Xeltek Inc. IS416/ IS03 COMMAND TOOL MANUAL

Introduction

Sometimes users would like to control the programmer by self without SW we offer. The windows command tool is offered to control IS01/IS03.For example: Program the serial flash via the ICT tester automatically after the hardware has been checked. This command tool supports IS01/IS03, and this document only demo with IS03.

Requirements

Please install the SUPERPRO programmer software correctly. And copy the file is03_lic.lib(C:\SPis03\lib\) or C:\SPis416\lib to the path where project files will be located, If the software is installed in C:\. IS416 & IS03 software download https://www.xeltek.com/superpro-software-download-center/

Basic Usage
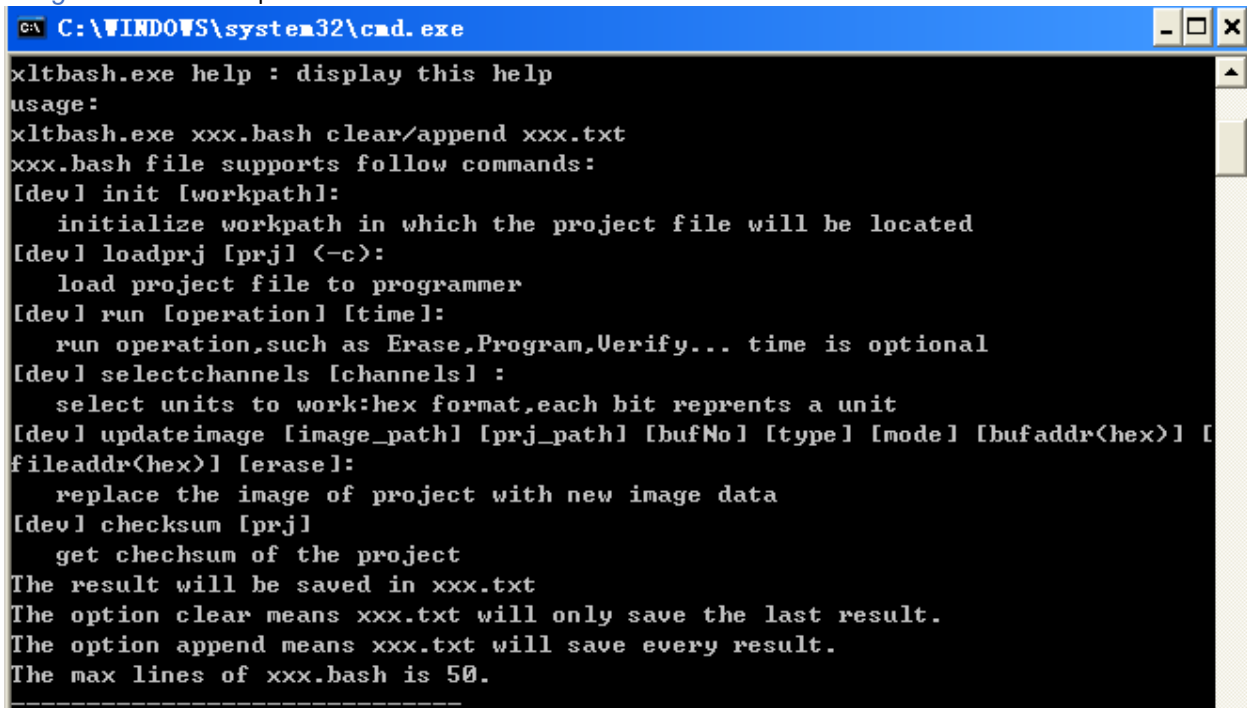
The xltbash.exe must be with xoem.dll in the same dir. Open windows command console at first, and then run xltbash.exe.

Commands description: Not case-sensitive

○ **Help**

Function: Display the command tool usage.
Usage: xltbash.exe help

```
C:\WINDOWS\system32\cmd.exe                              _ □ ×
xltbash.exe help : display this help
usage:
xltbash.exe xxx.bash clear/append xxx.txt
xxx.bash file supports follow commands:
[dev] init [workpath]:
   initialize workpath in which the project file will be located
[dev] loadprj [prj] (-c):
   load project file to programmer
[dev] run [operation] [time]:
   run operation,such as Erase,Program,Verify... time is optional
[dev] selectchannels [channels] :
   select units to work:hex format,each bit reprents a unit
[dev] updateimage [image_path] [prj_path] [bufNo] [type] [mode] [bufaddr(hex)] [
fileaddr(hex)] [erase]:
   replace the image of project with new image data
[dev] checksum [prj]
   get chechsum of the project
The result will be saved in xxx.txt
The option clear means xxx.txt will only save the last result.
The option append means xxx.txt will save every result.
The max lines of xxx.bash is 50.
--------------------------------------
```

There are two ways to save the result of operation after running:

Xltbash.exe xxx.bash clear xxx.txt

Argument:

xxx.bash: a script file.

clear: xxx.txt will save the result of script and each time the content of xxx.txt will be clear.

Xltbash.exe xxx.bash append xxx.txt

append: xxx.txt will append the result of script but the content of xxx.txt will not be clear.

Commands supported by script file:

O   **Init**

Function: Initialize the system and set work path.

Usage: [dev] init [workpath]

Argument:

- dev: The programmer No., the most case is 1, if there are several programmers in PC system, you may set the number that wanted to control.

- workpath: The project file will be located in.

O   **Ping**

Function: Enable communicate with programmer

Usage: [dev] Ping

- dev: The same as before

NOTE

This command it's necessary. It willcheck whether the programmer is connected to PC well and get SN of the programmer.

