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# DMX200 DMX-SPI Decoder

## Product Specifications



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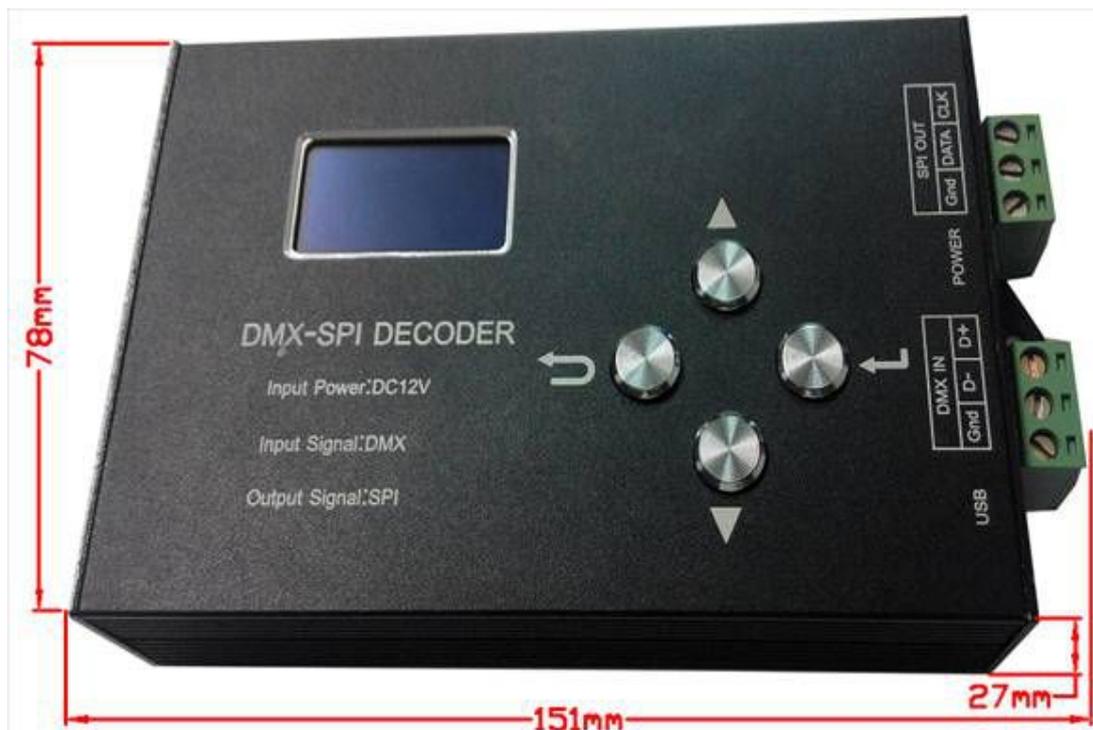
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The DMX-SPI decoder adopts the advanced micro control unit, it receives standard DMX-512/1024 digital control signal that is widely used in the international and transformes it into SPI signal to drive LED, it supports 11 kinds of different model of lights, at the same time the port of DMX signal has lightning protection measures; you could connect the DMX decoder with DMX digital console to achieve dimming or various changes in procedures. Not connected with DMX console, you can choose select the built-in 35 kinds of default patterns through the modle button, the default points is 341(1024/3),Through the setting -ligh configuration-light piexl,set up light piexl qty.

## 2. Technical Parameters

- 2.1 Working temperature: -20-60°C
- 2.2 Input voltage: DC 12V±2V
- 2.3 Working electricity: ≤60mA
- 2.4 Output: SPI (DATA、CLK)
- 2.5 External dimension: L151\*W78\*H27 (mm)
- 2.6 Packing size: L200\*W175\*H40 (mm)

## 3. Controller External Dimension



## 4. Interface Specification

Interface of DMX signal adopts the 3PIN green terminal interface,wiring is as follows:



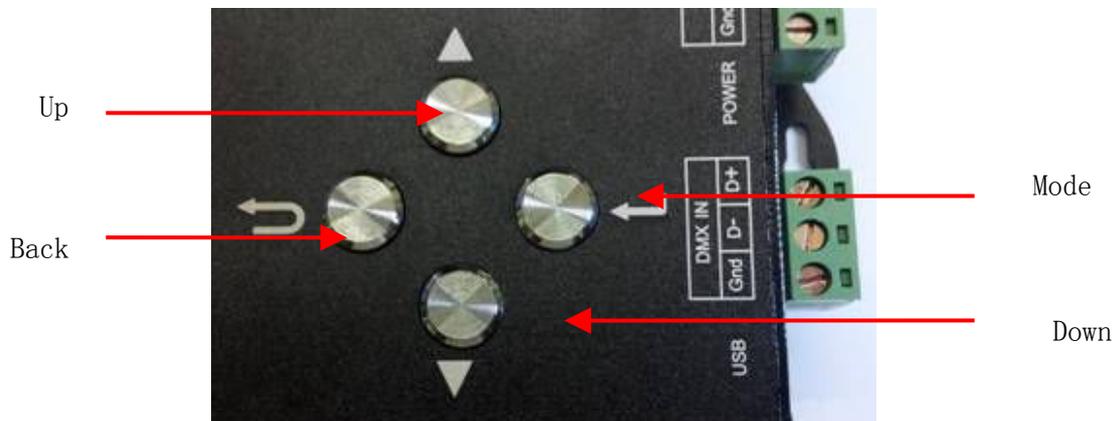
4.1 USB Micro interface: Download update procedure

4.2 DMX IN: Input interface of DMX signal, connected with ground, D- connected with negative of signal, Should be connected with positive of signal.

4.3 POWER: Input interface of power

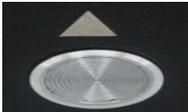
4.4 SPI OUT: Output interface of SPI signal, GND connected with negative, DATA connected with data interface of light, CLK connected with clock interface of light.

## 5. Button Instruction



5.1  "mode" button to select options, under the home page can be used to enter the Settings menu

5.2  Back button to return to the higher level menu

5.3  "Up" button to select the project and adjust the Numbers.

5.4



"Down" button to select the project and adjust the Numbers

## 6. Screen display instruction

### Main screen

DMX-SPI
state of signal: no signal
mode: Automatically play 8~34
chip: WS2812B

picture 1

When open the default display the main screen, the first line shows the product name. The second line shows the signal state, when there is no connected with DMX controller, showed no signal, displays connected with the signal. The third line display mode, display the current use of effects, there is no DMX controller, defaults to using the built-in effects. The fourth line shows light chips, display the current configuration of drive IC chip, light chip can be modified in the light configuration menu , this product can support 11 kinds of light chip

### Menu screen

model effect
set up
about

picture 2

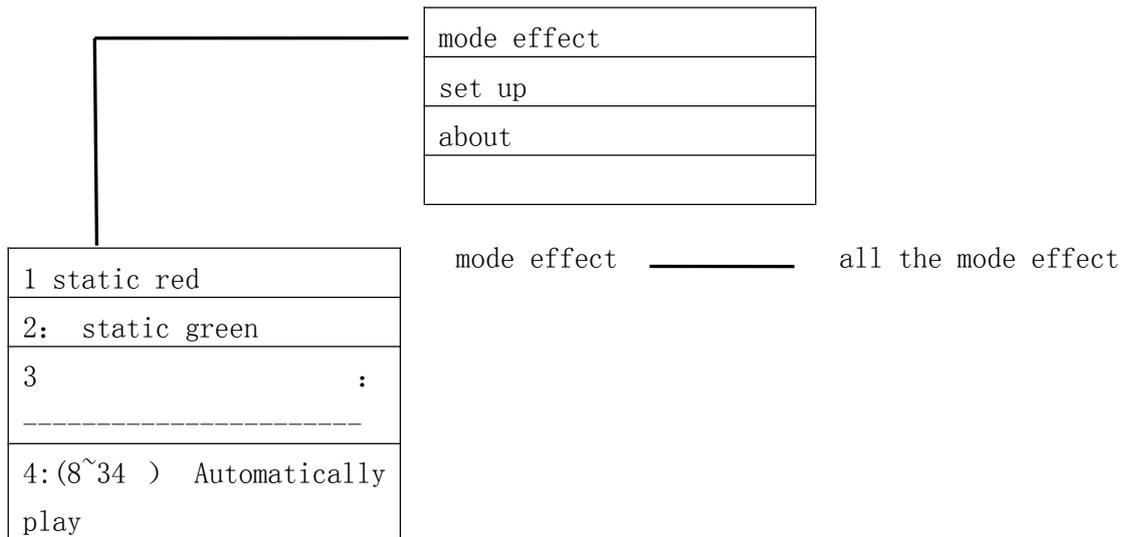
In the main screen press the mode button to enter the menu screen, the first line, can be set play and speed. The second line Settings, set light chip, color sequence, light pixels, set the DMX start address and number of channels, DMX Settings restore the default , language, etc. The third line is about introduction of product information

