Colorlight

INSTRUCTIONS

S20F

USER MANUAL

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1 Safety Information

To prevent personal injury and to protect the device from damage, read and follow these safety precautions.

- **Do not remove the cover**

  To avoid personal injury, do not remove the top cover.

- **Only use the power supply and accessories specified by the manufacturer**

  The operating voltage of this product is 100V-240V AC. Only use the power cord provided with the product or the power cord that meets the appropriate local rating standards.

- **Prevent function interfaces from contact with charged objects**

  This is an electric product. The circuit elements may be damaged if the function interfaces contact charged objects.

- **Grounding**

  To avoid electrical shock, ensure that the product is grounded.

- **Electromagnetic Interference**

  This is a class A product. In a domestic environment, this product may cause radio interference in which case the user may be required to take adequate measures

- **Environmental Condition**

  Use only at altitudes not more than 5000m above sea level.

- **Avoid Moisture**

  This product is not waterproof, so avoid contact with liquid or operating the product in a humid environment.

- **Keep the product away from flammable and explosive hazardous substances**

CLASS 1 LASER PRODUCT

This unit complies with 21 CFR 1040.10 and 1040.11 except for conformance with IEC 60825-1 Ed.3., as described in Laser Notice No.56, dated May 8,2019.

Unpacking and Inspection

After unpacking, checking the items according to the packing list in the box. Please contact the salesman in time if you find the accessories are incomplete.

2 Overview

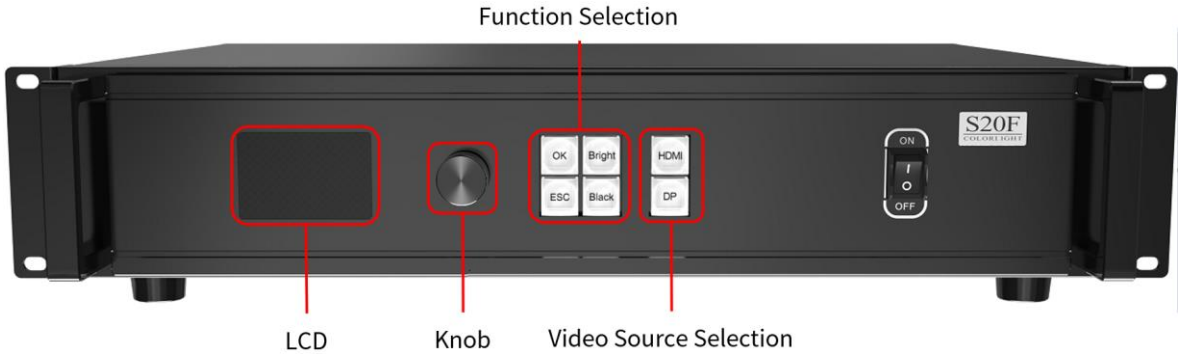
S20F is a controller possessing powerful video signal receiving capacity. It supports the input of DP1.2 and HDMI2.0, and seamless switching between signal sources. A single unit features a loading capacity of up to 8.85 million pixels, with a maximum width or height of 8192 pixels, while a single Ethernet port supports a loading width or height of up to 4096 pixels, and the controller supports signal inputs of up to 4096×2160@60Hz resolution. Thus, S20F allows users to configure ultra-long, ultra-high and ultra-large screens. S20F supports 4 optical fiber port output (2 main and 2 backup), as well as Ethernet port redundancy and controller redundancy. It can not only effectively ensure the display stability of screens, but also provide high-quality image display and flexible screen control.

Features

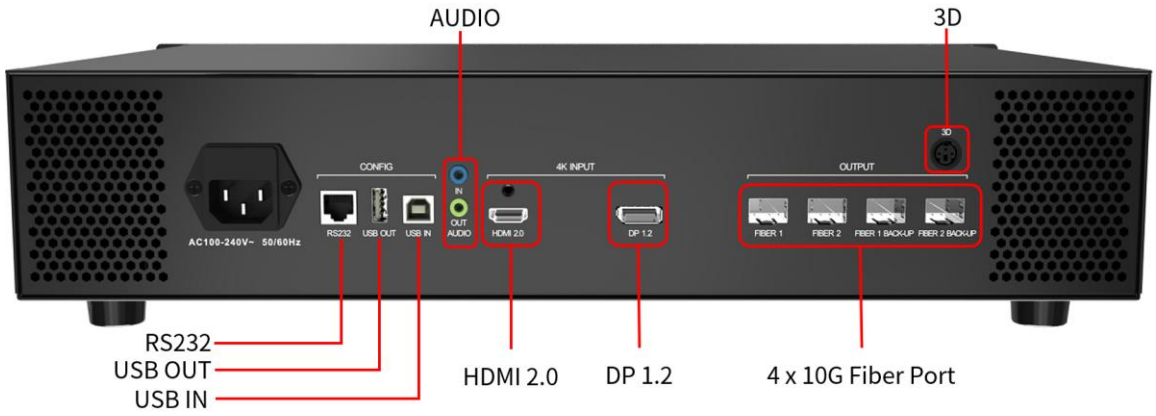
- Input: 1×DP 1.2, 1×HDMI 2.0
- Support seamless switching between signal sources
- Loading capacity: up to 8.85 million pixels, maximum width or height: 8192 pixels
- 4 optical fiber outputs, 2 active and 2 standby, single optical port transmission rate 10Gb/s
- Input resolution: up to 4096×2160@60Hz, supporting customized setting of resolution within control range
- Support Ethernet port redundancy or controller redundancy
- Support USB cascading control and RS232 protocol control
- Separate audio input and output
- Support 3D display（optional）
- Better gray at low brightness
- Compatible with all receiver cards and multifunction cards of Colorlight

