

SS-S960 RDM Controller Specification

————— **V1.0**

Beijing Soft Stone Optoelectronic Technology Co. , Ltd.

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Chapter one Brief Introduction of controller functions

I. Product performance

I. Four gigabit adaptive Ethernet interfaces, including dual SFP optical port and dual RJ45 network port, can be expanded to four RJ45 network ports if the photoelectric conversion module is adopted. Dual-mode four-port network access mode provides more choices in practical operation.

II. The network interface USES the Canon type connector, has the dustproof and the . anti-looseness characteristic, may minimize the contact bad fault occurrence;

III. The controller has independent IP address, supports ARP protocol, can automatically assign IP address, more convenient for network monitoring and management;

IV. 8 output ports, each port can drive 4096 channels at most;

V. Support standard RDM protocol;

VI. The parameters of the controller are write-free, the controller has strong universality, the fault controller can be replaced directly and the maintenance workload can be reduced.

VII. Single firmware supports a variety of chip communication protocols including DMX512, SPI, zero return code and so on, reducing the complexity of project maintenance;

VIII. Support DMX512 chip online addressing, chip parameters online writing;

IX. The highest level is 65536 gray level control, which can restore the color and details of the image.

X. Three-color or four-color hardware brightness control and hardware gamma ray correction function, can be precise adjustment of the image;

XI. In the playing state, the online state of the controller can also be checked by

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software in real time.

II.Design concept

I. Synchronous control mode can be added with offline player to realize offline play, which is selected according to the requirements of end users;

II. Easy Show, a video editing, playback and wiring design software with independent intellectual property rights, can adapt to a variety of heterogeneous screens, multiple screens, text screens, pixel lights and other complex applications.

III. The functions of the software system are highly integrated and open, and the design of playing content and wiring can be completed independently by the application party. Software supports automatic, timed and preset holiday effects; Support multi-screen display, screen and split screen; Support the control of red, green, blue and white four-color lamps; Support music spectrum display, external video call; Support to play instant messages without interrupting display screen; Cabling support to import CAD, import reference pictures and other special functions, to meet the diverse needs of customers;

IV. Receive data directly from the network card of the computer, abandon the mode of "dedicated video card + master control + sub-control", make installation easier, and greatly reduce the cost;

III. Scalability

I. It can play video and picture files in various formats synchronously.

II. Can display all Windows operating system supported by the text;

III. Support all SERIAL data interface LED driver chip and DMX512 protocol chip;

IV. Support IP group function, realize the stability of multiple controllers in large project;

V. Support DMX512 protocol, maximum 8 port output;

VI. Support fiber transmission after fiber module conversion, wireless network transmission or wireless bridge connection;

VII. Support standard RDM protocol;

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Chapter two Model and appearance of controller

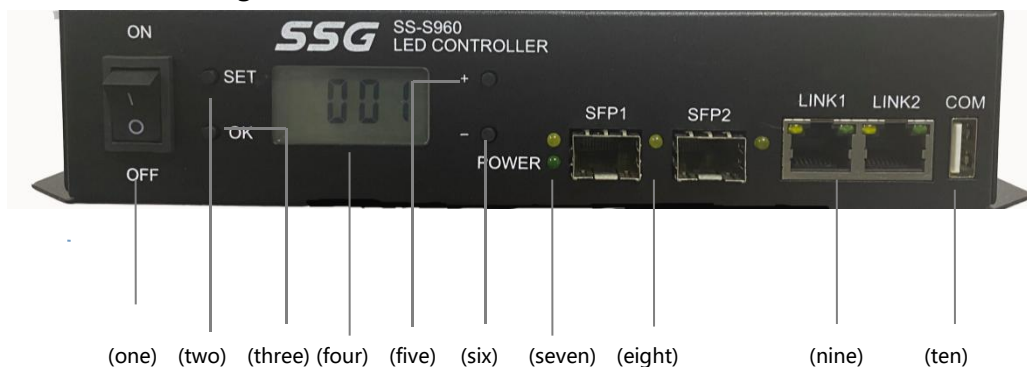
I.Product model

The SS-960RDM controller is an industrial type with a shell and 8 output ports. The maximum number of pixels in each port can reach 4096 channels.

The controller can be widely used in: architectural landscape, hotels, supermarkets, department stores, government lighting projects, construction projects, commercial space, airports, subways, hospitals and other places. For investment owners and architects, designers, flood lighting engineering, construction engineers and other professionals to provide architectural art visual dynamic color lighting a full range of technical problems solutions.

two、Product pictures

one.SS - 960 RDM figure in the face



two.SS - 960 RDM back view

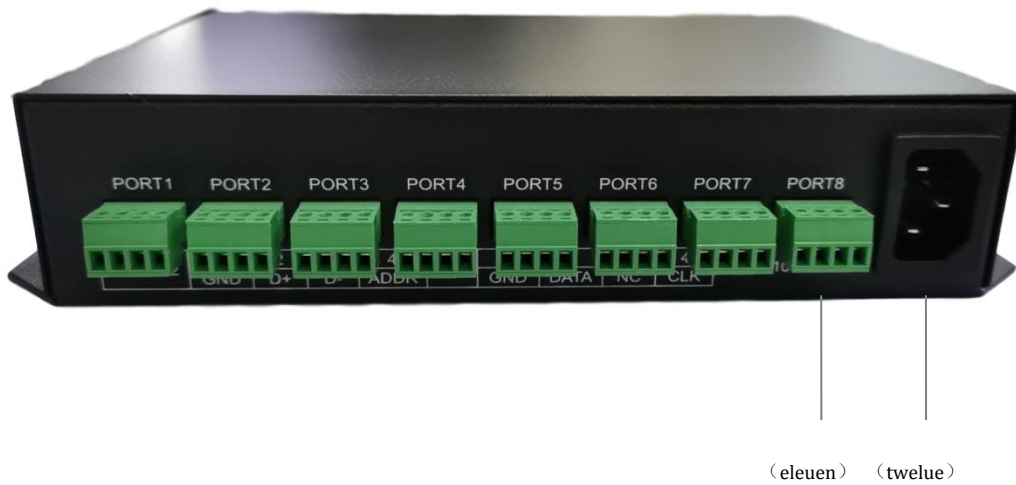
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- I. The power switch
- II. Set key (long press for 3 seconds to work)
- III. OK (Click OK when setup is complete)
- IV. Display screen (display controller number)
- VI. - (reduce one controller ID number)
- VII. The source of light
- VIII. Optical fiber mouth
- IX. Gigabit interface
- X. Handhold device jack
- XI. Output port
- XII. The power socket

III. Controller basic parameters table

The input voltage	AC 220V
The most powerful	15W
Long degrees	20.44 CM
Wide degree	13.70 CM
High degree of	4.40 CM
Fixed hole spacing	7.50 CM; 21.7 CM

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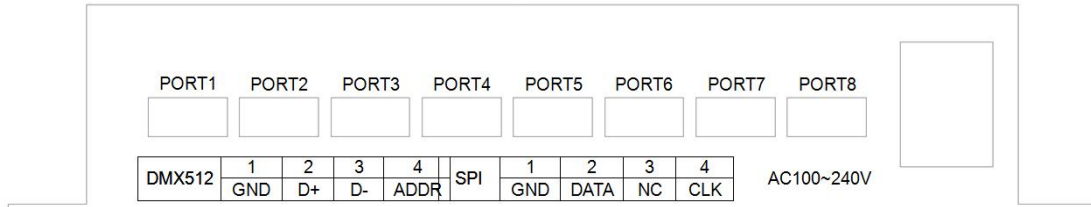
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IV. Output interface wire sequence

one. The OUTPUT interfaces of SS-960RDM are 8 4P interfaces, respectively 1-8 (as shown in the figure).

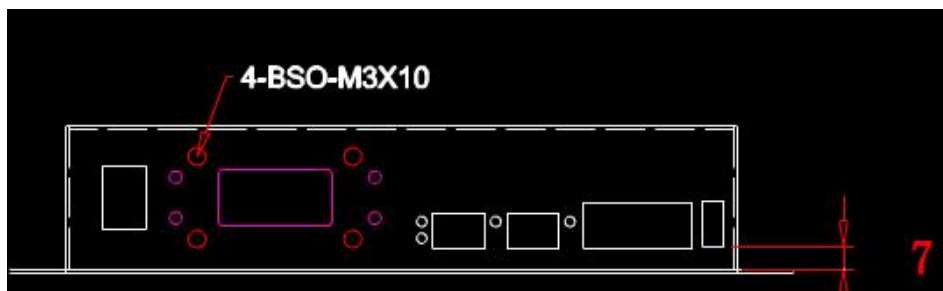


two. 4P terminal from left to right, signal sequence:

type	PORT DMX512				PORT SPI			
	1	2	3	4	1	2	3	4
	to	Data +	Data -	addressing	to	data	There is no	The clock
	GND	D+	D-	ADDR	GND	DATA	NC	CLK

Chapter three Controller Dimensions (note: in the dimension drawing, the unit is in mm)

One. Elevation view of SS-960RDM controller



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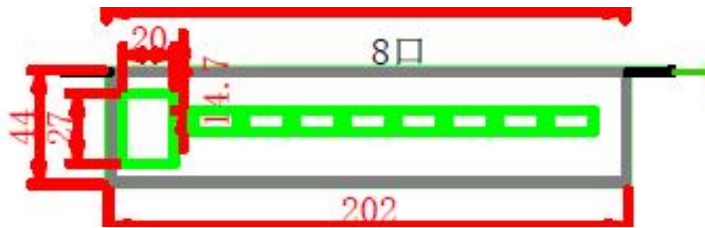
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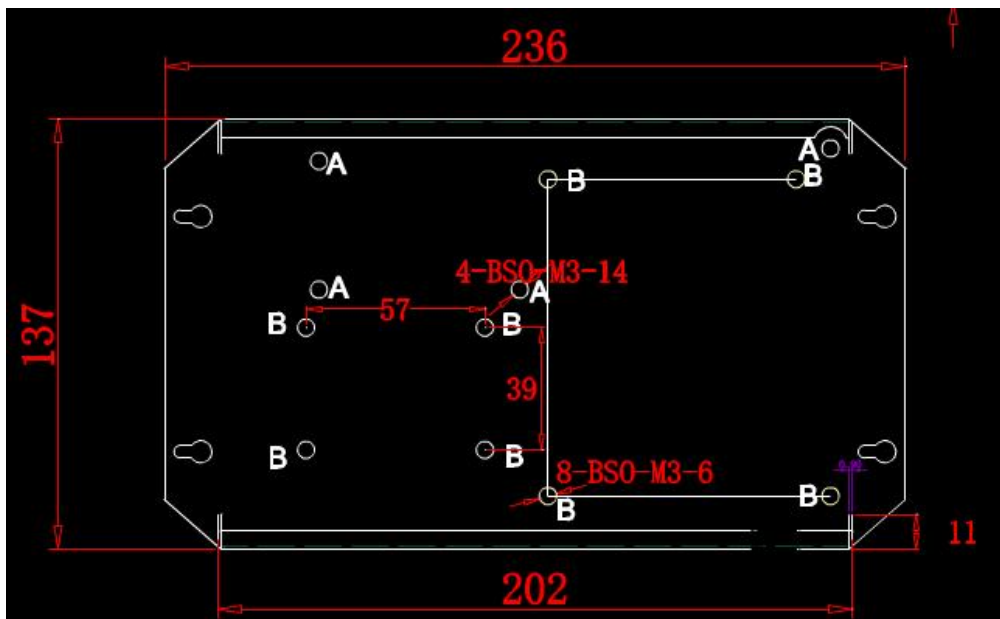
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Two. Ss-960rdm Controller Rear view



three. Top view of SS-960RDM Controller



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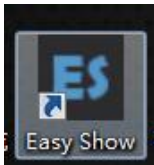
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Chapter four Instructions for EASY SHOW software