### 6.1 model effect instruction

when there is no connected with DMX controller, you can have built-in 35 kinds of default patterns to select. To choose model 35 in the default state , can be set to change, such as "mode effect - static red"

- 6.1.1 In the main screen press "confirm button" into the menu screen Settings, press up, down key to move the cursor to select "mode effect" press "confirm button" to enter the menu Settings, as the following .To select "mode effect" by upper and lower key button, such as "autoplay" click "confirm" button to save, and enter the model speed setting (no model speed without setting)

### Menu screen

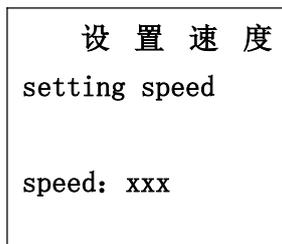


1:static red	19:Green trail forward direction
2:static green	20: Green trail backward direction
3:Static blue	21:Blue trail forward direction
4:Static yellow	22:Blue trail backward direction
5:Static purple	23:Seven-color running trail backward direction
6:Static cyan	24:Seven-color running trail forward direction
7:Static white	25:Change color purple-red-purple forward direction
8:Red horse race to right	26:Change color yellow-green-yellow forward direction
9:Green horse race to right	27:Change color cyan-green-cyan forward direction
10:Bule horse race to right	28:Change color purple-blue-purple forward direction
11:Three base color stroboflash	29:Change color cyan-blue-cyan forward direction
12:Seven-color stroboflash	30:Change color white-red-white forward direction
13:Three base color jumpy change	31:Change color yellow-red-yellow forward direction
14:Seven-color jumpy change	32:Change color red-yellow-red
15:Three mixing color three color wave by wave running forward direction	33:Change color green-cyan-green
16:Seven-color wave forward direction	34:Change color blue-purple-blue
17:Red trail forward direction	35:Automatically play 8~34
18:Red trail backward direction	

picture 3

6. 1. 2 After setted up mode effect, press confirm button , then enter the model that choosed speed setting screen, as the following

picture 4



6.1.3 Press the up, down key keys to accelerate the press "confirm button" to save, to complete pattern effects Settings, press the back key to exit and return the up higher level menu (picture 2).

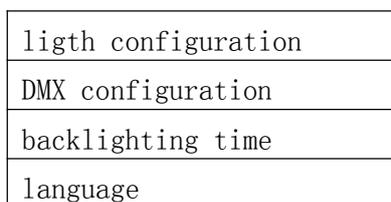
set mode speed, long hold up or down count, after speed set up ,you

Note: mode speed setting are independent&cyde for all patterns, ;Each mode can be adjust the speed of need, if set selection mode no need setting speed can directly press the back key to save the current mode and play.

## 6.2 Setting menu instruction

6.2.1 In the menu screen (picture 2), press up, down key to move the cursor to select "setting", then press "confirmbutton" enter this menu setting, as following

