

## Cochlear Implant Comparison Chart

	<b>Cochlear Americas</b> <a href="http://www.cochlear.com">http://www.cochlear.com</a>	<b>Advanced Bionics</b> <a href="http://www.advancedbionics.com">www.advancedbionics.com</a>	<b>Med El</b> <a href="http://www.medel.com">http://www.medel.com</a>
<a href="#">Hybrid Hearing</a>	✓	✓	✓
Buttons	2 buttons w/ multiple functions	Program and volume	Sonnet: No Rondo: Power/battery lock slider
Stream with hearing aids	✓	✓	✓  (via Telecoil)
Hearing Aid Communication/Collaboration	ReSound Linx 3D (762)	Phonak Naida Link	-
<a href="#">CROS Capability</a>	-	Phonak Naida CROS	-
<a href="#">Waterproof</a>	N7 with the Aqua+	Neptune: Yes Naida with AquaCase	Sonnet/Rondo with WaterWear
<b>Mic Directionality</b>			
Automatic	✓	✓	✓
Manual	✓	✓	✓
Noise Reduction	✓	✓	✓
MRI Compatibility	See Manufacturer Website	See Manufacturer Website	See Manufacturer Website
<b>Processor</b>			
BTE (Behind-the-ear)	N7	Naida	Sonnet
Off Ear	Kanso	-	Rondo
Body Worn	-	Neptune	-
<b>Battery Options</b>			
Zinc Air	N7/Kanso	Naida	Sonnet/ Rondo
Rechargeable	N7	Naida	Sonnet
AAA	-	Neptune	-
Average Battery Life	Compact: 20 hours Standard: 40 hours	-	-
<b>Wireless Accessories</b>			
	<a href="http://www.cochlear.com/wps/wcm/connect/us/recipients/nucleus-6/nucleus-6-accessories">http://www.cochlear.com/wps/wcm/connect/us/recipients/nucleus-6/nucleus-6-accessories</a>	<a href="https://www.advancedbionics.com/content/advancedbionics/us/en/home/products/accessories.html">https://www.advancedbionics.com/content/advancedbionics/us/en/home/products/accessories.html</a>	<a href="http://www.connevans.co.uk/viewCategory.do?id=8849823&amp;name=MED-EL-accessories-and-leads">http://www.connevans.co.uk/viewCategory.do?id=8849823&amp;name=MED-EL-accessories-and-leads</a>
Bluetooth	✓	✓	✓
<a href="#">TV Streamer</a>	✓	✓	✓

Remote Microphone	✓	✓	✓
FM Compatible	✓	✓	✓
Phone Clip	✓	✓	-
Remote Control	✓	✓	✓
Remote Assistant	✓	-	-
Streamer	-	✓	✓
Dect Phone (Landline)	-	✓	-
Roger Pen	-	✓	✓
Company	Public	Public	Private
Warranty	10 year internal 5 year external	10 year internal 5 year external	10 year internal 5 year external
Customer Service/Audiology Services	M-F 6am-6pm MST Sat 8-12 MST *Can leave voicemail after hours	M-F 5am-5pm PST *Sat can leave message if you are off ear someone will return your call	24 hours a day
Manufactured	United States	United States	Austria

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## Description Chart

Bluetooth	<ul style="list-style-type: none"> <li>● Bluetooth is essentially technology that allows the cochlear implant to communicate wirelessly with accessories or other hearing aids (depending on the manufacturer and hearing aid)</li> </ul>
TV Streamer	<ul style="list-style-type: none"> <li>● Direct audio from the television to the cochlear implant or hearing aid (depending on the hearing aid and manufacturer)</li> <li>● The patient has the option to adjust the “mixing ratio” <ul style="list-style-type: none"> <li>○ Setting how much they want to hear the TV compared to what they hear in the environment.</li> </ul> </li> </ul> <p>*AB patients will need the ComPilot streamer to connect</p>
Remote Microphone	<ul style="list-style-type: none"> <li>● Wireless microphone that enhances speech understanding when communicating one-on-one in noisy environments. Can also be used in meetings, in the car and at home to improve communication.</li> </ul>
FM Compatibility	<ul style="list-style-type: none"> <li>● This device is geared towards improving speech understanding in background noise or difficult listening situations. It is recommended for children or students in classroom settings as well as meetings or group gatherings for adults.</li> </ul>
Phone Clip	<ul style="list-style-type: none"> <li>● Manage &amp; stream your mobile phone calls directly to your cochlear implant via bluetooth connection. This device will allow you to answer/hang up phone calls, adjust volume and mute calls.</li> <li>● This device will also allow audio streaming wirelessly via bluetooth connection on the mobile phone or computer.</li> </ul>
Remote Control	<ul style="list-style-type: none"> <li>● Remote control technology allows you to manage your hearing in a discreet way.</li> </ul>
Streamer	<ul style="list-style-type: none"> <li>● The streamer typically used by AB &amp; Med-EL patients is the ComPilot; which allows the user to access other bluetooth products such as the TVLink and Remote Mic.</li> <li>● It is a necklace that is worn by the patient that can also use its bluetooth connection to pair with mobile phones, computers, and many other devices.</li> </ul>
Dect. Phone	<ul style="list-style-type: none"> <li>● Cordless landline telephone that automatically transmits calls to the cochlear implant OR hearing aid (if hearing aid is Phonak product)</li> </ul>
Roger Pen	<ul style="list-style-type: none"> <li>● Wireless microphone that will stream voices in close proximity in noise and at a distance directly into the hearing aids.</li> <li>● Wirelessly stream calls directly into the hearing aids.</li> <li>● With the use of the stand, you can directly stream TV shows into the hearing aids</li> <li>● Direct input into devices such as smartphones, iPods or other audio devices to listen to music or audiobooks directly through the hearing</li> </ul>