O   **Loadprj**

Function: Load project file to programmer
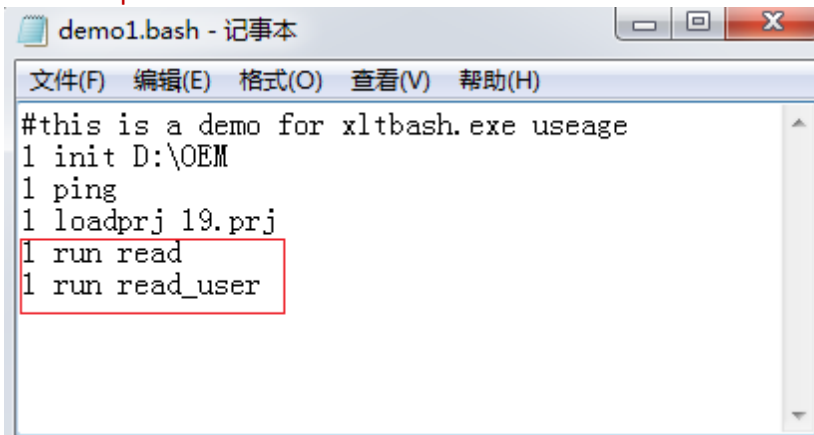
Usage: [dev] loadprj[project]

Argument:

- dev: The same as before

- project: The project file which must be located in work path.

NOTE

1: When programmer IS03 reset, this command should be called again.

2: After Load project, there are maybe several temp files will be created. If IC has only one buffer, there will be only one temp file. If user runs "Read", the temp files will save the image data from IC.
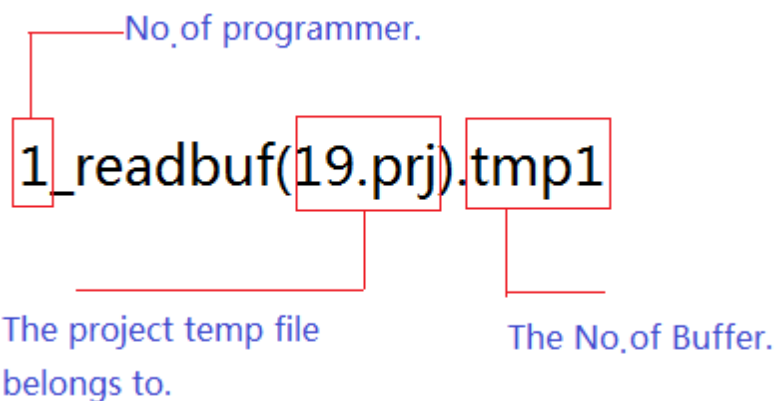
For example: A bash file:

There will be two temp files 1_readbuf(19.prj).tmp, 1_readbuf(19.prj).tmp1in D:\OEM.

1_readbuf(19.prj).tmp will save the first buffer of IC after running "read".

1_readbuf(19.prj).tmp1will save the second buffer of IC after running "read_user".

○ **Run**

Function: Run operation

Usage: [dev]run [operation][time]

Argument:

- Dev: The same as before

- Operation: Such as "Erase"," Program", "Verify"…

- **Time:** It's optional. The limited time, and the unit is second but not support float. If it is NULL or blank, the limited time is 0. It's important to set a proper limited time. It's better to set limited time a little more than operation time (Such as 1.2 times). Please run S/W firstly and get the standard operation time. For example, if the cost time of program

Return: There are 3 cases.

"Err: XXXX": Some exceptions happened, Such as "Current Over"," Subsys Err"…

"Fail XXXX": Some or all units operate failed, For example: Fail: 1 3 4, means the channels 1,3,4 failed.

"OK": The operation is OK

○ **SelectChannels**

Function: Selected channels mask value, and each bit represents one channel.

For example,0x1 means channel 1 selected.0x5 means channel 1,3 selected. The value must be HEX type, and the Max is 0XFFFF which represents all 16 channels.

Usage: [dev] SelectChannels [channels]

Argument:

- **dev:** The same asbefore
- **channels:** Channel value, and each bit represents one channel.

For example: xltbash.exe 1 SelectChannels 0x5 and select 1,3 channels.

NOTE

Only IS03 supports this command, but not for IS01.Because IS01has only one channel.

○ **Update Image**

Function: Replace the image of project with new image

Usage: updateimage [image] [project] [nbuf] [type] [mode] [bufaddr] [fileaddr] [erase]

Argument:

- **image:** The image file to be load (Please use absolute path, such as: C:\OEM\filename but not only filename)
- **project:** Project file which will be replaced (Please use absolute path)
- **nbuf:** The index of buffer, begin with 0
- **type:** Image file type, 0-binary;1-hex;2-motorola
- **mode:** 0-Normal;

1-1st of 2;

2-2nd of 2;

3-3rd of 4;

4-4th of 4;

