

# CA1 Audiometric Headphone

## Circum-aural Headphone for Audiological Hearing Loss Measurements

“ The CA1/SA1 headphones, when used in combination with pure-tone audiometers, have been validated as suitable for audiometric applications. ... The results confirm that the headphones provide reliable and accurate measurements, making them suitable for professional audiology. ”

Dr. Marion Bug, PTB Berlin



### Features

- Sturdy and reliable over-ear headphones
- High-quality audio performance, specifically designed for hearing loss testing
- High Frequency (HF) available, frequency range 125 – 16.000 Hz
- Color-coded earcups for clear Left/Right identification
- Single-sided cable connection, length 2.5m
- Excellent passive attenuation for ambient noise (see table)
- Cushions, headband, and cable available as spare part for repair/refurbishment
- Full medical certification as Class 2a Medical Device
- Biocompatibility ISO 10993-1
- RoHS compatible, lead, nickel and latex free

“ Austrian based audiology experts Audiometrix, has evaluated the Real Ear transducers under simulated real-clinic conditions using professional audiometric calibration procedures and equipment. The transducers demonstrated stable and consistent performance aligned with clinical and industry expectations ”

## Technical Specifications (nominal)

Related Standards	IEC-60645-1:2017, ANSI S3.6:2018 (R2023) ISO 389-5:2006, ISO 389-8:2004
Frequency Range, CA1	125 Hz – 8000 Hz
Frequency Range, CA1HF	125 Hz – 16000 Hz
Output Sound Level Range	-10 – 120 dB HL
Output Sound Level Precision*	+/- 3 dB
Sensitivity*	100dB SPL at 1kHz, 1 mW
Distortion*	<2.5% at Recommended Max Levels
Impedance*	40 ohm (+/- 15%)

\*At time of manufacturing

## Product Specifications

Cable Length	250 cm
Cable Plug Options	DIN, Mini-DIN, Mono Jack, Stereo Jack, Stereo Mini-Jack
Headband pressure	10N +/-0.5N
Dimensions	200x150x100mm
Dimensions, packaging	230x150x110mm
Weight	450 g (with packaging)

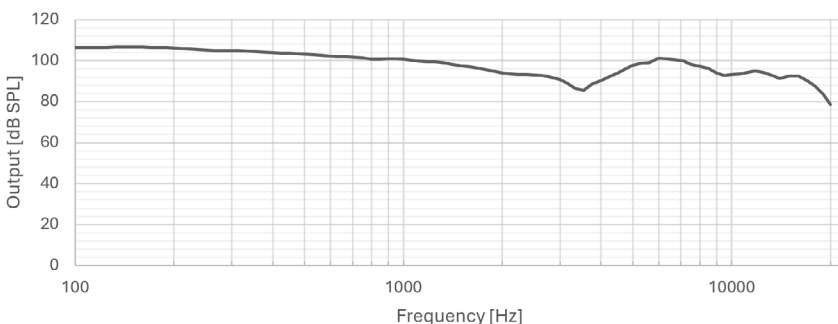
## Document References (on special approval and NDA only)

	Doc No.
ETSPLs for Pure Tones by PTB Berlin	DN02777
Audio Performance Report for IEC 60645	DN02901

## Measurement Graph

Frequency Response	1mW, 125 - 20kHz, IEC 60318-1 Coupler/ Ear Simulator
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Measurements are done on 3 sample units, with average shown



## Data Table

- Pure Tone RETSPL
- Recommended Max Levels (using Measure Fitting Unit)
- Ambient Attenuation

Freq [Hz]	RETSPL [dB]	Max Level [HL]	Ambient [dB]
125	30.5	95	17
160	26.0		
200	21.0		
250	14.5	110	17
315	12.0		
400	9.5		
500	6.5	115	22
630	5.5		
750	4.5	120	24
800	3.5		
1000	0.5	120	28
1250	2.5		
1500	5.0	115	30
1600	4.0		
2000	1.0	115	31
2500	0.5		
3000	0.0	115	36
3150	0.0		
4000	2.5	110	44
5000	9.5		
6000	16.5	105	43
6300	16.5		
8000	16.5	105	43
9000	18.5	90	
10000	22.0	85	
11200	24.0	85	
12500	24.5	80	
14000	28.5	75	
16000	54.0	60	
	Interpolated	CA1 HF only	

## Product Ordering

	Part No.	Plug
CA1 Audiometric Headphone Mini-DIN	100.064	8-pin Red Mini-DIN
CA1 HF Audiometric Headphone Mini-DIN	100.065	8-pin Yellow Mini-DIN