MANUAL

CONTROLLER DMX
K-5000

Model: D2, E3
Addressing Chip: SW-D

Content

2018-2

01. INTRODUCTION

1. It can contoller and address some DMX512 lighting fixtures. This manual only introduces SW-D chip (Addressing Options U03). If need to address the other DMX512 chips, please refer to manual of corresponding chips.
2. Lighting fixtures with DMX chip can be addressed easily. All lighting fixtures just need to be addressed once. Channels of lighting fixtures with DMX chip can be set according to actual need.
3. Accompany with professional effect production software. User can make any effects for merging and put into SD card.
4. Select effect automatically or manually; can adjust speed and select AC sync.

02. TECHNICAL PARAMETERS

|	
Size	**192L×122W×45H (mm)**
Input voltage	**AC 100 — 240V**
Output signal	**RS-485×5 ports (data of 5 channels are the same)**
Pixel quantity drove	**standard DMX512: 168 points /each channels, extensible DMX512: 336 points /each channels**
Output power	**<3W**
Working temperature	**-15...+60 °C**
Relative humidity	**≤50% RH**
Ingress protection	**IP0 (non dustproof, non waterproof)**
Working environment	**Please install under dry indoor condition, avoid any dust, moist and rain.**
Weight	**710g (N.W. 600g)**

Fittings: ×1pc, ×10pcs (5pcs of 4P terminal blocks)

Type of chip:

U 01	UCS512A/UCS512B/SW-U series
U 02	DMX512AP/SM512
U 03	SW-D series (3 Channels / 4 Channels)
U 05	U CS512C0
U 06	3 C hannels (SM16511/SM16512/SM16520)
U 07	4 C hannels (SM16511/SM16512/SM16520)
U 08	3 C hannels (UCS512C4)
U 09	4 C hannels (UCS512C4)

03. ERROR CODE

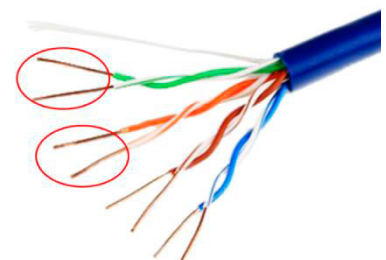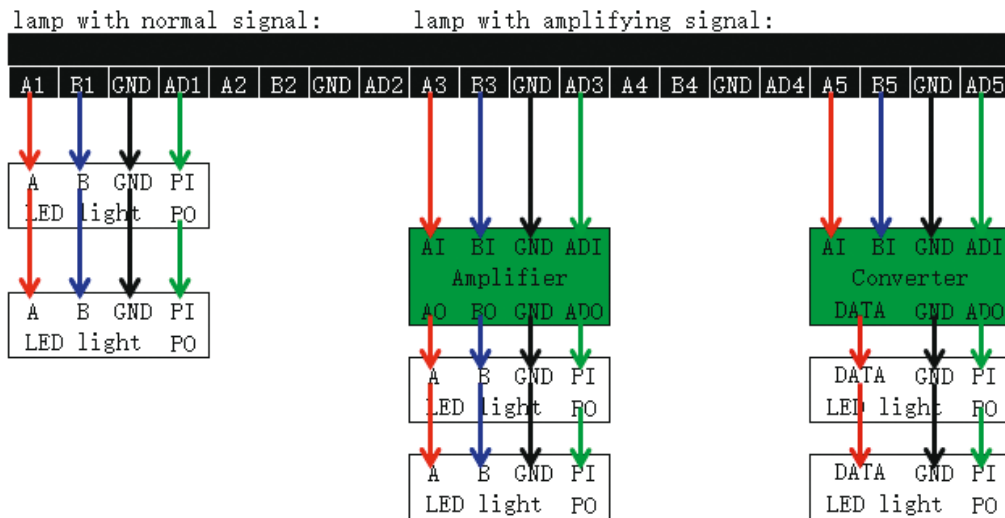| Er	Introduction	Reason
01	No SD card	Poor seat connection. / No SD card.
02	SD card no response	Card is broken. / Card cannot be read sequentially.
03	Cannot reset SD card	Card is broken. / Card cannot be read sequentially.
04	Cannot activate SD card	Card is broken. / Card cannot be read sequentially.
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.
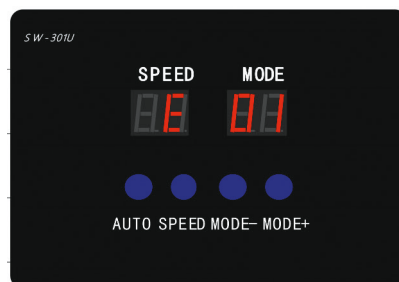
04. CONNECTION MODE

