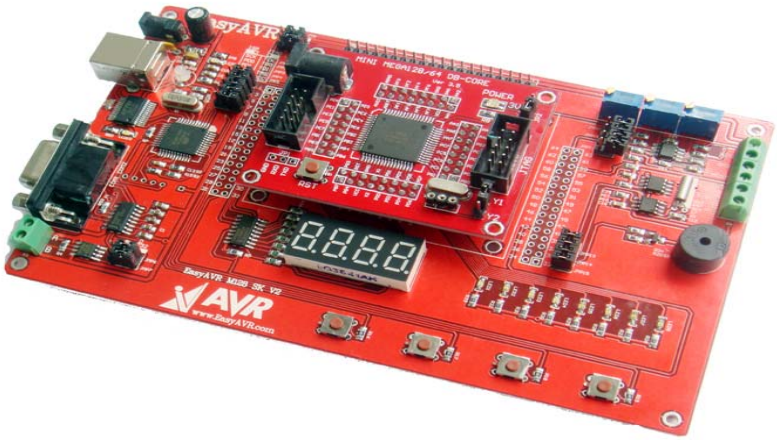
EasyAVR M128 SK 4in1

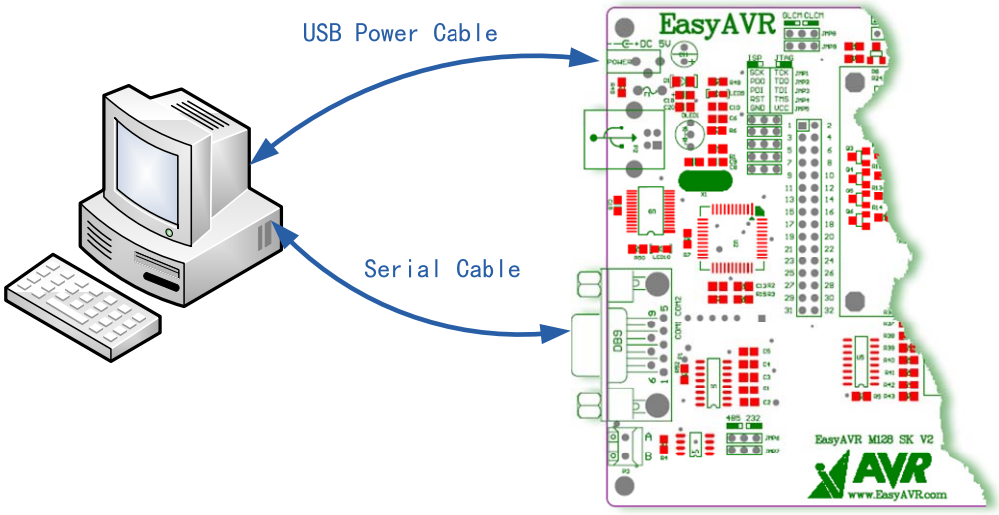


Installation:

Note: Please select the right COM port you will connect

2. Keep the jumpers at the default position; connect the EasyAVR to PC through serial cable.
3. Power on the board

You can use the USB Power Cable to the mother board or power by DC 7~9V power adapter to the core board, in is VCC, out is GND. Like the follow picture show.



Note: if it is hard for you to connect RS232, you can watch the led display.