5-1st 2 bytes of 4

6-2nd 2 bytes of 4

- **bufaddr:** Buffer offset when load (Address in HEX format)
- **fileaddr:** File offset when loading (Address in HEX format)
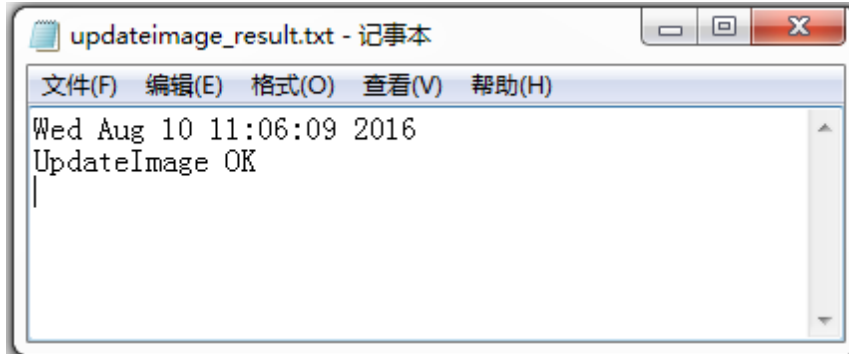- **erase:** Whether clear the previous image data of the project.
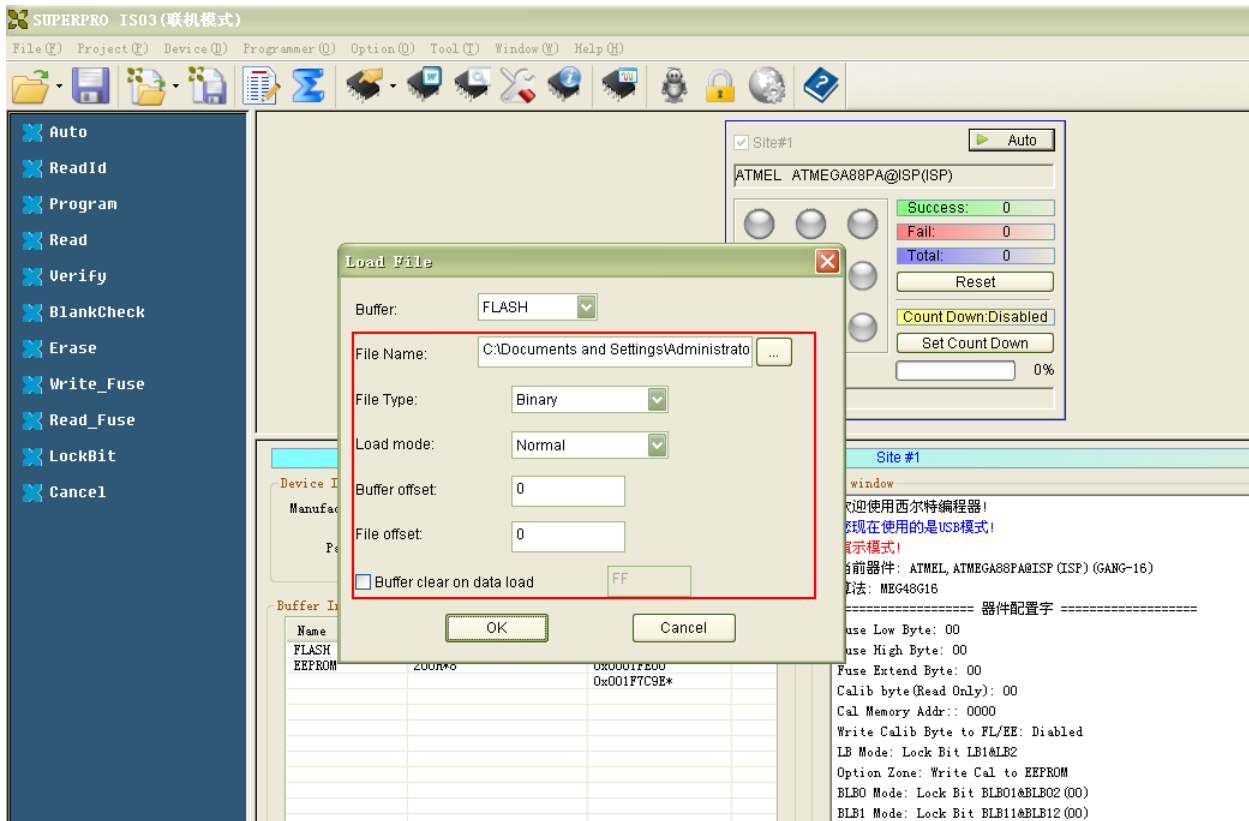
0: Not Clear the previous data of project
1: Clear the previous data of project
The result of Update Image will be saved in updateimage_result.txt. Such as:

NOTE
The arguments type, mode, bufaddr, fileaddr have the same meaning when load file with IS416/IS03 S/W.

○ **Debug**
Function: enable or disable log files
Usage:
 [dev] Debug enable or disable
dev: The same as before

NOTE If enable debug, there will be files oem.log, oem_t0.log... in dir D:/. These logs will save the procession of DLL work. They are useful to analysis when problems happen. If there are no logs in D: and the logs will be saved in C:/.

Demo

The command line to control programmer bases on project file. The project file packs all the Information with the device(chip) including image data, configures and so on. Please generate project file with IS03S/W firstly (IS03handbook describe it in detail), then run xltbash.exe. For example: if want to operate the chip ATMEG88 and put the project file in C:\Oem. (User may put the project files in any dir). xltbash.exe and xoem.dll have been put in C:\SPis416\bin or c:\spis03\bin (User may put these files in any dir).