3 Appearance

Front Panel

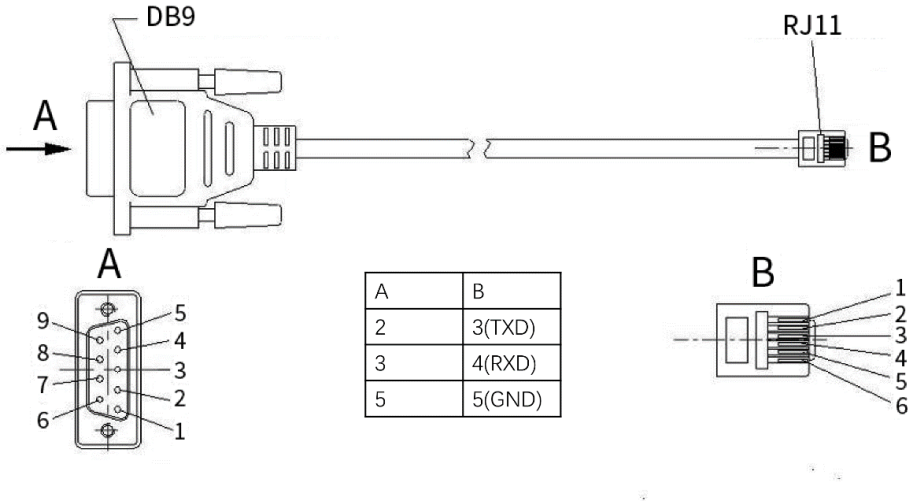


Back Panel



Input Connector		
1	HDMI2.0	1×HDMI 2.0
2	DP1.2	1×DP 1.2
Output Connector		
1	FIBER1，FIBER2	2x10G optical ports，dual LC interface，standard 2 pcs 10G single-mode optical modules， wavelength： 1310nm，transmission distance：2km
2	FIBER 1 BACKUP FIBER 2 BACKUP	Automatic backup ports for FIBER1 and FIBER2
3	3D (Optional)	Output the 3D control signal
Control Connector		
1	USB IN	USB input, connecting to PC for debugging
2	USB OUT	USB output, for cascading with the next controller
3	RS232	RJ11 (6P6C)*, used to communicate via 3rd party interfaces
Audio Connector		
1	AUDIO IN	Input audio signals from the computer or other devices
2	AUDIO OUT	Output audio signals to the speaker (Support processing and outputting the audio signal of HDMI and DP)
Power Supply		
1	AC 100~240V	AC power connector, containing a built-in fuse

* RJ11 and DB9 Conversion as below:



A	B
2	3(TXD)
3	4(RXD)
5	5(GND)

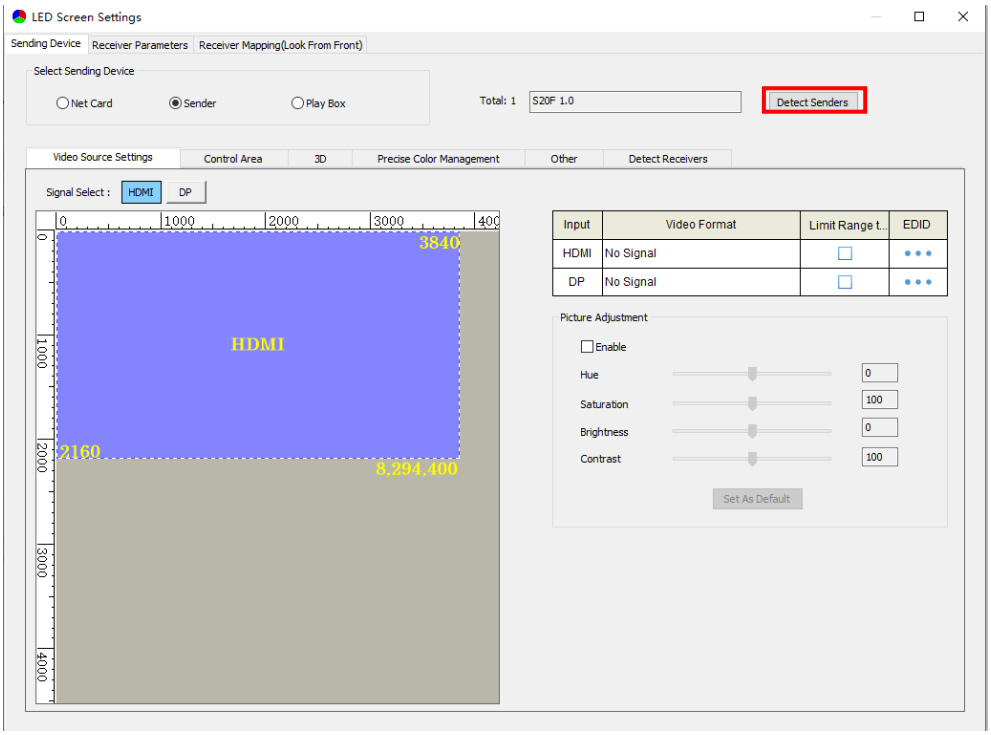
4 Software Operation Instruction

Please make sure the hardware is properly connected before setting parameters, and that all senders and receiver cards can be detected by the software. You can visit www.colorlightinside.com to download LEDVISION installer.

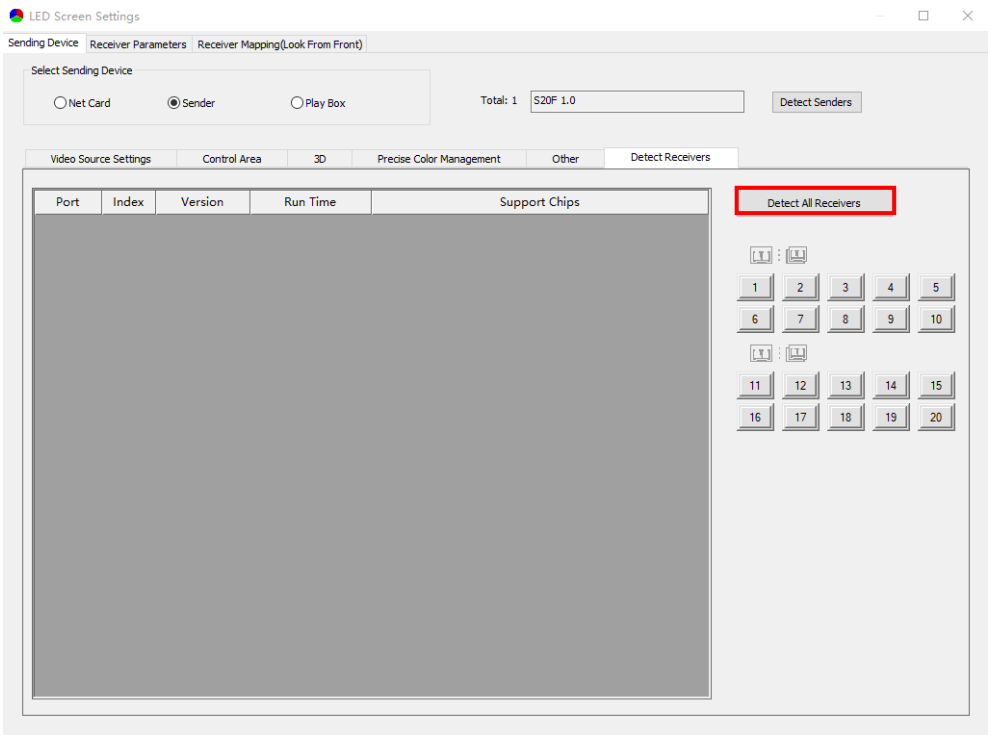
4.1 Detect the Sender and Receiver Cards

Open LEDVISION, click **Control**, select **LED Screen Settings** from the drop-down list, and enter the password "168".