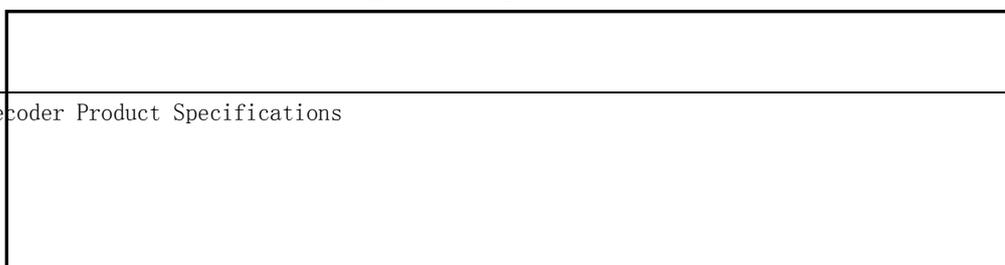
设置画面

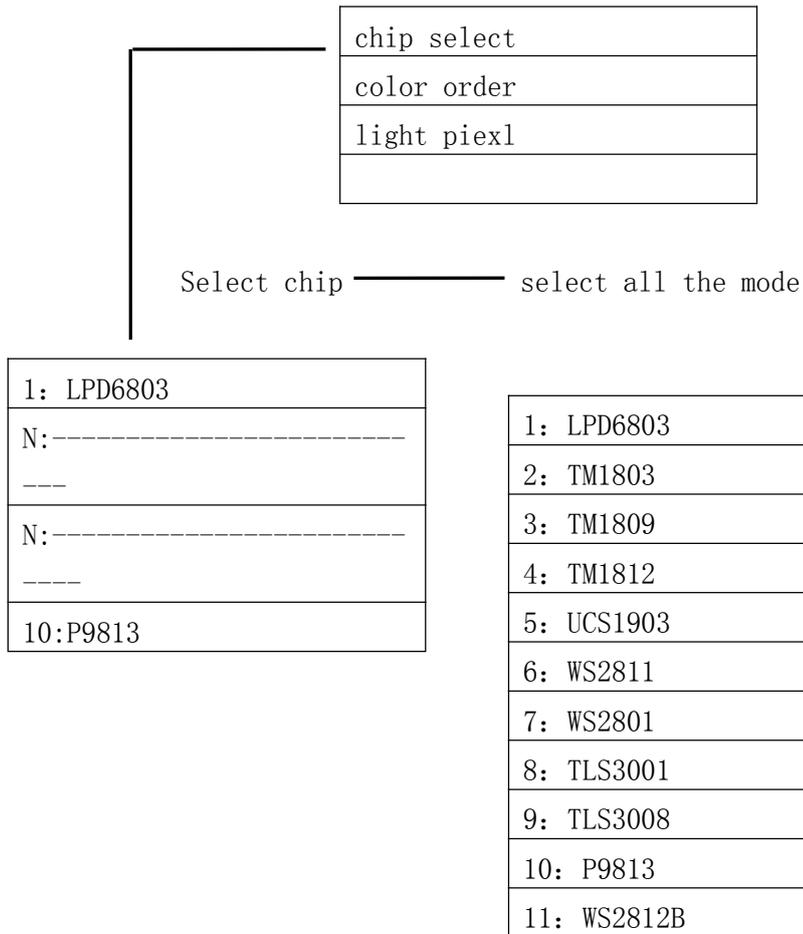


picture 5

6.2.1.1 Press up, down key to move the cursor to select "lighth configuration" then press "confirmbutton" enter this menu setting, as following  
Use up, down key to select "chip select", after ok you press "confirm button" to save and press the back key to exit and return up higher level menu .

lighth configuration screen

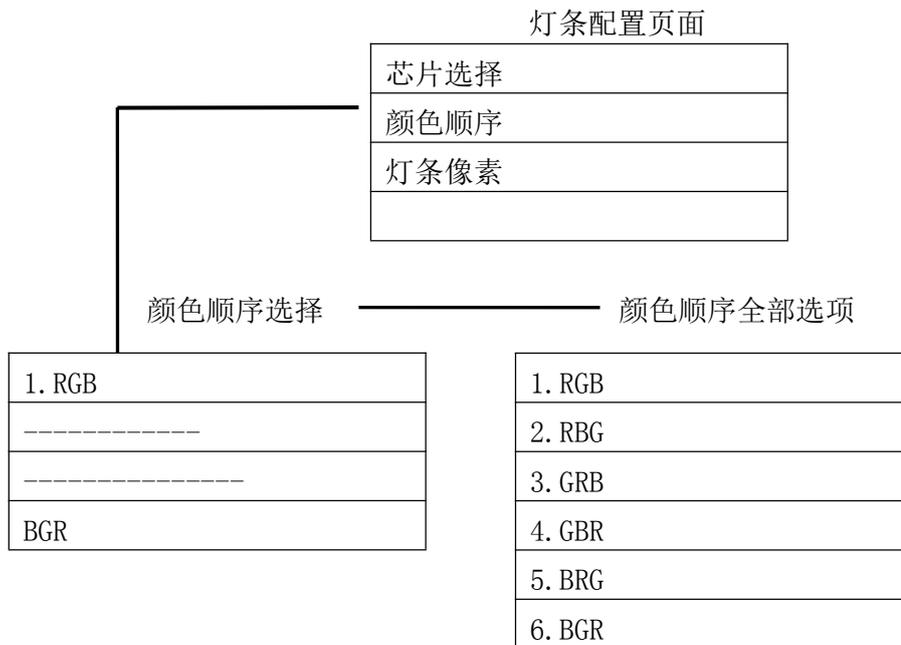




picture 6

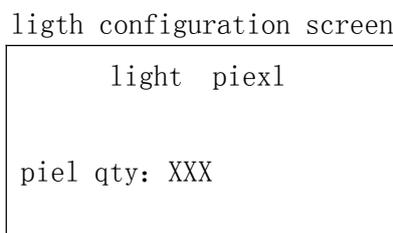
6.2.1.2 In lighth configuration screen,press up, down key to move the cursor to select "color order", then press "confirmbutton" enter this menu setting, as following.

