Automotive Audio Bus A²B Transceiver

AD2410W

A2B BUS FEATURES

Line topology
- **Single master, multiple slave**
- **Up to 10 meters between nodes**
- **Up to 40 meters overall cable length**

Communication over distance
- **Synchronous data**
  - **Multichannel I²S/TDM to I²S/TDM**
  - **Clock synchronous, phase aligned in all nodes**
- **Control and status Information**
  - **I²C to I²C**

Phantom power or local power slave nodes

Configurable with SigmaStudio™ graphical software tool

ADDITIONAL AD2410 TRANSCEIVER FEATURES

Configurable as A²B bus master or slave

I²C Interface

8-bit to 32-bit multichannel I²S/TDM interface

Up to 32 upstream channels or combination with up to 32 downstream channels

I²S/TDM or PDM Microphone inputs

Qualified for automotive applications

APPLICATIONS

Automotive audio communication link

Communication network for:
- **Microphones/speakers**
- **Sensor/actuator**
- **I²C Peripherals**

GENERAL DESCRIPTION

The Automotive Audio Bus (A²B™) provides a multi-channel, I²S/TDM link over distances of up to 10 meters between nodes. It embeds bi-directional synchronous data (for example digital audio), clock and synchronization signals onto a single differential wire pair. A²B supports a direct point-to-point connection and allows multiple, daisy chained nodes at different locations to contribute or consume time division multiplexed channel content. A²B is a single-master, multiple-slave system where the transceiver chip at the host controller is the master. It generates clock, synchronization and framing for all slave nodes. The master A²B chip is programmable over a control bus (I²C) for configuration and read back. An extension of this control bus is embedded in the A²B data stream allowing direct access of registers and status information on slave transceivers as well as I²C-to-I²C communication over distance.

Complete technical specifications are available for the A²B transceiver. Contact your nearest Analog Devices sales office to complete the Non-Disclosure Agreement (NDA) required to receive additional AD2410W technical information.

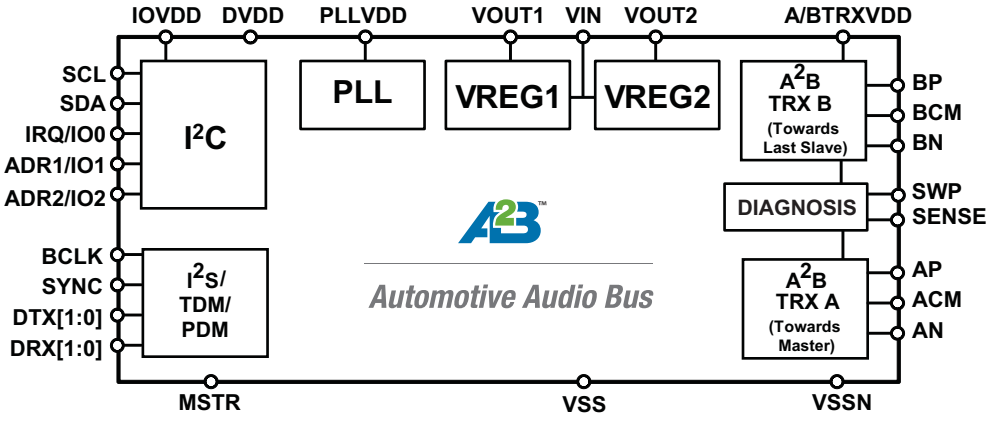

Figure 1. AD2410W Block Diagram

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Rev. Sp0 **Document Feedback**

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