

# M-C8 Controller Instructions



## Functional overview

### 1. System characteristics

1. The maximum load supports 200,000 pixels, which greatly meets the needs of customer projects.
2. The controller has keys, which can realize program segment selection, overall brightness adjustment, white balance adjustment, playback speed adjustment, etc.
3. Support offline one-key writing code, clear the separate control ID number, convenient for on-site application.
4. Three basic color independent brightness control, make the precise adjustment of white balance more simple and effective.
5. Controller integration, support serial (TTL signal) and DMX512 (differential signal), you can select the chip respectively.
6. The controller supports offline and online control, priority selection, first identify the network, no card reading.
7. Support four-color lamps (RGBW): energy saving and environmental protection, pure color.
8. Stable transmission by Ethernet interface and UDP network protocol, with a maximum transmission distance of 100 meters;
9. The LCD display module displays the controller parameters and status in time for convenient operation.
10. SD card storage, the controller can support up to 32G, can be preset up to 99 program files.
11. Add the function of modifying channels, so that the overall picture synchronization can be realized in the use of multiple channels.
12. Built-in animation test program is convenient for customers to debug and apply in the project.
13. Can be fixed ID, support different types of lamps and different protocol lamps mixed use, strong compatibility.
14. Support split screen operation to achieve convenient effect.
15. Add the encryption protection function to ensure the security of the controller and prevent other personnel from modifying it without authorization.
16. Support GPS synchronization and RF synchronization.

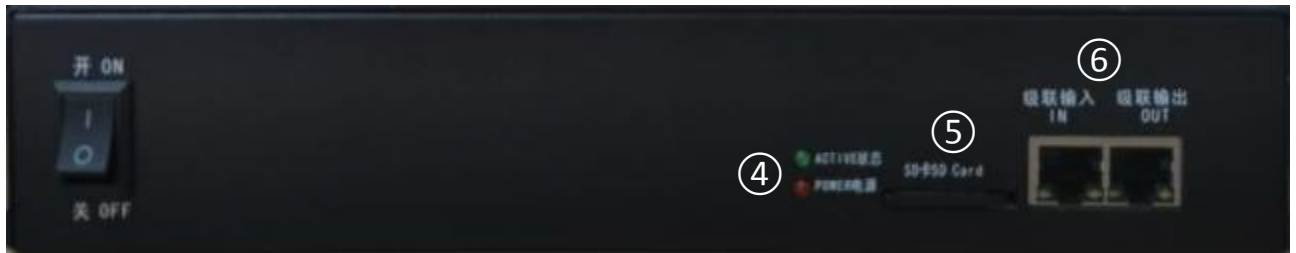
### 2. design philosophy

1. System signal bidirectional redundancy: double the stability;
2. Four-color design: energy-saving and environmental protection, pure color;

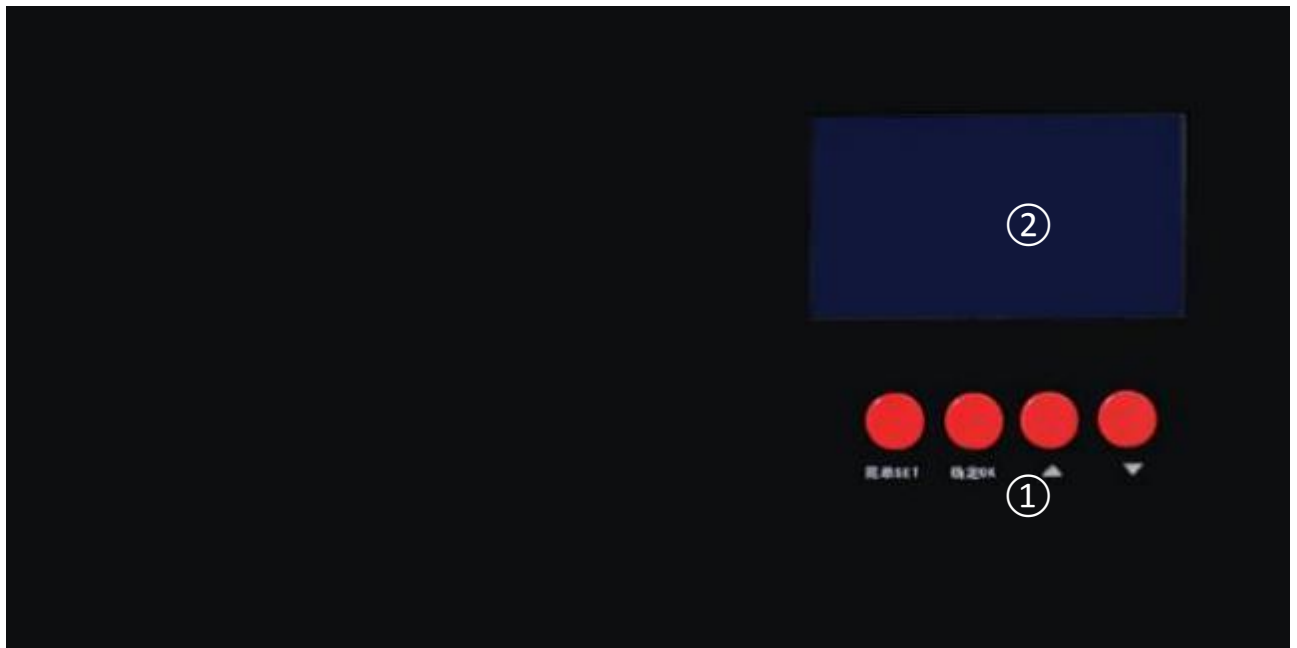
3. Aynchronous integrated control: online priority, no online signal automatic switching offline effect, to achieve video source backup;
4. Large-scale self-developed design of video editing, playback and wiring design software: more adaptable, more support languages, higher openness, used in a variety of complex applications of domestic and foreign screen, multi-screen, building screen, pixel light screen and so on.