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 lighting fixtures.

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.

lamp with normal signal: lamp with amplifying signal:

| A1 | B1 | GND | AD1 | A2 | B2 | GND | AD2 | A3 | B3 | GND | AD3 | A4 | B4 | GND | AD4 | A5 | B5 | GND | AD5 |

```
A    B   GND  PI
LED light    PO

A    B   GND  PI
LED light    PO
```

```
AI   BI  GND  ADI
    Amplifier
AO   BO  GND  ADO

A    B   GND  PI
LED light    PO

A    B   GND  PI
LED light    PO
```

```
AI   BI  GND  ADI
    Converter
DATA     GND  ADO

DATA     GND  PI
LED light    PO

DATA     GND  PI
LED light    PO
```

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 (m)	Notes
Master control-> slave control	RS-485	UTP-Unshielded Twisted pair	50 ~ 100	
		three core wire	1 ~ 5	
Master control/ slave control -> Light fixture	RS-485	UTP-Unshielded Twisted pair	30 ~ 50	
		three core wire	5 ~ 30	
Light fixture-> Light fixture	RS-485	UTP-Unshielded Twisted pair	5 ~ 20	meters controlled less if over 5 meter
		three core wire	1 ~ 5	
Other Light-> Other Light	Addressing wire	UTP-Unshielded Twisted pair	1 ~ 5	It must be in 5 meters when addressing.
		three core wire	1 ~ 2	

05. BASIC OPERATION

05.1 SPEED SELECTION

Press "Speed" button on controller panel to adjust playing speed. The larger the value is, the slower the speed will be.

Main controller speed	Speed value												Remark
	1	2	3	4	5	6	7	8	9	10	11	12	Independent speed
	26				28		30		32				Synchronous speed

Independent speed: Decided by the meters of user 's hurdle light; the data won't display if it's less than actual speed.

Synchronous speed: Turn on the power of controllers together. The controllers can achieve synchronization only

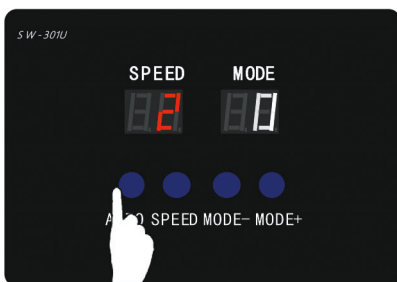if their speeds(over 26) and modes are set to be the same.
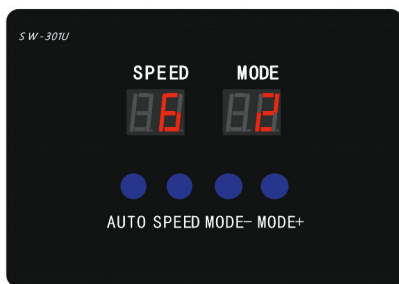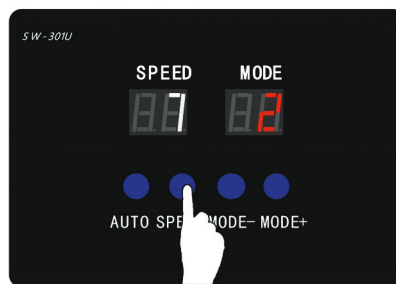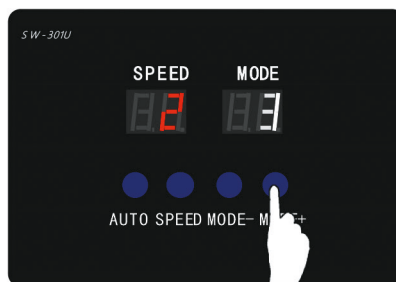

