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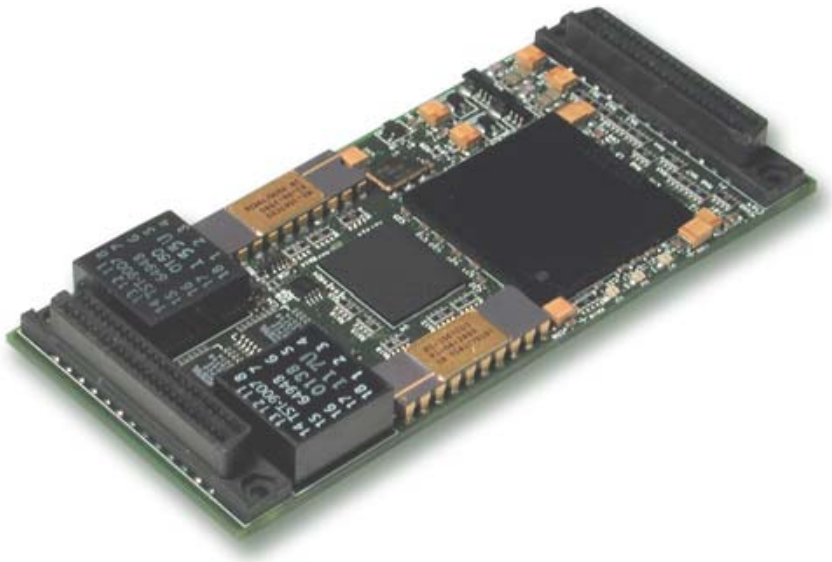
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MIL-STD-1553 High density IP Module IP-D1553

Features

1 or 2 Independent MIL-STD-1553 Channels

- **Multi-function Features**
  - Simultaneous Bus Controller, 31 Remote Terminals and Bus Monitor
- **Single-function Features**
  - Bus Controller or 31 Remote Terminals or Bus Monitor
- **Bus Controller - BC**
  - BC->RT, RT->BC, RT->RT
  - Mode Codes, Broadcast and single-shot messaging
  - Programmable time delays
  - Major/Minor frames
  - Real-time conditional branching
  - Two aperiodic messaging methods
- **Remote Terminal - RT**
  - RT data wrapping
  - Multiple RT buffers
  - Dynamic Bus Control
  - Automatic Mode Code and Status Bit responses
  - Programmable response time
  - RT Map Monitoring
- **Bus Monitor - BM**
  - Full error detection
  - Multiple monitoring methods
  - 45-bit time-tagging
  - Adv. interrupts and triggers
- **Architecture**
  - BC & RT error injection/detection
  - DYNAMIC architecture
  - BC & RT link list structures
  - 1 Mbyte RAM per channel
  - Environmental options
- **Software Support**
  - Advanced, high-level API
  - Source code included
  - *BusTools* Analyzer optional



The Condor Engineering IP-D1553 takes MIL-STD-1553A/B technology to a new level on a single-wide IP Module. It is available in commercial or extended temperature configurations with either one or two dual-redundant, single or multi-function interfacees.

The IP-D1553 includes advanced API (Application Programming Interface) software that reduces application development time. Standard features include 1 Mbyte of RAM per channel, 45-bit message time-tagging, triggers, extensive BC & RT link-list structures, error detection/insertion, automatic/manual RT Status Bit and Mode Code responses, along with advanced BC functionality. An IRIG B signal Receiver/Generator is optional. With a high speed encoder/decoder, the IP-D1553 Bus Monitor provides unparalleled error detection and 100% monitoring of fully loaded buses.

Multi-function Interfaces

IP-D1553 multi-function interfaces are easily configured to operate with simultaneous Bus Controller, 31 Remote Terminals and Bus Monitor functionality.

Single-function Interfaces

Single-function IP-D1553 interfaces have all the features and functionality of the multi-function versions, but only one major operational mode is enabled at a time. Each interface can emulate either a Bus Controller or 31 Remote Terminals or Bus Monitor.

