

## Standard Operating Procedure (SOP) for Altera Stratix III Programming

**Programming Procedure :**

1. Install the Socket Board.

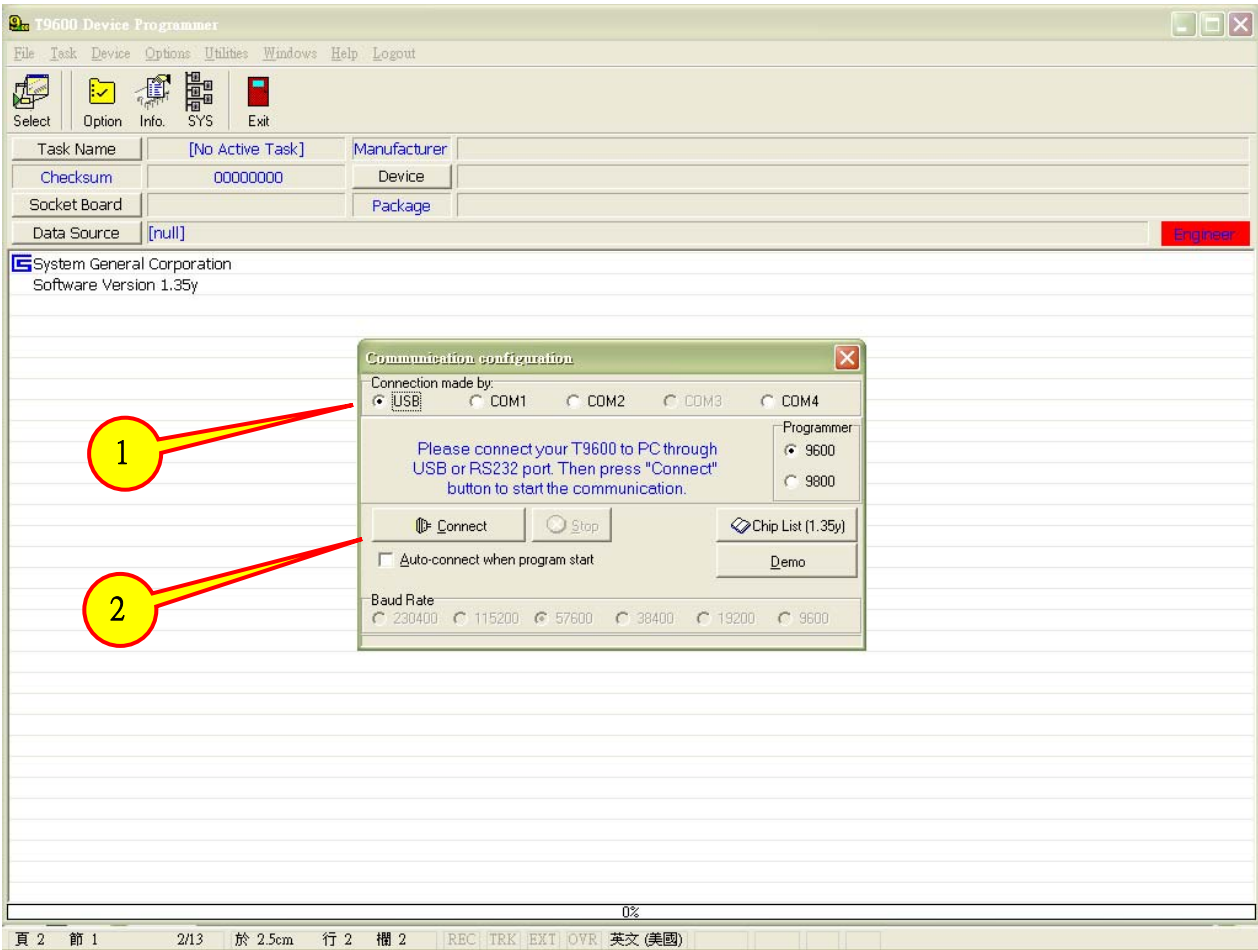


2. Connect the power cord and the USB cable, then power on.

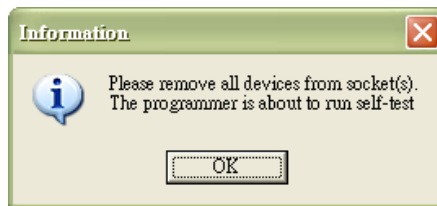


3. Run T9600.

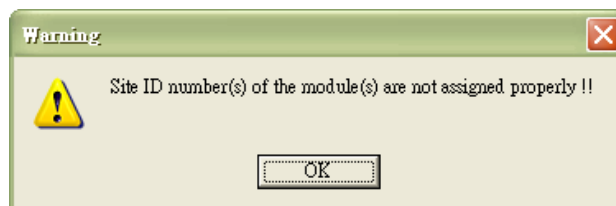
4. Select USB in the connection options, then click on the Connect Button.



