



Code 7775

# coreIP-Alexa

**labCORE Alexa Client Option**

# OVERVIEW

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## coreIP-Alexa

### Code 7775

coreIP-Alexa is a software extension for *labCORE*. It enables using *labCORE* as an Amazon Alexa reference client. This enables the hardware platform to act as Amazon Alexa Built-in device which can perform Alexa-to-Alexa calls. *labCORE* distributes the audio data of this call to ACQUA for voice quality analysis.

coreIP-Alexa is ideal for speech quality assessment of Alexa Built-in devices which are capable of Alexa-to-Alexa calling. Test requirements are available, e.g., as described in the 'Alexa Communications Audio Requirements' (ACAR) issued by Amazon. The specification provides instrumental and auditory tests for devices supporting Alexa-to-Alexa calling. They ensure a reasonable level of communication quality for the customer.

coreIP-Alexa has access to all functionalities of a regular Alexa client, e.g., selecting a language, activation confirmation sound, or enabling the 'do not disturb' mode.

## KEY FEATURES

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Extending *labCORE* into an Alexa reference client device for performing Alexa-to-Alexa calls with Alexa Built-in devices

Quick and easy control, condition monitoring, and diagnostics via the ACQUA user interface

## APPLICATIONS

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Performing speech quality tests of Alexa Built-in devices supporting Alexa-to-Alexa calling, such as:

- › Smart speakers
- › Smartphones
- › Televisions
- › Soundbars

# DETAILS

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Alexa-to-Alexa calling is one of the services in the Amazon Alexa ecosystem – voice-activated conversations between owners of Alexa Built-in devices. Such devices can be Amazon Echo smart speakers, but also Alexa Built-in devices from other manufacturers, e.g., smart speakers, televisions, or soundbars.

## DESCRIPTION

coreIP-Alexa extends *labCORE* by an Alexa reference client that enables Alexa-to-Alexa calls with another Alexa Built-in device. The call is processed via the Alexa network. *labCORE* forwards the received digital audio data to ACQUA. This allows assessing the voice quality of the Alexa device which is calling *labCORE*. By system design, influencing the jitter buffer is not possible.

Alexa-to-Alexa calls are technically voice over IP (VoIP) calls between two terminal devices. If using hands-free devices, both call participants are typically in the far field of their respective device. Therefore, Alexa-to-Alexa calls are not only subject to the typical impairments of VoIP communication such as delay, jitter, and packet loss, but also have to deal with the acoustic challenges of far-field voice communication at both ends.

In addition to the general requirements mentioned in this data sheet, a regular (free) Amazon account is mandatory. coreIP-Alexa has to be registered in the Amazon account and requires access to Alexa Voice Services and Alexa Account Connection.

## GENERAL REQUIREMENTS

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### Hardware

*labCORE* (Code 7700)

- › Modular multi-channel hardware platform

### Software

One of the following software applications

ACQUA (Code 6810)

- › Advanced Communication Quality Analysis  
Software, full license version

ACQUA Compact (Code 6860)

- › Compact test system
- RC-*labCORE* (Code 6984)

