M680 MANUAL

Version: 1.3.4

2025-8

CONTECTS

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1. FUNCTION OVERVIEW

1. **Integrated Online and Offline System**: Featuring a 3.2-inch display for main control, it is designed to work with the EN series controller. When disconnected from a PC, it automatically switches to the main control (intelligent control system).
2. **Built-in 4G Internet Module**: With a IoT card, it supports wireless network access to SEEKWAY Cloud 3 platform, enabling remote monitoring, program updates, device upgrades, etc. (When the IoT card is not used, wired network access can be achieved through a USB-to-Ethernet adapter.)
3. **Single Gigabit Ethernet Output**: Supports up to 600,000 channels (including virtual), controlling up to 154 EN controllers.
4. **Internal Storage**: Built-in 6G storage space for engineering configuration and H264-encoded avi or mp4 format video.
5. **Update Options**: Supports multiple ways to update configurations, animations, and firmware, such as cloud servers, wired LAN, SD cards, and USB sticks.
6. **Timed Control**: With a synchronization module, it can achieve multi-device wireless synchronization, suitable for large-scale lighting projects.
7. Specialized software of making animation is included, user can make their own effects.

2. TECHNICAL PARAMETERS

2.1. PRODUCT INFORMATION

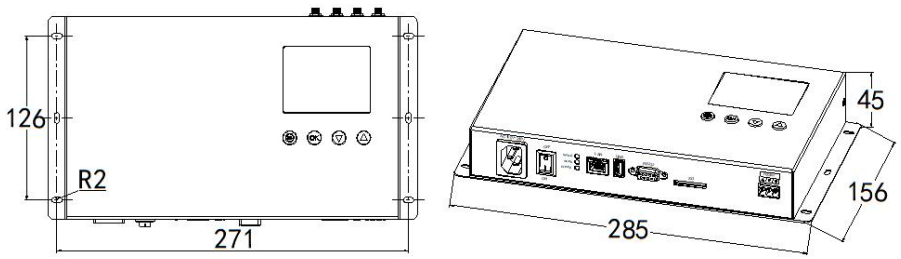
Cover material:	Iron
Input voltage:	AC 100V - 240V
Cascade signal:	[PC - M680, M680- E208] SW Ethernet Protocol
Loading:	600,000 channels. Refer to the chapter ***LOAD QUANTITY***
Network interface:	Standard RJ45 network interface / T568B wiring sequence (Three-speed auto-sensing, Gigabit as 1000Base-T IEEE 802.3ab.)
Output control:	154pcs controller at most
Storage space:	6GB Flash
Working power:	<15W
Working temperature:	-15oC ~ 60oC
Relative humidity:	≤ 50% RH
Transmission distance:	Use UTP—unshielded twisted pair cable, distance between the controllers can be 100m. Optical fiber converter can be used for longer distances.
IP grade:	IP20 (Prevent people from touching the components inside electrical appliance, prevent object which diameter is more than 12.5mm from getting in, no special protection to water or moisture.)
Working environment:	1. Please do not install the controller in magnetic, high pressure, high temperature or seriously wet environment. 2. Please do connect the earth safely in order to reduce risks of fire and damage which cause by short circuit. 3. Please ensure AC100-240V power supply is used, and same polarity is connected between transformer and controller in order to guarantee the proper supply voltage.

4. No waterproof function in the control system, please pay attention on rainproof and waterproof during installing.

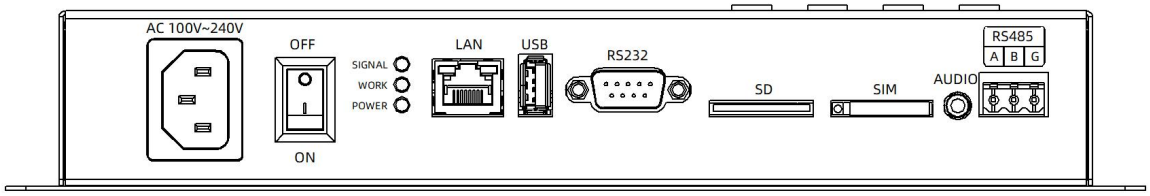
Net weight: 1.32 kg

Size: L285*W156*H45mm

(Unit mm)



3. DESCRIPTION OF PORTS AND INDICATORS



Interface	Function
AC100V-240V	Power supply interface for 100V-240V.
Pilot light	**SIGNAL**, (Blue) Controller heartbeat light. Blinking indicates no faults in the controller. **WORK**, (Green) Frame rate light. Blinks in sync with system frame rate, and fast or slow blinking indicates abnormal frame rate. **POWER**,(Red) Power indicator light.
RJ45 port (LAN)	Output connected to EN controller or switch. **Top-left light**, (Yellow) Network data transmission indicator light, blinks when data is being transmitted. **Top-right light**, (Green) Data light, blinking indicates data transmission between the M680 and E208 controllers.
USB	Connect a USB flash drive (3.0) to update content or upgrade firmware, or connect a USB network card (100 Mbps) to access the cloud control system.
RS232	Connect an external synchronization module to enable synchronization of multiple units.
SD	Connect an SD card to update content or upgrade firmware.
SIM	Connect a IoT card to access the cloud control system.
Terminal (RS485)	Reserved.

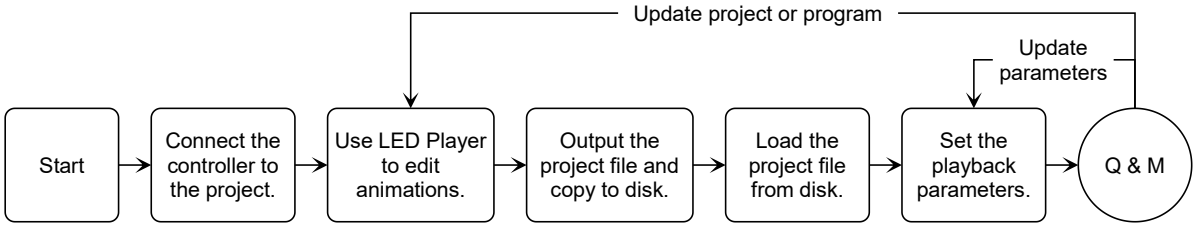
4. TYPICAL APPLICATIONS

M680 supports different combinations of cloud control, single control, and linked control, enabling five typical lighting system applications: standalone offline, standalone cloud control, multi-unit offline synchronization, multi-unit cloud control synchronization, and online backup.

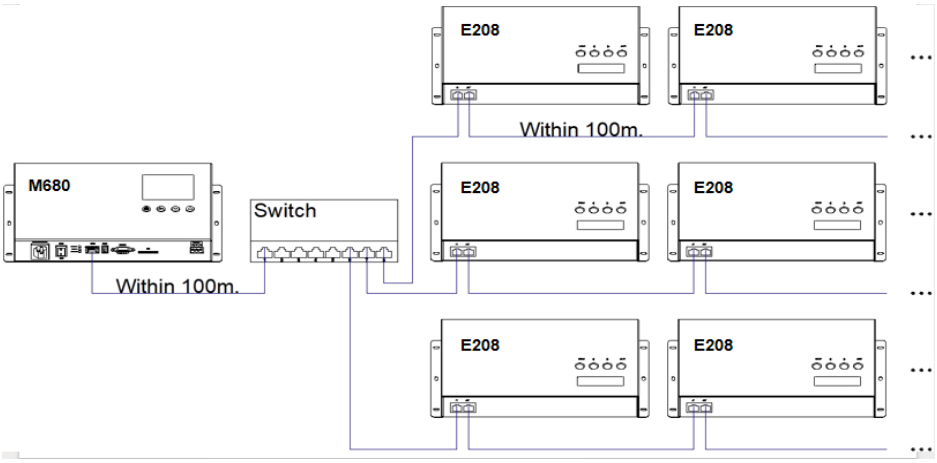
4.1. STANDALONE OFFLINE

A standalone offline system, where a M680acts as the master controller connected to multiple EN controllers for control.
Suitable for the projects with a total number of channels (including virtual) not exceeding 600,000 (at 25 fps) and where local operation of M680controller is convenient.

4.1.1. USAGE PROCESS



4.1.2. CONNECTION DIAGRAM

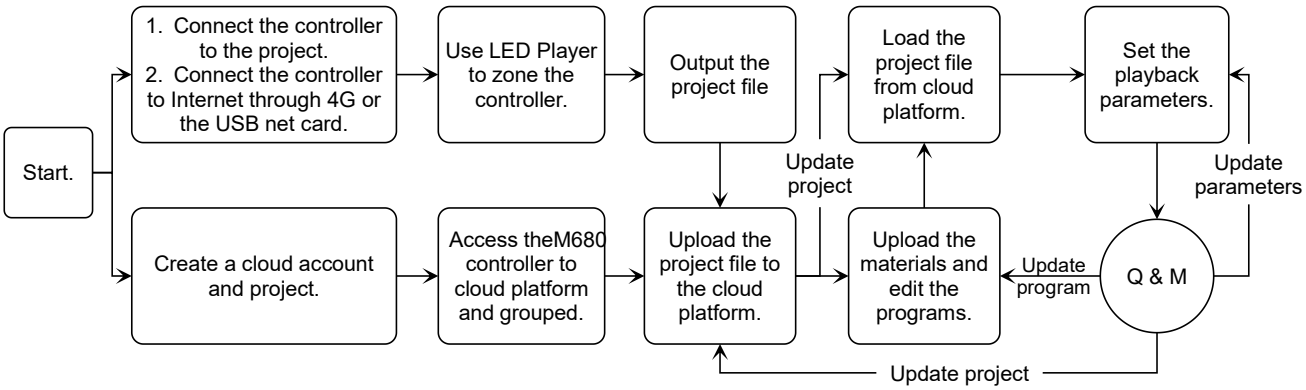


Note: When the number of channels exceeds 450,000, a Gigabit switch can be optionally used to expand the number of loaded pixels, with no more than 60 sub-controllers cascaded per port.

4.2. STANDALONE CLOUD CONTROL

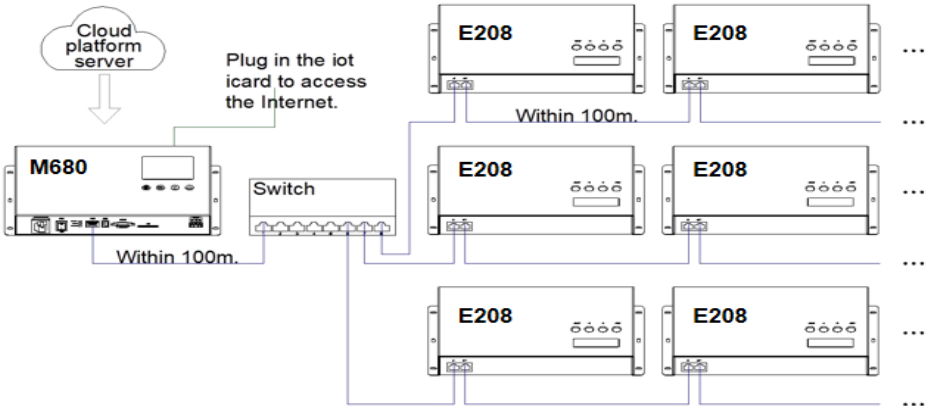
The standalone cloud control system which adds cloud access to the "STANDALONE OFFLINE" enabling remote management and control.
Suitable for the projects with a total number of channels (including virtual) not exceeding 600,000 (at 25 fps) and where local operation of M680controller is convenient.

4.2.1.USAGE PROCESS



Note, the device code corresponds to the MQ controller partition number in LED Player.

4.2.2.CONNECTION DIAGRAM

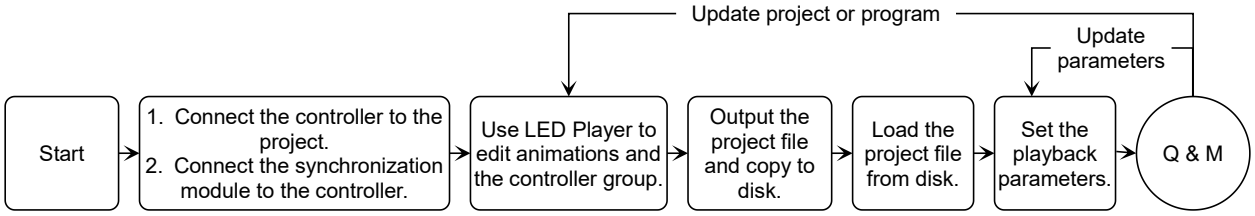


Note: When the number of channels exceeds 450,000, a Gigabit switch can be optionally used to expand the number of loaded pixels, with no more than 60 sub-controllers cascaded per port.

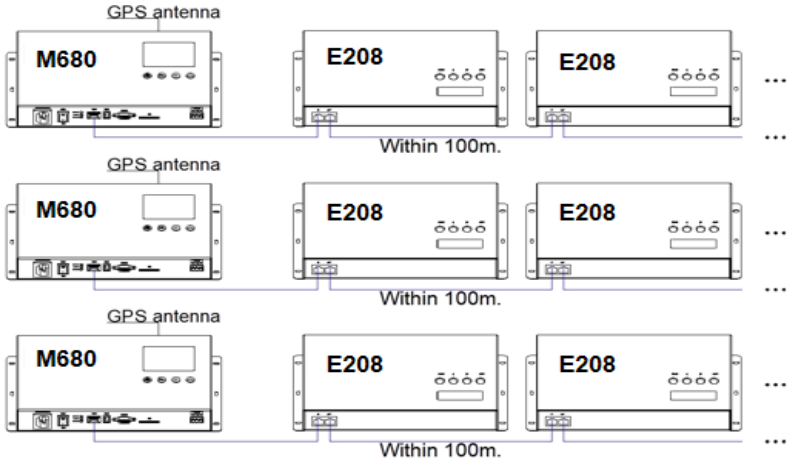
4.3. MULTIPLE DEVICES OFFLINE LINKAGE

A multi-unit offline synchronization system, where multiple MQ controllers are paired with multiple EN series sub-controllers for linked lighting control. Suitable for the projects with a total number of channels (including virtual) exceeding 600,000 and where local operation of MQ controller is convenient.
Note: Offline linking requires all master controllers to operate in full-cycle or time-control mode.

