S408 MANUAL

Version: 6.7

2026-1

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1. FUNCTION OVERVIEW

1. 8 signal outputs (independent data), suitable for small projects. Select "cascade", "time control", "GPS synchronization" to achieve multi-device animation on the same screen.
2. Control variety of regular chips in LED digital tube screen, LED pixel light screen, and etc.

SW Single chip:	D**S, D**J.
SPI:	TM180*-400K/800K, UCS19**, UCS29**, WS2811/12,, SM167**, SM15155E, SM16912P, UCS2603, TM1903, TM1908, SM16714PHT, FL16703A, HW1002A, RT7908A, KW2303A, MT16703, FW1903, FW1935.
DMX512:	SW-D, SW-U, UCS512A/B/C0/C4/D/E0/EH/G4/G6/H4/KL/KH, DMX512AP/SM512, SM16500P/511/512, SM17500P/512P/522P, SM17512/522, SM18522P/PH, Hi512A0/A4/A6, TM512AB3/AL1/ACx/AD/AE/B4L, QED512P, GS8512/513/515/516/516B, GS8523/24/25/26, standard DMX512 lighting fixture on the market.
Breakpoint resume:	UCS5603, WS2818, GS8206, P9883, TM1914, XT1506S.

3. Specialized software of making animation is included, user can make their own effects and save in SD card.

2. TECHNICAL PARAMETERS

2.1. PRODUCT INFORMATION

Cover material:	Iron
Input voltage:	AC 100V - 240V
Output port:	TTL & RS-485 * 8 channels
Pixel driven:	MCU: 2880 channels ×8 ports, SPI: 3072 channels ×8 ports, standard DMX512: 512 channels ×8 ports, Extended DMX: 1024 channels ×8 ports, Breakpoint resume: 2880 channels ×8 ports.
Output power:	<3W
Working temperature:	-15℃ ~ 60℃
Relative humidity:	≤50% RH
IP grade:	IP20 (Prevent people from touching the components inside electrical appliance, prevent object which diameter is more than 12.5mm from getting in, no special protection to water or moisture.)
Working environment:	1. Please do not install the controller in magnetic, high pressure, high temperature or seriously wet environment. 2. Please do connect the earth safely in order to reduce risks of fire and damage which cause by short circuit. 3. Please ensure AC100-240V power supply is used, and same polarity is connected between transformer and controller in order to guarantee the proper supply voltage. 4. No waterproof function in the control system, please pay attention on rainproof and waterproof during installing.
Transportation	1. The controller has a built-in button battery. According to the relevant

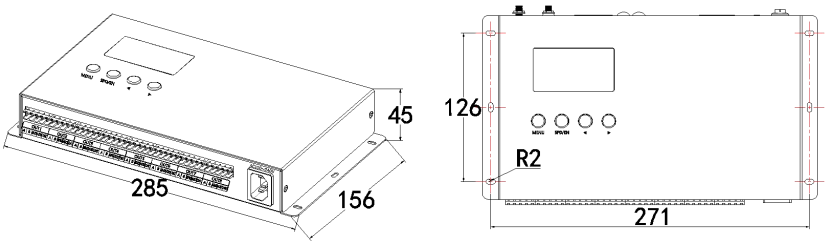
requirements: regulations of air transportation, such goods must perform the filing procedures. If you need air transportation, please contact our business department to obtain relevant qualification documents and arrange transportation after completing the filing.

2.The GPS antenna of the controller is magnetic and cannot be delivered by air directly. If air transportation is required, we should negotiate with our business department in advance. After our company replaces the non-magnetic antenna, we will arrange the shipment according to the air transportation process.

Net weight: 1.3 Kg

Size: L285*W156*H45

(Unit mm)



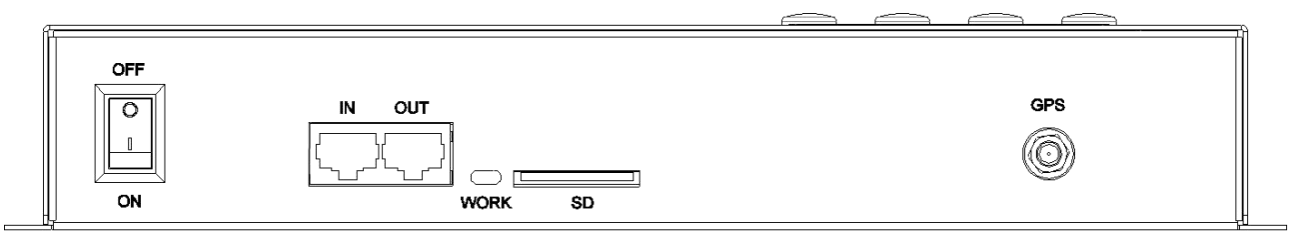
2.2. COMPONENT

① Output control lighting fixture ② 2.5” LED display ③ Button

④ Power input AC100-240V ⑤ Power switch ⑥ Uplink port

⑦ SD card port ⑧ GPS antenna socket

2.3. INDICATOR STATUS



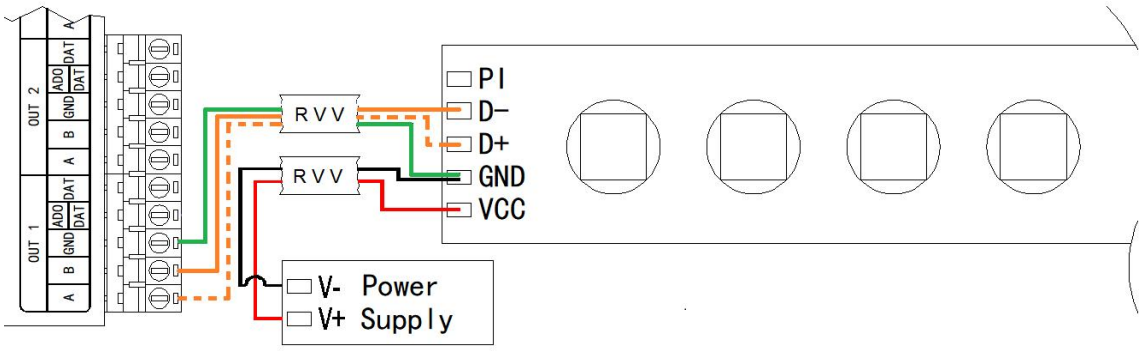
WORK: Working light, it flickers according to frame rate when working properly. No flicker indicates abnormal or non-working status.

3. CONNECTION INSTRUCTION

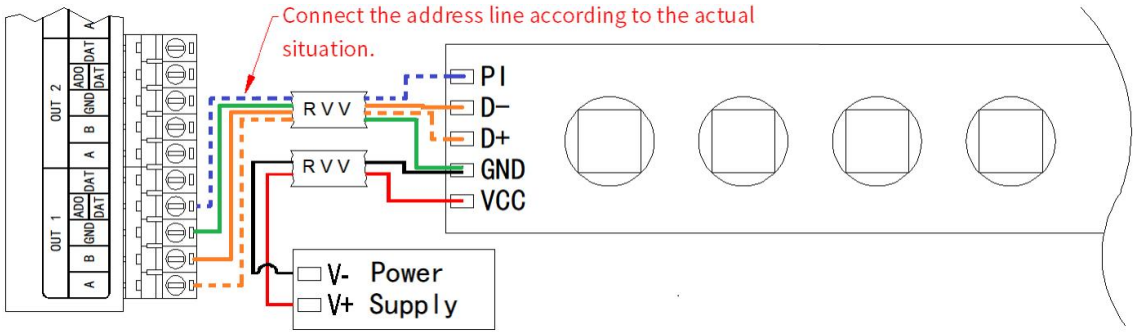
3.1. CONTROLLING LIGHTING FIXTURE INTERFACE

Please connect the cables in accordance with silk print on lighting fixture.

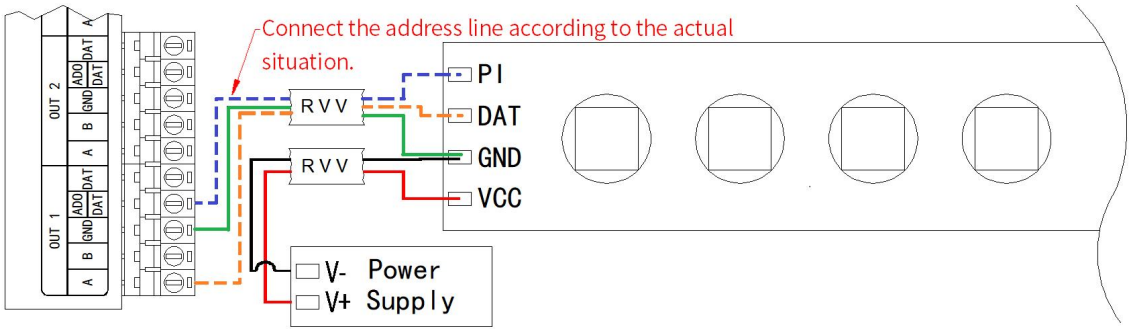
DMX lamps with AB line control and AB line code writing



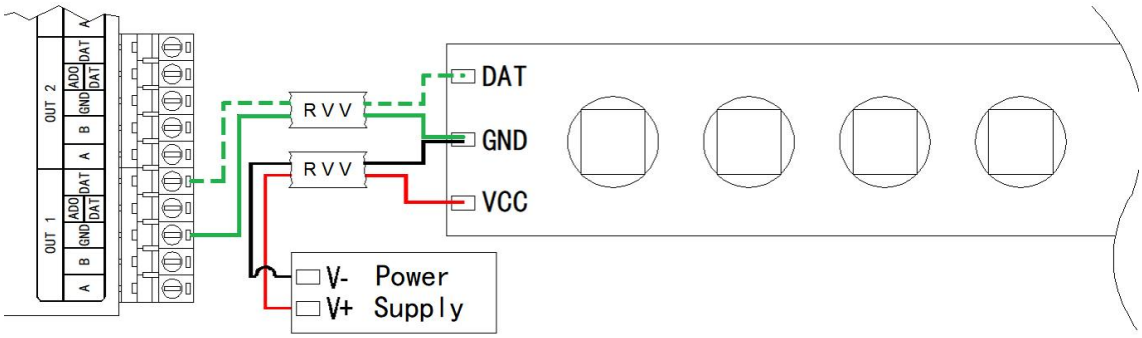
DMX lamps with AB line control and address line code writing



Output control TTL signal, address line write code DMX lamps and lanterns

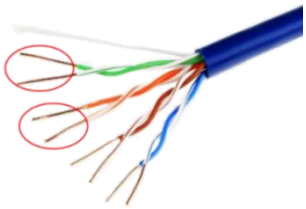


SPI single-wire lamps



★ Signal cables connection cautions:

1. Use UTP—Unshielded Twisted Pair (resistance per 100M<10Ω), low quality Ethernet cables, telephone cables and copper wires are unavailable.



2. Use one group twisted pair, suggest green + green white or orange + orange white. The quality and color of the cable are very important. Blue and brown wires greatly influence the signal transmission. Please don't use several groups of twisted pairs together.
3. Controller signal output GND must connect directly with input GND of lighting fixture. Cannot

connect with lighting fixture through power supply.

4. Switch on the controller after all hardware signal and power cables are connected. Please don't CONNECT / DISCONNECT the signal cables while the controller is power on;avoid back-flow current burning circuit and components of output port.

