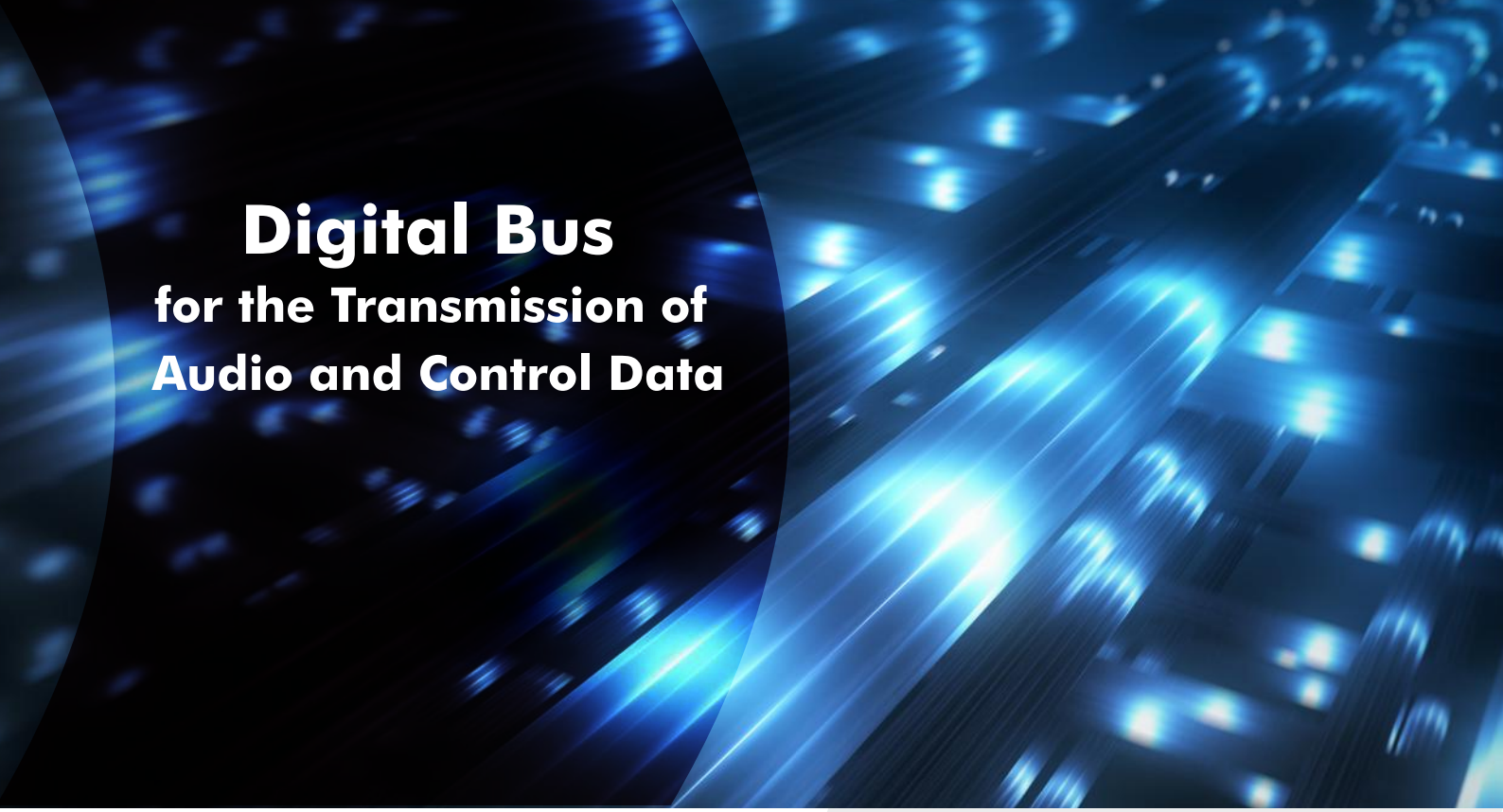


Digital Bus
for the Transmission of Audio and Control Data

The powerful audioRTBUS from voice INTER connect is designed for the implementation of distributed intercom and measurement systems via a bus connection. It enables the transmission of diverse data like audio (e.g. speech, noises, music) or for control purposes (e.g. operating elements, displays). Due to its simple installation, high range and numerous interface functions, audioRTBUS is flexible and suitable for many applications.
As an intercom system, it can optionally be equipped with a hands-free function in full-duplex quality. Due to the synchronous audio data transmission it is suitable as a transmission medium for professional audio applications. Because of its topology and independence from the cable type, audioRTBUS is cheaper than comparable IP-based solutions.

