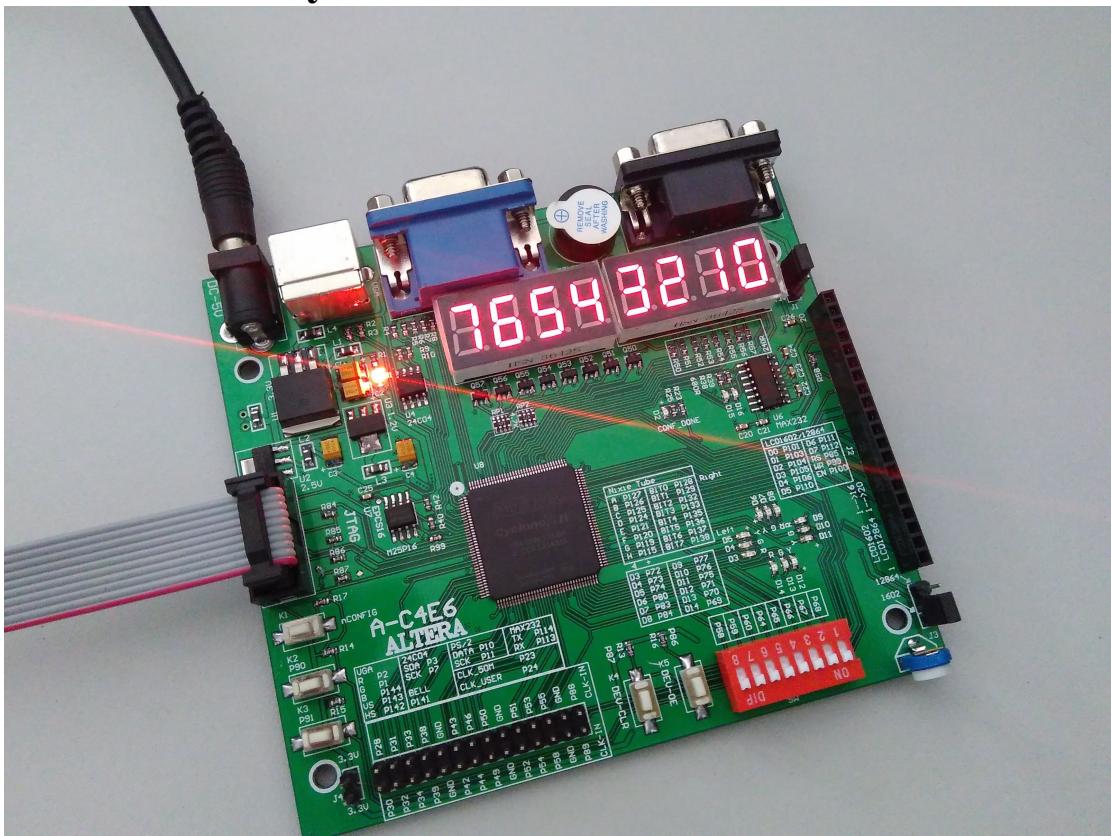


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## ALTERA Cyclone IV FPGA Board A-C4E6



### FPGA Board Description

1. Onboard EP4CE6E22C8N chip
2. Onboard JTAG interface
3. Onboard 50MHZ active crystal pack and one pack not use
4. Onboard 5 key input, 4 keys can programmer, and a nConfig key can't to programmer
5. EPCS16(OR M25P16) 16M bit spi flash.configer FPGA
6. AT24C04 I2C
7. 1 X 8 swith
8. on-board 12-bit LED light-emitting diode (do water and other experiments)  
9 . o n - b o a r d 8 - bit LED digital tube (for dynamic or static display experiment of digital control, frequency meter);
10. on-board a buzzer (for sound experimental)

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11. RS232 MAX232 serial communication circuit board (and other systems to do the serial communication experiment)

## 12. on-board PS / 2 keyboard port (do PS / 2 keyboard test)

13. board 1602LCD character LCD interface (do characters show experimental) ,or12864LCD LCD interface (such as Chinese characters do show experimental)