Use up, down key to select "color order", after ok you press "confirm button" to save and press the back key to exit and return up higher level menu .



picture 7

6.2.1.3 In lighth configuration screen,press up, down key to move the cursor to select “light piexl’ ’ ,then press “confirmbutton” enter this menu setting,as following.



Picture 8

6.2.1.4 Press the up, down key set adding or reduceing, long hold up or down keys to accelerate the count, after setted up ,you press “confirm button” to save, press the back key to exit and return the up higher level menu .

Note:The factory default pixel341(1024/3) pcs,Such as using the 100 RGB lamp bead for light set 100, also can use the default of 341.If using the light is made up of 341 RGB lamp bead, play only about 100 light bead, set up 100 pixels, 241 is at the back of the lamp will not play, but it can light, only close power to restart the SPI decoder, behind the 241 light bead is not on,in front of 100 lights play as setting up .

6.2.2 DMX setting (Have a DMX signal to take effect)

6.2.2.1 In the setting menu screen (picture 5), press up, down key to move the cursor to select “DMX configuration ” ,then press “confirmbutton” enter this menu setting,as following

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DMX configuration screen

DMX starting address
DMX channels qty
DMX configuration to the default

Picture 9

6.2.2.2 In DMX configuration screen, press up, down keys to select “DMX starting address”, then press “confirm button” to start address setting.

DMX start address setting
current address: XXXX

Picture 10

6.2.2.3 Press the up, down key set adding or reducing address, long hold up or down keys to accelerate the count, after setted up, you press “confirm button” to save, press the back key to exit and return the up higher level menu.

6.2.2.4 After Setted the start address, decoder will start from the address to send data to the light, for example, DMX start address is 1, after receiving the data the decoder from the first start sending to the light.

6.2.2.5 In DMX configuration screen, press up, down keys to select “DMX channels qty”, then press “confirm button” to start channels qty setting.

DMX channels qty
current channels qty : XXXX

Picture 11

6.2.2.6 Press the up, down key set adding or reducing channels, long hold up or down keys to accelerate the count, after setted up, you press “confirm button” to save, press the back key to exit and return the up higher level menu.

6.2.2.7 After setted Channel qty, decoder will start from the beginning address to send data to light with the channel qty. For example, DMX start address is 1, channel 600, after receiving the data decoder from the first start sending data and end of the 600.

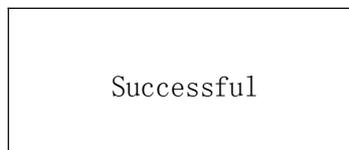
Note: the factory default DMX channel qty 1024, after the start address Settings without setting channel qty, channel qty as the default of 1024, There are two kinds DMX communication protocol, 512 and 1024. The user can set

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according to the configurations of DMX controller. If you want to use two decoders in the same DMX channels, can install according to the requirements set parameters.

For example: in the controller, DMX - 1024 with SPI decoder A and B, use a DMX channels, SPI decoder A need 256 channels, B need 768 channels, A start address is set to 1, channel qty set 256, B start address is set to 257, channel number is set to 768, so it can use a DMX controller with 1024 the number of channels drives the two decoders. General it no need to modify the parameters, because a DMX - 1024 with a decoder.

