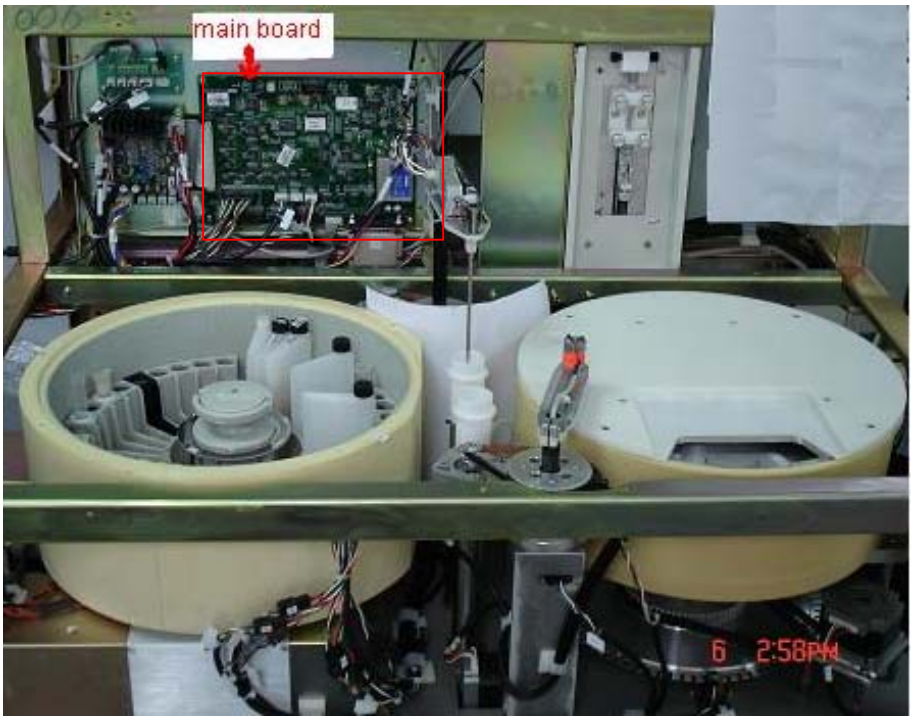
Before change the gain of intensity, the engineer need to confirm tools below:

1) A normal computer. (Especially must with a serial port).
2) A serial port wire.
3) BS200 debug ware,
4) A suit of screwdrivers and a suit of hexagonal spanners.

Beforehand preparation: change the jumper

As we need to change some parameters, we have to change the jumper of the main board, let's find where's the jumper first:

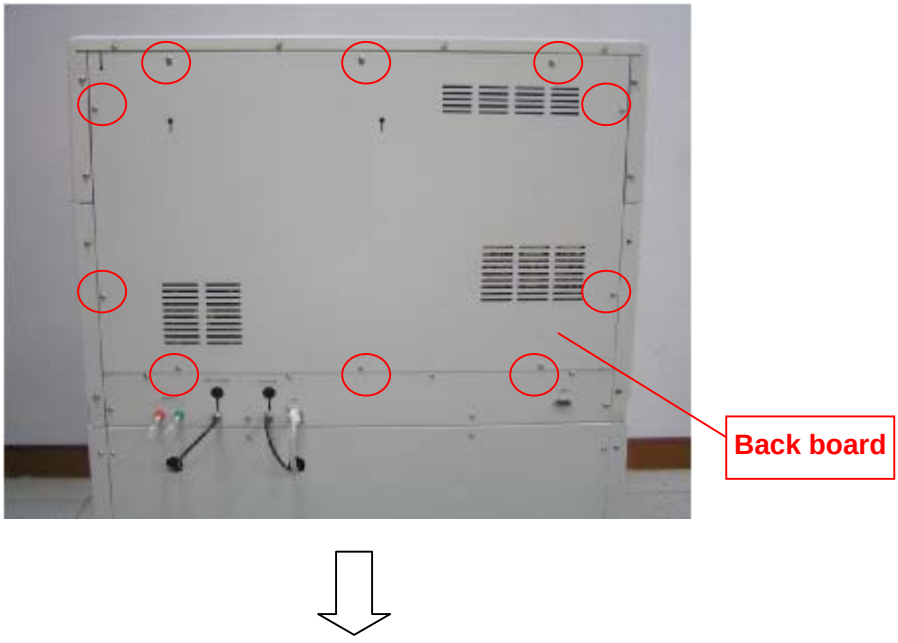
Location of the main board in the machine (view from front of the analyzer):



