SW-301T MANUAL

Model: D2
Addressing Chip: SW-D

2017-6

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01. FUNCTION OVERVIEW

1. Control the LED digital tube screen and LED pixel light screen those with variety of regular chips.
   a) Single chip lighting fixture: D**S series, D**J series.
   b) Single-wire lighting fixture: TM180*-400K/800K, UCS19**, UCS29**, TM1913, WS2811/12, SM167**.
   c) DMX512 lighting fixture: SW-D, SW-U,UCS512A/B/C0/C4,DMX512AP/SM512,SM16512, standard DMX512 lighting fixture on the market.
   d) Netants: UCS5603, WS2818, GS8206, P9883, TM1914, XT1506S.
2. Select effect automatically or manually; can adjust speed and select AC sync.
3. Lighting fixtures with SW-D series 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.
4. Address of the first lighting fixtures can be set by user
5. The controller will enter in built-in type if it shows error.
6. Include profession effect production software, user can arbitrarily make effect save in SD card for use.

02 PRODUCT INFORMATION

Size: 192L×122W×45H (mm)
Input voltage: AC 100V - 240V
Output signal: TTL × 8 channels & RS-485 × 2 channels (All the same)
Pixel quantity drove: Single chip: 960 points / channel,
Single-wire: 1024 points / channel,
standard DMX512: 168 points / channel,
extensible DMX: 336 points / channel,
netants: 960 points / channel.
Output power: <3W
Working temperature: -15℃～60℃
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.
SD card: Less than 256M
Weight: 710g (N.W. 600g)
Fittings: * 1pc, * 8pcs

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 fixture.

★ 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 (m)	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 wire	5 - 30	
Master control/slave control → Single-wire 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 address wire must be within 5 meters.
		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 meters.
		Two core wire	1 - 5	
		Three core wire	1 - 5	
Single-wire lighting fixtures → Single-wire lighting fixtures	TTL	UTP-Unshielded Twisted pair	1 - 2	Meters controlled less if over 1 meters.
		Two core wire	0.1 - 1	

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.

	Speed value												Remark
Main controller speed	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 (Auto mode).

Press “Mode+” 3 times, Mode = 3.

Press “Mode-” once, Mode = 1.

05.3 BUILT-IN TYPE

The controller will enter in built-in type if it shows error.

① TM1804 lighting fixture only can be controlled by the controller with built-in type.

② The speed only can be set up when the controller enter in built-in type.

③ The nixie tube below “SPEED” shows the speed of the controller.

The nixie tube below “MODE” shows the error data. The err data refer to 03. ERROR CODE.

The 3 effects in Buitl-in type

④ IF put the SD-card into the controller and power on, the effect shows by SD-card.

06. ADDRESS SETTING

※ Led screen displays “0000”, it means entering “Automatic” addressing mode (e.g. #1, #2, #3……#999).

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

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

07. ADDRESSING SETTING

1. Press “MODE-” and “MODE+” together, press power switch and don’t release the button until it shows “00 00” **“0000” means entering “Automatic” addressing mode.** If the address of the lighting fixture is different, please refer to Step 4 in this chapter for setting address value. (The whole process should be conducted with plugging card.)

2. If the address is confirmed, please long press “AUTO” and don’t release the button until it shows “- - - -“. Then the data is sent out by controller.

When DMX lighting fixture is addressed successfully, the first chip will be yellow light, and it will be green light from the second chip. If 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 2 for addressing.
If the address is found to be wrong after sending out the data, please repeat Step 4 and Step 2 to re-address the lighting fixture.
If fail to set the address, please check connection of the lighting fixture again. Please repeat Step 2 to send the data one more time.

3. **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.

4. 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 2 to send the data one more time.

08. UNSUCCESSFUL ADDRESSING

※ Note: If the addressing cable is poor contact or short circuit, it may keep displaying blue color.
Please check corresponding addressing cable when this occurs.

※ When abnormal signal occurs, the next tube will automatically be the first one (yellow light) and renumber accordingly.

※ When the addressing cable is disconnected, the next lighting fixture will automatically be the first one (yellow light) and renumber accordingly.

09. TESTING DATA OF THE LIGHTING FIXTURE

When UCS5603 is selected in SD card's effect file, the controller can start testing mode to test whether the signal cable works properly. Operation process is as below:

1. Turn on the power, long press "MODE-" and "MODE+" about 4s under regular interface until it shows "F0 00".

2. When releasing the buttons, it will become "F0 01" , then the lighting fixture enters testing status.
   First of all, the controller sends two frames of black effect to lighting fixture to clear all colors.
   Then the controller keeps sending "Testing code" to the lighting fixture in order to test the connections.
   (If need to change the other lighting fixture for testing, please long press "AUTO" to become "F0 02". Controller will send black effect to clear the colors of lighting fixture, then long press "AUTO" to get "F0 01 for testing.)

3. When the test completed, please long press "MODE-" and "MODE+" 4s until it shows "F0 00". When controller shows regular interface, it exits the testing status.

Connection and testing result:

Case 1: When red light is on, it means the connection between FDI signal of this lighting fixture and FDO signal of previous one is abnormal.

Case 2: When green light is on, it means the connection between DI signal of this lighting fixture and DO signal of previous one is abnormal.

Case 3: When yellow light is on, it means the signal connections between lighting fixtures are normal.

Case 4: When no light is on, it means the signal connection between this lighting fixture and previous one is abnormal.

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.

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?

SOLUTION:

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 change is occurred.)
The information in the manual is for reference only,
please don't regard it as guarantee of the product.