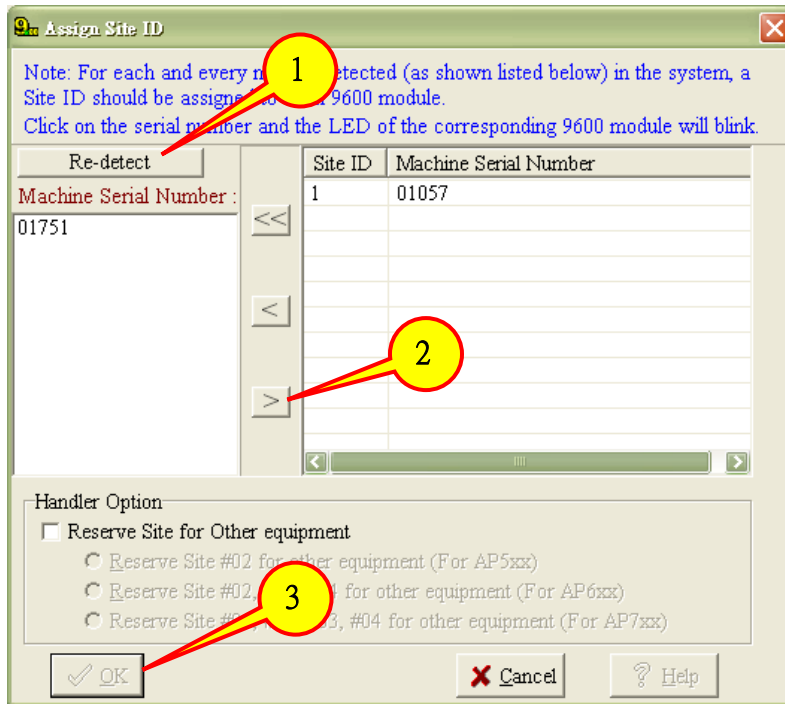
5. When a dialogue as below pops, you should make sure that no device is placed in the socket. Then click on the OK button. The programmer will run self-test for about 50 seconds.



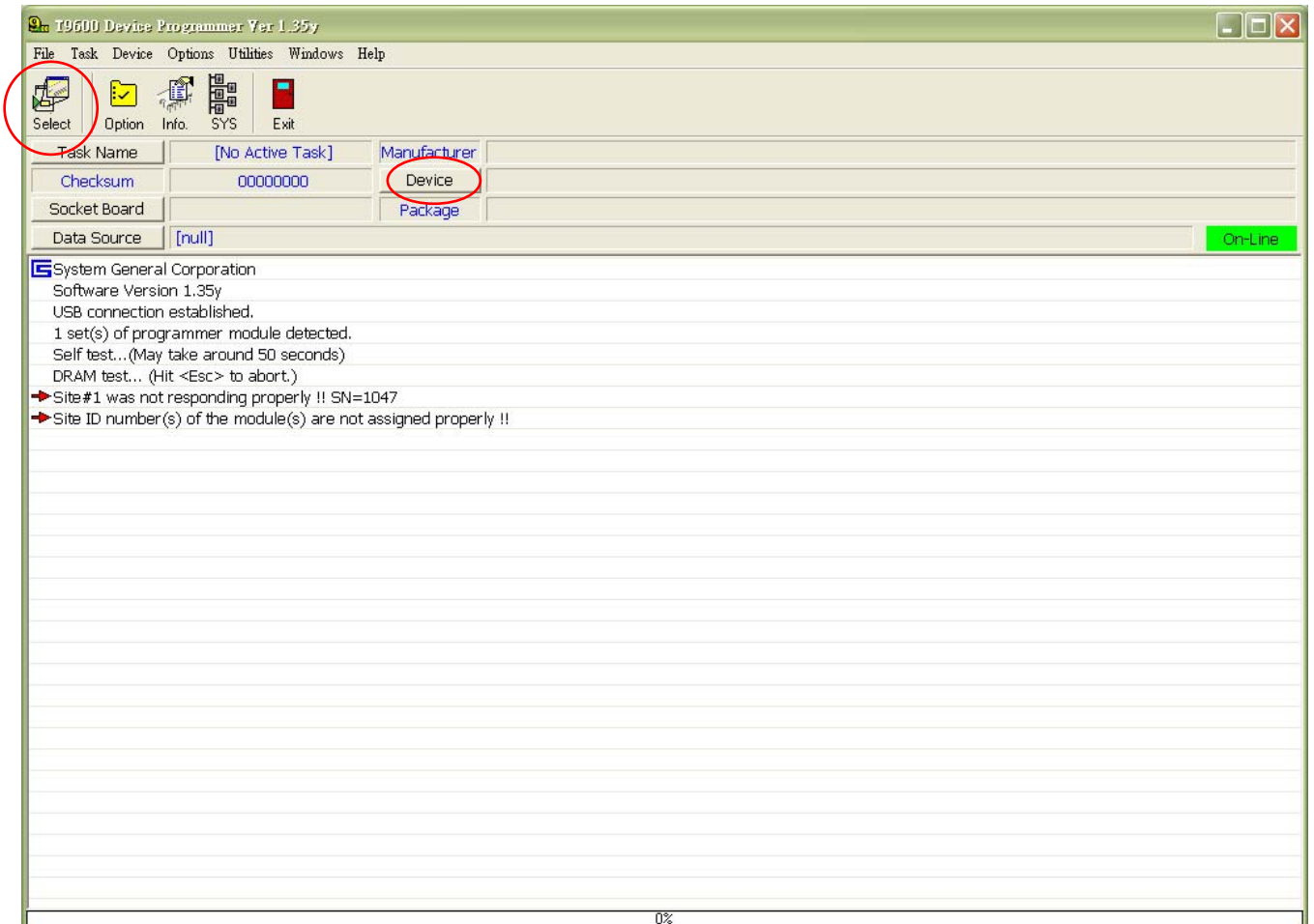
6. After self-test, if the serial number of the Module(T9600) is not the same as the site ID number, a warning dialogue as follows will pop. Please click on the OK button. Otherwise, skip Step 6 and 7 over.



