M-208T Subcontroller Manual

Functional overview

I. SYSTEM FEATURES

1. The M-208T supports the standard USITT DMX512/1990 general protocol and extended DMX512 protocol;
2. The controller signal output ADRI/PO can realize DMX512 channel automatic addressing.
3. The M-208T controller bit address signal output is compatible with the output differential signal, which improves the transmission distance of the bit address signal and facilitates the long-distance transmission and effective bit address in project applications;
4. The independent brightness control of trichromatic color makes the precise adjustment of white balance more simple and effective; the Ethernet interface network protocol transmission is stable, with a maximum transmission distance of 100 meters;
5. Dual network interface can be cascaded between controllers; the controller can intuitively display the

connection status.

6. The 8-port output and the number of load points for extended protocols are tested by customers according to the characteristics of the chip. The serial signal load is 1024 points, and the DMX signal load is 512 points.

II. DESIGNERIES

1. Four-color independent algorithm: energy saving and environmental protection, pure color;

2. Asynchronous integrated control: connected to the main controller and cannot be connected online.

3. Used for all kinds of domestic and foreign irregular screens, multi-screen, building screen, pixel light screen and other complex applications;

4. Cooperate with Internet offline control software.

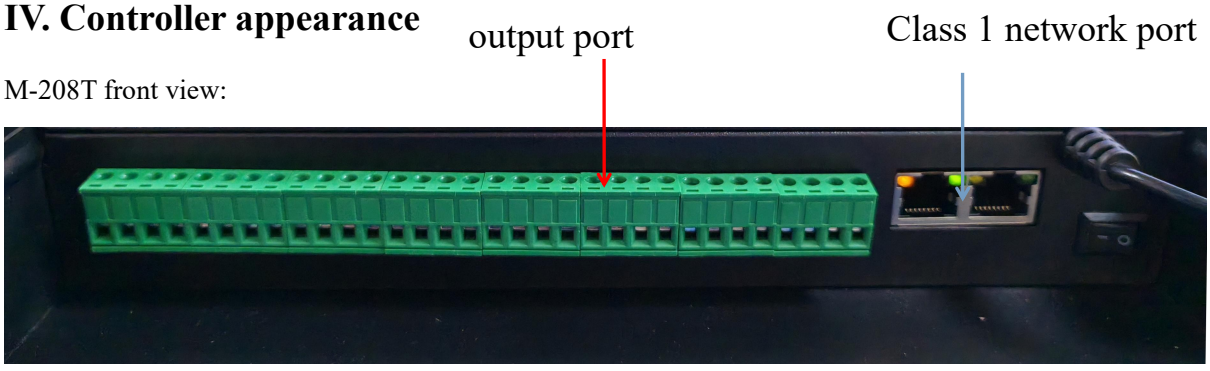
5. Support Windows mainstream 32-bit, 64-bit operating system: Windows 2000, Windows 2003, Windows XP, Windows 7, Windows 8, etc.

III. EXPANSIONALITY

1. Can play various formats of video and picture files both synchronous and asynchronous;
2. The playback software has sufficient interfaces to be compatible with other international protocols and supports customer personalized design needs;
3. Support UCS 512A, B, C, D, TM 512, SM 16512 and other driver chips.

IV. Controller appearance

M-208T front view:

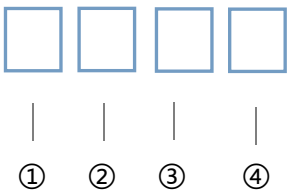


V. Parameter characteristics:

Port load	DMX512 standard: 170*8, DMX extension: 512*8, TTL signal: 1024*8
working voltage ：	AC (alternating current) 85V-240V
working temperature ：	-20℃--75℃
weight ：	Weight: 1.25kg Net weight: 1.15kg Weight: 1.25kg Net weight: 1.15kg
size ：	Outer box: 27.3×17.3×5.4cm This machine: 25×15×4.5cm

VI. Output port definition

The M-208T controller uses 84-pin terminal interfaces to output signals. The 4-pin terminals are arranged from left to right as follows:



	①	②	③	④
DMX signal	the earth	data +	data -	Addressing/ data
	GND	A	B	ADR/DAT

Note: The signal end ②③④ is a differential signal. When the differential output of the address line is not used, only the ① ④ (data) is connected.

