



Mooncell

Product instruction manual

Mooncell FloorLED Software User's Manual

深圳市摩西尔电子有限公司
Shenzhen Mooncell Electronics Co., Ltd

CONTENTS

一、	<i>The interactive principle of floor LED screen</i>	错误！未定义书签。
二、	<i>Iterative Floor Led Screen Debugging Steps</i>	错误！未定义书签。
三、	<i>Additional Notes</i>	错误！未定义书签。

一、 *The interactive principle of floor LED screen*

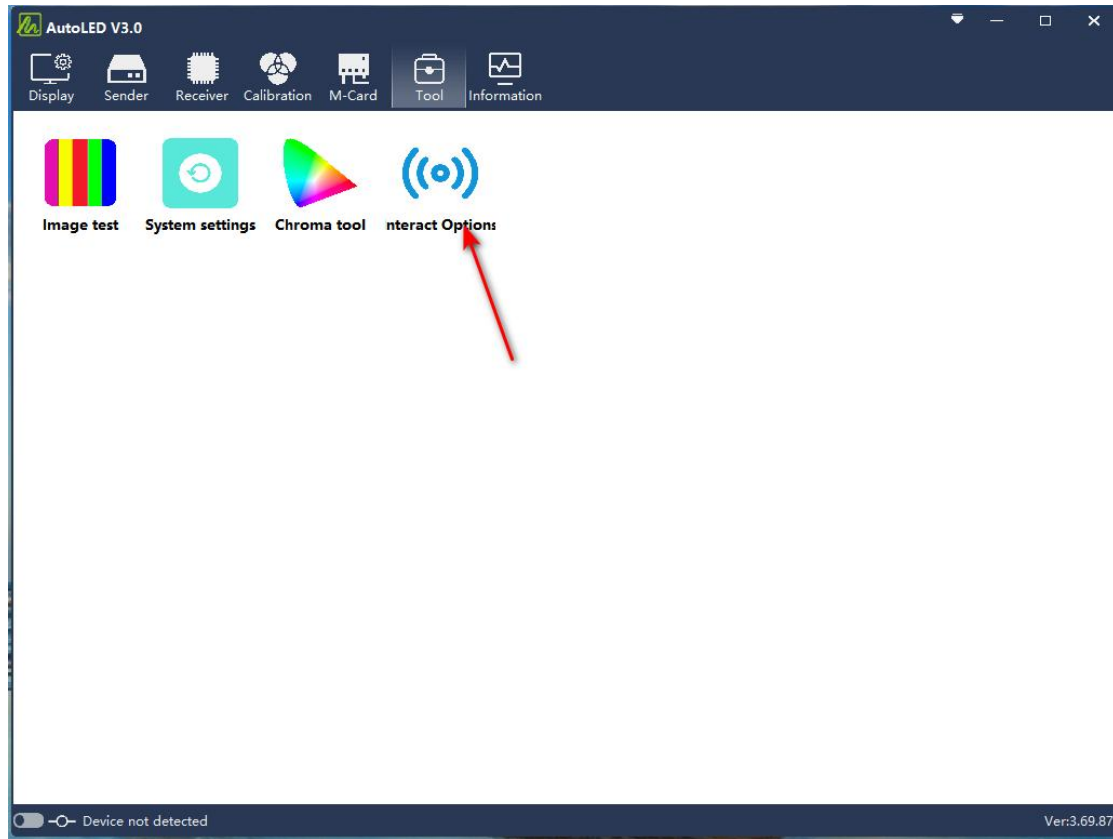
Currently, companies that produce floor LED screens utilize UDP broadcast protocol for interactive purposes. Different manufacturers may use different UDP protocols. As long as the main controller has a LAN port, floor LED screen interaction can be achieved. The IP address of the main controller is related to the local area network (LAN). If a router exists in the LAN, the main controller device will obtain an IP address automatically. In case automatic IP address acquisition fails, the default IP address for the main controller is set as a static IP: 192.168.1.121. Most main controller devices do not support IP address viewing, as the 4-port and 6-port sending cards lack LCD screens for displaying IP addresses. However, some video processors support IP address viewing. It is important to note that the main controller MCU program, receiving card MCU program, and FPGA program are all customized programs.

When using the sending card for interaction, the scaling settings must be turned off, and the coordinates for interaction are pixel-to-pixel. For video processors, scaling can be used during interaction. Whether scaling is used or not, only one window can be opened, specifically Window 1. Opening multiple windows will result in significant deviations in the reported interactive positions.

