will work fine with either a neck or room loop.

The Often-Neglected Neck Loop

With most hearing aids, the telecoil setting can be set to one or all of the following settings.

- Telecoil only—little other sound enters the hearing aids except that from the loop
- M/T (mic/telecoil)—audio and other sounds in the room will be picked up by the hearing aid’s microphones and mix with the sound from the neck loop
- Automatic telecoil (with only some hearing aids)—works only with the telephone

Ask an audiologist or hearing instrument specialist for more information.

A user will have increased clarity when the telecoil is set to telecoil only since background sound will not be picked up by the hearing aids’ microphones and cover the hard-to-hear consonants.

Due to the varying strength of loop signals (some of which might not meet international standards) optimum loop/telecoil operation will be acquired using hearing aids that, in addition to the manual telecoil controls, also have manual volume controls.



Listen Technologies non-amplified headset

The Basic Neck Loop

By itself, a neck loop such as the example from Listen Technologies (www.listen.tech.com) shown above is simply a non-amplified headset. It is a miniature loop that, like a full room loop, relays sound when plugged into an electronic sound source such as an iPod or MP3,

a tape cassette player, the headphone connection at the gym, the speaker jack on a TV or stereo system, a personal amplifier such as a Pocket Talker® etc., sending that sound to the telecoils in hearing aids.



Symbol indicating a device will work with a headset

When you see a symbol on a device or its packaging that looks somewhat like a headset, it means that device has a 3.5 mm connection that will work with a headset (neck loop). In some instances you might need an adapter if your neck loop does not have the proper connector. To control the volume to your ears you will need to use the device’s volume control due to the neck loop not having its own volume control.

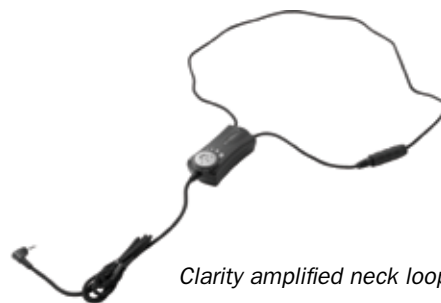
Even smaller than a neck loop but working on the same principle is the ear hook from HATIS—Hearing Aid Telephone Interconnect Systems (www.hatis.com). Ear hooks bring the loop directly up to the hearing aid and have a stronger signal than a non-amplified neck loop. Ear hooks are beneficial for behind-the-ear hearing aids and if the signal strength is strong enough they can be used with in-the-ear and in-the-canal style hearing aids too. This style must be “hooked” behind the ear.

Non-amplified neck loops retail for as little as \$40 and ear hook prices begin at about \$30.

Amplified Neck Loops

Amplified neck loops have two things that make them different from a basic neck loop: volume control to amplify sound and a microphone. The Clarity (www.clarityproducts.com) model shown here is just one of many available with some brands starting at less than \$50 with most between that figure and \$100.

With this type of device plugged into a phone (cellular or landline) a person can talk hands-free because the microphone in the neck loop replaces the mouthpiece of the telephone. The neck



Clarity amplified neck loop

loop portion still functions just as the basic neck loop functions—as a headset. It is not limited to phone use and can be used with the same wide variety of devices as the basic neck loop.

The volume control provides an independent volume adjustment for whatever it plugs into. For example; the cordless phone has its own volume control and with the amplified neck loop there is an additional volume control adjustment. Some hearing aids can provide yet another volume control if they have the recommended manual volume control instead of an automatic one. A special advantage of neck loop phone use is that you are hearing the caller through both ears and, unless you are using the mic/telecoil setting on your hearing aids, much of the background sound is eliminated.



Quattro ClearSounds Bluetooth® neck loop

Bluetooth® Neck Loops

Bluetooth® models of neck loops or ear hooks are also available that will receive a Bluetooth® signal and transmit it to hearing aids that are not Bluetooth® capable themselves via their telecoils. Shown above is the Quattro model from ClearSounds (www.clearsounds.com) that works as a neck loop or with ear hooks. Bluetooth® provides these benefits:

continued on page 30

The Often-Neglected Neck Loop *continued from page 29*

- No wire from the neck loop or ear hook to the cell phone
- Some have a “dongle” option to allow wireless listening to your TV, MP3 or any other music or sound device.
- When the phone rings you will be notified through your Bluetooth® device.

These neck loops, again, will work with any telecoil-equipped hearing aids that have a manual telecoil control. Bluetooth® style neck loops can be purchased for \$199 and up depending on their features.



Personal Amplifiers and Neck Loops

Personal amplifiers have a powerful little microphone that allows the user to aim the device at a speaker to pick up his or her voice. This helps to decrease the background sound and focuses more on the person's voice, increasing clarity and volume.

