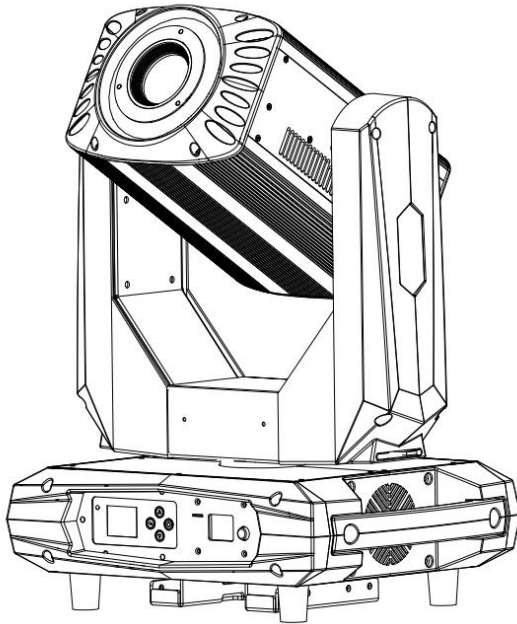


LASERMOV12

FB4 VERS.

200W RGB 3in1 Laser Moving Head



USER MANUAL

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1. Safety Guidance

Thank you for choosing our products. For your safety, please read this manual carefully before operation. This manual includes installation and use information.

The equipment is packaged in good condition when leaving the factory. Please operate according to the user manual. The machine failure caused by man-made reasons is not covered by the warranty.

1. When using the product, please open the light and check it carefully to ensure that there is no damage caused by transportation..
2. Don't let children operate the machine.
3. Use safe ropes when fixing the equipment, and hold up the bottom when moving the light.
4. The equipment must be installed in a well-ventilated place .
5. Ensure that the ventilation holes are unobstructed to avoid overheating when the light is running.
6. Before operation, make sure that the power supply voltage matches the power supply voltage required by the equipment.
7. Please ground the conductor to prevent electric shock.
8. In case of fire, do not place combustible items next to light when they are running.
9. Please carefully check whether the power cord is damaged before turning on the light. If it is damaged, replace it immediately.
10. To avoid electric shock or fire, avoid flammable liquid, water, metal and other electrical conductors entering the light. If any foreign body enters the light, please cut off the power supply immediately .
11. Avoid operating the light in a dirty and dusty environment, and

clean and maintain the light regularly.

12. Do not touch the wire when the light is running to prevent electric shock.
13. Avoid entanglement of the power cord with other wires.
14. Do not open the light housing without authorization
15. Please cut off the power when the light is not used for a long time or for maintenance.
16. Do not look directly at the light when it is running.

2. Packing List

This series of products are packed in standard carton, air carton is optional, please read this manual carefully before using. Follow operating rules to avoid damage to light or bodily injury. Please handle the products carefully after receiving them, and check whether the products are damaged during transportation. Open the cover of the box, take out the relevant accessories in the box, take out the light, and place the lamp on a horizontal table to facilitate related operations. Note: Do not squeeze plastic parts to avoid breakage or distortion. Check the parts as follows:

Stage light 1pc cable 1pc manual 1pc parts 1pc

3. Installation Notes

1. When install this equipment please make sure there's no flammable surfaces (decorated things, etc) within at least 2.5M and maintain minimum distance of 0.5M from the equipment to the walls.
2. Before installation, please confirm whether the power supply

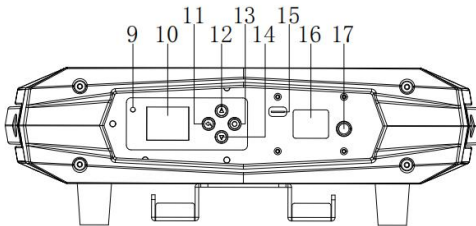
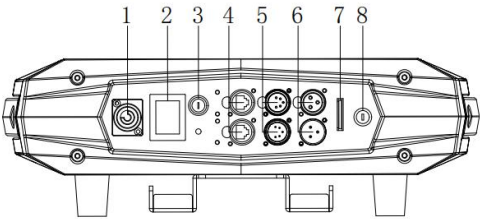
voltage you are using matches the voltage marked by the light.

3. Make sure that the ventilation fan and exhaust passage are not blocked by other equipment or decorative materials, such as newspapers, tablecloths, curtains, etc.
4. The equipment should be fixedly installed. To ensure the stability of its installation point, at least a load-bearing structure that can withstand more than ten times the weight of the product.
5. For safety reasons, this machine should be connected to a main socket with a ground wire.

4. Technical Parameter

1. Power supply: AC 100~240V 50/60Hz, 300W@220V
2. Light color: ☒RGB
3. Working mode: DMX512/ Auto/User/master-slave/ILDA/SD card
4. DMX Control Channel: 14CH/16CH/40CH/42CH/FB4 16CH
5. Cool system: Intelligent air cooling system
6. Working environment: indoor
7. Working temperature: 0°C - 35°C
8. N.W./G.W.: 21.2kg/23.5KG
9. Package size: 50*39*39.5cm

5. Light Control Panel



NO.	Interface Name	
1	Power input interface	
2	Power switch	
3	Safety electronic lock	
4	Ethernet interface	
5	XLR 5 PIN DMX-512 Interface (IN/OUT)	
6	XLR 3PIN DMX-512 interface (IN/OUT)	
7	SD card	
8	Fuse holder	
	Red indicating light	NO light/ normal light,The device system is in the dead state

9		Flash : The equipment system is running normally
		Rapid flashing: The safety electronic lock of the device has not been opened
	Green indicating light	No light : DMX512 signal was not detected
		Flash :The DMX512 signal was detected
	Blue indicating light	NO light: No external ILDA signal detected
		Normal light: ILDA switch is turned on or external signal is connected
		Flash:The external ILDA signal is detected and the light output
10	Menu display window	
11	○ MENU menu touch button	
12	▼DOWN Touch key-press	
13	● ENTER to confirm the touch key	
14	▲UP Touch key-press	
15	FB4 SD card slot	
16	FB4 menu display operation interface	
17	FB4 menu operation knob	

6.Light Setting

Using the touch button and LCD menu display function, the menu operation is simple and easy to use, and the system software is automatically loaded when the system is turned on, and the main menu interface is displayed.

Use the **▲UP**、**▼DOWN** buttons to select the required function menu icon.

Press the **●ENTER**、**○MENU** buttons to confirm the selected function or return to the previous menu. (After the screen is powered on, there is no key operation for a long time, and the screen enters the standby state only by long pressing the ENTER button to wake up and unlock)

6.1 TFT LCD display control panel function menu setting ,as following:

Menu	Secondary Menu	Third Level Menu	
Operation	DMX-512	DMX Address	(1-512)
		Channel Mode	14/16/40/42CH (default:40CH)
		View DMX Value	According the channel mode (such as 40CH, will display 1-40)
	Play Mode	Show	Scene effect Beam effects Animation loop

		Master/Slave	Slaver/Master
		Sound State	Off/On
		Sound Sense	80
		Dimmer	64
	SD card Mode	Dimmer	64
		Show	ONE/SORT/LOOP
		List	1-8
		File	1-48
		Motor speed	0-255
		Pan start	0-255
		Pan end	0-255
		Tilt start	0-255
		Tilt end	0-255
		Pan duration	1-255
		Tilt duration	1-255
	Test Mode	Pan Moto	0-255
		Tilt Moto	0-255
		Enable Output	No/Yes
		Test Pattern	Map 1-Map 6
		Brightness	0-255
		Light Color	RGB/R/G/B
		Master Size	0-255
		Invert X	No/Yes
		Invert Y	No/Yes
		LED Color	Black

			White Red Green Blue
	ILDA Mode	Off/On	When ILDA is enabled, it only receives FB4 signals. Devices operating in other modes will not emit light (FB4 mode)
	User Mode	Value setting (CH1-CH42 can customize the channel value of the luminaire)	Program built-in console, restore factory Settings to save data, such as clear data press Reset reset option
MasterSet	Motor	Pan Invert	No/Yes
		Tilt Invert	No/Yes
		Pan Angle	540/360
	Projector	Master Size	0-255
		X Scale	0-255
		Y Scale	0-255
		Invert X	No/Yes
		Invert Y	No/Yes
		Swap XY	No/Yes
	Color	Lamphouse	RGB/Single
		Red	0-255
		Green	0-255

