Avionics PXI Interface Modules
MIL-STD-1533 and ARINC 429/664

Avionics interface modules from Avionics Interface Technologies, offered through Keysight, enable connectivity between PXI test system solution to DUTs with aviation industry standard buses. These modules are capable of simulation, monitoring, record and play back of bus traffic enabling test and verification of avionics equipment data communication capabilities. The available interface modules support industry standard avionics-based buses such as MIL-STD 1553, ARINC 429, and ARINC 664p7, and Fibre Channel.

Table of Contents

Flight Simulyzer™ Software

Whether you're searching captured bus data for errors, defining and executing complex Bus Controller schedules, or enabling multiple RTs for simulation, you'll have no need to spend hours reading manuals. Flight Simulyzer™ uses today's common XML configuration and GUI technologies to provide intuitive operations. Information and specifications courtesy of AIT.

Features

- Bus Monitor Captures & Recordings
- Simulate Bus Controller and Remote Terminals (up to 31)
- Operate Multiple Bus Channels (and MIL-STD-1553 Modules) Simultaneously
- Replay Previously Captured Bus Data
- Full Error Injection & Detection
- MIL-STD-1553 A/B Mode Code operations
- Supports ARINC 429 and ARINC 664 operations.

M3406A PXI Interface Module, AIT MIL-STD 1553

The PXI-C1553 module is a member of AIT's family of MIL-STD-1553 test and simulation modules. This module is a 3U PXI Hybrid Slot compatible instrument designed to support testing, simulations, monitoring, and analysis of MIL-STD-1553 data buses.

The PXI-C1553 module is capable of simultaneously simulating a MIL-STD-1553 Bus Controller (BC), up to 31 Remote Terminals (RT), and a Chronological Bus Monitor (BM) on each channel. Single, dual, and quad channel options are available. The PXI-C1553 provides full error injection and detection capabilities in support of AS4112/AS4111 testing.

Select options for M3406A PXI interface module

Step 1: Select number of channels and functionality for PXI Interface Module, AIT MIL-STD 1553

Part Number	Description	Simultaneous Bus Controller, Remote Terminal, and Bus Monitor Operation	Individual Bus Controller, Remote Terminal, and Bus Monitor Operation
M3406-F01	1 channel, full function	Yes	Yes
M3406-F02	2 channel, full function	Yes	Yes
M3406-F04	4 channel, full function	Yes	Yes
M3406-S01	1 channel, single function	No	Yes
M3406-S02	2 channel, single function	No	Yes
M3406-S04	4 channel, single function	No	Yes

Step 2: Add Flight Simulyzer™ for AIT MIL-STD 1553 application (optional)

Part Number	Description
M3606A-1FP	Flight Simulyzer™ for AIT MIL-STD 1553 application, fixed perpetual license

Step 3: Add cable for AIT MIL_STD 1553 interface modules (optional)
Y1143A Cable already included with M3406A-F04, 4 channel module. For IRIG, DIO, and VIO capabilities on one- and two-channel modules, order Y1143A cable below

Part Number	Description
Y1143A	Cable, with DSUB connector for access to IRIG, DIO, and VIO signals, for AIT MIL-STD 1553 interface modules

Features

Interface to the LRU in avionics test solution

Up to a four channel MIL-STD-1553 bus interface with full error injection and detection

Concurrent Bus Controller, multiple Remote Terminals (31), and Bus Monitor operation capabilities

Data capture filtering, 100% bus recording, and physical bus replay

Variable output voltage signal and software selectable bus coupling modes

10 high voltage (up to 30 V) programmable DIO lines

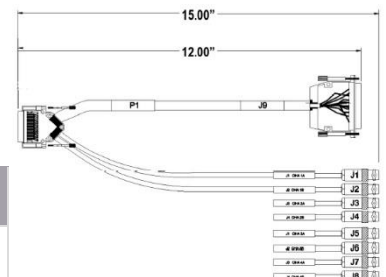PXI trigger generation on 1553 bus events

Figure 1. 1553 4-Channel Cable

M3407A PXI Interface Module, AIT ARINC 429

The PXI-C429 module is a member of AIT's family of ARINC 429 test and simulation modules. This module is a 3U PXI Hybrid Slot compatible instrument that is designed to enable monitoring, analysis, simulation, and testing of ARINC 429 data channels. The PXI-C429 module supports up to 32 fully programmable (as inputs or outputs) ARINC 429 channels. The PXI-C429 provides full error injection and detection capabilities. Information and specifications courtesy of AIT.

Select options for M3407A PXI interface module

Step 1: Select number of channels and functionality for PXI Interface Module, AIT ARINC 429

Part Number	Description
M3407-004	PXI Interface Module, AIT ARINC 429, 4 channels
M3407-008	PXI Interface Module, AIT ARINC 429, 8 channels
M3407-016	PXI Interface Module, AIT ARINC 429, 16 channels
M3407-032	PXI Interface Module, AIT ARINC 429, 32 channels

Step 2: Add Flight Simulyzer™ for AIT ARINC 429 application (optional)

Part Number	Description
M3607A-1FP	Flight Simulyzer™ for AIT ARINC 429 application, fixed perpetual license

Step 3: Add cable for AIT ARINC 429 interface modules (optional)

Part Number	Description
Y1144A	Cable, VHDCI to one DB37 cable for AIT 4 channel ARINC 429 modules, 1 meter
Y1145A	Cable, VHDCI to one DB37 cable for AIT 8 channel ARINC 429 modules, 1 meter
Y1146A	Cable, VHDCI to one DB37 cable for AIT 16 channel ARINC 429 modules, 1 meter
Y1147A	Cable, VHDCI to one DB37 cable for AIT 32 channel ARINC 429 modules, 1 meter

Features

Interface to the LRU in avionics test solution

4, 8, 16, or 32 software programmable Tx/Rx channels with full error injection/ detection

Programmable high/low speed operation

Real-time recording and post analysis of multiple channels

Concurrent operation of all Tx/ Rx channels

PXI triggers, star trigger, and PXI 10 MHz clock

Related Literature

For more detailed product and specification information refer to the following literature and web pages:

Publication title	Publication number
PXIe Chassis Spec Guide	M9019-90015
PC Tested Configurations with PXIe Chassis Technical Overview	5990-7632EN
M9037A PXIe Embedded Controller Spec Guide	M9037-90015
Interface Modules and Adapters for PXIe Systems	5992-0377EN
M8920A PXIe Radio Test Set Technical Overview	5992-2821EN

Additional Information

Product webpages:
www.keysight.com/find/PXI
www.keysight.com/find/M8920A

http://info.aviftech.com/pxi-429
http://info.aviftech.com/pxi-1553

Flight Simulyzer™ is a trademark owned by
Avionics Interface Technologies, A Division of Teradyne
and licensed to Keysight Technologies, Inc

Learn more at: www.keysight.com

For more information on Keysight Technologies' products, applications or services, please contact your local Keysight office. The complete list is available at:
www.keysight.com/find/contactus

KEYSIGHT
TECHNOLOGIES