

new product



APM-FDX-2

PC-Card for
AFDX/ARINC664
Test & Simulation



Key Features:

- Robust and Low Power PC-Card (PCMCIA, Type II)
- Hot plug capability
- Two full duplex AFDX / ARINC664 ports configurable to one dual-redundant AFDX / ARINC664 port
- Programmable Ports - Traffic Simulator and Receiver / Monitor Concurrently
- Full Error Injection / Detection Capability
- Multi Level Triggering for Capturing / Filtering
- Real Time Recording and Synchronised Bus Replay
- On Board Time Tagging
- Drivers for Windows XP, Linux
- Powerful **fdXplorer** / **ParaView** Network Analyser / Visualiser Software for Windows and new **PBA.pro** for Windows / Linux
- Compatible with AIM's **EasyLOAD-615A** Dataloader software for Windows
- Software compatible with AIM's family of PMC, PCI, CompactPCI, VME and VXI AFDX / ARINC664 Cards

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General Features

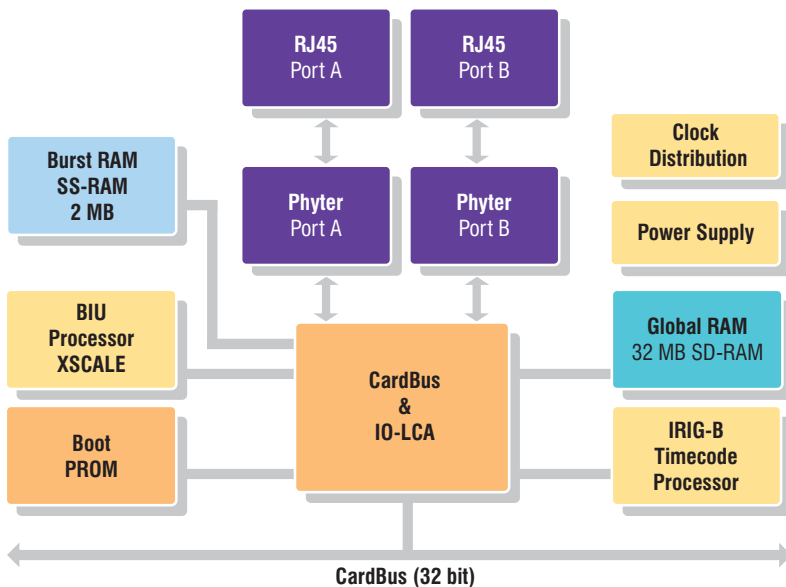
The APM-FDX-2 is AIM's new PC-Card module offering full function test, simulation, monitoring and analyser functions for AFDX / ARINC664 (Avionics Full Duplex Switched Ethernet) networks. It's unique on board processing capability, memory resources powerful and customised AFDX/ARINC664 MACs gives AFDX/ARINC664 users features for demanding AFDX/ARINC664 applications.

The APM-FDX-2 PC-Card module provides two AFDX/ARINC664 ports being configured as two single or one dual redundant ports each implementing a 10/100Mbit Full Duplex Ethernet interface. Ports can operate concurrently in Traffic Simulator and Receiver/ Monitor modes with support for AFDX/ARINC664 port related Frame Statistics. Virtual Link (VL) packet capturing and monitoring features are complimented with powerful triggering and filtering capabilities. The APM-FDX-2 uses AIM's field proven 'Common Core' hardware design utilising an advanced RISC processor acting as Bus Interface Unit processor. The vast memory resources on board allow to implement large receive buffers and Complex Transmit scenarios on-board. An AFDX/ARINC664 specific Physical Bus Interface implements two full duplex ports for connection to AFDX/ARINC664 networks.

A common programming application interface (API) supports all AIM AFDX / ARINC664 modules.

