MR-WT25 handheld addresser Instructions

V1.2

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In the field of outdoor landscape LED control, DMX512 driver is widely used in LED lamps and lanterns. Because of the particularity of the DMX512 protocol, the LED lamps

and lanterns should adopt the addressing mode when adopting the DMX512 protocol, and reasonably allocate the DMX512 channel address on a single branch. The MR-control system introduces the MR-WT25 handheld addressing device, which can quickly and easily write addresses for DMX512 addresses, and supports internal test animation to verify the written DMX512 addresses.

The MR-WT25 handheld addresser supports SD memory cards, scene files in which multiple offline data can be stored, and multiple scene loops, as well as specified playback of a single scene.

The DMX512 console can be simulated, and the channel data can be sent arbitrarily for the 1 ≤ 512 channel in the DMX512 channel, which can be used as a simple DMX512 console.

Support a variety of quick test methods, can be used for lamps and lanterns running points, discoloration and other test modes to verify lamp addressing.

Support MR-DMX05 chip parameter setting, current output adjustment, brightness adjustment, and firmware upgrade.

Support for UCS chip parameter setting, current output adjustment, brightness adjustment, self-test color and so on.

Support for SM chip parameter setting, current output adjustment, brightness adjustment, self-test color and so on.

With color disk color collection function, you can select a color value in the color panel to control, and support a variety of four-color mode.

The MR-WT25 handheld addressing device supports the power supply of the Micro- B

USB interface.

Function Overview

1. The number of on-load channels, baud rate, playback speed, color number and other equipment parameters of the addresser can be set.
2. It supports the addressing of multiple DMX512 chips, specifies the starting channel, the on-load channel of a single chip, and the lamp number, and verifies the addressing through the automatic/manual test mode.
3. The device has a variety of built-in test animation effects, such as multiple color gradients, automatic / manual running points, overall gradients, and so on
4. SD card slot, supports SD card to store animation data, and can specify a playback scene, can adjust the playback speed, can be used as an animation effect player
5. The DMX512 console can be simulated, and the channel data can be sent arbitrarily for the 1 ≤ 512 channel in the DMX512 channel, which can be used as a simple DMX512 console.
6. Support standard RDM protocol, can search for RDM lamps, static detection, through UID to write DXM512 address and so on;
7. Support MR-DMX05 chip parameter setting, current output adjustment, brightness adjustment, and firmware upgrade;
8. Color palette, controls by selecting a color value in the palette, and supports multiple four-color mod
9. It has 1 port DMX512 signal output, and its addressing signal is compatible with differential signal mode.

10. Support Micro- B USB interface (regular android mobile phone power USB port) power supply
11. Support a variety of DMX512 protocols, such as: MR-DMX05,DMX512AP,UCS512,SM16512,TM512,SM16512,UCS512C,MR-RDM06,SM16712,SM16722,SM16700 and so on;

Specifications and basic parameters

I、Addresser appearance

① Touch display screen ② DMX51 2Signal output terminal ③ SD card slot

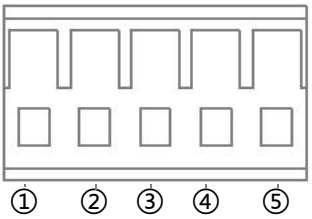
④ on-off ⑤ DC6-24V Power supply

⑥USB（type-C)

II、DMX512 output port definition

Use the 5pin terminal interface to output the signal. 5Pin terminals are sorted from left to

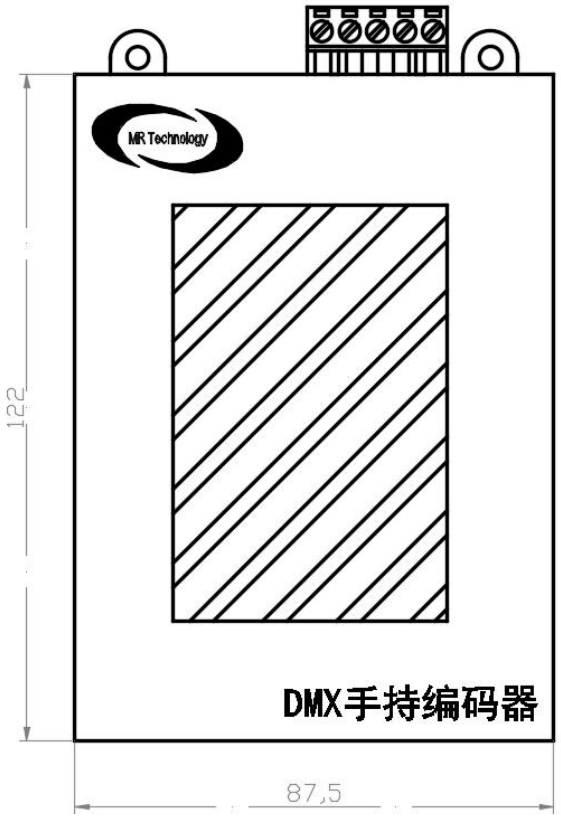
right, as shown in the following :



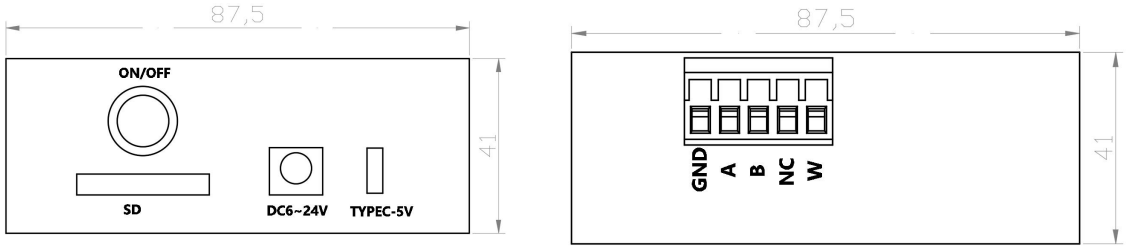
	①	②	③	④	⑤
DMX	GND	data+	data-	empty	addressing
signal	GND	A	B	NC	W

Ⅲ、Basic parameter table

MR-WT25 Front view and antenna:



MR-WT25 Both sides of the view:



The size of the above specification is in millimeter (mm)。

IV、Basic parameter table

product name	Touch screen handheld addresser
Product model	MR-WT25
Signal type	DMX512/DMX512-A/RDM
rated voltage	DC6V-24V / 5V（USB power supply）
Power supply interface type	Standard5.5mm×2.1mm head
USB interface type	type-C USB interface
SD Card capacity	512MB (factory standard)
Monomer size	132.2mm×87.4mm×30mm
Interface form	5Pin terminal×1，type-C USB，SD Card interface、Antenna interface
appendix	SD card × 1

Equipment Operation Instructions

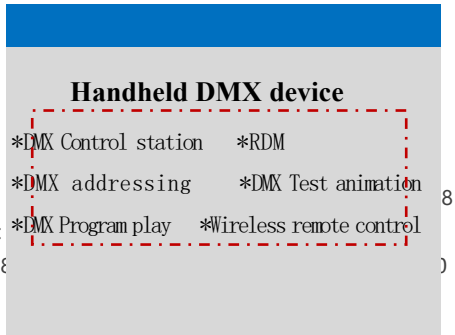
I、Boot interface

Press the power switch on the right side of the bottom of the handheld addressing device to complete the boot operation. The following information can be displayed in the interface:

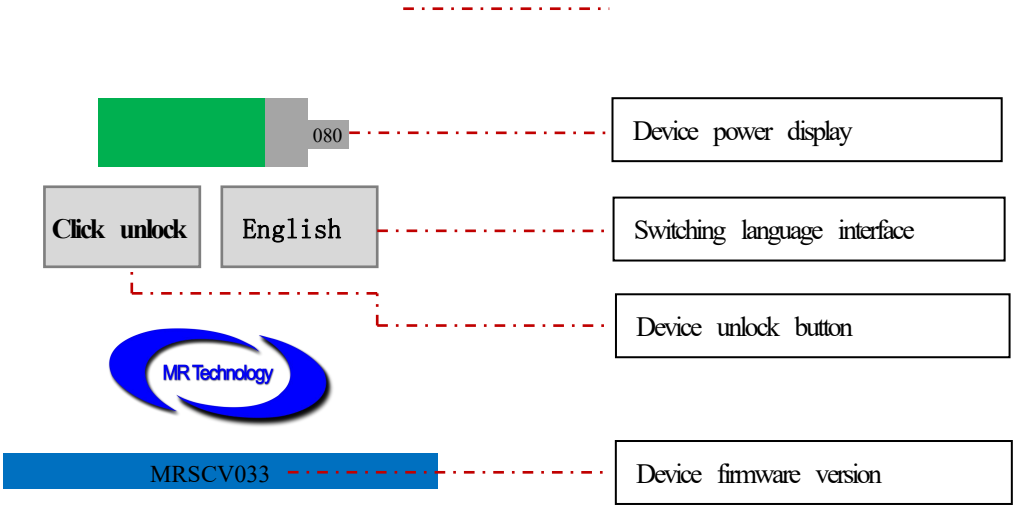
1、Equipment function and equipment electricity quantity;

2、Anti-mistouch unlock key;

3、Version of the device firmware program;



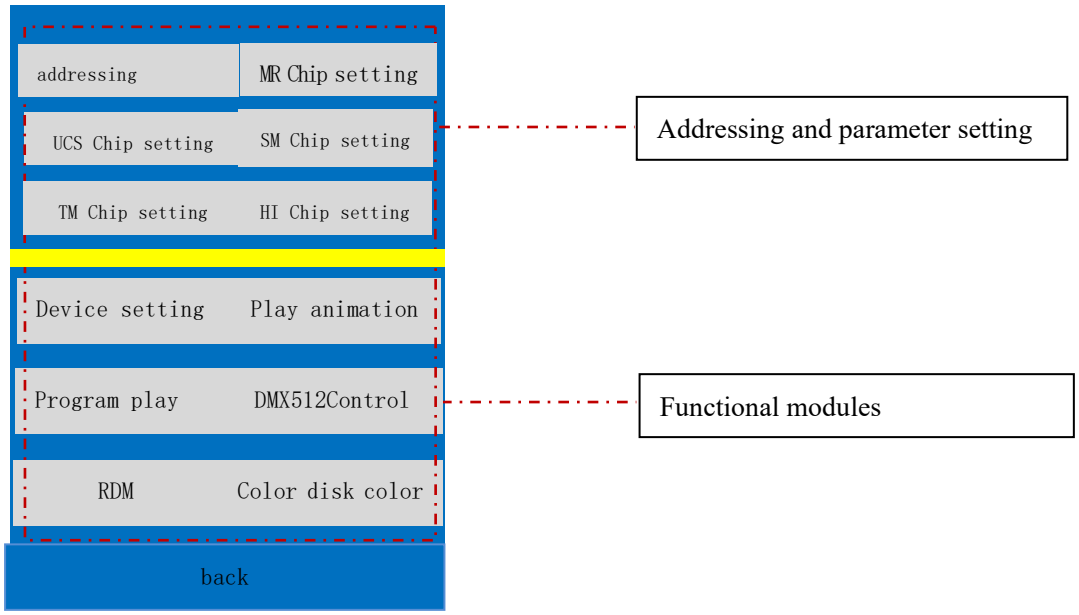
Introduction of equipment function



Note: when switching the language interface, click the button and then click the device unlock button it can be work.

II、Device main interface

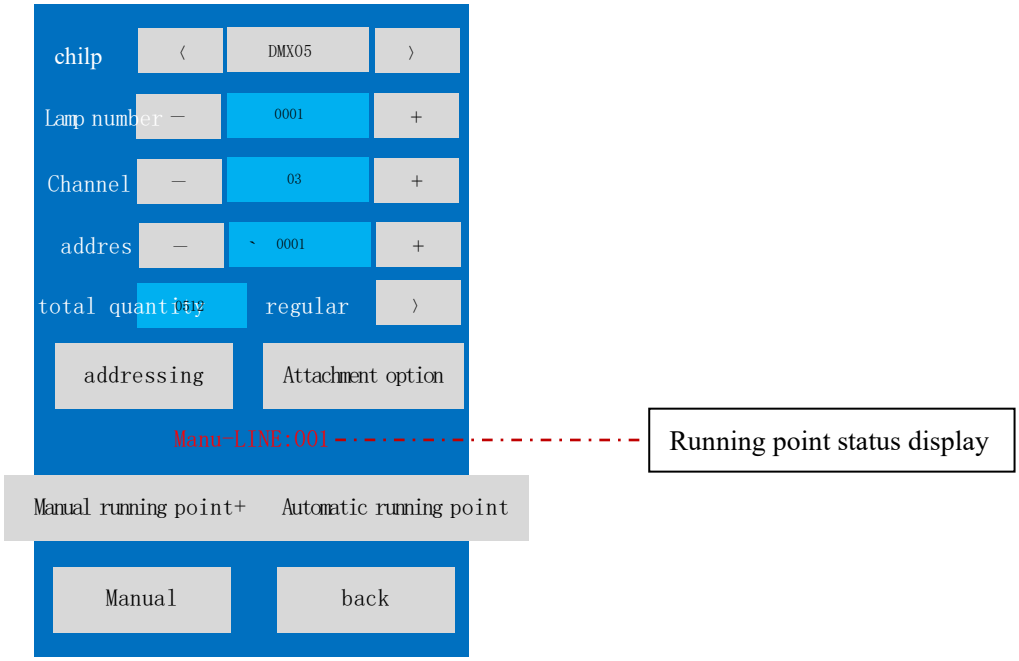
After clicking the device unlock button, enter the main interface of the handheld device, as shown in the following:



III、Functional Module description

1、 addressing

Click "write address" in the main operating interface to enter the interface where the address is written, as follows:



Chip: by default, DMX05, can switch and select the corresponding chip according to the "<" > "two buttons. MR-DMX05,,UCS512C,UCS512D/E/F,SM16512,TM512,SM17500, and other DMX512 decoding chips are currently supported.