In the pop-up **LED Screen Settings** window, click **Detect Senders** in the upper-right corner of the window, and the number, model and version of the sender are displayed in the field next to **Detect Senders**.

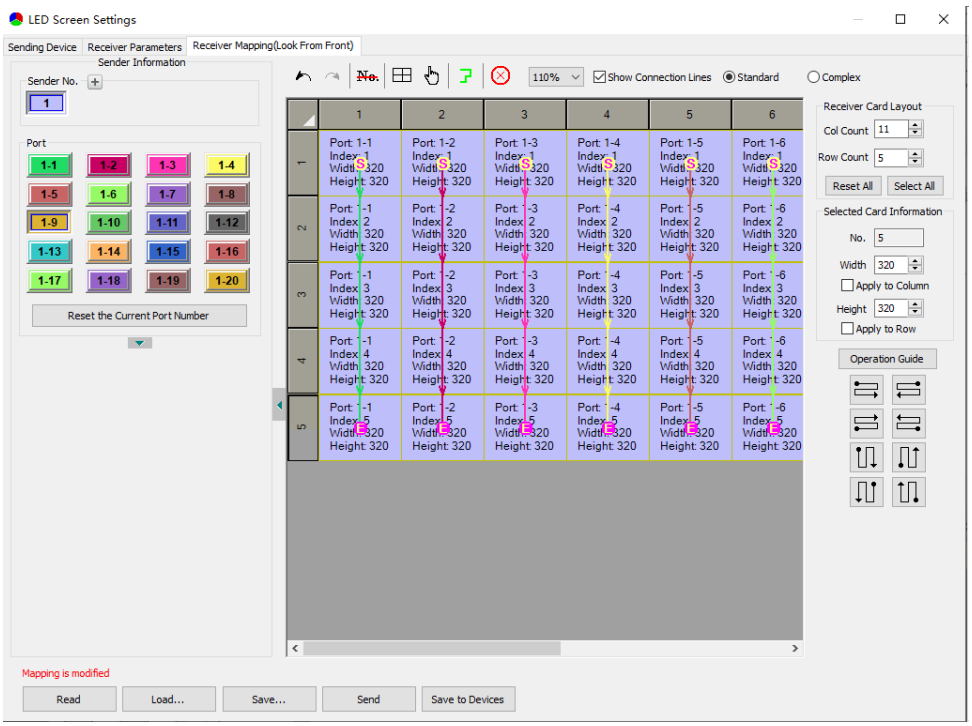


Click **Detect Receivers**. On the **Detect Receivers** sub-page, click **Detect All Receivers**, and the software will automatically acquire information such as the port, index, running time, and supported chips of the receiver card. Please check the corresponding cable if the number of receiver cards are inconsistent with actual status.



4.2 Receiver Mapping Settings

Click **Receiver Mapping** to enter the receiver mapping settings page.



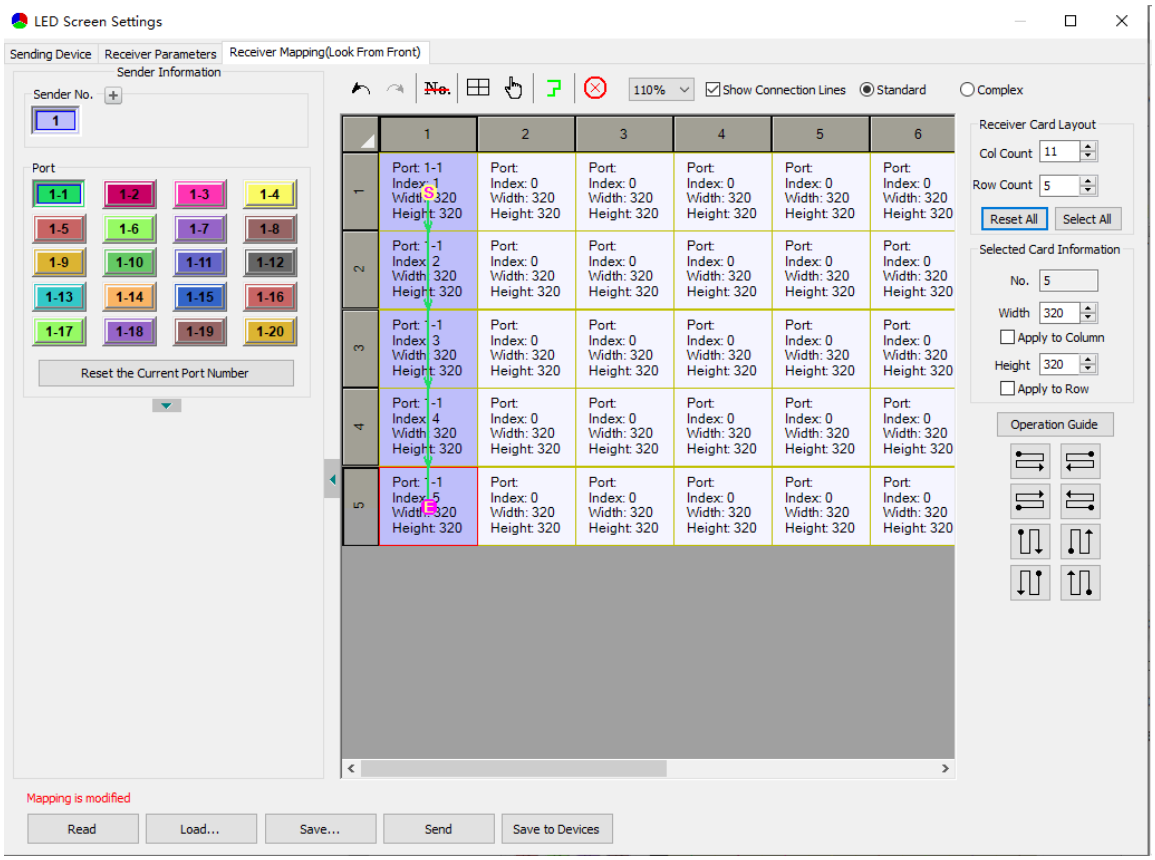
Detailed setting steps are as follows:

4.2.1 Mapping Settings

Select the target Ethernet port on the left side, and set the connection lines of the corresponding cabinets within the port control area in the simulated cabinet area.