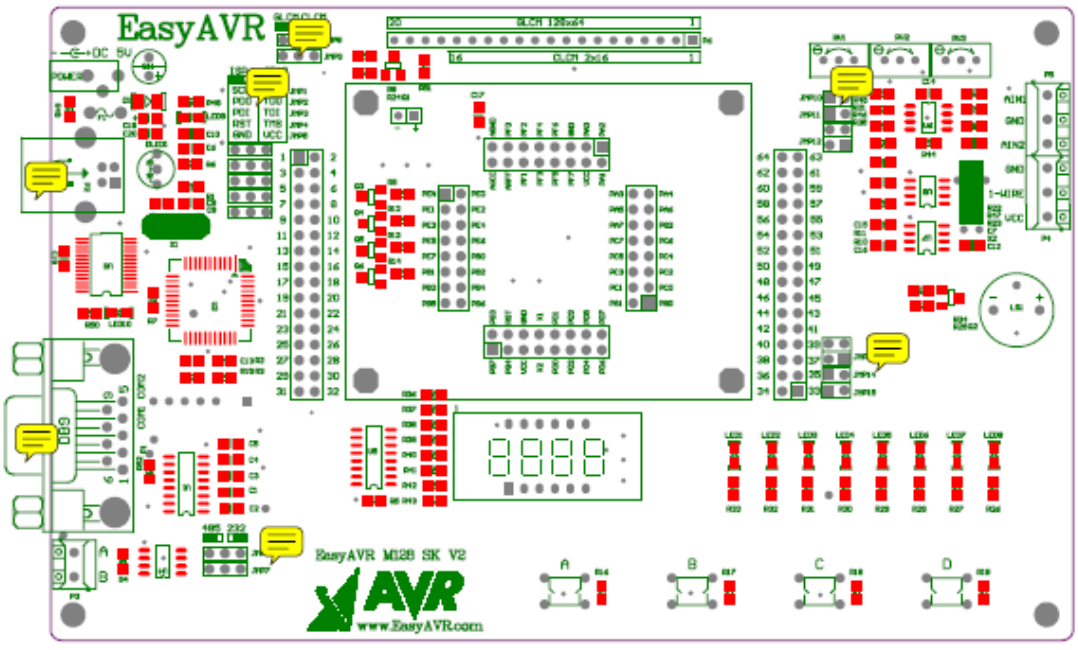
Once you power on the board, the Power led will light and you can see the result output to the serial test software, as the tests show, you can see the led result on the board.

```
Booting ...
The Systerm Started Successfully
**************************************************
LED Testing ...
LED All On
LED All Off
Turn On LED 2
Turn On LED 3
Turn On LED 4
Turn On LED 5
Turn On LED 6
Turn On LED 7
LED All On
LED All Off
LED Test Finished
**************************************************
Seg7 Testing ...
Seg7 Display 1111
Seg7 Display 2222
Seg7 Display 3333
Seg7 Display 4444
Seg7 Display 5555
Seg7 Display 6666
Seg7 Display 7777
Seg7 Display 8888
Seg7 Display 9999
Seg7 Test Finished
**************************************************
SPK Testing ...
SPK Beep 3 Times
SPK Test Finished
**************************************************
```

```
PCF8563 Testing ...
PCF8563 Set Time: 2008-01-01 00:00:00
PCF8563 Read Time: 2008-01-01 00:00:02
PCF8563 Read Time: 2008-01-01 00:00:04
PCF8563 Read Time: 2008-01-01 00:00:06
PCF8563 Read Time: 2008-01-01 00:00:09
PCF8563 Read Time: 2008-01-01 00:00:11
PCF8563 Test Finished
******************************************************
24C01 Testing ...
24C01 Write:www.avrvi.com
24C01 Read:www.avrvi.com
24C01 Test Finished
******************************************************
Key Testing ...
Please Press Key S1 To S4,Press Key S4 To Exit Key Test.
Please press the keys
You Have Pressed Key S1
You Have Pressed Key S2
You Have Pressed Key S3
You Have Pressed Key S4
Key Test Finished
******************************************************
All The Test Have Finished.
Thank You For Chosen Our Prouducts.
WebSite: www.avrvi.com    Tel: 0531-80870158
******************************************************
```

3. Jumpers distribution and functions

EasyAVR Jumpers are at the positions show on the follow picture, you can open the Schematics easy128 v2_PCB.pdf file in the Schematics folder and see them, every jumper has a note.



- JMP1~JMP5: JTAG or ISP choose, to left as ISP, and to right is JTAG
- JMP6.JMP7: RS485 or RS232 choose , to left is RS485, and to right is RS232

- JMP8、JMP9: GLCM(12864) or CLCM(1602) choose
- JMP10: LCD backlight adjust choose
- JMP11: AVR AD AREF reference source choose, connect for AVCC, otherwise use AVR inside 2.56V
- JMP12: AD input control
- JMP13: RTC PCF8563T and external EEPROM AT24C01 IIC bus control
- JMP14: Buzzer control
- JMP15: LED connect control

4. Driver install

EasyAVR use FT232 for USB to Serial Port, there are two methods for USB drive install:

1.Use the software ftdi_ft232_drive.exe, double click it for install, and then connect it to PC through USB, the windows new hardware install guide will finish install it auto. Notice, you need to power on the board when you do this.

2. Connect the USB and power on the board, follow the guide on windows, choose .INF file and search, till to finish, do twice time.

After driver install, you can find the equipment in the device manager, as COM4 in follow chart. If you have install other device drive use FT232, it should not be the same, but since you can see it here, you can use it.

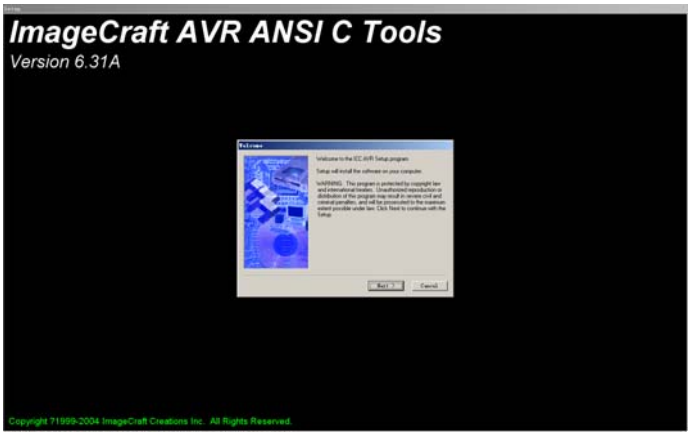
5. Development software install

Development software is in the software folder in CD, double click the icons and install them. You need to install ICCAVR and AVR studio at list.