Lamp number: lamp number, DMX512 lamp in a DMX512 signal loop in the serial number, the default value is 1;

Channels: the number of channels in the lamp, the number of single decoder chip in the lamp has the number of output channels, the default value is 3, click on the blue block, input through the keyboard and click Enter to complete the number of settings;

Address: the starting address, according to the number of lamp channels and lamps number, will automatically display the first DMX512 channel number written by its lamps and lanterns;

Total number: can set the number of DMX, speed up the speed of writing addresses;

regular write address / unified write address: can set a unified address;

Write address: write address button, select the corresponding parameters and click this button to address;

Automatic run point: automatic test button, click this button to carry out automatic run point test, verify the addressing results;

Manual run point-manual run point+: click these two buttons to test the manual run point to verify the addressing results;

Operation status : the status of addressing, automatic running point, manual running point, etc., will be displayed in the status ;

Additional options: special for SM16512, when SM16512 chip is used for lamps and lanterns, the special functions of lamps and lanterns are as follows:

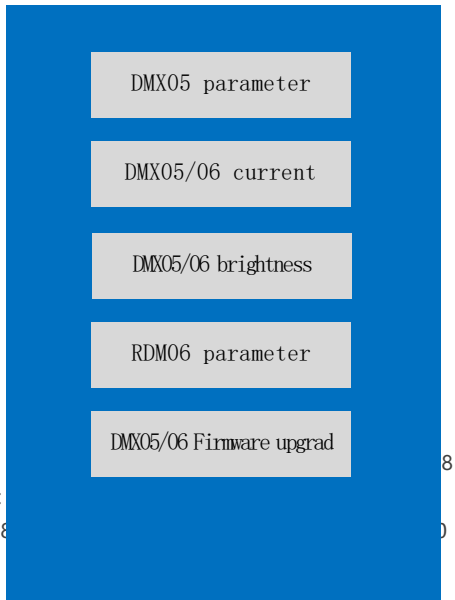
Power on effect: divided into OFF / 50% WHITE/ 100% WHITE/ 50% BLUE four options, using button switching;

Channel selection: support 3 ≤ 4 channels, use buttons to switch;

Note: this feature is dedicated to SM16512 chips and is not supported by other chips。

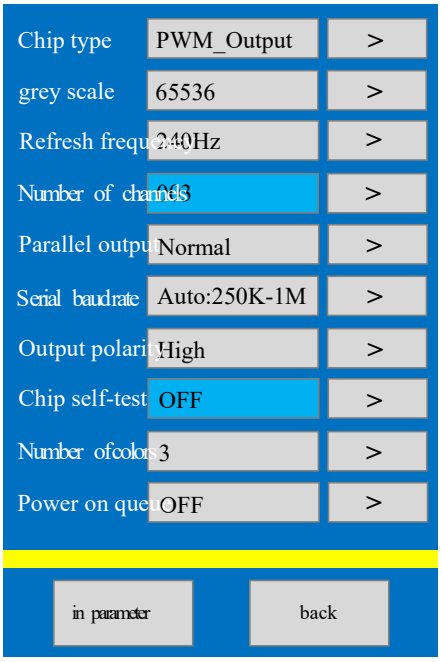
2、MR-DMX Chip setting

Click "MR-DMX Chip Settings" on the main interface to enter the interface, as follows:



2.1 DMX05 parameter

Click "DMX05 parameters" to enter the interface where the DMX05 chip parameters are written, as follows:



Description of the parameters and items, as follows:

DMX05 Chip parameter description table

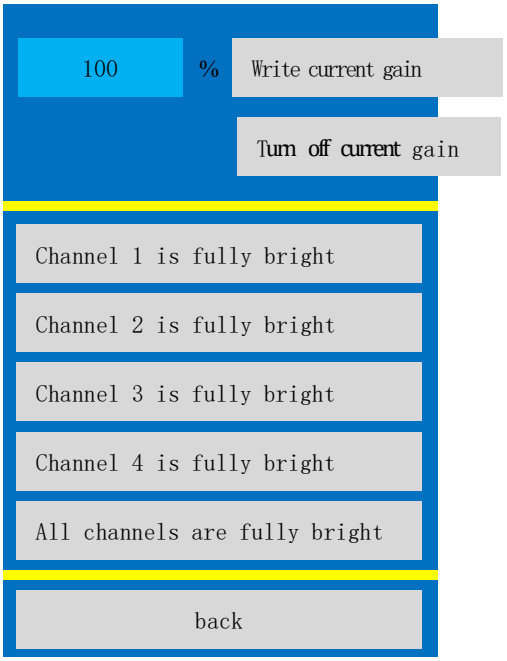
Parameter item	Specific parameter value	Remarks
Chip type	PWM_OUTPUT/TM18XX_400K/MY9221/MBI6020/ MBI6021/MBI6023/ MBI6030/WS2803/ LPD8806/TLS3006_3008/TLS3001/TM18XX_800K/	PWM_OUTPUT for PWM signal output , others for

	TM1829_800K/MY9231/MBI6034/MBI6027/ TLC5971/UCS8904/GW6201/BS0901/UCS9812/	SPI retransmission
grey scale	32-65536	The gray value is based on the support gray value of the control chip itself.
Refresh frequency	PWM：60Hz-3840Hz	
DMX number of channels	PWM：6CH / SPI retransmission：100CH	
Parallel output	Normal/2 parallel / 3 parallel / 4 parallel /	
Serial baud rate	250K/Auto:250K-1M	250K is the standard protocol, and the others are the extension protocol.
Output polarity	High/Low	
Chip	OFF/R→G→B/A Light on/ B Light on/ C Light on/	

self-test	D Light on/ All Light on/7 Color/Fix Color/ Last Frame/
Number of colors	1/2/3/4
Power on queue	OFF/ON

2.2 DMX05/06 current

Click "DMX05/06 current" to enter the interface of the write DMX05/06 current gain function, as follows::

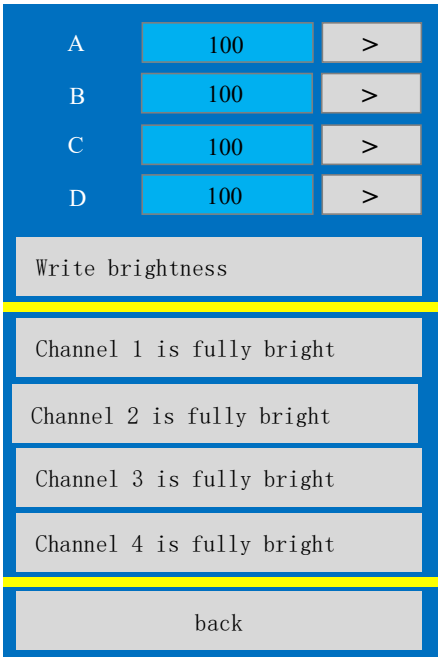


Click on the blue block, through the keyboard output the percentage value of the current gain , click on the write current gain. Click to turn off the current gain to turn off this feature.

2.3 DMX05/06 brightness

Click "DMX05/06 brightness" to enter the interface for writing the brightness of the

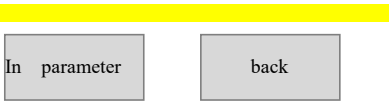
DMX05/06 chip channel, as follows::



Long press blue block, enter channel luminance value through keyboard, or can increase its luminance value one by one through button, click write brightness to complete its DMX05 chip luminance value setting.

