1.1 What is RT809H?

RT809H is a kind of cost-effective,reliable and fast universal programmer series,suitable for all the computers or laptops based on Pentium IV processors or the better processors.When working it can communicate with the USB2.0 fast port of computer directly,with driver program inside software,which makes installing operation more convenient.

1.2 Programmer Characteristic:

- Supporting Windows XP,Windows Vista,Windows 7,windows 8 and windows 10
- Do not need external power source,with low-power consumption,can be used as VGA signal generator,easy to repair.
- With Intellisense functionality,when reading and writing most types of chip off line, it support the function of intelligent identification and being put at will.
- Support 24/25/93/95 series serial SPI Flash. EEPROM offline read and write.
- Support 26/27/28/29/30/39/49/50 series NOR Flash/ PROM read and write;
- Support TSOP48/BGA footprint NAND Flash parameter automatic identification and offline reading;
- Support the mainstream device,including E/EPROM、MCU、EC、SPI NOR flash、parallel NOR flash、SPI NAND、parallel NAND、ONENAND、MCP、EMMC、EMCP,etc.

NAND_AUTO	Can recognize most of the NAND and go on to read and write.
EMMC_AUTO	Using BGA socket,supporting EMMC off-line fast read-writing(8bit main line)
EMMC_AUTO_4BIT	Using BGA socket,supporting EMMC off-line fast read-writing(4bit main line)
EMMC_AUTO_ISP	Read-write EMMC with flying line way.(1bit main line)

Support the EMMC recognition in the on-line or off-line way,BOOT/USER/RPOM/GPP area read and write.

- I2C/ serial port ISP has strong function,compatible with most of the LCD chip scheme,can check the printing information on line,read and write NOR/NAND/EMMC chip on line,read and write the EC chip of laptop on line or off line.
- Support the IT8/KB90/NPCE/NEC16 series of laptop mainboard's EC chip to read and write.
- High-speed USB port,USB driver with WHQL certification,the reading and writing speed can be as much as 25 MB/S.
- Full driver structure,free software upgrade,the universal switch socket to reduce the using cost for the user.

1.3 Instruction Tissue

This instruction consists of three parts:

The part one is to introduce RT809H,including the system requirement,software and hardware installing,etc ;

The part two is the detailed instruction of software commands and each function;

The part three is appendix,including the user support and the wrong message.

1.4 System Requirement

Minimum system configuration:

- Pentium IV and above compatibles,desktop or laptop computer,at least a universal serial main line port conform to USB2.0 high-speed standard.
- Windows XP/Vista operating system.
- The hard disk with at least 1G free space.

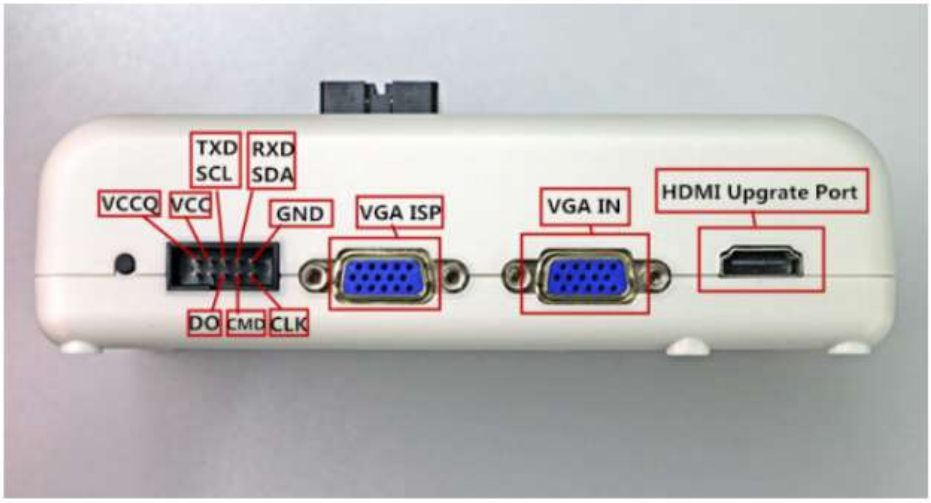
1.5 Programmer External Port Instruction

- Front view : HMI is reserved man-machine port,also be used by the footprint chip of TSOP56,BGA64,etc.

- DC lateral view : Except the USB outlet connected to the computer,there is a DC power supply outlet,9-12V power supply range(negative electrode outside and positive electrode inside),switching automatically between external power source and USB power supply.

(Please use the power of good quality,or the programmer will may be damaged and no warranty.)

- Flashing port lateral view:



- Port instruction:
- The leftmost button is the power button, also as the VGA signal switching button;
- The IDC10 black outlet at the middle is ISP port,the main function is ISP of all sorts of MCU and flying line to read and write EMMC,etc.Use the Dupont line to connect this port with the key signal of the board waiting for flashing, one to one correspondence connection.
- “VGA ISP”can be used as VGA signal output,be connected with the VGA port of the board when flashing.
- “VGA IN”is the VGA signal input,can be connected with the computer graphics.

When unconnected,VGA ISP will output the VGA signal produced by itself;
When connected,VGA ISP output the computer graphics signal;

- “HDMI Digital high-definition interface”can connect with the HMDI port of the flashing board.

1.6 Programmer Packing

- The standard packing:

Programmer mainframe 1

DIP 48 pin simple soldering board 1

SOP simple soldering board 1

USB2.0 high-speed cable 1

VGA connecting line 1

Ⅱ Installing

If you are the first time to use RT809H USB universal programmer,please surf the programmer official web to download the latest software.

http://www.ifix.net.cn/thread-56912-1-1.html

Like this:

The file downloaded is ZIP format,should be unzipped before using.

Before unzipped	
After unzipped	

2.1 Software download

If you are the first time to use RT809H USB universal programmer,please surf the programmer official web to download the latest software.

Website: http://www.ifix.net.cn/thread-56912-1-1.html

or Click here to enter directly

********** 国外用户下载 **********

Multilanguage version, 20181116

RT809H_20181116_ENG.rar (55.79 MB, 下载次数: 1112)

YouTube RT809H Video tutorials,20180920

YouTube RT809H Video tutorials-180920.doc (50 KB, 下载次数: 231)

Toolchain for TV repair:

ToolChain_RT809H_ENG.part1.rar (100 MB, 下载次数: 1460)

ToolChain_RT809H_ENG.part2.rar (100 MB, 下载次数: 1289)

ToolChain_RT809H_ENG.part3.rar (79.02 MB, 下载次数: 1164)

****

Like this:

The downloaded file is RAR format,should be unzipped before using.

Download file:

2.2 Installing the Main Software

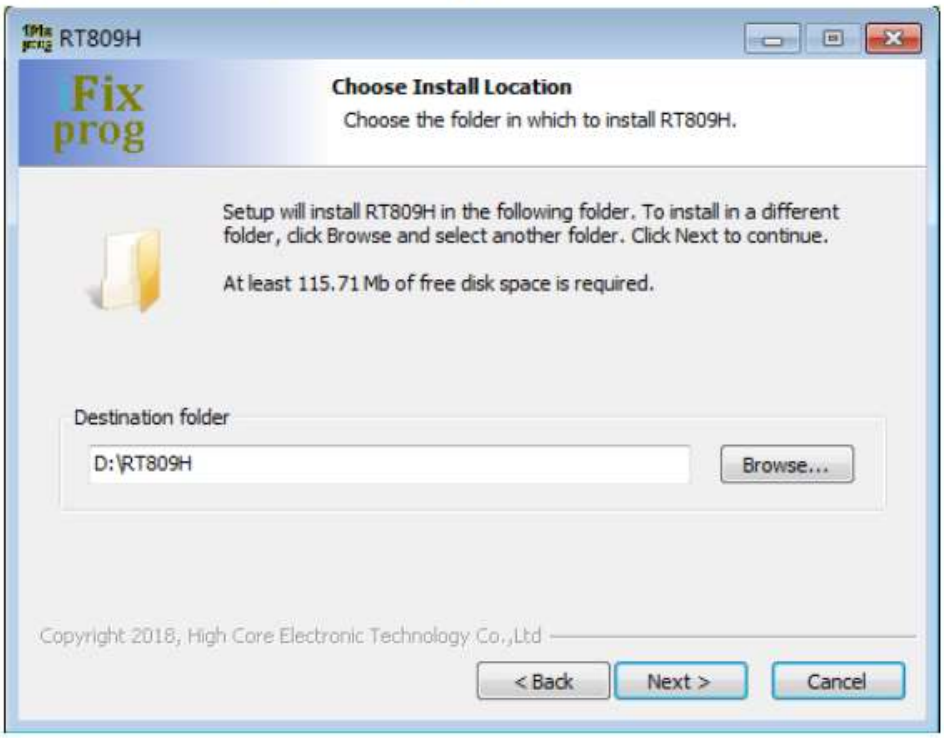
Installation process

Step 1 the mouse to this icon,double-click the right mouse button to start installation;