4.3.1. USAGE PROCESS



4.3.2. CONNECTION DIAGRAM



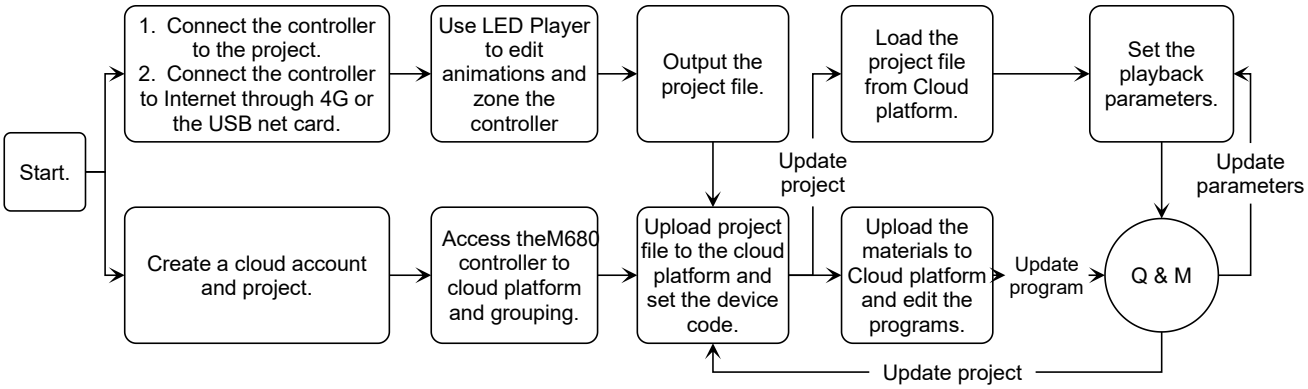
Note: When the number of channels exceeds 450,000, a Gigabit switch can be optionally used to expand the number of loaded pixels, with no more than 60 sub-controllers cascaded per port.

4.4. MULTI-DEVICES LINKAGE CONTROL BY CLOUD PLATFORM

Cloud control synchronous linkage system of multi-devices, that is, on the basis of MULTIPLE DEVICES OFFLINE LINKAGE, the devices are connected to the cloud platform through the network, and the management and control can be carried out in the cloud platform.

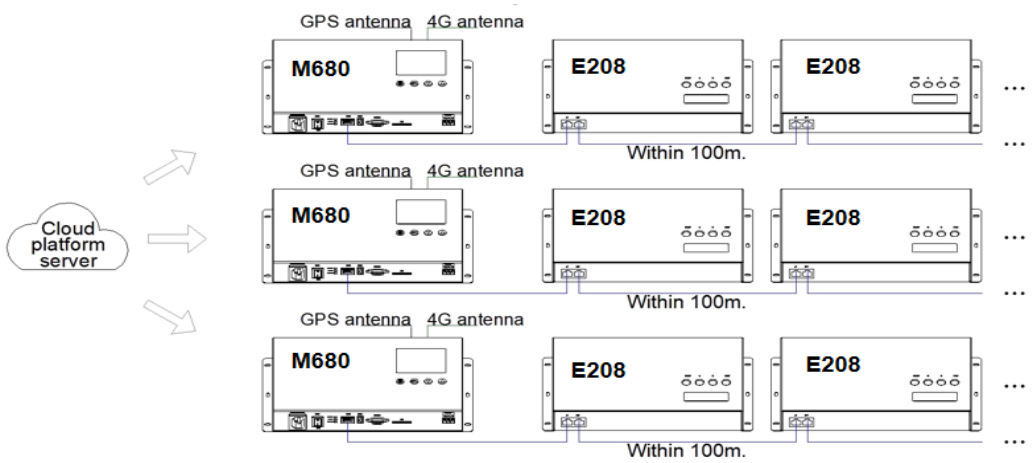
It is suitable for lighting projects with a total number of channels (including virtual) exceeding 600,000, requiring multi-area linkage, and needing remote management and control.

4.4.1. USAGE PROCESS



Note, the device code corresponds to the MQ controller partition number in LED Player.

4.4.2. CONNECTION DIAGRAM

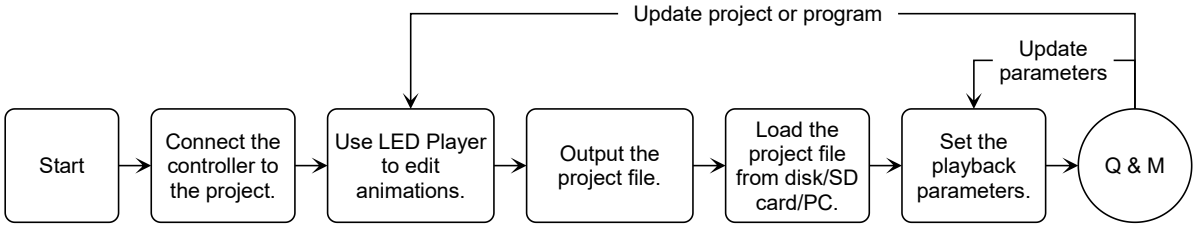


Note: When the number of channels exceeds 450,000, a Gigabit switch can be optionally used to expand the number of loaded pixels, with no more than 60 sub-controllers cascaded per port.

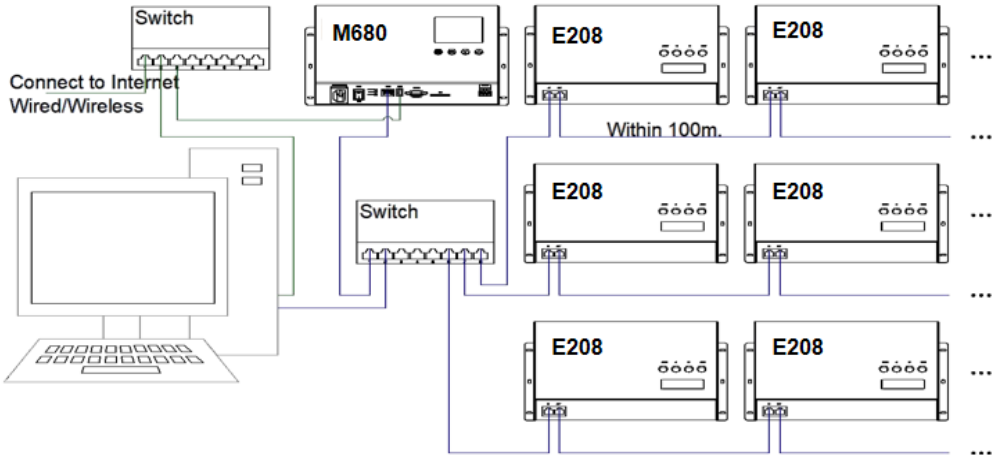
4.5. WORK AS A STANDBY MACHINE

When the control signal from the PC fails, the standby MQ controller takes over as the main control for lighting control. It is suitable for lighting projects with PC as the primary main control device, and the total number of channels (including virtual) does not exceed 600,000 (25fps) and requires backup function.

4.5.1. USAGE PROCESS



4.5.2. CONNECTION DIAGRAM

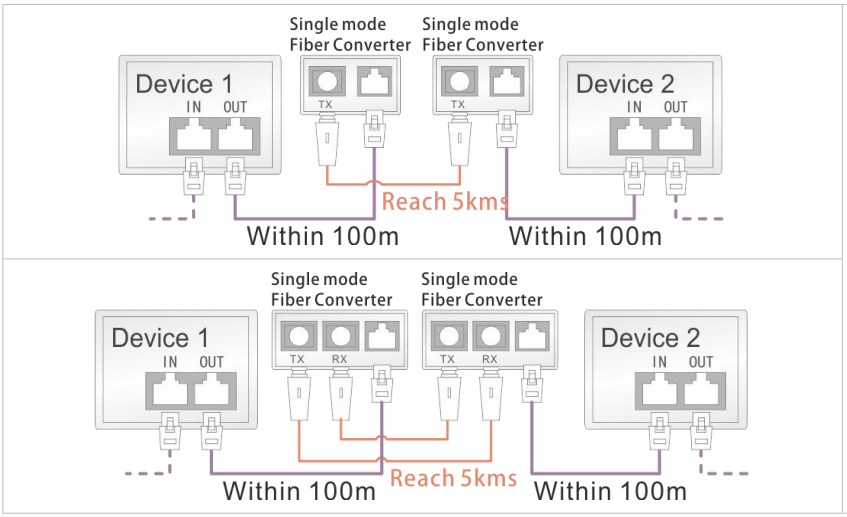


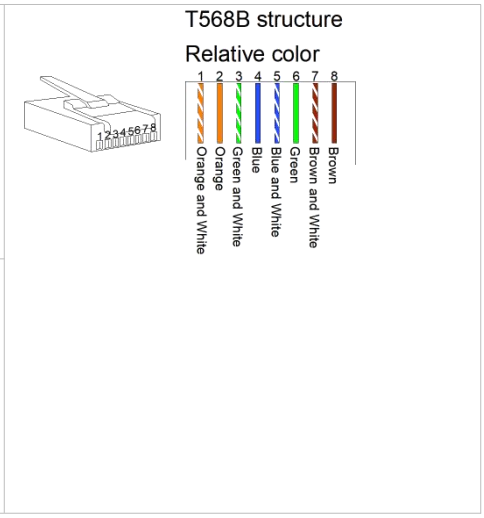
Note: When the number of channels exceeds 450,000, a Gigabit switch can be optionally used to expand the number of loaded pixels, with no more than 60 sub-controllers cascaded per port.

4.6. EXTENSION

4.6.1. OPTICAL FIBER COMMUNICATION

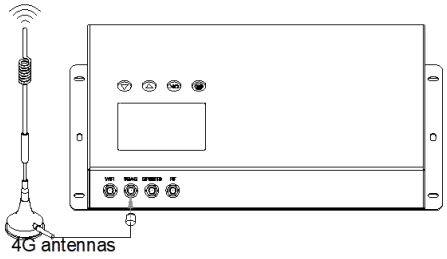
Must use single mode transceivers. User can use single fiber or double fiber (alternative) according to on-site condition. The double fiber transceiver must be connected with two optical fibers.



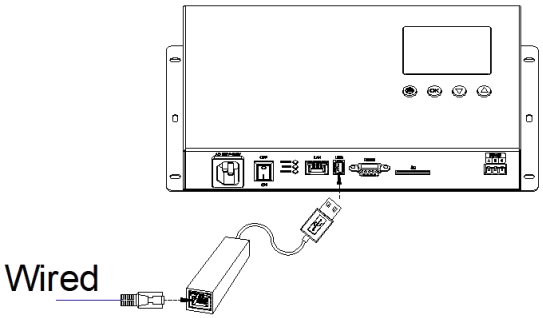


4.6.2. NETWORK CONNECTION

Wireless access network: The controller is equipped with 4G module and 4G iot card. Access to the antenna as shown in the figure, and access to 4G network can be realized by electrification.



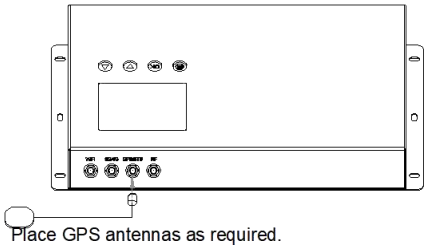
Wired Connectivity: Use a USB-to-Ethernet adapter to connect to a switch/router via an Ethernet cable, and power on to achieve wired connectivity.



4.6.3. SYNCHRONOUS ANTENNA

2m GPS antenna is provided. User can purchase GPS antenna by your own. The longer the antenna is, the more difficult to search satellite. Connect the hardware and install the antenna correctly as required.
Antenna specification: GPS marine antenna with standard SMA interface.

a. GPS Antenna should be installed in open space, there is no big shades (such as trees, iron towers etc.). GPS Antenna should be more than 2m away from the metal objects.
b. Due to the satellite appearing on the equator more than other places, it preferably put the GPS antenna in the south of location for the north hemisphere.
c. Please don't put GPS antenna around other transmitting and



receiving equipment . Please keep them 2m away with each other.

5. BASIC OPERATION

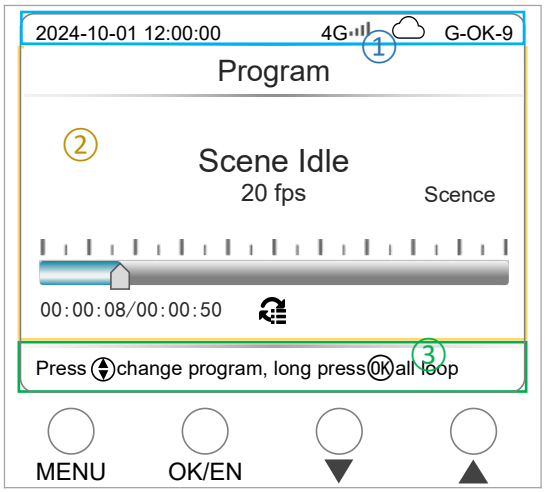
5.1. BUTTON INSTRUCTIONS

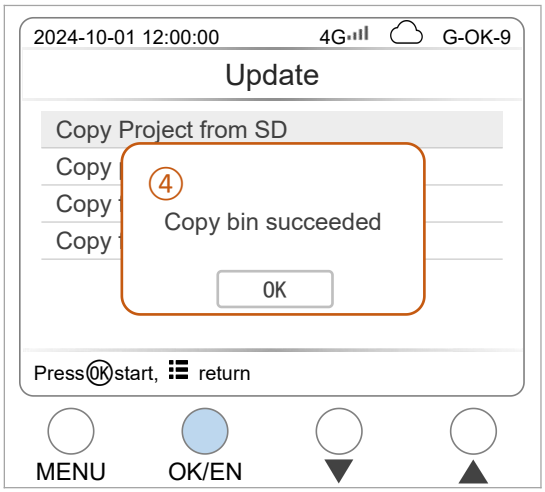
Button	Operation	Description
MENU	Short press	Switch, exit the setting page, undo an operation.
OK	Short press	Select and confirm. Flashing indicates selection.
	Long press	Functions on some settings, see individual instructions for details.
▼	Short press	Decrement. Set effect modes, options, parameter values, etc.
	Long press	Quickly switch.
▲	Short press	Increment. Set effect modes, options, parameter values, etc.
	Long press	Quickly switch.

