



Hpe is the abbreviation of "Hardware prototyping and evaluation". For this purpose, usually expensive hardware is necessary. A financial effort, that many companies cannot afford.

We are proud to present a cheap alternative to access this market: The Hpe_mini is a low cost version of the Hpe_compact board, which is being used successfully by the industry. Since it comprehends the basic Hpe_compact functions, it is easy to upgrade later on.

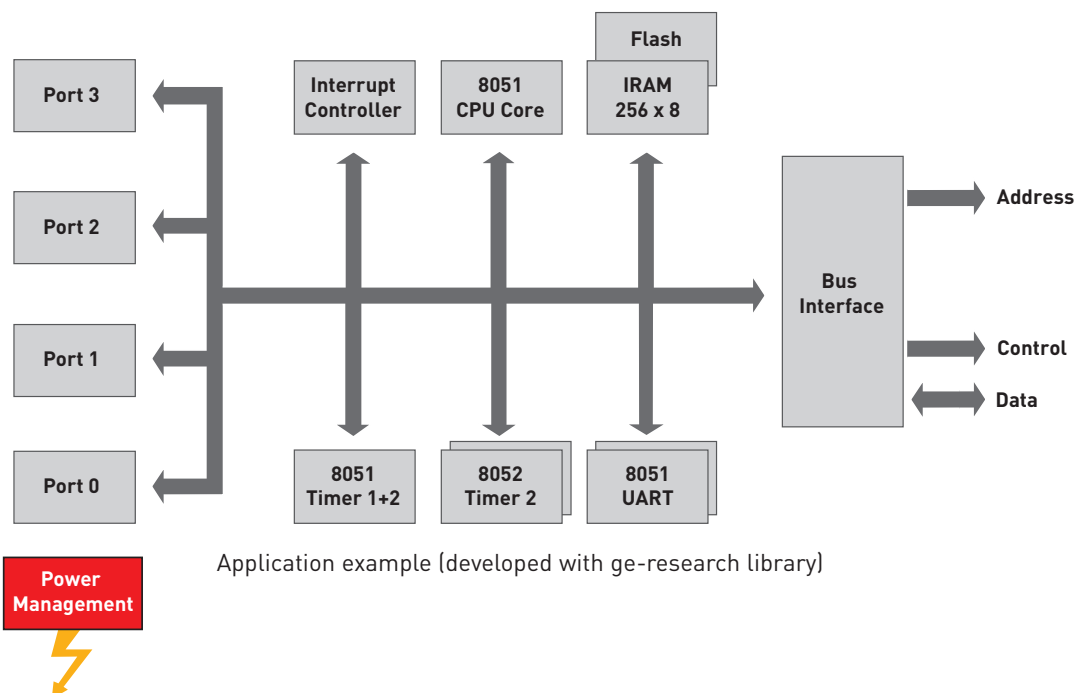
The block diagram stated below is an example for a *1 clock/machine-cycle 8051*, which runs up to 30 MHz. We can deliver this CPU with different applications, for example as a WEB server.

The Hpe_mini is mainly used for

- SOC development of 8 - 32 bit systems
- Special solutions for controller and interfaces
- Development of complex design

Many universities and training centres world-wide use this board for teaching and research. In order to get the most out of a course, every attendee should be equipped with an own board. Our low-cost development platform is ideally suited for that.

In addition you can use a 32 bit LEON3 CPU, an ARM bus compatible SPARC8 CPU, the complete system with Ethernet, UART's, Interrupt Controller and Debug Support Unit needs less than 50% of the available logic elements. LINUX is available. Please ask us for details.



