

SK[®]

SPL-LED-M1960G IP



User Manual

Please read the instruction carefully before use

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01/ Safety Information

Please keep this User Manual for future consultation. If you sell the unit to another user, be sure that they also receive this instruction manual.

Important:

Damages caused by the disregard of this user manual are not subject to warranty. The dealer

will not accept liability for any resulting defects or problems.

Unpack and check carefully to ensure that there is no transportation damage before using the unit.

This product is suitable for wet locations. Do not immerse in water.

DO install and operate by qualified operator.

DO NOT allow children to operate the fixture.

Use safety chain (made of steel, min. diameter 4.0mm) when fixing the unit. Handle the unit by carrying its base instead of head only.

The unit must be installed in a location with adequate ventilation, at least 50cm from adjacent surfaces.

Be sure that no ventilation slots is blocked, otherwise the unit will be overheated.

Before operation, ensure that you are connecting this product to the proper voltage in accordance with the specifications in this manual or on the product's specification label.

It's important to ground the yellow/green conductor to earth in order to avoid electric shock.

Minimum ambient temperature TA: -10°C. Maximum ambient temperature TA: 40°C. Do not operate this product at a lower or higher temperature.

DO NOT connect the device to any dimmer pack.

Keep flammable materials away from the fixture while operating to avoid fire hazard.

Make sure the power cord is not crimped or damaged; replace it immediately if damaged.

Unit's surface temperature may reach up to 70°C. DO NOT touch the housing bare-handed during its operation.

Avoid any flammable liquids, water or metal from entering the unit. Once it happens, cut off the mains power immediately.

DO NOT operate in a dirty or dusty environment. DO clean the fixture regularly.

DO NOT touch any wire during operation as there might be a hazard of electric

shock.

Avoid entanglement of the power cord with other wires.

The minimum distance to objects/surface must be more than 4 meters.

In the event of serious operating problem, stop using the unit immediately.

Never turn on and off the unit time after time.

The housing, the lenses, or the ultraviolet filter must be replaced if they are visibly damaged.

DO NOT open the housing as there are no user serviceable parts inside.

DO NOT attempt to operate this unit if it becomes damaged. DO NOT attempt any repairs yourself. Repairs carried out by unskilled people can lead to damage or malfunction. Please contact the nearest authorized technical assistance center if needed.

Disconnect this product from its power source before servicing.

DO use the original packaging if the device is to be transported.

Check that the head tilt lock is released before packing for transportation.

Avoid direct eye exposure to the light source while the product is on.

DO NOT operate this product if you see damage on the housing, shields, or cables.

Have

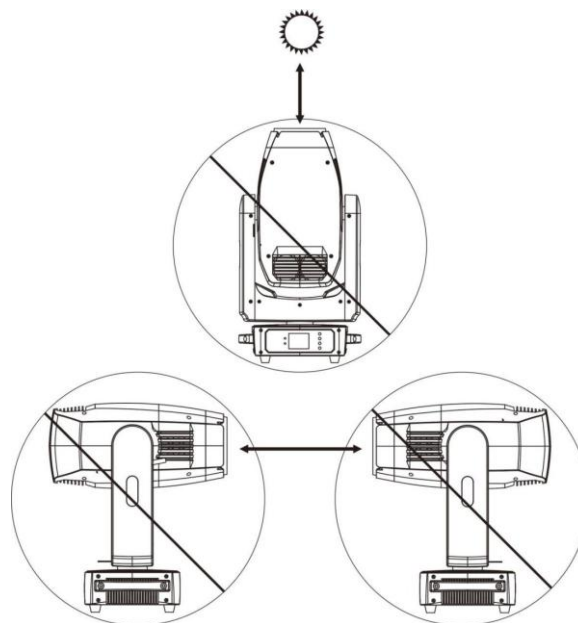
the damaged parts replaced by an authorized technician at once.

External sources of light beams from direct sunlight or any other strong light source, which penetrate the front lens of lighting fixtures, can cause severe internal damage.

DO

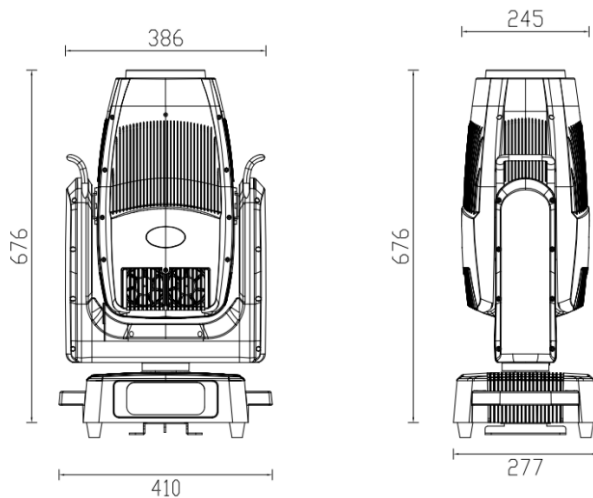
NOT expose the fixture front lens to light beams from direct sunlight or any other strong

light source from any angle while unpacking, installation, use, and extended idle times outdoors. DO NOT focus a light beam from one lighting fixture directly towards another.