6.2.2.8 When the user Settings DMX starting address or channel , it is wrong, can restore DMX factory defaults. In the DMX configuration screen, press the up, down keys to select "DMX factory defaults" .Press "confirm button", the screen will display successful, the following



Picture 12

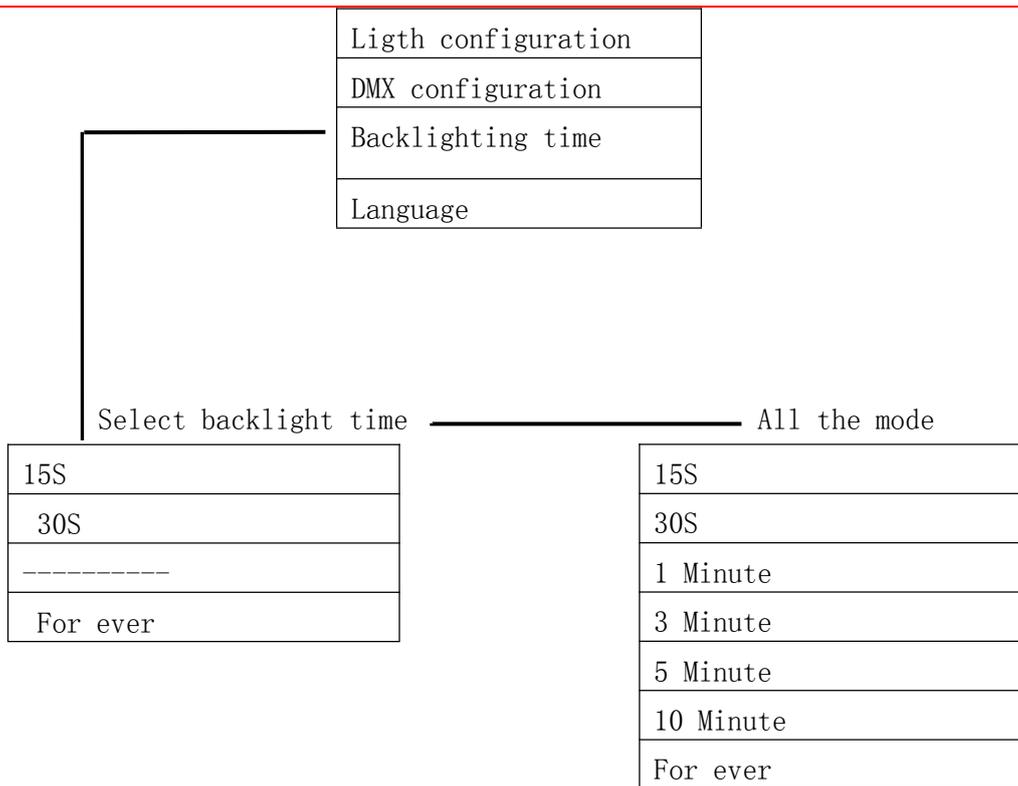
### 6.2.3 Backlighting time setting instruction

6.2.3.1 Product support backlight extinguishing time adjustment, the default is 3 minutes, can through this setting to change .

6.2.3.2 In the setting menu screen (picture 5), press up, down key to move the cursor to select "Backlighting time" , then press "confirmbutton" enter this menu setting, as following .

Press up ,down key to select right time , then press "confirmbutton" to save and exit.