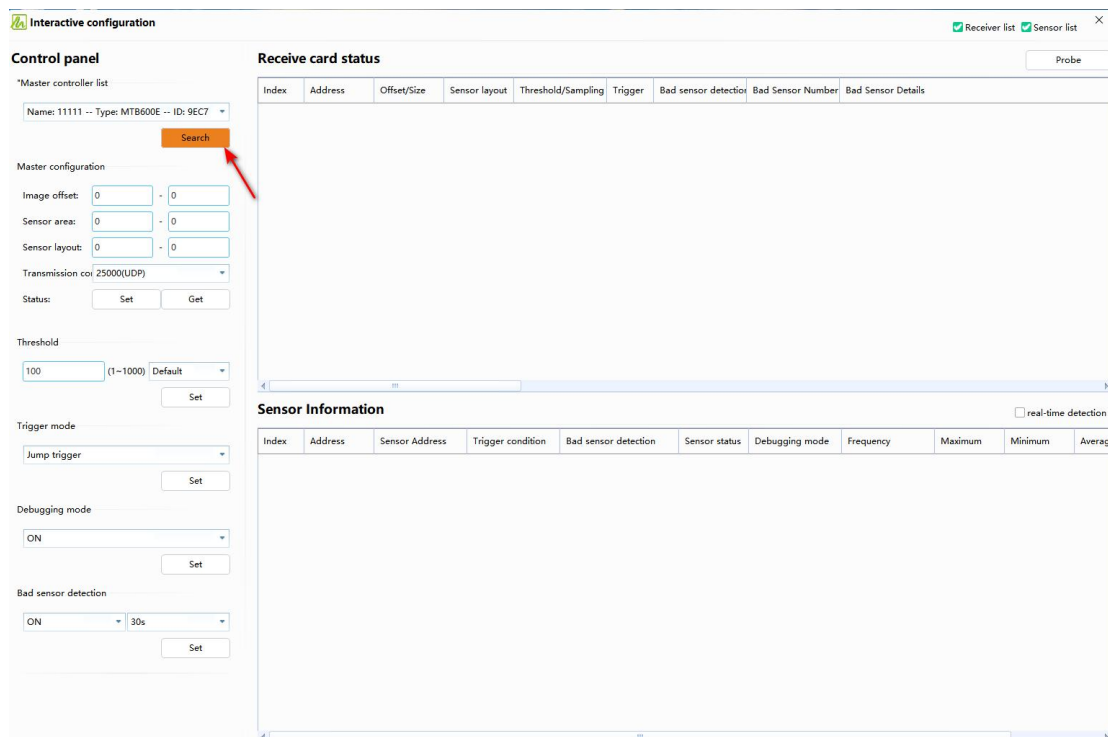
It is important to note that when using floor LED screen interaction, the computer's firewall needs to be disabled, as there may be cases where the firewall blocks UDP packets.

二、 *Interactive floor LED screen debugging steps*

- 1. Follow the standard procedure to create a layout file for each individual module.*
- 2. Connect the computer and the sender device using a USB debugging cable. Ensure that the image on each individual tile module is displaying correctly before proceeding*
- 3. Open the AutoLED debugging software. Refer to the provided figure and click on the option indicated by the arrow.*



4. As shown in the figure below, click on the option indicated by the arrow to locate the device.



5. Configure the main controller(Sending Device)

5.1 Image offset

If it is a duplicate screen, enter 0-0; if it is an extended screen, enter the actual values. For example, if there is an X-axis offset of 1920 and no Y-axis offset, enter 1920-0.

5.2 Sensor area

Enter the values based on the size of the screen. For example, if the screen size is 128x256 and the sensor layout is 4x16, the sensor area would be 32-16 ($128/4=32$; $256/16=16$).

5.3 Sensor layout

Enter the values based on the design of the screen. For example, if there are 4 sensors in the X-axis (4 columns) and 16 sensors in the Y-axis (16 rows).

5.4 Transmission control

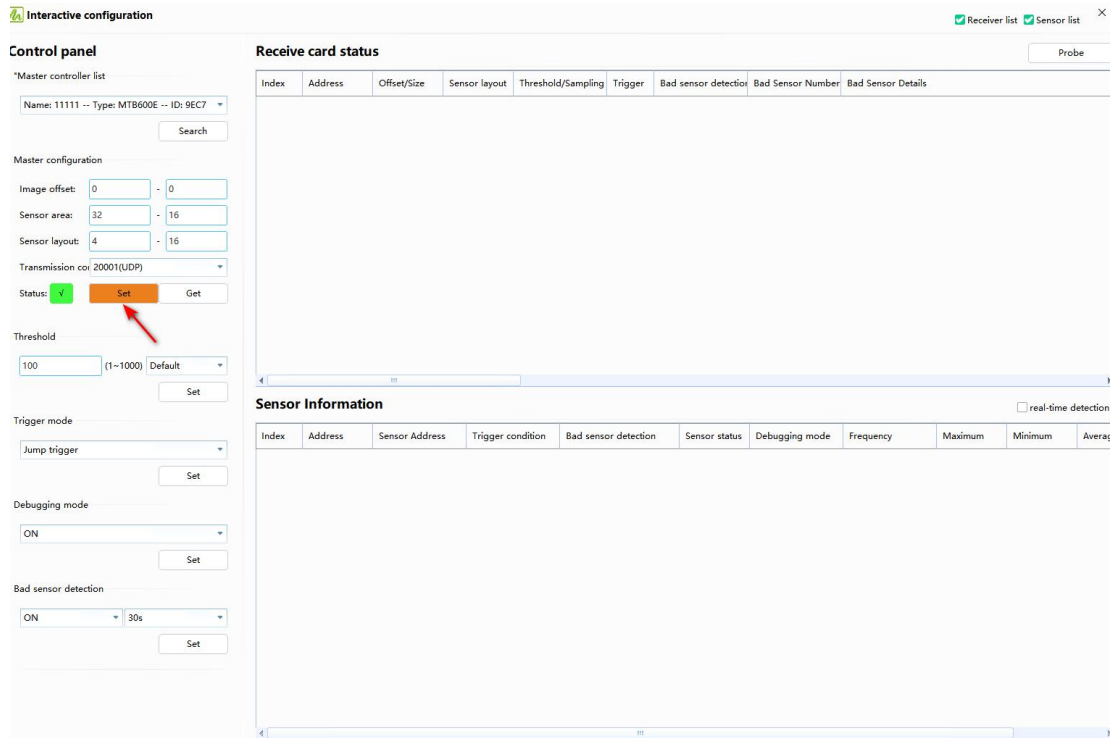
Select 20001 (UDP).

