

A²B Bus Monitor Application



Key Features

A²B Bus Monitor Application

- Real-time capture of A²B bus data
- A²B superframe decoding
- Track Node Initialization
- View Node Topology
- Monitor I2C data
- Monitor GPIO signaling
- Monitor Interrupt events
- Monitor I2S/TDM audio data
 - up to 14 channels upstream
 - up to 14 channels downstream
- A²B error decoding
- Live upstream and downstream audio levels
- Play multi-channel live audio simultaneously
- Export multi-channel audio to WAV

Web interface

- No software installation required
- Windows, Linux, and Mac OS X
- Works on tablets and mobile devices

Built on Promira Serial Platform

- Easy software upgrades
- Product extensibility
- Ethernet/USB connectivity
- Remotely accessible

API

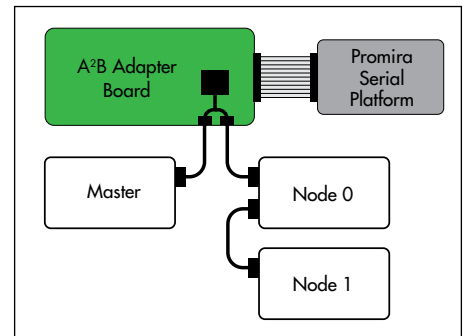
- Web socket API for platform/language agnostic integration
- Easy integration into test and validation systems

Quality

- REACH, RoHS, China RoHS
- Manufacturing: ISO 9001, ISO 13485, AS9100C
- One-year warranty

Automotive Audio Bus (A²B) from Analog Devices, enables the next generation of high-fidelity audio applications in the fast changing automotive industry. A²B provides a two-wire interface to carry audio and control data through a multi-source/sink audio system that reduces wiring complexity and overall vehicle weight while enabling next generation features, like active noise cancellation and in-vehicle voice recognition from any seat.

Total Phase's A²B Bus Monitor Application provides unprecedented access to the A²B system. By attaching the A²B Adapter Board in-line between A²B nodes, the A²B monitor can non-intrusively sniff A²B data on the line, giving users a real-time view into A²B traffic on the bus. A²B superframes are decoded and disassembled into I2S/TDM audio data and I2C control data for easy debugging. Additionally, full reporting on Interrupts and GPIO handshakes are correlated into the data capture.



The A²B Bus Monitor attached in-line between the Master Node and Node 0

The A²B Bus Monitor Application provides multiple ways of viewing the A²B data. Besides the traditional Bus Data view, the application also offers a Node Topology view and an Audio Channels view. The Node Topology view allows quick visualization of all nodes on the A²B bus. Users can display and export all node configuration settings to validate node initialization.

The Audio Channels view allows users to diagnose audio channel problems. Real-time audio levels for all upstream and/or downstream channels are displayed and audio for multiple upstream or downstream channels can be mixed and monitored simultaneously to quickly identify I2S/TDM data slot mismatch problems. Audio data can be exported to a file for further analysis using third-party audio analysis software.

The A²B Bus Monitor Application requires the Promira[®] Serial Platform, taking advantage of its high performance serial data communications over USB or Ethernet. Data capture and analysis happens on the device, which allows for real-time analysis or remote data capture for later review. The A²B Bus Monitor Application is a compact solution excellent for bench top prototyping and in-vehicle field testing.

A²B Bus Monitor Application

Features

Systems Debug and Validation

System level testing and validation can be challenging due to the many different components in an A²B system. With numerous potential failure points, it is important to get as much visibility into the A²B system as possible. The A²B Bus Monitor Application provides transparency into the inner workings of the A²B system. Thanks to its simple yet powerful interface that allows users to quickly inspect and monitor A²B data and node configuration. Developers can quickly identify and drill-down into problem areas debugging and validating A²B subsystems to ensure that they behave as expected.

interface. Users can quickly ensure that all expected nodes are on the Bus and can verify latency, data slot configurations and more. Quick filter buttons provide an easy way to see all changes to specific data registers in the Bus Data view.

Interrupts and GPIO Handshakes

Monitor GPIO states and Interrupt events on the A²B bus. Debug these control signals and correlate them with bus data traffic. Determine when a node asserts an interrupt to debug master operation.



Bus Data View



Node Topology View



Audio Channels View

A²B Bus Data

Monitor and decode A²B bus data, including GPIO and Interrupt events. Inspect timing between events to validate proper interoperability between subsystems. The entire discovery and initialization process can be captured for analysis. Data can be filtered in real-time to find specific data of interest. All the data can be exported for future analysis in other software systems.

A²B Node Topology

Debug A²B discovery and initialization problems easily with the A²B Node Topology view. All configuration registers for discovered nodes can be viewed in a simple

Monitor Audio Channels

See instantaneous audio levels across all upstream and downstream audio channels simultaneously. Quickly debug audio slot alignment problems. Listen to and export audio data from multiple channels simultaneously via the web interface. Audio data can be streamed to disk for long session captures by using the API.

Digital Audio Output

The A²B Adapter Board outputs the upstream and downstream I2S/TDM audio data via hardware interfaces that can be sent to hardware-based audio analyzers.

Specifications

Hardware

Package Includes

- (1) A²B Bus Monitor Application
- (1) A²B Adapter Board
- (1) 34-pin to 34-pin cable – 40 mm
- (2) A²B Cable: Mini50 to tinned ends – 1 m

Requirements

- Promira Serial Platform

Dimensions (W x L x D)

- 122 x 96 x 20 mm
(4.80 x 3.78 x 0.79 in)

Weight

- 65 g (2.3 oz)

Operating Temperature

- 10°–35° C (50°–95° F)

Ordering information

Product	Part Number
A ² B Bus Monitor Application	TP604010
A ² B Adapter Board	TP504010
Related Products	
A ² B Cable: Mini50 to tinned ends – 1 m	TP510810
A ² B Cable: Mini50 to DuraClik – 1 m	TP510910
A ² B Adapter Board Enclosure	TP512610
Country of Origin:	USA
HTS:	8543200000
ECCN:	EAR99

