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Pure 312 X

Technical Data

Made for iPhone | iPad | iPod

7X | 5X | 3X | 2X | 1X | DX

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)

Data sheet also applicable for Pure 312 sDemo DX

Pure 312 X | Technical Data

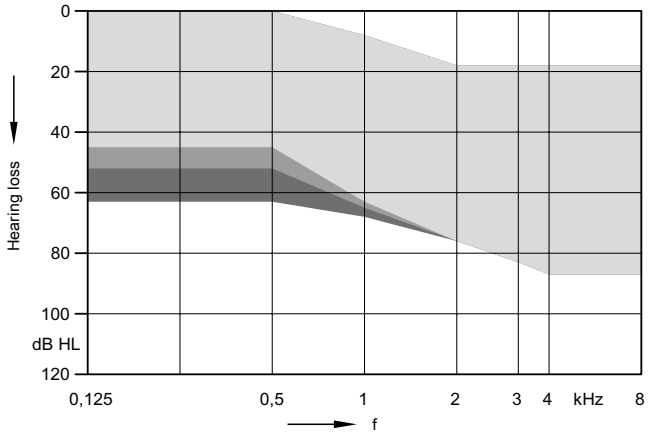
Type	S-Receiver		M-Receiver	
Output sound pressure level	**2 ccm coupler**	**Ear simulator**	**2 ccm coupler**	**Ear simulator**
OSPL 90 at 1.6 kHz	–	109 dB SPL	–	123 dB SPL
OSPL 90 (Peak)	108 dB SPL	119 dB SPL	119 dB SPL	129 dB SPL
HFA-OSPL 90	101 dB SPL	–	113 dB SPL	–
Gain				
FOG at 1.6 kHz	–	43 dB	–	55 dB
FOG (Peak)	45 dB	56 dB	60 dB	70 dB
HFA-FOG	37 dB	–	50 dB	–
Reference test gain	24 dB	34 dB	36 dB	48 dB
Frequency, noise and directivity				
Frequency range 7X 5X / 3X / 2X / 1X	100 - 10000 Hz 100 - 8200 Hz	100 - 10000 Hz 100 - 8300 Hz	100 - 9400 Hz 100 - 8200 Hz	100 - 10000 Hz 100 - 8300 Hz
Equivalent input noise	17 dB SPL	21 dB SPL	17 dB SPL	22 dB SPL
Total harmonic distortion at 500 / 800 / 1600 / 3200 Hz	1 / 1 / 1 / 1 %	1 / 1 / 2 / – %	1 / 2 / 1 / 1 %	2 / 3 / 2 / – %
Tinnitus noiser broadband	65 dB SPL	–	70 dB SPL	–
AI-DI	4.0 dB		4.0 dB	
Latency	< 15 ms		< 15 ms	
Inductive coil sensitivity				
MASL (1 mA/m) at 1.6 kHz	–	74 dB SPL	–	86 dB SPL
HFA MASL (1 mA/m)	68 dB SPL	–	81 dB SPL	–
HFA SPLITS (left/right)	83 / 83 dB SPL	–	95 / 95 dB SPL	–
RSETS (left/right)	-1 / -1 dB	–	-1 / -1 dB	–
HFA SPLIV	83 dB SPL	–	95 dB SPL	–
Battery				
Battery voltage	1.3 V		1.3 V	
Battery current drain	1.7 mA	1.7 mA	1.9 mA	1.9 mA
Battery life (cell zinc air)	~78 h		~76 h	
Battery life (rechargeable)	–		–	
IRIL IEC 60118-13:2016 Ed. 4.0				
700-960 MHz (rating)	user		user	
1400-2000 MHz (rating)	user		user	
2000-2700 MHz (rating)	user		user	
ANSI C63.19-2011				
800-950 MHz (rating)	M4/T4		M4/T4	
1600-2500 MHz (rating)	M4/T4		M4/T4	

