

# Processors for Educators



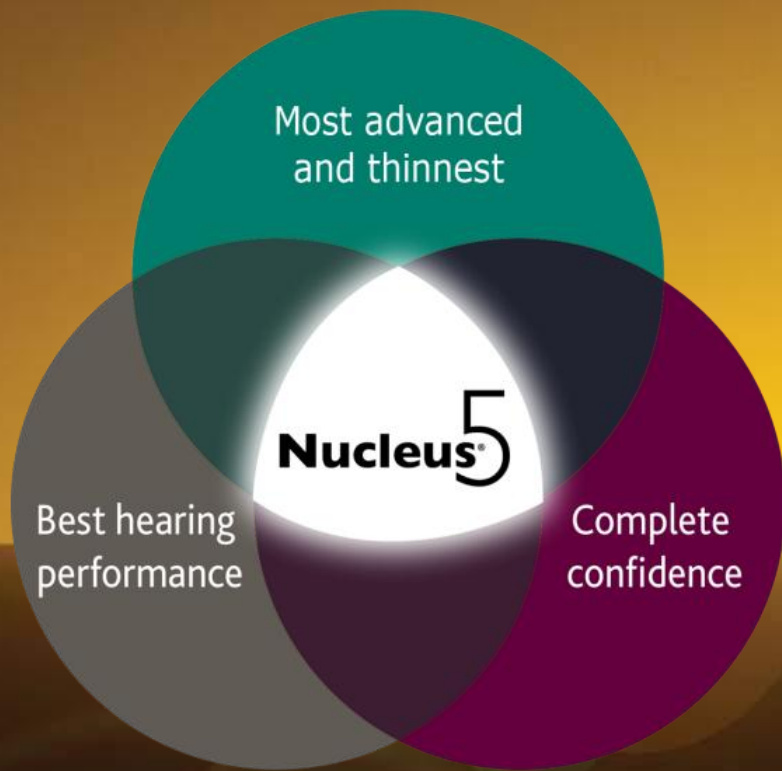
[www.cochlearamericas.com](http://www.cochlearamericas.com)