- › Remote configuration software for *labCORE*

## SCOPE OF DELIVERY

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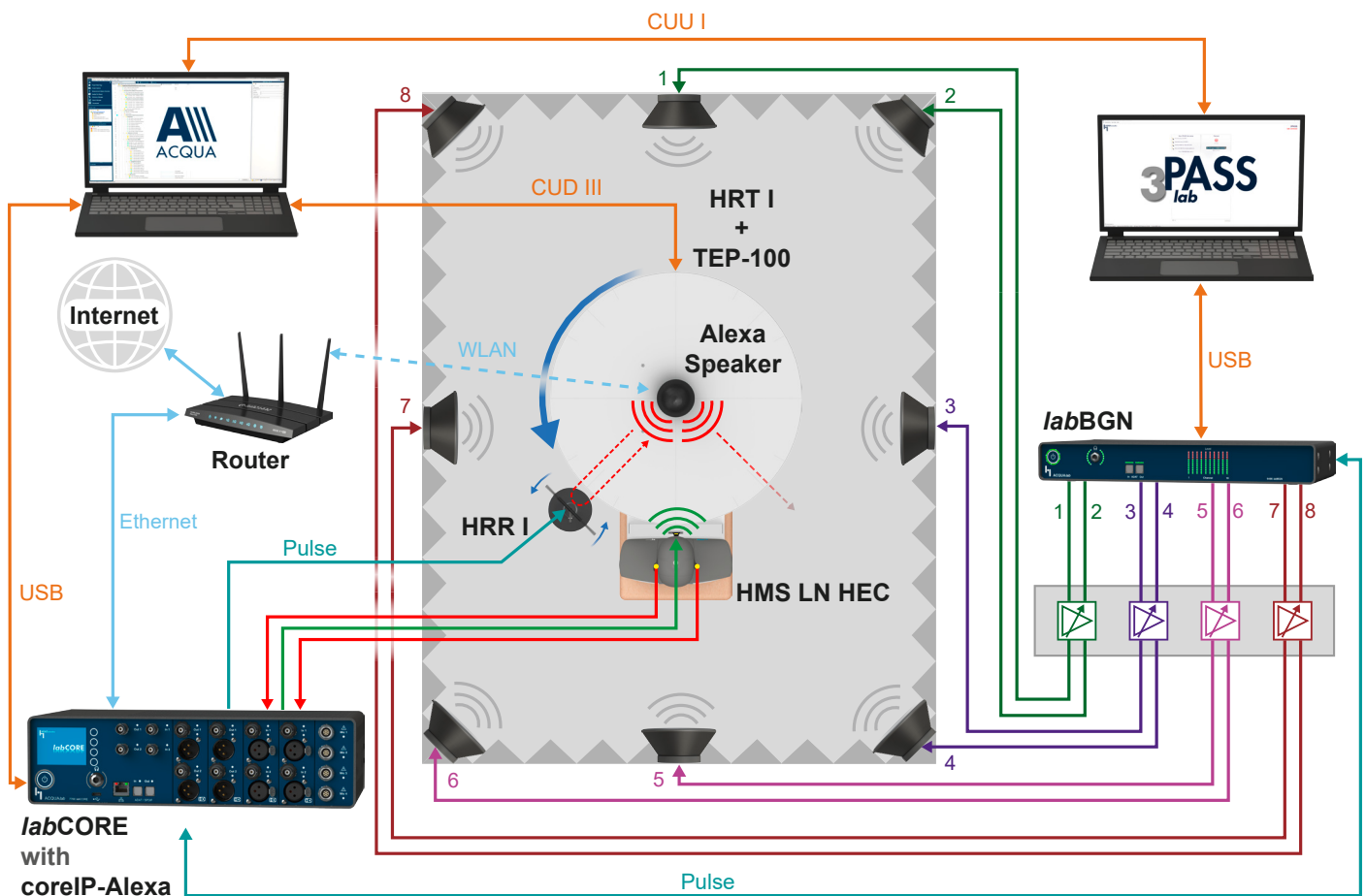
coreIP-Alexa (Code 7775)

- › *labCORE* Alexa client option

# IN PRACTICE

## APPLICATION EXAMPLE

A surface-supported smart speaker supporting Alexa-to-Alexa calls is placed on the HRT I motorized turntable. An artificial head of the HMS II.3 family simulates the user conducting a far-field (1 m) Alexa-to-Alexa call. Background noise is simulated via 3PASS lab. In collaboration, labCORE and ACQUA generate, send and receive signals and automatically trigger background noise playback for precise synchronization. Rotation of the speaker as well as changing the echo path according to the test requirements are performed by the HRT I turntable as well as the HRR I rotating reflector to minimize necessary user interaction.



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