		Blue	0-255
		Brightness	0-255
	Scan	Scan kpps 15K-40K	The lower the K number, the more flashing the pattern will appear, and the playback effect will be out of sync if the device K number is different.
		Scan-safety Off/On	(ON: It will turn off when there's only one beam light)
Display	Language	English/Chinese	
	LCD Invert	No/Yes	Screen rotates 180°
	Screensaver	30-120s	
Defaults	Pan/Tilt Reset	No/Yes	
	Defaults Reset	No/Yes	
	Factory Init	Used by factory technicians	
Survey	X Scan Error	No/Yes	The X/Y scanner motor is stuck in a certain position and an error occurs, and the device will not emit light in any mode
	Y Scan Error	No/Yes	
	P/T RST Error	No/Yes	
	RS485 Error	No/Yes	The reason why the control board cannot read is that the control board is

			not powered on or the chip is broken or the signal cable is faulty.
	CPU Version	GUI Hdw Ver	
		GUI Sfw Ver	
		MVC Hdw Ver	The reason why the control board cannot read is that the control board is not powered on or the chip is broken or the signal cable is faulty.
		MVC Sfw Ver	
		MOT Hdw Ver	
		MOT Sfw Ver	
		LED Hdw Ver	
		LED Sfw Ver	
SysInfo	Operational	Current device mode	
	Channel Mode	Current device channel	
	DMX Address	Current device dmx address	
	Scene Version	Current device effect version	
	Animation Ver	Current device Animation effect	
	Temperature	Current device temp	

Touch the key to control the cursor, select the corresponding function icon, and press "Touch ●ENTER" to enter the corresponding function menu setting. The main menu displays operation mode, advanced Settings, display Settings, reset Settings, device status, device information. Press the Touch MENU button to return to the main menu.

DMX-512

Select dmx-512 press touch ●ENTER key to confirm, the current mode will be displayed on the display, press "touch ●ENTER" button, use touch ▲UP,

▼DOWN button to select the number of channels according to the required effect of DMX control, channel mode has four kinds: The 14CH (7CH+7CH) channel is XY motor channel, 16CH (7CH+5CH+5CH) channel XY motor channel and built-in animation program channel, LED light channel, if you need to view the value of each channel after setting, you can press the △ UP, ▼DOWN button to select the channel value view access channel view. Console mode is slave mode at the same time. If DMX512 console signal is connected, it is console mode. If external ILDA signal control is connected, 6CH channel mode control is selected to control the lamp motor at the same time. Press the Touch ●ENTER key to save, and press the Touch MENU button to return to the upper-level menu.

Play mode

Select play mode, press touch ●ENTER button to confirm, the current mode will be displayed on the screen, press "Touch ●ENTER" button, use touch ▲UP, ▼DOWN button to select 3 built-in effect play mode, scene effect, beam effect, animation effect. If you need to use the touch ▲UP, ▼DOWN button to select the primary and secondary Settings ON /OFF off. You can also choose a voice-activated trigger to play the selection effect. Press the Touch ●ENTER button to save, and press the Touch MENU button to return to the upper-level menu.

Test mode

Select test test, press touch ●ENTER key to confirm, the current mode will be displayed on the screen, test test is a special mode, only after entering the test mode interface can be called, by touching ▲UP, ▼DOWN button to select XY motor/start output/overall brightness/system test diagram /LED ring color, ● Press the touch ENTER button to confirm XY

motor position setting, open the light source, light source color, XY direction, select the test diagram to check whether there is any problem with the lamp, return to the previous running mode after exiting the interface, press the touch MENU button to return to the upper level menu.

ILDA mode

Select ILDA mode, press the touch ●ENTER button to confirm, the current mode will be displayed ON the display, press the "touch ●ENTER" button, use the touch ▲UP, ▼DOWN button to select ON/OFF default is off, open ILDA only receives external signals other mode running equipment will not light. Press the Touch ●ENTER button to save, and press the Touch MENU button to return to the upper-level menu.

User mode

Select User mode, press the touch ●ENTER key to confirm, the current mode will be displayed on the screen. Channel CH1~CH33, press touch ●ENTER to determine the button by touching ▲UP, ▼DOWN button to select 0~255 value setting press ▼DOWN touch button button to set the next channel setting, through the operation needs the numerical effect to set the lamp (user mode setting data: Restore factory Settings data unchanged, such as clear data press reset option) press the touch ●ENTER button to save, press the touch MENU button to return to the previous level of menu.

SD card mode:

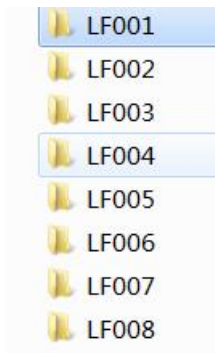
In SD card mode, select play mode, file, directory, motor speed, XY start and end points and stay time.

SD card play settings, the local system can read 8 fixed folders of SD card, each folder can read 48 pattern files, pattern file format (.ild) . The pattern file can be selected by the ▲UP and ▼DOWN buttons. If the loop play is

set to ON, the entire SD folder will be played in a loop. (It is invalid to select a single file name.) If you want to select a single file name to play, you need to return to the loop play setup OFF . Use the ▲UP and ▼DOWN buttons to select the way to the pattern file play, ON is the music, OFF is the automatic. Insert the SD card into the lamp and use the ▲UP , ▼DOWN buttons to select the SD card mode, or use the console to operate according to the channel, you can play the SD card files. In the SD card mode, you can find you by selecting the folders and files through the ▲UP , ▼DOWN buttons The file you need, or use the console to find the file you need, when you select the SD card mode on the lamp (ONE is a single file loop playback, FILE is a single folder all files loop playback, ALL is the entire SD card file loop playback) Three modes.

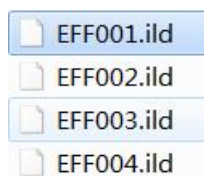
SD card file preparation :

1. Create a new folder in the root directory of the SD card. Only 8 folders as shown in the figure are supported. The naming rules are as shown in the figure below:



2. Put standard (.IDL) files in the folder you want to put, (Note: The file name can be self-named, it is recommended to name it with

numbers or letters, and the file name should not exceed 32 letters as much as possible) as follows:



3. Folder playback sequence & folder content playback sequence operations are as follows:

When the files in a single folder are played, the playback order will be played in the order in which the files are copied to the SD, that is, the principle of copying first, if you need to change the playback order, you can only copy them again in the order you need. The entire SD card file is played, and the playback will be played according to a fixed folder number (the file is played in a loop from LF001 to LF008) and the sequence is also in the order of copying

SD card folder corresponds to the Chinese and English name		
file	name(EN)	中文名 (CH)
LF001	Animals	动物
LF002	Abstracts1	简单几何
LF003	Abstracts2	抽象几何
LF004	Music+Dancers	音乐&跳舞
LF005	People+Characters	人物&特性
LF006	Themes	主题
LF007	Logos+Text	Logo&文本

LF008	Shows	表演
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Test mode: Select "Test Test", press the touch ●ENTER key to confirm. The current mode will be displayed on the screen. "Test Test" is a special mode and can only be called after entering the test mode interface. Select the P-axis horizontal motor/T-axis vertical motor/light source start output/test graph/total brightness of the light source/output color of the light source/overall size of the pattern/reverse X-axis of the pattern/reverse Y-axis of the pattern/color of the LED light ring by touching the ▲UP and ▼DOWN buttons. Press the touch ●ENTER button to confirm the setting of the XY motor position and turn on the light source. Light source color, XY direction, select the test diagram to check if there are any problems with the lamp. After exiting the interface, restore the previous operation mode and press the touch MENU button to return to the upper-level menu.

ILDA pattern: Select the ILDA mode (FB4 mode), press the touch ●ENTER key to confirm. The current mode will be displayed on the screen. Press the "Touch ●ENTER" button and use the touch ▲UP and ▼DOWN buttons to select on/off. By default, it is off. When ILDA is enabled, it only receives FB4 signals. Devices running in other modes will not emit light. Press and touch the ●ENTER button to save, and press and touch the MENU button to return to the previous level of menu.

User Mode: Select user mode and press the touch ●ENTER key to confirm. The current mode will be displayed on the screen. For channels CH1 to CH42, press and touch the ●ENTER button to confirm. Then, touch the ▲UP and ▼DOWN buttons to select the values from 0 to 255. After setting, press the ▼DOWN touch button to proceed to the next channel setting. Through the

operation, set the desired numerical effect for the lamps (setting data in user mode: Restore the factory Settings to keep the data unchanged. If you need to clear the data, press the reset option. Press the ●ENTER button to save, and press the MENU button to go back to the previous level of menu.

Advanced Settings: Select Advanced Settings, press and touch the ●ENTER key to confirm. Then, touch the ▲UP and ▼DOWN keys to select motor Settings/projection Settings/color Settings/galvanometer Settings to make the Settings. Press and touch the ●ENTER button to save. Press and touch the MENU button to go back to the previous level of menu.