5.1 Install ICCAVR

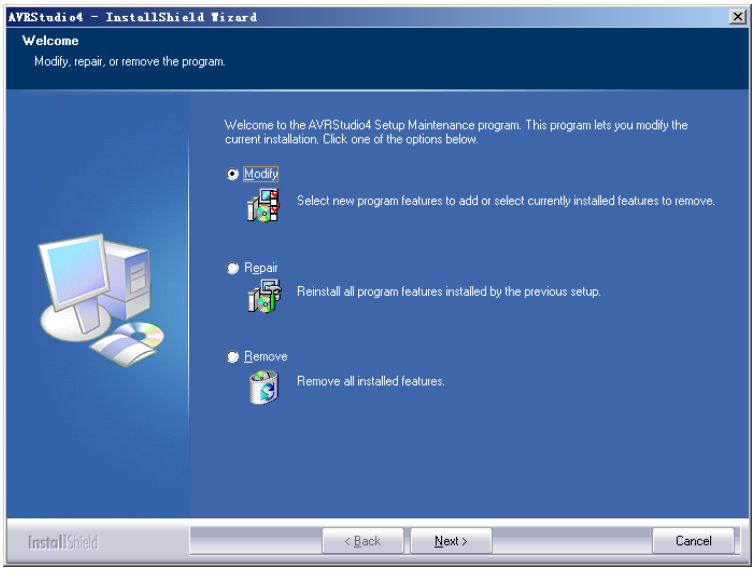
Run iccavr6.31A.exe file, the screen like the follow picture.

Note: in order to avoid trouble by the file path, and easy to study and development, please set the ICCAVR install path to d:\icc.



5.1 Install AVRstudio

Double click the AVRstudio icon aStudio4.14b589.exe, install us the default set is ok.



6. Use on board STK500 ISP for Program

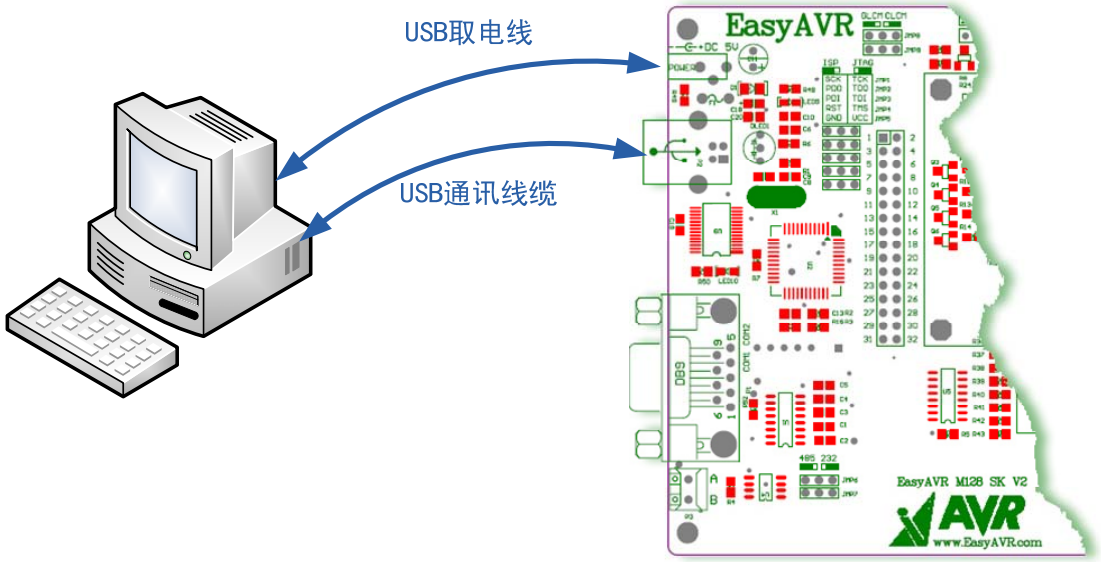
Note: below operates are based on USB drive installed, if you have not done it, please see chapter 4.

6.1 Connect hardware

Use USB power cable and USB communicate cable to connect the board to PC, as the follow picture show.

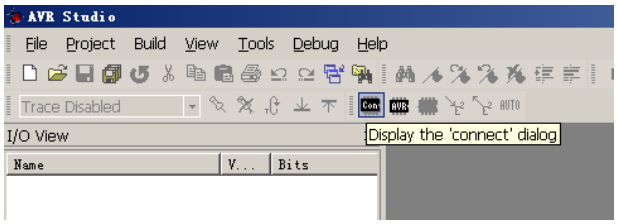
Please note the jumpers JP1～JP5 at the left, that is to say at ISP mode.

You can use ISP program in AVRstudio and ICCAVR, suggest you use AVRstudio, if you use ICCAVR, you still need to install AVRstudio.

