



Code 7735

# coreIN-ICP4

*labCORE* input board, ICP®

# OVERVIEW

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## coreIN-ICP4

**Code 7735**

coreIN-ICP4 is a hardware extension board for *labCORE*.

Equipped with coreIN-ICP4, *labCORE* becomes a high-performance audio analyzer. The board provides four high-precision low-noise analog input channels for pre-polarized ICP<sup>®</sup> sensors, e.g., ICP<sup>®</sup> microphones. Each of the four inputs supports TEDS for data exchange with the connected sensor, BNC sockets ensure easy and secure connection.

*labCORE* supports up to five coreIN-ICP4 boards.

## KEY FEATURES

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Four high-precision and low-noise ICP<sup>®</sup> inputs

BNC interface

ICP<sup>®</sup> power supply with extremely low self-noise

High resilience to ground noise

All inputs support TEDS

## APPLICATIONS

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ICP<sup>®</sup> microphones, e.g., the ear microphones of an artificial head

ICP<sup>®</sup> measurement microphones

Other ICP<sup>®</sup> sensors

# DETAILS

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## DESCRIPTION

*coreIN-ICP4* extends the modular multi-channel *labCORE* hardware platform with four high-precision and low-noise ICP® inputs. Equipped with the I/O bus mainboard *coreBUS*, *labCORE* supports up to five *coreIN-ICP4* boards at the rear slots 6 to 10. Slots 9 and 10 can only be used for *coreIN-ICP4* if no *core-OUT-Amp2* cards are installed there.

Each input offers a high-precision ICP® constant current supply with extremely low self-noise, making *coreIN-ICP4* ideal for precise measurements with any ICP® sensor type. Its four BNC inputs support TEDS to exchange information on voltage and calibration values with the connected sensor. Input levels for each input are displayed on the LCD display of *labCORE*.

All inputs of *coreIN-ICP4* are differential towards ground and therefore very resilient to ground noise.

## GENERAL REQUIREMENTS

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### Hardware

- labCORE* (Code 7700)
  - › Modular multi-channel hardware platform
- coreBUS* (Code 7710)
  - › *labCORE* I/O bus mainboard