1. Motor : Select motor setting, press the touch ●ENTER key to confirm, the current mode will be displayed on the display screen, use the touch ▲UP, ▼DOWN button to select, X motor horizontal reverse setting, set the motor running direction to positive (clockwise direction), or reverse (counterclockwise direction); Y The motor is set horizontally and in reverse. The operation direction of the motor is set as forward (clockwise) or reverse (counterclockwise); X axis operating Angle setting, set the maximum operating Angle of motor X, can be set 360° or 540°. Press the Touch ●ENTER button to save, and press the Touch MENU button to return to the upper-level menu.

2. Projector : select scanning Settings, press touch ●ENTER key to confirm, the current mode will be displayed on the display screen, use the touch ▲UP, ▼DOWN button to select, the overall size set, set the overall size of the pattern; X axis size setting, set the horizontal size of the pattern; Y axis size setting, set the vertical size of the pattern; The X axis is reversed, and the horizontal direction of the pattern is set to swap; The Y axis is reversed, and the vertical directions of the patterns are reversed. XY axis replacement pattern horizontal and vertical directions swap; Press the Touch ●ENTER button to save, and

press the Touch MENU button to return to the upper-level menu.

3. Color : Select the color setting, press the touch ●ENTER key to confirm, the current mode will be displayed on the display screen, use the touch ▲UP, ▼DOWN button to select, color selection, set the pattern to full color or single green; Red light brightness, set the lamp red light brightness; Green brightness, set the luminaire green brightness; Blue light brightness, set the blue light brightness of the lamp, the overall brightness of the light source, set the total brightness of the lamp; Press the Touch ●ENTER button to save, and press the Touch MENU button to return to the upper-level menu.

4. Scan: Select scanner setting, press touch ●ENTER key to confirm, the current mode will be displayed on the display screen, use the touch ▲UP, ▼DOWN button to select, K number (15K-40K) set (K number selection, the lower the K number, the more flashing the pattern, play effect device K number is not the same as the asynchronous); Scanner protection ON/OFF (open, a single beam of light will close the light) press touch ●ENTER button to save, press Touch MENU button to return to the upper menu.

5. Other Settings: Select other Settings, press the touch ●ENTER key to confirm, the current mode will be displayed on the display screen, use the touch ▲UP, ▼DOWN button to select the voice control sensitivity 000 to 100 (default 80) press the touch ●ENTER button to save, press the touch MENU button to return to the upper menu.

Display Settings: Select display Settings, press the touch ●ENTER key to confirm, the current mode will be displayed on the display screen, use the touch ▲UP, ▼DOWN button to select: Chinese /EN Settings (Chinese and English options are displayed on the interface), screen reverse Settings (180° screen rotation) press touch ●ENTER button to save, press Touch MENU

button to return to the previous menu.

Defaults

Select Defaults, press the touch ●ENTER button to confirm, the current mode will be displayed on the screen, use the touch ▲UP, ▼DOWN button to select: Reset the motor (motor out of step, position deviation through reset to calibrate the motor position), restore factory Settings, set the parameter to the initial setting of the factory (channel mode value, user mode value and DMX512 address remain unchanged) press the touch ●ENTER button to save, press the touch MENU button to return to the upper menu.

Survey

Select the Survey, press the touch ●ENTER button to confirm, the current mode will be displayed on the display screen, use the touch ▲UP, ▼DOWN button to view: the error of the scanner XY axis reset (X/Y scanner motor stuck in a certain position will report an error, no light will come out in any mode of the device); Communication error: ON error /OFF normal (the reason for error is that the control board is not powered on or the chip is bad or the signal cable is faulty); Hardware control version, motor version and LED version are read (the reason why the control board cannot read is that the control board is not powered on or the chip is broken or the signal cable is faulty). After checking, press the MENU button to return to the upper-level menu.

SysInfo

Select the SysInfo, press the touch ●ENTER button to confirm, the current mode will be displayed on the screen, use the touch ▲UP, ▼DOWN button to view the system information

Operation mode: the working mode of the current lamp, channel mode: the channel mode of the current device, address code: the working address of the

current lamp, effect version: the version of the effect played by the current device, animation version: the version of the built-in animation effect of the current device, device temperature: the internal temperature of the device, press the MENU button to return to the upper menu after viewing.

7.Light Control mode

① FB4 control mode:

The Ethernet signal line is connected to the device. The situation is as follows:

To connect via Ethernet signal, you need to press and touch the ▲UP and ▼DOWN keys in the main MENU to select the operation mode /ILDA mode (FB4Mode) switch and set it to "on" for the connection to be successful (default is "off"). Touch ●ENTER to save and touch the MENU button to return to the upper-level menu

② DMX512 control mode

The DMX-512 control mode of this lamp has the following two control methods:

- a. Use the DMX-512 console mode, set the DMX512 address code, and the lamp will receive the standard DMX512 signal. For details, please refer to the DMX-512 channel instructions.
- b. To use the FB4-DMX signal control mode, the 6CH channel mode needs to be selected in the "console Mode". The FB4 address code needs to be changed to the address code of the 6CH channel mode plus

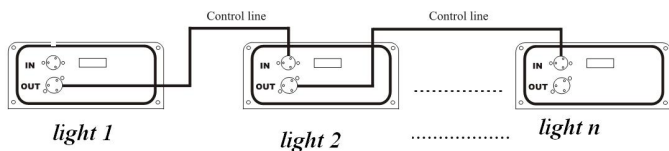
6 values (for example, if the address code of the 6CH channel mode is 1, then the FB4 address code needs to be set to 7).

③. Playback mode:

When the lamp is not connected to an external signal, the device can choose to automatically operate with the built-in pre-programmed effect. At the same time, you can also choose the voice control mode to trigger playback.

Master - Touch the ▲UP and ▼DOWN keys in the main menu to enter and select "Operation Mode" - Play mode menu. Set the host as the host (default is the slave), and at this time, the light is the host. Touch ●ENTER to save, and touch the MENU button to go back to the previous level of menu.

Slave - Touch the ▲UP and ▼DOWN buttons in the MENU to enter and select "Operation Mode" - Play mode menu. Set the host as the slave (default is the slave), and press the MENU button to return to the previous level menu.



User mode:

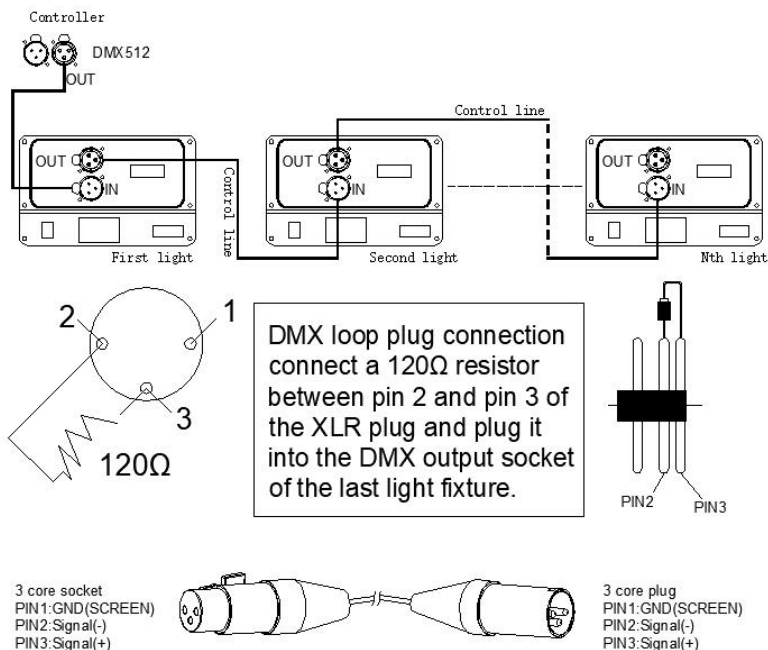
The numerical value lamps of each channel of the lamps can be controlled through the operation interface

SD Card mode:

Select the SD card control mode . The light will play the contents stored on the SD card.

8.DMX512 Control

8.1 DMX512 Connect



1. In order to reduce signal errors and avoid signal weakening or interference during transmission, a 120Ω resistance loop can be inserted between the 2 cores and the 3 cores of the DMX output terminal of the last machine.
2. Connect the lamp with XLR signal, one end is connected to the output port of the lamp, and the other end is connected to the input port of the next lamp. XLR signal lines can only be used in series, not in parallel. DMX512 signal transmission speed is very fast. Damage to the signal line, weak welding, poor contact, etc., will affect the signal transmission and cause the system to shut down.