Step 2 the language in demand,if you need Chinese click “OK”directly;

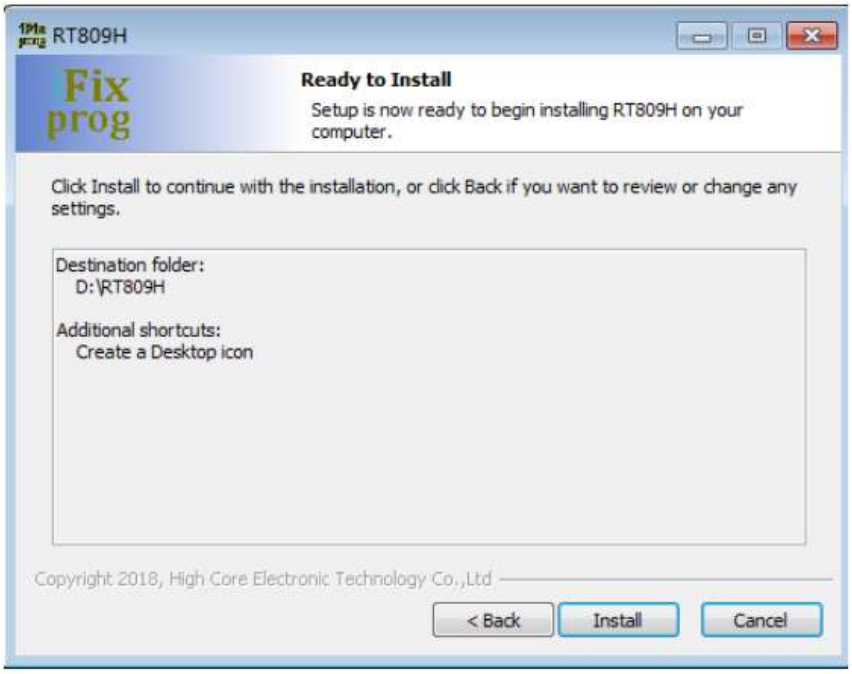
Step 3 the “Next”;

Step 4’t change the path,click “Next”;

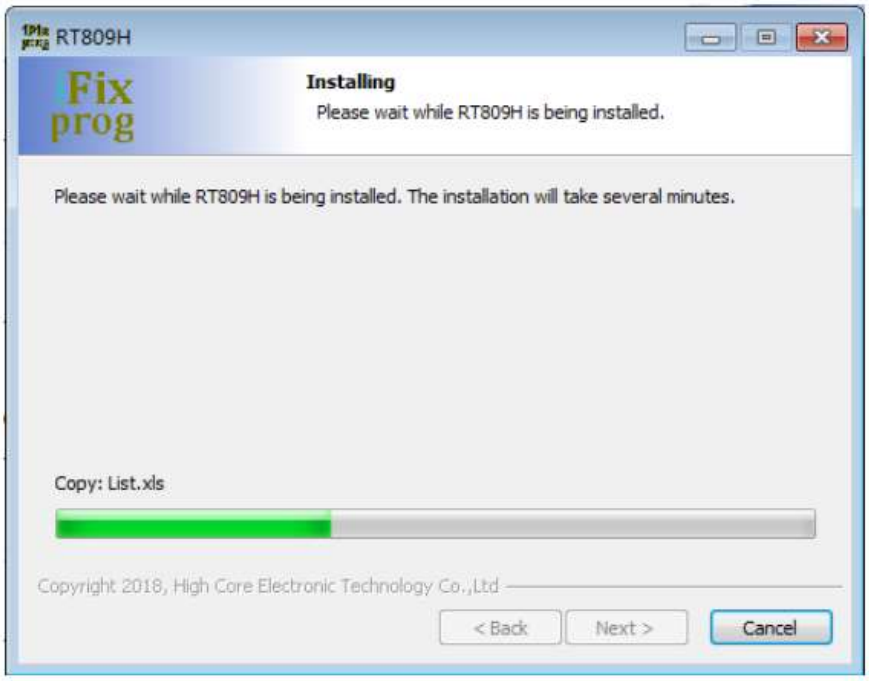


Step 5 the “Next” again;

Step 6 the “Install”;



Step 7 to install,waiting to finish the progress bar;



Step 8 the “Finish”, at this point three windows will pop up, if you don't need to view Readme or visit product web site, you can cancel the three ticks and then click “Finish".

In the case where the box in front of “Launch RT809H" has a tick,the driver will be installed automatically;

If you cancelled all the ticks, clicking “Finish” is OK, the driver also will be installed automatically when you open the RT809H icon on the desktop at first time.

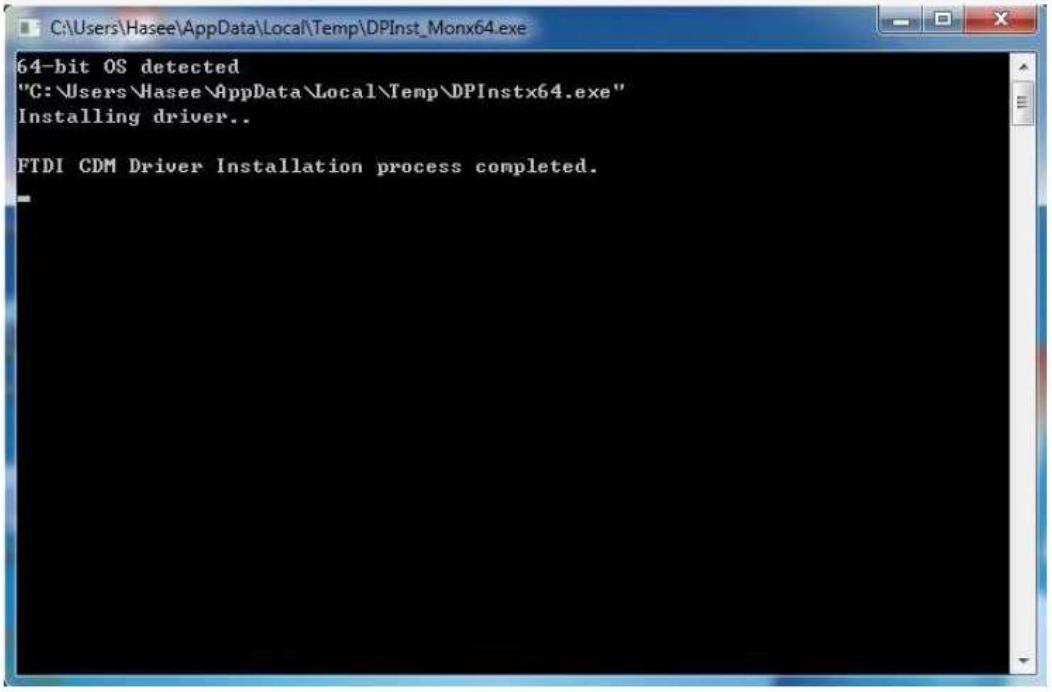
In the case where the box in front of “Launch RT809H" has a tick,the driver will be installed automatically;

If you cancelled all the ticks, clicking “Finish” is OK, the driver also will be installed automatically when you open the RT809H icon on the desktop at first time.