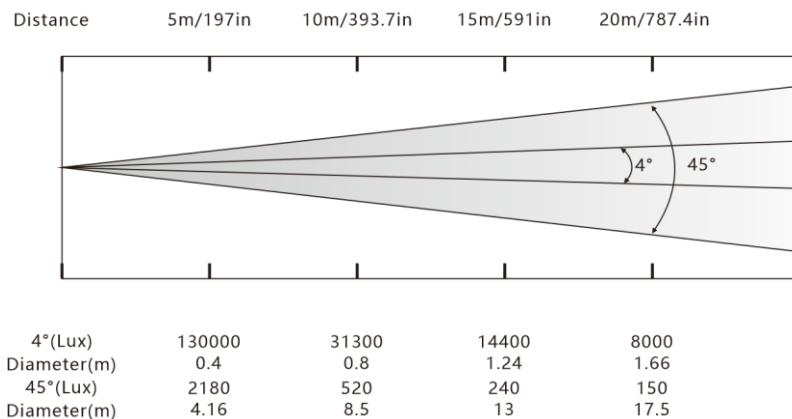


02/ Technical Specifications

1. Voltage: 100-240V, 50/60HZ;
 2. Power Consumption: 1000W;
 3. Lamp: 800 W 9000K white led module
 4. DMX Channel: 32CH
 5. Operation mode: master-slave/DMX/Auto
 6. strobe:25Hz
 7. **Beam angle: 4°-45°**
 8. rotating gobo wheel: 7 gobos+white
 9. Color wheel: 5 colors+open+CTO
 10. Flare: 4pcs
 11. Pan: 540°(16bits)
 12. Tilt: 270°(16bits)
 13. Frost /focus/zoom/flare effect/cut/iris/CMY/CTO/RDM: Yes
 14. RDM: Yes
 15. Display: LCD touch screen
- Product dimension: 676*410*277 mm**
- N.W: 28kG**



Photometric Diagram:



03/ Connecting Power and Data

To apply power, first check that the head pan and tilt locks are released.

This fixture can operate on any 180-240Vac; 50/60Hz AC mains power supply.

The maximum power consumption is 800W.

The fixture must be grounded/earthed and able to be isolated from AC power. The AC power

supply must incorporate a fuse or circuit breaker for fault protection.

Wiring and connection work must be carried out by a qualified electrician.

The power cable color coding is given in the figure below:

Wire	Color (US)	Wire	Color (EU)	Symbol	Conductor
	black		brown	L	live
	white		blue	N	neutral
	green		yellow/green	$\perp$ or $\oplus$	ground (earth)

Power cord set should be used: Listed SJOW flexible cord with rating: 300V, 105°C, VW-1,

14AWG x 3C, molded with 5-20P attachment plug and terminated with cord connector model RCAC3F-X-000-01 with rating 250V, 16A by Neutrik Technology (Ningbo) Co., Ltd.

The power cord shall be at least 914mm (It is to be measured from the face of attachment plug to the face of connector).

CAUTION!

DO NOT CONNECT THE FIXTURE TO AN ELECTRICAL DIMMER SYSTEM AS DOING SO MAY CAUSE DAMAGE.

04/ Connecting Data

The fixture is equipped with 5-pin (or 3-pin) XLR sockets for DMX input and output.

Use a

high-quality DMX cable designed for RS-485 and 5-pin (or 3-pin) XLR-plugs and connectors

in order to connect the controller with the fixture or one fixture with another. For outdoor

installations, use only IP-rated XLR connectors suitable for outdoor use.

Building a serial DMX chain:

Connect the DMX data output from the controller to the fixture's data input socket.