### Software

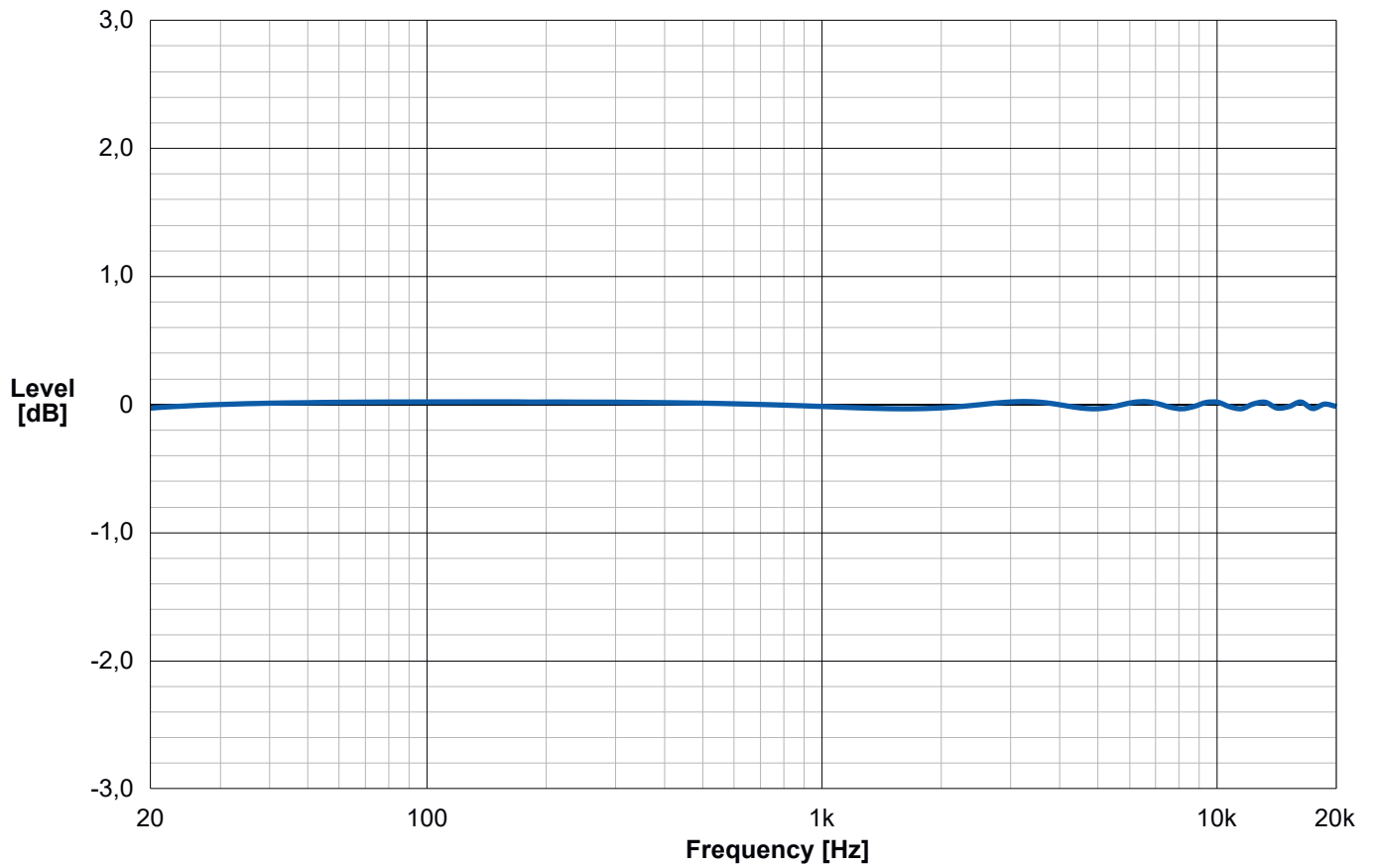
- One of the listed software applications
- ACQUA* (Code 6810)
  - › Advanced Communication Quality Analysis Software, full license version
- RC-labCORE* (Code 6984)
  - › Remote configuration software for *labCORE*
- VoCAS* (Code 7970)
  - › Voice Control Analysis System

