



XB-808-A master control



一、Master control system features

Salient features:

1. Strong performance, can carry up to 160,000 pixels or 60 sub-controls.
2. Integrate BTS synchronization function, 4G network communication function and offline playback function into one, which is convenient and reliable to use.
3. Support Bluetooth, RF, remote 4G network communication, can be controlled by PC / mobile APP.
4. Can realize any timing, multi-level encryption function.
5. Have a unique identity code UID.

Conventional features:

1. The playback content is stored in the SD card. The SD card can store up to 32 effect files, it's capacity supports 4G-32GB. It supports single-effect playback, effect loop playback, and the effect is accelerated and decelerated.
2. The master control can be used for the automatic/manual numbering of the sub-control ID. It can be numbered together with multiple controllers, or it can be numbered separately.
- 3, The master control comes with built-in effects, can test the loaded lamps (RGB / RGBW lamps are supported).
- 4, The controller has DMX512 write address function and address test, single port or all ports support DMX512 IC write address, and make address test of the lamp.
- 5, the controller uses the standard TCP / IP network protocol, signal transmission is more stable; optional 100 Mbps / Gigabit transmission rate.
- 6, If use together with our T-700K/T-800K for offline use, supports up to 160,000 pixels or 60 controllers.
- 7, Support timing (holiday) playback.
8. Support BTS base station timing synchronization, GPS satellite timing synchronization.
- 9, Support a variety of encryption methods.
10. The IC controller for DMX lamps has its own address writing function. In addition, with the latest LedEdit-K software of our company, one-click address setting function can be set. Press and hold (SET) to write the address with one



click.

二、Support controllers:

T-500/T-700K/ T-800K

三. Controller pictures



Controller identification				
1.485 control interface	2. Power indicator	3. Status indicator	4.BTS antenna	5.SD card slot
6.BTS signal indicator	7.NET1 signal light	8.NET1 network port	9.NET2 network port	10.NET2 signal light
11.LCD display screen	12.SET button	13.MODE button	14.SPEED+ button	15.SPEED- button
16.SIM antenna	17.SIM card slot	18.Switch	19. Power interface	

四、Indicator and button definition

1.Indicator definition:

POWER	Power indicator	After power on always on
STATUS	Status indicator	Normally extinguished
BTS	BTS signal light	Strobe with BTS signal
NET1	Cascade signal input	Strobe with signal input
NET2	Cascade signal output	Strobe with signal output

2. Port definition

Power supply	AC110-240V input		
NET1	Network signal interface	A1/B1	1st channel 485 interface
NET2	Network signal interface	A2/B2	2nd channel 485 interface
BTS	BTS antenna interface	SD	SD card slot



SIM	SIM antenna interface	SIM	SIM card slot
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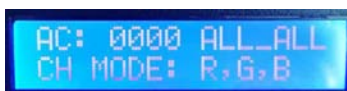
3. Speed level corresponding frame:

Speed level	Frame/second	Speed level	Frame/second	Speed level	Frame/second	Speed level	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

4. Button function

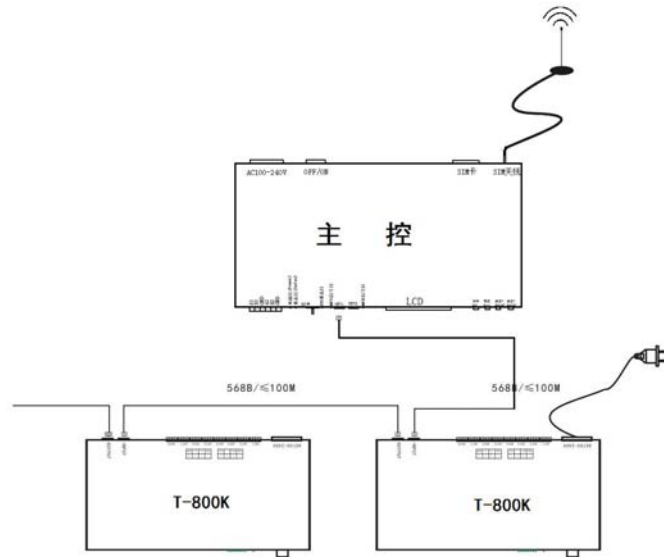
	SET	MODE	SPEED+	SPEED-
Playback mode	/	/	/	/
Numbering mode	Number start button	/	Digital plus	Digital subtraction
Parameter setting mode	Parameter setting / entry	Project selection	Parameter adjustment +	Parameter adjustment -
Built-in effect playback	Chip selection	Mode selection	Speed +	Spped -
Remarks	Normally boot into normal mode, the button has no effect	Press "SET" to power on, enter parameter setting mode/function setting		Press "-" to power on, enter the numbering mode