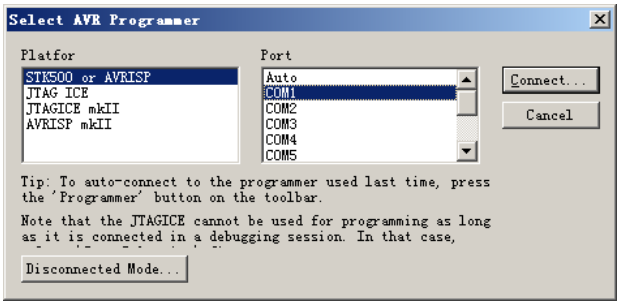


6.2 Use AVR studio ISP program

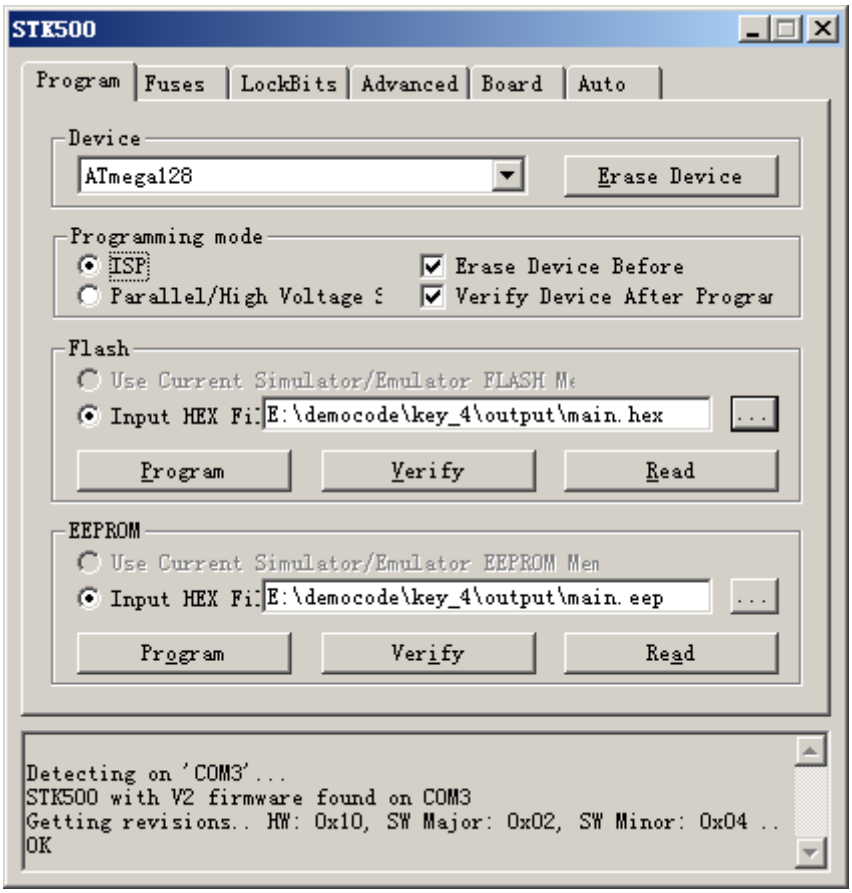
Open soft AVR studio, click the icon named connect show on the follow chart, or click the menu Tools->Program AVR->Connect



Choose STK500 or AVRISP and the COM port you have see when you install the USB deriver, or choose Auto (if choose auto, you must confirm the COM port is less than COM4), then click Connect

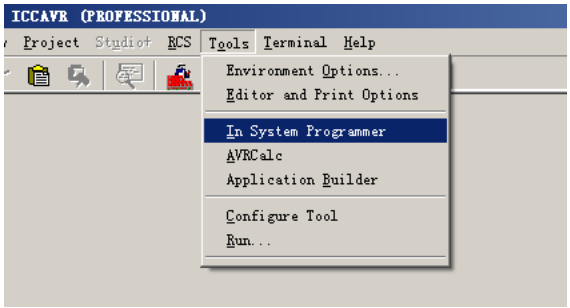


On the follow chart, you can program flash eeprom fuses and lock-bits, more details you can see AVRstudio help.