Pure 312 X | Technical Data

Type	P-Receiver		HP-Receiver	
Output sound pressure level	**2 ccm coupler**	**Ear simulator**	**2 ccm coupler**	**Ear simulator**
OSPL 90 at 1.6 kHz	–	128 dB SPL	–	137 dB SPL
OSPL 90 (Peak)	124 dB SPL	134 dB SPL	130 dB SPL	138 dB SPL
HFA-OSPL 90	119 dB SPL	–	123 dB SPL	–
Gain				
FOG at 1.6 kHz	–	70 dB	–	82 dB
FOG (Peak)	70 dB	80 dB	75 dB	82 dB
HFA-FOG	63 dB	–	68 dB	–
Reference test gain	42 dB	53 dB	46 dB	62 dB
Frequency, noise and directivity				
Frequency range 7X 5X / 3X / 2X / 1X	100 - 7500 Hz 100 - 7500 Hz	100 - 8100 Hz 100 - 8100 Hz	100 - 7300 Hz 100 - 7300 Hz	250 - 6100 Hz 250 - 6100 Hz
Equivalent input noise	16 dB SPL	20 dB SPL	14 dB SPL	10 dB SPL
Total harmonic distortion at 500 / 800 / 1600 / 3200 Hz	1 / 2 / 1 / 1 %	3 / 4 / 2 / – %	1 / 2 / 1 / 1 %	2 / 2 / 1 / – %
Tinnitus noiser broadband	75 dB SPL	–	85 dB SPL	–
AI-DI	4.0 dB		4.0 dB	
Latency	< 15 ms		< 15 ms	
Inductive coil sensitivity				
MASL (1 mA/m) at 1.6 kHz	–	101 dB SPL	–	113 dB SPL
HFA MASL (1 mA/m)	94 dB SPL	–	99 dB SPL	–
HFA SPLITS (left/right)	102 / 102 dB SPL	–	105 / 105 dB SPL	–
RSETS (left/right)	-1 / -1 dB	–	-1 / -1 dB	–
HFA SPLIV	102 dB SPL	–	105 dB SPL	–
Battery				
Battery voltage	1.3 V		1.3 V	
Battery current drain	1.8 mA	1.8 mA	1.8 mA	1.8 mA
Battery life (cell zinc air)	~76 h		~76 h	
Battery life (rechargeable)	–		–	
IRIL IEC 60118-13:2016 Ed. 4.0				
700-960 MHz (rating)	user		user	
1400-2000 MHz (rating)	user		user	
2000-2700 MHz (rating)	user		user	
ANSI C63.19-2011				
800-950 MHz (rating)	M4/T4		M4/T4	
1600-2500 MHz (rating)	M4/T4		M4/T4	

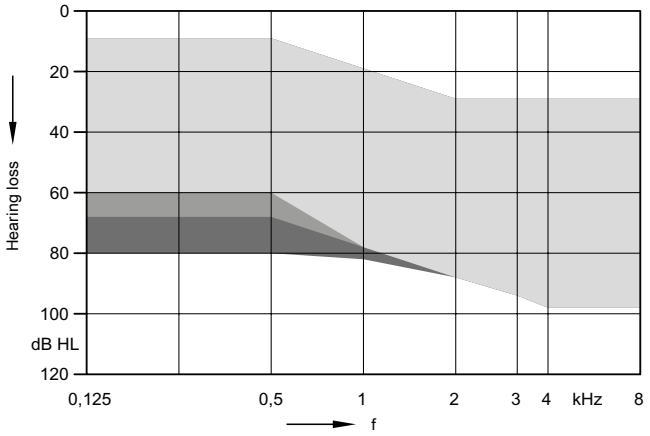
Pure 312 X | Fitting Range

S-Receiver



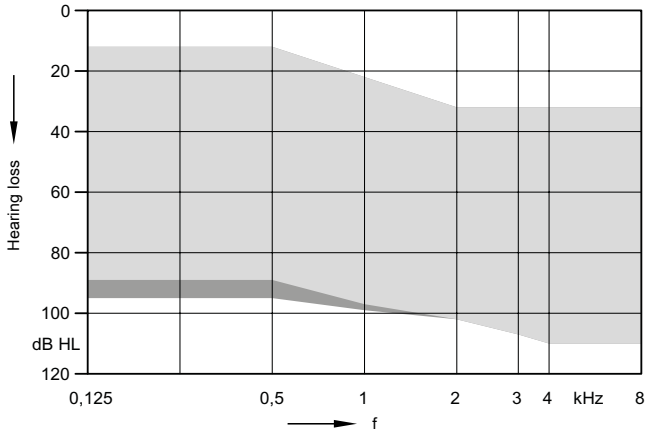
Open Click Domes
\+ Double Click Domes
\+ + Click Mold (no vent)

