K-8000C Operation manual
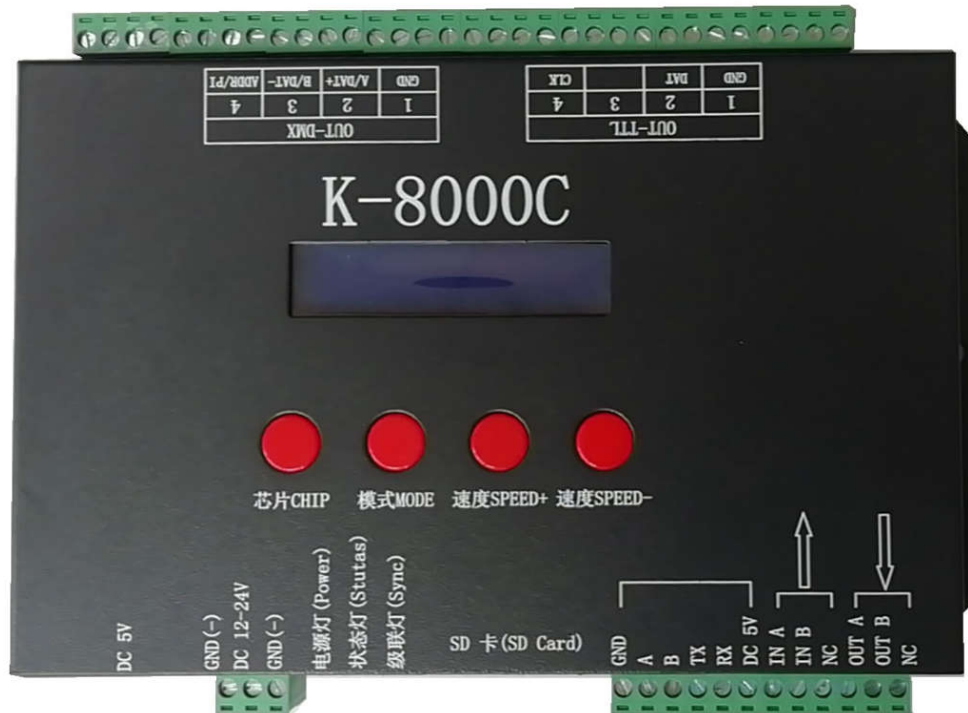

一、 K-8000C system features:

1、 32 to 65536 grade gray control, software Gamma correction processing.

2、 Supports various point, line and area light sources, supports various rules, and special-shaped processing.

3、The controller has eight ports output, each port can load the maximum of 512/1024 pixels (the maximum 512 pixels of the DMX luminaire is exemplified by three channels).

4、 The playback content is stored in the SD card, which can store up to 32 effect files. The SD card capacity supports 128MB-32GB.

5 、 The controller can be used in a single unit or in multiple cascades. The cascade uses photoelectric isolation: anti-interference and better stability. The cascade distance between the two units can reach 150 meters, and 0.5 square meters of pure copper power cord is needed.

6、 The controller with the loaded chip can lock the loaded IC in the software or not. By adjusting the controller's chip button to select the loaded IC, this scheme is more flexible and convenient.

7、The IC controller for DMX luminaires comes with a write address function; in addition, with our 2016 LedEdit-K V3.26 or higher software, one-click address function can be set.

8、Supports on-board luminaires with 4 channel (RGBW) pixels or split into single channel point pixels.

9、Enhanced TTL and 485 differential (DMX) signal output.

10、 The controller comes with 22 test effects; it comes with DMX512 channel test function.

NOTE: Remarks: 1. The controller can carry 512 points of speed to 30 frames per second, 768 points can reach 25 frames per second, and 1024 points can reach 22 frames per second (the above parameters are 1903 protocol IC data). For example, different ICs will have differences)

2. The international standard DMX512 (1990 protocol) has a maximum load of 512 pixels. When the load is 170 pixels of the international standard, the speed can reach 30 frames/second, the speed of 340 points is about 20 frames/second, and the speed of 512 pixels is about 12

frames/second.

