

Beltone Boost Ultra: Providing Super Power Benefits to Those With Severe to Profound Hearing Loss



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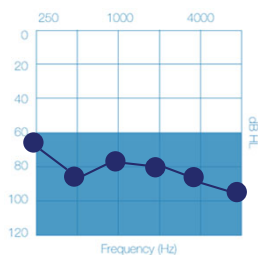
Learning Outcomes

- 1 Describe the patient benefits of the new super power portfolio.
- 2 Describe the key characteristics of the super power hearing aid patient.
- 3 Utilize the various sound processing options and additional fitting features unique to the super power hearing aid patient.
- 4 Describe the key connectivity and streaming capabilities available as well as the benefits to this unique hearing impaired population.



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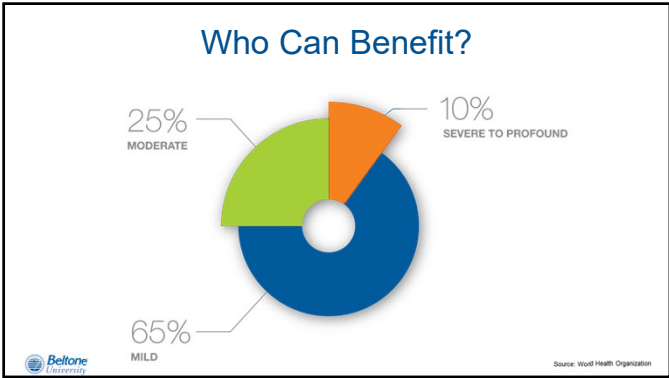
Who Can Benefit?



- Severe and profound hearing losses.
- Any age.
- Sensorineural or mixed.
- New or experienced users.



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Characteristics

- Dependent on amplification.
- Use amplification daily.
- Prior experience with hearing aids.
- Require high quality, dependable performance from hearing aids.
- May have strong preferences about how hearing aids should be set.

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The Super Power Patient

- New Super Power Users.
- Experienced Non-Linear Super Power Users.
- Experienced Linear Super Power Users.

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New Super Power Users

- New hearing instrument user.
- Previous hearing instrument user, but new to super power.
- Counseling and support.
- Fitting strategies may not be unique.



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Experienced Non-Linear Super Power Users

- Have experience using digital technology.
- Less challenging because no "transition" time.
- Likely willing to try new technology.
- Patients will be extremely dependent on amplification.



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Experienced Linear Super Power Users

- Presented with severe to profound hearing loss for many years, possibly since childhood.
- Extremely powerful, low-end BTEs with full shell earmolds and little to no venting.
- May have had multiple pairs of hearing aids or may have been wearing the same pair for many years.
- Familiar with the process and has received counseling over the years.
- Do not want to "get used" to new technology.
- Rarely swayed by claims of "new" or "best".



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Speech Understanding: Experienced Linear User

- Possibly patient was fit with whichever low-end technology was available.
- Brain has learned to add MEANING to distorted sounds.
- Patient becomes fully dependent on amplification.
- New hearing aids must provide distortion because it has meaning.

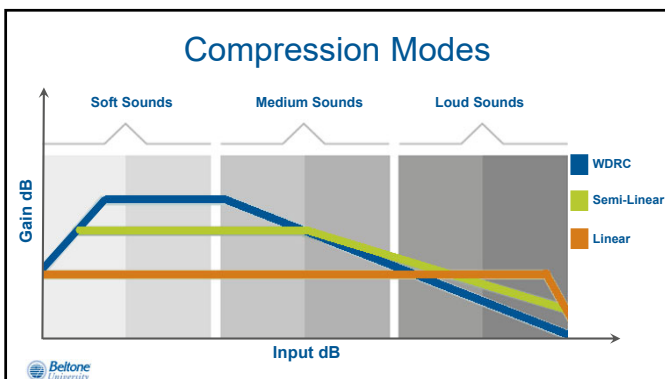
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Needs of the Experienced Linear User

- Find the balance between new technology and why the patient is hesitant.
- Patient may request that new amplification "sounds like my old one".
- Distortion has MEANING!
- Reduced speech understanding; rejection of hearing aids.
- Trial, trial, trial.