Software

Condor provides our advanced 1553 API in source code, along with support for Windows XP, 2000, Me, NT, 98, 95, VxWorks and other operating systems (on supported carriers). To access 1553 functionality without software development, *BusTools*/1553, Condor's MIL-STD-1553 bus analysis, simulation and data logging/monitoring solution is available.

CONDOR ENGINEERING

101 W. Anapamu Street, Santa Barbara, CA 93101
Tel 805.965.8000 • Fax 805.963.9630 • www.condoreng.com

MIL-STD-1553 High Density IP Module IP-D1553

Specifications

Physical / Environmental

- Single-wide IP module (1.8" x 3.9")
- Standard operating temperature: 0°C to 70°C
- Extended operating temperature range: -40°C to 85°C

Software

- API - Source code API library provided
  - High-level API libraries for Windows XP, 2000, Me, NT, 98, 95, DOS, VxWorks on supported carriers included
- GUI - Optional *BusTools*/1553 GUI bus analyzer
- LabVIEW - Support optional

Multi-function Operational Modes

(IP-D1553-1M and -2M)

- Simultaneous BC, 31 RTs and BM

Single-function Operational Modes

(IP-D1553-1S and -2S)

- BC or 31 RTs or BM

Connections

- Transformer coupling standard
- Direct coupling optional
- Input and output triggers
- Transition cabling to 1553 cable jacks available

Integrated Solutions Available

- Half and full size PCI
- 3U and 6U CompactPCI
- 3U and 6U VME
- C-size VXI

On-board Shared RAM

- 1 Mbyte per channel

Power

- Two channels 87% loaded +5 VDC @ ~950 mA
- One channel 87% loaded +5 VDC @ ~600 mA
- Two channels idle +5 VDC @ ~250 mA

Warranty: 3 year limited hardware warranty

See our on-line Configuration Guide for a complete list of available configurations

Description

Bus Controller

- Programmable control over:
  - Major and minor frame content and timing
  - Intermessage gap times
  - Response time-out and late response
- Modify messages, data or setup while card is running
- Insert aperiodic messages into a running BC list
- "Oneshot" mode for simplified BC operation
- Conditional message sequencing based on real-time message data or status
- Selectable interrupt generation and status messages
  - Full range of system conditions
  - All detected errors
- Full error detection
  - Invalid word
  - Bit count error
  - High word
  - Low word
  - Inverted sync
  - Manchester
  - Late response
  - Early response
  - No response
  - Incorrect RT address
  - Parity error
- Extensive programmable error injection (on a per word basis)
- Synchronize BC operation to external time source

Remote Terminal

- Multiple RT simulation (up to 31 RTs)
- Programmable message content (linked message buffers)
- Modify data, status words or setup while card is running
- Programmable error injection (on a per word basis)
- Interrupts can be generated on a per message basis upon End of Message and error conditions

Bus Monitor

- Capture 100% fully loaded bus traffic with:
  - Time-tagging
  - Word status
  - RT response time
  - Error status
  - Message status
- Interrupts can be selected by RT / SA / WC
- Extensive filtering and triggering options
  - By individual RT/subaddress
  - Transmit, receive or broadcast mode codes
  - Internal or external triggering
  - Trigger output on user specified data
- Real-time bus playback with RT edit mode
- 45-bit, microsecond resolution timetagging
- IRIG/GPS synchronization

Available Configurations

Module Configurations

IP-D1553-1M	MIL-STD-1553 multi-function, single channel IP module
IP-D1553-2M	MIL-STD-1553 multi-function, two channel IP module
IP-D1553-1S	MIL-STD-1553 single-function, single channel IP module (with 31 RT support)
IP-D1553-2S	MIL-STD-1553 single-function, two channel IP module (with 31 RT support)
-W suffix	IRIG B Receiver/Generator option

A channel is a dual-redundant A/B pair

Optional Software

***BusTools*/1553**	MIL-STD-1553 Bus Analysis, Simulation & Data Logging software for Windows (multi-function boards only)
LV-1553	LabVIEW support for IP-1553

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