Speed = 6   Press "Speed" once, Speed = 7
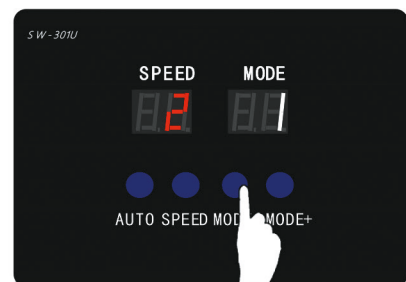
05.2 MODE SELECTION

Press "Mode+" and "Mode-" buttons to select pattern mode.

Press "AUTO" once, Mode = 0   Press "Mode+" 3 times, Mode = 3.   Press "Mode-" once, Mode = 1.
(Auto mode).

06. ADDRESS SETTING

"00 00", it means entering "Automatic" addressing mode (e.g. #1, #2, #3... #999).

"9* **", it means entering "fixed addressing" mode, e.g. 9001 means #1, #1, #1... #1.

The first address of Nth lighting fixture is X*(N-1)+1 where X is the number of channels in each lighting fixture.

PCBType		D01D	D06D	D08D	D12D	D16D	D01D	D06D	D08D	D12D	D16D
Number of Channels		3					4				
Lighting fixture Pixels		1	6	8	12	16	1	6	8	12	16
Number of DMX chips in each lighting fixture		1	1	1	1	1	1	1	1	1	1
Number of channels in single chip		3	18	24	36	48	4	24	32	48	64
First Add. Of Each Lighting fixture	Light fixture 1	1	1	1	1	1	1	1	1	1	1
	Light fixture 2	4	19	25	37	49	5	25	33	49	65
	Light fixture 3	7	37	49	73	97	9	49	65	97	129
	Light fixture 4	10	55	73	109	145	13	73	97	145	193
	Light fixture 5	13	73	97	145	193	17	97	129	193	257
Type of control signal		485 differential signal/TTL single-wire signal									
Color display when addressing successfully		The fist lamp connects with controller will have yellow light, the others are green light									

07. THE RESULT OF ADDRESSING
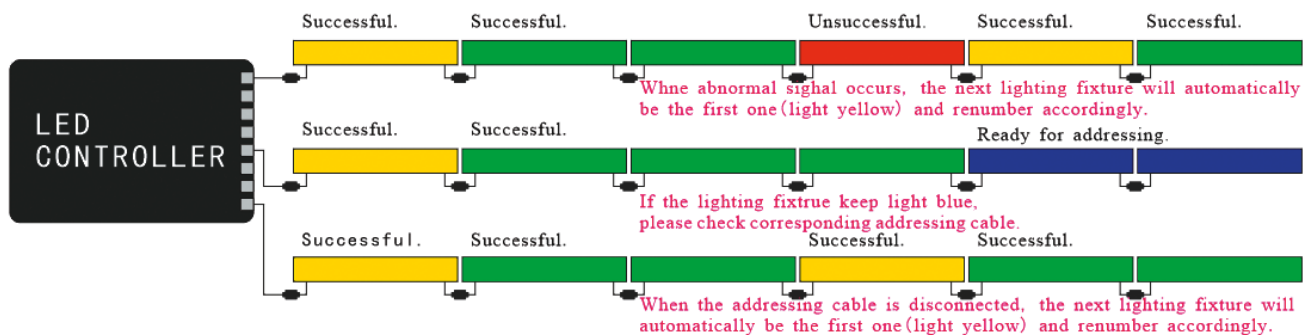
The addressing cable between the controller and the first lighting fixture can not connect. The controller will send the addressing data by 485 signal. When the SW-D lighting fixture is addressed succesfully, the first lighting fixture will be yellow light, and it will be green light from the second. Or it means the connection is abnormal. Please check the cable again.

