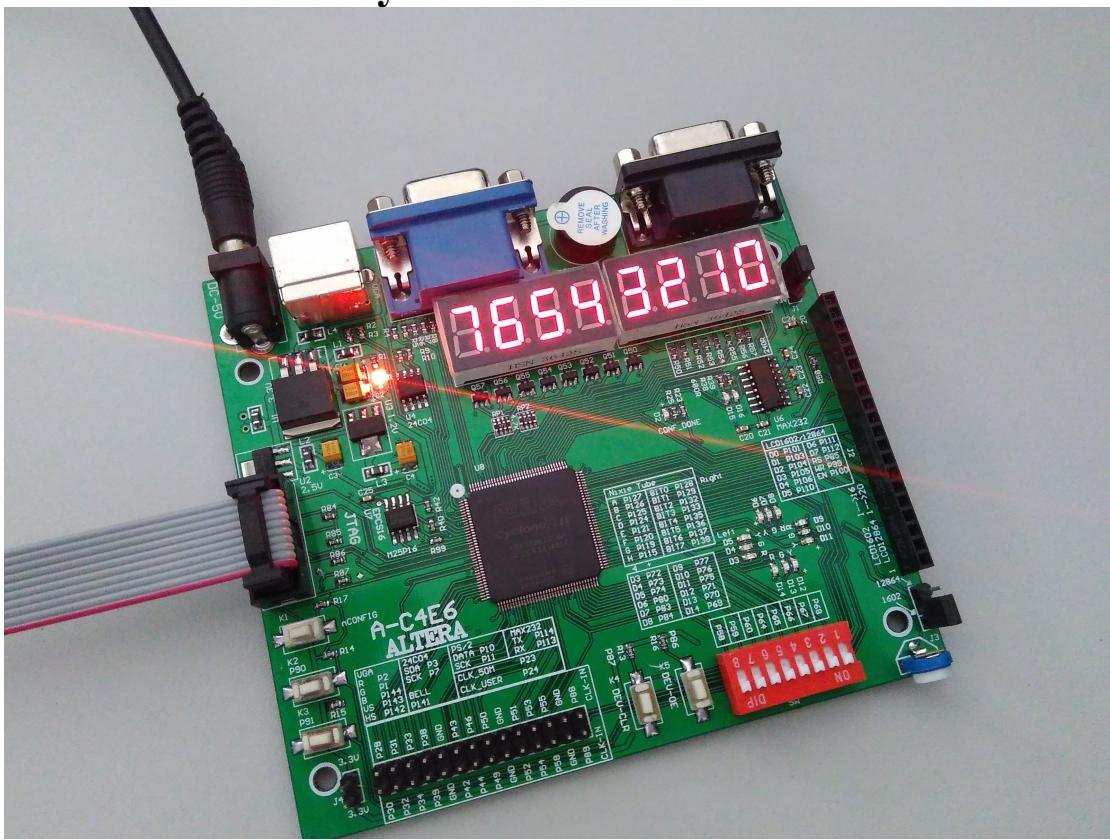


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## ALTERA Cyclone IV FPGA Board A-C4E6



### 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 program, and a nConfig key can't to program
5. EPCS16(OR M25P16) 16M bit spi flash config FPGAs
6. AT24C04 I2C

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7. 1 X 8 switch

8 . on - b o a r d 1 2 - b i t L E D l i g h t -  
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)

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  
al) ,or12864LCD LCD interface (such as Chinese characters do show experimental)

