



## *HTD-ST4K SPECIFICATION*

*(YM-ST4K)---HTD/2017/01/08/Compiled*

RGBW DMX---512 Points/4 ports



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## (1) Brief introduction

### 1.1 HTD-ST4K features

Four ports output, each with a maximum of 1024 LED pixels, a single controller at most controllable 4096 pixels

The above – 3.2 editions includes 3.2 versions of the HTD-ST4K itself comes with 16 kinds of patterns, namely: 0. red green blue jump red green blue 1. 2. 3. 4. 5. 6. Red green blue white colorful gradient 7. Colorful over 8. Red green blue A. yellow red tail 9. Goes by B. green passage C. D. blue E. green passage over purple passage F. white goes on.

Use digital tube to indicate the current status of the controller;

- using offline control mode, all programs are kept in SD card;
- Button or remote control to control the playback mode, playback files and playback speed of the controller;

Number of wireless synchronization function (the maximum distance between master and slave is 700 meters);

The port has the function of lightning protection and overvoltage protection;

Strong control: can control all kinds of drive chip lamps, as well as a variety of custom drive chip;

Perfect compatible with DMX512 (1990) international standard protocol;

L in line with EMC electromagnetic compatibility, with good anti-interference ability;

According to different configurations, there are three versions: 1. simple single machine (HTD-ST4K);

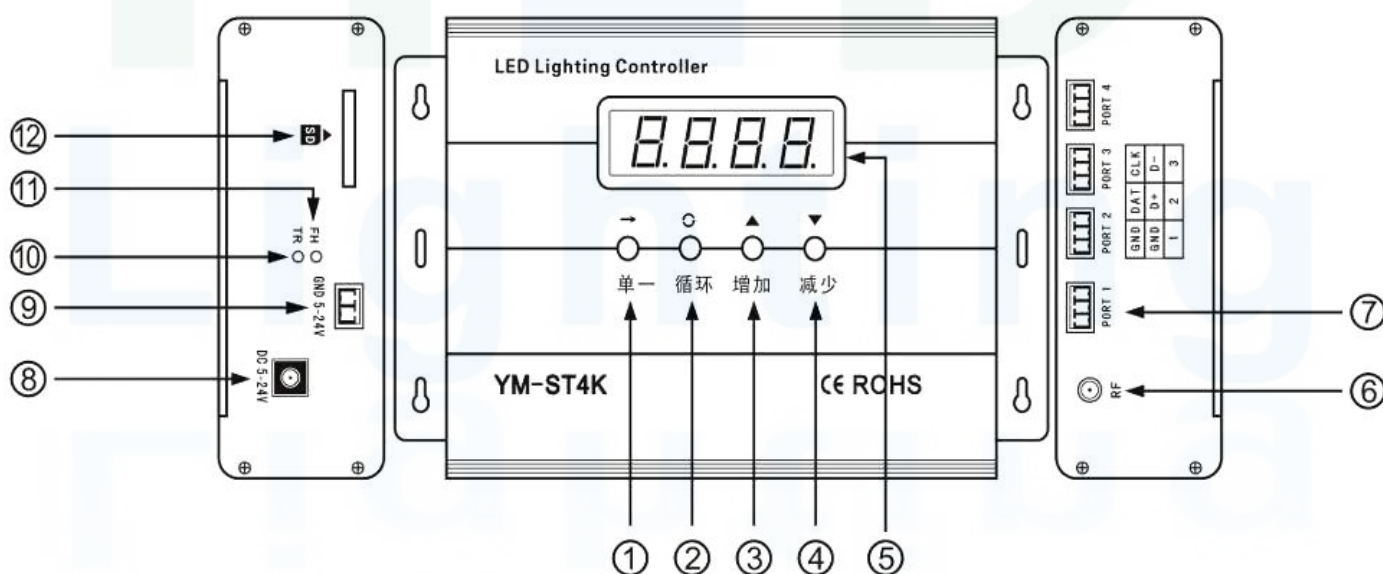
2. Can be operated by remote control (HTD-ST4K-A);

3., wireless synchronization function (HTD-ST4K-B) can be realized.

