



IntelliCore™ Prototyping System

February 8, 1998

Product Specification



VAutomation, Inc.

20 Trafalgar Square
Suite 443 (4th Floor)
Nashua, NH 03063 USA
Phone: +1 603-882-2282
Fax: +1 603-882-1587
E-mail: sales@vautomation.com
URL: www.vautomation.com

Features

- Customizable modular design supports 13,000 to 260,000 system-gates
 - Up to four Xilinx XC4036EX-HQ240 FPGAs
 - Serial download or PROM configuration, switch selectable on a per-FPGA basis
- Supports VAutomation microprocessor, USB Serial Interface Engine or FireWire cores
- Software

- V8-uRISC assembler
- V8-uRISC Monitor/debugger
- JTAG master debugger
- Windows98 USB audio class code for generic speaker application
- 128K x 16 SRAM
- Two 8K x 8 serial EEPROMs
- 2M x 8 DRAM
- Audio Codec (AD1845) and analog amplifiers for digital sound playback or recording
- External Interfaces
 - USB Serial Port with 1 uplink "A" and 3 downlink "B" connectors with transceivers and power
 - FETs
 - IEEE-1394 "FireWire" Serial Port
 - 100mbs three port PHY via TI TSB11C01
 - RS-232 Serial Port
 - IEEE-1284 Parallel Port
 - Analog Audio (MIC, Line in/out, Headphone)
 - Ethernet interface (MII connector)
 - IEEE-1149 JTAG controller port
 - IrDA Serial Port General Purpose Custom interfaces (via 40-pin MII connector)
 - 192 board-to-board interconnects for debugging with a logic analyzer

