

Reconfigurable FPGA Computing

Board	FPGA	Memory	I/Os
SMT700	Virtex-5	DDR2	LVDS, LVTTL, Serial

Digitizers

Board	Sampling	Resolution	A/D Channels
SMT702	3GSPS	8-bit	Dual
SMT791	1GSPS	8-bit	Dual
SMT790	210MSPS	12-bit	Dual
SMT741	250MSPS	14-bit	Quad
SMT780	125MSPS	14-bit	Octal
SMT784	125MSPS	14-bit	Quad

Arbitrary Waveform Generators

Board	Sampling	Resolution	D/A Channels
SMT712	2.3GSPS	12-bit	Dual
SMT781	1GSPS	14-bit	Dual
SMT742	800MSPS	16-bit	Quad

Data Acquisition (ADC & DAC)

Board	Sampling	A/D	Resolution	D/A Channels
SMT743	250MSPS	14-bit	800MSPS	16-bit Dual
SMT750	125MSPS	14-bit	500MSPS	16-bit Dual
SMT759	40MHz	12-bit	125MSPS	14-bit Quad
SMT746	600kHz	16-bit	2MSPS	16-bit Quad

Clock and Signal Generator

Board	Features
SMT799	Dual 400MSPS DDS, Ext. Clock

RF Front-ends

Board	Features	RF band	Resolution	Channels
SMT701	MIMO	2.4 & 5GHz	10-bit	Dual
SMT711	LTE	2.4 & 5GHz	12-bit	Dual
SMT703	WIMAX	2.4-2.7GHz	12-bit	Dual

Framegrabbers and Video Displays

Board	Features
SMT709	16 PAL/NTSC analog inputs
SMT739	DVI Transceiver
SMT749	Dual Camera Link (base/medium/full)

Communications

Board	Features
SMT745	Dual Gigabit Ethernet, SDRAM, Flash
SMT722	RS-422 interface, LVTTL I/Os

**Sundance Multiprocessor Technology**

- embedded signal processing solutions

**Rugged 3U cPCI/PXI Express Modular Instrumentation****UK and Scandinavia**

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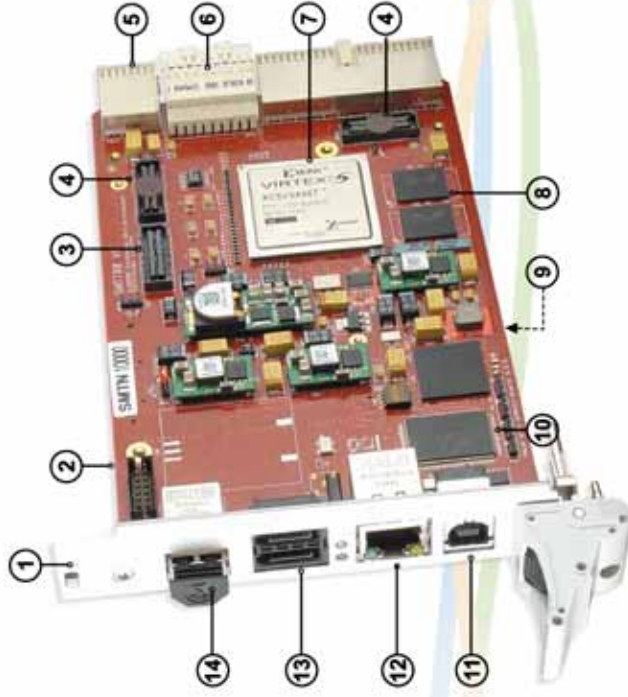
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- Test & Measurement instruments
- Communications
- MIMO & Satellite receivers
- Radar ECM systems
- Space, Land, Sea, Air equipments
- Research, Science & Technology
- Industrial control & vision solutions

Series-7, Modular PXI Express Architecture

●●● Reconfigurable computing, the agility to adapt...



User-Configurable Virtex-5 FPGA with Customizable I/O

1. Customizable Front-panel
2. JTAG (Debugging)
3. Rocket-IO Serial Link (4x 2.5Gbps)
4. High-Speed Bus (LVTTTL, 32-bit)
5. PXI Timing (Sync, Triggers)
6. PXI Express (8x 2.5Gbps)
7. Virtex-5 FPGA (FF1136 package)
8. DDR2 SDRAM (1GB @ 220MHz, 64-bit)
9. SLB (LVDS or LVTTTL, 120 I/Os)
10. FLASH (64MB)
11. USB (Flash programming)
12. Ethernet (10/100/1000)
13. Fibre Optics (2x 2.5Gbps)
14. SATA (2x 2.5Gbps lanes)

Description

Sundance's PXI and PXI Express boards feature a reconfigurable Xilinx Virtex™-5 FPGA device with multiple I/O interfaces.

High-speed DDR2 SDRAM memory buffers and performing PCI Express interface make the Series-7 a powerful and flexible I/O processor to implement the most demanding digital signal processing algorithms.

A choice of Virtex-5 LXT, FXT and SXT FPGA devices are available to match your requirements.

Two 60 LVTTTL I/O lines and 4 Rocket-IO Serial Links. Additional 60 LVDS I/O pairs or 120 LVTTTL I/O lines, and dedicated power connector are provided from the side 2 of the PXI board to plug a Sundance Local Bus (SLB) mezzanine into the FPGA base board.

A variety of SLB cards offer an interface to both analog and digital I/O signals using A/D, D/A, Video and communication interfaces.

Compact Rugged Industrial Package



Real-life operating conditions

- 3U PXI Express Chassis
- Air-cooled environment: >200 CFM
- PXI Slots: Up to 18
- Operating Temperature: 0° to +80°C
- Storage Temperature: -40° to +85°C
- Relative Humidity: 5 to 95% non-condensing
- Power: Up to 38W max.
- MTBF: Consult factory

Features

Mechanical

- 3U PXI Express form factor
- Single or Dual PXI slot
- Air-cooled board
- Optional 3U PXI or Hybrid form factor

Target FPGA device

- Virtex-5: SX50T, FX70T, SX95T or LX110T

Configuration

- Download from PCI, PCI Express, USB or Flash

Memory

- 1GB DDR2 SDRAM (64-bit data bus)
- 64MB Flash

On-board I/Os

- Up to two Sundance High-speed Bus (SHB)
- Rocket-IO Serial Links (RSL)
- JTAG Header for debugging and simulation

Sundance Local Bus (SLB)

- FPGA mezzanine card interface with power supply
- Double PXI slot with SLB
- Variety of functionalities:
 - ADC, DAC, Video and Communication interfaces
 - Open specifications

Front-panel connectors

- Dual Fibre Optic modules (2 lanes @ 2.5Gbps)
- Dual SATA (2 lanes @ 2.5Gbps)
- Gigabit Ethernet (10/100/1000)
- USB to allow easy Flash reprogramming
- Custom connectors to interface to SLB

Software support

- Board control and monitoring tools
- Flash programming utility
- Confidence test
- Host side API and C++ software functions
- Software program example
- Xilinx FPGA project
- Support from 3L Diamond
- Drivers for Windows, Linux or VxWorks