2.4 RDM06 parameter

Click "RDM06 parameters" to enter the interface where the RDM06 chip parameters are written, as follows::



Description of the parameters and items, as follows::

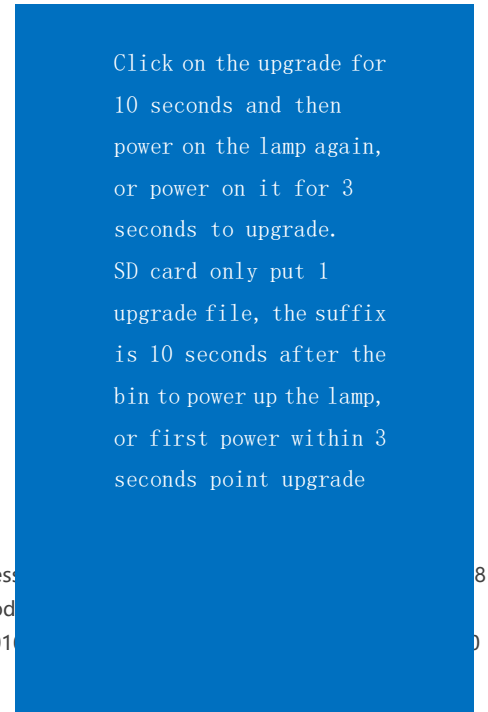
RDM Chip parameter description table

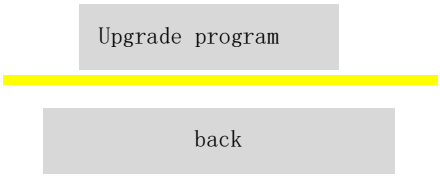
Parameter item	Specific parameter value	remarks
Chip type	PWM_OUTPUT/TM18XX_400K/MY9221/MBI6020/ MBI6021/MBI6023/ MBI6030/WS2803/ LPD8806/TLS3006_3008/TLS3001/TM18XX_800K/ TM1829_800K/MY9231/MBI6034/MBI6027/ TLC5971/UCS8904/GW6201/BS0901/UCS9812/	PWM_OUTPUT FOR PWM Signal output, other for SPI retransmission
grey scale	32-65536	The gray value is based on the support gray value of the control chip itself.
Refresh frequency	PWM：60Hz-3840Hz	
DMX number of channels	PWM：6CH / SPI 转发：100CH	

resistance	050K
Current resistance	0.01/0.05
Output polarity	High/Low
Chip self-test	OFF/R→G→B/A Light on/ B Light on/ C Light on/ D Light on/ All Light on/7 Color/Fix Color/ Last Frame/
Number of colors	1/2/3/4
Power on queue	OFF/ON

2.5 DMX05/06 Firmware upgrad

Click "DMX05/06 firmware upgrade" to enter the interface for the chip firmware upgrade, as follows:





Note:

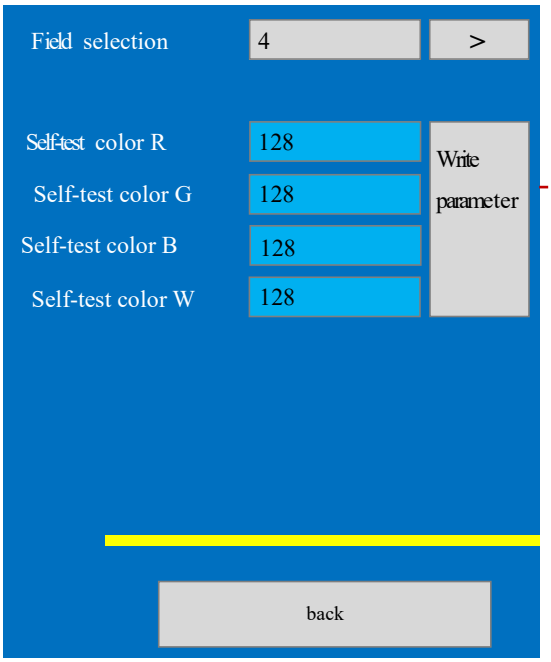
When upgrading the firmware for the DMX05/06 chip, click on the upgrade program and wait 10 seconds to power up the lamp again, or click on the upgrade program within 3 seconds after the lamp is powered on. And SD card can only store 1 firmware program with bin suffix.

3、UCS Chip setting

Click "UCS Chip Settings" on the main interface to enter the interface, as follows:

3.1 UCS512C4 Chip setting

Click "UCS512C4 Chip Settings" to enter the interface of the feature settings, as follows:



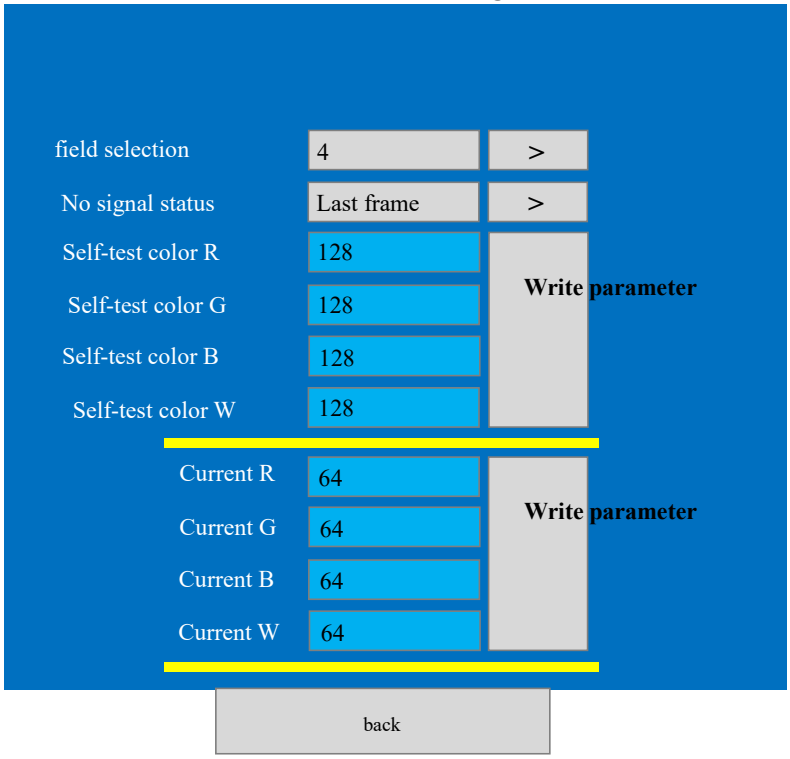
field selection ： for 1/2/4；

Self-test color R/G/B/W：

Customizable value of R/G/B/W four-channel self-check

3.2 UCS512D Chip setting

Click "UCS512D Chip Settings" to enter the interface of the feature settings, as



Field selection: divided into 1-2-4；

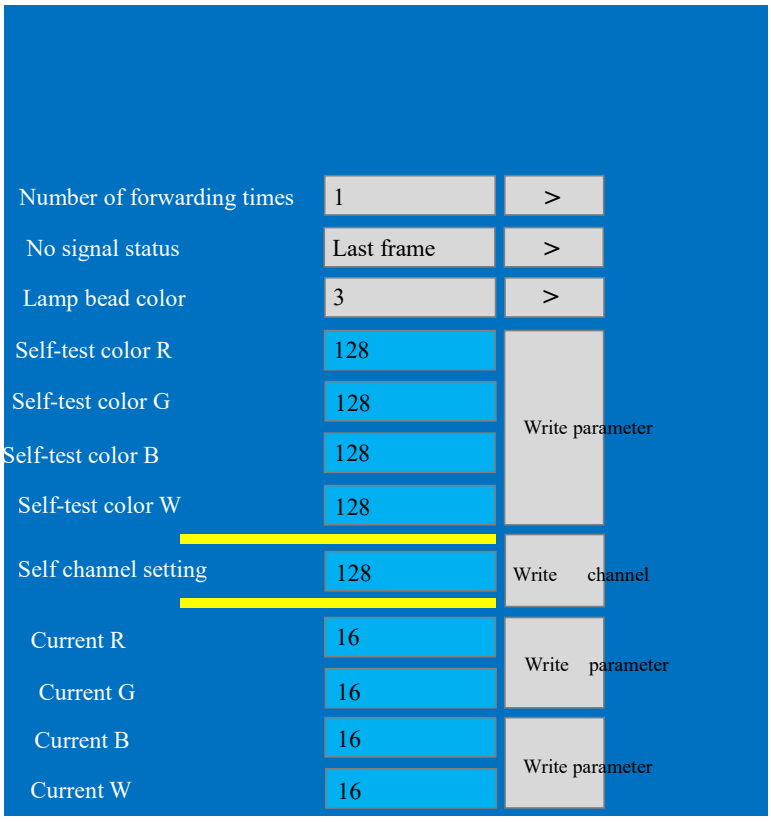
No signal state: divided into the last frame of Last Frame () and Power ON Light (on the electric light);

Self-inspection color R/G/B/W: customizable value of R/G/B/W four-channel BIT color, range:0~255.

