VPX339

Multi-Channel, Multi-Protocol Avionics, MIL-STD-1553/ARINC429/RINC717,

VPX339

Key Features

- Comprehensive multi-protocol support
- Support for MIL-STD-1553A/B, MIL-STD-1760
- Support for ARINC 429, ARINC 575, ARINC 717, ARINC 825
- IRIG-B and IRIG-106 Chapter 10 MIL-STD-1553 MT
- Full line rate on all channels simultaneously
- Up to 8 programmable RS-232/422/485 channels
- Up to 10 Avionics/Digital discrete I/O
- 48-bit/100 ns Time Stamp
- Option for I/O to the P2 or the Front
- Health Management through dedicated Processor

Benefits

- Advanced MIL-STD-1553 technology from DDC coupled to VadaTech OpenVPX expertise
- DMA engine reduces CPU load
- Flexible implementation of numerous avionic standard protocols
- Full system supply from industry leader
- AS9100 and ISO9001 certified company

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THE POWER OF VISION

VPX339

The VPX339 is based on the Data Device Corporation (DDC), BU-67118 multi-channel, multi-protocol avionics product. It utilizes the world's most advanced MIL-STD-1553 technology. The module is low power, high MTBF, and high performance. Option to route the I/O to the front or the P2 connector.

The module can output MIL-STD-1553A/B, IRIG106, ARINC 429, CAN bus/ARINC 825 channels, discrete I/O, ARINC-717, etc.

The module has an onboard DMA engine for low CPU utilization. IRIG-106 Chapter 10, Tx inhibit, and ARINC 717 which are ideal for flight data recorders.

The module is ideal for applications such as mission-computers, displays and LRUs, digital data recorders, radar systems/situational awareness, commercial aerospace, flyable avionics/UAVs, data loading and data monitors.

Features of VPX339 are:

- Up to 4 Dual Redundant Mil-STD-1553 channels
- Supports MIL-STD-1553A/B and MIL-STD-1760
- BC disable for RT only applications
- Tx Inhibit for MT only applications
- IRIG-106 Chapter 10 MIL-STD-1553 MT
- Up to 20 Programmable Tx/Rx ARINC 429 channels
- Support ARINC 575 & many other ARINC protocols
- Full line rate on all channels simultaneously
- Tx inhibit for ARINC 429 Rx only applications
- Programmable ARINC 429 speed
- Up to 2 Programmable Tx/Rx ARINC 717 channels
- Up to 2 CAN bus 2.0/ARINC 825 channels
- Up to 8 programmable RS-232/422/485 channels
- Asynchronous communications on all channels
- Synchronous communication on up to 2 channels
- Up to 10 Avionics/Digital discrete I/O
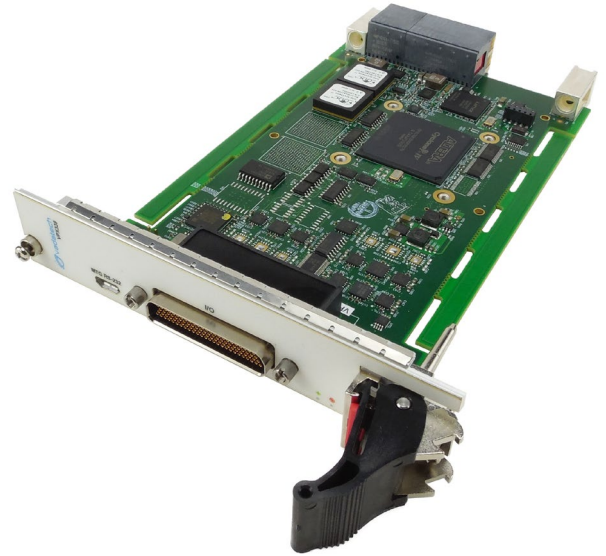- 48-bit/100 ns Time Stamp
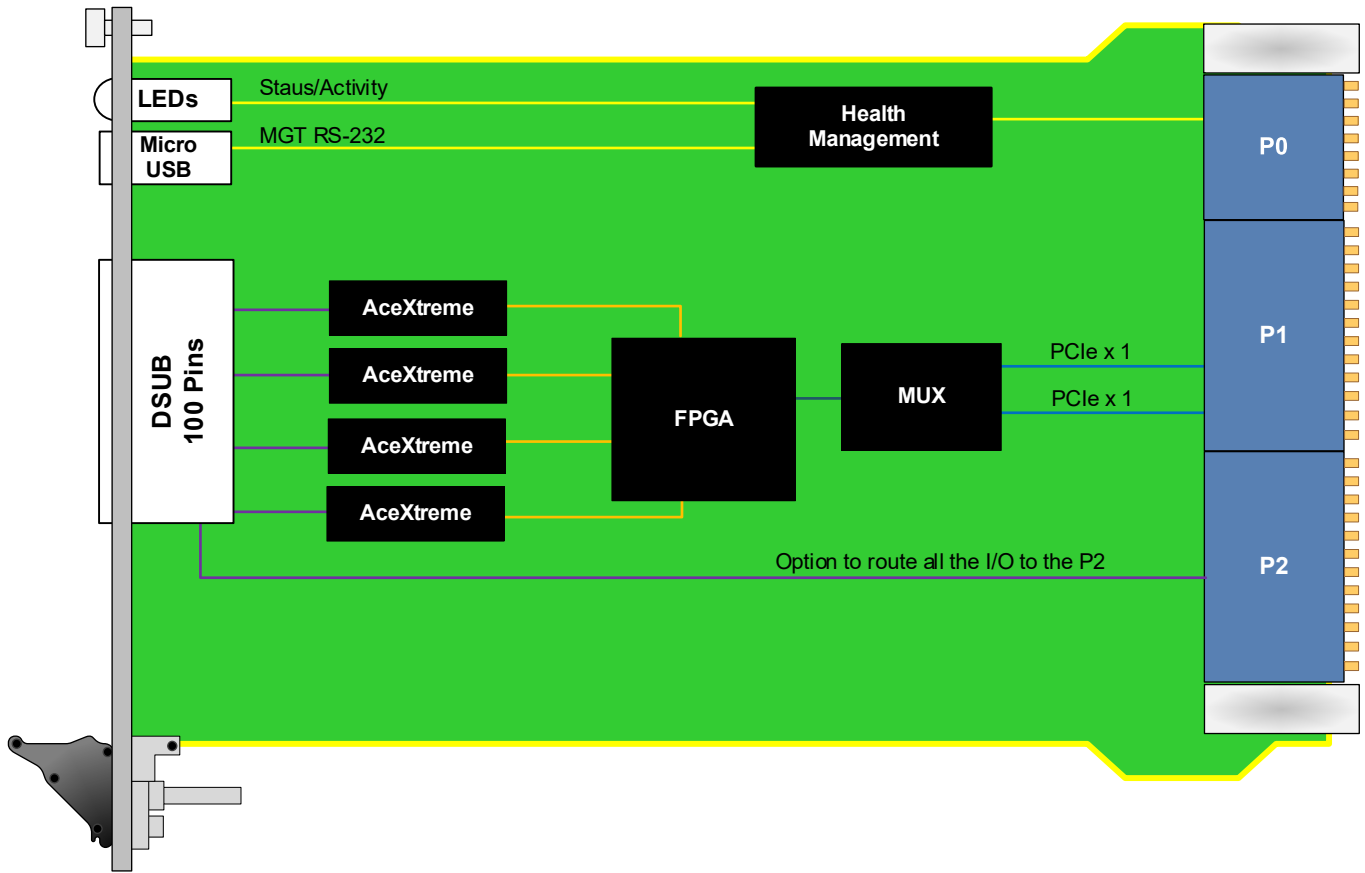- IRIG-B Input