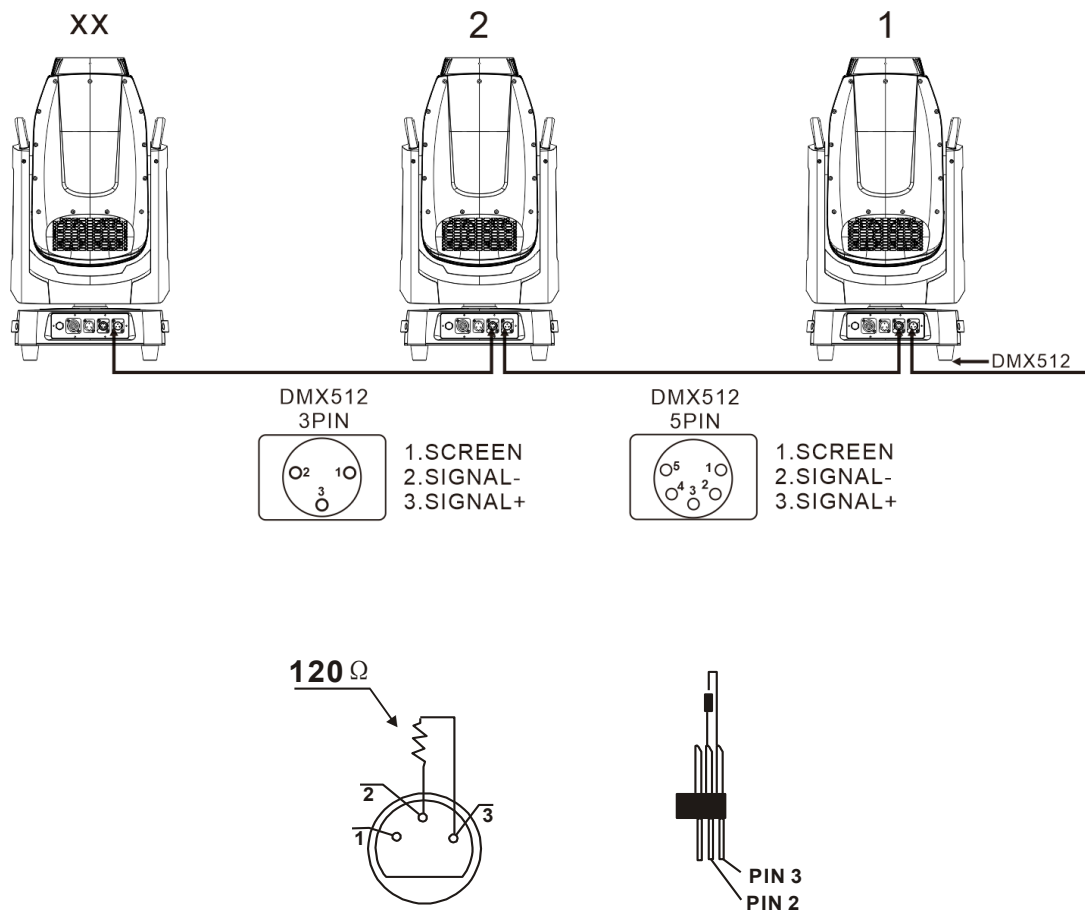
Connect

the DMX output of the first fixture in the DMX chain with the DMX input of the next fixture.

Always connect one output with the input of the next fixture until all fixtures are connected.

Up to 32 fixtures can be connected to the same DMX link. Terminate the DMX out cable of

the last fixture in the data link with a 120 ohm DMX terminator.



05/ Address Setting

All fixtures should be given a DMX starting address when operating with a DMX controller, in order to ensure that the correct fixture responds to the correct control signal. Incorrect settings will result in unpredictable responses from the lighting controller.

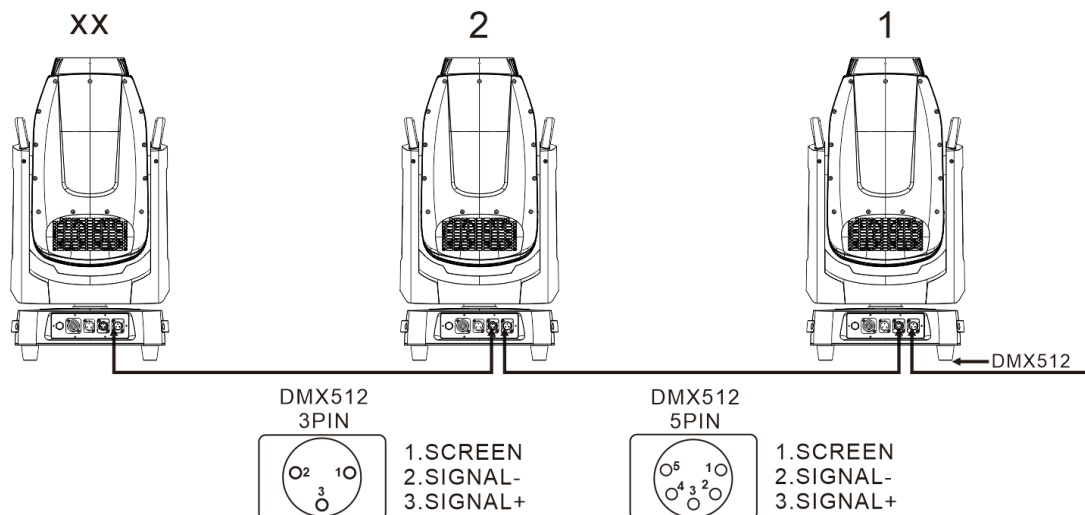
You can set the same starting address for all fixtures or a group of fixtures, or set different addresses for each individual fixture.