5. Display definition:

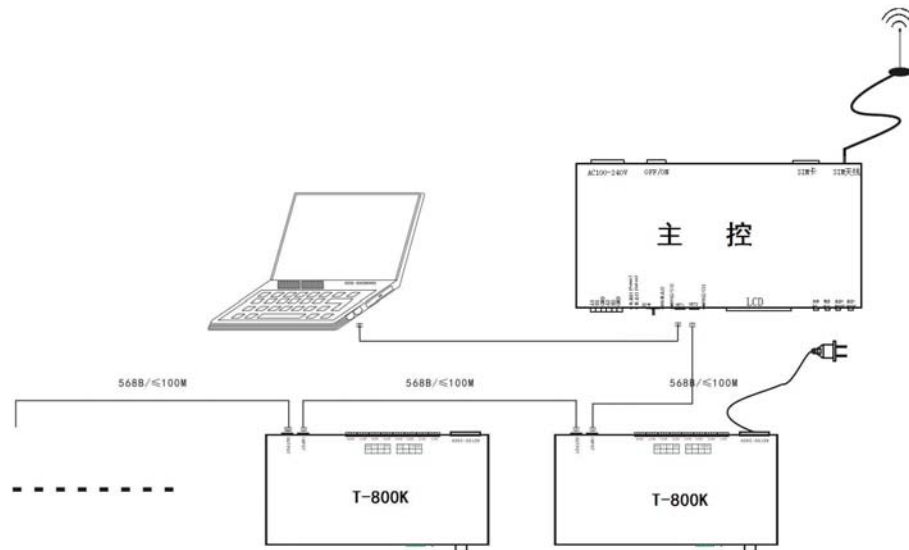
Display	Definition
 Playback mode	MODE: Effect mode TIM timing play Speed: play speed I_BTS BTSSignal synchronization timing
 Numbering mode	Sub-control number Start ID: 001
 Built-in effect playmode	CHIP: chip 3: light channel MOD: Built-in effects SPD: play speed
 DMX512IC Address writing mode	Refer to DMX512IC address writing mode and test
 Light address test mode	Refer to the light address test mode

