

Robot Gaffer

User Manual

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1. Product Introduction

1.1 Introduction

The latest generation of professional lighting controller by Playeah, Robot Gaffer, adopts a multi-core and multi-threaded high-frequency processor, combined with 128GB of large-capacity storage, enabling the execution of more complex, diverse, and large-scale lighting programs.
With a self-developed core lighting control engine, supporting up to 8192 lighting control channels and supporting large-scale lighting performance systems.

1.2 Features

- The device comes with 1024 built-in lighting control channels, and through extension interfaces, it can expand to support a maximum of 8192 channels, providing excellent system scalability.
- No lighting console is required; it can independently and automatically control the lighting for the entire venue, serving as a replacement for professional manual operation in various settings.
- The system is compatible with major international lighting control software for direct effect editing, supporting lighting programs and command sets.
- It supports professional stage equipment control protocols, including LTC timecode, PosiStageNet, ArtNet, and OSC, seamlessly integrating with various professional stage devices.
- With support for the IMFA music segment analysis algorithm, it can automatically invoke matching lighting programs with high adaptability, ensuring that lighting synchronizes seamlessly with music.
- It uses hundred trillion network connectivity with 7 network outputs, enabling high-speed data transmission for high concurrency and low-latency control performance.
- The 1U rack-mount device with an external DC power supply ensures stable and reliable operation.
- Supports audio input, drum beat-triggered lighting effects, transmitted via RCA interface.
- Supports audio output for easier connection to external devices, transmitted via RCA interface.
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1.3 Product Diagram



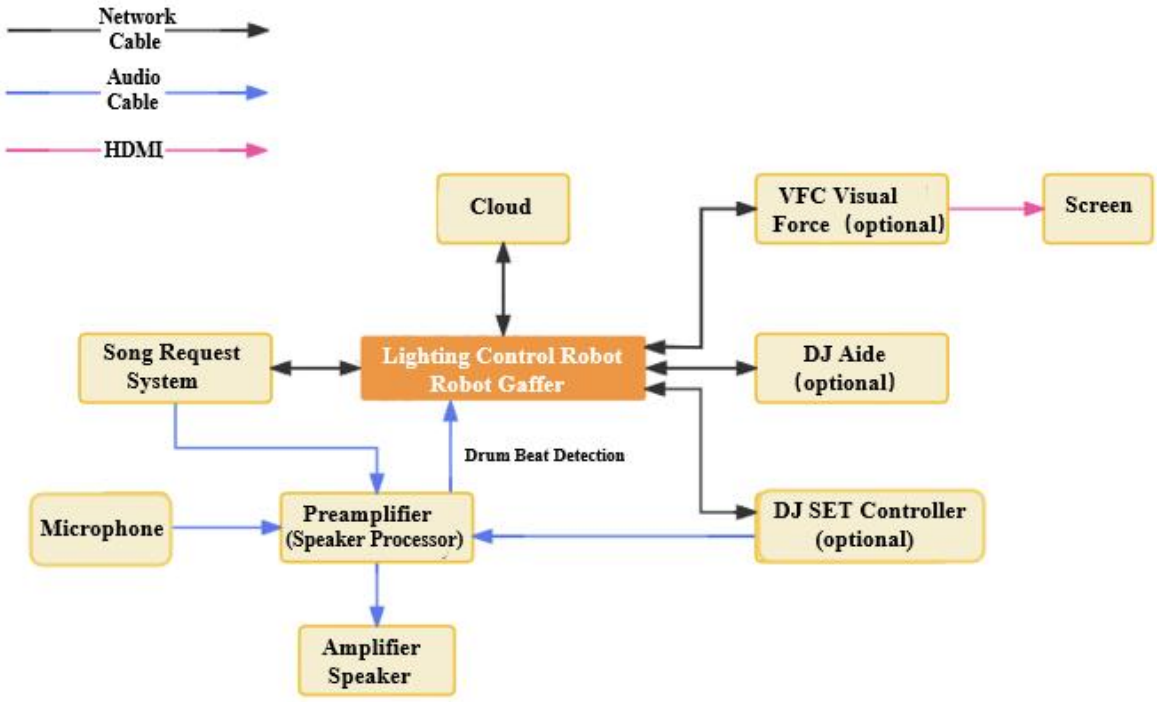
1.4 Product Specifications

Processing core:	Intel 64bit 2core CPU	**Memory & Storage:**	8GB RAM，128GB SSD
Control Protocol:	OSC，RS485，RS232，UDP，Artnet，DMX512	**Number of control channels:**	1 x RS485，1 x RS232
DMX512：	1024(2 x RJ45)	**Artnet：**	16 x DMX512
Audio input:	2 xRCA	**Audio output:**	2 xRCA
Network interface:	1 x WAN，7 x LAN	**USB:**	2 x USB2.0
Video interface:	1 x HDMI	**Power supply:**	DC12V-3A
Size:	482mm x 258.5mm x 44mm	**Weight:**	3.2kg