## SCOPE OF DELIVERY

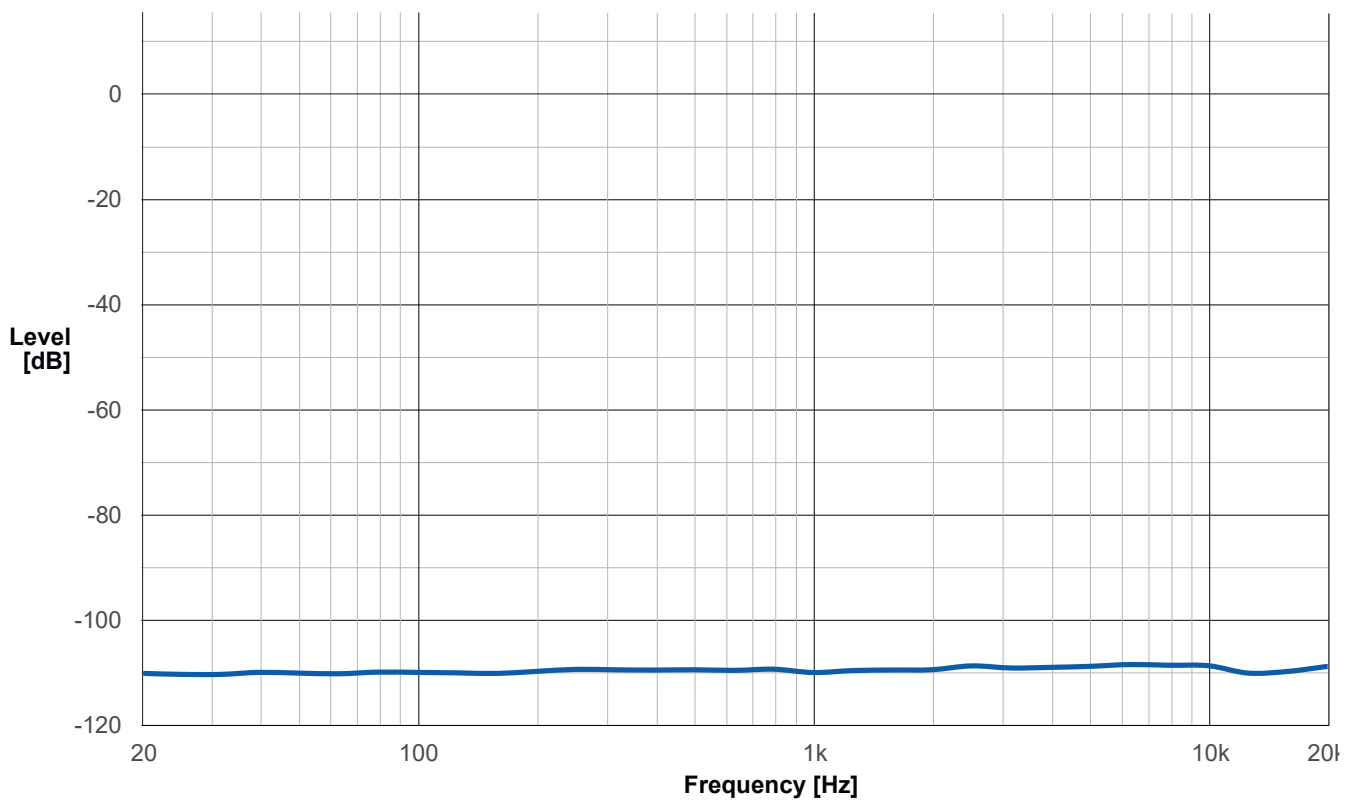
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- coreIN-ICP4* (Code 7735)
  - › *labCORE* input board, ICP®
- Initial equipping
  - › *coreIN-ICP4* is installed to *labCORE* during production
- Retrofitting
  - › Send in *labCORE* to HEAD acoustics for installation

