

Roger and Cochlear Implants

This guide provides detailed information on how Roger should be used with the most popular cochlear implant sound processors.

Set-up

The table below shows the Roger receiver and/or adaptor that is required to use Roger with each sound processor.

Advanced Bionics s	ound processors	Cochlear soun	d processors
All Naída Cl Q models	Neptune™	Nucleus 7 (CP1000)	Nucleus 6 (CP910) Nucleus 5 (CP810)
Roger 17 ²	Neptune Connect +	Roger 20	Roger 14
or ComPilot + Roger X	Roger X	or Mini Microphone 2+ with	or Euro accessory adapter +
		Roger X	Roger X

	MED-EL audio processors		Oticon sound processors
SONNET	OPUS 2	RONDO	Neuro One
J			
Roger 21	FM battery Pack Cover +	Mini Battery Pack + Roger X	Roger X
or FM Battery Pack Cover +	Roger X		
Roger X			

¹Jace Wolfe (2013), Evaluation of speech recognition of cochlear implant recipients using a personal digital adaptive radio frequency system. *Journal of the American Academy of Audiology.* ²PowerCel[™] 170 battery required.



Pre-fitting

To ensure maximum benefit from the Roger system, program the sound processor with the recommended settings according to the table below.

Model	Recommended sound processor setting
AB Naída Cl	Set the Audio Mixing Ratio (Mic/Aux) to 50/50
AB Naída CI via ComPilot	Set the ComPilot Mixing Ratio to 50%
AB Neptune	Set the Audio Mixing Ratio (Mic/Aux) to 50/50
Cochlear Nucleus 7	Set Mixing Ratio to 1:1
Cochlear Nucleus 6 / 5	Set Mixing Ratio to 1:1 and select Autosensitivity [™] + ADRO configuration
MED-EL SONNET / Rondo / OPUS 2	None required

For Cochlear's Nucleus 6, Nucleus 5 or the Advanced Bionics Neptune systems, Roger X* should be programmed. This will disable AutoConnect and will ensure that the Roger X output impedances match the input impedance of the sound processor. A Roger Touchscreen Mic or Roger inspiro is required for programming Roger X. Please follow the steps below to program the Roger X:

1. Connect Roger X to the sound processor or ComPilot and switch it on.

Using Roger Touchscreen Mic:

- 2. Turn Roger Touchscreen Mic on, hold it close to Roger X (less than 10 cm / 4 inches). Then go into [Settings] and select [Roger receiver settings].
- 3. Select [Cl Profiles]
- 4. Select the corresponding profile as shown in the table below.
- 5. Select [EasyGain level].
- 6. Set the EasyGain to the corresponding value as shown in the table below.

Using Roger inspiro:

- 2. Turn Roger inspiro on, hold it close to Roger X (less than 10 cm/4 inches) and select the function [Check].
- 3. Click [Manage], scroll to [Cl module] then click [OK].
- 4. Scroll to the corresponding setting as shown in the table below and click OK.
- 5. Scroll to [EasyGain] and click [OK].
- 6. Set the EasyGain to the corresponding value as shown in the table below.

Model	Recommended CI Profile / CI Setting for Roger X	Recommended EasyGain for Roger X	
AB Neptune with Roger X	Profile 4 / Setting 4	+8dB	
Cochlear Nucleus 6 / 5 with Roger X	Profile 9 / Setting 9	OdB	
MED-EL RONDO / OPUS 2 with Roger X	No programming required	OdB	
	Alternatively use Profile 2 / Setting 2		
MED EL SONNET with Pager V	No programming required	OdB	
MED-EL SOMMET WILLI ROGER A	Alternatively use Profile 3 / Setting 3		

No programming of Roger X is required for:

- Advanced Bionics ComPilot
- MED-EL audio processor
- Cochlear Mini Microphone 2+
- Older CI systems using MicroLink CI S

Roger 14, Roger 17, Roger 20 and Roger 21 are pre-configured for the compatible sound processor, that setting cannot be changed.