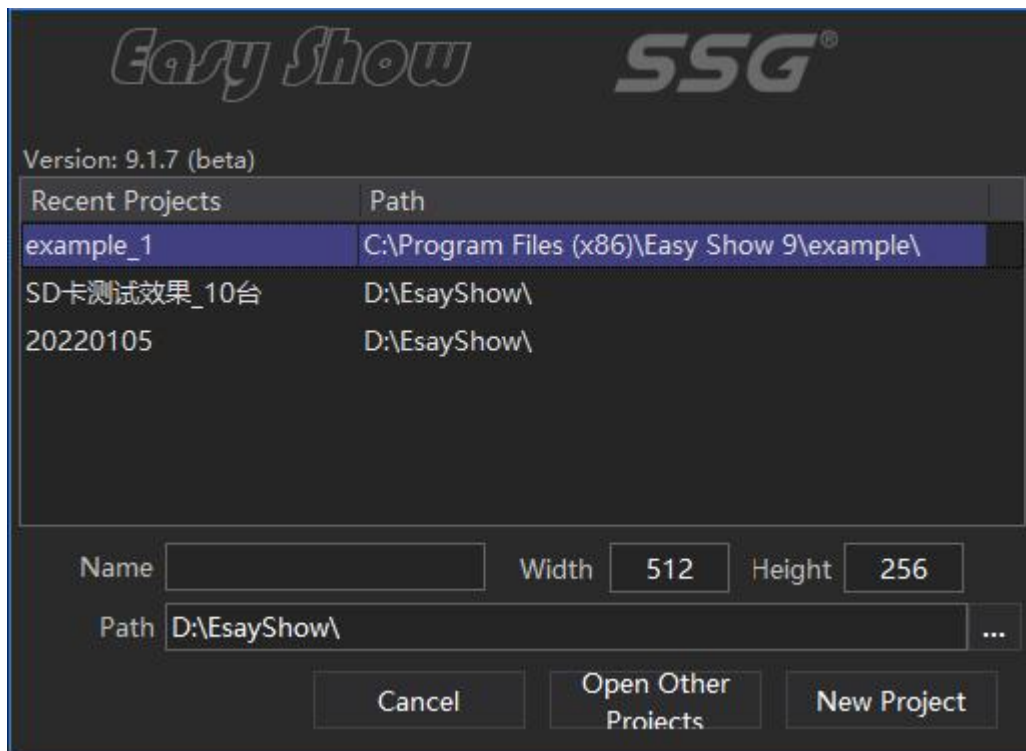
I. overview

Easy-show is the light control software developed by our company, with powerful functions, which is used for on-line control of the 960 controller. In order to SHOW the use of the software to you more simply and clearly, the following example mode is used to illustrate. Please refer to the "EASY SHOW Software Manual" for detailed function operation of the software.

One. Install EASY SHOW software and click open software;



II. Enter the project name, screen size (pixels), and click New Project;



III. Select fast new wiring in the pop-up function box;

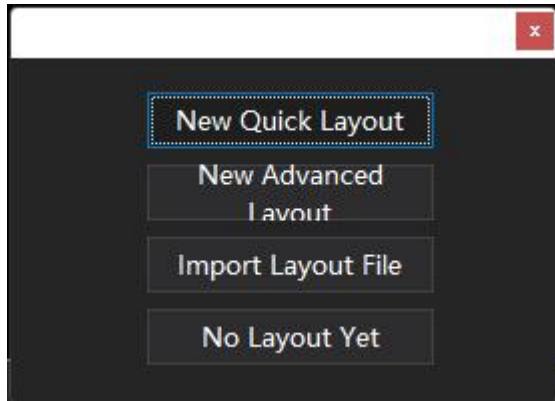
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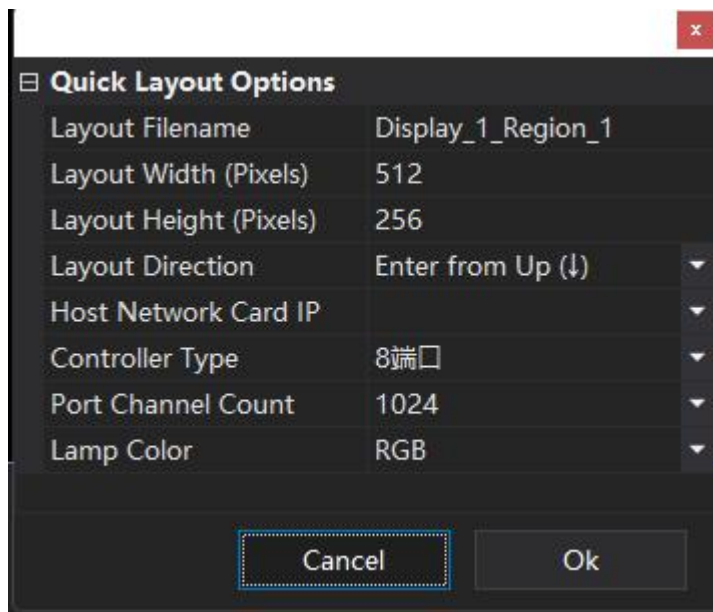
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IV. Select the host network card IP and other information, and click OK to enter the homepage. (If IP is not selected, after entering the software interface, the message window will prompt "Network initialization failed! Please check the network IP



address Settings ";

V. The software interface pops up after the file is created successfully;

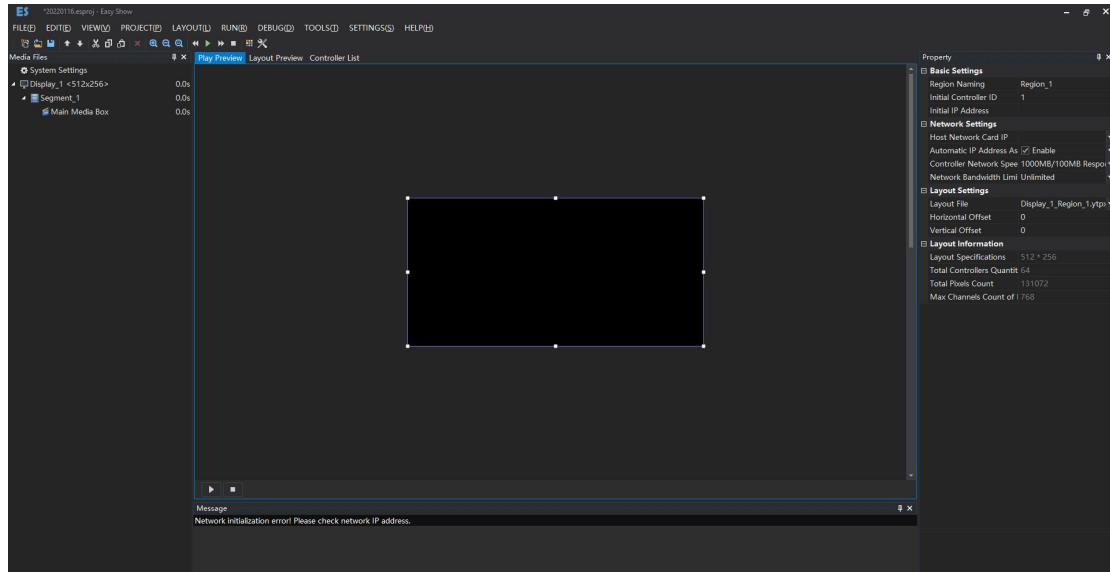
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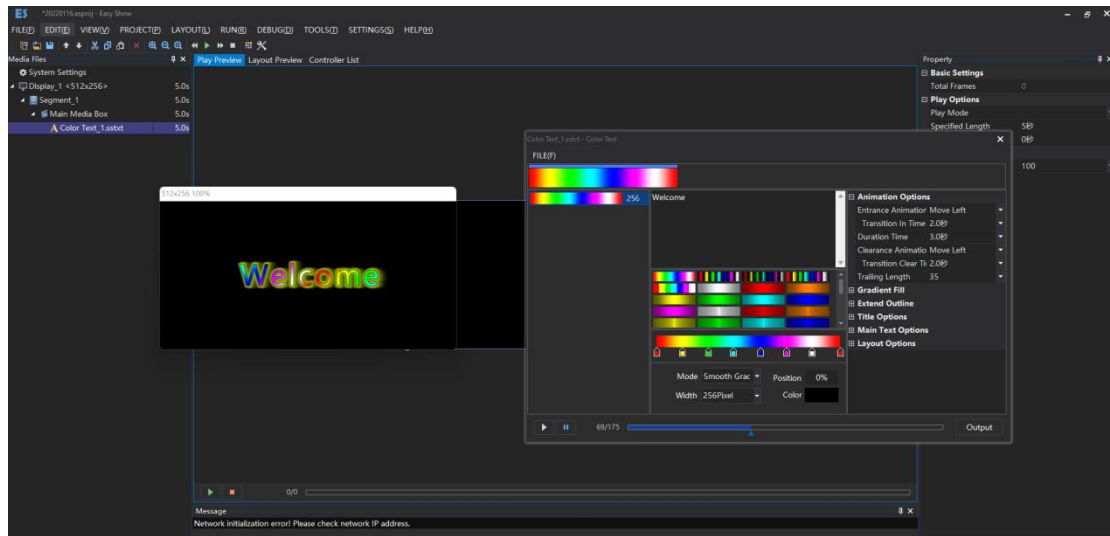
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VI. Create a new colorful text "Welcome", run left to right;



VII. Click output and the colorful text file is created successfully;

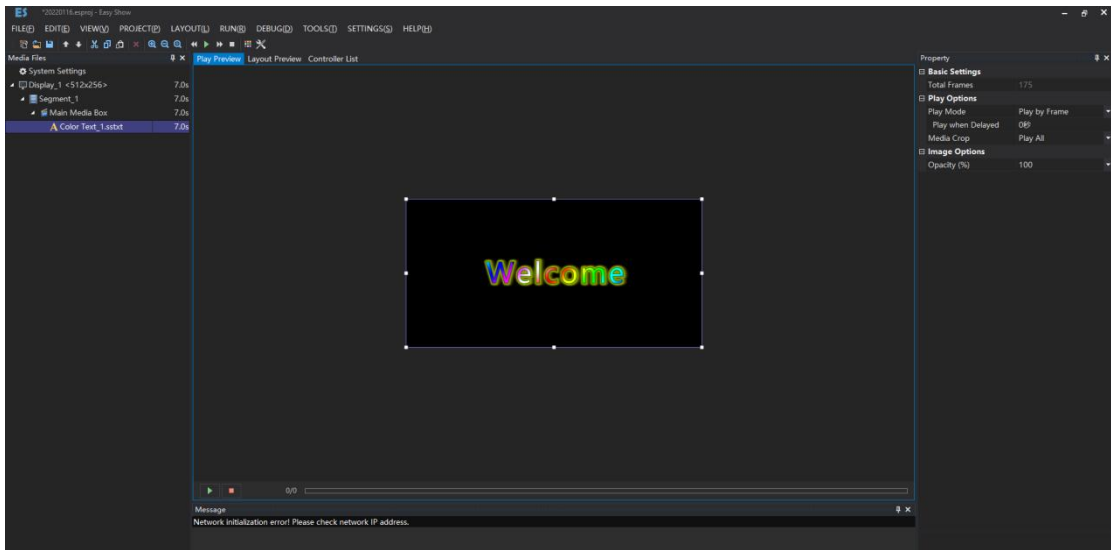
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VIII. Click preview "wiring", based on the rapid wiring way, in this instance wiring file has been generated automatically according to set, the file is 300 x 300 pixels, chooses 8 port controller RDM SS - 960, the software automatically generated 19 sets of controller wiring files, 18 units use all ports, the last one to use 12 ports, namely, $18 \times 18 + 12 = 300$, forming a 300 x 300 wiring files as shown in the figure below. Click "Controller Parameters" to set the lamp chip information and other relevant parameters, and save and output the file;