In the simulated cabinet area, select the corresponding cabinet of the first receiver card based on the actual connection of the Ethernet port (look from the front), and left-click the cabinet one by one according to actual connection line, until the last one this Ethernet port controls.

For the cabinets with different specifications (different in dimensions), you can select them and adjust the mapping separately after setting.

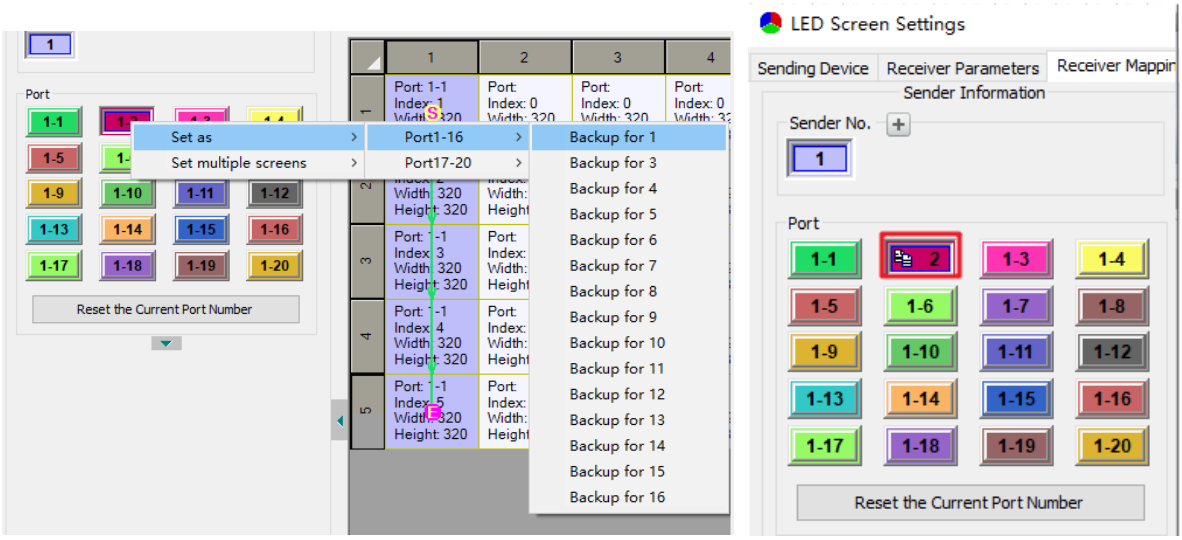


4.2.2 Saving Mapping

After successively setting the cabinets each port controls and their mapping, click **Send** at the bottom of the window to test whether the current mapping is correct. If the image on the LED screen is displayed normally, click **Save to Devices** to save the mapping to the current sender and receiver cards.

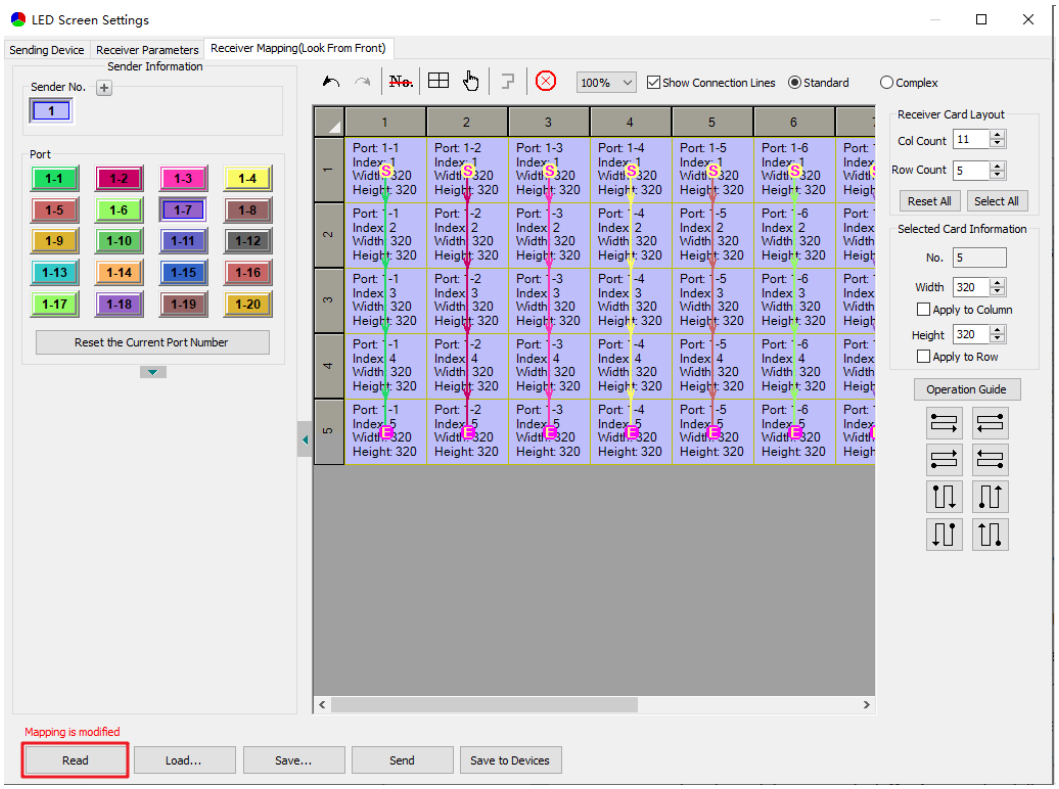
4.2.3 Port Backup Setting

Right-click the sequence number of the backup port, and select the target port that needs a backup. After setting, a backup sign will be displayed besides the sequence number of the backup port.