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Additional Compression Options

All	250	500	750	1K	1.5K	2K	3K	4K	6K
50	7	14	20	24	26	25	25	24	21
70	2	8	13	17	21	22	22	21	19
90	0	0	1	4	7	8	7	6	4
CR	1.1	1.5	2.1	2.3	2.3	2.3	2.6	2.6	2.6
MPO	97	105	107	110	114	120	122	116	108

Handles: 6 9

Calibrate MSG Pair Accessories

Compression: WDRC
Linear
Semi-Linear
WDRC



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Compression Mode Recommendations

Linear

All	250	500	750	1K	1.5K	2K	3K	4K	6K
Gain	2	8	13	17	21	22	22	21	19
CR	1	1	1	1	1	1	1	1	1
MPO	97	105	107	110	114	120	122	116	108

Handles: 6 9 Compression: Linear

Recommendation:
Previous users of linear amplification

Semi-Linear

All	250	500	750	1K	1.5K	2K	3K	4K	6K
Gain	3	11	16	21	24	24	23	23	20
CR	1	1.4	1.6	1.8	1.8	1.8	1.8	1.8	1.8
MPO	97	105	107	110	114	120	122	116	108

Handles: 6 9 Compression: Semi-Linear

Recommendation:
Previous users of linear amplification to ease adjustment to WDRC

WDRC

All	250	500	750	1K	1.5K	2K	3K	4K	6K
Gain	7	14	20	24	26	25	25	24	21
CR	1.1	1.5	2.1	2.3	2.3	2.3	2.6	2.6	2.6
MPO	97	105	107	110	114	120	122	116	108

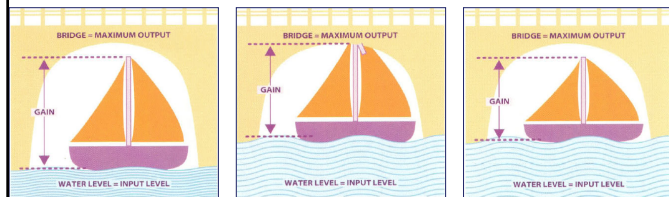
Handles: 6 9 Compression: WDRC

Recommendation:
New users and experienced WDRC users



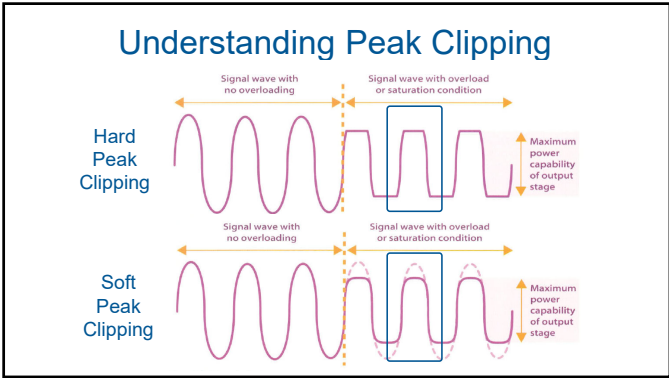
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Understanding Compression



Adapted from: The Compression Handbook

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Low Frequency Boost

Value	250 Hz	500 Hz	750 Hz	1K
Off	0 dB	0 dB	0 dB	0 dB
Mild	3 dB	6 dB	3 dB	1 dB
Moderate	6 dB	9 dB	5 dB	2 dB
Strong	9 dB	12 dB	8 dB	3 dB

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The Engine of Beltone Boost Ultra

30% more computing power

100% speed increase

20% power consumption reduction


100% memory increase


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A New High Performance Chip

Higher input dynamic range up to 113 dB SPL.

New radio provides 5 dB better performance on e2e functions.





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Super Power Portfolio




BTE and Super Power

Amaze 17
Trust 17
Boost Ultra 17


Amaze 9
Trust 9
Boost Ultra 9



Amaze 6
Trust 6
Boost Ultra 6



Available with 2.4 GHz Direct Wireless Accessories
Direct connection to iPhone, iPod, and iPad (MFi)
and select Android devices running OS 10 and BLE 5.0

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86 High Power




High Power
BBUx86-DWHT
Size 13 Battery
Frequency range: 100-5270* Hz
Max.1600/HFA - 90dB SPL; 141dB (ES)
* Measured according to IEC60318-0:2003, with T13 Ear simulator coupler.

- Metal earhook for increased gain
- Size 13 battery
- Multifunctional toggle and push button
- Telecoil
- Direct Audio Input

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95 Super Power



Super Power
BBUx95-DWT
Size 675 Battery
Frequency range: 100-6120* Hz
Max. 1600/HFA - 90dB SPL: 144dB (ES)
* Measured according to IEC60118-0:2015, with T11-Ear simulator coupler.