7、Basic operation process: Configure the main controller M-C8 to use

Long press the "Cycle OK" button for 3 seconds, and the controller displays a red dot to indicate the lock.

1、ID number selection: must be changed when the controller is locked

Step 1: Press the "MENU" button to "d001" and the number flashes

Step 2: Press the "up and down" button to select the ID number

Step 3: Press the "Cycle OK" button to confirm

2、 chip select ：

Step 1: Press the MENU button to "512H" and the number flashes
Step 2: Press the "up and down" button to select the chip model
Step 3: Press the "OK" button to confirm

Chip list:

UCS1903	TM1934	512 800K	512 H（500K）	512 L（250K）
TM1814	UCS2904	TM1804	TM1914	GS8206
P9883	SM16703P	SK6812	WS2811	WS2812B
TM1923	UCS8903	UCS8904	HW1603	UCS5603
UCS8603				

3、Fixed sub-control parameters:(it is particularly important to note that there is a lock parameter function on the controller. Long press the "cycle OK" key, and the left digit of the digital screen will light up to represent the lock)

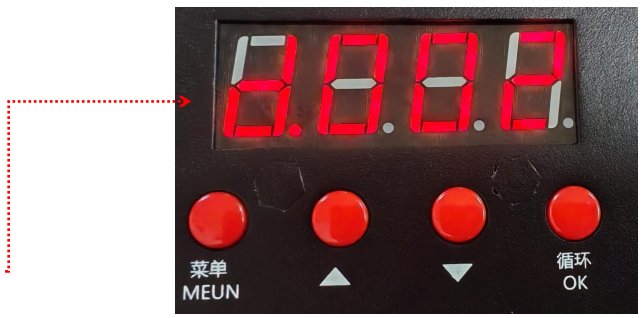
Method 1: Automatic identification ID: M-208T cancel all locks, connect the main controller M-C8, sub-control automatic identification ID number and continue numbering, chip automatically identify the main controller chip model. This scheme is applicable to most occasions

Method 2: Control a single fixed unit: In most cases, the main control is directly cascaded. The main control will automatically identify and assign ID numbers. If you need to set a single lamp or load multiple different models at the same time, disconnect the network cable. The specific operation of setting parameters for a single lamp is as follows:

1、Locking and sub-control: Long press the "Cycle OK" button, and the left digit on the digital screen will light up to represent locking

2、Modify parameters: such as modify ID number and chip model on the previous page

3、Press the "OK" button to confirm and hold



This point represents the lock

4、Brightness display

Brightness display: M-208T sub-control displays the current brightness value, which is set by the master control

5、Gamma value shown

Gamma value: mainly affects the length of the drag tail effect. The larger the value, the longer the drag tail.