4.2.4 Reading Mapping

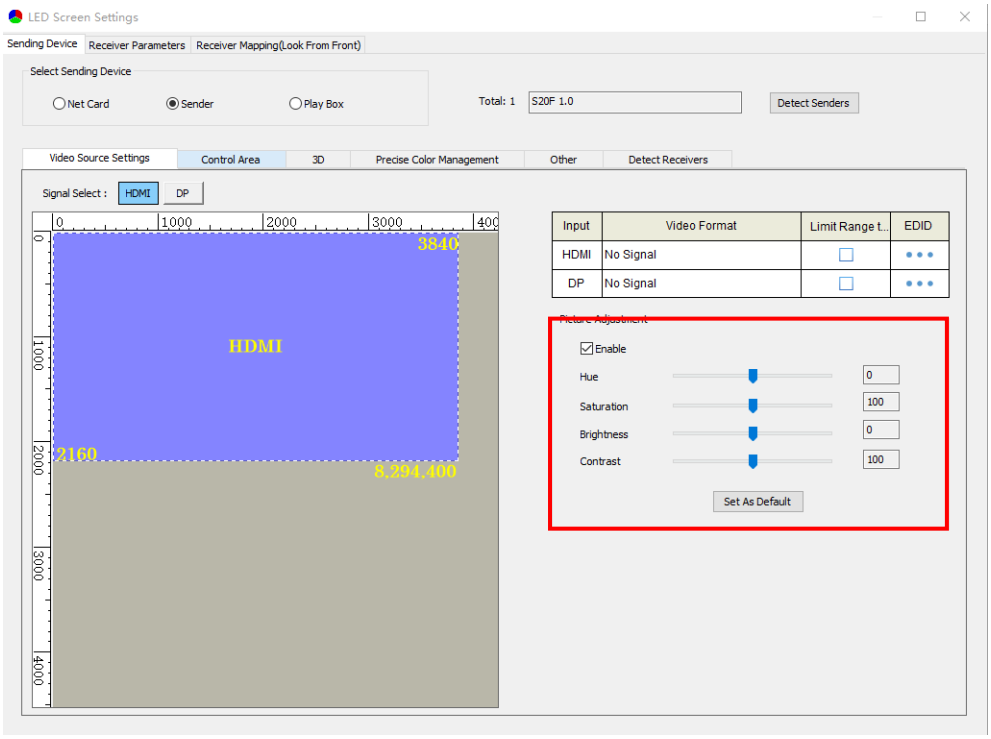
Click **Read** in the lower-left corner of the page, and the mapping parameters of cabinets saved in the receiver cards can be read back.



4.3 Video Source Settings

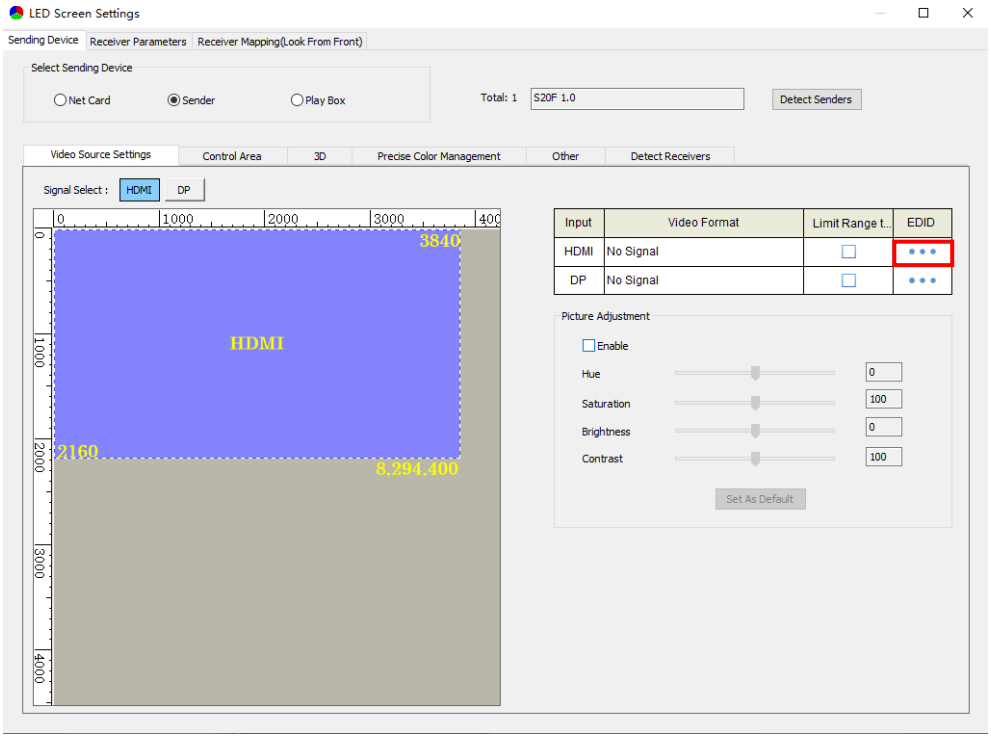
4.3.1 Picture Adjustment

In the **Picture Adjustment** area, select the **Enable** check box, and then you can adjust the value of hue, saturation, brightness compensation and contrast of the image in the selected window.

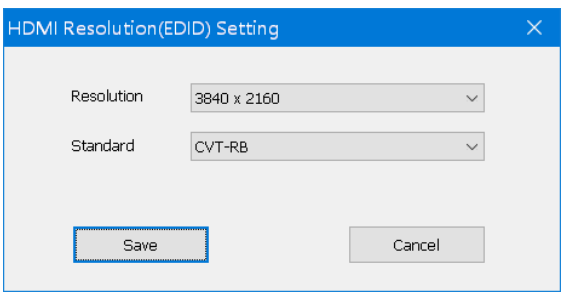


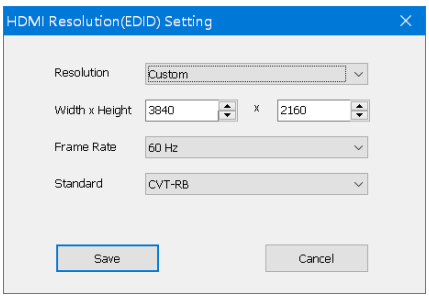
4.3.2 EDID (Resolution)

In the upper-right corner of the **Video Source Settings** sub-page, click •••.



In the **Resolution (EDID) Setting** dialog box, the resolution of the current sender is displayed by default. Click the dropdown button. From the resolution list, you can select a conventional resolution, or select **Custom** and set the width, height, frame rate and standard of the customized resolution.