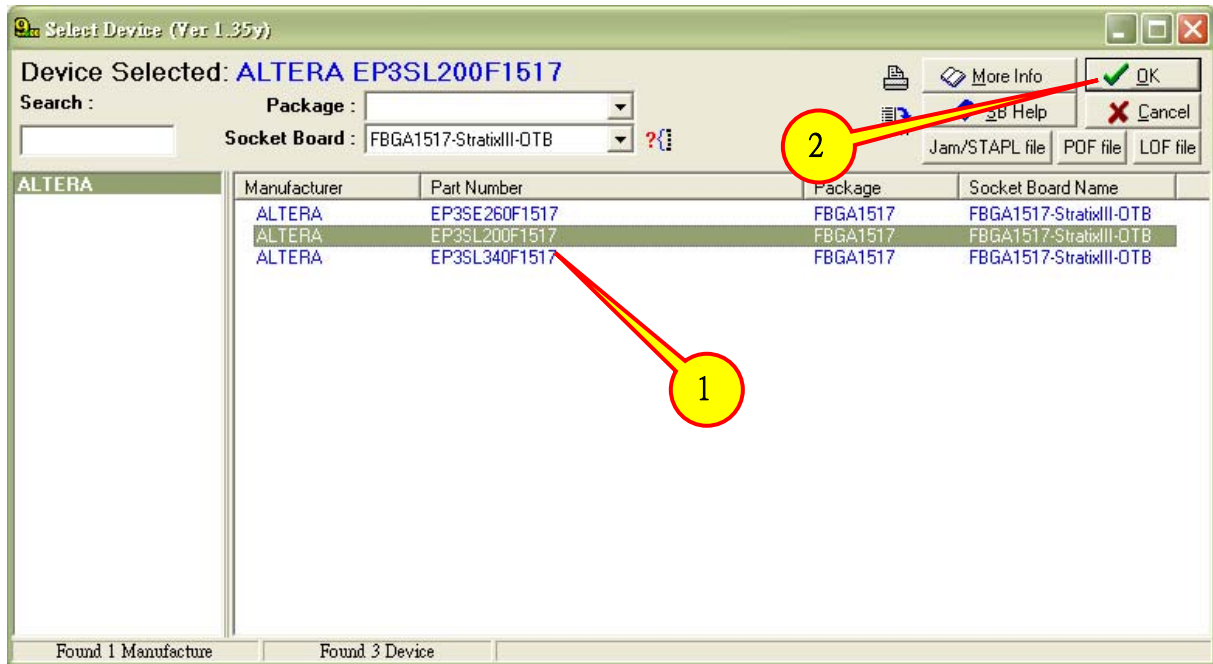
- When the following window turns up, please click on the three buttons orderly as pointed by Arrowhead 1, 2 and 3 to update the Serial number.



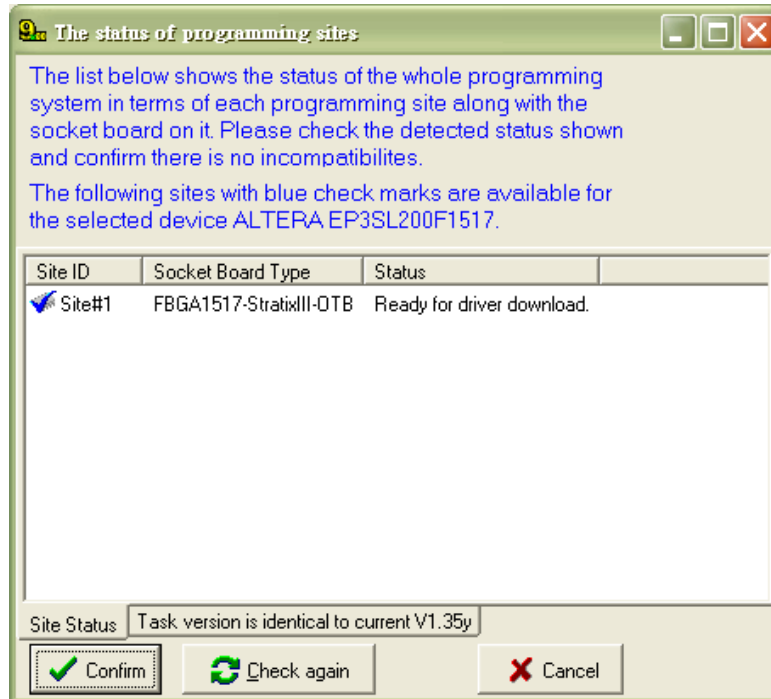
- Click on either the Select button or the Device button.



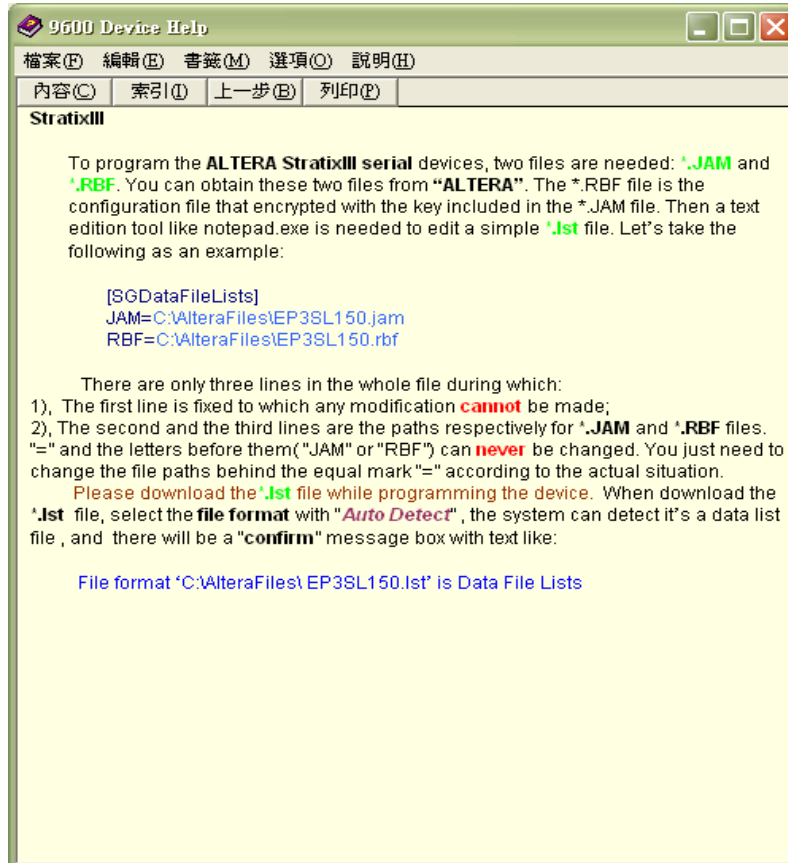
9. Select the part number to be programmed, then click on the OK button.