3. When timing (holiday) playback, Beidou wireless synchronization, console channel distributor, please contact sales staff or technical support for details.
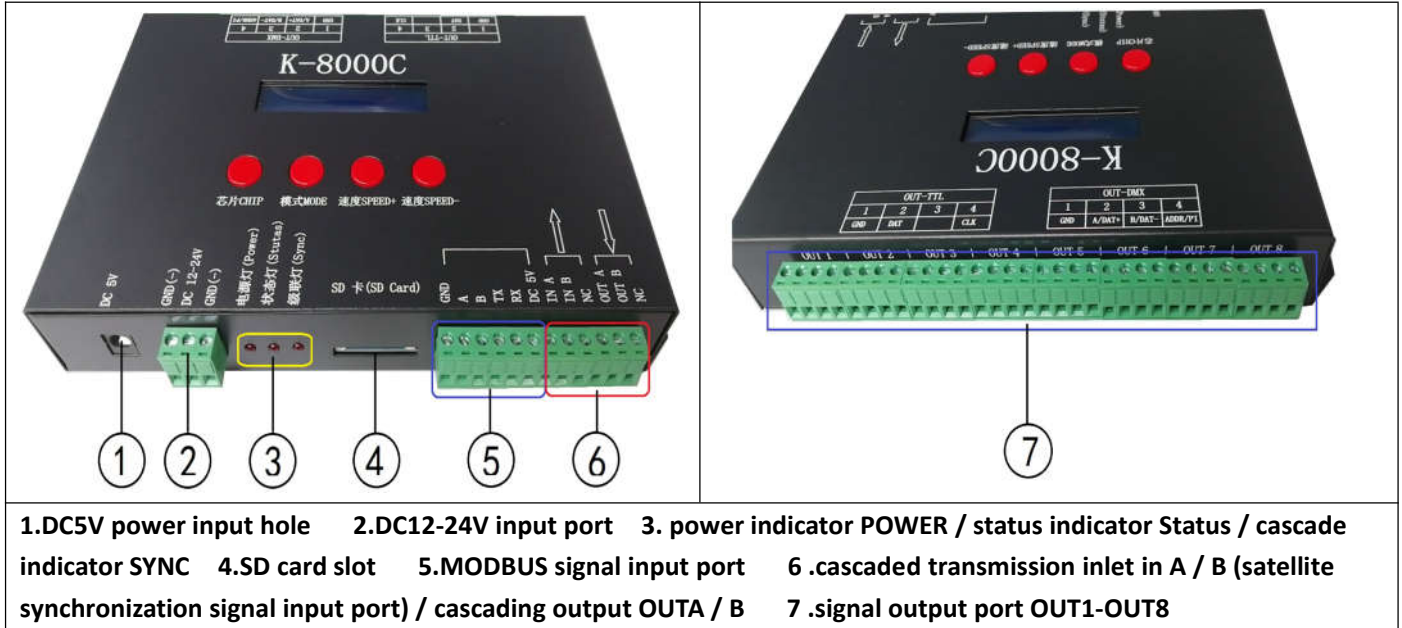
二、 Support chips（regular select K-8000-RGB）:

00: UCS19**,UCS29**,TM18*,SM167**,WS28**,GS82**,SK6812（Support max. 1024*8=8192 pixels）

01： SM16716,16726（Support max. 1024*8=8192 pixels）

02： P9813（Support max. 1024*8=8192 pixels）

03： LPD6803（Support max. 1024*8=8192 pixels）

04： LX1003,1203（Support max. 1024*8=8192 pixels）

05： WS2801（Support max. 1024*8=8192 pixels）

06： LPD1886（Support max. 1024*8=8192 pixels）

07： TM1913（Support max. 1024*8=8192 pixels）

08： TM1914（Support max. 1024*8=8192 pixels）

09： P9883,P9823（Support max. 1024*8=8192 pixels）

10: DMX（Support max. 512*8=4096 pixels，suggest to support ≤320*8=2560 pixels）

11： DMX 500K（Support max. 512*8=4096 pixels，suggest to support ≤320*8=2560 pixels）

12： DMX 250K-CZF（Support max. 512*8=4096 pixels，suggest to support ≤320*8=2560 pixels）

13： DMX 500K-CZF（Support max. 512*8=4096 pixels，suggest to support ≤320*8=2560 pixels）

14： UCS5603-Test（Support max. 1024*8=8192 pixels）

15： UCS5603A（Support max. 1024*8=8192 pixels）

16： UCS5603B（Support max. 1024*8=8192 pixels）

17： TM1814（Support max. 1024*8=8192 pixels）

18： INK1003（Support max. 1024*8=8192 pixels）

19： APA102（Support max. 1024*8=8192 pixels）

20： UCS8904（Support max. 1024*8=8192 pixels）

21： SM16714（Support max. 1024*8=8192 pixels）

22： SM16813（Support max. 1024*8=8192 pixels）

23： GS8512（Support max. 512*8=4096 pixels，suggest to support ≤320*8=2560 pixels）

Remarks: 1. For RGBW four-channel luminaires need to select K-8000-RGBW, and above four-channel luminaires needs to select K-8000-RGBWYA.

