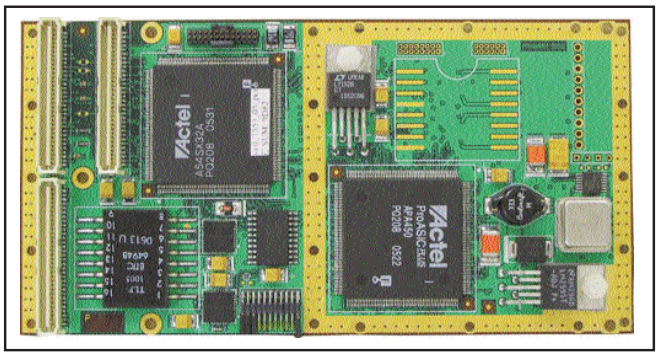
MIL-STD-1553B Adapter

The MIL-STD-1553B Adapter provides validated MIL-STD-1553B communications. They are extremely rugged, with a high MTBF and is available in the following industry standard compliant formfactors :

- PMC (IEEE Std 1386.1-2001)
- Conduction-Cooled PMC (CCPMC) (ANSI/VITA 20-2001)



MIL-STD-1553B Conduction-Cooled PMC

Architecture

The MIL-STD-1553B Adapters make use of a state-of-the-art high-speed ASIC design to minimise obsolescence problems. It employs industry standard MIL-STD-1553B transceivers and uses a validated 1553 protocol for maximum inter-operability.

The Adapters provide the functionality of either a Bus Controller (BC), Remote Terminal (RT) or a Bus Monitor (BM) on a MIL-STD-1553B data bus, with frontpanel or rear I/O options available.

Features

- Remote Terminal (RT) / Bus Controller (BC) / Bus Monitor (BM) options
- Validated MIL-STD-1553 protocol
- Comprehensive Built-In Test (BIT) and JTAG compatibility provide diagnostics that give confidence in subsystem integrity
- Transformer-coupled short or long stub coupling
- VxWorks drivers available
- Forced-air and conduction-cooled versions available
- Cost-effective

Applications

- Distributed real-time applications in harsh environments
- Mission-critical applications
- Avionics

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Specifications	
Bus Interface	32-bit, 33 MHz Electrically : PCI Rev.2.2, 3,3 V signalling (5,0 V compatible)
I/O Addresses	Automatically assigned to the slot by PCI Rev. 2.2 Plug-and-Play
Interrupt	PCI INT A
I/O Options	PMC : Frontpanel I/O, sub-miniature twinaxial connectors, 3 lug, "P" keying ("R", "W", "FL" or threaded keyring optional) CCPMC : Backplane PMC Pn4 connector
Bit Rates	1 Mbit/s, in accordance with MIL-STD-1553B
Output	- Transformer-coupled I/O - Long or short stub coupling
Power	5,0 V at 0,8 A
Software Drivers	VxWorks
Options	- Other software drivers - Can be combined with other serial I/O, e.g. RS232, RS422, RS485, CANbus, Gigabit Ethernet, Fibre Channel, etc.

Characteristics

Formfactor	Dimensions	Weight
PMC (IEEE Std 1386.1-2001)	149,00 mm x 74,00 mm, conforming to CMC height envelope	100 g ± 10 g
CCPMC (ANSI/VITA 20-2001)	143,65 mm x 74,00 mm, conforming to VITA 20 height envelope	85 g ± 10 g

Reliability

MTBF	Figures according to MIL-HDBK-217F, Parts Stress Method			
	Ground, Mobile Naval, Sheltered Airborne, Inhabited Cargo	T_j = 65 C T_j = 60 C T_j = 75 C	T_a = 45 C T_a = 40 C T_a = 75 C	20 000 hrs 28 000 hrs 21 000 hrs

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Environmental Specifications

	Commercial Grade	Industrial Grade	Ruggedised/Conduction-Cooled Grade
Temperature **- Operating** **- Storage**	0 C to +55 C -40 C to +85 C	-15 C to +75 C -40 C to +85 C	-40 C to + 85 C -55 C to +125 C
Humidity	0% - 90%	0% - 95%	0% - 95%
Shock	N/A	30 g peak for 11 ms	40 g peak for 11 ms
Vibration **- Sine** **- Random**	2 g (peak) 10 Hz to 100 Hz 0,04 g²/Hz at 15 Hz to 2 kHz	10 g (peak) 5 Hz to 2 kHz 0,1 g²/Hz at 15 Hz to 2 kHz	10 g (peak) 5 Hz to 2 kHz 0,1 g²/Hz at 15 Hz to 2 kHz

Part Selector

Part Designation	Formfactor	Grade	Attachment	Connector
CCII/1553/PMC/1/23/COM	PMC	Commercial	Dual	Sub-Miniature Twinax
CCII/1553/PMC/1/23/IND	PMC	Industrial	Dual	Sub-Miniature Twinax
CCII/1553/PMC/1/23/RGD	PMC	Ruggedised	Dual	Sub-Miniature Twinax
CCII/1553/PMC/1/BP/CC	CCPMC	Conduction-Cooled	Dual	Backplane PMC Jn4

Where :

[1] is one of RT, BC or BM, denoting Remote Terminal, Bus Controller or Bus Monitor respectively
[2] is one of P, PS, R, RS, W, WS, FL or FLS, denoting the connector keying and interface for ChannelA
[3] is one of P, PS, R, RS, W, WS, FL or FLS, denoting the connector keying and interface for ChannelB

For Example : CCII/1553/PMC/BM/PFLS/COM is a Commercial Grade PMC Bus Monitor with P keying and on ChannelA and FL keying on ChannelB, supporting transformer (long stub) coupling on ChannelA and direct (short stub) coupling on ChannelB.