2. Lighting control robot operation tutorial

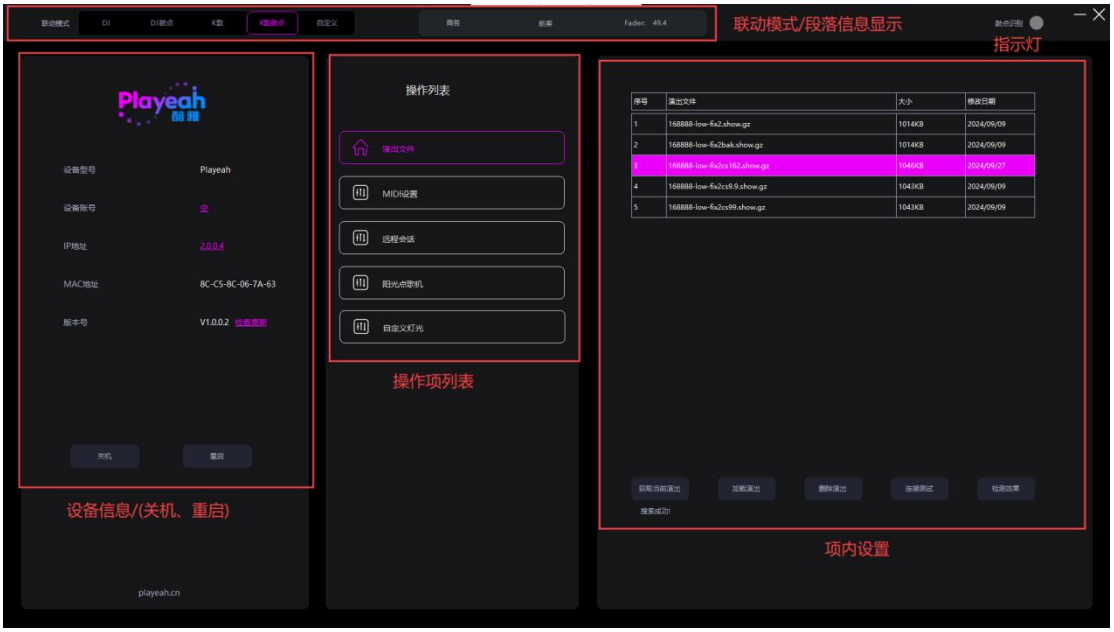
2.1 System wiring diagram

After the product setup is complete, you can access the system interface upon powering on. The system wiring diagram is as shown below:



2.2 System Interface Information

As shown in the figure, the left side can view information such as account, IP address/MAC address, and version number; Corresponding options for the operable list on the right; The current mode and triggered paragraph information are displayed above.



IP address setting:

Click on 【IP Address】 to enter the IP settings interface and set DHCP or static IP for the device.



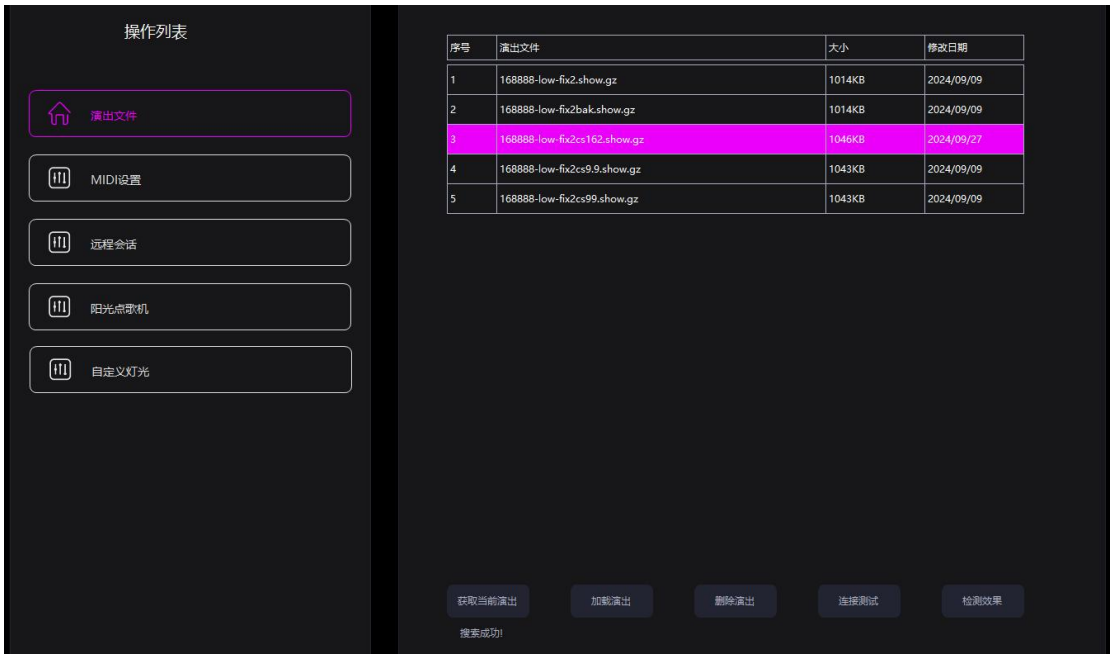
Version update/shutdown/restart:

【Check update】button, the system will be networked to check the latest version and update.

【Shutdown】 button, shutdown; 【Restart】 button, restart.

2.3 Show File

The corresponding project files can be obtained/viewed in the show file interface, as shown below:



【Get Current Show】 button is used to retrieve the project for the current show, which can be viewed in the list above

【Load Show】 button to load the project selected in the execution list.