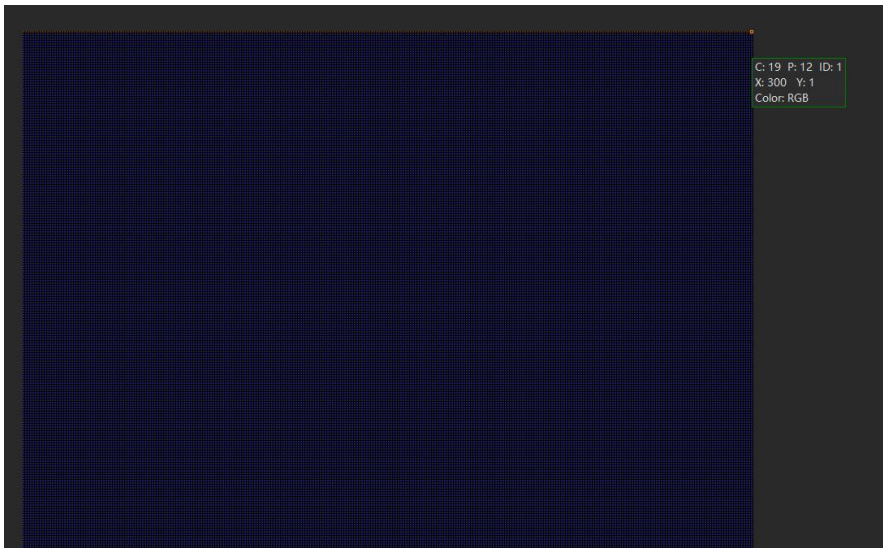
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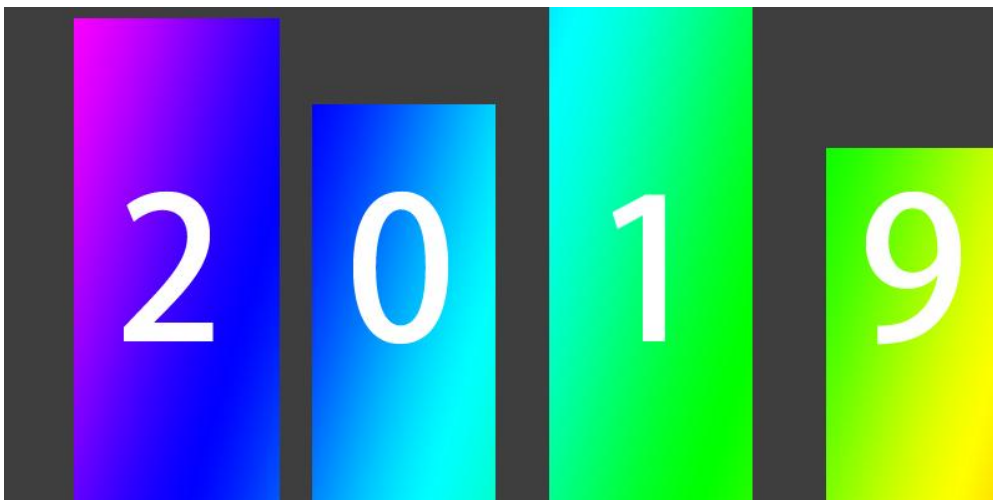
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IX. New advanced wiring example;



X. New advanced wiring instance, project file with 600×300 pixels screen size, file name "Advanced Wiring Instance", one lamp position is one pixel;

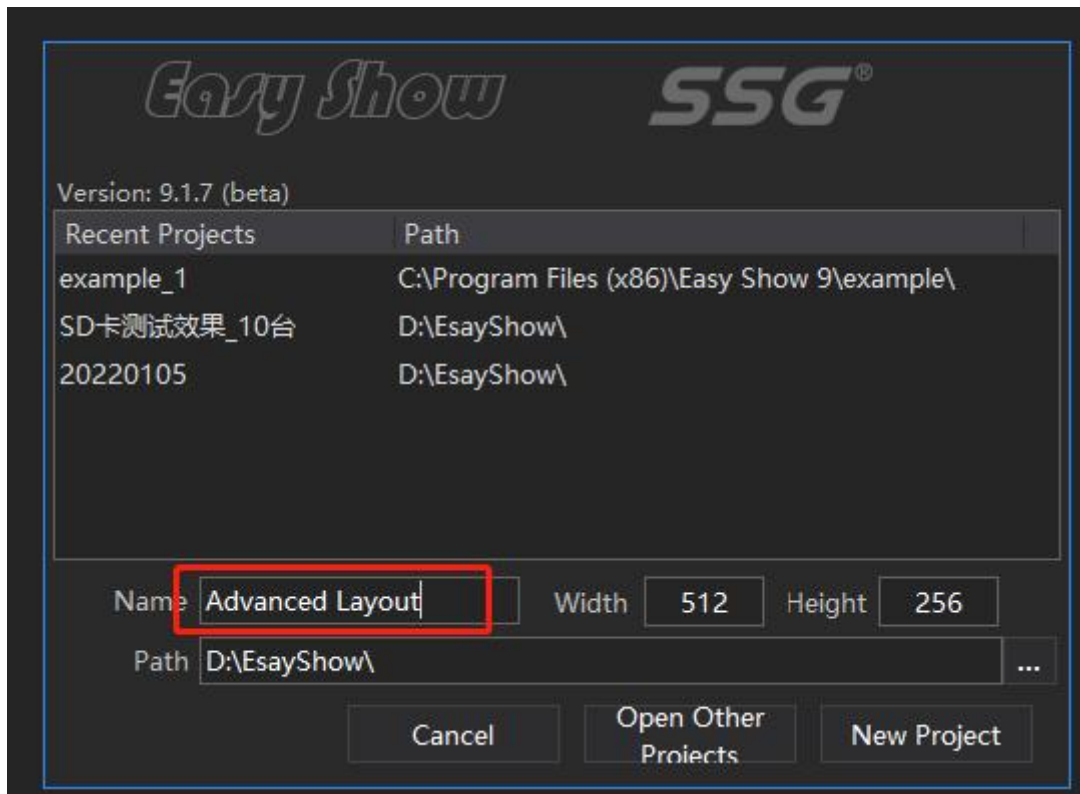
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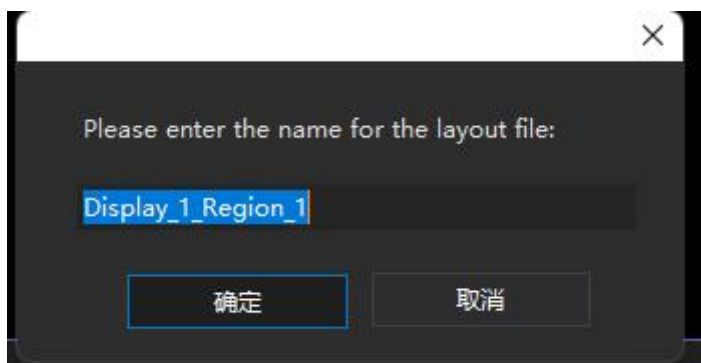
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XI. Click on the new project, the advanced wiring new information text box pops up, and enter the name of the new wiring file "advanced wiring display screen _1_partition _1";



XII. Set the properties on the popup "Project Settings" page. The example USES controller 960, the maximum number of channels per set is 4096, each set is 8 ports,

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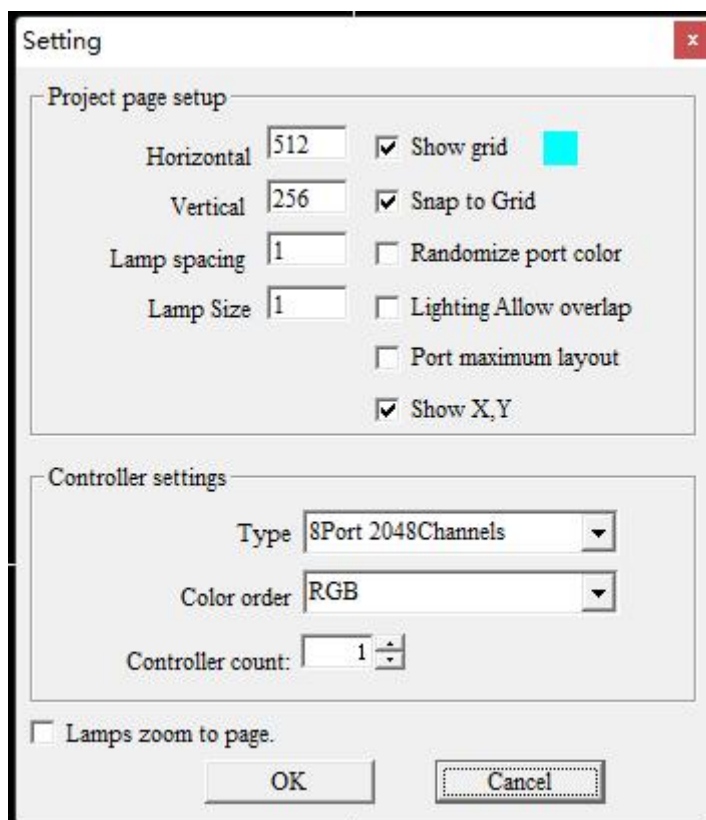
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the color of the project lamp control chip is set as RGB (three channels per light), that is, the maximum number of lights per port can be 1365. In the wiring file, each port control light is set as 300 (width pixels) × 4 (height pixels) = 1200 (all pixels), and the light is arranged in a rectangular way. The algorithm for the number of controllers is $600 \times 300 \div 1200 \div 8 \approx 19$ (sets).

That is:

Length (pixel) × width (pixel) ÷ the actual number of lights on each port ÷ the number of controller ports ≈ the number of controllers



XIII. Click OK to enter the Easy Layout page, select the image mask, and import the instance image as the background file, as shown in the figure.

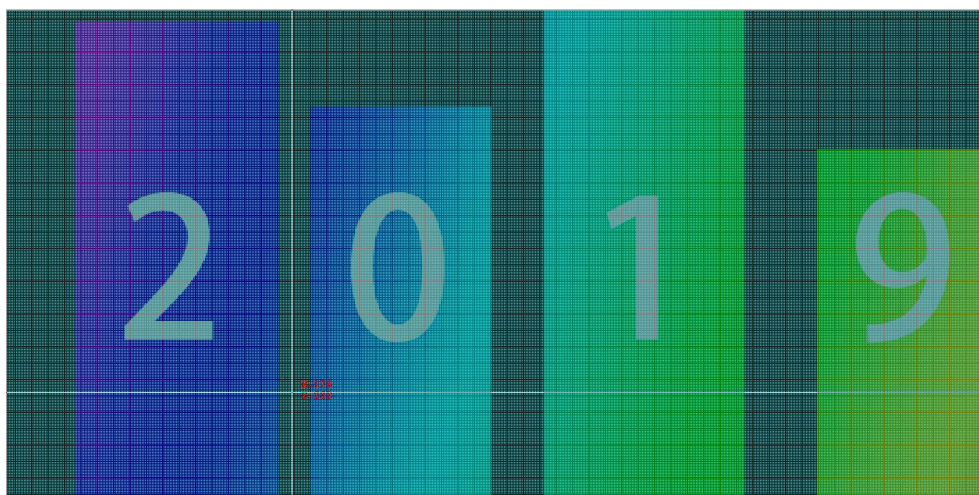
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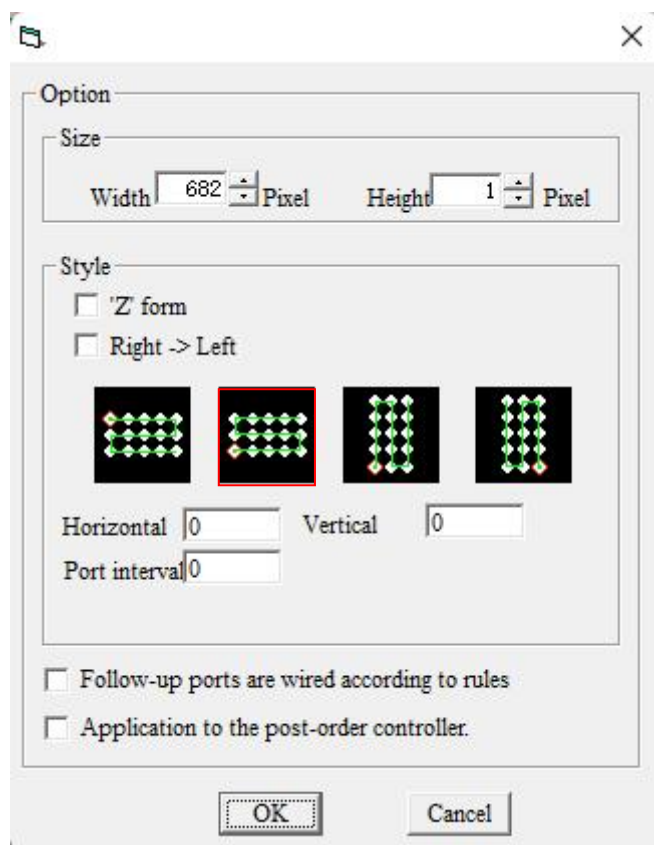
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XIV. Select automatic wiring according to the picture template of lamps, calculate the aspect ratio of wiring files of each port, and check the following sequence port for wiring according to rules, and set as shown in the figure below;



