



Code 2511 ff

Headphones

HEAD acoustics offers solutions from a single source for aurally-accurate playback of binaural recordings. Reliable sound evaluation and optimization can only be achieved by combining the headphones recommended by HEAD acoustics with the appropriate playback systems and the correct equalizations.

OVERVIEW

Headphones

Code 2511ff

For aurally-accurate playback, the entire playback chain has to be coordinated and correctly equalized. This is the only way to ensure undistorted playback across the entire frequency domain without changing the perception of sound. This is the prerequisite for reliable sound evaluation and optimization.

Aurally-accurate playback of the various sound fields is enabled by Free Field (FF) and Diffuse Field (DF) equalizations as well as by the Independent of Direction (ID) equalization developed by HEAD acoustics. The Model-Specific Standard Equalization is available for reproducing the original sound color and the correct and complete spatial mapping of a sound field.

Furthermore, HEAD acoustics offers Individual Equalization which also includes a level calibration. This equalization also ensures the compensation of differences in the transmission characteristics of individual headphones of the same model that may occur due to series variations in production.

KEY FEATURES

High-quality dynamic headphones with a natural, spatial timbre and high sound color fidelity

Reproduction of the sound impression corresponding to the original sound field

Coordinated playback chain from a single source

- › Playback modules and other playback devices
- › Equalization
- › Headphones

Equalizations for different sound fields

- › Free Field (FF)
- › Diffuse Field (DF)
- › Independent of Direction (ID) – an equalization developed by HEAD acoustics

Model-Specific Standard Equalization

- › True-to-the-original sound color and complete spatial mapping of sound fields

Individual Equalization

- › Individual Equalization and level calibration of individual headphones

APPLICATIONS

- › Sound optimization
- › Sound design
- › Jury testing



DETAILS

Open Headphones

HD OP I.1 (CODE 2511.1)

- › Top-class open-back headphones
- › Natural and accurate sound with good spatial sound characteristics
- › Tonally neutral, analytical playback
- › Frequency response: 6 Hz – 38 000 Hz
- › THD: 0.05%
- › Impedance: 120 Ω



HD OP II.1 (CODE 2512.1)

- › Absolutely top-class open-back headphones
- › Particularly accurate playback with vivid sound colors
- › Neutral, dynamic sound with very good spatial sound characteristics
- › Frequency response: 8 Hz – 41 500 Hz
- › THD: 0.04%
- › Impedance: 300 Ω



HD OP III.1 (CODE 2513.1)

- › Reference-class open-back headphones
- › Highest possible acoustic precision with outstanding spatial sound characteristics
- › Extremely broadband, detailed, and tonally neutral playback
- › Frequency response: 4 Hz – 51 000 Hz
- › THD: 0.02%
- › Impedance: 300 Ω



Closed Headphones

HD CL I.1 (CODE 2521.1)

- › Top-class closed headphones
- › Balanced timbre with particularly neutral voice reproduction
- › Powerful, precise bass reproduction and analytical treble range
- › Good passive damping
- › Frequency response: 5 Hz – 35 000 Hz
- › THD: 0.2%
- › Impedance: 250 Ω



HD CL II.1 (CODE 2522.1)

- › Absolutely top-class closed headphones
- › Very clear analytic timbre with a high level of detail
- › Distinctive, dominant bass and very neutral voice reproduction
- › Very good passive damping
- › Frequency response: 5 Hz – 40 000 Hz
- › THD: 0.04%
- › Impedance: 48 Ω



HD CL III.1 (CODE 2523.1)

- › Reference-class closed headphones
- › Highest possible acoustic precision with excellent transparency
- › Extremely broadband reproduction with class-leading tonal neutrality
- › Particularly large-scale, realistic spatial sound characteristics
- › Very good passive damping
- › Frequency response: 6 – 48 000 Hz
- › THD: 0.02%
- › Impedance: 300 Ω



HD NC III.1 (CODE 2533.1)

- › Top-class professional closed headphones
- › Class-leading Active Noise Cancellation
- › Very good passive damping
- › High wearing comfort
- › Impedance: 300 Ω



