SpinDisplay Multi-screen Splicing Functionality Reference Manual

V4.0

Introduction

- Thank you for using the product. Please read the Reference Manual carefully before proceeding to use the device. And please strictly follow the instructions in your use.
- The Reference Manual is designed for users who need the instructions for the splicing and synchronization functionalities on F56, F65, F80, and F100 devices. If you want to know more about device operation, please read the User Manual.
- The 3D hologram fan spins at a high speed when it operates. Please ensure that safety measurements are in place to protect the people in the surrounding area. Install it somewhere untouchable or cover it with a protective hood. And you must make sure the device is installed properly so it will not fall and hurt people.
- To manage the device on your computer, click the link https://www.ftlled.com/spindisplay or copy and open it in your browser to download the software. To manage the device with the iOS or Android app, please scan the following QR code to download.

- The Reference Manual has 6 sections. You can click on the titles to skip to the corresponding section.

1. Synchronization Mechanism
2. Device Installation
3. Splicing Settings
4. Upload Files for the Displays
5. Common Errors and Maintenance Procedures
6. Appendix: Splicing Measurement Chart and Recommended Calculation Methods

1. Synchronization Mechanism

The screen size for one device is limited, but you can splice multiple 3D hologram fans at your will to form a larger display. You can easily use the apps or the PC software to splice and manage the devices. Each device has an embedded radio frequency module. Thus they can automatically form a splicing group network after the set-up. The main device in the splicing group will send out a synchronization signal every 2 seconds and ensure the other devices in the group will display the desired content. To use the splicing functionality, you only need to set up the synchronization group and upload the spliced media files based on device position.

You can group the devices according to the Device Name Splice Mode or the Custom Splice Mode:

A. **In the Device Name Splice Mode,** the device installation position is fixed in the horizontal and vertical directions. The device name represents its fixed position in the group matrix. For example, the device with the name “1-1” is located in the top left corner. And similarly, “1-2” is the second device in the first row; “2-1” is the first device in the second row.

B. **In the Custom Splice Mode**, you can freely install the device in any position. Then you can set the parameters to describe the actual horizontal and vertical position of each device in the PC software.

2. Device Installation

This section provides an installation example for the Device Name Splice Mode. See the following diagram for the setup of the 9 fans. The neighboring devices must be installed at different heights. If one device is on the top layer, its neighbors must be on the bottom layer. You can use the padding to increase the height of the fan. Note: the device on the top left corner is on the padding (on the top layer). The thickness of the padding and the distance between each device are shown in Table 1.

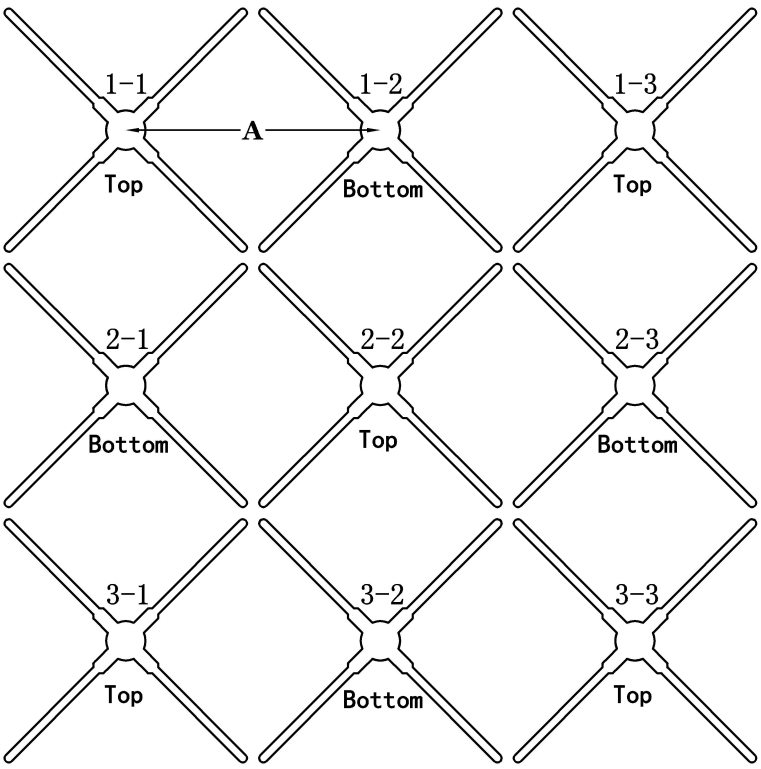
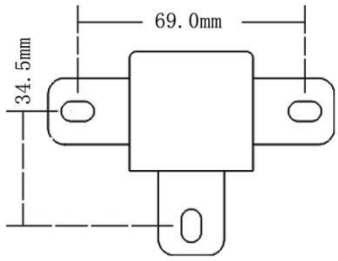