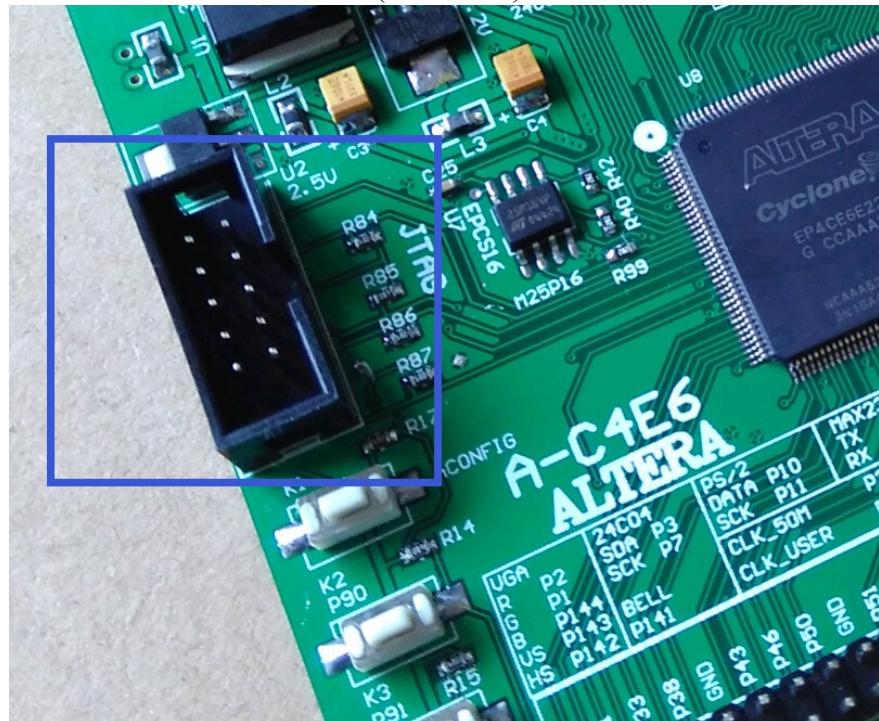
## 14 VGA display

15 20 PIN I/O to 2.54

## How to use board

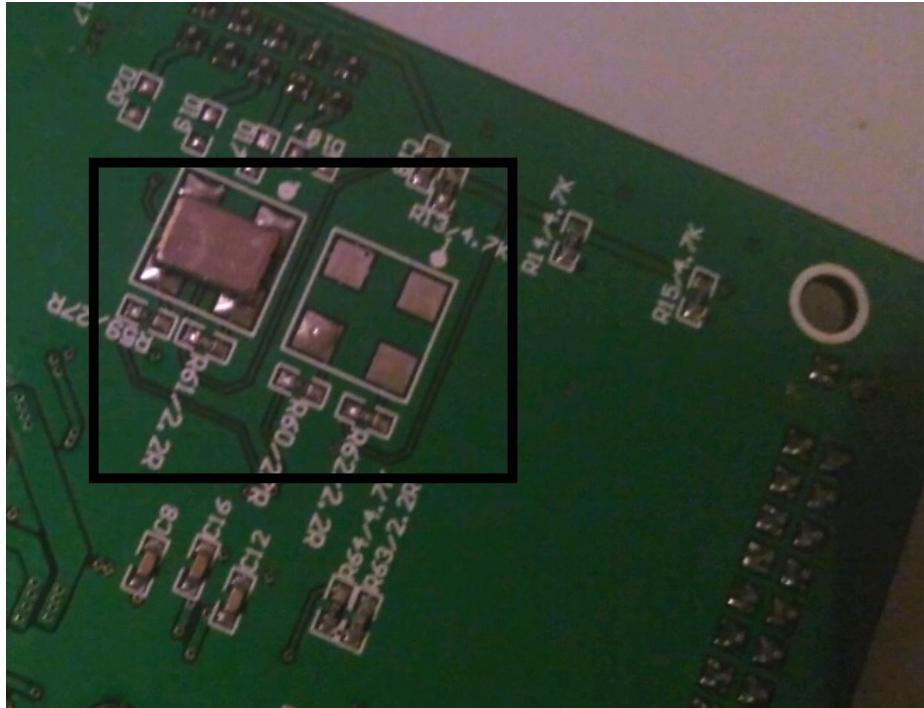
**input DC 5V**

JTAG: You need use ALTERA USB Blaster or ByteBlasterII Download .SOF file to FPGA chip via JTAG , but if power loss the program will be loss . You want the program not loss, you need to download .JIC file to EPICS16(or M25P16) SPI FLASH via JTAG

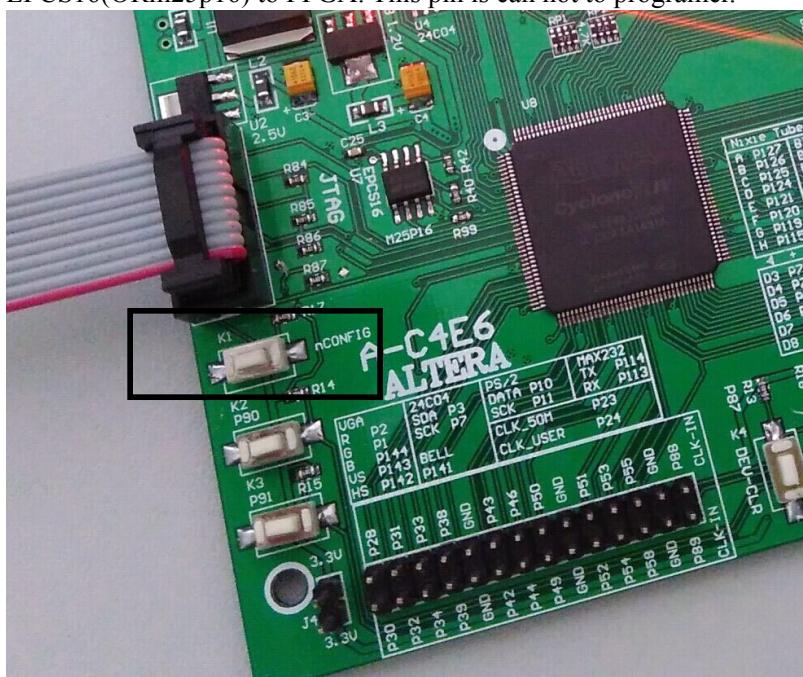


CLK 50M input , a other clk pack not use .

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K1 is a nCONFIG input FPGA pin, if you press down k1, FPGA will read program from EPCS16(ORM25P16) to FPGA. This pin is can not to programmer.

