

Touch Video DMX Master Controller

Model No.: MR-CM12BK

Feature

- MR-CM12BK Supports a maximum load capacity of 450000 channels, greatly meeting the needs of customer projects;
- The MR-CM12BK device supports unlimited cascading of sub controllers within the total load channel, without any limit on the number of cascades;
- Embedded 4.3-inch full-color TFT capacitive touch LCD screen with a resolution of 480x272;
- Reserve RS485 interface [isolated type], supporting standard DMX protocol, Modbus RTU protocol, and custom protocol calls;
- Support multiple DMX lighting control panel call mode selections, and support setting starting addresses;
- Support external programmable touch panel for program selection, speed adjustment, brightness adjustment, etc;
- The system supports automatic, scheduled, and festival preset effect playback;
- Program segment selection, brightness adjustment, white balance adjustment, playback speed adjustment, etc. can be achieved through the touch screen;
- Support local brightness timing adjustment;
- Support one click restoration of factory default settings;
- Support console channel mode testing, facilitating on-site debugging of channel definitions;
- Support offline one click fixation and clearing of sub control ID numbers, convenient for on-site use;
- Support switch parallel scheme: reduce the length of the system cascade chain and improve stability;
- Support multi loop ring backup, and the display will not be affected if one controller is damaged or the network cable is disconnected;
- Support real-time hot backup for multiple main controllers;
- Supports offline one click address writing for multiple DMX512 driver chips;
- Independent brightness control of the three primary colors makes precise adjustment of white balance simpler and more effective;
- Supports monochrome, dual color RGB、RGBW、 RGBWY、 And multi-color mixing control;
- Using Ethernet interface and UDP network protocol for stable transmission, with a maximum transmission distance of 100 meters;
- The LCD display module displays controller parameters and status in a timely manner;
- SD card storage, the controller can support up to 64GB and can preset up to 99 program files;
- Support offline and online partition management functions for multiple main controllers;
- Support remote online downloading and updating of offline programs from multiple offline main control LANs;
- Built in animation test program to facilitate client debugging and application in the project;
- It can support the mixing of different types of lamps and lamps with different protocols, with strong compatibility;
- Equipment network port, surge protection: 1.5KV;
Support normal operation without faults in harsh working environments ranging from -40 °C to 80 °C;



- Support offline and online system firmware upgrades;
- Support dual network ports for simultaneous output and more flexible system architecture;

Design Concept

1. Gigabit/100Mbps optional: suitable for different project solutions;
2. Bidirectional redundancy of system signals: doubled stability;
3. Four color independent algorithm: energy-saving and environmentally friendly, with pure colors;
4. Same asynchronous integrated control: online priority, automatic offline switching effect without online signal, realizing video source backup;
5. Large scale independently developed and designed video editing, playback, and wiring design software: more adaptable, supports more languages, and has higher openness.
- 6 Used for various complex applications such as irregular screens, multi screens, building screens, pixel light screens, etc. both domestically and internationally;
7. Support IP grouping function, use switch parallel scheme to reduce system cascade chain length and improve system stability;
8. Install a fiber optic conversion module to support the transmission of fiber optic signals in the control system;
9. Support the transmission of wireless network signals and be able to support the bridging signal transmission of wireless bridges;
10. Cooperate with Internet control software to support Internet remote control;
11. Supports mainstream 32-bit and 64 bit operating systems for Windows: Windows 7, Windows 8, Windows 10, Windows 10, etc.

Scalability

1. Can install all current Windows operating systems and support languages from various countries;
2. The playback software should have sufficient interfaces to be compatible with other internationally recognized protocols and support personalized design needs of customers;
3. Support integration with multifunctional converters and other controllers in MR control systems to meet special project application requirements;
4. Scalable integration with third-party software and devices, and achieving perfect compatibility;
5. The main controller supports offline address writing, can achieve automatic addressing of DMX512 channels, and supports MR UCS、SM、TM、HI、HM、GS、 Customized DMX chips, etc.

Controller Appearance

Front view of MR-CM12BK video player:



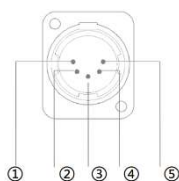
Back view of MR-CM12BK video player:



- | | | | |
|----------------|---|-------------------|--------------------------------|
| ① Power Switch | ② ③ Power/communication indicator light | ④ SD card slot | ⑤ ⑥ Adaptive network interface |
| ⑦ Touch screen | ⑧ RS485 interface | ⑨ Power interface | Power switch |

Port definition

MR-CM12BK adopts a 5-pin CANNON interface, and its 5-pin CANNON interfaces are sorted from left to right, as shown in the following figure:

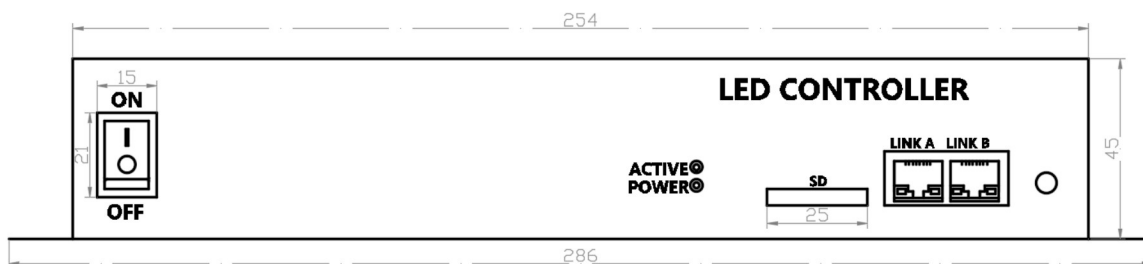


	①	②	③	④	⑤
DMX512 signal	GND	Data-	Data+	Power supply 5V	NC
	GND	B(D-)	B(D+)	5V	NC