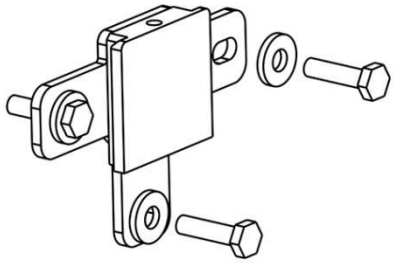
Table 1. The distance between devices and padding height for the Device Name Splice Mode

Device Type	**F56**	**F65**	**F80**	**F100**
A(distance between devices)	400mm	455mm	555mm	705mm
Padding height	20 mm	20 mm	35 mm	50 mm

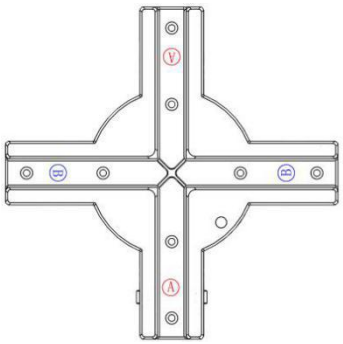
Installation instructions:

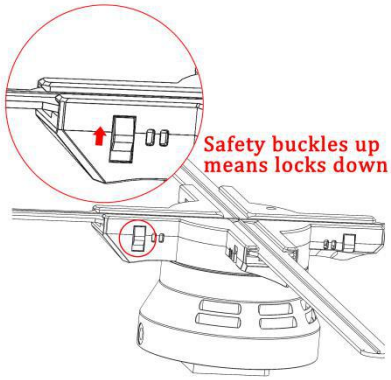
A. Select the installation position, assemble the fixed bracket for each device. Add the padding if needed. See the following diagram for the measured distance between screw holes.



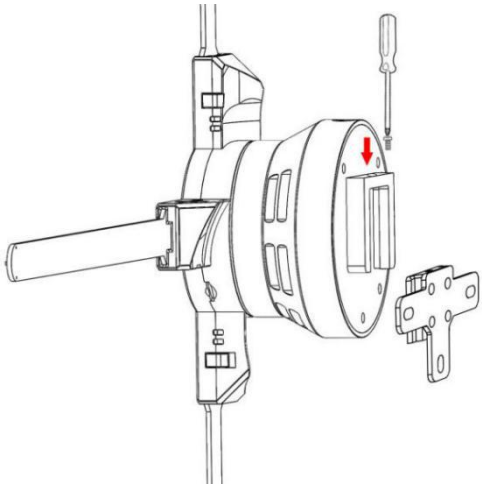


B. Install the light bars. Press down the safety buckles on each side of the device at the same time, then insert the corresponding A or B light bar. Make sure the safety buckles are bounced up and completely locked. Warning: if the buckles are not locked, the light bars will fall off during the spin.





C. Mount the device on the base and fix the safety screw according to the following diagram:

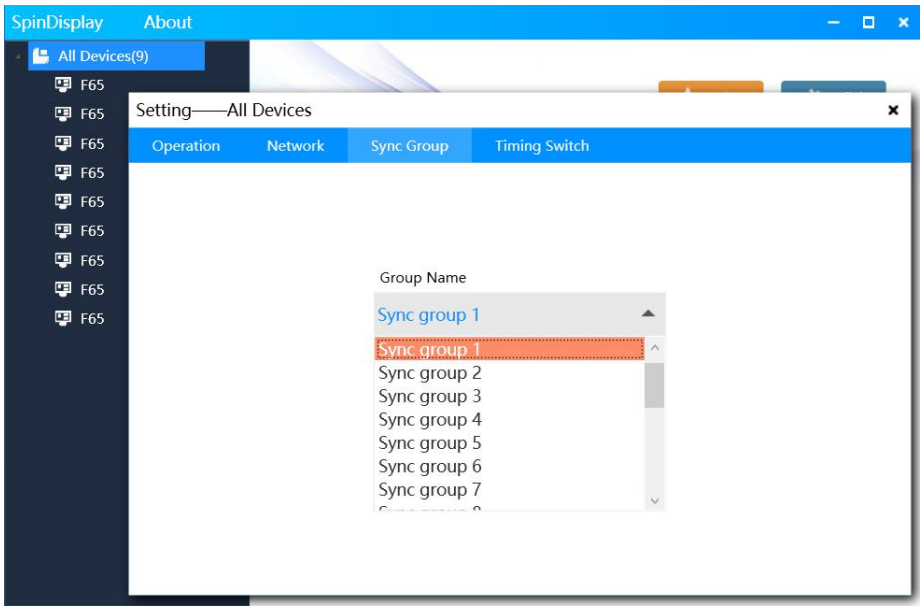


D. Install all the devices according to the instructions above. Manually spin the fans at a low speed to ensure the light bars will not hit each other. After the padding is installed, the distance between light bars on neighboring devices must be greater than 1 cm to be safe. After you finish the check, you can turn on the power to test them.