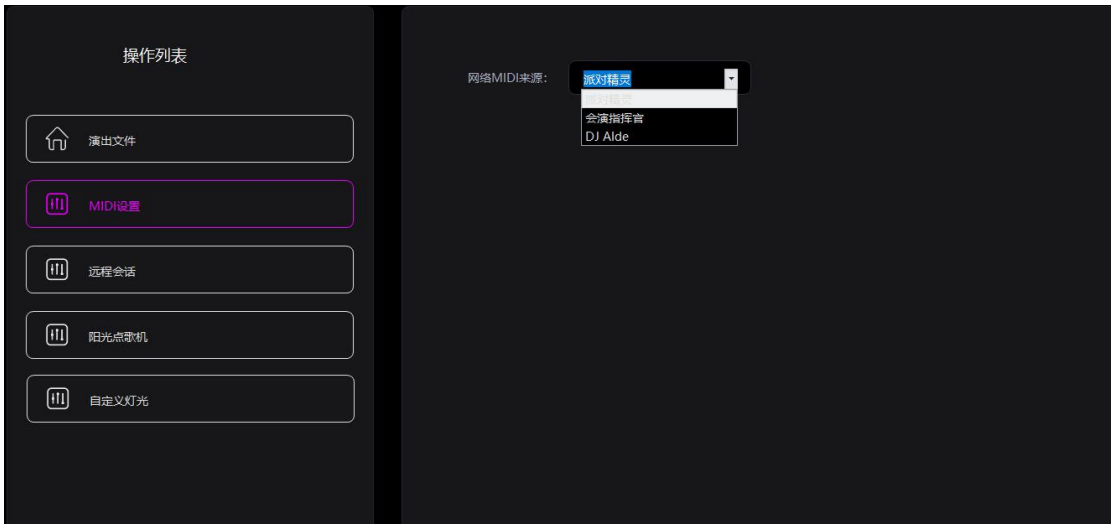
【Delete Show】 button is used to delete a project from the list.

【Connection Test】 button, used to test whether the grandMA2 network and IP address are connected properly.

【Detection Effect】 button is used to detect the number of lighting programs in grandMA2. After editing or changing the lighting program, you need to click 【Detect effect】 to update the quantity.

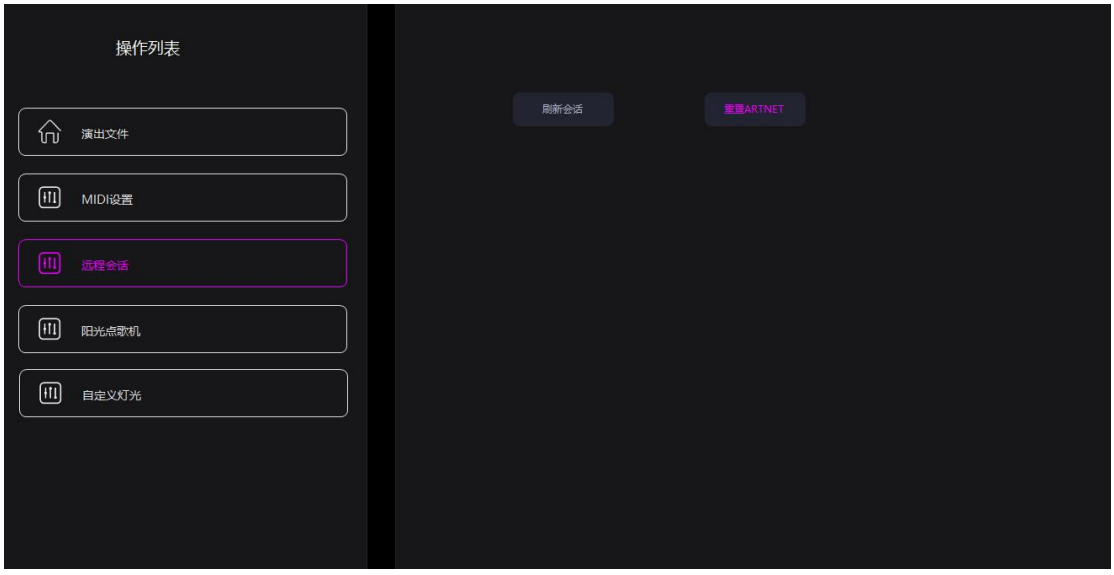
2.4 MIDI Settings

In the MIDI settings interface, you can select the MIDI connection with (Party /Venue Commander/DJ AIde) as shown below:



2.5 Remote Session

In the remote session interface, you can refresh the lighting remote session as shown below:



The 【Refresh Session】 button is used to refresh the grandMA2 IP and reconnect when the grandMA2 onpc cannot establish a connection.

