VT988

High speed 16 ADC @ 3 GSPS with Synchronous Capture

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
- AS9100 and ISO9001 certified company
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
Figure 2: VT988 Functional Block Diagram
Chassis

Figure 3: VT988 Front View

Figure 4: VT988 Rear View
# Specifications

| Architecture | Dimensions | Width: 18.98" (482.12 mm) including handles  
Depth: 10.04" (255.16 mm)  
Height: 1U |
<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>Type</td>
<td>Chassis</td>
<td>16 ADC Data Acquisition</td>
</tr>
<tr>
<td>Configuration</td>
<td>VT988</td>
<td>100W (Universal AC power input)</td>
</tr>
<tr>
<td>Environmental Temperature</td>
<td>See <a href="mailto:info@vadatech.com">Ordering Options</a></td>
<td>Storage Temperature: −40° to +90°C</td>
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<tr>
<td>Vibration</td>
<td>Operating 9.8 m/s² (1G), 5 to 500 Hz on each axis</td>
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<tr>
<td>Shock</td>
<td>Operating 325G/2 ms, 160G/1 ms</td>
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</table>
| 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 Handbook 217-F@ TBD hrs |
| Certifications | Designed to meet FCC, CE and UL certifications, where applicable |
| Standards    | VadaTech is certified to both the ISO9001:2000 and AS9100B:2004 standards |
| Warranty     | One (1) year, see [VadaTech Terms and Conditions](mailto:info@vadatech.com) |

## 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**

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

<table>
<thead>
<tr>
<th>C = DC Offset Voltage**</th>
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<tbody>
<tr>
<td>0 = 300mV</td>
<td>0 = Commercial (−5° to +55°C), No coating</td>
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<tr>
<td>1 = Reserved</td>
<td>1 = Commercial (−5° to +55°C), Humiseal 1A33 Polyurethane</td>
</tr>
<tr>
<td>2 = Reserved</td>
<td>2 = Commercial (−5° to +55°C), Humiseal 1B31 Acrylic</td>
</tr>
</tbody>
</table>

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 GSPPS (AD9625) in single module, mid-size
  - Xilinx Virtex-7 690T FPGA in FFG-1761 package
  - Quad bank QDR-Il+ memory (576 Mb total) and 1Gb DDR3
Choose VadaTech

We are technology leaders
- First-to-market silicon
- Constant innovation
- Open systems expertise

We commit to our customers
- Partnerships power innovation
- Collaborative approach
- Mutual success

We deliver complexity
- Complete signal chain
- System management
- Configurable solutions

We manufacture in-house
- Agile production
- Accelerated deployment
- AS9100 accredited

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