Hear now. And always



# Cochlear™ Nucleus® 5 System

A new generation in hearing












Hear now. And always



# The Nucleus Implant & Electrode Line Up

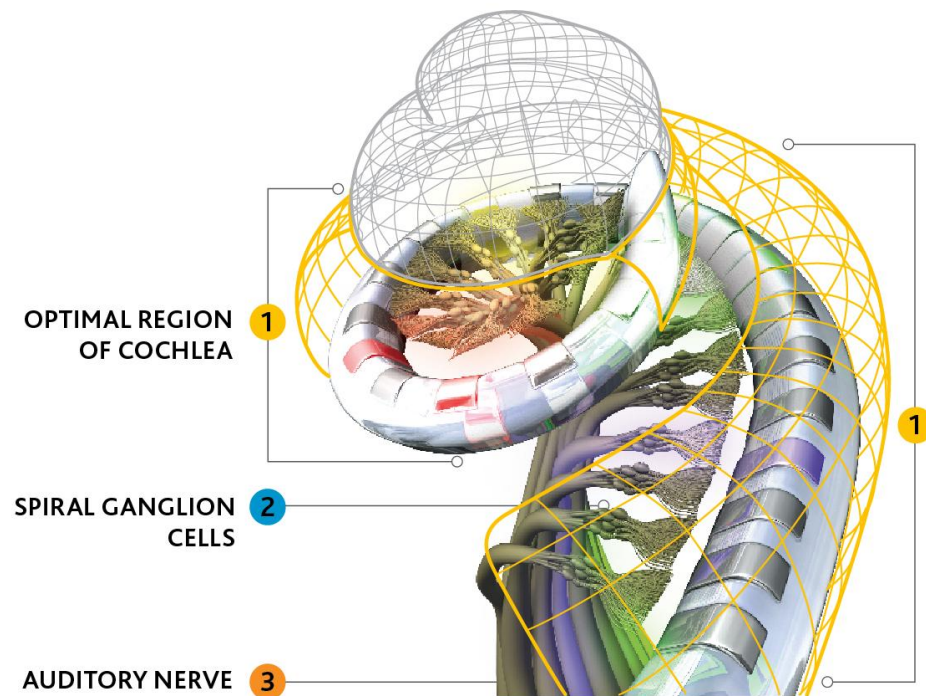
US Only

Implant	Electrode	Processor
<p>CI512</p> 	<ul style="list-style-type: none"> <li>• <u>Contour Advance</u></li> </ul> 	<p>CP810</p> 
<p>Freedom</p> 	<ul style="list-style-type: none"> <li>• Straight</li> </ul> 	<p>CP810</p> 
<p>CI24M</p> 	<ul style="list-style-type: none"> <li>• Double Array</li> <li>• ABI</li> </ul> 	<p>Freedom</p> 

# Best Hearing Performance

**Industry's best** electrode array for richer, more true to-life sound

- Limitless capacity
- More true-to-life sound
- Most natural fit
- MRI friendly
- Built on most reliable platform
- Industry's thinnest



*Illustration adapted from Gray's Anatomy Textbook*

- 1 RIGHT LENGTH
- 1 22 ELECTRODES FOR GREATER CLARITY
- 1 2 3 CURVED TO FIT NATURALLY
- 2 3 CLOSEST TO THE HEARING NERVE

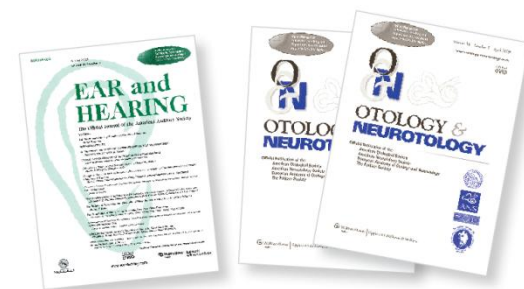
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# Complete Confidence

## Built to last a lifetime – you deserve the most reliable implant

- Nucleus Cochlear Implants are the most reliable on the market today<sup>10-15</sup>
- Proven #1 reliability in 3 independent clinical studies<sup>13-15</sup>



