HEAD acoustics

DATA SHEET

Code 2511ff

Headphones

For the aurally accurate headphone playback of binaural recordings, HEAD acoustics offers solutions from a single source. Only the combination of headphones recommended by HEAD acoustics with the appropriate playback systems and the correct equalizations enables reliable sound evaluation and optimization.

OVERVIEW

Headphones

Code 2511ff

For aurally accurate playback, the complete playback chain must be matched and correctly equalized. Only this can ensure undistorted playback across the entire frequency range without changes in sound perception. This is required for a reliable sound evaluation and optimization.

The aurally accurate playback of the various sound fields is made possible by the Free Field (FF) and Diffuse Field (DF) equalizations, as well as the Independent of Direction (ID) equalization developed by HEAD acoustics. For this, the Model-Specific Standard Equalization for a correct reproduction of the true-to-the-original timbre and the complete spatial mapping of a sound field is available.

In addition, HEAD acoustics offers the Individual Equalization, which additionally includes a level calibration. This also ensures the compensation of possible design-related differences in the transmission properties between headphones of the same model, which can occur due to series dispersion in production.

FEATURES

High-quality dynamic headphones with natural, spatial sound characteristics and high fidelity of sound colors

Reproduction of the sound impression corresponding to the original sound field

Coordinated reproduction chain from HEAD acoustics from a single source:
- Playback modules as well as other playback devices
- Equalization
- Headphones

Equalizations for different sound fields
- Free Field (FF)
- Diffuse Field (DF)
- Independent of Direction (ID) – developed by HEAD acoustics

Individual equalization
- Individual Equalization and level calibration of the single headphones

Model-Specific Standard Equalization
- True-to-the-original timbre and complete spatial mapping of a sound field

APPLICATIONS

- Sound optimization
- Sound design
- Jury testing

DETAILS

OPEN HEADPHONES

HD OP I.1 (CODE 2511.1)

- Natural and accurate reference sound
- High-performance transducer
- Excellent playback of basses and trebles
- Frequency response: 6 Hz – 38 000 Hz
- THD: 0.05%
- Impedance: 120 Ω

HD OP II.1 (CODE 2512.1)

- Playback with great timbre and deep, accurate sub bass
- Vented magnet system for minimized distortion
- Frequency response: 8 Hz – 41 500 Hz
- THD: 0.04%
- Impedance: 300 Ω

HD OP III.1 (CODE 2513.1)

- Luxury class headphones
- 56 mm ring radiator dynamic transducer system
- Natural and spatial listening experience
- Frequency response: 4 Hz – 51 000 Hz
- THD: 0.02%
- Impedance: 300 Ω

CLOSED HEADPHONES

HD CL I.1 (CODE 2521.1)

- Innovative bass reflex system
- Precise and detailed reproduction of the entire frequency range, especially at low frequencies
- Frequency response: 5 Hz – 35 000 Hz
- THD: 0.2%
- Impedance: 250 Ω

HD CL II.1 (CODE 2522.1)

- Detailed, powerful, and vibrant sound
- Wide range of applications
- Superb wearing comfort with outstanding passive isolation
- Frequency response: 5 Hz – 40 000 Hz
- THD: 0.04%
- Impedance: 48 Ω

HD CL III.1 (CODE 2523.1)

- Luxury class headphones
- 56 mm ring radiator dynamic transducer system
- Concave Gorilla Glass reflectors with an impressive spatial sound reproduction
- Acoustic absorber system for unheralded details in all frequency ranges
- Frequency response: 6 Hz – 48 000 Hz
- THD: 0.02%
- Impedance: 300 Ω

EQUALIZATION OPTIONS

– No equalization available
○ Model-Specific Standard Equalization
* Individual Equalization

		HD OP I.1	HD CL I.1	HD OP II.1	HD CL II.1	HD OP III.1	HD CL III.1
							
BINAURAL PLAYBACK MODULES							
*lab*P2		–		*		*	
*lab*P2-V1		–		*		*	
*lab*O2-V1		–		*		*	
MOBILE RECORDING AND PLAYBACK SYSTEMS							
SQuadriga III		○		○		–	
SQobold		○		○		–	
HEAD*lab* FRONTEND							
*lab*HSU		○		○		–	
ARTIFICIAL HEAD MEASUREMENT SYSTEM							
HMS V		○		○		–	
BPU BINAURAL PLAYBACK UNIT							
BPU Bundle		○		–		–	
PLAYBACK UNIT FOR PreSense NVH SIMULATOR							
HXB-PreSense		–		*		*	
ARTIFICIAL HEAD MEASUREMENT SYSTEM FOR SOUNDSCAPES							
BSU		○		○		–	
HEADPHONES DISTRIBUTION AMPLIFIER							
HDA IV.1 / HDA IV.2		–		○ [1]		–	

[1] Optional: additional individual level calibration

PLAYBACK SYSTEMS

BINAURAL PLAYBACK MODULES
with Individual Equalization

*lab*P2 (Code 3732)
- Playback module for two headphones

*lab*P2-V1 (Code 3732-V1)
- Variant of *lab*P2 with identical range of functions for fastening in a 19″ rack

*lab*O2-V1 (Code 3731-V1)
- Playback module for one set of headphones, as well as subwoofers, loudspeakers, shakers, ...