Automatic installation driver process:

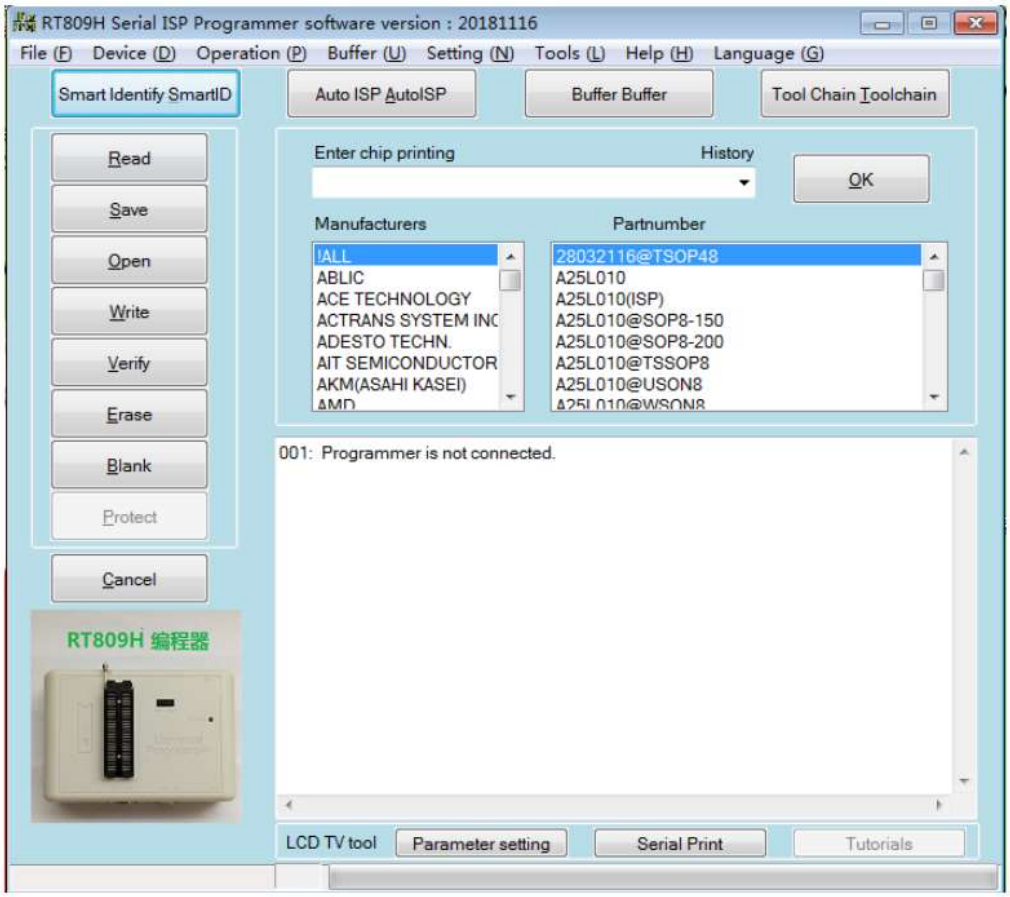
Click “OK"

Two black frames flashed and quickly disappeared, that is a normal phenomenon.

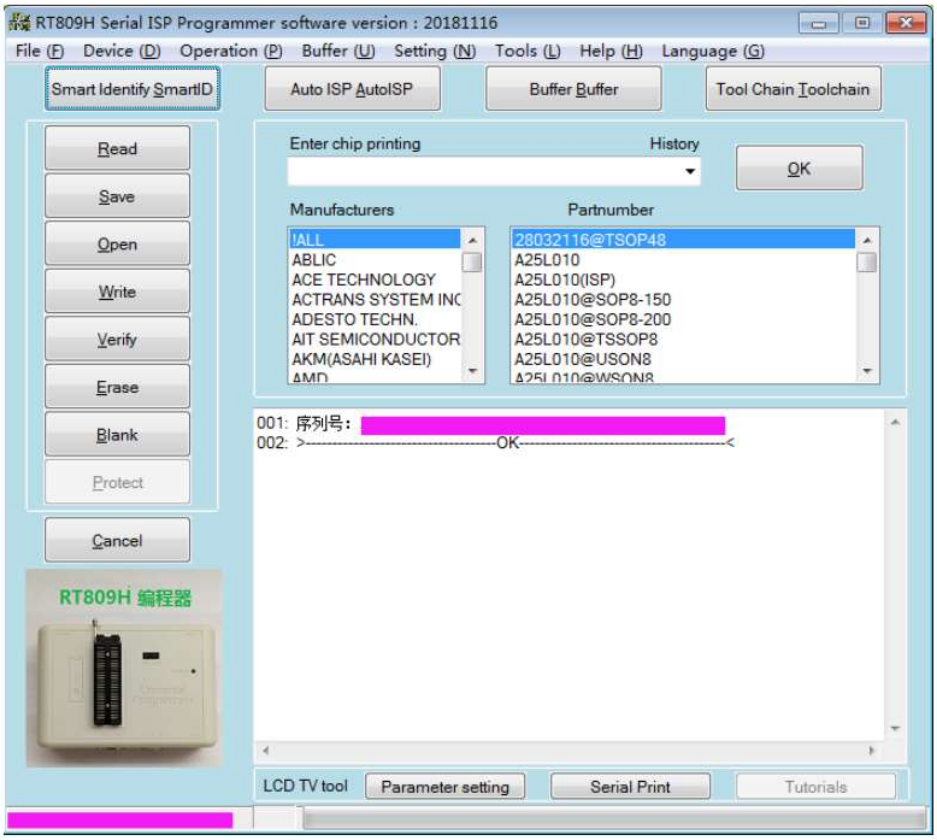


RT809H software main interface

RT809H programmer is not connected:



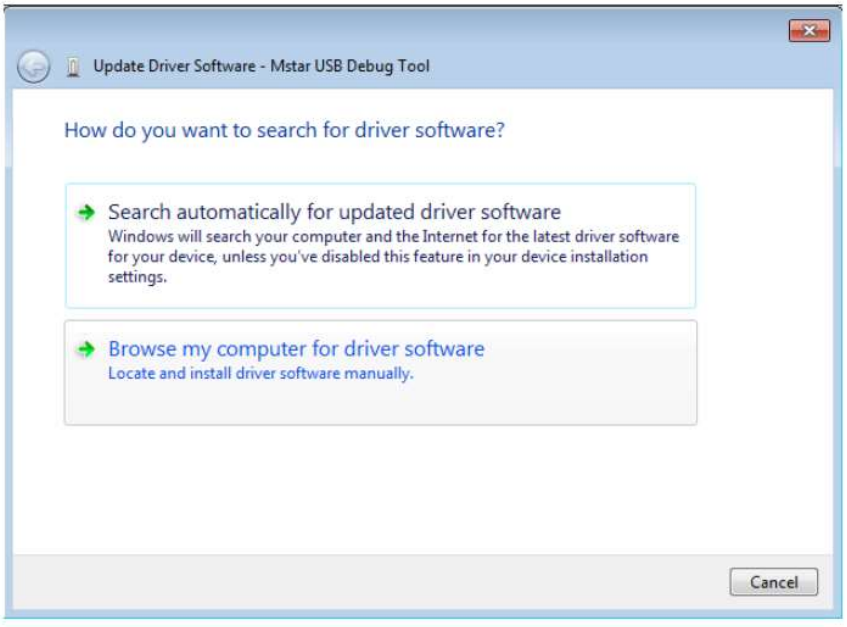
RT809H programmer is connected:



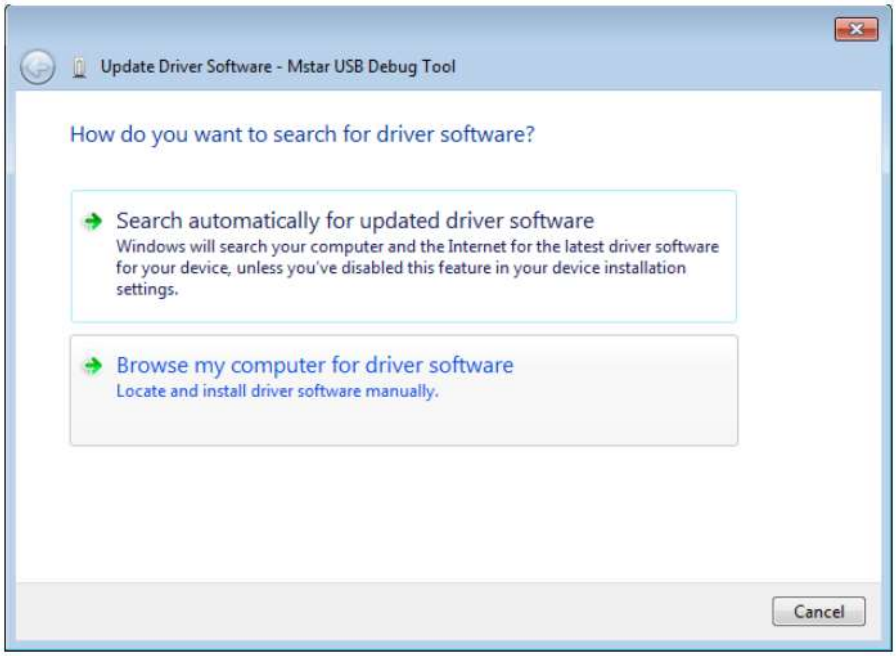
The serial number is the important document of technical support and warranty. Please do not leak, properly kept.