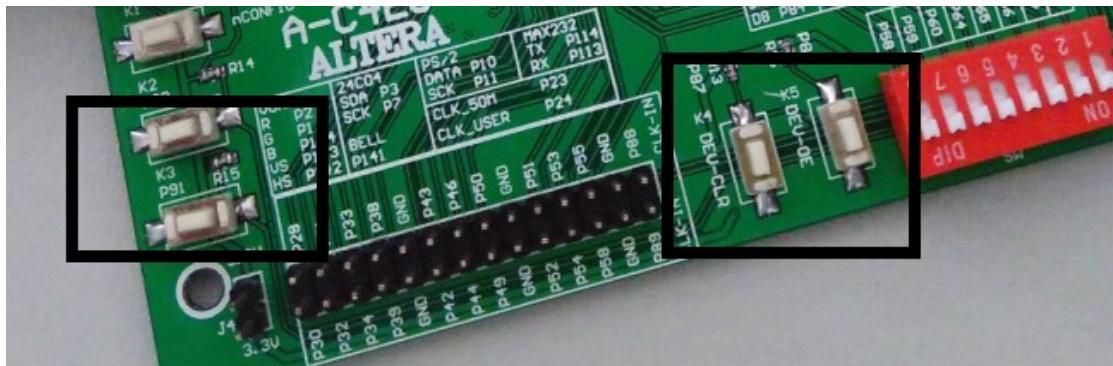


K2 K3 K4 K5 you can programer.

K4 is a input key , you can program PIN\_87 input FPGA. When you press down this key .PIN\_87 is a Low level . And PIN\_86 is FPGA DEV\_CLR(Global reset pin, but you need to program)

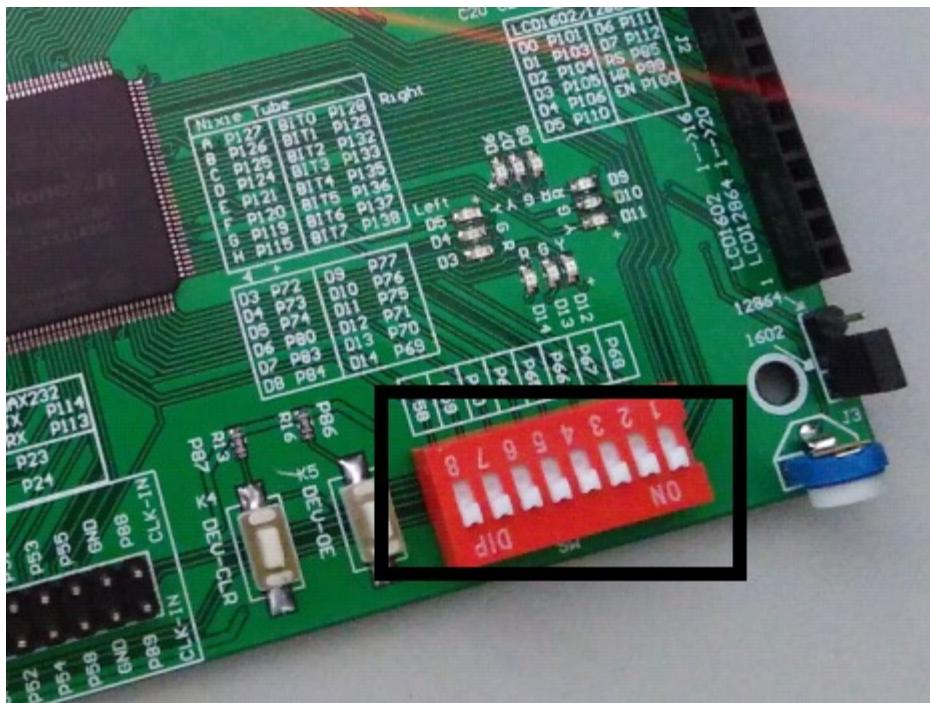
K5 is a input key , you can program PIN\_86 input FPGA. When you press down this key .PIN\_86 is a Low level . And PIN\_86 is FPGA DEV\_OE(Global enable pin, but you need to program)

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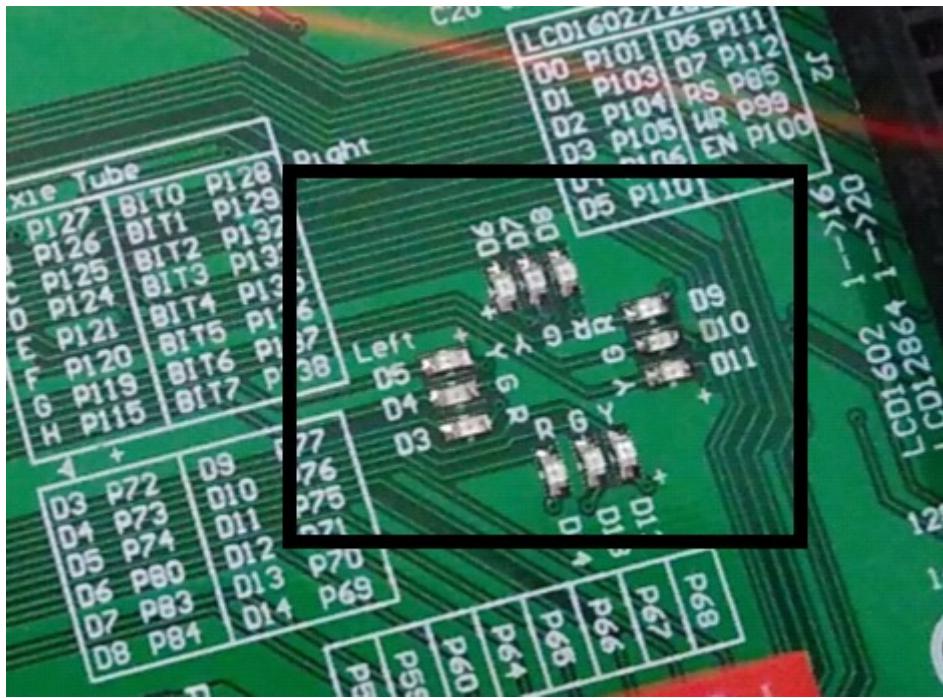
1 X 8 switch

