

## ARINC 429 Simulator and Analyzer

### Overview

The AXI429 module is designed for testing, simulation and monitoring of ARINC429 data buses, and provides up to 32 configurable ARINC429 transmit and receive channels on a single C-sized VXI module.

### Transmit Operation

For transmitter channels the AXI429 operates autonomously to provide powerful bus traffic simulation, supporting multiple modes of transmission sequencing. Unique features include, 'LoopMode' operation, where a transmitter channel is driven from ARINC429 receiver input data. File transfer protocols are handled on-board. Complex simulation scenarios can be loaded and autonomously executed on board.

- **Two Priority Cyclic and Acyclic Label Transmissions**
- **Indexed Multi-buffer Operation**
- **Error Injection: Gap, Bit Count, Coding and Parity**
- **Software Programmable High or Low Bit Rates**

### Receive Operation

For receiver channels the AXI429 module provides powerful bus monitoring and analyzer functions for each receiver channel with unique on-board error detection, triggering and filtering capabilities. Received labels can be sorted by Label Number and SDI stored in individual or common variable length indexed data buffers.

- **Full Error Detection: Gap, Bit count, Coding and Parity**
- **Trigger and Filter Functions:**
  - Range Checking
  - Errors
  - Label Contents and Sequence
  - Label/Data Selective Filter
  - External Trigger Strobe Input

### Physical Bus Interface

- **Line receiver or opto-couplers for the receive channels**
- **Rise and fall time transmit signals are switchable to adapt to the transmit frequency.**



## Features

Single-slot VXIbus Module

8, 16, or 32 ARINC429 Channels

Three On-board 32-bit RISC Processors

Up to 4 MB of Memory

All Channels Operate Concurrently at Full Performance

Full ARINC 429 Error Injection/ Detection Capabilities

Receiver Functions Include Powerful Monitor, Analyzer, Error Detection, Triggering and Filtering Capabilities

Ideal for Interfacing the VXIbus to Other Peripherals

Easy SCPI Software Setup and Control

Distributed Product. These Products are manufactured and supported by other leading suppliers

## ARINC 429 Simulator and Analyzer

### Specifications

- C-sized VXIbus Slave, Register-based Device
- Three on-board MIPS RISC processors with 150 MHz, one of them used as an application support processor with IEEE floating point unit, RS-232 link
- Up to 4 MB 32-bit wide static RAM, shared between VXIbus and on-board processors
- Up to 32 encoders and/or decoders
- Decoder with parity checker, error detection and timer
- Encoder with parity generator and error injection capabilities
- Programmable for high speed 100 kb/s or low speed 12.5 bit/s
- 32-bit wide time tag counter with a resolution of 10  $\mu$ s

**Transmitter Amplitude:** Programmable bus signal amplitude of approximately 0 V to 11 V.

**Connectors:** Front panel female D-Sub connector for serial bus signals, trigger inputs/outputs and RS-232 link.

### Ordering Information

AXI429-8	8-channel ARINC 429
AXI429-16	16-channel ARINC 429
AXI429-32	32-channel ARINC 429

AXI429