Avionics Databus Solutions

PHYSICAL I/O INTERFACE



APM-FDX-2 Block Diagram



Traffic Generation

- Programmable Timing & Sequencing of Frames
- Physical Error Injection - CRC, Gap, Size, Alignment
- Logical Error Injection on Layers 2, 3, 4
- Timing Error Injection - Violation of Bandwidth Allocation Gap (BAG)
- UDP Port Simulation with Traffic Shaping & Sequence Numbering
- Support for sampling and queuing ports

UDP/VL Receive Mode

- VL oriented Filtering
- Second Level Filtering on Generic Frame Parameter
- Time Stamping of Received Packets with extended IRIG-B time code (1 μ s)
- Physical Error detection, Frame Level - CRC, Gap, Size and Alignment
- AFDX/ARINC664 Specific Error Detection
- Traffic Shaping Verification
- Verification of MAC, IP and UDP Headers
- VL oriented Integrity Checking

Chronological Receive Mode

(Monitor Mode)

- VL Orientated Receive and Filtering
- Second level filtering on Generic Frame Parameters
- Chronological Monitor with Time Stamping to 1 μ s
- Massive on-board Monitor Buffer
- Inter frame Gap time measurements with 40 nsec resolution
- Comprehensive Triggering / Filtering / Capturing
- Programmable Data Capture Modes - Trace after Trigger & Recording
- Physical Error Detection - CRC, Gap, Size and Alignment
- AFDX / ARINC664 Specific Error Detection

AIM Office Contacts:

AIM GmbH

Sasbacher Str.2
79111 Freiburg
Germany

Tel: +49 761 45 22 90
Fax: +49 761 45 22 93 3
email: sales@aim-online.com

AIM GmbH

Vertriebsbüro München
Terofalstrasse 23 a
80689 München
Germany

Tel: +49 89 70 92 92 92
Fax: +49 89 70 92 92 94
email: salesgermany@aim-online.com

Driver Software Support

The APM-FDX-2 module is supplied with an Application Programming Interface (API) and Drivers compatible with Windows XP, Linux and LabVIEW/VI's/ LabWIN/CVI's.

Technical Data

CardBus Interface:	32bit / 33MHz PC-Card Standard (release 8.0)
Processor:	32-bit, 600MHz RISC Processor
Memory:	32 MBytes Global RAM 2 MBytes Fast Tx/Rx Buffer RAM
Encoder/Decoder:	Two AFDX/ARINC664 specific Ethernet MAC's
Time Tagging:	46 bit absolute Time Tagging with 1 usec resolution in IRIG-B format
Physical Bus Interface:	Two full duplex AFDX/ARINC664 ports configurable to one dual-redundant AFDX/ARINC664 port
Connector:	2 x 8 way RJ45 connectors, one per AFDX / ARINC664 port
Dimensions:	PC-Card Standard Type II (85.6 x 54.0mm) + Extension (46.5 x 49.5mm)
Supply Voltage:	+3.3V PC Standard
Power Dissipation:	3.0 Watts typical
Operating Temp. Range:	Standard 0°C... + 50°C ambient Extended -15°C... +60°C
Storage Temp. Range:	-40°C... +85°C
Humidity:	5 up to 95% (non-condensing)

Ordering Information

APM-FDX-2

Two Port, PC-Card (PCMCIA, Type II) to AFDX/ARINC664 Interface

APM-FDX-2B

Two Port, PC-Card (PCMCIA, Type II) to AFDX/ARINC664 Interface

(Includes Boeing B787 Specific Extensions)

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AIM UK

Cressex Enterprise Centre
Lincoln Road
High Wycombe
Bucks, HP12 3RB

UK
Tel: +44 1494 446844
Fax: +44 1494 449324
email: salesuk@aim-online.com

UNITRONIX Pty Ltd

PO Box 486, Morisset NSW 2264
NSW: Tel: 61 2 4977 3511 Fax: 61 2 4977 3522
WA: Tel: 61 8 9455 2424 Fax: 61 8 9455 2458
unitsyd@unitronix.com.au www.unitronix.com.au

USA
Tel: 267-982-2600
Toll Free: 877-520-1553
Fax: 215-645-1580
email: salesusa@aim-online.com