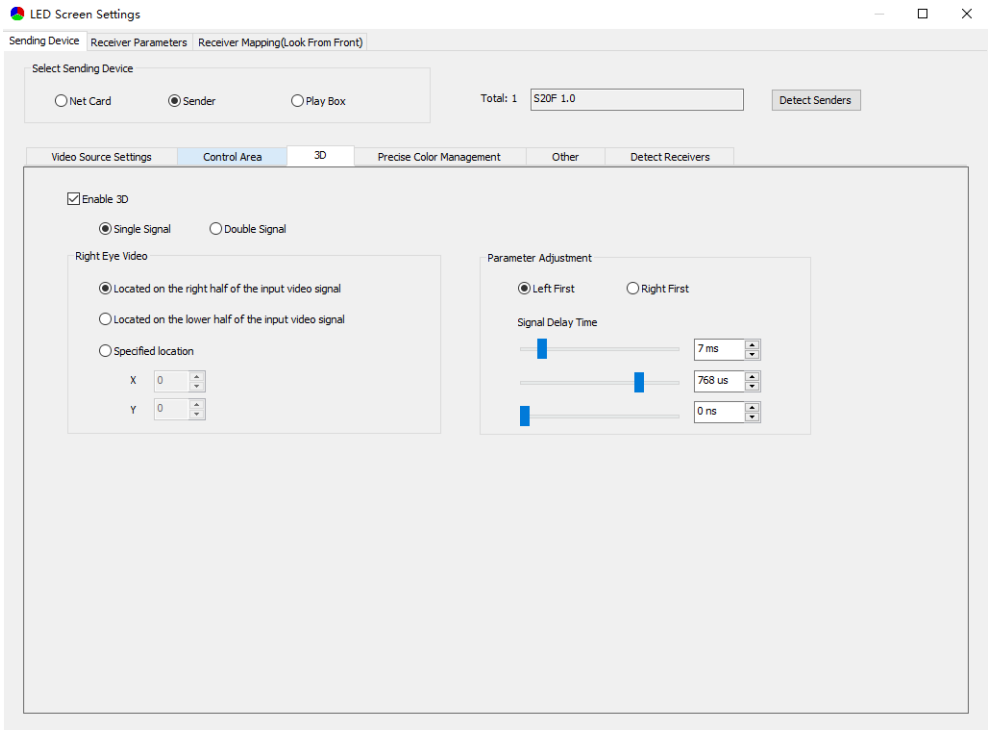




After setting, click **Save**.

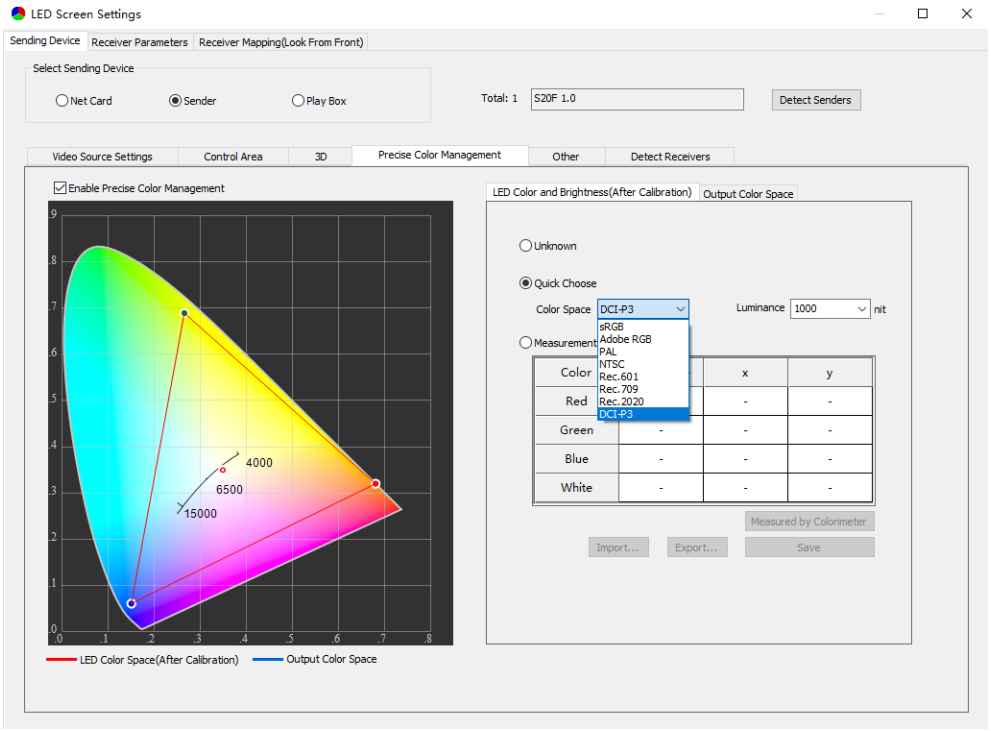
4.4 3D（Optional）

On the **3D** sub-page, you can select or clear the **Enable 3D** check box. If the check box is selected, you can set the location of the right eye video. You can adjust the signal delay time according to the figure as follows.