Steps:

1. Create the dir C:\Oem

2. Create project file with IS03 S/W. Select ATMEGA88PA, load image data file, edit auto and some setting, then generate project file:MEG88.prj. Put it in C:\Oem. Then close S/W if will call the DLL in the same PC system otherwise fail to init DLL. (Do like the following figures)
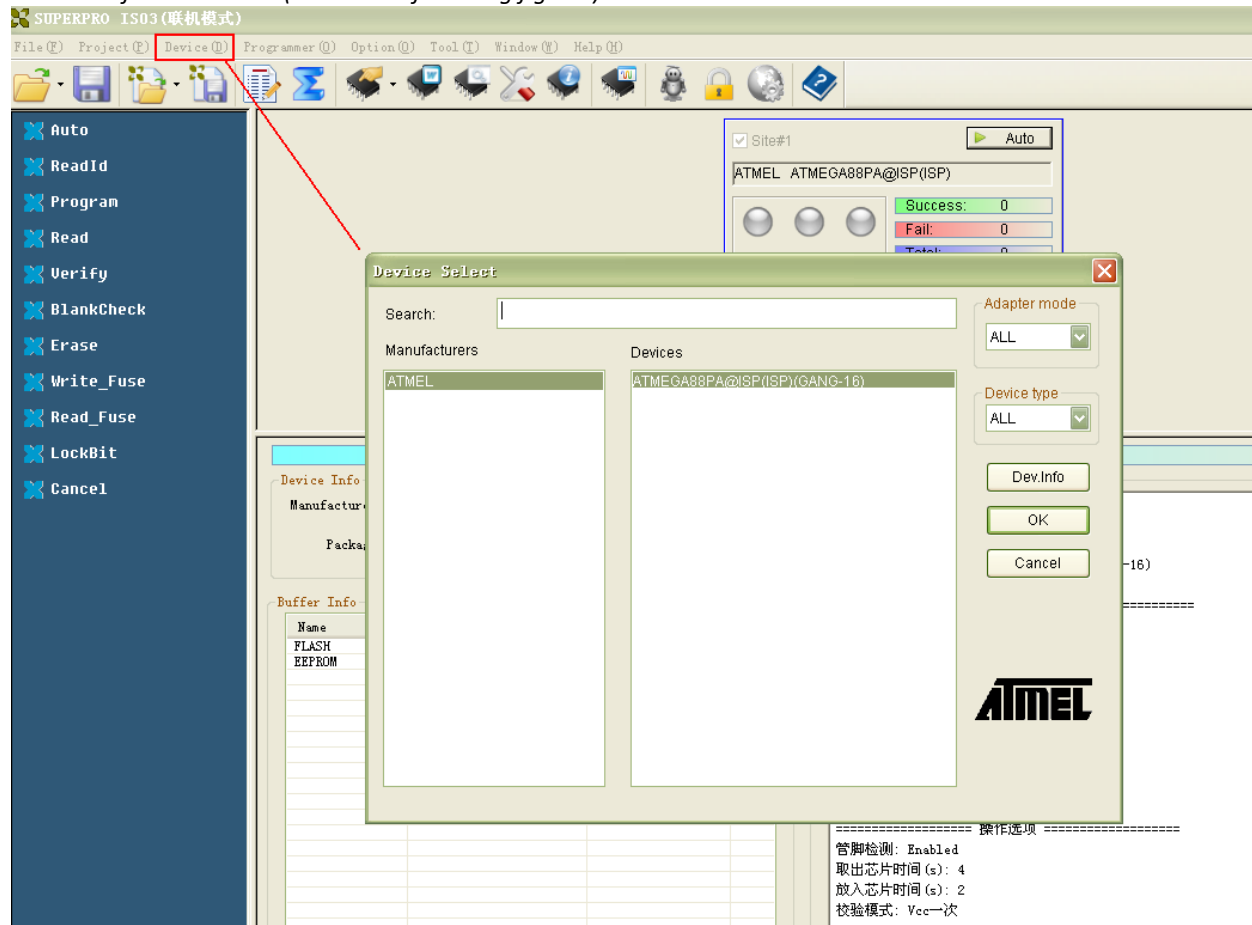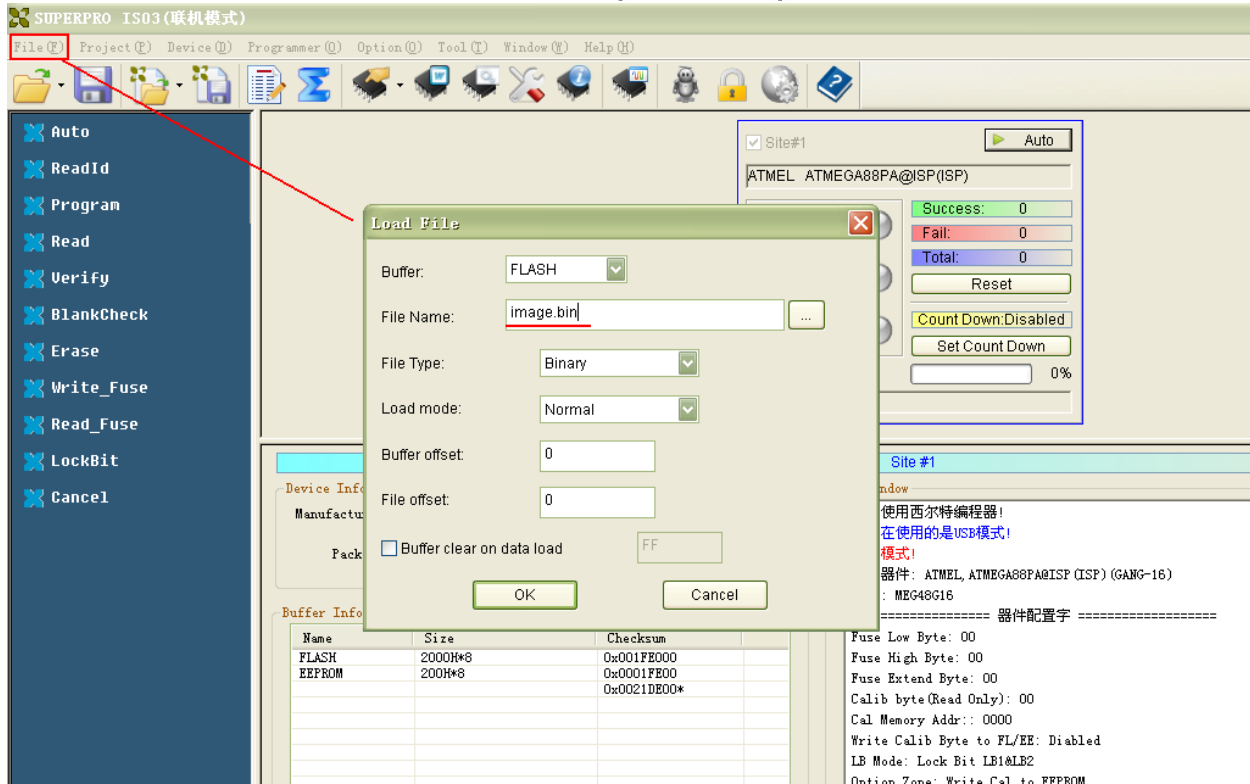

