SBC6X Educational Platform

The Single-Board 'C6x SignalMaster (SBC6x) is LSP's offering to the global educational community. Combining both a C67x DSP processor from Texas Instruments and a high-density Virtex® FPGA chip from Xilinx®, this small-scale SignalMaster device offers the same level of performance as that achieved by its other SignalMaster counterparts, in a stand-alone, student-friendly packaging.

Designed to provide convenience and ease of use, this board features an embedded Ethernet controller so that one board can be shared by numerous workstations. Moreover, and in line with LSP's innovative integration with The MathWorks'® suite of tools, learning and applying signal processing concepts has never been as motivating.

The SBC6x features two CS4228 audio CODECs on board, allowing quick and hassle-free basic experiments to be conducted on audio signals. However, should the lab requirements increase over time, a PCI slot as well as a PCI Mezzanine Card (PMC) expansion site are available so that more I/Os may be added to the system, such as high-speed A/Ds, digital I/Os, even video framegrabbers.

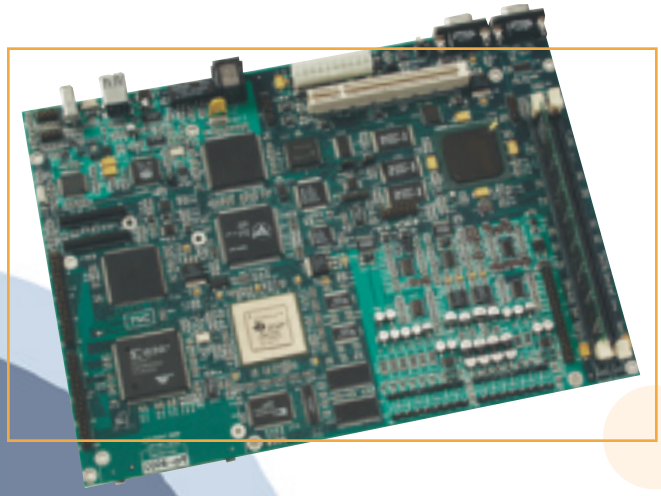
Support Software

The SBC6x board is supported in LSP's Version 2.1 of DSPlink and FPGAlink releases. This allows users to easily implement their SIMULINK® and System Generator™ models on the board's DSP and FPGA, and run these models in real-time on both chips. Hardware resources are packaged as SIMULINK blocks, easily connected to other functional blocks, and the same way is used to have the DSP and FPGA interact. (See LSP's flyers on DSPlink and FPGAlink for more information on these tools.)

On top of a comprehensive integration package with SIMULINK, the SBC6x is also provided with a set of low-level drivers for convenient use with common DSP and FPGA development tools, such as Code Composer Studio™ and Xilinx Foundation™. The board is delivered with library support for on-board resources, including both CODECs.

Features

- Stand alone operations (AC powered) using standard ATX PC power supply
- Texas Instruments TMS320C6701 at 150 MHz
- FPGA for reconfigurability (Virtex XCV300)
- 1 PMC Site and 1 PCI edge card
- Two 96kHz CODECs (4 inputs, 12 outputs)
- On-board 100BaseT Ethernet controller
- 2 serial ports (RS-232)



C6701-based Single Board SIGNALMASTER
DSP-Based Rapid Prototyping Platform

LSP

Specifications

Texas Instruments' TMS320C6701™ DSP

- 150 MHz clock, (150 MIPS, 900 MFlops peak)
- 32-bit floating-point architecture

AMD™ Élan™SC520 Pentium-class Processor

- House-Keeping functionality
- Communication controller

Xilinx Virtex FPGA: XCV300 (optional:800) 300 k – 800 k gates available

- CLB = 32x48 = 1536 for the XCV300
- CLB = 54x84 = 4536 for the XCV800
- Configuration (design download) by : JTAG or Host

