

Our Brand New Creation...

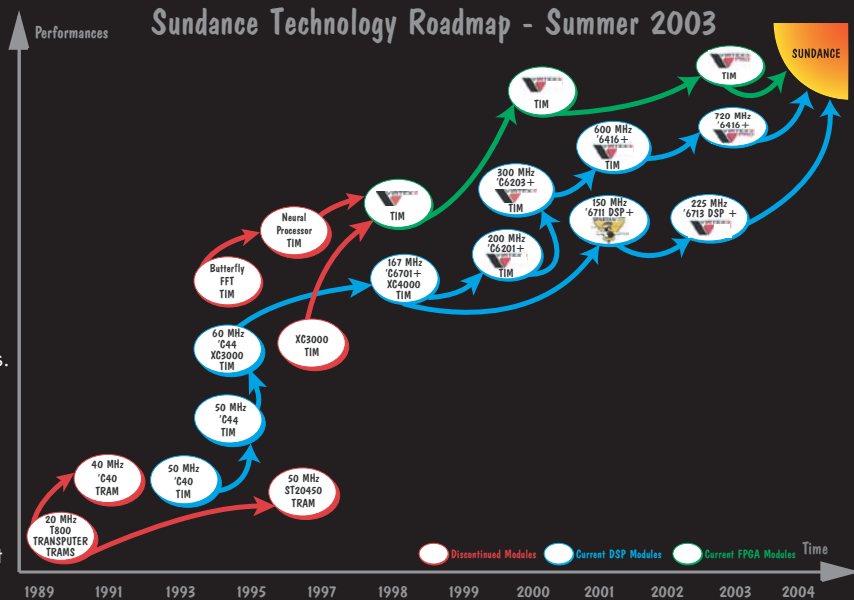
SUNDANCE

Roadmap to Xilinx FAE Conference

Sundance has been working with TI DSPs for the past 12 years, or so, and our engineers have also been using the Xilinx CPLDs and FPGAs for around 10 years. The strength of our company has always been in offering multi-DSP, multi-FPGA solutions. We are one of the first companies in the market with tightly coupled DSP+FPGA architecture where the DSP provides the flexibility and ease of use and the FPGA provides unbeatable power. In other words, we cater for applications where a single computing platform may not be sufficient to deliver the required performance and/or flexibility. That is not to say that application satisfied with a single computing platform do not use our systems. Many of our customers are exactly in that category and what attracts them to our solution are our excellent technical support, competitive pricing, flexible design, expandability and all the other things which are needed for a complete and easy to use solution, like flexible software support and peripheral hardware like ADCs and DACs. Sundance supports, PCI, cPCI, VME, PMC, PXI, and even VXI platforms!

Even though we have been offering solutions based on Xilinx FPGA for many years it is the first time that we are attending the FAE conference. Sundance hopes that our roadmap brings new opportunities for Xilinx customers wanting to use our approach. This pamphlet gives a short introduction to some of our new hardware and software, but please visit our booth and talk to our engineers who will be pleased to answer any questions that you may have or simply to provide additional explanation. We wish you a successful and enjoyable conference.

Flemming Christiansen
C.E.O. Sundance



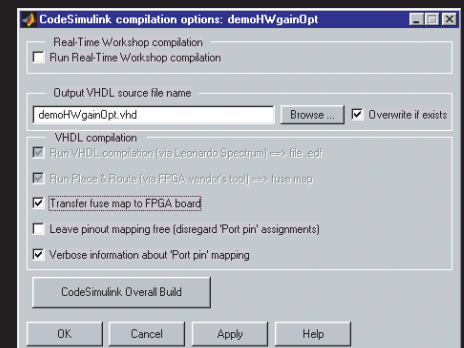
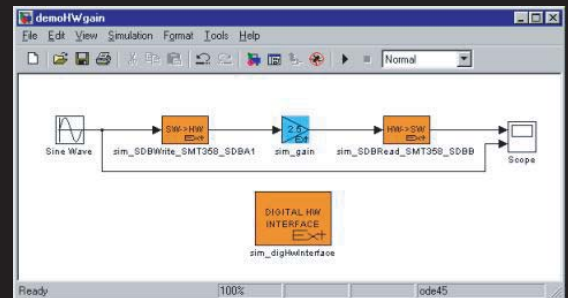
Simulink now supports Xilinx FPGA

