

OpenATR - SigPro1 Platform

OpenVPX™ Based Signal Acquisition System



Description

The SigPro1 OpenATR box is an OpenVPX™ based signal acquisition system intended for use in signal processing and recording applications such as data acquisition, radar, beamforming, and other high speed signal processing applications.

Based on a Virtex™-6 series FPGA with high performance A/D front end, the system runs on a 2nd generation Intel® Core i7™ processor and includes a two-TB storage subsystem with room to expand. For high bandwidth data collection applications, the system can operate in dual channel record and playback mode, with two 16-bit 200 MS/s A/D converters and an 800 MS/s 16-bit D/A converter.

The complete payload is a truly interoperable, multi-vendor OpenVPX platform. The OpenATR is highly configurable, accepting different FPGA cards and firmware. It also runs Pentek's Talon® series data acquisition and recording system architecture and application software.

Features

This version is intended for use in high shock and vibration and extended temperature.

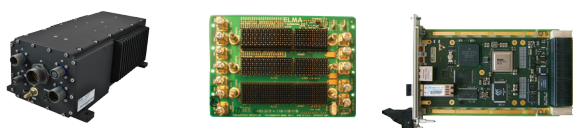
- Intel Core i7 single board computer
- High performance acquisition and FPGA processor
- Dual 2.5-inch, SLC or MLC solid state flash drives
- Multiple I/O ports brought out via rugged MIL-C-38999 connectors
- Intended for use in extended temperature, shock and vibration applications

Benefits

- Small form factor (SFF) meets SWaP requirements
- Truly interoperable OpenVPX platform is open architecture compliant
 - Multi-vendor implementation minimizes overall risk and user dependence on single sourced systems
- FPGA offloads I/O processing for faster overall system performance
- Can be configured to meet a wide range of high performance I/O processing applications

Applications and Related Products

- Today's mission critical defense systems demand high bandwidth data processing and storage. The system can be used for data acquisition, radar, beam forming and other signal processing applications in the most harsh environments.
- Other chassis and board combinations can be configured to meet different defense or industrial applications such as:
 - High definition video
 - Engine control systems data
 - Mission data storage
 - SigInt, C4ISR



- Intel & Freescale Single Board Computers
- Blade level networking boards (Ethernet, PCI Express)
- FPGA configurable I/O solutions
- Rackmount, desktop, and ATR chassis platforms
- Ruggedization programs

VPX

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ATR

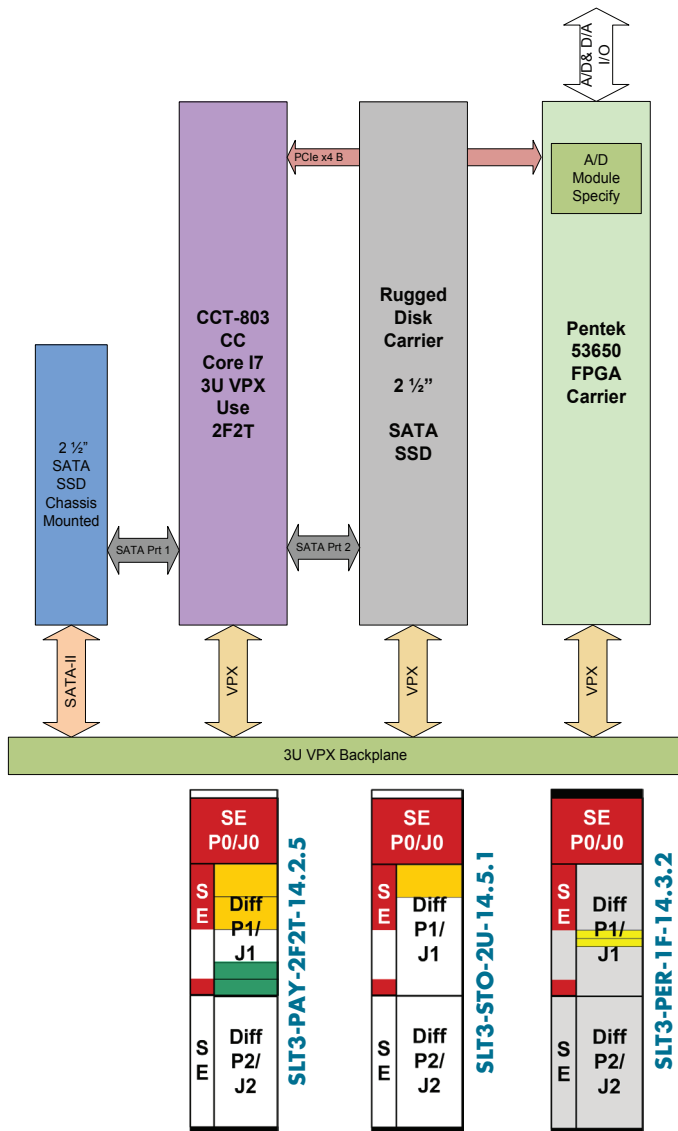


VITA

The SigPro1 OpenATR Includes:

- Rugged mini ATR-style enclosure
- Three-slot OpenVPX backplane
- Intel Core i7 single board computer
- High performance data acquisition FPGA processing
 - Dual 500 MHz with 14-bit A/D
 - On Board D/A – for playback
 - Virtex-6 high density FGPA for signal processing
- Dual 2.5-inch, SLC or MLC solid state flash drives
- High speed record and playback pipeline: 200 MB/sec across two disks
- GPIO, 2 USB ports, 2 Ethernet ports (1000BaseT), VGA, Serial COM port RS232
- Rugged sealed MIL-C-38999 circular connectors and cables
- Optional monitor and keyboard/mouse

Block Diagram and Environmentals



Environmental	
Temperature: (MIL-E-5400 Class2)	-40°C to 70°C
Humidity:	95%, non-condensing
Operating Shock:	40 Gs half-sine wave (11 ms)
Operating Vibration:	20 to 2000Hz at 5Gs, sweep rate of 3 octaves per minutes
Agencies:	Designed to meet MIL-STD 461E, & MIL-STD 901D, (CE102, CS101, CS114-116, CS RE1-02, rs103)

Size	130mm x 175mm x 310mm (5.1" x 6.9" x 12.2")
Weight	Approx. 16 lbs
# BP Slots	3-slots / 3U OpenVPX
Input Voltage	18-48VDC
Output Voltages	5V, 3.3V, 12V
I/O Cabling	USB, VGA, SATA, Serial COM, Ethernet