

# Cellion™ primax

## Technical Data

7px

5px

3px

2px



### S-Receiver

- 56 dB / 119 dB SPL (ear simulator)
- 45 dB / 108 dB SPL (2 ccm coupler)

### M-Receiver

- 70 dB / 129 dB SPL (ear simulator)
- 60 dB / 119 dB SPL (2 ccm coupler)



### P-Receiver

- 80 dB / 134 dB SPL (ear simulator)
- 70 dB / 124 dB SPL (2 ccm coupler)



### HP-Receiver

- 82 dB / 138 dB SPL (ear simulator)
- 75 dB / 130 dB SPL (2 ccm coupler)

# Cellion primax | Technical Data

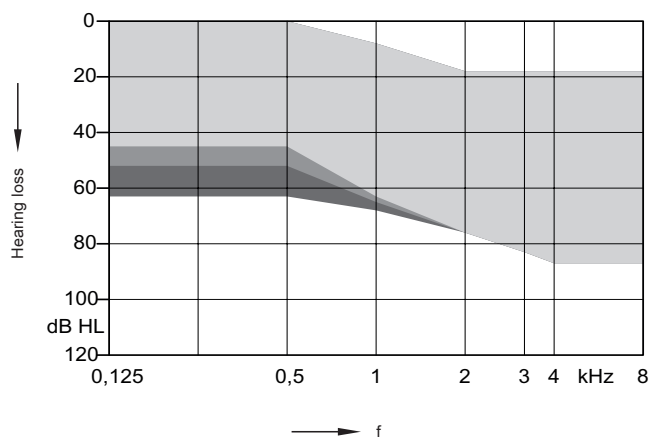
Type	S-Receiver		M-Receiver	
				
	2 ccm coupler	Ear simulator	2 ccm coupler	Ear simulator
<b>Output sound pressure level</b>				
at 1.6 kHz	–	109 dB SPL	–	122 dB SPL
Peak	108 dB SPL	119 dB SPL	119 dB SPL	129 dB SPL
HFA-OSPL 90	102 dB SPL	–	114 dB SPL	–
<b>Gain</b>				
Full on gain (FOG) at 1.6 kHz	–	43 dB	–	55 dB
Full on gain (Peak)	45 dB	56 dB	60 dB	70 dB
HFA-FOG	37 dB	–	50 dB	–
Reference test gain	25 dB	34 dB	37 dB	47 dB
<b>Frequency, noise and directivity</b>				
Frequency range 7px 5px / 3px / 2px	100-10000 Hz 100-8200 Hz	100-10500 Hz 100-8300 Hz	100-8800 Hz 100-8200 Hz	100-10000 Hz 100-8300 Hz
Equivalent input noise	18 dB SPL	22 dB SPL	19 dB SPL	23 dB SPL
Total harmonic distortion at 500 / 800 / 1600 Hz	1 / 1 / 1 %	1 / 1 / 2 %	1 / 1 / 2 %	1 / 3 / 3 %
Tinnitus therapy broadband	65 dB	–	70 dB	–
AI-DI	3.8 dB		3.8 dB	
<b>Inductive coil sensitivity</b>				
MASL (1 mA/m) at 1.6 kHz	–	75 dB SPL	–	85 dB SPL
HFA MASL (1 mA/m)	68 dB SPL	–	80 dB SPL	–
HFA SPLITS (left/right)	84 / 84 dB SPL	–	96 / 96 dB SPL	–
RSETS (left/right)	-1 / -1 dB SPL	–	-1 / -1 dB SPL	–
<b>Battery</b>				
Battery voltage	1.25 V		1.25 V	
Battery current drain	0.9 mA		1.0 mA	
Battery life (rechargeable)	up to 28 hr		up to 27 hr	
<b>IRIL IEC 118-13:2011 (bystander)</b>				
800-960 MHz	-39 dB SPL		-39 dB SPL	
1400-2000 MHz	<-43 dB SPL		<-43 dB SPL	
ANSI C63.19	M4 / T4		M4 / T4	

