



B-SY-302S-GMANUAL

For Model: B-SY-302S-G-A2, B-SY-302S-G-B3

2017-10

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1. FUNCTION OVERVIEW

1. GPS Satellite synchronization. Short positioning time and accurate positioning.
2. No need to connect cables between controllers. After set the mode and speed of all the controllers to be the same, it will go to synchronous system in 2 minutes.(No need to restart the controllers)
GPS Satellite synchronous controller is applicable to the situation that the lighting cannot be connected among buildings. Besides, the synchronous display and the overall effect display are available.
3. Professional effects making software as free and create a program file for each controller. Users can make any effects they want and put into SD card.
4. Effect, speed, are adjustable.
5. 2-channel output signal (data-independent), applicable for small, medium and large engineering projects and remote transmission.

SW single chip lighting fixture: D**Sseries, D**J series.

Single-wire lighting fixture: TM180*-400K/800K, UCS19**, UCS29**, WS2811/12, TLS3001(1Mhz), TM1913, BS0901, SM167**.

DMX512 lighting fixture: SW-D, SW-U, UCS512A/B/C0/C4, DMX512AP/SM512, SM16512, standard DMX512 lighting fixture on the market.

Netants: UCS5603, WS2818, GS8206, P9883, TM1914, XT1506S.

2. TECHNICAL PARAMETERS

2.1 PRODUCT INFORMATION

Size:	193L×122W×43H (mm)
Input voltage:	AC 100V - 240V
Output port:	RS-485 & TTL×2 channels
Pixel quantity drove:	SW single chip: 960 points×8 channels, single-wire: 1024points×8 channels, standard DMX512: 168points×8 channels, extensible DMX light: 336points×8 channels, netants: 960 points×8 channels.
Output power:	<3W
Working temperature:	-15℃~60℃
Relative humidity:	≤50%
IP grade:	IP0 (not dustproof and not waterproof)
Working environment:	Please install under dry indoor condition, avoid any dust, moist and rain.
Weight:	700g (N.W. 5500g)



Accessories attached:  ×1、 ×(2~4)、 (2m) ×1

2.2 ERROR CODE

Control box error explanation:

Er	Introduction	Reason
01	No SD card	Poor seat connection. / No SD card.
02	SD card no response	Card is broken. / Card cannot be read sequentially.
03	Cannot reset SD card	Card is broken. / Card cannot be read sequentially.
04	Cannot activate SD card	Card is broken. / Card cannot be read sequentially.
05	Cannot read SD card	Cannot read part of the card. / Bad connection.
06	Cannot find feature code	Card is unformatted. / No files.
07	SD card file sequence doesn't match the controller	SD card file error. / Unfinished video synthesis.
09	Control sequence doesn't match file sequence	Player setting does not match the cover number.

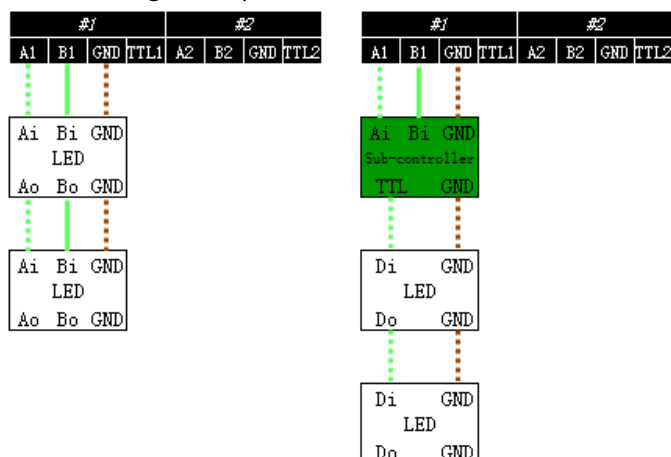
3. CONNECTION MODE

3.1 CONNECTION MODE

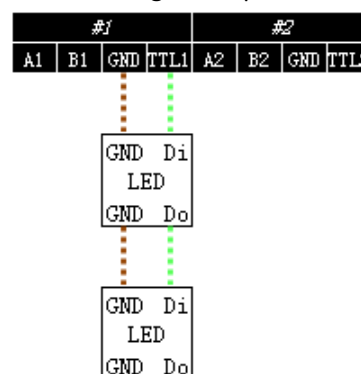
The circuit should be adjusted in different applications. It is well set in accordance with actual project before delivery. User cannot change the application optionally.