五、Wiring diagram

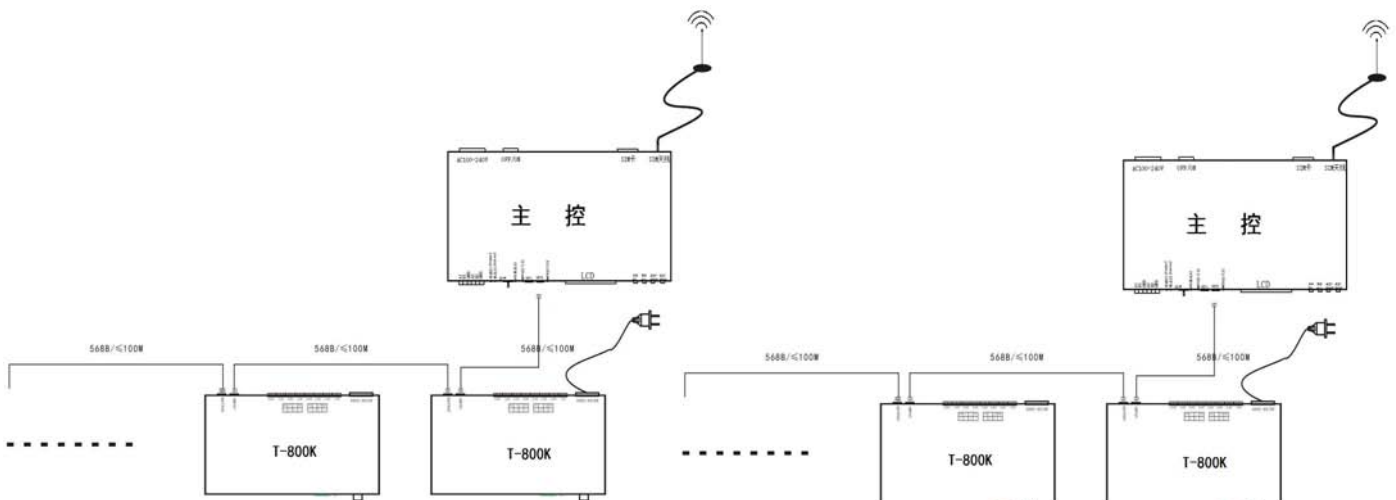
1、Single set master control



2、 Online offline integration control

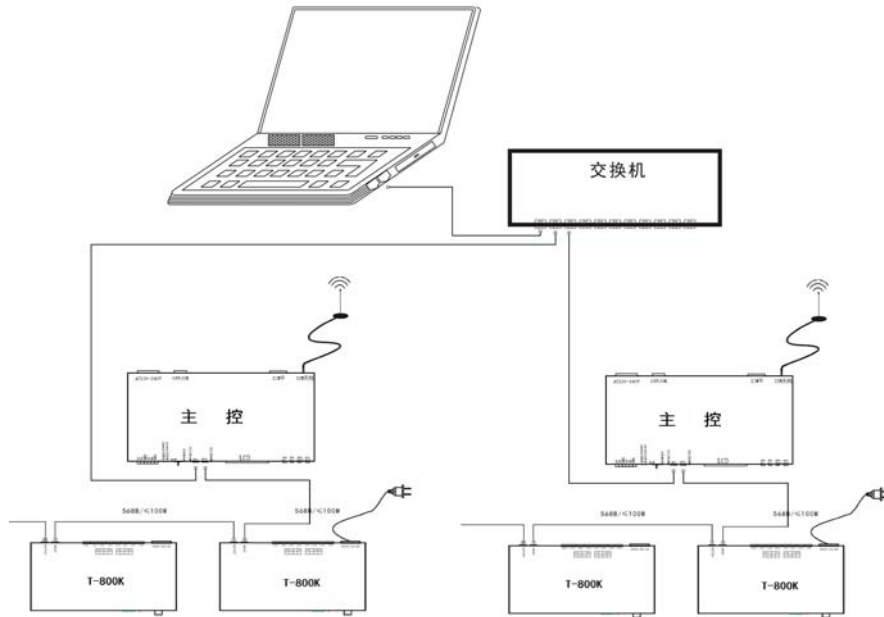


3、 Synchronous control of multiple master BTS base stations





4、 Multiple master control integration control

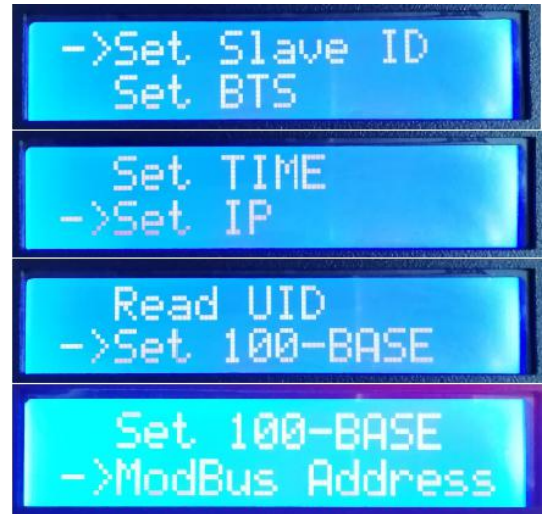


六、 Function intruduction

Master long press "SPEED-" button to power on.

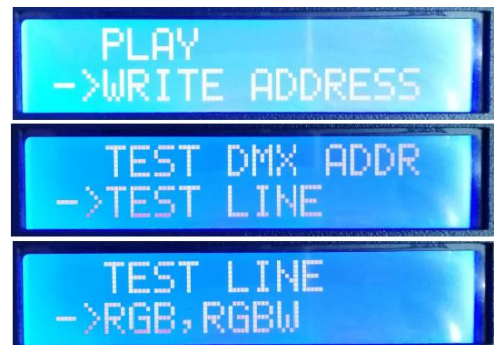
Display interface 1:

- | | |
|------------------|--------------------------------------------|
| ① Set Slave ID | Control number |
| ② Set BTS | BTS switch |
| ③ Set TIME | Time setting |
| ④ Set IP | IP/ID seting |
| ⑤ Read UID | UID Number reading |
| ⑥ Set 100-BASE | Transmission rate setting |
| ⑦ ModBus Address | Master number (third-party device control) |



Mater long press "Set" button to power on. display interface 2:

- | | |
|------------------------------------------------|--------------------------|
| ⑧ PLAY | Built-in effect playback |
| ⑨ WRITIE ADDRESS: DMX address writing and test | |
| ⑩ TEST DMX ADDR | DMX address test |
| ⑪ TEST LINE | Line test |





1、 Sub-control number function

The main control and the sub-control are connected through the network cable (using the international standard TCP/IP network protocol, and the network cable is 568B through).

1.1. The master control presses the “SPEED-” button to turn it on, and the “MODE” button adjusts the arrow to select “Set Slave ID”.

