AXM429-32

Advanced 32 Channel ARINC429 Simulation & Monitor Module for the VXIbus

General Features

The AXM429-32 module is a next generation »C-sized« VXIbus module for the testing, simulation and monitoring of ARINC429 databuses. The AXM429-32 provides up to 32 configurable ARINC429 transmit & receive channels on a single »C-sized« VXI module.

- Three on board 32-bit RISC processors
- up to 4 MBytes of memory
- Complete »Instrument on a Card« for 8, 16 or 32 ARINC429 Channels
- All functions on the 32 two channels operate concurrently at full performance levels.
- Full ARINC429 error injection/detection capabilities.
- Receiver functions include powerful monitor, analyser, error detection, triggering and filtering capabilities.

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RIGHT ON TARGET

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TRANSMIT OPERATION

For transmitter channels the AXM429-32 operates autonomously to provide powerful bus traffic simulation, supporting multiple modes of transmission sequencing. Unique features include ‚Loop Mode' 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 & Acyclic Label Transmission
- Indexed Multi-Buffer Operation
- Error Injection: Gap, Bit Count, Coding & Parity
- Software Programmable High or Low Bit Rates

RECEIVER OPERATION

For receiver channels the AXM429-32 module provides powerful bus monitoring and analyser functions for each receiver channel with unique on board error detection, triggering and filtering capabilities. Received labels can be sorted by Label- Number or Label-Number and SDI stored in individual or common variable length indexed data buffers.

- Full Error Detection: Gap, Bitcount, 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 Receiver Channels
- Rise & Fall time transmit signals are switchable to adapt to the transmit frequency.

DRIVER SOFTWARE SUPPORT

The AXM429-32 module is offered with a comprehensive software driver package implemented in the ‚C' language. A VXI Plug & Play Driver is in development.

TECHNICAL DATA

- ‚C sized' VXIbus Slave, Register based Device.
- 3 on-board MIPS-R3081 RISC processors with 40MHz clock. One of them used as Application Support Processor with IEEE floating point unit, RS232 link and optional ETHERNET interface.
- up to 4 MByte 32-bit wide static RAM, shared between VXIbus and on-board processors.
- up to 32 encoder and/or decoders.
- Decoder with parity checker, error detection and timer
- Encoder with parity generator and error injection capabilities.
- Programmable for High Speed 100kbits/s or Low Speed 12.5bit/s
- 32-bit wide time tag counter with a resolution of 10µs
- Transmitter Amplitude:Programmable bus signal amplitude of appr. 0...11 V.
- Connectors:
  - 2 x 96 pin — back plane connectors.
  - 2 x 50 pin — Front panel female D-Sub Connector for serial bus signals, trigger inputs/outputs & RS232 link.
  - 1 x 8 pin — FCC68 Type connector for ETHERNET AUI.
- Power Supply &Consumption: +5V & +/-12V / typical 30 Watts (32 channels)
- Temperature Range: 0 .. +45 °C ambient

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