Introduction to SMT6040

SMT6040 is an easy-to-use, flexible and powerful tool to generate VHDL code from Simulink™ diagrams. SMT6040 is mostly thought as a development tools for high performance Sundance FPGA boards, like SMT355, SMT358, SMT398, etc. Its features make the design of HW subsystems as easy as developing and simulating a Simulink™ diagram. Though this is a tool for experienced and serious users, but even novice users can use this package to easily design high performance and low cost HW and HW/SW and to port them onto one or more Sundance board(s). By means of SMT6040, users can therefore conceive, simulate, tune and compile FPGA-based signal processing systems in a straightforward and quick manner.

Basics of Digital Hardware systems

Digital Hardware (HW) systems are a feasible alternative to Software (SW) systems (for instance, computers, PC's and DSP's), which offers a much better cost/performance ratio in a wide variety of practical applications, ranging from very high speed to very low power systems. On the other hand, HW systems are less flexible than SW systems, therefore their use is more appropriate for regular and seldom varying algorithms, while SW systems are more appropriate whenever the user desires to update the algorithm frequently, or when the algorithm is less regular or a high computational burden is not required. There is a wide variety of techniques to design and simulate HW systems, ranging from gate-level schematics up to functional-level C-like description languages (for instance, System-C or VHDL). Unfortunately all such techniques require considerable experience in HW development systems. In contrast, the well-known Simulink™ language and design environment from Mathworks allows easily to describe, simulate, tune, debug and optimise, for instance, signal processing and control systems. Unfortunately, Simulink™ has no capability of describing HW circuits and systems, therefore it cannot be used for this purpose. The SMT6040 HW development tool fills the gap between Simulink™ and digital HW systems, allowing anybody to describe, simulate, tune, debug and optimise HW systems, and eventually programming the FPGA board in a straightforward and transparent way.

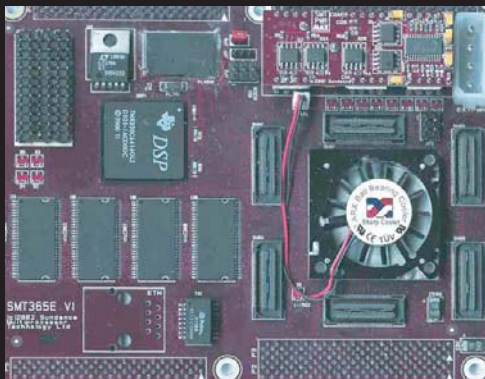




ADDING

FLEXIBILITY

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SMT365E

Features:

- 64 bits 600MHz TMS320C6416 DSP
- Xilinx Virtex II FPGA XC2V6000
- 256MB of SDRAM @100MHz and 8MB of FLASH
- Six 400Mbytes/s Sundance High-speed Bus
- Six ComPorts for InterDSP communications

Benefits:

The SMT365E provides a flexible platform for the next generation of Telecom systems, Image Processing applications, Medical equipment and Industrial solutions. With the added benefit of the large Virtex II FPGA, the SMT365E enables pre-processing to be done 'On-the-Fly' before the DSP gets the data. The Sundance provided basic VHDL Cores for InterDSP communication take approximately 300k gates of the FPGA with the rest available for the user.