Options

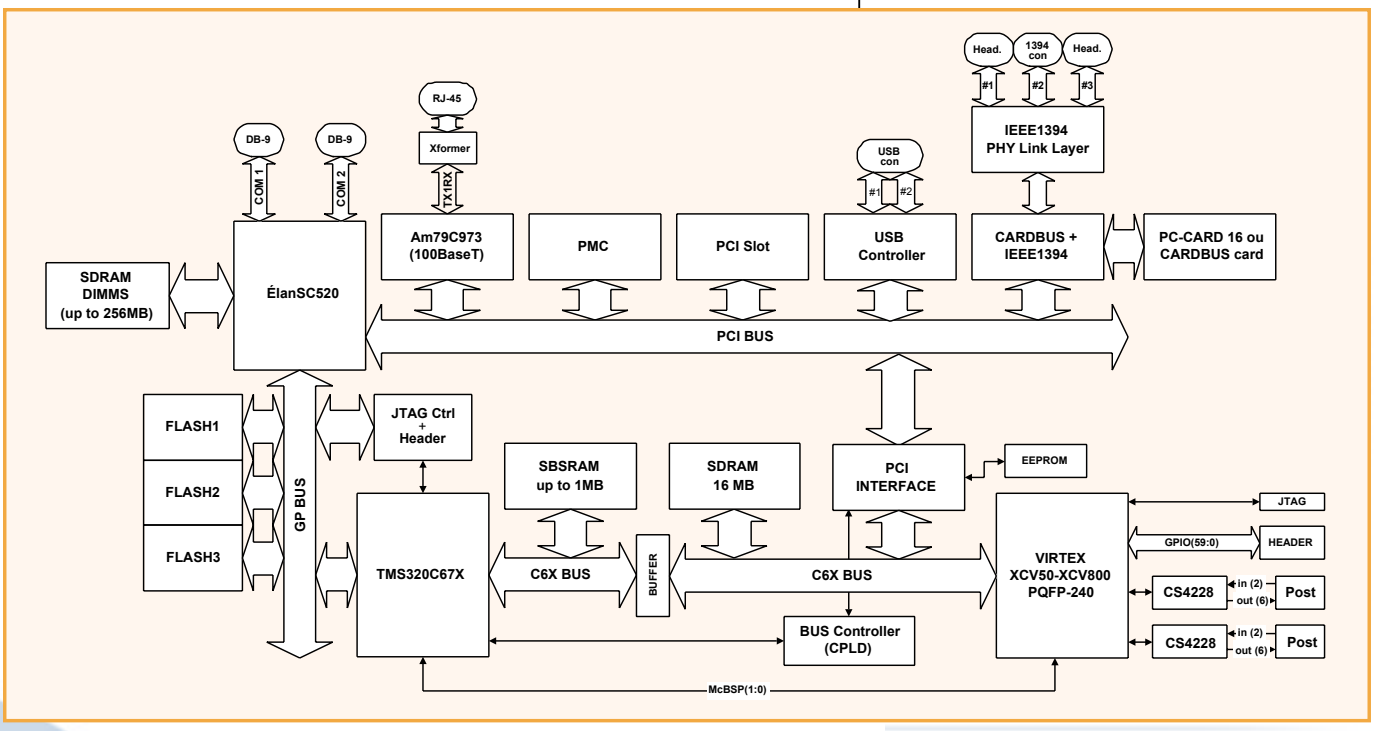
- XCV800 VIRTEX FPGA
- 1 PMC (PCI Mezzanine Card) module
- 1 PCI Card slot

Development tools

- TI's eXpressDSP™ initiative
- CodeComposer Studio for C6000
- DSP/BIOS II
- MATLAB®, Simulink and Real-Time Workshop® Blocksets
- Xilinx's System Generator

Potential applications

- Wireless, base station prototyping
- Telecommunications/telephony
- Multimedia product using voice/data/fax processing
- Videoconferencing
- Industrial control
- Audio processing



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