

APM1553



PC-Card for
MIL-STD-1553
Test & Simulation



Perform MIL-STD-1553 testing in your laptop!

General Features

The APM1553 PC-Card offers full function Test, Simulation, Monitoring & Recording for MIL-STD-1553A/B applications on a single PC-Card (PCMCIA Type II). The APM1553 cards concurrently act as the Bus Controller, Multiple Remote Terminals (31) and Chronological Bus Monitor/ Mailbox Monitor.

An on board IRIG-B time encoder/ decoder allows users to accurately synchronise single or multiple APM1553 cards to a common time source. The APM1553 uses a field proven common core hardware design utilising a powerful RISC processor. The APM1553 offers both Transformer and Direct Coupling to the databus.

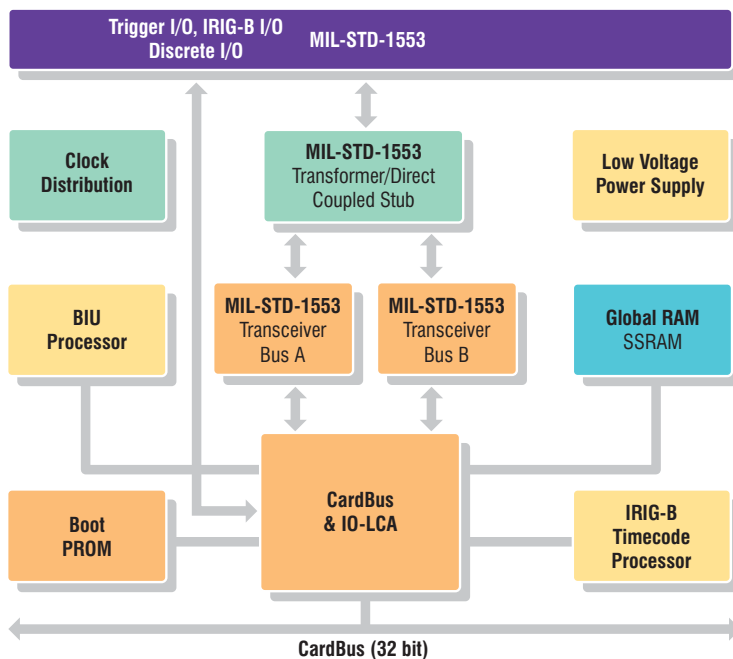
APM1553 cards operate with the optional **PBA.pro™** Databus Test & Analysis Tool (for Windows & Linux) and **PBA-2000/ParaView** Databus Analyser/ Visualiser Software (for Windows). A common Application Programming Interface (API) supports all AIM MIL-STD-1553 modules.

Avionics Databus Solutions

Key Features:

- Robust and Low Power PC-Card (PCMCIA, Type II) for MIL-STD-1553
- Hot plug capability
- Ruggedized (screw-locked type) SCSI-III connector
- Single Stream, Dual Redundant Implementation
- Concurrent Bus Controller, 31 Remote Terminals and Bus Monitor
- Full Error Injection/ Detection Capability
- Multi Level Triggering for Capturing/ Filtering
- IRIG-B Time Encoder/ Decoder for Data Correlation
- Real Time Recording and Physical Bus Replay at 100% Bus Loads
- 8 General Purpose Discrete I/O signals
- Drivers for Windows 2000/XP/Vista, Linux, LabVIEW/VI's & LabWIN/CVI's included
- Operate with powerful **PBA.pro™** Databus Test & Analysis Tool and **PBA-2000/ParaView** Databus Analyser/ Visualiser Software
- Software compatible with AIM's family of PMC PCI/ PCI-X, CompactPCI, PXI, VME and VXI MIL-STD-1553 Cards

PHYSICAL I/O INTERFACE



APM1553 Block diagram



Bus Controller Features

- Autonomous Operation including sequencing of Minor/ Major Frames
- Support for acyclic message insertion/ deletion
- Programmable BC Retry without host interaction
- Full Error Injection down to word and bit level (AS4112 Compliant)
- Multi-Buffering with Real Time Data Buffer Updates
- Synchronisation of BC operation to external trigger inputs
- 4µs Intermessage Gaps

Multiple Remote Terminal Features

- Programmable RT Response Time down to 4µs for each simulated RT
- Programmable & Intelligent Response to Mode Codes
- Full Error Injection down to word and bit level (AS4112 Compliant)
- Multi-Buffering with Real Time Data Buffer Updates
- Mailbox Monitor Mode

Chronological Bus Monitor

- 100% Data Capture at full bus rates
- Autonomous message synchronisation and Full Error Detection
- Two Static/ Dynamic Complex Triggers with sequencing
- Message Filter and Selective Capture
- Bus Activity recording independent from trigger and capture mode
- Time Tagging:
 - All Bus Traffic to 1µs
 - Intermessage Gaps & Response time to 250ns
- External Trigger Outputs
- Programmable Response Time Out

Physical Bus Interface

- Transformer Coupling • Direct Coupling

Physical Bus Replay

- Electrically reconstruct previously recorded MIL-STD-1553A/B databus traffic
- Disable any or all RT responses from the recorded files

IRIG-B Time Encoder/ Decoder

- On board IRIG-B time encoder/ decoder synchronises bus traffic from multiple APM1553 cards
- Synchronise to an external IRIG-B time source

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Discrete I/O

- 8 General Purpose Discrete I/O signals

Driver Software Support

- Common Application Programming Interface (API)
- Drivers for Windows 2000/XP/Vista, Linux, LabVIEW/VI's & LabWIN/CVI's

Technical Data

CardBus Interface:	32bit/ 33MHz PC-Card Standard (release 8.0)
Memory:	1MB Global RAM (expandable)
Processor:	One 400MHz RISC Processor
Encoder/ Decoder:	One MIL-STD-1553A/B Encoder/ Decoder with full Error Injection/ Detection
Time Tagging:	46bit absolute IRIG-B Time
Discrete I/O:	8 General Purpose Discrete I/O signals
Physical Bus Interface:	MIL-STD-1553B Trapezoidal Transceivers Direct or Transformer coupled
Connector:	SCSI-III (screw-locked), 68-pin
Dimensions:	PC-Card Standard Type II (85.6 x 54.0mm)
Supply Voltage:	+3.3V PC Standard
Power Consumption:	3.0W 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

APM1553

Single Stream, Dual Redundant PC-Card to MIL-STD-1553A/B Interface: BC, Multi RT Simulator with Mailbox & Chronological Monitor; IRIG-B Time Encoder/ Decoder and 8 General Purpose Discrete I/O's

Simulator Only version available

BC, Multi RT Simulator with Mailbox Monitor

Single Function version available

Chronological Monitor & Mailbox Monitor OR Bus Controller OR Multi RT & Mailbox Monitor

ACB-M-N-T

Cable (2.0m) with 2x Twinax Connectors PL-75 for MIL-STD-1553 Bus, Transformer Coupled

ACB-M-C-T

Cable (2.0m) with 2x Twinax Connectors PL-75 for MIL-STD-1553 Bus, Transformer Coupled, Case Inverted Shell

ACB-M-F-T

Cable (2.0m) with 2x Twinax Connectors PL-75 for MIL-STD-1553 Bus, Transformer Coupled and 25-pin D-Sub Connector for Trigger I/O, IRIG-B, Discretes

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