Setting Screen



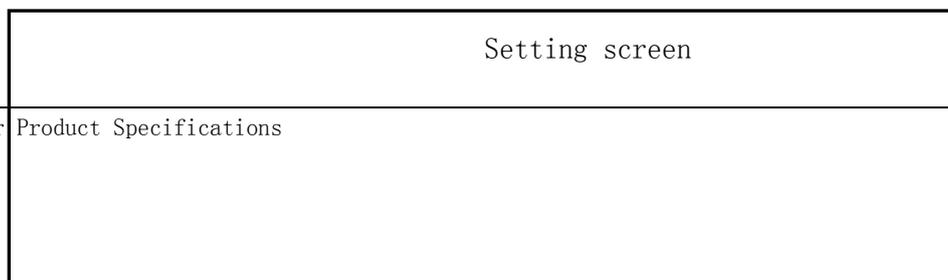
Picture13

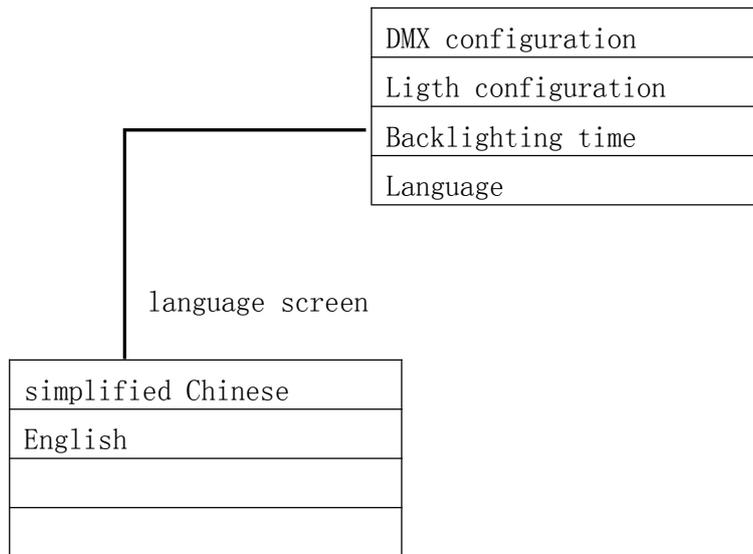
#### 6.2.4 Language setting instruction

6.2.4.1 This product support simplified Chinese and English two languages, the default is using simplified Chinese, can be used by language Settings to change the language.

6.2.4.2 In the setting menu screen (picture 5), press up, down key to move the cursor to select “language”, then press “confirm button” enter this menu setting, as following

Through up, down key to select language, press “confirm button” to save, press the back key to exit and return the up higher level menu.

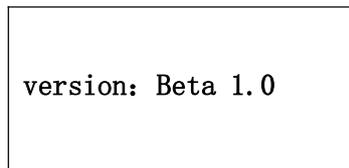




Picture 14

### 6.3 About menu instruction

In the menu screen instruction, press up, down key to select “about” then press “confirm button”, Enter the information about the product related introduction. the following.