M-Receiver



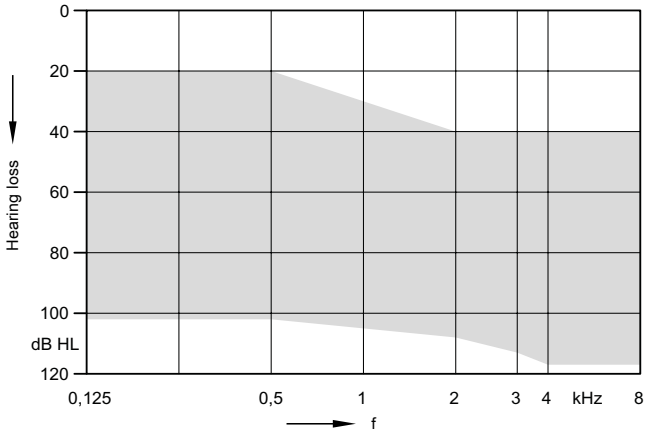
Open Click Domes
\+ Double Click Domes
\+ + Click Mold (no vent)

P-Receiver



Double Click Domes
\+ Click Mold (no vent)

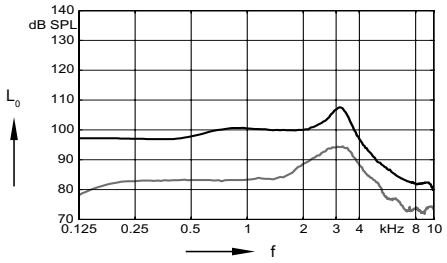
HP-Receiver



Custom Shell (no vent)

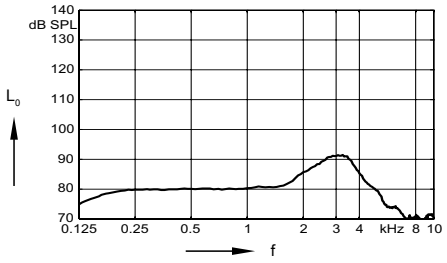
S-Receiver (Closed Click Dome) | Basic Data

2 ccm coupler



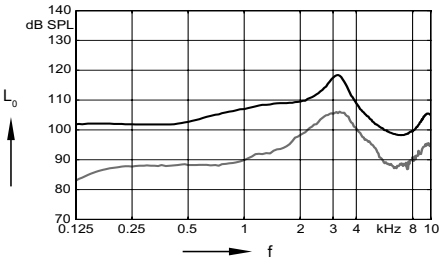
Max. Output sound pressure level (L_I = 90 dB)

Full on gain (L_I = 50 dB)



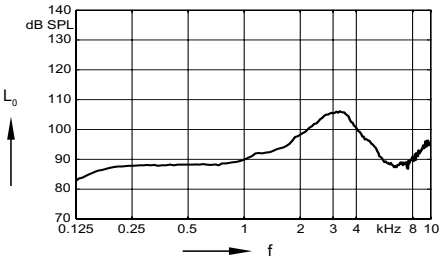
Frequency response (L_I = 60 dB)

Ear simulator



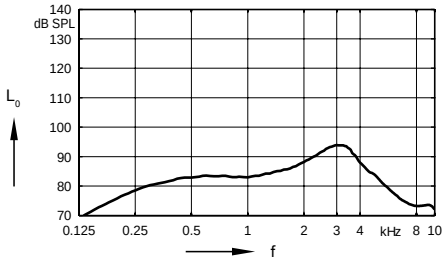
Max. Output sound pressure level (L_I = 90 dB)

Full on gain (L_I = 50 dB)