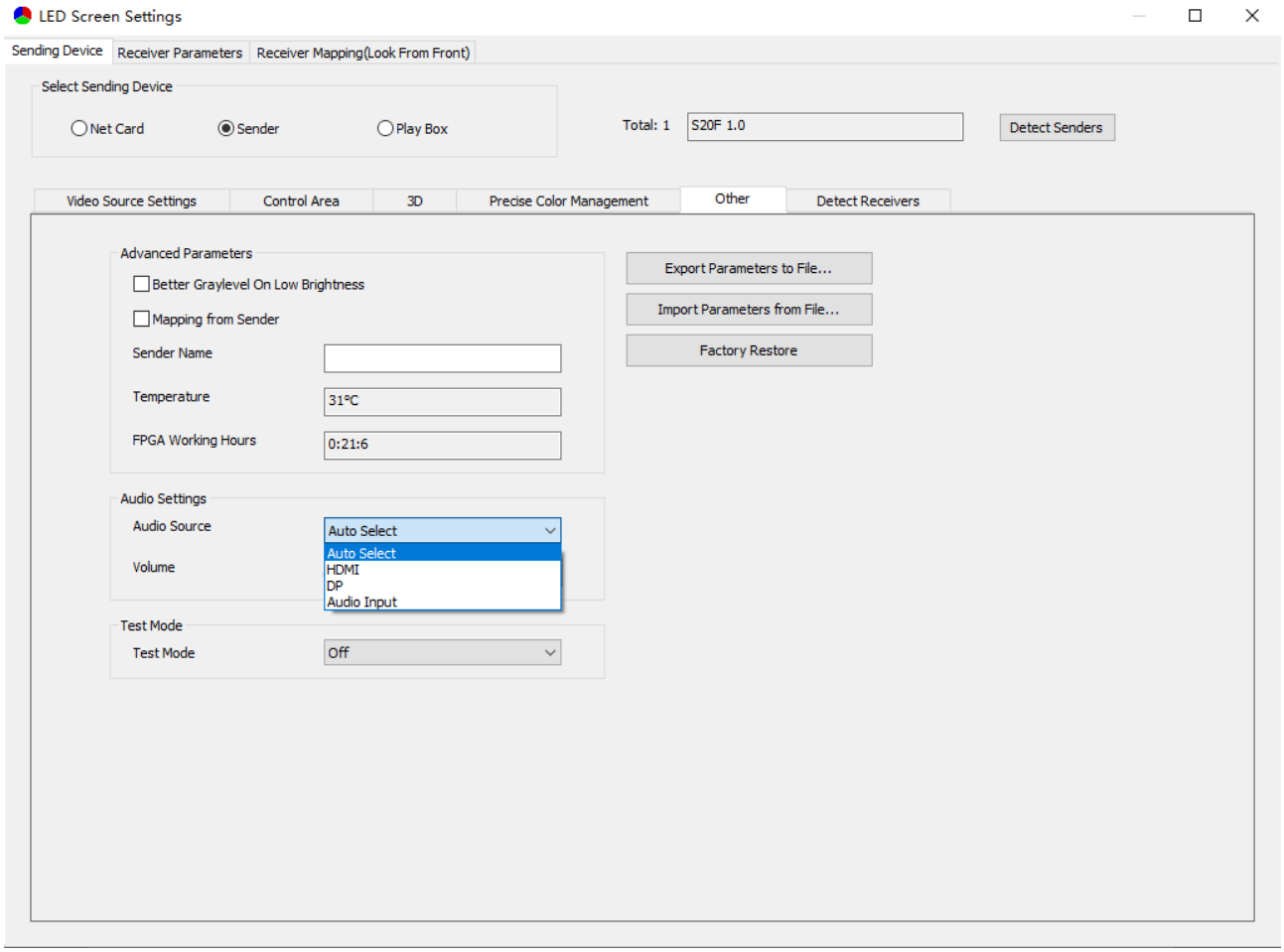
4.5 Precise Color Management

On the **Precise Color Management** sub-page, you can select the **Enable Precise Color Management** check box, and select a preset color space or set the measurement value, and then click the **Output Color Space** tab and adjust the color gamut.



4.6 Other

On the **Other** sub-page, you can select or clear the **Better Graylevel On Low Brightness** and **Mapping from Sender** check box, modify the device name, set the audio source and volume, switch test modes or perform factory reset.



5 LCD Operation Instruction

5.1 Operation Instruction

Knob/OK:

- In the main interface, press the knob/**OK** to enter the operation menu.
- On the operation menu, rotate the knob to scroll to a menu item, press the knob/**OK** to select the current item or enter the submenu.
- Rotate the knob to adjust parameters after selecting the menu item with the parameter and press the knob/**OK** to save the value.

ESC: Exit the current menu or operation.

Bright: Press the key and rotate the knob to adjust screen brightness, and then press the knob/**OK** to confirm the current brightness.

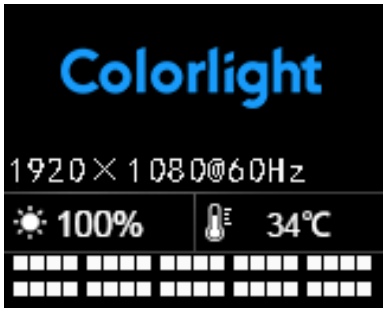
Black: Blackout. Press the key, and the display will go dark. You can press it again to make the screen go back to normal.

HDMI: Switch the signal source to HDMI signal.

DP: Switch the signal source to DP signal.

5.2 Main Interface

After starting up the sender, the main interface of the LCD display is as follows:



First row: Company name

Second row: Self-defined name of the sender

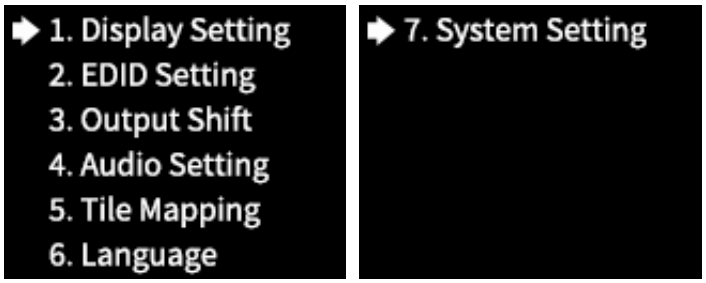
Third row: Signal type and resolution

Fourth row: Brightness, Chassis Temperature

Fifth row: Connection status of Ethernet ports

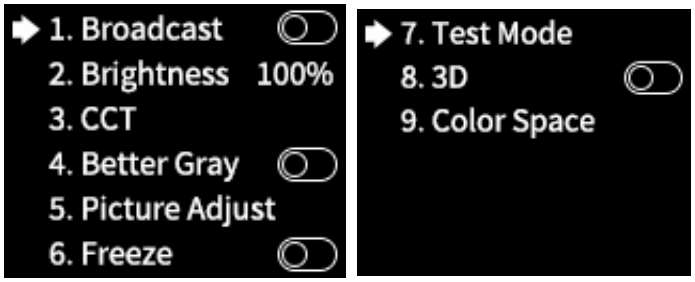
5.3 Menu Operation

Press the knob/**OK** to enter the operation menu, which includes the following operation items: **Display Setting**, **EDID Setting**, **Output Shift**, **Audio Setting**, **Tile Mapping**, **Language** and **System Setting**,.



5.3.1 Display Setting

Rotate the knob and select **Display Setting** to enter the **Display Setting** submenu.



Broadcast

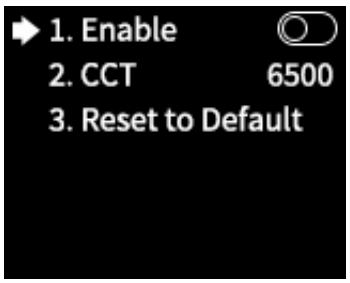
Press the knob/**OK** to turn on or off the **Broadcast** function. If the broadcast function is turned on, the setting of the menu items in this submenu (**Brightness**, **CCT**, **Better Gary**, **Picture Adjust**, **Freeze**, **Test Mode**, **3D** and **Color Space**) will be synchronously sent to the devices cascaded with this sender.

Brightness

Select **Brightness**, rotate the knob to change the brightness, and then press the knob/**OK** again to save the brightness.

CCT

In the **CCT** menu, you can press the knob/**OK** to turn the color temperature adjustment function on or off. If **Enable** is turned on, you can select **CCT** and rotate the knob to change the value of color temperature, or select **Reset to Default** to reset the value of color temperature as 6500.

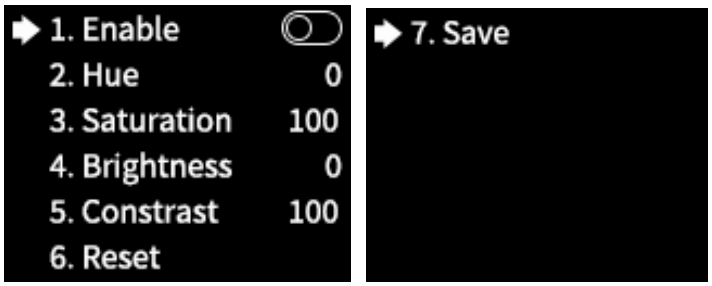


Better Gray

Press the knob/**OK** to turn on or off the **Better Gray** function.