Page 2 is 25 pages for each other

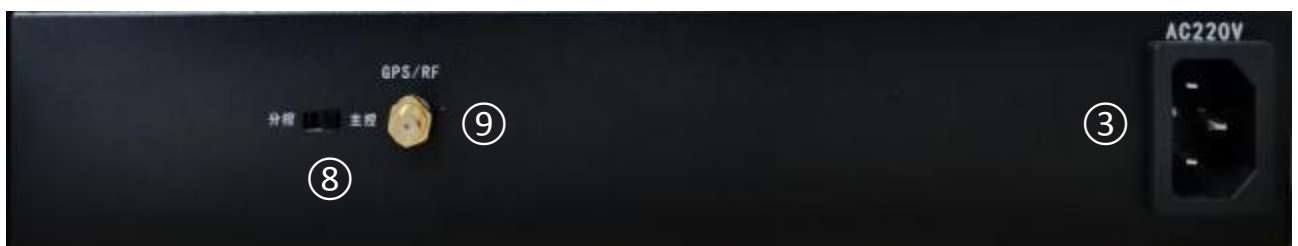
Side



front



Side two



1 button ② LCD display ③ AC port AC220V

④ Light ator ⑤ SD card

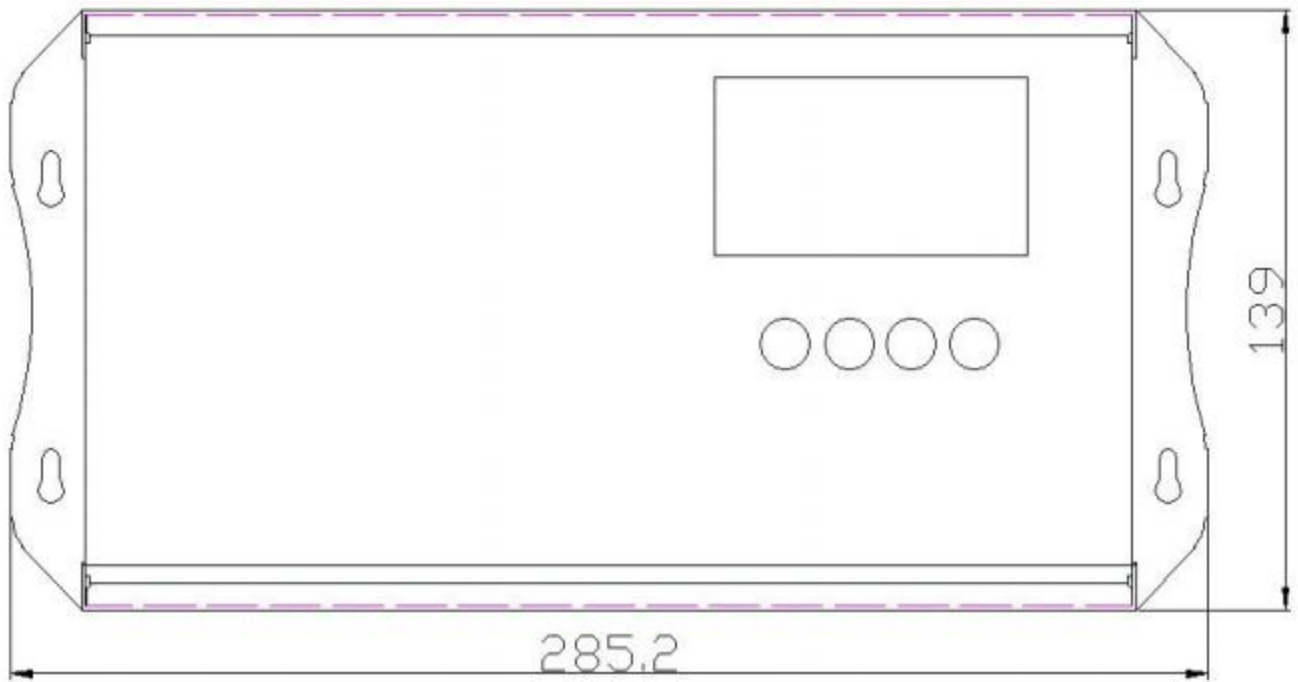
⑥ Level networking port ⑦ AC switch ⑧ master / slave dial code switch

⑨ GPS / RF port

4. Overall  
dimensions:  
side of—①



front



side--②



## 5. main interface:



### 5.1. Operation Instructions:

Menu interface Press the [Menu MENU] button to enter:



1. Chinese: Mandarin
2. English: In English
- 3, chip: when using different models of lamps, the effect is the same
- 4, mode: no card state switch built-in mode
5. Write code: for DMX signal lamps
6. Test: test whether the signal of the lamp is smooth
7. Time: This function is mainly used to schedule and set the date (to be developed)
8. Configuration: adjust the brightness, change the channel, set the main control ID, configure the separate control parameters, restore the factory Settings, encryption and other functions.



## 5.2. Technical parameter information:

operate mode:	Online + offline + third-party agreement call
Parameter features:	Network cable direct connection, automatic coding, channel test, single point test, support RGB, RGBW
Load quantity:	A single main control of 200,000 points, can connect to 255 separate control
grey scale:	32-65536
loading regime:	Computer real-time play, SD card copy storage program
SD card storage:	Maximum of 32G, up to 99 files
working temperature :	-20℃--75℃
working voltage:	AC110V • • • 220V
maximum power:	5W
weight:	Gross weight: 1.35kg net weight: 0.95kg
size:	This machine: 29.114.25cm, packaging: 31.2 * 24.7 * 6cm

## Vi. Operation steps:

2.English: (The main interface has default Chinese interface. If English interface is required, follow the following)





**3. Chip selection: when using the controller at any time, choose the corresponding chip, because all full color lamps have chips, but according to the manufacturer, according to the size of the chip and built-in and external points, so in use**

First understand these basic information clearly, and then operate. The specific operation steps are described as follows:



Chip model: as shown in Fig

1	DMX512 500K	6	TM1804	11	SK6812RGBW
2	DMX512 250K	7	TM1914A	12	SK6812RGB
3	UCS1903	8	GS8206	13	WS2811
4	UCS2904B	9	P9883S	14	WS2812B
5	UCS5603	10	SM16703P	15	TM1923
16	TM1814	17	UCS8903	18	UCS8904
19	HW1603				

Note: The chip models listed above may not be particularly comprehensive. In the market, many manufacturers change the name of the same chip for sales, but in fact it is the same

agreement, so you can not list all of them. If you encounter unclear chips, we can consult the manufacturer or our technical personnel.

#### 4. Built-in effects: (86 effect modes in total)

(The controller card and the card can call out the built-in effect, simply has nothing to do with the SD card.)



Note: Hold down "▼" on the main interface for 3 seconds for the SD card and built-in mode switch.

5. Write code operation: (this operation mainly for DMX512 series products, the original factory test will write code operation of lamps and lanterns, but that is a simple test, and the order of lamps and lanterns in the actual installation process will be disrupted, so the address will be disrupted, so need to the actual installation of each port of lamps and lanterns to address, ensure that the address of each port of lamps and lanterns is in accordance with an independent order, to ensure the program effect of normal.)

Before the writing code information: lamp chip model (manufacturer, series, model), the number of lamps and lanterns (line lamp, wall lamp) / or points (point light source), the color order of lamps and lanterns (RGB / RGBW), correct wiring to the controller port, the direction of

lamps is correct, the power supply voltage, power supply way, power supply line diameter, port load quantity and distance

DMX512 The theoretical standard protocol is with 512 channel is  $512 / 3 = 170$  points to write code specific operation steps are as follows:



The specific model has the:UCS512B3, UCS512C\*, UCS512D, UCS512E, UCS512F, Hi512A0, Hi512A4, Hi512D, TM512AC, TM512AD, TM512AL, SM16512, SM16512P, SM17500, SM17512, SM17522, GS8512, GS8512 clear address, UCS512KH, UCS512KL, UCS512K self-channel, UCS512K self-write open, UCS512K self-write off, GS852 \*, GS852 \* clear address



The number of lamps and lanterns is different, and the writing code channel is also different. For example, six write code TD:  $6 * 3 = 18$ , eight write code TD:  $8 * 3 = 24$  these are RGB lamps as an example of RGBW lamps corresponding segment number  $* 4$