Please connect the cables in accordance with silk print on lamp.

485 signal output:

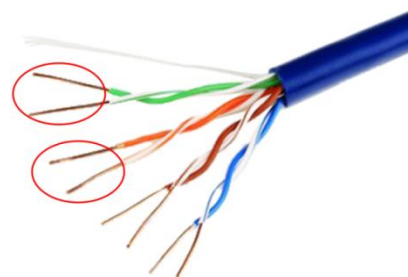


TTL signal output:



★Signal cables connection notes:

1. Use UTP—Unshielded Twisted Pair(resistance per 100M<10Ω), low quality Ethernet cables and telephone cable 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 lamp. **Cannot connect with lamp through power switch.**
4. Switch on the controller after all hardware signal cables and wires are connected. Please *don't CONNECT / DISCONNECT* the signal cables while the controller is power on; avoid bad output by reverse current and protect the circuit and components.



Transmission distance:

transmission type	Transmission Signals	transmission media	transmission distance	Notes
Master control->slave control	RS-485	UTP-Unshielded Twisted pair	50 ~ 100	
Master control/slave control->SW Lighting Fixtures	TTL	UTP-Unshielded Twisted pair	30 ~ 50	
		two core copper wire	5 ~ 30	
Master control/slave control->Other Lighting Fixtures	TTL	UTP-Unshielded Twisted pair	5 ~ 20	
		two core wire	1 ~ 5	
Master control/slave control->DMX Lighting Fixtures	RS-485	UTP-Unshielded Twisted pair	30 ~ 50	The addr wire must be within 5 meter.
		three core wire	1 ~ 20	
		four core wire	1 ~ 20	
SW Lighting Fixtures->SW Lighting Fixtures DMX Lighting Fixtures->DMX Lighting Fixtures	TTL	UTP-Unshielded Twisted pair	5 ~ 20	meters controlled less if over 5 meter
		two core wire	1 ~ 5	
		three core wire	1 ~ 5	
Other Lighting Fixtures->Other Lighting Fixtures	TTL	UTP-Unshielded Twisted pair	1 ~ 2	meters controlled less if over 1 meter
		two core wire	0.1 ~ 1	

3.2GPS ANTENNANOTES

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 larger the difficulty of searching satellite will be.

- 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.
- For the satellite appears on the equator more than other places, in the North Hemisphere, you'd better put the GPS antenna south of the installation place.
- Please don't put GPS antenna around other transmitting and receiving equipment to avoid other transmitting antenna direction point to GPS antenna. Please keep them 2m away with each other. Suggesting install different GPS antenna in different places to avoid disturbing.

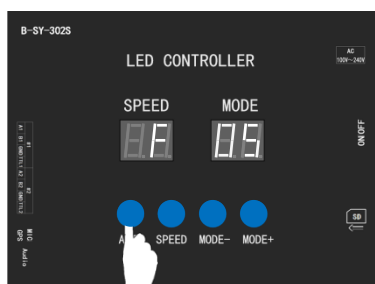
4. BASIC OPERATION

4.1 BUTTONS FUNCTION

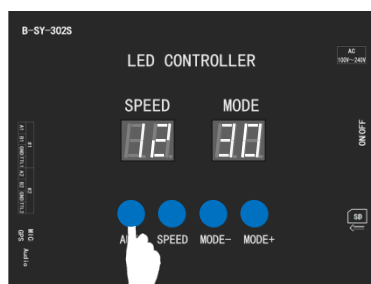
Button	Function
AUTO	Short press: Signal strength of searched GPS satellite, real Beijing time (mmss) searched by GPS Hold press 2 seconds, the effect is audio mode and the screen shows "00".
SPEED	Common mode:5, 6, 7, 8, 9, 10, 11, 12, 15 Communication mode: 6., 8., 10., 12., 18.
MODE-	Mode minus selection
MODE+	Mode add selection

4.2 BUTTONS OPERATION

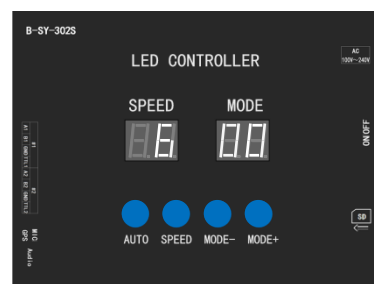
4.21 SATELLITE SIGNAL



Press "AUTO" once, it shows "F **".(** is the signal strength of searched GPS satellite. Larger value with better signal.)