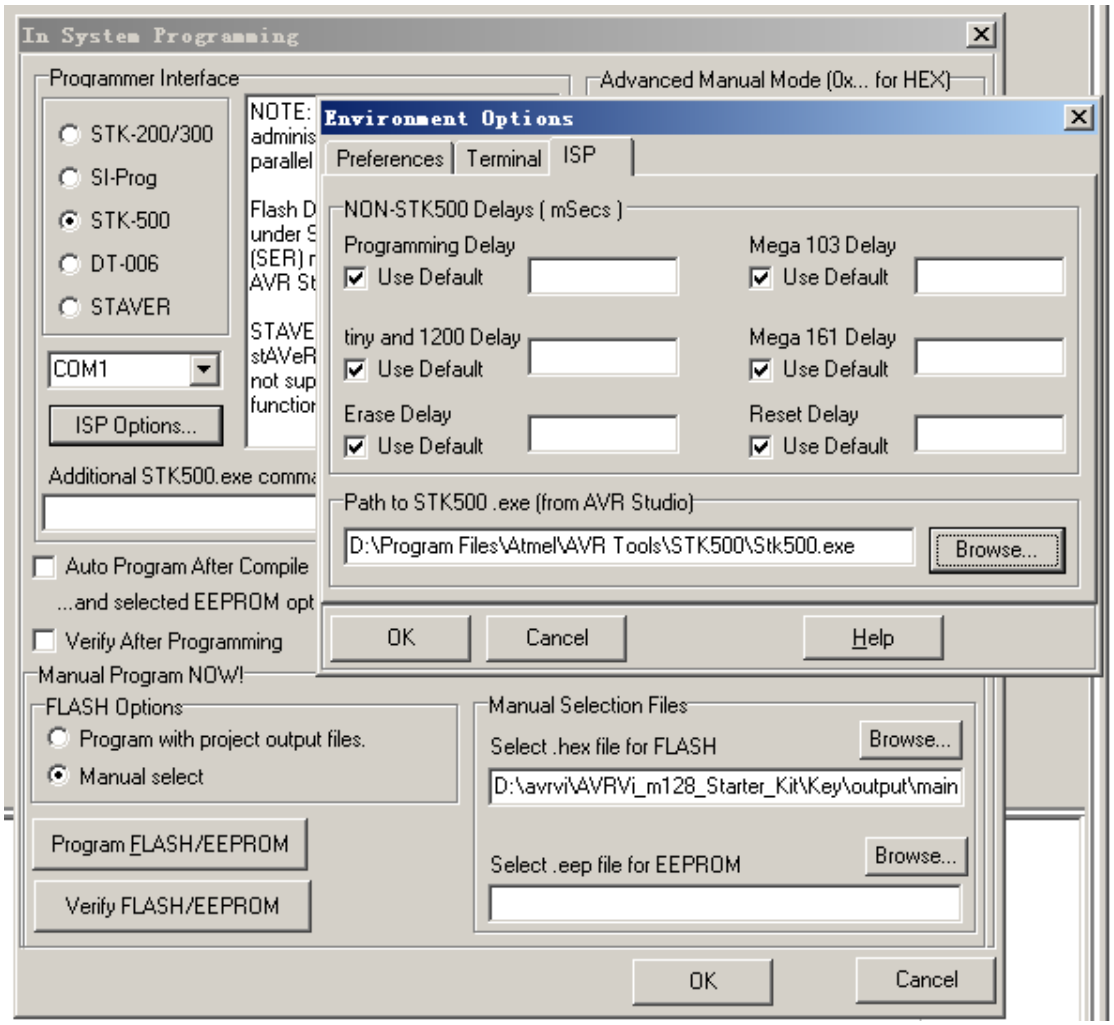
6.3 Use ICCAVR ISP Program

Run ICCAVR, run In System Programmer in Tools menu, as the follow picture show.



You need to set the parameters on the window:

1. Choose Programmer interface mode to STK-500;
2. Set the COM port to the right port you have see;
3. Then click ISP Options button, set the STKS500.exe file path, the STK500.exe is one file of AVRstudio, it is in the AVRstudio install folder, the default is C:\Program Files\Atmel\AVR Tools\STK500\Stk500.exe

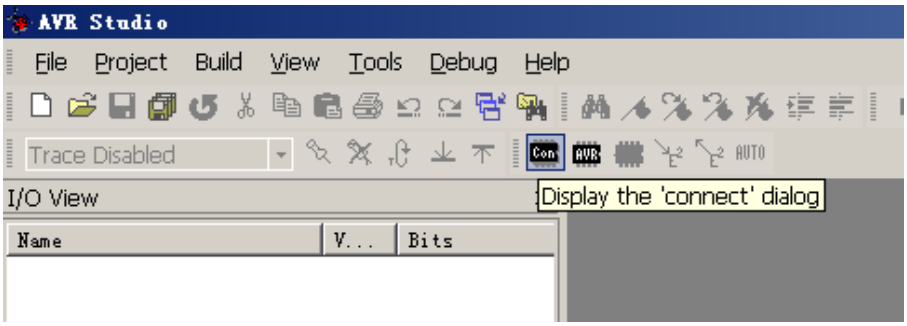


After the parameters set, you can program HEX and EEP file, and read or and program fuses and lock-bits. (Note: please do not change fuse setting until you know well about them, wrong fuse settings should lock the AVR chip.)

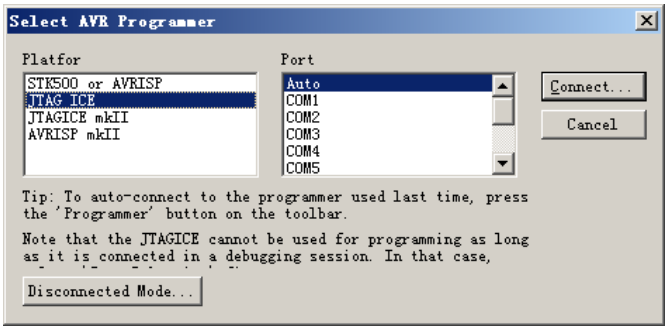
7. Use JTAG Program

The hardware connection is similar with ISP program, Please note the jumpers JP1～JP5 to right, work in JTAG mode.