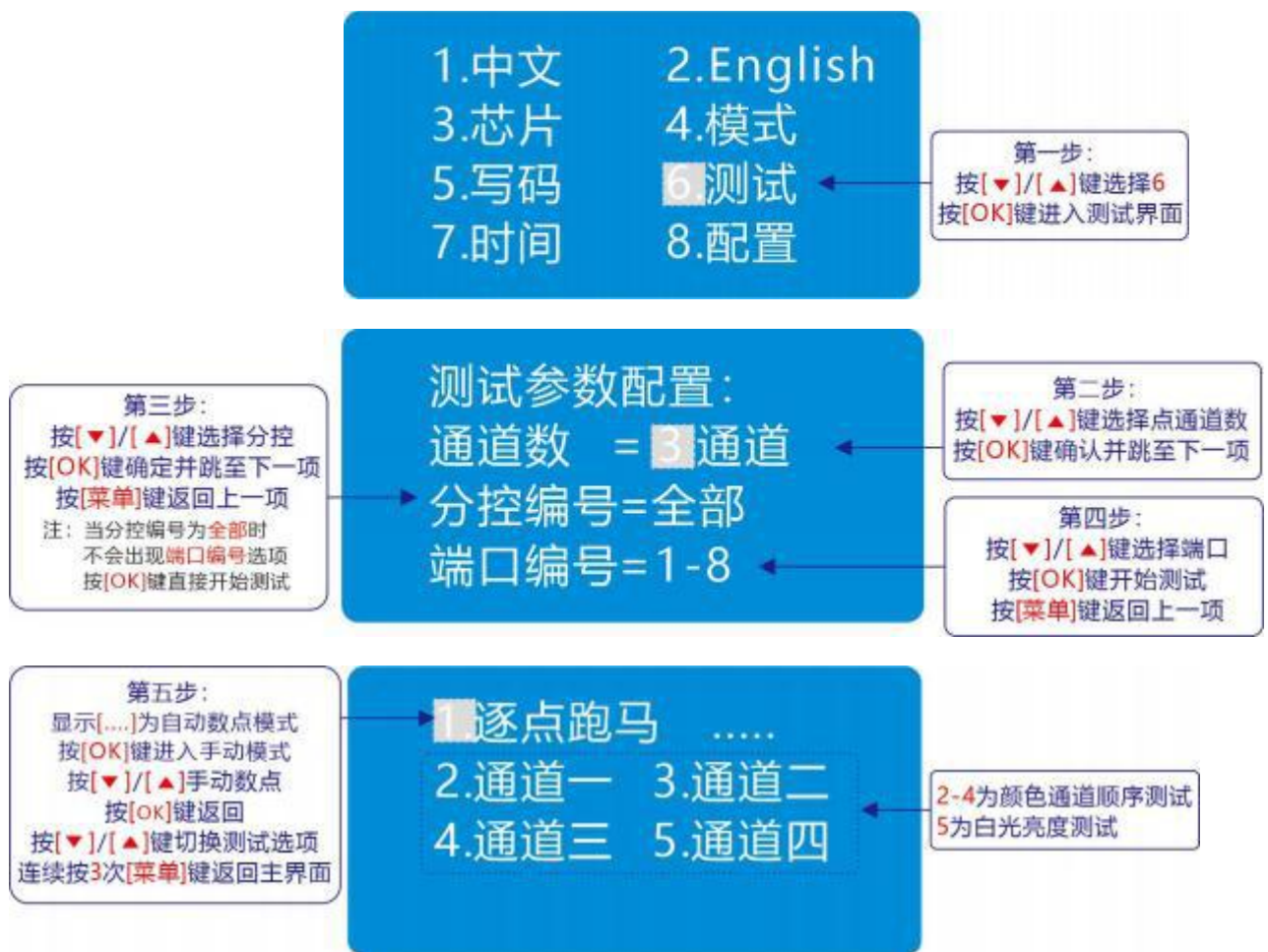
After writing the code, test the order of the function of the lamp in the correct order according to the test function.



The extension agreement is 512 points 1536 channels (most of the 512 lamps on the market are extended types), that is, the one we use the most. In the actual installation, each port is loaded at 80% of the proportion and the load distance. If the distance is too far, the consideration can reduce the corresponding port load.

6, test: (in the condition of just power, in order to determine whether the lamps, power supply is operating normally, and whether the writing code is normal, whether the power supply is sufficient, etc.)

The specific operation steps are described as follows:



There are four test modes:

1. Running point by point: mainly used to test the position of breakpoints; and whether the order of writing code is normal

2, Red 3, blue 4, green 5, all white (test pressure drop and channel)