6、Channel sequence is shown

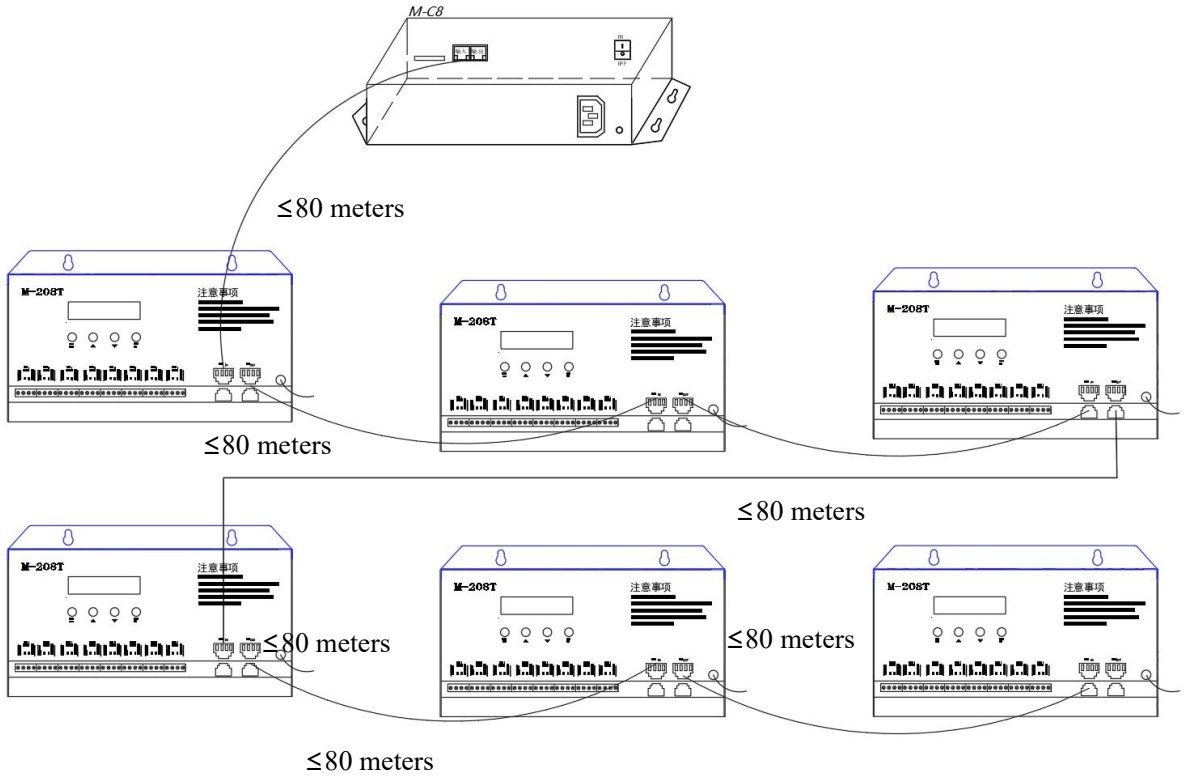
Channel order: If the lamp with different channel order appears in the process of use,

it can be fixed separately on the main control, but not on the sub-control.

The content of the sub-control operation is determined according to the master control, and the ID number and chip are set. The sub-control parameters can be adapted to the master control parameters, and the sub-control parameters can be fixed separately. The locked sub-control parameters will only be displayed and cannot be modified.