Figure 1: VPX339

Block Diagram
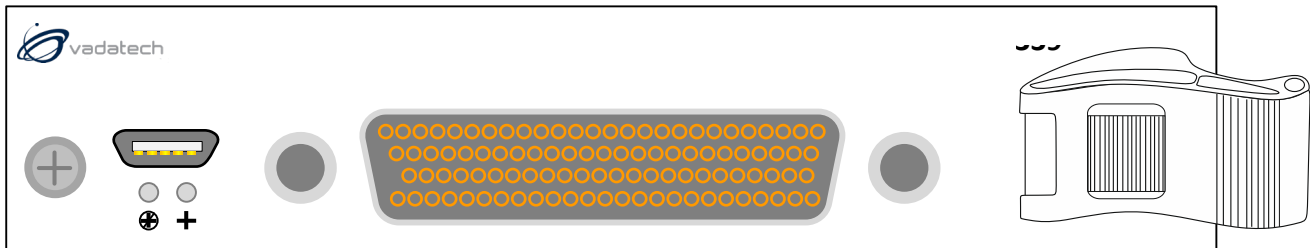

Figure 2: VPX339 Functional Block Diagram

Front Panel

Figure 3: VPX339 Front Panel

VPX339 – Multi-Channel, Multi-Protocol Avionics, MIL-STD-1553/ARINC429/ARINC717, 3U VPX

Pinout Block Diagram

P2		
1	N/C	
2		
3		
4		
5	N/C	
6		
7		
8		
9	N/C	
10		
11		
12		
13	N/C	
14		
15		
16		
Row G	N/C	

P1		
1	PCIe x 1	
2	N/C	
3		
4		
5	PCIe x 1	
6	N/C	
7		
8		
9	N/C	
10		
11		
12		
13	N/C	
14		
15		
16		
Row G	Management	
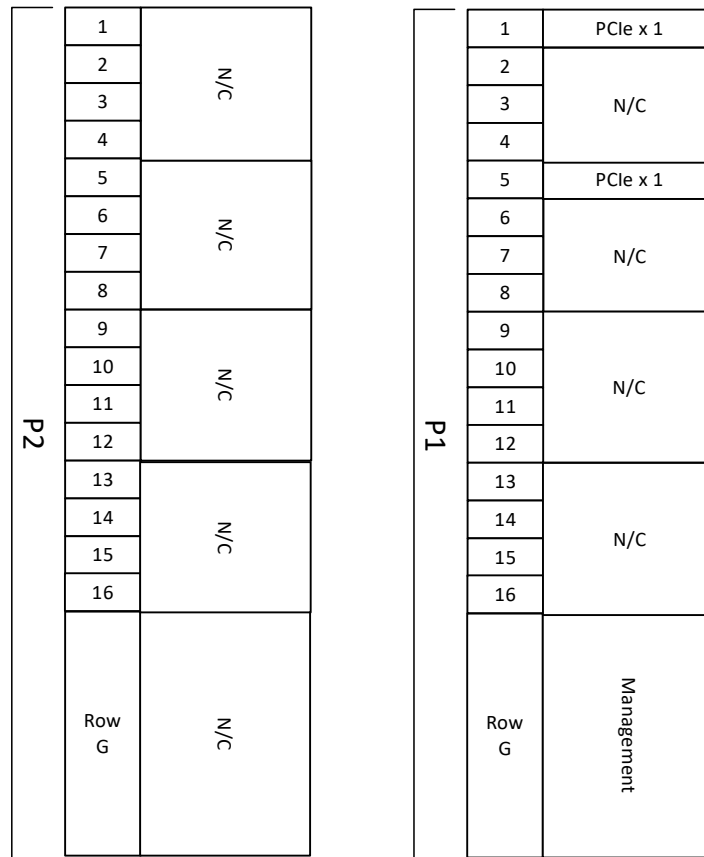
Figure 4: VPX339 Pinout Block Diagram, Option B=0