## 8. Allocation list:

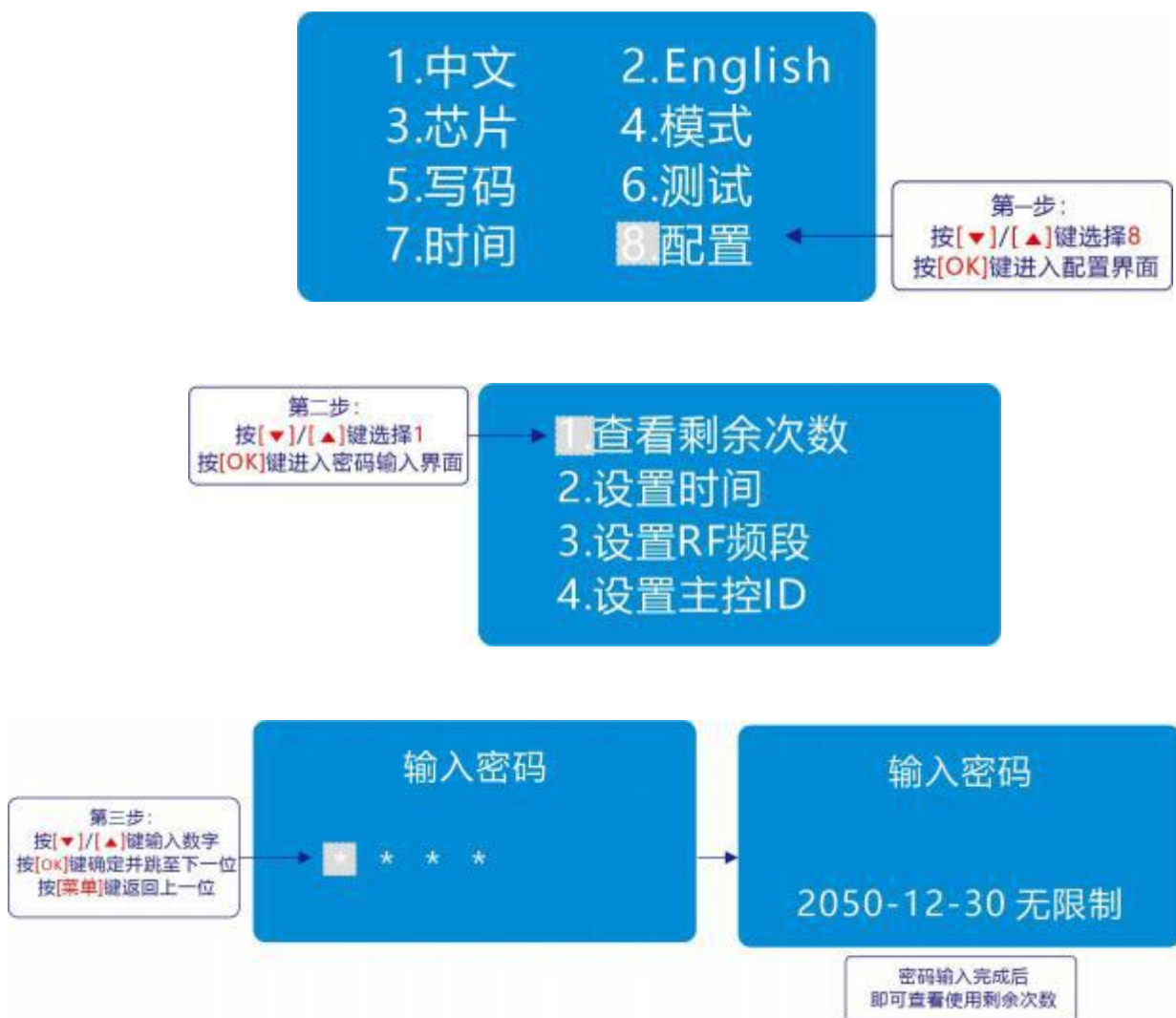
Page 10 is made out of 25 pages

1	View the remaining times
2	set-up time
3	Set up the RF frequency band
4	Set up the master ID
5	channel
6	luminance
7	Set the gamma value
8	The GPS time is displayed
9	Set up the music port
10	Set the music threshold
11	Set up the music output
12	Set the RF synchronization delay
13	factory data reset
14	Configure the control parameters
15	Controlled unlock
16	Administrator password settings
17	Master control unlock

Note: Some new features are added to the configuration, specifically as follows:

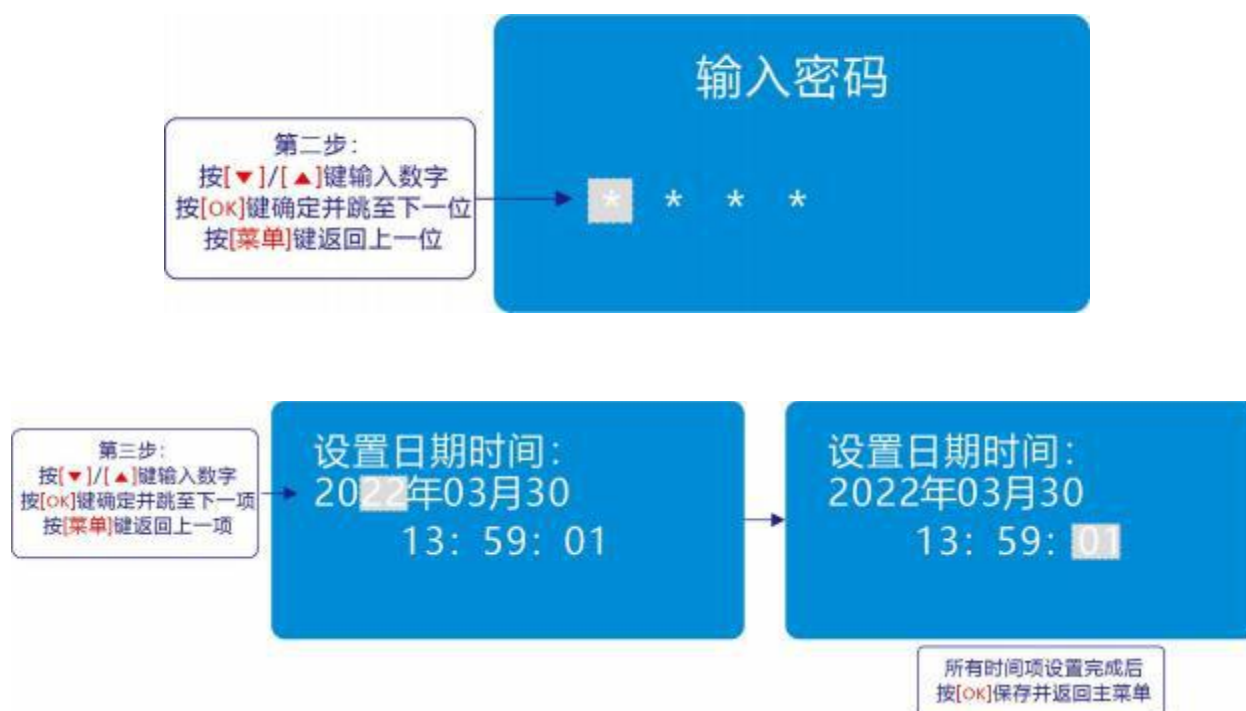
#### 1. View the remaining times:

This feature can only be viewed if it is encrypted, otherwise by default. Specific operation steps:



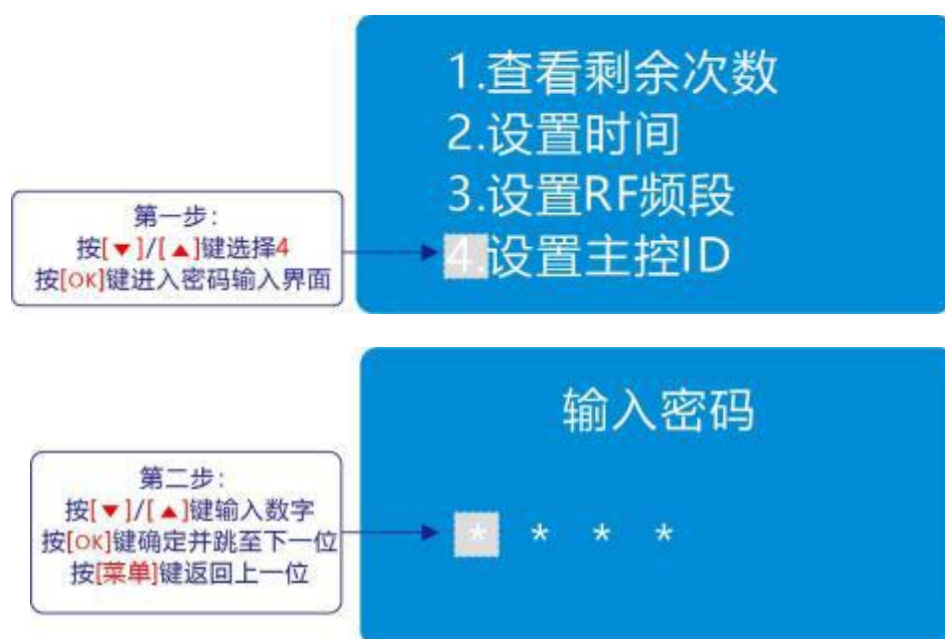
## 2. Set time

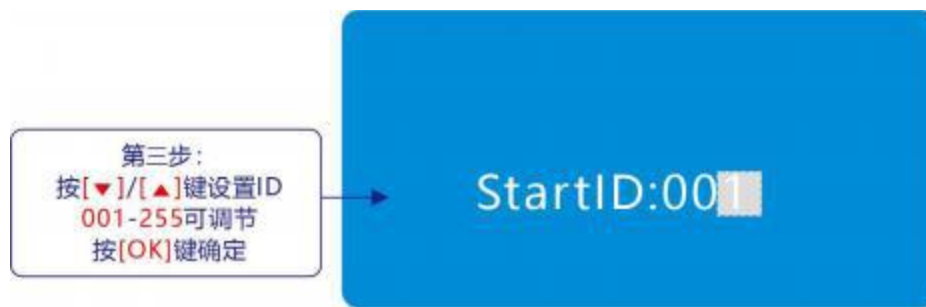




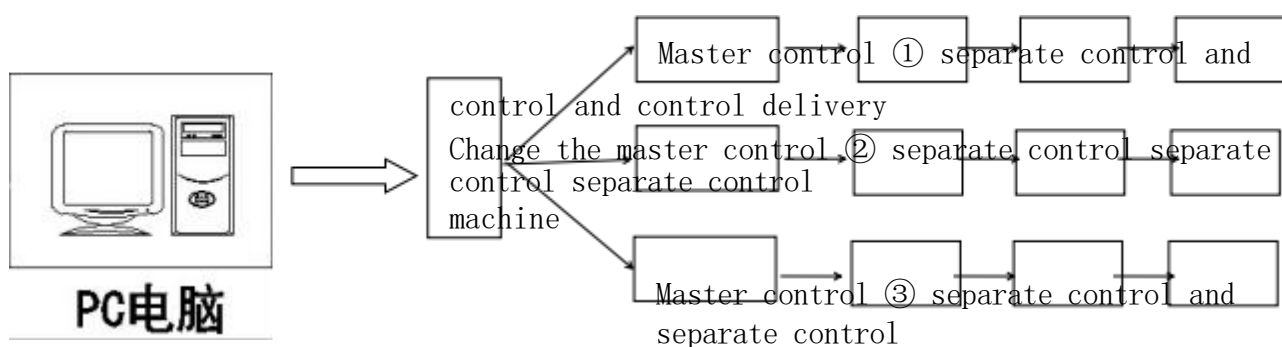
#### 4. Set the master ID

The operation steps are performed as follows:





This feature is mainly for the online and GPS synchronization situation



Set the start ID number of the master, and the subsequent separate control will automatically postpone the start ID of the master, so that the program is not partition.

## 5. Channel (this function is mainly for lamps with different channels)

The specific operation steps are described as follows:





6. Brightness: When the brightness of the actual lamp is too bright or too low, the brightness value can be adjusted appropriately. The specific operation steps are described as follows:



## 7. Set the gamma value

Note: The main role of the gamma value is to set it up when the grayscale level of the effect is not very obvious. The detailed steps are described as follows:



## 8. Display the GPS time (display / hide)

## 9. Set up the music port





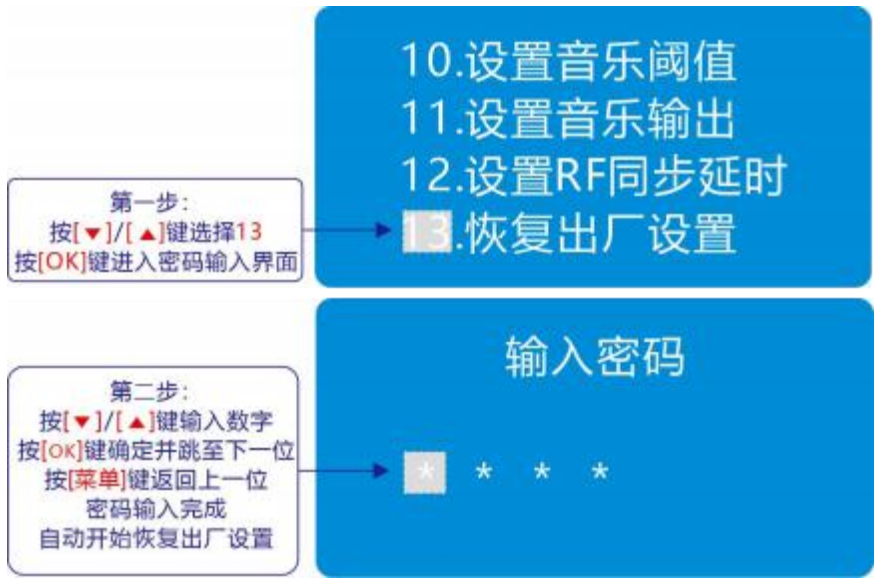
1. Not enabled
2. Headphones
3. The microphone
10. Set the music threshold value (1-101)
11. Set the music output (OFF / ON)
12. Set the RF synchronization delay



13. Restore the factory Settings: (if you do not remember what parameters are set during the operation, and the effect does not work, you can choose to restore the factory Settings, the controller returns to the factory Settings, and then operate again).

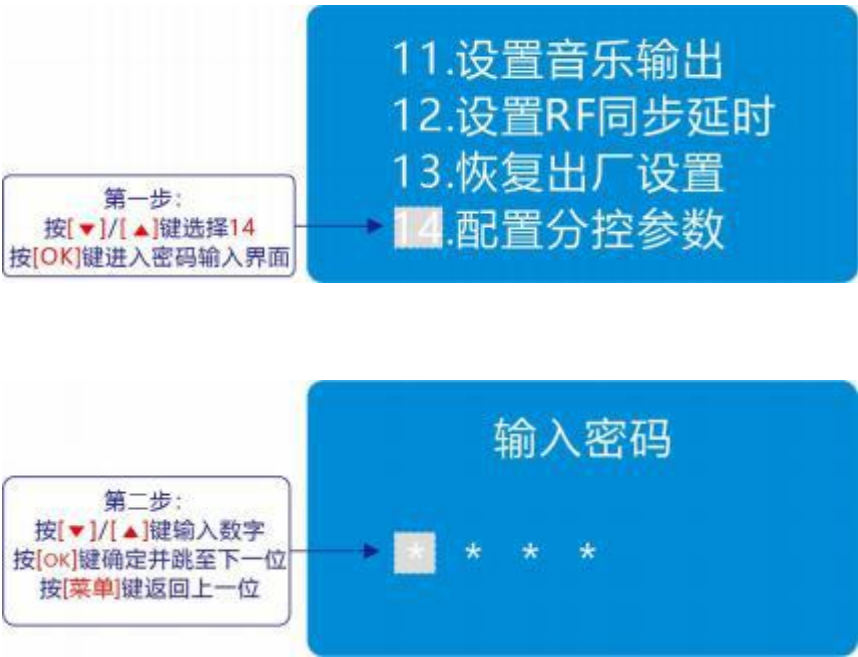


The specific operation steps are described as follows:



14. Configuration of sub-control parameters: (in the case of online use, sub-control parameters must be configured first, mainly for the chip, brightness and channel configuration of lamps)

The specific operations are performed as follows:



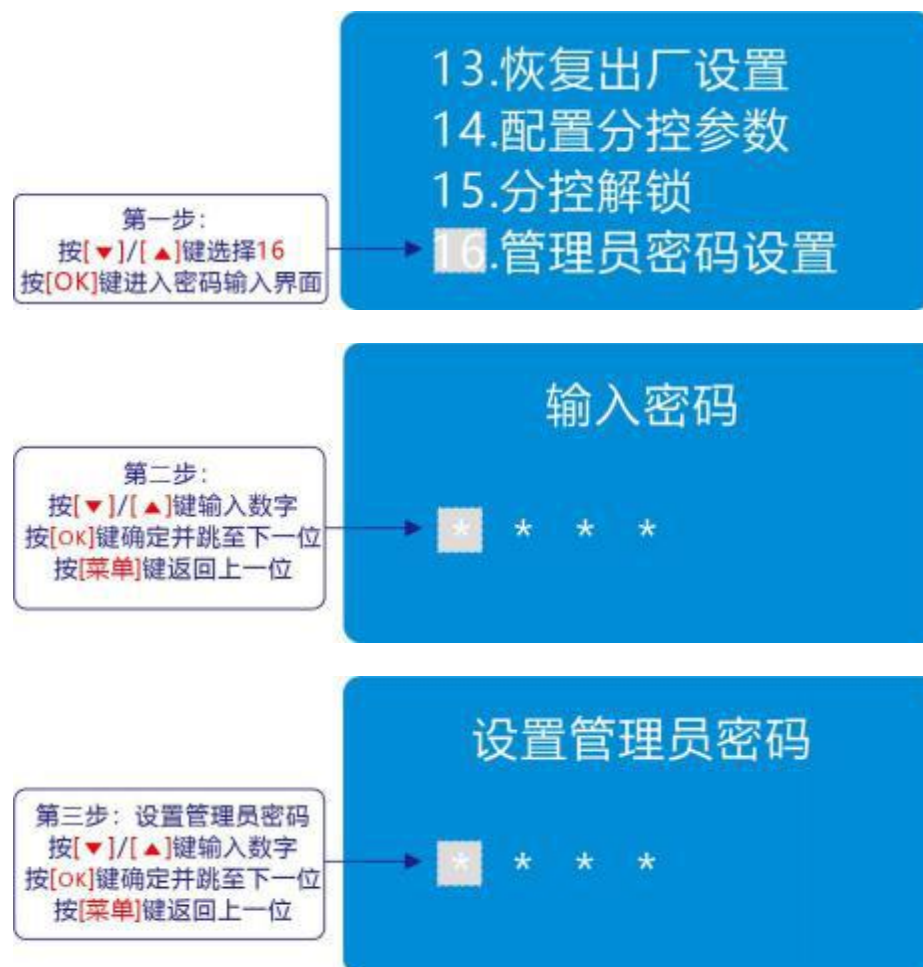




15, separate control to unlock

16. Administrator password setting

(This password is an internal operation. please consult our technicians and operate with permission)



Above said to change the administrator password to start the level password setting. Note: The controller can set up three levels of encryption, such as the first level of encryption to play XX times

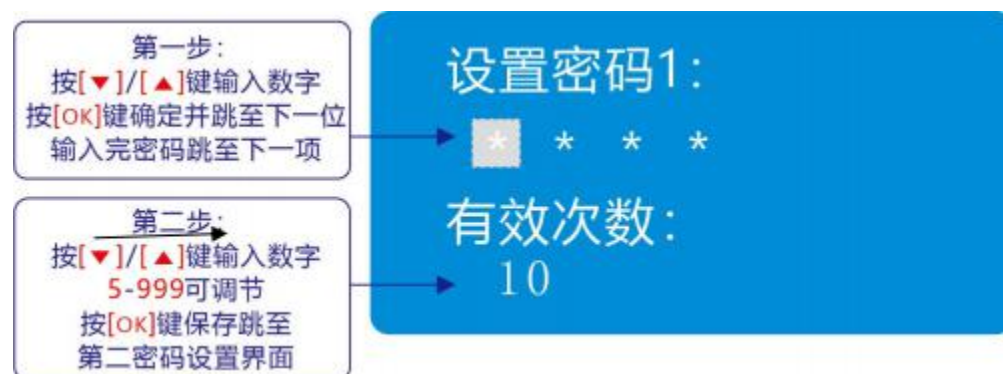
The second level of  
encryption plays XX on page  
18 and a total of 25 pages

Third level encryption play XX times (setting 999)

Encryption mode: it is to set up the three-level encryption first, and then call it. For example, if you want to let the controller perform the playback of the level of encryption, you need to call the level password when the main control decryption. After determining, the controller will perform according to the number of play times set by the level.

The specific settings are set up as follows:

Enter the interface



Note: Minimum playback: 5 Unlimited playback: 999

After setting the first password, jump to the next layer of password setting, the setting mode is the same as the first time, there are three layers of password, and the password is saved after the third layer of encryption is completed

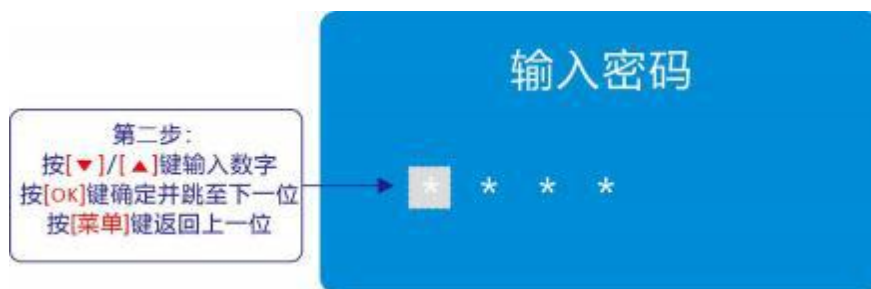
When setting the level password, be sure to remember the administrator password and three passwords of three layers.

If the password is forgotten, the encryption function cannot be used normally and needs to return to the factory.

The above operation only sets the three layers of encryption passwords normally, and there is no real start encryption mode. If you need to start the encryption mode, the following operations are required:







★ This password is three layers of encryption password, and enter the password three times in turn

If the controller encryption officially starts, the controller is executed according to the number of play times set in the encryption level. The controller power + start represents the use once. According to this, if the controller power + start times reaches the value in the setting, the controller will be locked, as illustrated in following figure:



After the number of times of the controller switching power reaches the set value, the controller starts again the lamp has no effect change, and the separate control will also be located. Shown as follows:



Note: If the main control is locked, the split control will automatically lock, and connect the new split control to the back.

Decryption operation:

1 ` The above said how to operate the controller encryption, the main control locked, the separate control will follow

Lock, so in the operation of decryption to divide two decryption; first to the main control decryption, but

After the separate control of the decryption.

2 ` The above mentioned encryption will set three levels of password, usually in the last password level

We set the playback number to 999 (unlimited), meaning that there is no password.3 ` Remember to write down the password set during the operation to prevent forgetting.

