



Code 7760

coreIN-A2

Analog Input Board

OVERVIEW

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Analog Input Board

coreIN-A2 is an extension board for *labCORE*. Equipped with coreIN-A2, *labCORE* becomes a high-performance audio analyzer. It provides two high-precision and low-noise analog input channels. Each input receives the signal either through an XLR or a BNC socket. Signal paths for AC and DC are separated for individual conditioning and handling.

Furthermore, the board supplies phantom power (XLR) and IEPE/ICP® power (BNC). Signal routing and other settings are executed via the control software.

labCORE provides slots for two coreIN-A2 boards.

KEY FEATURES

Signal processing and A/D conversion directly on the board for highest possible signal quality

Auto impedance balancing (bootstrapping)

Differential inputs (for XLR and BNC)

Less ground coupling noise by active ground sensing

Separated signal paths for AC and DC

APPLICATIONS

High-performance audio analyzing of various broadband output signals such as speech, music, or noise

DETAILS

DESCRIPTION

coreIN-A2 extends *labCORE* with high-precision and low-noise analog inputs. It has a typical residual THD+N of -115 dB, which makes it the ideal choice for high-performance audio analyzing. The light and compact design of *labCORE* as well as its versatility and quiet operation underline the benefit of *coreIN-A2*.

Each input has two relay-switched connectors, a female XLR and a female BNC socket. The control software enables the user to switch between the balanced (XLR) and unbalanced (BNC) input. LEDs indicate the currently active socket and its input level. *labCORE* has two slots at the front panel for *coreIN-A2* boards.

The sophisticated signal processing of the board guarantees the highest possible signal quality. Separated paths for AC and DC process each type of signal appropriately before A/D conversion.

OPTIONS

Alternative to *coreBUS* if *labCORE* shall be extended only with the *coreIN-A2* extension board:

- › *coreBUS One* (7711)
 - » *labCORE* I/O bus mainboard, supporting only one extension board