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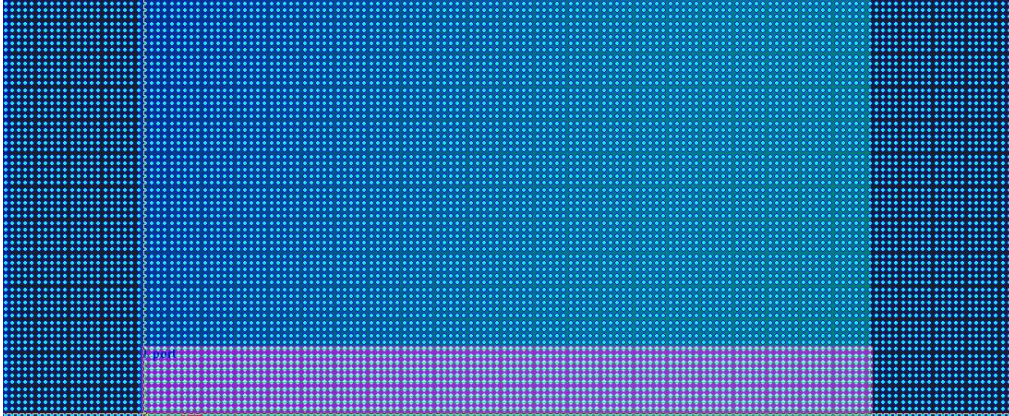
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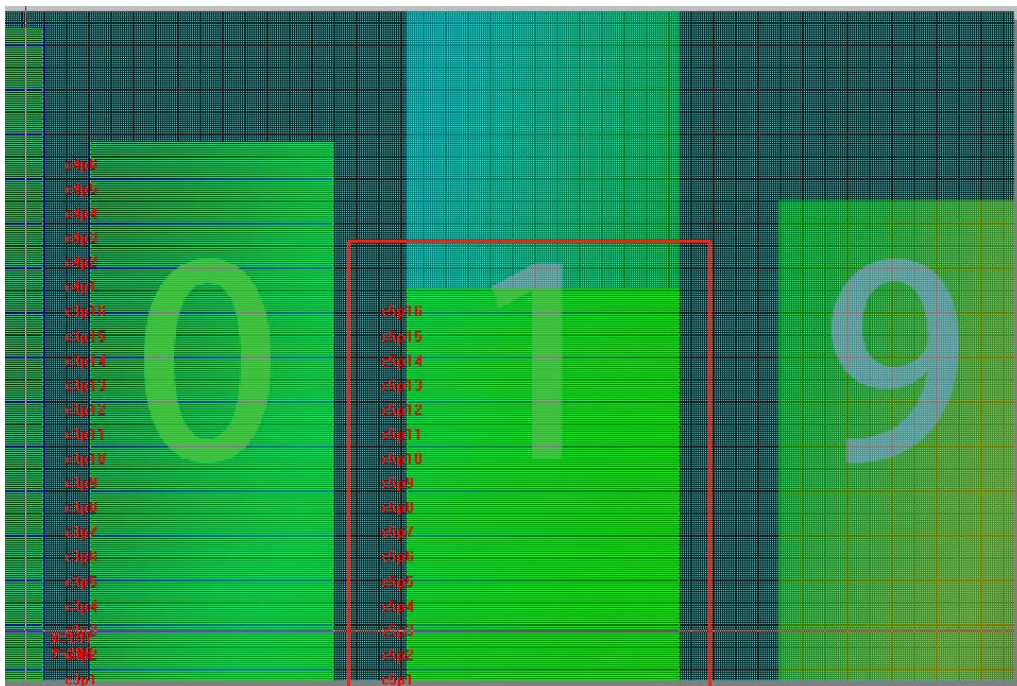
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XV. Move the wiring file to an appropriate location in the drawing area. The head light is located at the lower left corner of the building as shown in the figure below;



XVI. After the sequential ports are selected and wired according to the rules, all ports of the controller will be wired automatically, and all the 8 ports of the controller set are wired automatically, as shown in the figure below;



XVII. Wiring all buildings using automatic wiring;

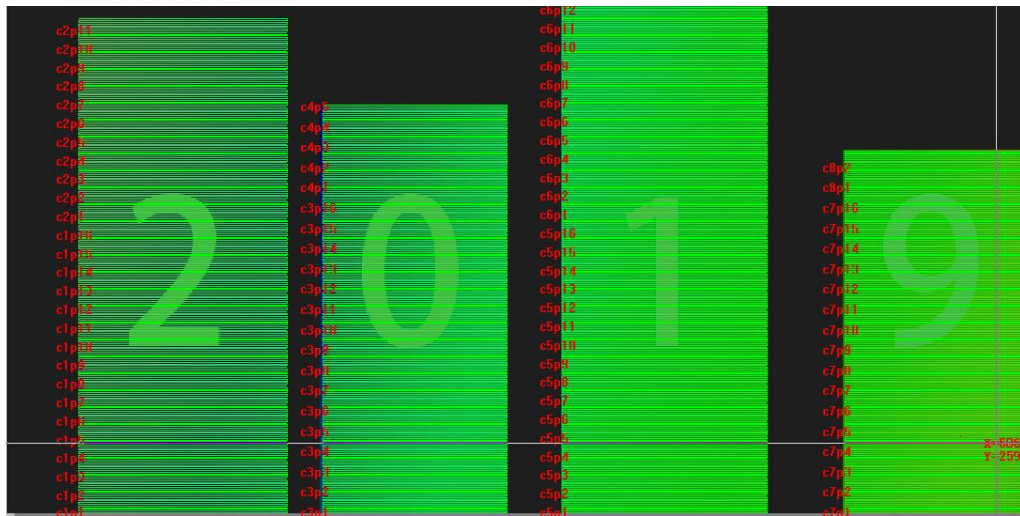
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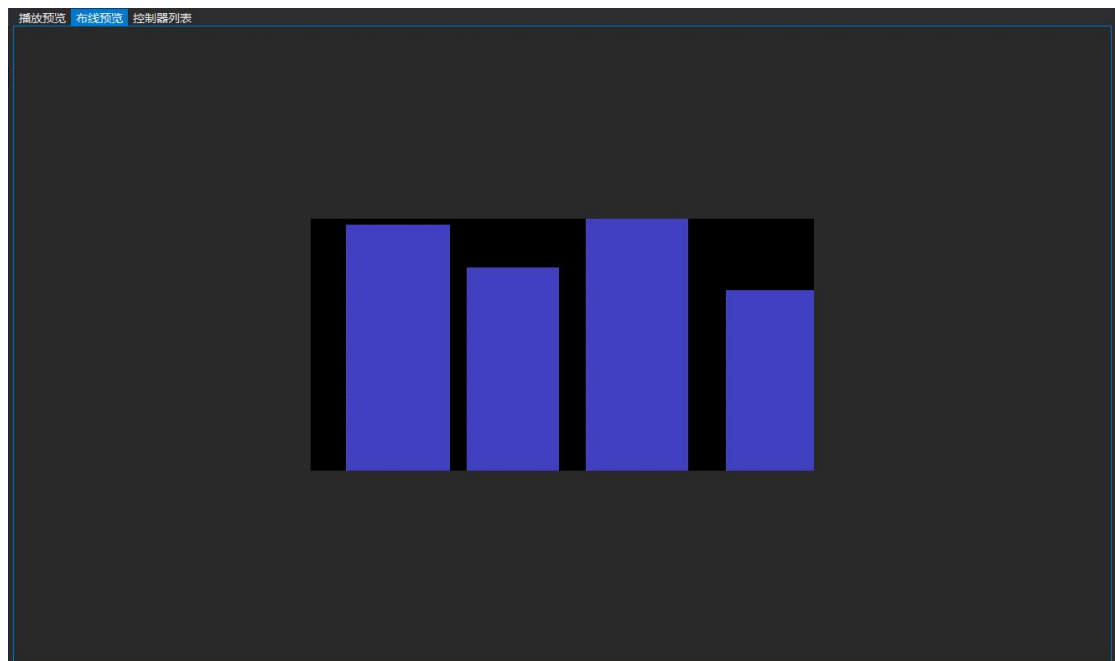
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XVIII.After wiring is completed, save the wiring file, which can be saved at the default file address or saved as a custom file address. Close the Easy Layout page.

Wiring preview window as shown in the figure below;



XIX.Click play Preview to create a new animation file. The setting method refers to the example of animation special effects production in section 5 of chapter

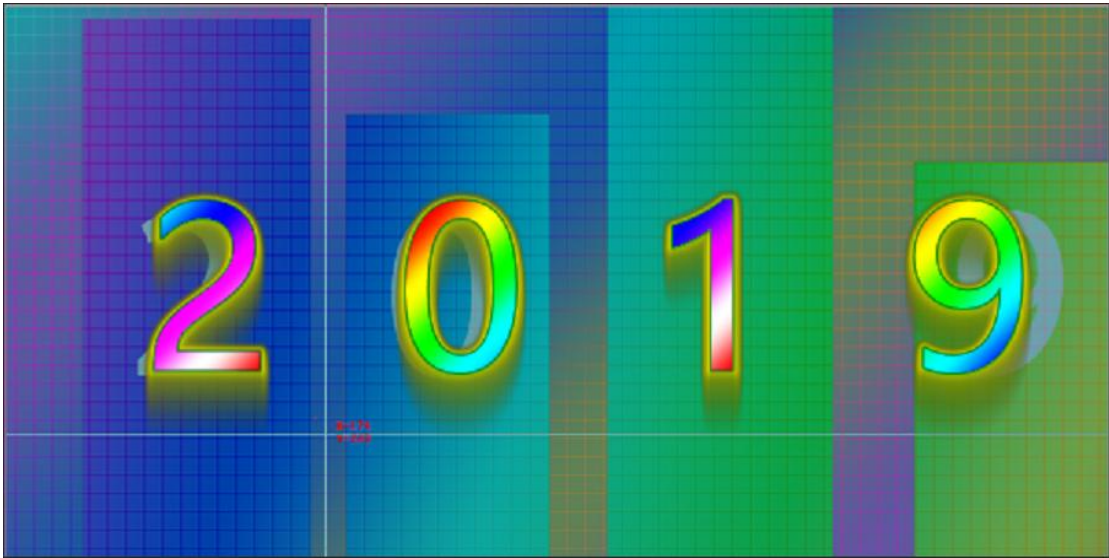
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Note: When setting the animation, you can import the picture file as the reference background to determine the display position.