14 VGA display

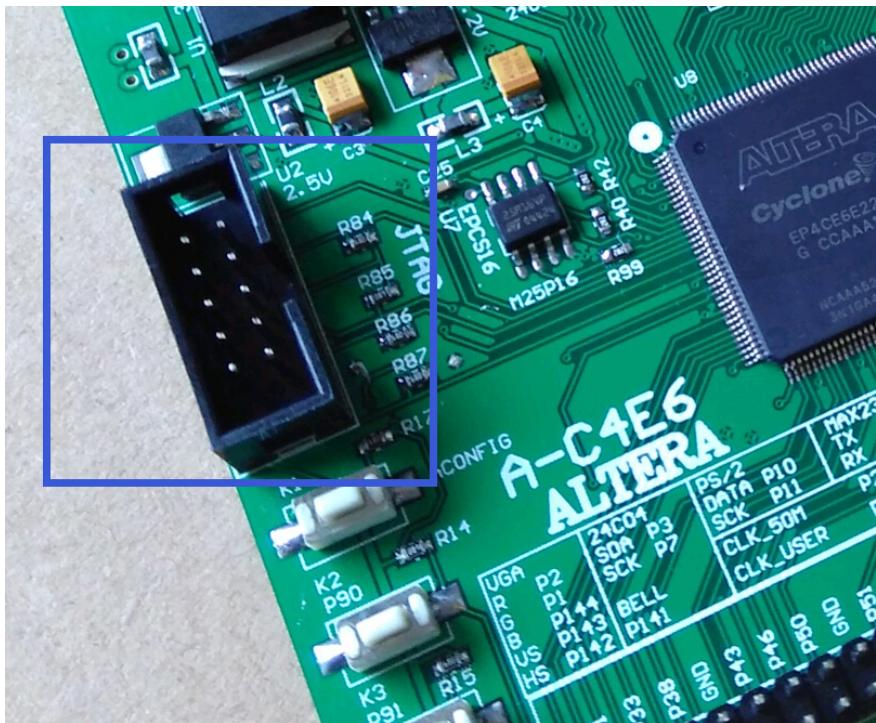
15 20 PIN I/O to 2.54

#### **How to use board**

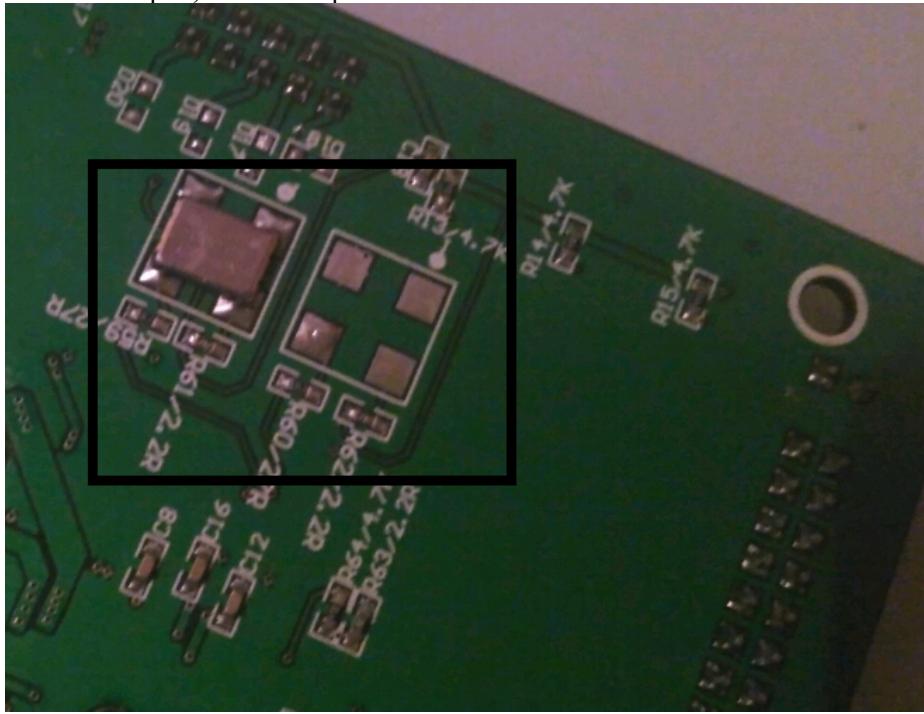
##### **input DC 5V**

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

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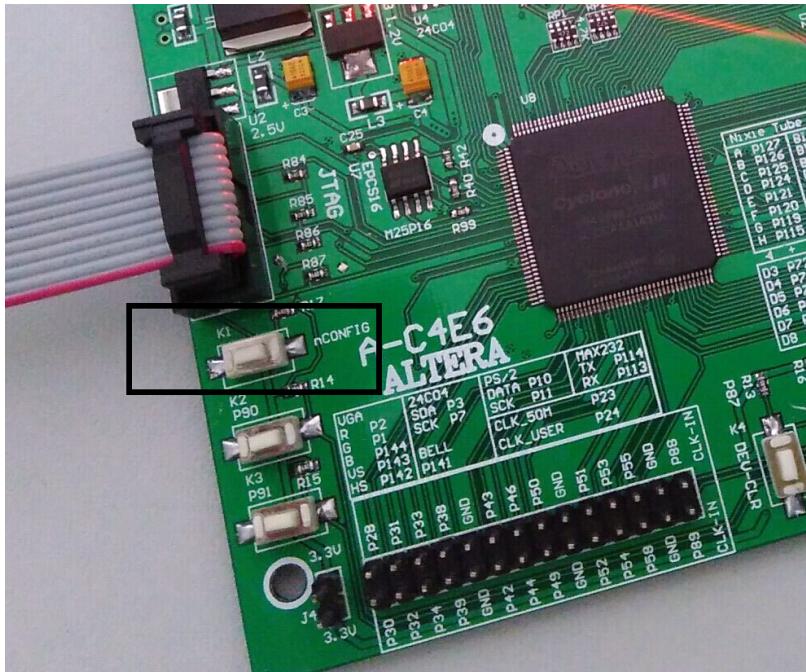


CLK 50M input , a other clk pack not use .



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.