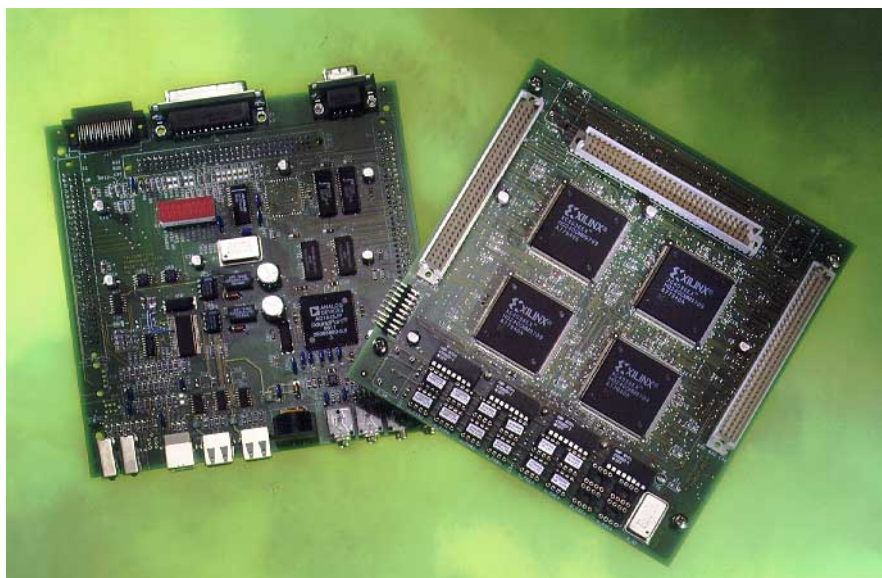


Figure 1: IntelliCore™ Prototyping System

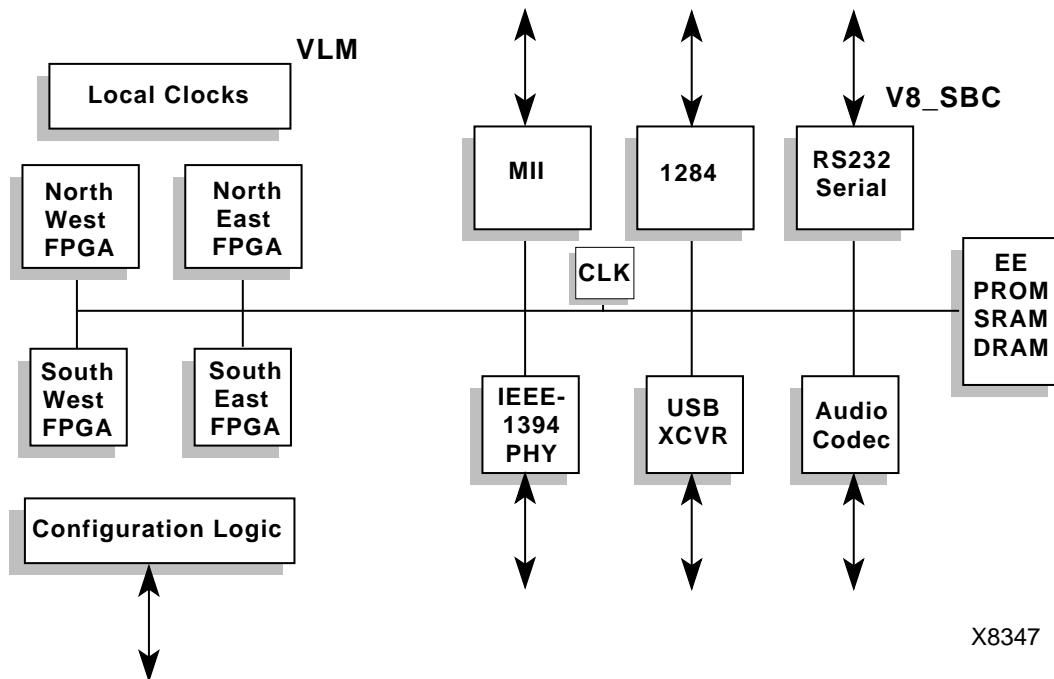


Figure 2: IntelliCore™ Prototyping System Block Diagram

- Universal Power Supply
 - Input: 95-250V, 47-63Hz
 - Output: 27 Watts DC, +5V @ 4A, +12V @ 0.5A
- UL, CE, CSA certified

General Description

The VAutomation IntelliCore™ Prototyping System (IPS) is an ideal platform for evaluating VAutomation's microprocessor and serial interface engine cores using Xilinx FPGAs. VAutomation uses the IPS for in-house development of the V8, VUSB and other cores. The IPS is an integral part of any V8-uRISC or USB development effort. The IPS enables:

- V8-uRISC/VUSB Evaluation
- Rapid software testing and integration
- JTAG debugging capabilities
- Rapid hardware design verification via FPGA emulation of your design

V8-uRISC/VUSB Evaluation

The IPS comes preconfigured as a Universal Serial Bus (USB) audio speaker application. Just plug it into any Windows98 PC and you'll hear USB in action with no drivers required! The IPS audio application is plug-and-play.

Hardware/Software Co-Design

The IPS enables software coding and integration to begin

before the hardware design is completed. The FPGA hardware phase is no longer in the critical path and is overlapped with the software development.

JTAG Debugger

The IPS functions as a JTAG master controller and works in concert with VAutomation's V8-uRISC debugger. The FPGA can be debugged with only the four JTAG pins required for complete debug support.

Generic Hardware Emulation System

There is no need to simulate for weeks, no difficult system level models to code, and no test vectors to write when you can verify your design in a real world environment. The IPS can be used as an emulation system for design, debug and early software integration of your FPGAs. Utilize the rapid design turnarounds enabled by the Xilinx SRAM-based FPGAs to cut you hardware simulations down to size. Integrate software while the hardware is still being debugged.

Available Support Products

VAutomation supplies a complete line of cores that can be integrated and tested on the IPS. Contact VAutomation for more information. These cores include:

- V8-uRISC 8-bit microcontroller
 - UART and Baud Rate generator
 - 16-bit Timer/counter

- IEEE 1284 parallel port
- JTAG master/slave controller
- DMA controller
- DRAM controller
- VUSB USB target Serial Interface Engine

Ordering Information

The VAutomation IntelliCore Prototyping System lists for \$995.00 USD (limit two per customer) and comes complete with the following deliverables:

- IPS electronics package
 - VLM Logic Module PCB with one Xilinx XC4036HQ240-3 FPGA
 - V8/VUSB requires all of the resources of the FPGA
 - Two and Four FPGA configurations also available for application specific logic
 - V8_SBC PCB
 - Pretested and Verified
- V8 assembler.EXE file for DOS/Windows
- V8 and VUSB Xilinx Configuration PROMs
- V8 Monitor/Debugger burned into the EEPROM and on a DOS format floppy
- Windows98 compatible USB Audio Class code for generic speakers
- Universal Power Supply
- IPS Users Manual
- V8-uRISC Users Manual
- VUSB Users Manual

To purchase or make further inquiries about this or other VAutomation products, contact VAutomation directly.

Related Information

Xilinx Programmable Logic

For information on Xilinx programmable logic or development system software, contact your local Xilinx sales office, or:

Xilinx, Inc.
2100 Logic Drive
San Jose, CA 95124
Phone: +1 408-559-7778
Fax: +1 408-559-7114
URL: www.xilinx.com

For general Xilinx literature, contact:

Phone: +1 800-231-3386 (inside the US)
+1 408-879-5017 (outside the US)
E-mail: literature@xilinx.com

For AllianceCORE™ specific information, contact:

Phone: +1 408-879-5381
E-mail: alliancecore@xilinx.com
URL: www.xilinx.com/products/logiccore/alliance/tblpart.htm