Product Features

- Digital bus for data transmission and energy supply
- Full-duplex audio communication and hands-free function
- Parallel streaming of multiple audio and data channels (number depending on compression and data rate)
- Range up to 1000 m with correspondingly reduced data rate
- Up to 256 bus nodes
- Simple and cost-effective installation or upgrade
- Scalable and robust protocol
- Real-time data transfer
- Audio interfaces on all bus nodes
- Interfaces for further sensors and actuators

Applications

- Distributed communication systems for audio and data transmission
- Intercom and emergency call systems in buildings and elevators
- On-board communication (e.g for ships, trains, airplanes, public transport)
- Voice communication in emergency vehicles
- Surveillance or public announcement / broadcast in public buildings
- Industrial process monitoring and control
- Professional Audio - networking of stage equipment

audioRTBUS

Robust, flexible, scalable.

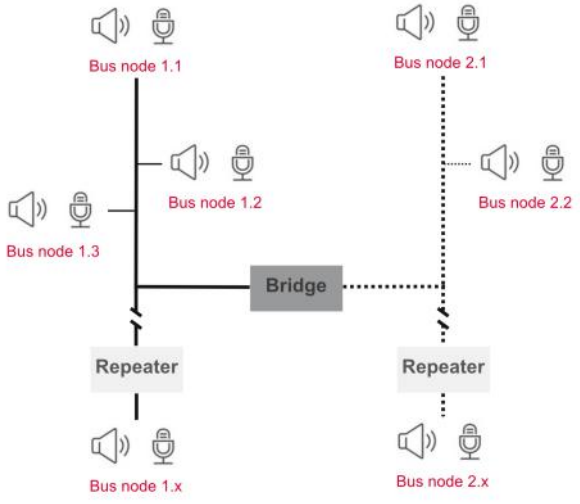
voice INTER connect

Components and Operating Principle

The basic components of an intercom or measurement system based on the audioRTBUS consist of the cabling and the bus node. All common cable types are possible for cabling, since the audioRTBUS can be parameterized according to the properties of the cable used. The bus nodes are controlled and synchronized centrally by the bus master. In addition to the transmission and execution of control functions, they also support the acquisition and forwarding of sensor data, e. g. audio streaming at an intercom station such as the reference node.

audioRTBUS

- Design as 2-wire or 4-wire bus for digital data transmission and power supply
- Simultaneous digital transmission of control data and full-duplex audio communication
- Number of streams that can be transmitted in parallel depending on data rate and compression
- Audio data compression to increase the range (up to 1000m)
- Repeater for increasing the range
- Cost effective installation or use of existing cabling
- Various types of cable: twisted pair, network, coaxial
- Robustness against electromagnetic interference
- Bus protocol with integrated error detection
- Dynamic configuration at runtime
- Synchronization of audio streams
- Real-time capability and deterministic transmission latency
- 16-bit and 16 kHz audio transmission
- Flexible net data rate up to 10 Mbit/s



Principle of audioRTBUS with distributed call stations

Reference audioRTBUS node

- Up to 256 sensor nodes per bus
- Analog and digital audio interfaces
- Up to four microphones and one speaker can be connected
- Streaming of audio data to other bus nodes
- Parameterization interface for the bus and signal processing
- Control and data transmission of display and control elements (LEDs, keys, etc.)
- Hands-free with full-duplex acoustic echo cancellation (AEC) and noise reduction (NR)
- Gateways to existing systems possible (e. g. telephony, 3G)
- Interfaces for further sensors and actuators
- Central system update via bus master

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