Figure1: Select Chip
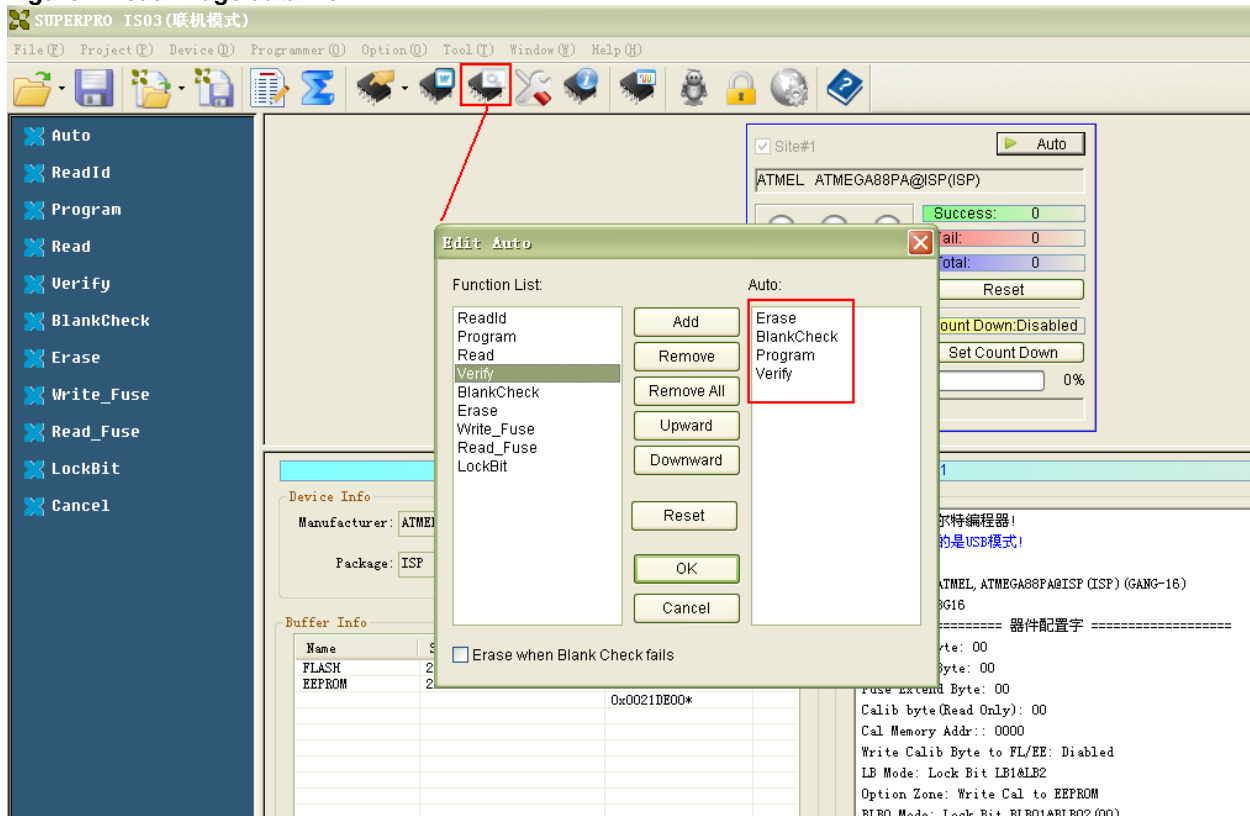
Figure2: Load image data file

Figure3: Set auto

SUPERPRO IS03(联机模式)

File(F) Project(P) Device(D) Programmer(O) Option(O) Tool(T) Window(W) Help(H)

Auto
ReadId
Program
Read
Verify
BlankCheck
Erase
Write_Fuse
Read_Fuse
LockBit
Cancel

Site#1   ▶ Auto

ATMEL ATMEGA88PA@ISP(ISP)

Success: 0
Fail: 0
Total: 0

Reset

Operation Option

General
ISP
Buffer
Auto.Inc
Count

Basic Settings

☑ Pins Check

Remove interval(s) 4   Insert interval(s) 2

Verify mode
◉ Once with Vcc
○ Twice with Vcc+-%5
○ Twice with Vcc+-%10

Unit Setting
☑ A1   ☑ A2   ☑ B1   ☑ B2
☑ A3   ☑ A4   ☑ B3   ☑ B4
☑ C1   ☐ C2   ☐ D1   ☐ D2
☐ C3   ☐ C4   ☐ D3   ☐ D4

According the board and connection,select
channels.This example use the first 9 channels.