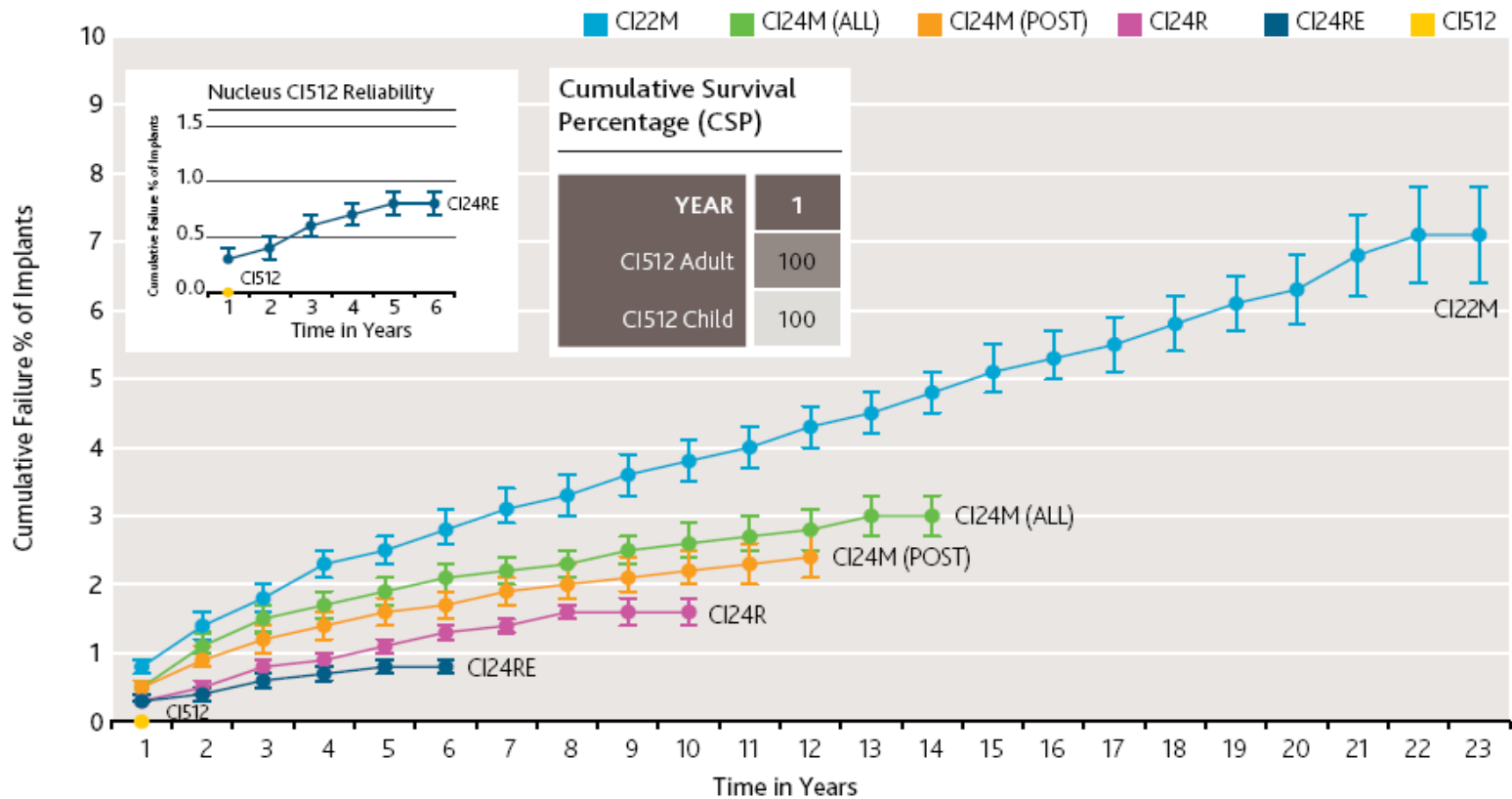
### INDEPENDENT CLINICAL STUDY RESULTS — RELIABILITY FINDINGS

Publication	Nucleus compared to Advanced Bionics is...	Nucleus compared to Med-El is...	Number of Patients
<i>Ear and Hearing</i> , 2007	3.5 times better <sup>13,16</sup>	4.6 times better <sup>13,16</sup>	12,856
<i>Otology &amp; Neurotology</i> , 2008	3.8 times better <sup>14,16</sup>	5.8 times better <sup>14,16</sup>	946
<i>Otology &amp; Neurotology</i> , 2009	5.3 times better <sup>15,16</sup>	Not available	3,417