# Cellion primax | Technical Data

Type	P-Receiver		HP-Receiver	
				
	2 ccm coupler	Ear simulator	2 ccm coupler	Ear simulator
<b>Output sound pressure level</b>				
at 1.6 kHz	–	128 dB SPL	–	137 dB SPL
Peak	124 dB SPL	134 dB SPL	130 dB SPL	138 dB SPL
HFA-OSPL 90	120 dB SPL	–	124 dB SPL	–
<b>Gain</b>				
Full on gain (FOG) at 1.6 kHz	–	70 dB	–	82 dB
Full on gain (Peak)	70 dB	80 dB	75 dB	82 dB
HFA-FOG	63 dB	–	68 dB	–
Reference test gain	43 dB	53 dB	48 dB	62 dB
<b>Frequency, noise and directivity</b>				
Frequency range 7px 5px / 3px / 2px	100-7800 Hz 100-7800 Hz	100-8100 Hz 100-7800 Hz	100-7500 Hz 100-7400 Hz	250-5200 Hz 250-5200 Hz
Equivalent input noise	18 dB SPL	21 dB SPL	18 dB SPL	12 dB SPL
Total harmonic distortion at 500 / 800 / 1600 Hz	2 / 2 / 1 %	3 / 3 / 2 %	1 / 2 / 1 %	1 / 1 / 1 %
Tinnitus therapy broadband	75 dB	–	85 dB	–
AI-DI	3.8 dB		3.8 dB	
<b>Inductive coil sensitivity</b>				
MASL (1 mA/m) at 1.6 kHz	–	100 dB SPL	–	114 dB SPL
HFA MASL (1 mA/m)	91 dB SPL	–	99 dB SPL	–
HFA SPLITS (left/right)	102 / 102 dB SPL	–	107 / 107 dB SPL	–
RSETS (left/right)	-1 / -1 dB SPL	–	-1 / -1 dB SPL	–
<b>Battery</b>				
Battery voltage	1.25 V		1.25 V	
Battery current drain	1.0 mA		1.1 mA	
Battery life (rechargeable)	up to 27 hr		up to 26 hr	
<b>IRIL IEC 118-13:2011 (bystander)</b>				
800-960 MHz	-39 dB SPL		-39 dB SPL	
1400-2000 MHz	<-43 dB SPL		<-43 dB SPL	
ANSI C63.19	M4 / T4		M4 / T4	

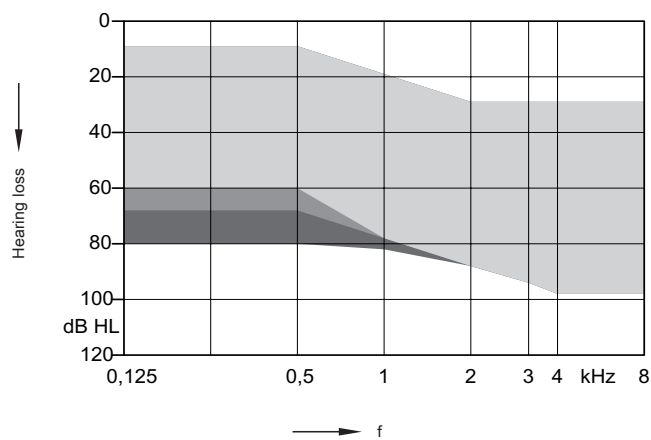
# Cellion primax | Fitting Range

## S-Receiver



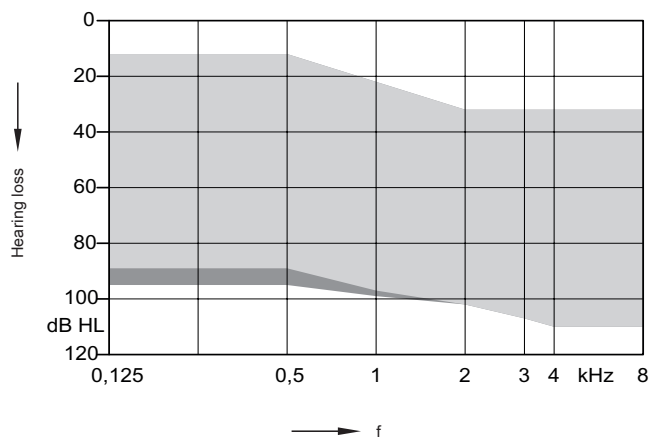
Open Click Domes  
 +  Closed Click Domes  
 +  Click Mold (no vent)