OK   Cancel

================== 操作选项 ==================
管脚检测: Enabled
取出芯片时间(s): 4
放入芯片时间(s): 2
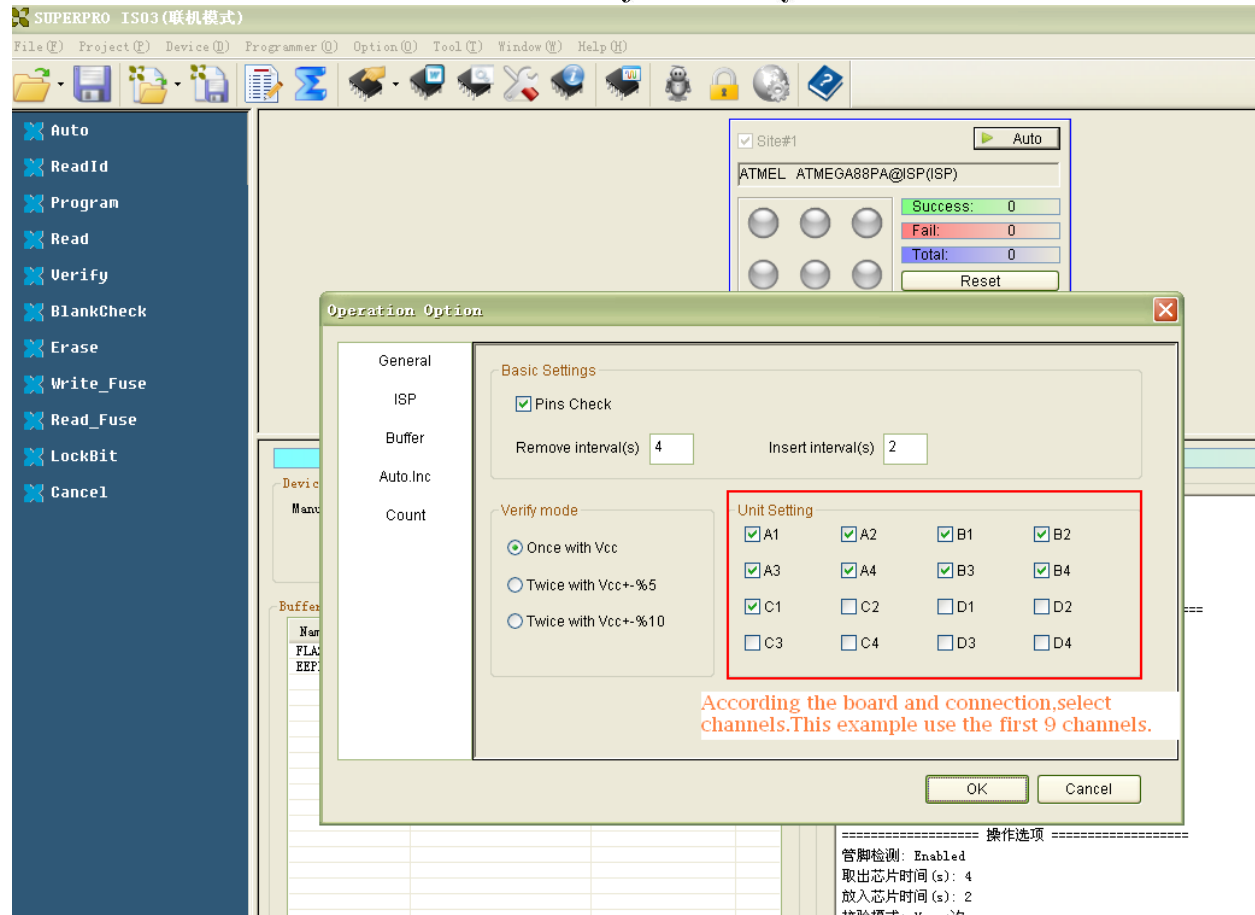
Device
Manu

