

Universal VLSI Protoboard

A universal VLSI platform capable of integrating FPGA's and CPLD's from Xilinx/Altera in different packages like TQ/PQ packages.

Its completely universal, supports multi-vendor devices from **XC9500** CPLDs, **Spartan-2** FPGA from Xilinx and **ACEX 1k** series of FPGAs and **MAX7000s** series of CPLD from Altera.

This protoboard gives a complete learning experience in various PLD architectures and their features. Other optional modules are available for coolrunner CPLDs, Virtex series of FPGAs.

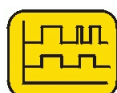
Technical specifications

- ?? Multi-vendor device support for Xilinx and Altera PLDs.
- ?? Modules available in PLCC84, TQ144 and PQ208 packages (and other TQ/PQ packages).
- ?? Upto 140 user I/Os in Xilinx FPGA.
- ?? Interface to 4 X 7-Segment Multiplexed displays.
- ?? 4x4 membrane keypad.
- ?? User selectable configuration modes, using either SPROM / FLASH PROM / JTAG / Slave Serial.
- ?? Interface to RS232 with 9-pin D-type connector.
- ?? Byte-blaster cable interface for configuration of Altera FPGAs.
- ?? On board 8-MHz Clock oscillator (user selectable).
- ?? With on boards regulators supporting 5V, 3.3V and 2.5V devices.
- ?? Interface to 16 digital inputs and outputs with LED indication.
- ?? Power on Reset circuit and configuration reset key.
- ?? Support for different I/O Standards.
- ?? Complaint with Xilinx ISE series software.
- ?? Complaint with Altera Quartus design software.

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Daughter Cards (Available with Universal protoboard)

?? Xilinx FPGA Spartan II	XC2S50 PQ208-5C
?? Altera ACEX FPGA	EP1K50 TQ 144-3C
?? Xilinx CPLD	XC 9572 PLCC84-15C
?? Altera MAX7000s CPLD	EPM7128s PLCC84-15C

?? **Note: Select any one CPLD adaptor and any one FPGA adaptor.**

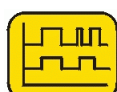
Applications and Practicals

?? Temperature controller.	?? 8/16/24/32 bit Shift register.
?? Access control system.	?? 4-bit and 8-bit ALUs.
?? Display and Messaging applications	?? Timer designs IC8254 and IC8253.
?? PC based applications.	?? 8255 PPI design.
?? 8051 microcontroller based applications.	?? Adders and subtractors.
?? Design of 8/16/24/32 bit counters.	?? All digital logic gates and functions.

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