**9 out of 10**  
hearing healthcare  
professionals choose  
**Nucleus<sup>1</sup>**

# Cochlear™ Nucleus® - A Culture of Reliability

## Nucleus Implants Reliability



ALL PATIENTS COMBINED AS OF 1 JUNE 2010

Every new implant generation is more reliable than the last

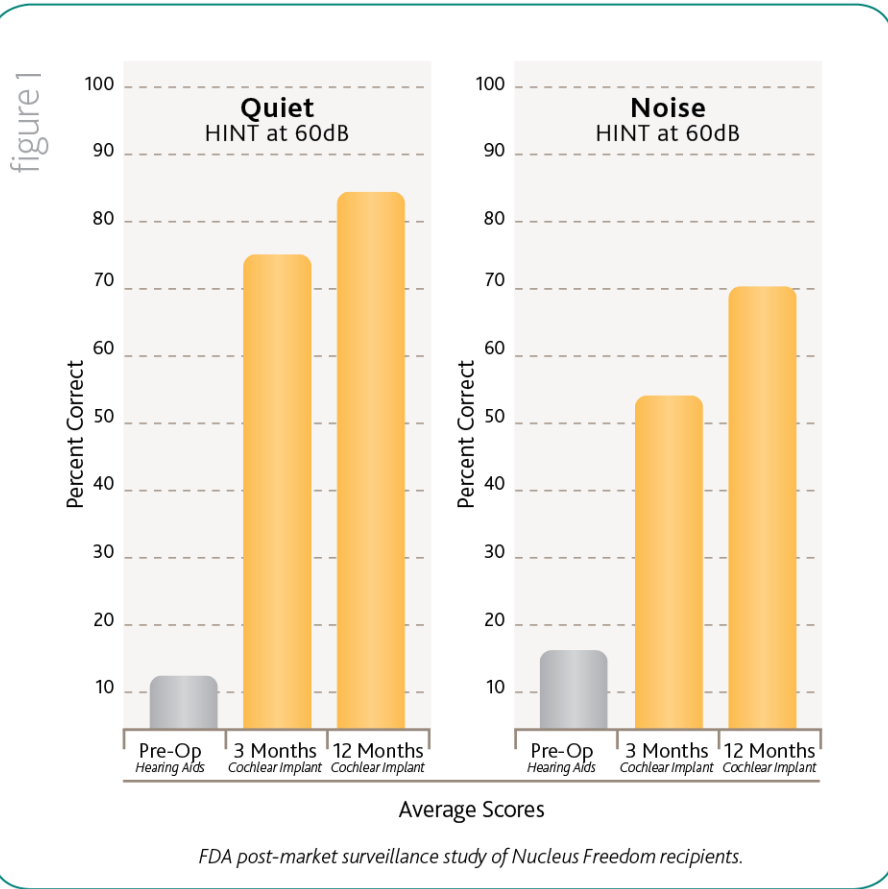
The 2010 data continues to show excellent reliability

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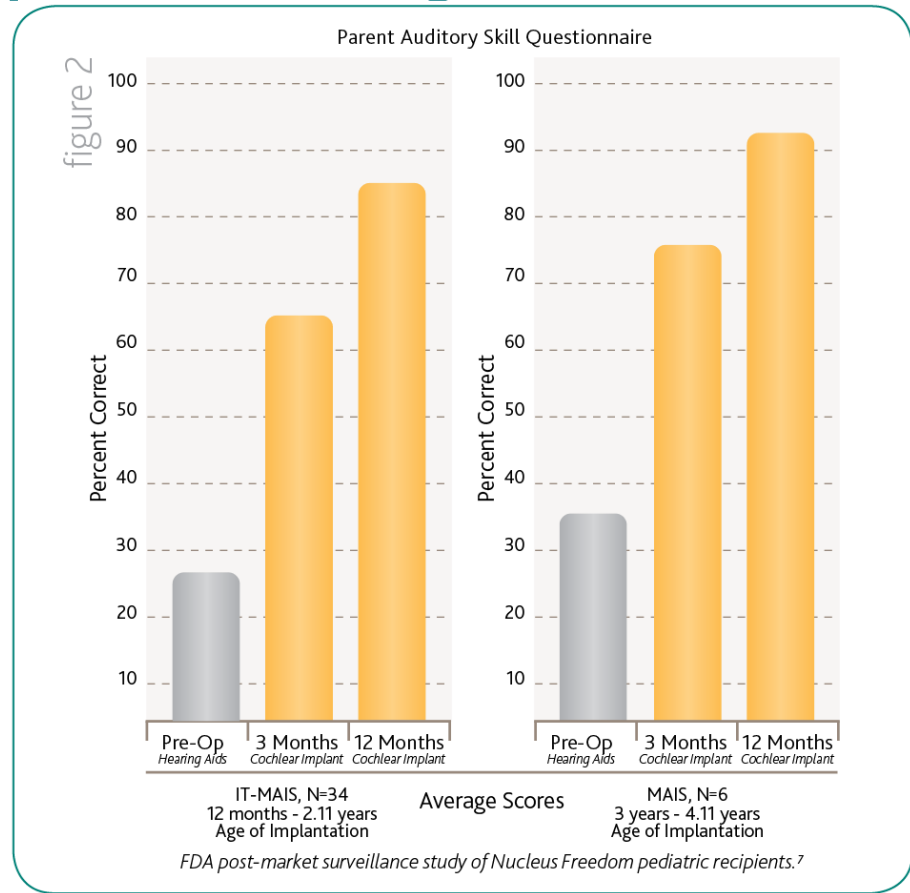