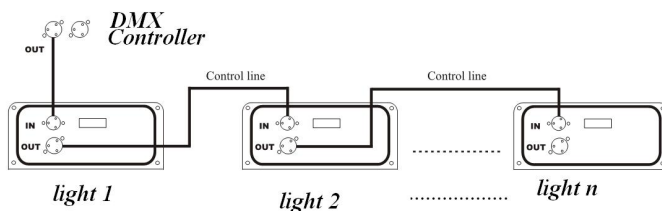
3. When a unit of machine power disconnect, DMX output or input connection is bypass, in order to maintain the DMX line and connectivity.
4. Each lamp must have an address code, which can receive the information sent by the console, ranging from 1 to 512.
5. The terminal of the DMX512 system needs to be equipped with a terminator to reduce signal transmission errors.
6. The 3-pin XLR connector is more common than the 5-pin XLR:
3 pin XLR: PIN1: GND, PIN2: - Signal , PNI3: + Signal
5 pin XLR: PIN1: GND, PIN2: - Signal, PIN3: + Signal,
PIN4/PIN5:No USE

8.2 Chanel setting:

Channel Setting

Press the ●ENTER button to enter the menu mode, use the touch ▲UP, ▼DOWN button to select the "console mode" channel mode (14CH/16CH/40CH/42CH), select the channel mode you need, address code Settings. Touch ●ENTER to save, touch MENU button to return to the previous MENU.

Connect the XLR control line from the DMX output of the controller to the DMX input of each luminance, and so on until all the luminance are connected, and then connect the loop plug to the signal output of the last luminance to complete the connection ,As following :



When using any controller, each controller must have its own address. Therefore, the address of the first light fixture is set to 1, the address code of the second light fixture is set to 15CH/17CH/41CH /43CH(address code 1 of the first light fixture plus 14CH/16CH/40CH /42 CH), and the third light fixture is set to 29CH/33CH/81CH/85CH. And so on (this setting will depend on the different console to decide, now just as a general rule).

Specific dmX-512 signal control mode address code switch Settings are as follows:

Light NO.	Start Address	Display (ON)
1	1	1
2	15/17/41/43	015/017/041/043
3	29/33/81/85	029/033/081/085
⋮	⋮	⋮

8.3 DMX-512 Channel introduce:

The IPLAY mode of this lamp has 4 channel modes 14/16/40/42CH (channel mode can be viewed in dmx mode), the instructions are as follows:

14CH:

Channel	Value	Content
CH1	0~255	P motor (X motor position)

CH2	0~255	P motor Fine-tuning (X motor Fine-tuning)	
CH3	0~255	T axis motor (Y motor position)	
CH4	0~255	T motor Fine-tuning (Y motor Fine-tuning)	
CH5	0~255	P/T motor speed (XY motor speed choose)	
CH6	0~255	P/T motor reset (When the value is 255, after 20s, reset)	
CH7	0~255	P/T motor macro function (16 values for a total of 16 effects)	
CH8	LED brightness	0~255	The higher the value, the brighter the brightness
CH9	LED strobe	0~255	The higher the value, the faster the flash speed
CH10	LED macro function	0~255	One effect for every 4 values, for a total of 64 effects
CH11	LED speed	0~255	The higher the LED macro speed value, the faster the speed
CH12	LED red	0~255	Red
CH13	LED green	0~255	Green
CH14	LED blue	0~255	Blue

16CH:

Channel	Value	Content
CH1	0~255	P motor (X motor position)
CH2	0~255	P motor Fine-tuning (X motor Fine-tuning)
CH3	0~255	T axis motor (Y motor position)

CH4	0~255	T motor Fine-tuning (Y motor Fine-tuning)	
CH5	0~255	P/T motor speed (XY motor speed choose)	
CH6	0~255	P/T motor reset (When the value is 255, after 20s ,reset)	
CH7	0~255	P/T motor macro function (16 values for a total of 16 effects)	
CH8	0~31	Blackout	
	32~63	Manual choose cue	
	64~127	Auto trigger macro function	
	128~255	Invalid	
CH9	0~255	dimmer	
CH10	0~255	CH8: 32~63, Each 32 value be 1 list, total 8 list	
		CH8 :64 to 127, Auto mode Effect 1:0~95, Effect 2:96~127, Effect 3:128~255.	
CH11	0~15	Blackout	
	16~255	Pattern selection: Each 12 value be 1 cue, 20 cues total;	
CH12	0~255	Zoom (100%.....0)	
CH13	LED macro function	0~255	The higher the value, more brighter.
CH14	LED strobe	0~255	The higher the value, the faster the flash speed
CH15	LED macro function	0~255	One effect for every 4 values, for a total of 64 effects
CH16	LED speed	0~255	The higher the LED macro speed value, the faster the speed

40CH:

CH	Value	Content
CH1	0~255	P motor (X motor position)
CH2	0~255	P motor Fine-tuning (X motor Fine-tuning)
CH3	0~255	T axis motor (Y motor position)
CH4	0~255	T motor Fine-tuning(Ymotor Fine-tuning)
CH5	0~255	P/T motor speed (XY motor speed choose)
CH6	0~255	P/T motor reset(When the value is 255, after 20s, reset)
CH7	0~31	Blackout(off)
	32~63	Manual play (CH8-CH40 valid)
	64~95	Auto play macro function (CH8, CH12 valid)
	96~255	Invalid
CH8	0~255	Dimmer Brightness 0% ~ 100%
CH9	0~255	Red brightness 0% ~ 100%
CH10	0~255	Green brightness 0% ~ 100%
CH11	0~255	Blue brightness 0% ~ 100%
CH12	0~255	Each 32 value be one page,total 8 page (CH7= 32-63 is valid)
		Each 10 value be one macro function, total 25 cue (CH7= 64-95 is valid)
CH13	0~15	Blackout(off)
	16~255	each 12 values be one cue, total 20 cues; (choose cues)
CH14	0~255	From left to right (128 center)
CH15	0~255	X axis fine position
CH16	0~255	From bottom to top (128 center)

CH17	0~255	Y axis fine position				
CH18	0~255	Clockwise rotation (0°-360°)				
CH19	0~255	Fine rotation				
CH20	0~255	Zoom, From 100% to 0%				
CH21	0~255	From left to right (X rotation)				
CH22	0~255	From bottom to top(Y rotation)				
CH23	Choose color					
	0~7	Default color	8~63	7 pcs different color		
	64~127	Each 8 value be one effect, total 8 effect				
	128~143	Macro function 1	144~159	Macro function 2		
	160~175	Macro function 3	176~191	Macro function 4		
	192~207	Macro function 5	208~223	Macro function 6		
	224~239	Macro function 7	240~255	Macro function 8		
CH24	0~255	Visible point 100%-0%-0				
CH25	Pattern Deformation (with zoom channel (14) (25))					
	0~15	Invalid	16~31	Macro function 1	32~47	Macro function 2
	48~63	Macro function 3	64~79	Macro function 4	80~95	Macro function 5
	96~111	Macro function 6	112~127	Macro function 7	128~143	Macro function 8
	144~159	Macro function 9	160~175	Macro function 10	176~191	Macro function 11
	192~207	Macro function 12	208~223	Macro function 13	224~255	Default
CH26	Wave mode(when value=0 Invalid)					

	1~39	Macro function 1	40~79	Macro function 2	80~119	Macro function 3
	120~159	Macro function 4	160~199	Macro function 5	200~255	Macro function 6
CH27	Write in (when value=0 Invalid)					
	1~42	Macro function 1	43~84	Macro function 2	85~126	Macro function 3
	127~255	Strobe mode(from slow to fast)				
CH28	X horizontal position (when value=0 Invalid)					
	0	Invalid	1~32	Macro function 1	33~64	Macro function 2
	65~96	Macro function 3	97~128	Macro function 4	129~160	Macro function 5
	161~192	Macro function 6	193~224	Macro function 7	225~255	Macro function 8
CH29	Y Vertical position (when value=0 Invalid)					
	0	Invalid	1~32	Macro function 1	33~64	Macro function 2
	65~96	Macro function 3	97~128	Macro function 4	129~160	Macro function 5
	161~192	Macro function 6	193~224	Macro function 7	225~255	Macro function 8