5.2. PAGE OVERVIEW

Main interface	Sub interface	Description
Power on	Booting	System startup indication.
Program	/	Main page to view program information, switch programs, and switch loop modes.
Settings	General	Set playback frame rate, playback mode, synchronization mode, media type, output protocol, language.
	Project	Project parameters only for viewing.
	External Control	External control options, Enable or disable cloud control, view/set cloud control mode.
	Brightness/Gamma	Set brightness ratios and Gamma correction values for each channel.
	Time	Set system date and time.
	About	View device information.
Tools	LED Config(Project)	Read the address parameter of the SD card for addressing.
	LED Debug(Project)	Debug and verify the installation of luminaires.
	Update	Update the playback project or upgrade MQ controller firmware.
	Performance	View the system operation status, export logs, restore default settings.
	LED Address	Customize address parameters to addressing.

5.3. INTERFACE INTRODUCTION





① State bar. Display time, network, cloud control state and synchronization information.
If the icon is steady on, the cloud server is successfully connected and If it is blinking, the cloud server is being connected. If no, the cloud control function is disabled.
When synchronization is not enabled, there is no status indicator. G-OK/NG-** indicates GPS synchronization and status. OK indicates that the data is synchronized, NG indicates that the data cannot be synchronized, and the number indicates the signal strength.

② Main window. Display the play information.

③ Prompt bar. Indicates the role of keys in this interface.

④ Pop-up window. Pop-up for operation Settings, operation prompts, or error messages under certain circumstances.

5.4. PROGRAM

The main page displays the playback information of the controller, and the program and cycle state can be switched by pressing the button during local control.

- **Entry,**
  1. Automatically enters after powering on and completing startup.
  2. Automatically enters after no operation for 1 minute on "Settings" pages.
- **Contents,**
  Display the program name, playback frame rate, control mode, playback progress, etc.
- **General operations,**
  1. Press ▼ or ▲ to switch program, and it switches from All loop to Single.
  2. Long press OK 2 seconds to switch All loop.

6. SETTINGS

6.1. GENERAL INSTRUCTIONS

We can set some playback parameters in "General". Press MENU to enter the settings page, and press OK to select "General". Press ▼ or ▲ to select options. At last press OK to select and modify.

Selection	Parameters	Description
Frame Rate	25 fps to 5 fps	See to chapter FRAME.
Play Mode	Single loop, All loop, Time control, Stop	See to chapter PLAY MODE and chapter TIME CONTROL.
Sync. Mode	OFF、BTS/GPS	See to chapter SYNCHRONIZATION SETTINGS.
Media	Hard Disk	Only the internal hard disk materials can be played.
Output Protocol	SW	Only the SW protocol is supported.
语言	English, Simplified Chinese	/

6.1.1. FRAME

The frame rate represents the number of image frames played per second. The smaller the value, the slower the playback speed of the program.

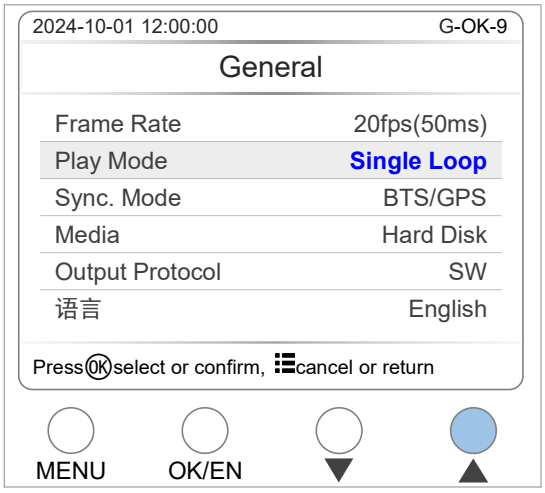
The upper limit of the frame rate is influenced by factors such as the total number of pixels controlled by a MQ controller, the number of channels per output port that an EN controller can support and the type of lighting fixtures.

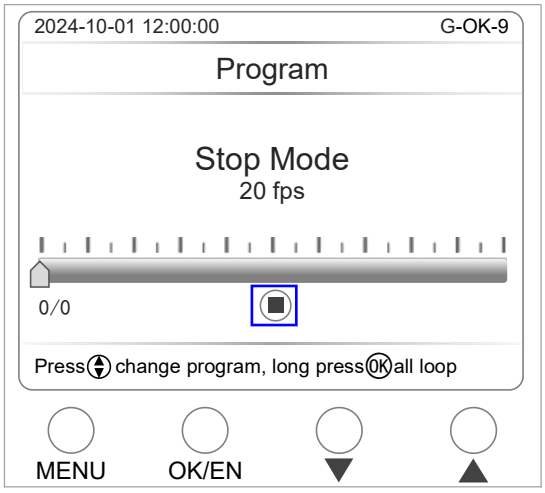
Parameters	Speed						
Frame per second	50	30	25	20	15	10	5
Frame (ms)	20	33	40	50	70	100	200

Select “Frame Rate” under the General settings page. Press OK to enter and press ▼ or ▲ to set value. At last press OK to save.

6.1.2. PLAY MODE

Select “Play Mode” under the General settings page. Press OK to enter and press ▼ or ▲ to set value. At last press OK to save.

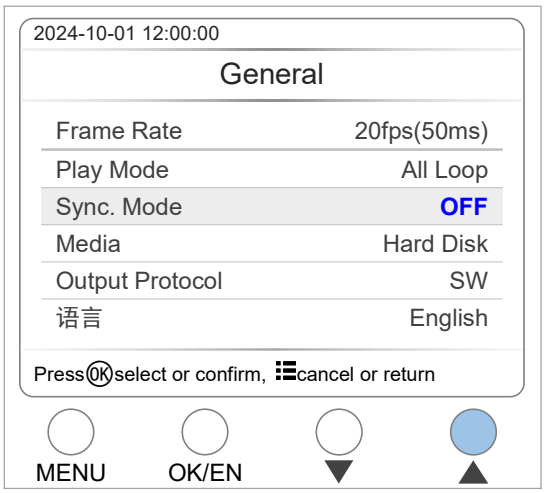




Play mode	Icon	Description
All loop		Loop all program.
Single loop		Keep playing the current program.
Time control		Enter the scheduled playback state. See to chapter TIME CONTROL for details.
Stop		Stop playing.

6.1.3.SYNCHRONIZATION SETTINGS

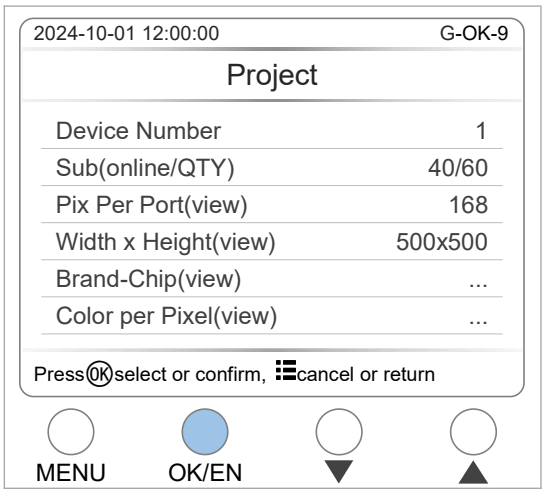
Select “Sync. Mode” under the General settings page. Press OK to enter and press ▼ or ▲ to set value. At last press OK to save.



Signal status and strength are shown in the upper right corner of the main interface. If OK is displayed, the connection is normal. NG indicates that the connection is not connected or the connection fails.

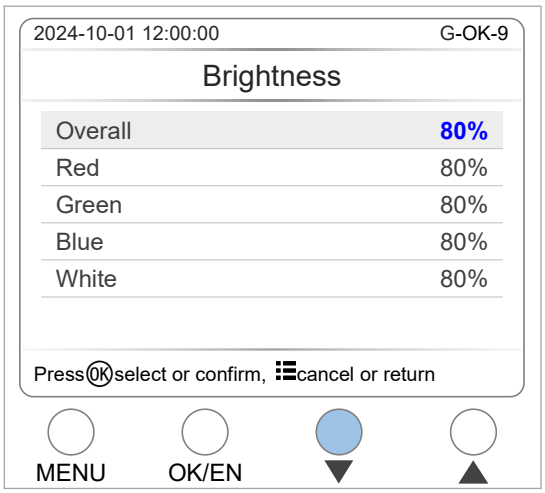
6.2. PROJECT INFORMATION

Select “Project” under the Settings page, and press OK to enter.
If there is more than one MQ controller, they need to be marked as zones in “Device Number” under this interface.



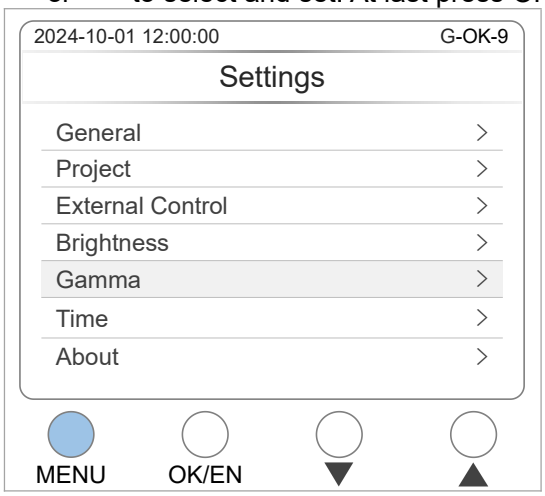
6.3. BRIGHTNESS

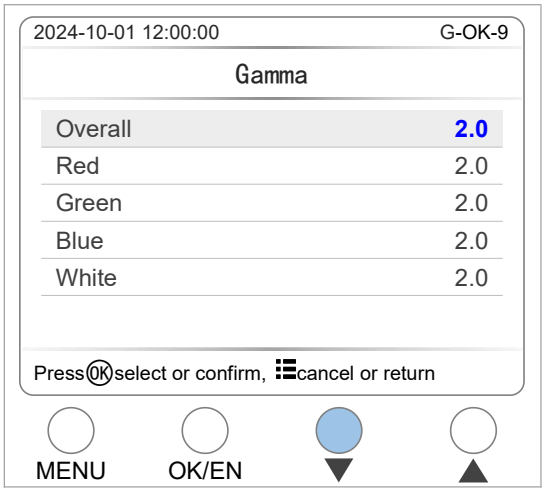
Select “Brightness” under the Settings page, and press OK to enter the brightness settings page. Press OK, ▼ or ▲ to select and set. At last press OK to save.



6.4. GAMMA

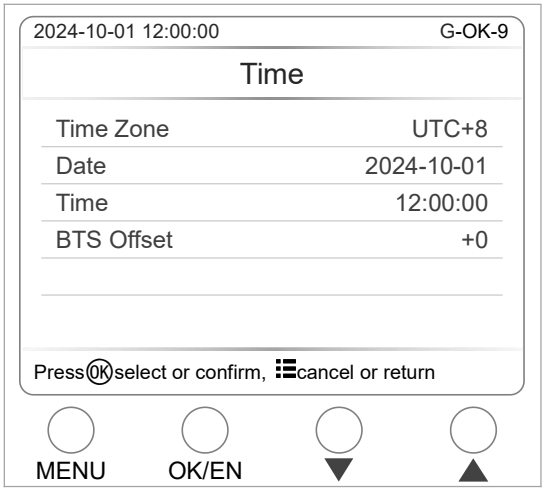
Select “Gamma” under the Settings page, and press OK to enter the gamma settings page. Press OK, ▼ or ▲ to select and set. At last press OK to save.





6.5. TIME

Select “Time” under the Settings page, and press OK to enter the time settings page. When the synchronization module is connected and the synchronization mode is enabled, the date and time are automatically synchronized without manual setting.

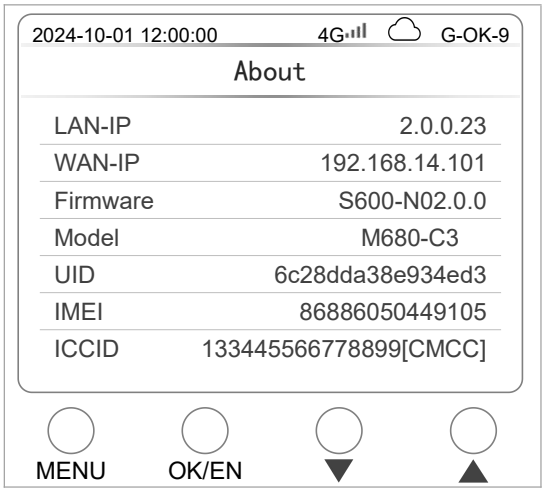


Press ▼ or ▲ to select the selection, and press OK to enter the configurable state.