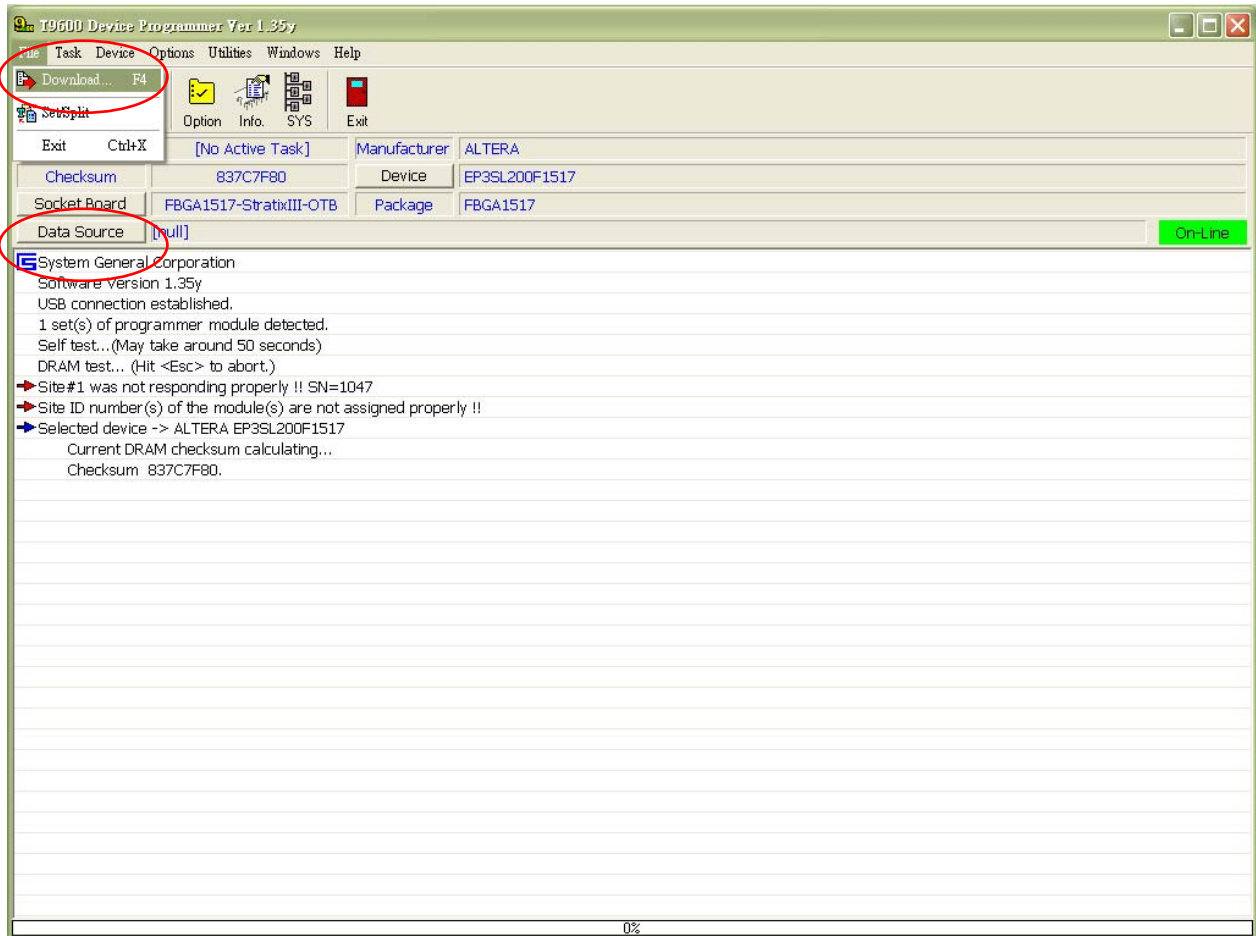
10. Click on the Confirm button to confirm.



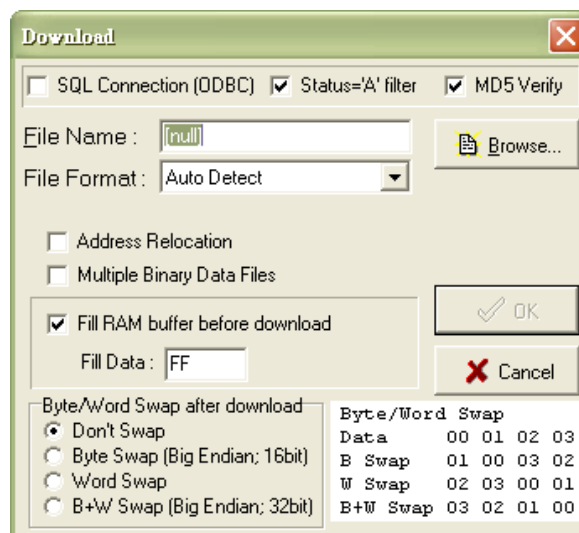
11. The Help window will then turn up, explaining how to build up the programming file. If the programming file is already built up, the window can be closed directly; otherwise, please refer to Page 13 for more details.