2.3 Manual Installing the drivers

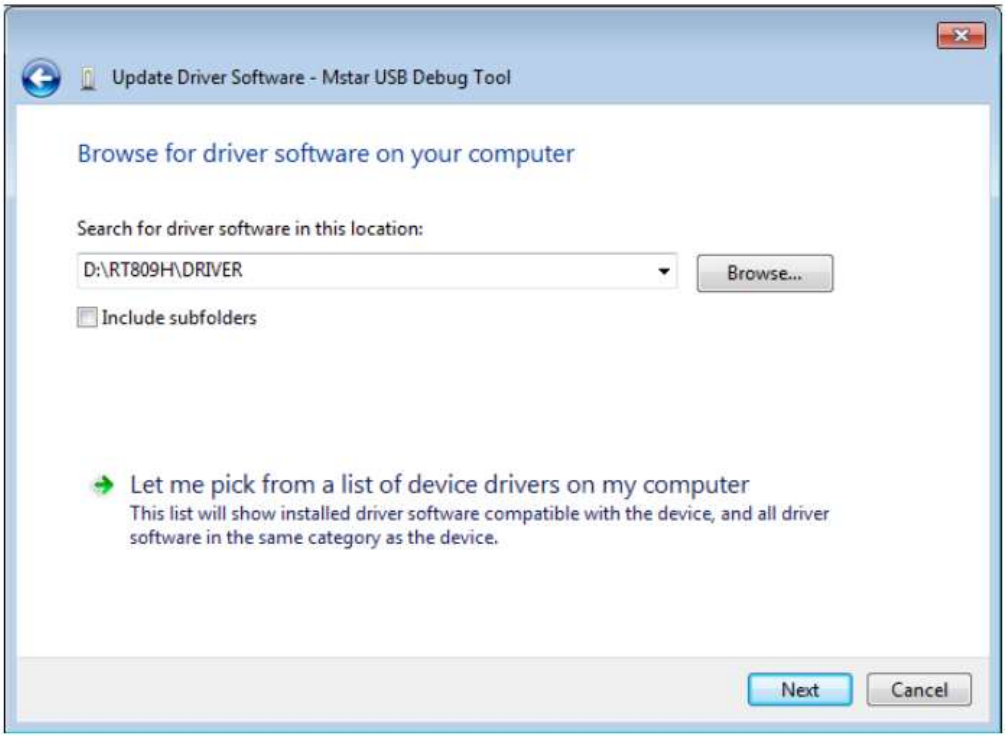
Step 1 the computer with the programmer using the UCB line in packing,the computer will tell that there is a new hardware;

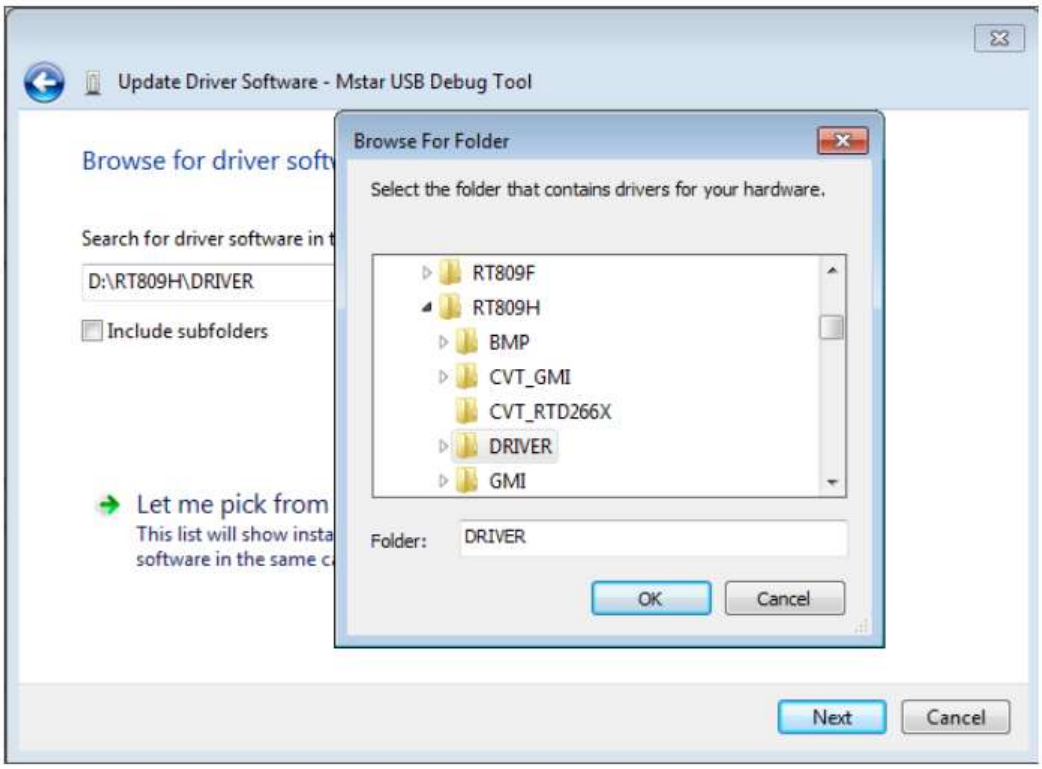


Step 2 “Browse my computer for driver software”;

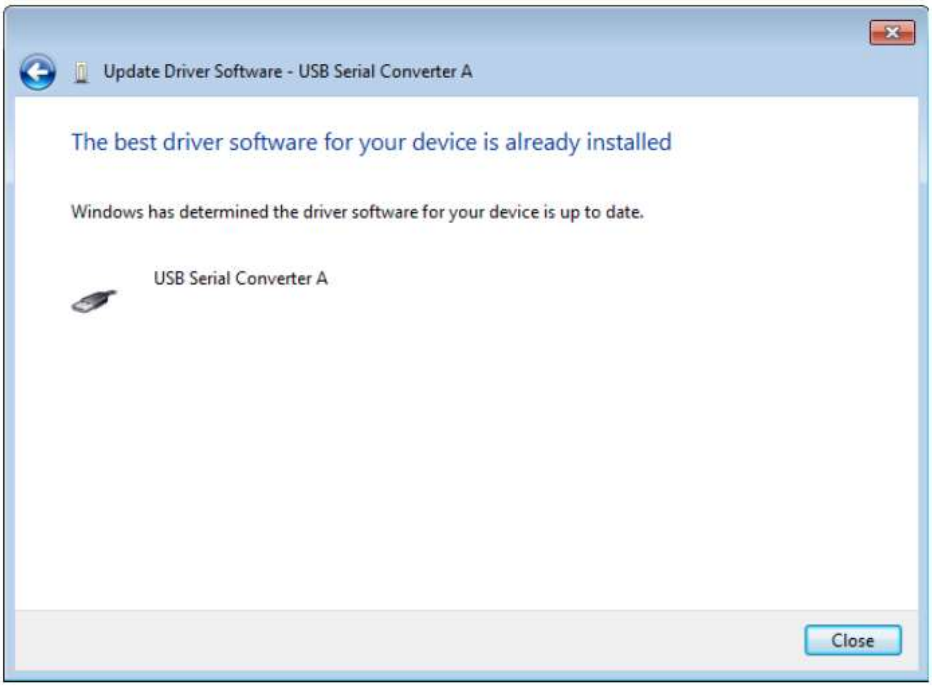


Step 3 the arrow at the right side down,change the path into “D:\809H\DRIVER”,then click “Next”;