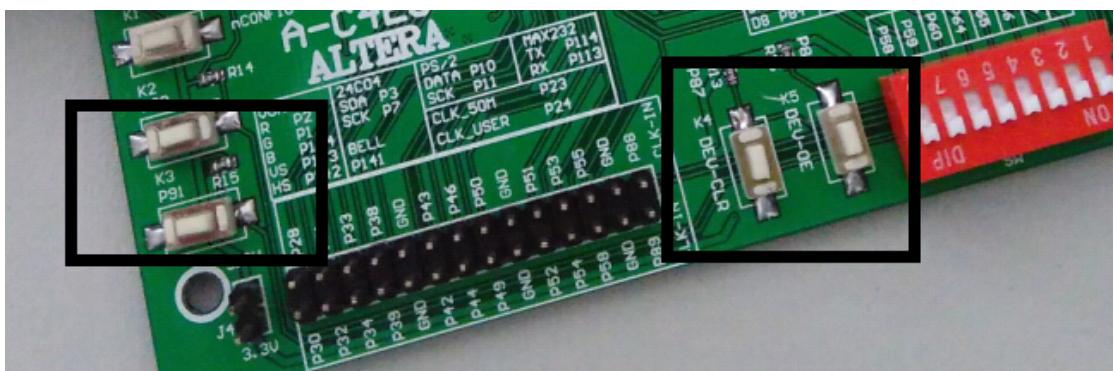
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K2    K3    K4    K5    you can programer.

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)

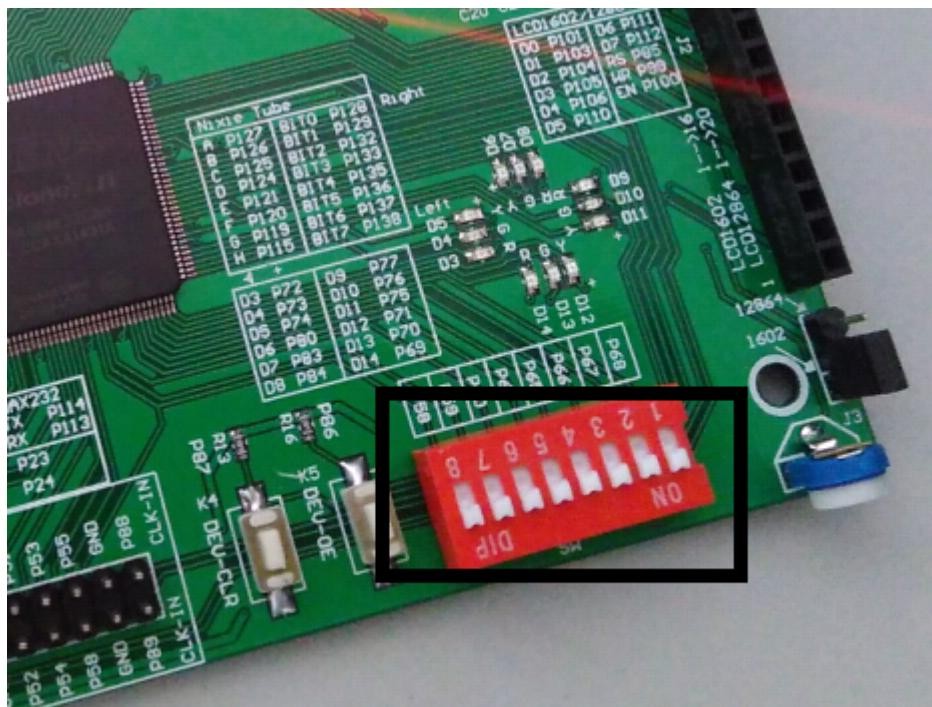
K5 is a input key , you can program PIN\_86 input FPGA. When you press down this key .PIN\_86 is a Low level . And PIN\_86 is FPGA DEV\_OE(Global enable pin, but you need to program)