As shown in the figure below, click on the options indicated by the arrows:

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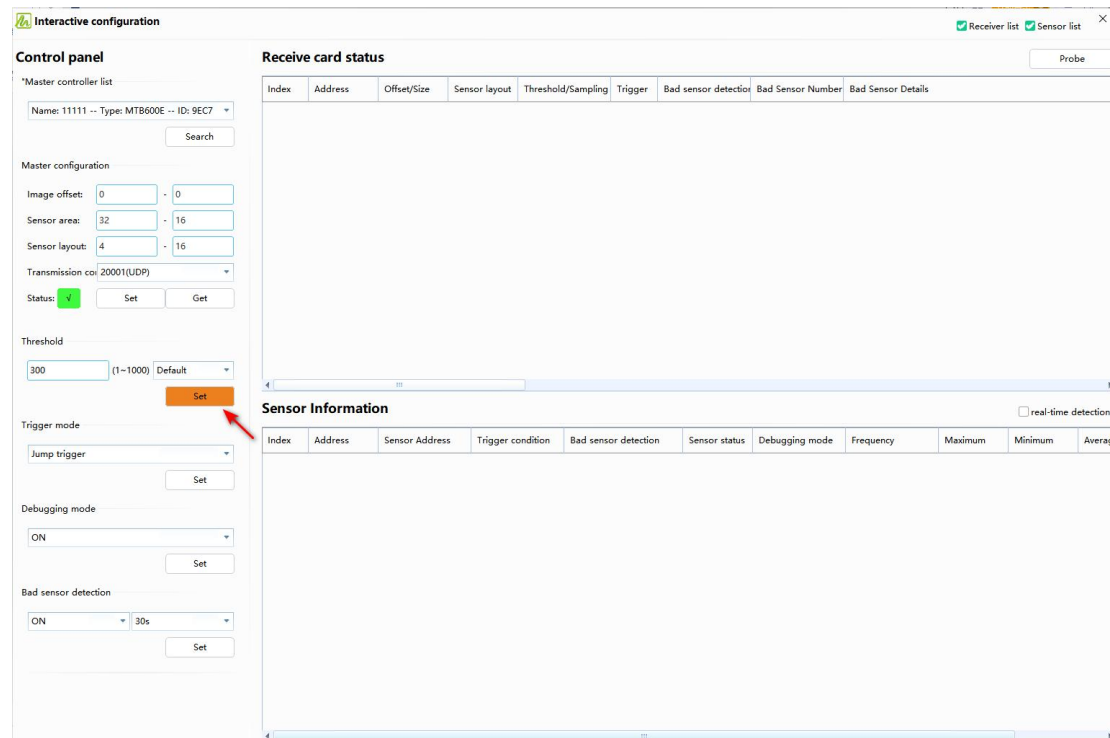
TEL: 0755-23975634 29095400