Picture Adjust

In the **Picture Adjust** submenu, you can press the knob/**OK** to turn the picture adjustment function on or off. If **Enable** is turned on, you can select **Hue**, **Saturation**, **Brightness**, or **Contrast** and rotate the knob to modify their values, or select **Reset** to reset the value of all parameters in this menu. Finally select **Save** to save all these parameters.



Freeze

Press the Knob/**OK** to freeze or unfreeze the LED screen.

Test Mode

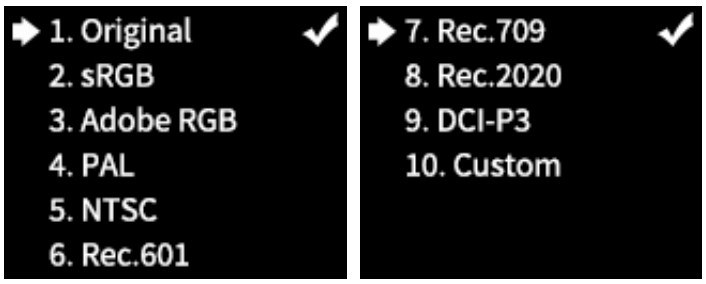
In the **Test Mode** menu, you can rotate the knob and select a test mode.

3D（Optional）

Press the knob/**OK** to turn on or off the **3D** function.

Color Space

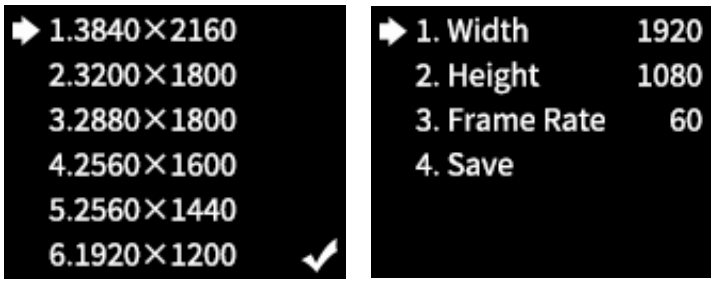
Save the brightness and color information of the display to the sender on the software, and then you can select a color gamut standard or set customized standard in the **Color Space** submenu.



5.3.2 EDID Setting

Rotate the knob and select **EDID Setting** to enter the **EDID Setting** submenu.

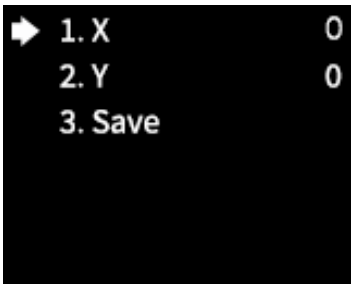
In the EDID setting submenu of **HDMI** or **DP**, you can rotate the knob and select a conventional resolution to save the selected resolution to the sender, or select **Custom** and set the width, height and frame rate, and then select **Save** to save the setting to the sender.

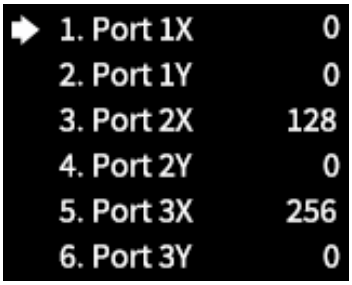


5.3.3 Output Shift

Rotate the knob and select **Output Shift** to enter the **Output Shift** submenu.

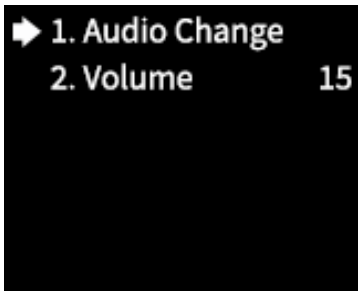
Output shift contains two selections: **Whole** and **By Port**. On the submenu of **Whole**, you can rotate the knob to set the row starting point (**X**) and the column starting point (**Y**) of the whole image and then save the setting; on the submenu of **By Port**, you can respectively set the row starting point (**X**) and the column starting point (**Y**) of the image of the 20 Ethernet ports, and then save the setting.

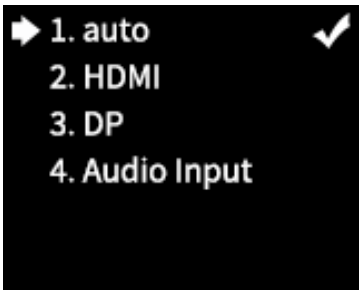




5.3.4 Audio Setting

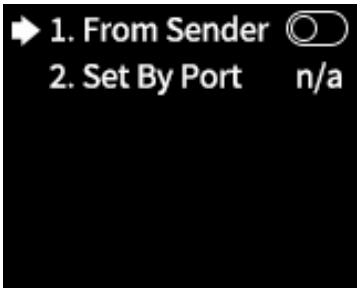
Rotate the knob and select **Audio Setting** to enter the **Audio Setting** submenu, in which you can switch audio signal sources and adjust the volume.





5.3.5 Tile Mapping

Rotate the knob and select **Tile Mapping** to enter the **Tile Mapping** submenu.



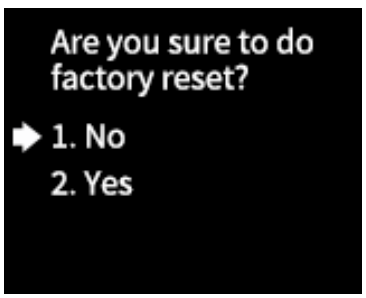
In the submenu, press the knob/**OK** to set the sender as the connection source. Then select **Set By Port** to enter the submenu, in which you can choose the Ethernet port that needs setting mapping, and set the offset values of X and Y, and the width, height, row number, column number and link type of the corresponding cabinets. Finally select **Save** to save the mapping.

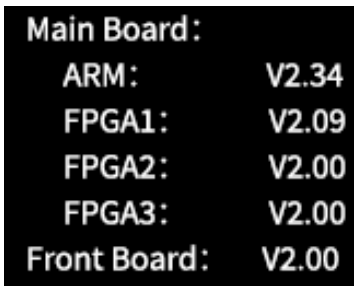
5.3.6 Language

In the **Language** menu, you can switch languages.

5.3.7 System Setting

In the **System Setting** menu, you can perform factory reset and view the detailed information of the current version.





Visual Future

Colorlight Cloud Tech Ltd

www.colorlightinside.com