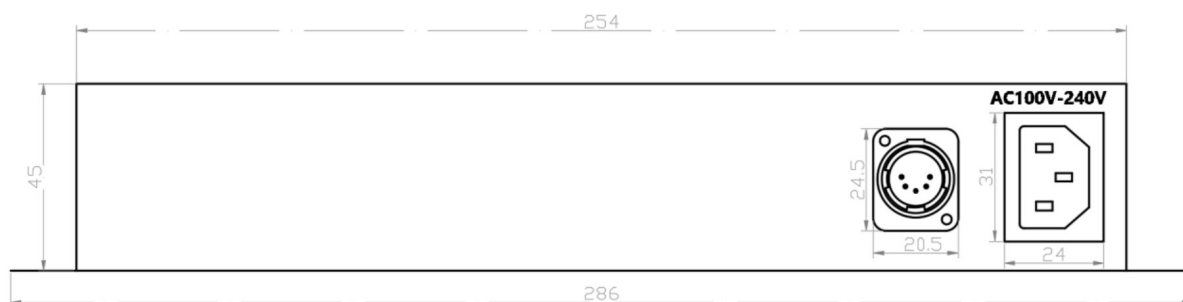
Note: The common definition of its pin signal is ① - GND, ② - B, ③ - A, ④ -5V. Pay attention to the definition of pin signals in the application, and connect them according to the actual situation.

Mechanical Dimensions

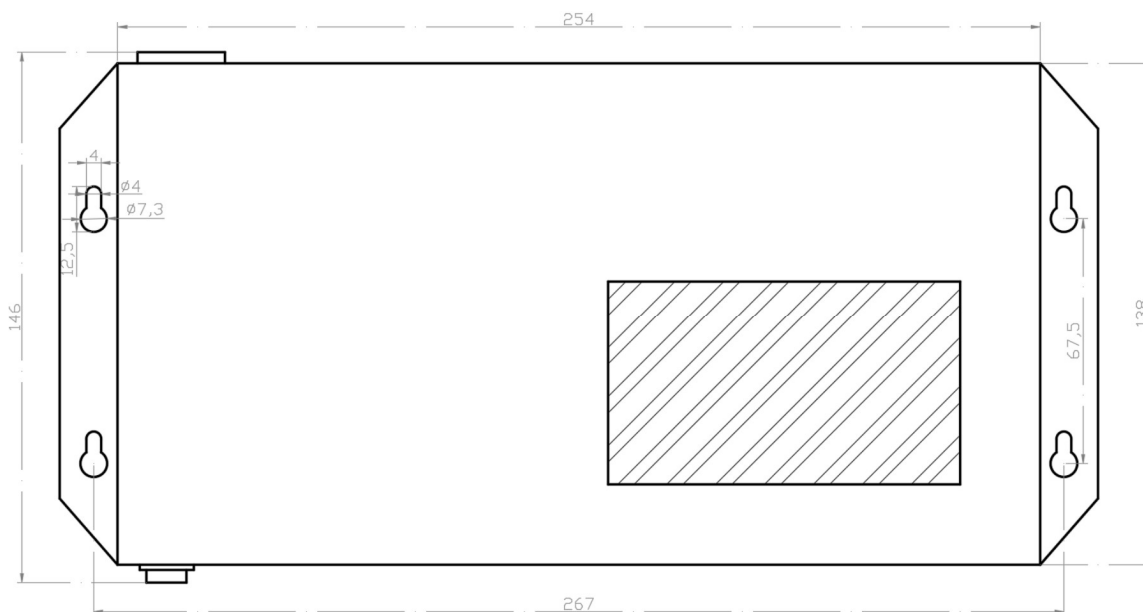
Front view of MR-CM12BK video player



Rear view of MR-CM12BK video player



Top view of MR-CM12BK video player



Note: The dimensions in the above three views are in millimeters (mm).

Basic Parameter

Product Name	Touch the lighting management controller	Product Model	MR-CM12BK
Rated Voltage	AC 100V ~ 240V±15%Vac50/60Hz	Rated Power	About 15W
Storage Medium	High-Speed SD Card (Standard)	Carrying channel	≤ 450000 data channels
Communication interface and protocol	RJ45X2, standard UDP/TCP protocol	External calling interface	RS485X1
Touch screen	4.3-inch full-color TFT capacitive touch LCD screen	Communication speed	100MB/1000M adaptive
Relative humidity	≤ 95% (non condensing)	Working temperature	-40°C ~ 80°C;
Dimension	283mmX134mmX45mm	Fixed hole spacing	268mm; 68 mm
Protection level	IP20	Net weight	1.48kg
Installation method	Fixed hole installation method (see the above drawing)	Shell material	Iron (powder coating process)
Standard accessories	SD card x 1/card reader x 1/AC power cord x 1/warranty card x 1/foam paper box x 1/card holder x 1		

Touch screen interface and function description

I、MR-CM12BK Interface Description



【Home Screen】

【Functional interface】

NUM	Button interface	Function definition
1	Equipment homepage	Homepage screensaver page
2	2021-11-12 18:18:00	Current device date and time
3	Equipment model MR-CM12BK	Current device model
4	Firmware version ACT_Z015	Current device firmware version
5	Play frame rate 25	Current device playback frame rate
6	Play speed x01	Current device playback speed
7	Current brightness is 100%	The total brightness of the current device
8	Storage type SD, EMMC	Current storage type, SD or EMMC
9	Networking status	Nothing
10	SD program 01/01, online playback	Current program number, playback storage type (SD card, online)
11	Left and right health, playback health	Select the next program and pause the program
12	Test animation	Built in testing effects are optional
13	Write address	DMX chip write address and parameters
14	DMX control panel	Support DMX console channel testing
15	Set up	Other Function Settings Menu
16	Loop/Specify/Wait/Temporary Play	Current loop mode, click to switch playback mode

II、Equipment status

After the device is running, the main interface can visually display the current parameter status of the running device, as shown in the figure:



III、Play status and control

After the device plays, the main interface can select the previous program, next program, pause/play, as shown in the figure:



Note: It can visually display the current storage type used for playback, SD card or built-in SSD, showing the total number of programs and playback program numbers, as well as the current program playback progress.