CH30	Rotation (when value=0 Invalid)					
	0	Invalid	1~32	Macro function 1	33~64	Macro function 2
	65~96	Macro function 3	97~128	Macro function 4	129~160	Macro function 5
	161~192	Macro function 6	193~224	Macro function 7	225~255	Macro function 8
CH31	Zoom (when value=0 Invalid)					
	0	Invalid	1~32	Macro function 1	33~64	Macro function 2
	65~96	Macro function 3	97~128	Macro function 4	129~160	Macro function 5
	161~192	Macro function 6	193~224	Macro function 7	225~255	Macro function 8
CH32	X Rotation (when value=0 Invalid)					
	0	Invalid	1~32	Macro function 1	33~64	Macro function 2
	65~96	Macro function 3	97~128	Macro function 4	129~160	Macro function 5
	161~192	Macro function 6	193~224	Macro function 7	225~255	Macro function 8
CH33	Y Rotation (when value=0 Invalid)					
	0	Invalid	1~32	Macro function 1	33~64	Macro function 2
	65~96	Macro	97~128	Macro	129~160	Macro

		function 3		function 4		function 5
	161~192	Macro function 6	193~224	Macro function 7	225~255	Macro function 8
CH34	LED Dimmer		0~255		0-100% (dark-bright)	
CH35	LED strobe		0~255		0-100%(slow-fast)	
CH36	LED macro function		0~255		each 4 values be one cue, total 64 cues	
CH37	LED speed		0~255		from slow to fast	
CH38	LED red		0~255		Red	
CH39	LED green		0~255		Green	
CH40	LED blue		0~255		Blue	

42CH:

CH	Value	Content
CH1	0~255	P motor (X motor position)
CH2	0~255	P motor Fine-tuning (X motor Fine-tuning)
CH3	0~255	T axis motor (Y motor position)
CH4	0~255	T motor Fine-tuning (Y motor Fine-tuning)
CH5	0~255	P/T motor speed (XY motor speed choose)
CH6	0~255	P/T motor reset(When the value is 255, after 20s ,reset)
CH7	0~255	P/T motor macro function (16 values for a total of 16 effects)
CH8	0~31	Blackout(off)
	32~63	Manual (CH8-CH40 valid)
	64~95	Auto play macro function (CH8, CH12 valid)
	96~255	Invalid

CH9	0~255	Dimmer Brightness 0% ~ 100%		
CH10	0~255	Red brightness 0% ~ 100%		
CH11	0~255	Green brightness 0% ~ 100%		
CH12	0~255	Blue brightness 0% ~ 100%		
CH13	0~255	Each 32 value be one page,total 8 page (CH7= 32-63 is valid)		
		Each 10 value be one macro function, total 25 cue (CH7= 64-95 is valid)		
CH14	0~15	Blackout(off)		
	16~255	each 12 values be one cue, total 20 cues; （choose cues）		
CH15	0~255	From left to right （128 center）		
CH16	0~255	X axis fine position		
CH17	0~255	From bottom to top （128 center）		
CH18	0~255	Y axis fine position		
CH19	0~255	Clockwise rotation (0°-360°)		
CH200	0~255	Fine rotation		
CH21	0~255	Zoom, From 100% to 0%		
CH22	0~255	From left to right (X rotation)		
CH23	0~255	From bottom to top(Y rotation)		
CH24	Choose color			
	0~7	Default color	8~63	7 pcs different color
	64~127	Each 8 value be one effect, total 8 effect		
	128~143	Macro function 1	144~159	Macro function 2
	160~175	Macro function 3	176~191	Macro function 4
	192~207	Macro function 5	208~223	Macro function 6
	224~239	Macro function 7	240~255	Macro function 8
CH25	0~255	Visible point 100%-0%-0		
CH26	Pattern Deformation （with zoom channel (14) (25))			

	0~15	Invalid	16~31	Macro function 1	32~47	Macro function 2
	48~63	Macro function 3	64~79	Macro function 4	80~95	Macro function 5
	96~111	Macro function 6	112~127	Macro function 7	128~143	Macro function 8
	144~159	Macro function 9	160~175	Macro function 10	176~191	Macro function 11
	192~207	Macro function 12	208~223	Macro function 13	224~255	Default
CH27	Wave mode(when value=0 Invalid)					
	1~39	Macro function 1	40~79	Macro function 2	80~119	Macro function 3
	120~159	Macro function 4	160~199	Macro function 5	200~255	Macro function 6
CH28	Write in (when value=0 Invalid)					
	1~42	Macro function 1	43~84	Macro function 2	85~126	Macro function 3
	127~255	Strobe mode(from slow to fast)				
CH29	X horizontal position (when value=0 Invalid)					
	0	Invalid	1~32	Macro function 1	33~64	Macro function 2
	65~96	Macro function 3	97~128	Macro function 4	129~160	Macro function 5

	161~192	Macro function 6	193~224	Macro function 7	225~255	Macro function 8
CH30	Y Vertical position (when value=0 Invalid)					
	0	Invalid	1~32	Macro function 1	33~64	Macro function 2
	65~96	Macro function 3	97~128	Macro function 4	129~160	Macro function 5
	161~192	Macro function 6	193~224	Macro function 7	225~255	Macro function 8
CH31	Rotation (when value=0 Invalid)					
	0	Invalid	1~32	Macro function 1	33~64	Macro function 2
	65~96	Macro function 3	97~128	Macro function 4	129~160	Macro function 5
	161~192	Macro function 6	193~224	Macro function 7	225~255	Macro function 8
CH32	Zoom (when value=0 Invalid)					
	0	Invalid	1~32	Macro function 1	33~64	Macro function 2
	65~96	Macro function 3	97~128	Macro function 4	129~160	Macro function 5
	161~192	Macro function 6	193~224	Macro function 7	225~255	Macro function 8

CH33	X Rotation (when value=0 Invalid)					
	0	Invalid	1~32	Macro function 1	33~64	Macro function 2
	65~96	Macro function 3	97~128	Macro function 4	129~160	Macro function 5
	161~192	Macro function 6	193~224	Macro function 7	225~255	Macro function 8
CH34	Y Rotation (when value=0 Invalid)					
	0	Invalid	1~32	Macro function 1	33~64	Macro function 2
	65~96	Macro function 3	97~128	Macro function 4	129~160	Macro function 5
	161~192	Macro function 6	193~224	Macro function 7	225~255	Macro function 8
CH35	LED Dimmer		0~255		0-100% (dark-bright)	
CH36	LED strobe		0~255		0-100%(slow-fast)	
CH37	LED macro function		0~255		each 4 values be one cue, total 64 cues	
CH38	LED speed		0~255		LED macro speed from slow to fast	
CH39	LED red		0~255		Red	
CH40	LED green		0~255		Green	
CH41	LED blue		0~255		Blue	
CH42	Scan speed		0~255			

SD card 40CH:

CH		Value	Content
CH1		0~255	P motor (X motor position)
CH2		0~255	P motor Fine-tuning (X motor Fine-tuning)
CH3		0~255	T axis motor (Y motor position)
CH4		0~255	T motor Fine-tuning (Y motor Fine-tuning)
CH5		0~255	P/T motor speed (XY motor speed choose)
CH6		0~255	P/T motor reset(When the value is 255, after 20s, reset)
CH7	cue	0~127	Follow the 40CH value
	SD card mode	128~159	manual
		160~255	List auto play
CH8	Dimmer	0~255	0 - 100%
CH9	Red	0~255	0 - 100%
CH10	Green	0~255	0 - 100%
CH11	Blue	0~255	0 - 100%
CH12	Pattern list	0~255	Each 32 value is a pattern list, total 8
CH13	Pattern	0~15	OFF
		16~255	Each 5 value is a pattern, most 48 pattern
CH14	X position	0~255	Left- right (128 center)
CH15	X axis fine position	0~255	
CH16	Y position	0~255	Up - down (128 center)

CH17	Y axis fine position	0~255			
CH18	Rotation	0~255	0-360 degree		
CH19	Rotation fine	0~255	Fine tuning of pattern rotation Angle		
CH20	Zoom	0~255	100% to 1%		
CH21	X flip	0~255	From left to right		
CH22	Y flip	0~255	From up to down		
CH23	color	0~7	Default	8~63	7 colors
		64~127	Each 8 value is 1 color effect, total 8		
		128~143	Marco 1	144~159	Marco 2
		160~175	Marco 3	176~191	Marco 4
		192~207	Marco 5	208~223	Marco 6
		224~239	Marco 7	240~255	Marco 8
CH24	write in	0~255	visible point 100%--0		
CH25	speed	0~15	100%		
		16~31	stop		
		32~255	25%-200%		
CH26	Scan kpps	0~31	Default		
		32~223	6K~29K		
		224~255	30K		
CH27-CH28-CH29-CH30-CH31-CH32-CH33			invalid		
CH34	LED Dimmer	0~255	LED Dimmer		

CH35	LED Strobe	0~255	LED Strobe
CH36	LED Marco	0~255	LED Marco
CH37	LED Speed	0~255	LED Speed
CH38	LED Red	0~255	LED Red
CH39	LED Green	0~255	LED Green
CH40	LED Blue	0~255	LED Blue