You can set 0 or 1

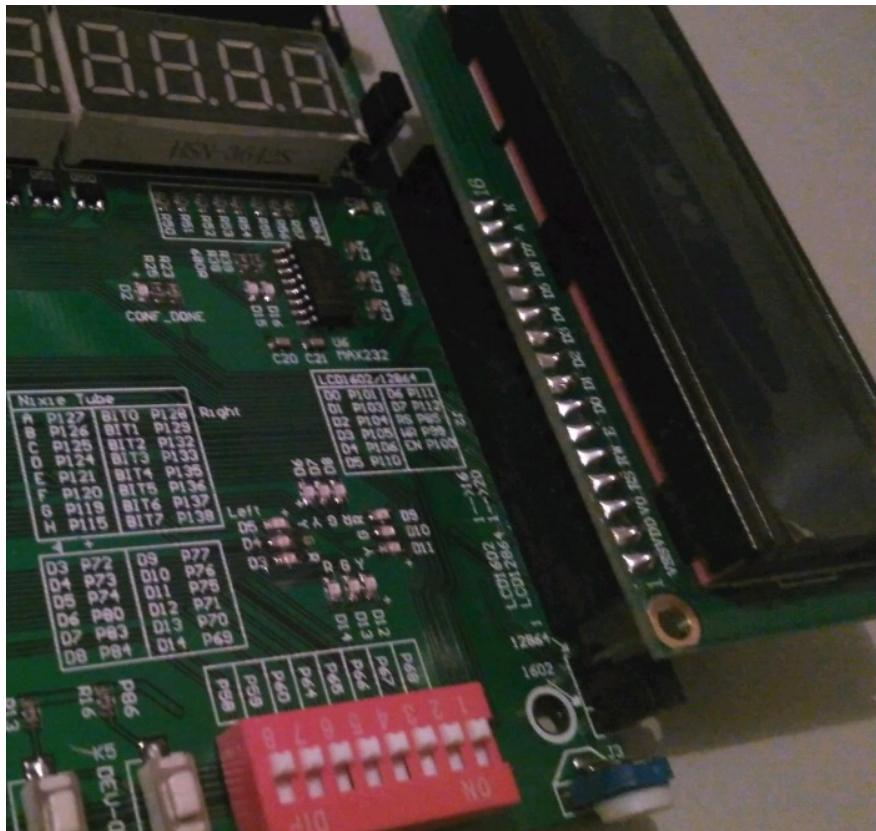


LED light , when the led PIN is low level , the led will light.