- Size 675 battery
- Multifunctional toggle and push button
- Telecoil
- Direct Audio Input

Frequency (Hz)						
	250 500 1000 2000 4000 8000					
0						
20						
40						
60						
80						
100						
120						

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Benefits of Telecoil Systems

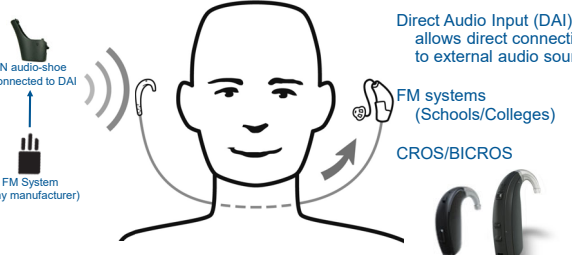
- Tele-loop systems are widely used in cinemas, theatres, places of worship, and schools.
- Hearing-aid compatible phones use telecoils to connect to hearing aids.





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Benefits of Direct Audio Input (DAI)



GN audio-shoe connected to DAI

FM System (Any manufacturer)

Direct Audio Input (DAI) allows direct connection to external audio sources.

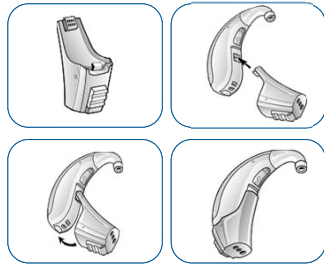
FM systems (Schools/Colleges)

CROS/BICROS

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BiCross Options

- Create a DAI program in fitting software.
- Need to attach Boot to Boost Ultra hearing aid use offside mic for dead ear.
- Can be used with Beltone hardwired system.
- Can be used with other wireless BiCross systems.



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Flexibility in Beltone Solus Max



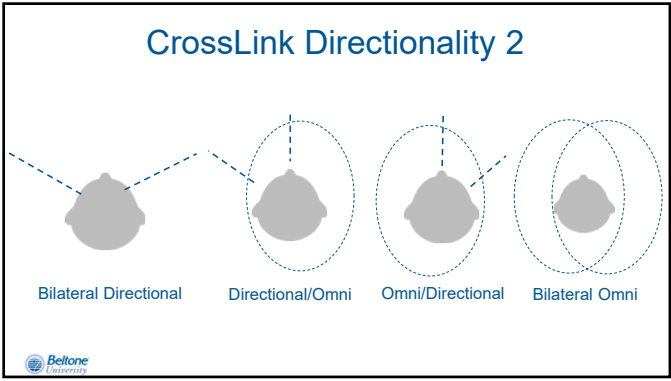
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Beltone Boost Ultra: Beyond powerful

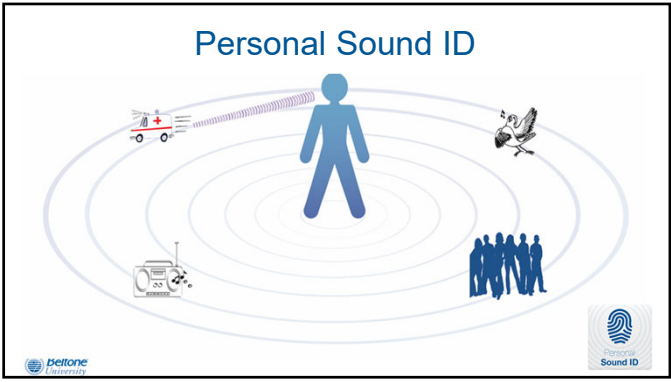
- Full surround awareness
 - CrossCrossLink Directionality 2 with Personal Sound ID
- Comfort with high power output
 - Feedback Eraser with Whistle Stop
 - Low Frequency Boost
 - Impulse Noise Reduction
- Sound frequency compression
 - Sound Shifter
- Connectivity
 - Smartphone streaming
 - Wireless accessories
 - Telecoil and DAI