## M-Receiver



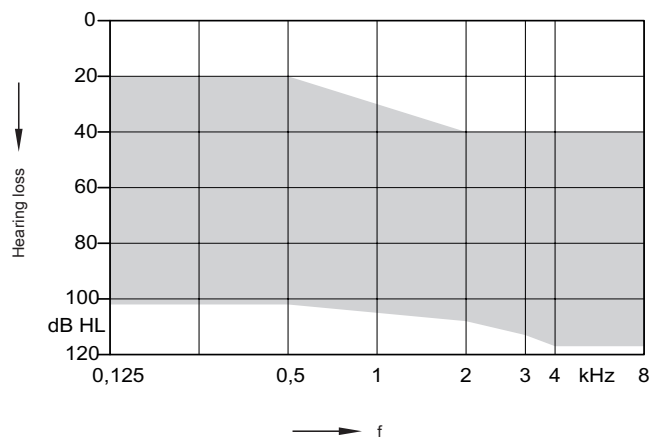
Open Click Domes  
 +  Closed Click Domes  
 +  Click Mold (no vent)

## P-Receiver



Double Click Domes  
 +  Click Mold (no vent)

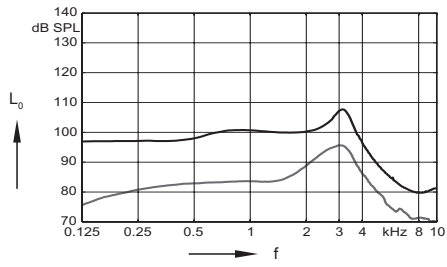
## HP-Receiver



Custom Shell (no vent)

# S-Receiver (Closed Click Dome) | Basic Data

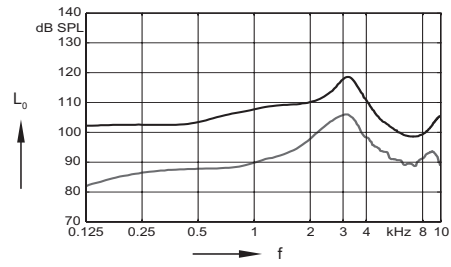
## 2 ccm coupler



**Output sound pressure level**  
( $L_1 = 90$  dB)

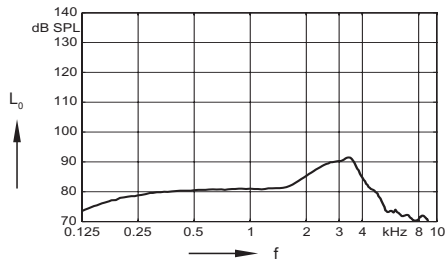
**Full on gain**  
( $L_1 = 50$  dB)

