

# LP-2900

## CPLD/FPGA Digital Logic Circuit Design Experiment Kit

### Introduction

Nowadays, CPLD and FPGA have been the first-choice components for the designers. It is suitable for the designers on application for communication, industrial automation, intelligent instrument, image processing, extensive engine control, etc. In order to allow users have excellent experimental platforms, LEAP series has provided platforms based on Altera or XILINX. Enabling engineers to realize the designs of logical circuit from experimental units.

### Test Content

#### Combined logic design, simulation and test

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|-------------------|------------------|
| 1. Basic logic    | 6. Multiplexer   |
| 2. Deducter       | 7. Adder         |
| 3. Decoder        | 8. Compiler      |
| 4. Combined logic | 9. Demultiplexer |
| 5. Comparator     |                  |

#### Sequential logic circuit design, simulation and test

1. Flip-flop device
2. Shift register
3. Shift counter register
4. Synchronized counter
5. Non- Synchronized counter

#### Analog logic circuit design, simulation and test

1. A/D converter
2. D/A converter

#### Thematic Application Test

1. 8 × 8 dual color spot array LED control test.
2. Digital clock
3. Counter
4. Electronic alarm clock
5. Traffic light control
6. Electronic dice
7. Keyboard scan
8. LCD display control test
9. A/D, D/A converter test
10. Easy CPU design
11. VHDL/AHDL voice design
12. Matching 8051 thematic test



#### Standard Accessories

- Main unit.....x1
- CD.....x1  
(included Altera Baseline V9.23 driver)
- AC power cord.....x1
- 25-pin printer cable or USB cable.....x1

### Specification

Communication	USB or Printer Port	Weight	3Kg
Power	100V AC~240V AC	Operating Altitude	up to 5000m
Frequency Range	50/60 Hz	Operating Humidity	90% (non-condensing)
Dimension	32cm x 22.6cm x 3.0/8.5cm	Temperature	+5°C ~ +45°C

### Other Specifications

Chip Supported	ALTERA	FLEX10K10TC144 (TQFP-144) / FLEX10K30ATC144 (TQFP-144)	
	XILINX	XCS10TQ144 (TQFP-144) / XC2S30PQ208 (PQFP-208) XC2S100PQ208 (PQFP-208) / XC2S300EPQ208 (PQFP-208) XC2S50 (PQFP-208)	
Signal Generation Unit	1. Programmable frequency generator		
	2. Standard frequency 1K/10K/ 100K/1M/10MHz		
	Logic Input Switch		
	1. 8 × 1 logic input original press point with light 2. 8 × 2 logic input Dip switch 3. 4 impulse press button generator (2 positive pulse; 2 negative pulse) 4. 3 × 4 array keyboard		
Output Unit	1. 8 × 8 dual color point array LCD display		
	2. LCD 16 × 2 monitor		3. 6 digits 7 nodes monitor
	4. 3 × 4 LED output		5. Buzzer output x 1 set
	Linear Unit		
MPU unit	1. 8bit D/A converter x 2 sets		2. 8bit A/D converter x 1 set
	8051 and CPLD/FPGA match circuit test		

### PC System Requirement

Operating System	Windows 98/2000/XP
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### Application Program Range

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|--|----------------------------------|
| 1. Fundamental logic program             | 5. VLSI design program           |
| 2. Digital circuit design program        | 6. CPLD/FPGA chip design program |
| 3. Digital system design circuit program | 7. 8051 single chip program      |
| 4. Micro processor principle program     | 8. Thematic preparation          |