The specific operation steps are described as follows:

Part 1: First master control unlock

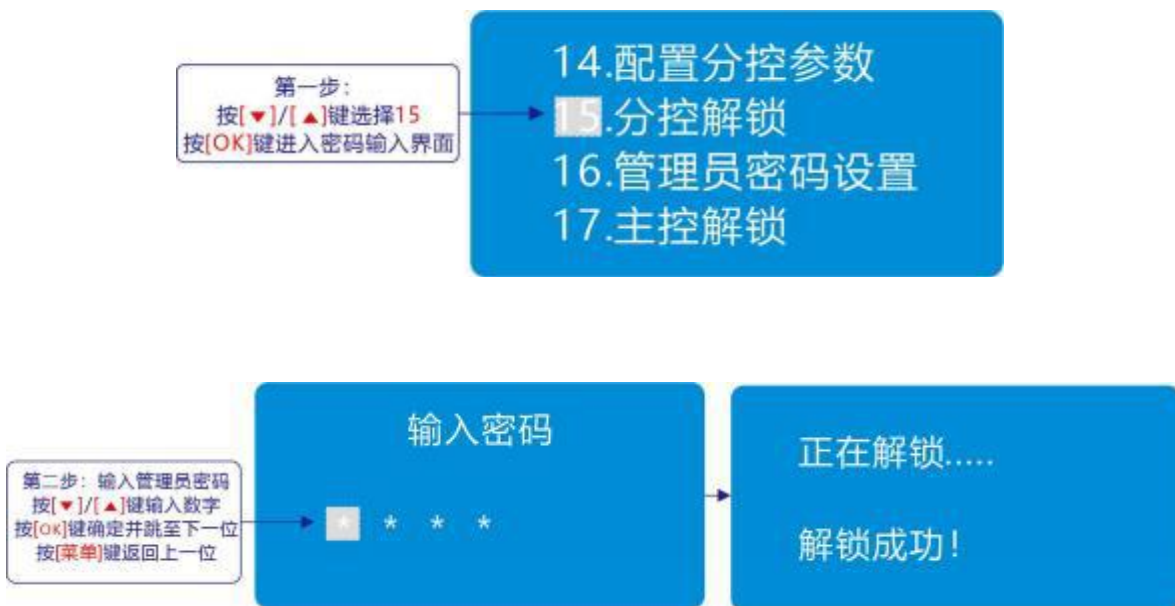


After successful decryption, the controller system returns to the main interface.

Note: The decryption password is followed by three layers of encryption password. After each decryption, the next layer of encryption will be automatically enabled, and after the third decryption success, it will change to unlimited.

## Part two: sub-control to unlock

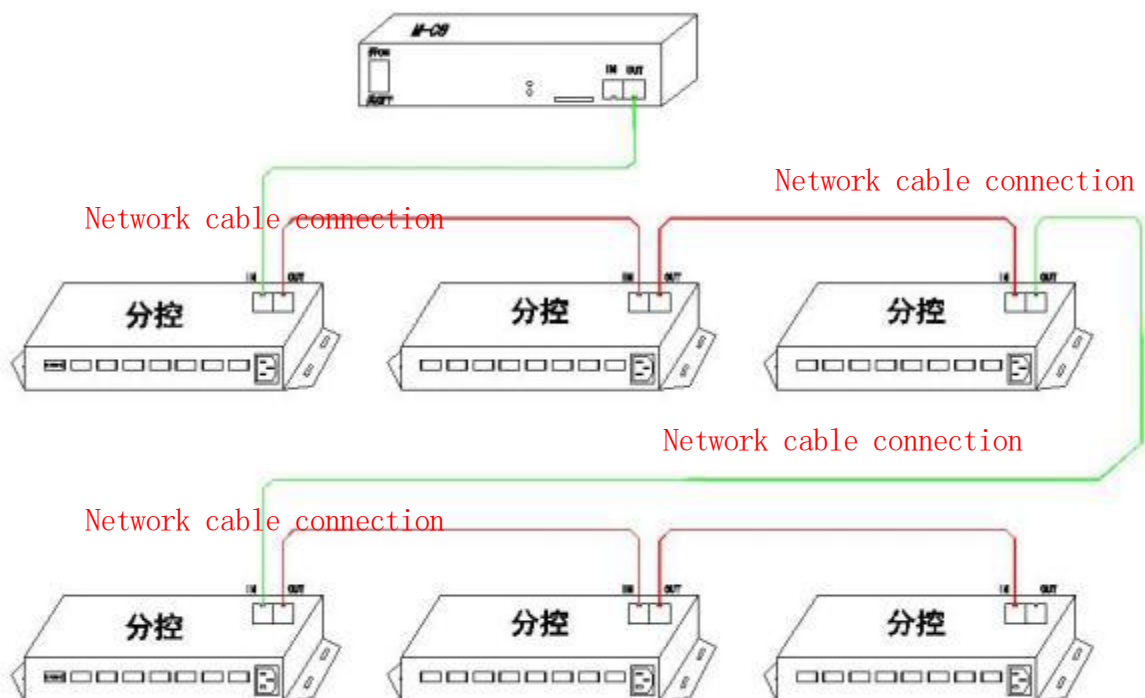
21, 25 pages



Note: The control unlock password is the administrator password. After the decryption, the controller system returns to the main interface.