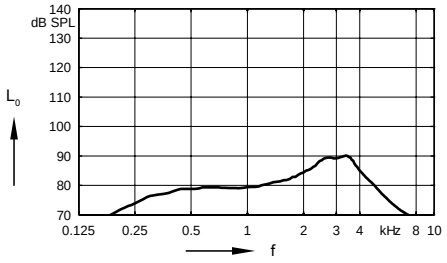


Basic acoustic response (L_I = 60 dB)

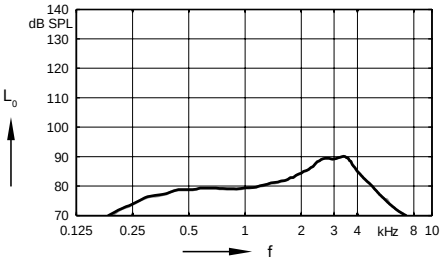
Inductive response



Inductive response (H = 10 mA/m)



SPLIV curve (H = 31.6 mA/m)

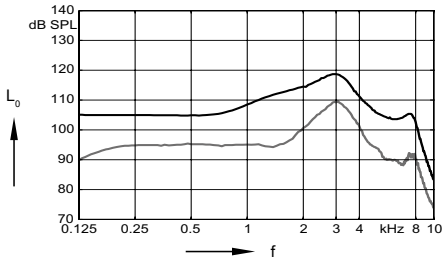


SPLITS curve left (H = 31.6 mA/m)

SPLITS curve right (H = 31.6 mA/m)

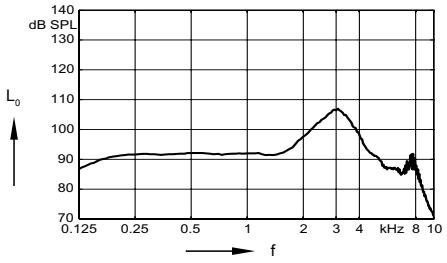
M-Receiver (Closed Click Dome) | Basic Data

2 ccm coupler



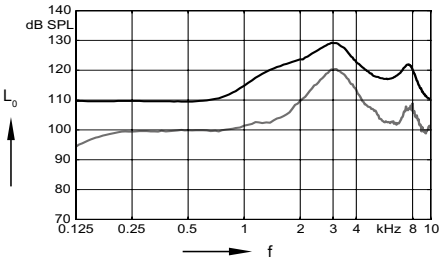
Max. Output sound pressure level (L_I = 90 dB)

Full on gain (L_I = 50 dB)



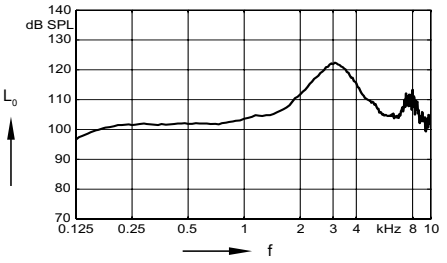
Frequency response (L_I = 60 dB)

Ear simulator



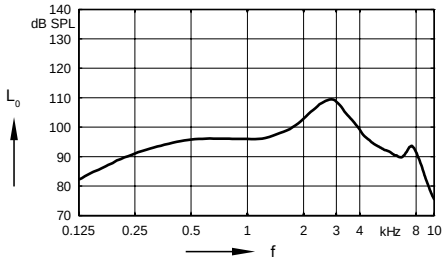
Max. Output sound pressure level (L_I = 90 dB)

Full on gain (L_I = 50 dB)

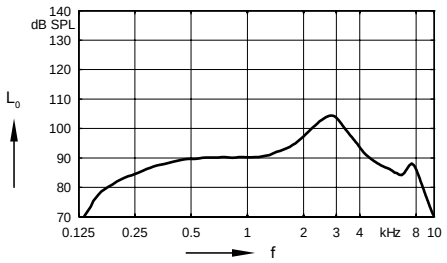


Basic acoustic response (L_I = 60 dB)