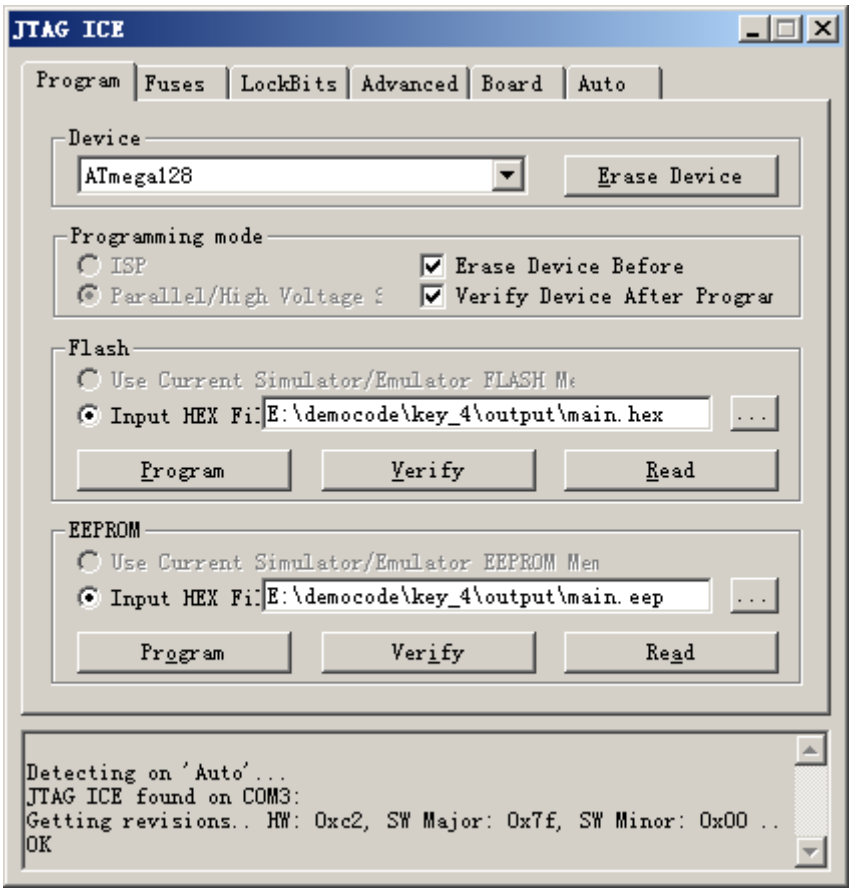
Open the Program dialog, click the connect icon or click the menu Tools->Program AVR->Connect, as follow chart show.



Choose JTAGICE, choose the COM port you use, and click Connect.



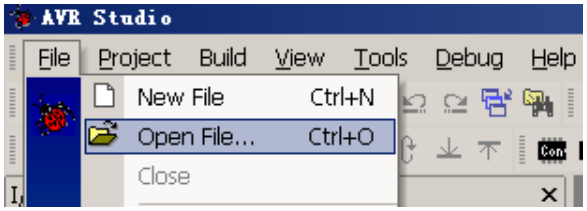
You can see the follow dialog if connect success. Program flash eeprom fuses and lock-bits here, more details you can see AVRstudio help.