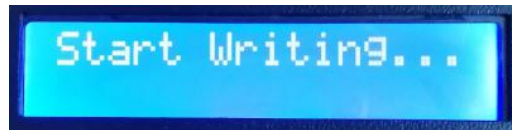
As shown in the figure:



1.2. Press “SET” to enter the sub-control number page. The “Speed+” button and the “Speed-” button adjust the number of the starting sub-control, as shown below:



1.3. After completing the number setting, press the “SET/Save” button to start the numbering;

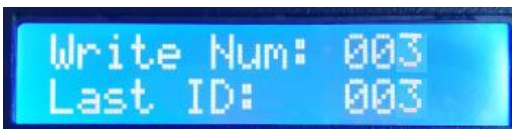


1.4. The first step of the controller number is to automatically count the number of sub-controls. The display “Write OK: 003” (take the 3 sub-control numbers as an example);



1.5. The number is completed, the main control display: As shown in the figure "Write Num: 003", 3 controllers are programmed;

"Last ID: 003" The last controller is numbered 3;



Sub-control display:



The first set: A-01



The second set: A-02



The third set: A-03

1.6. Check the sub-control number. If need to re-number, press and hold the “SPEED-” button to restart the number. If you do not need to re-number, press any button—the main control restarts and returns to the play mode.



Note 1: When the controller is numbered, the level networking ports must be connected in strict accordance with the controller silkscreen prompt (IN/OUT).

2、BTS switch function

2.1. The master control long press the “SPEED-” button to turn it on, and the “MODE” button will adjust the arrow to select “Set BTS” .

As shown in the figure:



2.2. Press the “SET” button again to enter the BTS setting page. The “SPEED+” button and the “SPEED-” button move the arrow up and down to select the setting, as shown below:

- ① BTS Turn ON BTS turn on
- ② BTS Turn OFF BTS turn off



2.3. Press “MODE” button to confirm selection, display as below:

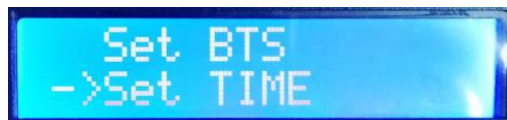


2.4. Confirm that the settings are correct, press “SET” to exit the interface; restart the controller and return to playback mode.

3、Time setting

3.1. The master control long press “SPEED-” button to power on; “MODE”button adjusts the arrow to select “Set TIME” .

As shown in the figure:



3.2. Press “SET” again to enter the time setting page; “MODE” button to adjust the cursor position; “Speed+” button

And the "SPEED-" button to select settings, as shown below:

Year/month/date/hour/minute/second/week



3.3. The time setting is completed and the save settings are restarted.

4、IP/ID setting (4G cloud)



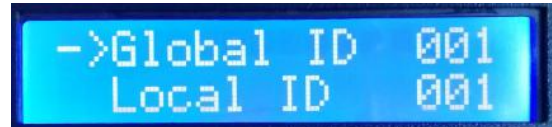
4.1. The master control long presses the “SPEED-” button to power on, and the “MODE” button adjusts the arrow to select “Set IP”;

As shown in the figure:



4.2. Press the “SET” button to enter the IP settings page;

- ① Global ID Global ID
- ② Local ID Local ID
- ③ User IP IP address
- ④ Return Return to the main interface



Note: Multiple masters are used at the same time, and the global ID cannot be repeated.

4.3. The “MODE” button adjusts the arrow up and down to select “Global ID” or “Local ID” ; the “SPEED+” button and the “SPEED-” button for ID setting.

4.4. “MODE” button adjusts the arrow position to “User IP”; Press “SPEED+” to enter IP address setting.

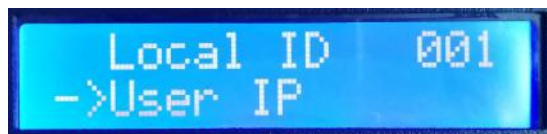
As shown below: (The IP is the factory test IP)



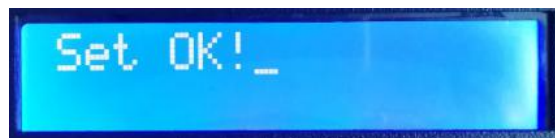
Note: IP address setting, generally change the factory setting IP to the IP address used by the real project.

4.5. The “MODE” button adjusts the cursor position; the “SPEED+” button and the “SPEED-” button perform IP settings.

4.6. Complete the IP address setting, press “SET” to exit and return to the previous interface.



4.7. Press the “SET” button again to save the previous IP address and ID settings, then the controller will display:



4.8. After completing the IP/ID setting, the controller display automatically returns to the IP setting interface; the “MODE” button adjusts the arrow to select “Return”.

Press the “SET” button again to exit and return to the main interface.