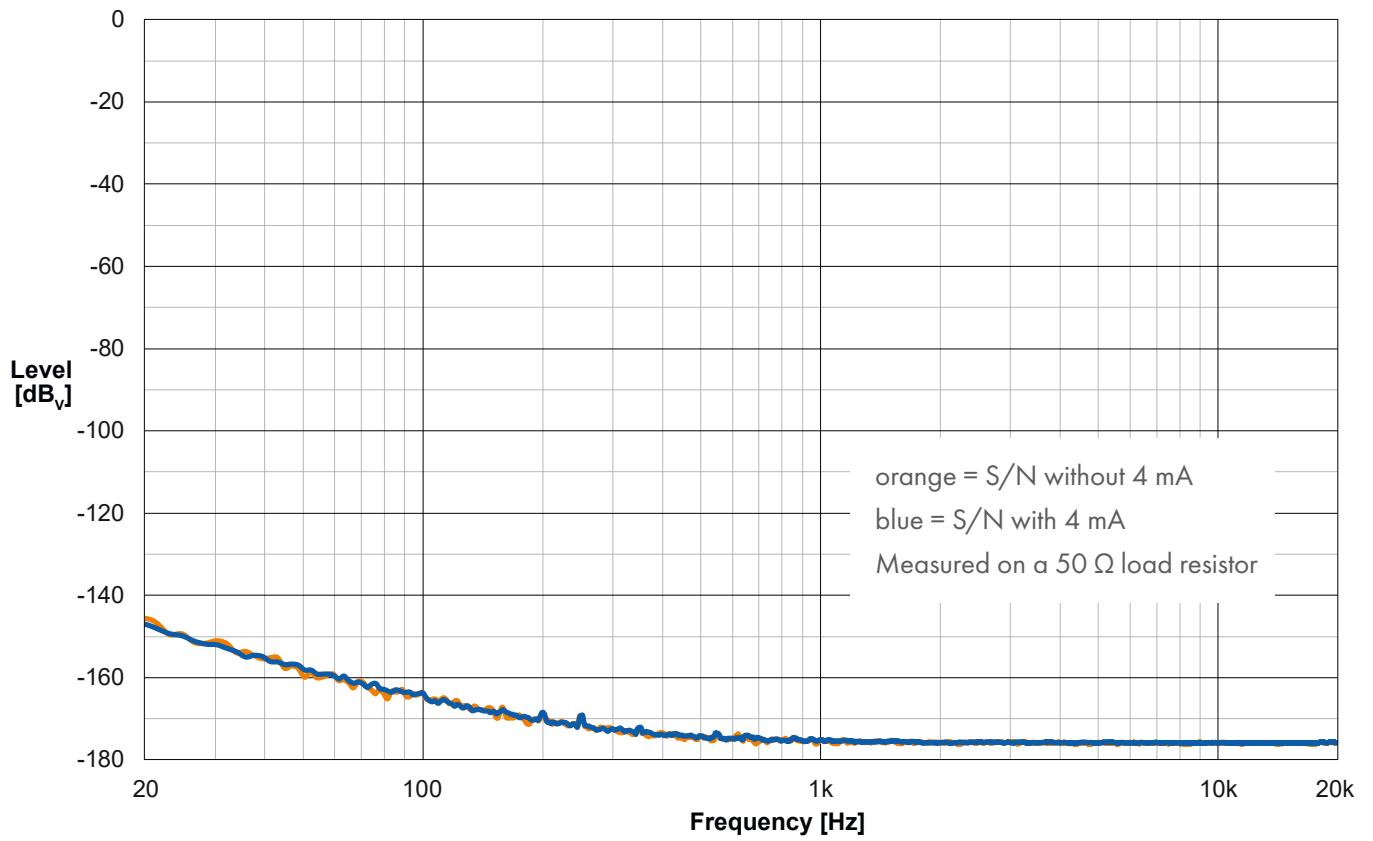
## Typical frequency response



## Typical total harmonic distortion plus noise (THD+N)



## Typical self-noise of the coreIN-ICP4 input ICP<sup>®</sup> constant current power supply



# TECHNICAL DATA

Channels	4
Connection	BNC
Input range	-25 V – 25 V
Input impedance	200 k $\Omega$
Input range settings	-30 dBV – 12 dBV (in 6 dBV steps)
Filters	1.6 Hz 1st order highpass, switchable 20 Hz 2nd order highpass
ICP supply	4 mA ( $\pm 2.5\%$ ), max. 23 V, ultra low noise, switchable
TEDS	IEEE 1451.4 Class 1 MMI, shared signal wire
Level accuracy	$\pm 0.1$ dB (1 kHz, 25 °C)
Flatness	$\pm 0.05$ dB (48 kHz sampling, 20 Hz – 20000 Hz) $\pm 0.07$ dB (96 kHz sampling, 20 Hz – 40000 Hz) $\pm 0.09$ dB (192 kHz sampling, 20 Hz – 80000 Hz)
S/N	113 dB (3.0 V <sub>RMS'</sub> , 10 Hz - 20 kHz)
THD + N	< -108 dB (3.0 V <sub>RMS'</sub> , 100 Hz) < -110 dB (3.0 V <sub>RMS'</sub> , 1000 Hz) < -109 dB (3.0 V <sub>RMS'</sub> , 10000 Hz)
Crosstalk	< -126 dB
Digital resolution	32 Bit
Sampling rates	48 kHz, 96 kHz, 192 kHz
Typical power consumption	4.0 W

ICP® is a registered trademark of PCB Group, Inc.



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