

Ready for **SEmulator**

Hpe-midi V1 (Q)

## General Description:

The Hpe\_midi is the most flexible FPGA and ASIC development system available in the market today. The FPGA is contained on a removable module – different modules with 1, 2, 4 and 9 FPGA are available or under construction. Currently we offer modules with ALTERA StratixII™, StratixIII™ will follow as soon as available. An increasing number of interface boards (Hpe\_child Board) guarantees the high flexibility required.

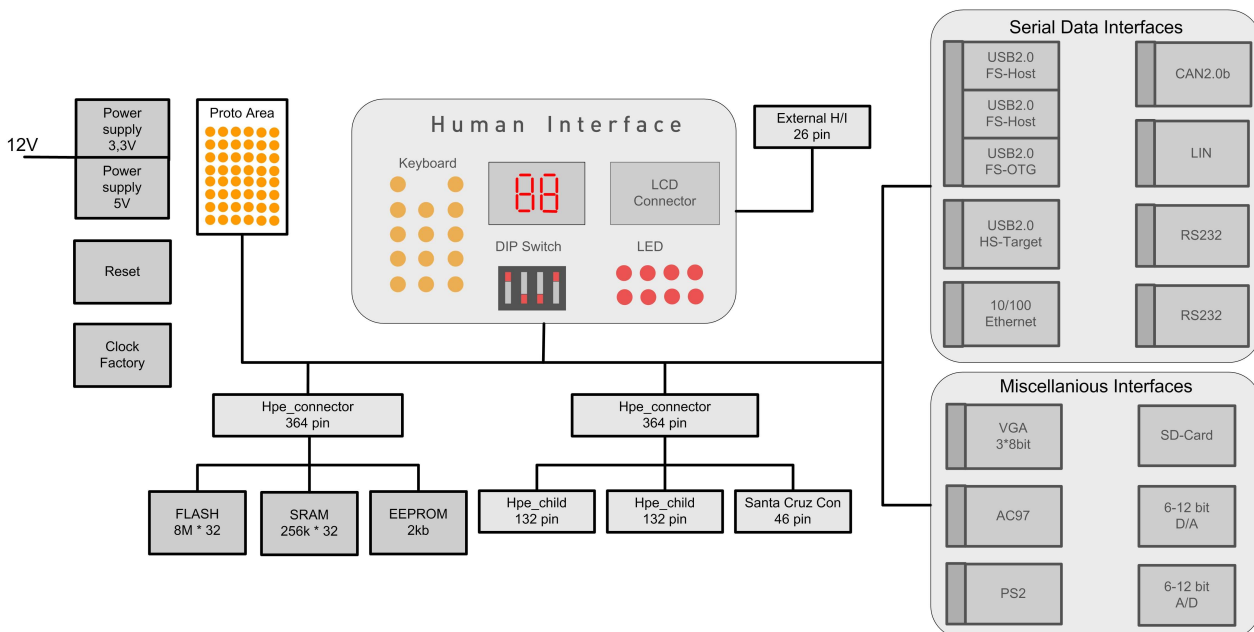


We deliver the Hpe\_midi in an enclosure, but the system can be used also without cover.

Via a PCIe X4 connection to a PC developers can use the **SEmulator**, a new, very efficient and secure way of FPGA and ASIC development.

- Real time simulation
- Hardware in the loop
- JTAG debug tool
- High Speed Logic Analyzer (4Q 2007)

## Block Diagram:



## Functional Description

The Hpe\_midi base board contains the following features:

### On Board System Functions

- Power supply 5V/11A and 3.3V/6A
- Reset Generation
- Complex clock factory
- Hpe\_connector for FPGA module
- 2 \* Hpe\_child connector for extensions
- ALTERA Santa Cruz connector
- PS/2 connector for mouse and keyboard
- SD card slot

### On Board Memory

- FLASH 8M \* 32
- SRAM 256k \* 32
- EEPROM 2kb

### On Board Peripherals

(with reference of used IC)

• Reset generator	Catalyst	CAT1026JI-30()
• USB Controller (full speed)	Cypress	CY7C67300-100AXI
• USB Controller (high speed)	Cypress	CY7C68000A-56LFXC
• Ethernet transceiver	Intel	DJLXT971ALC.A4
• RS232 transceiver	Maxim	MAX3232CUE
• AC97 Codec	National	LM4549BVH/NOPB
• VGA controller 3*8 bit	Fairchild	FMS3818KRC_NL
• CAN transceiver	Philips	TJA1040T
• LIN transceiver	Philips	TJA1020T

### Human Interface

- 3 \* 4 button field
- 2 digit 7-segment display
- 8 \* LED
- Reset button
- Single step key (debounced)
- Connector for LCD display

### Others

- Prototyping area
- 2 quartz sockets
- External clock input
- D/A converter (ext. components)
- A/D converter (ext. components)

## Shipment

<b>Hpe-midi V1</b>	incl. enclosure, power supply, USB cable, Data CD includes data sheets, VHDL and C- sources of LEON3 based test program, <i>Hpe_Desk</i> system software contains JTAG debugger + scanner, Clock Factory Programmer
<b>Hpe-midi V1Q</b>	same as before plus ALTERA Quartus full version
<b>HMX1-AS2-60</b>	1 FPGA module with ALTERA StratixII EP2S60, 1020 FBGA, speed grade C3
<b>HMX1-AS2-90</b>	1 FPGA module with ALTERA StratixII EP2S90, 1020 FBGA, speed grade C3
<b>HMX1-AS2-180</b>	1 FPGA module with ALTERA StratixII EP2S180, 1020 FBGA, speed grade C3
<b>HMX2-AS2-180</b>	2 FPGA module with ALTERA StratixII EP2S180, 1508 FBGA, speed grade C3
<b>HMX4-AS2-180</b>	4 FPGA module with ALTERA StratixII EP2S180, 1508 FBGA, speed grade C3 (2Q07)

In addition we offer many Hpe\_child boards, please refer to [http://www.ge-research.com/hpe\\_child.html](http://www.ge-research.com/hpe_child.html)

**Important notice:** If you order the Hpe\_child board together with your Hpe\_midi, you will get a customer specific rear panel without any extra cost.