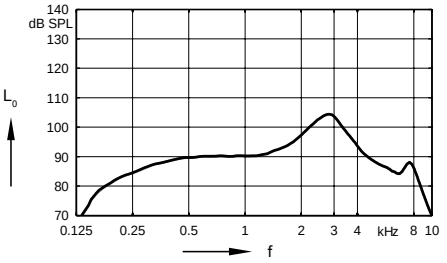
Inductive response



Inductive response (H = 10 mA/m)



SPLIV curve (H = 31.6 mA/m)

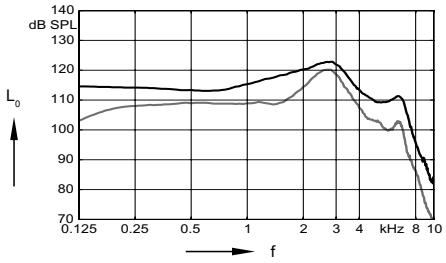


SPLITS curve left (H = 31.6 mA/m)

SPLITS curve right (H = 31.6 mA/m)

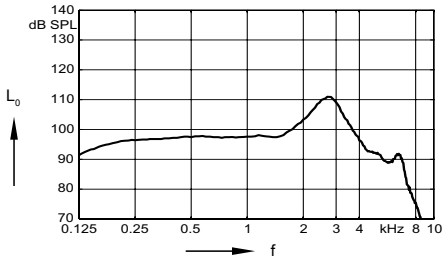
P-Receiver (Click mold) | Basic Data

2 ccm coupler



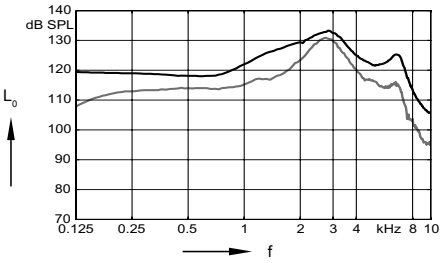
Max. Output sound pressure level (L_I = 90 dB)

Full on gain (L_I = 50 dB)



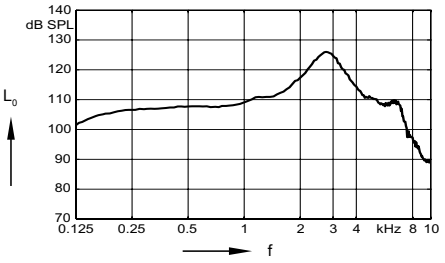
Frequency response (L_I = 60 dB)

Ear simulator



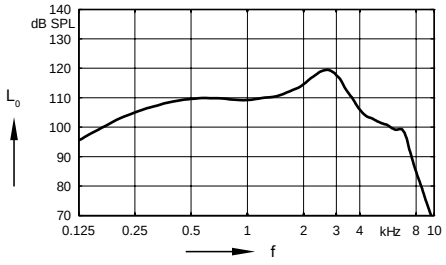
Max. Output sound pressure level (L_I = 90 dB)

Full on gain (L_I = 50 dB)

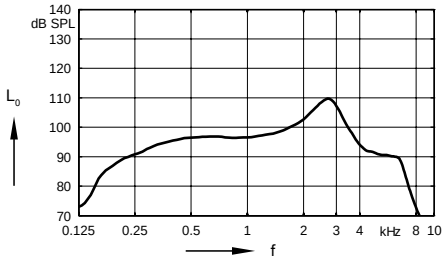


Basic acoustic response (L_I = 60 dB)

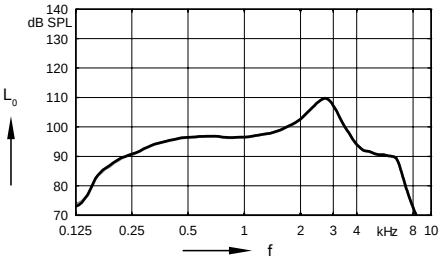
Inductive response



Inductive response (H = 10 mA/m)



SPLIV curve (H = 31.6 mA/m)

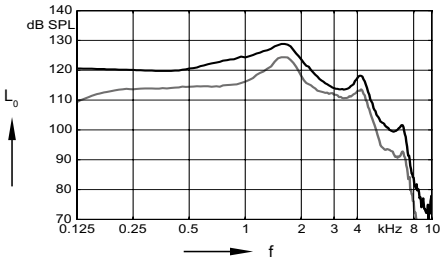


SPLITS curve left (H = 31.6 mA/m)

