

### 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 I<sup>2</sup>S/TDM to I<sup>2</sup>S/TDM
- Clock synchronous, phase aligned in all nodes
- Control and status Information
- I<sup>2</sup>C to I<sup>2</sup>C

#### Phantom power or local power slave nodes

Configurable with SigmaStudio™ graphical software tool

### ADDITIONAL AD2410 TRANSCEIVER FEATURES

Configurable as A<sup>2</sup>B bus master or slave

#### I<sup>2</sup>C Interface

8-bit to 32-bit multichannel I<sup>2</sup>S/TDM interface

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

I<sup>2</sup>S/TDM or PDM Microphone inputs

Qualified for automotive applications

### APPLICATIONS

Automotive audio communication link

Communication network for:

- Microphones/speakers
- Sensor/actuator
- I<sup>2</sup>C Peripherals

### GENERAL DESCRIPTION

The Automotive Audio Bus (A<sup>2</sup>B™) provides a multi-channel, I<sup>2</sup>S/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. A<sup>2</sup>B 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. A<sup>2</sup>B 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 A<sup>2</sup>B chip is programmable over a control bus (I<sup>2</sup>C) for configuration and read back. An extension of this control bus is embedded in the A<sup>2</sup>B data stream allowing direct access of registers and status information on slave transceivers as well as I<sup>2</sup>C-to-I<sup>2</sup>C communication over distance.

Complete technical specifications are available for the A<sup>2</sup>B transceiver. Contact your nearest Analog Devices sales office to complete the Non-Disclosure Agreement (NDA) required to receive additional AD2410W technical information.

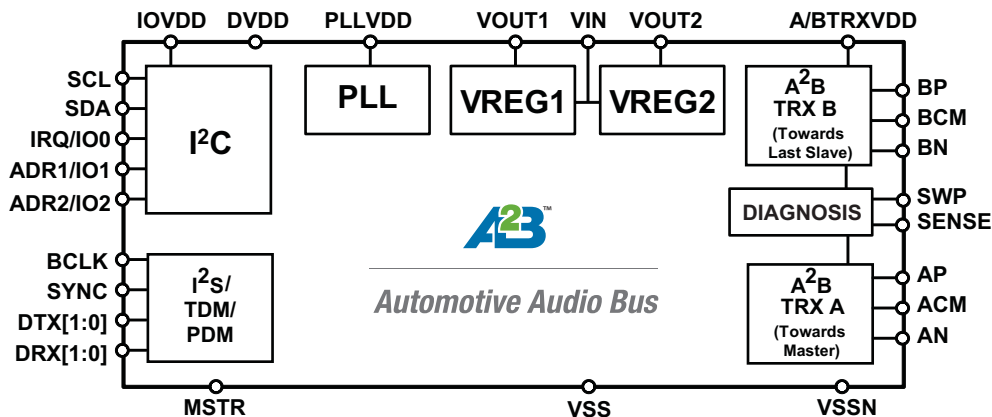


Figure 1. AD2410W Block Diagram

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