4.9. Restart the controller and return to playback mode.



5. UID reading

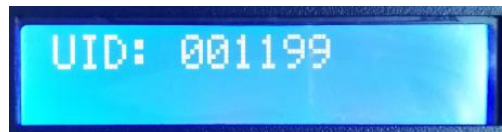
Each master has a unique UID identity number for use as a wireless connection (RF/Bluetooth) device identification.

5.1. The main control presses the “**SPEED-**” button to turn it on, and the “**MODE**” button adjusts the arrow to select “**Read UID**”.

As shown in the figure:



5.2. Press the “**SET**” button again to enter the UID read page, for example: UID: 001199



5.3. Press “**SET**” to exit, return to the main interface and restart the controller to return to playback mode.

6. Transmission rate selection

6.1. The master presses the “**SPEED-**” button to turn it on, and the “**MODE**” button adjusts the arrow to select “**Set 100-Base**”.

As shown in the figure:



6.2. Press the “**SET**” button again to enter the transmission rate selection page:

- ① **100-BASE** **100M rate**
- ② **1000-BASE** **Gigabit rate**



6.3. The “**SPEED+**” button and the “**SPEED-**” button adjust the arrow to move up and down; press the “**MODE**” button to confirm the selection, as shown below:



OR



6.4. Confirm the selection is correct, press the “**SET**” button to exit, return to the main interface, restart the controller and return to the playback mode.

7. Master control number (Third party device control)

When using a third-party device to control the master operation, multiple master number operations are required.

7.1. The master control presses the “**SPEED-**” button to turn it on, and the “**MODE**” button adjusts the arrow to select “**ModBus Address**”.

As shown in the figure:



7.2. Press the “SET” button again to enter the main control number page:



7.3. Press the “SPEED+” button and the “SPEED-” button to adjust the number; press the “MODE” button to confirm the selection, as shown below:



7.4. Confirm the selection is correct, press the “SET” button to exit, return to the main interface, restart the controller and return to the playback mode.

8、 Built-in effect playback (Luminaires that support RGB/RGBW channels)

8.1. Press the “SET” button and the controller is turned on. Press the “MODE” button to move the arrow to select “PLAY” .

As shown in the figure:



8.2. Press the “SET” button again to enter the built-in effect playback interface, as shown in the figure:

- ①. **CHIP** chip mode code (Refer to IC mode list)
- ②. **3** Channel selection (3/4)
- ③. **MOD** Built-in effects code (Refer to built-in effects list)



- ④. **SPD** Playback speed level (Refer to the speed level corresponding frame list)

Note: When the built-in effect is played, the supported lamp channel is set by the “Lamp Channel Selection Mode” .

8.3. Button function list

Button silk screen	SET button	MODE	SPEED+	SPEED-
Function	Chip selection	Mode selection	Speed +	Speed -

8.4. Press “SET” to switch IC model

IC model list			
1	DMX (Standard 250Kbps)	5	TM1803



2	UCS1903	6	GS8205
3	SM16703	7	DMX 500K
4	WS2811		

8.5. Press "MODE" to switch built-in effects

Built-in effects list			
1	Colorful jump	3	Colorful change
2	Colorful gradient	4	White light gradient

8.6. Press "SPEED+" and "SPEED-" to switch the speed:

Speed level corresponding frame list							
Speed	Frame/se cond	Speed	Frame/se cond	Speed	Frame/se cond	Speed	Frame/se cond
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

8.7. After the built-in effect playback is completed, shut down and restart, and return to the playback mode.

9、DMX512 IC Address writing mode and test (Can address a single port of a single controller)

9.1. Press the "SET" button and the controller is turned on. Press the "MODE" button to move the arrow to select "WRITE ADDRESS".

As shown in the figure:



9.2. Press "SET" to enter the address mode interface, as shown in the figure:

- ①. **START CH:** Starting channel
(The starting address is set in the range of 0-512, and the regular is 001.)
- ②. **CH MODE:** Interval channel
(Interval channel setting in the range of 0-255)
- ③. **IC:** Chip model
(Refer to DMX512 IC list)
- ④. **CONTR NUM** Controller number
(ALL controllers/ Single controller number 01-60)
- ⑤. **PORT NUM:** Address writing port Refer to the port code list
(ALL ports/single port 1-8)
- ⑥. **RETURN** return to main interface



9.3. Press the "MODE" button to move the arrows, and press "SPEED+" and "SPEED-" to set

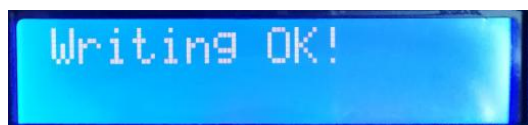
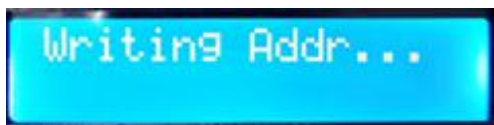


the start channel/interval channel/IC option/select the address controller/select the address port.