★ Transmission distance:

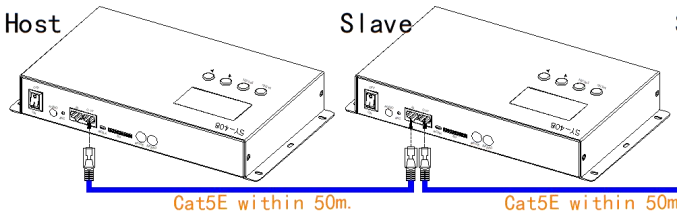
Transmission Type	Signals	Medium	Distance (M)	Remark
Master control → slave control	RS-485	UTP-Unshielded Twisted Pair	50-100	
Master/slave control → SW lighting fixture	TTL	UTP-Unshielded Twisted Pair	30-50	
		core wire	5-30	
Master/slave control → SPI lighting fixture	TTL	UTP-Unshielded Twisted Pair	5-20	
		core wire	1-5	
Master/slave control → DMX lighting fixture	RS-485	UTP-Unshielded Twisted Pair	30-50	The address cable must be no more than 5m.
		core wire	1-20	
Master/slave control → SW lighting fixture Master/slave control → DMX lighting fixture	TTL	UTP-Unshielded Twisted Pair	5-20	Controllable pixels reduce if wire is over 5m.
		core wire	1-5	
Single-wire lighting fixture → SPI lighting fixture	TTL	UTP-Unshielded Twisted Pair	1-2	Controllable pixels reduce if wire is over 1m.
		core wire	0.1-1	

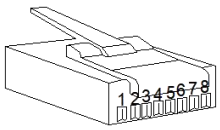
3.2. CASCADE CONNECTION

When the project needs to be controlled by multiple cascading controllers, connect the host with slave controllers by cables to make the whole project synchronous The distance must be no more than 50M. (Please switch to GPS wireless synchronization scheme if exceeding 50 meters.)

User can extend the cables based on real requirement (cable extension should follow T568B method).

Operation refers to the "CASCADE CONTROL" section.





3.3. GPS ANTENNA NOTES

2m GPS antenna is provided. User can also purchase GPS marine antenna with standard SMA interface according to on-site engineering requirement. The longer the antenna is, the more difficult to search satellite.

Notes:

1. GPS Antenna should be installed in open space to guarantee view angle

within 30 degree, there is no big shades (such as trees, iron towers, buildings etc.). GPS Antenna should be more than 2m away from the metal objects which size is bigger than 20cm.

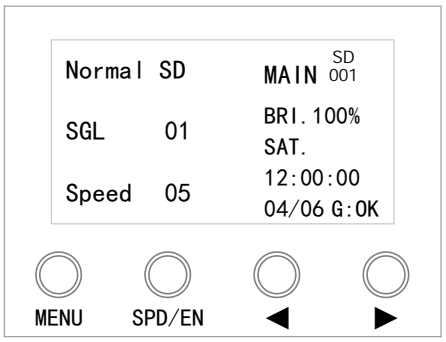
2. Due to the satellite appearing on the equator more than other places, it preferably put the GPS antenna in the south of location for the north hemisphere.
3. Please don't put GPS antenna around other transmitting and receiving equipment to avoid radiation of other transmitting antenna facing to GPS antenna. Please keep them 2m away with each other.

4. BASIC OPERATION

4.1. BUTTONS

Button	Operation	Introduction
MENU	Short press	Return.
	Long press	Enter/exit the "parameter setting" interface.
SPD/EN	Short press	Set the effect speed and save the parameter Settings.
	Long press	Pause or resume playback.
◄	Short press	Decrease, suitable for changing effect and setting parameters.
	Long press	Quickly decrease the value of the effect/parameter.
►	Short press	Increase, suitable for changing effect and setting parameters.
	Long press	Quickly increase the value of the effect/parameter.

4.2. INTERFACE INTRODUCTION



The icon of unsupported functions will not display on interface.

Display	Introduction
Normal	Display the animation type.
SD / FS	Display the source of the animation/Built in Flash effect.
SGL / Loop / Rand.	Current display effect. ⇄ is Multi-loop play status. Press the 【►】 key to maximize the mode, then you can switch between loop and random.
Speed	Current display speed.
MAIN	Main control.
BRI.	Current brightness of controller output.
Sat. 12:00:00 04/06	Current setting date and time.
SD 001	Enter Time control. (001 is the Nth list.)
G: OK	Signal of searched GPS satellite. G:ER No GPS information detected. G:** Synchronization has been obtained by GPS. ** indicates signal strength.

	G:OK The effects have been Sync.

4.3. SPEED SELECTION

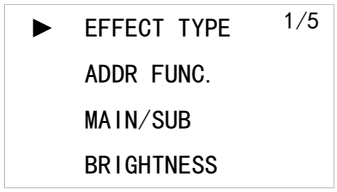
Press button “SPD/EN” on control panel to select play speed, the less the rate, the quicker the speed. All the controllers set same speed and same mode, connect to power in the same time in the AC speed.

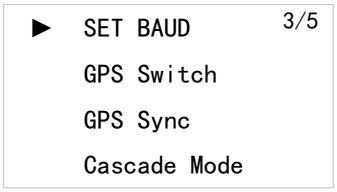
Parameters	Speed																					
Interface	02	25ms	03	33ms	35ms	04	45ms	05	55ms	06	07	08	09	10	11	12	15	20	30	50	80	99
	02AC	25AC	03AC	33AC	35AC	04AC	45AC	05AC	55AC	06AC	07AC	08AC	09AC	10AC	11AC	12AC	15AC	20AC	30AC	50AC	80AC	99AC
Frame Rate (ms)	20	25	30	33	35	40	45	50	55	60	70	80	90	100	110	120	150	200	300	500	1000	2000
(fps)	50	40	33	30	28	25	22	20	18	17	14	13	11	10	9	8	7	5	3	2	1	0.5

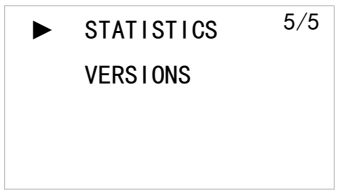
5. MENU SETTING

Long press “MENU” enter/exit “MENU SETTING”.

Press “◄” and “►” to select function. Press “SPD/EN” to confirm.







First Menu	Second Menu	Introduction
EFFECT TYPE	BUILD_IN / SD / UDisk	Set the playback effect type.
ADDR.FUNC.	One Key Addr. Addr. Check Addressing	Set the address parameters of lighting fixtures.
MAIN/SUB	MAIN/SUB	Set main control or sub control.
BRIGHT.	ALL:***% R:***% G:***% B:***%	Set the brightness of lighting fixture.
语言设置	English/Chinese	Set the language.
TIME DATE	SATURDAY 12:00 2024/04/06	Set the time. Press “◄” / “►” to set value and press “SPD/EN” to confirm. It does not support modification when enabling GPS function.
TIME CTL.	SD_CTL / OFF	Set the time control.
TIME ZONE	Time Zone Set + 08	Set the time zone of the controller.
SET BAUD	Reset Valve: 700K Set Valve: 700K	Set the baud rate for transmission

First Menu	Second Menu	Introduction
GPS Switch	ON / OFF	The GPS synchronization function is enabled or disabled.
GPS Sync	Standard / Compatible	When GPS synchronization is enabled, the time control function can be set to Standard or Compatible. The GPS synchronization mode can be set only when both the GPS switch and the SD card time controller are enabled. Standard: By default, play starts from the first frame of the list. Compatible: The controller automatically switches to the corresponding frame sequence according to the time. If you need to synchronize with an old model, select this mode.
Cascade Mode	Standard / Compatible	Set the cascading mode of the primary and secondary servers. In compatibility mode, the controller cannot set built-in effects. Standard: The cascading protocol is the same as the upper and lower cover communication protocol. Compatibility: (due to brightness level differences) Enabled when mixed with SY-408-S1 and older versions.
Single Play	Single Not Loop/Single Loop	Set the unicast type.And it does not work when the GPS switch is on or outputting the built-in effects. Single Loop, loop an effect. Single Not Loop, after playing a certain effect is paused (frozen in the last frame).
Lamp Config	BaudRT: **** Lamp: **** Duty: **** Gamma: **** Gain: **** CH Seq：****	Set the baud rate, duty cycle, gamma, current gain of SPI chip.
Current Gain	C_R: **** C_G: **** C_B: ****	Configure the current of SPI chip.
Reset Setup	Long Press EN To Reset setting	Long press EN to restore the factory settings.
STATISTICS	E03: **** E05: ****	Count the time of E03/E05.
VERSIONS	Versions *****	Get the information of current version.

6. ADDITIONAL FUNCTION

6.1. THE BUILT-IN TEST ANIMATION

Under normal operation, the controller can invoke the "built-in effects" control mode. Press the MENU button to switch.

Note: This built-in effect control mode cannot be invoked when there is no card.

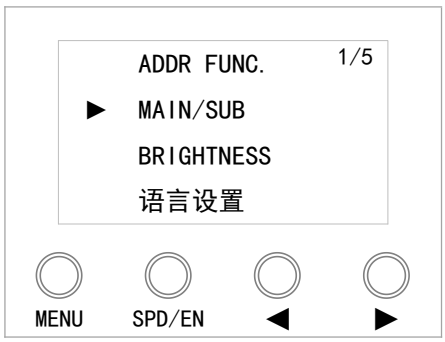
Channel / Effect Mode	1 Channel	2 Channel	3 Channel	4 Channel	5 Channel	6 Channel
1.	Lightless	Lightless	Light-up CH1	Light-up CH1	Light-up CH1	Light-up CH1