MOBILE RECORDING AND PLAYBACK SYSTEMS
with Model-Specific Standard Equalization

SQuadriga III (Code 3324)
- Mobile 8-channel recording and playback system

SQobold (Code 3302)
- Mobile 4-channel recording and playback system

HEAD*lab* FRONTEND
with Model-Specific Standard Equalization

*lab*HSU (Code 3710)
- 2-channel frontend for one HEAD*lab* input module

ARTIFICIAL HEAD MEASUREMENT SYSTEM
with Model-Specific Standard Equalization

HMS V (Code 1502)
- Artificial head measurement system

BPU BINAURAL PLAYBACK UNIT
with Model-Specific Standard Equalization

BPU Bundle OP I.1 (Code 2441.1)
- Binaural playback unit BPU with HD OP I.1

BPU Bundle CL I.1 (Code 2442.1)
- Binaural playback unit BPU with HD CL I.1

PLAYBACK UNIT FOR PreSense NVH SIMULATOR
with Individual Equalization

HXB-PreSense (Code 7661)
- Playback unit for mobile PreSense setup

ARTIFICIAL HEAD MEASUREMENT SYSTEM FOR SOUNDSCAPES
with Model-Specific Standard Equalization

BSU (Code 1508)
- Artificial Head Measurement System for soundscapes

HEADPHONES DISTRIBUTION AMPLIFIER
with Model-Specific Standard Equalization

HDA IV.1 (Code 2488)
- For 4 headphones
- A playback module *lab*O2 (Code 3731) or *lab*O2-V1 is required

HDA IV.2 (Code 2489)
- For 8 headphones
- A playback module *lab*O2 (Code 3731) or *lab*O2-V1 is required

SCOPE OF SUPPLY

HD OP I.1 (Code 2511.1)
- Cable 3.5 mm (1.8 m)
- Adapter 3.5 mm → 6.35 mm

HD OP II.1 (Code 2512.1)
- Cable 6.35 mm (1.8 m)
- Adapter 6.35 mm → 3.5 mm
- Instruction manual

HD OP III.1 (Code 2513.1)
- Cable 6.35 mm (3 m)
- USB stick
- Instruction manual

HD CL I.1 (Code 2521.1)
- Cable 3.5 mm (1.8 m)
- Adapter 3.5 mm → 6.35 mm

HD CL II.1 (Code 2522.1)
- Cable 3.5 mm (1.8 m)
- Cable 3.5 mm (3 m)
- 2 x adapter 3.5 mm → 6.35 mm
- Instruction manual

HD CL III.1 (Code 2523.1)
- 6.35 mm (3 m)
- USB stick
- Instruction manual

TECHNICAL DATA (according to the manufacturer)

	HD OP I.1	HD OP II.1	HD OP III.1
Transducer principle	dynamic, open	dynamic, open	dynamic, open
Ear coupling	circumaural	circumaural	circumaural
Frequency response	6 Hz – 38 000 Hz	8 Hz – 41 500 Hz	4 Hz – 51 000 Hz
Level	110 dB_{SPL} (1 kHz, 1 V_{rms})	104 dB (1 kHz, 1 V_{rms})	102 dB (1 V)
THD, total harmonic distortion	<0.05% (1 kHz / 90 dB_{SPL})	<0.04% (1 kHz, 100 dB)	<0.02% (1 kHz, 1 V_{rms})
Nominal impedance	120 Ω	300 Ω	300 Ω
Cable length	1.8 m	1.8 m	3 m
Weight	240 g	260 g	330 g

	HD CL I.1	HD CL II.1	HD CL III.1
Transducer principle	dynamic, closed	dynamic, closed	dynamic, closed
Ear coupling	circumaural	circumaural	circumaural
Frequency response	5 Hz – 35 000 Hz	5 Hz – 40 000 Hz	6 Hz – 48 000 Hz
Level	96 dB_{SPL}	114 dB (500 Hz, 1 V)	103 dB (1 V)
THD, total harmonic distortion	<0.2%	0.04% (1 kHz)	<0.02% (1 kHz, 100 dB)
Nominal impedance	250 Ω	48 Ω	300 Ω
Cable length	3 m	1.8 m, 3 m	3 m
Weight	270 g	350 g	360 g

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