9. Built in effect list

	DMX value	Page 1	Page 2	Page 3	Page 4	Page 5	Page 6	Page 7
Cue	0-15	invalid(black)						
Cue 1	16-27							
Cue 2	28-39							
Cue 3	40-51							
Cue 4	52-63							
Cue 6	64-75							
Cue 6	76-87							
Cue 7	88-99							
Cue 8	100-111							
Cue 9	112-123							
Cue 10	124-135							
Cue 11	136-147							

Cue 12	148-159							
Cue 13	160-171							
Cue 14	172-183							
Cue 15	184-195							
Cue 16	196-207							
Cue 17	208-219							
Cue 18	220-231							
Cue 19	232-243							
Cue 10	244-255							

10.FB4 instructions

Menu	Secondary Menu
Operation Mode	BEYON/QS
	DMX-512
	ArtNET
	Autoplay
	Time Code
	Slave Mode
	Test Mode
DMX address	Start adress 1-512
	Termination auto /on/off
	Profile FB3/FB4
	Timeout 3.0(0-5.0)
Artnet Settings	Universe
	Start Address 1-512
	RDM
	Profile FB3/FB4
	Timeout 3.0
Autoplay Setup	Playback none/cue/list
	File Index
	End Action
Timecode Setup	TC Type ATC
	File Index
	Offset Hrs
	Offset Min

	Offset Sec
	Offset mS
Test Mode	Enable Laser
	Test Pattern 1-999
	Brightness 0-100
	Master Size 0-100
Master Settings	Brightness 0-100
	Master Size 0-100
	X Scale 0~100
	Y Scale 0~100
	Invert X
	Invert Y
	Swap XY
	Rescan Time 500
Geo Correction	X Scale
	Y Scale
	X Position
	Y Position
	Z Rotation
	X Shear
	Y Shear
Color settings	Color Shift 0-7
	Red 0~100
	Green 0~100
	Blue 0~100

	Deep Blue
	Yellow
	Cyan
Scan Guard	Enable Guard
	Horizon Level 0-100
	Horizon Angle -45-45
	Min.Velocity 1-300
	Dwell Time 1-300
	Invert Y
Network Setup	Auto IP
	Address 1
	Address 2
	Address 3
	Address 4
	Mask 1
	Mask 2
	Mask 3
	Mask 4
FB4 Device info	Serial NO.
	Firmware
	Build NO.
Exit Menu	

● 10.1 FB4 Operating instructions:



GREEN-Power &SD card status

- OFF:No Power
- FLASHING:Not used at the moment
- BLINKING:No SD Card
- SOLID ON:SD card Present



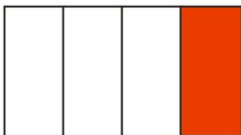
YELLOW-Network status

- OFF:Network is not detected
- FLASHING:Obtaining Address
- BLINKING:IP Address Obtained
- SOLID ON:Connected to QS or BEYOND



ORANGE-DMX & Art Net status

- OFF:No active DMX or Art NET signal detected
- BLINKING:DMX signal detected
- SOLID ON:Art-NET or Scan detected



RED-light Emission status

- OFF: No light output (and no connection to QS or BEYOND)
- SLOW BLINKING: QS or BEYOND active and light output disabled
- BLINKING: QS or BEYOND active and light output is enabled



- ALL 4 LEDS BLINKING : Waiting for firmware Update and No Valid firmware on the SD Card

ALL 4 LEDS SOLID ON : Firmware Update in Progress

● **DMX-512 control mode:**

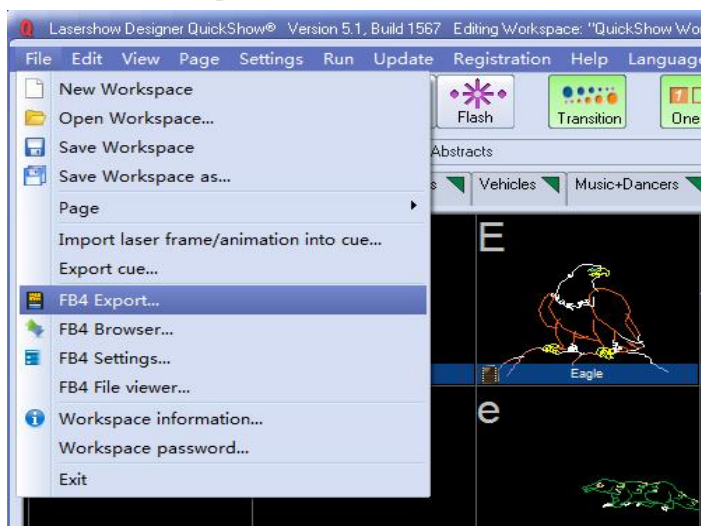
Function		value	Description
CH1	ACCESS	0-31	blackout
		33-95	basic range CH2-CH4 valid
		97-159	standard range ch1~ch8 valid
		161-223	extended range ch1~ch12 valid
		225-255	full range ch1~ch16 valid
CH2	Page	0-15	1 page
		17-31	2 page
		33-47	3 page
		49-63	4 page
		65-79	5 page
		81-95	6 page
		97-111	7 page
		113-127	8 page

		129-255	9 page
CH3	Cue	0-31	off
		33-222	Cue 1-48
		225-255	repear
CH4	speed	0-15	100%
		17-31	pause
		33-255	25%-200%
CH5	light (TTL mode can not use it)	0-255	0-100%
CH6	zoom	0-255	0-100%
CH7	X size	0-255	100%-0-100%
CH8	Y size	0-255	100%-0-100%
CH9	Z angle	0-255	0-360°
CH10	X position	0-255	Left - center - right
CH11	Y position	0-255	Down - center - up
CH12	Valid visible point	0-255	0-100% No visible points - all points visible
CH13	Scanner K	0-31	default
		33-223	6k-29k
		225-255	30k
CH14	release	0-31	default
		33-95	hold
		97-159	loop
		161-223	next
		225-255	stop
CH15	color	0-31	default
		33-223	RED-ORANGE-YELLOWLIME-R EEM-CYAN-BLUEPURPLE-PINK- RED-WHITE
		225-255	white

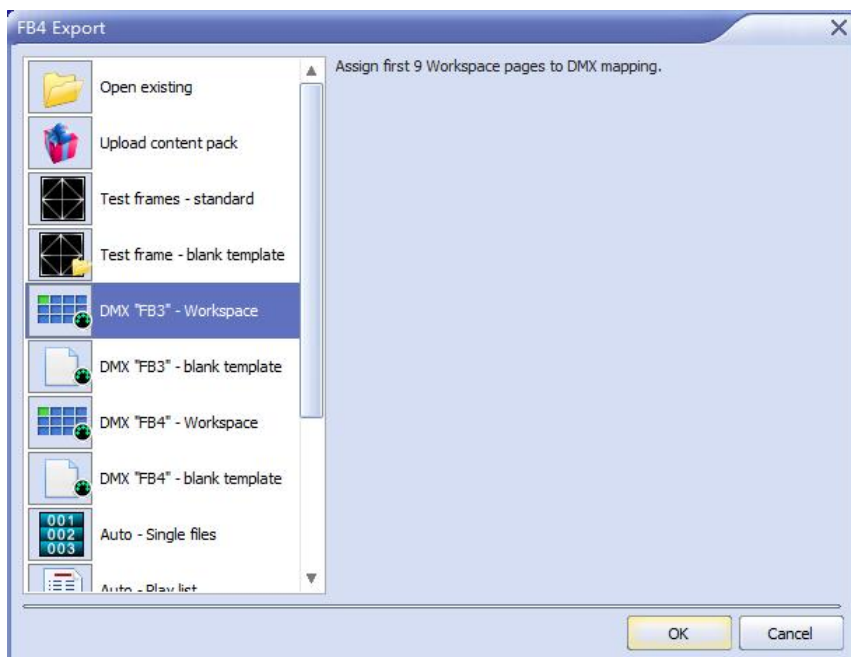
CH16	reseved	0-255	reserved
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FB4 DMX pattern export steps