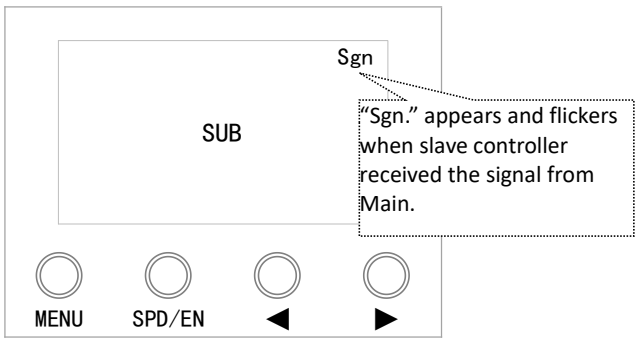
Channel / Effect Mode	1 Channel	2 Channel	3 Channel	4 Channel	5 Channel	6 Channel
2.	Always light	Always light	Light-up CH2	Light-up CH2	Light-up CH2	Light-up CH2
3.	Trailing	Trailing (CH1)	Light-up CH3	Light-up CH3	Light-up CH3	Light-up CH3
4.	Chasing	Trailing (CH2)	Light-up CH1+CH2	Light-up CH1+CH2	Light-up CH1+CH2	Light-up CH1+CH2
5.	Flicker	Chasing (CH1+2)	Light-up CH2+CH3	Light-up CH2+CH3	Light-up CH2+CH3	Light-up CH2+CH3
6.	Breathing	Flicker	Light-up CH1+CH3	Light-up CH1+CH3	Light-up CH1+CH3	Light-up CH1+CH3
7.		Full color gradually turn	Lightless	Lightless	Lightless	Lightless
8.			Always light	Always light	Always light	Always light
9.			Trailing (CH1)	Light-up CH4	Light-up CH4	Light-up CH4
10.			Trailing (CH2)	Trailing (CH1)	Light-up CH5	Light-up CH5
11.			Trailing (CH3)	Trailing (CH2)	Trailing (CH1)	Light-up CH6
12.			Full color trailing	Trailing (CH3)	Trailing (CH2)	Trailing (CH1)
13.			Chasing (CH1)	Trailing (CH4)	Trailing (CH3)	Trailing (CH2)
14.			Chasing (CH2)	Chasing (CH1)	Trailing (CH4)	Trailing (CH3)
15.			Chasing (CH3)	Chasing (CH2)	Trailing (CH5)	Trailing (CH4)
16.			Full color chasing	Chasing (CH3)	Chasing (CH1)	Trailing (CH5)
17.			Flicker	Chasing (CH4)	Chasing (CH2)	Trailing (CH6)
18.			Flicker (CH1/2/3)	Flicker	Chasing (CH3)	Chasing (CH1)
19.			Colorful flowing water	Flicker (CH1/2/3)	Chasing (CH4)	Chasing (CH2)
20.			7 color gradually turn	Colorful flowing water	Flicker	Chasing (CH3)
21.			Colorful gradually turn	7 color gradually turn	Flicker (CH1/2/3)	Chasing (CH4)
22.			7 color breathing	Colorful gradually turn	Colorful flowing water	Flicker
23.			Painting up and down	7 color breathing	7 color gradually turn	Flicker (CH1/2/3)
24.			Painting left and right	Painting up and down	Colorful gradually turn	Colorful flowing water
25.			Stacking pixel by pixel	Painting left and right	7 color breathing	7 color gradually turn
26.			Painting port by port	Stacking pixel by pixel	Painting up and down	Colorful gradually turn
27.			6 color flicker	Painting port by port	Painting left and right	7 color breathing
28.			6 color breathing	6 color flicker	Stacking pixel by pixel	Painting up and down
29.				6 color breathing	Painting port by port	Painting left and right
30.					6 color flicker	Stacking pixel by pixel
31.					6 color breathing	Painting port by port
32.						6 color flicker
33.						6 color breathing

6.2. CASCADE CONTROL

When the project needs to be controlled by multiple cascading controllers, connect the host with slave controllers by cables to make the whole project synchronous.

1. In the MAIN/SUB interface, Press "◄" and "►" to select "SUB" control.
2. Then two controller are connected by UTP CAT5e. Connection refer to the “CASCADE CONNECTION” section.





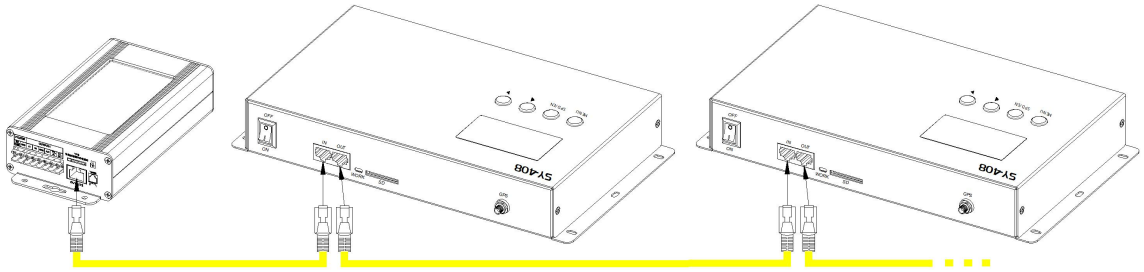
6.3. TIME CONTROL

It has time control function. After enabling time control, the specified effect can be triggered within a specified time.
Enter "parameter setting" - "time control function" to enable.
Maximum time control lists of player is 100, and maximum 10 pcs effects can be set in each list.
PS: This function only applies to pattern effects.

Mode	Description	Dispaly
SD_CTL	The lighting fixture is black while waiting. The controller will switch to corresponding effect mode when it reaches the time set. (The mode buttons are disabled.)	Normal SD MAIN SD 001 SGL 01 BRI. 100% SAT. Speed 05 12:00:00 04/06 GOK
OFF	Manually set the off time control state, the recovery is controllable.	Normal SD MAIN SGL 01 BRI. 100% SAT. Speed 05 12:00:00 04/06 GOK

6.4. EXTERNAL WRITER TO ADDRESS

To facilitate debugging, our BL-321-H1 and newer versions can be connected to this controller to address and debug the lumiaires controlled by the current controller.
Supported functions: intelligent addressing, test effect, addressing verification, advanced addressing.为

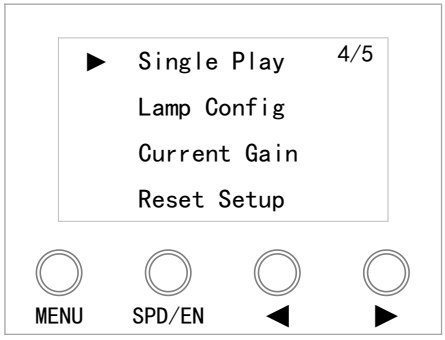


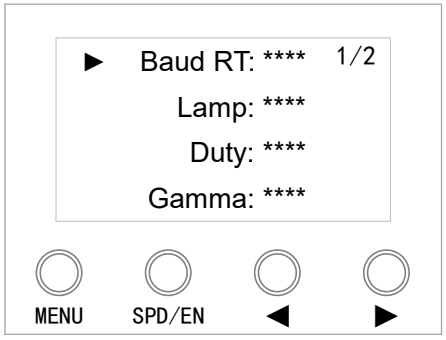
The BL-321 network port is connected to the expansion IN port of SY-408 through a network cable, and the expansion OUT port of SY-408 can also be connected to a SY-408 by a network cable.
The length of the network cable between devices cannot exceed 20 meters.

6.5. SETTINGS OF SPI CHIPS

The controller can set baud rate, chip model, duty cycle, Gamma and current gain for SPI lumiaires.

In the MAIN/SUB interface, Press "◄" or "►" to select "Lamp Config" to enter.



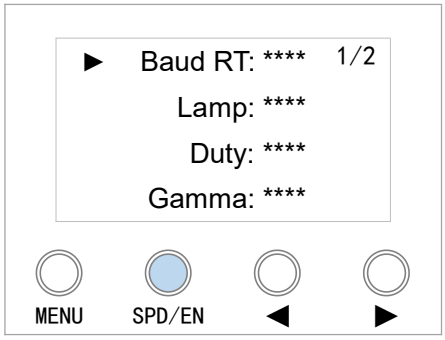


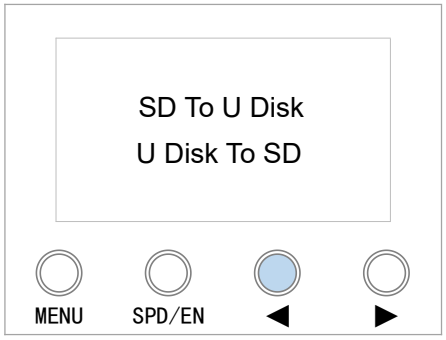
6.5.1. BAUD SETTINGS OF SPI CHIPS

The controller can set the baud rate of SPI lighting fixture to enhance transmission signal.

Setting Method 1,

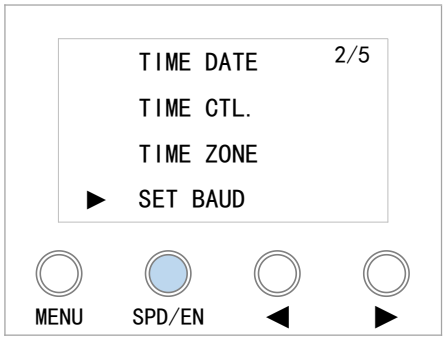
1. In the “Lamp Config” interface, Press "◄" or "►" to select "Baud RT" to enter.
2. Press “◄” or “►” to set the rate (600K - 800K), 10K once. Press "SPD/EN" to confirm.

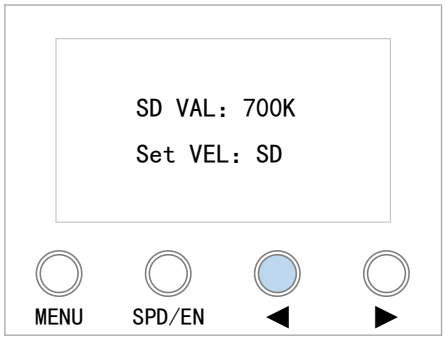




Setting Method 2,

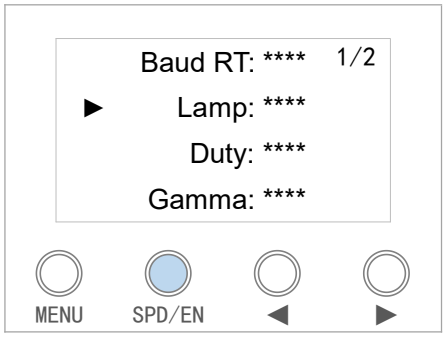
1. In the “MENU SETTING”, Press "◄" or "►" to select "BAUD SET" to enter.
2. Press “◄” or “►” to set the rate (600K - 800K), 10K once. Press "SPD/EN" to confirm.

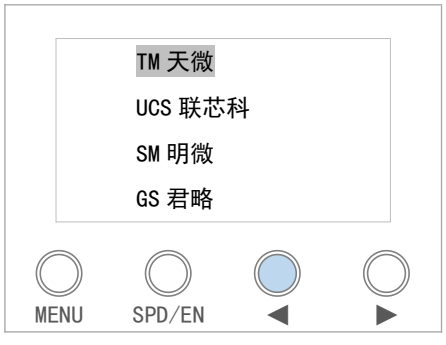


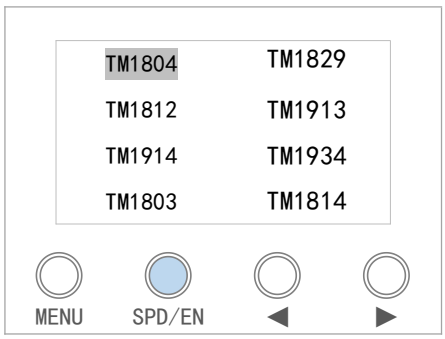


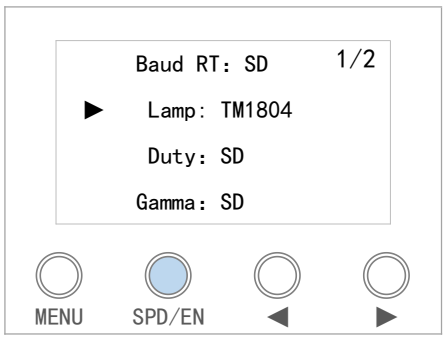
6.5.2. CHIPS THAT CAN SET BAUD RATE

1. In the “Lamp Config” interface, Press "◄" or "►" to select "Lamp" to enter.
2. Select a chip manufacturer on "◄" or "►" and then press "SPD/EN" to confirm.