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Specifications

Architecture		
Physical	**Dimensions**	3U, 1" pitch
Type	**Multiprotocol Avionics**	MIL-STD-1553, ARINC 429, ARINC 717, Discrete and CAN bus
	Multi-Channel	4x 1553, 20x 429, 2x 717, 8x serial, 2x CAN, 10x discrete (not all combinations are valid)
		OpenVPX Health Management
Standards		
VPX	**Type**	VITA 46.x
VPX	**Type**	VITA 65 OpenVPX
Module Management	**IPMI**	IPMI v2.0
PCIe	**Lanes**	2x1
Configuration		
Power	**VPX339**	8W
Front Panel	**Interface Connectors**	100 pin Micro DSUB
	Micro USB	RS-232 from Health Management
VPX Interfaces	**Slot Profiles**	See Ordering Options
	LEDs	User defined by Health Management
Software Support	**Operating System**	Linux and Windows
Other		
MTBF	MIL Hand book 217-F@ TBD hrs	
Certifications	Designed to meet FCC, CE and UL certifications, where applicable	
Standards	VadaTech is certified to both the ISO9001:2015 and AS9100D standards	
Warranty	Two (2) years, see VadaTech Terms and Conditions	

INTEGRATION SERVICES AND APPLICATION-READY PLATFORMS

VadaTech has a full ecosystem of OpenVPX, ATCA and MTCA products including chassis platforms, shelf managers, AMC modules, Switch and Payload Boards, Rear Transition Modules (RTMs), Power Modules, and more. The company also offers integration services as well as pre-configured Application-Ready Platforms. Please contact VadaTech Sales for more information.

Ordering Options

VPX339 – ABC-000-GHJ

A = I/O Options		G = Applicable Slot Profiles and Pitch
0 = See Table 1 1 = See Table 1 2 = See Table 1 3 = See Table 1 4 = See Table 1 5 = See Table 1		0 = 5 HP IEEE1101.1 1 = 5 HP VITA48
B = I/O Routing		**H = Environmental**
0 = Front 1 = P1		See Environmental Specification
C = VPX Connector Type		**J = Conformal Coating**
0 = Standard 50u Gold Rugged 1 = KVPX Connectors		0 = No coating 1 = Humiseal 1A33 polyurethane 2 = Humiseal 1B31 acrylic

I/O Options

Table 1: I/O Description for Option A:

| Option A | 1553 (RT Boot) | Number of channels | | | | | IRIG-B Input |
		429	717	Serial (sync)	CAN bus	Discrete	
0	0	10	2	4 (1)	2	10	1
1	0	20	2	2	2	6	1
2	2 (1)	0	0	8 (2)	1	6	1
3	4 (1)	0	0	8 (2)	1	6	1
4	2 (1)	10	2	4 (1)	1	6	1
5	4 (1)	18	2	0	0	6	1

Environmental Specification

| | Air Cooled | | Conduction Cooled | | |
Option H	H = 0	H = 1	H = 2	H = 3	H = 4
Operating Temperature	AC1* (0°C to +55°C)	AC3* (-40°C to +70°C)	CC1* (0°C to +55°C)	CC3* (-40°C to +70°C)	CC4* (-40°C to +85°C)
Storage Temperature	C1* (-40°C to +85°C)	C3* (-50°C to +100°C)	C1* (-40°C to +85°C)	C3* (-50°C to +100°C)	C3* (-50°C to +100°C)
Operating Vibration	V2* (0.04 g2/Hz max)	V2* (0.04 g2/Hz max)	V3* (0.1 g2/Hz max)	V3* (0.1 g2/Hz max)	V3 (0.1 g2/Hz max)
Storage Vibration	OS1* (20g)	OS1* (20g)	OS2* (40g)	OS2* (40g)	OS2* (40g)
Humidity	95% non-condensing	95% non-condensing	95% non-condensing	95% non-condensing	95% non-condensing

Notes: *Nomenclature per ANSI/VITA 47. Contact local sales office for conduction cooled (H = 2, 3, 4)

Contact

VadaTech Corporate Office

198 N. Gibson Road, Henderson, NV 89014
Phone: +1 702 896-3337 | Fax: +1 702 896-0332

Asia Pacific Sales Office

7 Floor, No. 2, Wenhu Street, Neihu District, Taipei 114, Taiwan
Phone: +886-2-2627-7655 | Fax: +886-2-2627-7792

VadaTech European Sales Office

VadaTech House, Bulls Copse Road, Southampton, SO40 9LR
Phone: +44 2380 016403

info@vadatech.com | www.vadatech.com

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