IV、Test animation

Click the "Test Animation" button to select different built-in animations for playback testing, as shown in the figure



Note: You can directly select the built-in effects, support automatic playback and manual playback, and specify a fixed grayscale value; Support color palette adjustment; Support color channel selection.

V、Write address

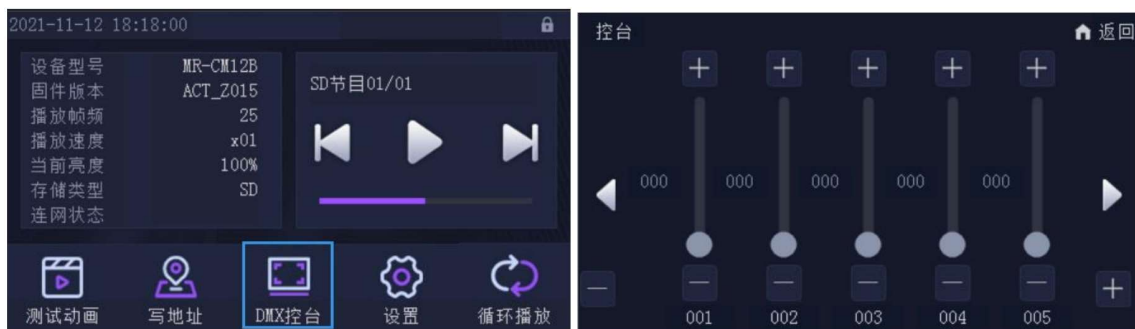
Click the "Write Address" button to select the corresponding driver chip company and its specific DMX chip model (continuously updated), write the DMX address and chip parameters, and verify the accuracy of the DMX chip address, as shown in the figure:



Note: Please refer to the internal display for specific support for various types of DMX chips.

VI. DMX control panel

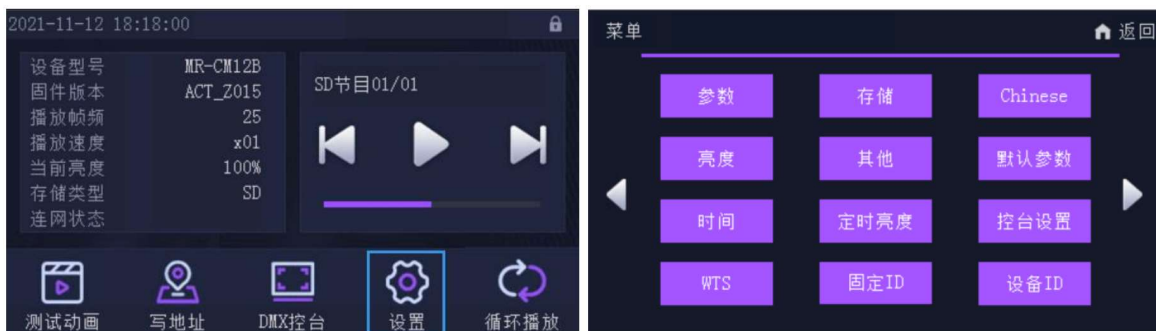
Click the "DMX Console" button to perform DMX channel testing, which facilitates on-site dimming delay and color determination.



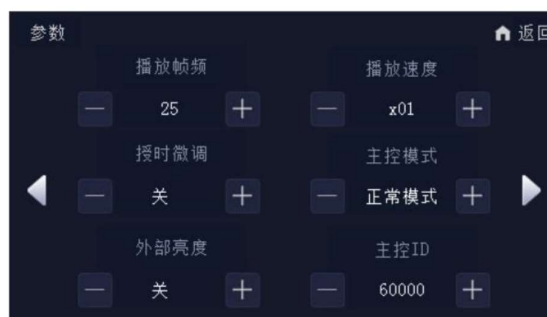
Note: All device ports are dimmed together, supporting single channel dimming

VII、Parameter settings

Click the "Settings" button to set various parameters.



(1) Button "Parameters"



Play frame rate: default 25Hz, can be adjusted according to project requirements, chip characteristics, etc. The higher the frame rate, the better the fluency;

Play speed: Adjust the speed of offline programs, with a total of 16 levels of speed;

Time fine-tuning: GPS, BTS, WTS synchronous master control, some satellites, base stations, time, etc. may have differences, and fine-tuning time

can be set;

Main control mode: "Normal mode" A/B network port data is consistent;

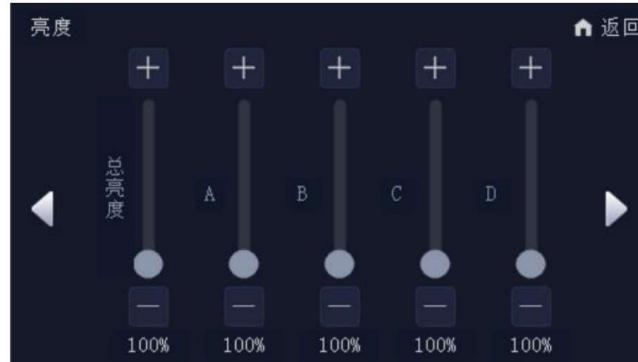
Remote 1 listening mode (multi master partition)

Remote 2 "side mounted mode (multi master hot backup)

External brightness: The main control itself has a brightness parameter that can be turned on/off to receive external brightness data;

Controller ID: Multiple controllers can be used to distinguish one controller.