## VII. Schematic diagram of master control:

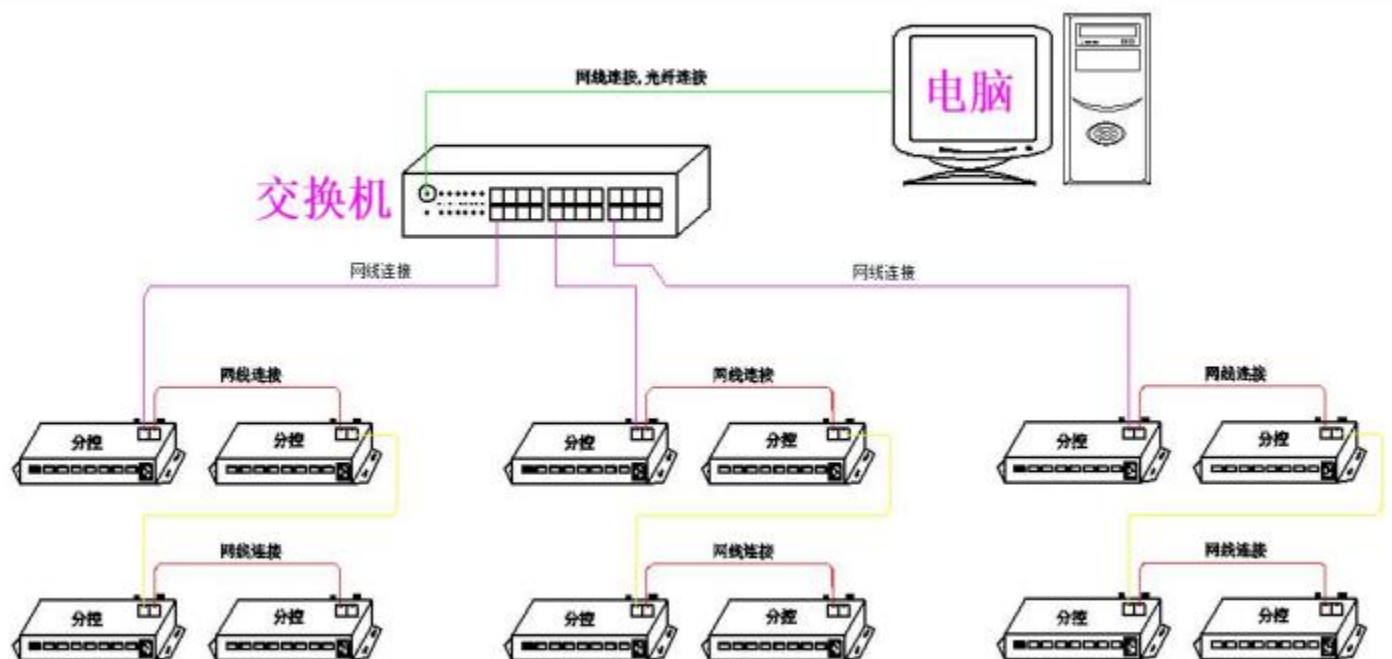
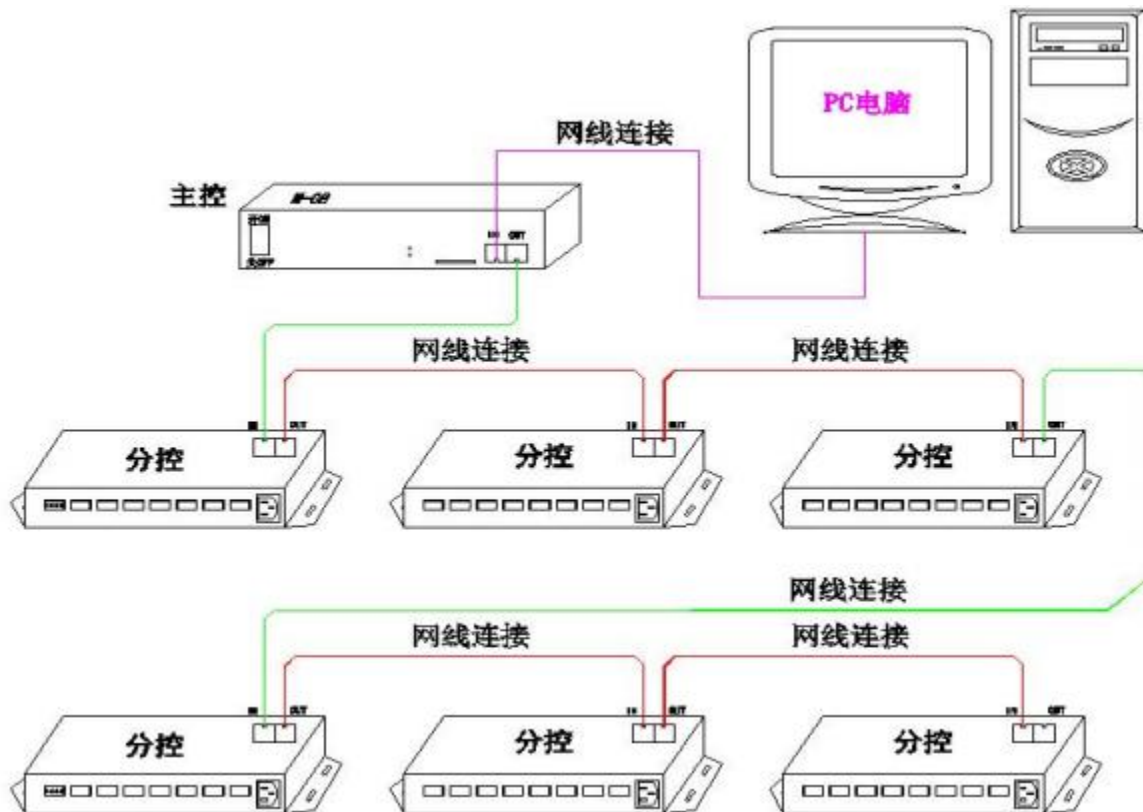
Master control, M-C8



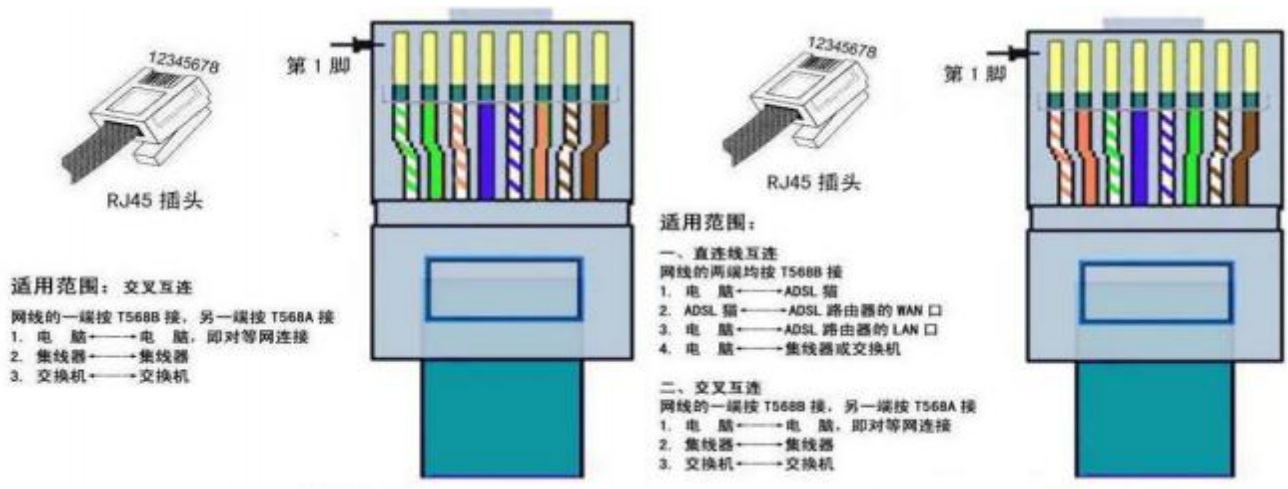
Online Schematic:

Scheme 1: computer software + master control + separate control

Scheme 1:



#### Viii. Network cable production method:



Network cable production: in practical application, there are two methods of production (cross interconnection and direct connection interconnection) we uniformly use "direct connection interconnection" 568B is the same line order at both ends. The specific line order is as follows:

1, orange and white 2, orange 3, green and white 4 blue 5, blue and white 6, green 7, brown and white 8, brown 4

#### 9. Control distance of conventional signal reference table: (only for reference, everything is based on actual)

detailed information	TTL	4 Line 512	5 Line 512
Distance of the controller port to the light	15 Meters	30 Meters	80 Meters
Distance of the controller to the last light		80 Meters	120 Meters
The distance between the lamp	Three meters	30 Meters	30 Meters
Distance from the controller to the amplifier	15 Meters	35 Meters	80 Meters
Distance between the amplifier and the lamp	---	---	---

Distance between partial control and partial control	60 Meters
Distance between main control and partial control	80 Meters

Note: If the distance between the computer and the controller, between the main control and separate control, or between the separate control and separate control, page 24



Beyond the limited distance, the signal is disturbed and cannot be transmitted normally.

Rx:

1. The added signal amplifier distance can be extended to 300 meters
2. Using optical cable can cable extended to 5 km

#### X. Frequently Asked Questions:

1, plug in the SD card has no effect?

A: a, check the SD card format b, check the file format c, check the direction of the SD

2. The controller display is normal, and the lamps do not have normal procedures? A:

A, whether the chip selection is normal, b, whether the program is normal

3. No signal is plugged in on the network cable crystal head?

Answer: check whether the line order is normal and whether the network port is normal

4, the signal is unstable, the lamps flash?

Answer: A, check whether the power supply has filter function b, whether the line has bad contact c, whether the controller port is normal d, whether the signal line is shielding e, whether there is a high-power machine and magnetic field near the controller