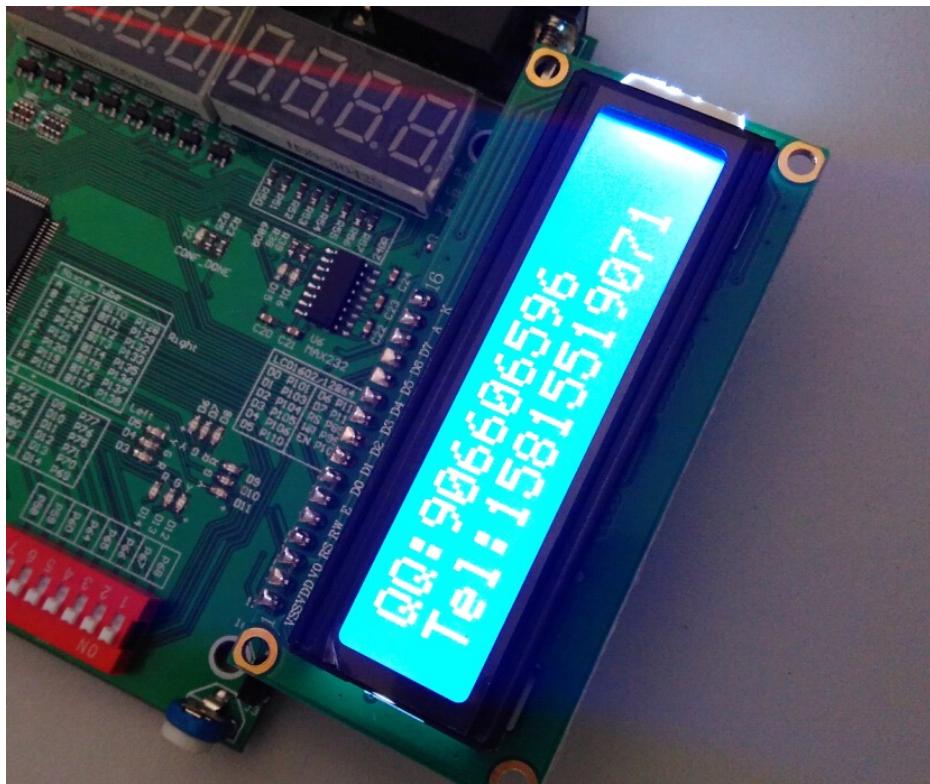
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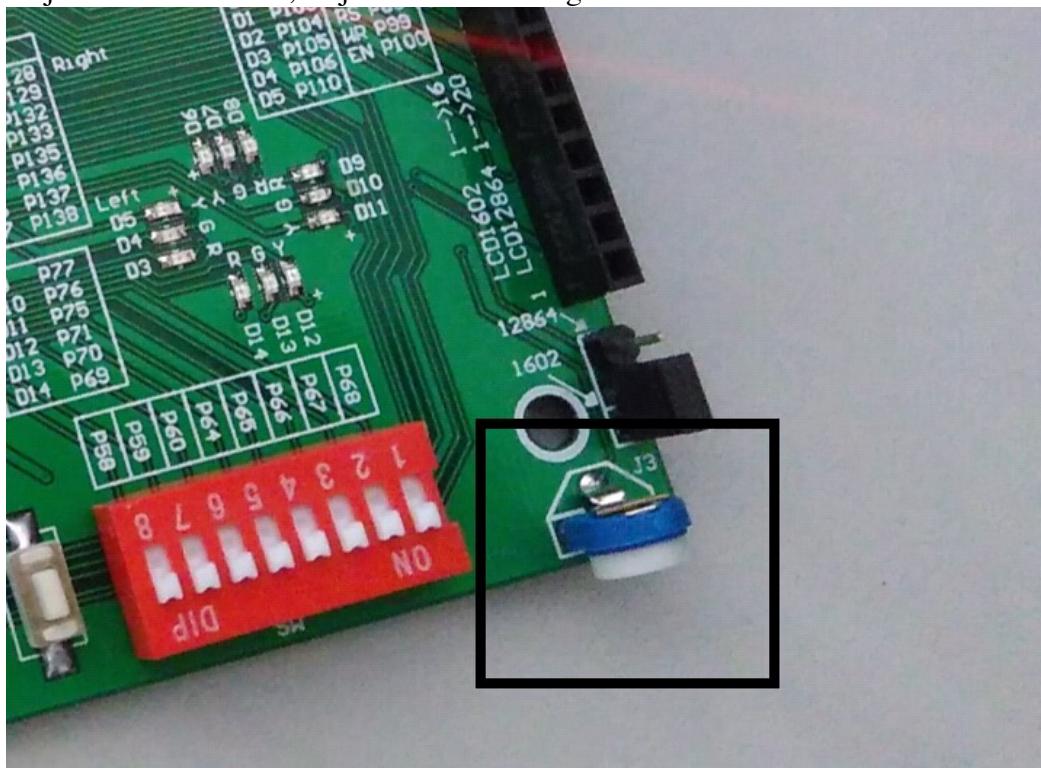
## LCD1602 how to insert



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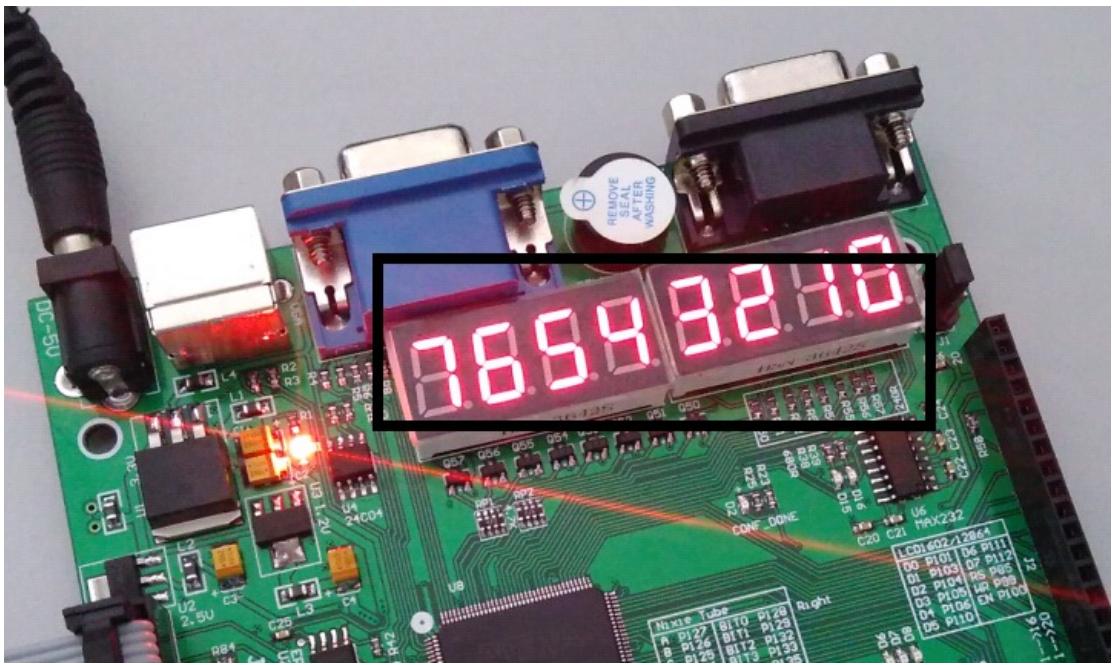