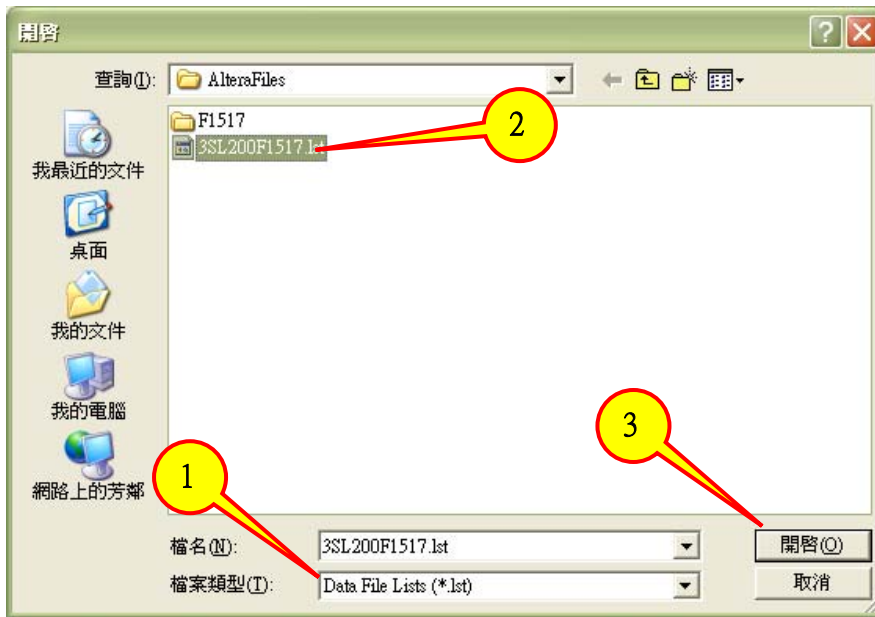
12. Click on the Data Source button, or select Download in the File menu.



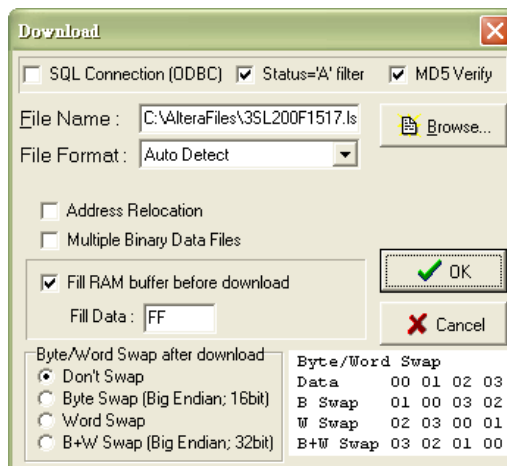
13. Click on the Browse button in the Download window.



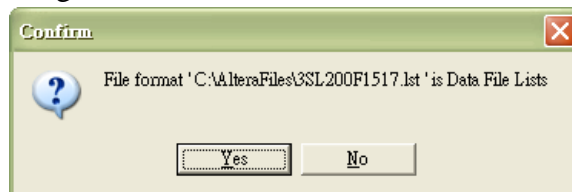
14. After clicking on the Browse button, a window as below will turn up. Please select the file format firstly as Data File List(\*.lst), then open the programming file.