1.DMX512 IC list			
UCS512A*/B*,TM512AL1/AB	WS2821	DMX512AP	UCS512C*, TM512AC*
SM1651*-3	SM1651*-4	UCS512D*/TM512AD *	UCS512-E
SM17512*	SM17522*	UCS512-F	TM512AC*
GS8512	SM17500		

2. Controller port code list			
1	Port OUT1	5	Port OUT5
2	Port OUT2	6	Port OUT6
3	Port OUT3	7	Port OUT7
4	Port OUT4	8	Port OUT8
ALL	All ports OUT1-8		
Note: All port addresses of the controller are also supported, and single port address is also supported.			

9.4. Select to complete each item, press **“SET”** to start writing; at this time, the screen displays **“Writing Add...”**, the port indicator flashes, and then **“Writing OK!”** appears to indicate that the address is completed.



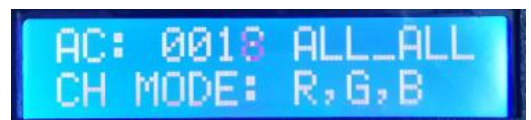
9.5. After the address is written, the controller automatically jumps to the address test function. At this time, the screen displays:

- ①. **AC: ****** Automatic test
- ②. **MC: ****** Manual test
- ③. **ALL- ALL** All controller all ports
- ④. **CH MODE:** Channel (Interval channel is not adjustable)



Note: The address port is set by "CONTR NUM /PORT NUM" before address writing (in this case, all ports of all controllers)

9.6. Press the **“MODE”** button to enter the **“AC”** automatic test mode, the lamps will start to light up in sequence, and the number will increase automatically;
The controller displays the following picture:



9.7. Press the **“MODE”** button again to enter the **“MC”** manual test mode; **“SPEED+”** and **“SPEED-”** can adjust





the pixel points (long press “SPEED+” and “SPEED-” can quickly increase or decrease), and the lamps will light up one by one;
Display as shown:

9.8. After the test is completed, press “SET” to exit the channel test and return to the write address interface.



9.9. Press the “MODE” button to move the arrow to select “Return”, then press “SET” to exit the address and test, and then restart to return to the playback mode.

10、Lamp address test mode (Test the load on all ports of the controller)

10.1. Press the “SET” button and turn on the controller. Press the “MODE” button to move the arrow to select “TEST DMX ADDR” .

As shown in the figure:

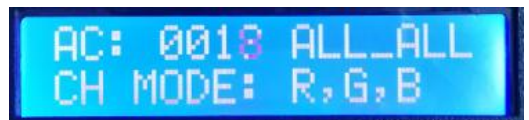


10.2. Press the “SET” button again to enter the luminaire test mode interface, as shown in the figure.

- ①. AC: **** Automatic test
- ②. MC: **** Manual test
- ③. ALL-ALL: All controllers all ports
- ④. CH MODE: Channel

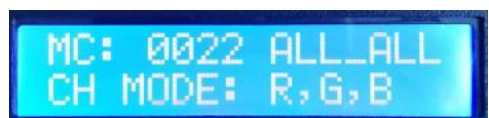


10.3. Press the “MODE” button to start the test, as shown in the figure:



10.4. Press the “MODE” button to switch the test channel option.
Press the “SET” button to switch between the manual channel test mode and the automatic channel test mode;

Press the “SPEED+” and “SPEED-” keys to adjust the lamp number in the manual channel test mode;



Lamp test vocabulary definition



Automatic mode:AC	Definition	Manual mode:MC	Definition
AC: **** ALL-ALL CH MODE: RGBW	1 channel automatic test	MC: **** ALL-ALL CH MODE: RGBW	1 channel manual test
AC: **** ALL-ALL CH MODE: RG,BW	2 channel automatic test	MC: **** ALL-ALL CH MODE: RG,BW	2 channel manual test
AC: **** ALL-ALL CH MODE: R,G,B	3 channel automatic test	MC: **** ALL-ALL CH MODE: R,G,B	3 channel manual test
AC: **** ALL-ALL CH MODE: R,G,B,W	4 channel automatic test	MC: **** ALL-ALL CH MODE: R,G,B,W	4 channel manual test

Note 1: Automatic and manual test mode switching: AC is the automatic test mode, MC is the manual test mode, and is switched by the “SET” key;

Note 2: luminaire channel switching, RGBW is a monochrome single-channel luminaire; RG, BW is a two-color two-channel luminaire; R, G, B are three-color luminaire; R, G, B, W are RGBW four-color luminaire, by "MODE" Key switch;

Note 3: **** is the lamp number; 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-”.