1 X 8 swith

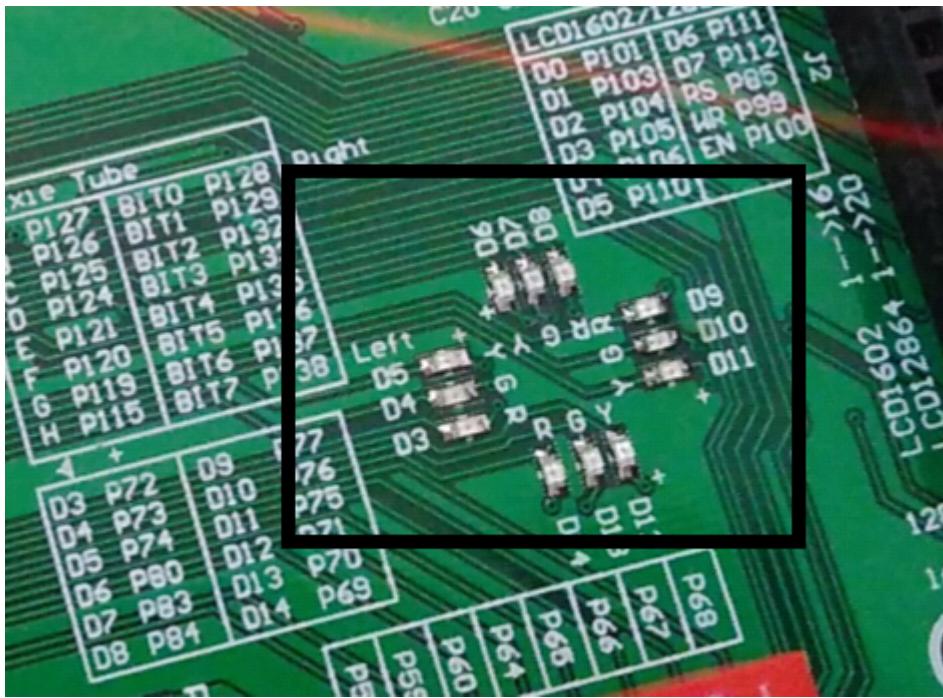
You can set 0 or 1

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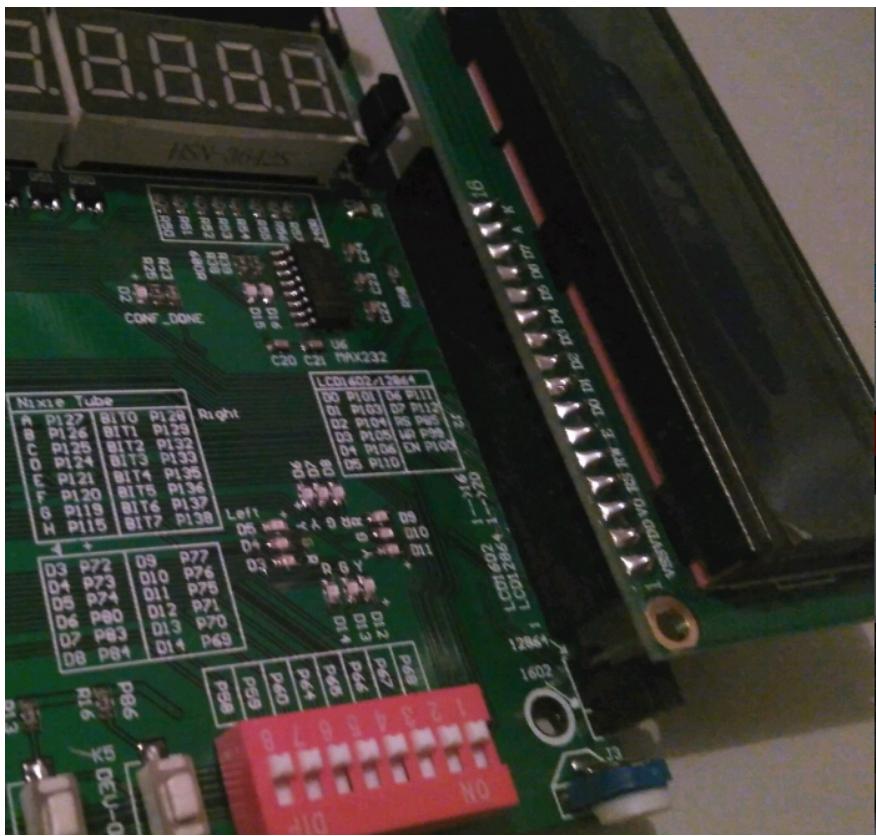


LED light , when the led PIN is low level , the led will light.