(2) Button "Brightness"



Brightness adjustment: The total brightness and A/B/C/D brightness can be adjusted through the push rod and saved to the main control.

(3) Button "Time"



Time: The current time of the main control can be manually set.

(4) Button "WTS" (not supported for this model)



WTS mode: default off, receive mode, transmit mode, relay mode.

Channel selection: 0~80CH can be freely selected.

(5) Button "Storage" (not supported for this model)



Storage mode: "SD card only" only plays external SD card content

SD card priority "prioritizes external SD card content>>Backup internal SSD content

Only EMMC plays content from the built-in SSD

EMMC priority "prioritizes built-in SSD content>>Backup external SD card content

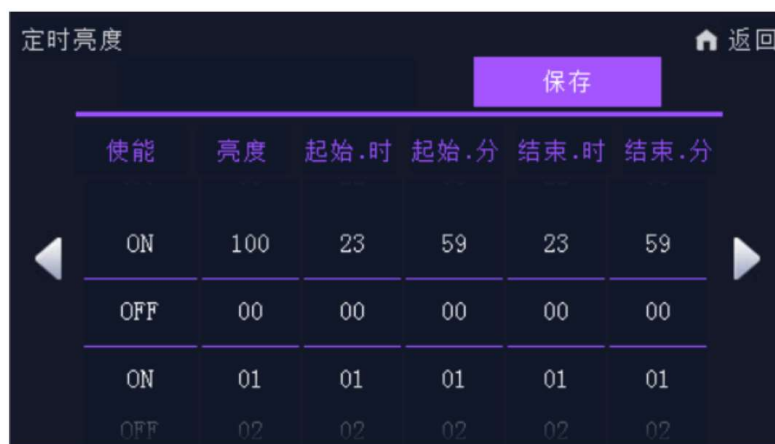
Program import: External SD card program>>Copy to internal SSD storage, click to automatically copy;

Program verification: It can detect and verify the integrity of program files on external SD cards or internal SSDs;

(6)Button "Other"

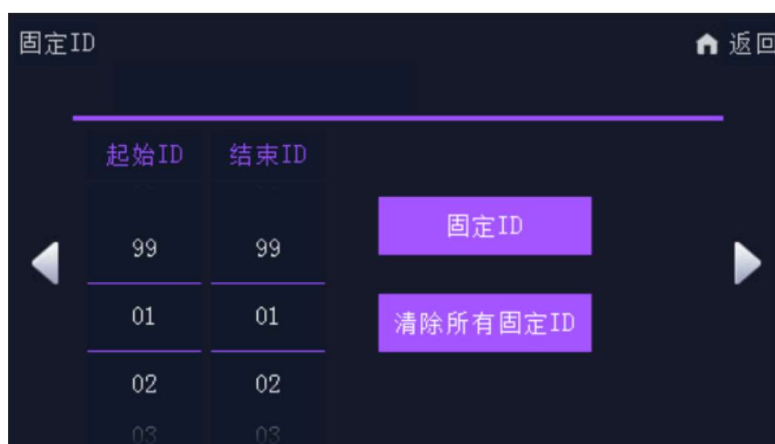
Specify program scheduled playback: You can manually select program scheduled playback (if there is a scheduled time).

(7) Button "Timer Brightness"



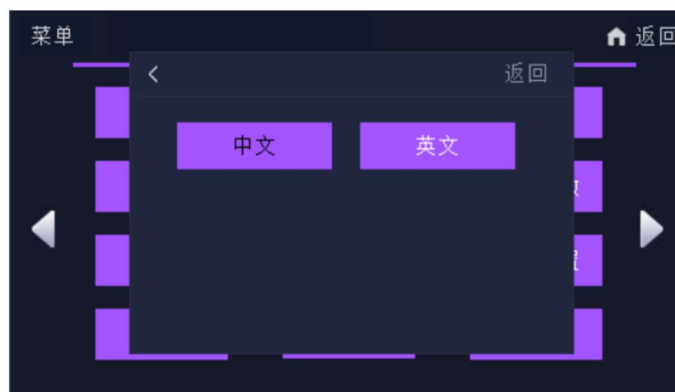
Timer brightness: You can set the timer brightness, set the start time and end time.

(8) Button "Fixed ID"



Fixed ID: Supports sub control fixed ID function, can set start and end IDs, and also supports clearing all sub control IDs.

(9) Button "Language



Language: The button can switch between Chinese and English interfaces.

(10) Button "Default Parameters"

Default Parameters: Default parameters can be set to immediately revert to factory default settings.

(11) Button "Console Settings"



DMX512 call mode:

Channel modes such as "SLJF", "SLRGBJF", "SLRGBWJF", "SLRGBJFrgbD", "SLRGBWJ+", etc.

Starting channel: Any starting address can be set.

Mode 1: 4-channel mode "SLJF"

Passageway	Content	DMX value	Control content description
1	Speed regulation	000-128	The speed varies from slow to fast
		129-255	The speed varies from fast to slow
2	Brightness adjustment	000-255	Total dimming
3	Program Scene	000-003	Standby mode
		004-007	Scenario 1
		008-011	Scenario 2
		012-015	Scenario 3
		016-019	Scenario 4
		020-023	Scenario 5
		024-027	Scenario 6
		.....	And so on.
4	Strobe light	000-063	1st level strobe
		064-127	2nd level strobe
		128-191	3rdd level strobe
		129-255	4th level strobe

Mode 2 :7-channel mode "SLRGBJF"