Chapter five Usage Instructions of RDM-Manager software (for RDM lamps)

I.overview

Rdm-manager is a software developed by our company that supports RDM protocol. It can be used with the 960 controller and RDM lamps to monitor the status of the controller and RDM lamps in real time, address, write parameters and fault alarm of RDM lamps at the same time. **Software using step is roughly as follows, to ensure that the computer is connected the lamps and lanterns of good correlation and controller, open the RDM Manager software, according to the actual requirements of new projects, the land administrator account, ensure that the controller is for the online status, select the action bar in discovery of lamps and lanterns, the search of lamps and lanterns to complete sets the system parameter setting and lamps and lanterns again, finally open**

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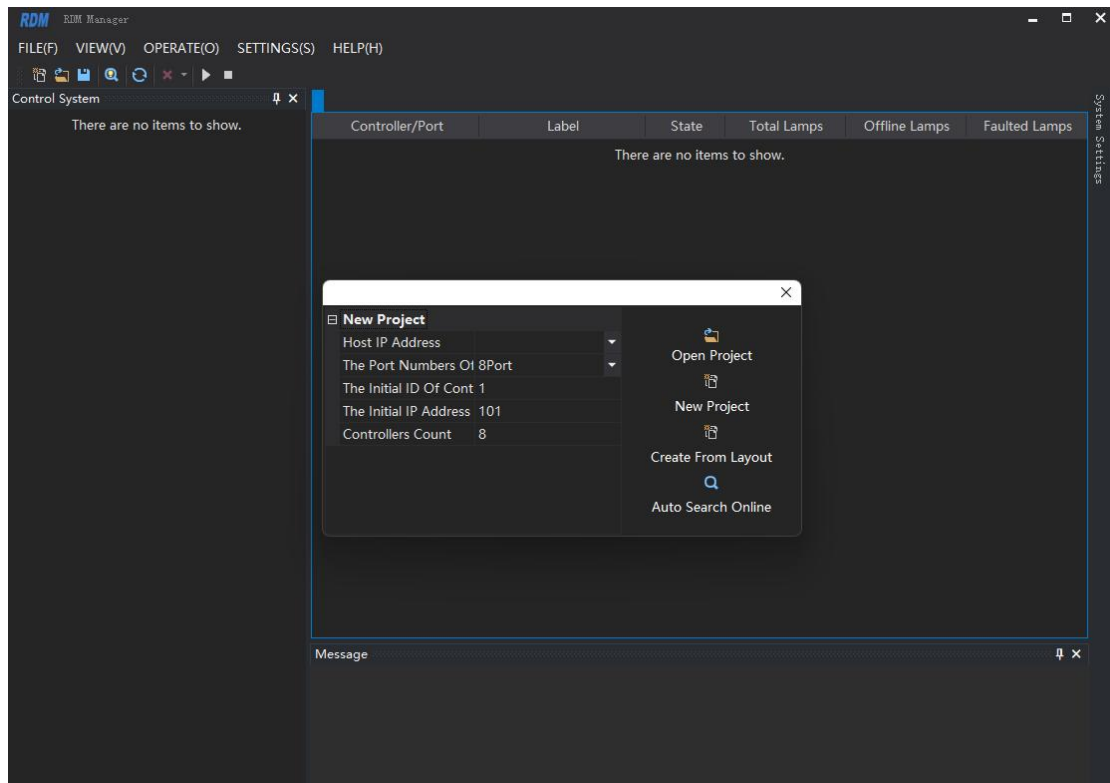
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real-time monitor, if the defective controller and lamps and lanterns, the message board will give the corresponding error log, and fault news to fill in the email. Each of these steps is described in detail below.

One. Install EASY SHOW software, click open RDM Manager after downloading;



II. Open the home page, first create a new project, set host IP, controller port number (SS-960RDM is 8 port, pay attention to 8 port), start ID, start IP address and total number of controller, or choose online automatic search.



III. Log in administrator account, enter password (ssg) , and click OK;

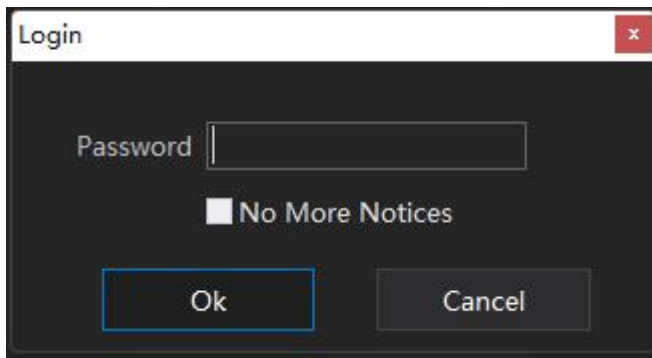
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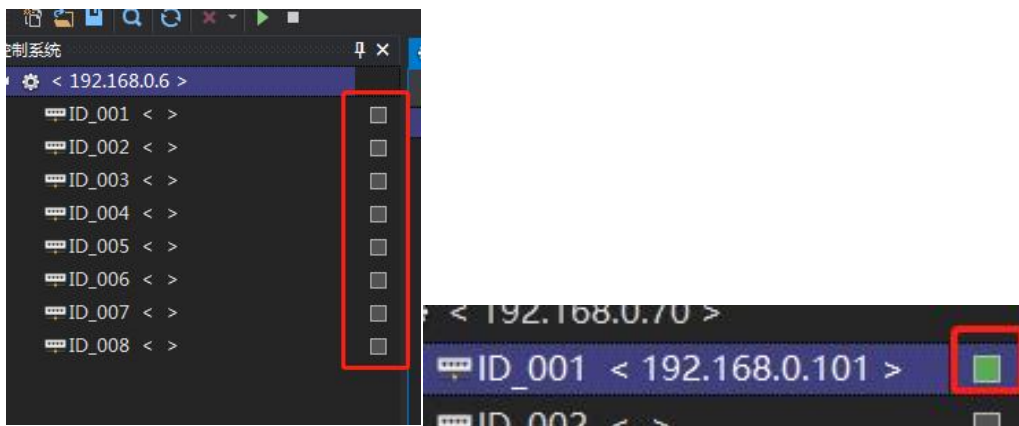
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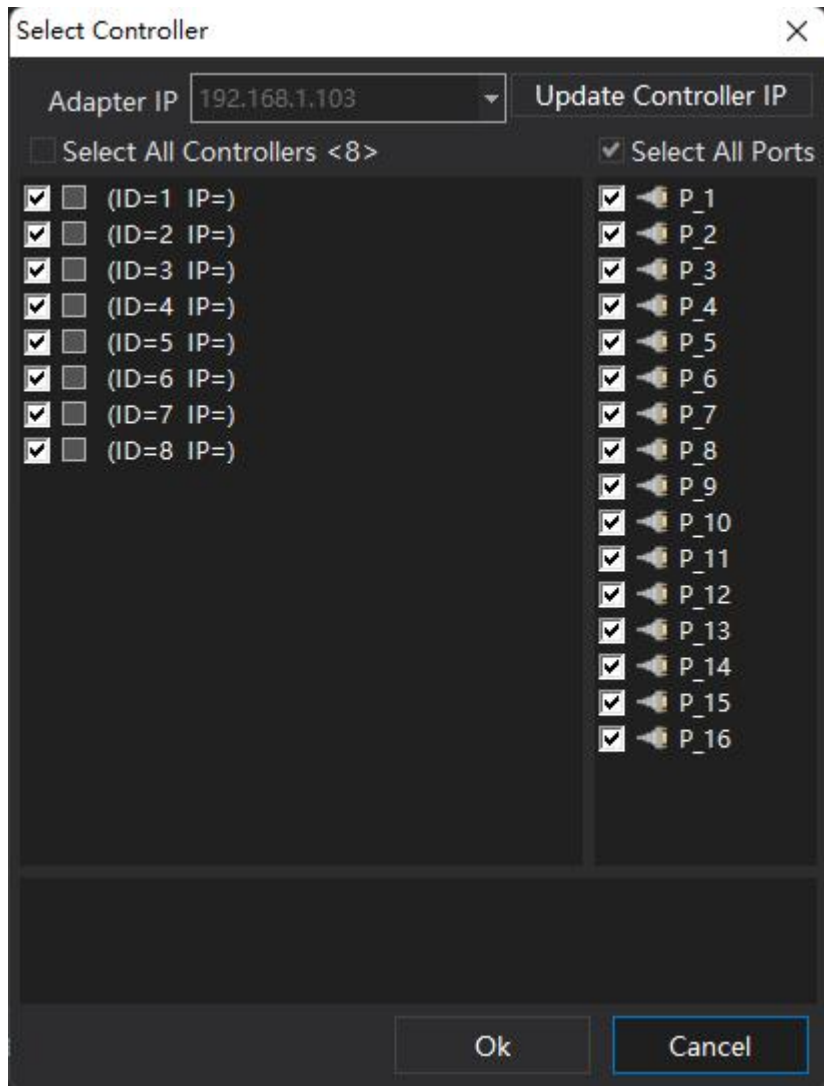
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IV. Connect the controller to the computer. After successful connection, the square on the right of the controller ID will be displayed as green and the status as √. If it is not online, it will be displayed in gray with a state of × (the left figure is unconnected and the right figure is connected). ;



V. After the controller is connected to the lamp, select the lamp in the operation menu and click OK.



VI.System setting: Select the corresponding parameters according to the project requirements;

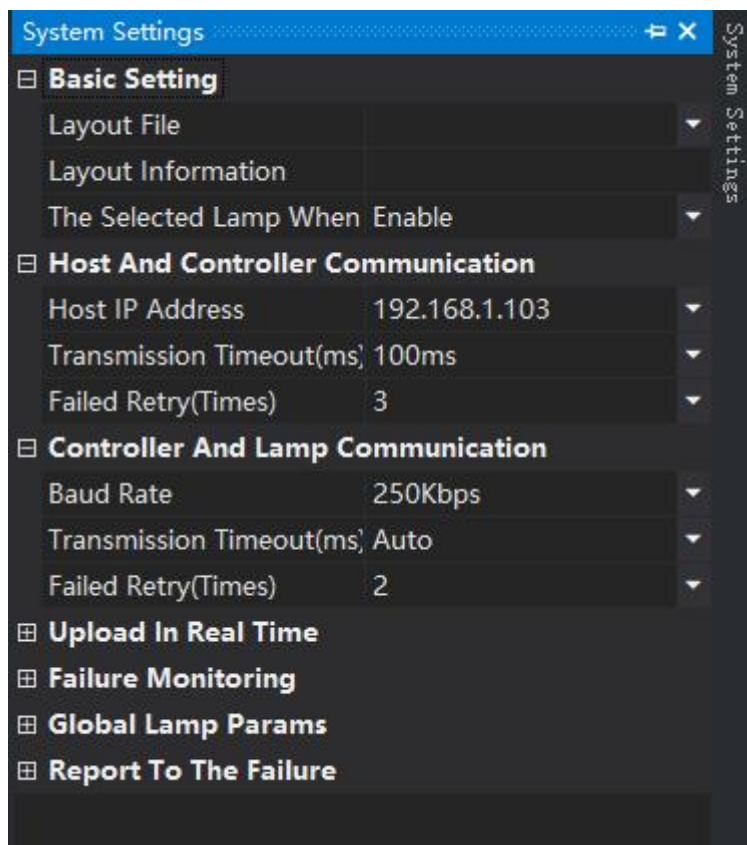
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The parameter of "Controller and lamp communication" is used to set the timeout time for the controller to allow the lamp response. Auto is the maximum response time defined in accordance with the standard RDM protocol. **The drop-down list can be used to select a specific time to increase compatibility with other non-standard RDM lamps.** In addition, when the real-time monitoring is started, if any fault is reported to the filled mailbox, the mailbox type supports 163 and QQ (note: the SMTP of the mailbox needs to be opened, please refer to the DOCUMENT of the SMTP opening method);

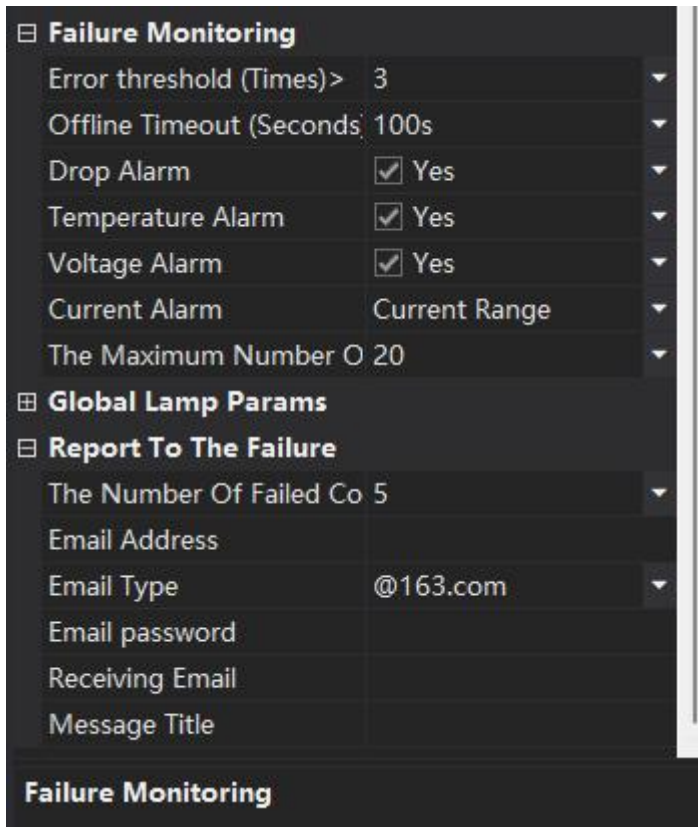
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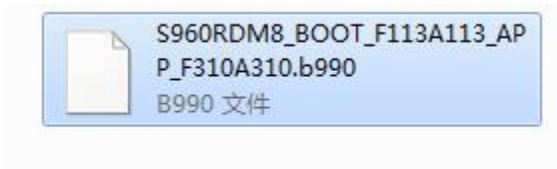
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VII.Controller firmware upgrade: select the path where the firmware is and click "Ok". Pay attention to the format of the upload.