Selection	Parameters
Time Zone	Set the time zone.
Date	Set the date.
Time	Set the time.
BTS Offset	The reserved function is applicable and only to the BTS synchronization module.

6.6. EQUIPMENT INFO.

Select “About” under the settings page and press OK to view the controller’s information.
ICCID code only display in the 4G iot card network.



7. UTILITIES

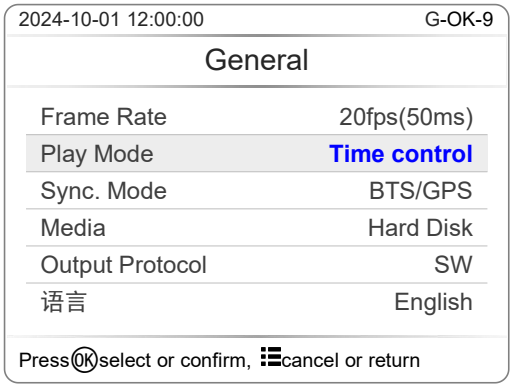
7.1. TIME CONTROL

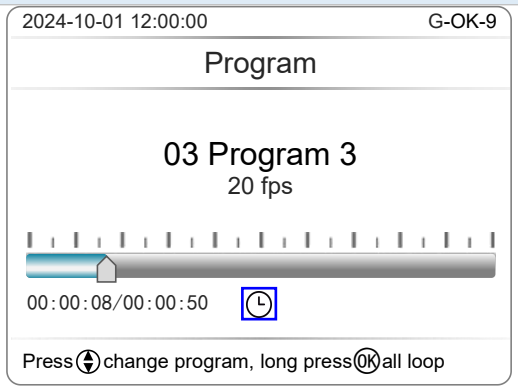
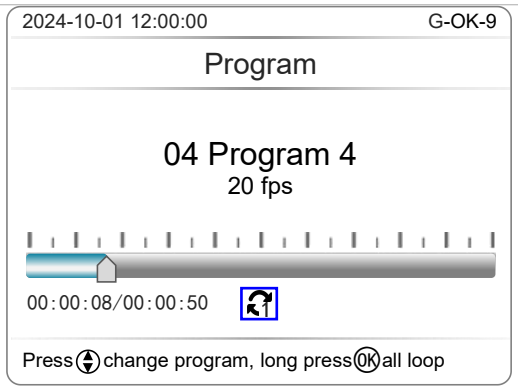
7.1.1. ENABLE THE TIME CONTROL

It has time control function. After edit a time list and enabling time control, the specified program can be triggered in a specified time.

Maximum time control lists of player can be 100, and maximum 10 programs can be set in each list.

Select “Play Mode” under the general page and press OK to enter. Press ▼ or ▲ to switch into time control. At last press OK to save.



Mode	Description	Shows
Time Control	It shows icon under the program area. The light is black while waiting. The controller will switch to corresponding program mode when it reaches the time set. (The buttons except MENU are disabled.)	
Normal	Enter the General page and set any loop play to exit the time control.	

7.1.2. SET TIME LIST BY LED PLAYER

Open LED Player to set up. A maximum of 3 time commands can be set per program.

Operation,

Click the icon under Program Property to pop up the setting window. Set the date and time to play the program and click Save.

Enable time control commands for individual programs.

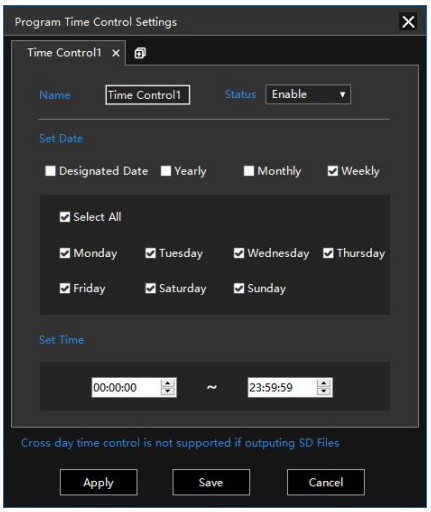
It is need to slick the icon to under the program property. And a clock icon appears on the right side of the program.

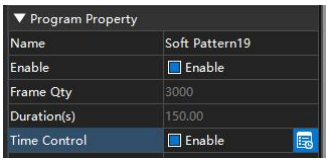
Click the icon to open the "Time Control Settings" window twice.

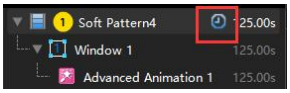
Time control list,

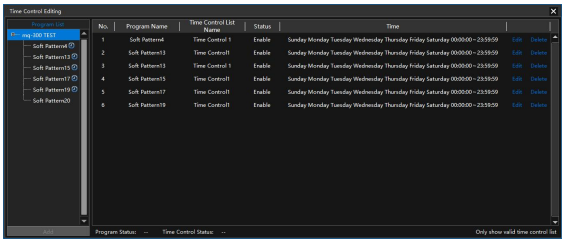
Click Time Control Editing under Settings to view all Programs' commands.

Note: Program ranking determines the ranking of the time control list, that is, the priority of the actual effect of the time control, the higher the ranking, the higher the priority.









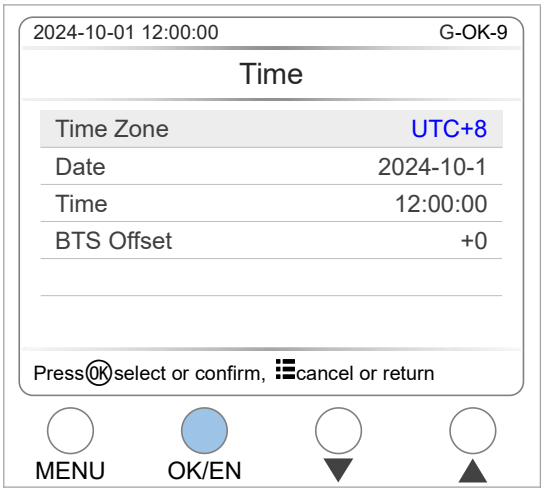
After the program setup time command is complete, the project file must be re-output and copied to the controller. (The total number of time controllers cannot exceed 96.)

7.2. SYNCHRONOUS SETTING _ TIME ZONE SETTING

When the controller obtains the Universal Coordinated Time (UTC) of the GPS satellite, the time zone where the controller is located can be set, and the local time can be displayed intuitively.

Select "Time Zone" under the time page and press OK to enter. Press ▼ or ▲ to switch. At last press OK to save.

It only valid if the controller correctly obtains the GPS signal.



7.3. DEBUG

Press MENU twice to enter the "Tools" option, select "LED Debug" and then press OK to enter the debugging interface. We can verify whether the program matches the installation of the luminaire.

Parameters	Description
Program	Set the debug program e.g. Scan Line (R/L), Scan Line (U/D), Color Change.
Chip Info. Viewer	Select to view the configuration information of each EN controller.
Sub Online status	Select to view the online state of each EN controller.

8. ADDRESSING

8.1. CHIP SUPPORTED

Chip	Addressing	Custom Channel	Set parameters			
			No signal State	Power-on Setting	Current	Forward
UCS512A	✓	×	×	×	×	×
UCS512B3	✓	×	×	×	×	×
UCS512B	×	×	×	×	×	×
UCS512C0	✓	×	×	×	×	×
UCS512C4	✓	×	×	×	×	×
UCS512D	✓	×	×	×	×	×
UCS512CN	✓	×	×	×	×	×
UCS512E0	×	×	×	×	×	×
UCS512EH	×	×	×	×	×	×
DMX512AP	✓	×	×	×	×	×
SM16512	✓	×	×	×	×	×
SM16511	✓	×	×	×	×	×
SM16520	✓	×	×	×	×	×
SM16500	✓	×	×	×	×	×
SM17500	✓	×	×	×	×	×
SM17512	✓	×	×	×	×	×
SM18522PH	✓	×	×	×	×	×
SM17522	✓	×	×	×	×	×
SW-D	✓	×	×	×	×	×
SW-U	✓	×	×	×	×	×
Hi512A0	✓	×	×	×	×	×
Hi512A4	✓	×	×	×	×	×
Hi512D	✓	×	×	×	×	×
Hi512A6	✓	×	×	×	×	×

Chip	Addressing	Custom Channel	Set parameters			
			No signal State	Power-on Setting	Current	Forward
TM512AB3	✓	×	×	×	×	×
TM512AL1	✓	×	×	×	×	×
TM512ACx	✓	×	×	×	×	×
TM512AD	✓	×	×	×	×	×
QED512P	✓	×	×	×	×	×
GS8512	✓	×	×	×	×	×
GS8513	✓	×	×	×	×	×
GS8515	✓	×	×	×	×	×
GS8511	✓	×	×	×	×	×

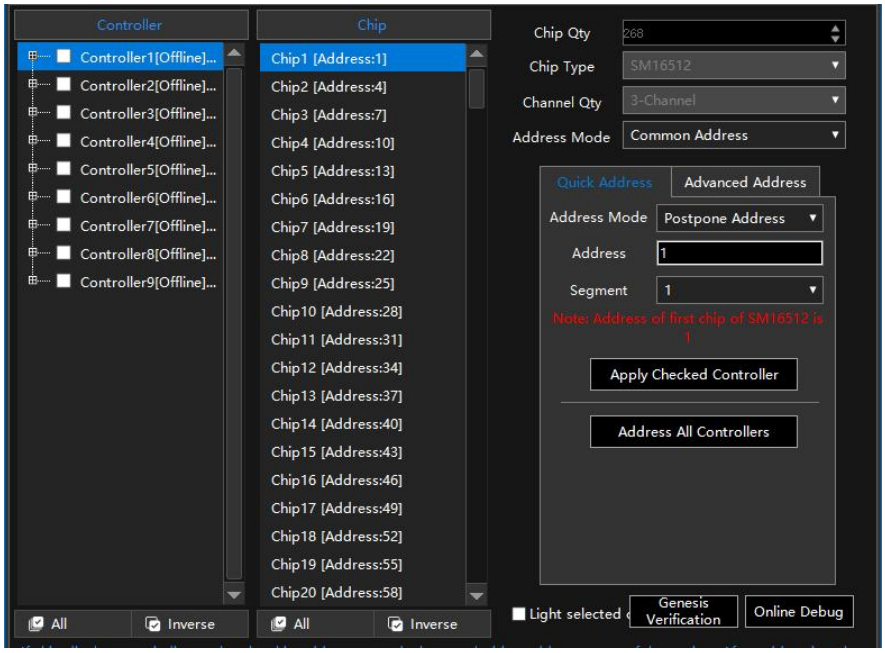
8.2. SUCCESSFULLY ADDRESSED AND SET PARAMETERS

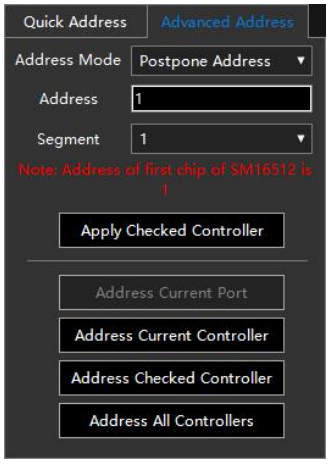
Chip	Lighting color after power on	Addressed		Byte + No signal + No signal		Current parameter		Self-Channel Setting	
		First chip	Other chips	First chips	Other chips	First chips	Other chips	First chips	Other chips
UCS512A	White	Blue	Blue	/	/	/	/	/	/
UCS512A1	White	Blue	Blue	/	/	/	/	/	/
UCS512A2	White	Blue	Blue	/	/	/	/	/	/
UCS512B3	White	Blue	Blue	/	/	/	/	/	/
UCS512C	Custom	White	White	/	/	/	/	/	/
UCS512C0	/	White	White	/	/	/	/	/	/
UCS512C3	Custom	White	White	Red	Red	/	/	/	/
UCS512C4	Custom	White	White	Red	Red	/	/	/	/
UCS512CN	Custom	Yellow	White	Yellow	Power on	/	/	/	/
UCS512D	Custom	Yellow	White	Yellow	Power on	Yellow	Red	/	/
UCS512E0	Custom	Yellow	White	Yellow	Power on	/	/	Yellow	Green
UCS512EH	Custom	Yellow	White	Yellow	Power on	Yellow	Red	Yellow	Green
UCS512G4	Custom	Yellow	White	White (Or custom)	White (Or custom)	White	White	/	/
UCS512G6	Custom	Yellow (Or custom)	White (Or custom)	White (Or custom)	White (Or custom)	White	White	/	/
DMX512AP	/	White	White	/	/	/	/	/	/
SM16512	/	Green	Green	/	/	/	/	/	/
SM16511	/	Green	Green	/	/	/	/	/	/
SM16520	/	Green	Green	/	/	/	/	/	/
SM16500	Custom	Red	Green	Red	Power on	/	/	/	/
SM17500	Custom	Red	Green	Red	Power on	Red	Yellow	Red	紫
SM17512	Custom	Red	Green	Blue	Blue	/	/	/	/
SM17522	/	Red	Green	Red	Blue	Red	Yellow	/	/
SM18522	/	Red	Green	Red	Blue	Red	Yellow	/	/
SM18522PH	/	Red	Green	Red	Blue	Red	Yellow	/	/
SW-D	/	Yellow	Green	/	/	/	/	/	/
Hi512A4	Custom	Red	Green	Red	Green	/	/	/	/
Hi512A6	Custom	Red	Green	Red	Green	/	/	/	/
Hi512A0	/	White	White	White	White	/	/	/	/

Chip	Lighting color after power on	Addressed		Byte + No signal + No signal		Current parameter		Self-Channel Setting	
		First chip	Other chips	First chips	Other chips	First chips	Other chips	First chips	Other chips
Hi512D	/	Red	Green	Green	Green	Green	Green	/	/
Hi512E	/	Red	Green	Green	Green	Green	Green	/	/
TM512AB3	White	Blue	Blue	/	/	/	/	/	/
TM512AL1	White	Blue	Blue	/	/	/	/	/	/
TM512AC0	/	White	White	/	/	/	/	/	/
TM512AC2	Custom	White	White	/	/	/	/	/	/
TM512AC3	Blue	White	White	/	/	/	/	/	/
TM512AC4	Blue	White	White	/	/	/	/	/	/
TM512AD	Blue	Yellow	White	Yellow	Power on	Yellow	Red	/	/
GS8511	/	Red	Cyan	/	/	/	/	/	/
GS8512	Custom	Red	Cyan	/	/	/	/	/	/
GS8513	Red+Cyan	Red	Cyan	/	/	/	/	/	/
GS8515	Red+Cyan	Red	Cyan	/	/	/	/	/	/

8.3. ADDRES OPERATION IN LED PLAYER

Correct access to controllers and open LED Player. Click the “Address” of “ Debug”, and pop the window. The MQ controller no need to enter the addressing state.