Press "AUTO" once, it shows the real Beijing time (mm ss) searched by GPS.



Long press "AUTO", the mode shows "00" (audio mode).

- ★ Press "SPEED", "MODE-" or "MODE+" to return to "Normal Mode" interface from "Satellite" interface. The controller will save the previous speed and effect mode (Eg. The Speed is 6 and the effect mode is 5. Press "MODE+" to return the same speed and effect from "satellite" interface.)

4.22 SPEED SELECTION

Press button "SPEED" on control panel to select play speed, the less the rate, the quicker the speed.

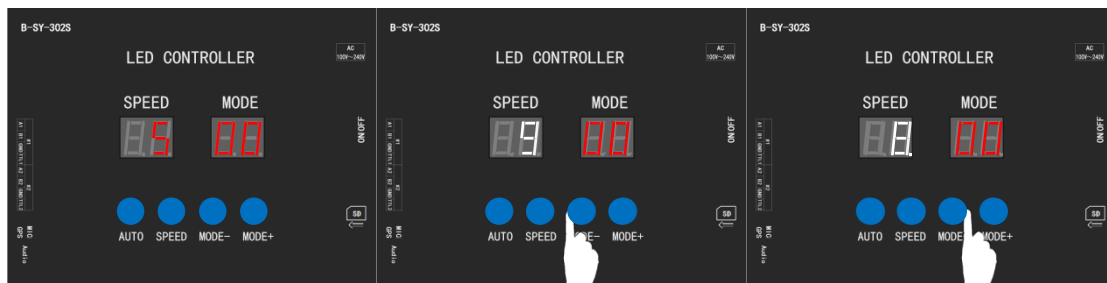
Parameters	Speed Display										Notes
Main Control speed	5	6	7	8	9	10	11	12	15		Independent Speed
	-	6.	-	8.	-	10.	-	12.	-	18.	Synchronization Speed
Frame Rate(ms)	50	60	70	80	90	100	110	120	150	180	
Frame Per Second	20	17	14	13	11	10	9	8	7	5	

Synchronization Speed

※Independent speed: Independent speed: this speed is decided by the meters of hurdle lights of clients, if it is less than actual meters, the data won't display.

※Synchronization speed: All the controllers set same speed and same mode, connect to power in the same time. They can reach synchronization.

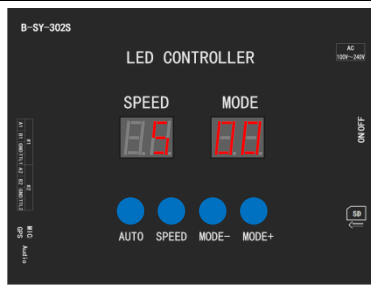
(Same frame rate may display differently if controller model is not the same, please confirm.)



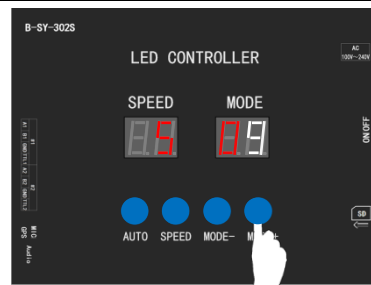
Press "SPEED" once, speed=05 Press "SPEED" 4 times, Speed=9 Press "SPEED" 6 times, Speed=8.

4.23 EFFECT SWITCHING

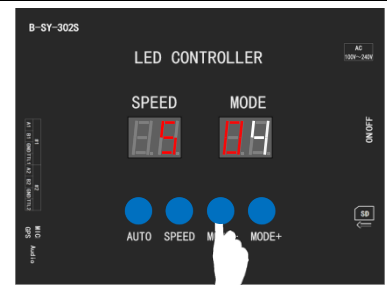
Press "MODE-" and "MODE+" on control panel to select effects.