Buffer
Nam
FLA
EEP

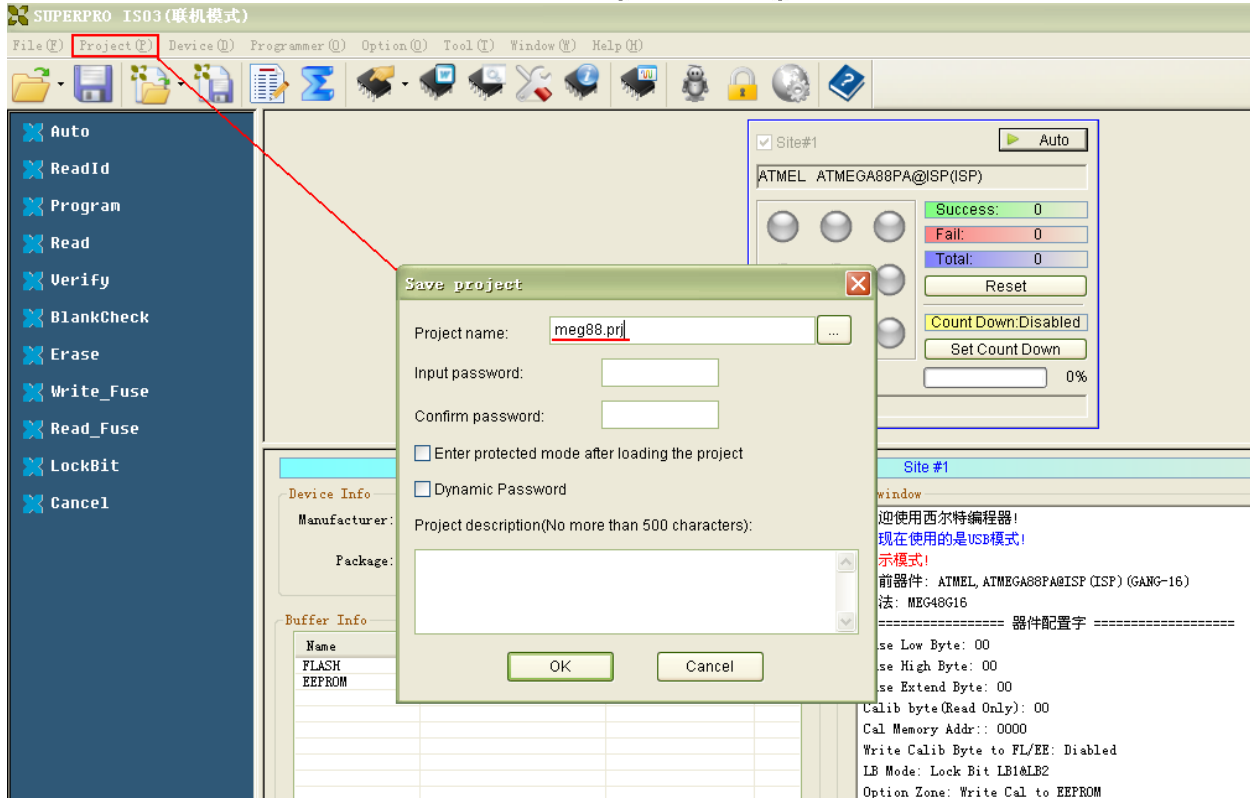**Figure4: Other setting, such as: select channels**

Figure5: save project file

3: Open Menu "Device"->" Dev. Info" to open the connection window. Connect cables of programmer to target board correctly according the description.

4: Open windows command console and run.

This demo is with 7k.prj, and xltbash.exe is put in E:\work\pc\cmd\xltbash\Release

NOTE
In mass production, the command "init" and "loadprj" only needto be called at first.Then call command "Run" in loop. It's no need to call "init" and "loadprj"everytime before calling"Run", and that's not efficient.

Make Script
How to write a script to control programmer?
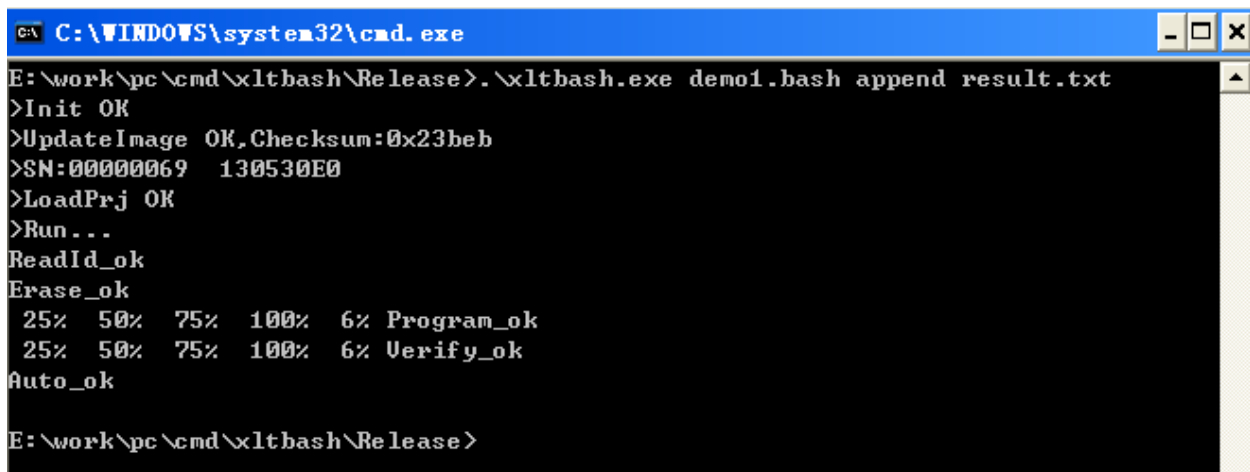Open .txt editor, and write like this:

```
#this is a demo for xltbash.exe useage
1 init d:\oem
1 updateimage d:\oem\1.bin d:\oem\R7F0C002.prj 0 0 0 0 0 0
1 ping
1 loadprj R7F0C002.prj
1 run auto
```

Then save it as .bash, for example demo1.bash. If a line begins with "#", and this line will be ignored, such as line1 of demo1.bash.

Now user may control programmer by running this demo1.bash directly. If xltbash.exe is not in the same path with the demo1.bash, please use absolute path.


```
E:\work\pc\cmd\xltbash\Release>.\xltbash.exe demo1.bash append result.txt
>Init OK
>UpdateImage OK,Checksum:0x23beb
>SN:00000069   130530E0
>LoadPrj OK
>Run...
ReadId_ok
Erase_ok
 25%  50%  75%  100%  6% Program_ok
 25%  50%  75%  100%  6% Verify_ok
Auto_ok

E:\work\pc\cmd\xltbash\Release>
```

Bash Result

The result will be saved in result.txt file.