Connect the Roger system to your patient's CI

Step 1: Attach Roger receiver

Switch all equipment off. If required, remove the standard cover or hook and attach the adapter to the sound processor. Now attach the Roger receiver to the sound processor, adapter, battery or to the external device such as ComPilot or Mini Microphone 2+.

Step 2: Switching on

Ask the user to put on the sound processor and switch it on. If using ComPilot or Mini Microphone 2+, switch it on.

The sound processor should automatically detect the presence of the Roger receiver. If this is not the case, manually change to the recommended program that is used for the external audio source.

Step 3: Connect

Hold the Roger microphone close to the Roger receiver (within 10 $\,$ cm/4 inches) and press the Connect button on the Roger

Listening test

The simplest way to do a listening test is using the MLx Audio Checker:



Plug the Receiver into the corresponding adapter and then into the MLx Audio Checker as shown in the table below:

Roger 14	Roger 17	Roger 20	Roger 21
Roger 14 checker	Roger 17 Adapter	Roger 20 Adapter	Roger 21 Adapter
		Requires Nucleus 7 battery pack	
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microphone. The user should now report they have heard the confirmation beeps (a low tone followed by a high tone). If the user did not hear the confirmation beeps, you may need to manually switch the processor into the DAI, EXT, ComPilot or AUX program. Repeat this connect process until your patient hears the beeps.

Step 4: Test the system

Consider testing the user's speech recognition in quiet with the Cl alone by muting the Roger microphone and standing close to your patient. Then test the user's speech recognition through the Roger microphone while standing at least 3 meters away. Listening performance should be similar between these two conditions.

Troubleshooting

Most probable cause	Solution
Signal from Roger microphone cannot be heard	
Sound processor is set in the wrong program	Switch the sound processor to the dedicated DAI, EXT, ComPilot or AUX program
Roger receiver is not connected to the Roger microphone	Connect Roger receiver with the Roger microphone (see Step 3)
Roger microphone is not switched on or is muted	Switch on the Roger microphone and make sure it is not muted
Cl user is out of range of the Roger microphone	Ask the CI user to move closer to the Roger microphone to be within its operating range
Batteries are empty	Use fresh batteries or make sure the rechargeable battery pack is full charged
The environment cannot be heard through the processor's micro	phone
Mixing ratio set incorrectly	Make sure a mixing ratio other than 'Aux Only' is being utilized for AB users. Ensure a 1:1 mixing ratio for Cochlear users is utilized (see recommended sound processor setting table)
Microphone sensitivity reduced	Make sure microphone sensitivity has not been reduced in the DAI, EXT, ComPilot or AUX program
The Roger microphone's signal suffers from interruptions	
The Roger microphone is too far away or shielded by obstacles (e.g. human body)	Reduce the distance between Roger receiver and the Roger microphone, and ensure both devices are in line of sight

Special features for educational system*

Programming of EasyGain

If the volume of the Roger system is not satisfactory, you can change the gain of the receiver via Roger Touchscreen Mic or Roger inspiro.

How to adjust EasyGain using Roger Touchscreen Mic:

Hold Roger Touchscreen Mic close to Roger receiver (less than 10 cm / 4 inches). Then go into 'Settings' and select 'Roger receiver settings'. Select 'EasyGain Level' and use the + / - buttons to adjust the EasyGain in the range of -8 dB to +8 dB. Simply press the '<' arrow in the top left corner to store the value.

How to adjust the EasyGain using Roger inspiro:

Hold Roger inspiro close to Roger receiver (less than 10 cm/4 inches) and press 'Check'. Roger receiver information will appear on the inspiro's screen.

Press 'Manage', scroll with the cursor to EasyGain and press 'OK'. Now you can change the gain of the receiver in the range of -8 to +8 dB.