2. The K-8000-W is required when carry the single-channel luminaire. In this case, one channel represents one

三、 **Appearance picture:**

1.DC5V power input hole   2.DC12-24V input port   3. power indicator POWER / status indicator Status / cascade indicator SYNC   4.SD card slot   5.MODBUS signal input port   6 .cascaded transmission inlet in A / B (satellite synchronization signal input port) / cascading output OUTA / B   7 .signal output port OUT1-OUT8

Silk screen definition:

1. Button meanings

Button		Meanings
CHIP	Seletc chip model	Press the "Chip" button first, then press the "Mode" button to enter the code writing mode; when writing the code, press the "Chip" button, then press the "Mode" button to exit the code.
MODE	Switch files	
SPEED+	Speed up	Press SPEED+ and SPEED- at the same time to enter the file loop playback mode; an * will appear after the program, indicating that the file loop playback mode has been entered.
SPEED-	Speed down	

2. Indicator and port

POWER	Power indicator	Constantly bright
SYNC	Cascade indicator	When cascading, sub-control flashing
STATUS	Status indicator	Normal off / error bright
Power supply	DC5V power input/DC12-24 input	
SD CARD	SD card slot	
IN A/B	Cascade input port / Beidou satellite sync signal input port	
OUT A/B	Cascade output port	

3. Signal output（OUT 1-8）

TTL output			DMX512 output		
No.	**Sik screen**	Definition	No.	**Silk screen**	Definition
1	**GND**	GND（Negative）	1	**GND**	GND（Negative ）

2	**DAT**	DATA	2	**A/DAT+**	Signal positive
3	/	/	3	**B/DAT-**	Signal negative
4	**CLK**	Clock	4	**ADDR**	Address writing line

4. Display vocabulary (six digit screen)

| Display		Definition
SD test...	SD Test …	Detect and read SD card
K-8000 SD Error!	K-8000 SD Error！	Read error
Writing Addr...	Writing Addr…	Writing address
Writing OK!	Writing OK!	Address writing done
Set UCS512C4	Set UCS512C4	Lights chip parameter setting
Writing...	Writing…	Light chip parameter wirting
By No.1 control	BY No.1 control	Cascade synchronization control
Test DMX Address	Test DMX Address	DMX lights address test
Chip:UCS512-C Ch.: 03	Chip：UCS512-C Ch .：03	Manual address writing interface： CHIP： Chip model CH.： Interval channel（00-99）
Chip:10 Speed:16 Mode:01/01* SD	Chip：10 Speed:16 Mode：01/03* SD	Playback interface： Chip： Chip code （00-23） Speed： Playback speed （01-16） Mode： Playback program （01-32） * ： programs in loop plyback SD ： SD card playback

5. Speed grade corresponding to frame rate:

Speed	Frame/second	Speed	Frame/second	Speed	Frame/second	Speed	Frame/second
1	4 Frame	**5**	8 Frame	**9**	14 Frame	**13**	23 Frame
2	5 Frame	**6**	9 Frame	**10**	16 Frame	**14**	25 Frame
3	6 Frame	**7**	10 Frame	**11**	18 Frame	**15**	27 Frame
4	7 Frame	**8**	12 Frame	**12**	20 Frame	**16**	30 Frame