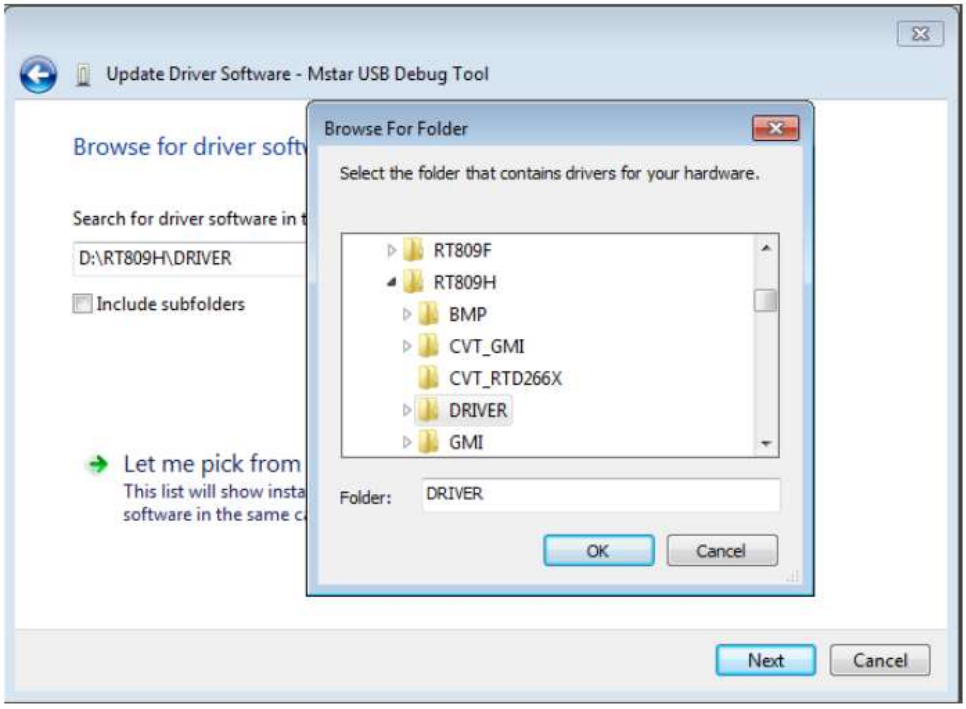




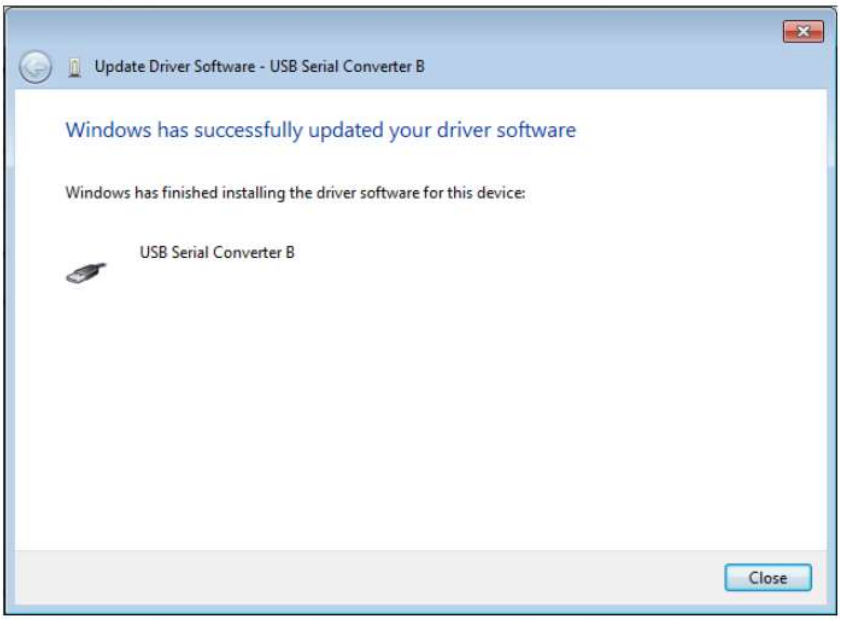
Step 4 “Complete”,USB Serial Converter A driver has installed already;



Step 5 go on to install the driver of USB Serial Converter B,click “Next”;

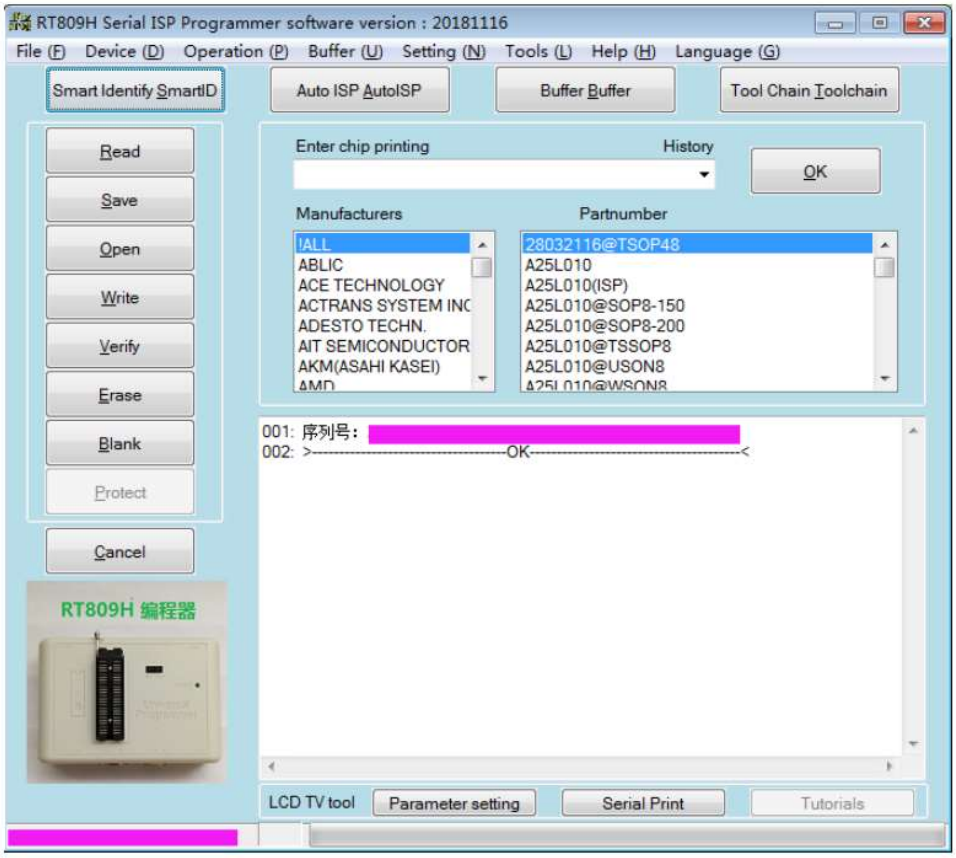


Step 6 “complete”,the driver has been installed already;



Open the operating software of 809H,the serial number of programmer will show.The serial number is the important document of technical support and warranty.

Please do not leak, properly kept.



