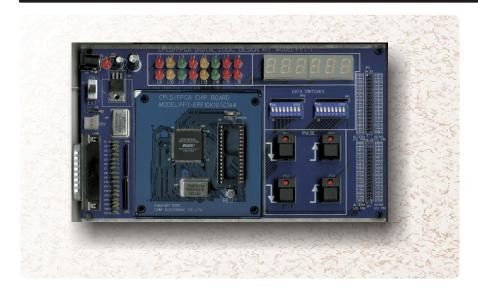# *FPT-1* CPLD/FPGA Logical Circuit Design Experimental Board

Brief Introduction

In the past, A professional electronic engineer designed circuits need a universal bread board and a great quantity's logical devices. Only soldering each devices can make people feel so frustrated, not to say amended it when you made a mistake. Now an electronic engineer can finished designed circuits easily by using CPLD / FPGA only amended on software and operated it via software. It is like made your own PC circuit device on the test table. It is not only learn new chip's techniques but it can also reduce PC board 's ALTERA then create a compact electronic product.

LEAP ELECTRONIC CO., LTD. support beginners needing, designed two big brands ALTERA and XILINX's CPLD/FPGA platform for user to study. Avoiding troubles of both soldering QFP chips and experimental layout. We had been approved by both IC vendors to use their development software. It will eliminate the hinder and stride enter domain CPLD/FPGA fields。

FEATURES

Use CPLD/FPGA software and hardware to learn new logical IC design, in order to replace TTL/CMOS complicated hardware design.

Use Graphic and VHDL、ABEL、AHDL to develop circuits。

Use Print Port Download directly under original manufacturer development system。

Programmed finished file to EPROM (FLASH) and operated it independently。

Use WIN95/98/2000/NT operation system.

CHARACTERISTIC

Module design。

User can select the different chip board module to be purchases.

Expensive chip can re-use。

Without soldering QFP package and saving much time.

FPT-1 Experimental Board Hardware Specifications

1. Support Devices：
   (1) ALTERA EPF10K10TC144
       （TQFP144pin）
       FPT-EPF10K10TC144
   (2) XILINX XCS10TQ144
       （TQFP144pin）
       FPT-XCS10TQ144
2. 8x2 LED shown output.
3. 8x2 Logical input toggle。
4. Four pulse keystrokes producer (two positive pulses、two negative pulses)。
5. Six digits and seven nodes monitor。
6. Own Red main power guiding lights。
7. Within 10MHz oscillator。
8. Own main power switch to exchange Adaptor with Extend Power Pin。
9. 25pin D Type Connector (Printer Port Download FPGA)。
10. Use DC 9V Adaptor or Extend Power Pin provided for user. Specification :DC 5V。
11. Support ALTERA MAX +Plus II Baseline and XILINX Foundation's development system.
12. Not use expanded area I/O Pin，provided user definition use。

Test Content

Combined logic design, simulation and test:
1. Basic logic
2. Deducter
3. Decoder
4. Combined logic
5. Comparator
6. Multiplexer
7. Adder
8. Compiler
9. Demultiplexer

Sequential logic circuit design simulation and test:
1. Flep-flop device
2. Shift register
3. Shift counter register
4. Synchronized counter
5. Non-Synchronized counter

Thematic Application Test

Digital clock

Counter

Electronic alarm clock

Traffic light control

Electronic dice

VHDL/AHDL design

Random design of expanded I/O Pin

Application program range

1. Fundamental logic
2. Digital circuit design
3. Digital System Design
4. Microprocessor Principle
5. CPLD/FPGA Chip Design

Optional Accessories:

Please indicate ALTERA or XILINX series Chip board module when you Order them.