五、 Conventional IC lamp wiring DAT/CLK/GND
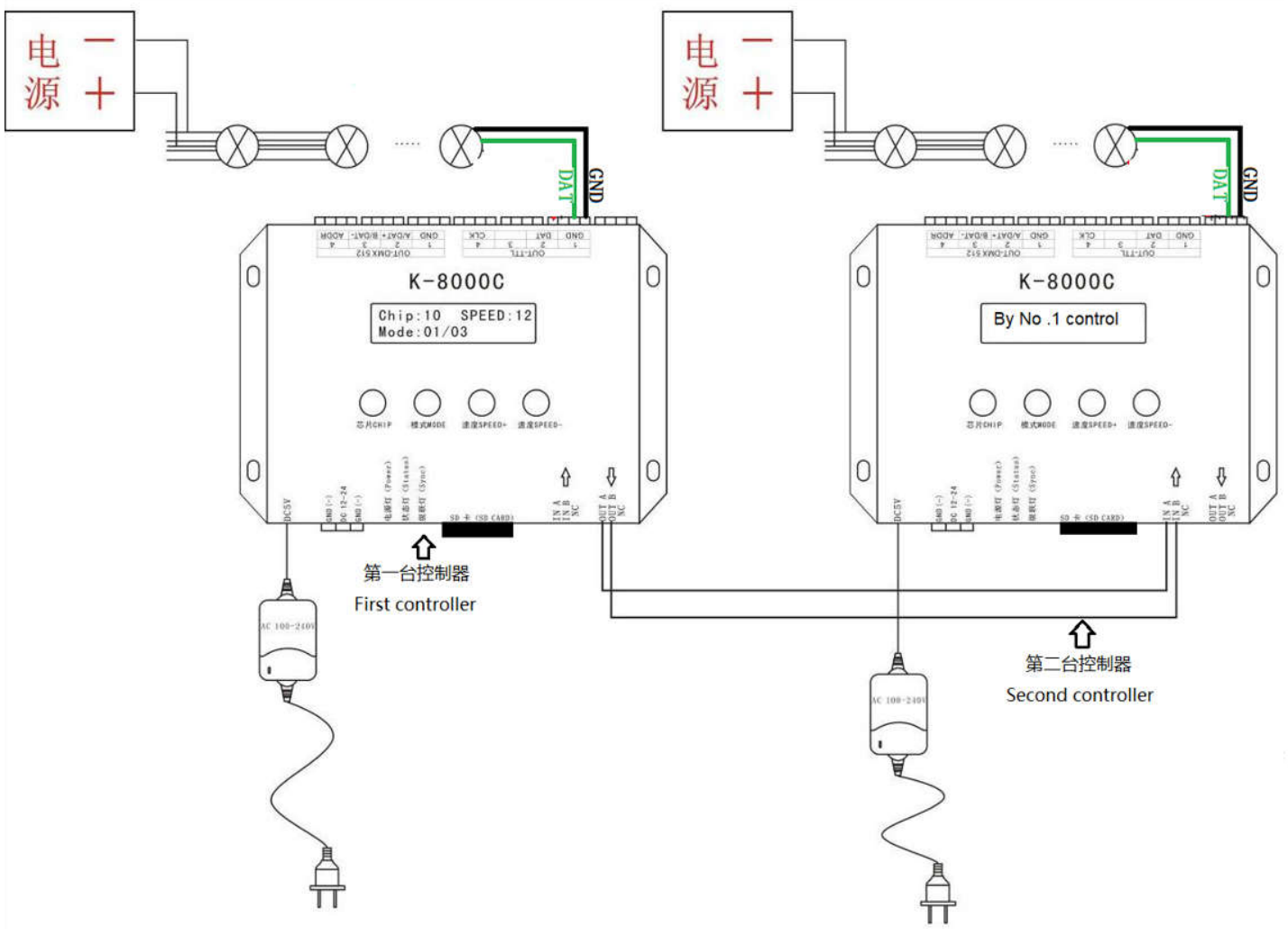
六、 DMX512IC   lamps wiring method:

DMX512 Differential signal line wiring diagram：**A/B/ADD/GND**
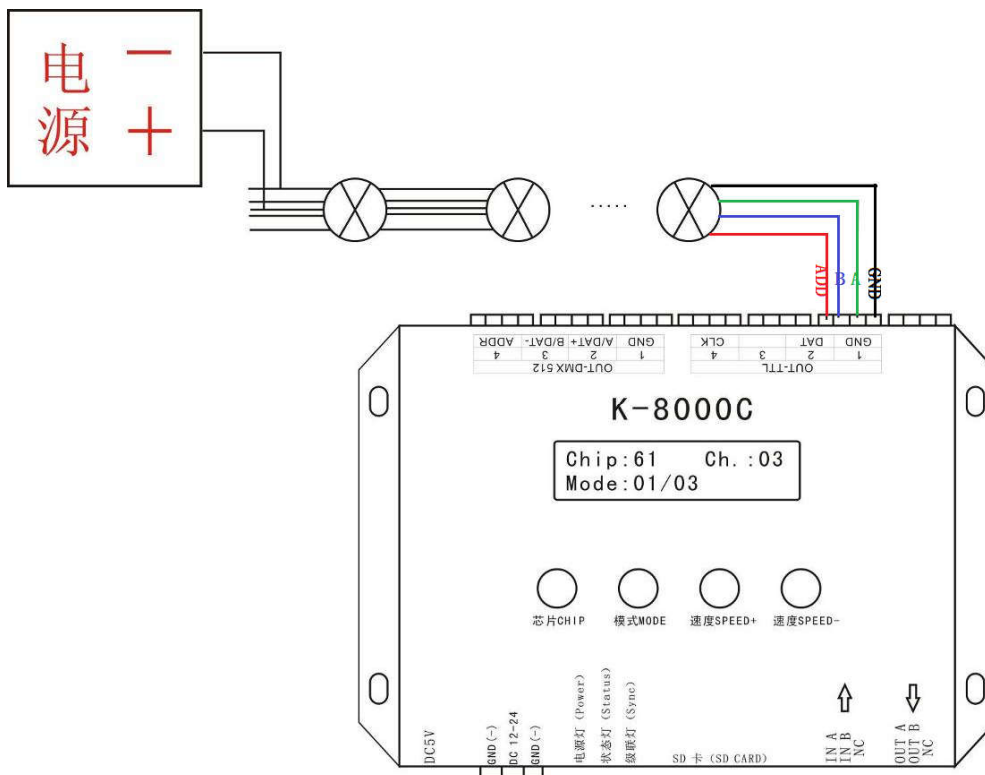
DMX512 single line signal line wiring diagram： **A/ADD/GND**
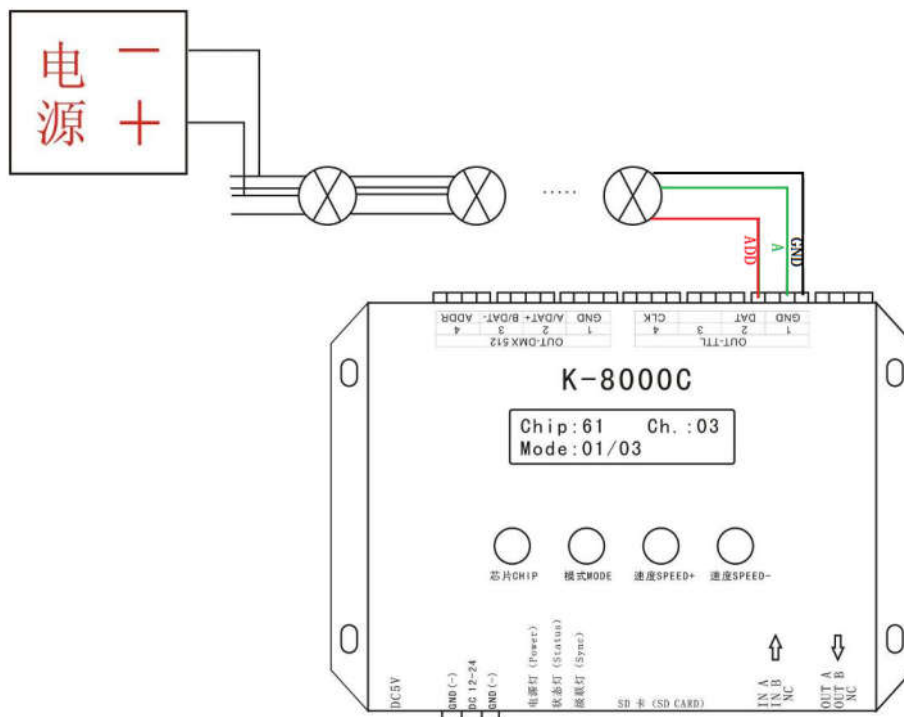
Note: For some DMX512 luminaire installations, the output of the controller does not need to be connected to the ADDR write ground of the luminaire. It only needs to be connected to A/B/GND, and its data bus is automatically written (for details can efer to the DMX512 luminaire load IC operation manual).