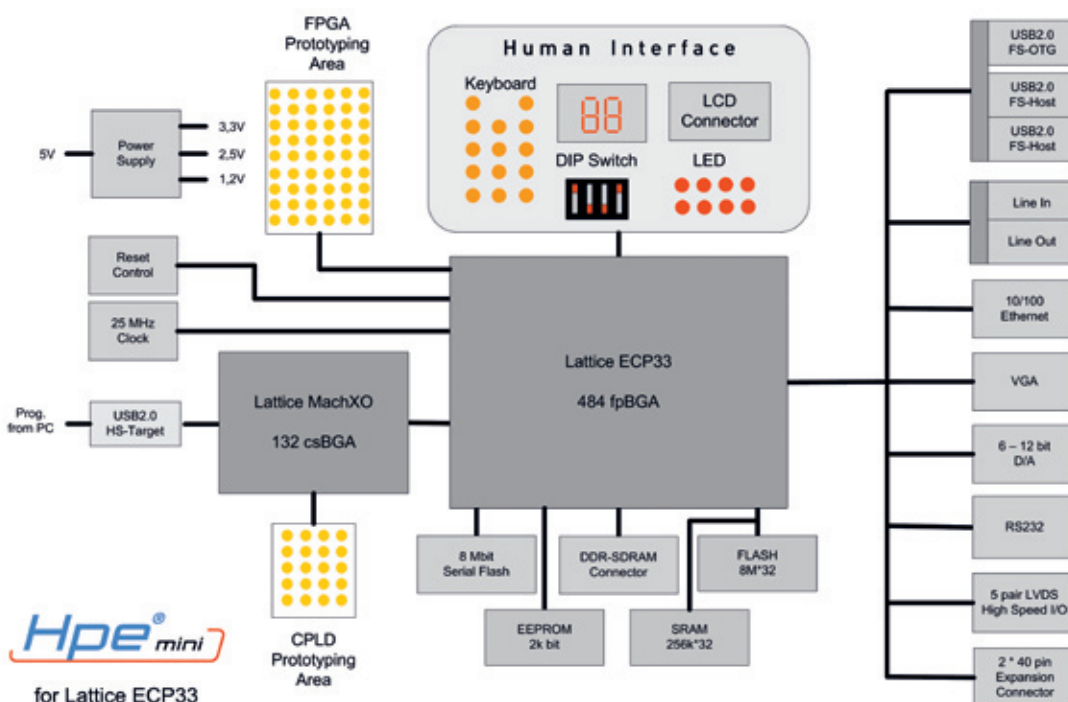
Functionality and interfaces

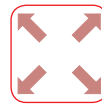
Components

- 1x Lattice ECP33 FPGA
- 1x Lattice LCMX0640 CPLD
- 1x Configuration - Flash
- 512 Mb Flash (8M*32) for CPU system
- 8 Mb SRAM (256k*32) for CPU system
- 1x SODIMM for DDR-SDRAM
- 1x USB2.0 HS (FPGA programming, Flash config.)
- 1x JTAG (CPLD und FPGA programming, Flash config.)
- 1x 9-Pin RS232 serial connector
- 1x 15-Pin VGA connector (monitor)
- 1x Ethernet 10/100M, full/half Duplex
- 2x USB2.0 FS Host
- 1x USB2.0 FS OTG
- 1x 20-pin high speed connector with 5 LVDS pairs
- 1x ext. components for 6-10bit D/A converter
- 1x Hpe expansion connector for 46 usable I/Os
- 1x Prototyping area FPGA
- 1x Prototyping area CPLD
- 1x Power supply connector for 5V DC
- 1x 25MHz oscillator

Human Interface

- 8x LEDs with test-pins for every LED
- Dual digit seven segment display
- 1x Green LED (power supply)
- 1x Blue LED (config.done)
- 3x 4 Push button key matrix
- 4x DIP switch
- 1x Single-step button





Included in delivery:

- Power supply
- USB Programming cable
- GER board support package (applications, all data sheets and manuals as pdf files)

The Hpe_mini comes with a board support package. This software includes all functions to develop the design for the FPGA.

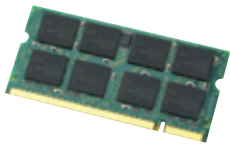
ispLEVER Starter (free download)

- Design entry for VHDL and Verilog HDL
- Precision and Synplify synthesis tools
- IP-Express generate complete modules (Makros)
- Placement and Routing software

Gleichmann Electronics Research free IPs

- UART, I2C, CAN 2.0b, USB, Ethernet, LCD controller, ...
- 8052 VHDL code
Keil monitor on demand
Complete webserver application available
- LEON3 (32-bit, IEEE-1754 SPARC V8) VHDL code, complete development environment and LINUX
- Several test programs in VHDL source code

Additionally available:



DDR SODIMM module
256 MB, 512 MB, 1 GB



LCD Truly 2*20
char. with cable

Detailed information on this product as well as all pricing information is available under www.ger-fae.com.

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