Adjustable resistance , Adjust LCD1602 brightness

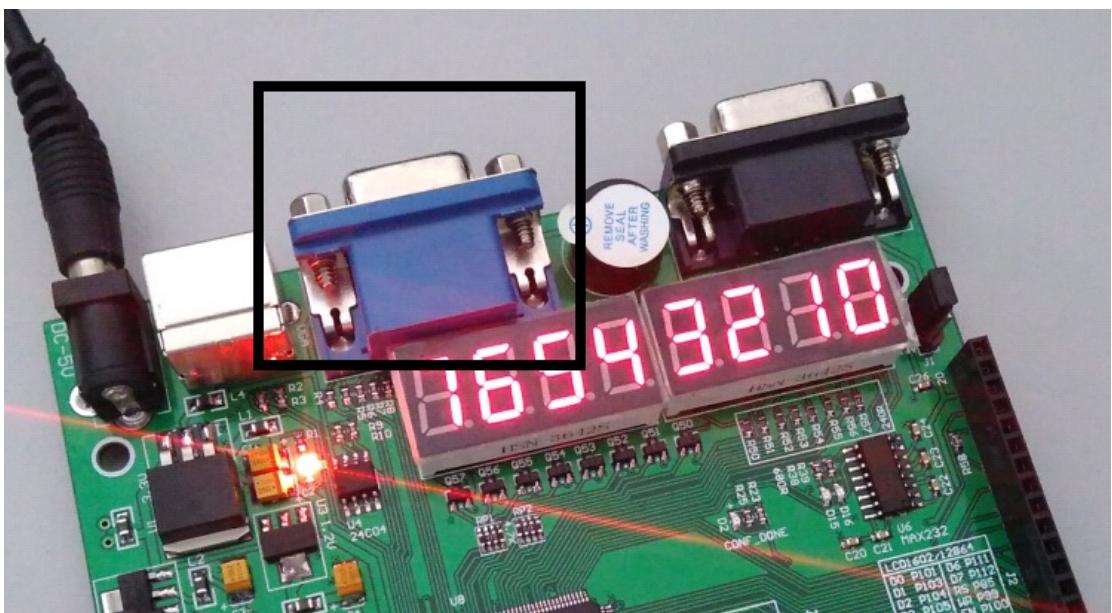


8-bit LED digital tube

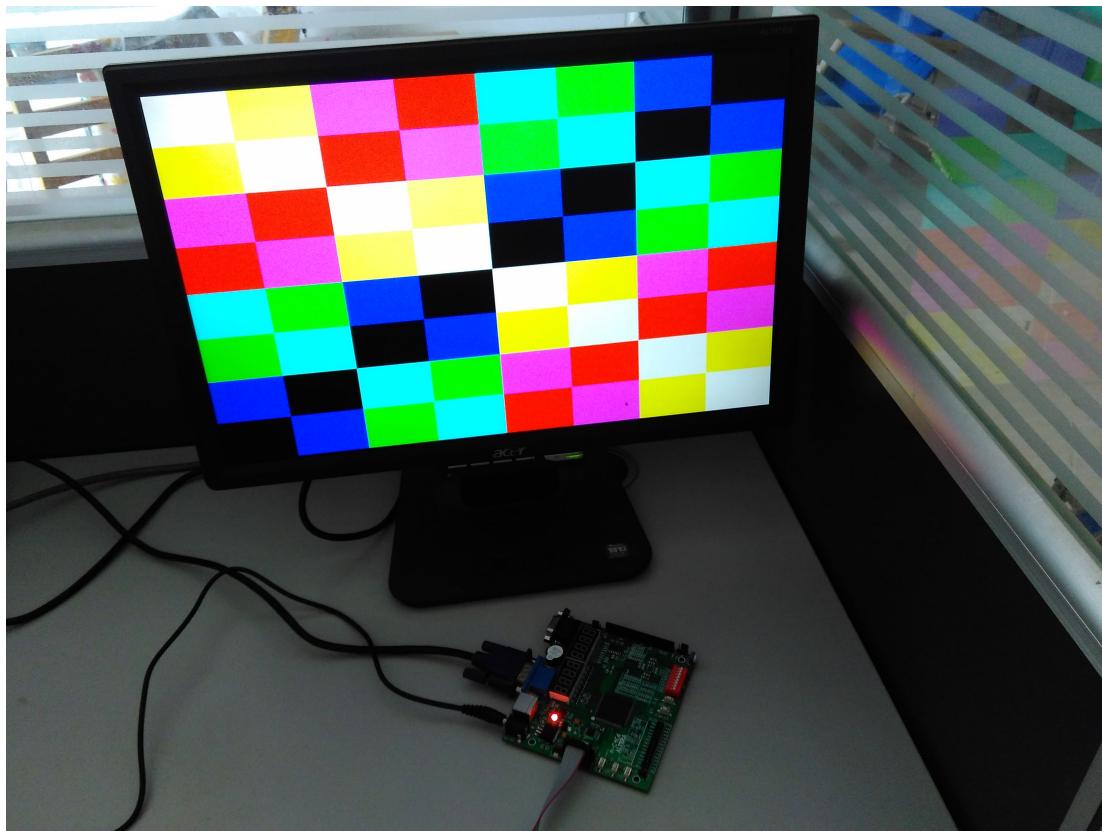
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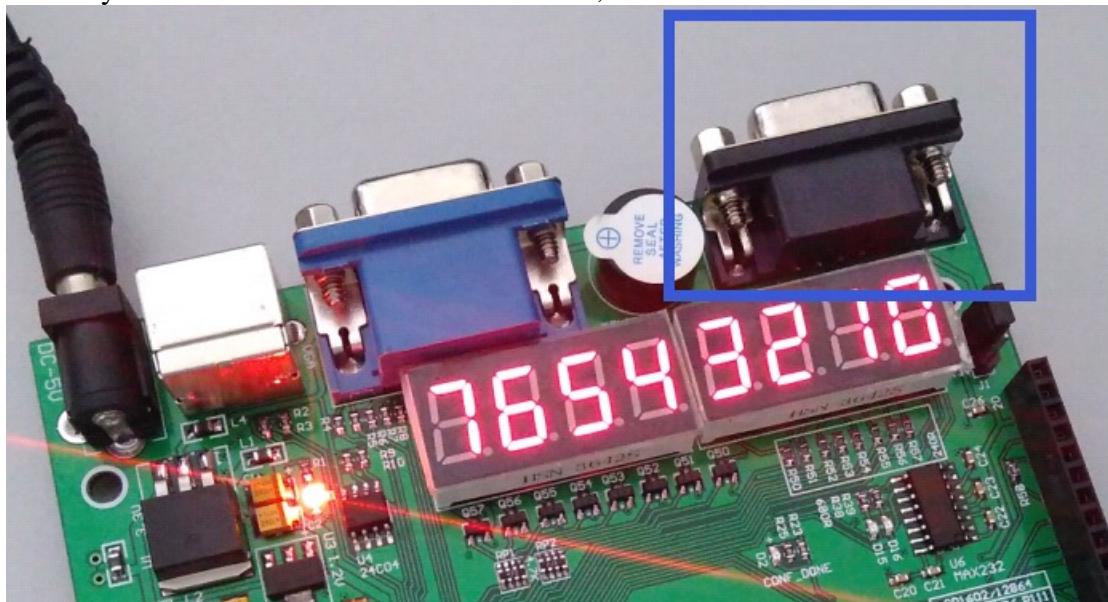
VGA display