七、**DMX512 Lamp code writing and channel testing**

1. Connect the line to the controller as shown above, first press and hold the " CHIP" and then press the " MODE"

button to switch to the address writing mode.

2. Press "CHIP" to switch the DMX512 IC model, "Speed +" and "Speed -" to adjust the interval channel, as shown in the following list:

| Appendix： DMX512IC code list			
UCS512A*/B*,TM512AL1/AB	WS2821	DMX512AP	UCS512C*，TM512AC*
SM1651*-3	SM1651*-4	UCS512D*/TM512AD*	UCS512-E
UCS512-EC（Chip itself parameter setting）	SM17512*	SM17522*	UCS512-F
TM512AC*	SM17500	SM17500-A Chip itself parameter setting	SM17500-AW（Address writing after the chip parameter setting）
GS8512	GS8512-SGAL write single address	GS8512-NA（Set as no address）	QED512P

NOTE 1： UCS512-EC is the chip itself parameter setting for UCS512-E lights, and apply it to the load IC of UCS512-E. Step 1: select UCS512-EC and writ the chip itselt parameter to the same specification lights; Step 2, select UCS512-E to write address for the lights.

NOTE 2： SM17500-A: It is the chip itself parameter setting for SM17500 lights, and apply it to the load IC of SM17500. Step 1: select SM17500-A and writ the chip itselt parameter to the same specification lights; Step 2, select SM17500-AW to write address for the lights.

NOTE 3： GS8512-SGAL：GS8512 write single address, and apply to the load IC of GS8512, at the same time to write the same address code for multiple lights.

NOTE 4： GS8512-NA：GS8512 set as no address mode, apply to the load IC of GS8512, Set it to use in serial (TTL/SPI) mode.