# Best Hearing Performance

## Nucleus Cochlear Implants outperform hearing aids<sup>8,9</sup>



Adults



Children

# Nucleus 5 Speech Processor

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# Complete Confidence

**Built to be durable.** Built on the world's first and only titanium foundation

- State-of-the-art durable materials
  - **Teflon**<sup>®</sup> coated titanium bayonet connectors for enhanced durability
  - Strong chrome trim
  - Robust and durable plastics to withstand accidental drops
  - Industry's only GORE-TEX<sup>®</sup> microphone protectors for superior moisture protection
- Separate coil and coil cable for improved reliability
- State-of-the-art manufacturing and testing processes



# Nucleus<sup>®</sup> 5 Sound Processor

## Smallest

### FLEXIBLE WEARING OPTIONS FOR EVERY AGE AND LIFESTYLE

#### Enhanced pediatric features

- Tamper resistance to ensure safety when wearing the processor.
- Parental alerts via multi-colored LED's on the sound processor.
- FM compatible with most available systems, including neckloops.
- Flexible wearing options suitable for very young children.
- Remote assistant has a speaker for audible alarms.



#### Accessories – connect with ease

Options are available to connect to any sound source with a headphone jack such as:

- MP3 players and Stereos
- Computers and Televisions
- Gaming Systems (*Wii,™ XBox 360,™ Playstation®3 and more!*)
- Plug in FM system options when used with euro adapter – available soon.



#### Tamper-resistant features

- Battery locking switch prevents accidental disconnection of the processor components.
- The LiteWear™ case provides additional tamper resistance for children.
- Tamper-resistant earhooks available.



# Nucleus 5 Sound Processor Features

- SmartSound2, featuring Set it and Go
- Two omni-directional microphones combined to provide different options:
  - Standard (cardioid)
  - Zoom (super cardioid)
  - Beam (adaptive)
- Splashproof to IP57
- AutoPhone™ feature
- 5 core colors
- 12 Sound Processor Covers



# Best Hearing Performance

## Industry's only AutoPhone™ technology

- Industry's first and only automatic phone detection
- Two options for connecting to the phone
  - Auto Telecoil
  - Manual Telecoil
- Bluetooth® friendly for safe hands-free connectivity
- Connecting in the classroom is easier too!



Bluetooth® friendly  
for safe hands-free  
connectivity



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# Introducing the Nucleus 5 Remote Assistant

# Nucleus 5 Remote

## Confidence

MONITOR, CONTROL & MANAGE

### Simple monitoring, diagnostics and troubleshooting

- Easily monitor, control and manage own hearing
- The only *two-way communication* remote assistant available today - Providing confidence in hearing
- Effortless monitoring, comprehensive diagnostics and simple troubleshooting to minimize *unnecessary* patient visits
- Large, full color display and intuitive navigation for easy use — especially for recipients with dexterity or visual needs.



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Cochlear™ Nucleus® 5 system

# Nucleus® 5 Remote Assistant features



Keypad lock/unlock slider  
to avoid accidental key presses



Telecoil button  
for manual activation

Programmable  
soft keys  
for easy SmartSound™ 2  
environment switching



One button  
check  
to monitor the  
status of the  
processing unit,  
battery module,  
coil and cable  
within 6 feet of  
processing unit



USB port  
for recharging in-  
built battery

## Nucleus® 5 Remote Assistant

# Monitor

SIMPLE DIAGNOSTICS  
AND IN-BUILT  
TROUBLESHOOTING

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Troubleshooting guide allows recipients to self-diagnose and resolve issues if they arise

Coil sensor



Battery monitor



Solve issues



Reset



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# Nucleus<sup>®</sup> 5 Remote Assistant (CR110)

## Control

BILATERAL CONTROL

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Only **one** remote assistant to manage **two** sound processors simultaneously



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# Accessories & Rehabilitation

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# Nucleus 5 Sound Processor Audio Accessories

Bilateral Personal Audio Cable



Main Isolation Cable



Freedom Accessory Adaptor



Personal Audio Cable



Lapel Microphone



Audio accessories are plugged into the accessory socket. They are automatically detected and switched on.