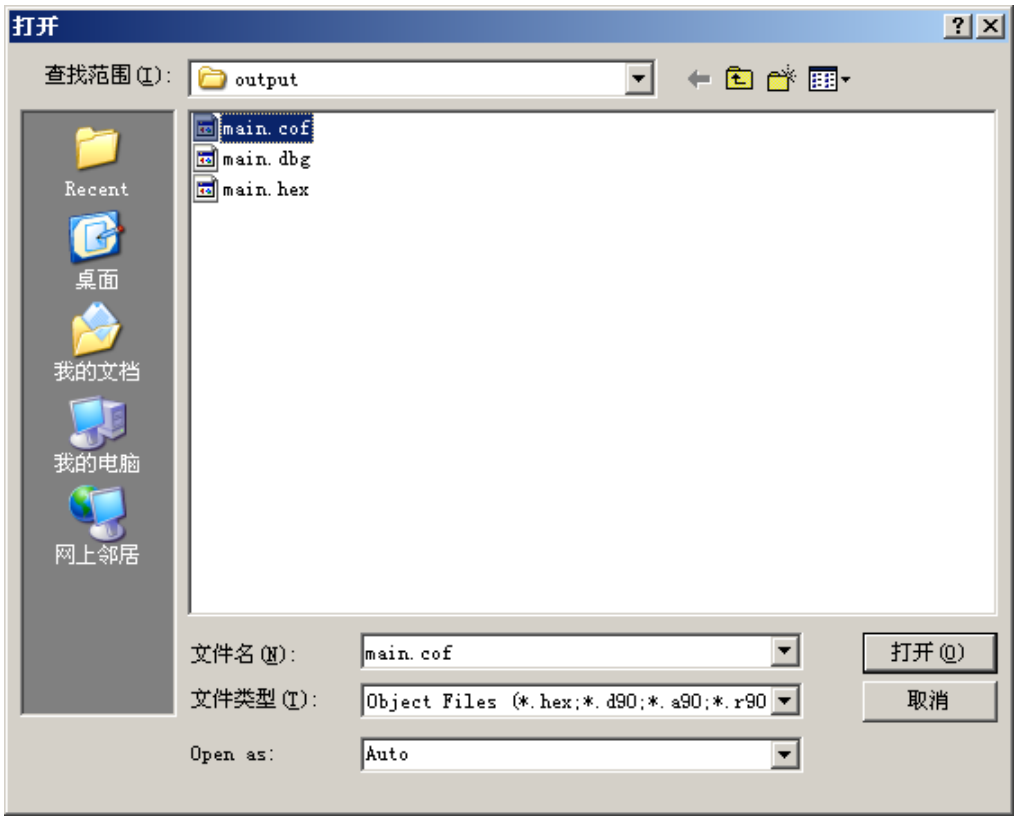
8. Use JTAG emulation

Hardware connection is same as JTAG Program, JP1～JP5 to right side for JTAG mode.

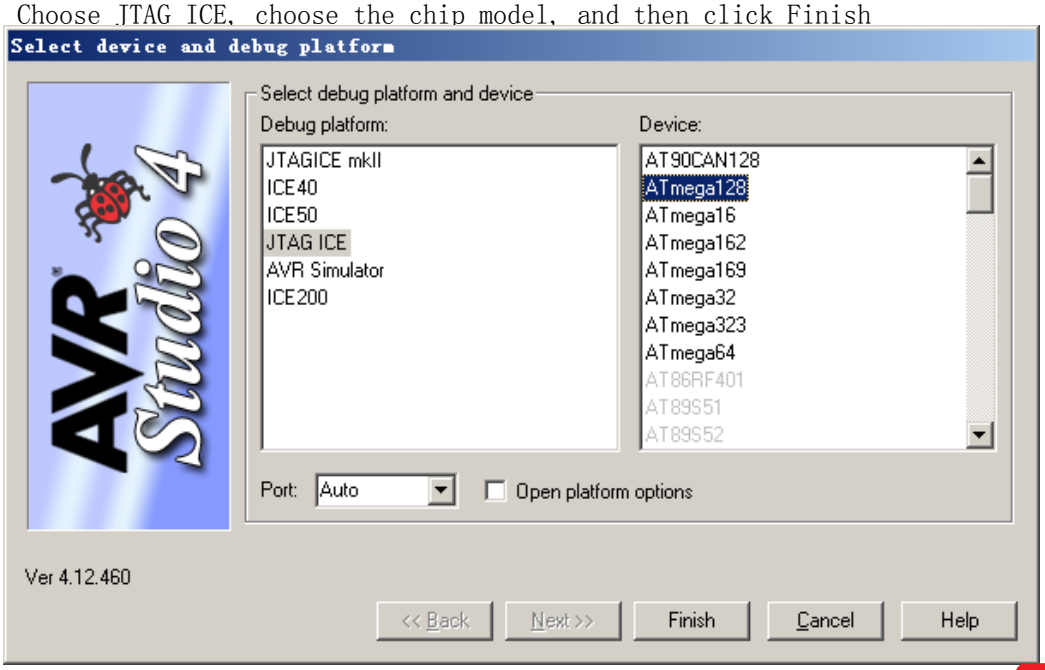
Open the project file, menu File -> Open File…, as the follow chart.