3. After selecting it, press "MODE" to write the address. At this time, the screen displays Writing Addr..., until the address is completed, it will display Writing OK, as shown below:
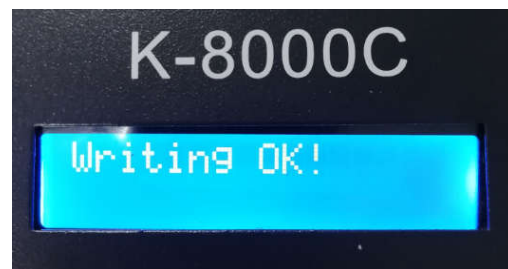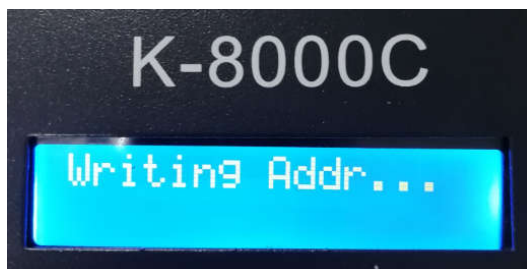
4． After writing the address code, the controller automatically enters the DMX512 lamp channel test mode, and the digital screen displays the following picture:

5. Press the "MODE" button to enter the "AC" automatic test mode, the lamps will start to run in sequence; the controller will display the following picture (the interval channel is set to be unadjustable when writing code)

6. Press the "MODE" button again to enter the "MC" manual test mode. "Speed+" and "Speed-" can adjust the pixel points (long press "Speed+" or "Speed-" to quickly increase or decrease), the lamps are brighted one by one; The controller displays as shown below

7. After the test is completed, press "CHIP" to exit the channel test and return to the write code interface.

8. After writing the address code, first press and hold the "CHIP", then press the " MODE" button to switch to the play mode, switch the chip to Chip: 10, this is the DMX512 standard protocol 250K playback mode, at this time press mode key and speed key can switch the play mode and adjust the speed separately, as shown below.

八、DMX512 light one-button address writting

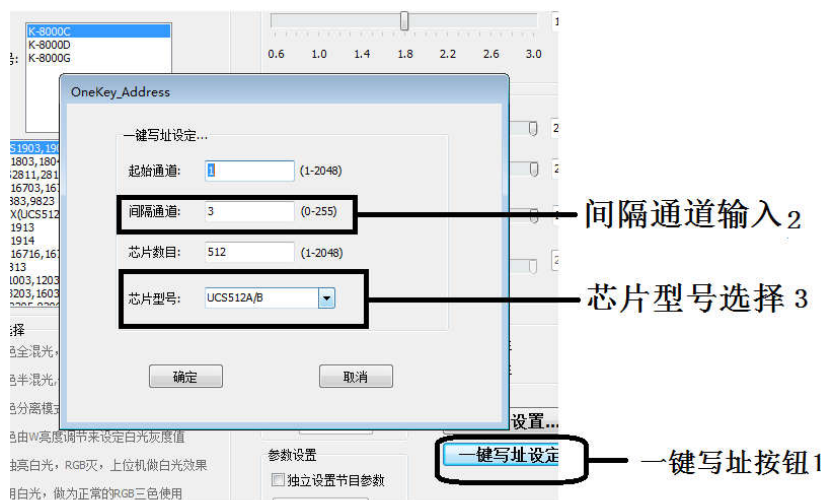**1. One-button address writing**：（As show：Step 1）

When the software writes the program output, click the button to enter the one-click address interface.

2. Interval channel input（As show：Step 2）

The interval channel is input according to the actual digital input of the luminaire. The number is the number of channels occupied by a DMX512 IC to control the pixel points of the luminaire.

3. Chip model selection（As show：Step32）

Click the drop-down button to select the chip model corresponding to the DMX512 IC on the luminaire.

间隔通道输入 2

芯片型号选择 3

一键写址按钮 1

4. Complete the One-button address writing setting

Confirm that the settings are correct and click the OK button to complete the program output.

5. The controller On-button address writing operation

① SD card insert into the controller;

② Power on the controller;

③ Press and hold the " MODE " button for 5 seconds, the controller will display Writing Addr..., until the address is completed, it will display Writing OK;

④ After the address is written, the controller will also enter the channel test mode (same as the channel test after manual address).

⑤ After completing the channel test, press the " CHIP " button to exit the test mode, and the controller returns to the play mode to work normally.

九、DMX512 lights testing

1. Press the "Speed -" button to power on, enter the lighting test interface, display :
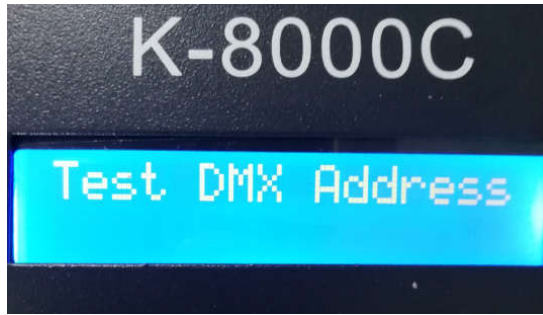
2. It takes about 2 seconds to enter the lights address interface, the controller displays as below:
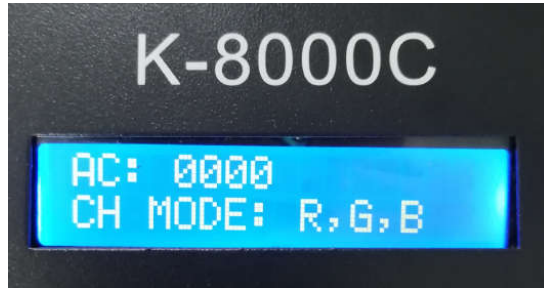
3. Press the "MODE" button to start the test and switch channels selection; Press the "CHIP" button to switch the manual and automatic channel testing mode;