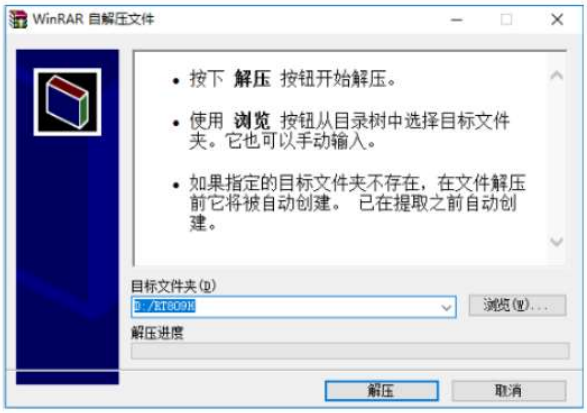
2.4 Installing tool chain panel

If it is not installed or the path is not correct, when we click "tool chain panel"on the main software interface, as shown in the following figure, it is all the serial numbers.

```
ToolChain_RT809H.exe
It is a self-extracting file package, just unzip it.
```

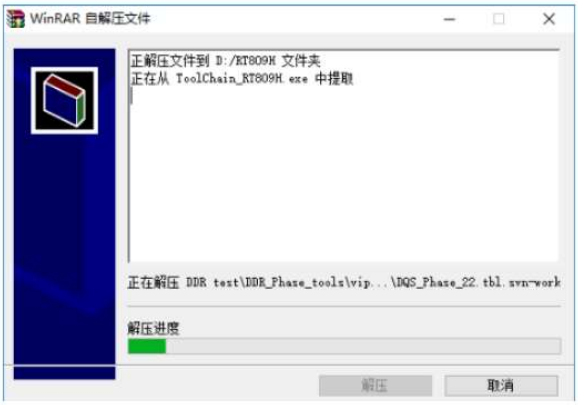
Installation step:

Move the mouse over this icon, double-click the left-click, or right-click to select Open to start the installation



Click “Unzip

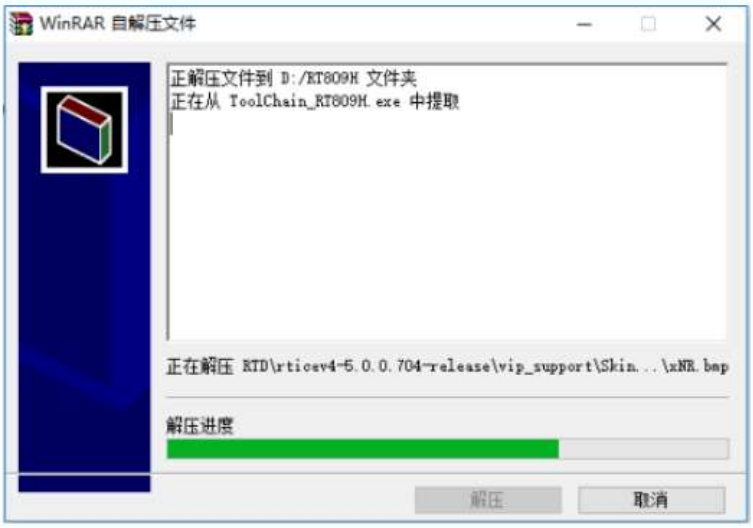
```
Note:  if you are not familiar with 【Path】 do not modify it at will.
```



```
If installed, there will be prompted to select “All yes”or “Cancel”
```

Choose all Yes to continue unzipping

Choose all Yes to continue unzipping



When the unzipping is complete, the interface automatically disappears

---

From the main software interface

Click the "Tool chain Panel"

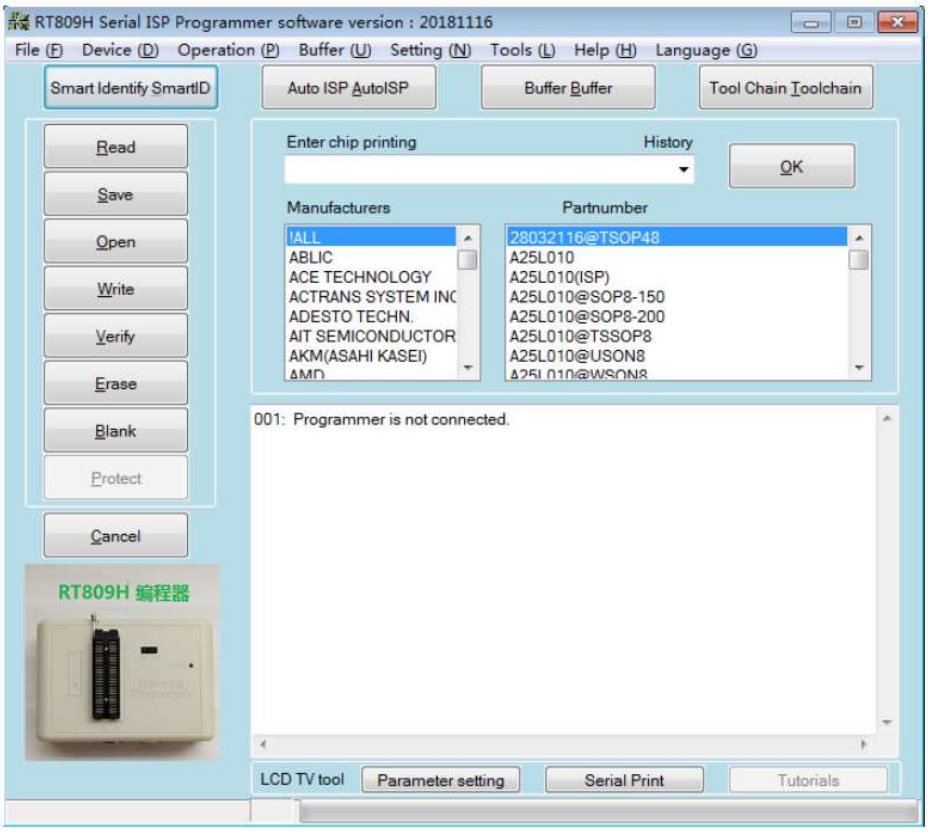
:-: 

The figure above illustrates a successful installation

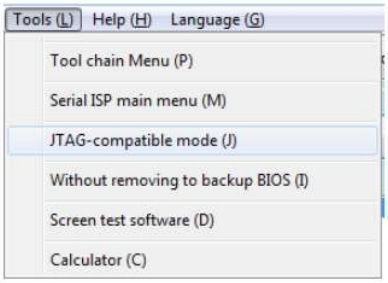
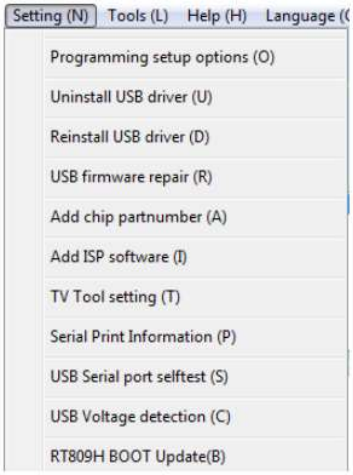
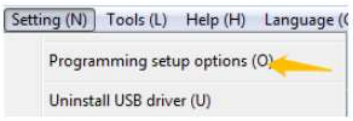
```
Note: if the interface does not change, please shut down the main software and then reopen i
```

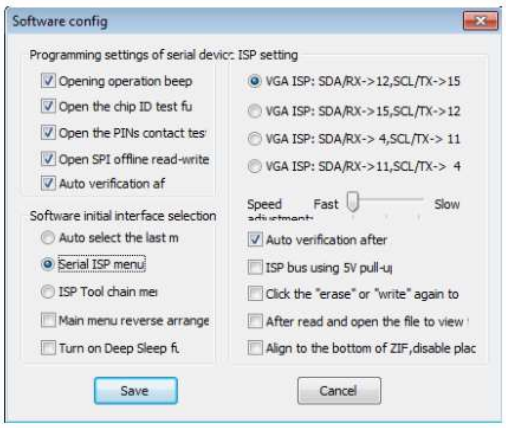
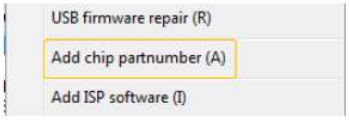
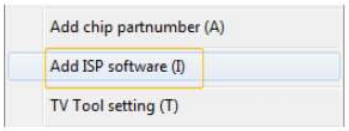
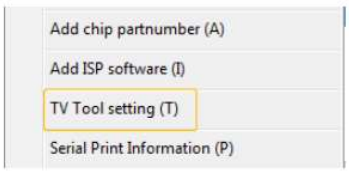
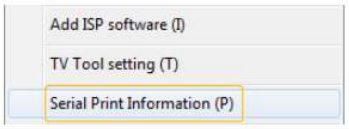
Ⅲ The Software Instruction

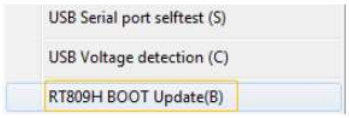
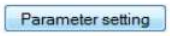
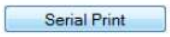
3.1 Software Interface Instruction



Smart Identify SmartID	Click this icon to recognize intelligently the type of most of the chip,easy to operate.
Auto ISP AutoISP	When connecting the mainboard to flash,click this icon it will recognize the mainboard scheme,easy to operate.
Buffer Buffer	Click this icon to check,read or write the hexadecimal data.
Tool Chain Toolchain	Click this icon to jump into the third-party flashing software.
Enter chip printing History	To input the printing letter on the chip type.
OK	Click it after inputting the printing letter.