	aids.
Remote Assistant	<ul style="list-style-type: none"> <li>Allows caregivers or parents to troubleshoot, view the sound processor's status &amp; program settings, adjust volume, adjust sensitivity of the microphones and allows use of the telecoil feature.</li> </ul>

<b>Battery Options</b>	
Zinc Air	<ul style="list-style-type: none"> <li>Non-rechargeable metal-air batteries powered via zinc and oxygen. These batteries can be purchased at your local audiology clinic or retail stores.</li> <li>The batteries will typically have a color and a number associated with the battery size. The common sizes for hearing devices are as followed: <ul style="list-style-type: none"> <li>10 (red), 312 (brown), 13 (orange), 675 (light blue)</li> </ul> </li> <li>These batteries will contain a sticker to keep the battery dormant (asleep/inactive). Once the sticker is peeled off, the battery is active. Placing the sticker back on the battery will NOT deactivate the battery.</li> </ul> <p>*Cochlear Implants that use disposable batteries typically use the 675 battery</p>
Rechargeable	<ul style="list-style-type: none"> <li>Rechargeable batteries are more common for cochlear implant patients. Depending on the product and size, there is a wide range from 8-40 hours of battery life with these devices before they need to be charged.</li> </ul>
AAA	<ul style="list-style-type: none"> <li>These batteries are common for TV remotes, DVD Player remotes and other common electronics that are used. These batteries can be purchased at your local retail store.</li> </ul>

Some of the terms used on this chart are a little difficult to understand. Here are the terms that we get the most questions about and what they mean:

<b>Hybrid Hearing</b>	Hybrid hearing is a combination of hearing aid and cochlear implant technologies. It uses acoustic amplification of the natural low-frequency hearing you may have after surgery, while taking advantage of cochlear implant technology to restore access to the high-frequency sounds you're missing.
Hearing Aid Communication/ Collaboration	The cochlear implant companies work in collaboration with certain hearing aid companies. Advanced Bionics works with Phonak. Their hearing aid communicates with the implant using CROS technology.

	<p>Cochlear Americas works with GNResound but does not utilize CROS technology so the instruments can stream devices but they don't communicate with one another.</p> <p>Med El is beginning to work with Phonak for accessories but does not have a compatible hearing aid as of yet.</p>
CROS	<p>(Contralateral Routing of Signal) The patient wears a transmitter on the ear that couldn't get a cochlear implant (the unaidable ear) and sends sound to the ear with the cochlear implant so the patient can hear better overall.</p>
Waterproof	<p>Most CI's are considered water resistant, not waterproof. They can usually stand a fair amount of water, such as sweat and/or some rain. There is typically a coating or sealant around the important parts within the device that protects them from damage. They are not however waterproof and will likely not survive if submerged in water or exposed to water for a long period of time.</p> <p>Each CI company has some sort of aqua kit or water wear that makes your CI waterproof. Advanced Bionics has the Neptune, which is an actual waterproof processor. (You can swim in these, and they can be submerged in water)</p>
Telecoil	<p>This is a small coil inside your CI. The coil works as a small receiver which picks up signals from a loop system that acts as an electromagnetic field. CI's with an activated telecoil can convert this electromagnetic field into a sound signal. You can have an automatic telecoil that works whenever it is within an electromagnetic field or a manual telecoil (telecoil program) that a patient would have to change on their hearing aid.</p>
Automatic vs. Manual Mic Directionality	<p>Automatic directionality is where the CI is constantly scanning the environment. It tries to filter out noise and amplify/focus on the sounds of speech. Manual directionality would be separate programs that a CI has. A patient would have to</p>

	change the program to go from one mic setting to another (e.g., a noise program).
How Noise Direction Works	The cochlear implant analyses the environmental noise and makes adjustments to the sounds it detects. It would give favor to speech signals and reduce the amount of background noise.