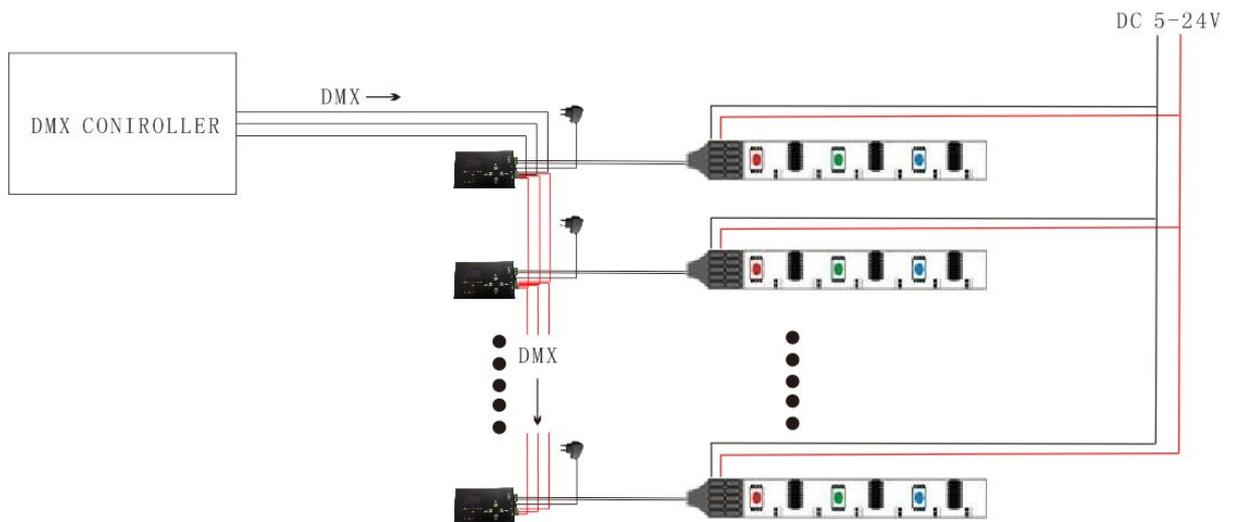
Picture 15

### 6.4 Upgrade instructions

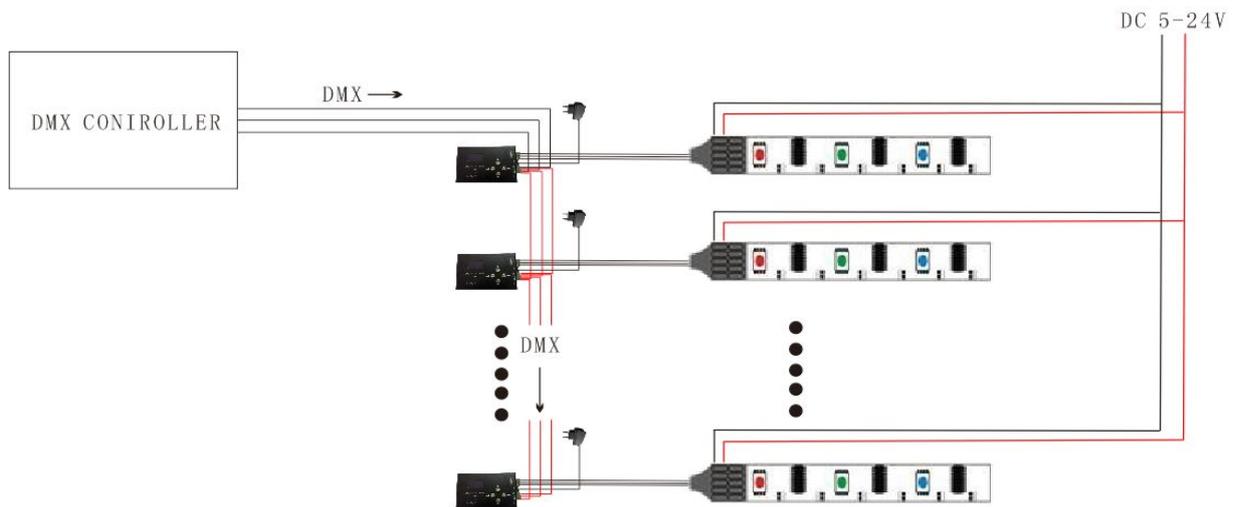
DMX200 support USB cable for internal application update, using of mobile phone micro USB cable. When upgrading, please ready cable and upgrade file, and then connect the cable to the computer, press the DMX200 “confirm key”, connect the cable to DMX200, at that time PC can display mobile disk, so can loosen the confirm key. Open the disk management (my computer/computer), double-click to open the removable disk, the upgrade file is copied into, after the completion, the pop-up USB devices, restart it

## 7. Typical Application: (voltage of strip is the same with external voltage )

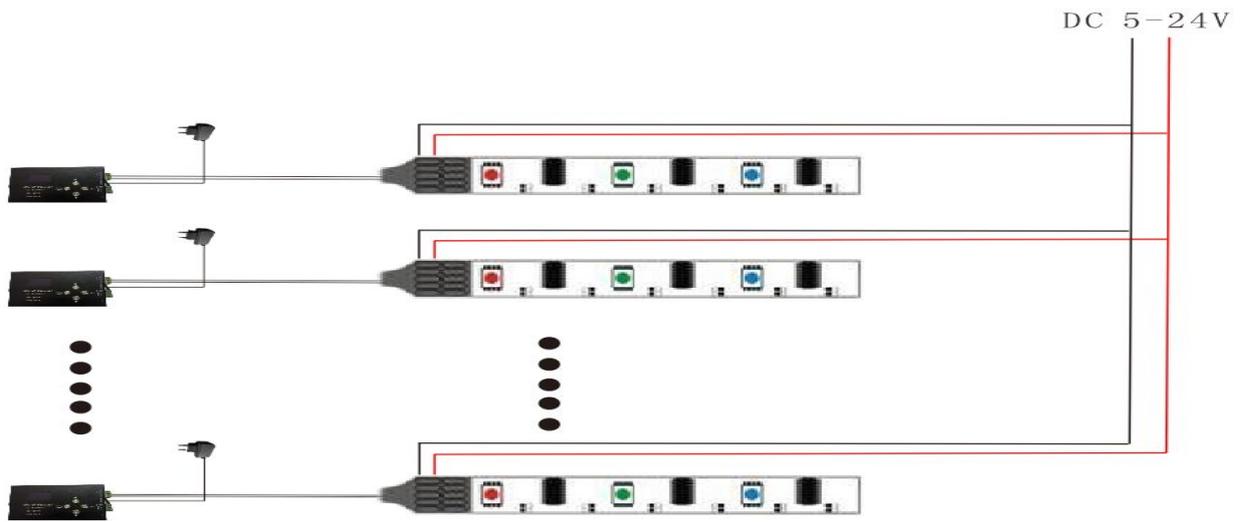
7.1 With DMX communication, the light signal is single, only DATA light signal ,use wire to connect.



7.2 With DMX communication, the light signal is double, only DATA light signal and CLK signal, use wire to connect.



7.3 Without DMX communication, the light signal is single, only DATA light signal, use wire to connect.



7.4 Without DMX communication, the light signal is double, only DATA light signal and CLK signal, use wire to connect.