SPLITS curve right (H = 31.6 mA/m)

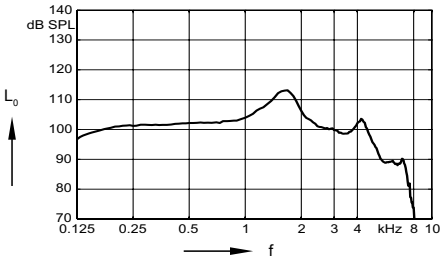
HP-Receiver (Custom Shell) | Basic Data

2 ccm coupler



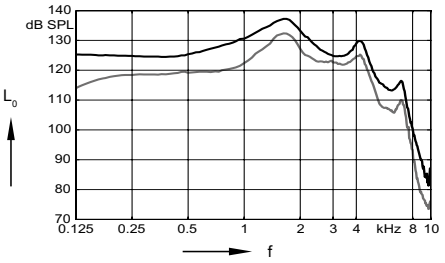
Max. Output sound pressure level (L_I = 90 dB)

Full on gain (L_I = 50 dB)



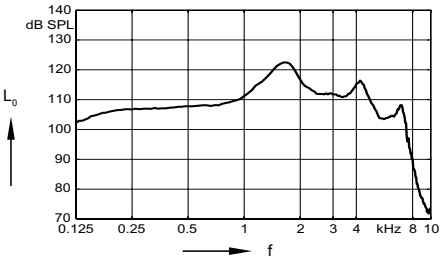
Frequency response (L_I = 60 dB)

Ear simulator



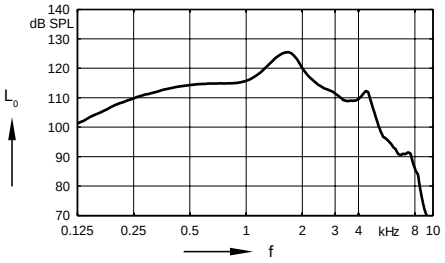
Max. Output sound pressure level (L_I = 90 dB)

Full on gain (L_I = 50 dB)

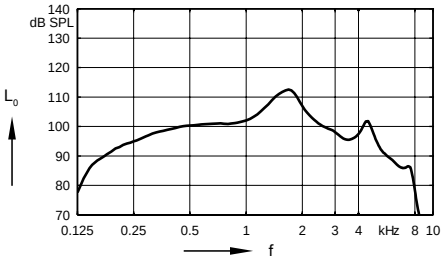


Basic acoustic response (L_I = 60 dB)

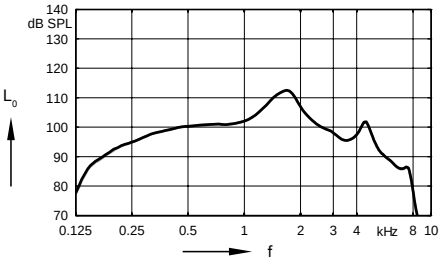
Inductive response



Inductive response (H = 10 mA/m)



SPLIV curve (H = 31.6 mA/m)



SPLITS curve left (H = 31.6 mA/m)

SPLITS curve right (H = 31.6 mA/m)