08. ADDRESSING

For addressing operations please refer to following example. (The whole process should be conducted with plugging card. Please switch off the controller first if need to remove the card.)

08.1   ADDRESSING SETTING

1. Press "MODE-" and "MODE+" together, press power switch and don't release the button until it shows "U 0*".
    "U 0*" means to select type of chip which need to be addressed. The SW-D lighting fixture is "U03".
    For switching type of chip, please press "MODE+" to operate.

2. Long press "AUTO" and don't release the button until it shows "0 0 0 0". It's the status of entering address.
    It can be set refer to Step 5 in this chapter.
    LCD screen displays "00 00", it means entering "Automatic" addressing mode. E.g. #1, #2, #3...... #999.
    LCD screen displays "9* **", it means entering "fixed addressing" mode. E.g. 9001 means #1, #1, #1......#1.
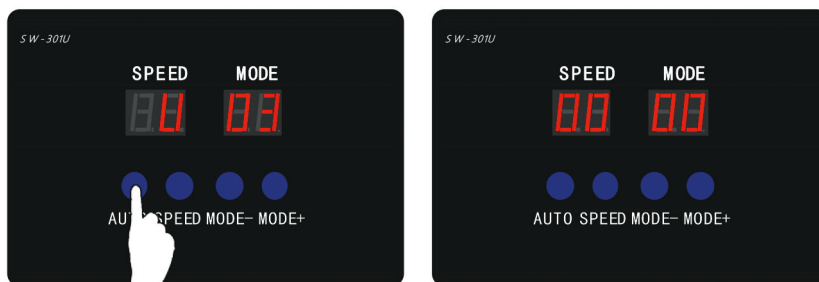
3. If the address is confirmed, please long press "AUTO" and don't release the button until the screen shows "- - - -".
    Then the data is sent out by controller.
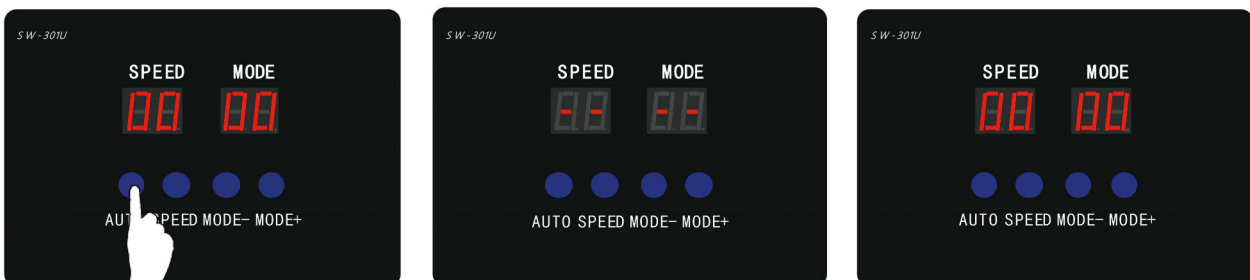
When DMX lighting fixture is addressed successfully, the lighting fixture will be the particular light. When the other color occurs, that means this lighting fixture is addressed unsuccessfully. The buttons are useless for sending the address.

At this time (controller can be power on), directly connect to DMX lighting fixture with the same specification and chip which need to be addressed. Then repeat Step 3 for addressing. If the address is found to be wrong after sending out the data, please repeat Step 5 and Step 3 to re-address the lighting fixture. If fail to set the address, please check connection of the lighting fixture again. Please repeat Step 3 to send the data one more time.