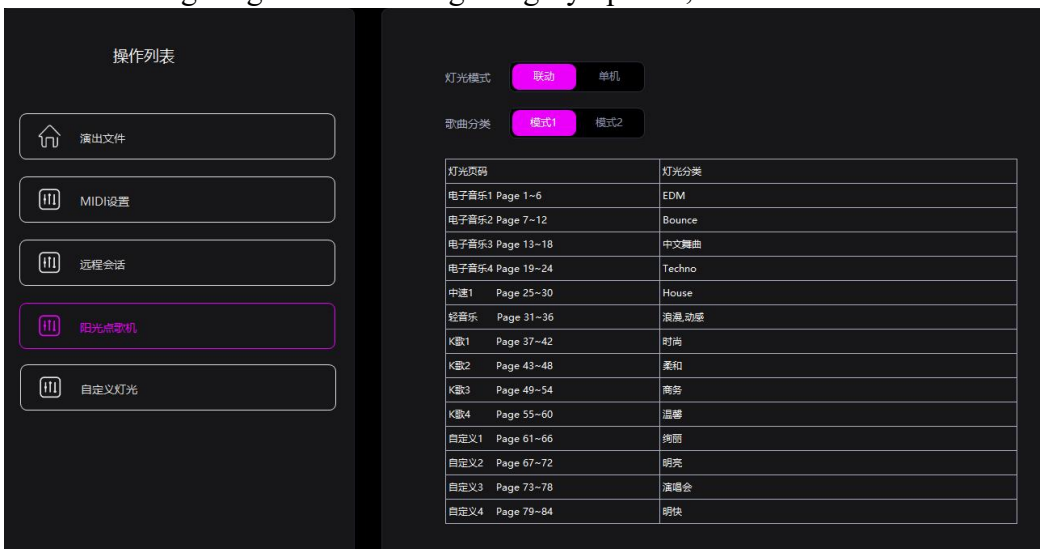


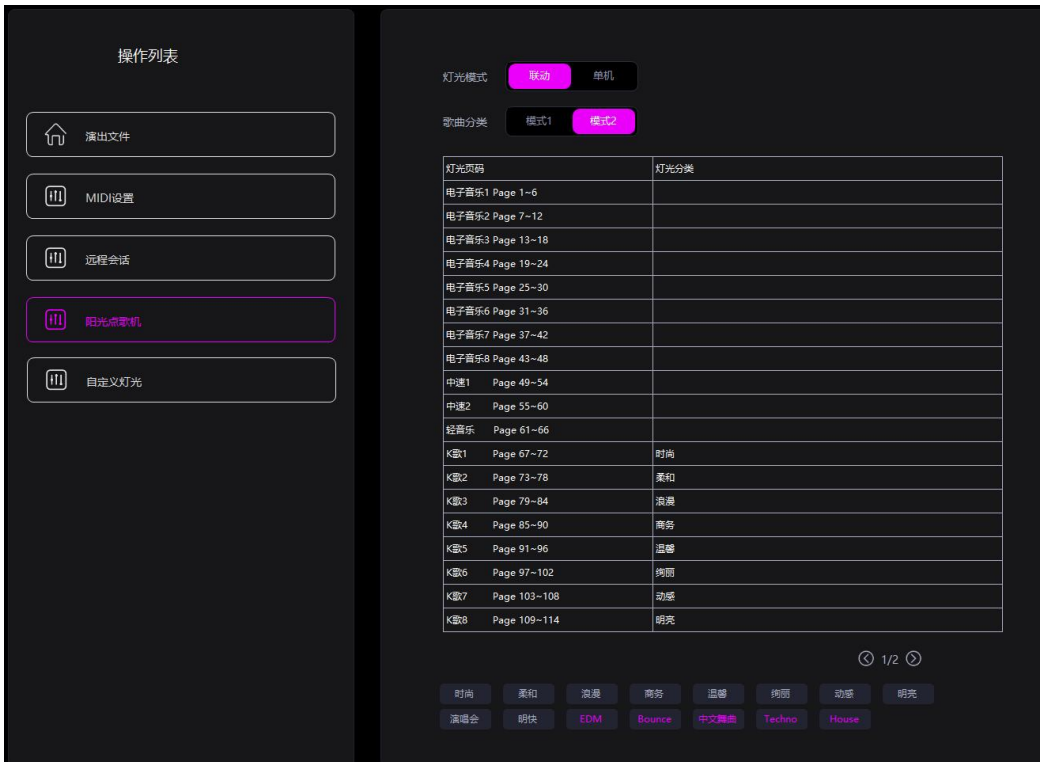
【 Reset RTNET】 button, used to reset ARTNET IP and other configuration information in grandMA2.



2.6 Sunshine Karaoke Machine

In the Sunshine Karaoke Machine interface, you can select and set the corresponding mode in the lighting mode and song category options, as shown below:





Lighting Mode:

The 【Link/Standalone】 button is used to switch the system's connection mode. When Link Mode is selected, it can be connected with the Sunshine Karaoke Machine and (Party Genie/Venue Commander/DJ AIde). In Standalone Mode, it can only be connected to the Sunshine Karaoke Machine.