	Operating area,the chip can be read,written,verified,erased,blacked,protected and so on.
	Operating menu.
	Click this icon to check the content of buffer.
	Click the “tool” and the pull-down menu appear.
	Click this icon and the pull-down menu appear to change the language type.
	Click the “setting”,the pull-down menu appear.
	Click “Programming Setup Options”

	The others are not needed to select,when ISP online flashing the mainboard,you should change the line sequence by yourself in the ISP setting.
	Click this icon to uninstall the programmer driver.
	Click this icon to reinstall the programmer driver.
	Click this icon to repair the programmer firmware.
	Click this icon to add the new chip.
	Click this icon to add the new flashing software.
	To set the parameters like serial port line sequence,Baud rate and so on.
	Click this icon to check the priting information of the repair mainboard.

	Click this icon to self-test the serial port.
	Click this icon to to BOOT upgrade.
	Click the icon of parameter setting to set the ISP on-line serial port.
	Click “serial port print”to open the serial port printing function.
	Display the printing information here.

3.2 The Toolchain

IV Detailed Operation

4.1 24XX,25XX,93XX Series Chips' Reading and Writing

4.2 PLCC Encapsulation Chip's Reading and Writing

4.3 TSOP48 Encapsulation Chip's Reading and Writing

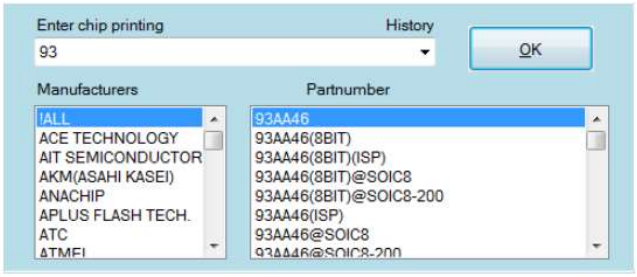
4.4 EMMC's Reading

4.5 Laptop EC Chip's Reading and Writing

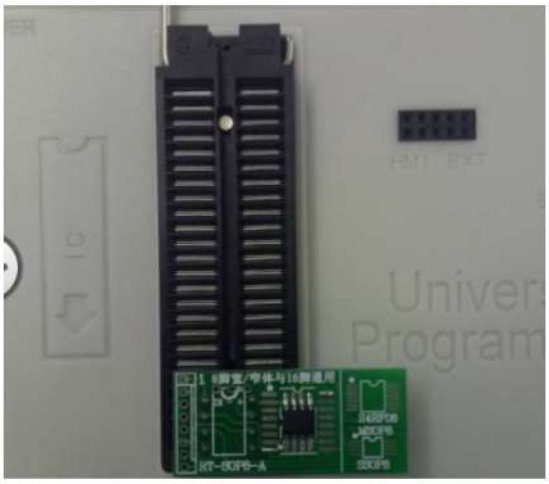
4.1 24XX,25XX,93XX Series Chips' Reading and Writing

4.1.1 93XX's Reading and Writing

Step 1:93XX chip's selecting



Input "93" in the "Input Chip Printing Letter",select the detailed chip type at the lower right,then click "OK" after selecting.



Use the putting position of simple switch board,,when welding chip the 1 foot is at the lower left.(Support the 93XX,24XX,25XX to be placed at will)

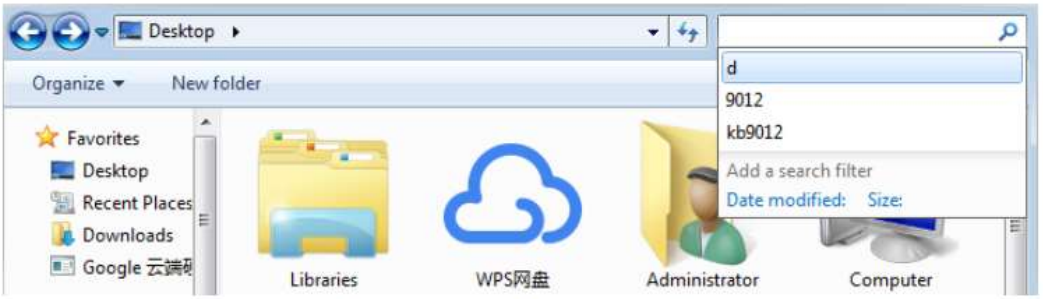
When using the bounce seat,one foot of the chip should correspond to the top left corner.

Step 2: Reading the chip

Click “Read” in the icon.

Change the name of the file read.

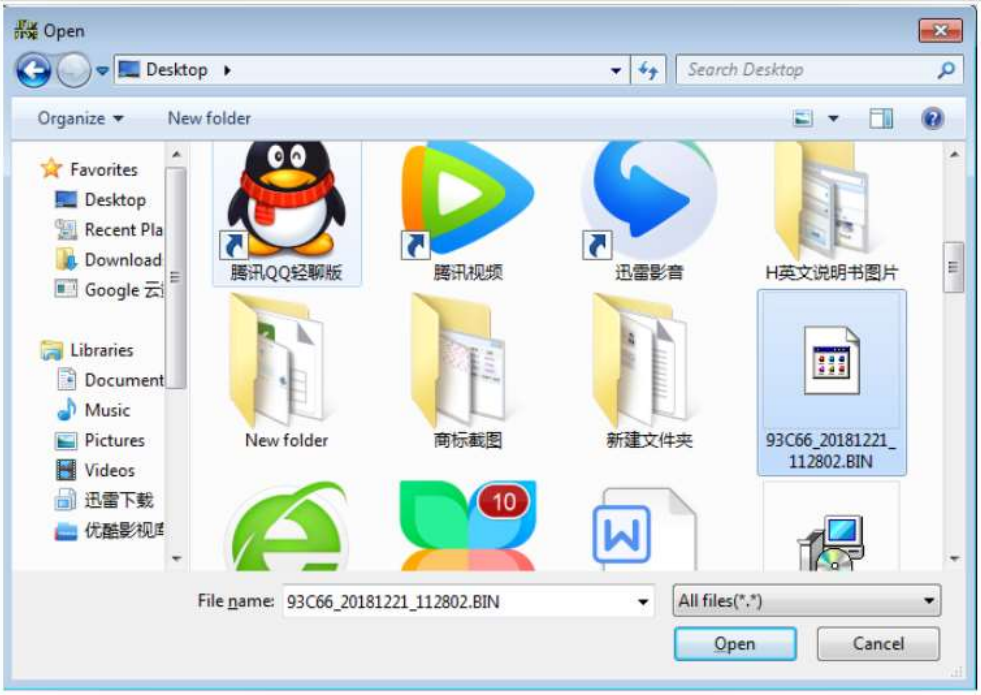
Select the saving path at the top right corner.



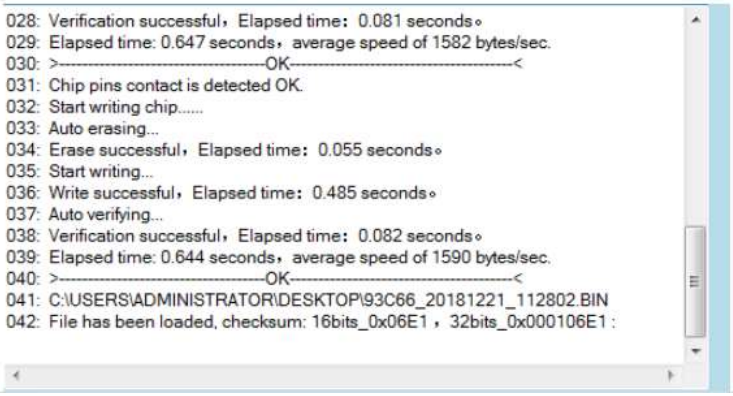
Step 3 the chip

Click “Write” in the picture, and then click “Open”

Select the file going to be written and click “Open”.