Equalization Options

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

HD CL I.1
HD OP I.1



HD CL II.1
HD OP II.1



HD CL III.1
HD OP III.1



HD NC III.1




Binaural Playback Modules

labP2		—	*	*	*
labP2-V1		—	*	*	*
labO2-V1		—	*	*	*


Mobile Recording and Playback Systems

SQuadriga III		○	○	—	—
SQobold		○	○	—	—

HEAD/lab Frontend

labHSU		○	○	—	—
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Artificial Head Measurement System

HMS V		○	○	—	—
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BPU Binaural Playback Unit

BPU Bundle		○	—	—	—
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Playback Unit for PreSense NVH Simulator

HXB-PreSense		—	*	*	*
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Artificial head measurement system for soundscapes

BSU		○	○	—	—
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Headphone Distribution Amplifier

HDA IV.2		—	○ ¹	—	—
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¹ Optional: additional individual level calibration

Playback Systems

With Model-Specific Standard Equalization

Mobile Recording and Playback Systems

SQuadriga III (Code 3324)

- › Mobile 8-channel recording and playback system

SQobold (Code 3302)

- › Mobile 4-channel recording and playback system

HEADlab Frontend

labHSU (Code 3710)

- › 2-channel frontend for one HEADlab input module

Artificial Head Measurement System

HMS V (Code 1502)

- › Artificial Head Measurement System

BPU Binaural Playback Unit

BPU Bundle OP I.1 (Code 2441.1)

- › BPU Binaural Playback Unit with HD OP I.1

BPU Bundle CL I.1 (Code 2442.1)

- › BPU Binaural Playback Unit with HD CL I.1

Artificial Head Measurement System for Soundscapes

BSU (Code 1508)

- › Artificial head measurement system for soundscapes

Headphone Distribution Amplifier

HDA IV.2 (Code 2489)

- › Headphone Distribution Amplifier for 8 headphones
- › A *labO2* (Code 3731) or *labO2-V1* playback module is required

With Individual Equalization

Binaural Playback Modules

labP2 (Code 3732)

- › Playback module for two headphones

labP2-V1 (Code 3732-V1)

- › Variant of *labP2* with identical range of functions for mounting in a 19" rack

labO2-V1 (Code 3731-V1)

- › Playback module for one set of headphones as well as for subwoofers, headphone amplifiers, shakers, ...

Playback Unit for PreSense NVH SIMULATOR

HXB-PreSense (Code 7661)

- › Playback unit for mobile PreSense setup

Technical Data (according to manufacturer specifications)

	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
Transmission range	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)
Total harmonic distortion (THD)	<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
Transmission range	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)
Total harmonic distortion (THD)	<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

	HD NC III.1
Transducer principle	dynamic, closed
Ear coupling	circumaural
Level	96.5 dB _{SPL}
Nominal impedance	300 Ω
Cable length	2 m
Weight (headset only)	340 g

Scope of Delivery

HD OP I.1 (Code 2511.1)

- › Jack plug 3.5 mm,
cable length: 1.8 m
- › Adapter 3.5 mm → 6.35 mm

HD OP II.1 (Code 2512.1)

- › Jack plug 6.35 mm,
cable length: 1.8 m
- › Adapter 6.35 mm → 3.5 mm
- › Instruction manual

HD OP III.1 (Code 2513.1)

- › Jack plug 6.35 mm,
cable length: 3 m
- › Instruction manual

HD CL I.1 (Code 2521.1)

- › Jack plug 3.5 mm,
cable length: 1.8 m
- › Adapter 3.5 mm → 6.35 mm

HD CL II.1 (Code 2522.1)

- › Jack plug 3.5 mm,
cable length: 1.8 m
- › Jack plug 3.5 mm,
cable length: 3 m
- › Adapter 3.5 mm → 6.35 mm (2 x)
- › Instruction manual

HD CL III.1 (Code 2523.1)

- › Jack plug 6.35 mm,
cable length: 3 m
- › Instruction manual

HD NC III.1 (Code 2533.1)

- › Jack plug 3.5 mm,
cable length: 2 m
- › Transportation case
- › Battery type AA (2 x)
- › Control module holder
- › Supplement



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