The current R/G/B/W: UCS512D supports the current adjustment of each channel, and the numerical range is 1 ≤ 64;

3.3 UCS512E Chip setting

Click "UCS512E Chip Settings" to enter the interface of the feature settings, as follows:



Number of forwarding: UCS512E comes with the number of forwarding, which is easy to expand the capacity of W channel, which is divided into 1 / 2 / 3 / 4.

No signal state: divided into the last frame of Last Frame () and Power ON Light (on the electric light)

Lamp bead color: divided into 1: 2 / 3 / 4;

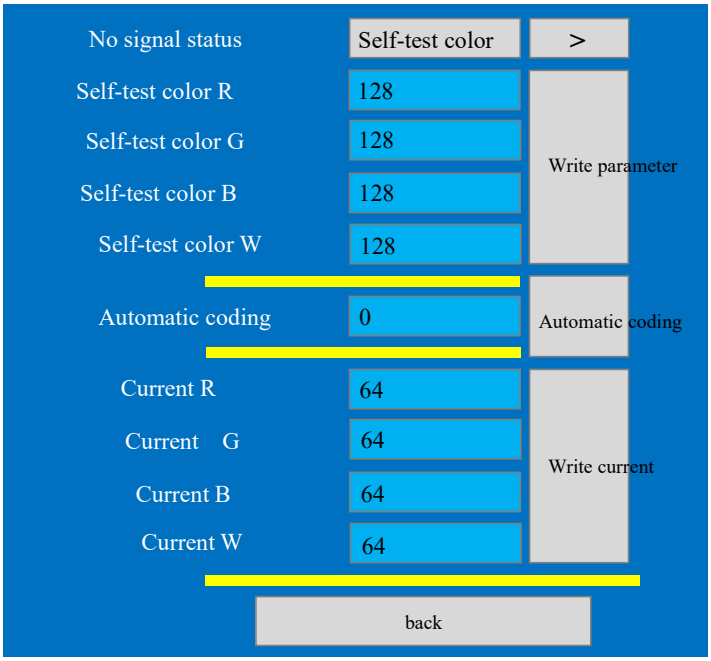
Self-inspection color R/G/B/W:customizable value of R/G/B/W four-channel BIT color, range:0~255.

Custom channel settings: the UCS512E chip can customize the number of channels and write its parameters

Current R/G/B/W:UCS512E supports current adjustment for each channel, numerical range: 1 ≤ 64

3.4 UCS512F chip setting

Click "UCS512F Chip Settings" to enter the interface of the feature settings, as follows:



No signal state: divided into the last frame of Last Frame () and Power ON Light (lights);

Self-inspection color R/G/B/W:customizable value of R/G/B/W four-channel BIT color, range:0~255.

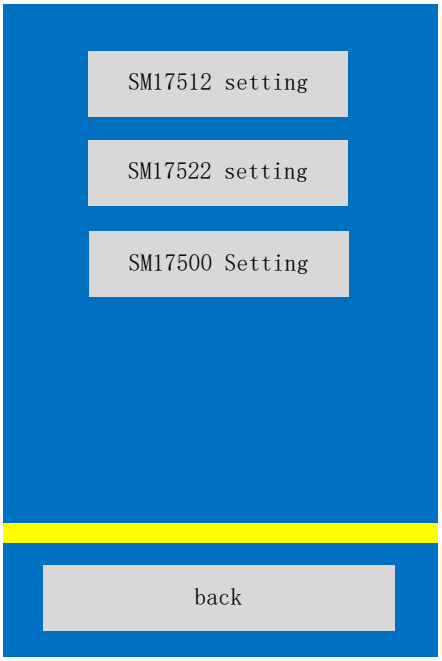
Automatic coding: UCS512F chip can set automatic coding, numerical range 0 ≤ 1

The current R/G/B/W:UCS512F supports the current adjustment of each channel, and the

numerical range is 1 ≤ 64;

4、SM chip setting

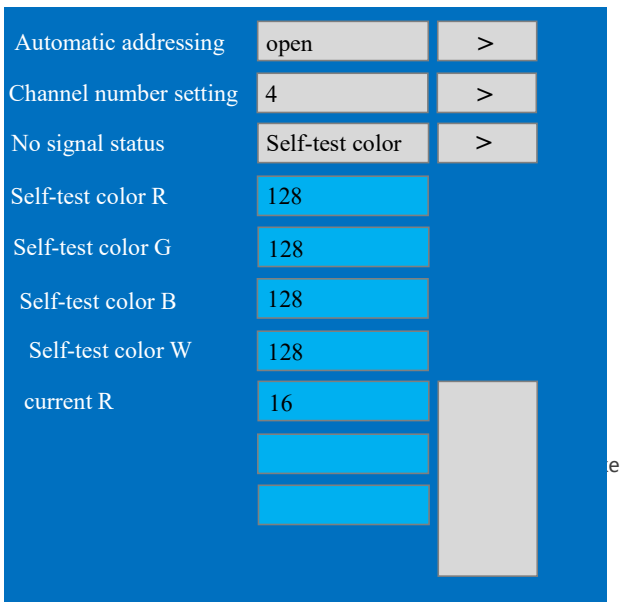
Click "SM Chip Settings" on the main interface to enter the interface, as follows:

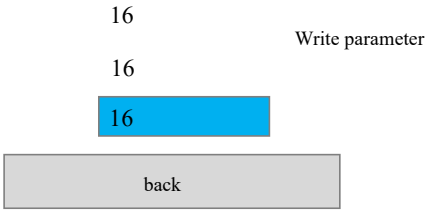


In the SM chip setting, at present, it contains the DMX512 control chip produced by SM17512,SM17522,SM17500 and other SM, in which the setting parameters mainly include the number of channels, the automatic address function turned on or off, and the setting of R/G/B/W self-check color. Channel current adjustment and other functions.