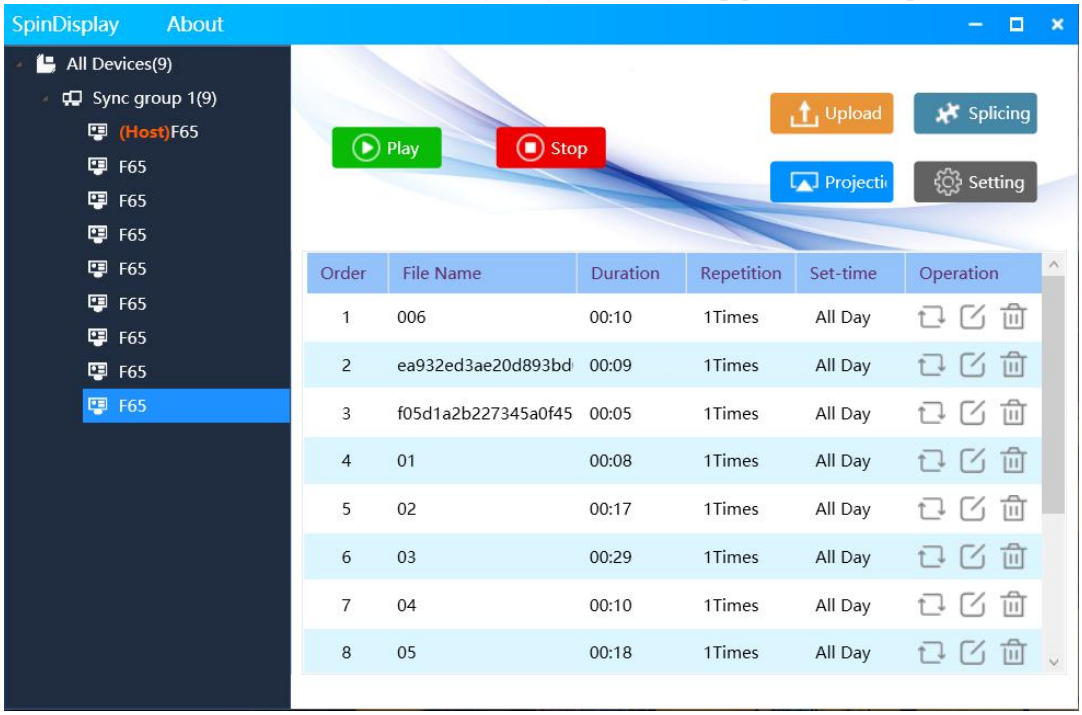
3. Splicing Settings

Note: The device will connect to the specified network by factory default. You need to set the WIFI name and password to “SpinDisplay” (case sensitive), and the devices will automatically connect to the WIFI. To manage the devices, you need to connect your phone or computer to the same WIFI, and you will see the list of devices in the software. Note that it will take about 3 minutes for the devices to reconnect if the WIFI is reset or the power is turned off.

A. Connect the devices via the PC software：When all the devices are connected to the software, click "All Devices" ➡"Settings" ➡"Synchronization Group" successively, and then select any synchronization group number under the list of "Group Names", and modify it as shown below. Then set one of the devices as the host. There can only be one host in a synchronization group. Note: If you use mobile phone APP to debug connection, you can only set groupings in a single device in sequence but not uniformly.

