**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 to 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**
1. Basic logic
2. Deductor
3. Decoder
4. Combined logic
5. Comparator
6. Multiplexer
7. Adder
8. Compiler

**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. VHD/AHDL voice design
12. Matching 8051 thematic test

**Specification**

<table>
<thead>
<tr>
<th>Communication</th>
<th>USB or Printer Port</th>
<th>Power</th>
<th>100V AC~240V AC</th>
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</thead>
<tbody>
<tr>
<td>Frequency Range</td>
<td>50/60 Hz</td>
<td>Operating Altitude</td>
<td>Operating Humidity</td>
</tr>
<tr>
<td>Dimension</td>
<td>32cm x 22.6cm x 3.0/8.5cm</td>
<td>Temperature</td>
<td>up to 5000m</td>
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</table>

**Other Specifications**

<table>
<thead>
<tr>
<th>Chip Supported</th>
<th>ALTERA FLEX10K10TC144 (TQFP-144) / FLEX10K30ATC144 (TQFP-144)</th>
</tr>
</thead>
<tbody>
<tr>
<td>XILINX XCS10TQ144 (TQFP-144) / XC2S30PQ208 (PQFP-208)</td>
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<tr>
<td>XC2S100PQ208 (PQFP-208) / XC2S300EPQ208 (PQFP-208)</td>
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**Signal Generation Unit**
1. Programmable frequency generator
2. Standard frequency 1kHz/10kHz/100kHz/1MHz

**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**
1. 8bit D/A converter x 2 sets
2. 8bit A/D converter x 1 set

**MPU unit**
8051 and CPLD/FPGA match circuit test

**PC System Requirement**

| Operating System | Windows 98/2000/XP |

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

**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