## Ear simulator

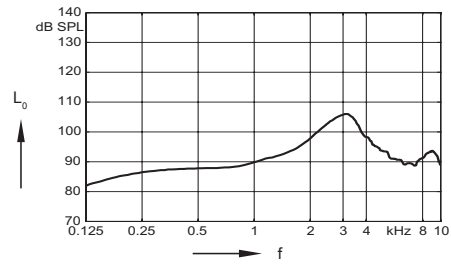


**Output sound pressure level**  
( $L_1 = 90$  dB)

**Full on gain**  
( $L_1 = 50$  dB)

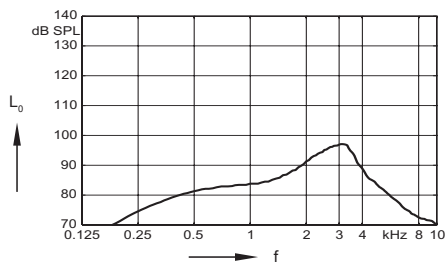


**Frequency response**  
( $L_1 = 60$  dB)

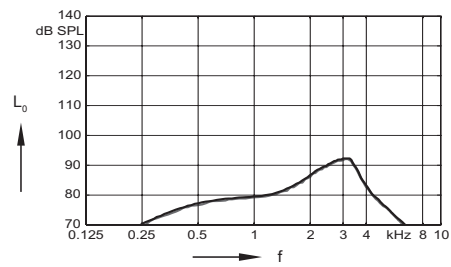


**Basic acoustic response**  
( $L_1 = 60$  dB)

## Inductive response



**Inductive response**  
( $H = 10$  mA/m)

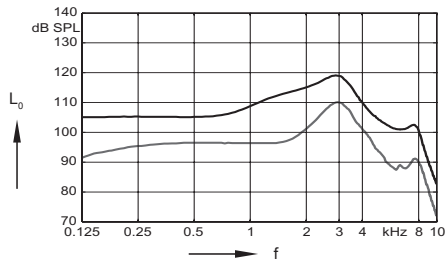


**SPLITs curve left**  
( $H = 31.6$  mA/m)

**SPLITs curve right**  
( $H = 31.6$  mA/m)

# M-Receiver (Closed Click Dome) | Basic Data

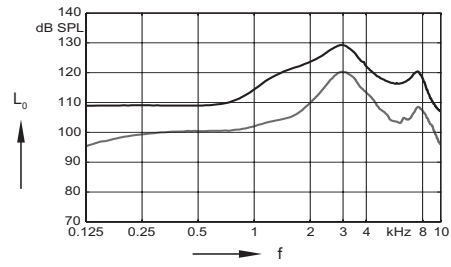
## 2 ccm coupler



Output sound pressure level  
(L<sub>1</sub> = 90 dB)

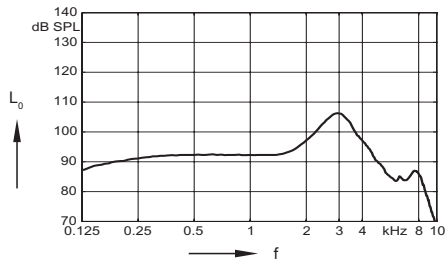
Full on gain  
(L<sub>1</sub> = 50 dB)

## Ear simulator

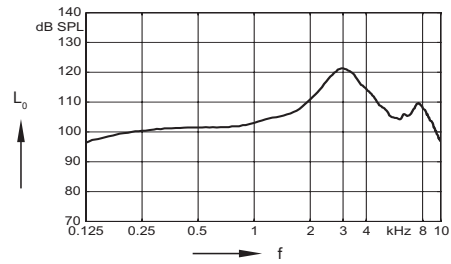


Output sound pressure level  
(L<sub>1</sub> = 90 dB)

Full on gain  
(L<sub>1</sub> = 50 dB)

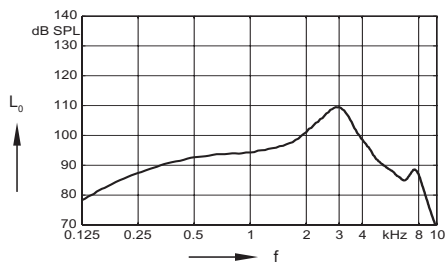


Frequency response  
(L<sub>1</sub> = 60 dB)

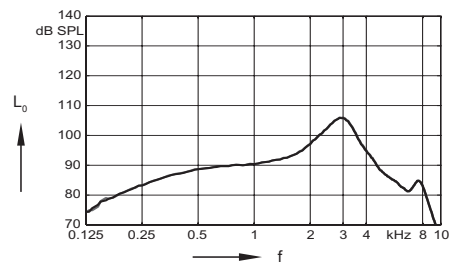


Basic acoustic response  
(L<sub>1</sub> = 60 dB)

## Inductive response



Inductive response  
(H = 10 mA/m)

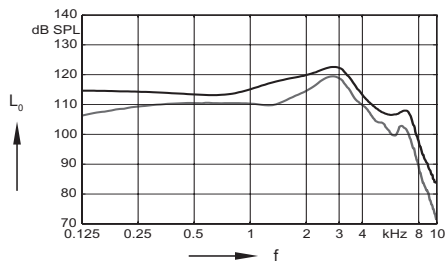


SPLITS curve left  
(H = 31.6 mA/m)

SPLITS curve right  
(H = 31.6 mA/m)

