

SS-SD72 Offline Master Controller

Instructions for Use

Address: Building 65, No.17 Jingsheng South Fourth Street, Tongzhou Zone, Zhongguancun Science and Technology Park, Tongzhou District, Beijing Postcode: 101102

Tel: 010-56370005

Fax: 010-56370005-810

Website: <http://www.ssg-china.cn>

Thank you for selecting and using the Soft Stone Optoelectronic product!
Please read this document in detail prior to the use of the product for the satisfactory and correct use. If you have any suggestions about the product or need technical support, please feel free to contact us.

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I. Introduction

SD72 is a new generation of master controller independently designed and developed by Soft Stone Optoelectronic , with the feature of simple operations and powerful functions.

Its features and functions are as follows:

1. Adoption of a brand-new hardware platform with a customized Linux system, which supports the stable operation for a long time;
2. Adoption of a 4.3-inch touch screen with a resolution of 800 * 480, which supports to operate directly on the screen of SD72;
3. Built-in high-precision function of time service, which supports the synchronized play of multiple devices;
4. Built-in Wi-Fi module, which, after the connection of Wi-Fi, supports remote control, firmware upgrade, file manipulation, etc. through the matched mobile APP and PC software;
5. Integrated SD card and USB interfaces, which supports the import of the play materials and wiring documents in the SD card or U disk, or the connection of external devices with USB interfaces;
6. Integrated uart interface for system debugging;
7. Integrated 485 interface for cascading other systems;
8. Two integrated Gigabit electrical interfaces and one 1.25 G optical interface for cascading sub-controllers;
9. Available mainstream video formats such as AVI/MP4 for video footage play, with playblast function;
10. Built-in DMX universal chip with the functions of addressing, parameter writing, screen testing and DMX512 console to facilitate on-site debugging;
11. Built-in cascade sub-controllers query, parameter reading and writing, and addressing functions;
12. Built-in timed play function;

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II. Specifications & Parameters

Basic parameters of SD72 Offline Master Controller:

Housing	Aluminum
Display screen	4.3 inch, with a resolution of 800 * 480
Communication interfaces	2 RJ45 interfaces; 1 SFP interface; 2 USB interfaces; 1 SDHC:1 SIM interface; 1 DEBUG interface; 1 GPS interface; 1 4 G interface; 1 WIFI/BLE interface
Network interfaces	1,000 M electrical interface; 1.25 G optical interface
Network medium	100BASE-TX: Twisted pair with category 5 and above (≤ 100 cm)
Storage space	32 G (factory standard)
WIFI/BLE module	Wireless network (factory standard)
4 G module	Wireless network (factory standard)
Working environment	Working temperature: -20°C – 70°C
	Storage temperature: -40°C – 85°C
	Working humidity: 5%–90% (no condensation)
	Storage humidity: 5%–90% (no condensation)
Working voltage	AC100–220 V
Size (L*W*H)	201 * 157.98 * 51.36 (mm)
Fixed hole distance	186.66 * 60 (mm)

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III. Product Appearance

Appearance design concept of SD72:

1. The controller features a metal housing, which can effectively prevent the impact of squeezing and bumping on the controller;
2. The front of the controller is integrated with a 4.3-inch LCD touch screen;
3. The back of the controller is integrated with multiple interfaces for system function extension;
4. The back of the controller has 1 NET interface for cascading the sub-controllers of the Company;

The appearance is as follows:

Product Drawing



Back Panel

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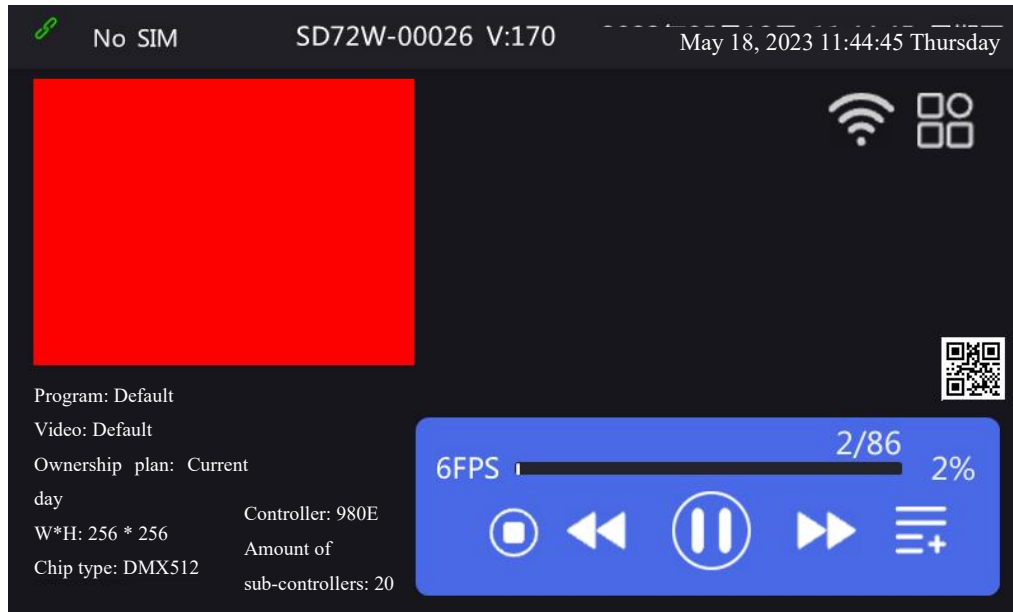
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IV. Basic Operations


The home page interface is as follows:



The top of the interface displays the network signals, controller ID number, and the date, time and version of the device software.

The device QR code is contained in the interface, which can be enlarged by clicking on the display screen, and the device can be added by scanning the code with the matched mobile app.


There are two icons in the upper right corner, and the Wi-Fi logo is for networking or connecting to the matched mobile app.  This icon is for settings and application of the controller, click it to enter the application interface.

Click on , and three options of Settings---Screen Test---Console can be popped up.

Console: The functions of DMX512 console are integrated in the controller to facilitate practical applications.

Screen test: It is primarily used to test the color, address, etc., which can maximize the debugging convenience in practical applications.

The bottom of the interface is about the setting interface of the current play scene.