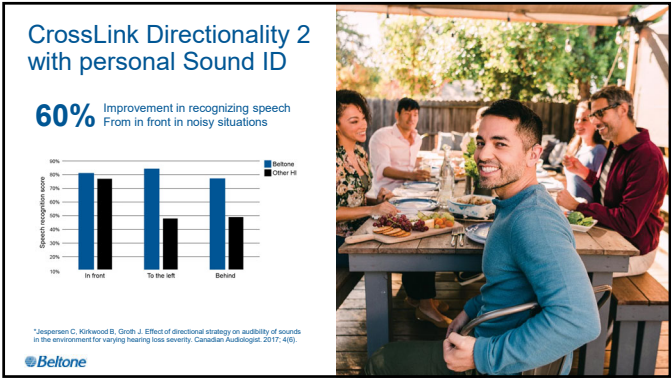
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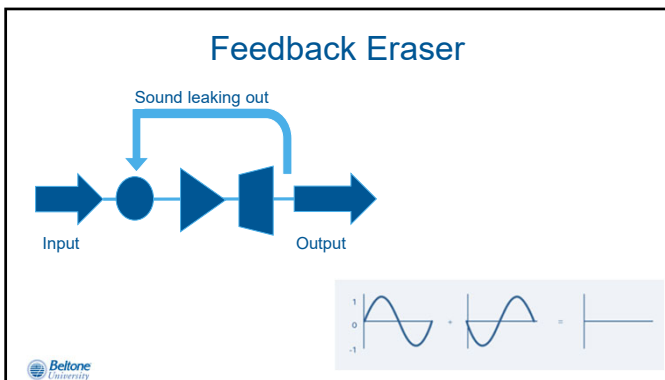
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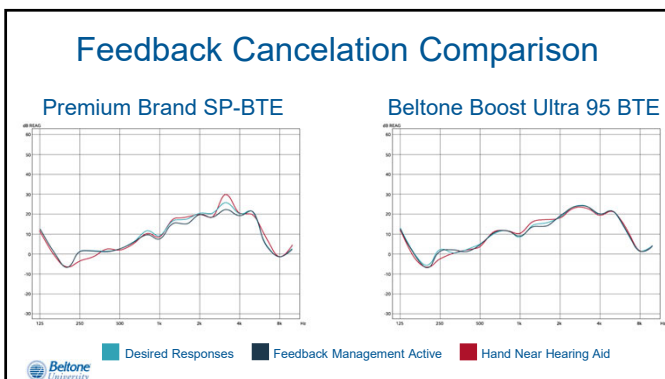
Feedback Eraser with Whistle Stop

- Completely redesigned feedback cancellation.
- Maximum amount of usable stable gain.
- Prevents feedback in challenging situations without compromising amplification.

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
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

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Impulse Noise Reduction

Impulse Noise Reduction OFF





Impulse Noise Reduction ON

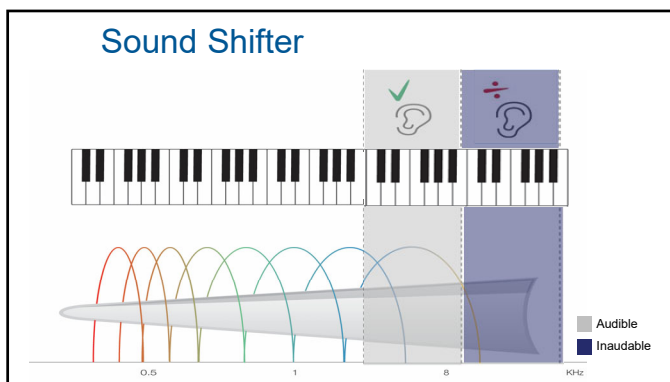



89%
Impulse sounds as being softer with Impulse Noise Reduction.

*Sjlander et al, 2019



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Increased Connectivity



- Almost half of the population with severe-to-profound hearing loss is younger than 65.
- Greater need to use communication devices, such as smartphones.
- Beltone Boost Ultra allows access to the complete Beltone ecosystem.

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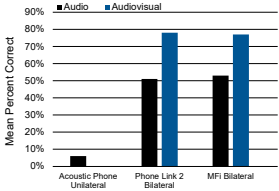
HearMax App

- Beltone Boost Ultra supports direct streaming from Apple and selected Android phones.
 - 9.5 KHz with Apple and 7.5Khz with Android devices
- The HearMax app adds flexibility at the patient's fingertips.
- Results in more confidence and listening comfort.