Passageway	Content	DMX value	Control content description
1	Speed regulation	000-128	The speed varies from slow to fast
		129-255	The speed varies from fast to slow
2	Brightness adjustment	000-255	Total dimming
3	Color control	000-255	Red color (R)
4	Color control	000-255	Green color (G)
5	Color control	000-255	Blue color (B)
6	Program Scene	000-003	Standby mode
		004-007	Scenario 1
		008-011	Scenario 2
		012-015	Scenario 3
		016-019	Scenario 4
		020-023	Scenario 5
		024-027	Scenario 6
		.....	And so on.
7	Strobe light	000-063	1st level strobe
		064-127	2nd level strobe
		128-191	3rdd level strobe
		192-255	4th level strobe

Mode3:8-channel mode

Passageway	Content	DMX value	Control content description
1	Speed regulation	000-128	The speed varies from slow to fast
		129-255	The speed varies from fast to slow
2	Brightness adjustment	000-255	Total dimming
3	Color control	000-255	Red color (R)
4	Color control	000-255	Green color (G)
5	Color control	000-255	Blue color (B)
6	Color control	000-255	White color (W)
7	Program Scene	000-003	Standby mode
		004-007	Scenario 1
		008-011	Scenario 2
		012-015	Scenario 3
		016-019	Scenario 4
		020-023	Scenario 5
		024-027	Scenario 6
		.....	And so on.
8	Strobe light	000-063	1st level strobe
		064-127	2nd level strobe
		128-191	3rdd level strobe
		192-255	4th level strobe

Mode 4:11 channel mode

Passageway	Content	DMX value	Control content description
1	Speed regulation	000-128	The speed varies from slow to fast
		129-255	The speed varies from fast to slow
2	Brightness adjustment	000-255	Total dimming
3	Color control	000-255	Red color (R)
4	Color control	000-255	Green color (G)
5	Color control	000-255	Blue color (B)
6	Program Scene	000-003	Standby mode
		004-007	Scenario 1
		008-011	Scenario 2
		012-015	Scenario 3
		016-019	Scenario 4
		020-023	Scenario 5
		024-027	Scenario 6
		.....	And so on.
7	Strobe light	000-063	1st level strobe
		064-127	2nd level strobe
		128-191	3rdd level strobe
		192-255	4th level strobe
8	Base color adjustment	000-255	Red color (R)
9	Base color adjustment	000-255	Green color (G)
10	Base color adjustment	000-255	Blue color (B)
11	Reverse broadcasting	0-127	Positive direction
		128-255	Reverse

Mode 5 :6-channel+multi-channel program

Passageway	Content	DMX value	Control content description
1	Speed regulation	000-128	The speed varies from slow to fast
		129-255	The speed varies from fast to slow
2	Brightness adjustment	000-255	Total dimming
3	Color control	000-255	Red color (R)
4	Color control	000-255	Green color (G)
5	Color control	000-255	Blue color (B)
6	Color control	000-255	White color (W)
7	Program Scene	000-003	Standby mode
8		004-007	Scenario 1
9		008-011	Scenario 2
10		012-015	Scenario 3
11		016-019	Scenario 4
12		020-023	Scenario 5
13		024-027	Scenario 6
.....		.....	And so on.

Mode6:6-channel mode

Passageway	Content	DMX value	Control content description
1	Brightness adjustment	000-255	Total dimming
2	Color control	000-255	Red color (R)
3	Color control	000-255	Green color (G)
4	Color control	000-255	Blue color (B)
5	Program Scene	000-003	Standby mode
		004-007	Scenario 1
		008-011	Scenario 2
		012-015	Scenario 3
		016-019	Scenario 4
		020-023	Scenario 5
		024-027	Scenario 6
		.....	And so on.
6	Strobe light	000-063	1st level strobe
		064-127	2nd level strobe
		128-191	3rd level strobe
		192-255	4th level strobe

Mode7:12 channel mode

Passageway	Content	DMX value	Control content description
1	Speed regulation	000-128	The speed varies from slow to fast
		129-255	The speed varies from fast to slow
2	Brightness adjustment	000-255	Total dimming
3	Color control	000-255	Red color (R)
4	Color control	000-255	Green color (G)
5	Color control	000-255	Blue color (B)
6	Color control	000-255	White color (W)
7	Program Scene	000-003	Standby mode
		004-007	Scenario 1
		008-011	Scenario 2
		012-015	Scenario 3
		016-019	Scenario 4
		020-023	Scenario 5
		024-027	Scenario 6
		.....	And so on.
8	Strobe light	000-063	1st level strobe
		064-127	2nd level strobe
		128-191	3rd level strobe
		192-255	4th level strobe
9	Base color adjustment	000-255	Red color (R)
10	Base color adjustment	000-255	Green color (G)
11	Base color adjustment	000-255	Blue color (B)
12	Reverse broadcasting	0-127	Positive direction
		128-255	Reverse

Mode 8 :18 channel mode "LS18TD"

Passageway	Content	DMX value	Control content description
1	Brightness adjustment	000-255	Total dimming
2	The first program speed adjustment	000-128	The speed varies from slow to fast
		129-255	The speed varies from fast to slow
3	The first program color adjustment	000-255	Red color (R)
4	The first program color adjustment	000-255	Green color (G)
5	The first program color adjustment	000-255	Blue color (B)
6	Program Scene	000-003	Standby mode
		004-007	Scenario 1
		008-011	Scenario 2
		012-015	Scenario 3
		016-019	Scenario 4
		020-023	Scenario 5
		024-027	Scenario 6
		.....	And so on.
7	The first program scene flicker	000-063	1st level strobe
		064-127	2nd level strobe
		128-191	3rd level strobe
		192-255	4th level strobe
8	The first program scene is broadcast backwards	0-127	Positive direction
		128-255	Reverse
9	Speed adjustment for the second program	000-128	The speed varies from slow to fast
		129-255	The speed varies from fast to slow
10	Color adjustment for the second program	000-255	Red color (R)
11	Color adjustment for the second program	000-255	Green color (G)
12	Color adjustment for the second program	000-255	Blue color (B)
13	The second program scene	000-003	Standby mode
		004-007	Scenario 1
		008-011	Scenario 2
		012-015	Scenario 3
		016-019	Scenario 4
		020-023	Scenario 5
		024-027	Scenario 6
		.....	And so on.
14	The second program scene flicker	000-063	1st level strobe
		064-127	2nd level strobe
		128-191	3rd level strobe
		192-255	4th level strobe
15	Reverse broadcasting of the second program scene	0-127	Positive direction
		128-255	Reverse
16	Base color adjustment	000-255	Red color (R)
17	Base color adjustment	000-255	Green color (G)
18	Base color adjustment	000-255	Blue color (B)