A personal amplifier like the “Pocket Talker” from Williams Sound (www.williamssound.com) that is shown above with a headset and ear buds, can, instead, be coupled with a neck loop or ear hook. It can increase the user's ability to hear and understand in restaurants and other settings where hearing aids alone simply are not adequate.

Although these devices can be aimed at whomever is speaking in a group setting such as a roundtable, they work best in one-on-one situations. Some of the personal amplifiers come with removable microphones and they allow for different sizes of microphones

that improve the “focused” sound. Focused sound just means that the microphone has been made to have a small and narrow area from which it will pick up the sound signal. This is very advantageous in restaurants and, especially, during family dinners.

This type of personal amplifier starts at around \$125. Some models have built-in mics with an option to add an external plug-in microphone. These models start at around \$170. Reminder: all of these use a headset so that means a neck loop or ear hook will work too.

The Personal FM and the Neck Loop

A step up from the personal amplifier is the personal FM system such as the system shown below from Contego (www.comfortaudio.com). This system has two units—a transmitter and a receiver. With such a system the hearing person will have the transmitter and will use either a built-in mic or a plug-in mic that attaches to the speaker's clothing. The person with the hearing loss would have a neck loop connected to the receiver. Using a personal FM system and a neck loop will allow you to hear someone at a distance as clearly as if they were standing next to you.



Contego personal FM system

In a restaurant setting the speaker could be wearing the transmitter and the user, instead of having a personal amplifier, would have the FM receiver.

The receiver accepts a headset connection which means that a neck loop and/or ear hook will receive and send the transmission directly to the t-coil equipped hearing aid or CI. FM

systems operate on a specific frequency, and there might be times when others are on the same frequency. When this happens the user has the option to change the channel or frequency on their system. This allows for multiple users to maintain a clear signal with no interference from other systems in operation in the same vicinity.

Personal FM systems can also be used in conference rooms, classrooms and other settings where a person with hearing loss might be some distance from the person speaking. Used as described earlier, several listeners can be equipped with receivers to hear the speaker/instructor.

Personal FM systems range in price from \$350 to well over \$600, but used units can sometimes be found online at sources like eBay for less.

The Personal FM as a TV Listening System

Personal FM systems can function as wireless TV listening systems. For television, simply put the transmitter and its mic in front of the TV's speaker or, for a clearer sound, plug the transmitter directly in the audio output of the TV to preclude background sounds from the room being picked up by the mic. You then can leave the TV's loudspeaker volume set at a level comfortable for others while you turn it up for yourself using the volume control on your FM system, your neck loop, your hearing aid or a combination of the three.

TV Listening Systems

Another alternative for TV use is a system that is specifically made for television hookups. Such devices are plugged into the audio output jack in back of the TV and broadcast a signal that sends the sound silently to a receiving neck loop. Shown on page 31 is such a system from Sennheiser (www.sennheiserusa.com). Some of these systems operate by using an Infrared (IR) signal and others use a radio frequency (RF) signal.

The major difference is that the RF feature allows you to listen from a different room since the signal travels through the walls and for greater



Sennheiser TV listening system

distances while IR sound stops when it reaches the wall. An IR system starts at about \$150 while RF systems start at more than \$350. Additional neck loops are usually available for either type of system at an additional cost.


Conclusion

Prices quoted throughout this article are the generally asked retail prices for the devices. A Google search for any specific device might find significantly lower prices are available at times. Search by brand name or, to get the most variety, search by category such as “amplified neck loop” or “personal amplifiers.”

Remember that since some hearing aids have the option to have the telecoil turned on at the same time as the microphone, for the clearest sound (and only the sound from the device), turn hearing aids to the t-coil *only* mode.

Contrary to what some hearing care providers might tell their clients about telecoils and loops and other “old technology,” there is a growing segment of consumers with hearing loss who are the actual users of hearing aids—that has found that with the use of this technology they can experience sounds and words again they had been unable to previously differentiate. They have learned that their hearing aids are even more adaptable and more versatile than they had been told when they purchased them and they all love their telecoils and loops.

Hearing loops installed in rooms from a home TV room to the largest public venue make it possible for people

with hearing loss to hear better in those rooms. A neck loop can travel with the user and, when connected to various devices, makes it possible for the user to hear better anyplace in the world. 

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Support Specialist course. He was a member of the joint HLAA/American Academy of Audiology's Get in the Hearing Loop task force and now serves on the HLAA Hearing Loop Steering Committee. He serves on the hearing aid dispenser licensing board in New Mexico, and until recently, wrote and

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