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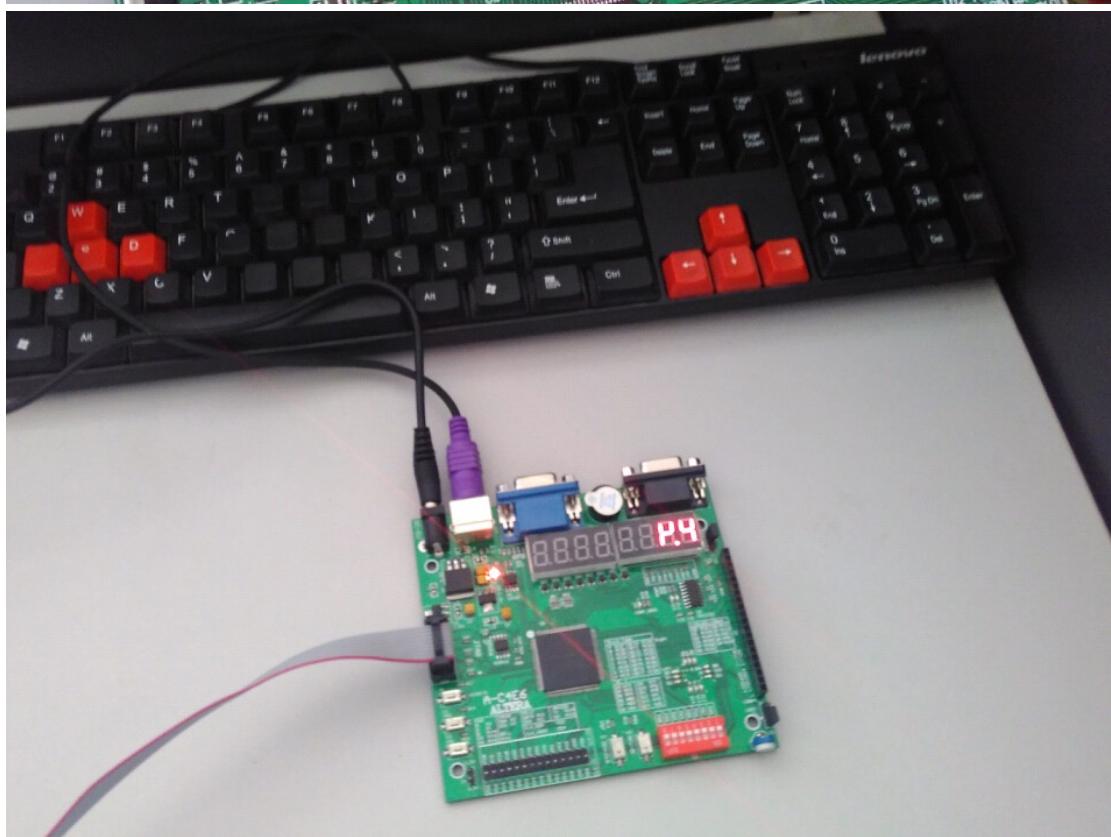
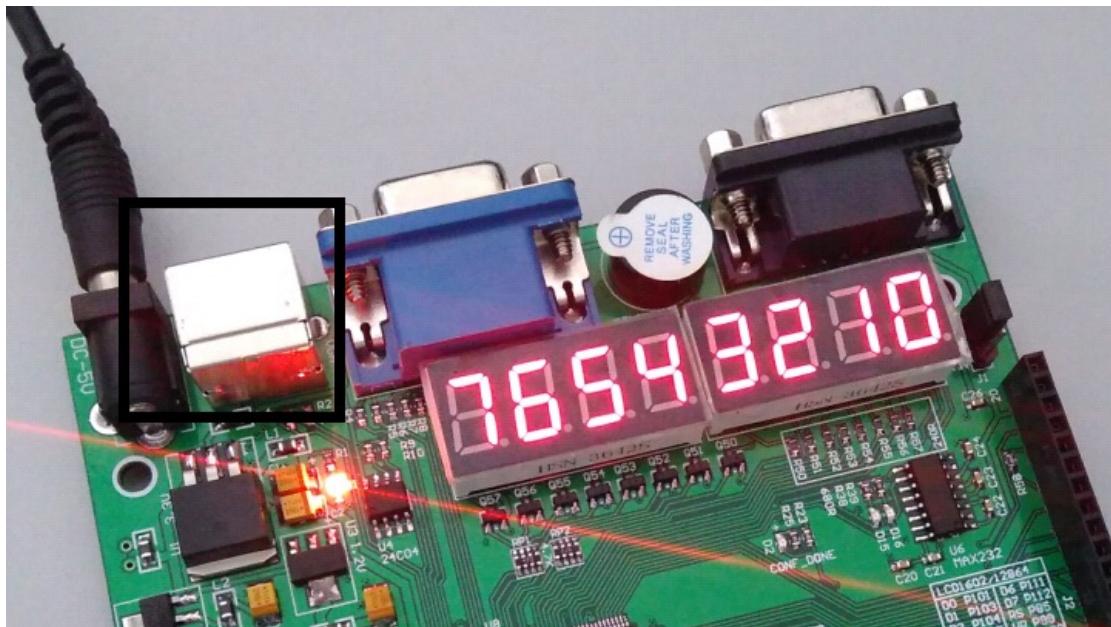