FPGA & DSP



SMT374

Features:

- Two 225MHz TMS320C6713 Floating Point DSP
- Xilinx Virtex II FPGA XC2V2000-4
- 256MB of SDRAM @100MHz and 8MB of FLASH
- Six ComPorts and two 400MB/s SHB ports

Benefits:

The SMT374 provides a flexible platform for the next generations of Image Processing and Industrial solutions. With the added benefit of the large Virtex II FPGA, the SMT374 will enable pre-processing to be done 'On-the-Fly' before the DSP gets the data. The Sundance provided basic VHDL Cores for InterDSP communication take approximately 500k gates of the FPGA with the rest available for the user.

FPGA & DSP



SMT319

Features:

- 600MHz TMS320C6414 Fixed Point DSP
- 4800MIPS peak performance
- 32 Mbytes of SDRAM @ 100MHz
- Two Sundance High-speed Bus (50MHz, 100MHz or 200MHz) ports 32 bits wide
- Six 8-bits ComPorts up to 20Mbytes/s each for InterDSP communications/configuration.

Benefits:

The SMT319 is self-contained Graphics Module that is suitable for a range of application in Image Processing, Graphics, Rendering of pictures and as a General Purpose display sub-system in a larger MultiDSP processing system. The SMT319 can be hosted in a PC-type environment or, with the larger on-Module Flash, be using in a 'Stand-Alone' mode.

Imaging

ADDING POWER

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SMT398

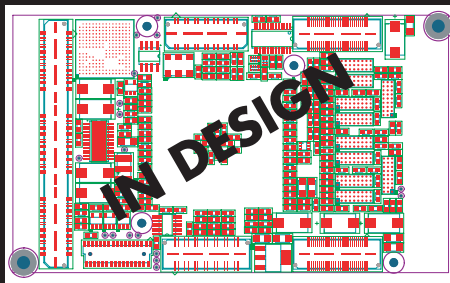
Features:

- Virtex II range of FPGA devices
- Up to 8 million gates as a re-configurable resource
- 4MB of high speed ZBT SRAM,
- 2MB of high speed QDR-SRAM,
- External Clock & LVDS Interface
- Multiple FPGA/DSP support

Benefits:

- Simple prototyping for hardware solutions to typical DSP algorithms
- Scalable and flexible system configuration
- Higher performance than conventional DSPs
- Expansion of memory or I/O interfaces using mezzanine cards
- VHDL Source to module interfaces available as 'Shareware'.

FPGA



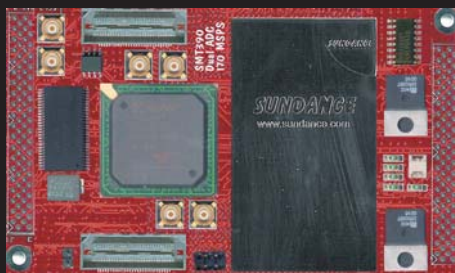
SMT398 VP

Virtex II Pro; ZBT SRAM; QDR SRAM; Sundance High-speed Bus interface

SMT398 is a BIG 'Big-Brother' to the SMT358 FPGA Modules that Sundance designed in 1999 and has all the same benefits – and a lot more!

The latest versions of the Xilinx Virtex-II are being used to the fullest of their potentials and offers the benefit of QDR and ZBT-RAM with no less than four Sundance High-speed Busses (SHB) for general purpose I/O and interface to high-speed DAQ/DSP Modules, six interModule ComPorts and an enhanced 32-bit Global Bus interface to a Carrier.

