



Code 2511 ff

Headphones

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

OVERVIEW

Headphones

Code 2511 ff

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. Model-specific standard equalization is available to ensure faithful reproduction of the original sound color as well as accurate and complete spatial mapping of a sound field.

In addition, HEAD acoustics offers individual equalization, including level calibration. This also compensates for differences in the transmission characteristics of individual headphones of the same model, which may arise from production-related unit-to-unit variations.

KEY FEATURES

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

Reproduction of sound impressions corresponding to the original sound fields

Coordinated playback chains 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 Equalizations

- › Faithful sound color and complete spacial mapping of sound fields

Individual Equalizations

- › Individual equalizations and level calibrations of individual headphones

APPLICATIONS

Sound optimization

Sound design

Jury Testing



DETAILS

OPEN-BACK HEADPHONES

HD OP I.1 (Code 2511.1)

- › Premium 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)

- › 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-BACK HEADPHONES

HD CL I.1 (Code 2521.1)

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



HD CL II.1 (Code 2522.1)

- › 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 attenuation
- › Frequency response: 5 Hz–40,000 Hz
- › THD: 0.04%
- › Impedance: 48 Ω



HD NC III.1 (Code 2533.1)

- › Reference-grade professional closed-back headphones
- › Class-leading Active Noise Cancellation
- › Very good passive attenuation
- › High wearing comfort
- › Impedance: 300 Ω



EQUALIZATION OPTIONS

- No equalization available
- Model-specific standard equalization
- * Individual equalization



Binaural Playback Modules

playStudio		○	* / ○	*	*
playPro		○	* / ○	*	*
playBasic		○	—	—	—

Mobile Recording and Playback Systems

SQuadriga III		○	○	—	—
SQobold		○	○	—	—

HEADlab Frontend

labHSU		○	○	—	—
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Artificial Head Measurement System

HMS V		○	○	—	—
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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	○ ¹	—	—
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¹ Optional: Additional individual level calibration;
The equalization must be installed and selected on the playStudio playback module (Code 2460). The equalization applies to all connected headphones collectively. Therefore, the same headphone type must be used on all outputs of HDA IV.2 and on the second headphone output of playStudio.

PLAYBACK SYSTEMS

Handheld Recording and Playback Systems

SQuadriga III (Code 3324)

- › Handheld 8-channel recording and playback system

SQobold (Code 3302)

- › Handheld 4-channel recording and playback system

HEADlab Frontend

labHSU (Code 3710)

- › 2-channel frontend for a HEADlab input module

Artificial Head Measurement System

HMS V (Code 1502)

- › Artificial Head Measurement System

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 eight headphones
- › A playStudio playback module (Code 2460) is required

Binaural Playback Modules

playStudio (Code 2460)

- › Stationary High-End Playback Unit for Listening Studios and Simulators

playPro (Code 2450)

- › Binaural High-End Playback Unit

playBasic Bundle OP I.1 (Code 2444.1)

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

playBasic Bundle CL I.1 (Code 2445.1)

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

PreSense Playback Unit for NVH Simulator

HXB-PreSense (Code 7661)

- › Playback unit for mobile PreSense setup

TECHNICAL DATA

(according to the manufacturer's specifications)

	HD OP I.1	HD OP II.1	HD OP III.1
Transducer principle	Dynamic, open	Dynamic, open	Dynamic, open
Ear coupling	over-ear	over-ear	over-ear
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 _{SPL} (1 kHz, 1 V _{rms})	102 dB _{SPL} (1 kHz, 1 V _{rms})
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 NC III.1
Transducer principle	dynamic, closed	dynamic, closed	dynamic, closed
Ear coupling	over-ear	over-ear	over-ear
Transmission range	5 Hz–35,000 Hz	5 Hz–40,000 Hz	
Level	96 dB _{SPL}	114 dB _{SPL} (500 Hz, 1 V)	96.5 dB _{SPL}
Total Harmonic Distortion (THD)	< 0.2%	0.04% (1 kHz, 1 mW)	
Nominal impedance	250 Ω	48 Ω	300 Ω
Cable length	3 m	1.8 m, 3 m	2 m
Weight	270 g	350 g	340 g

SCOPE OF DELIVERY

HD OP I.1 (Code 2511.1)

- › 3.5 mm jack plug
Cable length: 1.8 m
- › Adapter: 3.5 mm → 6.35 mm

HD OP II.1 (Code 2512.1)

- › 6.35 mm jack plug
Cable length: 1.8 m
- › Adapter: 6.35 mm → 3.5 mm
- › Instruction manual

HD OP III.1 (Code 2513.1)

- › 6.35 mm jack plug
Cable length: 1.8 m
- › Instruction manual

HD CL I.1 (Code 2521.1)

- › 3.5 mm jack plug
Cable length: 3 m
- › Adapter: 3.5 mm → 6.35 mm

HD CL II.1 (Code 2522.1)

- › 3.5 mm jack plug
Cable length: 1.8 m
- › 3.5 mm jack plug
Cable length: 3 m
- › 2 x adapter: 3.5 mm → 6.35 mm
- › Instruction manual

HD NC III.1 (Code 2533.1)

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



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