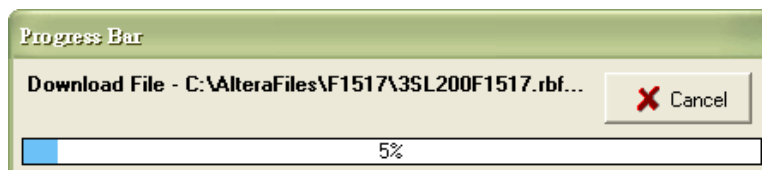
15. Press OK



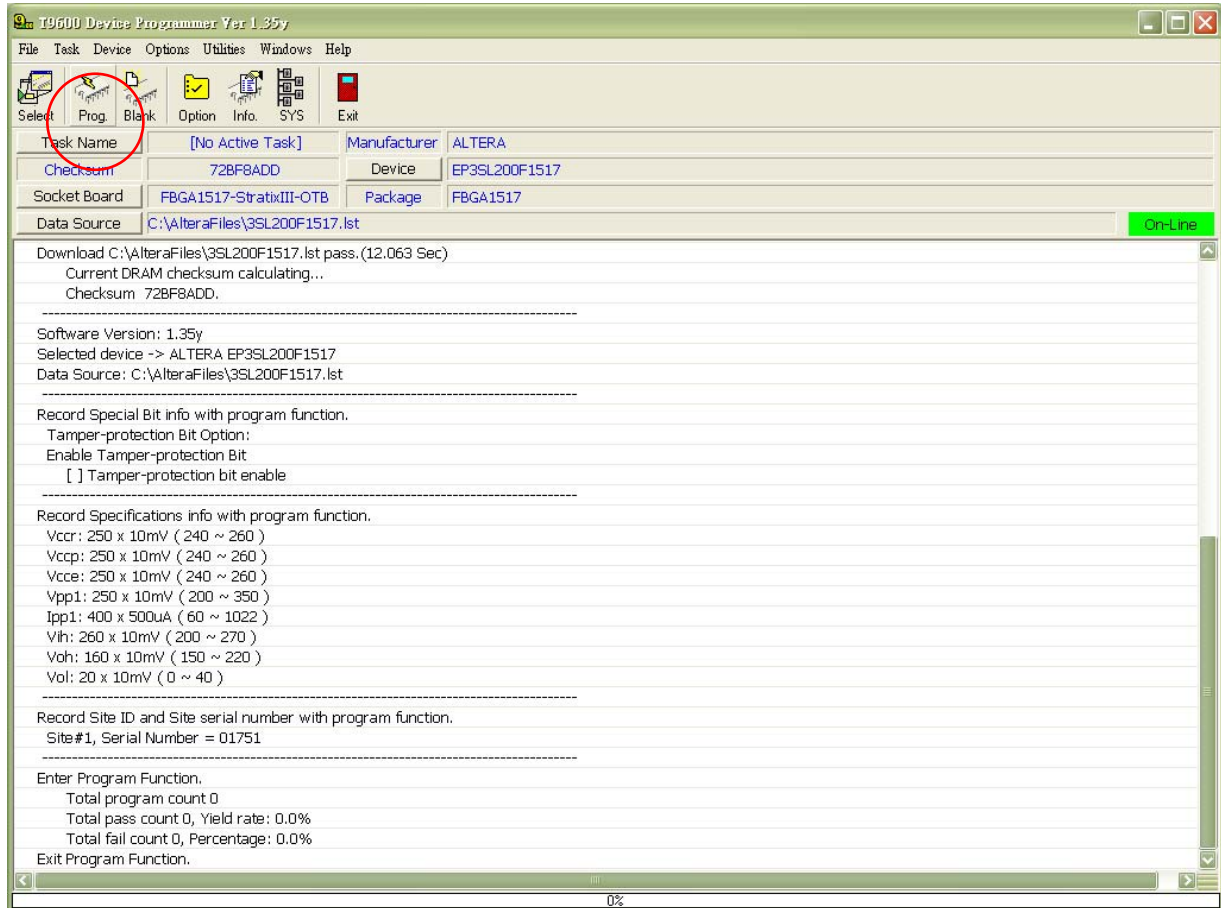
16. Make sure the programming file is correct and click on the Yes button.



17. Wait when the file is under down-load.



18. After the file is downloaded, click on the Prog. button to prepare for Device programming.



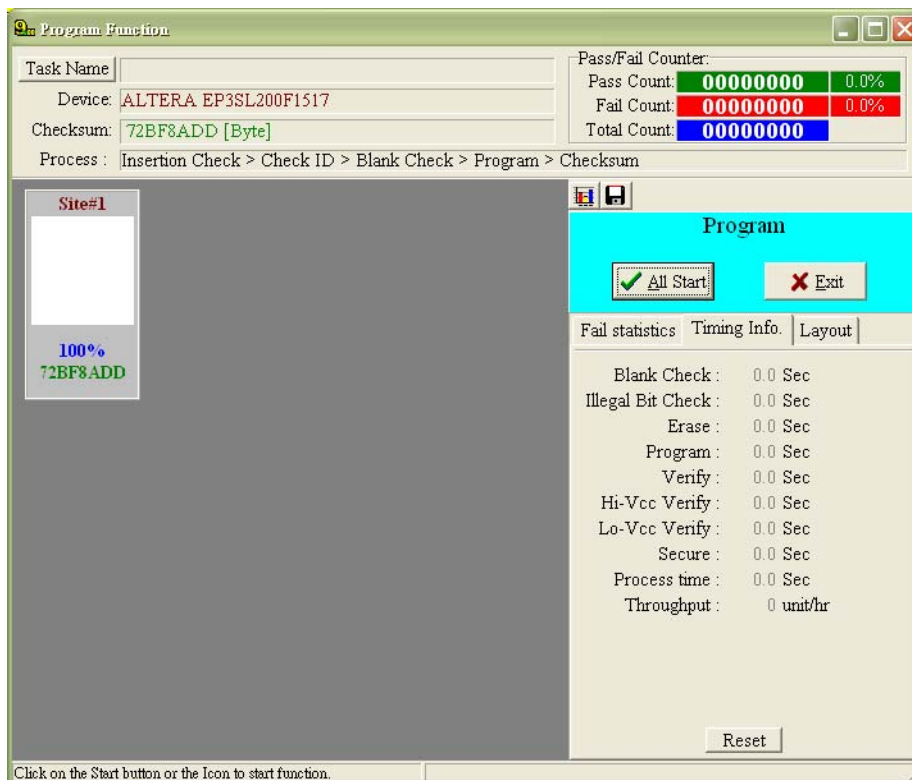
19. Put the Device in the Socket and make sure it is properly placed.