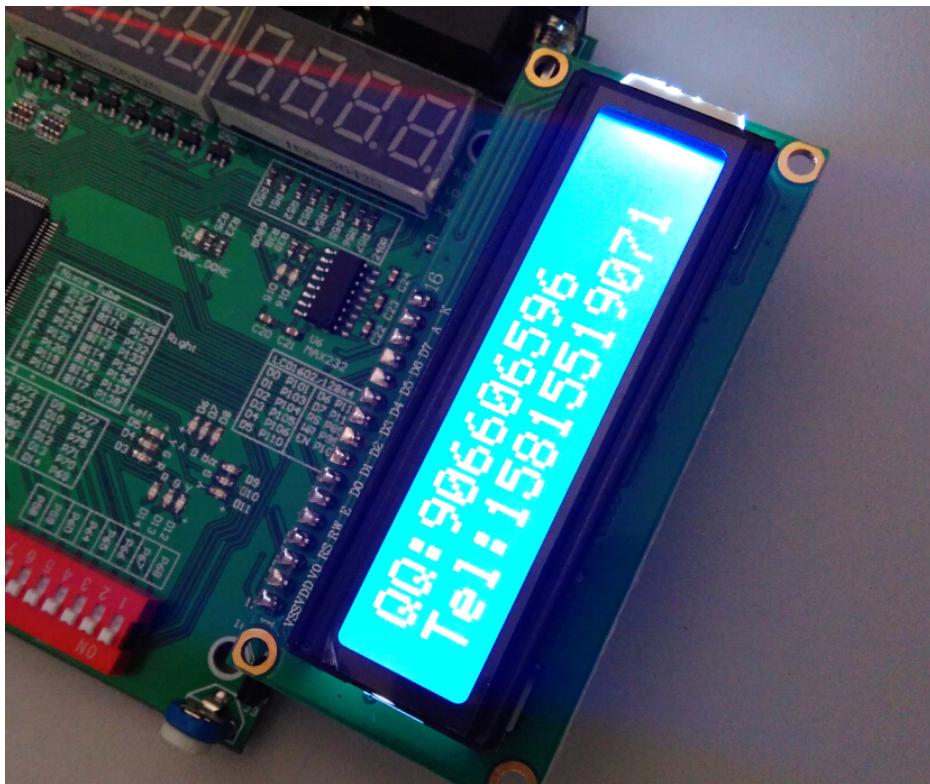
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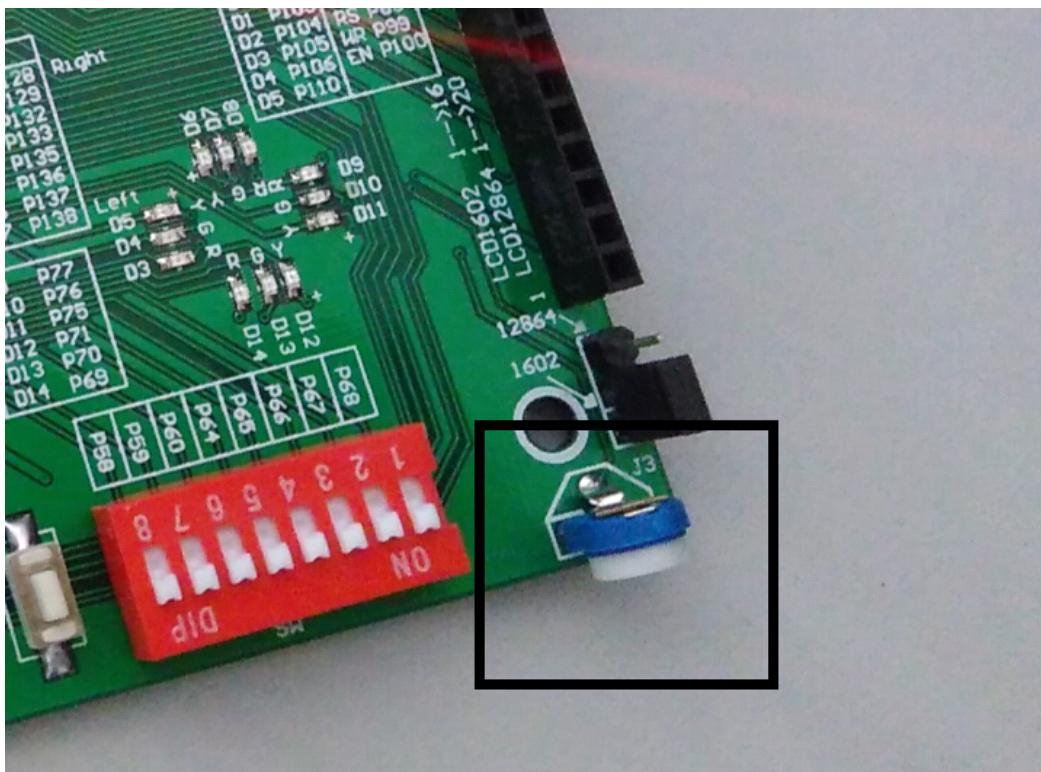
## LCD1602 how to insert



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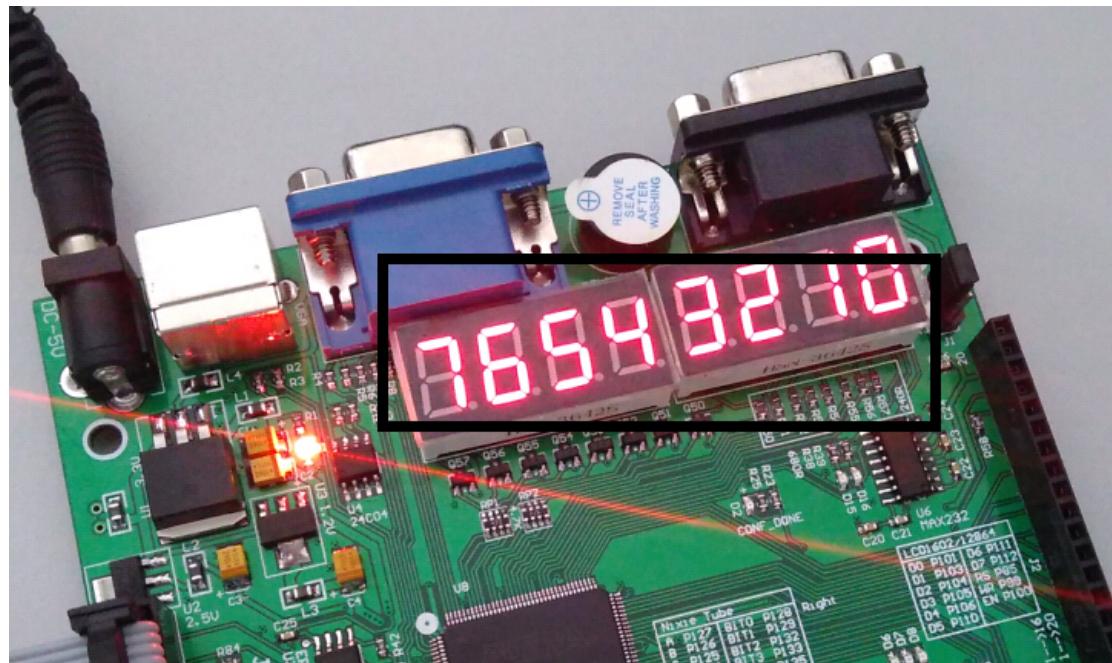