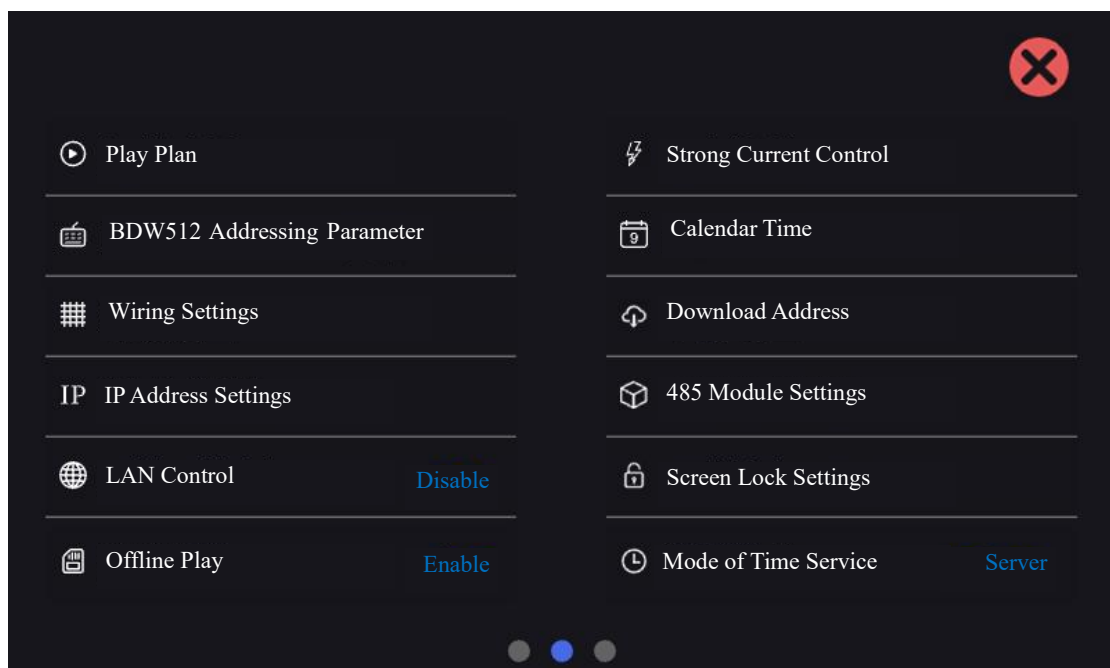
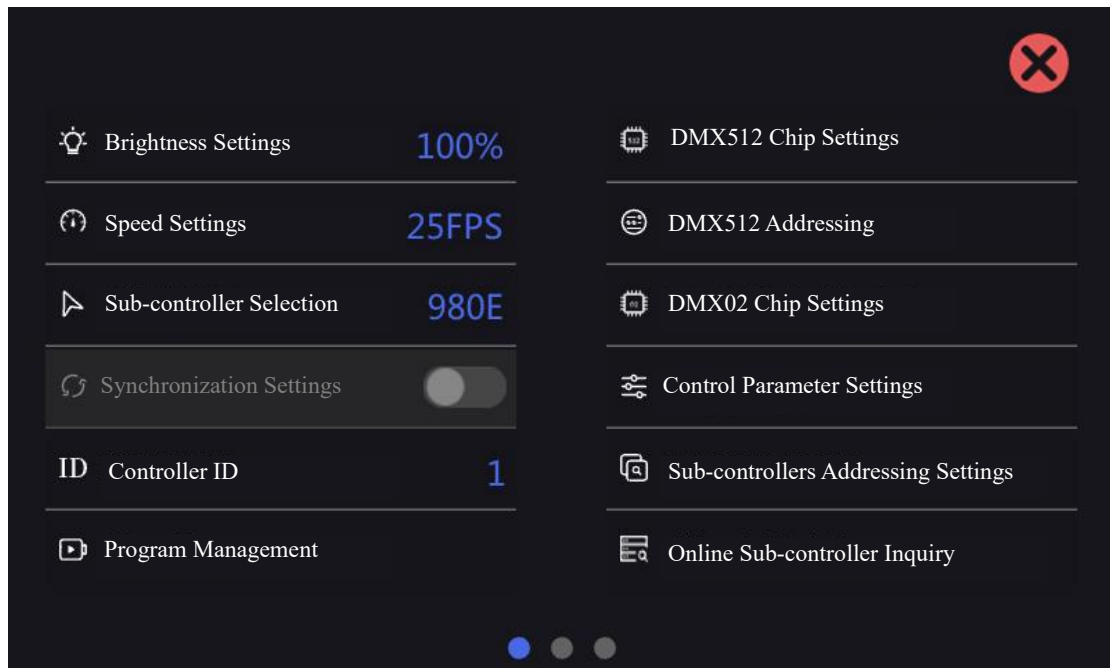
1. **Settings:** It involves brightness, speed, address, play plan, etc., for which a key description is given here. Click on  and the settings are as follows:

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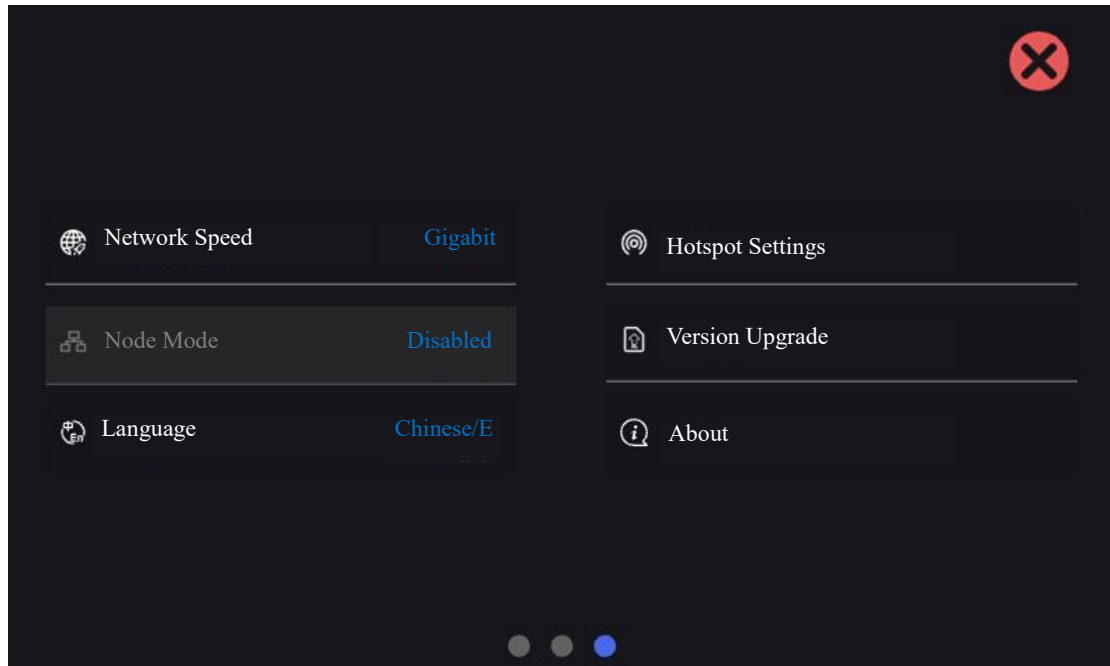


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There are three screens under the Settings which can be switched by swiping the touch screen left and right.

Brightness Settings: Supporting settings for the brightness of the lamps.

Speed Settings: Supporting the change of play speed.

Sub-controller Selection: Selection based on the models of sub-controllers with the load capacity

Synchronization Settings: Supporting synchronous play in multiple devices if enabled.

Controller ID: Supporting the manual setting of the controller ID.

Program Management: Supporting the addition and deletion of programs, the addition, deletion, modification and inspection of videos within the programs, as well as the video timing settings.

DMX512 Chip Settings: Supporting settings of part of the parameters such as the self-test effect, current gain and number of self-channels of the DMX512 chip.

DMX512 Addressing: Supporting addressing of DMX512 lamps.

DMX02 Chip Settings: Supporting the parameters setting of DMX02 chip.

Sub-controller Parameter Settings: Supporting the settings and reading of the sub-controller parameters.

Sub-controller Addressing Settings: Supporting settings of the controller ID.

Online Sub-controller Query: Supporting the query of the number of controllers.

Play Plan: Supporting the addition and deletion of plans, modification of programs

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within the plan, as well as the plan timing settings.

BDW512 Addressing Parameter Writing: Supporting the settings of BDW512 chip.

Wiring Settings: Supporting the import or the updating of wiring.

IP Address Settings: Supporting the setting of IP for the controller to access the Internet (Internet can be accessed via the network interface).

LAN Control: Supporting the interface docking with other devices and systems.

Offline Play: Supporting the play of offline files generated by the software of the Company by inserting a U disk or SD card.

Strong Current Control: Supporting the control of the strong current switch.

Calendar Time: Supporting the setting of the date and time of the controller.

Download Address: Index of APP download.

485 Module: Supporting the connection with other devices or systems via 485 Protocol.

Screen Lock Settings: Supporting the setting of duration + numeric password of the screen lock function, or canceling the settings to prevent accidental touch.

Mode of Time Service: Supporting system time correction by Servers with different methods, GPS, and GPS-V.

LAN Control: The hotspot module is required to be plugged in, and there is a need to connect the SD72 hotspot Wi-Fi with a mobile phone to use the led app provided by the Company for LAN control.

Node Mode: The master controller is connected to the centralized control platform as a node port, to receive the instructions issued (e.g., issue a program, a wiring, a play scene, etc.) and operate automatically, and the centralized control platform transmits heartbeat packets with real-time feedback to check the status. (For detailed instructions, please refer to the platform control protocol)

About: Information about the controller.

Language: Free switch between Chinese and English.

Version Upgrade: ① Remote upgrades are available by using the mobile app Stoneware IoT (ShiQiWuLian).