Pure 312 X | Features and Accessories

	7X	5X	3X	2X	1X
Dynamic Soundscape Processing	■■■■■	■■■■■	■■■■■	■■■■	■■■■
OVP (Own Voice Processing) [1]	■■■■■	■■■■■	■■■■■	–	–
Sound Clarity	■■■■■	■■■■	■■■	■■■	■■
Signal processing (channels) / Gain&MPO (handles)	48 / 20	32 / 16	24 / 12	16 / 8	16 / 8
Hearing programs	6	6	6	4	4
Extended dynamic range	✓	✓	✓	✓	✓
Extended bandwidth	✓	–	–	–	–
EchoShield	✓	–	–	–	–
HD Music (presets)	3	3	1	1	–
eWindScreen [2]	Binaural	Binaural	Monaural	Monaural	–
Speech and noise management	✓	✓	✓	✓	✓
SoundSmoothing	✓	✓	✓	✓	–
Feedback cancellation	✓	✓	✓	✓	✓
Speech Quality	■■■■■	■■■■	■■■	■■	■■
Directionality (Automatic / Adaptive)	Binaural	Binaural	Binaural	✓	✓
Spatial SpeechFocus [1] [3]	✓	✓	–	–	–
TwinPhone [1]	✓	✓	✓	–	–
Frequency compression	✓	✓	✓	✓	✓
Wearer Interaction	■■■■■	■■■■■	■■■■	■■■■	■■■■
Signia App (iOS and Android)	✓	✓	✓	✓	✓
Spatial Configurator	✓	✓	–	–	–
Adaptive Streaming Volume [4]	✓	✓	✓	✓	✓
Direct Streaming	✓	✓	✓	✓	✓
Made for iPhone	✓	✓	✓	✓	✓
Tinnitus	✓	✓	✓	✓	–
Notched Amplification Therapy	✓	✓	✓	✓	–
Tinnitus noise therapy signal	✓	✓	✓	✓	–
Fitting	✓	✓	✓	✓	✓
Smart Optimizer and Data Logging	✓	✓	✓	✓	✓
Acclimatization manager	✓	✓	✓	✓	✓
InSituGram	✓	✓	✓	✓	✓
AutoFit	✓	✓	✓	✓	✓
TeleCare	✓	✓	✓	✓	✓
Remote Services	✓	✓	✓	✓	✓
Signia App	✓	✓	✓	✓	✓

[1] req. bilateral fitting
[2] Binaural used in dedicated programs for 5X
[3] for 5X, right / left directionality available only in Stroll Program and via the Spatial Configurator
[4] streaming only

■■■■■ highest feature performance ✓ available – not available

Pure 312 X | Features and Accessories

	7X / 5X / 3X	2X / 1X
Style specific features		
Ingress Protection Rating	IP68	IP68
Charging contacts	–	–
Battery Size	312	312
Battery door on/off function	✓	✓
Nanocoated housing	✓	✓
e2e wireless 3.0	✓	✓
User controls coupling via e2e	✓	✓
Wireless programming	✓	✓
Instrument configurations		
Flat cover	–	–
Rotary volume control	–	–
Push button	–	–
Rocker switch	✓	✓
Color conversion kit	o	o
Color conversion kit with T-Coil	o	o
Battery door – child lock	–	–
Small earhook	–	–
Programming accessories		
ConnexxAir / ConnexxLink	– / –	– / –
NoahLink wireless	o	o
Programming adapter / cable	–	–
Accessories		
miniPocket	o	o
StreamLine TV	o	o
StreamLine Mic	o	o
CROS Pure 312 X	o	–
CROS Pure Charge&Go X	o	–
CROS Silk X	–	–

✓ available o optional – not available

Notes

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
SPLIV	SPL In a Vertical magnetic field
AI-DI	Articulation Index - Directivity Index
IRIL	Input Related Interference Level
RTF	Reference Test Frequency

Standards and additional information

- All measurements with the 2 ccm coupler were performed according to ANSI S3.22-2014 and IEC 60118-0:2015 if applicable.
- All measurements with an ear simulator were performed according to IEC 118-0/A1:1994 and to DIN 45605 (frequency range) if applicable.
- Curves and figures representing FOG are measured with 20 dB reduction and 70 dB SPL input level.
- Figures representing Equivalent Input Noise incorporate a moderate expansion.
- Inductive coil sensitivity values, inductive response curves and T ratings apply for instruments with telecoil battery door only.
- Tinnitus noiser 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 current consumption is measured in reference test setting (RTS) according to the applicable standards. Due to the settling behaviour of hearing instruments supporting RF (radio frequency), the battery current is measured 3 minutes after turning on (note: no pairing).
- The battery life is based on first fit settings using 60% of the fitting range and an ISTS (International Speech Test Signal) input signal at 65 dB SPL (note: pairing established). The actual battery life is determined by battery quality, hearing loss, sound environment, usage and activated feature set.
- The following acoustic connections / 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 7X devices only.

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