Controllers

Controller	It shows the number of controllers in the project automatically. [Online] is that the controllers connecting properly. [Offline] is that the controllers cannot address the luminaire. If the chip is not DMX series, the addressing interface becomes unavailable. It can be modified in SETTINGS.
The gray chip	The chip will not be able to set, if its address is outside the actual routing address of the project.
Chip	It shows the number/address of chip.

Online Debug	Click to jump into Online Debugging interface.

Parameter

Chip Qty	t will be the number of driving pixels set in LED Player “Settings” while first be used.
Chip Type	It will be the chip type set in LED Player “Settings” while first be used.
Channel Qty	Number of chip channels.
Address Option	Quick Address and Advanced Address.
Address Mode	None, Address extension, Use the same address. None: It only saves the address of selected chip. And the others will not changed. Address Extension: It only saves the address of the selected chip. And the others will be extended. Use The Same Address: It saves the same address of all chips.
Address	set the address of selected chip,and click Save.
Segment	Set the pixel of selected chip,and click Save.

Address option

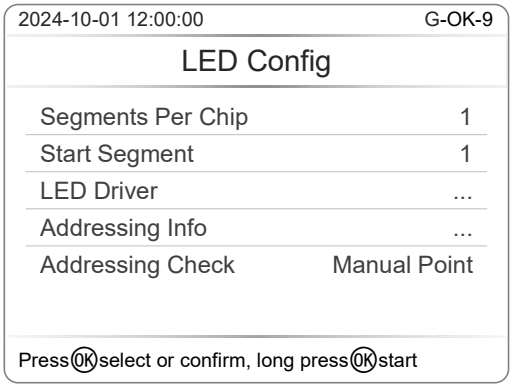
Quick Address	Click and address the all chips.	
Advanced Address	Apply Checked Controller:	Click and save the chip date of all checked controllers.
	Address Current Port:	Click and address the chips of selected port.
	Address Current Controller:	Click and address the chips of selected controller.
	Address Checked Controller:	Click and address the chips of all checked controllers.
	Address All Controllers:	Click and address all chips.
Light-up	Click it and light up the selected chip. Please make sure the address of chips in LED Player are same with the luminaires’.	
Address	LED Player shows the progress bar in the lower right corner. It shows “Addressing completed!” when the EN controller receives the addressing data. It is not the luminaires addressing correct. The addressing successful is according to the light color.	

8.4. ADDRESS OPERACTION ON MQ

8.4.1. READ CONFIGURATION FILE TO ADDRESS

The address configuration file is derived from LED Player, which needs to be used to set chip and increment values before operate on MQ controller.

Press MENU twice to enter “Tools” page, and select “LED Config”. In the “LED Config” page, long press OK to send the address parameters to the LED chips.

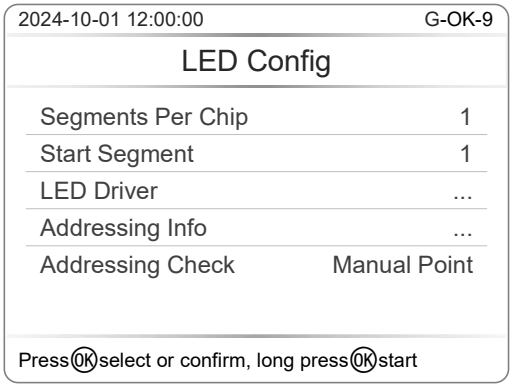


Parameters	Description
Segments Per Chip	A chip drivers pixels.
Start Segment	The address starting value of the first luminaire.
LED Driver	View the EN controllers driver chip type.
Addressing Info.	View the address start value and increment for each EN controller.
Addressing Check	Effect option: Manual Point, Manual Stack, Auto Point, Auto Stack.

8.4.2. CUSTOMIZE CHIP PARAMETER TO ADDRESS

In the case of separation from cloud control, the chip parameter can be set independently to address the luminaires.

Press MENU twice to enter “Tools” page, and select “LED Address”. In the “LED Address” page, we can set the address parameters. After settings, long press OK to send the address parameters to the LED chips.



Parameters	Description
Brand	Set the brand of DMX chip.
Chip	Set the Dmx chip type.
Channels per Segment	Set the channels of a pixel.
Segments per Chip	Set the channels of a DMX chip.
Start Segment	Set the address starting value of the first chip.
Addressing Check	Effect option: Manual Point, Manual Stack, Auto Point, Auto Stack.

9. UPDATE

9.1. UPDATE PROJECT PARAMETERS & ANIMATIONS

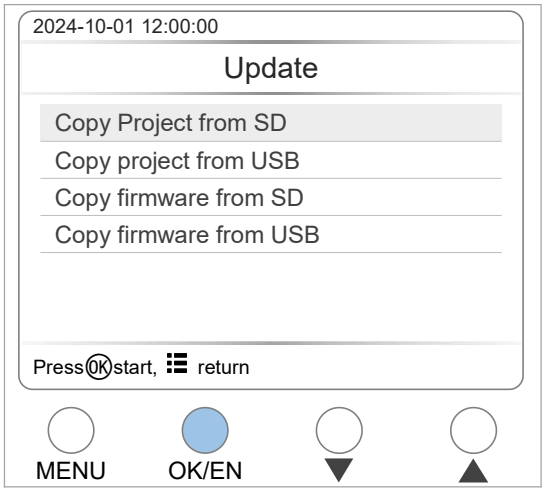
9.1.1. UPDATE PARAMATERS & ANIMATIONS VIA SD CARD / U DISK

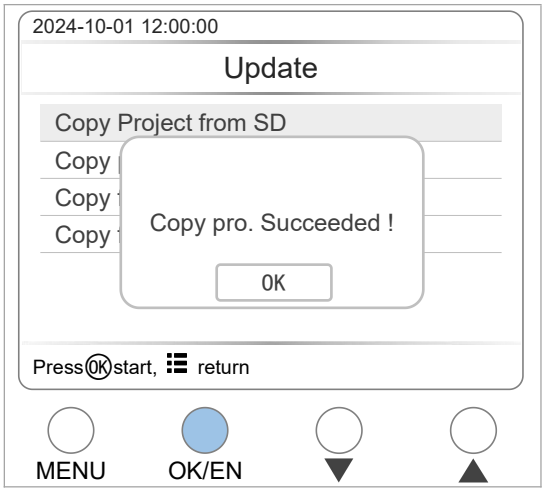
The MQ controller has built-in 6G storage space, which can be used to store project files.

Insert the SD card or U-disk that has already copied the project file. (The copying method refer to COPY FILE TO SD CARD / U-DISK.)

Press MENU twice in the playback interface to find the "update" option. Select and enter the "Update" interface.

Press ▼ or ▲ to select "Copy Project from SD" (select "Copy Project from USB" when accessing U-disk). Press OK to update the project. And then press OK as prompted to remove the SD card / U-disk. To play a new file, go back to "General" and select "Media" as "Hard Disk".

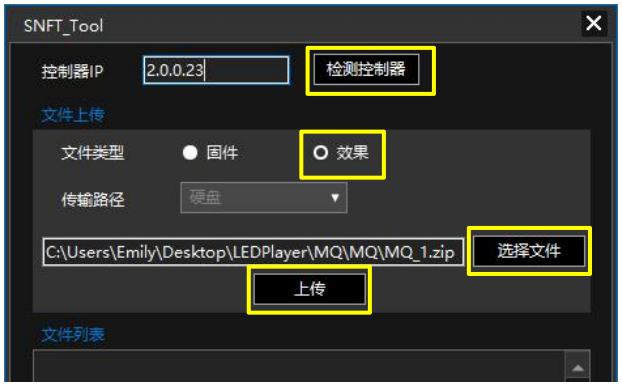


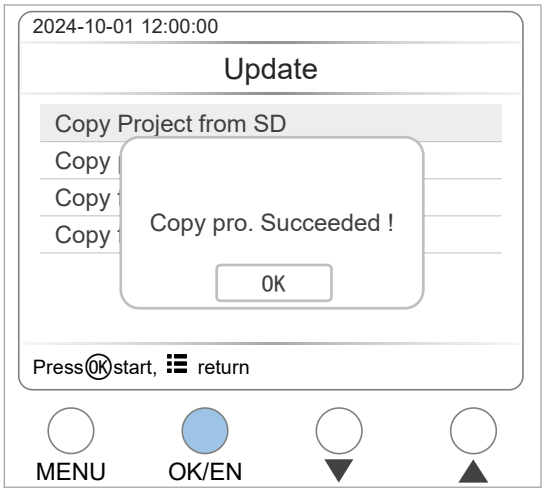


9.1.2. UPDATE PARAMATERS & ANIMATIONS ON LINE VIA SNFT_TOOL

The MQ controller can be updated parameters and animations online with our SNFT_Tool. Update steps are as follows,

1. PC is normally connected to the MQ controller (reference the chapter WORK AS A STANDBY MACHINE), and open SNFT_Tool.exe on PC.
2. Click 检测控制器 after enter the IP address of the MQ controller in 控制器 IP bar.
3. Select 效果 and click 选择文件 to select the name of MQ_1.zip or MQ_Config.zip compressed file. MQ_1.zip is the entire project file (including hardware configuration information and material configuration parameters), MQ_Config.zip contains only hardware configuration information.
4. Click 上传 . MQ controller will automatically play the new animation when the update is complete.





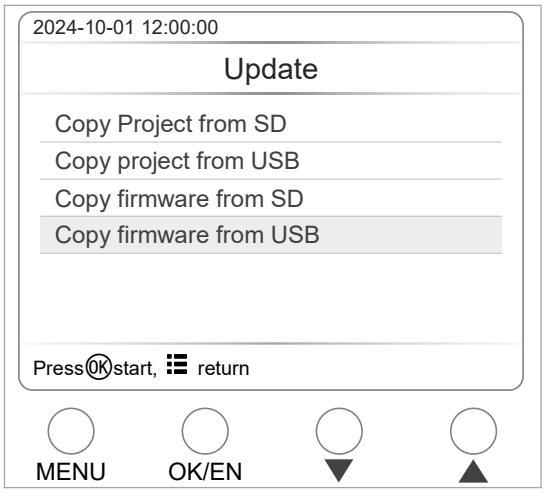
9.2. UPDATE FIRMWARE

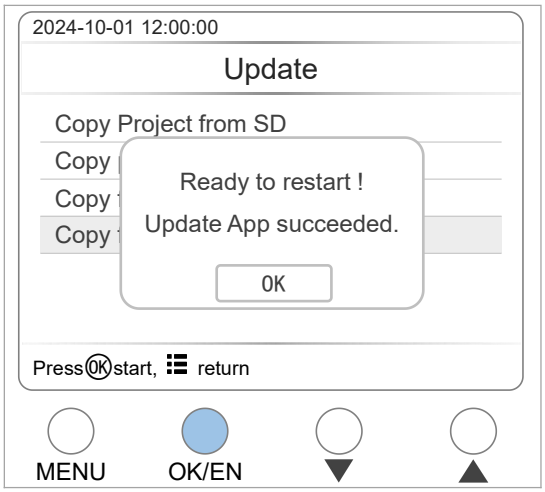
9.2.1. UPDATE SD FILE OR FIRMWARESD VIA SD CARD / U DISK

The firmware of the MQ controller can be updated via SD card or U-disk. The firmware name is S600-N**_install.sw.

Insert the SD card or U-disk that has already copied the project file.

Press MENU twice in the playback interface to find the "update" option. Select and enter the "Update" interface. Press ▼ or ▲ to select "Copy firmware from SD" (select "Copy firmware from USB" when accessing U-disk). Press OK to update. MQ controller restarts automatically when the update is complete.