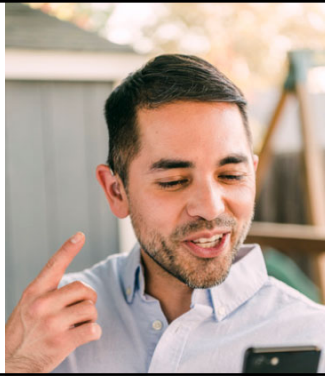




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Wireless Streaming Makes the Difference

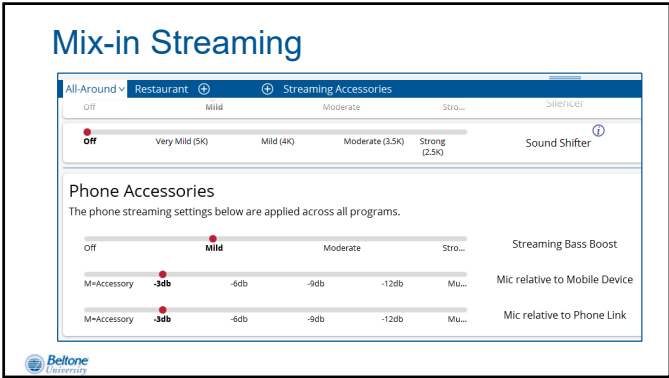


Scenario	Audio (Mean Percent Correct)	Audiovisual (Mean Percent Correct)
Acoustic Phone Unilateral	~5%	~5%
Phone Link 2 Bilateral	~50%	~75%
MFi Bilateral	~50%	~75%

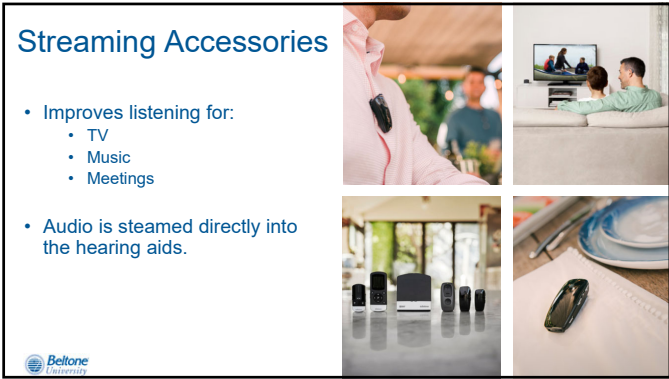



Jespersen, C.T., Kirkwood, B. Speech Intelligibility Benefits of PairTime. Hearing Review. 2015;21(2):28.

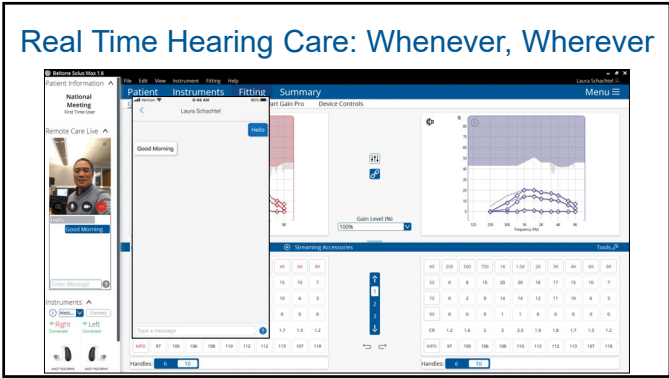
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Beltone Boost Ultra Benefits

- New chip platform (Beltone Amaze)
- High input dynamic range
- Most stable power system on the market
- Broad fitting range (Up to 120dB HL)
- 140 (86 model) & 145 (95 model) dB SPL output
- IP 68 Rating
- Direct Apple and Android streaming
- Wireless Connectivity
- Telecoil and DAI functionality
- Customized hearing solution (HearMax App)
- Beltone Remote Care and Remote Care Live



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Meet Whitney

- Female, 70 years old, retired teacher
- Experienced user, has been wearing hearing aids since her teens.
- Bilateral congenital severe-to-profound mixed hearing loss.





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Meet Whitney

- Demands a hearing solution that provides speech understanding in very dynamic & noisy situations
- Needs connectivity solutions for phone calls, TV and tutoring.
- Currently wearing competitor's super-power hearing aids.





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Need to Upgrade

- Low spatial orientation.
- Hard to hear in noisy environments.
- Unable to identify where her husband is standing.
- Only able to understand her son in a noisy situations when directly in front.
- Hard to hear students that she tutors.
- Need help with phone calls.



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Time for an Upgrade!

- Fit with Beltone Boost Ultra.
- Immediately had the feeling that sound was clearer and more natural.
- Was able to locate where in the room her husband was standing.
- Was hearing better in noisy environments.
- Loved the connectivity and Remote Care.



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Follow-up Visit

- Clear, vibrant sound quality with low listening effort
- In noisy environments speech was present all the time.
- I really feel more self confident and in control of the situation now.



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