VIII.Controller reset IP: Click and the following window will appear. Click yes to reset.

IX.Controller Sort and Reset ID: Enter the reset ID at the start ID, click Start Addressing, and the screen ID of the controller will change after successful

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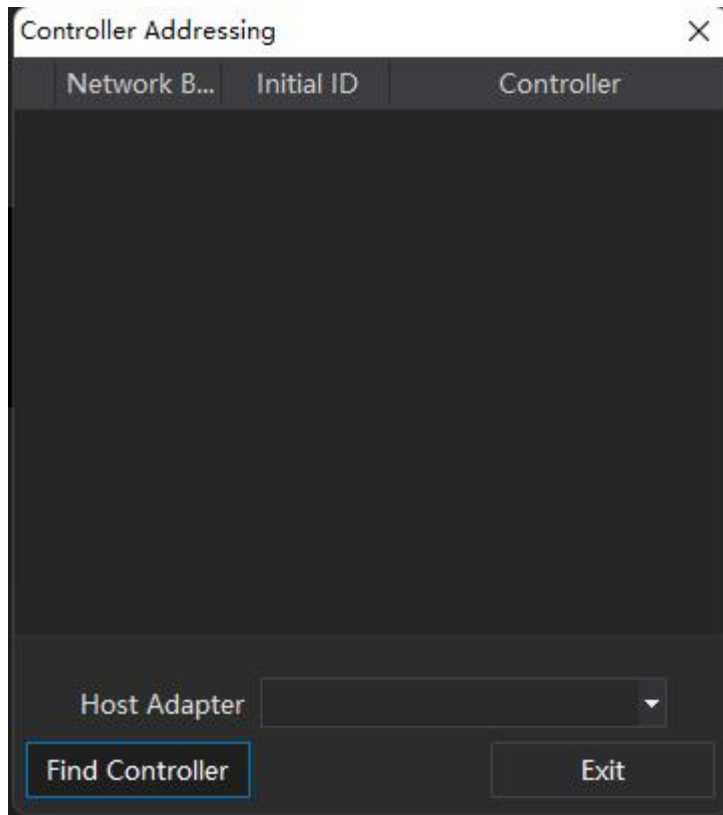
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addressing.



X. Parameter Settings

XI. Select a chip model;

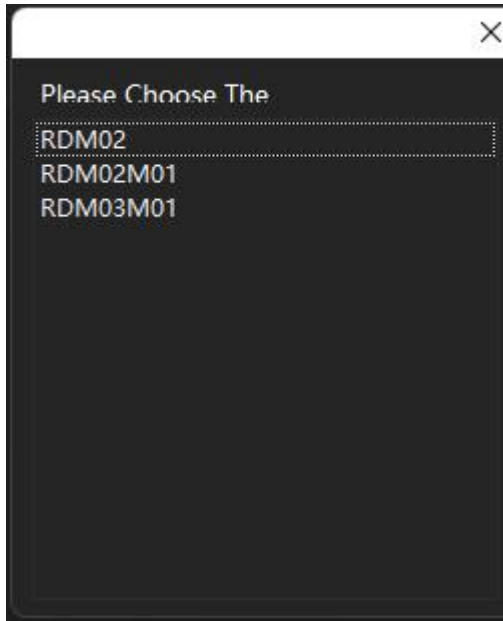
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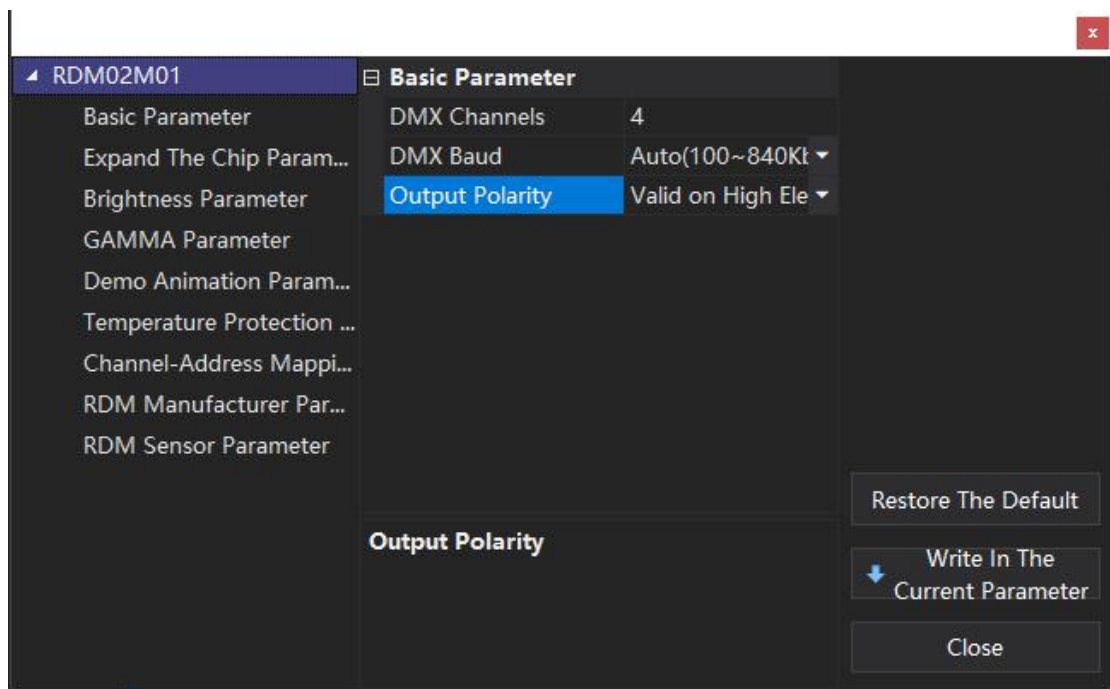
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XII. Basic parameters: select the number of channels on the chip; adaptive or 250Kbps can be selected for the baud rate; high or low level can be selected for the output polarity; click write parameters after the selection, and the corresponding prompt will be given if the writing is successful;



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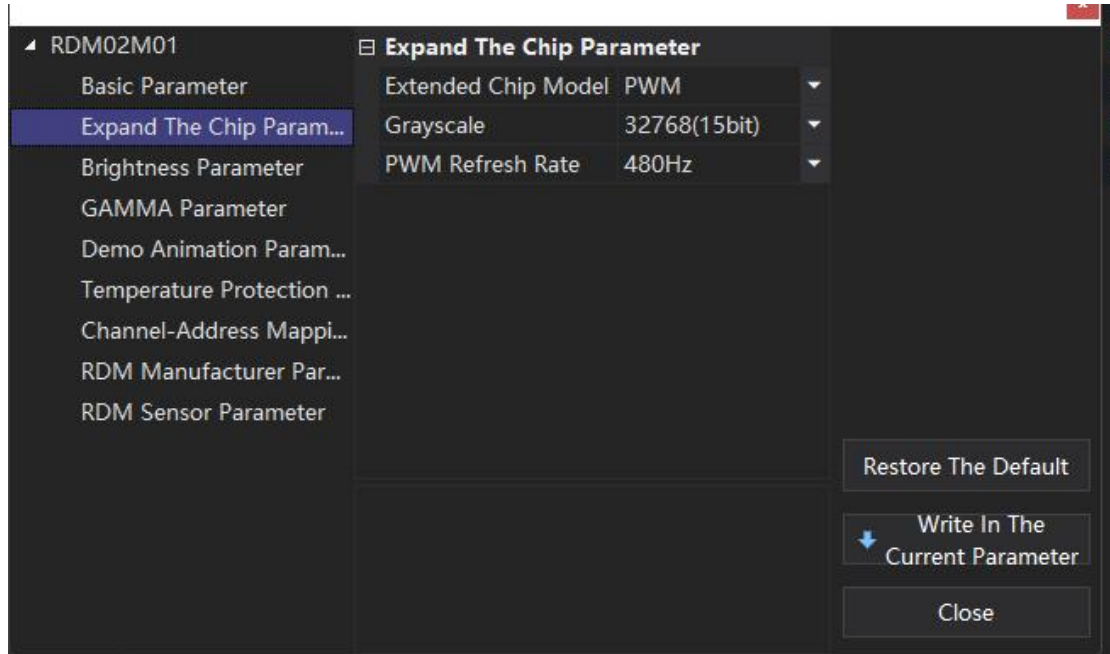
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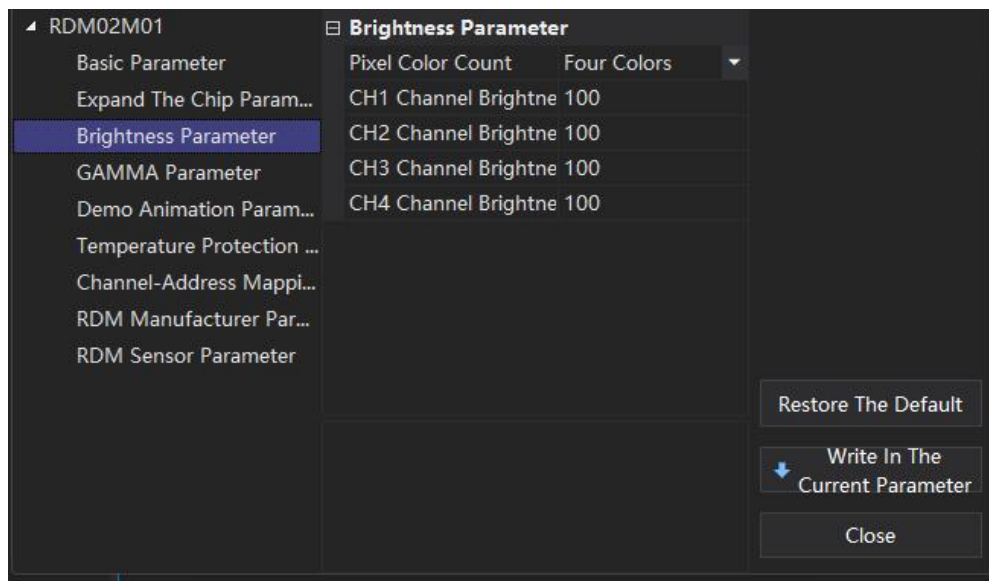
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XIII Expand chip parameters, select a chip model, and set its gray level and PWM refresh rate;



XIV. Brightness parameters: the number of colors is monochromatic, two-color, three-color, four-color, five-color and six-color. The brightness colors of each channel can be adjusted according to the requirements of the project;