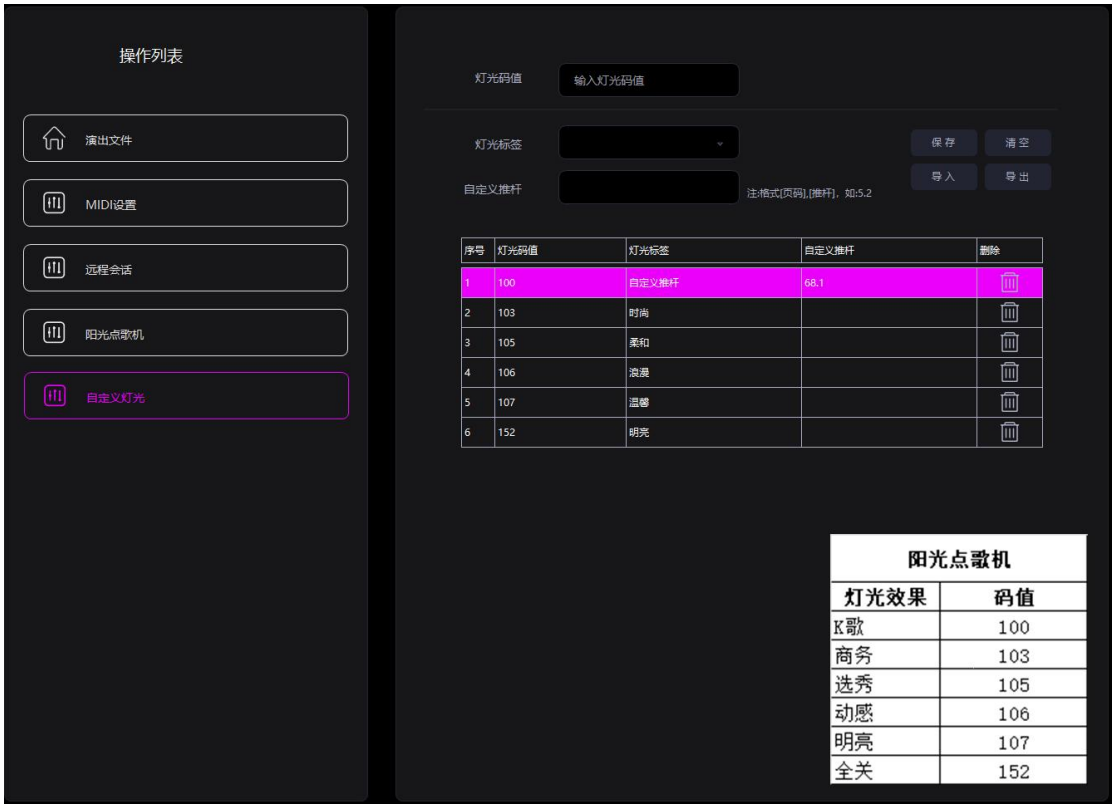
Song classification:

【Mode 1/Mode 2】 button, used to view list information and call corresponding modules in the list. Mode 1 can call 4 sets of electronic music (1-24), 1 set of medium speed (25-30), 1 set of light music (31-36), 4 sets of k song (37-60), and 4 sets of custom (61-84); Mode 2 can call 8 sets of electronic music (1-48), 2 sets of medium speed (49-60), 1 set of light music (61-66), 8 sets of k-song (67-114), and 8 sets of customization (115-162).

Below are 15 song type labels, including 【Fashion】 and 【Soft】, which are pre arranged by default at the factory. Users can add/modify the labels in the mode according to their own needs. Multiple different song type labels can be added to a set of lighting page numbers, but one song type label cannot be repeated multiple times in the list; When the song selection system plays a song of a certain type, it triggers the corresponding lighting program for the corresponding type label.

2.7 Custom Lighting

In the custom lighting interface, you can customize and edit the corresponding lighting page, as shown below:



阳光点歌机	
灯光效果	码值
K歌	100
商务	103
选秀	105
动感	106
明亮	107
全关	152

The lighting effect used here is the Sunshine Song Request System, and each effect has a corresponding code value, as shown in the figure.
【Light code value】 is the code value of the lighting effect of the input song request system.
【Lighting Label】 allows you to select from 15 preset types such as Fashion, Soft, etc., along with custom slider labels..
【Custom Slider】 is used to input the page number value for the slider.
【Save button】 Adds selected items and allows multiple items to be added. 【Clear button】 clears the entire list. To delete a single item, click the trash can icon in the list..
【Import button】 Imports TXT files to add to the list.
【Export button】 Exports the list data.
Assuming the lighting code value is set to 100 and the lighting tag is 【Dynamic】. When the song request system plays a song and sends the code value of 100, the last page in the corresponding page range for 【Dynamic】 will trigger the lights. In this case, if Mode 1 is selected and 【Dynamic】 corresponds to the light music pages 31-36, it will call Page 36.
If the 【Custom Slider】 tag is selected, it will call the lighting based on the input value of the 【Custom slider】.

2.8 Operation and Status Display

Click on 【More】 in the song request system to select different linkage modes and turn on lighting effects, as shown below:

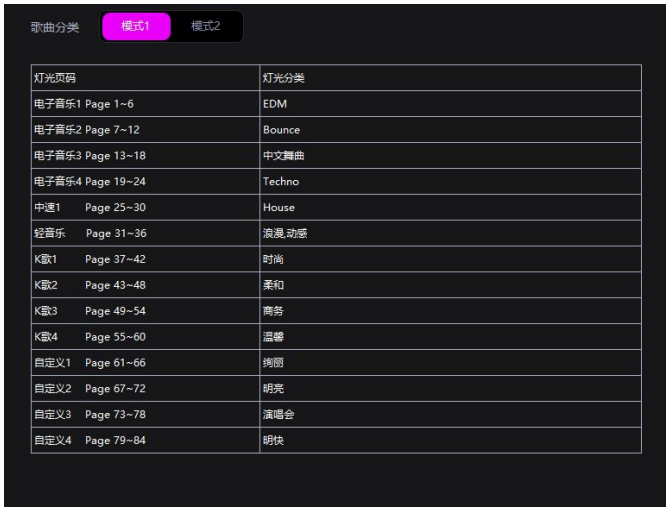


Before operation, you need to ensure that the IP address of the panoramic mode 1 of the song request system is the same as that of the lighting control robot and whether the test is successful.





Before selecting the linkage mode, you need to turn on the【Sound and Light Linkage】switch.