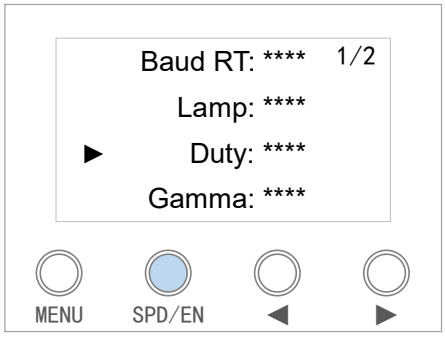


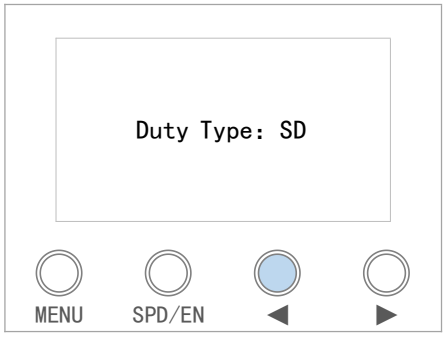
Chip supported follow below,

Manufacturer	Chips
TM 天微	TM1804, TM1809, TM1903, TM1908, TM1905-12C, TM1906-12, TM2905-12C, TM2905-12CB, TM1812, TM1913, TM1923, TM1824, TM1909, TM1912, TM2908, TM1914, TM1934, TM1926, TM1814B, TM1925, TM1925D, TM1803, TM1814, TM1814A, TM1815B, TM1926D, TM2903LB
UCS 联芯科	UCS1903N, UCS1903B, UCS2912, UCS5603A, UCS7604, UCS1912B, UCS1904, UCS1909B, UCS5603B, UCS8903, UCS7804, UCS8603D, UCS1912, UCS2903, UCS8904, UCS9812, UCS2904B, UCS2909, UCS2603, UCS8603
SM 明微	SM16703P, SM16709P, SM16823E, SM15155E, MW1856MA, SM16704PK, SM6603ST3, SM6603ST1, SM16712P, SM16704PB, SM16714PHT, TM1903, SM16705PD, SM16212N, SM16703AP2, SM16703AP3, SM16813P, SM16711, SM16803PB, SM16804EB, SM16212NH, SM16703PB, SM16714P, SM16824E, SM16804PB, SM8612S, SM16825E, SM17603P
GS 君略	GS8206, GS8205, GS8219, GS8208, GS1903, GS8203, GS8207
WS 华彩威	WS2811, WS2812, WS2818, WS2813, WS2814, WS2815, WS2805
LX 磊芯	LX1003, LX3203
BS 灿星	GS8206P
BC 百城	P9883
OTHER	LPD1889, GW6312, FL16703A, HW1002A, SK6812, FW1935, RT7908A, 方式 2 MT1806, MT16703, 方式 3, 方式 4, FW1903, TM1903, DutyType4, XT1506S

6.5.3. DUTY SETTING

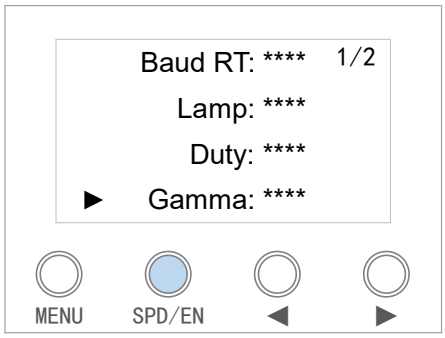
1. In the “Lamp Config” interface, Press "◀" or "▶" to switch "Duty" to enter.
2. Press “◀” or “▶” to set the value (1:2, 1:3, 1:4, 1:5, 1:6). Press "SPD/EN" to confirm.

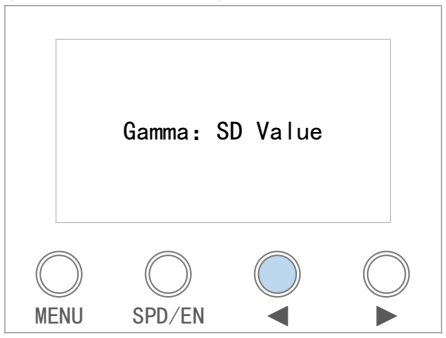




6.5.4. GAMMA SETTING

1. In the Lamp Config interface, Press "◄" or "►" to switch "Gamma" to enter.
2. Press "◄" or "►" to set the value (1.0, 2.0, 3.0, 4.0). Press "SPD/EN" to confirm.





6.5.5. CURRENT GAIN SETTING

Support to set the current gain value of the controlled chip for playback. Optional SD card value (or Flash value), Custom (Custom Settings need to be set separately in the parameter menu).

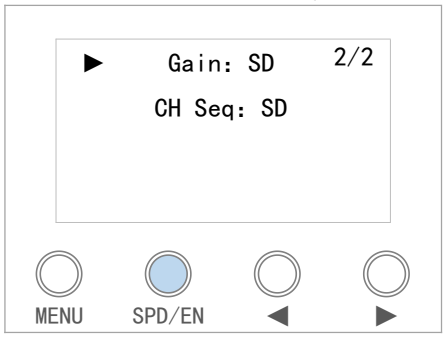
Current gain chips can be configured in the following table.

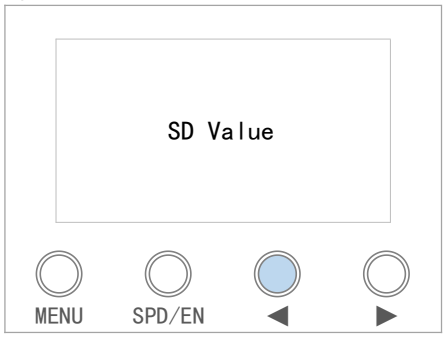
Manufacturer	Chips
TITAN	TM1814, TM1908
UCS	UCS9812, UCS5603A, UCS5603B, UCS2603
SUNMOON	SM16714PHT, SM16714P, SM16813, SM15155E, SM16803PB, SM16804PB

6.5.5.1. SETTING THE CURRENT GAIN READING POSITION

Select "Gain" on the "Lamp Config", press "◄" or "►" to switch option and "SPD/EN" to confirm.

Optional: SD card value (or Flash value), Custom.





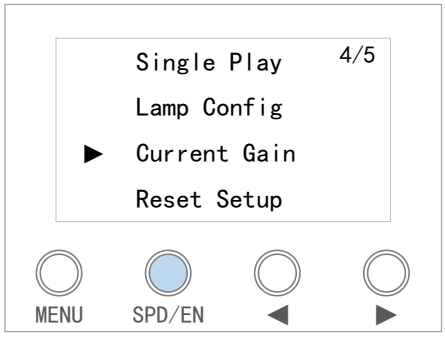
6.5.5.2. SETTING THE GAIN VALUE

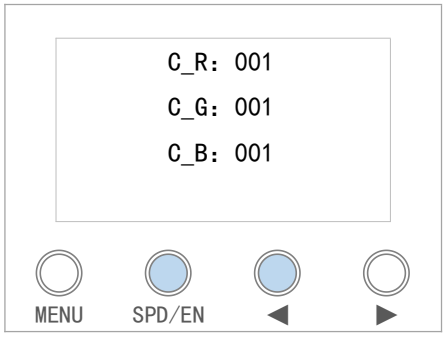
This setting can only be operated if the current gain read location is the Custom option.

If the current gain reading position is SD card (USB flash drive) or the chip does not support the current gain, this operation cannot be set.

Select "Current Gain" from the MENU SETTINGS and enter the setting screen.

Set the gain for each channel on "◄" or "►", press "SPD/EN" to confirm.

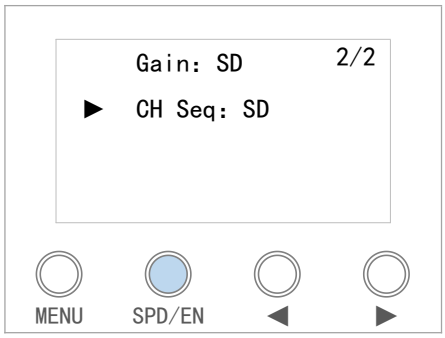


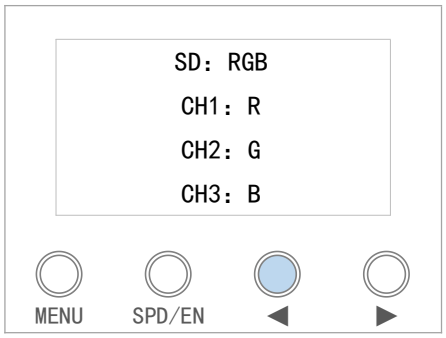


6.5.6. CHANNEL SEQUENCE

Select "CH Seq" on the “Lamp Config”, press "◄" or "►" to switch option and "SPD/EN" to confirm.

Optional: SD card value, Custom.

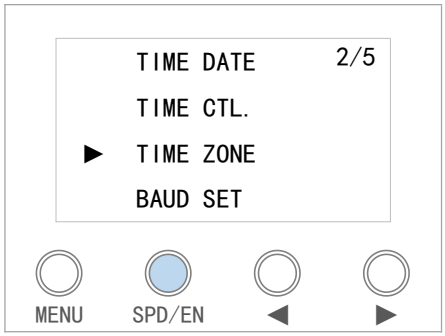


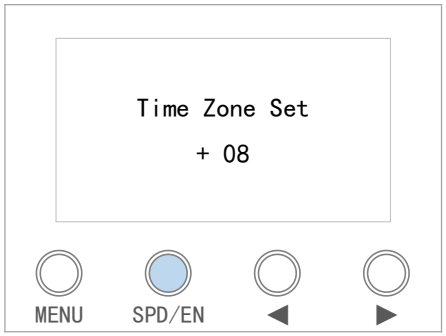


6.6. TIME ZONE SETTING

User can manually set the time zone of controller when using GPS function, to match local GPS time.

1. In the MENU interface, Press "◄" or "►" to select "TIME ZONE" to enter.
2. Press “◄” or “►” to set the value. Press “SPD/EN”to confirm and re-power the controller.