# P-Receiver (Click mold) | Basic Data

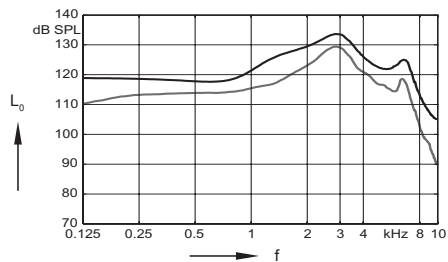
## 2 ccm coupler



Output sound pressure level  
( $L_1 = 90$  dB)

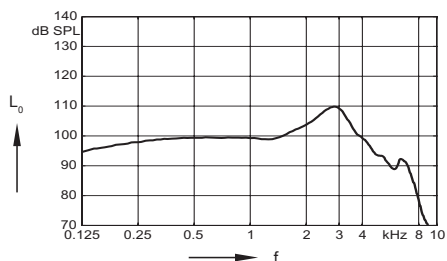
Full on gain  
( $L_1 = 50$  dB)

## Ear simulator

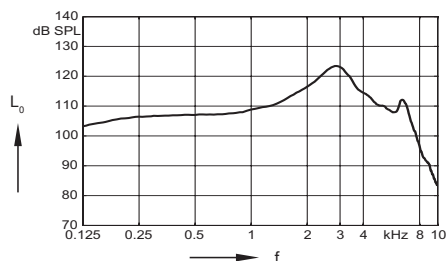


Output sound pressure level  
( $L_1 = 90$  dB)

Full on gain  
( $L_1 = 50$  dB)

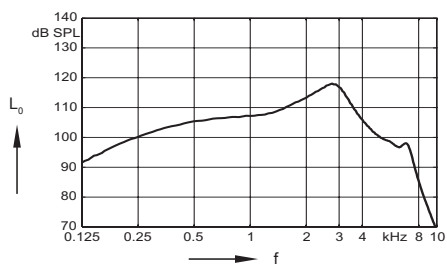


Frequency response  
( $L_1 = 60$  dB)

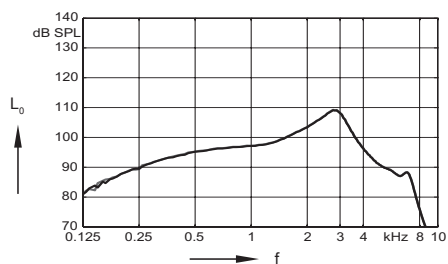


Basic acoustic response  
( $L_1 = 60$  dB)

## Inductive response



Inductive response  
( $H = 10$  mA/m)

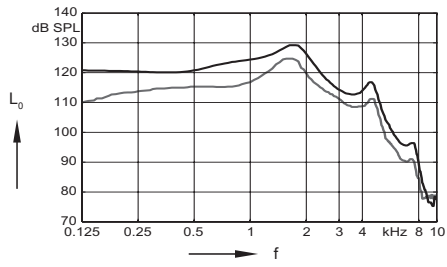


SPLITS curve left  
( $H = 31.6$  mA/m)

SPLITS curve right  
( $H = 31.6$  mA/m)

# HP-Receiver (Custom Shell) | Basic Data

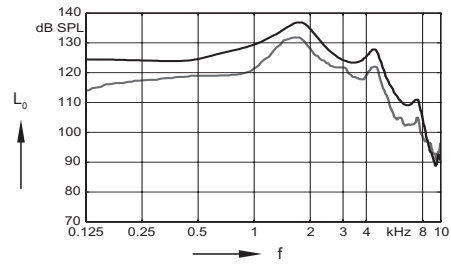
## 2 ccm coupler



Output sound pressure level  
( $L_i = 90$  dB)

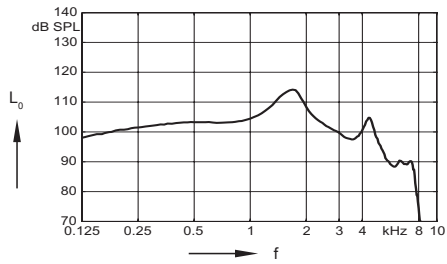
Full on gain  
( $L_i = 50$  dB)

