VT988

High speed 16 ADC @ 3 GSPS with Synchronous Capture

VT988

Key Features

- 16 ADC for synchronous capture
- Xilinx Virtex-7 XC7VX485T FPGA
- NVidia Jetson TX2 System on Module
- 8-bit @ 3 GSPS (TI ADC08B3000)
- Managed Layer 2 GbE Switch

Benefits

- Design utilizes proven VadaTech subcomponents and engineering techniques
- Electrical, mechanical, software, and system-level expertise in house
- Full system supply from industry leader
- AS9100 and ISO9001 certified company

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VT988

The VT988 is a 16-channel data acquisition platform capable of synchronous sampling 8-bit ADCs at up to 3 GSPS with typical ENOB of 7.1 bits at 748 MHz. All input data channels pass through a Virtex-7 485T which is user programmable for filtering/DDC. Data can be output through dual front-panel 10GbE or processed by the onboard Jetson TX2 module, which is ideal for CUDA-based signal processing or AI analysis. Front-panel USB and HDMI are available for user interface, making the VT988 ideal as a base platform for comprehensive signal monitoring systems.

The NVIDIA Jetson TX2 System on Module integrated has HMP Dual Denver 2/2 MB L2, Quad ARM® A57/2 MB L2 CPU, 4K x 2K 60 Hz video encode and decode, and 8 GB 128-bit LPDDR4 memory. The VT988 front panel routes HDMI video and three USB interfaces from the Jetson TX2 module.

The VT988 has a Layer 2 Managed Gigabit Ethernet Switch which provides quad GbE through RJ-45 interface to the front panel and allows interconnection among the subsystems.
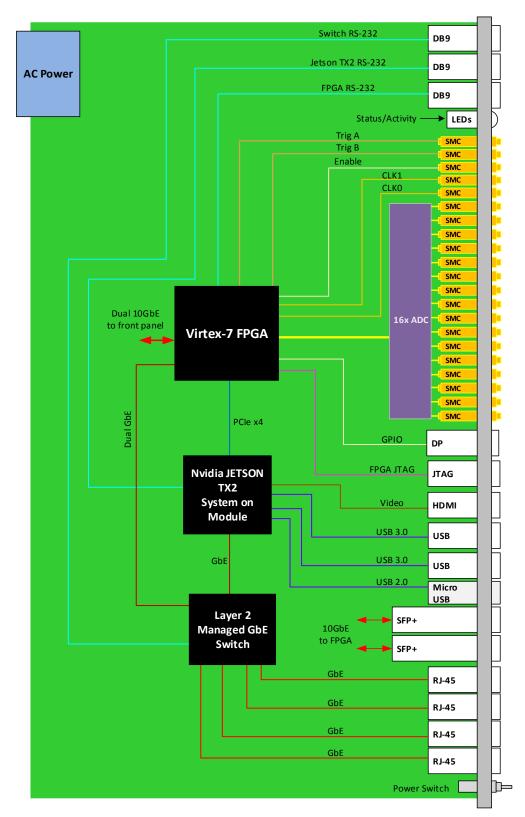

Figure 1: VT988

Block Diagram

Figure 2: VT988 Functional Block Diagram

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Chassis

Figure 3: VT988 Front View

Figure 4: VT988 Rear View

Specifications

Architecture		
Physical	**Dimensions**	Width: 18.98" (482.12 mm) including handles
		Depth: 10.04" (255.16 mm)
		Height: 1U
Type	**Chassis**	16 ADC Data Acquisition
Configuration		
Power	**VT988**	100W (Universal AC power input)
Environmental	**Temperature**	See Ordering Options
		Storage Temperature: –40° to +90°C
	Vibration	Operating 9.8 m/s^2 (1G), 5 to 500 Hz on each axis
	Shock	Operating 325G/2 ms, 160G/1 ms
	Relative Humidity	5 to 95% non-condensing
Front Panel	**Interface Connectors**	21 SMC interface for 16 ADC, 2 Clocks, 2 Triggers, and 1 Enable
		3x DB-9 for RS-232
		2x SFP+ for 10GbE
		4x RJ-45 for GbE
		2x USB 3.0 and 1x USB 2.0
		HDMI, Display Port and JTAG
	Mechanical	Switch
Software Support	**Operating System**	Linux
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		One (1) year, 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

VT988 – ABC-D00-00J

A = Input Gain*	D = RF Connector style	
0 = 0 dB 1 = Reserved 2 = Reserved	0 = Push/Pull SMC 1 = Threaded SMC	
B = Input Coupling		
0 = DC 1 = AC 2 = DC – Modified 3 = AC – Modified 4 = Reserved		
C = DC Offset Voltage**		**J = Temperature Range and Coating**
0 = 300mV 1 = Reserved 2 = Reserved		0 = Commercial (–5° to +55°C), No coating 1 = Commercial (–5° to +55°C), Humiseal 1A33 Polyurethane 2 = Commercial (–5° to +55°C), Humiseal 1B31 Acrylic 3 = Industrial (–20° to +70°C), No coating 4 = Industrial (–20° to +70°C), Humiseal 1A33 Polyurethane 5 = Industrial (–20° to +70°C), Humiseal 1B31 Acrylic

Notes:

*For other gain options please contact VadaTech Sales

**For other DC Offset Voltage contact VadaTech Sales (DC coupling only)

For operational reasons VadaTech reserves the right to supply a higher speed FPGA device than specified on any particular order/delivery at no additional cost, unless the customer has entered into a Revision Lock agreement with respect to this product.

Related Products

AMC521

- Sixteen channel ADC 16-bit @ 250 MSPS (TI ADS42JB69)
- Eight channel SAR, ADC 16-bit @ 650 KSPS simultaneous (TI ADS8568)
- Interface to the FPGA is via JESD204B

AMC524

- Quad ADC 16-bit @ 125 MSPS (AD9653)
- Dual DAC 12-bit @ 2.5 GSPS (DDS AD9915)
- Artix-7 FPGA with dual banks of DDR3, 2 GB total

AMC526

- Dual ADC 12-Bit @ 2.6 GSPS (AD9625) in single module, mid-size
- Xilinx Virtex-7 690T FPGA in FFG-1761 package
- Quad bank QDR-II+ memory (576 Mb total) and 1Gb DDR3

Contact

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