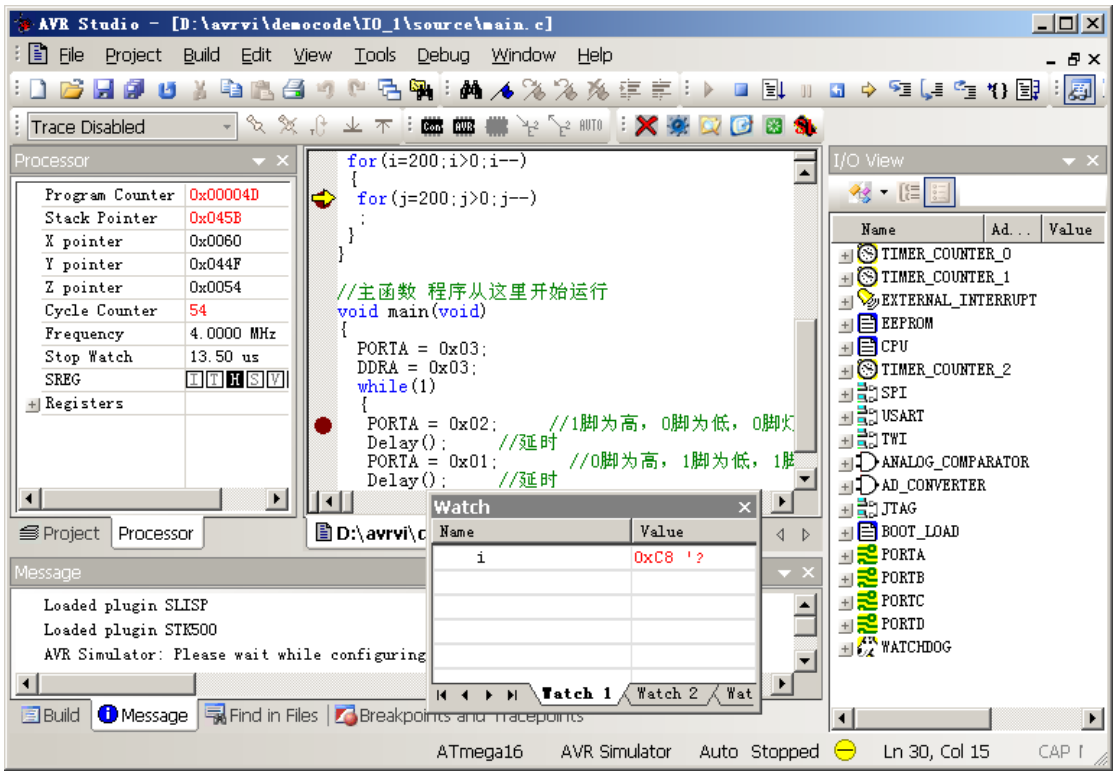
Choose the .COF file you need to emulate.



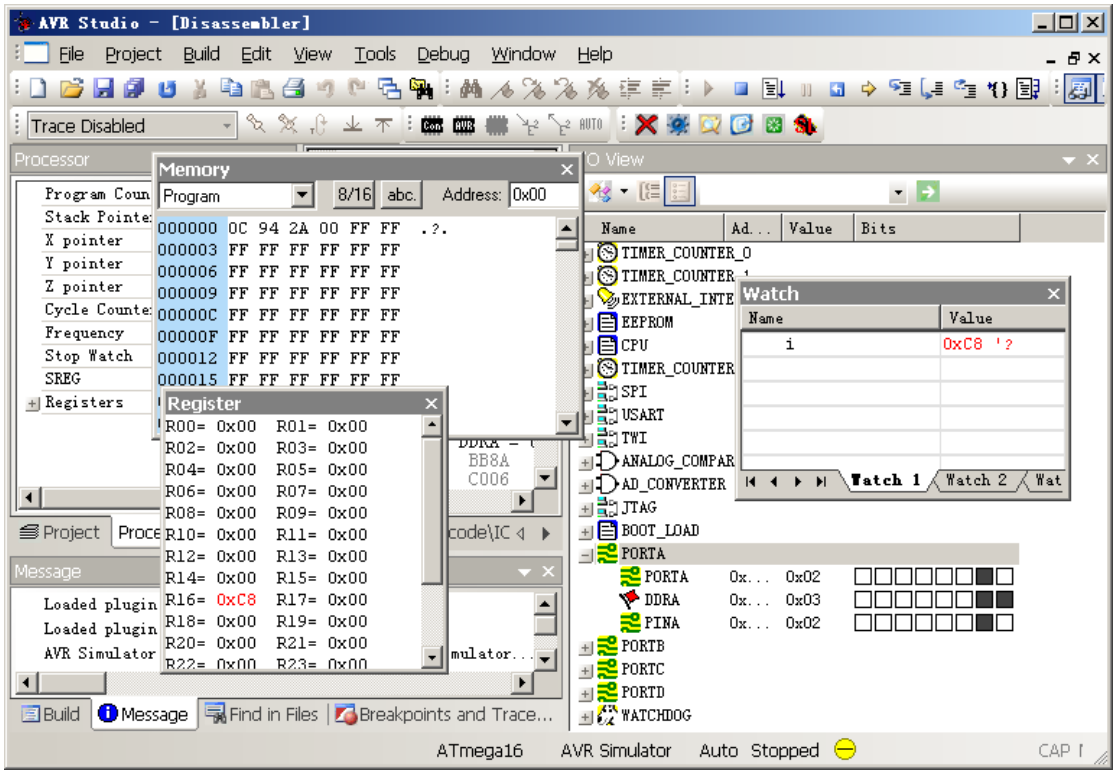
Choose JTAG ICE, choose the chip model, and then click Finish



Operate at the end chart, begin your program debugging.



Here are code view, information view and processer etc. You can see the chip work station such as IO port, Timer, AD, USART etc. You can through the menu button to do single step debugging, set breakpoints, observe variables, see registers, check procedure of spatial data, etc.



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