## 1.2 HTD-ST4K SPEC

Size	190*120*45mm	Output signal	TTL
Weight	500g	Storage interface	SD Card
Appearance Color	Gray	Gray level	RGB256
Working voltage	DC5-24V	Work temperature	-20~65°C
Power	MAX 5W	MAX pixels	4096 pixels
Output ports	4 ports	Supporting software	LED Control software
IC Optional	Single line : TM1804、TM1829、UCS1903、TLS3001、TLS3008 ; Double line : DMX512、P9813、LPD6803、LPD8806、SM16716、WS2801、 MBI6021、MBI6024、MY9221...		

## 1.3 Operation panel function brief introduction



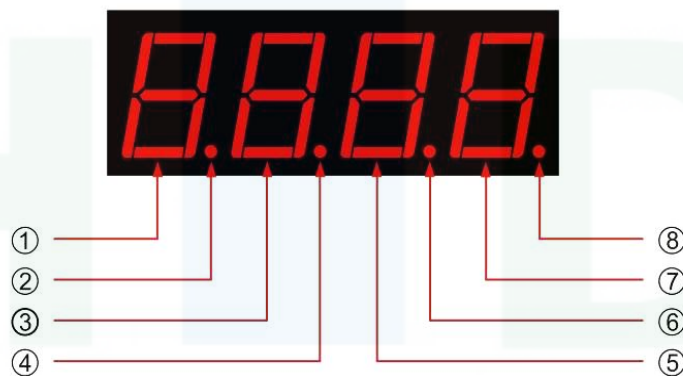
PIC 1 : Single machine diagram.

- ① : Button → : Choose single play file ;
- ② : Button ○ : Choose cycle play ;
- ③ : Button ▲ : Increase playback speed ;
- ④ : Button ▼ : Decrease playback speed ;
- ⑤ : LED digital display.(digital display definition as shown in figure 2)





- ⑥ :The wireless signal antenna interface (HTD-ST4K-A、HTD-ST4K-B need to configure the antenna 1);
- ⑦ : 4 Signal output ports ( The port definitions reference: Table 1 and Figure 3)。
- ⑧ : The power socket 1: DC 5-24V;
- ⑨ : The power socket 2: DC5-24V; (2PCS but just need used one of them)
- ⑩ : Red power Indicator light;
- ⑪ : SD card socket;

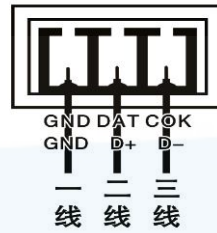
## 1.4 Digital display bit meaning:



**PIC 2:** digital display definition

- ① : Current play file number;
- ② : Meaningless;
- ③ “ — ” represents a single play, “  ” means “loop play”;
- ④ This light represents this single machine as the Master, otherwise it is Branch.
- ⑤  : File playback speed;
- ⑥ This represents the single machine is repeater.;
- ⑧ This light flashing point said: this signal received from the master.

## 1.5 Output port wiring



**PIC 3:** digital display definition

Table 1: Output port definition

Signal model	1	2	3
SPI	Ground (GND)	(DATA)	CLOCK (CLK)
DMX	Ground (GND)	DATA+ (D+)	DATA- (D-)

### Note :

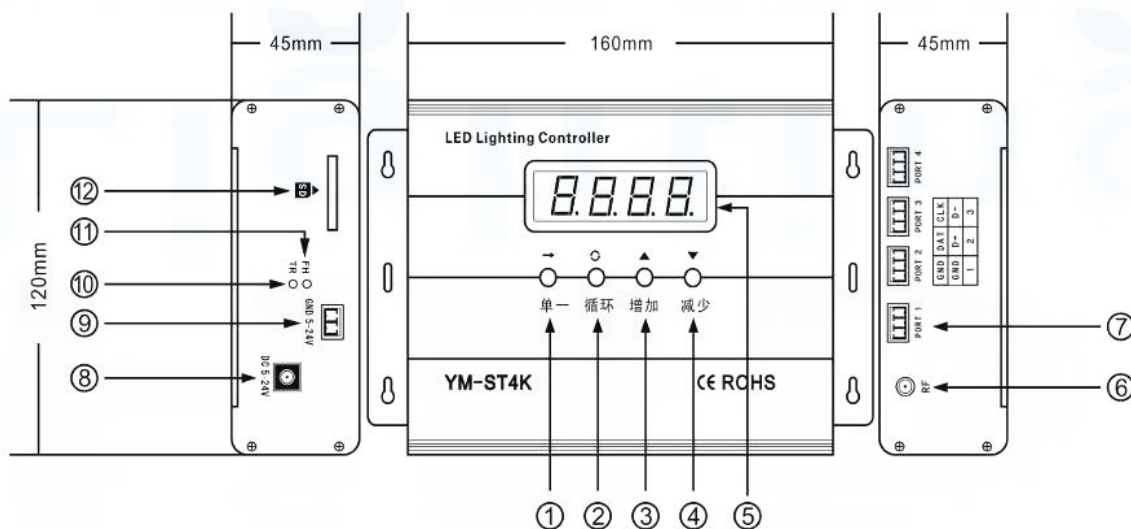
Single line IC: simply connect the ground wire of the light to the port GND, and the data of the light is connected to the port DATA. The port CLK is not required.