② It is available to upgrade any version that has been uploaded successfully before in the settings.

③ Insert the U disk, all the upgrade packages in the U disk will be popped up, which can be selected at will for upgrading.

Network Speed: Select 100 Megabit/Gigabit based on the network card rate and the Intranet transmission speed testing.

Synchronization Principle: The slave machine updates the time in a real-time manner

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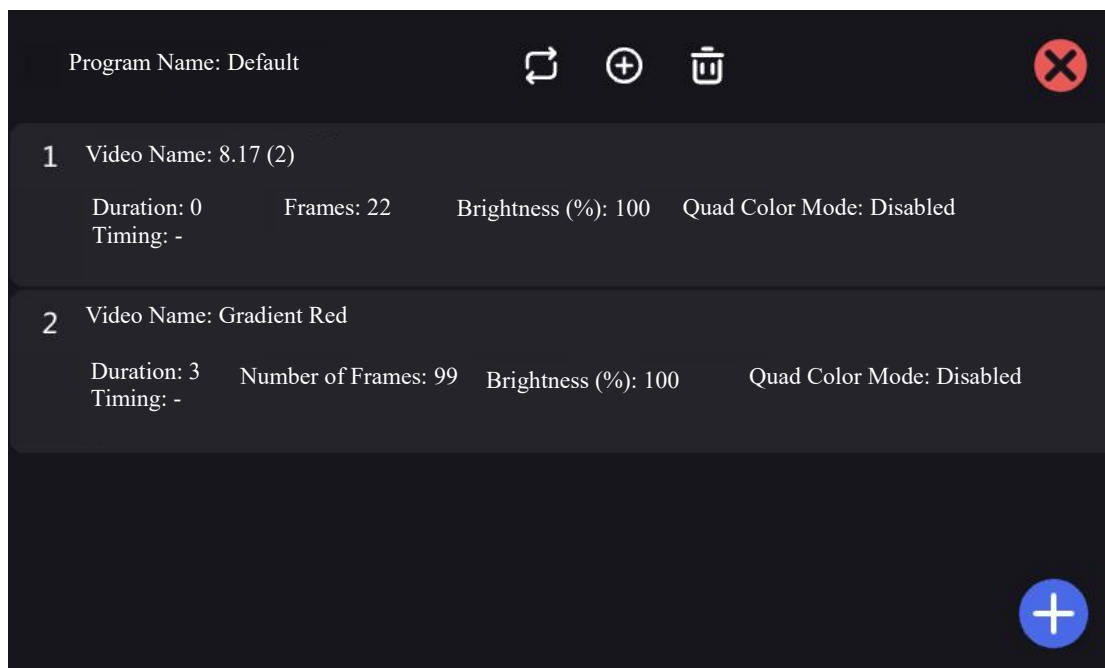
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according to the synchronization frame received from the host machine, thereby ensuring that the system time of all master devices in the same project is identical. When the total number of frames of SSV files played in the master controller is identical, the master controller will play the corresponding frames simultaneously at any point of time, so as to achieve the synchronization of the synchronous play screens.

Under the synchronization mode, the pause and play previous and next below the main interface are not operable, which is to ensure a synchronized play.

2. Detailed instruction about the relationship among the video, program and play plan, and the way to convert video to play files.

① Click [Program Management] on the settings interface and enter the following interface:



A program is pre-programmed in the controller at the factory, and the name of the program is the default. It can be operated through the icon on the back.