4. It has memory function that only needs 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.

5. Address modification. Press "AUTO" to increase the 1st value. Press "SPEED" to increase the 2nd value.
Press "MODE-" to increase the 3rd value. Press "MODE+" to increase the 4th value.
The first address of Nth lighting fixture is X(N-1)+1 where X is the number of channels in each lighting fixture.
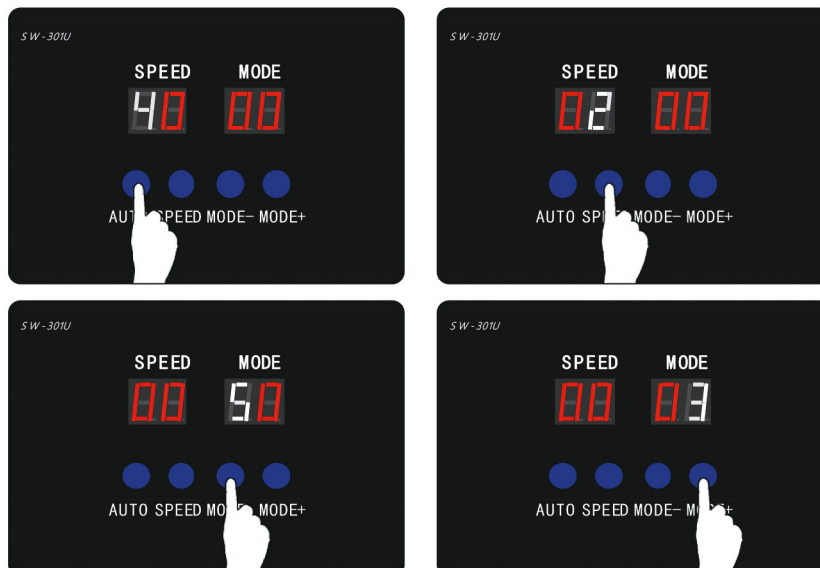
After modifying the address, please repeat Step 3 to send the data one more time.

08.2   ADRESSING SENT-OUT

The controller can sent out the address data to lighting fixture direct when it power-on. The addressing chip setup must be the same with the lighting fixture.

1. Press "SPEED" and "MODE-" together, press power switch and don't release the button until it shows "** **".
    "** **" is the adress data last time setup.

2. Long press "AUTO" and don't release the button until the screen shows "- - - -". Then the data is sent out by controller. When DMX lighting fixture is addressed successfully, the lighting fixture will be the particular light. When the other color occurs, that means this lighting fixture is addressed unsuccessfully.
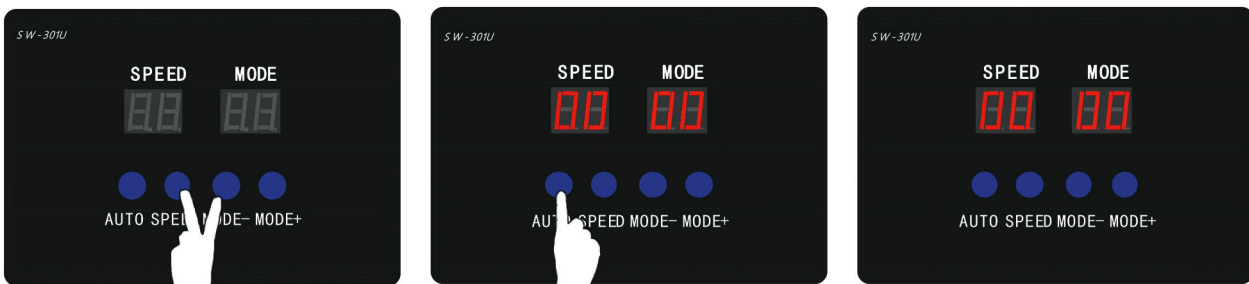
If the address of the lighting fixture is be changed, please refer to 08.1 ADDRESSING SETTING for setting address value.

09. ADDRESS EXAMINATION

After addressing is finished, please follow the operations below to examine address of lighting fixture.