FPGA



SMT390

Features:

- Two 12-bit ADCs (AD9430 sampling up to 210 MHz using LVDS interface.
- Single width module.
- Two Sundance High-speed Bus (SHB) connectors.
- Two 20 Mbytes/s communication ports.
- Low-jitter system clock.
- Xilinx Virtex-II FPGA (XC2V1000-6).
- On-board PROM (Xilinx XC17V08) loads up the default configuration into the FPGA

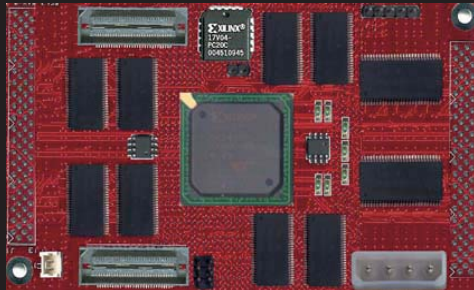
Benefits:

Ideal for flexible Wireless and Wired Broadband Communications Systems, Cable Reverse Path Solutions, Communications Test Equipment, Radar and Satellite Subsystems and Power Amplifier Linearization and similar type of application.

ADC



...Helping You Create!



SMT351

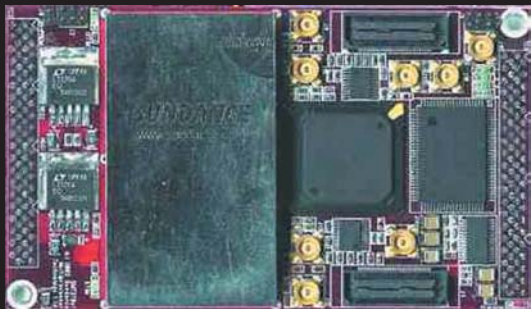
Features:

- 1 Gbytes of storage,
- Up to 200 MSPS throughput rate,
- 16-bit data width,
- Single width module,
- Two 20 MBytes/s communication ports,
- Xilinx Virtex-II FPGA (XC2V1000-6)

Benefits:

Cascadable dual-port memory module able to store big lumps of data/samples at high speed, the SMT351 (upgrade of the SMT341) enables snapshot data to be stored for off-line processing in digital radio/communication systems. An on-board configuration PROM makes it a stand-alone module.

Memory



SMT370

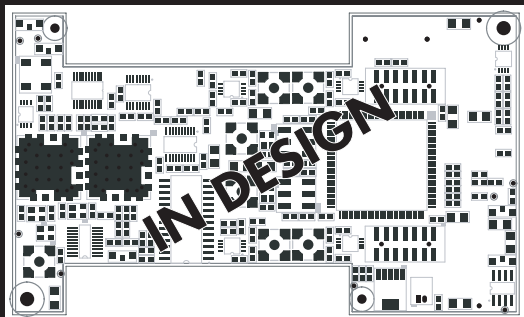
Features:

- Two 14-bit ADCs (AD6645) sampling up to 105 MHz. AC coupled
- Single width module.
- Two Sundance High-speed Bus (SHB) connectors.
- Two 20 MBytes/s communication ports.
- Low-jitter system clock.
- Xilinx Virtex-II FPGA (XC2V1000-6).

Benefits:

Ideal for flexible system architectures and specifications IF Radar Sampling, Base-band Radar Sampling, Spectrum Analysers, Digital Radio Receivers, Multi-channel Receivers and Cellular/PCS base stations.

DAQ



SMT391

Features:

- Dual channel ADC (Ideal for I&Q channel applications)
- 1GHz sampling frequency
- 8 Bit data resolution
- 64 Mbytes (per channel) DDR SDRAM for sample captures
- Custom Clock and Trigger inputs via external connectors

Benefits:

Direct RF/IF processing or Direct RF down-conversion can be built with the SMT391 as a stand-alone Module or used in a array of DSP Modules for more performance needed in radar/sonar systems. The SMT391 is comparable to a ultra high-performance Digital Oscilloscope and could be used for evaluating the AT84AD001 converter for such applications.

ADC

SUNDANCE DIGITAL SIGNAL PROCESSING INC. Tel: (775) 827-3103 USA
SUNDANCE MULTIPROCESSOR TECH LTD. Tel: +44 (0) 1494-793167 UK
SUNDANCE ITALIA S.R.L. Tel: +39 0185 385193 ITALY



Certificate Number FM 55022

sales@sundance.com www.sundance.com

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