Press "AUTO" once, Mode = 0



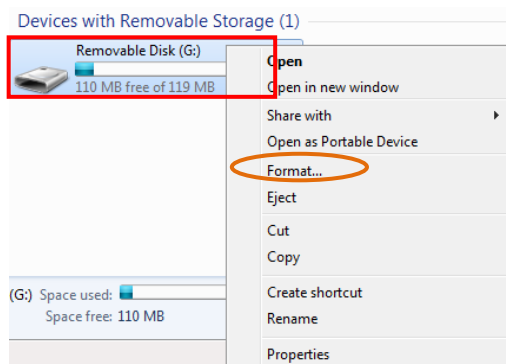
Press "MODE+" 9 times, Mode = 09



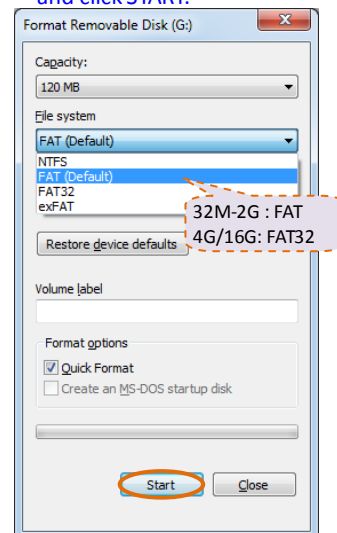
Press "MODE-" 5 times, Mode = 04

5. SD CARD COPY

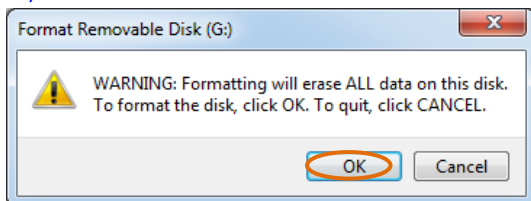
1) Right click the disk where the SD card locates.



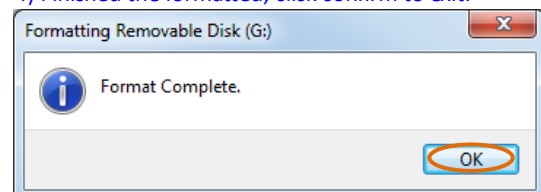
2) Select -FAT (Can tick off "Quick Format") and click START.



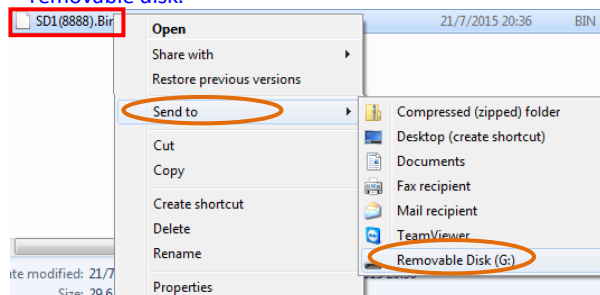
3) Confirm to format the Disk.



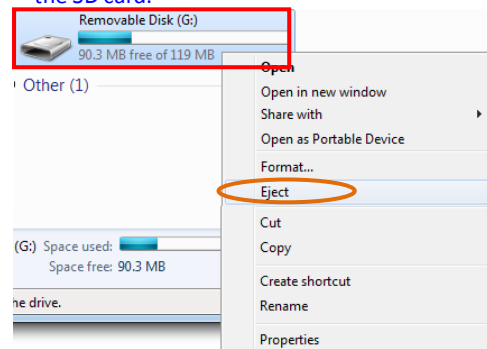
4) Finished the formatted, click confirm to exit.



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



6) Right click removable disk and select pop to pop the SD card.




7) Put the SD-card into controller. When start the equipment the SD-card can use. (There is only one bin file in the card.)