## Ear simulator

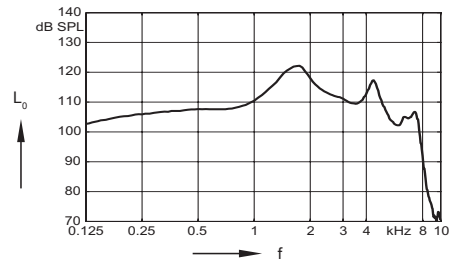


Output sound pressure level  
( $L_i = 90$  dB)

Full on gain  
( $L_i = 50$  dB)

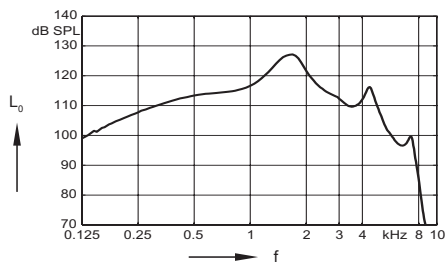


Frequency response  
( $L_i = 60$  dB)

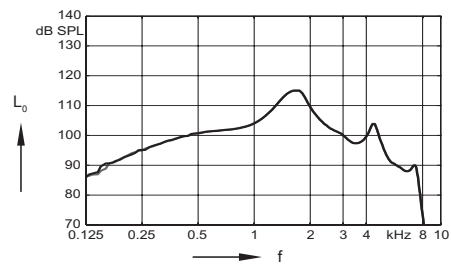


Basic acoustic response  
( $L_i = 60$  dB)

## Inductive response



Inductive response  
( $H = 10$  mA/m)



SPLITS curve left  
( $H = 31.6$  mA/m)

SPLITS curve right  
( $H = 31.6$  mA/m)



# Cellion primax | Features and Accessories

	7px	5px	3px	2px
<b>Audiology</b>				
<b>Signal processing</b> (channels) / <b>Gain/MPO</b> (handles)	48 / 20	32 / 16	24 / 12	16 / 8
<b>Hearing programs</b>	6	6	6	4
<b>SpeechMaster</b>	●	●	●	●
<b>HD Music</b> (presets)	3	1	1	—
<b>TwinPhone<sup>1)</sup></b>	●	●	●	—
<b>EchoShield</b>	●	—	—	—
<b>Wireless CROS/BICROS<sup>2)</sup></b>	●	●	●	—
<b>Directionality</b> (channels)	48	32	24	16
<b>Narrow Directionality<sup>1)</sup></b>	■ ■ ■ ■ ■ ■	■ ■ ■ ■ ■ ■	■ ■ ■ ■	—
<b>Directional microphone</b>	■ ■ ■ ■ ■ ■	■ ■ ■ ■ ■ ■	■ ■ ■ ■	■ ■
<b>Spatial SpeechFocus<sup>1)</sup></b>	■ ■ ■ ■ ■ ■	—	—	—
<b>SpeechFocus</b>	■ ■ ■ ■ ■ ■	■ ■ ■ ■ ■ ■	—	—
<b>TruEar™</b>	■ ■ ■ ■ ■ ■	■ ■ ■ ■ ■ ■	■ ■ ■ ■	—
<b>Frequency compression</b>	●	●	●	●
<b>Extended bandwidth</b>	●	—	—	—
<b>Feedback cancellation</b>	●	●	●	●
<b>eWindScreen binaural<sup>1)</sup></b>	●	●	—	—
<b>eWindScreen™</b> (steps)	3	3	on / off	on / off
<b>Noise Reduction</b> (channels / steps)	48 / 5	32 / 5	24 / 3	16 / 3
<b>Speech and noise management</b> (steps)	7	5	3	3
<b>SoundSmoothing™</b> (steps)	3	3	1	on / off
<b>Directional speech enhancement</b> (steps)	3	1	—	—
<b>Adaptive streaming volume<sup>3)</sup></b>	●	—	—	—
<b>SoundBrilliance™ <sup>3)</sup></b>	●	●	—	—
<b>Sound equalizer</b> (classes)	6	3	—	—
<b>Spatial Configurator<sup>1)</sup></b>	●	●	—	—
<b>Span<sup>4)</sup></b>	●	●	—	—
<b>Direction<sup>5)</sup></b>	●	●	—	—
<b>SoundBalance</b>	●	●	●	●
<b>Fitting</b>				
<b>Insitugram</b>	●	●	●	●
<b>Learning</b> (classes) / <b>Data logging</b>	6 / ●	3 / ●	1 / ●	— / ●
<b>Acclimatization manager</b>	●	●	●	●
<b>Tinnitus</b>				
<b>Tinnitus therapy</b>				
<b>Static therapy signal</b> (handles / presets)	20 / 5	16 / 5	12 / 5	4 / 1
<b>Ocean Waves therapy signal</b> (presets)	4	4	4	—
<b>Notch therapy</b>	●	●	●	—