4.1 SM17512 chip setting

Click "SM17512 Chip Settings" to enter the interface of the feature settings, as follows:





Automatic addressing : turn on or off the automatic address writing function;

Channel number setting: set the number of SM17512 chip channels, the numerical range is 1 ≤ 4;

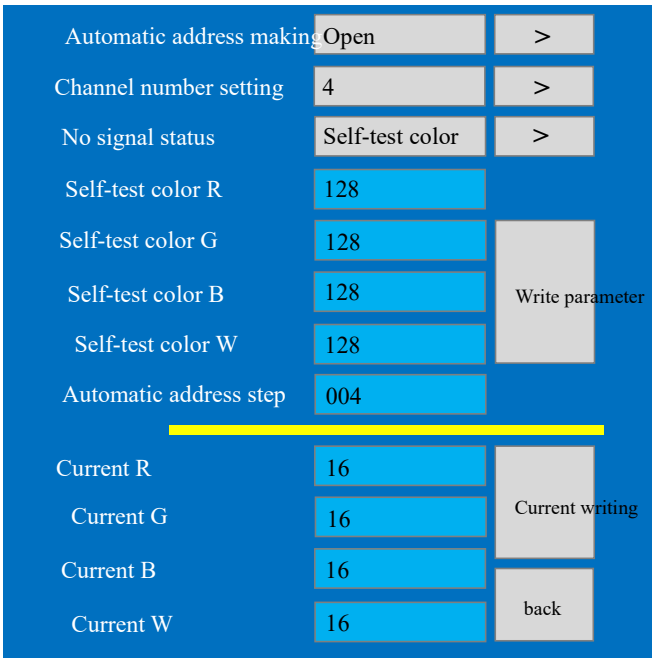
No signal state: divided into the last frame of Last Frame () and Power ON Light (on the electric light)

Self-check color R ≤ G ≤ B / W: you can customize the value of R/G/B/ W four-channel self-check color, value range: 0 ≤ 128;

Current R ≤ G ≤ B / W: supports current adjustment of each channel, numerical range: 1 ≤ 16;

4.2 SM17522 chip setting

Click "SM17522 Chip Settings" to enter the interface of the feature settings, as follows:



Automatic addressing: turn on or off the automatic address writing function;

Channel number setting: set the number of SM17522 chip channels, the numerical range is 1 ≤ 4;

No signal state: divided into the last frame of Last Frame () and Power ON Light (lights);

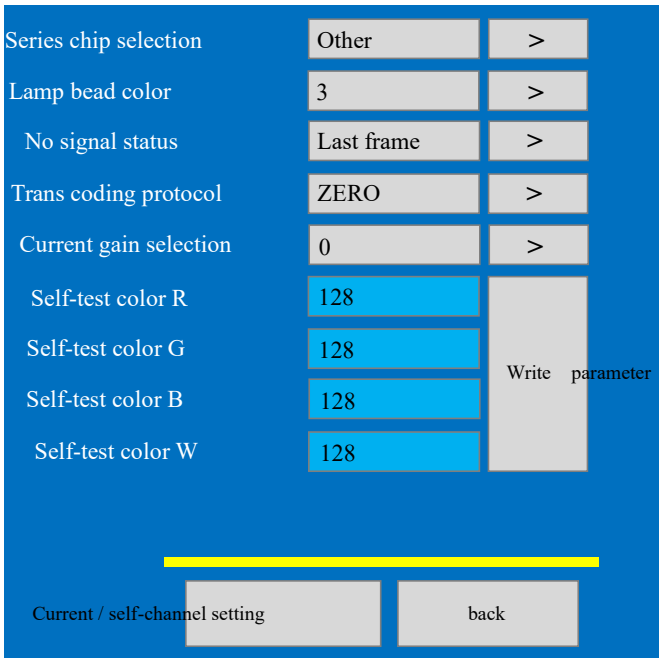
Self-check color R ≤ G ≤ B / W: you can customize the value of R/G/B/ W four-channel self-check color, value range: 0 ≤ 128;

Automatic address step: refers to the setting of step value when the chip automatically writes the address;

Current R ≤ G ≤ B / W: supports current adjustment of each channel, numerical range: 1 ≤ 16;

4.3 SM17500 chip setting

Click "SM17500 Chip Settings" to enter the interface of the feature settings, as follows:



Series chip selection: select the chip type of SM17500 chip in series, and the selection item is Other/SM16813;

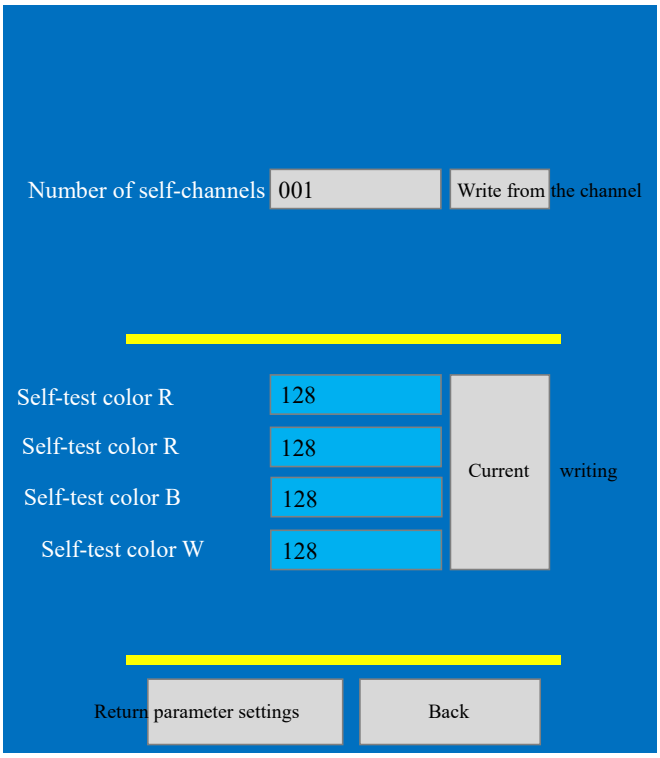
Series chip selection: select the chip type of SM17500 chip in series, and the selection item is Other/SM16813;

No signal state: divided into the last frame of Last Frame () and Power ON Light (lights);

Selection of transcoding protocol:select SM15700 transcoding protocol type, and the option is DMX512/ZERO;

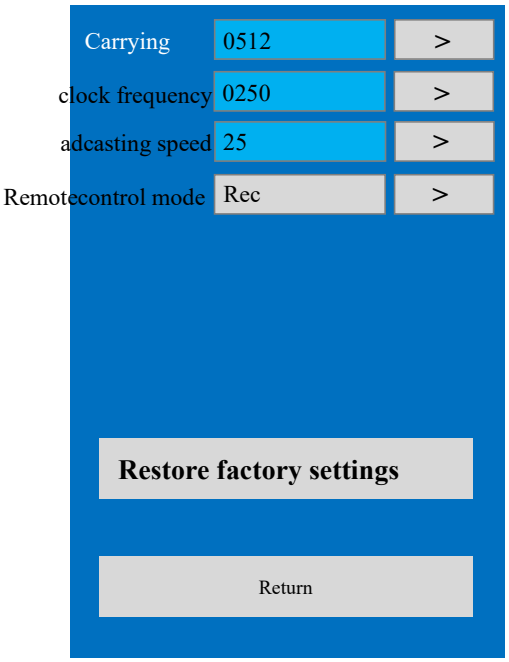
Current gain selection: set SM15700 chip channel current gain, numerical range: 0 16 ≤ 32 64

In the current / self-channel settings option, the interface is as follows



5、Equipment parameter

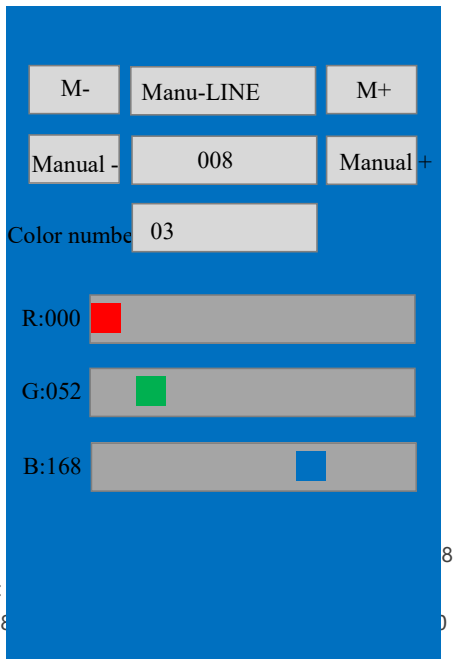
The function of setting equipment parameters is mainly aimed at the setting of various working parameters of the equipment, including the number of on-load channels, clock frequency, playback speed and so on. It is the basic parameters used in the operation of the equipment. The interface is as follows:

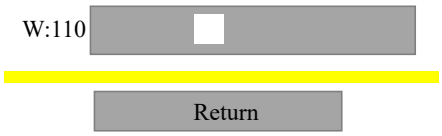


Note: Restore the factory settings and restore the equipment parameters to the factory status. The equipment parameters conform to the USITT DMX512 (1990) standard agreement.