10.5. After the test is completed, the power is turned off and the controller can enter the play mode.

11、 Line test TEST LINE

11.1. Press the “SET” button and turn on the controller. Press the “MODE” button to move the arrow to select “TEST LINE” .

As shown in the figure:



11.2. Press the “SET” button again to enter the line test interface, as shown in the figure:

①. START ID Starting controller number

②. END ID End controller number

③. RETURN Return



Note: Enter the interface default test (No. 1-20 controller)

11.3. Press the “MODE” button to move the arrow to the selection, and press the “SPEED+” and “SPEED-” buttons to adjust the start controller/end controller number.

11.4. Press the “SET” button to start the test, as shown in the figure:





11.5. Wait for a while, controller display test results

Press the “**MODE**” button to move the arrow up and down to view the data packet loss rate of each controller.

Like “LOS :0000” shows the connection is normal,

If the packet loss rate is greater than 0, the line connection is abnormal;

The packet loss rate is 1700, that is, all data is lost.。

As shown in the figure "019 LOS: 1700" on the right, it is necessary to check the line connection when the 19th station is completely disconnected until the test packet loss rate is "0000".



11.6. Press the “**SET**” button to exit the test result interface.

11.7. Press the “**MODE**” button to move the arrow to select “**Return**” , press “**SET**” to exit the line test, and shut down to restart the playback mode.

12、 Lamp channel selection (Built-in effect playback supports RGB/RGBW IC channel selection)

12.1. Press the “**SET**” button and the controller is turned on. Press the “**MODE**” button to move the arrow to select “**RGB, RGBW**” .

As shown in the figure:



12.2. Press the “**SET**” button again to enter the lamp channel selection interface, as shown in the figure:

①. **RGB** **Three-channel luminaire**

②. **RGBW** **Four-channel luminaire**



12.3. Press the “**SPEED+**” and “**SPEED-**” buttons to move the arrow up and down to select the RGB/RGBW channel option.

12.4. Press the “**MODE**” button to confirm the selection, as shown in the two settings:



OR



12.5. Select to complete the lamp channel selection, press “**SET**” to exit and return to the main interface.



七、DMX512 One-click address writing



1. One-click address writing: (as picture 1)

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

2. Interval channel input (As picture 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 picture: 2)

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

4. Complete the one-click address writing setting.

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

5. Controller one-click write code operation

- ① Insert the SD card into the controller;
- ② Power on the controller;
- ③ Press and hold the “SET” button for 10 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.



八、Bluetooth control

The controller has a built-in Bluetooth receiver module that can be controlled using the mobile APP.

1. Mobile phone installation Bluetooth debugging APP;



2. The phone turns on the Bluetooth function, click on the APP, search for the controller, as shown in Figure 1;

3. Select and click the Bluetooth number of the controller to enter the control page, as shown in Figure 2;



图 1



图 2

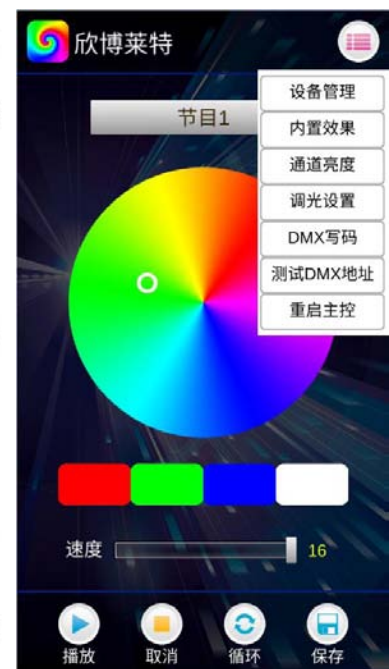


图 3

- ① **Program selection area:** Select the effect program in the SD card; click on the program in the drop-down menu;
- ② **Color debug area:** Instantly adjust the luminaire to display the clicked color;
- ③ **Speed adjustment area:** 16-speed level adjustment;
- ④ **Play operation area:** Play/pause, cancel (control), loop (play), save (set) four selection options;
- ⑤ **Other operation area:** Device management, built-in effects, channel brightness, dimming settings, DMX write code, test DMX address, restart master, as shown in Figure 3;

4. Equipment management (Figure 4)

Add node: The phone controls multiple controllers simultaneously by adding nodes (controllers)



- ① **UID:** Fill in the new node (controller) UID number - obtained by manually reading the master UID number;
- ② **Name:** Write the node name

5. Built-in effects (As figure 5)

Click “Built-in effect” to select relevant options through the phone settings, and the master will control the built-in effects to play the program;