# Cellion primax | Features and Accessories

	7px / 5px / 3px	2 px
<b>Style Specific Features</b>		
Ingress Protection Rating	IP68	IP68
Telecoil	●	●
AutoPhone®	●	—
Charging contacts	—	—
Battery size	—	—
Battery door on/off function	—	—
Nanocoated housing	●	●
e2e wireless® 3.0	●	●
Audio streaming with easyTek	●	●
User controls coupling via e2e	●	●
Wireless programming	●	●
<b>Instrument configurations</b>		
Flat cover	—	—
Rotary volume control	—	—
Push button	●	●
Rocker switch	—	—
Color conversion kit	○	○
Battery door – direct audio input	—	—
Battery door – child lock	—	—
Small earhook	—	—
<b>Programming Accessories</b>		
ConnexxAir, ConnexxLink®	●	●
Programming adapter / cable	CS 44 cable	CS 44 cable
<b>Accessories</b>		
miniPocket™	○	○
CROS Pure®	○	—
Inductive Charger	mandatory	mandatory
eCharger™	—	—
easyPocket™	○	○
easyTek™	○	○
TV Transmitter (req. easyTek)	○	○
Transmitter (req. easyTek)	○	○
VoiceLink™ (req. easyTek)	○	○
<b>App</b>		
easyTek App (req. easyTek)	○	○
touchControl™ App	○	○

● available ■■■■■ highest feature performance ○ optional — not available

<sup>1)</sup> req. bilateral fitting and e2e 3.0

<sup>2)</sup> req. CROS Pure accessory

<sup>3)</sup> streaming only, req. easyTek

<sup>4)</sup> req. easyTek & easyTek App, touchControl App or Rocker switch

<sup>5)</sup> req. easyTek & easyTek App or touchControl App



# Abbreviations and Standards

## Abbreviations

The following abbreviations are used in this datasheet:

OSPL	Output Sound Pressure Level
HFA	High Frequency Average
FOG	Full-On Gain
MASL	Magneto Acoustical Sensitivity Level
SPLITS	Coupler SPL for an Inductive Telephone Simulator
RSETS	Relative Equivalent Telephone Sensitivity
AI-DI	Articulation Index - Directivity Index
IRIL	Input Related Interference Level
RTF	Reference Test Frequency

## Standards

- ▶ All measurements with the 2 ccm coupler were performed according to ANSI S3.22-2009 and IEC 60118-7:2005 if applicable.
- ▶ All measurements with an ear simulator were performed according to IEC 118-0/A1 and to DIN 45605 (frequency range) if applicable.
- ▶ Tinnitus therapy measurement conditions: all tinnitus single frequency sliders in max position, master volume slider in default position (0 dB) and local volume control in default position.
- ▶ The following ear pieces were used:
  - S-Receiver Unit and M-Receiver Unit: Closed Click Dome
  - P-Receiver Unit: Click Mold
  - HP-Receiver Unit: Custom Shell
- ▶ Extended frequency range up to 12 kHz for 7px devices only.

## Note for power cell

- ▶ Operating times may vary due to hearing loss, use of binaural features and accessories, age of power cell as well as the sound environment.

The information in this document contains general descriptions of the technical options available, which do not always have to be present in individual cases and are subject to change without prior notice. The required features should therefore be specified in each individual case at the time of conclusion of the respective contract.

### Legal Manufacturer

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6/17 2.0 SI/17663-17



### Warning

Choking hazard posed by small parts.

- ▶ This instrument is not intended for the fitting of infants, children under 3 years and persons of mental incapacity.



### Warning

Instrument has an output sound pressure level of 132 dB SPL or more.

- Risk of impairing the residual hearing of the user.
- ▶ Take special care when fitting this instrument.