Adjustable resistance , Adjust LCD1602 brightness

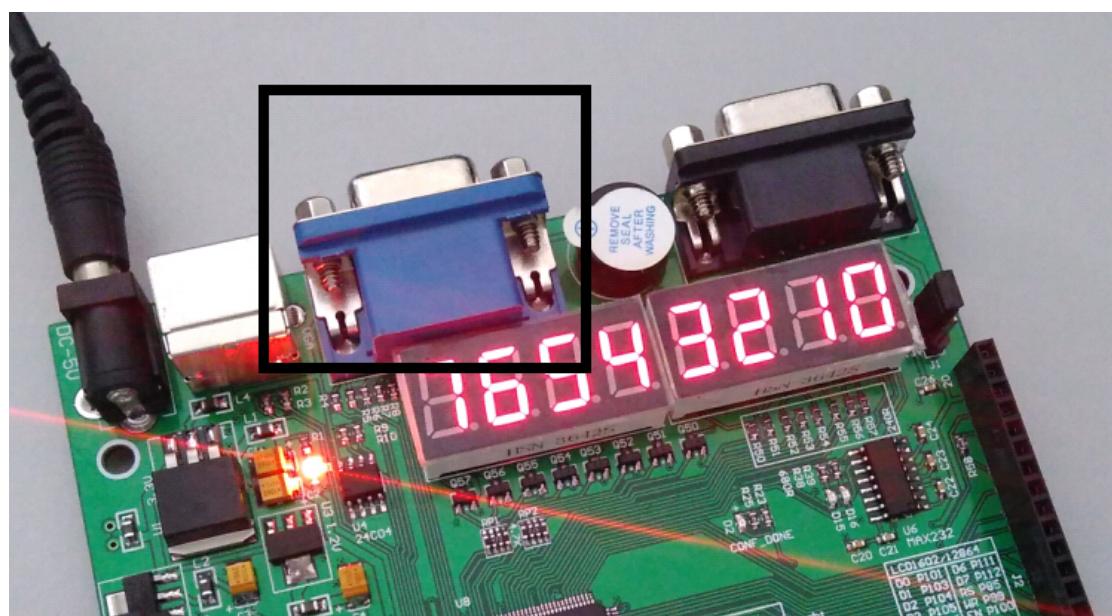


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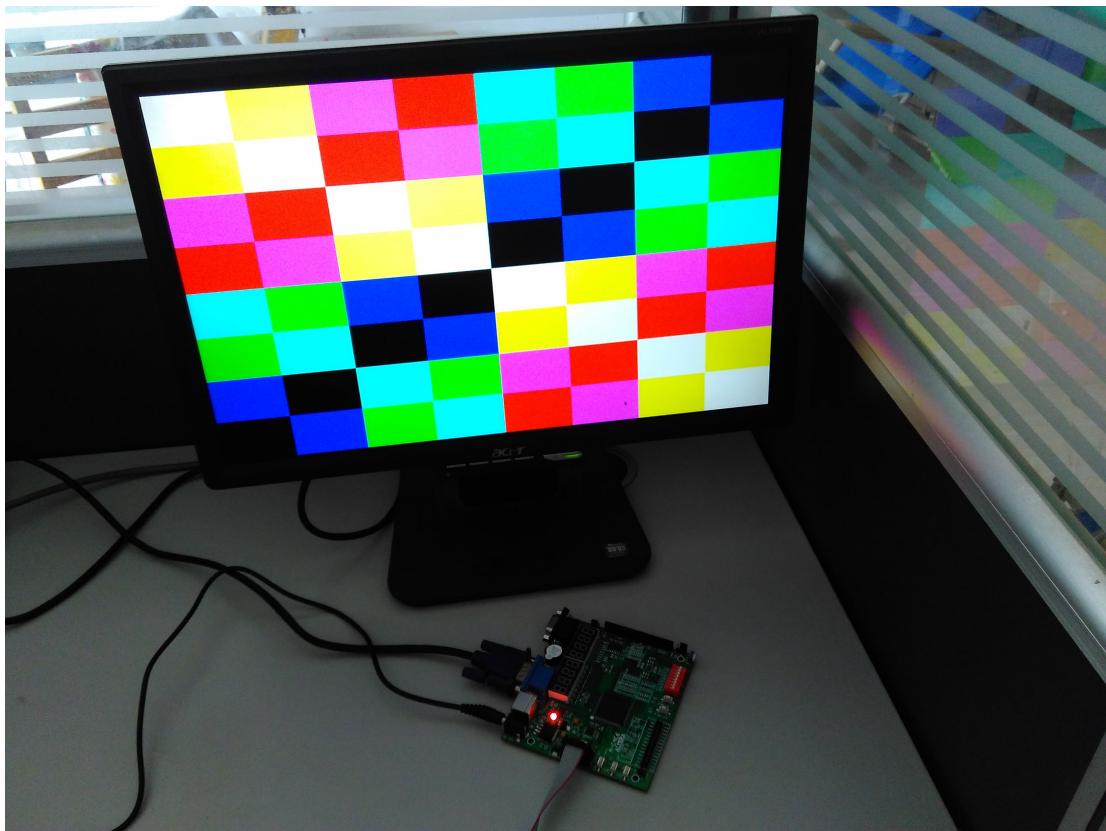
8-bit LED digital tube