Trash Icon: Denoting the deletion of this program clip

Plus Icon: Denoting the addition of a new program clip

Double Arrows: Displaying all programs, and enabling the selection of the corresponding program for setting and modification

There are video files below the program clips, click on the video file and a yellow box will be popped up in the bottom right corner. In the yellow box:

Alarm Clock: Setting the timing function of the video

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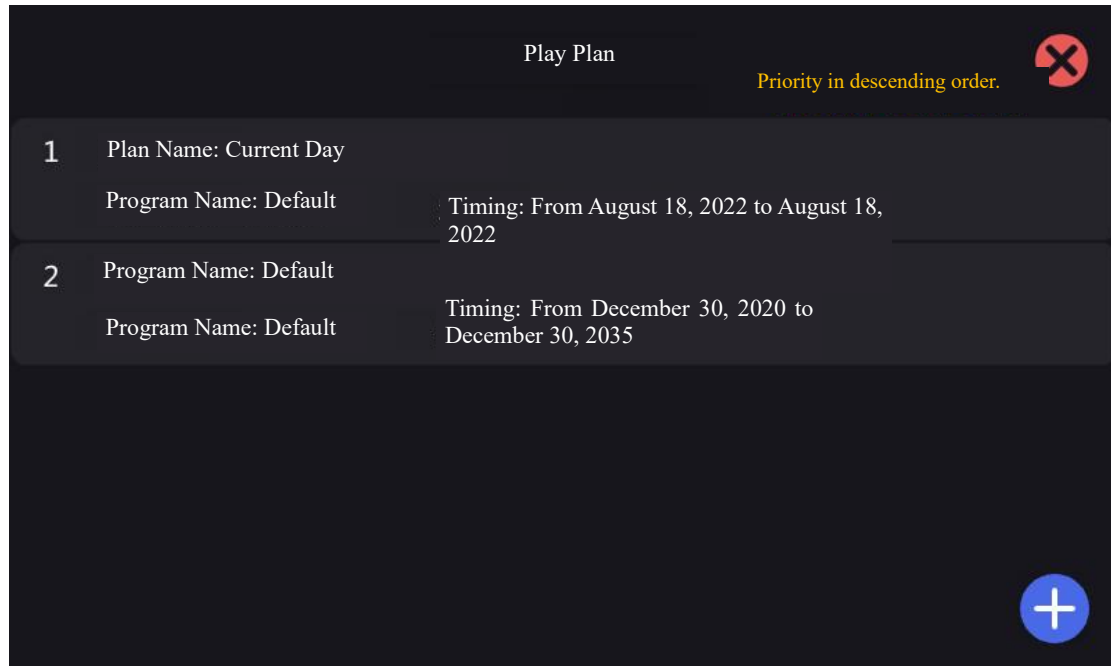
Bulb: Brightness adjustment

Up and Down Arrows: Changing the order of this video file in this program clip

Cross: Delete the current video file.

The Plus Icon in the blue box at the bottom denotes the addition of a video file.

② Click [Play Plan] on the settings interface and enter the following interface:



Human-like Icon: Setting the plan name

Double Arrows: Displaying all programs, and enabling the modification of the corresponding program of the plan

Alarm Clock: Setting the timing function of the plan

Up and Down Arrows: Changing the priority of the plan, the upper the position, the higher the priority

Minus Icon: Deleting the plan.

The plus icon at the bottom denotes the addition of a new plan.

3. Remote operation

Install the “Stoneware IoT (ShiQiWuLian) APP” or “Stoneware IoT (ShiQiWuLian) PC software”, register an account with the cell phone number, open the cloud platform privileges, and then operate the SD72 device remotely.

4. Detailed instruction of strong current control

① Manual switch, device addition, address setting, number of loop, device manufacturer (all manufacturers are supported).

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Equipment Address ~

Number of Equipment Loop

Equipment Manufacturer

Strong Current Control ✕

Equipment	1 <input checked="" type="checkbox"/>	All	Reputation		
Address	1 <input checked="" type="checkbox"/>	2 <input checked="" type="checkbox"/>	3 <input checked="" type="checkbox"/>	4 <input checked="" type="checkbox"/>	5 <input checked="" type="checkbox"/>
Loop	6 <input checked="" type="checkbox"/>	7 <input checked="" type="checkbox"/>	8 <input checked="" type="checkbox"/>	9 <input checked="" type="checkbox"/>	10 <input checked="" type="checkbox"/>
	11 <input checked="" type="checkbox"/>	12 <input checked="" type="checkbox"/>	13 <input checked="" type="checkbox"/>	14 <input checked="" type="checkbox"/>	15 <input checked="" type="checkbox"/>
	16 <input checked="" type="checkbox"/>				