1. Long press "SPEED" to power on, don't relese the button until it shows "AA 03". "AA 03" means the increment of the DMX512 chip. If it need to be modified, please set according to step 3.
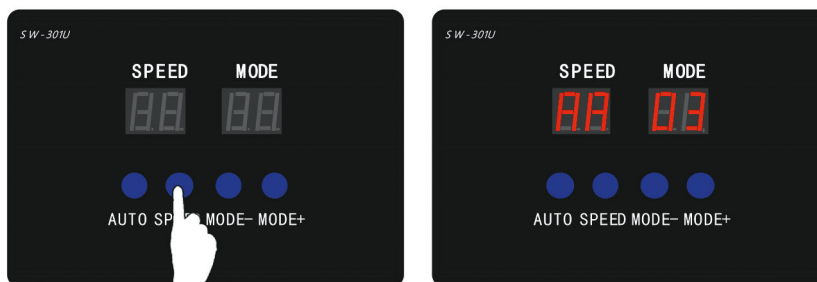

2. Long press "AUTO", don't release the button until it shows "C0 01". "C0 01" means to turn on the first chip. Controller will automatically calculate which lighting fixture (what distance) needs to be turned on according to chip type and increment set in the last addressing.

If chip type/increment set in the controller are different from actual lighting fixture, the examination will be not accurate.

If chip type need to be modified, please set according to "08.1 ADDRESSING SETTING".

3. Press "MODE-" to decrease "AA **". Press "MODE+" to increase "AA **". Maximum value can be set as 99.
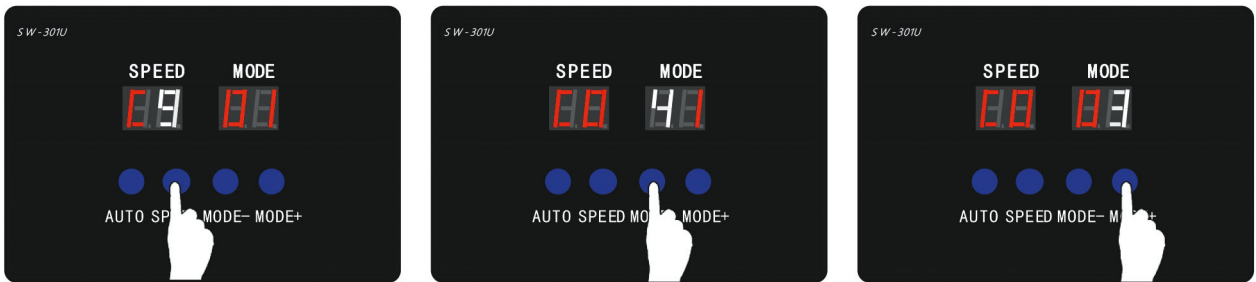
4. Press "SPEED" to increase the 2nd value. Press "MODE-" to increase the 3rd value. Press "MODE+" to increase the 4th value. Release the button, the lighting fixture in corresponding distance will be on. Maximum value can be set as 999.
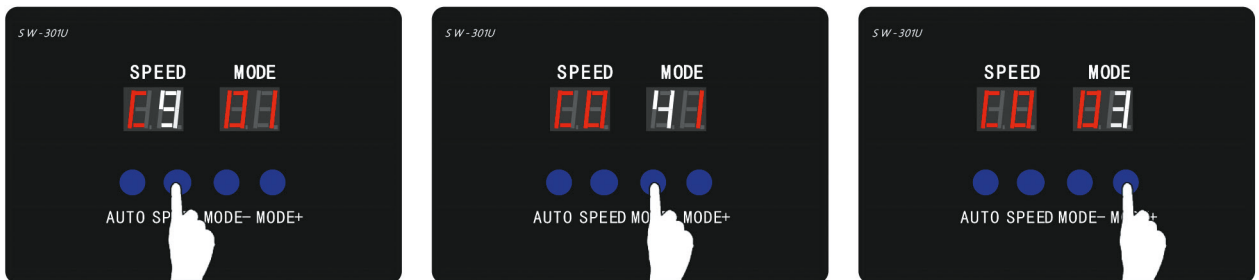
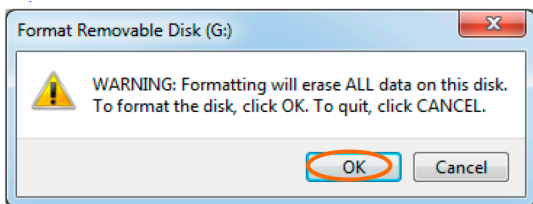# 10. SD CARD COPY