6、Play animation

By clicking the test button in the main interface, the test module can be executed, as shown in the following figure:





M-M+: Test mode switch button, addressor built-in a variety of test effects, you can switch through this button;

N-Manual-Manual+: Manual test button, using M-M+mode switch button to select the effect in the mode with Auto font, you can use Manual-Manual+, change this automatic test effect to manual mode;

Automatic/manual mode for testing results

Code	M- | M+	Code	Manual + manual +
Auto-LINE	Automatic run point	Manu-LINE	Manual running point
Auto-RED	Automatic red gradient	Manu -RED	Manual red gradient
Auto-GREEN	Automatic green gradient	Manu-GREEN	Manual green gradient
Auto-BLUE	Automatic blue gradient	Manu-BLUE	Manual blue gradient
Auto-WHITE	Automatic white gradient	Manu-WHITE	Manual white gradient
Auto-CHING	Automatic blue gradient	Manu-CHING	Manual blue gradient
Auto-YELLOW	Automatic yellow gradient	Manu-YELLOW	Manual yellow gradient
Auto-PURPLE	Automatic purple gradient	Manu-PURPLE	Manual purple gradient
R→G→B→W→	Red, green, blue and white jump	——	——
R~G~B~W~	Red-green, blue-white, blue-yellow-purple gradient	——	——
7Color mode0	Colorful gradient	——	——

7Color mode1	Colorful water	——	——
7Color mode2	Colorful tail	——	——
RGBW	Specified color value	——	——

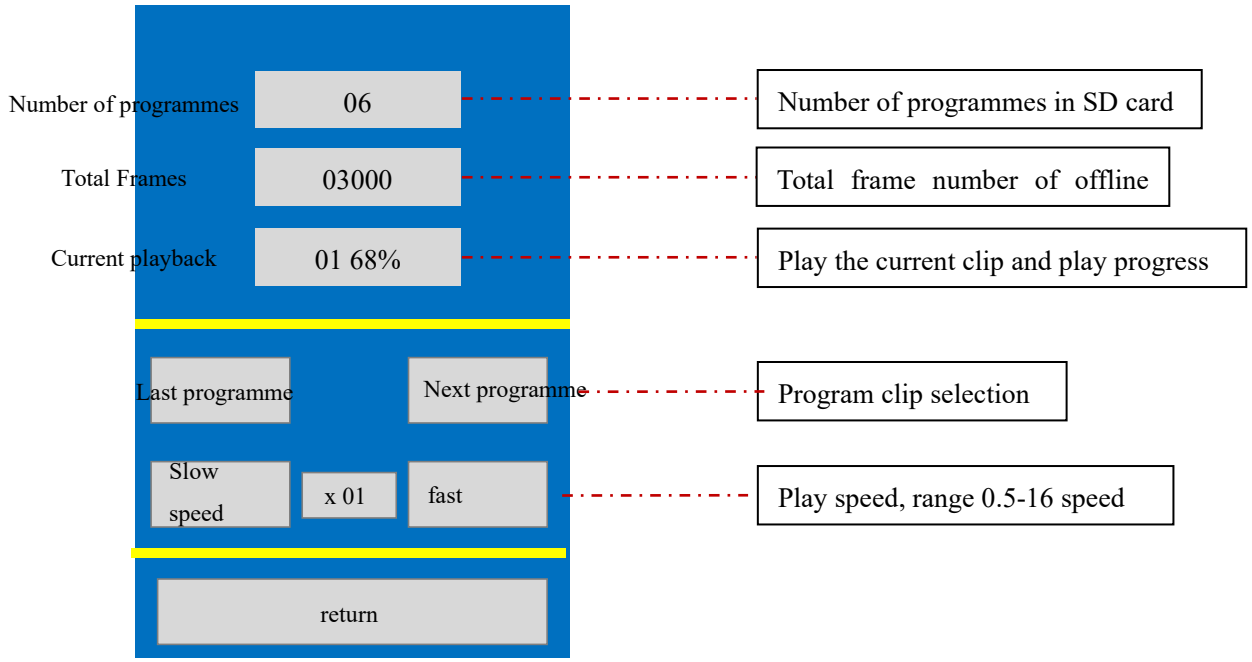
Note 1-1: The table above contains - part of the representative: the test mode does not support manual mode;

Note 1-2: RGBW mode is the designated color value mode. When the R/G/B/W four-channel color value is dragged in the interface, the test mode is automatically switched to RGBW mode.

Number of colours: refers to the number of colours in the animation playback mode, which ranges from 1/2/3/4. The commonly used three-colour mode is RGB three-colour mode and four-colour mode is RGBW four-colour mode.

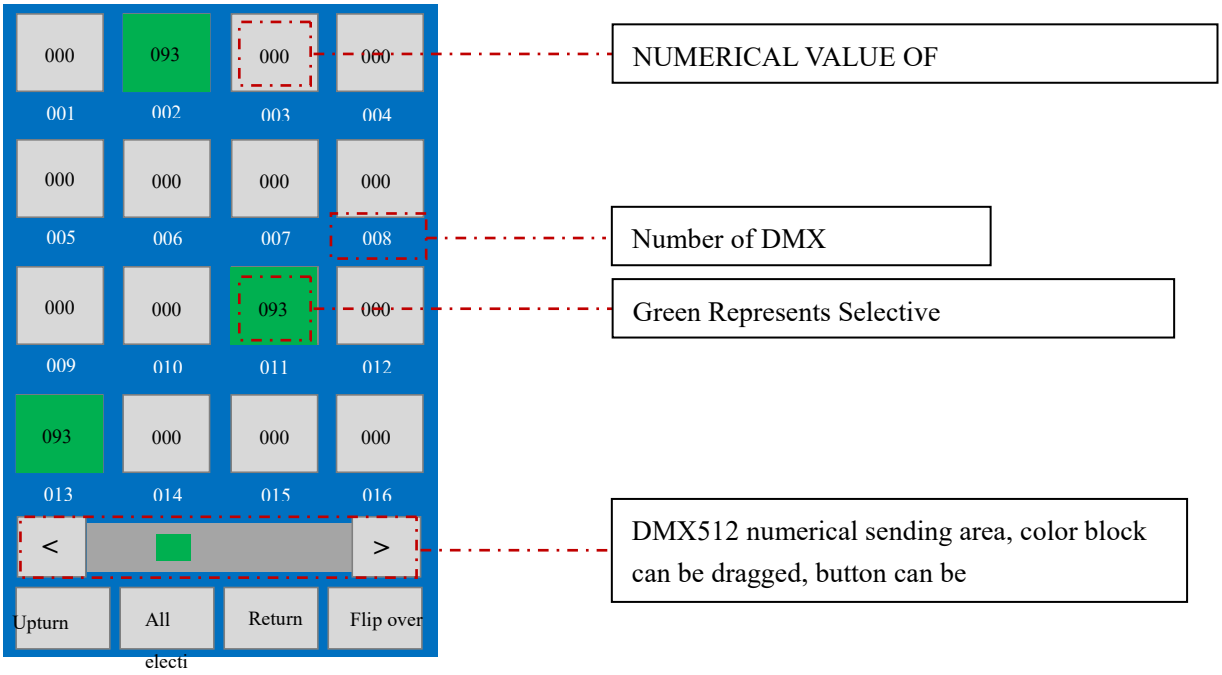
7、broadcast programs

Click "Play" on the main interface of the operation to enter the interface of playing the effect of offline files in SD, as follows:



8、DMXConsole

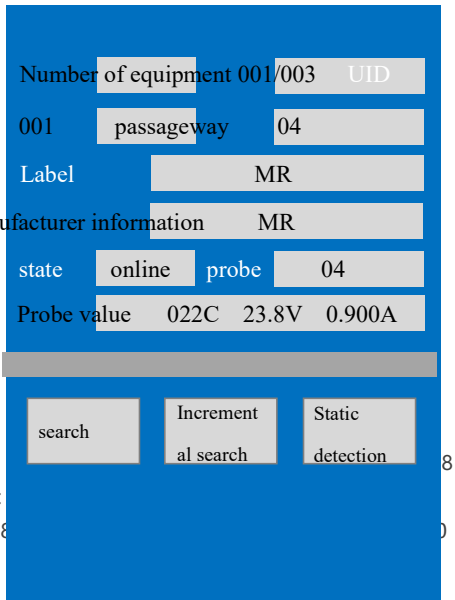
Click on the "DMX console" in the main interface of the operation to enter the interface of the analog DMX512 console, as follows:

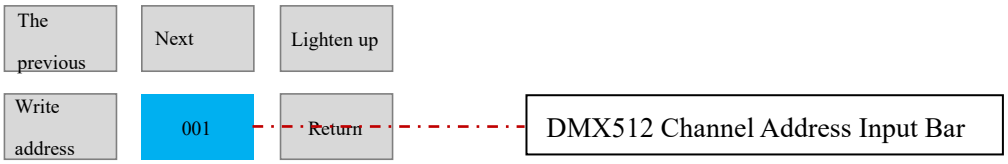


In the DMX console function module, 512 DMX512 channels can be used for data transmission, only 16 channels in a single page can be paged for selection and control. It can also send data to 512 DMX512 channels by means of full selection.

9、RDM

Click on "RDM" in the main interface of the operation, and you can enter the interface of testing and addressing RDM lamps, as follows:





Number of devices: Display the number of lamps and lanterns in the addressor's total number, in the format of 00X/00Y;

UID: ID code given to RDM lamps when they are manufactured, which is unique for RDM device code.

Address: DMX512 channel address of the RDM lamp;

Channel: The number of channels for the RDM lamps;

Label: Product label, default display of the equipment manufacturer information;

Manufacturer information: the information of the equipment manufacturer;

State: On-line and off-line state detection of the equipment;

Probe number: the number of probes that the RMD lamps have;

Probe value: the value detected by the probe, temperature, voltage and current;

Search: Addresser searches RDM devices;

Incremental search: After searching RDM devices, if adding RDM devices, incremental search can be used.

Static detection: Non-real-time detection of RDM lamps;

Last | Next: Select the corresponding RDM device by the up and down buttons, and display its number in the number of devices when selecting.

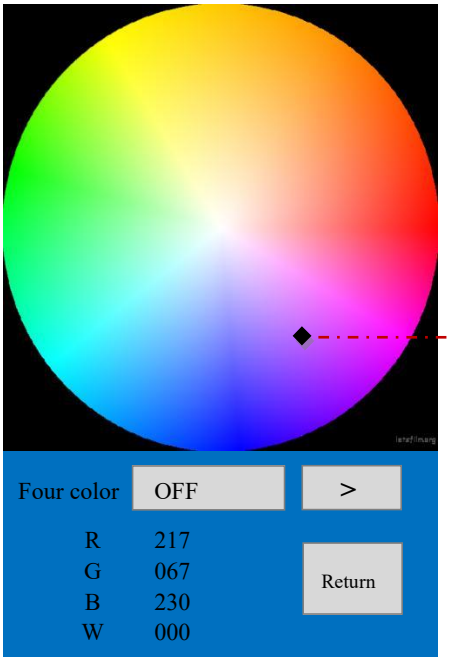
Lighting: Lighting the selected RDM lamps;

Write address: Write the DMX512 channel address of the selected RDM lamps according to

UID.

10、color disk color acquisition

In the main interface of the operation, click on "color disc pick-up", and then enter the interface of writing color disc pick-up, as follows:



You can click in the color palette and choose a dot to resolve the color value of the dot and send it to the lamp through the addressor.
The four-color model is divided into:

1、 (R+G+B) /3

2、Max (R,G,B)

3、Max (R,G,B)

Software Description of Offline Effect

一、Animation material

In the application of MR-WT25 handheld addressor, the Simple LED software developed by Mingrui Science and Technology is used in the software part. The software can adopt a variety of animation material production and import methods in the animation material part.

1. Intelligent template making animation: use Simple LED software to make intelligent animation template in dazzling special effects, making relatively simple animation special effects;

2. Simple animation: simple animation Easy Maker in Simple LED software is used to make

non-template simple animation, which can set animation time value and animation color value.

3. Import animation: Simple LED software can import animation materials produced by third-party professional animation software for some projects which require high complexity of animation.

This part of the function can be referred to "Simple LED Software Instructions V1.0"

二、Layout of layout

Lamp layout is a key document for the installation location of lamps and the direction of signal lines in the project. For the setting of lamp layout, you can refer to Simple LED Software Instructions V1.0.

Note: MR-WT25 handheld addressor in lamp layout settings, controller type selection: 8 port 3072 channel.

三、Controller parameter setting

After completing the animation material and layout, offline files can be generated without the controller parameters of offline files. After selecting the model of BF02B/308 controller, Click to generate offline files.

四、SD Card Format and Corresponding File Copy

The offline files generated are divided into OFF001.arm-OFF00X.arm.

OFF001.arm-OFF00X.arm represents scene fragment 1-scene fragment X;

Format SD and select the file system FAT32 (FAT32 only).

In the SD of the corresponding controller, all OFF001.arm-OFF00X.arm in the offline file can

be copied.

Common Questions and Answers

1、In the application of MR-WT25, according to DMX512 standard protocol, how much should the load channel and clock frequency be set?

According to DMX512 standard agreement, the standard values are as follows:

The number of carriers is 512 channels.

Clock frequency (baud rate) = 250K = 0.25M

2、What is the type of USB power supply interface of MR-WT25? Is it feasible to use high current output of mobile phone charging treasure?

The USB power supply interface of MR-WT25 handheld addressor istype-C.

MR-WT25 can use mobile phone charging treasure for power supply. Although the current output of mobile phone charging treasure can generally be as high as 2.1A, the actual current output of mobile phone charging is non-constant current output, so the real-time current will not exceed 0.5A when using MR-WT25.

3、Can MR-WT25 handheld addresser be used as off-line master control in engineering?

MR-WT25 handheld addressor can read the offline effect file in SD card and output DMX512 signal to drive LED lamps. Due to the limitation of power supply conditions, it is not suitable for routine engineering applications, but it can be used as an addressor and a controller as a test lamp link.