7. ADDRESSING

7.1. CONFIGURATE ADDRESS AND WRITE PARAMETER

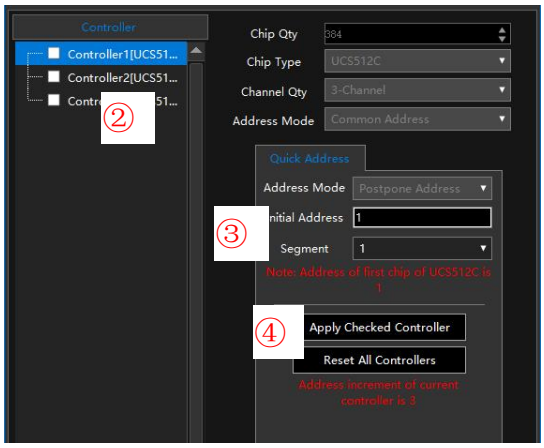
7.1.1. CHIP SUPPORTED

Chip	Addressing	Custom Channel	Set parameters					
			No signal State	Power-on Setting	Current	Forward	Issue	GAMMA
UCS512A	√	×	×	×	×	×	×	×
UCS512B	√	×	×	×	×	×	×	×
UCS512C0	√	×	×	×	×	×	×	×
UCS512C4	√	×	×	√	×	×	×	×
UCS512CN	√	×	√	√	×	×	×	×
UCS512D	√	×	√	√	√	×	×	×
UCS512E0	√	√	√	√	√	√	×	×
UCS512G4	√	×	√	√	√	×	×	×
UCS512G6	√	×	√	√	√	×	×	×
UCS512H	√	×	√	√	√	×	×	×
UCS512H4	√	×	√	√	√	×	×	×
UCS512H4L	√	×	√	√	√	×	×	×

Chip	Addressing	Custom Channel	Set parameters					
			No signal State	Power-on Setting	Current	Forward	Issue	GAMMA
UCS512KH	√	√	√	√	√	√	×	×
UCS512KL	√	√	√	√	√	√	×	×
UCS512C1	√	×	√	√	√	×	×	×
UCS512C1L	√	×	√	√	√	×	×	×
UCS512C2	√	×	√	√	√	×	×	×
UCS512C2L	√	×	√	√	√	×	×	×
UCS512CBL	√	×	√	√	√	×	×	×
DMX512AP	√	×	×	×	×	×	×	×
SM512	√	×	√	√	√	×	×	×
SM16512	√	×	×	×	×	×	×	×
SM16511	√	×	×	×	×	×	×	×
SM16500P	√	×	×	×	×	×	×	×
SM16520P	√	×	√	√	×	×	×	×
SM17500P	√	√	√	√	√	×	×	×
SM17512P	√	×	√	√	√	×	×	×
SM17520P	√	×	√	√	×	×	×	×
SM17522P	√	×	√	√	√	×	×	×
SM18500P	√	√	√	√	√	√	×	×
SM18500PS	√	√	√	√	√	√	×	×
SM18522P	√	×	√	√	√	×	×	√
SM18522PH	√	×	√	√	√	×	×	√
SM18512P	√	×	×	×	×	×	×	×
SM18512PK	√	×	×	×	×	×	×	×
SM16522P	√	×	×	×	×	×	×	×
SM16522PS	√	×	×	×	×	×	×	×
SM19522PS	√	×	×	×	×	×	×	×
SM19522PH	√	×	√	√	√	×	×	×
SM19522PHG	√	×	√	√	√	×	×	√
SW-D	√	×	×	×	×	×	×	×
Hi512A0	√	√	×	×	×	×	×	×
Hi512A4	√	×	√	√	×	×	×	×
Hi512A6	√	×	√	√	×	×	×	×
Hi512D	√	×	√	√	√	×	×	×
Hi512E	√	×	√	√	√	×	×	×
Hi512B4L	√	×	×	×	×	×	×	×
TM512AB3	√	×	×	×	×	×	×	×
TM512AL1	√	×	×	×	×	×	×	×
TM512ACx	√	×	×	×	×	×	×	×
TM512AD	√	×	√	√	√	×	×	×
QED512P	√	×	√	√	√	×	×	×
GS8511	√	×	×	×	×	×	×	×
GS8512	√	×	×	×	×	×	√	√

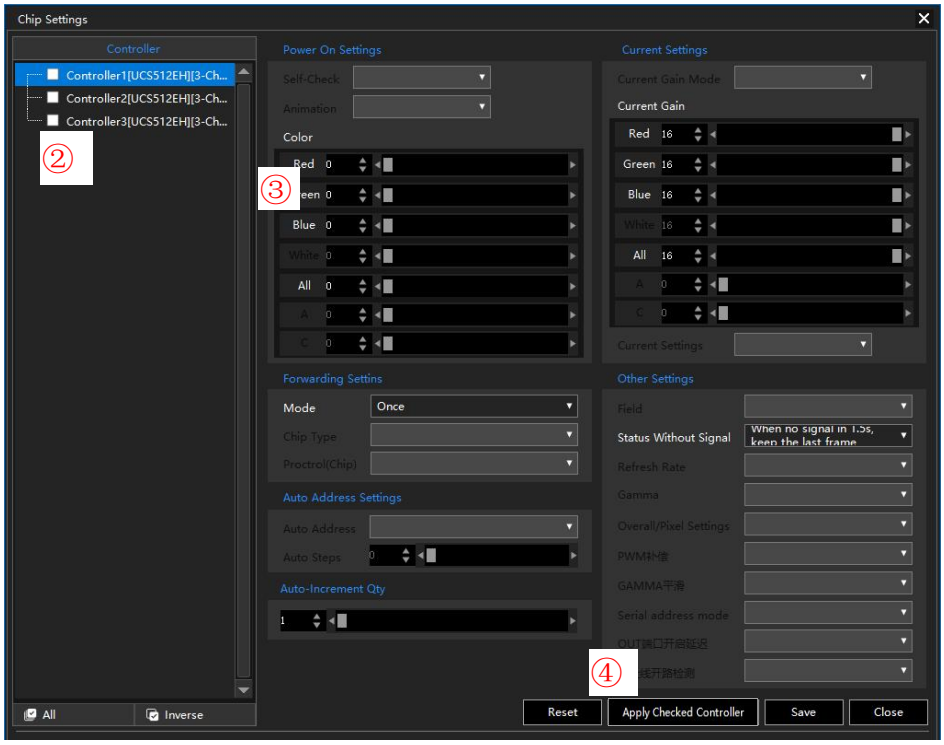
Chip	Addressing	Custom Channel	Set parameters					
			No signal State	Power-on Setting	Current	Forward	Issue	GAMMA
GS8513	√	×	×	×	√	×	√	√
GS8515	√	×	×	×	√	×	√	√
GS8516	√	×	√	√	√	×	√	×
GS8516B	√	×	√	√	√	×	√	×
GS8523	√	×	√	√	√	×	√	×
GS8524	√	×	√	√	√	×	√	×
GS8525	√	×	√	√	√	×	√	×
GS8525T2	√	×	√	√	√	×	×	×
GS8526	√	×	√	√	√	×	√	×
A512D4	√	×	×	√	×	×	×	×

7.1.2. SETTING THE ADDRESSING IN LED PLAYER



1. Click “Quickly Addressing” of Debug, and open the setting windows.
2. Select the controller be set.
3. Set the initial address and segment.
4. Click “Apply Checked Controller” to save.
5. Close and quit.
6. Output and copy the SD card. (Please refer to OUTPUT AND COPY THE SD CARD FILE.)

7.1.3. SETTING THE PARAMETERS IN LED PLAYER

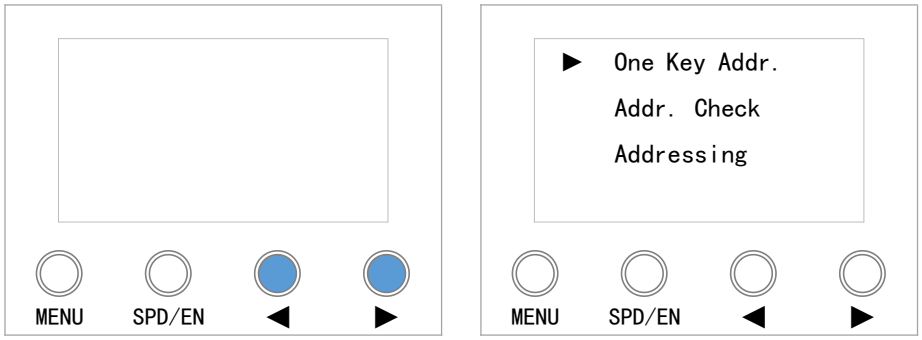


1. Click “Chip” of Settings, and open the setting windows.
2. Select the controller be set.
3. Set the parameters of chip.
4. Click “Apply Checked Controller” to save.
5. Close and quit.
6. Output and copy the SD card. (Please refer to OUTPUT AND COPY THE SD CARD FILE.)

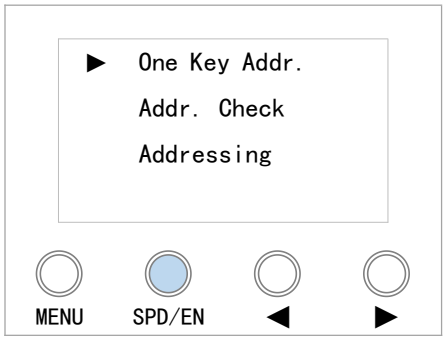
7.1.4. OPERATION ON THE CONTROLLER

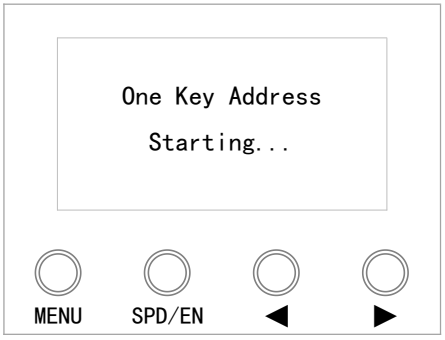
Put into the SD card.

1. Long press “◄” and “►” together and Power on, the screen shows addressing option.

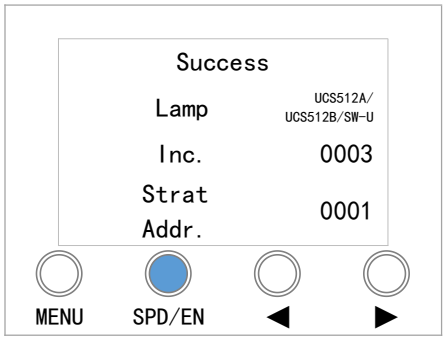


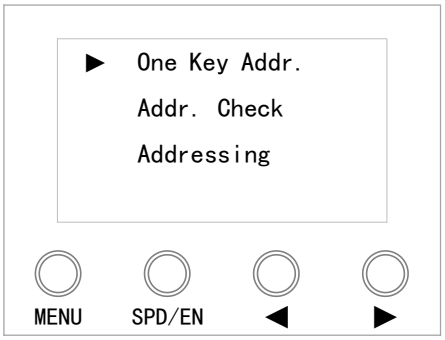
2. Press “SPD/EN” to start addressing.





3. Long press “SPD/EN” to enter the addressing option after the addressing is finished.





Order of setting parameters: Sets self channel value → Writes the parameters of chips → Writes the address of chips

7.2. RAW ADDRESSING

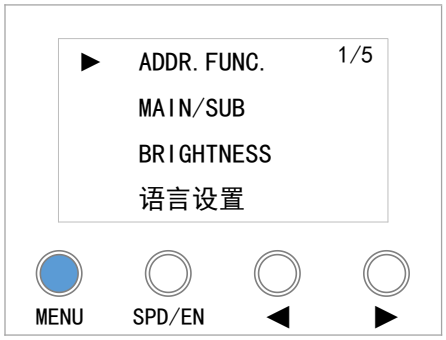
7.2.1. SUPPORTED CHIPS

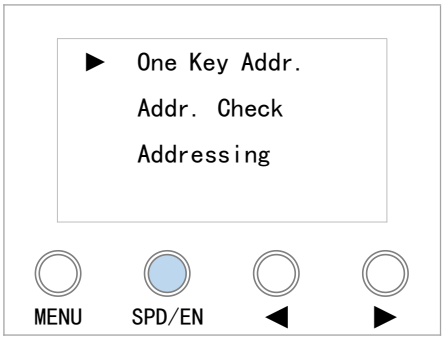
Chip	Address	Custom Channel	Write Parameters			
			No Signal	Power-on	Current	Forward
UCS512A	√	×	×	×	×	×
UCS512B	√	×	×	×	×	×
UCS512C0	√	×	×	×	×	×
UCS512C4	√	×	×	×	×	×
UCS512D	√	×	×	×	×	×
UCS512E0	√	√	×	×	×	×
UCS512EH	√	√	×	×	×	×
UCS512KH	√	√	×	×	×	×
DMX512AP	√	×	×	×	×	×
SM16512	√	×	×	×	×	×
SM16511	√ (SM16512)	×	×	×	×	×
SM16520	√ (SM16512)	×	×	×	×	×
SM16500P	√	×	×	×	×	×
SM17500P	√	√	×	×	×	×
SM17512P	√	×	×	×	×	×
SM17522P	√	×	×	×	×	×
SW-D	√	×	×	×	×	×

7.2.2. ADDRESSING OPERATION

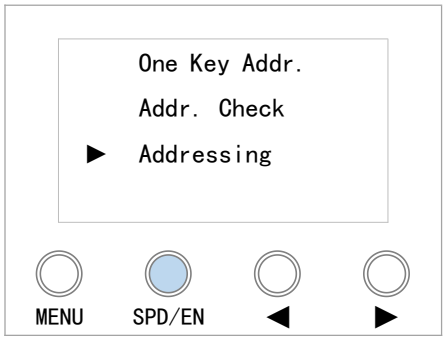
For addressing operations please refer to following example. (Ensure the card is in during complete process.)