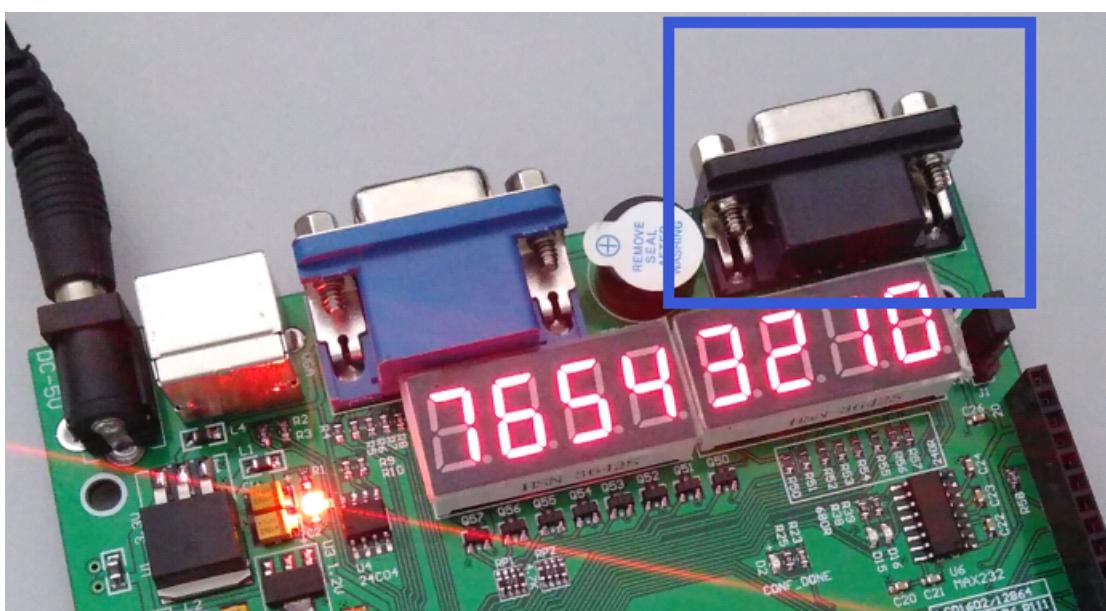
VGA display



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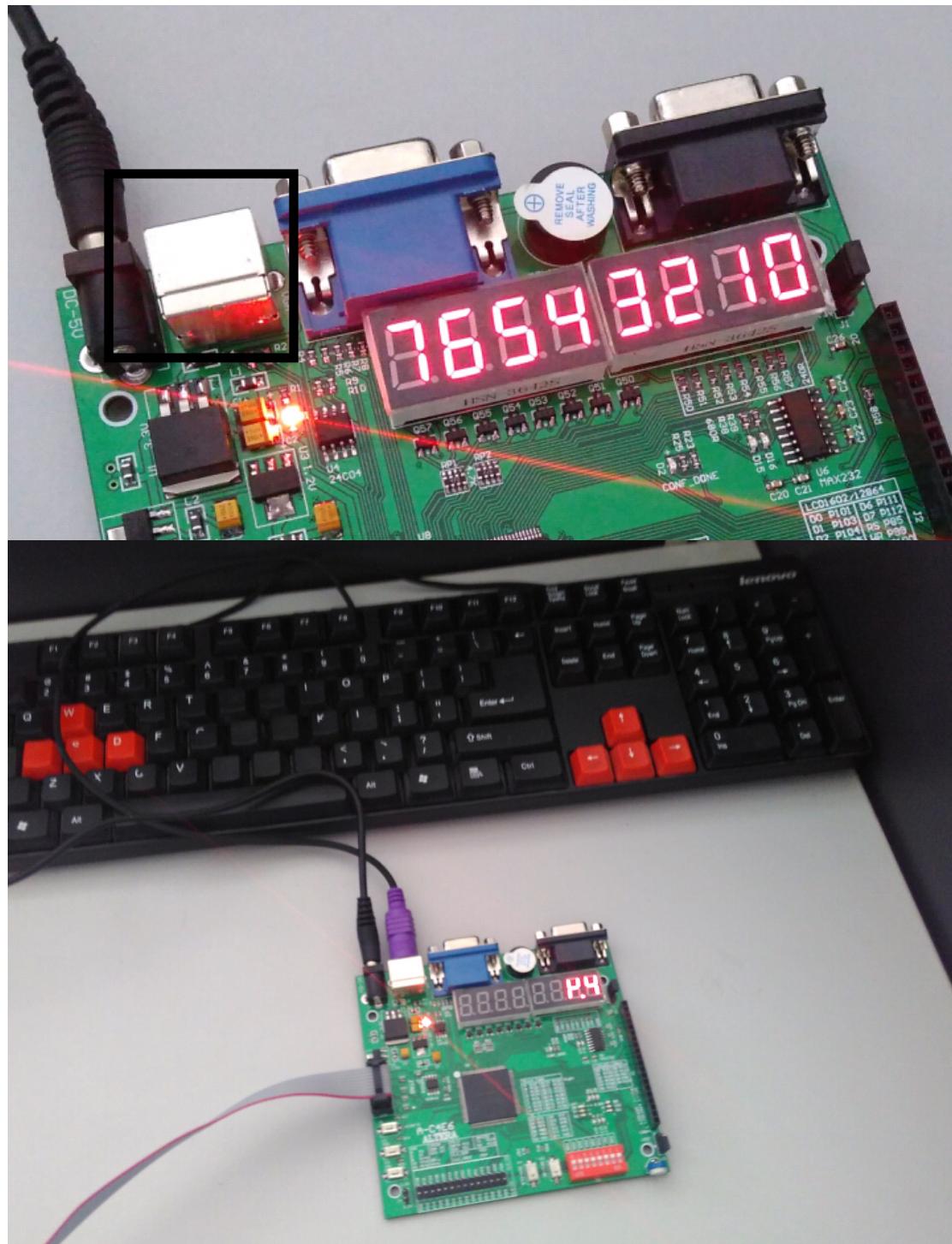