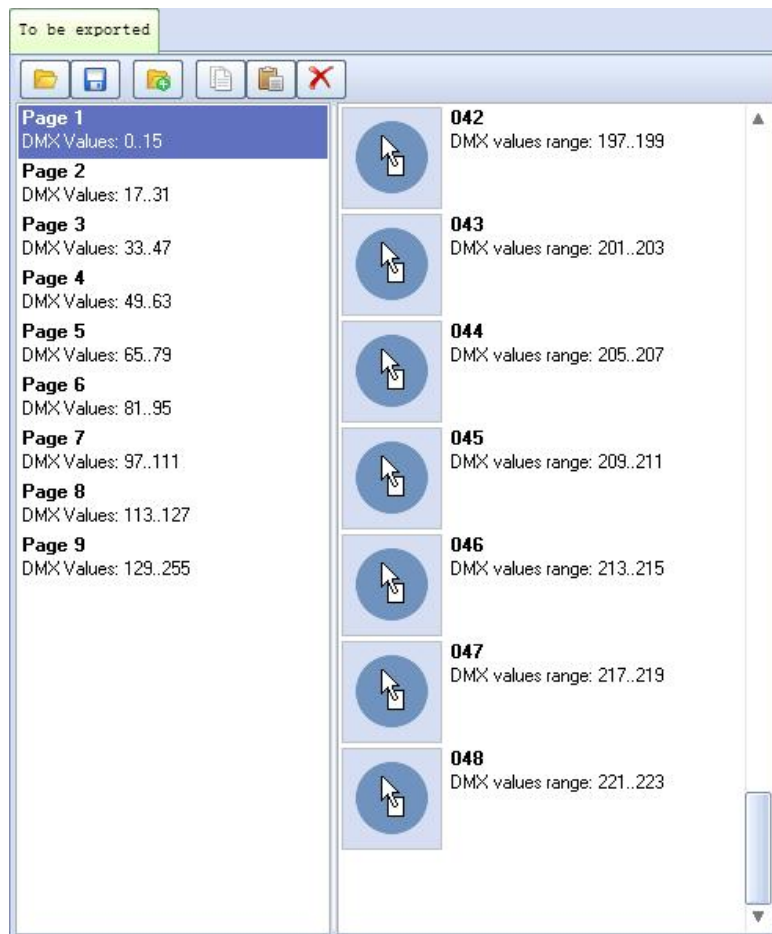
1.after FB4 hardware link company, open FB4 Export.(Noted SD card must be input FB4)



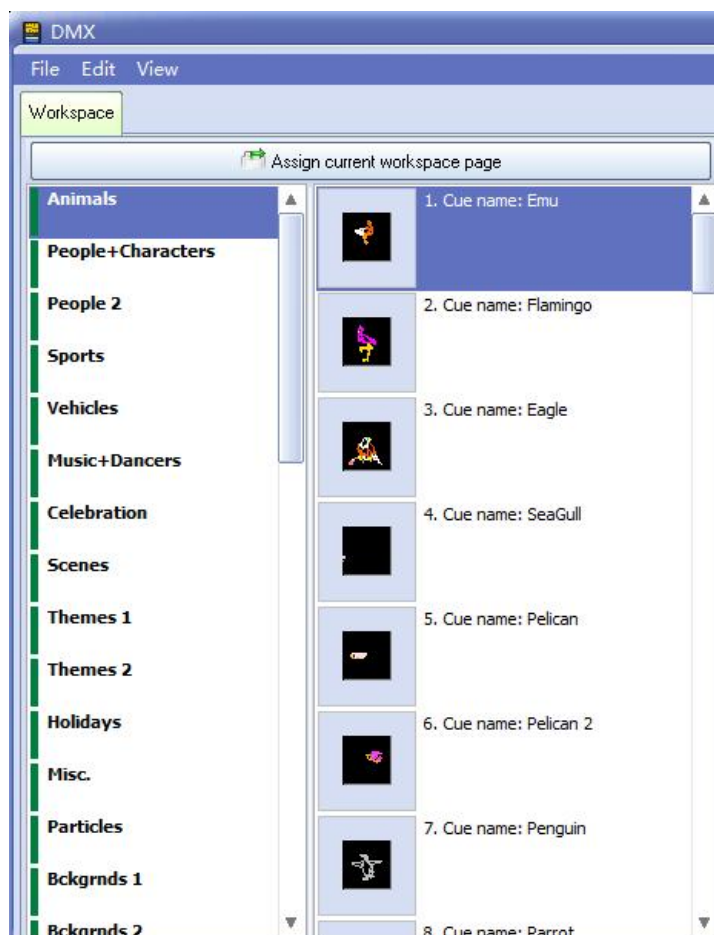
2.choose DMX"FB3"-Workspace, then Click OK.



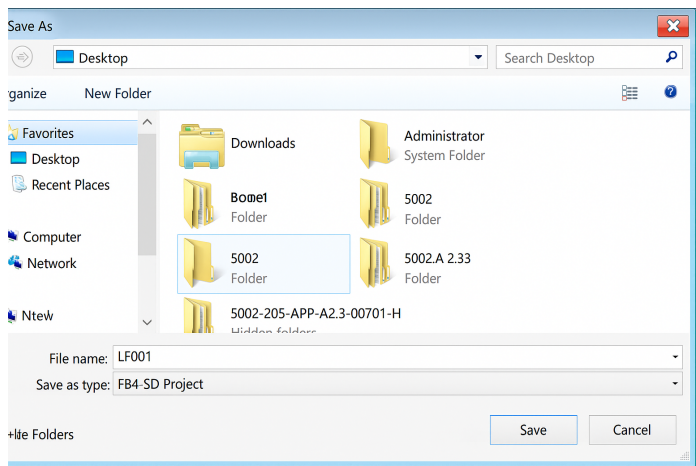
3. Select a blank program grid on the program page on the right. There are 9 program pages in total, and each page has 48 different program grids corresponding to different DMX values. (Click on the upper part to clear a single program grid, or right-click the program page to clear the entire program page)



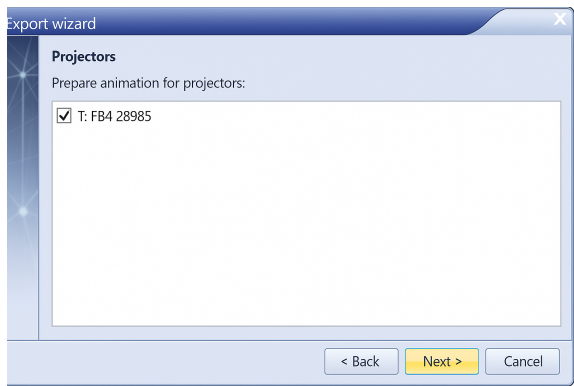
4. Select the desired program in the program workspace on the left, double-click the left button or drag the mouse to the blank program grid on the right.



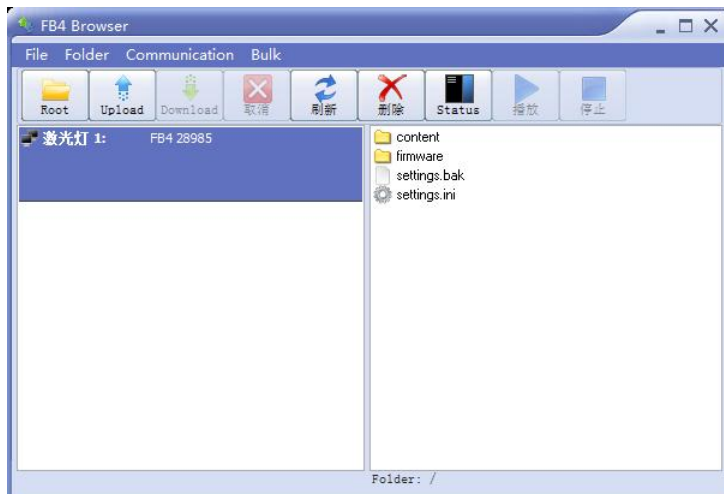
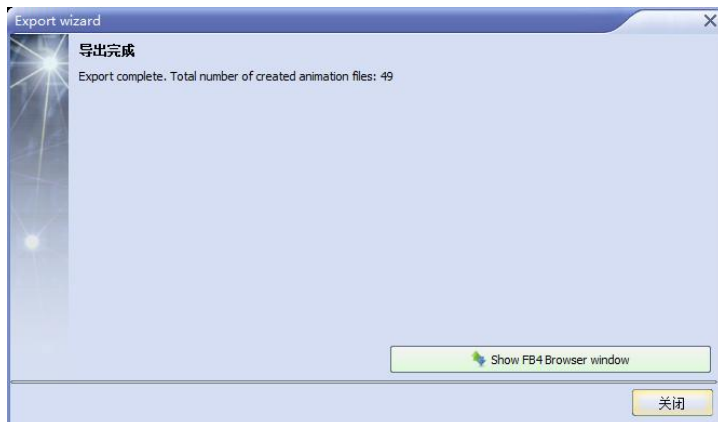
5.After selecting the desired program, click Export in the lower right corner, select your own appropriate path and file name in the pop-up window, and select Save.