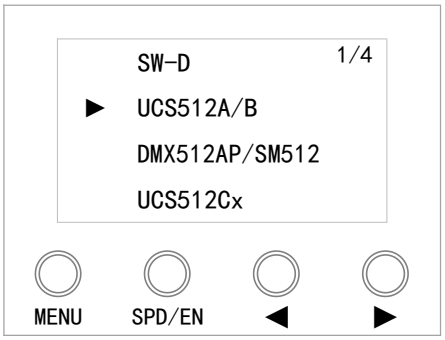
1. Long press “MENU” to enter into the settings interface. Select “ADDR. FUNC.” and press “SPD/EN”.



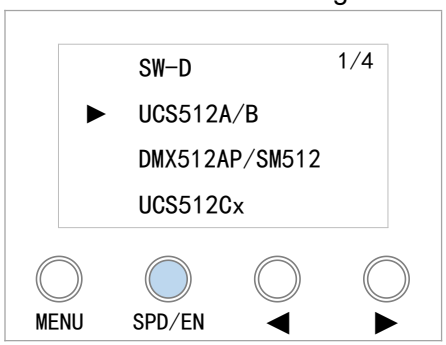


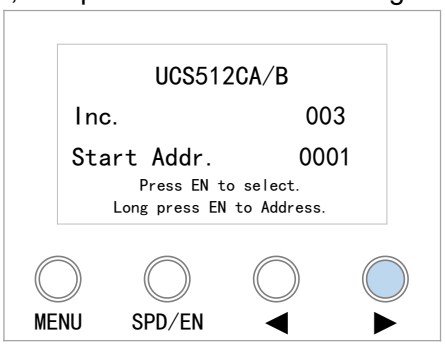
2. Press “◀” and “▶” to select “Addressing”. Press “SPD/EN” to enter the chip selection. Select the chip and press “SPD/EN”.



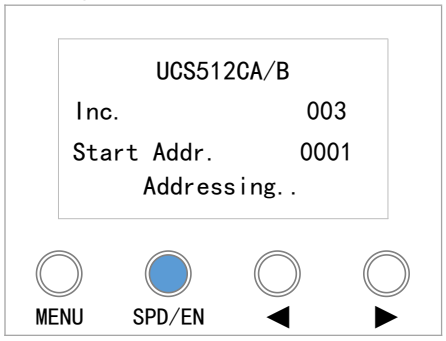


3. Press “SPD/EN” to enter the addressable interface.
   Press “SPD/EN” to change the setup, and press “◀” or “▶” to change the value.



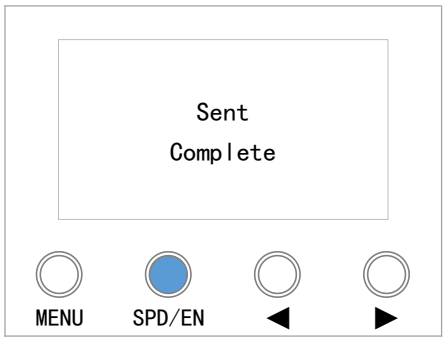


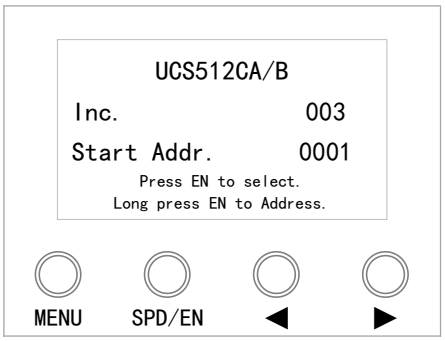
4. Long press “SPD/EN” and send the addressable setup to lighting fixtures.



※ The buttons are useless during sending data.

5. It displays Sent Complete when it is sent out successfully. Then it returns to address set interface. Long press “SPD/EN” to enter the Addr. Check. Operations refer to the “ADDRESSING CHECK” section.





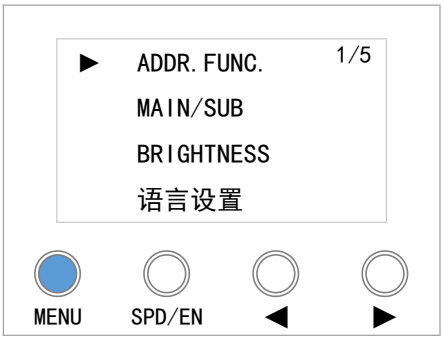
When DMX lighting fixture is addressed successfully, the lighting fixture will glow different colors. Refer to the “SUCCESSFUL ADDRESSING” section for more details.

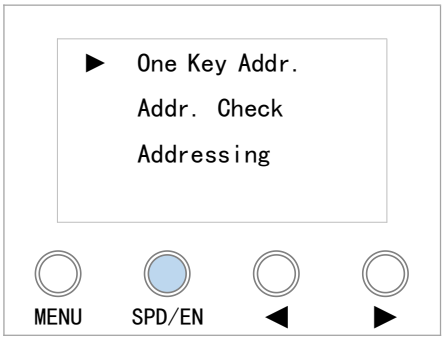
6. It has memory function that only need to set the address once. When the controller and lighting fixture are power on again, controller enters normal control mode and the lighting fixture plays effect properly.

7.2.3. CHIPS ADDRESSED ACCORDING BUILT-IN CONFIGURATION OPERATION

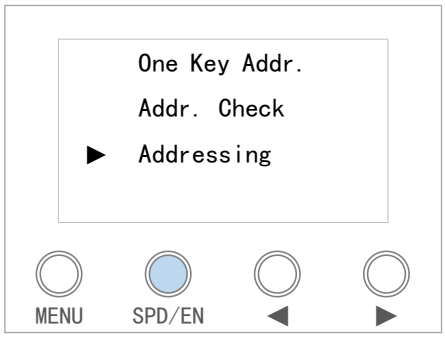
For addressing operations please refer to following example. (Ensure the card is in during complete process.)

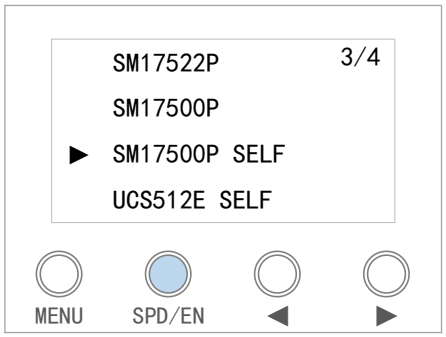
1. Long press “MENU” to enter into the settings interface. Select “ADDR. FUNC.” and press “SPD/EN”.



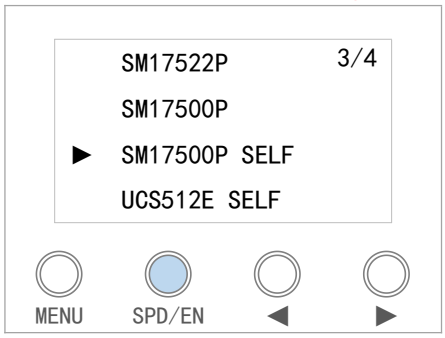


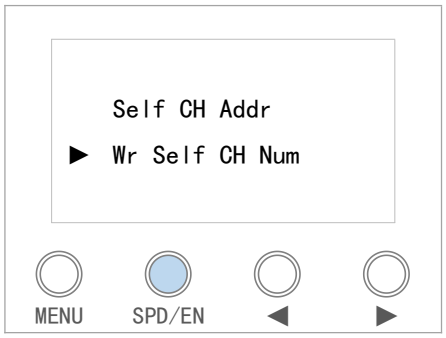
2. Press “◄” and “►” to select “Addressing”. Press “SPD/EN” to enter the chip selection. Select the chip and press “SPD/EN”.



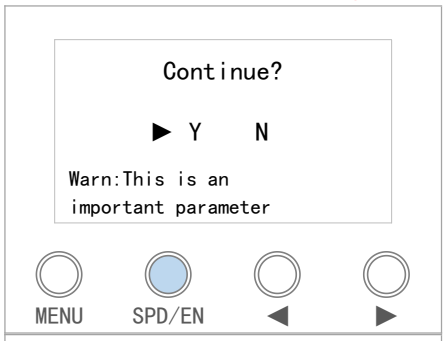


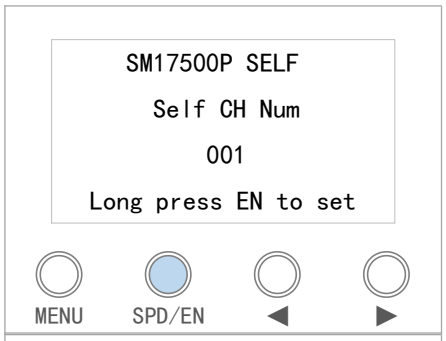
3. Press “SPD/EN” to enter the parameter setting interface. (Default memory of the previous setting.)
If we do not need to change the channels of chip, skip the step.

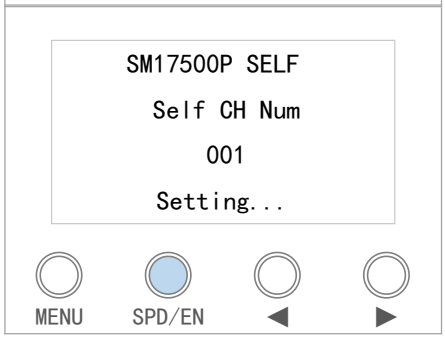


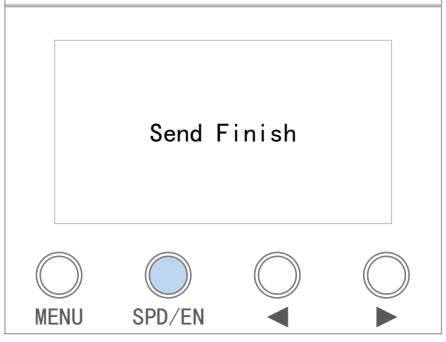


4. Select Y and press “SPD/EN” to change the number of automatic channels. 001 indicates that the channel of the chip is 1.
Press “SPD/EN” to move the cursor, “◄” or “►” to change the value.
Long press and hold “SPD/EN” after confirming the chip’s channels. The data is saved successfully if LCD displays "Send Finish".
If we do not need to change the channels of chip, skip the step.