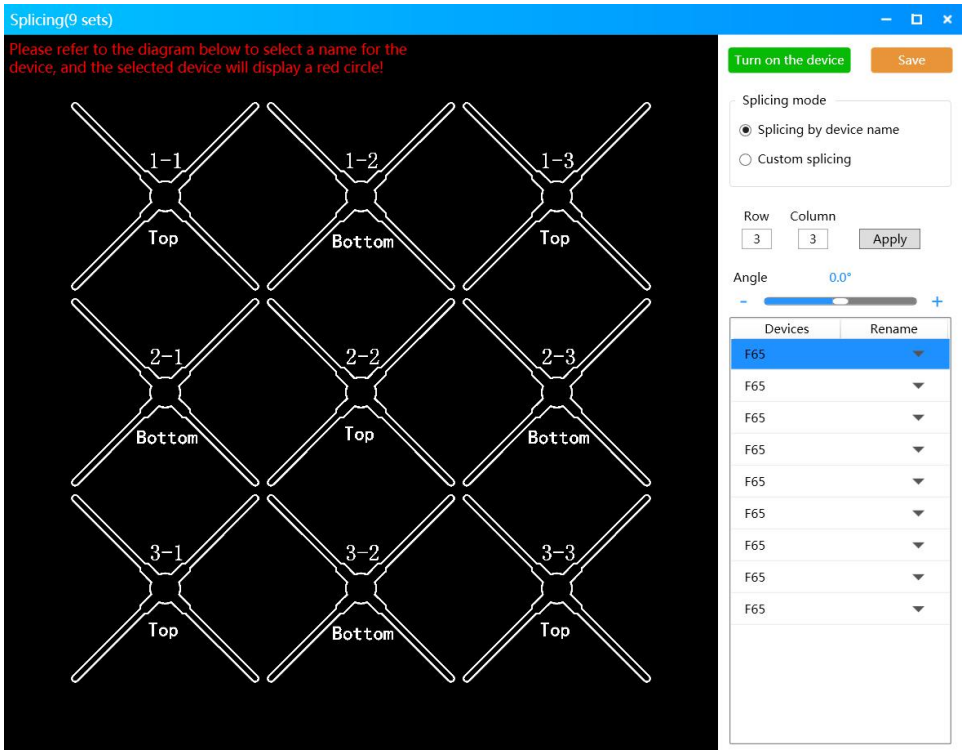


The interface will look like the following image after the setup process is complete:



B. Configure the splicing location (you can ignore the following steps if you only need to use the synchronization functionality).

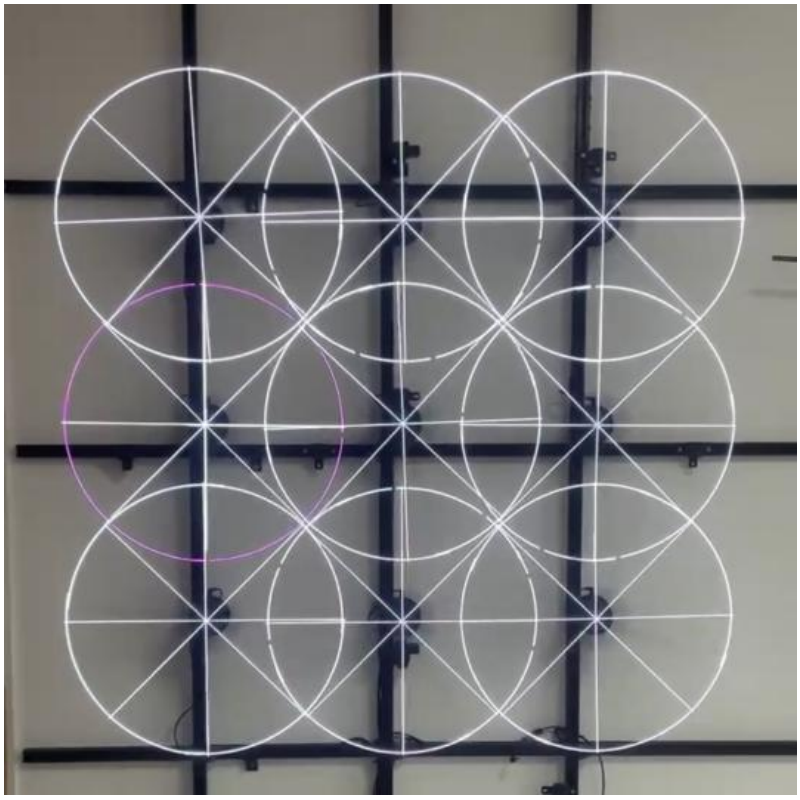
C. Click the synchronization group name on the left panel, and click “splice” to enter the splicing configuration page.