GENERAL REQUIREMENTS

Hardware

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

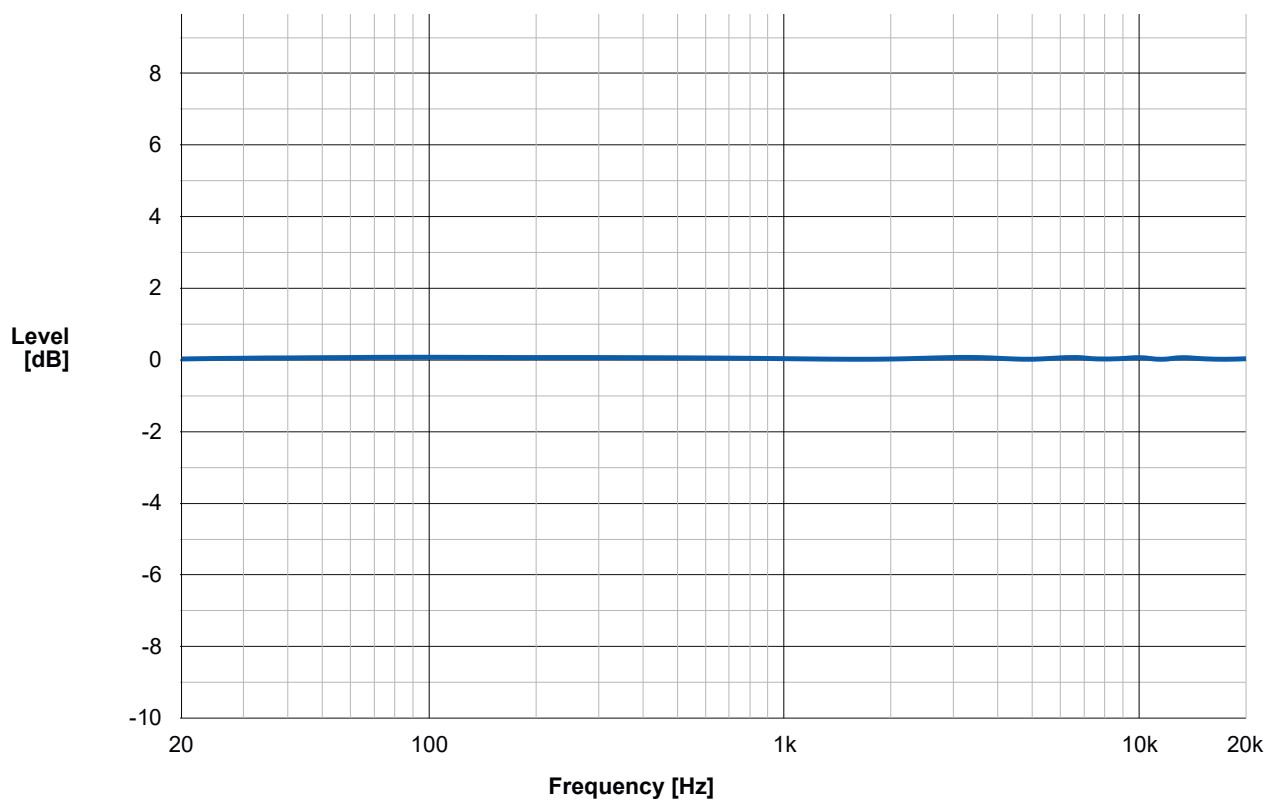
Software

- One of the following 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

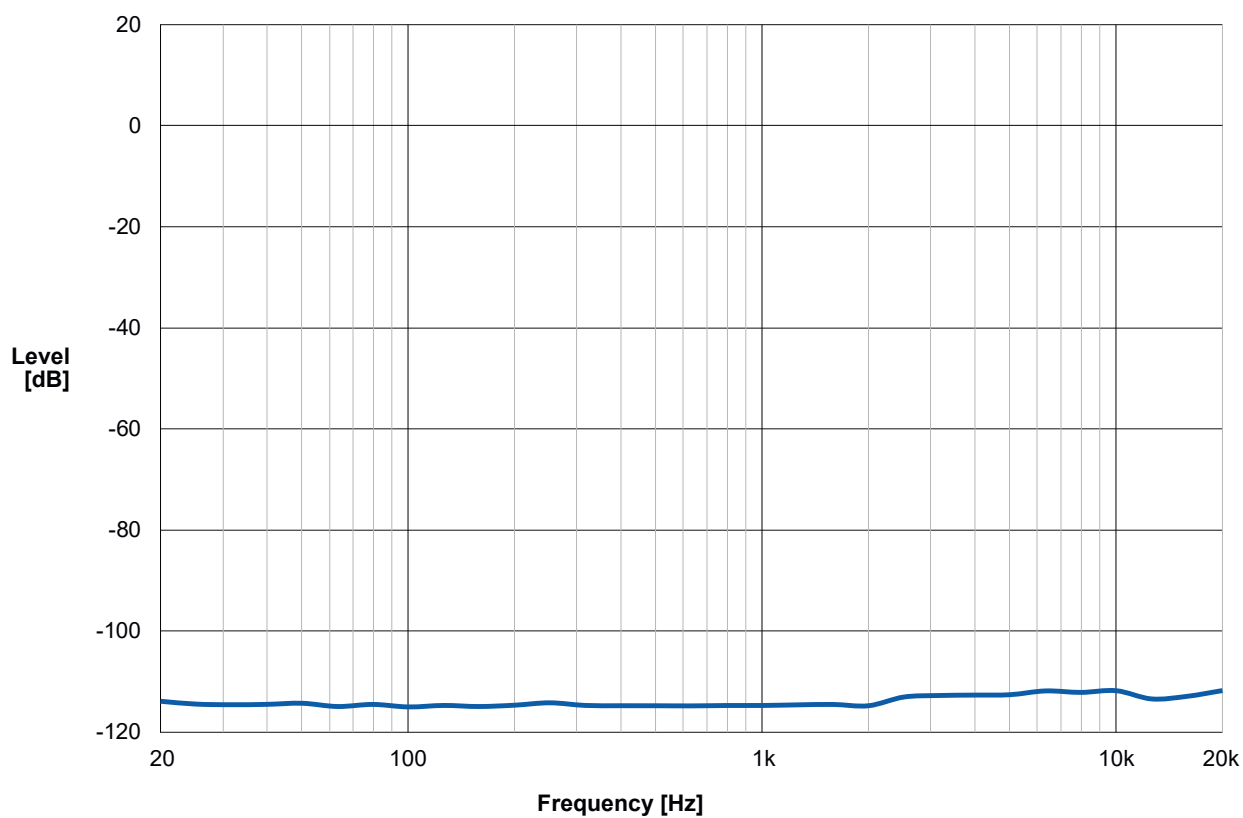
SCOPE OF DELIVERY

- coreIN-A2* (Code 7760)
 - › Analog input board
- Initial equipping
 - › *coreIN-A2* 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)



TECHNICAL DATA

Channels	2
Connection	› BNC (unbalanced or floating) › XLR (balanced)
Input range	-48 V–48 V
Input impedance	› 600 Ω ($\pm 0.1\%$) › 200 k Ω
Input range settings	-54 dBV–24dBV (in 6 dBV steps)
Phantom power supply	48 V
ICP power supply	max. 23 V, 4 mA
Level accuracy	± 0.1 dB (1 kHz)
Flatness	› ± 0.05 dB (48 kHz sampling, 20 Hz–20000 Hz) › ± 0.07 dB (96 kHz sampling, 20 Hz–40000 Hz) › ± 0.09 dB (192 kHz sampling, 20 Hz–80000 Hz)
S/N	› 115 dB ($2.3 V_{RMS}$, 20 Hz–20000 Hz) › 118 dB(A) ($2.3 V_{RMS}$, 20 Hz–20000 Hz)
THD + N	< -112 dB ($2.3 V_{RMS}$, 1kHz)
Crosstalk	< -126 dB
Digital resolution	32 Bit
Sampling rates	48 kHz, 96 kHz, 192 kHz
Typical power consumption	6.7 W

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IEPE denotes an industry standard for piezoelectric sensors with integrated impedance-converting electronics. Comparable technologies are marketed by individual manufacturers under proprietary names such as ICP, CCLD, IsoTron, or DeltaTron. In this document, the term IEPE/ICP is used as a generic designation representing the corresponding manufacturer-specific product and trademark names.



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