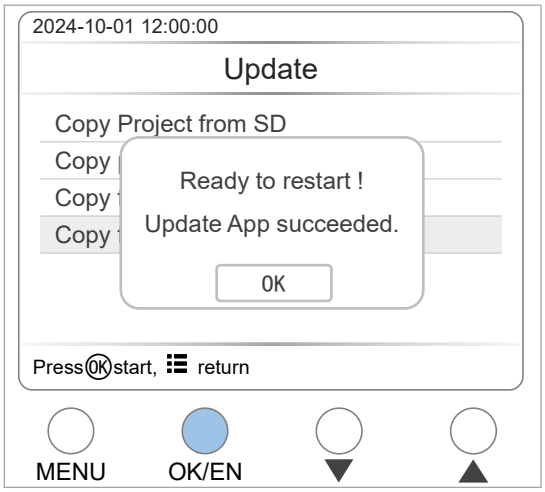




9.2.2. UPDATE FIRMWARE ON LINE VIA SNFT_TOOL

The firmware of the MQ controller can be updated via our SNFT_Tool. Update steps are as follows,

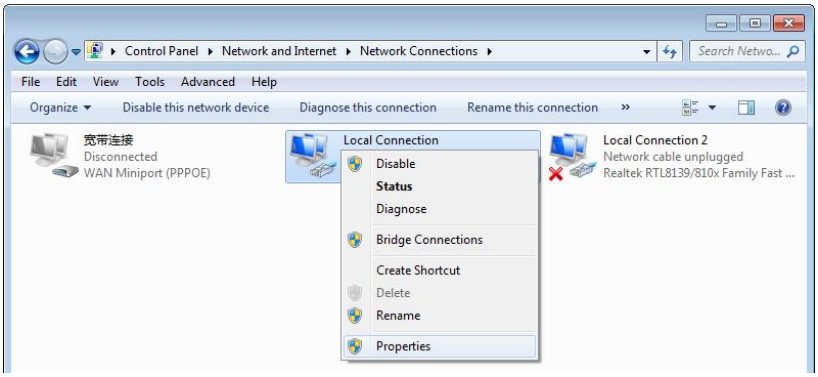
1. PC is normally connected to the MQ controller (reference the chapter WORK AS A STANDBY MACHINE), and open SNFT_Tool.exe on PC.
2. Click 检测控制器 after enter the IP address of the MQ controller in 控制器 IP bar.
3. Select 固件 and click 选择文件 to select the name of S600-N**_install.sw compressed file.
4. Click 上传 . MQ controller restarts automatically when the update is complete.



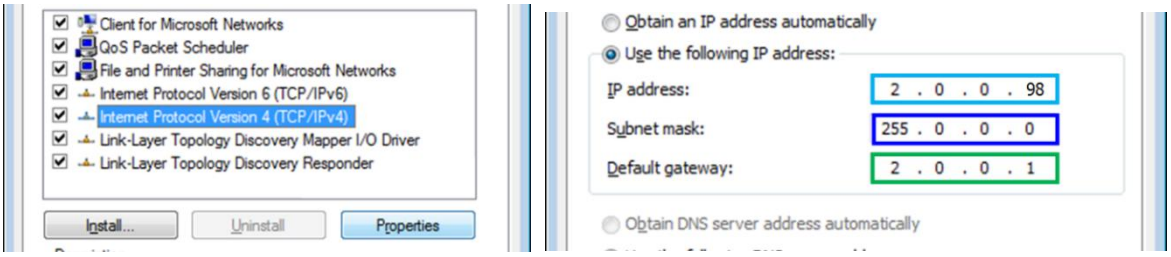
10. RELATED OPERATIONS ON COMPUTER

10.1. IP ADDRESS SETTINGS (PC)

1. Open “Network Connection” on the PC, right click “Local Connection” and select “Properties”.



2. Select Internet Protocol (TCP/IP), then click “Properties”. Set the IP address as below.

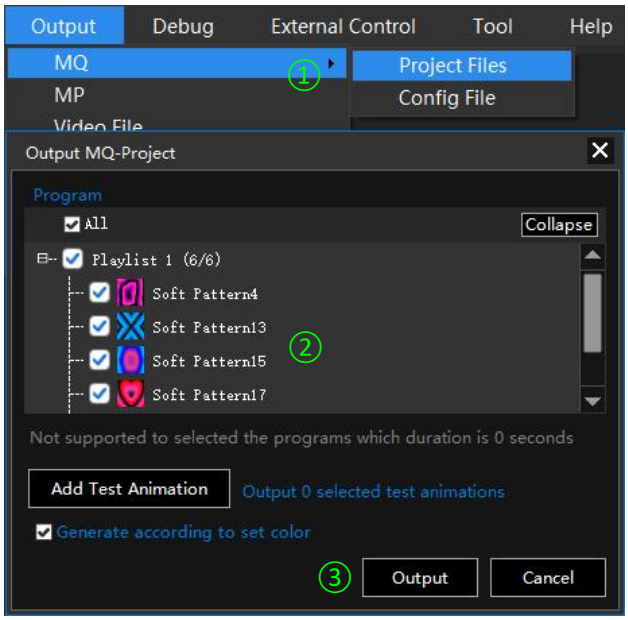


3. Click “OK” after the setting is finished.

10.2. OUTPUT PROJECT / CONFIGURATION FILE

10.2.1. OUTPUT PROJECT & ANIMATION FILE

Output all configuration parameters and animation parameters in the project, including hardware configuration, material files and parameters.



① Click “Project Files” of “MQ” under “Output” in LED Player.

② Select the program need to output in the pop-up window.

③ Click “Output”.

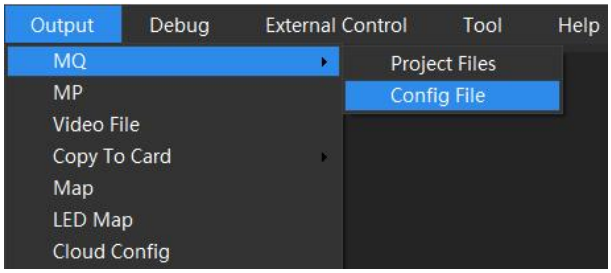
It outputs two folders named MQ_1 and the zip package (containing an RGB folder, a SET folder, and a Hash.txt file).

This file supports:

1. folder copy to SD card or U disk for local update.
2. compressed package using update tool LAN update.

10.2.2. OUTPUT PROJECT CONFIGURATION

Only output the project parameter without any animation.

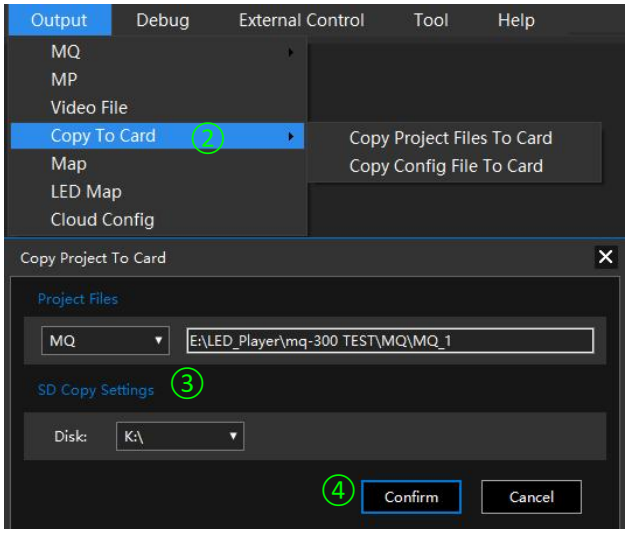


Click “Config File” of “MQ” under “Output” in LED Player. It outputs a zip package named MQ_Config. This file supports:

1. copy to SD card or U disk for local update.
2. compressed package using update tool LAN update.
3. upload the cloud platform to realize the update.

10.3. COPY FILE TO SD CARD / U-DISK

10.3.1. COPY FILE VIA LED PLAYER



①. Input SD card / U-disk.

②. Select “Copy Project Files To card” under “Copy To Card” and open window.
(To copy the configuration file, “Copy Config Files To card”)

③. Select the controller number. (Automatic reading of the corresponding file.)

④. Click “Confirm”.

Note, if both the MQ_1 folder and the MQ_Config.zip package exist on the SD card/U-disk, only the MQ_1 folder will be read for update.

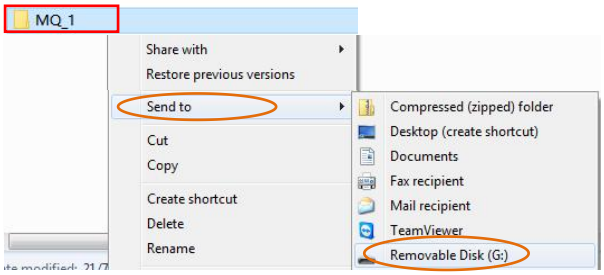
10.3.2. FORMAT U-DISK & COPY FILES IN FOLDER WINDOW

1. Input SD card / U-disk and open the MQ folder under the project file. Copy steps are as follows,

Copy the entire project file.

Right click the MQ_1 folder and select “Send to” Removable Disk”.

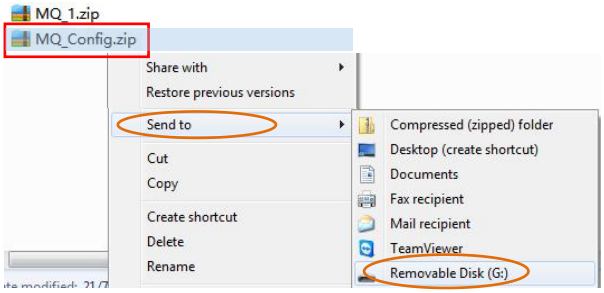
Do not customize the name of the MQ_1 folder so that the MQ controller cannot be updated.



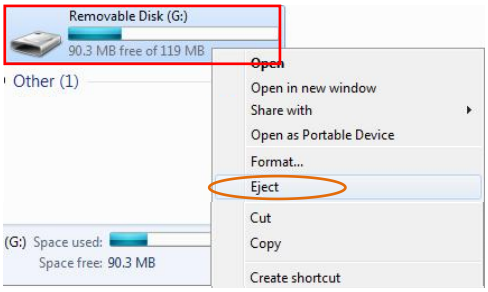
Copy the configuration file.

Right click the MQ_Config package and select “Send to” Removable Disk”.

Do not customize the name of the MQ_Config package so that the MQ controller cannot be updated.



2. Right click removable disk and select “Eject”.



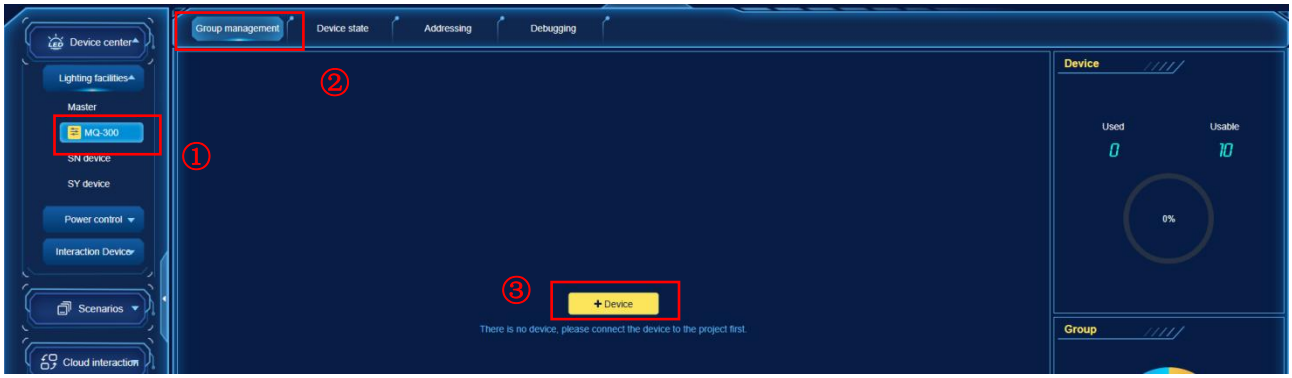
11. ABOUT ACCESSING CLOUD SERVER

When the M680 is connected to the network, it can realize the functions of remote cloud control, cloud addressing, cloud debugging and verification.

This manual only gives a brief description of the cloud platform operation part, and please refer to ***SEEKWAY_CLOUD_3.*_OPERATION*** for details.

11.1. OBTAIN THE ACCESS CODE

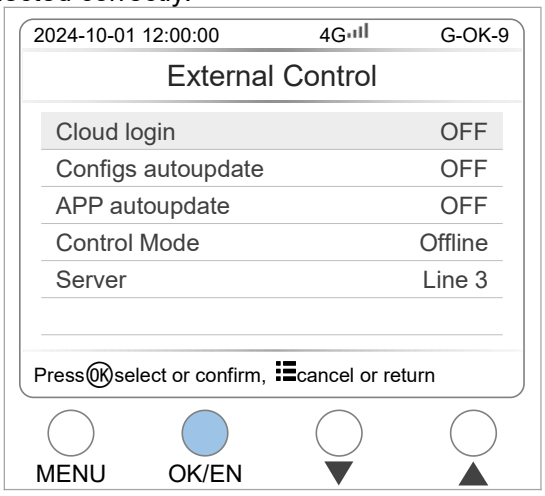
1. Select "MQ-300" under "Device center" and click "+Device" under "Group management" on the cloud control operation platform. Follow the instructions to obtain the access code.



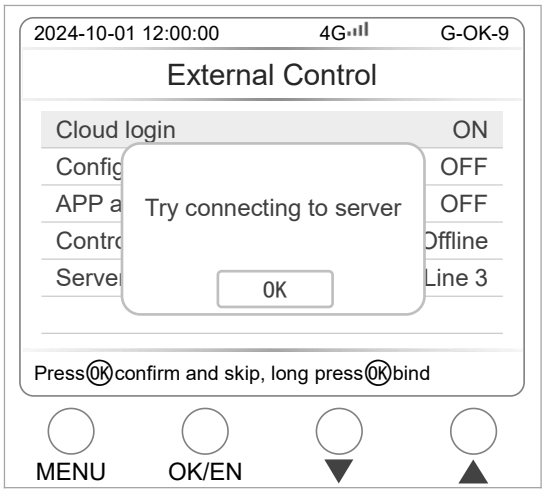
11.2. CONTROLLER SECTION

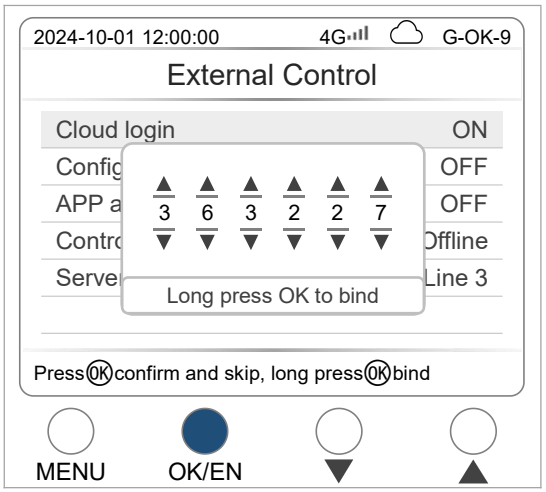
11.2.1.ACCESS TO CLOUD SERVICE

Select and enter the "External Control" page. Press OK to modify the “Cloud login” OFF to ON. Ensure that the 4G iot card and 4G antenna are connected correctly.