Double line IC: connect the ground wire, data line, and clock line of the lamp to the port.

DMX: connect the ground line of the light to the port GND, D+ (or A), connect to port D+ (i.e., DATA), and D- (or B line) to port D- (i.e., CLK).

Three line and above IC: not supported.

## 1.6 Appearance size



**Figure 4:** Appearance size figure

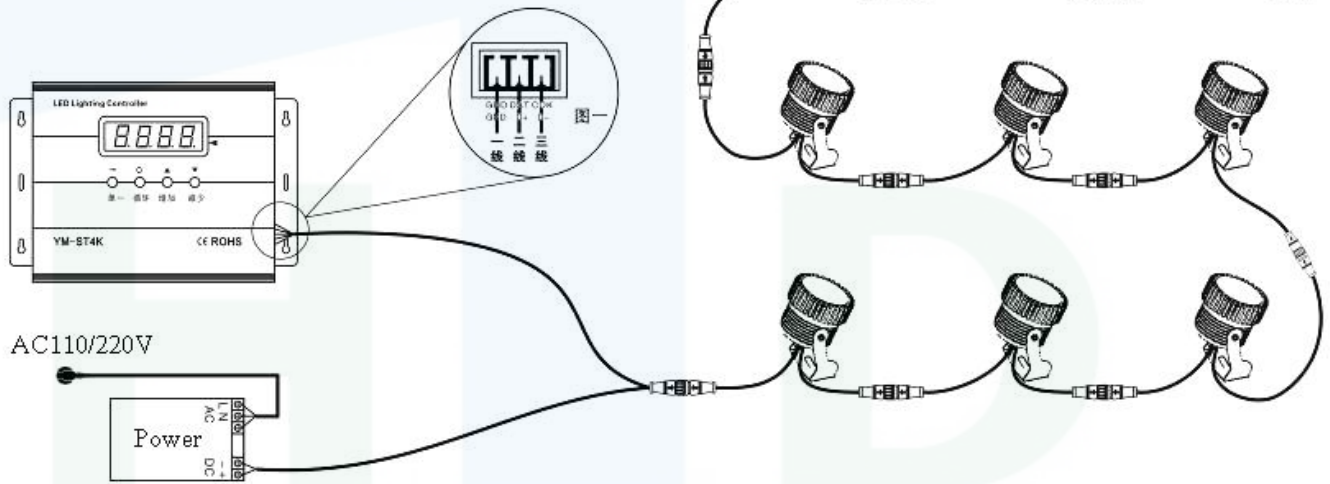


## 1.7 Schematic diagram of controller connection

### Controller wiring diagram

\*Please ensure light connect the controller

as like below picture shown on PIC 3 and Table 1



## (2) Product function description

### 2.1 Toggle the current play file

Press  $\rightarrow$  button to switch the playback files, each time the file number is increased by 1, (1 ~ F cycle display, the maximum amount of 15 files), the digital display of the first file serial number.

### 2.2 Settings for playback mode

Press the  $\circlearrowright$  button, this single machine has two modes, namely: loop play mode, single play mode. Each time the two modes switch to each other, which model is displayed by the second bit digital tube.

### 2.3 Current file playback speed settings


According to the  $\blacktriangle$  button, playback speed, according to the  $\blacktriangledown$  button, playback speed slowed down, a total of 30 level (1 ~ 30), By third or fourth bit(Position) digital tube display.

### 2.4 Brightness adjustment

At the same time, according to the  $\rightarrow + \blacktriangle$  key, increase the brightness; press  $\rightarrow + \blacktriangledown$  key at the same time, dimming; a total of 10 level (0 ~ 10), by fourth digital tube display.