RS232 you can use rs232 cable connect to PC, or use USB TO RS232 connect to PC



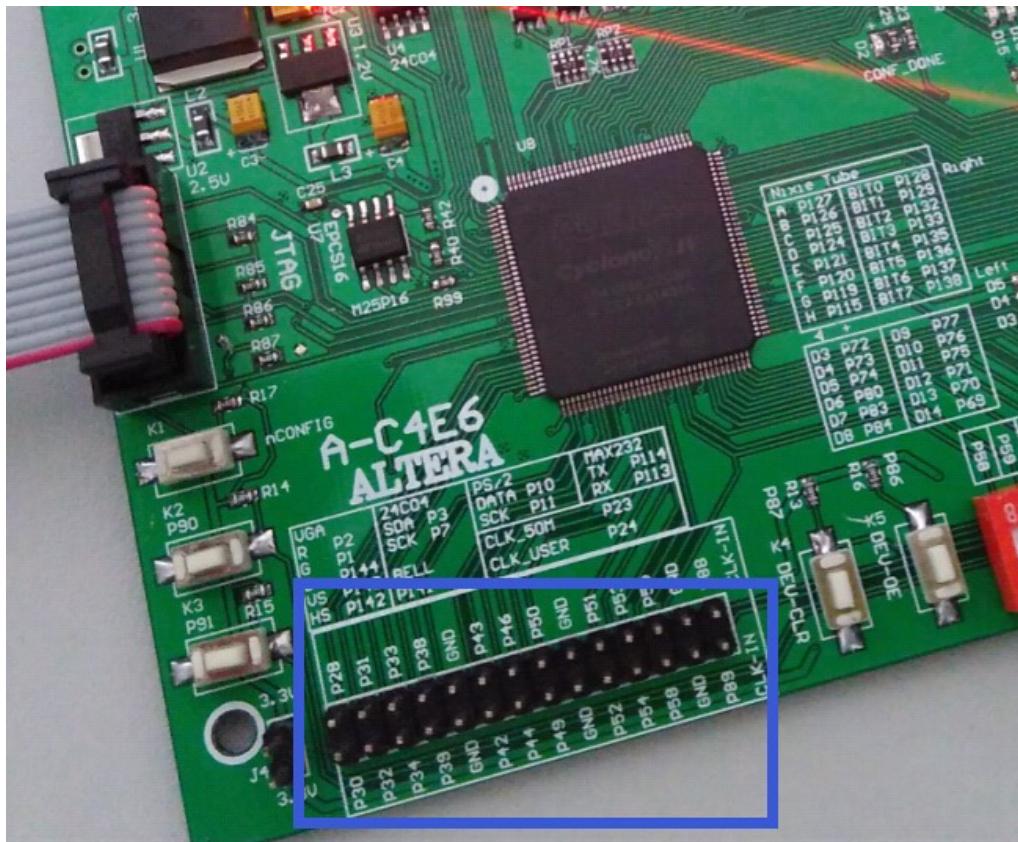
PS/2 PORT, you can use pc ps/2 keyboard.

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Not use i/o , you can connect your Modular

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VCC 3.3V output