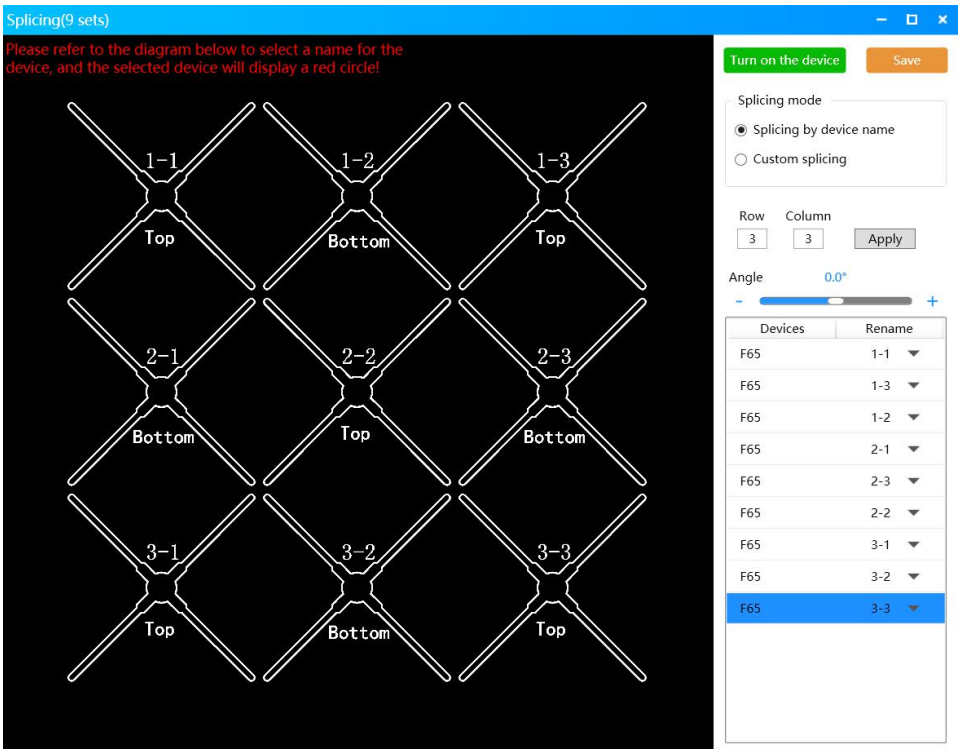
D. The Device Name Splice Mode is more commonly used. The Custom Splice Mode is only used for irregularly shaped displays or professional usage.

E. Enter the number of rows and columns, click “apply”.

F. To rename the devices, click on one of the devices. You should turn on the device and observe its display. The device selected will show the dotted curves in red.



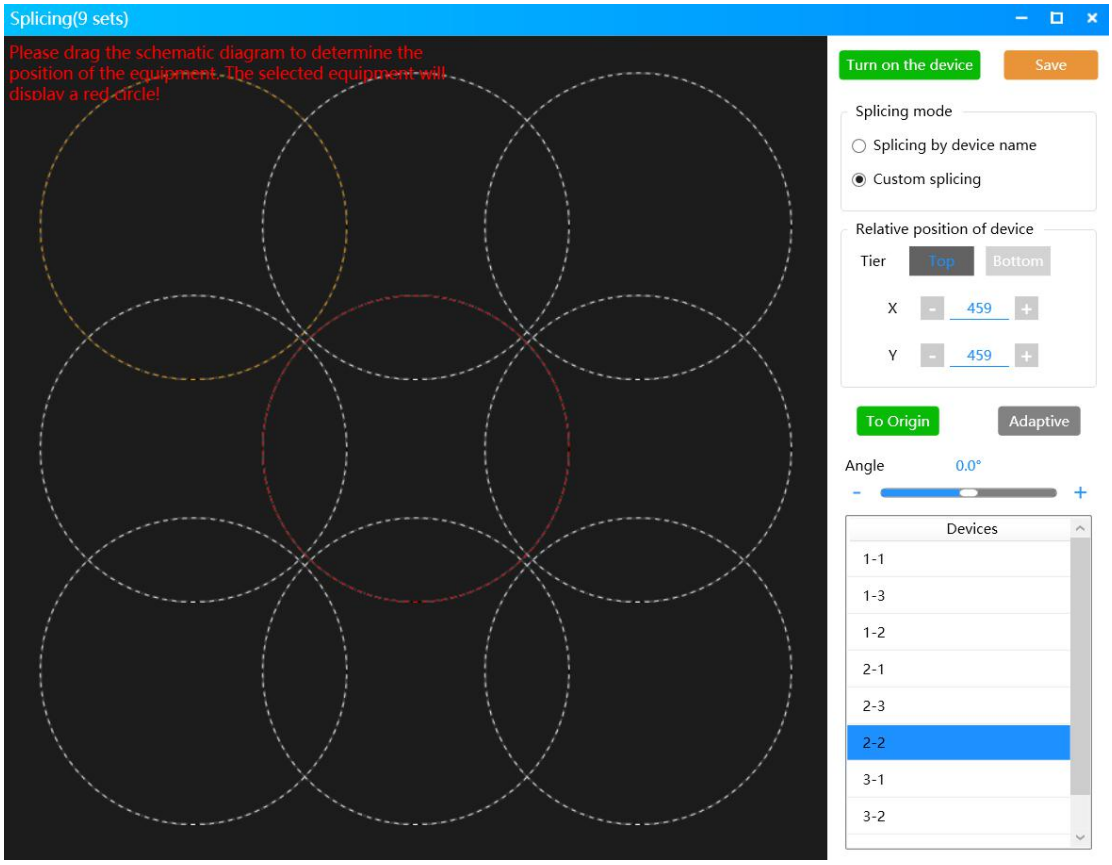
G. Click the dropdown button on the right panel, rename the device according to the appropriate device position. And repeat this step for all the devices.