Appendix: Display vocabulary definition list			
Automatic mode:AC	**Definition**	**Manual mode:MC**	**Definition**
AC：**** CH MODE: RGBW	1 channel automatic test	MC：**** CH MODE: RGBW	1 channel manual test
AC：**** CH MODE: RG,BW	2 channel automatic test	MC：**** CH MODE: RG,BW	2 channel manual test
AC：**** CH MODE: R,G,B	3 channel automatic test	MC：**** CH MODE: R,G,B	3 channel manual test
AC：**** CH MODE: R,G,B,W	4 channel automatic test	MC：**** CH MODE: R,G,B,W	4 channel manual test

NOTE 1：The automatic and manual test mode switch: AC is the automatic test mode, MC is the manual test mode, and is switched by the " CHIP" button;

NOTE 2：Light channel switch: h RGBWis a monochrome single-channel luminaire, RG, BW is a two-color two-channel luminaire, R, G, B is a three-color luminaire, and RGBW is four-color luminaire, which is switched by a "MODE" button;

NOTE 3：**** is the number of the lights, In the automatic test mode, after the number is automatically incremented to the maximum value, the test starts again from 0001; in the manual test mode, the number is manually adjusted by "speed +" and "speed -".

4. After the test is powered off and restarted, the controller can enter the normal play mode.

十、Modbus control (K-8000C)

The K-8000C is connected to third-party software through RS485 protocol port INA / B; multiple controllers are controlled simultaneously, and you need to set up the controller's Modbus Address number.

1. Press and hold the "chip" button, the controller is turned on; go to the settings the Modbus Address number interface.

2. Press the "Speed +" and "Speed -" keys to adjust the number of the current controller.

3. Press the Mode button to confirm the selection.

As shown below: Modbus Addr: 002, That is, the controller number 2
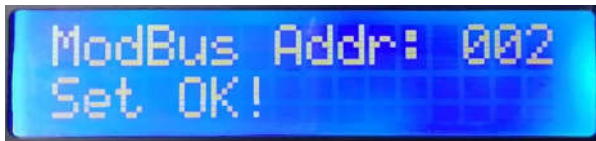
4. Restart the controller, the controller boot detection will display:

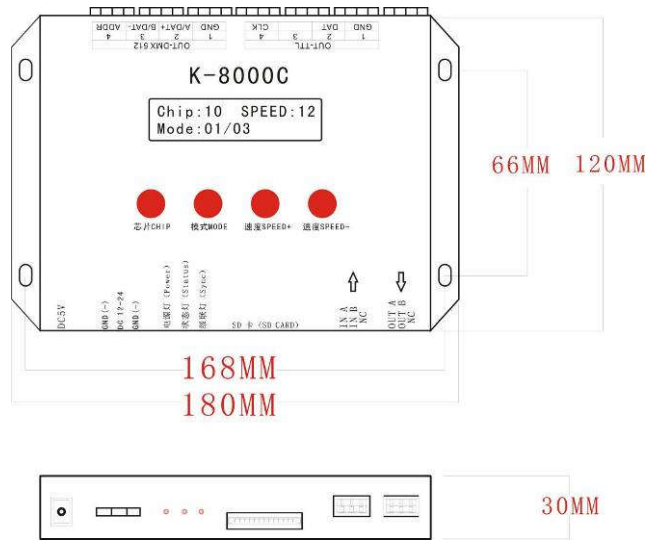5. Pass the operation of the command control K-8000C by third-party software.

十一、 Specific parameters：

Physical parameters: **Memory card:**

Working temperature: -20°C—85°C   Type: SD card

Working power supply: DC 5V or DC12-24V input   Capacity: 128MB-32GB

Power consumption: 5W   Format: FAT or FAT32 format

Weight: 0.8Kg   Storage file: *.led

Size:

十二、**SD card formatting**

1、The SD card must be formatted before copying the file to the SD card (note that it is formatted before each copy).

2、Formatting process

①SD card settings - "File System", "FAT" format (SD card capacity ≤ 2G) or "FAT32" format (SD card capacity ≧ 4G).

②SD Card Settings - "Assign Unit Size", click the drop down button to select "Default Configuration Size" or click the "Restore Device Defaults" button.