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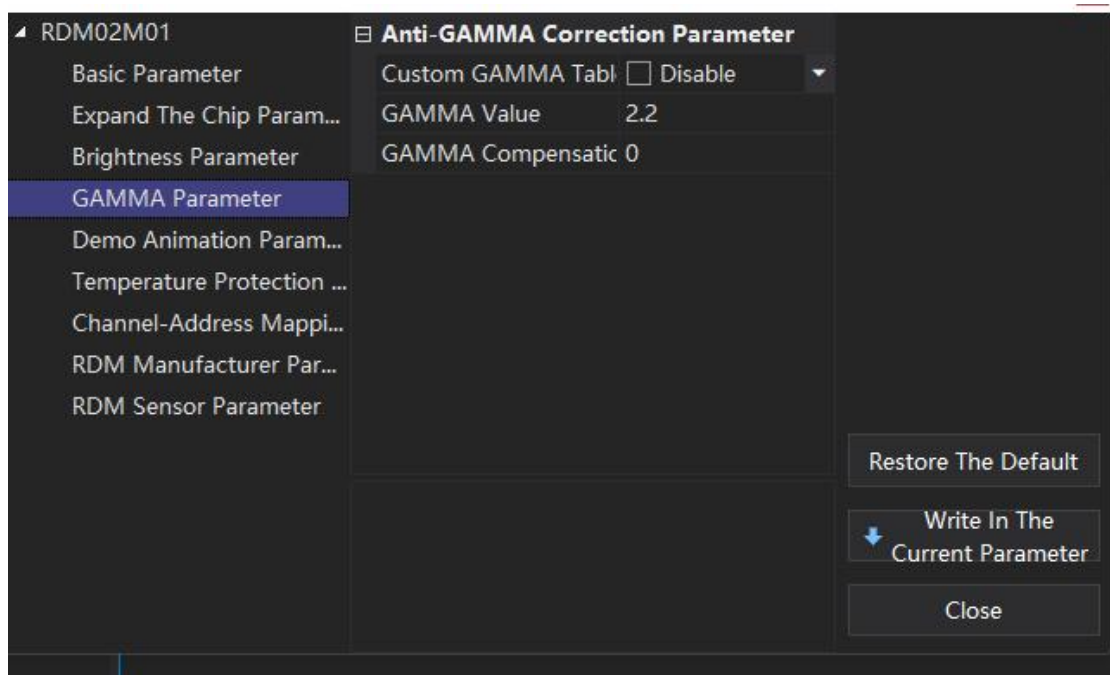
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XV. GAMMA parameter: The GAMMA value defaults to 2.2. If you need to customize the GAMMA table, choose to start into the GAMMA table for setting;



Input(0~255)	Output(0~65536)
0	0
1	1
2	3
3	5
4	8
5	12
6	18
7	25
8	33
9	43
10	54
11	66
12	80
13	95
14	112
15	130

(Figure: Custom GAMMA table)

XVI. Self-check animation parameters: Set the self-check animation parameters to observe whether the lamp is damaged or no signal state;

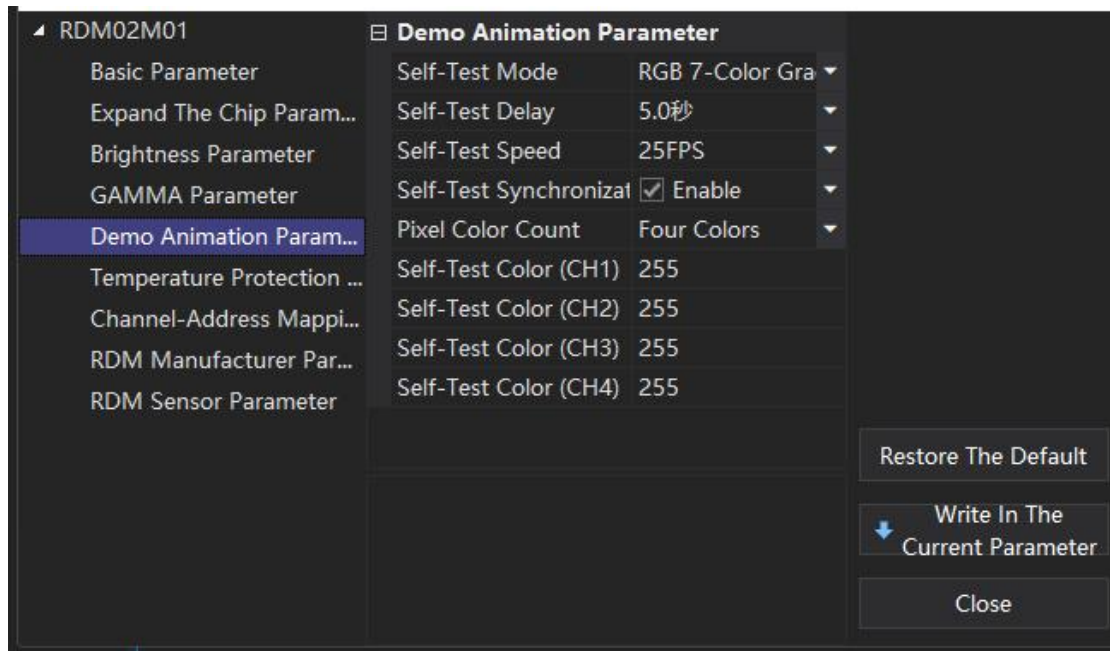
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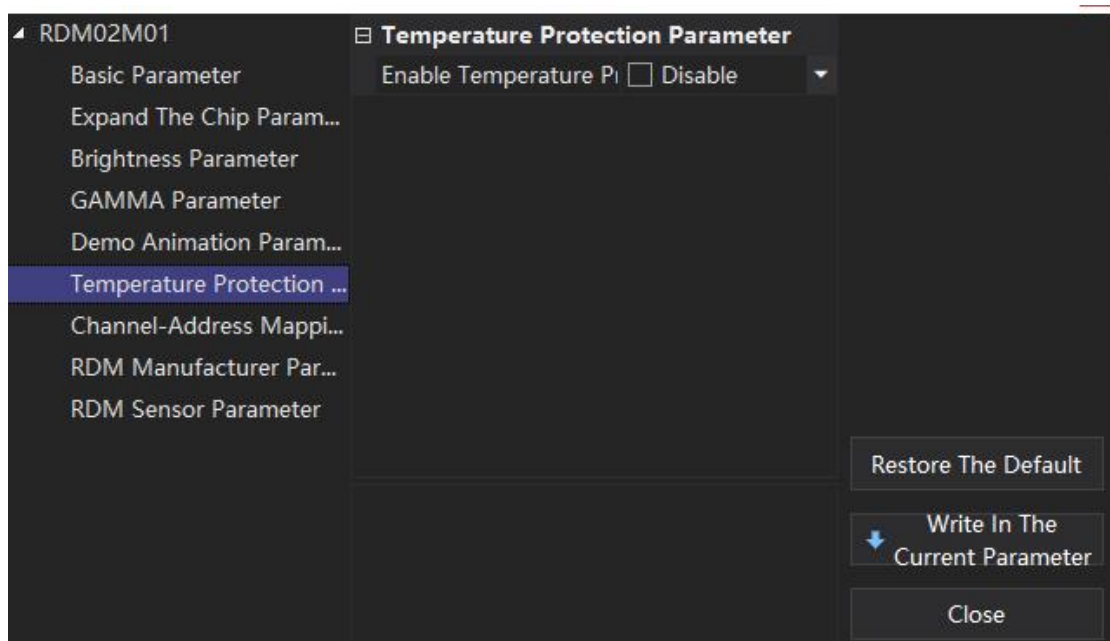
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XVII. Temperature protection parameters: start the temperature protection function, set the half power output temperature and turn off the lamp temperature. When the temperature exceeds the set value, the lamp will automatically turn off;



XVIII.Channel address mapping parameters: After enabling, the relationship between DMX address and output channel is defined by the address table, and

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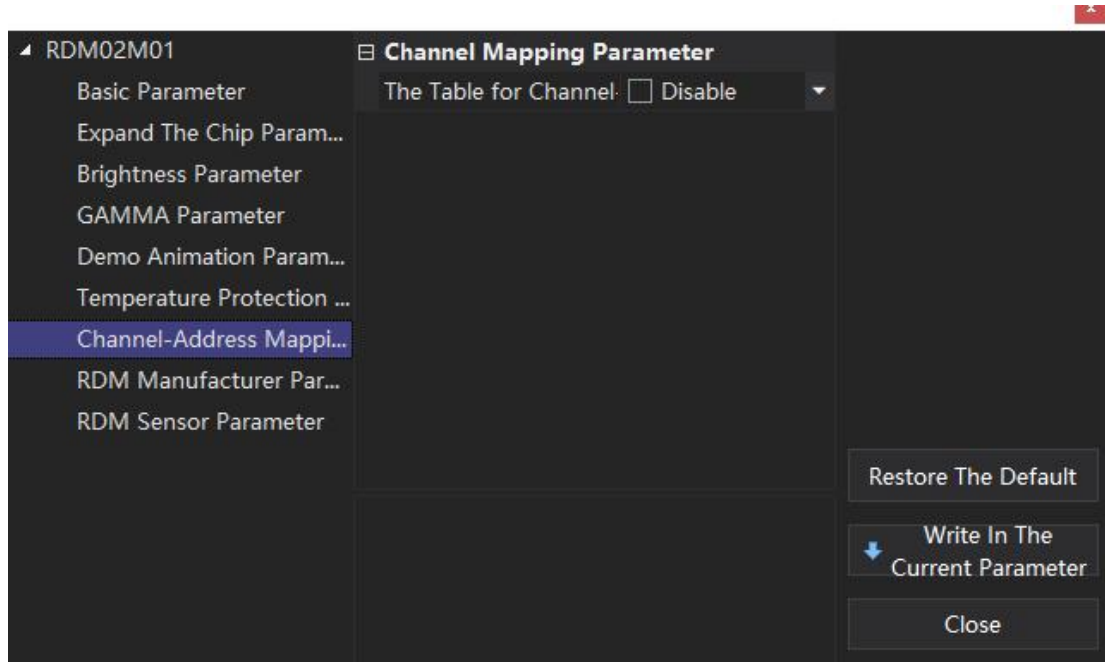
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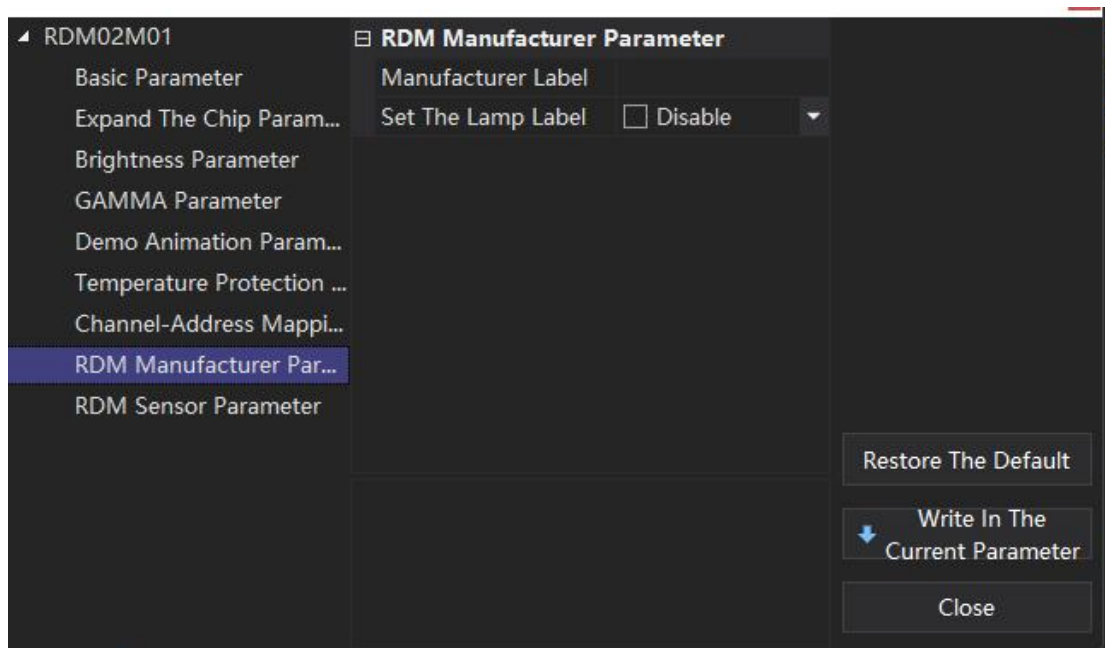
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64 channel output is supported at most;



XIX. RDM manufacturer parameters: The manufacturer label can be entered manually, and the lamp label and running time Settings can also be set after being turned on;



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XX.RDM sensor parameters

Rated temperature range: According to the actual project concerned temperature setting;

Rated voltage range: Set according to the power supply voltage of the actual project lamps;

Rated working current: Set according to the current of the actual project lamps;

Voltage divided voltage resistance, voltage divided voltage resistance: need to write according to the actual value of the circuit, the choice of resistance value refer to the design.