H. To adjust the device angle, click on the device, and adjust the number for “device angle”.

I. Finally, click “save”. Close the splice set-up page and go back to the main page.

J. Introduction for the Custom Splice Mode (see the following image): the mode is very flexible, and it is a unique functionality that only our product has. You can use it to form circular or other shapes of displays. Feel free to set up the display according to your installation environment, and use it for different settings.

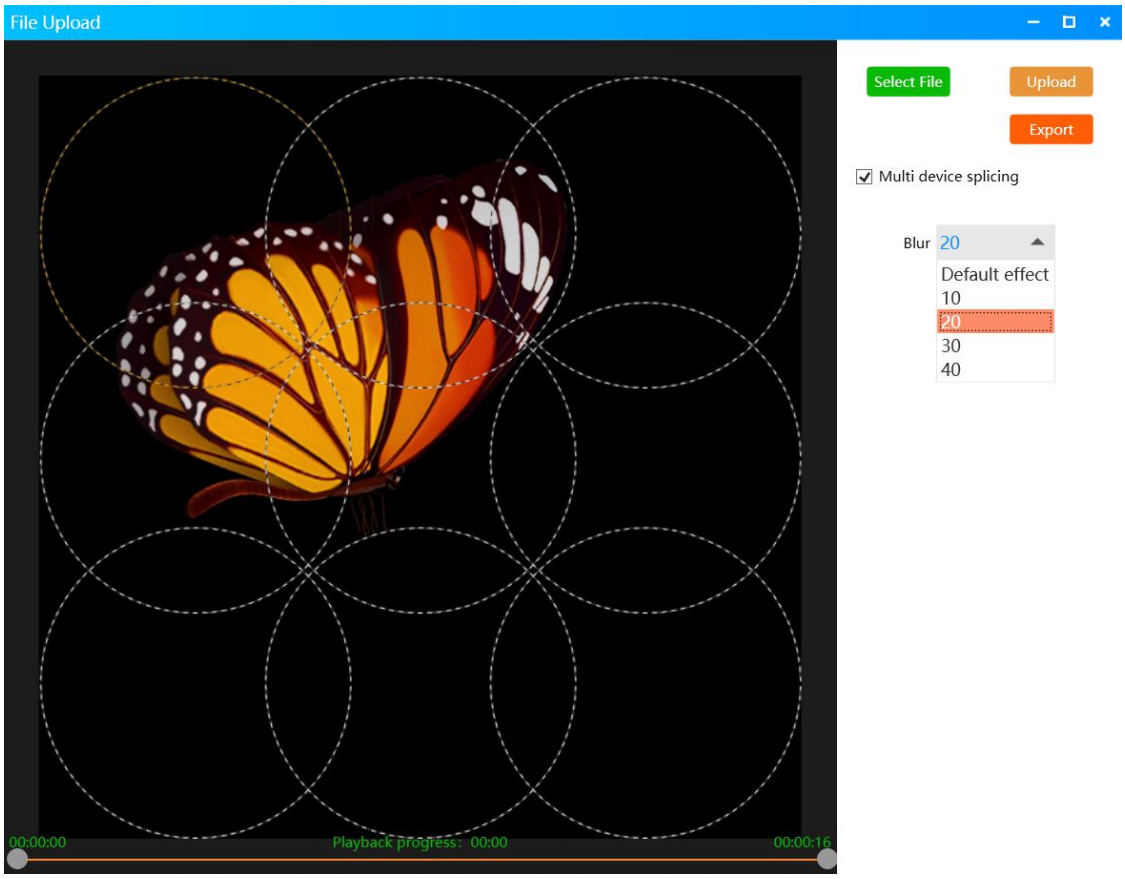


4. Upload Files for the Displays

The device supports multiple methods for content upload. You can select the method based on your needs:

A. Directly upload via WIFI

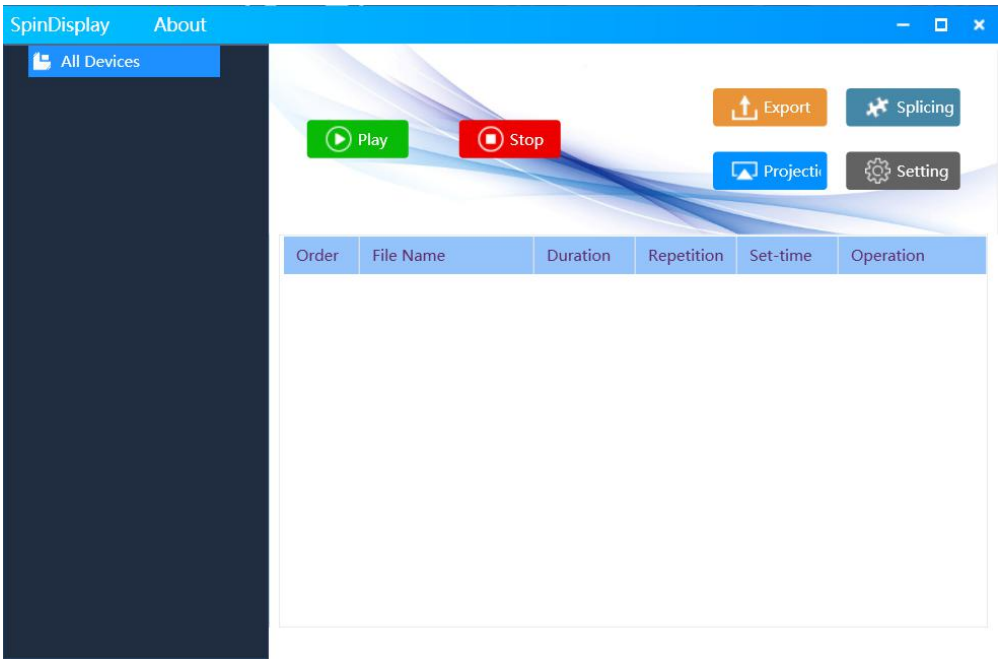
First, click “synchronize group (*)”. Then, click “upload”, select the files based on your needs. You can left-click on your mouse to move the content, scroll up and down to zoom in and out. And you can select the starting point and the ending point for the video by adjusting the timeline located on the bottom of the screen. Configure the value for “blurring width” and click “upload”. The content will be automatically uploaded to each device.



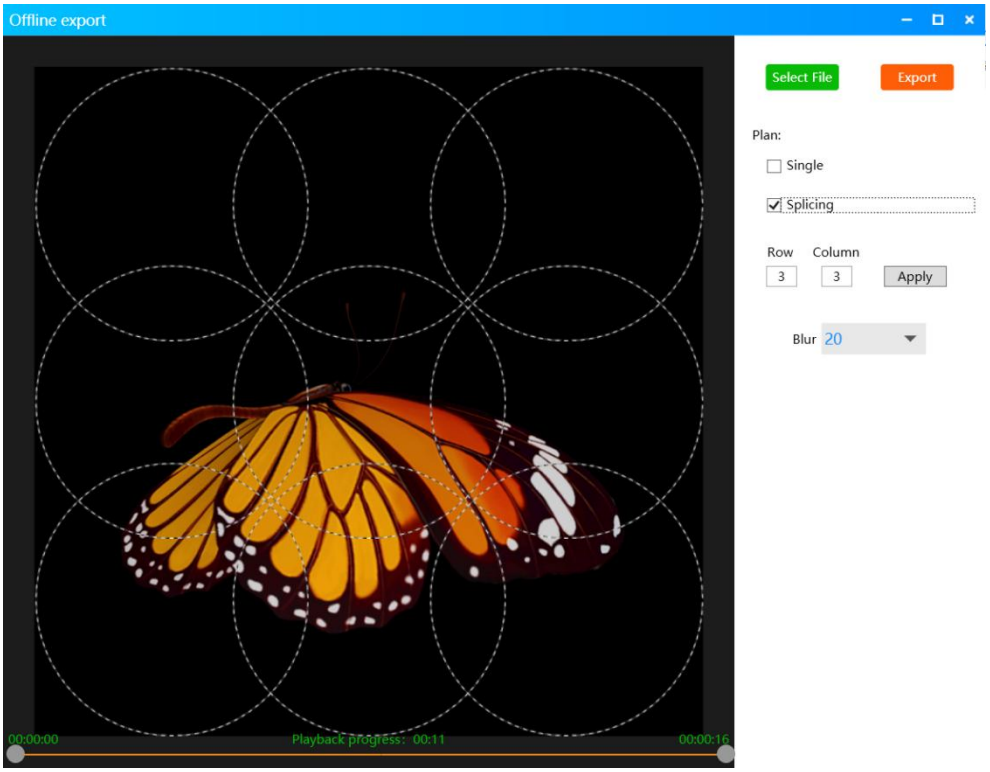
“Select file”: use this functionality to change the media file.
“Splice multiple devices”: unselect this to upload the same media file to all devices. In other words, if you unselect it, every device will be synchronized to show the same file, not the different parts of the file.
“Export”: use this functionality to save the edited media file for splicing multiple displays. You can then upload the edited file to each device via WIFI, or copy over the files via SD card.
“Blurring width”: use this parameter to adjust how much the two layers of image blend in with each other. You can adjust the number based on your display content. The larger the blurring width, the larger the blade display area and the images will blend in more. Vise versa, the smaller the blurring width, the image on each fan will be further apart from its neighbors. (The recommended blurring width is 20.)