Monitor earphones

# Personal Audio Cables

- For use with battery operated audio or video components
- NOT for use with electrically operated components



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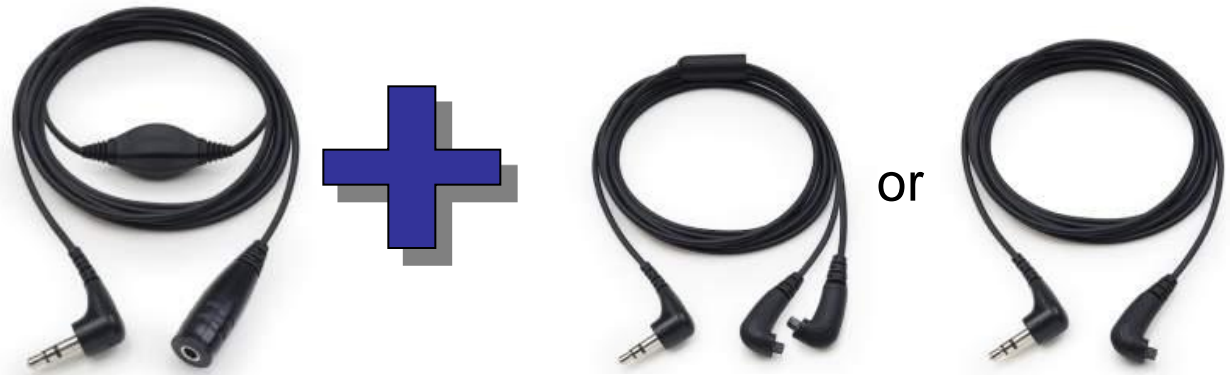
# Nucleus<sup>®</sup> TV / Stereo Cable & Mains Isolation Cable

- ❖ Surge protected for use with electrical components
- ❖ Connect to headphone jack:

Television  
Stereo  
Computer  
DVD player  
Home theater



Nucleus 5: Mains Isolation + PAC or Bilateral PAC



# Lapel Microphone

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- Bring sound closer
- Clip or “velcro” remote microphone near sound source
- Allows ideal positioning when sound source
  - is on opposite side of implant (e.g. driving a car)
- Place in center of group conversation
- Troubleshooting processor microphone

# Monitor FM During Use



**Use Cochlear monitor earphones to confirm that FM signal is active**

**Note:** For the Freedom speech processor, monitor earphone function switches off 90 seconds after connection to save power – press any processor button during the 90 second period to extend it by a further 90 seconds if needed, or press increase/decrease buttons to reactivate after 90 sec period (can also turn processor off/back on)



FM Systems and  
Nucleus<sup>®</sup> Sound Processors

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# Transmitters

- Transmitter assigned a 'frequency' (or channel) to use to send wireless communication
- Many options available from FM manufacturers



# Receivers

1. Audio coupling with wall mounted or desktop soundfield speakers:
  - FM transmitter worn by the speaker (e.g. teacher)
  - FM receiver couples with soundfield system
  - Loudspeakers placed appropriately around room (e.g. classroom) or on recipient's desk to amplify the speaker's voice.



