Automotive Audio Bus A²B Transceiver

Preliminary Technical Data

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

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

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. Please contact your nearest Analog Devices sales office to complete the Non-Disclosure Agreement (NDA) required to receive additional AD2410W technical information.

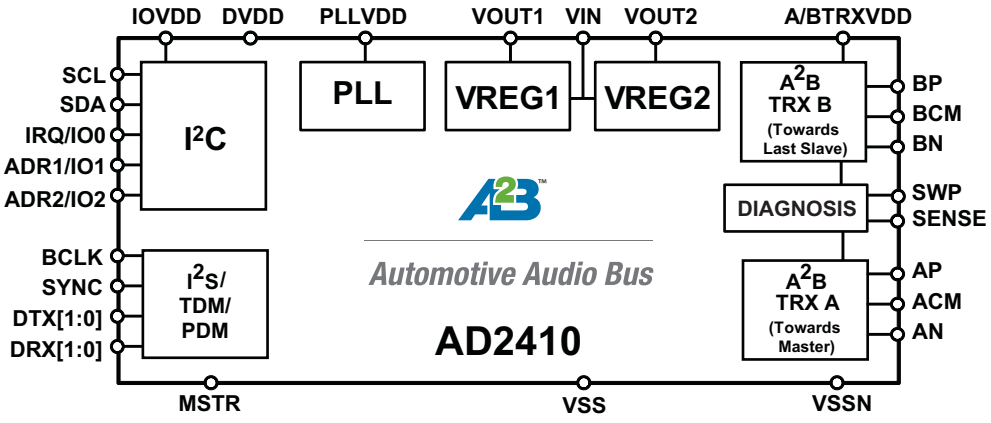

Figure 1. AD2410W Block Diagram

Rev. PrA

One Technology Way, P.O. Box 9106, Norwood, MA 02062-9106 U.S.A.
Tel:781.329.4700 **www.analog.com**
Fax:781.461.3113

ORDERING GUIDE

Model[1]	Availability	Temperature Range[2, 3]	Description	Package Option
AD2410WACSZ	December 2014	–40°C to +105°C	32-Lead, Lead Frame Chip Scale Package [LFCSP_SS]	CS-32-1
EVAL-AD2410WDZ	Now		Master Evaluation Board	
EVAL-AD2410WBZ	Now		Phantom Power Slave Evaluation Board	
EVAL-AD2410WGZ	Now		Local Power Slave Evaluation board	

[1] Z = RoHS Compliant Part.
[2] Referenced temperature is ambient temperature. The ambient temperature is not a specification.
[3] Full temperature range not tested or guaranteed for ENG grade product.

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ANALOG DEVICES

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