RS232 you can use rs232 cable connect to PC, or use USB TO RS232 connect to PC



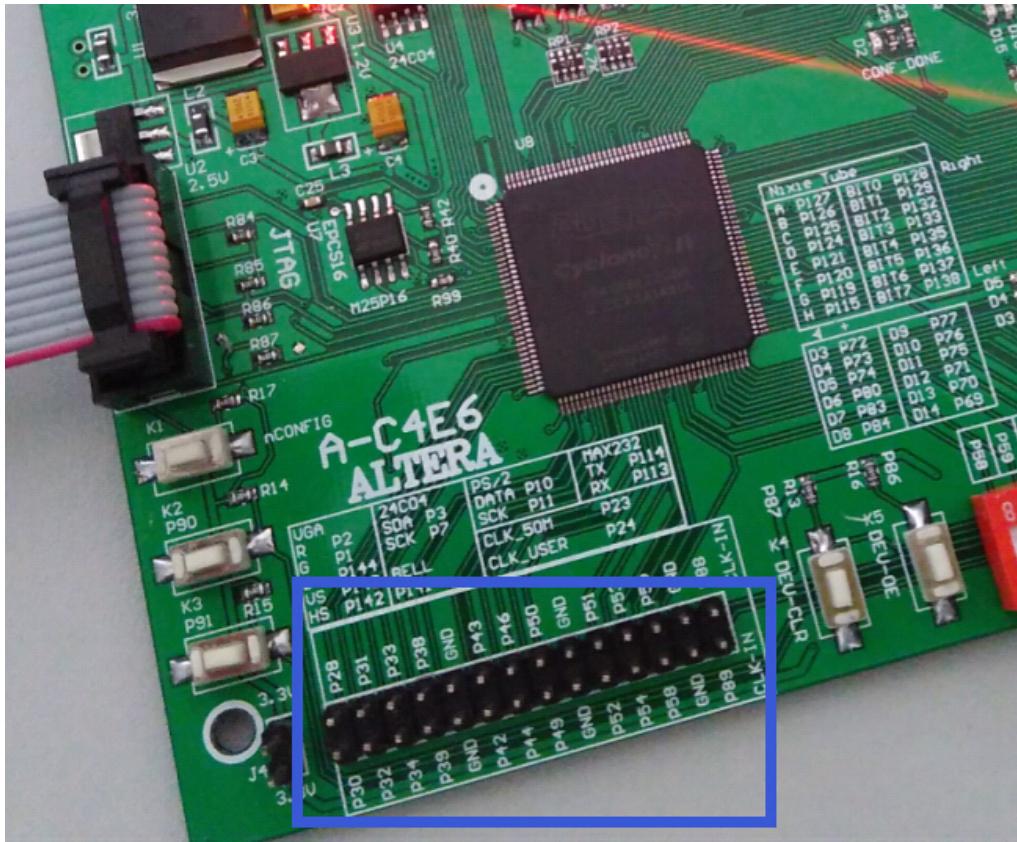
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PS/2 PORT, you can use pc ps/2 keyboard.



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Not use i/o , you can connect your Modular



VCC 3.3V output

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