Timing

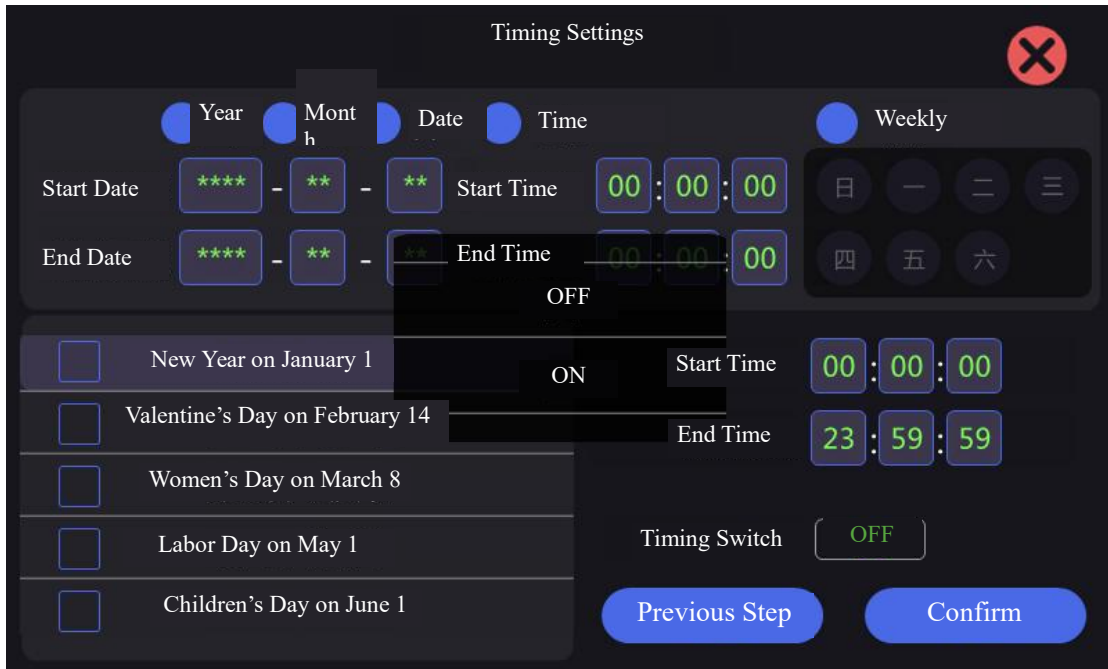
Switch Gap ms

All

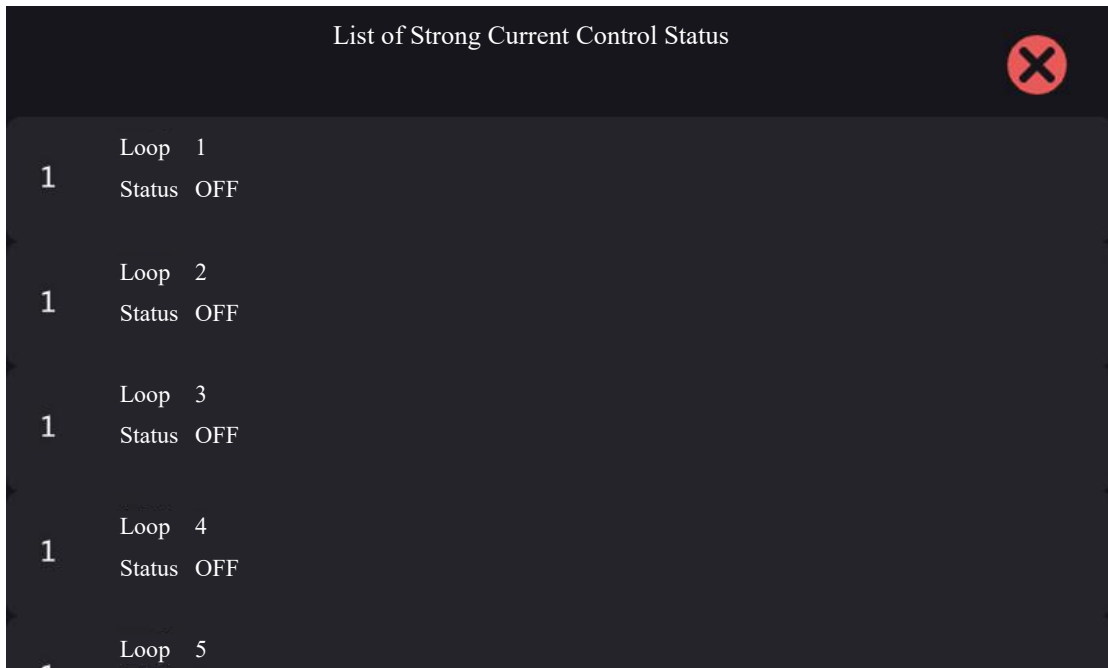
Add Equipment

② Timing list settings, which can be turned on or off at any time.

1	Equipment 1	Switch	OFF	Timing	XXXX-XX-17 00:00:00~XXXX-XX-17 06:00:0
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③ Query the list of strong current control status to know the working status of each loop.



5. Detailed instruction of 485 module functions

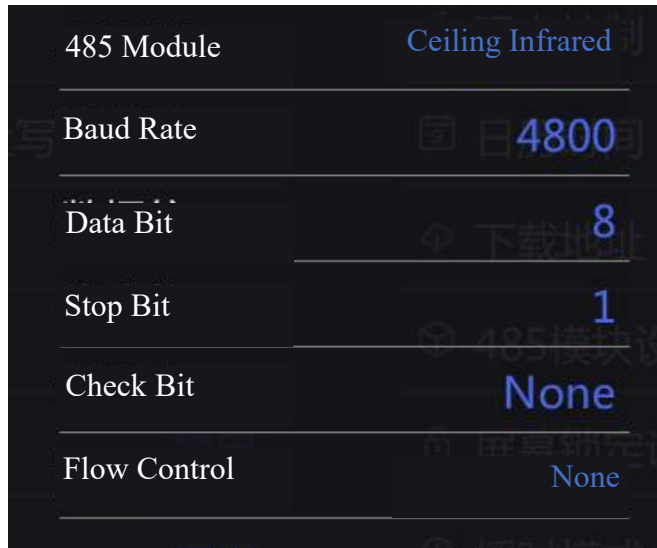
① Ceiling infrared: Infrared detector plays the desired program effect (can be customized) if it detects the movement of someone or an object.

