CPLD starter pack

What does it do?

It is a flexible training solution for learning programmable logic technology and for project work.

Benefits

- A complete learning solution including hardware, software and curriculum
- Provides a great platform for CPLD projects

Features

- Includes CD ROM course
- Compatible with Quartus II Web edition from Altera
- Includes PICmicro Multiprogrammer as well as CPLD programmer.
- Shipped in rugged plastic trays for storage

Description

This system has been put together from E-blocks™ to allow rapid development of electronic solutions based on CPLD systems, and to provide a superb platform for learning CPLD programming.

The solution consists of a CPLD development board (with 7 E-blocks ports), an LED board, a switch board, a dual 7-segment display board, a prototype board and a PICmicro microcontroller programming board. A complete contents list of the pack is given below. All of these can be mounted on a metal backplane which can be locked down for security. Acrylic covers, which extend board life and provide added component security, are available.

The solution is supplied with all necessary cables and power supplies. A CD ROM - Programmable Logic Techniques - is included and this contains a complete course on CPLD programming in both VHDL and Verilog as well as Altera's Quartus II web edition development software. A separate datasheet on the CD ROM is available.

The 'snap together' E-blocks approach is particularly well suited to projects with CPLDs which have surface mounted packages with large pin count, which presents difficulties for use in projects.

The solution is compatible with more than 30 other E-blocks boards which can be used for further development and learning.

Learning time

Dependant on Course structure. When used with Programmable Logic Techniques CD ROM Students can undertake a 20 hour course in VHDL or Verilog - not including project time.

Prerequisites

- A good understanding of digital electronics—both combinational and sequential logic
- Windows skills

Manual

No manual is supplied - the pack is designed to be used with Programmable Logic Techniques CD ROM. Datasheets on all E-blocks boards are supplied.

System requirements

PC with CD ROM drive and Windows 98 or greater. PC needs Centronics type 25 way parallel port.
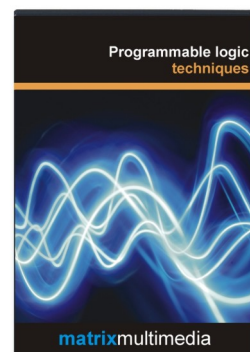
Further information

A separate datasheet is available for each of the E-blocks boards included in the pack. Please see our web site for details.

Order code

The order code for this product is EB287.

Also included

Programmable Logic techniques CD ROM containing tutorials in VHDL and Verilog programming.

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About Quartus® II

The Quartus II Web Edition software is an entry-level version of the Quartus II design software that supports devices from Altera's mainstream FPGA and CPLD device families as shown in Table 1. The Quartus II Web Edition software includes a complete environment for FPGA and CPLD design, including schematic- and text-based design entry, HDL synthesis, SOPC Builder system generation software, place-and-route, verification, and programming. The Quartus II Web Edition software removes all barriers for designing high-density architectures, giving designers the performance advantages and compile time benefits of Altera's award-winning design software at no cost."

This solution is based on an E-block compatible CPLD development board which acts as both a programmer and as a development board. The CPLD board provides 7 x 8 bit ports (56 programmable I/O lines) which can be linked directly into other E-blocks containing switches, indicators etc. The board is fitted with an on-board oscillator which resonates at 4MHz. The device used on the board is an Altera EPM7128SLC84-10. This reprogrammable device contains 128 macrocells and is simple to program and has sufficient capacity enough to allow projects of quite significant complexity to be developed. The E-blocks that accompany the CPLD board have been designed to allow the tutorials on the Programmable Logic Techniques CD ROM to be carried out, and the prototype board and PICmicro microcontroller development board means that a much wider variety of projects can be tackled with the solution.

Pack contents

The table below gives a list of the pack contents.

Tray	Qty	Code	Description
1	1	EB251	Male to Male IDC connector
1	1	BP232	E-blocks backplane - tray compatible
1	1	EB216	Pack of 100 M3 anti-slip nuts
1	1	EB217	Pack of 100 M3 12mm pozi head screws
1	1	EB355	E Blocks User Guide
1	1	EB634	E-blocks IDC cable
1	1	EBPUB	E-blocks publicity sheet
1	1	ELPLDSI	Programmable Logic TechniquesCD ROM
1	1	HP2045	Shallow plastic tray
1	1	HP4039	Lid for plastic trays
1	1	HP5328	International power supply with adaptors
1	2	HP6219	E-blocks plastic mounting pillar
1	1	HP9734	Cardboard box for trays
1	1	HPCABLE	25 way male - female RS232 cable
1	1	HPUSB	USB lead
2	1	EB00400	E-Blocks LED board
2	1	EB00600	E-blocks USB Multiprogrammer
2	1	EB00700	E-Blocks Switch board
2	1	EB00800	E-Blocks Quad 7-segment display
2	1	EB01600	E-Blocks Prototype board
2	1	EB02000	E-blocks CPLD board
2	1	HP2045	Shallow plastic tray
2	1	HP2642	Holed foam for E-blocks trays
2	1	HP4039	Lid for plastic trays
2	1	HP9734	Cardboard box for trays
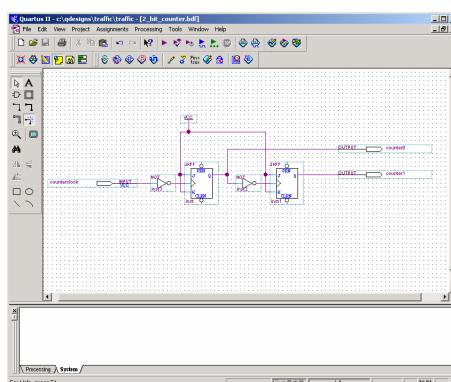
Quartus II design software allows rapid development of CPLDs in block diagram, VHDL or Verilog format.
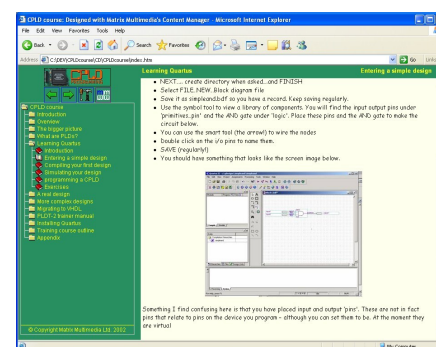
The Programmable Logic Techniques CD ROM contains tutorials on designing CPLD and FPGAs with conventional block diagrams, VHDL and Verilog.