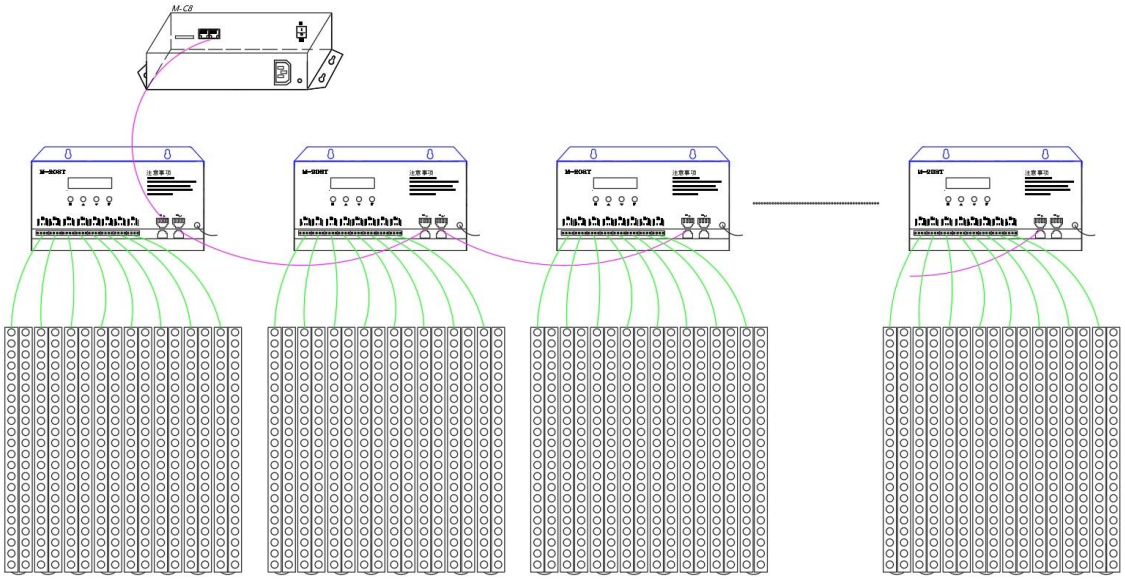
8, controller size diagram

8.1. Main sub-control connection diagram:



8、Project case description and schematic diagram:

Taking the 64-point × 22-point dot matrix screen composed of DMX512 point light sources as an example, the M-208T controller is used and the wiring is arranged