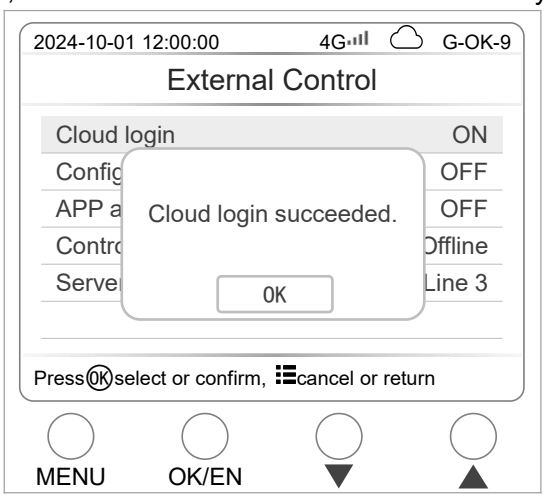


MQ controller starts to connect to the server, and pop-up prompts, press OK and enter the 6-digit verification code obtained from cloud control 3.*.





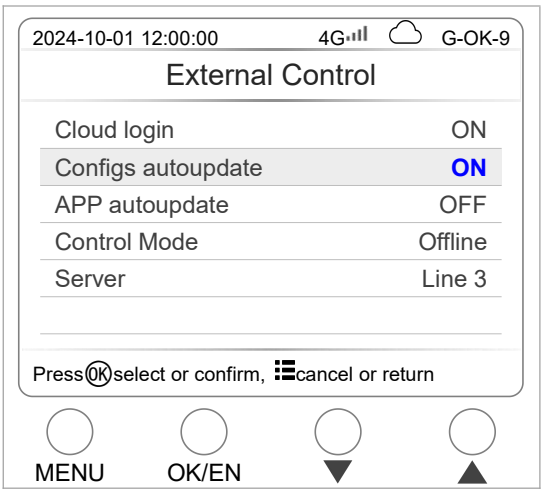
If the message "Cloud login succeeded" is displayed, the cloud control 3.* is connected correctly.



11.2.2.ENABLE REMOTE UPDATES

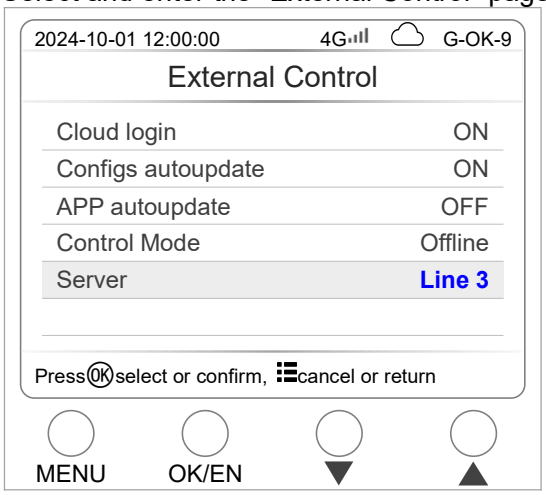
To make it easier to update project configurations off-site, we recommend enabling update configuration and firmware.

Select and enter the "External Control" page. Press OK to modify the “Configs autoupdate” OFF to ON. Enable firmware update to enable the “APP autoupdate”.



11.2.3.SET UP SERVER LINES

Select and enter the "External Control" page. Press OK to switch the “server”.

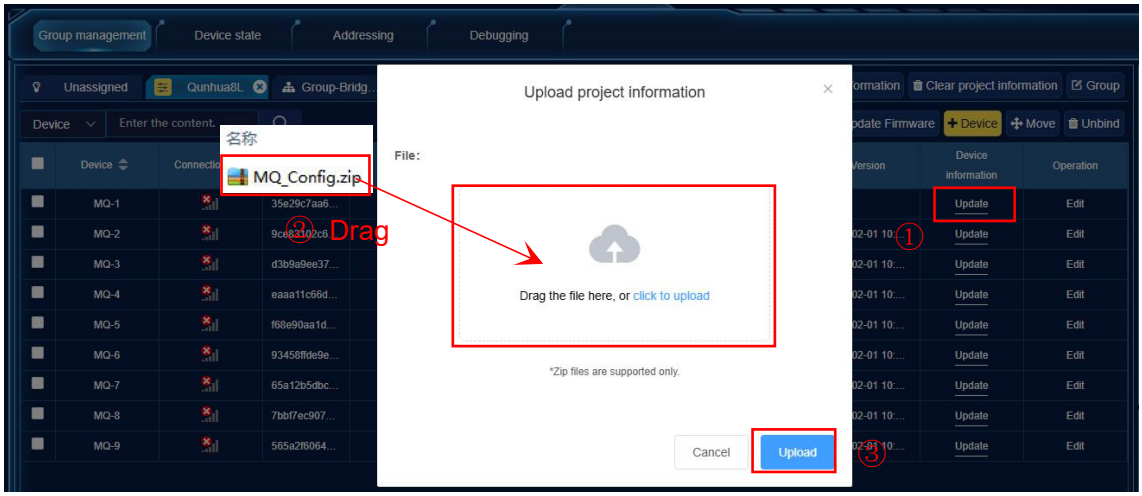


11.3. CLOUD PLATFORM OPERATION

11.3.1.UPDATE PROJECT CONFIGURATION ON CLOUD PLATFORM

After the "update" in the external control is enabled on the controller, the project configuration can be updated through the cloud platform.

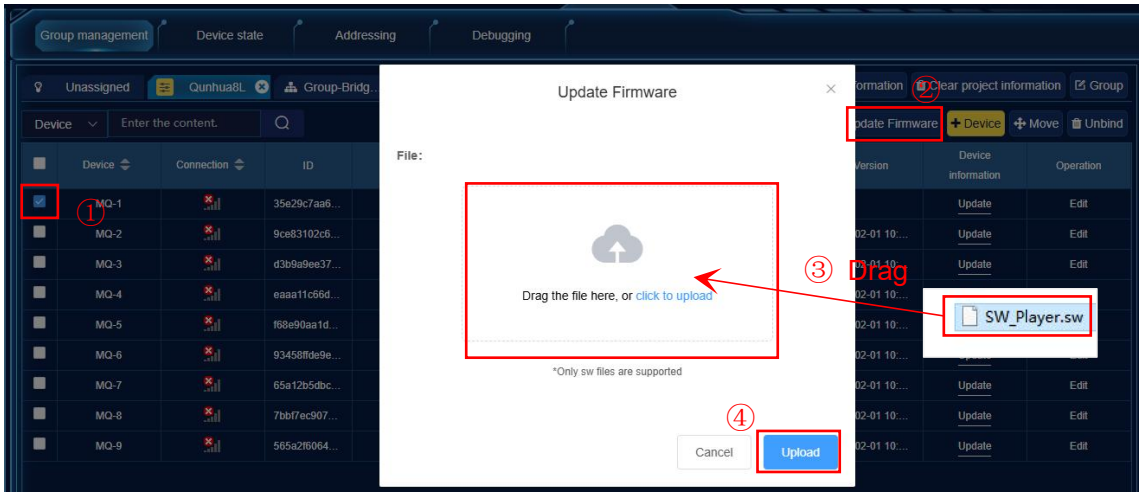
1. Select "M680" under "Device center" under "Group management" on the cloud control operation platform. Click "Update" in the right column of the device we want to update to open the pop-up window.
2. Drag the MQ_Config.zip file (custom name are not supported) to the box and click Upload.
3. After the MQ is online, the configuration information is automatically updated.



11.3.2.UPDATE FIRMWARE ON CLOUD PLATFORM

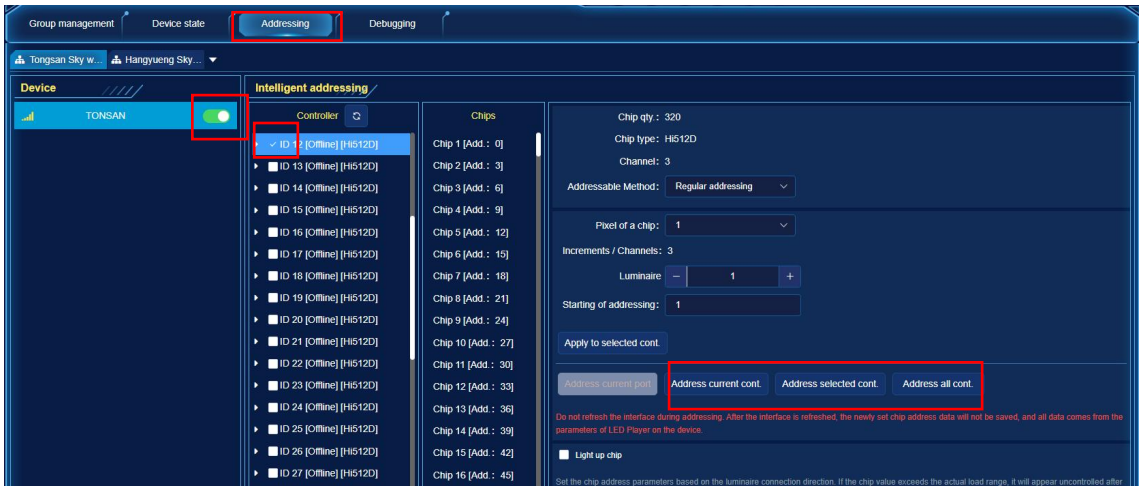
After the "update" in the external control is enabled on the controller, the APP program of device can be updated through the cloud platform.

1. Select "M680" under "Device center" under "Group management" on the cloud control operation platform. Check the device need to update.
2. Click "Update Firmware" to open the pop-up window.
3. Drag the S600-N**_install.sw file (or named SW_Player.sw) (custom name are not supported) to the box and click Upload.
4. After the MQ is online and it is automatically updated.

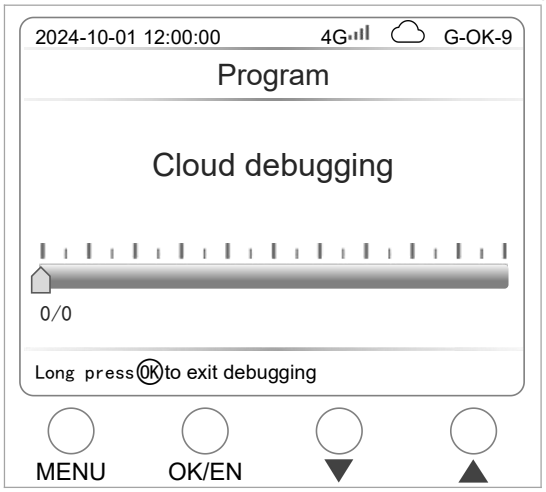


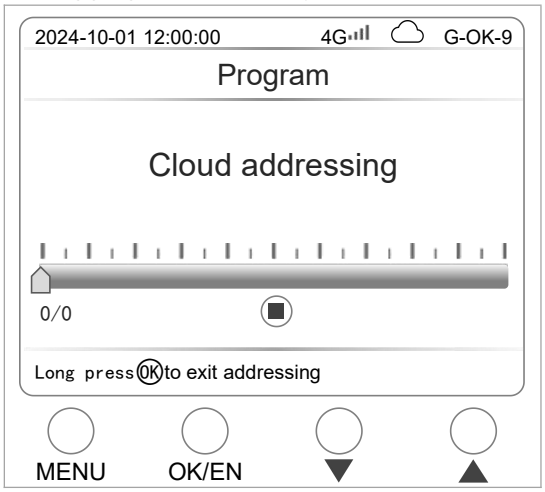
11.4. ADDRESSING & DEBUGGING ON CLOUD PLATFORM

1. Click "MQ-300" under "Lighting facilities", and switch to the "Addressing" interface. Click the switch button on the right of the controller to enable or disable the addressing function. "Debugging" is enabled and disabled in the same way.