Mode 9: 20 channel mode "LS20TD"

Passageway	Content	DMX value	Control content description
1	Brightness adjustment	000-255	Total dimming
2	The first program speed adjustment	000-128	The speed varies from slow to fast
		129-255	The speed varies from fast to slow
3	The first program color adjustment	000-255	Red color (R)
4	The first program color adjustment	000-255	Green color (G)
5	The first program color adjustment	000-255	Blue color (B)
6	The first program color adjustment	000-255	White color (W)
7	Program Scene	000-003	Standby mode
		004-007	Scenario 1
		008-011	Scenario 2
		012-015	Scenario 3
		016-019	Scenario 4
		020-023	Scenario 5
		024-027	Scenario 6
		.....	And so on.
8	The first program scene flicker	000-063	1st level strobe
		064-127	2nd level strobe
		128-191	3rd level strobe
		192-255	4th level strobe
9	The first program scene is broadcast backwards	0-127	Positive direction
		128-255	Reverse
10	Speed adjustment for the second program	000-128	The speed varies from slow to fast
		129-255	The speed varies from fast to slow
11	Color adjustment for the second program	000-255	Red color (R)
12	Color adjustment for the second program	000-255	Green color (G)
13	Color adjustment for the second program	000-255	Blue color (B)
14	Color adjustment for the second program	000-255	White color (W)
15	The second program scene	000-003	Standby mode
		004-007	Scenario 1
		008-011	Scenario 2
		012-015	Scenario 3
		016-019	Scenario 4
		020-023	Scenario 5
		024-027	Scenario 6
		.....	And so on.
14	The second program scene flicker	000-063	1st level strobe
		064-127	2nd level strobe
		128-191	3rd level strobe
		192-255	4th level strobe
15	Reverse broadcasting of the second program scene	0-127	Positive direction
		128-255	Reverse
16	Base color adjustment	000-255	Red color (R)
17	Base color adjustment	000-255	Green color (G)
18	Base color adjustment	000-255	Blue color (B)



Serial communication protocol:

Command format: 9600-8-N-2 Baud rate: 9600 Data bits: 8 Whether to verify: No verification Stop position: 2				
Function	Protocol instruction	Example instruction	Instruction Description	Remarks
Program Scene	JM.XX.MRKJ.	JM.00.MRKJ.	Loop scenario	XX represents the corresponding scene Write 00 loop scenario
		JM.01.MRKJ.	Scenario 1	
		JM.02.MRKJ.	Scenario 2	
		JM.03.MRKJ.	Scenario 3	
		JM.04.MRKJ.	Scenario 4	
		JM.05.MRKJ.	Scenario 5	
		JM.06.MRKJ.	Scenario 6	
		And so on.	And so on.	
Speed regulation	SD.XX.MRKJ.	SD.05.MRKJ	Frame rate 5Hz	Default frame rate 25Hz Actual frame rate combined with chip
		SD.10.MRKJ	Frame rate 15Hz	
		SD.15.MRKJ	Frame rate 20Hz	
		SD.20.MRKJ	Frame rate 25Hz	
		SD.25.MRKJ	Frame rate 30Hz	
		SD.30.MRKJ	Frame rate 35Hz	
		And so on.	And so on.	
Total brightness	LD.XXX.MRKJ.	LD.050.MRKJ.	50% brightness	XXX ranges from 000-100
R-channel brightness	LDA.XXX.MRKJ.	LDA.050.MRKJ.	R channel 50% brightness	XXX ranges from 000-100
G-channel brightness	LDB.XXX.MRKJ.	LDB.050.MRKJ.	G channel 50% brightness	XXX ranges from 000-100
B-channel brightness	LDC.XXX.MRKJ.	LDC.050.MRKJ.	B channel 50% brightness	XXX ranges from 000-100
W-channel brightness	LDD.XXX.MRKJ.	LDD.050.MRKJ.	W channel 50% brightness	XXX ranges from 000-100
Status inquiry	CS.MRKJ.			
The query data format is as follows : CS.8003001.MR3F12BK0000251001001001000020230621154004.000				
Example decomposition introduction				
Num	Length	Num	Describe	Example/Detailed
1	8	MR3F12 BK	LOGO	MR3F12BK
2	1	0	Loop playback status	0: Loop playback; 1: Single playback; 2: Waiting for playback; 3: Temporary designated playback
3	3	000	Loop mode	000: Loop mode; 001: Program One; 002: Program 2
4	2	25	Frame rate	Frame rate 25Hz/S
5	3	100	Total brightness	Overall brightness 0-100
6	3	100	Channel A brightness	Channel A brightness 0-100
7	3	100	Channel B brightness	Channel B brightness 0-100
8	3	100	Channel C brightness	Channel C brightness 0-100
9	3	100	Channel D brightness	Channel D brightness 0-100
10	1	0	Remote mode off	0: Remote mode off; 1: Remote mode on; 2: Side hanging mode
11	1	0	Automatic brightness off	0: Automatic brightness off; 1: Automatic brightness on
12	8	20230621	Current date	Year Month Day
13	6	154004	Current time	Hour minute second