## **2.5 Master slave relay setting**

When the single machine is out of power, press and hold the  key first, then send the power to the single machine, so that the host, relay and slave 3 modes switch each other;

If the host, then digital tube second, the lower right corner of the regular light,

If it is a relay, only third bit signal points are always on;

If for the slave, only the first signal to light, other points are not lit;


If the host signal is received, the point in the lower right corner of the fourth position of the digital tube flashes (once every 2 seconds).

## **2.6 SD card production**

The program files in SD card are produced by LED lighting control software (provided by our company). Note that the SD card should be formatted periodically as FAT or FAT32 format.

Based on HTD-ST4K system synchronization, SD card in cfg file name must be four, the first 3 letters must be uppercase letters YMZ, fourth can be a number or letter, two different numbers or letters are representative of different range of host controller.


## **2.7 Restore the original plant settings**

When the motor is powered off, press and hold the  key first, then power up and continue for about 1S, so that the reset is achieved by single machine. After reset, play mode: Loop

*Speed: 20;                      Brightness: 10;                      The master-slave mode: Host from the machine.*

## **2.8 Encoding function settings (requiring the controller to display version 58 or more when booting)**

Mode one: fixed 3 channels, lamps address from 1 start of the light coding method:

- 1) The controller does not plug the SD card on the power, press the  key (cycle key), and select the corresponding lamp type.
- 2) The light code (LED [back](#) 2 datas display 77---DMX3G;88---AP-N;97---UCS512C; 98---UCS512-1 — Wire; 99---UCS512-ab)
- 3) According to the correct coding wiring way, the lamps and lanterns are connected to the corresponding position of the controller port

The terminal coding connection mode is as follows: a line lamp or AB coded lamp, according to the wiring method of Figure 1, the wiring of the two wire according to the wiring method of figure 2, 1-2port 1group (3-4, 5-6, 7-8, Total is 4 groups):





One port wiring			
Single Line	GND	DAT	PI
PI Encode			
AB Encode	GND	A	B

PIC 1

Double port wiring					
Port1			Port2		
GND	A	B	Empty	PI	Empty

PIC 2

4) The above three setup is complete, according to the “▼” key encoding. The color of the lamp will be successful after the coding.

There is a corresponding change, that is, coding completed.

**Mode two:** coding methods for lamps with channels of more than 3 channels and luminaries addresses starting at 1:

1) Controller plug in SD card, power, SD card to save a XX.PIN file, XX is the number of lamps and lanterns channel. For example, “18.pin”, the number of encoding channels is 18. Press the “C” key (cycle key) to select the corresponding type of lamp.

2) Lamp code (LED after two shows 77---DMX3G; 88---AP-N; 97---UCS512C; 98---UCS512-1 frontline; 99---UCS512-ab)

3) According to the correct coding wiring way, the lamps and lanterns are connected to the corresponding position of the controller port

The terminal code connection mode is as follows: a line lamp or AB coded lamp is shown in Figure 1. The wiring of the two wires is according to the wiring method of Figure 2, the 1-2 port is a group, and the 3-4 port is a group:

4) Above three after setting the encoding according to the “▼” button. The color of the lamp will be successful after the coding

There is a corresponding change, that is, coding completed.



### (3) Matters needing attention

In order to reduce the risk of fire, electric shock or personal injury, please read and follow the following warnings and precautions to prevent such incidents from occurring

1. Non professionals please do not disassemble the shell.
2. Do not install this controller under the condition of magnetic force and high pressure.
3. In order to reduce the risk of fire and damage caused by short circuit components, please make sure that the line connection is securely connected.
4. The controller to the distance between 10 meters, lamps and lamps spacing, please consult the lighting manufacturers, more than the spacing of use, plus signal amplifier.
5. Please confirm the supply voltage DC5-24V.
6. Do not plug in the connection when the power is open. Please ensure that the power connection is safe and correct before opening the power.
7. When there is any exception, do not self repair, so as not to cause permanent warranty.

### (4)Product warranty

Our company promises to fulfill the following commitments:

1. Within one year from the date of sale, free warranty of any HTD-ST4K due to process, materials and other causes of failure products.
2. If the HTD-ST4K equipment fails, please contact us promptly or send the equipment to our company (HTD, Lighting) inspection and maintenance.

\* \* \* special instructions \* \* \* \* \*

Because of the abuse, misuse, careless (collision or improper installation) within the range of fault or force majeure caused by the above service.