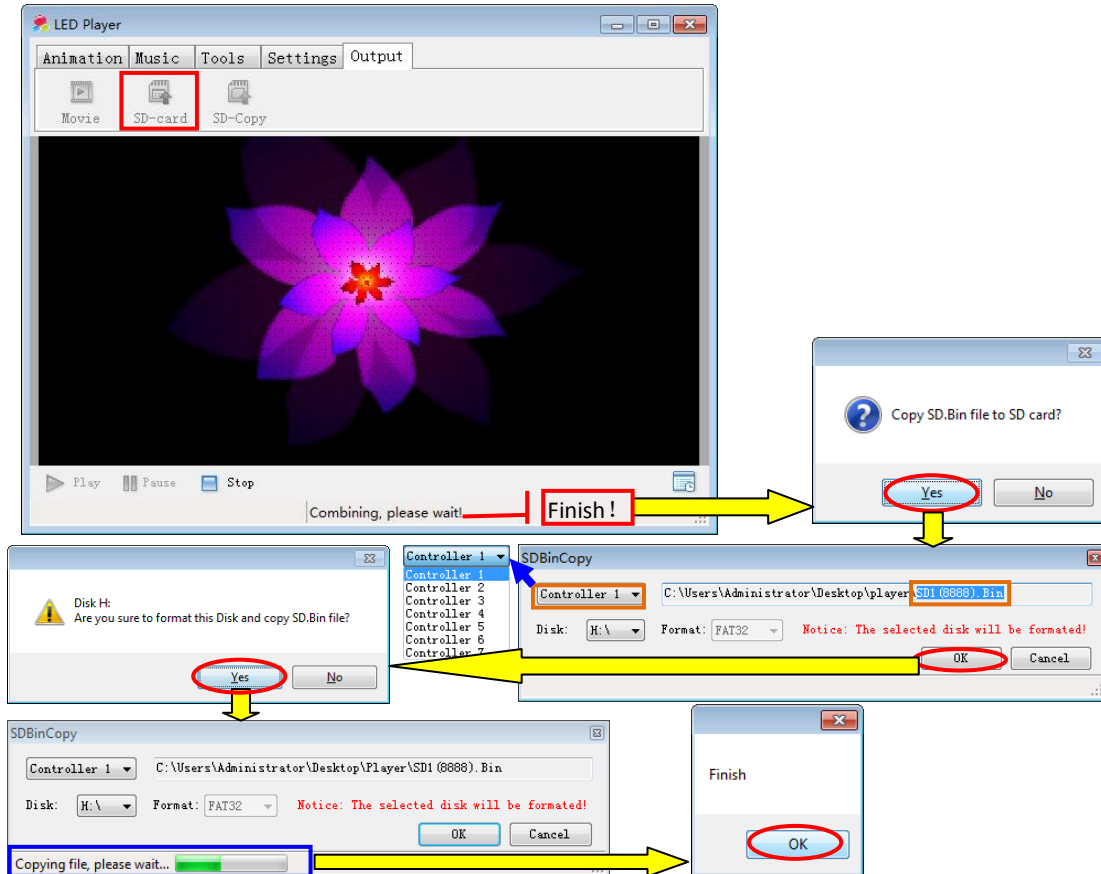


E07 error will occur in controller if above format + SD Card Copy is used in WIN 8 above system.

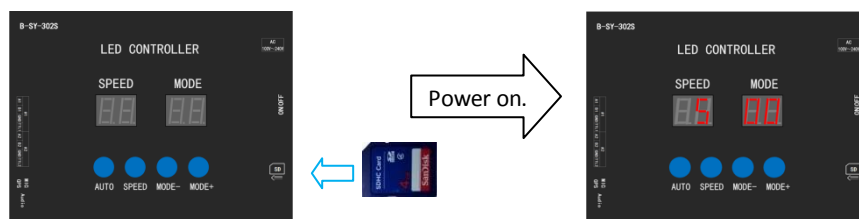
Please use the second method to copy SD Card again.

SD-Card Copy Method 2:

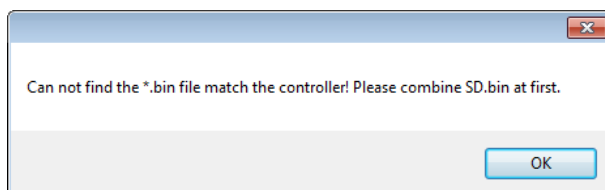
1. Insert SD card.
2. Click . It will pop the Information Frame "Copy SD. Bin file to SD card?". Click . Select required controller. (SD.Bin file will automatically change according to selected controller.) Controller 1 corresponds to SD1, Controller 2 corresponds to SD2, and so on.....
3. Copy the file into SD card according to hints (all copying steps into SD card are the same).




At last, put the SD-card into controller. When start the equipment the SD-card can use. (There is only one bin file in the card.)



Click , it will pops the Error Information Frame like the follow picture?



SOLUTION:

Click to exit the information reminder. Then click  to re-merge the effect once again and copy into SD card.