Then it will hint that the writing succeed,after verifying the writing will finish.

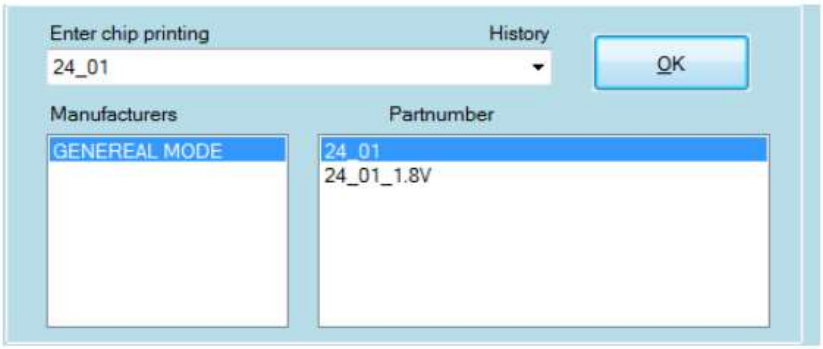


4.1.2 24XX,25XX's Reading and Writing

Step 1:24,25 chip's selecting

Use Smart Identify SmartID to identify the type of the chip,easy to use.

Or input the letter of chip.

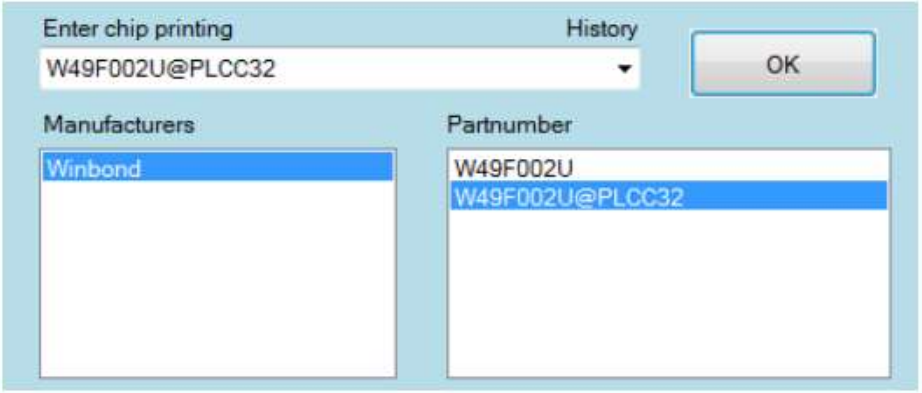


Step 2 other steps are the same with 93XX's.

4.2 PLCC Encapsulation Chip's Reading and Writing

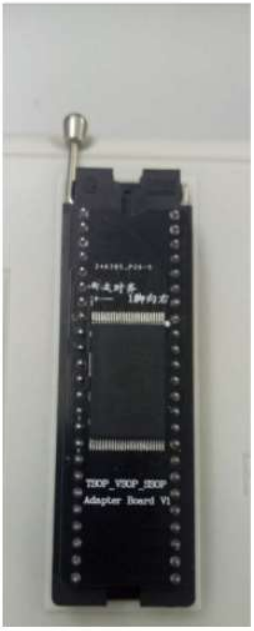
According to the difference of the encapsulation,when selecting the different switching seat to install,the user should follow the principle that make the gap upwards and the bottom aligned.(Please buy the established switching seat on the official website.)

Then input the type in the "Enter chip printing",the way of reading,saving and writing are the same with 93XX.



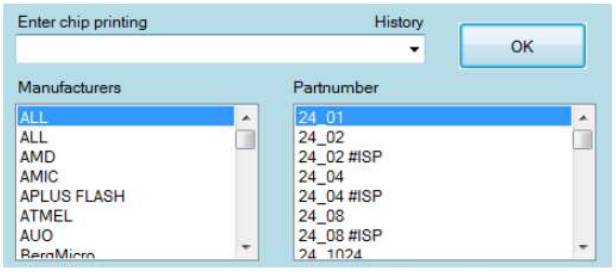
4.3 TSOP48 Encapsulation Chip's Reading and Writing

Select simple seat or the bounce seat with 48 feet;

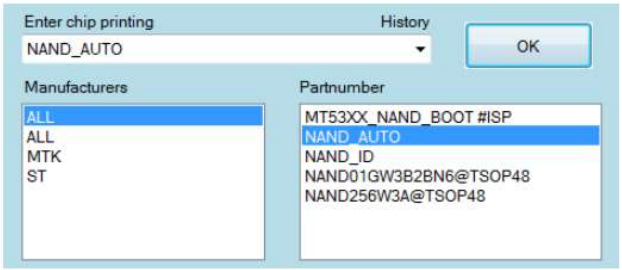


□Put the chip on the programmer,click the icon to see if it can recognize the type of the chip;

Can also enter the chip printing.



If it is the NAND chip,input the "NAND _AUTO" in the "Enter chip printing".



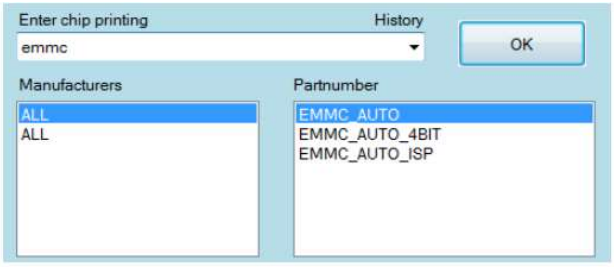
The way of reading,saving and writing are the same with 93XX.

Attention using the bounce seat,please check carefully if contacts are in good condition.If the reading fail,try more times.If it still fails,please weld on the simple board to try.Otherwise it is important to weld well and clean the soldering paste,or it is easy to make some mistake under situation of high frequency.

4.4 EMMC's Reading

Choose the approved EMMC seat,don't use the third-party seat,the sign of the chip should be in the direction of lower left.(EMMC must be planted beads,and be cleaned up or it will make the mistake easily)

Click Smart Identify SmartID to choose the printing letter,the default is EMMC_AUTO_4BIT.Can also input "EMMC"in the "Enter chip printing".

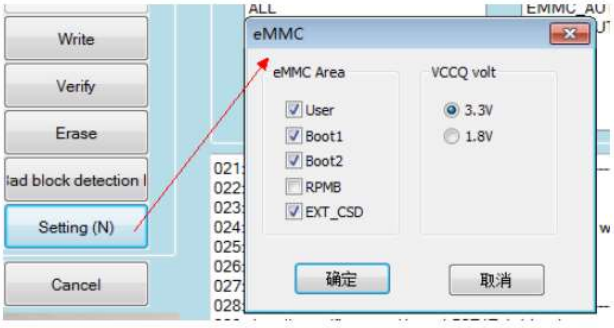


EMMC_AUTO_4BIT reading,but with high stability, higher successful rate,software default.

EMMC_AUTO_8BIT reading,suitable for most of the EMMC chips.

If read and write on line,please choose EMMC_AUTO_ISP.

Click "Setting" then the dialog box in the middle pop up.

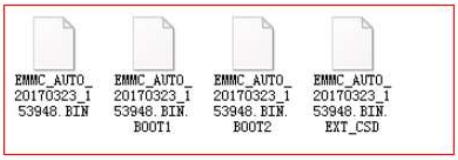


The left is the 5 partitions of EMMC,the "USER" is the user area,"RQMB"is the encryption area,the data in it can not come out so don't have to be chosen.

The right is VCCQ power supply choice,it's 3V generally,very few chip need to choose 1.8V.

The success hint of reading chips:

The software will create a folder automatically after EMMC already read the data,there will be the data of corresponding area,it's alright to save the whole folder.



(When the capacity of EMMC is more than 4G,the file read be divided into 2 parts automatically,it is normal that there will be 5 files.)

When writing EMMC,drag just an icon into the display area of software then all the file will be loaded to the software.