③Start formatting.

As shown below:
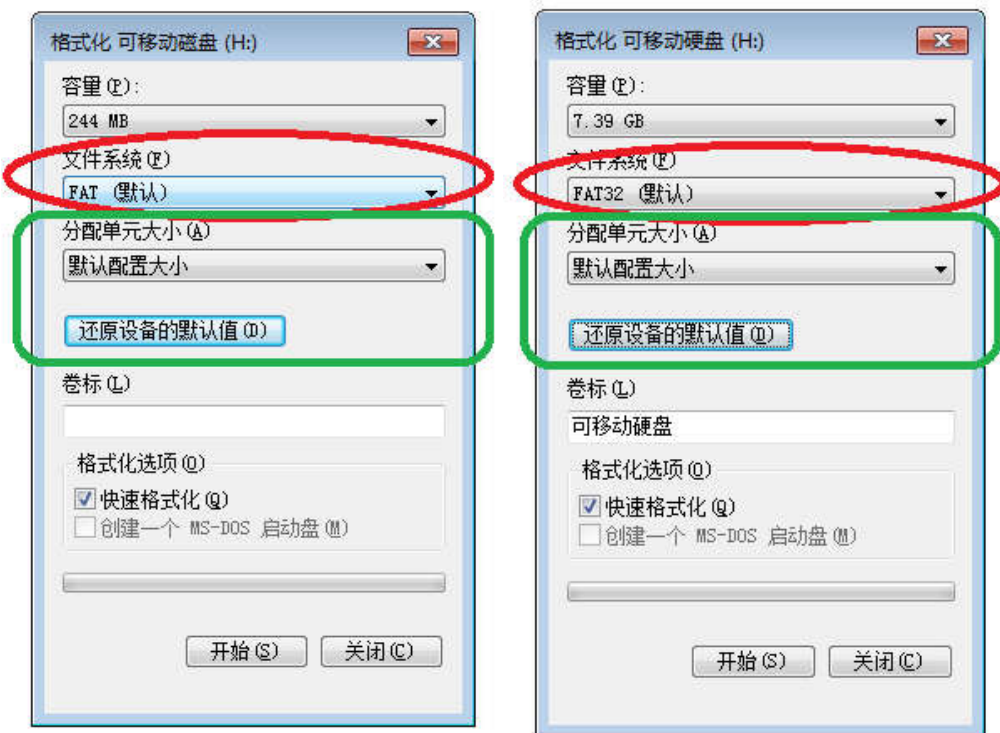
3、The SD card cannot be hot swapped, that is, the power of the controller must be disconnected each time the SD card is inserted or removed.

Appendix: Common problem handling:

Question 1: After power-on, the controller screen is displayed as SD Error and there is no effect output.

A: The screen displays SD Error indicating that the controller is not reading the card correctly. Possible problems are:
①SD card is empty, no effect file.

②SD card inside the effect file *.led file and controller model does not match, please select the controller model, chip model in the latest version 2016LedEdit, and re-create the effect file *.led.

③After replacing the SD card, test it again to eliminate the possibility of SD card broken.

Question 2: After power-on, the controller outputs the built-in effect, no SD card effect playback

A: The controller can not detect the SD card and automatically plays the built-in program:

①The controller does not insert an SD card and inserts an SD card.

②The card has been inserted, the SD card is not inserted in place, and the SD card is reinserted.

③The card has been inserted, the controller does not match the SD card, the SD card is not detected, and the matching SD card is replaced.

Question 3: After the controller is powered on, the indicator light is normal, but the lamp has no effect change.

A: The reasons for this situation are as follows:

①Please check if the signal line of the luminaire and the controller are connected correctly.

②The signals of conventional luminaires are divided into in and out, and it is determined whether the control is a signal connecting the first luminaire.

Question 4: After the controller is connected to the luminaire, the strobe flashes and the effect changes, and the controller indicator shows normal.

A:　①The ground wire between the controller and the luminaire is not connected.

②The effect done in the SD card is incorrect. The lamp chip selected when the effect is made does not match the chip of the actual lamp.

③ When editing effects on the software but did not lock the chip, the chip of the controller should be attached to the corresponding chip of the luminaire. Refer specifically to the IC sequence of the sticker on the controller.

④The power supply voltage of the luminaire is insufficient.

Question 5: The SD card cannot be formatted.

A:：①First confirm that the protection switch on the side of the SD card has been unlocked. The direction of unlocking is the end of the SD card gold needle.

②The protection lock has been designed as required, but it still cannot be formatted. If this happens, most of the SD card readers are broken. Please replace the SD card reader (suggest to use a better quality card reader like SSK (Biao wang) card reader).

③If the above operations cannot solve the formatting problem, please replace the SD card and retest.