- If OK, such as:


```
result - 记事本
文件(F)  编辑(E)  格式(O)  查看(V)  帮助(H)

---Tue Aug 19 09:45:32 2014 (Aug 19 2014 09:26:22 released)---
[Dev1-09:45:36] Auto_ok


---Tue Aug 19 09:46:50 2014 (Aug 19 2014 09:26:22 released)---
[Dev1-09:46:54] Auto_ok


---Tue Aug 19 09:46:55 2014 (Aug 19 2014 09:26:22 released)---
[Dev1-09:46:59] Auto_ok


---Tue Aug 19 09:47:00 2014 (Aug 19 2014 09:26:22 released)---
[Dev1-09:47:04] Auto_ok


---Tue Aug 19 09:50:08 2014 (Aug 19 2014 09:49:40 released)---
[Dev1-09:50:11] Auto_ok
```
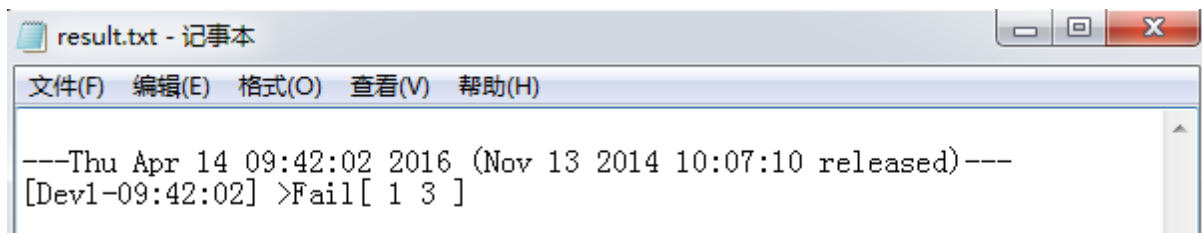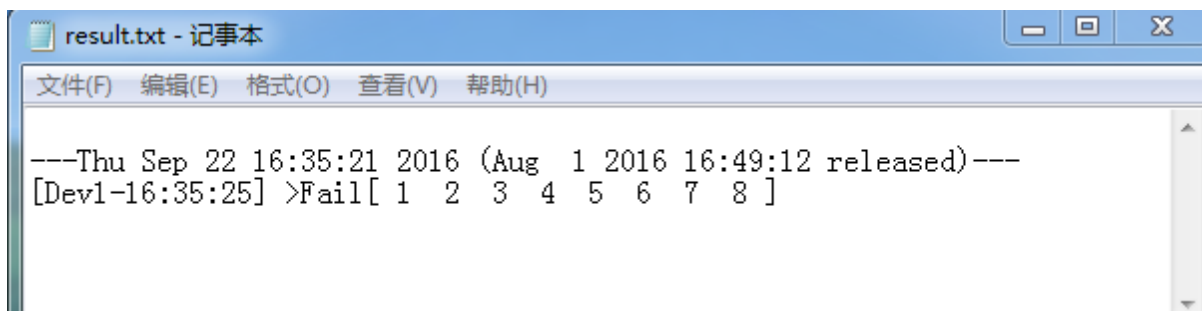
- If channel 1,3 fail, like this:


```
result.txt - 记事本
文件(F)  编辑(E)  格式(O)  查看(V)  帮助(H)

---Thu Apr 14 09:42:02 2016 (Nov 13 2014 10:07:10 released)---
[Dev1-09:42:02] >Fail[ 1 3 ]
```

- If channel 1,2,3,4,5,6,7,8 fail, like this:


```
result.txt - 记事本
文件(F)  编辑(E)  格式(O)  查看(V)  帮助(H)

---Thu Sep 22 16:35:21 2016 (Aug  1 2016 16:49:12 released)---
[Dev1-16:35:25] >Fail[ 1  2  3  4  5  6  7  8 ]
```

Multi Programmers Operation

1: How to control 8 programmers?

Create 8 bash files like these(1.bash 2.bash ... 8.bash):
1.bash

1 init c:\oem
1 ping
1 loadprj xxx1.prj
1 run auto

2.bash

2 init c:\oem
2 ping
2 loadprj xxx2.prj

2 run auto

......

8.bash

8 init c:\oem
8 ping
8 loadprj xxx8.prj
8 run auto

Note: xxxN.prj must be different name, even with the same IC.
If 8 programmers operate the same type IC, Please create a basic project file and then copy 8 replicates, and each project for one program and bash.

2: How to run bashes simultaneously?
Create 8 bats like these:
1.bat
xltbash.exe 1.bash clear result1.txt
2.bat
xltbash.exe 2.bash clear result2.txt
....
8.bat
xltbash.exe 8.bash clear result8.txt

Then may run 8 bats simultaneously. (Or create 8 threads that each one to run one bat.) , and restult**N**.txt will save the program result for is01 **N**.

Notice & Error
NOTE:
1:"Init" must be called firstly. If in it has been called already, it's no need to call again.
2:"loadprj" must be called before to "Run", otherwise will get error like "subsys_err".
It's no need to call this again after it has been called already. But if the PC or programmer reboots, the command "loadprj" must be called again.

3: "run" operation, the operation must be supported by the chip. For example, AT24C02 has no "Erase", but if run erase, you will get error like "no_such_function".

4: After "init" and "loadprj", you may call "run operation" repeat, and no need to call "loadprj" otherwise you want to operate other project.

Error description:

E1: arg invalid--The arguments is not correct

E4: load lib error:%d--xoem.dll in not exist in the dir which xltbash.exe locates

E5 :load lib func error:%d--xoem.dll is broken

E7: path invalid--path is not exist

E8: no such dev--The selective programmer not exist, please check the connection, and switch on programmer

E12: [file] Not Exist

E13: fail to loadprj

E14: fail ping--Fail to communicate with programmer

E15: updateimage fail