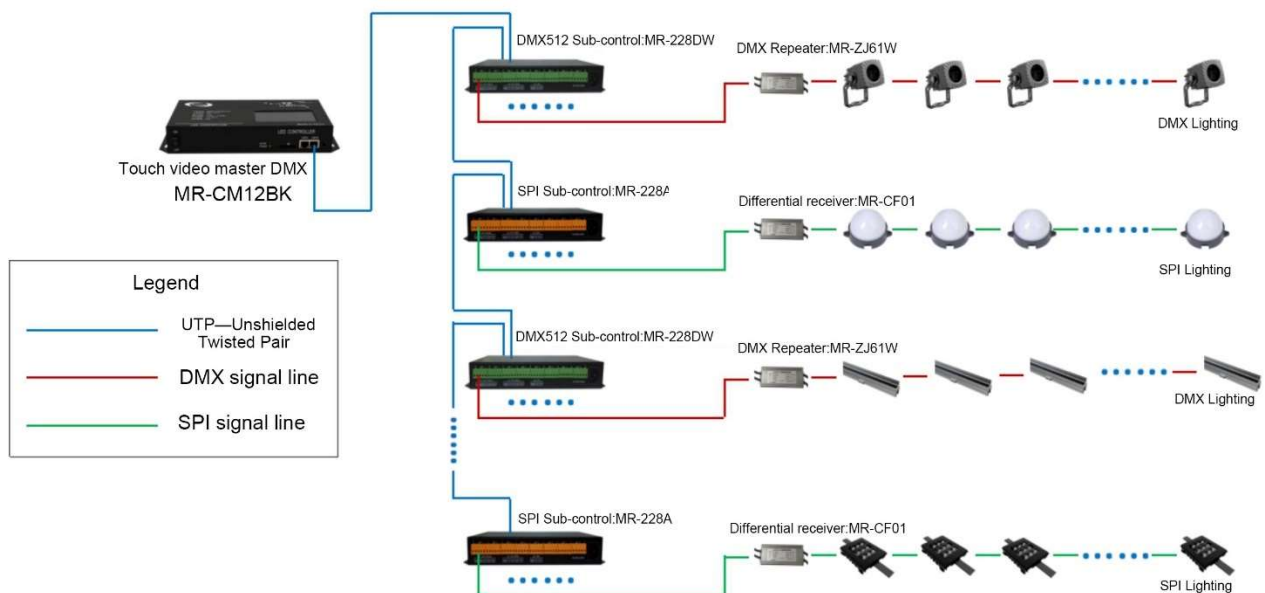
(12) Button "Device ID"



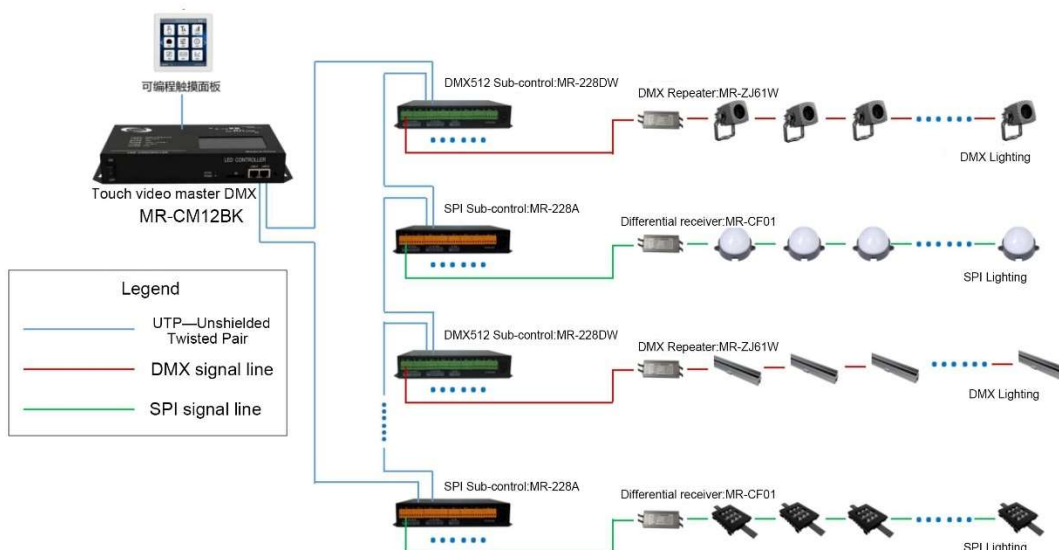
Device ID: Supports setting device IDs, which can quickly locate corresponding devices within the local area network.

Controller installation application

1、Offline mode: MR-CM12BK is connected to the controller, as shown in the following figure:



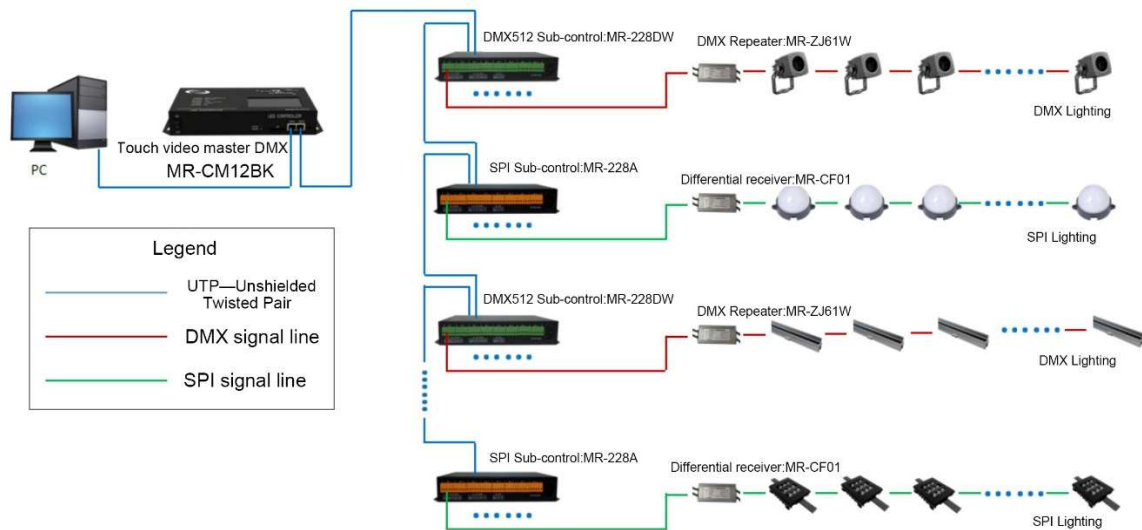
2、External panel mode: MR-CM12BK is connected to a programmable touch panel, as shown in the following figure:



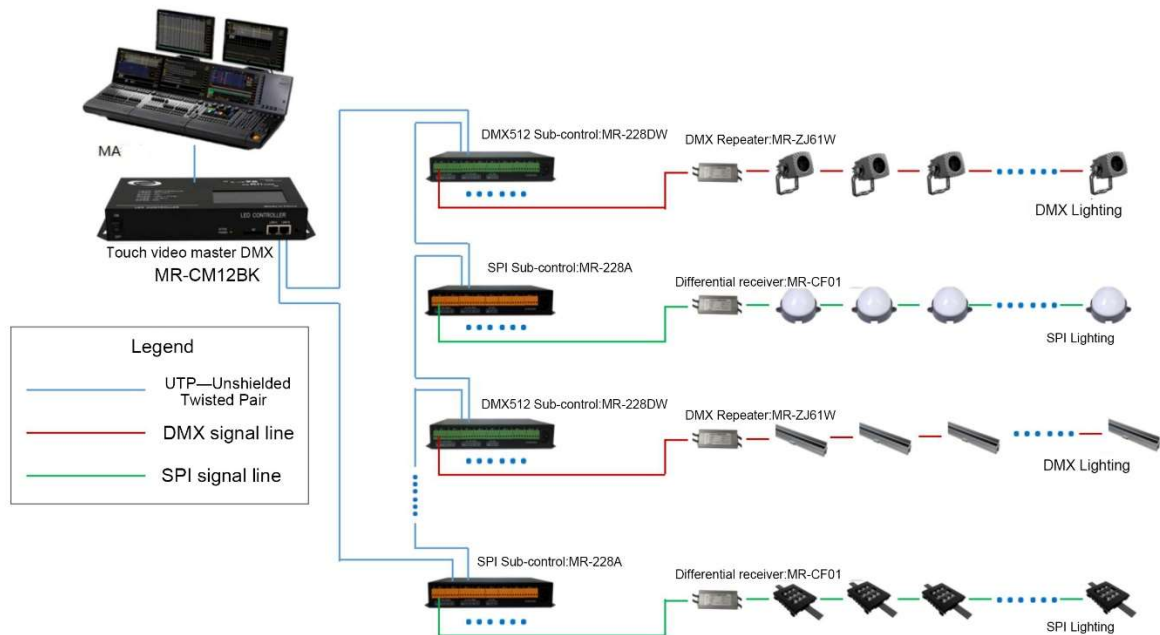
Note: It can support parameter adjustment such as programmable touch panel, scene calling, brightness adjustment, speed adjustment, etc.

3、 Integrated online/offline mode

Connect to the computer and sub controller (prioritize online signal, automatically switch to offline signal when there is no online signal), as shown in the following figure:



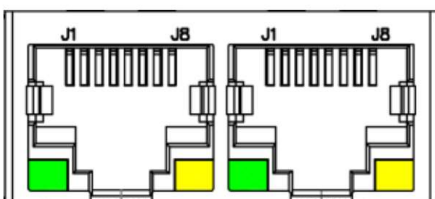
4、 DMX console: Select scene mode MR-CM12BK and connect it to the lighting console, as shown in the following figure:



Note: It can support parameter adjustment such as lighting control panel, scene calling, brightness adjustment, speed adjustment, etc.

Matters needing attention

1、 Network communication status



LINK A LINK B

Indicator light	Indicator light status	Network mode	State
	The yellow indicator light is always on	100Mb mode	Communication status is normal
	The green and yellow indicator lights are constantly on	1000Mb mode	Communication status is normal
	The yellow indicator light is flashing	100Mb mode	Abnormal network port or network cable
		1000Mb mode	Abnormal network port or network cable

2、Key points of application for Category 5e twisted pair cables

568B: Orange White Orange Green White Blue White Green Brown White Brown

568A: Green White Green Orange White Blue White Orange Brown White Brown



It is better to use crossover cables between the controller, offline controller, and switch, with one end being 568B and the other end being 568A.

Use straight through cables between any of the above devices and computers, with both ends being 568B or 568A. Do not define the straight through cable sequence yourself.

3、Key points of MR-CM12BK video player SD card application

The MR-CM12BK video player uses an SD memory card and requires formatting with the "FAT32" file system before storing the corresponding offline files.

4、Application points of controller grounding

The MR-CM12BK video player adopts a metal shell with a rated power supply voltage of AC100V-240V, so it is necessary to ensure effective grounding of the controller equipment and the metal outer box of the equipment.

5、Warning reminder

Please pay attention to dust and water resistance

Please avoid prolonged direct sunlight exposure

Do not approach heat and fire sources

Do not place in explosive gas environment

Please place the product in a stable position to prevent it from falling and causing damage or personal injury

Please keep the packaging box and packaging materials for storage and transportation of the product.

Warning: Running this device in a residential environment may cause radio interference.