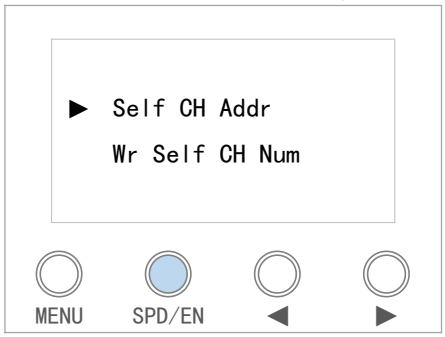


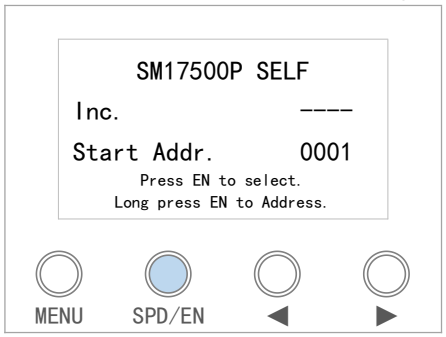




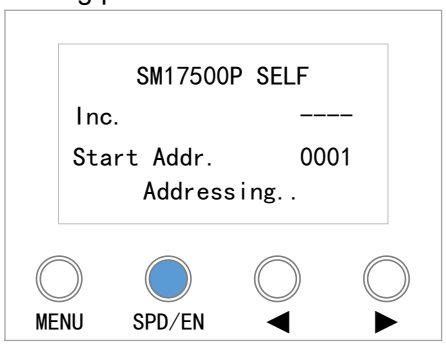


5. Press “SPD/EN” to exit the channel setting. Select and enter “Self CH Addr” interface. Press “SPD/EN” to change the setup, and press “◄” or “►” to change the value.



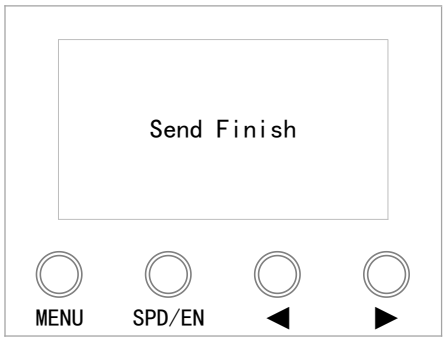


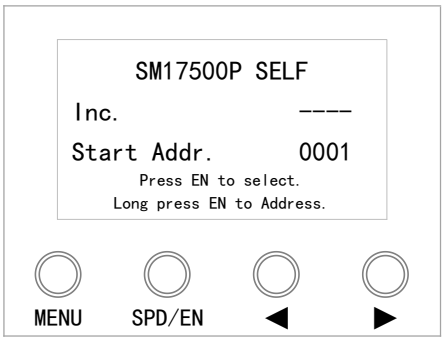
6. Long press “SPD/EN” and send the addressable setup to lighting fixtures.



※ The buttons are useless during sending data.

7. It displays “Send Finish” when it is sent out successfully. Then it returns to address set interface. Long press “MENU” to enter the Addr. Check. Operations refer to the “ADDRESSING CHECK” section.





When DMX lighting fixture is addressed successfully, the lighting fixture will glow different colors. Refer to the “SUCCESSFUL ADDRESSING” section for more details.

8. It has memory function that only need to set the address once. When the controller and lighting fixture are power on again, controller enters normal control mode and the lighting fixture plays effect properly.

7.3. SUCCESSFULLY ADDRESSED AND SET PARAMETERS

Chip	Lighting color after power on	Addressed		Byte + No signal + No signal		Current parameter		Self-Channel Setting	
		First chip	Other chip	First chip	Other chip	First chip	Other chip	First chip	Other chip
UCS512A	White	Blue	Blue	-	-	-	-	-	-
UCS512A1	White	Blue	Blue	-	-	-	-	-	-
UCS512A2	White	Blue	Blue	-	-	-	-	-	-
UCS512B3	White	Blue	Blue	-	-	-	-	-	-
UCS512C	Custom	White	White	-	-	-	-	-	-
UCS512C0	-	White	White	-	-	-	-	-	-
UCS512C1	Blue	Yellow	White	Power on	Power on	White	White	-	-
UCS512C1L	Blue	Yellow	White	Power on	Power on	White	White	-	-
UCS512C2	Blue	Yellow	White	Power on	Power on	White	White	-	-

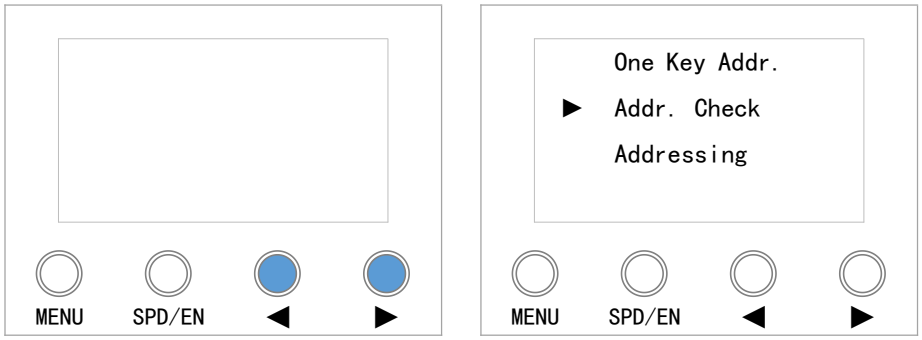
Chip	Lighting color after power on	Addressed		Byte + No signal + No signal		Current parameter		Self-Channel Setting	
		First chip	Other chip	First chip	Other chip	First chip	Other chip	First chip	Other chip
UCS512C2L	Blue	Yellow	White	Power on	Power on	White	White	-	-
UCS512CBL	Blue	Yellow	White	Power on	Power on	White	White	-	-
UCS512C3	Custom	White	White	Red	Red	-	-	-	-
UCS512C4	Custom	White	White	Red	Red	-	-	-	-
UCS512CN	Custom	Yellow	White	Yellow	Power on	-	-	-	-
UCS512D	Custom	Yellow	White	Yellow	Power on	Yellow	Red	-	-
UCS512E0	Custom	Yellow	White	Yellow	Power on	-	-	Yellow	Green
UCS512EH	Custom	Yellow	White	Yellow	Power on	Yellow	Red	Yellow	Green
UCS512G4	Custom	Yellow	White	White / Red or yellow	White / Red or yellow	White	White	-	-
UCS512G6	Custom	Yellow / Custom	White / Custom	White / Red or yellow	White / Red or yellow	White	White	-	-
UCS512H UCS512H4 UCS512H4L	Custom	Yellow / Red or green	White / Red or green	Yellow	Red	-	-	-	-
UCS512KH UCS512KL	Custom	Yellow / Red or green	White / Red or green	-	-	-	-	Yellow / Red or green	White / Red or green
DMX512AP	-	White	White	-	-	-	-	-	-
SM512	White	Green	Green	-	-	-	-	-	-
SM16512	-	Green	Green	-	-	-	-	-	-
SM16511	-	Green	Green	-	-	-	-	-	-
SM16500P	Custom	Red	Green	Red	Power on	-	-	-	-
SM16520	-	Green	Green	-	-	-	-	-	-
SM16522P	Custom	Green	Green	-	-	-	-	-	-
SM16522PS	Custom	Green	Green	-	-	-	-	-	-
SM17500P	Custom	Red	Green	Red	Power on	Red	Yellow	Red	Purple
SM17512P	Custom	Red	Green	Blue	Blue	-	-	-	-
SM17520P	-	Red	Green	Red	Blue	Red	Yellow	-	-
SM17522P	-	Red	Green	Red	Blue	Red	Yellow	-	-
SM18500P	-	Red	Green	Red	Blue	Red	Yellow	Red	Purple
SM18500PS	-	Red	Green	Red	Blue	Red	Yellow	Red	Purple
SM18522P	Custom	Red	Green	Blue	Blue	-	-	-	-
SM18522PH	-	Red	Green	Red	Blue	Red	Yellow	-	-
SM19522PH	-	-	-	-	-	-	-	-	-
SM18522PHG	-	Red	Green	Red	Blue	Red	Yellow	Red	Purple
SW-D	-	Yellow	Green	-	-	-	-	-	-
Hi512A4	Custom	Red	Green	Red	Green	-	-	-	-
Hi512A6	Custom	Red	Green	Red	Green	-	-	-	-
Hi512A0	-	White	White	White	White	-	-	-	-
Hi512D	-	Red	Green	Green	Green	Green	Green	-	-
Hi512E	-	Red	Green	Green	Green	Green	Green	-	-
TM512AB3	White	Blue	Blue	-	-	-	-	-	-
TM512AL1	White	Blue	Blue	-	-	-	-	-	-
TM512AC0	-	White	White	-	-	-	-	-	-
TM512AC2	Custom	White	White	-	-	-	-	-	-
TM512AC3	Blue	White	White	-	-	-	-	-	-
TM512AC4	Blue	White	White	-	-	-	-	-	-
TM512AD	Blue	Yellow	White	Yellow	Power on	Yellow	Red	-	-
GS8512	-	Red	Cyan	-	-	-	-	-	-
GS8511	-	-	-	-	-	-	-	-	-
GS8513	-	Red	Cyan	-	-	-	-	-	-
GS8515	-	Red	Cyan	-	-	-	-	-	-
GS8516	-	Red	Cyan	-	-	-	-	-	-
GS8516B	-	Red	Cyan	Blue	Blue	Blue	Blue	-	-

Chip	Lighting color after power on	Addressed		Byte + No signal + No signal		Current parameter		Self-Channel Setting	
		First chip	Other chip	First chip	Other chip	First chip	Other chip	First chip	Other chip
GS8523	-	Red	Cyan	-	-	-	-	-	-
GS8524	-	Red	Cyan	-	-	-	-	-	-
GS8525	-	Red	Cyan	-	-	-	-	-	-
GS8525T2	-	Red	Cyan	-	-	-	-	-	-
GS8526	-	-	-	-	-	-	-	-	-
A512D4	-	White	White	Red	Red	-	-	-	-

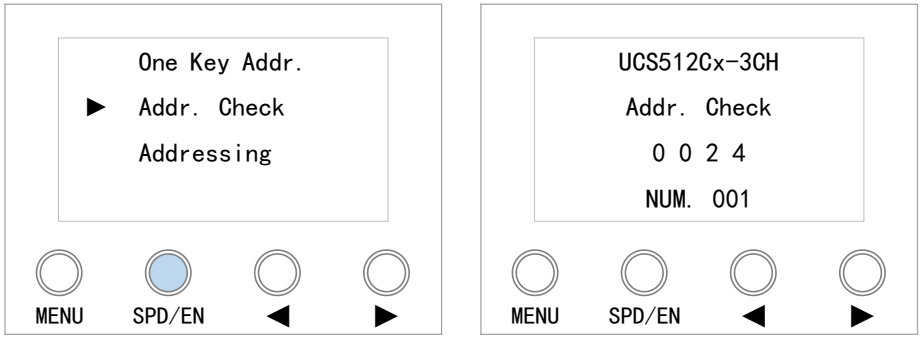
7.4. ADDRESSING CHECK

Light up the appointed DMX lighting fixture to verify the address. The Operations are as below.

1. Method 1,Long press “SPD/EN” to return addressing selection interface after addressing completed.
   Method 2, Long press “◄” and “►” together to power on.



