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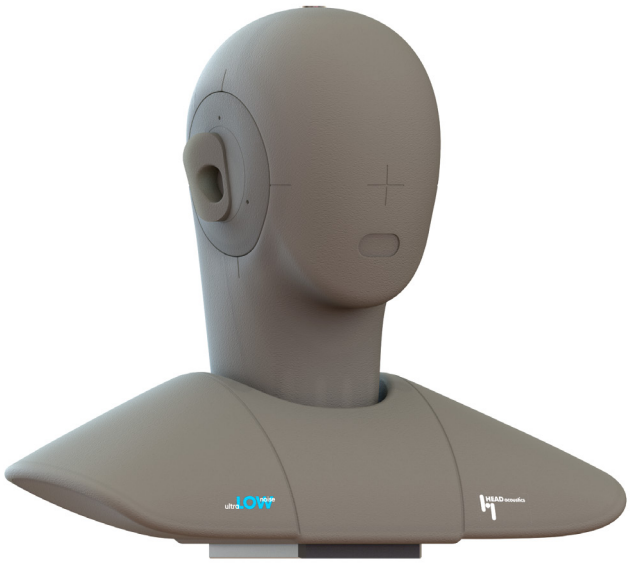
DATA SHEET

HSU III.3 (Code 1326)

Head-shoulder unit with condenser microphones for very low sound pressure levels



Overview

HSU III.3 is a mobile head-shoulder unit with high quality condenser microphones for aurally-accurate recordings of very quiet noises.

Due to the very low background noise and the high dynamic range, HSU III.3 is perfectly suited for any measurements of very quiet noises, as for instance in the IT industry.

HSU III.3 is used like conventional standard microphones and can directly be connected to a recommended frontend.

The HSU artificial head is an accurate reproduction of all acoustically relevant parts of the human outer ear, allowing aurally-accurate binaural recordings of sound events including all characteristics of human hearing perception, in particular spatial hearing.

Features

Applications

- Mobile aurally-accurate measurements of very low sound pressure levels
- The head-shoulder unit can be used just like any conventional measurement microphone
- Equalization options (via frontend or software): ID, FF, DF, USER, LIN (no equalization)

High-end condenser microphones

- Extremely low inherent noise of 6.5 dB(A)$_{SPL}$ (free field equalized)
- High dynamic range of 106.5 dB
- Extremely low noise
- High noise immunity
- Supply voltage unipolar (+120 V) or bipolar (±60 V)
- TEDS according to IEEE 1451.4
- Calibratable with calibrator or pistonphon, for example

Other features

- Optimized head-shoulder design
- Threaded mounting platform on the top side of the HSU III.3 head for attaching the laser pointer TLP, for example

Connections to frontends from HEAD acoustics

- *lab*HSU (Code 3710)
  High-end dual-channel frontend for the connection of HSU III.3 and other sensors
- *lab*M6 II (Code 3724)
  6-channel HEADlab input module for the connection of up to 3 HSU III.3

  Several frontends are available for the use of *lab*M6 II in frontend and stand-alone operation:
  - *lab*HSU
  - *lab*CTRL II.1 (Code 3704)
    Controller of the 2nd HEAD*lab* generation for the connection of up to 10 *lab*M6 II or other input modules
  - SQuadriga III (Code 3324)
    Mobile recording and playback system
- HSU III.3 can be connected to legacy frontends and HEAD*lab* input modules, too

*lab*HSU is a flexible binaural data acquisition system in the format of the HEAD*lab* family

*lab*M6 II is a 2nd generation HEAD*lab* input module with HD wide range input (high dynamics)

Scope of supply

- HSU III.3 (Code 1326)
  Head-shoulder unit with condenser microphones for very low sound pressure levels
- 2 x CLL IV.2 (Code 1236)
  Cable LEMO 7-pin male ↔ LEMO 7-pin male, 2 m (78.74“)
- SBH I (Code 1315)
  Stand base
- Manual
- Individual HSU III.3 equalization

Accessories

- HSC V-V1 (Code 1525-V1)
  Carrying case
- HMT II Code 1962)
  Height-adjustable tripod
- HSM V (Code 1520)
  HEAD Seat Mount Adapter
- HTB VI (Code 1574)
  HEAD Torso Box
- HWS (Code 1960)
  Wind screen for outdoor recordings
- TLP (Code 1967)
  Triaxial laser pointer

Technical Data

General

Interface	2 x LEMO, 7-pin, male
Thread mounting platform	M6
Tripod socket	UNC 3/8“, Camlock (series 911F)
Dimensions	450 mm x 400 mm x 180 mm (W x H x D)
Weight	4.4 kg
Operating temperature	0 °C to 50 °C
Storage temperature	-20 °C to 70°C

Microphones

Type of microphones	½“ condenser microphone
Polarization voltage	200 V
Supply voltage	+120 V, ±60 V (DC)
Frequency range	6 Hz to 20 kHz (+2 dB, -3 dB)
Sound pressure level (max.)	113 dB_{SPL}
Distortion factor	<0.01%, 1000 Hz, electr. at 0 dB(V)
Dynamic range	106.5 dB
Inherent noise, incl. impedance converter (acoust.)	6.5 $dB(A)_{SPL}$ (typ.) (free field equalized)
Sensitivity (typ.)	80 mV/Pa, nominal
TEDS (IEEE 1451.4) read	TEDS class 1, shared signal wire (version 0.9 and 1.0)
Impedance converter Distortion factor with sinus 1 kHz	<0.005%, 1 kHz, electr. at 2 dB(V)

Miscellaneous

Radiated emission according to EN 61326-1 (equipment class B); interference immunity according to EN 61326-1; safety according to EN 61010-1.
Physical dimensions of the head designed according to ITU P.58, table 1 and comparable to ANSI 3.36, table 1.
Please note: Without HEAD Torso Box, some dimensions in P.58, table1 are not applicable.
The monaural frequency responses comply with ITU P.58, table 4 and to those that can be derived from ANSI 3.36, table 3.