Current feedback resistance, current grounding resistance, current sampling resistance: it needs to be written according to the actual value of the circuit.

The selection of resistance value should refer to the design.(Note: For RDM03M01, only one current sampling resistance can be set (written according to the actual value of the circuit), while other resistance Settings are fixed, so the software can't be set for the ash state. The left figure is DMX02R, and the right figure is RDM03M01.)

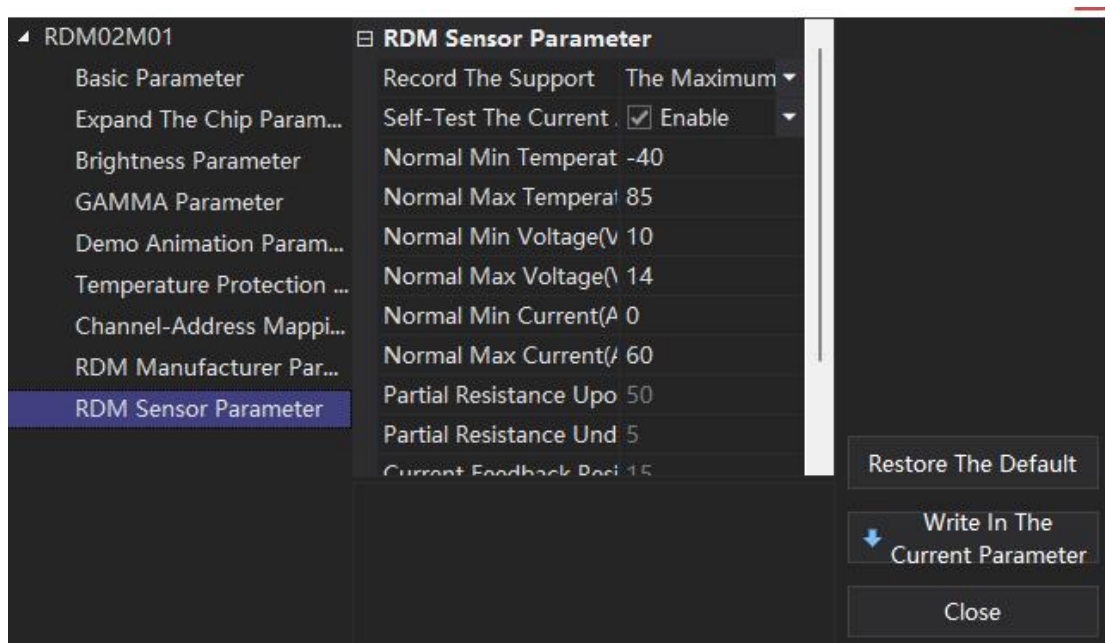
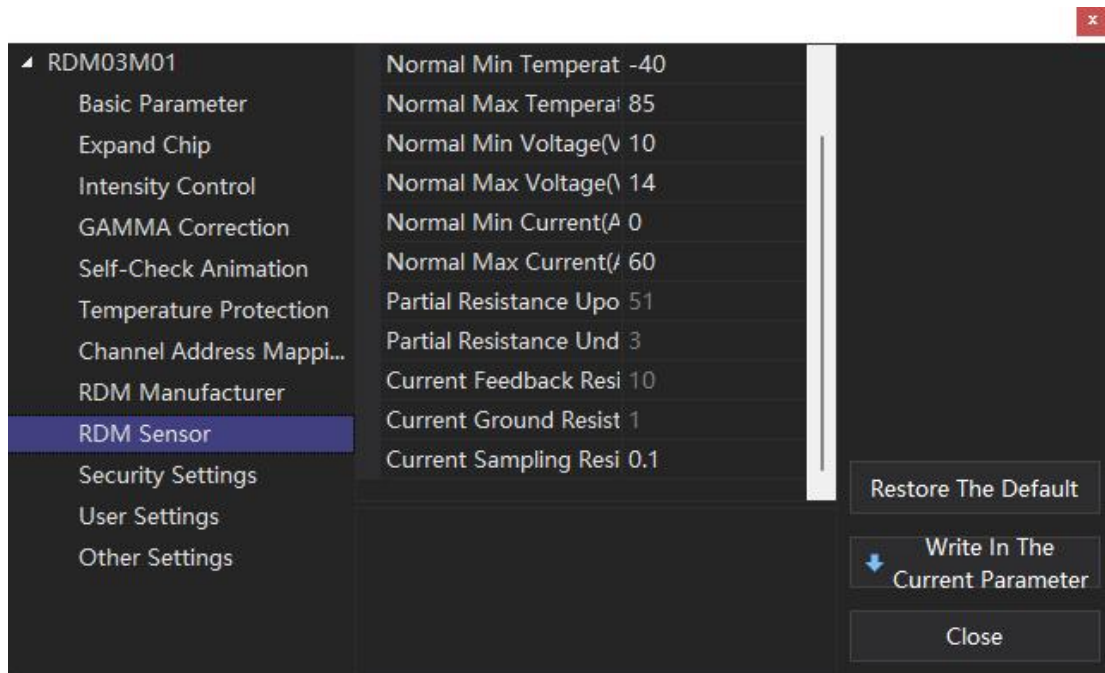
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Ten.one.one Security Settings (RDM03M01 chip) : The parameter write protection is divided into primary write protection and full write protection. The primary write protection cannot write other data except DMX address and device label, and all write protection is forbidden to write all parameters;

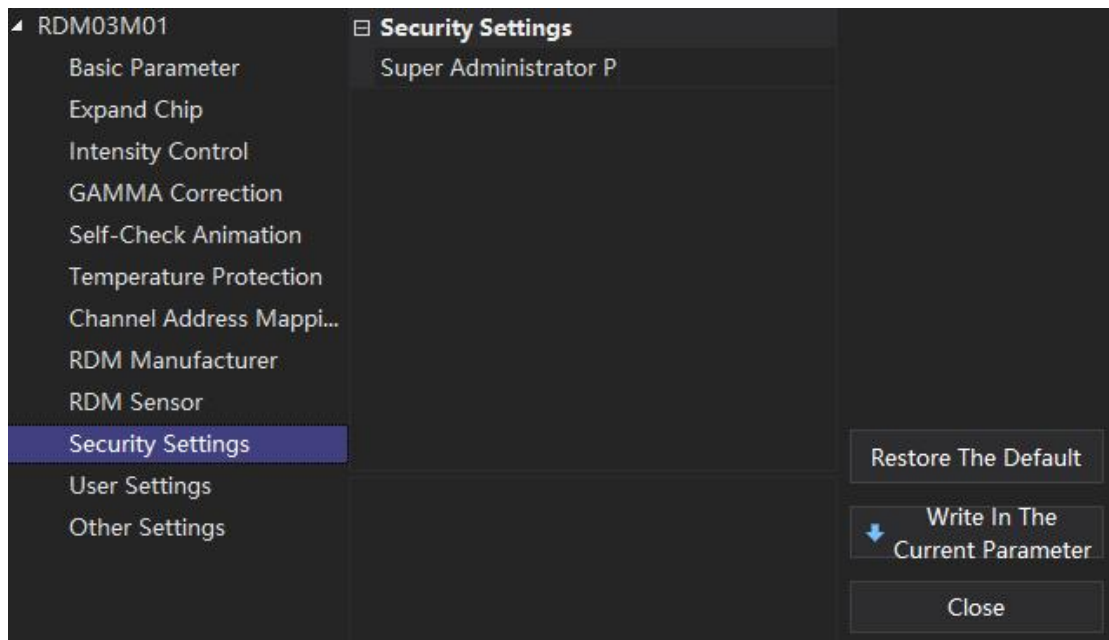
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XI.two User setting (RDM03M01 chip) : start and limit working time, setting time in hours;

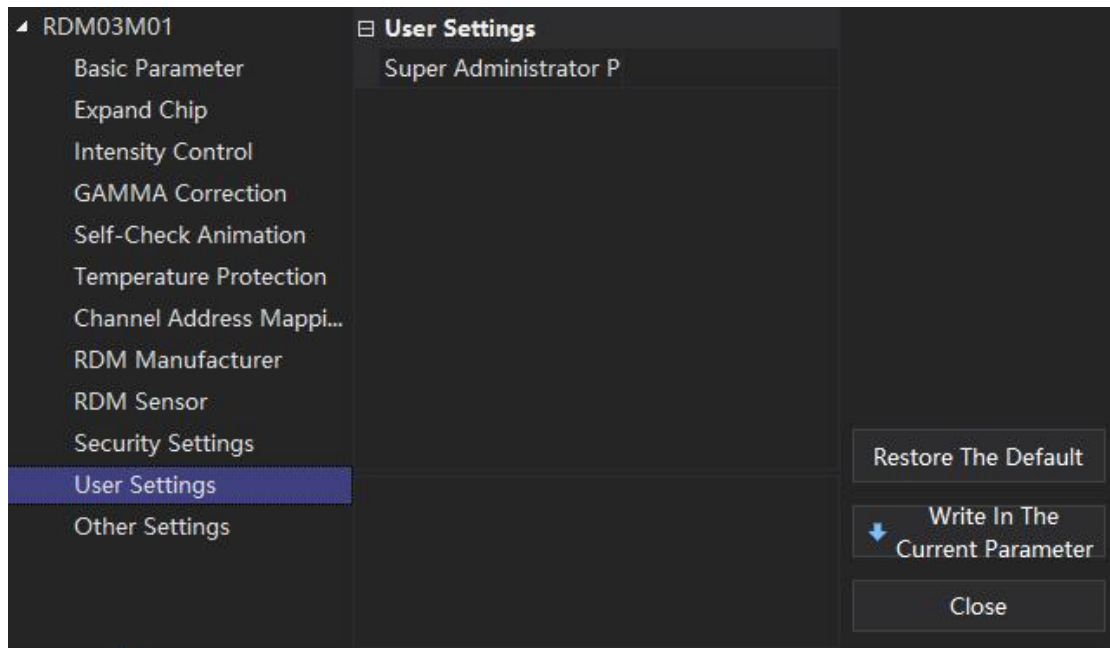
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XII.three Generate burn file: Select the path of APP firmware and click ok to generate burn file.

(Note: After setting the content of each page, please click to write the current parameter separately.)

Chapter six Factory configuration

- I.Ss-960rdm controller;
- II.The power cord;
- III.The description;
- IV.User manual;
- V.Warranty card.

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Chapter seven Matters needing Attention

- I. Cut off the power supply before installation to avoid electric shock;
- II. Before debugging, check whether there is a short circuit in the external circuit, so as to avoid the decline of product components and the failure of normal use;
- III. When debugging and using the controller, pay attention to waterproof, anti-steam, anti-knock, otherwise easy to cause faults and electric shock;
- IV. We shall not disassemble the products without our consent.
- V. Customers are requested to connect, operate and use the products in accordance with our company's product instructions. In case of any violation of our company's product instructions,

Our company will not be responsible for any product failure.