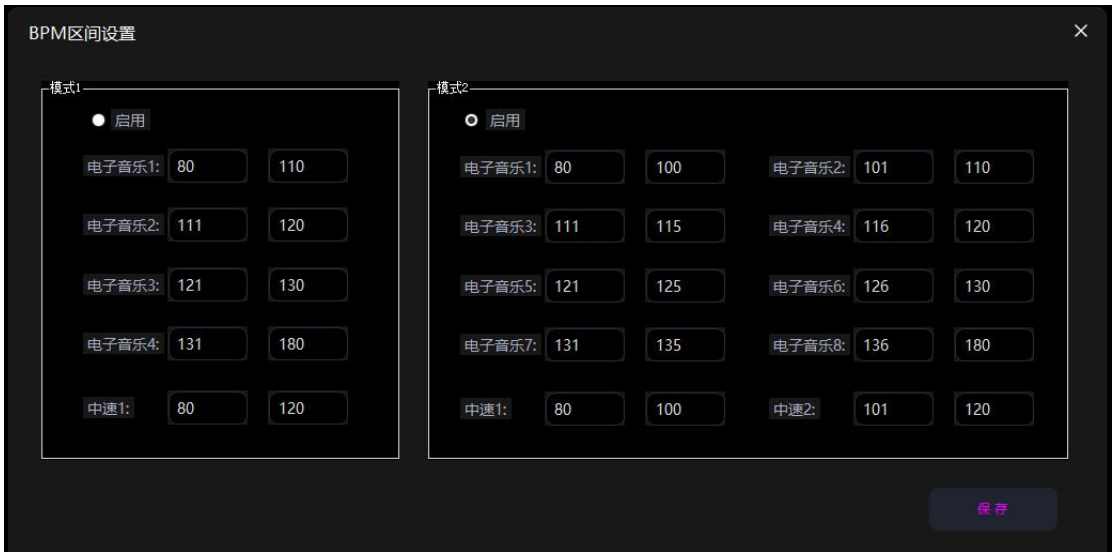


When the Song Request System selects the 【K-song】 mode, the Lighting Control Robot switches to the K song linkage mode. The Song Request System plays a song and sends data to the Lighting Control Robot based on the song's genre. If the song belongs to the "Fashion" genre, the Lighting Control Robot receives the data and finds the corresponding page number for the Fashion tag (Fashion is in K-song 1, so it calls the lighting programs from Page 37-42). The genres EDM/Bounce/Chinese Dance Music/Techno/House will not be called in the 【K-song】 mode. Above, you can see which label it calls, what paragraph is, and what the Fader value is.

When the Song Request System selects the 【DJ】 mode, the Lighting Control Robot switches to the DJ linkage mode. This requires using the DJ AIde and DJ controller together, utilizing the CD player's paragraph information. The DJ AIde sets the BPM range (you need to choose either Mode 1 or Mode 2, and the Lighting Control Robot mode should match). The electronic music sections 1-4/1-8 and

medium speed 1/1-2 will be randomly selected. The paragraph and Fader information need to be seen on DJ AIde.

In this page, Mode 1 offers 5 range options, while Mode 2 provides 10 range options. Mode 1 is suitable for scenarios with simpler lighting programs, requiring less editing of lighting programs, whereas Mode 2 is better for richer lighting program scenarios, requiring more editing.





【Drumbeat Recognition】 The indicator light will only be on when playing in Drumbeat Recognition mode (DJ drumbeat/K song drumbeat), and it will not be on when playing in other modes.

When the Song Request System selects the 【DJ Drumbeat】 mode, the Lighting Control Robot switches to DJ Drumbeat mode. The tracks played on the DJ controller and triggered by the drumbeats, which are sent to the lighting control robot via IMFA. This activates the corresponding pages for the 5 tags: EDM/Bounce/Chinese Dance Music/Techno/House (with Mode 1 set to Electronic Music 1-4 and Medium Speed 1), triggering a random lighting program.



When the song ordering system selects the 【K-song Drumbeat】 mode, the Lighting Control Robot switches to DJ Drumbeat mode. The tracks played on the DJ controller and triggered by the drumbeats, which are sent to the lighting control robot

via IMFA. This activates the corresponding pages for the 10 tags (with Mode 1 set to Electronic Music 1-4 and Custom 1-4)

When the song request system selects a random set in the 【Lighting Effects】 section, the 【Sound and Light Linkage】 switch will be automatically turned off, and the linkage mode will not be executed. The linkage mode of the light control robot system will switch to custom, and the pre-set labels on the custom lighting interface will be called to trigger the lighting.

3. MA2 Console Settings

3.1 IP Settings



The network built here is a 2-segment network, so the MA2 lighting control panel is set to a 2-segment IP, and users can set the current network segment IP according to the on-site network.

3.2 Import Macro Command

Users can import macro command files into the MA2 console. Figure 1 shows the import path; The yellow box in Figure 2 represents the macro command that has been added.





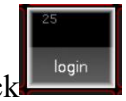
3.3 Registration and Login



You need to enable the connection detection of the network map (the two options in the box) first, and then create it before you can connect normally.



Create username: admin Password: admin123

After loading is complete, click 

to connect with other devices.

Note: For standalone connection of the lighting control robot, simply set the IP, username, and password, and then click on the connection test button to connect to the MA2 console on the lighting control robot; When paired with DJ AIde/Party Genie, DJ AIde/Party Genie also needs to output IP, username, password to connect to the MA2 console.