in vertical S-shaped. Each output port of



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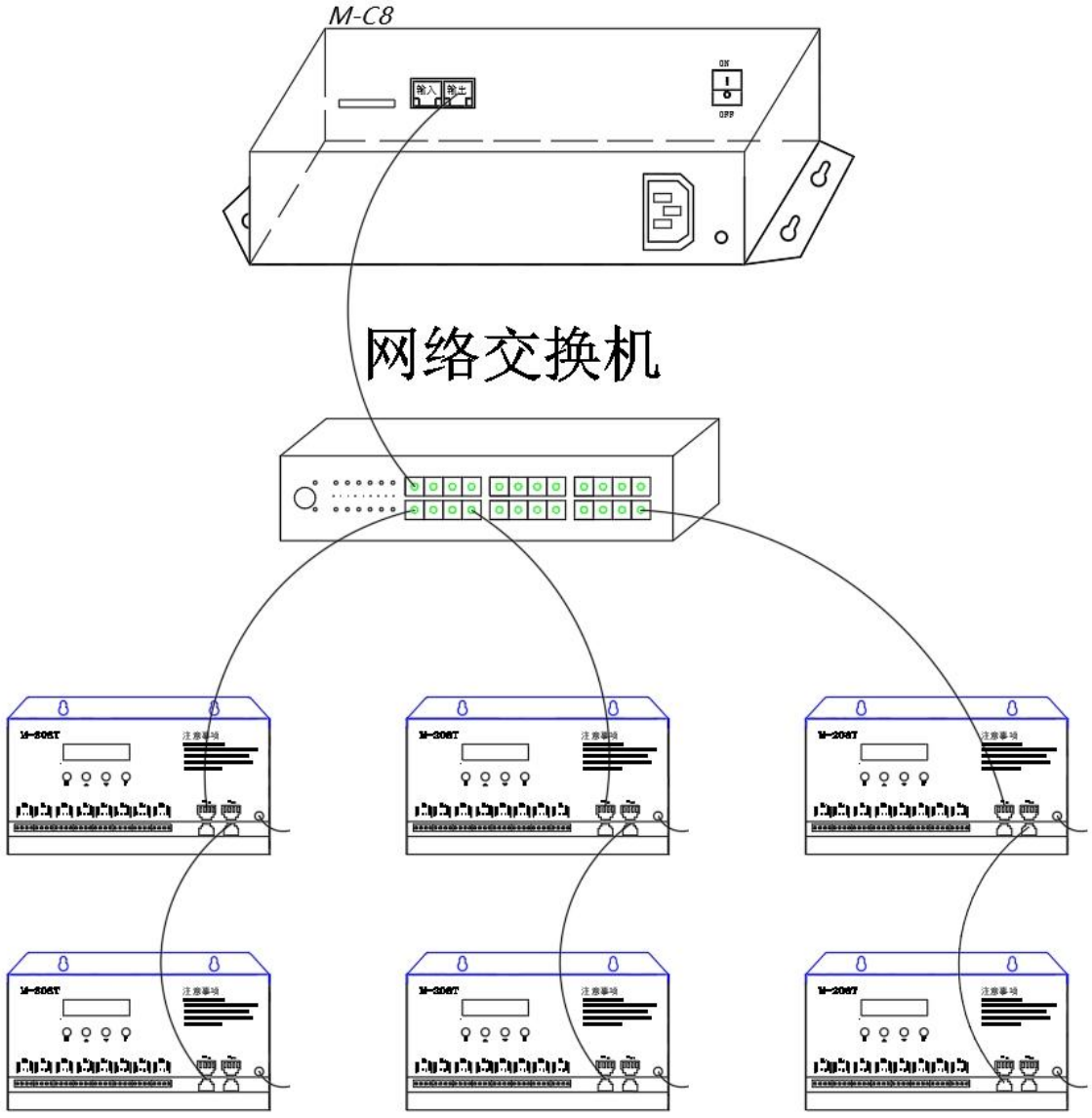
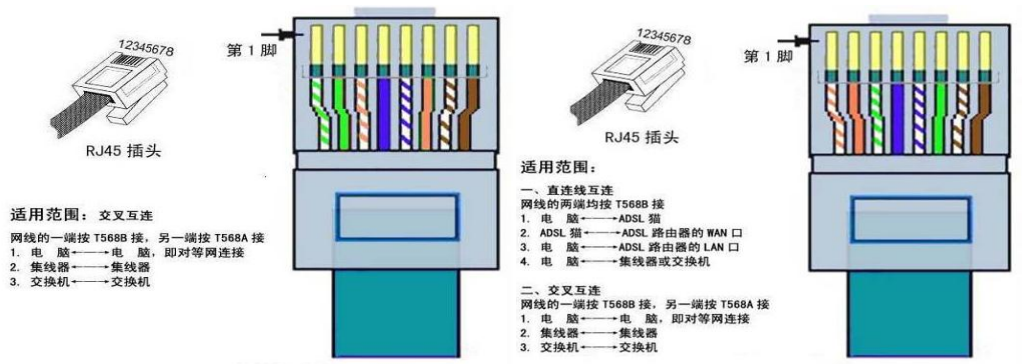
e controller controls two columns of point light sources, requiring a total of 32 DMX512 interfaces. The following figure is an example:

Master control + switch +M208T schematic diagram:



X. Network cable production process



Cable making: In practice, there are two methods of making (cross interconnection and straight line interconnection)

We use the "straight line interconnect" 568B, which means that both ends are made with the same wire sequence. The specific wire sequence is as follows:

1、Orange and white 2, Orange 3, Green and white 4 Blue 5, Blue and white 6, Green 7, Brown and white 8, Brown

11. Control distance of conventional signals reference table:(only for reference, everything is based on the actual)

detailed information	TTL	4 lines 512	5 lines 512
Distance from controller port to light	15 meters	30 metres	80 meters
The distance between the controller and the last light		80 meters	120 metres
Distance between lights	3 metres	30 metres	30 metres
z			
Distance between amplifier and lamp	---	---	---
Distance between partitions and controls	80 meters		
Distance between master and slave	80 meters		

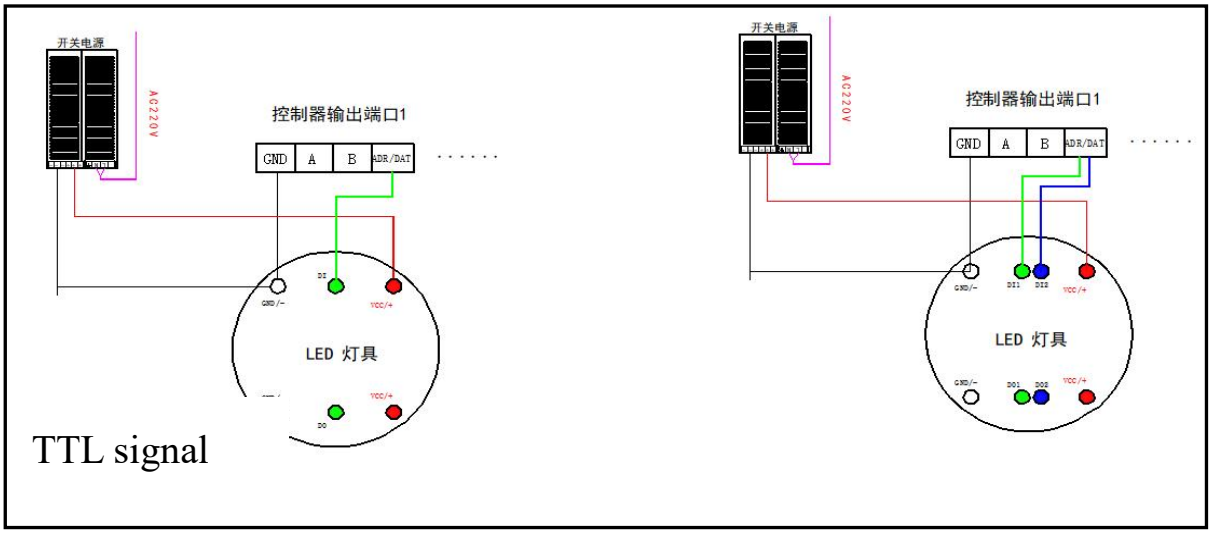
Note: If the distance between the computer and the controller, between the master and the sub-controller, or between the sub-controller and the sub-controller exceeds the specified distance, the signal will be interfered with and cannot be transmitted normally.

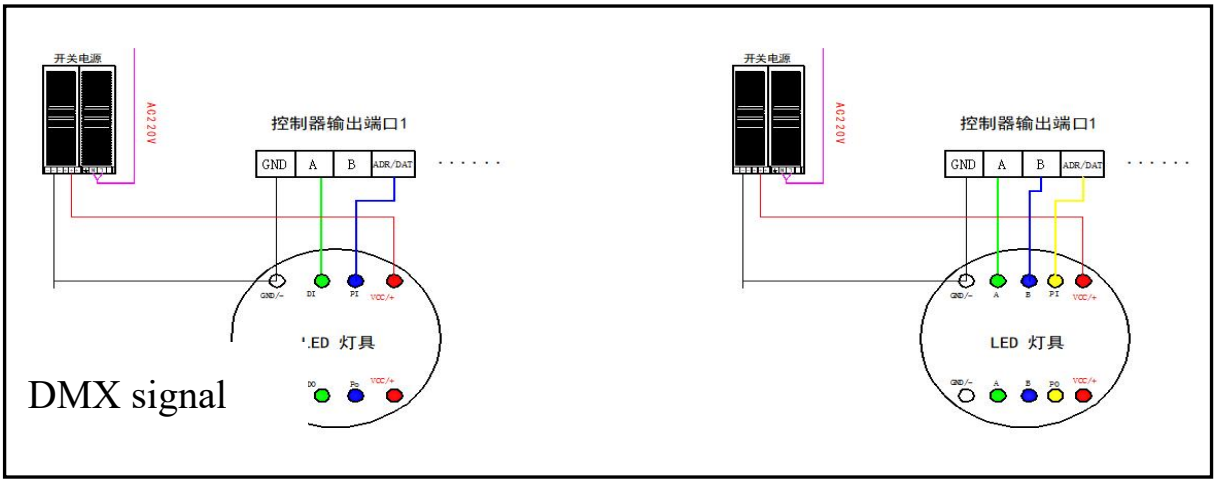
Rx ：

1、The distance of the signal amplifier can be extended to 300 meters

2、Using optical fiber instead of network cable can extend the distance to 5 kilometers

XII. Wiring diagram





XIII. FAQ:

Is the controller working normally and the lamp not running properly?

Answer: a. Whether the chip selection is normal b. Whether the program is normal

2、No signal when you plug in the wire cap?

Answer: Check whether the wire sequence is normal and whether the network port is normal

3、The signal is unstable and the lamp flickers?

Answer: a. Check whether the power supply has filtering function b. Check whether there is poor contact in the line c. Check whether the controller port is normal d. Check whether the signal line is shielded e. Check whether there are high-power machines and magnetic fields near the controller