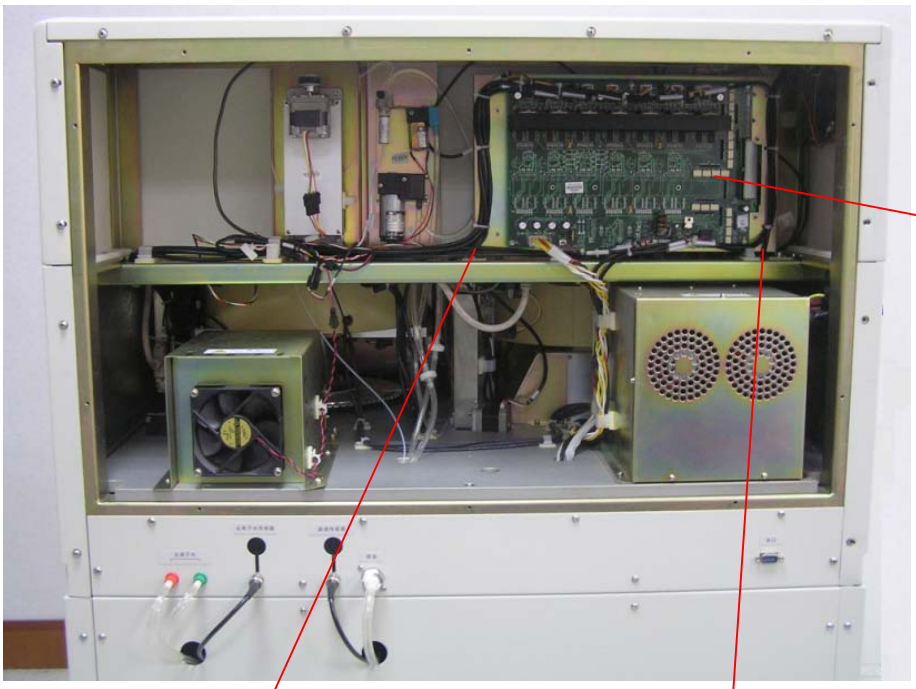
Location of the jumper in the main board (view from the top of main board):

Please do as below:

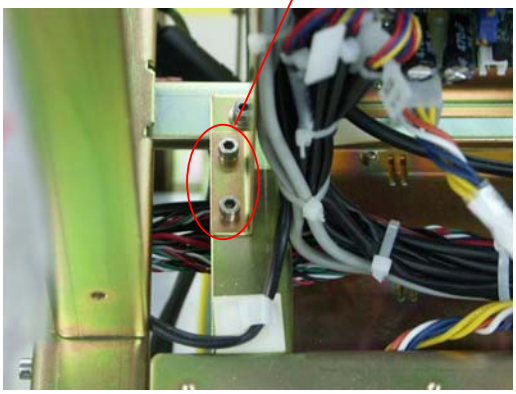
1) Detach the 10 screws which marked in the picture below (back view of the analyzer):



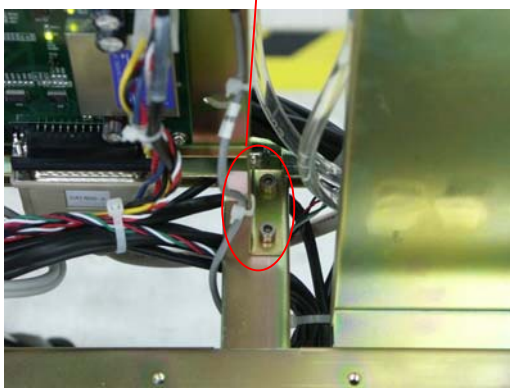
2) Detach the back board and we can see the power drive board (the main board is just behind the power drive board):



3) **Loose these four screws below**:

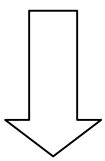


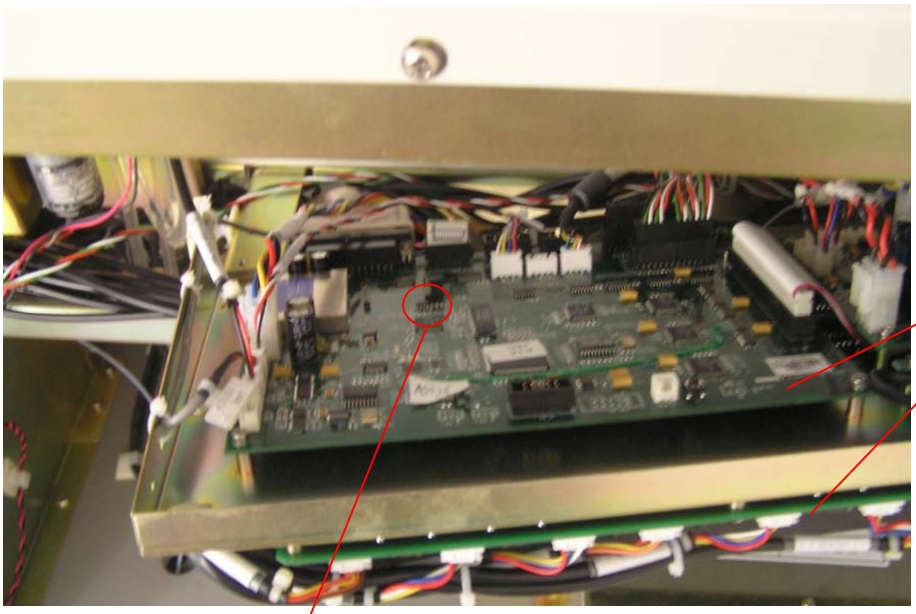
down view 1



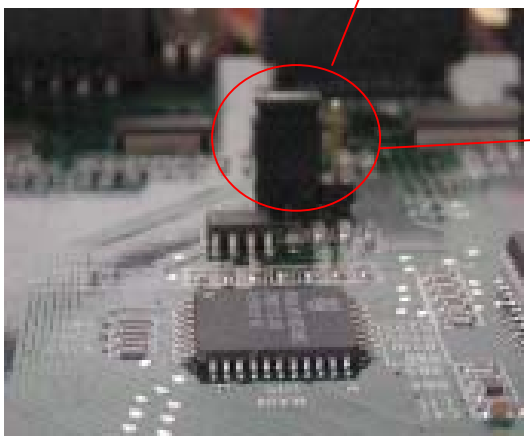
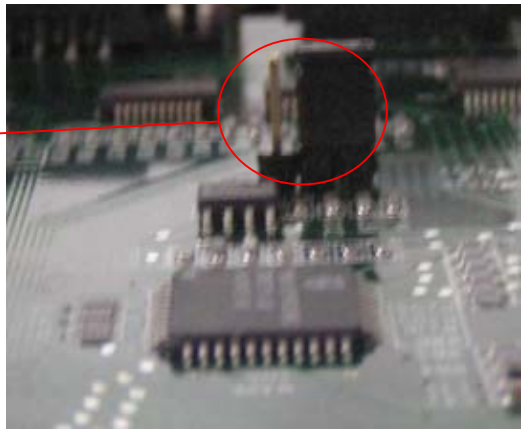
down view 2

4) After loose these four screws, we can lay down the board like below, but beware of the wires around and don't exert all your strength, which may be dangerous.





5) Change the jumper like this:

	
Before we change **The jumper is on the left side if view from the back of analyzer**	**After we change** **The jumper is on the right side if view from the back of analyzer**

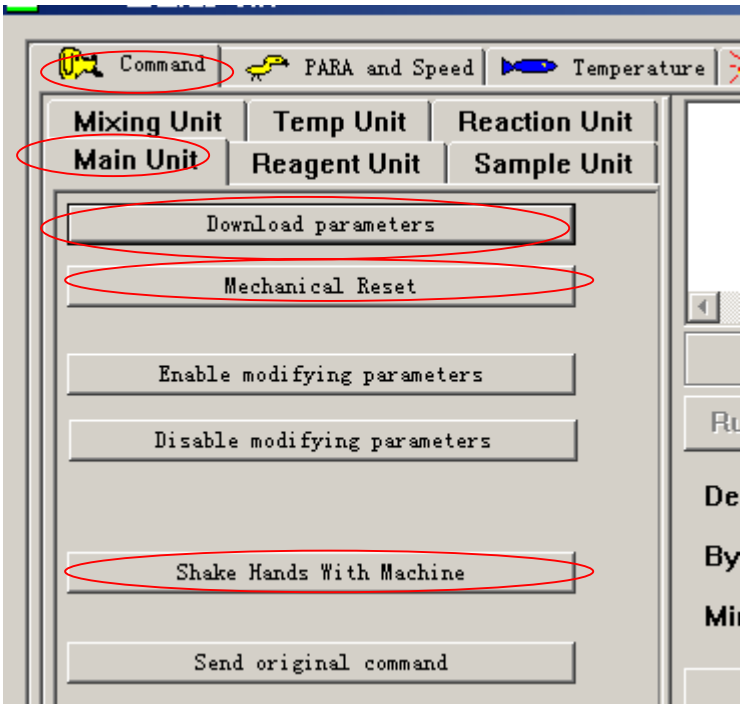
6) Fix everything back and complete the work of changing the jumper.

1 Back up all of the parameters

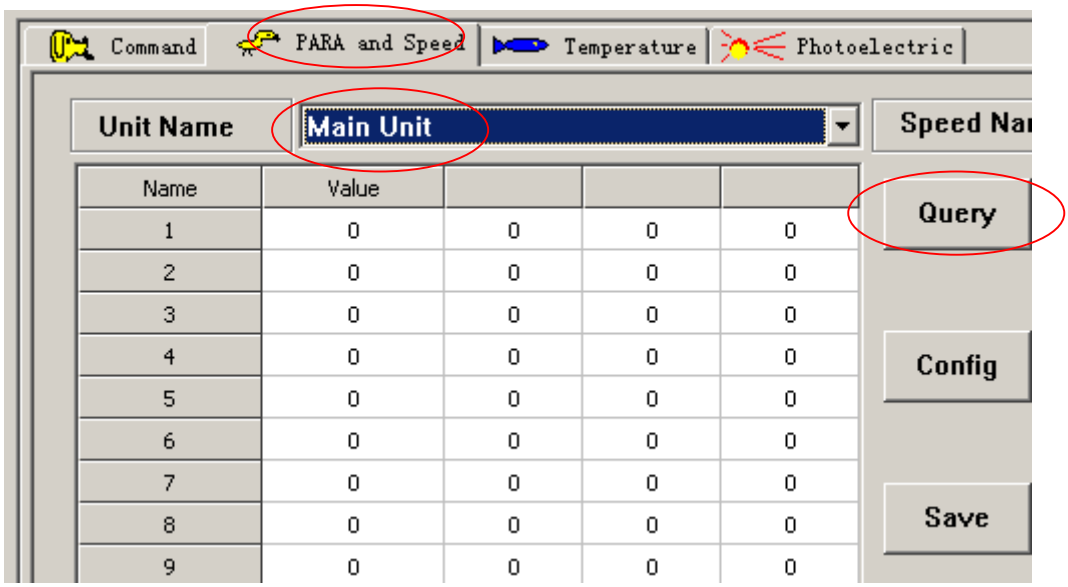
After changing the jumper, the engineer has to save all of the parameters as backup before upgrade the main board:

1) Connect the analyzer and the computer with **serial wire**. Turn on the analyzer and PC as normal，remember don't run the analyzer software.
2) Copy BS-200 debug software to the PC.
3) Double click the run icon to run the BS-200 debug software.

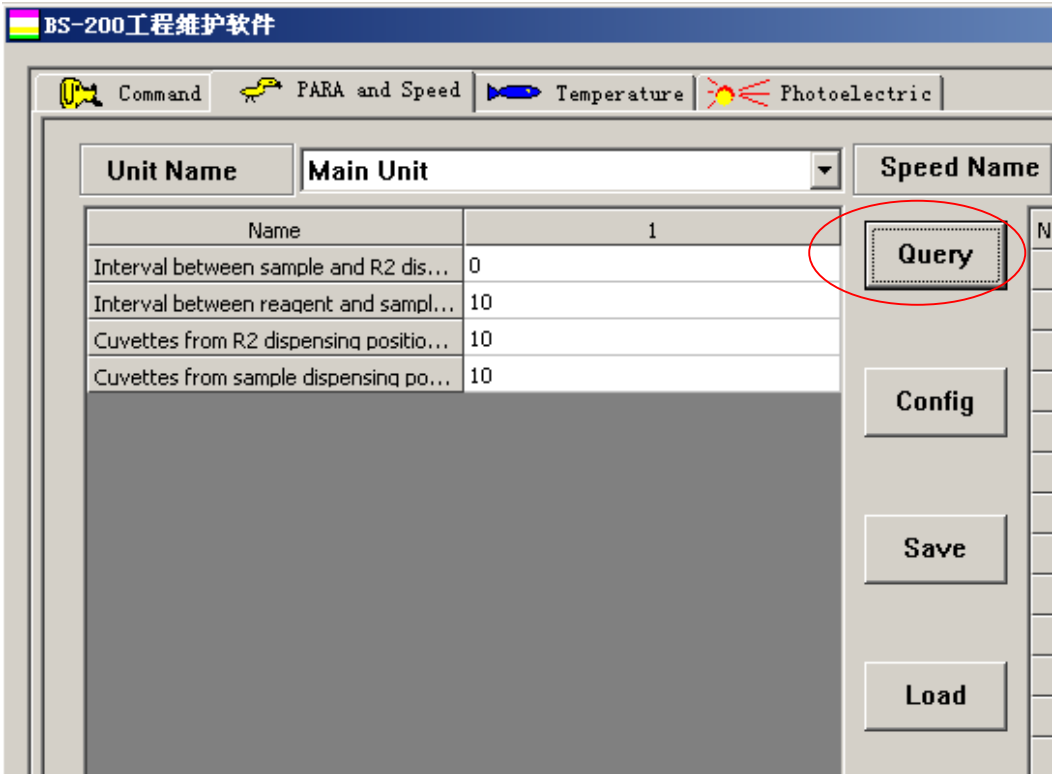
4) Select "**Command**" and "**Main Unit** "

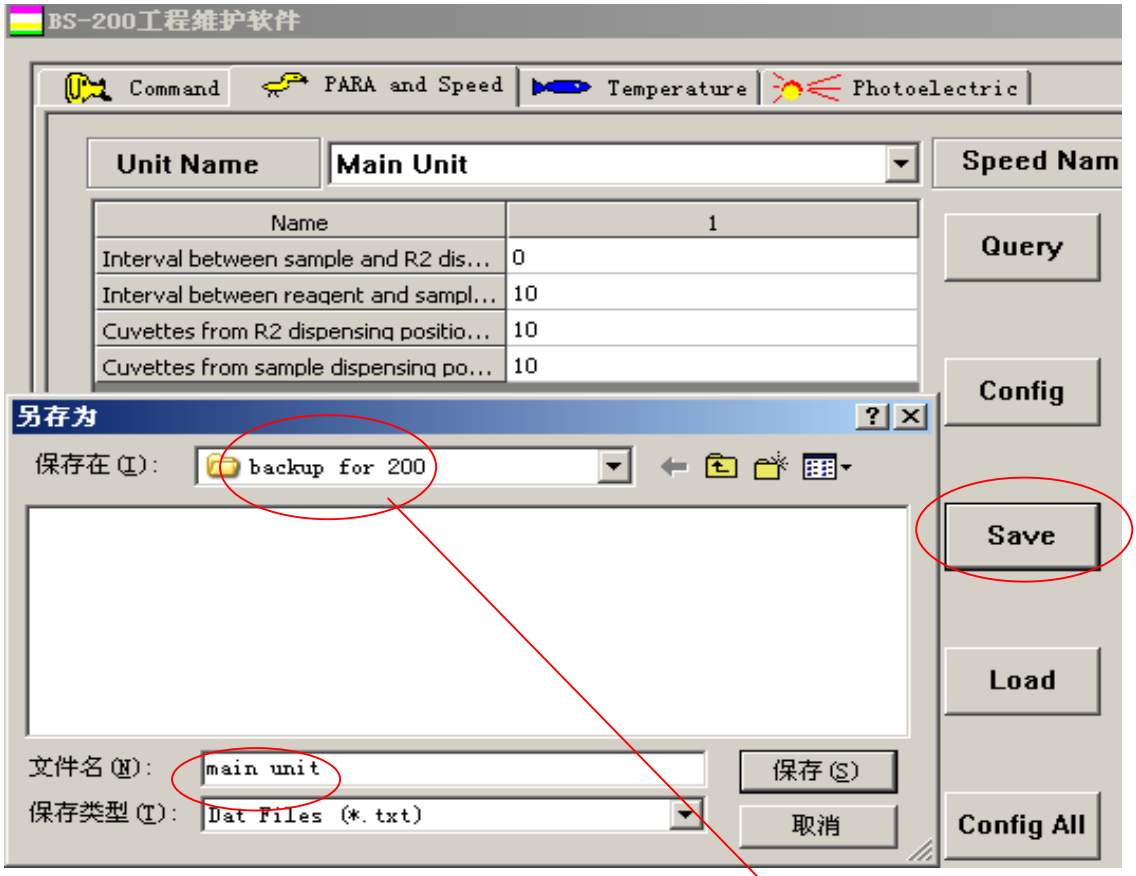


5) Press the "**shake hands with machine** "button to connect the analyzer.
6) Wait 10 seconds and press the "**download parameters** "button, wait to the data current stop and then press "**mechanical reset** " button .If the mechanical part become movement that means the connection is ok, if not, please try again from step 5).
7) Click "**PARA and Speed**" menu, and then select "**Main Unit**" like the graph below:



8) Press "**Query**" button to query the parameters of the **Main Unit**, and then press "**Save**" to save them as a **.txt** file in a safe place of the computer. (You can name it as "**Main unit**")



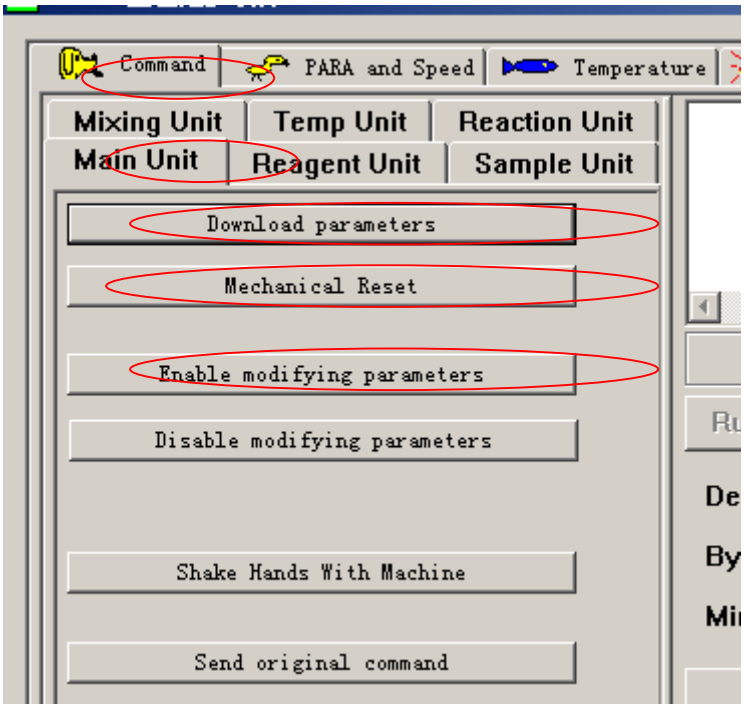


9) Repeat as step 8 to save all the other units' parameters. (**including sample unit、mixing unit、reaction unit、temperature unit、and reagent unit**) Make sure the parameter files are in the same folder (for example , **D:\backup for BS200**).

10) Shut down the debug software.

2 Change the intensity gain

1) Run the bs-200 debug software again: Press “**download parameters** ”button, wait (a few minutes) until the data current stop and then press “**mechanical reset** ” button .If the mechanical part become movement that means the connection is ok, if not, please try again.
2) Press ” **Enable to modifying parameter**”.



3) Click “**PARA and Speed**” menu, and then select “**Reac Unit**” .
4) Query the parameters
5) Select special wavelength(340 or 405), and then change the parameters, **remember: if we increase the parameter, the gain will decrease; and if we decrease the parameter, the intensity will increase.**
6) Click “config” button to make the new parameters come in effective
7) Query again to confirm the parameter has been changed.
8) Shut down the debug software and then open BS200 operation software, to see whether the intensity has been changed. **Remember:**

1 The background should less than 65535 and more than 44000,

2 Debug software and BS200 operation software cannot open at the same time.

3 when we start the BS200,we need to unload the first segment first,

and then press ok to check the back ground and dark current and so on.