# Receivers

## 2. Telecoil coupling: Neckloop with sound processor on telecoil (or combined telecoil and microphone setting):

- This works by the speaker wearing an FM transmitter
- FM Receiver with neckloop attached is worn by recipient
- Recipient uses sound processor on telecoil setting (or mixed telecoil/microphone setting)



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# Receivers

## 3. Electrical coupling: Direct connect with sound processor

- FM transmitter worn by speaker
- FM receiver connected directly to the sound processor using an adaptor or a cable
- FM receiver picks up signal from transmitter and sends it to the processor



Euro-pin adaptor  
in development



# Nucleus 5 and FM Systems

# FM Receiver: Connections

- Connect FM receivers via:
  1. Euro Accessory adaptor
  2. Using ESprit series FM cables and Freedom Accessory Adaptor
  3. Using neckloop



1

2

3

# Compatible FM Systems

- Compatible receivers (using Euro Accessory Adaptor)



Euro  
accessory  
adaptor:  
Z208290



Phonak MLxS



Phonak  
MicroMLxS



Oticon Amigo  
(R1 and R2)



# Compatible FM Systems

- Compatible receivers  
(using ESPrit Series FM cables with Freedom accessory adaptor)



Freedom  
accessory  
adaptor:  
Z208295



Z77089 (FM2-E 60cm)  
Z60369 (FM2-E 90cm)



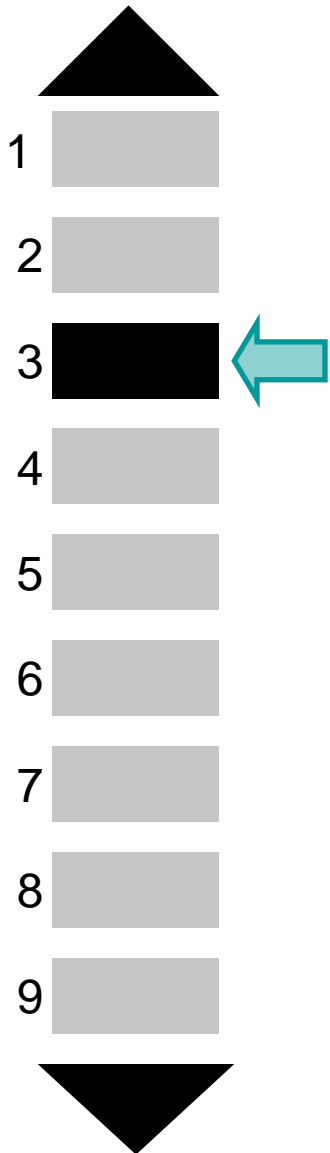
Oticon Amigo  
R5/T5  
173-216 MHz

Receiver  
output set at  
20





# Accessory mixing ratio



- Upper and lower directional keys to navigate through processor settings
- Use lower left and right softkeys to change accessory and microphone mixing ratio
- Left = accessory, right = microphone

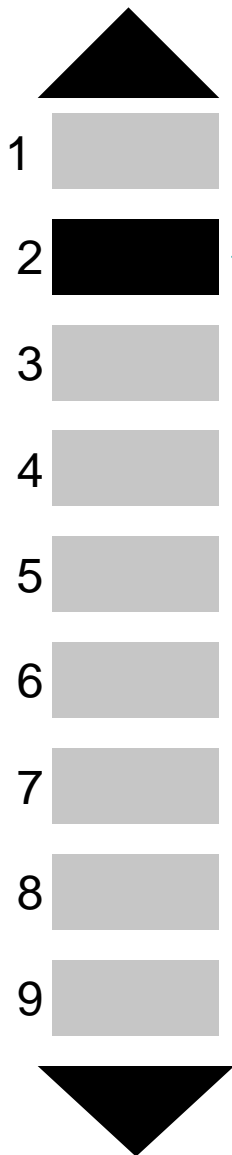


Access only | 6:1 | 5:1 | 4:1 | 3:1 | 2:1 | 1:1





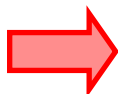
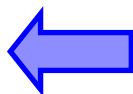
# Telecoil Mixing Ratio



- Upper and lower directional keys to navigate through processor settings

- Use lower left and right softkeys to change telecoil and mic mixing ratio

- Left = telecoil, right = microphone



Telecoil only | 6:1 | 5:1 | 4:1 | 3:1 | 2:1 | 1:1



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