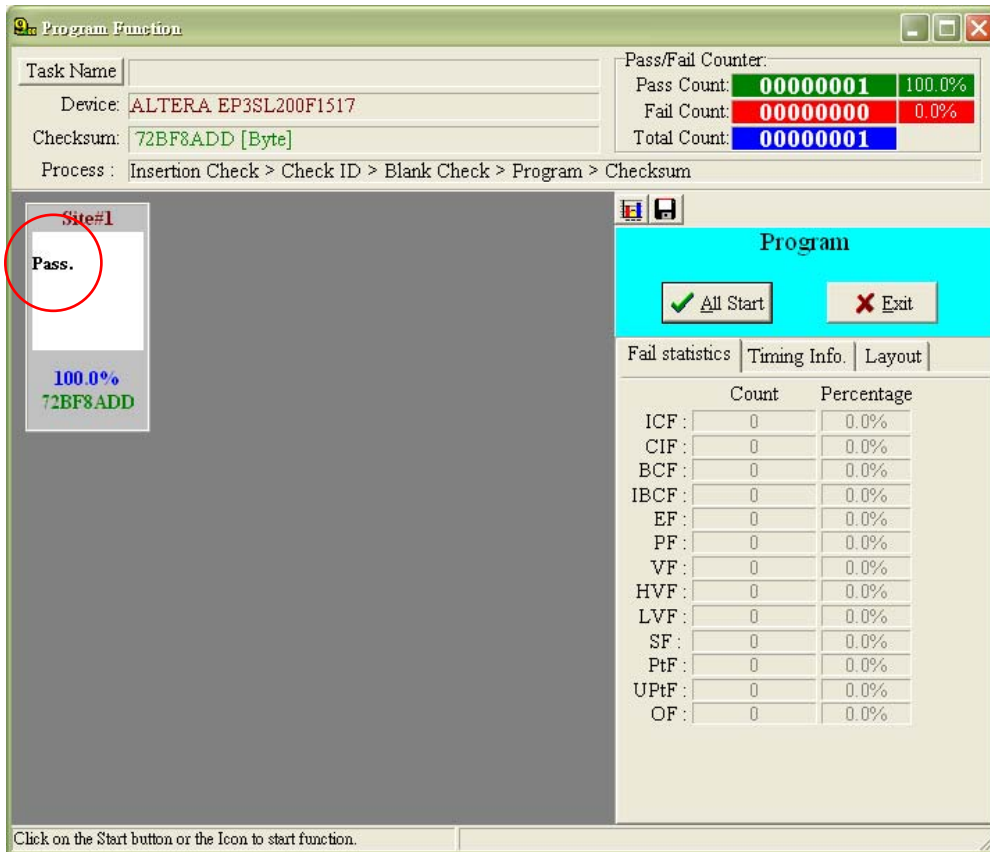
20. If you want to program temper-protection bit (secure fuse bit), please tick off Tamper-protection bit enable, then press OK.



21. Make sure the procedure is correct and then click on the All Start button to start programming as follows.

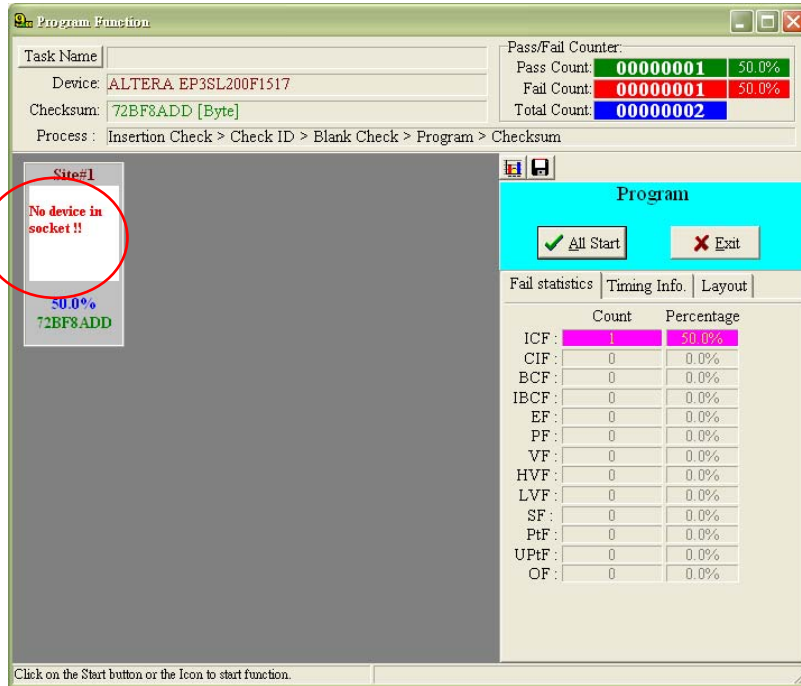


22. If the “Pass” message appears, it indicates programming is finished. Pass and failure statistics will turn up in the upper right corner.