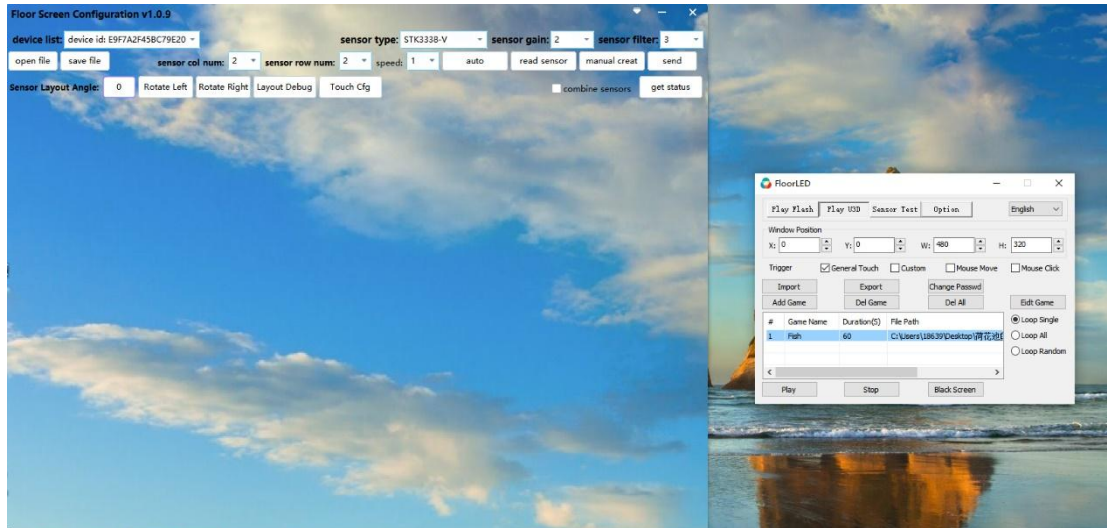
6. Set the default threshold for the receiving cards

Start by setting the sensor threshold for all panels to 300. Adjust the threshold as needed based on the actual situation. A higher threshold will result in slower response, while a lower threshold will make it more sensitive. It is recommended not to set the threshold below 300, as a too low threshold may lead to false triggering.

Click on the option indicated by the arrow.

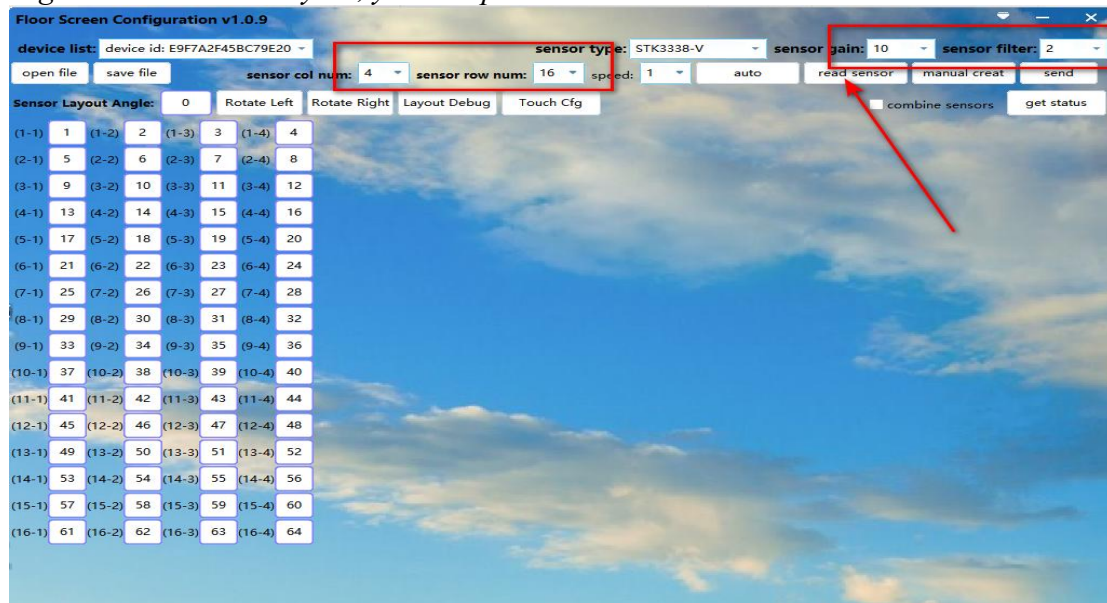


7. Close AutoLED and open the FloorLED software (default password: admin) to adjust the sensor layout. Press “Ctrl+Shift+S” to open the sensor layout interface, as shown in the image below.



In this case, the sending card must be in the copy screen mode. If you have already sent the layout program to the receiving card, you can skip steps 8-10 and proceed directly to step 11.

8. Select the sensor gain as 10 and fill in the filter coefficient as 2. Enter the actual number of sensor columns as 4 (4 columns) and the number of sensor rows as 16 (16 rows). Click on “Read Sensors” to retrieve the sensor layout. The numbers in the retrieved sensor layout should not be repeated. Normally, there should be no duplicates. If there are duplicates, it indicates that there may be hardware issues with individual sensors. If there are no duplicate readings in the retrieved layout, you can proceed to click “Send”.