SD-Card Copy Method 1:

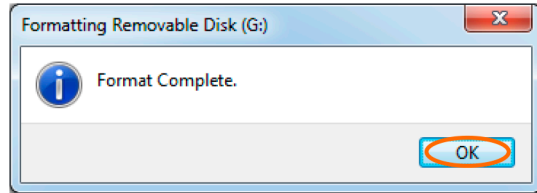1. Right click the disk where the SD card locates.
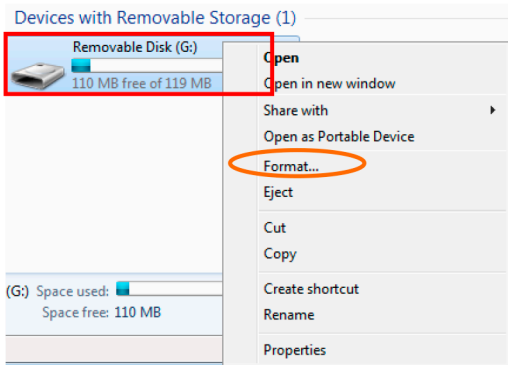
2. Select –FAT (Can tick off "Quick Format") and click START.
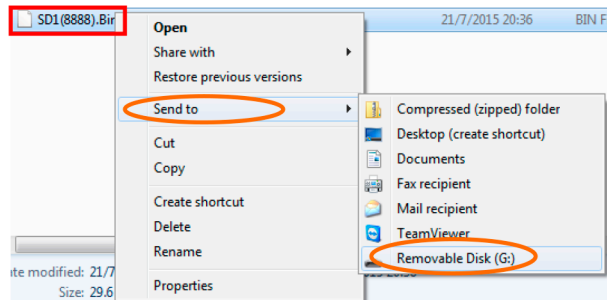

32M-2G : FAT
4G-8G: FAT32
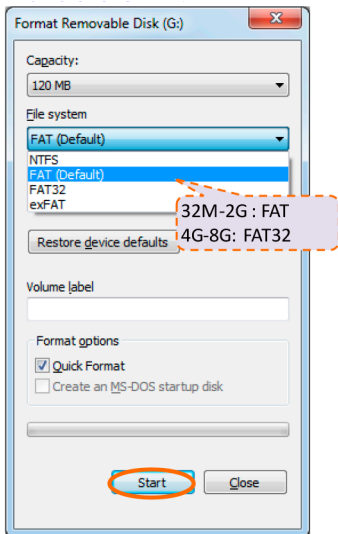
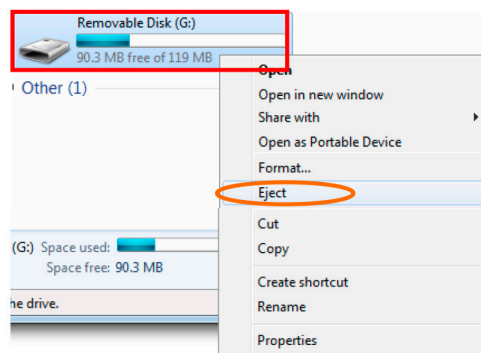3. Confirm to format the Disk.