- ① **Play / Pause:** Built-in effects play/pause
- ② **Speed:** 1-16
- ③ **Program number:** Program 1- program 4 are effective
- ④ **IC model:** DMX 250K /UCS1903 / DMX500K
- ⑤ **Channel:** 3 / 4

6. Channel brightness (figure 6)

Channel brightness: The brightness of each channel of the luminaire can be adjusted, and the brightness setting parameters will be written into the controller (the setting will be fixed after the brightness is set)



Figure4

Figure 5

Figure 6

7. Dimming settings (Figure 7)

Dimming setting: dimming test on the luminaire (to adjust the special color settings)

- ① **IC model:** DMX/ UCS1903



- ② Channel number: 3 / 4
- ③ **Brightness adjustment:** Red/green/Blue (0-255)

8. DMX code writing (Figure 8)

- ① **Address writing mode:** according to channel / the number of lights;
- ② **Start channel:** Manually input (1-4096);
- ③ **Channel spacing:** Fill in the actual interval channel (0-255);
- ④ **Chip model:** UCS512-A/B、WS2821、DMX512AP-N... Select according to the actual lamp carried IC;
- ⑤ **Designated controller:** Select the sub-control number to write the address for the controller;
- ⑥ **Designated port:** Select the sub-control port to specify the port address of the controller;

9. Test DMX address (Figure 9)

Test the lamp address is correct (lights are bright white)

- ① **Channel spacing:** actual interval (0-255);
- ② **Lamp number:** Click “+” and “-” to test when testing manually; when auto test, the number is automatically increased (1-1536);
- ③ **Designated controller:** Select the sub-control number to test for the controller;
- ④ **Designated port:** Select the sub-control port to specify the port test of the controller;



Figure 7



Figure 8



Figure 9

九、Specific parameters

Memory Card:

Add: A2 Building, Ming Jin hai Industrial Park, Zhou shi Rd, Shiyan, Baoan, Shenzhen, China. 518108
 Tel: 0086-755-85257292 Web: Fax: 0086-755-8525-7292 E-mail: inquiry@ipixelleds.com



Type: SDHC card

Capacity: 4GB-32GB

Format: FAT32

Storage files: *.BIN

Physical parameter:

Operation temperature: -30°C—85°C

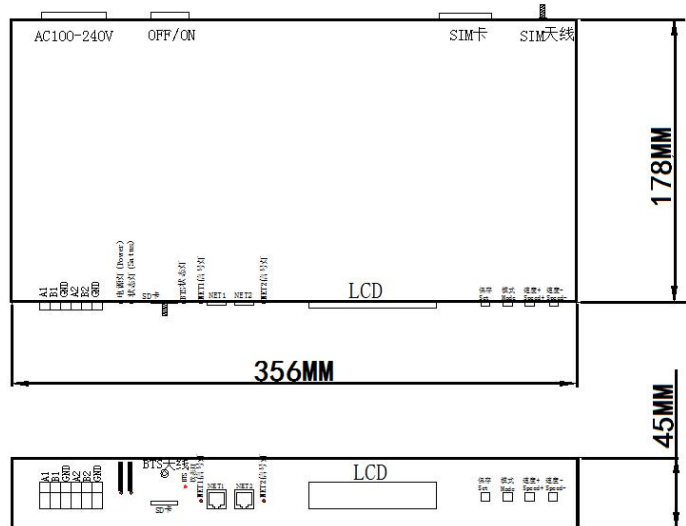
Operation power: AC 110-240V

Consumption: 5W

Weight: 1.2Kg

Data transmission interface: network port

Size: L356mm * W178mm * H45mm



十、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).

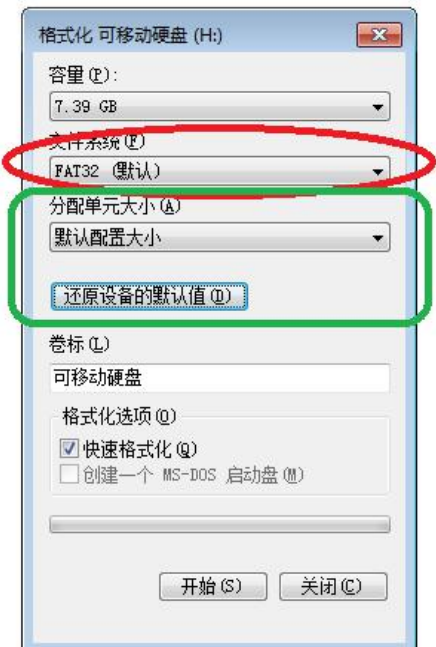
2、Formatting process

①SD card settings - "File System", "FAT" format

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.

十一、Precautions:

