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2.1 Settings

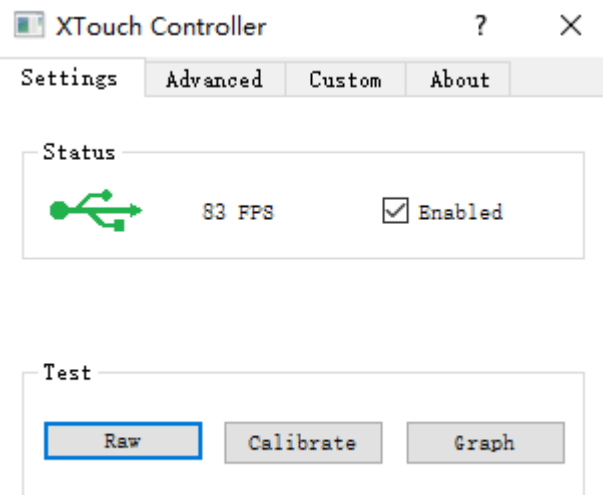


Figure 2. ST Settings Interface

Status: Display connection of control board,

In figure 2, 83 FPS means sample rate is 83,

N/A means abnormal communication between PCB and PC.

Enable: Tick Enable, Touch screen will work.

Raw: Grab real-time signal to test touch foil.

Calibrate: When the direction is opposite or touch deviate, click "Calibrate" to correct.

Graph——Adjust Threshold level when touch foil does not work or insensitive or any points abnormal. As shown in Figure3.



Figure3. Threshold Interface

2.2 Advanced

Advanced module includes 4 functions: Noise Rejection, Firmware Upgrade, Firmware Supported Foil Size, Advanced Parameters Settings.

Note:

- (1) Turn off anti-virus and security software while updating program.
- (2) Ensure smooth network

Touch the World
让触摸感动世界

(3) Turn off the firewall in the computer

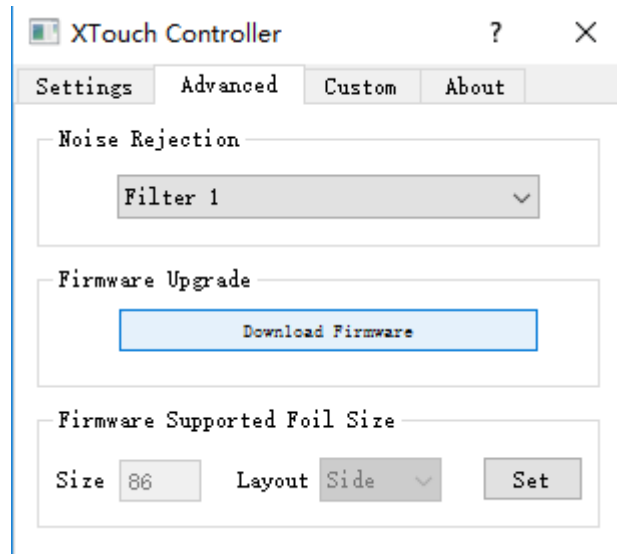


Figure 4. ST Advanced Interface

2.2.1 Noise Rejection

Noise Rejection can solve the problem of touch abnormality (such as touch jumping or losing touch) when the host power supply, LCD or other parts are interfered. Currently, two sets of filter parameters, filter1 and filter2, are provided in the Controller. When there is interference, you can try to choose filter1 or filter2 to solve it. As shown in Figure5.

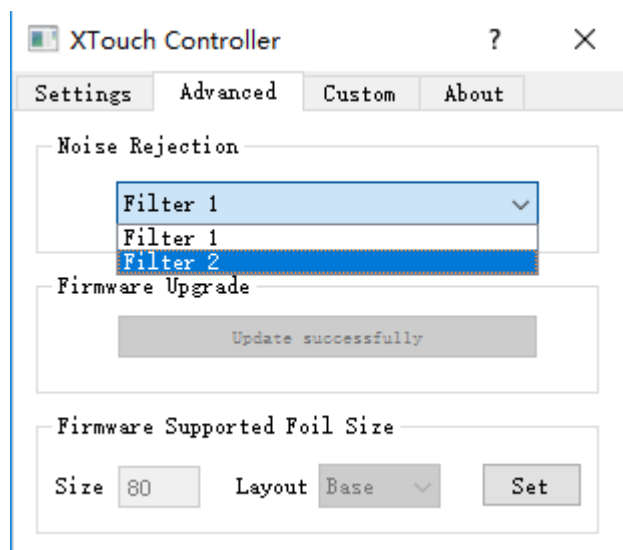


Figure 5. Noise Rejection Interface

2.2.2 Firmware Upgrade

Firmware Upgrade can update the firmware of PCB when internet connected.

It will indicate "Update successfully" after updated.

2.2.3 Firmware Supported Foil Size

Firmware Supported Foil Size can adjust firmware parameters according to the size and specification of touch film. Operation process as below::

- (1) Click "Set" ,
- (2) Input size,
- (3) Select Base or Side in the Layout, corresponding to the long Side and short Side of touch foil.
- (4) Click "Save" to save parameters.

2.2.4 Advanced Parameters Settings

Advanced Parameters Settings is used to optimize the touch performance around the edges .Click “Settings” in Figure 6 to enter parameter list, as shown in Figure 7.

The meanings of each parameter are shown in Table 1.

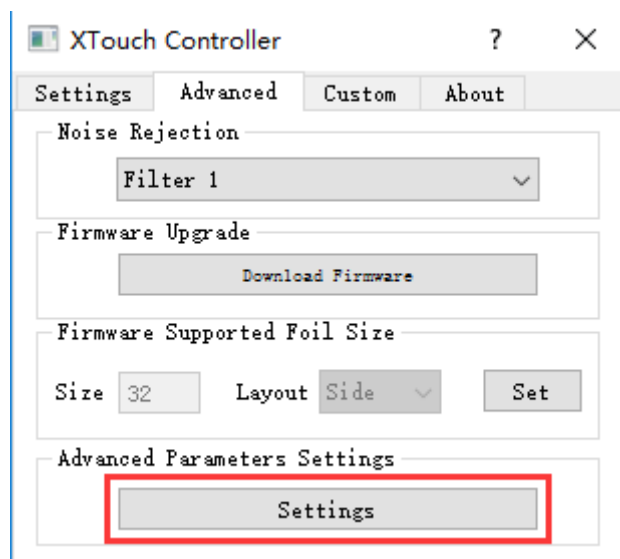


Figure 6. Advanced Parameters Settings Interface

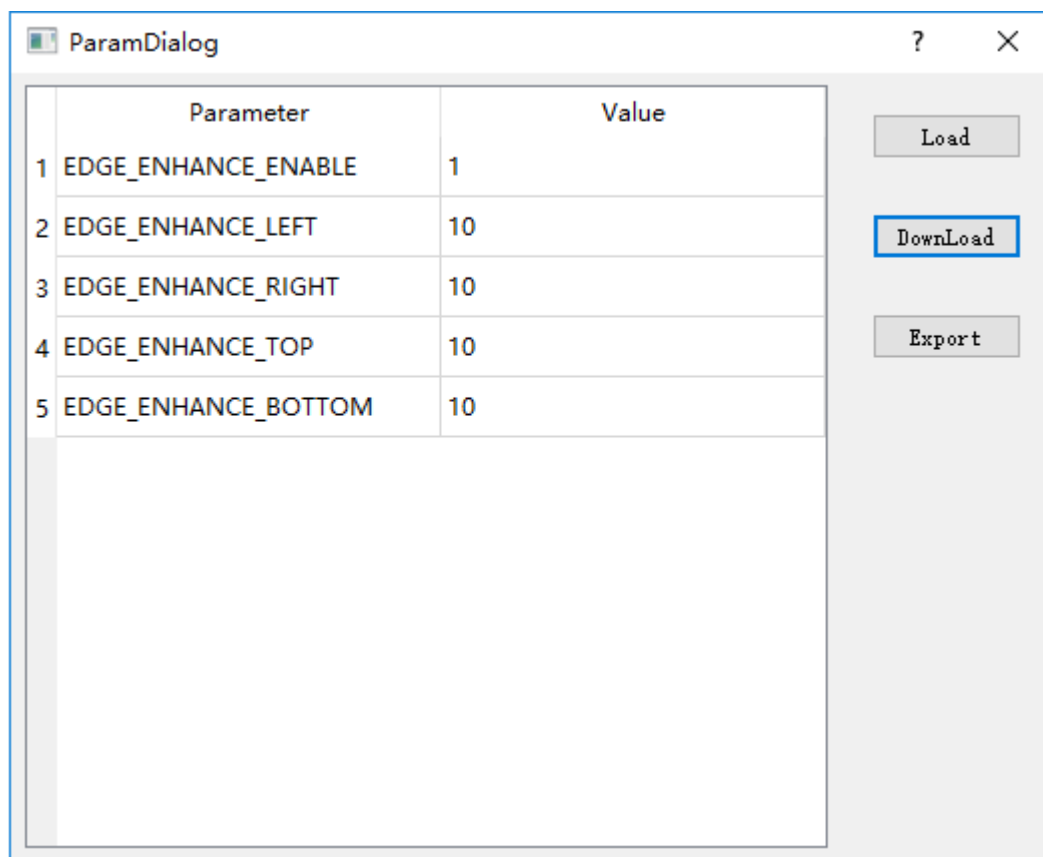


Figure 7. Parameters List

Table 1 Meaning of each Parameter

Parameter	Value	Description
EDGE_ENHANCE_ENABL E	0 or 1	1 means turn-on, 0 means turn-off .
EDGE_ENHANCE_LEFT	0~100	If the value is too high, finger does not reach the edge while the line has reached the edge already. If the value is too low, line may not able to reach the edges. (Re left side of screen)



EDGE_ENHANCE_RIGHT	0~100	If the value is too high, finger does not reach the edge while the line has reached the edge already. If the value is too low, line may not able to reach the edges.(Re right side of screen)
EDGE_ENHANCE_TOP	0~100	If the value is too high, finger does not reach the edge while the line has reached the edge already. If the value is too low, line may not able to reach the edges.(Re top of screen)
EDGE_ENHANCE_BOTTOM	0~100	If the value is too high, finger does not reach the edge while the line has reached the edge already. If the value is too low, line may not able to reach the edges. (Re bottom of screen)
Download		Save parameters to PCB
Export		Export above 5 parameters from PCB, save as .conf file
Load		Load .conf file

Modifying parameters process as below:

(1) Fill in the adjusted value in the list, and it will be marked red after completion, as shown in figure 8.

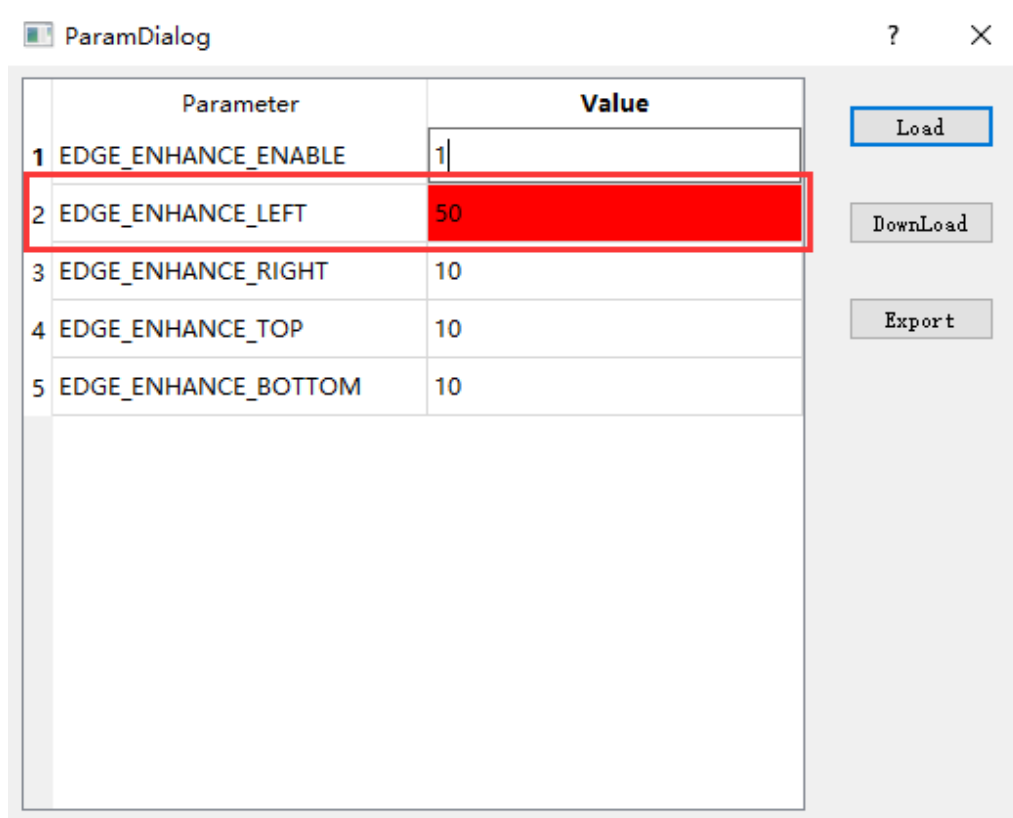


Figure 8. EDGE ENHANCE LEFT 50

(2) Click download to save parameters. Red mark will disappear after finished.as shown in Figure 9

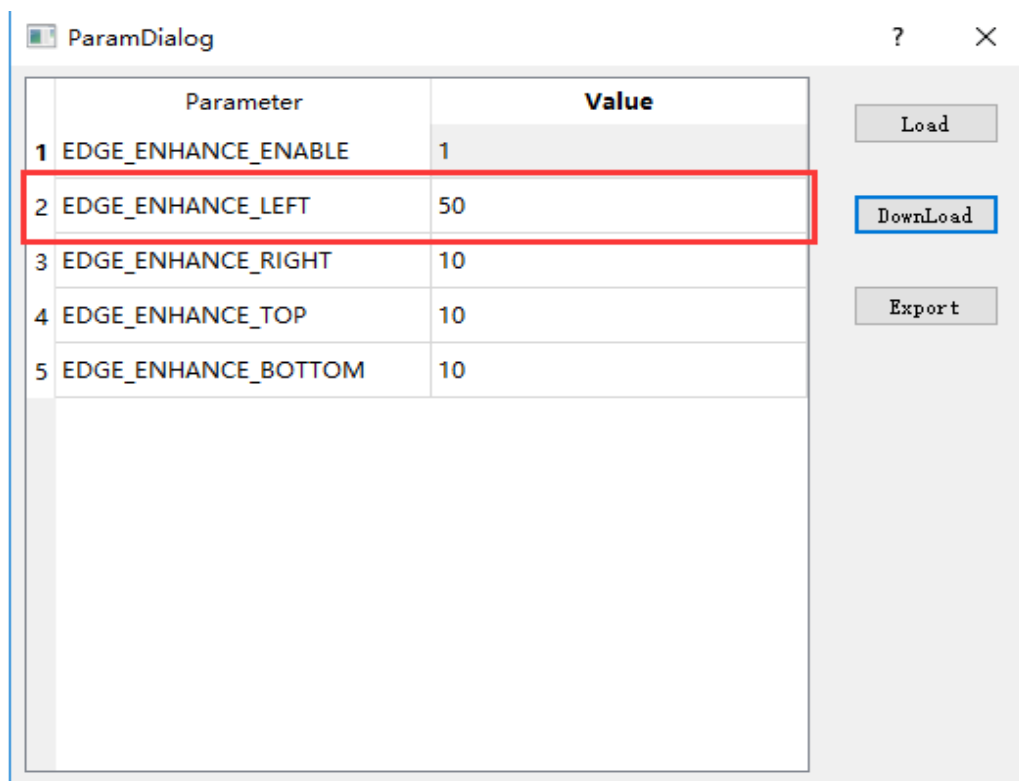


Figure 9. EDGE ENHANCE LEFT parameter saved

Export parameter process:

- (1) Click "Export" to export the parameter data.
- (2) Save the file to computer in any route or name as shown in Figure 10.

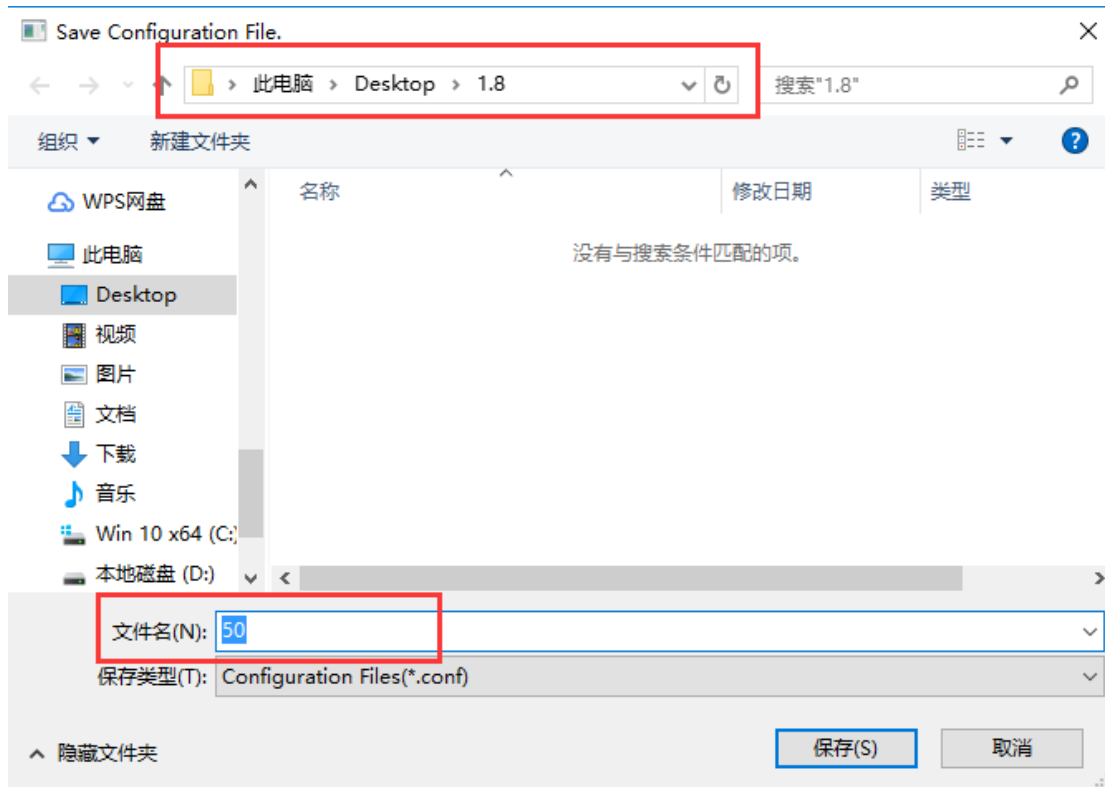


Figure 10. Save configuration file

Load configuration file process:

(1) Click "Load" to load the configuration file. Select the file and click Open, as shown in Figure 11. After successful loading, the parameters that changed will be marked in red, as shown in Figure 12.

(2) Click "Download" to save the parameters in configuration file, and the red mark disappears means the parameters saved successfully.

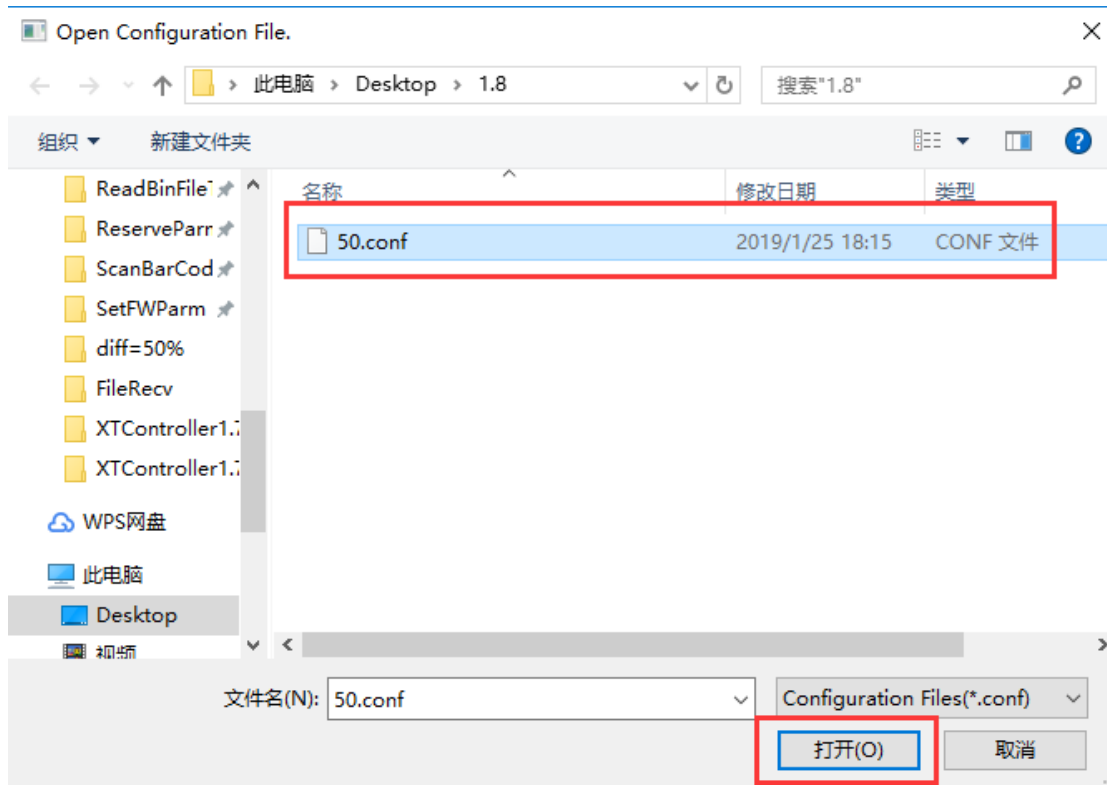


Figure 11. Load configuration file

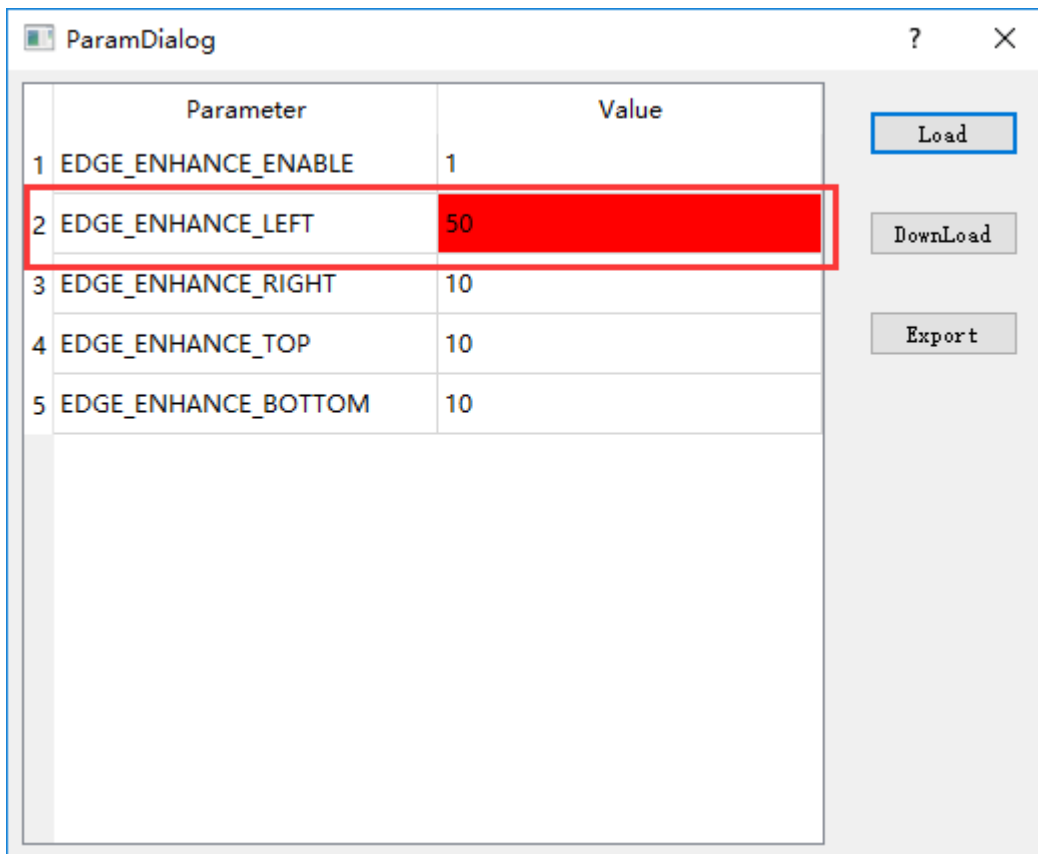


Figure 12. Configuration file loaded successfully

2.3 Custom

Uart is used to detect whether the serial port program has been configured successfully.. Uart will indicate Disabled If configuration failed, as shown in Figure13. , And Uart will indicate FCT if control board has successfully recorded the serial program.as shown in Figure14.

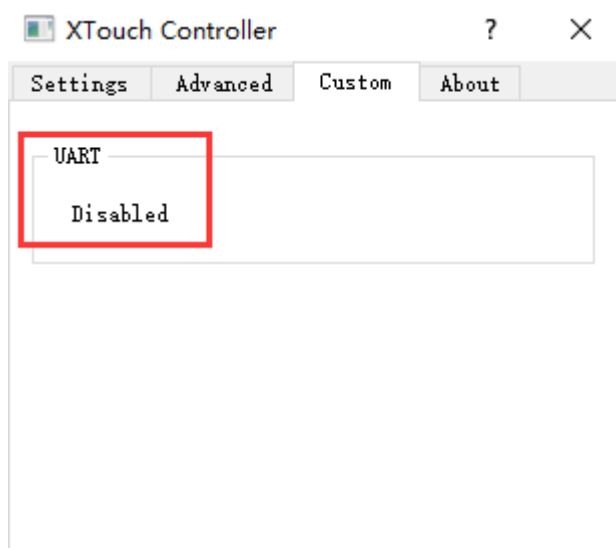


Figure 13. Configuration Failed

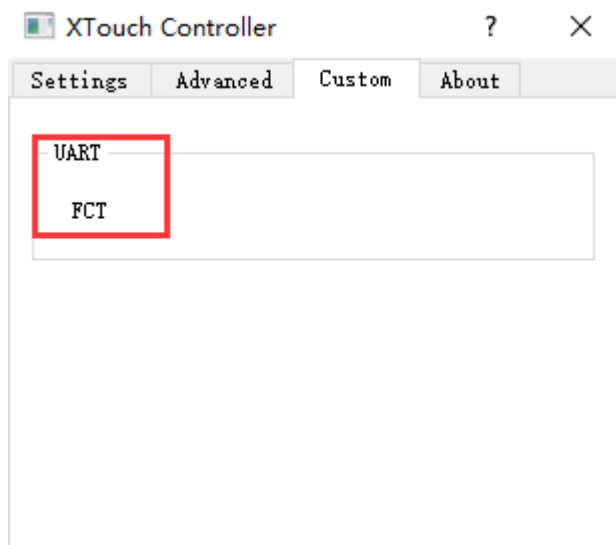


Figure 14. serial program saved successfully

Serial programming configuration process:

- (1) Copy the serial configuration file to the same folder of ST
- (2) Click the “Firmware upgrade” button to update the serial port program.
- (3) Check UART after update succeeded.

2.4 About

ST about information as shown in Figure 15.

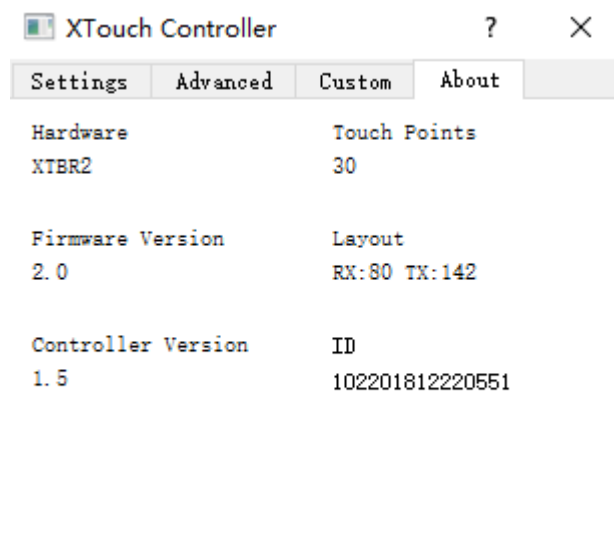


Figure 15. ST about interface.

Hardware: XTB Edition 2

Firmware Version: 2.0

Controller Version: 1.5

Touch Points: 30

Layout: RX80, TX142

ID: Bar code of controller

3 Repair function of disconnection.

Preconditions for disconnection repair:

- (1) there is no continuous line disconnect of two channels around the most edge
- (2) there is no two or more continuous line disconnection.
- (3) there is no short circuit at crossing point.

4 Touch Foil Detection.

Open XTController, Click "Raw" , Raw Graph interface show up, then click "Test TP" to test the touch foil.

- (1) If Raw Graph is gray, As shown in Figure 16. means the touch foil is good.



Figure 16. Test Passed

(2) If Raw Graph shows a black line, as shown in Figure 17,

That means touch foil has short circuit. If there is no abnormal connection of touch foil or circuit board failure.



Figure 17. touch foil shot circuit

(3) If Raw Graph shows two continuous channels (color difference from adjacent channels), as shown in figure 18. That means touch foil has short circuit. If there is no abnormal connection of touch foil or circuit board failure.

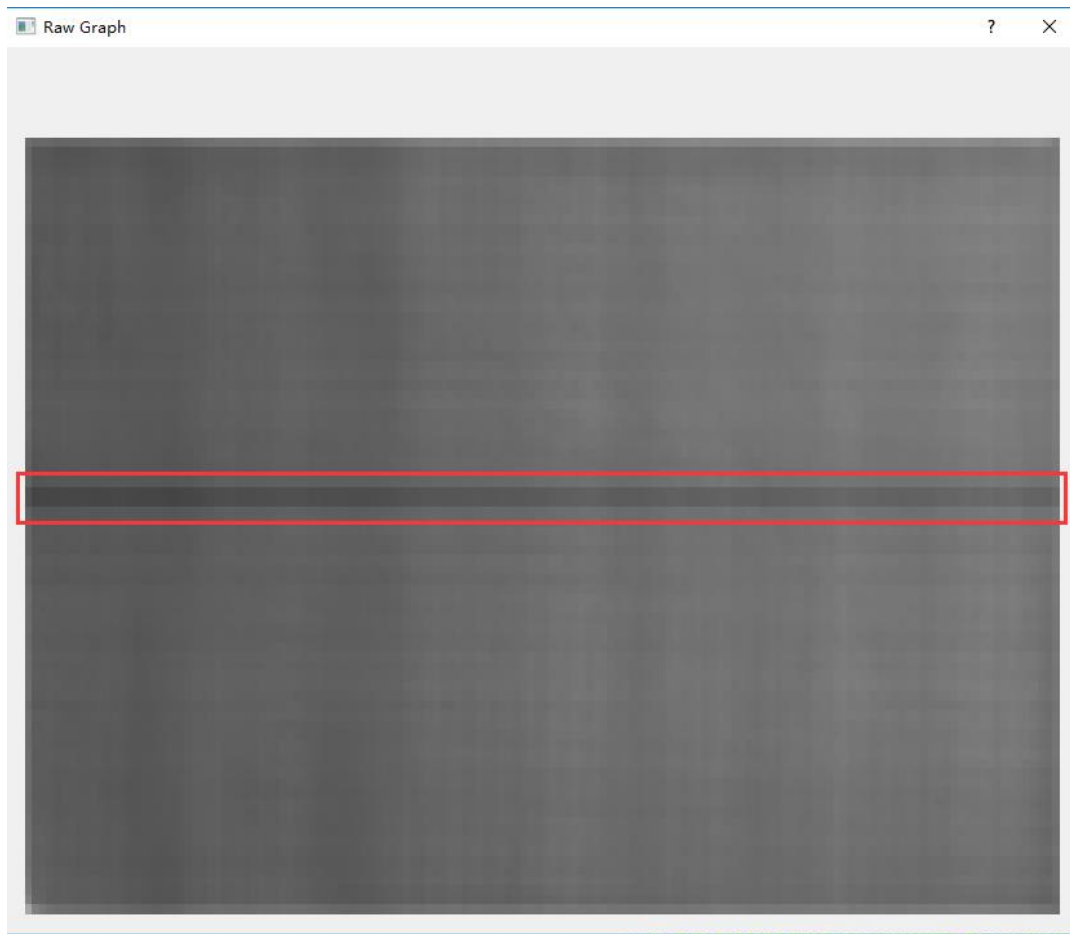


Figure18. touch foil shot circuit

5 Debug

5.1 Signal pathway test

Click "Graph" Touch the screen with five fingers. If the interface shows five small red points, as shown in figure 19, means the signal path is normal.

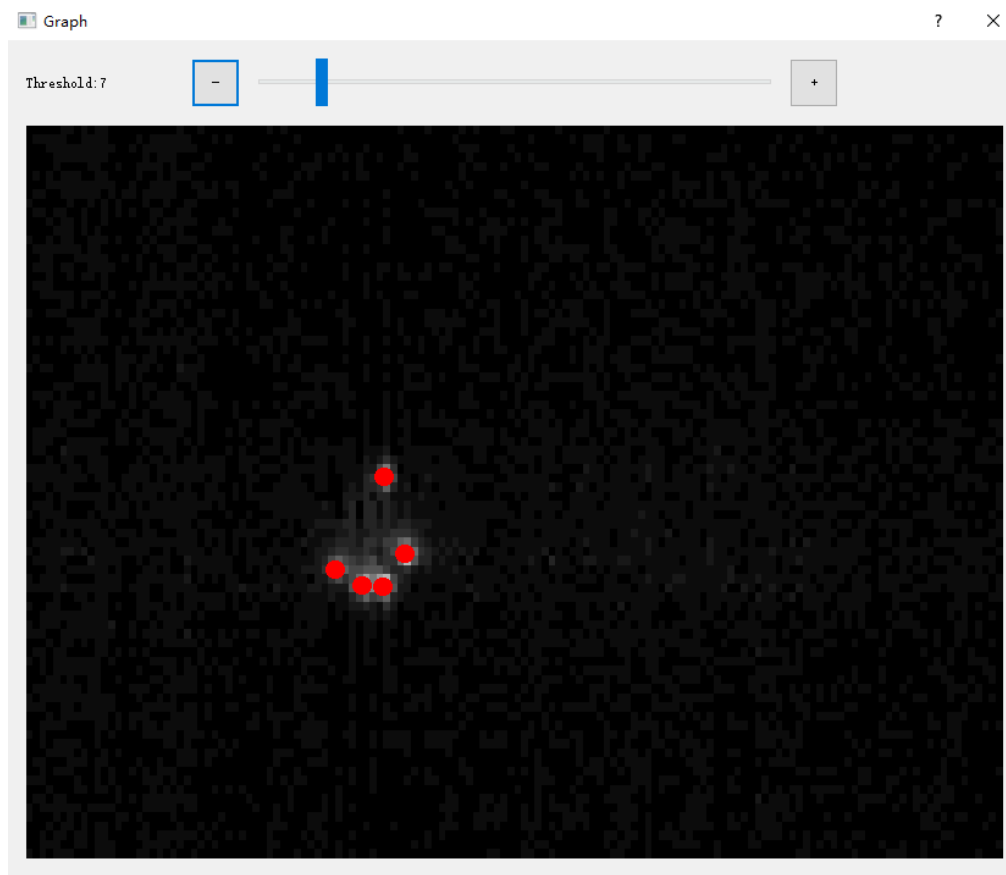


Figure 19. Graph shows 5 red points

5.2 Calibration

Click "Calibration" , Press the center of the cross with your finger until the green color fills the circle, as shown in figure 20. Click to complete 4 circles in turn, the software will exit the calibration interface automatically, and the calibration action will be completed.

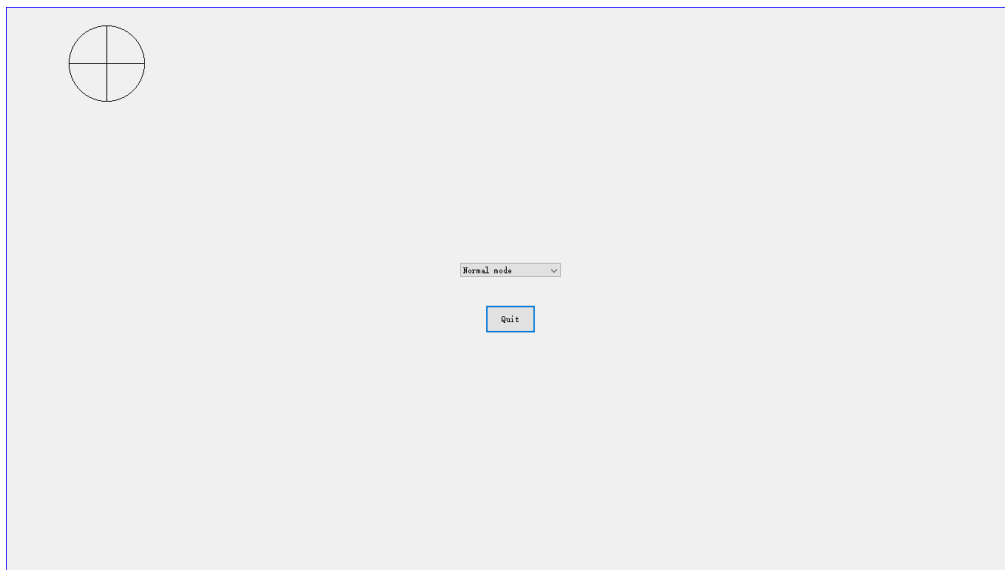


Figure 20. Calibration interface

Click screen after the calibration, 1~2mm is reasonable deviation. If larger than this deviation range, calibrate again.

5.3 Adjust Threshold

Click "Graph" , The interface in figure 21 appears. Click the corresponding "+" and "-" to increase and decrease the Threshold. If touch is not sensitive, lower the threshold. If there is a small red point when no touch, increase the threshold.

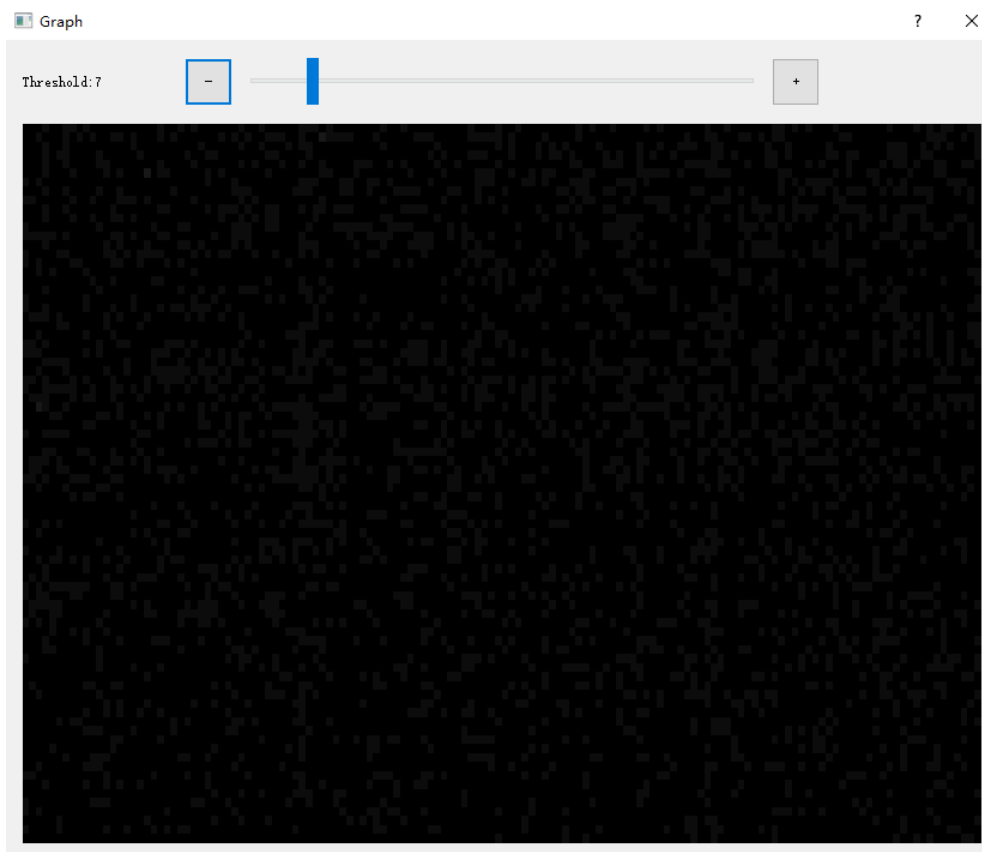


Figure 21. Threshold adjust interface

Open the "start" -- "attachment" -- "drawing" tool, if you can draw line smoothly and continuously, that means the threshold setting is reasonable.