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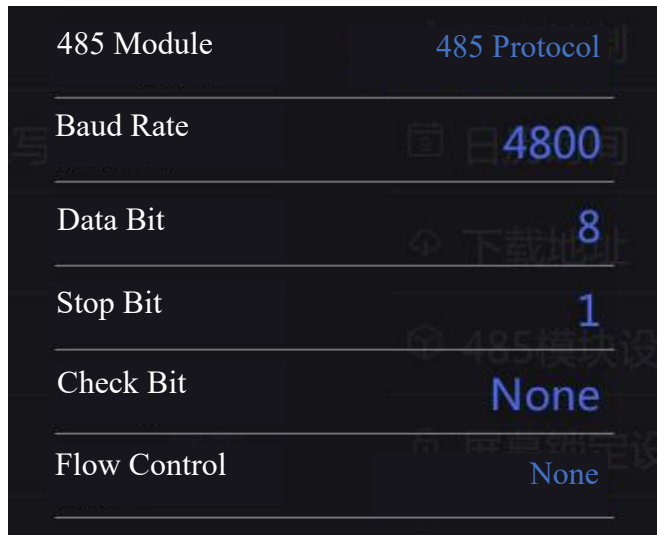
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② 485 Protocol Control: Supporting operations such as play, stop and clip switching via third-party commands (for details, please refer to the control protocol).



③485 Console Control: Supporting to receive the standard 512 Protocol.

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485 Module	485 Console
Baud Rate	4800
Data Bit	8
Stop Bit	1
Check Bit	None
Flow Control	None
Channel	All Channels

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