4. MA2 Program Editing Reference

4.1 BPM Grouping & Corresponding Fader Page Numbers



Page 1 corresponds to Console Fader 1, and Executor 1-15 indicates the use of Fader 1 for Faders 1-15.

BPM1 grouping is as follows:

Mode	Paragraph	Page	Executor
Electronic Music 1	Intro/Outro	1	
	Ascending/Bridge	2	
	Descending	3	
	Chorus/Voice chorus	4	
	Drop A/Drop B	5	
	Auto run	6	
Electronic Music 2	Intro/Outro	7	
	Ascending/Bridge	8	
	Descending	9	
	Chorus/Voice chorus	10	
	Drop A/Drop B	11	
	Auto run	12	
			1-15
Electronic Music 3	Intro/Outro	13	
	Ascending/Bridge	14	
	Descending	15	
	Chorus/Voice chorus	16	
	Drop A/Drop B	17	
	Auto run	18	
Electronic Music 4	Intro/Outro	19	
	Ascending/Bridge	20	
	Descending	21	
	Chorus/Voice chorus	22	
	Drop A/Drop B	23	
	Auto run	24	

Mode	Paragraph	Page	Executor
Medium speed	Intro/Outro	25	
	Ascending/Bridge	26	
	Descending	27	
	Chorus/Voice chorus	28	
	Drop A/Drop B	29	
	Auto run	30	
Light music	Intro/Outro	31	
	Ascending/Bridge	32	
	Descending	33	
	Chorus/Voice chorus	34	
	Drop A/Drop B	35	
	Auto run	36	

BPM2 grouping is as follows:

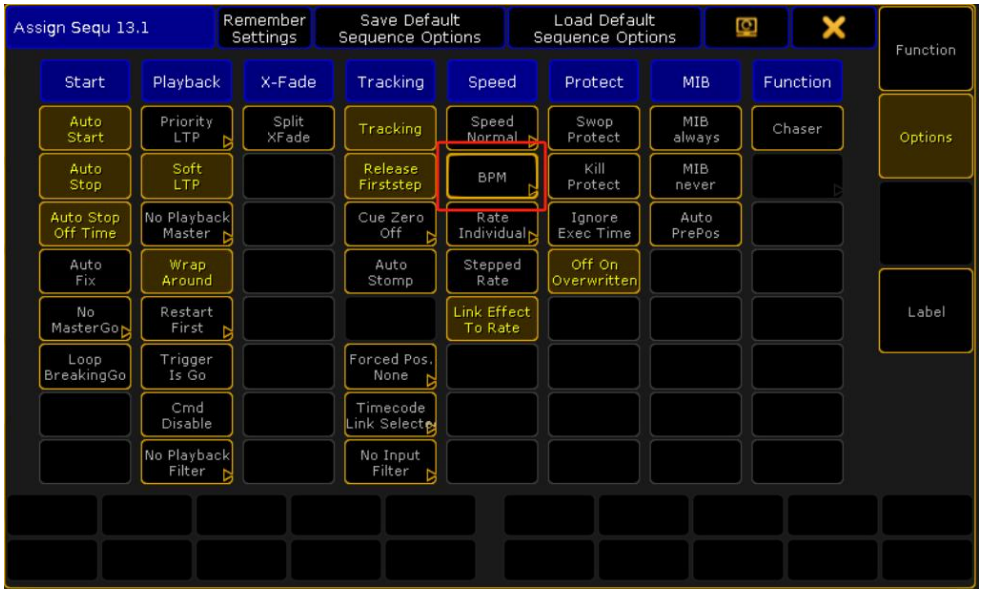
Mode	Paragraph	Page	Executor
Electronic Music 1	Intro/Outro	1	
	Ascending/Bridge	2	
	Descending	3	
	Chorus/Voice chorus	4	
	Drop A/Drop B	5	
	Auto run	6	
Electronic Music 2	Intro/Outro	7	
	Ascending/Bridge	8	
	Descending	9	
	Chorus/Voice chorus	10	
	Drop A/Drop B	11	
	Auto run	12	1-15
Electronic Music 3	Intro/Outro	13	
	Ascending/Bridge	14	
	Descending	15	
	Chorus/Voice chorus	16	
	Drop A/Drop B	17	
	Auto run	18	
Electronic Music 4	Intro/Outro	19	
	Ascending/Bridge	20	
	Descending	21	
	Chorus/Voice chorus	22	
	Drop A/Drop B	23	
	Auto run	24	

Mode	Paragraph	Page	Executor
Electronic Music 5	Intro/Outro	25	
	Ascending/Bridge	26	
	Descending	27	
	Chorus/Voice chorus	28	
	Drop A/Drop B	29	
	Auto run	30	
Electronic Music 6	Intro/Outro	31	
	Ascending/Bridge	32	
	Descending	33	
	Chorus/Voice chorus	34	
	Drop A/Drop B	35	
	Auto run	36	1-15
Electronic Music 7	Intro/Outro	37	
	Ascending/Bridge	38	
	Descending	39	
	Chorus/Voice chorus	40	
	Drop A/Drop B	41	
	Auto run	42	
Electronic Music 8	Intro/Outro	43	
	Ascending/Bridge	44	
	Descending	45	
	Chorus/Voice chorus	46	
	Drop A/Drop B	47	
	Auto run	48	