2. The controller enters the cloud addressing or cloud debugging status display.

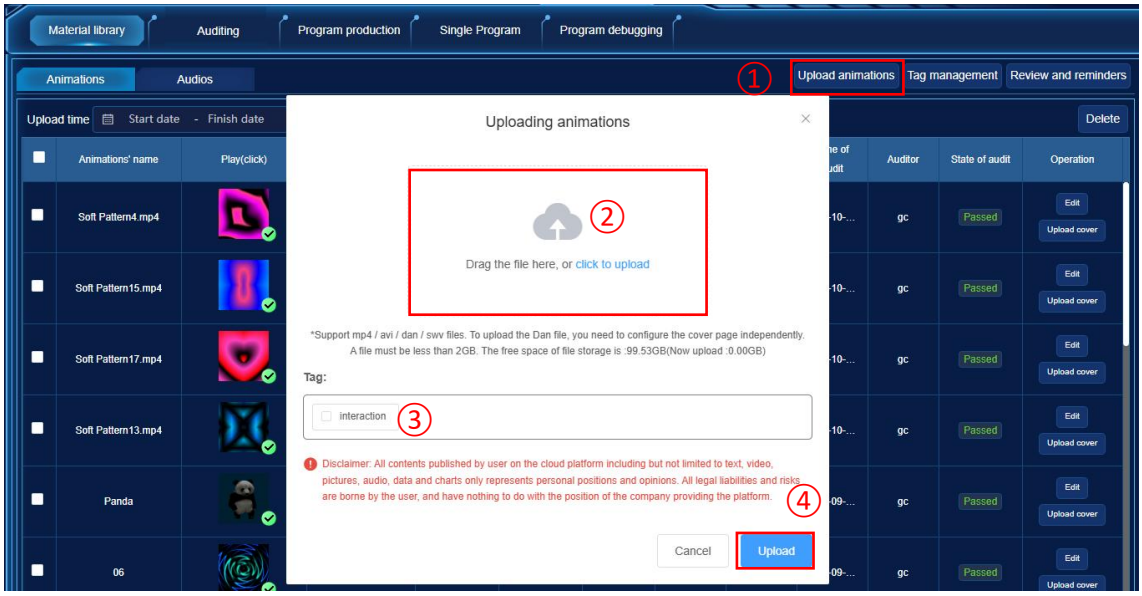




11.5. UPLOAD MATERIAL AND EDIT PROGRAM

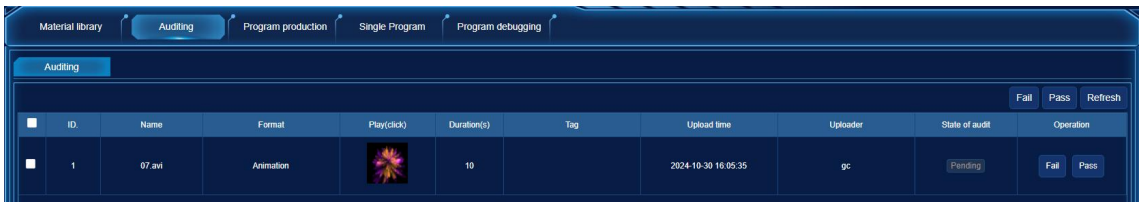
11.5.1.UPLOAD MATERIAL

Click “Upload animations” to upload material.



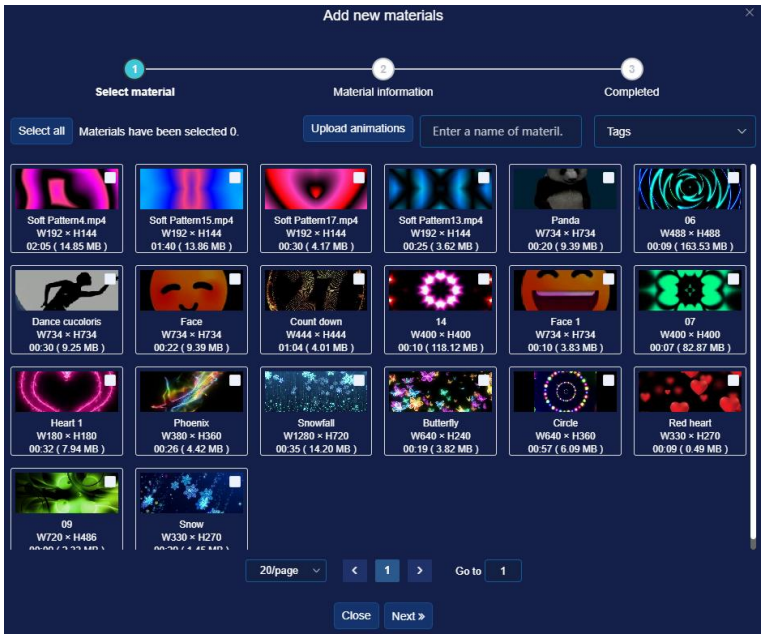
11.5.2.AUDITING

The uploaded material needs to be reviewed under the "Auditing" interface. Click Pass on the right side of the material.



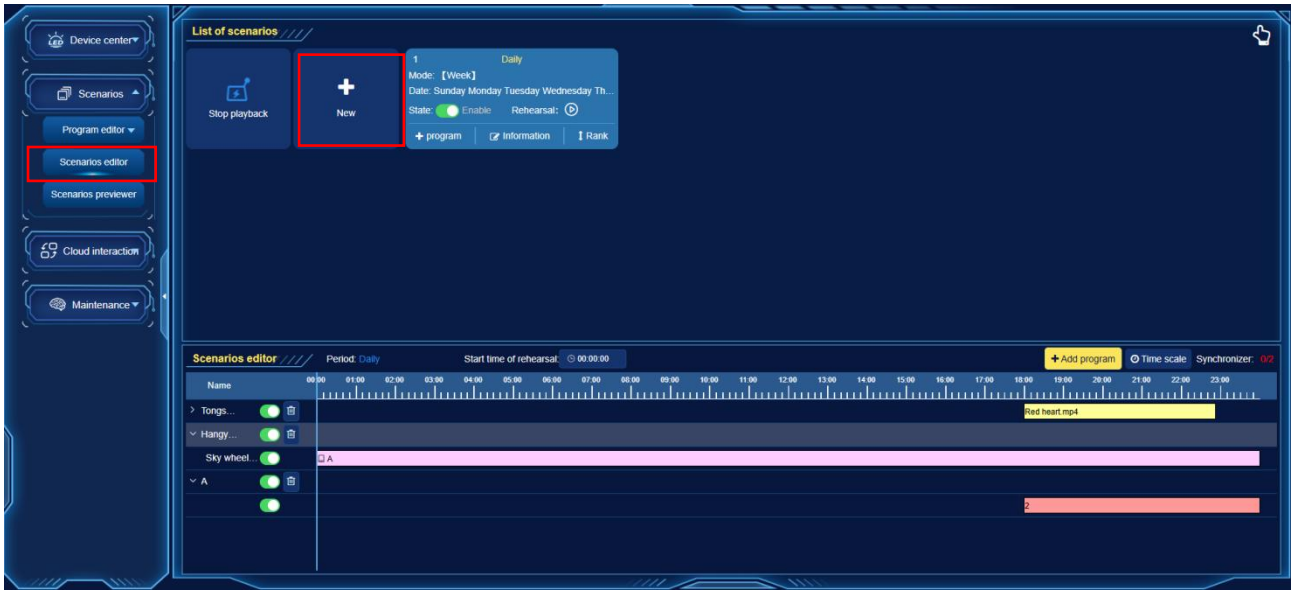
11.5.3.CREATING PROGRAMS OF STANDALONE DEVICE

Select "Program editor" under "Scenarios", click "Add*" under "Single program" of "M680". Follow the pop-up guide to operate.



The MQ controller automatically downloads the animation when it goes online.

11.6. EDITING SCENARIOS



Select “Scenarios editor” under “Scenarios” to open the page.

Click + New and add according to the pop-up prompt.

After the setting is complete, the MQ controller in the "cloud scenario" state plays programs according to the scene time.

12. LOAD QUANTITY

Frame (fms)	Total pixel of project			
	One Channel	Two Channels	Three Channels	Four Channels
30 fms	500,000	250,000	166,000	125,000
25 fms	600,000	300,000	200,000	150,000
20 fms	750,000	375,000	250,000	187,500
16 fms	930,000	468,000	310,000	230,000
13 fms	1150,000	576,000	384,000	288,000

Calculation method: Frame rate * Total pixels of the project * Number of chip channels ≦ 15 million

Note: This table is for reference only. The speed will vary according to the chip, transmission baud rate, load per path and the number of EN controls.

13. DEMONSTRATION OF THE MODEL

Model	Built-in storage space	Built-in 4G module	Iot card slot	Built-in GPS module
M680B1	6GB	×	×	External connection
M680B2	6GB	√	√	External connection
M680GB2	6GB	√	√	√
M680C3	6GB	√	√	√

14. ERROR CODE AND TROUBLE SHOOTING

14.1. ERROR IN PROCESS OF ACCESSING CLOUD SERVER

Error	Instructions	Measure
No network interface card!	1. No USB NIC is connected. 2. The connection is incorrect.	Check the connection and try to reinsert the USB NIC.
	The network adapter is damaged.	It cannot work when connecting to PC. Replace the USB NIC.
	The NIC driver is incorrect.	Use our recommended USB NIC.
Failed to get cloud IP!	1. Router is abnormal. 2. Router configuration is incorrect (DHCP not enabled).	Confirm that the router is working properly and that the router has DHCP enabled.
	Ethernet cable is not plugged in.	Check the connection of the Ethernet cable and try to reconnect.
	The Ethernet cable is not connected or damaged.	Confirm that the Ethernet cable is in good condition.
	USB NIC is damaged.	It cannot work when connecting to PC. Replace the USB NIC.
Network connection is not working!	Unable to connect to the external network.	Confirm that the router is connected to the internet and the configuration is correct (e.g., no MAC binding restrictions).

Error	Instructions	Measure
Cloud server is not working!	Server is abnormal or network is congested.	MQ will automatically attempt to reconnect. If there is no response after multiple attempts, please contact the network technician.
Invalid verification code	The verification code entered during accessing is incorrect or expired.	Obtain the latest verification code from the cloud control and re-enter it.

14.2. ERROR IN PROCESS OF DOWNLOADING BY CLOUD

Error	Instructions	Measure
Update playlist error	Download abnormality caused by network issues.	Wait for downloading again.
Update playlist / file failed,No write permission	Unknown error causing abnormality in the device's firmware.	Restart MQ controller.
Update file error	The download is abnormal due to network.	Wait for downloading again.
No enough storage	The storage does not have enough space to download the programs.	Reduce the number of programs and clear the storage to make enough space.

14.3. ERROR IN PROCESS OF LOADING CONFIGURATION

Error	Instructions	Measure
Invalid Pro setting file	1. Project configuration file is abnormal. 2. Incorrect settings.	Recreate and copy the project file according to the prompt.
Invalid chip lib		
Invalid wiring type		
Invalid wiring file		
Wiring and Pro mismatch		
EN ID in ZONE discontinuity		
Wiring and ZONE mismatch		
EN count out of limit		
Color channel count error		
Device number out of range	Prompt and it will automatically reset the device code to 1.	It will automatically reset the device code to 1, and we need to reset the matching device.

14.4. ERROR IN PROCESS OF UPDATING

Operation	Error	Instructions	Measure
Copy project	No available file	The file was not fully copied from computer.	Copy the file to the U-disk or SD card and then update again.
	file corruption	The file is corrupted for unknown reasons.	
Update configuration	No available file	The file was not fully copied from computer.	
	file corruption	The file is corrupted for unknown reasons.	
Update firmware	No available file	The file was not fully copied from computer.	
	file corruption	The firmware is corrupted for unknown reasons.	

14.5. ERROR IN PROCESS OF PLAY PROGRAM

The video format constraints.

1. The video encoding is H.264 and YUV420.
2. The total pixels of the video are within 2,073,600, which must meet the following requirements.
   1) 64 ≤ width ≤ 4096 and 64 ≤ height ≤ 2304.
   2) The pixel value of width/height must be a multiple of 16, if the project size is 1030*375, the video size must be 1040*384.
   3) The ratio of width to height must be between 1/16 and 16, if the width is 1920, the height must be above 120.

Error	Instructions	Measure
Video width or height is less than 64 pixels!	Videos with width or height less than 64 pixels are not supported.	Reprocess the video and then re-load to MQ controller.
Video pixels exceed the limit!	Video size exceeds the limit. 1. The total pixels of the video are within 2,073,600. 2. 64 ≤ width ≤ 4096 and 64 ≤ height ≤ 2304.	Reprocess the video and then re-load to MQ controller.
Video conversion error!	1. Errors caused by strong interference. 2. Hardware damage.	If the error persists after restarting MQ, return it to us for processing.
Width of the video is odd!	Video width does not comply with decoding rules (must be an even number).	To avoid picture loss, it is recommended that the video width be a multiple of 16.
No video file is found!	The video is missing, not downloaded, or the program is empty.	1. If the control mode is "Offline", re-output the complete project through LED Player and update it to MQ. 2. If the control mode is "Independent", check if there are any incompletely downloaded videos or empty programs in the list. 3. If the control mode is "Group" or “Scence”, check if there are any videos not cut or not completely downloaded.

Error	Instructions	Measure
Video scale out of limit!	The ratio of width to height must be between 1/16 and 16.	Match the video size with the project size to meet the rules.
Width of the video is odd!	Video width does not comply with decoding rules (must be an even number).	To avoid picture loss, it is recommended that the video width be a multiple of 16.
Video unavailable!	The video is corrupted or has other abnormalities.	Reprocess the video file and then re-load to MQ controller.
Video format is not supported!	The video format is not supported.	The video format must meet all the requirements listed in the notes for use. Reprocess the video and then re-load to MQ controller.
Video decode error!	Videos are damaged or device performance deteriorates.	If the video repeatedly appears in the same position, the video is damaged. Occasionally or with no repeatability, check whether MQ performance deteriorates due to the high ambient temperature.

14.6. OTHER ERRORS

Error	Instructions	Measure
This setting is not open yet !	View only.	View only.
Turn off cloud first !	Perform this operation only after disable Cloud Control.	Disable the cloud control first. ("Settings"→ "External control"→"Cloud control login"→"Off").
Please set the control mode to offline !	Set the time control only in offline control mode state.	Set the Offline control mode first. ("Settings"→ "External control"→"Control Mode"→"Offline").
Exported log failed	1. Insufficient external storage space. 2. Removed the U-disk during the export process.	Clean up the U-disk storage o r reinsert it.
No disk available	1. The SD card / U-disk is not inserted properly. 2. The SD card / U-disk is abnormal. 3. The SD card / U-disk is not recognized.	1. Reinsert the SD card / U-disk. 2. Replace the SD card / U-disk.
No time control list	There is no time list.	Set the time command with LED Player and update it to the device first.