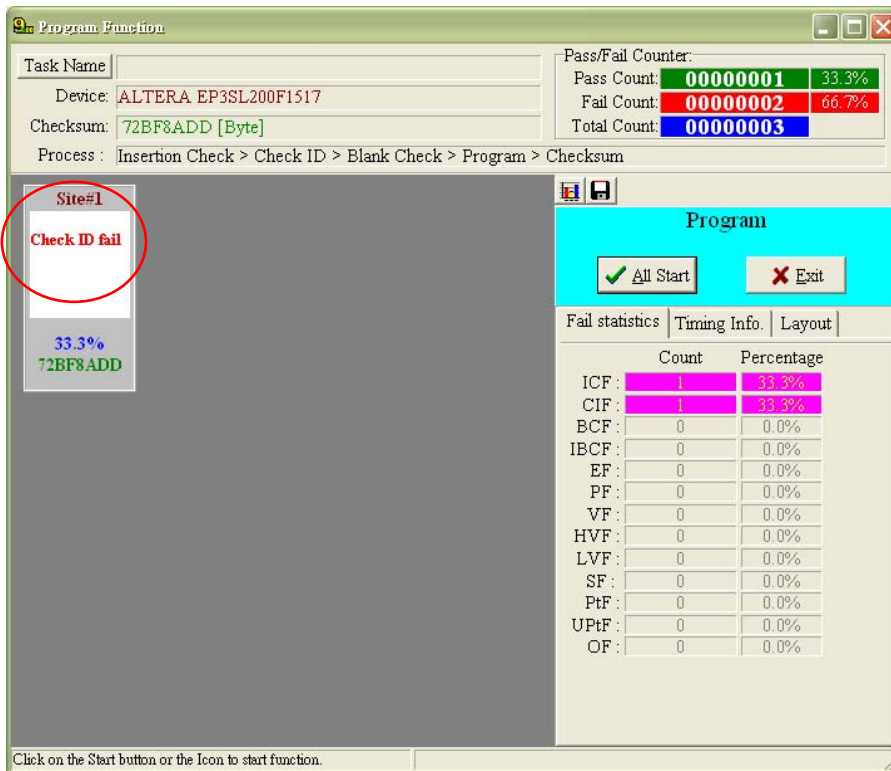


23. Repeat Step 18-22 to program another Device.

24. If the “No device in socket!!” message appears, it indicates no Device is put in the socket or the Device is not properly placed. It is suggested to check if Pin 1 of the Device is placed in the right position and then to get the Device out, and re-put it in the socket.



25. If the “Check ID fail” message appears, it indicates a wrong Device is put in the socket. For instance, such failure message will turn up if EP3SL200F1517 rather than EP3SL340F1517 is placed.



26. If the “Program fail” or “Verify fail” message appears, please stop programming other Devices and ask technical staff for failure analysis. You may continue to program when the failure is eliminated.

### How to build up the programming file:

1. To program Altera Stratix III series Devices, two files are needed: \*.jam and \*.rbf. Devices cannot be programmed if either of the files is missing.
2. In addition, a \*.lst file is to be built up. Point out the storage paths of the above mentioned two files as per their respective format.
3. To take EP3SL200F1517 as an example :
  - 3.1 File names of the \*.jam and \*.rbf files are 3SL200F1517.jam and 3SL200F1517.rbf ( File names are user-defined ) , and they are stored at C:\AlteraFiles\F1517 ( Storage paths are user-defined ) as shown in the following picture :



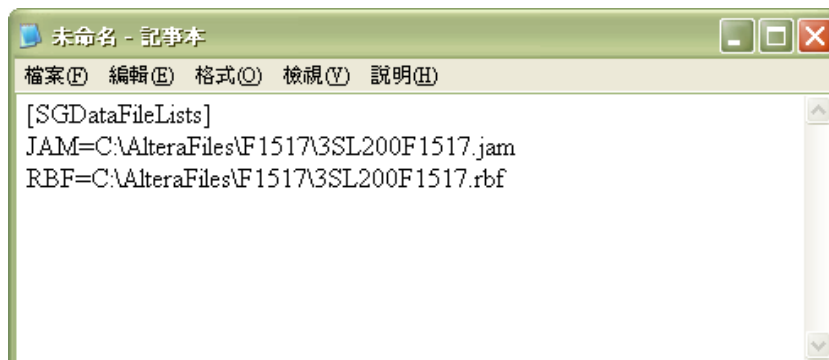
- 3.2 To build the \*.lst file: open a text edition tool like Notepad, the content of which is as follows:

The first line: **[SGDataFileLists]** (Fixed format, which cannot be changed in whatever circumstances.)

The second line: **JAM**=(Fixed format) + the storage path and name of the \*.jam file

The third line: **RBF**=(Fixed format) + the storage path and name of the \*.rbf file

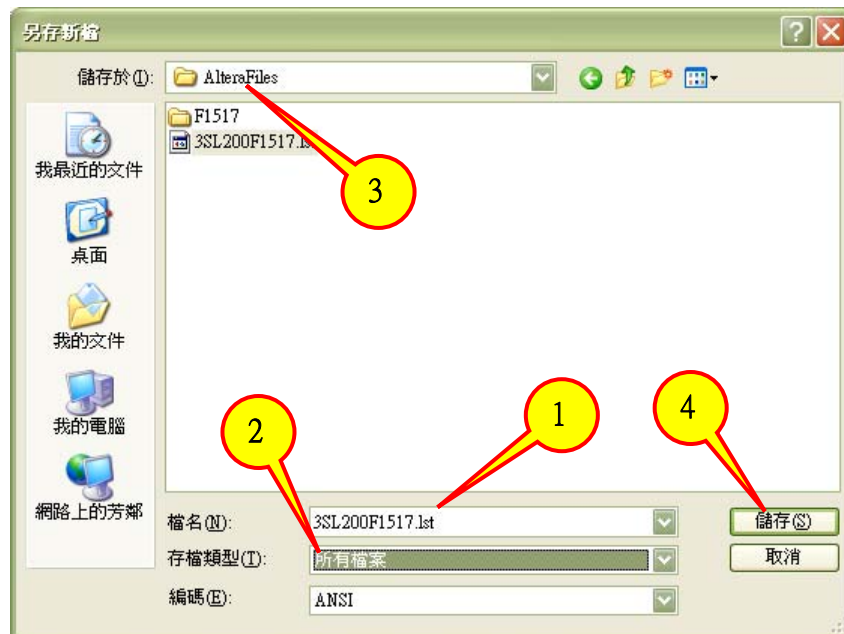
There is a complete \*.lst file in the following picture.



3.3 After edition of the \*.lst file, select Save As in the File menu as below.



3.4 Change the file name to 3SL200F1517.lst and store the file in the chosen path.



4. The edited \*.lst file is the file to be chosen and programmed into the Device (See Step 13 on Page 6)