6.At the prompt of the system, select the next step, and then select the FB4 box you want to upload the program, and continue to select the next step until you read the article. (When the computer is connected to only one box, just click Next)

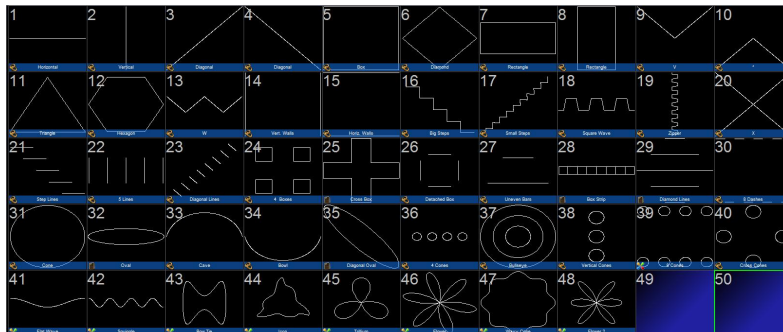


7. After the progress bar is finished, it only means that the data has been saved to the computer. At this time, click the FB4 Window in the lower right corner to see if the data has been uploaded to FB4. If it is still downloading, continue to wait until the progress bar is finished.

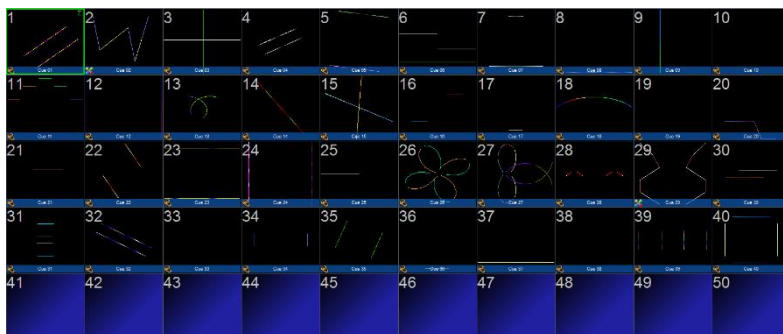


- The content of the default program page shipped by our company is as follows ;

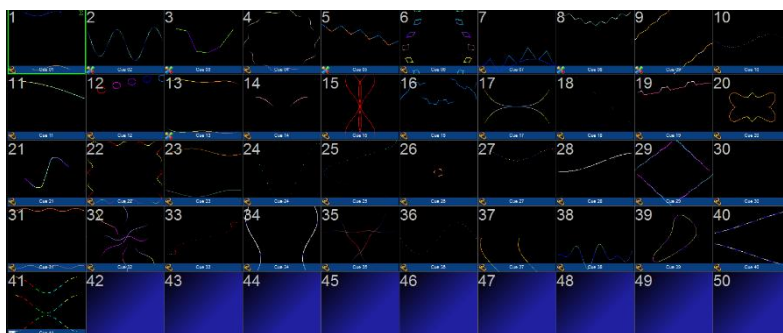
Page 1



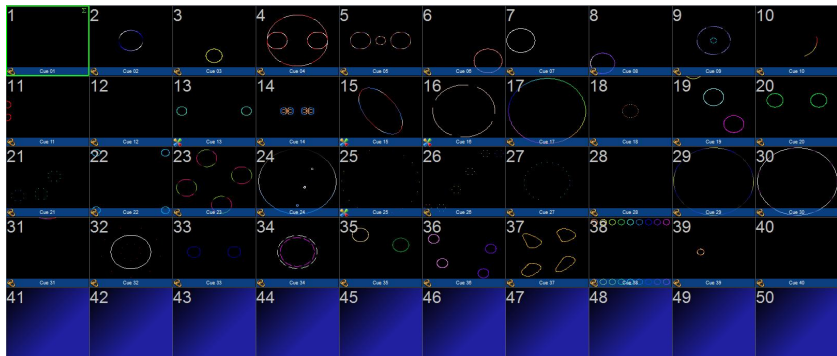
Page 2



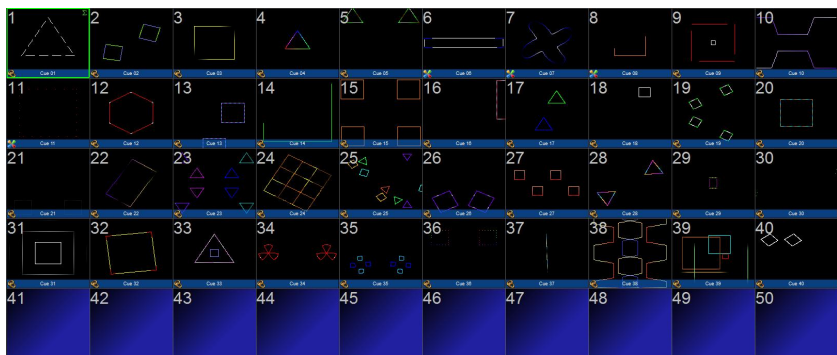
Page 3



Page 4



Page 5



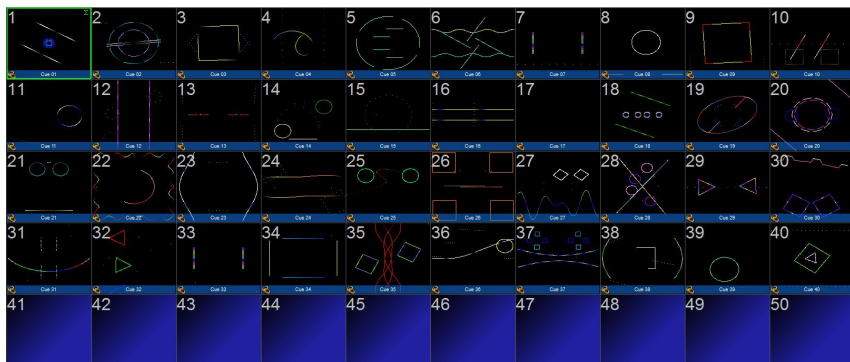
Page 6



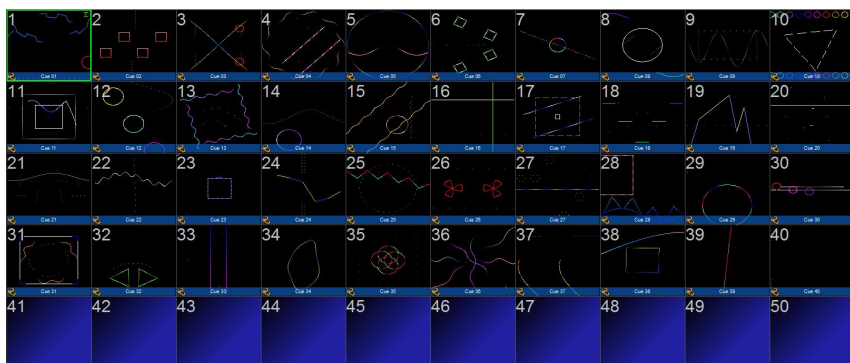
Page 7



Page 8



Page 9



11.Maintenance

1. Maintenance should be performed every 15-day period, by using a sponge which is dipped with alcohol, rather than wet cloth or other chemical liquid, to clean the mirror. Always disconnect from the power when the device is not in use or before cleaning it.
2. Cooling fan cleaning: Use compressed air to clean the fan of the device. The fan position plays a vital role in the normal operation of the device. Please ensure the normal operation of the fan.
3. When the equipment is used frequently, the fan should be cleaned every 1 month, or in a dusty and oily environment, the number of cleanings should be increased. The actual operation should be implemented according to the application environment of the equipment to ensure the normal operation of the fan.
4. Internal optical cleaning: cleaning internal optical components requires professional authorized technicians to operate. Incorrect cleaning techniques or improper cleaning choices can cause serious damage to the equipment. Since the optical part and the rest of the light source system are separated and sealed, this operation should not be performed more than once a year.

12.Warning and Declaration

Do not look directly at the light source with your eyes when turning on the light. Before any installation and maintenance work, please make sure that the power has been cut off.



Electrical safety



Optical security

Product common breakdown comparative chart	
breakdown cause	Major breakdown analysis and solution
The light no emitting or no work	1. Check the power cable whether to connect the light,whether the fuse does burn out 2. Check the input voltage whether to assign the voltage match with the light. Check work order is normal reset or not.
No sound control	1.Check whether the keys on the display screen are set to the voice control mode according to the instructions. 2. If the sound sensitivity value is small, select a larger value.
The light can emit light normally and is not controlled by the controller	1.Check whether the start address code of the display screen of the light is set correctly. 2.Check whether the XLR signal is damaged.

Master-slave synchronization mode, the master is normal, and the slave is abnormal	1. Confirm that there is only one host, and the host is not connected to the DMX console, and set to voice control or auto-propelled mode. 2. There is still a problem with the correct master and slave settings, please check the online line.
Key failure, no work	1. Check whether any of the keys has not been reset normally.
The light is dim and the brightness is obviously reduced	1. Check whether the light source has reached the expiration date. 2. Check whether the internal and external optical system is clean.
If the fault cannot be eliminated according to the above method, please contact with dealer.	