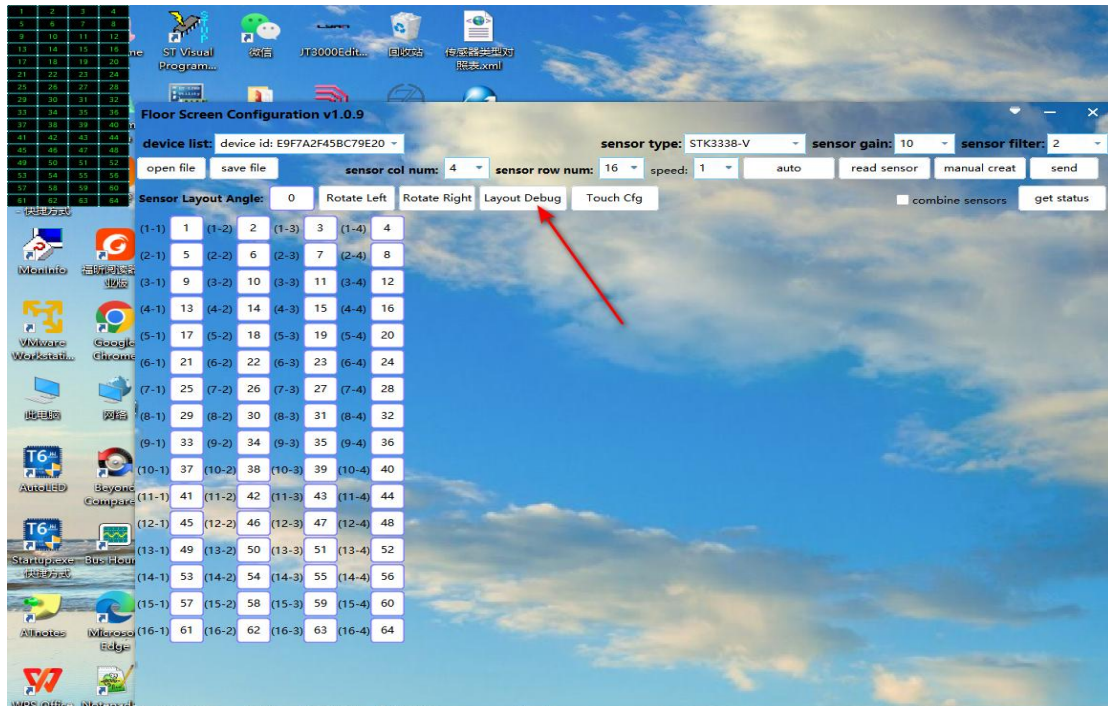


9. After a successful send, click on the option indicated by the arrow.

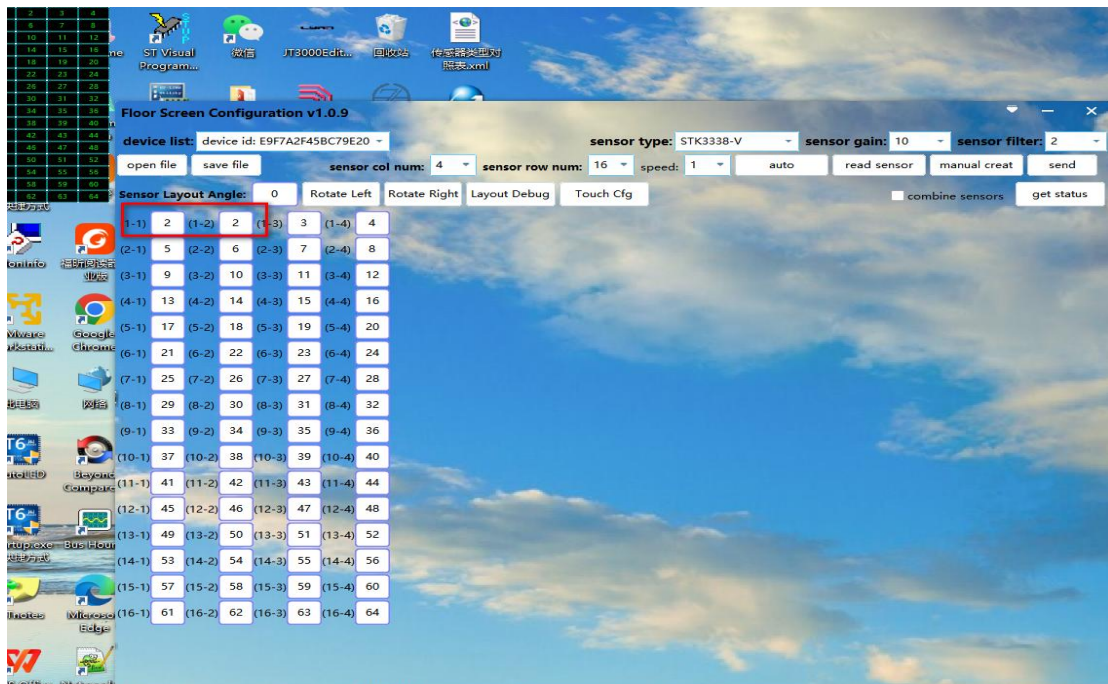
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10. In this case, touch the numbers inside the boxes of each individual module. If touching number 1 causes number 2 to turn red, you need to make the following modifications as shown in the below figure. Test all the numbers in the module boxes, make the necessary changes, and then click “Send” again. After reopening the layout debugging, test all the layouts to ensure everything is functioning properly. If everything is working correctly, click “Save File” to save the layout file.