4. Finished the formatted, click confirm to exit.

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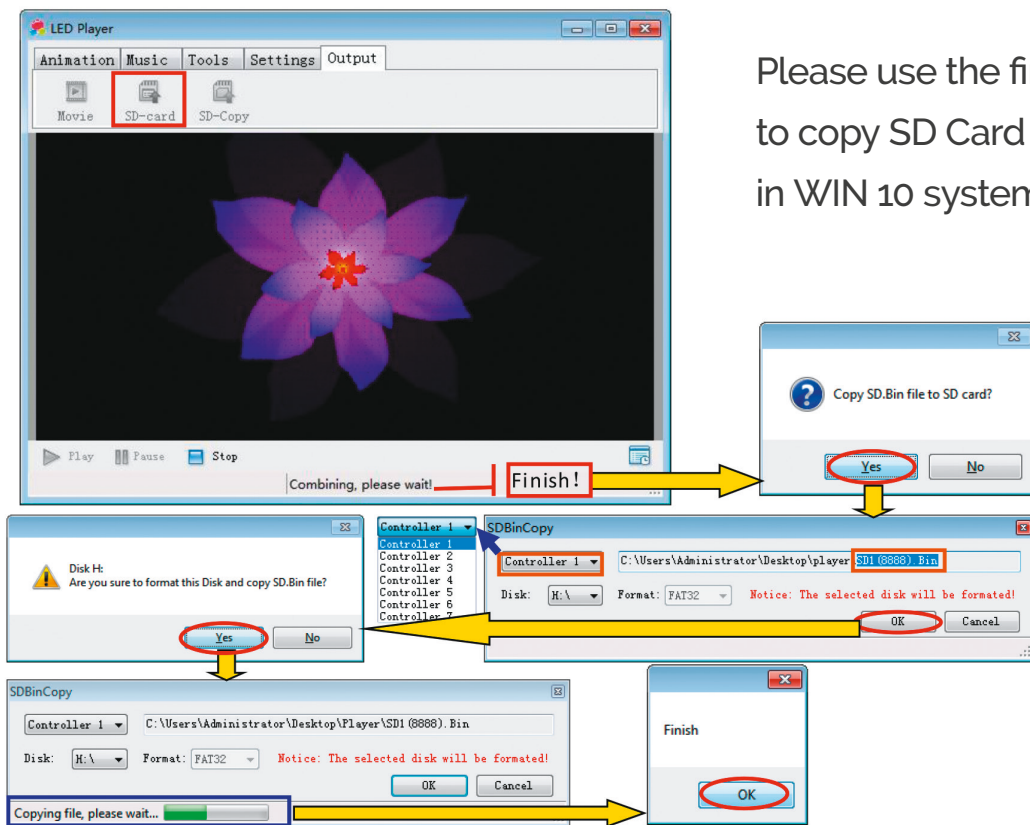

6. Right click removable disk and select pop to pop the SD-card.

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.)

SD-Card Copy Method 2:

1. Insert SD card.
2. Click . It will pops the Information Frame "Copy SD. Bin file to SD card?". Click [Yes]. 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).
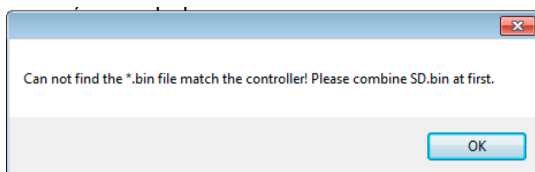
Please use the first method to copy SD Card in WIN 10 system!

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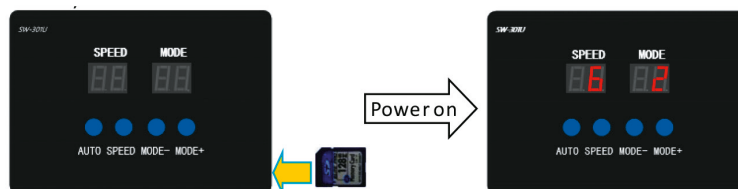
? Click , it will pops the Error Information Frame like the follow picture?

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

Note: Right of revising this specification reserved. (Please understand there will be no extra notice when is occurred.) The information in the manual is for reference only, please don`t regard it as guarantee of the product.