2. Press “◄” and “►” to select “Addr.Check”, and press “SPD/EN” to enter.
   “0024” shows the latest data. If need to change it, please long press “SPD/EN” to return to address set interface, operations refer to “ADDRESSING OPERATION”.
   Press “◄” and “►” to set the number of lighting fixture which to be lighted up. It will light up in white when loosen the button.

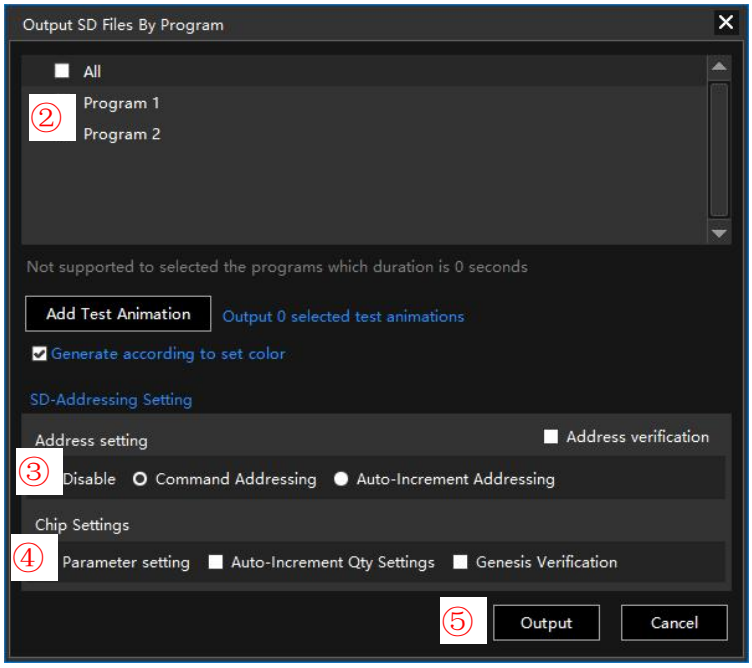


   Tips: It can switch quickly by long pressing “◄” or “►”.

3. Long press “MENU” or power-off the controller to quit the check.

8. OUTPUT AND COPY THE SD CARD FILE

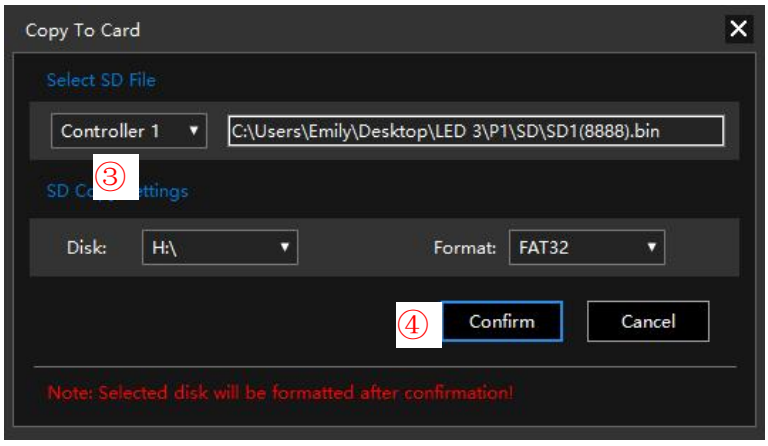
8.1. OUTPUT THE SD CARD FILE



1. Click “SD” of Output, and open the windows.
2. Select the program (less than 96) be out-put.The frame rate of a single program shall not exceed 65000 frames.
3. Select the addressing setting.
4. Select the chip settings.
5. Click Output.

Note: please don’t select the addressing setting and chip settings if no address and parameters need to be set.

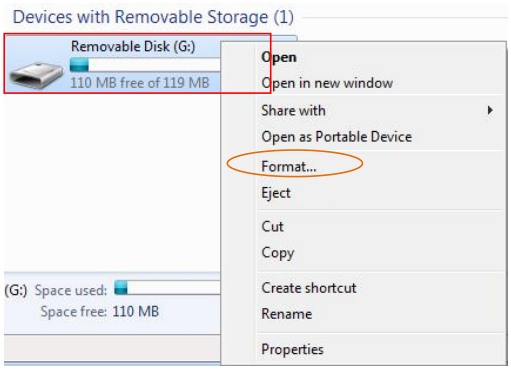
8.2. COPY THE SD FILE BY LED PLAYER



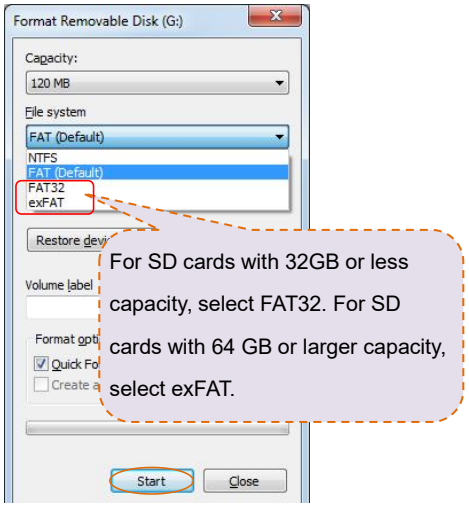
1. Input the SD card.
2. Click “Copy to SD” of Output, and open the windows.
3. Select the controller number be copied.
4. Click Confirm.

8.3. MANUAL FORMAT AND COPY CARD

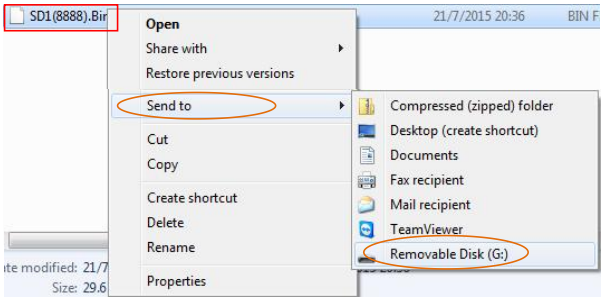
1) Right click the disk where the SD card



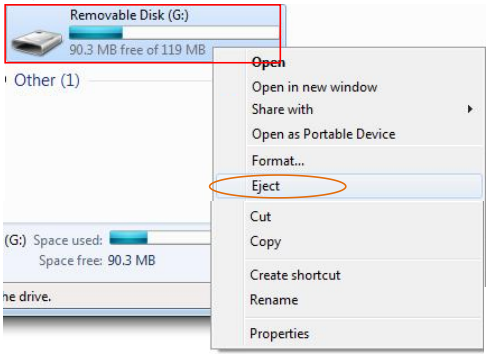
2) Select FAT32 or exFAT and 32KB unit byte (can check “Quick Format”)



3) Right click SD1(8888).Bin file, send the file to removable disk.



4) Right click removable disk and click “Eject”.



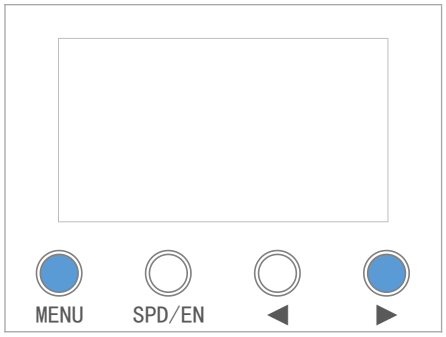
9. UPDATE SD FILE OR FIRMWARE PROGRAMS

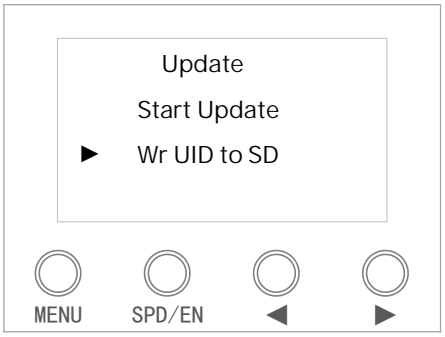
The controller can read the firmware file of the SD card xxxxxx.bin to upgrade the hardware program.

9.1. GETTING FIRMWARE INFORMATION

Before updating, need to provide the sequence code of the controller to our company. The operation is as follows.

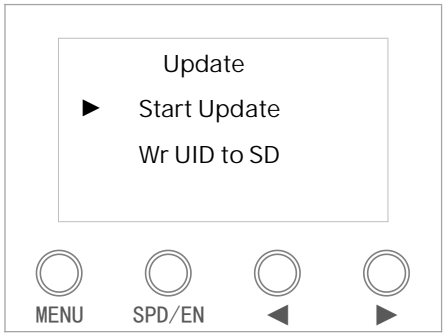
1. Hold down the “MENU” and “►” to power on the controller.
2. Press “►” to select “Wr UID to SD” and press “SPD/EN”.
3. The unique code is wrote successfully. At this time, please be sure to power off the controller and take out the SD card. Send the SeekwayID.bin file in the SD card back to us.

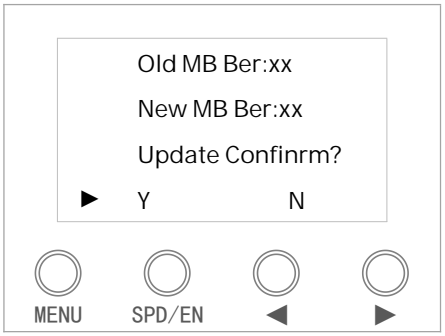




9.2. UPDATE FIRMWARE VIA SD CARD

1. Copy the xxxxxx.bin file (generate it according to SeekwayID.bin.) into the SD card refering to MANUAL FORMAT AND COPY CARD.
2. Pug SD card into the controller and hold down the “MENU” and “►” to power on.
3. Press “►” to select “Start Update” and select “Y” in turn. Press “SPD/EN” to confirm.
4. We need to power off and restart the controller after its screen shows that the update progress is 100%. The update is complete after the controller is restarted.





10. ERROR CODE AND TROUBLE SHOOTING

Error	Reason	Measure
ER01	No SD card or SD card port is broken.	1. Insert the SD card. 2. If an error occurs when inserting the SD card, the SD card holder is damaged. Contact us.
ER02	SD card no response or breakdown.	1. Please replace the new SD card. 2. If an error occurs when inserting the SD card, the SD card holder is damaged. Contact us.
ER03	There is no file in the SD card or SD	Copy SD card file again.

Error	Reason	Measure
	card is breakdown.	
ER05	Cannot read part of the card or bad connection.	1. This error is negligible when the luminaire normally plays the animation. 2. If the luminaire can not play the animation normally, please copy the SD card or replace the new SD card .
ER07	SD card file sequence doesn't match the controller.	SD card file error. or unfinished video merging.Please open the corresponding code to output the SD card file and copy again.
ER18	The number of loaded pixels exceeds the upper limit.	Please reduce the number of project pixels.
ER19	Effect File not match controller Please Change.	Please copy the correct effects file.
ER27	The SD card has too many bad areas.	Please replace the new SD card.
ER36	Self Encryption ERROR.	An error occurred in the upgrade program. Contact us.

Description: The code is 6 digits. The first two digits are the fault code, and the last four digits are the subarea code to facilitate us to analyze the specific problem.

11. FITTINGS

Shows	Item	Number	Remark
	SD Card	1	
	Power line	1	
	5P Terminal	8	
	Cat5E (T568B to T568B)	1	Subject to physical
	GPS Antenna	1	Only use with corresponding functions.