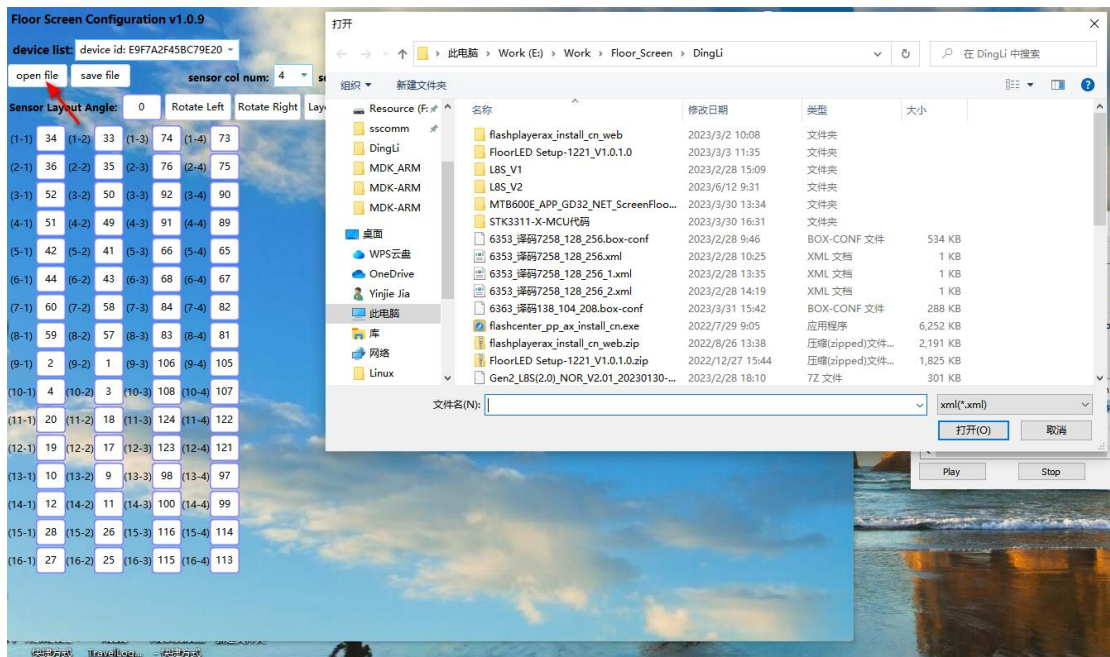
11. Once you have confirmed that each module has interactive functionality, connect all the modules together and ensure that the image is displaying correctly. Then, open the interactive

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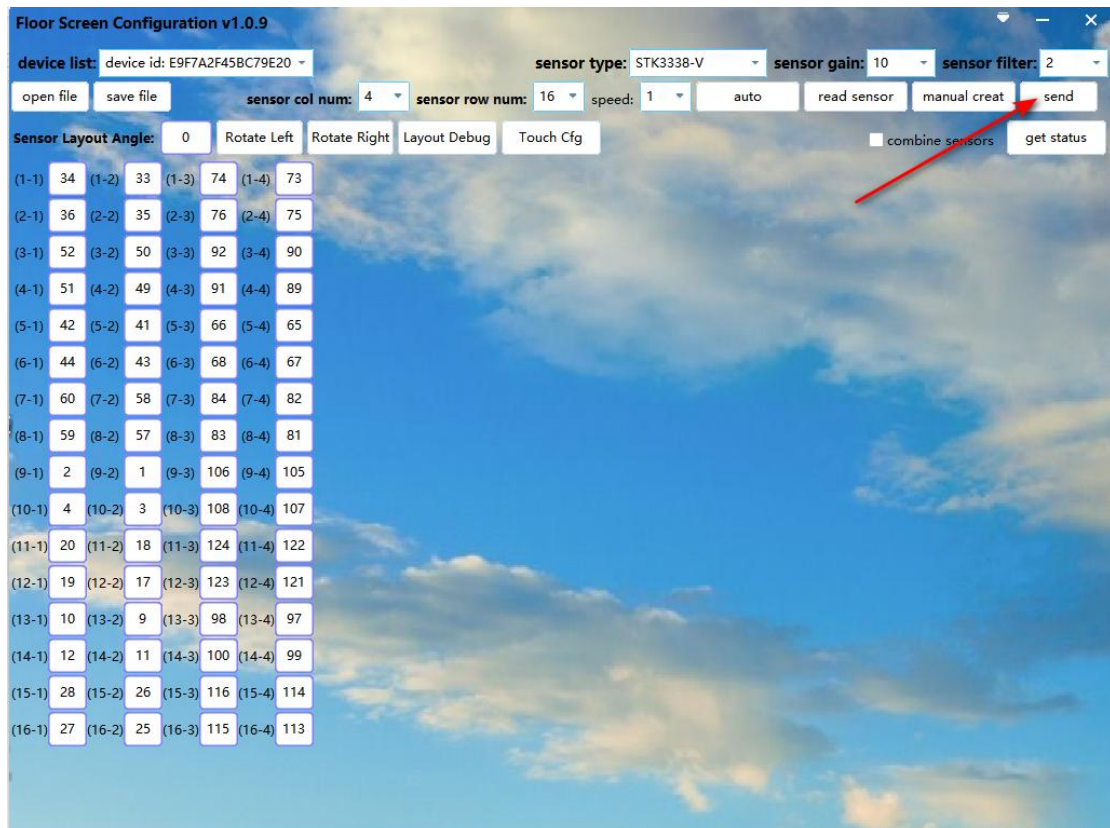
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playback software “FloorLED” and press “Ctrl+Shift+S”. Click on the option indicated by the arrow to open the layout file.



12. Click on the option indicated by the arrow, as shown in the following figure, to send all the layouts.

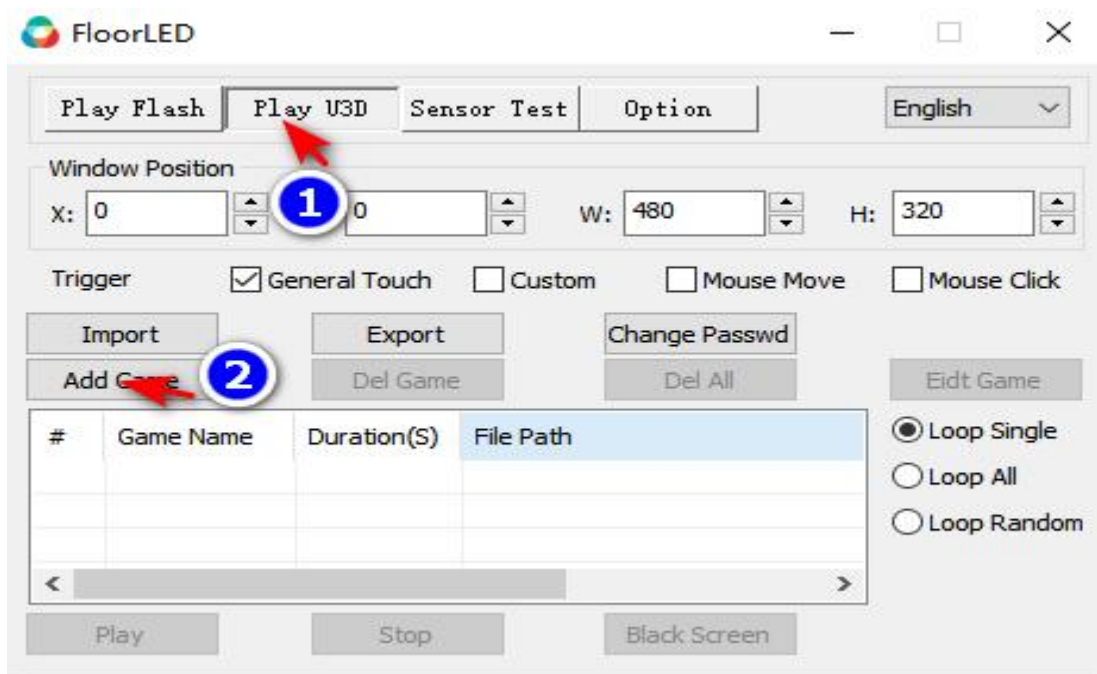


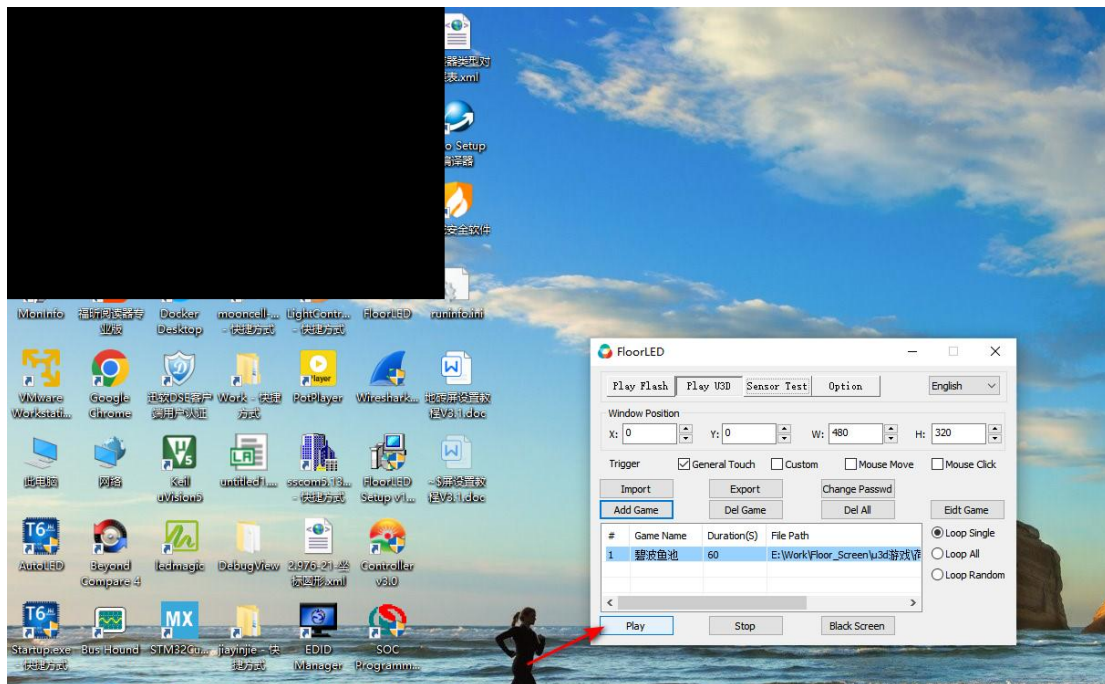
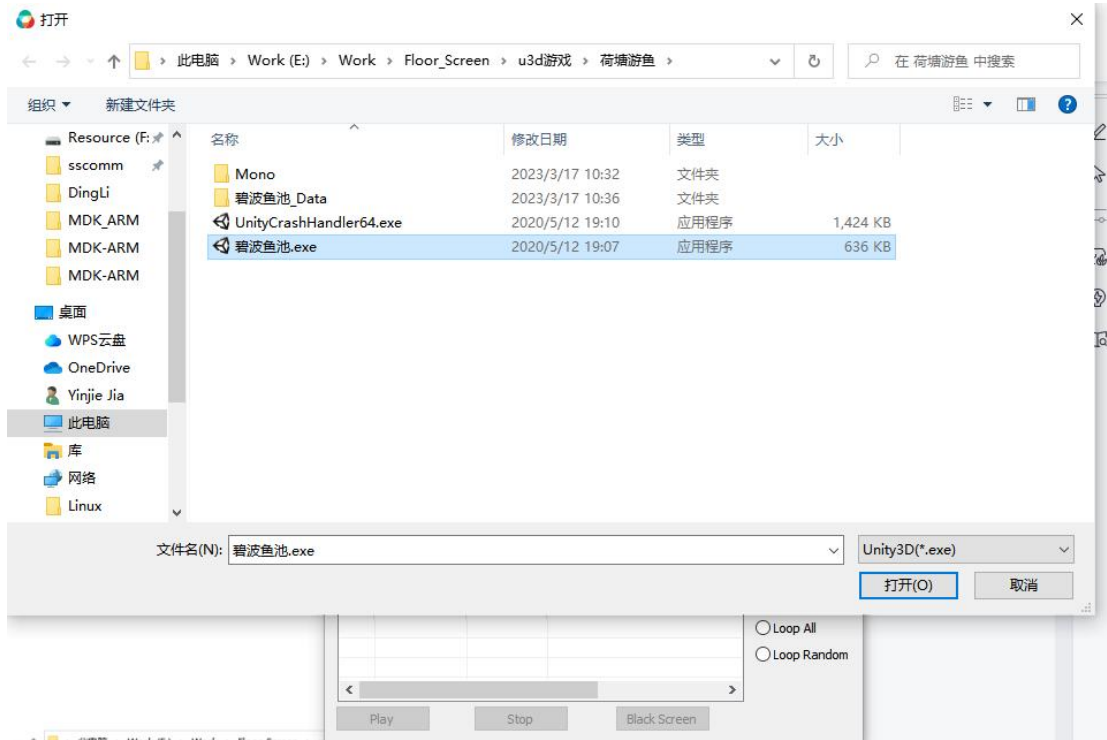
13. Sensor testing: Open the player and unplug the USB cable. Connect the LAN cable of the
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sending card directly to the computer. Set the computer's IP to a static IP: 192.168.1.10. Close AutoLED. The password for the sensor interface is "admin". W and H represent the width and height of the image. The width and height correspond to the pixel area that a sensor is responsible for, which should match the sensor area configured in the controller (refer to step 4). When a person covers the screen, corresponding red boxes will appear.



14. After confirming that the sensor functionality test is normal, follow the steps shown in the figure below to add a game. Once the game is successfully played, you can test the interactivity.





三、 Additional Notes

1. Some U3D materials may require individual settings (specific requirements should be confirmed with the material provider). It is necessary to check if each material requires separate settings. After adding a game, the window position needs to be set. The X and Y coordinates of the window are based on the top-left corner of the screen. W represents the width of the window, and H represents the height of the window, both measured in pixels. Click “Play” to start playing the U3D material. If any configurations of the material are modified, make sure to click “Stop” before clicking “Play” again.
2. Successful playback should look like the image below. When clicking “Play”, if the material does not start successfully, mouse clicks will not trigger any events. The event triggers depend on the specific U3D material, for example, “Rippling Fish” supports general touch interaction.