B. Export the content and copy over via SD card. When you have a weak WIFI connection, it is recommended to use this method.

1. How to export. There are two export methods, online or offline. If you want to export the content online, see instructions in the “A. Upload via WIFI -- Export” section. If you want to export the content offline, read the following instructions. Offline export is done without connecting the PC software to devices (as the following image shows):



2. Click the “export” button, select and upload the media files. The following “offline export” page will be shown:



There are two modes for offline export: Standalone Mode and Splice Mode. In Splice Mode, you need to configure the number of rows and columns and click “apply”. The device schematic diagram will change accordingly. Then, click “select file”, adjust the file content, and click “export”. And select a folder to save the files. The export files will be named as device position + file name. For example, “1-1_butterfly.ftlv” represents the edited file for the

device at the top-left corner, and the original file name is “butterfly”.

3. Remove the SD card from the device, connect it to the computer, copy the corresponding file for each device, and insert the SD card into each device.

C. Export the files and upload them one by one via WIFI. When you have lots of devices and the media files have high resolution, it is recommended to use this method.

1. To export the files, see the instructions in the previous 2 sections.

2. Select one device from the synchronization group, click the “upload” button, and select the exported files to upload.

In Splice mode, the mobile app only supports the “Directly Upload via WIFI” method. **We recommend using a dual-band router (2.4G and 5G). To increase the upload speed, open the two frequency channels and do not integrate them; connect your phone or computer to the 5G channel.**

5. Common Errors and Maintenance Procedures

A. In standby mode, the color of the central LED represents the following errors:

*Red: System error; SD card is not inserted or SD card is broken; the light bar is not inserted.

*Blue: Real-time clock or synchronization network is not working.

*Green: SD card does not have the necessary content.

B. Splice is out-of-sync

*Check if all the devices are in the same synchronization group.

*Check if the synchronization group has a main device. Each synchronization group must have one and only one main device.

*Check the duration and order of files on all devices.

*If the devices are scattered far apart, it is recommended that you configure the device in the middle as the main device.

C. Cannot turn on the device, or nothing is shown

*Check the power supply, and check if the light bar turns on when power turns on.

D. Fan does not spin

*The device automatically checks if the light bars are inserted correctly. And the device will not spin unless all four light bars are in place. Please check again if all light bars are inserted and if the safety buckles are properly locked.

Appendix 1. The largest spliced display size (outer length, largest available display area) for Device Name Splice Mode. Assume there is one row of devices. And the unit is in meter.

Device Type / Number				

Appendix 2. The largest spliced display size (inner length, effective display area) for Device Name Splice Mode. Assume there is one row of devices. And the unit is in meter.

Device Type / Number				

Appendix 3. The calculation method for the file to device ratio for Device Name Splice Mode (recommended)

FCC Warning

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

NOTE 1: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
-Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
-Consult the dealer or an experienced radio/TV technician for help.

NOTE 2: Any changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

RF Exposure Statement
To maintain compliance with FCC'S RF Exposure guidelines, This equipment should be installed and operated with minimum 20cm between the radiator and your body. This device and its antenna(s) must not be co-located or operation in conjunction with any other antenna or transmitter.