Mode	Paragraph	Page	Executor
Medium speed 1	Intro/Outro	49	
	Ascending/Bridg	50	
	Descending	51	
	Chorus/Voice ch	52	
	Drop A/Drop B	53	
	Auto run	54	
Medium speed 2	Intro/Outro	55	
	Ascending/Bridg	56	
	Descending	57	
	Chorus/Voice ch	58	
	Drop A/Drop B	59	
	Auto run	60	
Light music	Intro/Outro	61	
	Ascending/Bridg	62	
	Descending	63	
	Chorus/Voice ch	64	
	Drop A/Drop B	65	
	Auto run	66	

4.2 Follow BPM without Beat Matching

The original Speed BPM value can be freely filled in according to the effect, and the Assign Sequ function can be used to change Speed-Speed Individual to BPM. (You can also use the macro command file 【bpm】 to batch change Page 1-66 to BPM follow; Undo the batch BPM follow with the macro command file【nobpm】.)

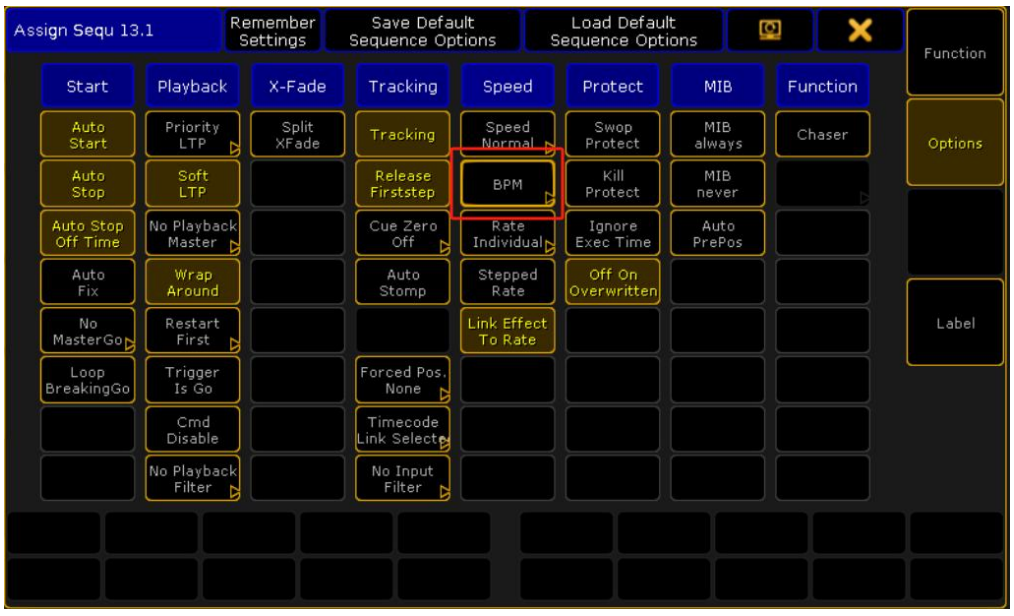


4.3 Follow BPM with Beat Matching

If the lighting program needs to follow the BPM with beat matching, the original Speed BPM must be a multiple of 60, 1/8, 1/4, 1/2, 1, 2, 4, 8 times.



And use the Assign Sequ function to change Speed-Speed Individual to BPM. (You can also use the macro command file 【bpm】 to batch change Page 1-66 to 【bpm】 follow; Undo the batch BPM follow with the macro command file 【nobpm】.)



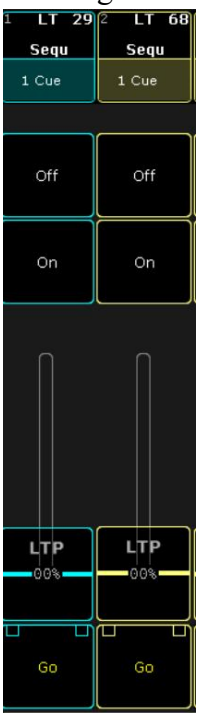
4.4 Running light program

For beat matching, it is recommended to use 2, 4, 8, 12, or 16 lights. For non-beat matching, there is no limit on the number of lights.

4.5 Multi-track CUE Execution

By default, when a multi-track CUE program is detected, the lighting control robot triggers the GO program at a rate of one beat according to the song speed.

If the multi-track CUE has a fixed time or uses the Chaser function without triggering the GO program, the macro command 【ignore go】 needs to be used. First click 【ignore go】 and then click fader to set it to blue. You can use the macro command【go】to undo the previous【ignore go】operation.



5. BPM Grouping and Macro Command Description

Function	MA macro command file	Return command	Note
Log in	login	n/a	Automatically create users and enable login
Light pause	stop	chat"playeah stop done"	When pausing, the lighting engineer needs to manually control the lights
Light control	start	chat"playeah start done"	When controlling, DJ Aide will take over and control the lighting

Follow bpm	bpm	n/a	Set fader1 1-66.15 to follow bpm
Not following bpm	nobpm	n/a	Set fader11-66 15 to not follow bpm
Trigger multi-track CUE	go	n/a	Set the selected fader program to trigger a multi-track CUE (the effect needs to be rechecked after setting)
Do not trigger multi-track CUE	ignore go	n/a	Set the selected fader program to not trigger multi-track CUE (the effect needs to be rechecked after setting)
Detection effect	update	n/a	Upload the number of effects from fader1-66 to DJ Aide