Setting all fixtures to the same DMX address will cause all fixtures to react in the same way. In this case, please note that changing the settings of one channel will affect all the fixtures simultaneously.

If you set each fixture to a different DMX address, each unit will “listen” starting at the channel number you have set, based on the quantity of DMX channels of each fixture. That means changing the settings of one channel will only affect the selected fixture.

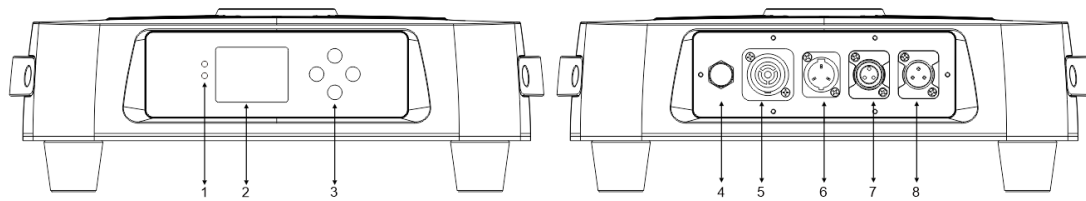
For example, if the first fixture is set to 43 ch DMX mode with a start DMX address of 1, the following fixture in the DMX chain should then be set to a DMX address of 44. As the first fixture uses all the first 43 DMX channels, the next available channel is 44 ($43+1=44 \gg 44$).

See the chart below for more details:



Channel Mode	Unit 1 Address	Unit 2 Address	Unit 3 Address	Unit 4 Address	Unit xxx Address
43 channels	1	44	87	130	
34 channels	1	35	69	103	
32 channels	1	33	65	97	
23 channels	1	24	47	90	

06/ Overview



1. **Indicator light:** DMX indicator light and error reporting indicator light
2. **Display Screen:** Display various function menus
3. **Buttons:** MENU: Enter /Return to the menu

UP: Go to the previous option

DOWN: Go to the next option

ENTER: Menu confirmation.
4. **Air vent valve**
5. **Power In:** Connect power supply
6. **Power out:** Connect the next fixture
7. **DMX output:** For DMX512 connection, use 3-core XLR signal cable to connect the next fixture and output DMX signal (optional 5-core)
8. **DMX input:** For DMX512 connection, use 3-core XLR signal cable to connect the next fixture and output DMX signal (optional 5-core)

07/ Display and operation

1. Operate fixture with touch or encoder/button

- The left area is TFT Displayer and touch(product which support touch), click item or value with finger will to complete operation of set light setting(parameters) or view light state.
- The area on the right hand side is rotary encoder with button or key, As auxiliary input interface, if fixture disable touch function, the encoder/key can be choose to set or view the item, and then press the encoder button/key to confirm the selection, rotary encoder or push key again set the parameter value, finally, Press encoder button/key one again to save value or setting.
- For the knob shown in Figure 3-3, the cursor can be controlled up or down by rotating in different directions, and pressing the knob can confirm it. If you want to go back, turn the knob to move the cursor to the back button on the display, press the knob to confirm and return.

2. Parameter value setting

When the selected item is value need to been modified, the dialog shown in Figure 1 will popup.

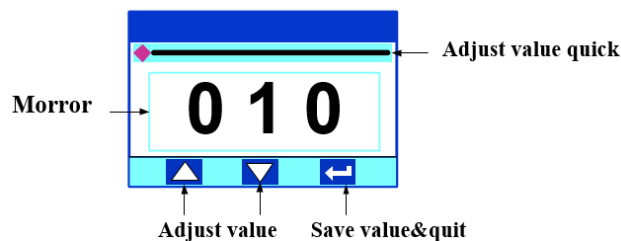


Figure 1 Dialog of value setting

- **Modify value:** Can quickly modify value via pull the slider to the desired position, or click the button of 'up' or 'down' with finger on the right side to set the exact desired value, another way is roll encoder on the right hand side of panel.
- **Save Value:** Any time, click on the lower right corner of the "OK" button, the setting will be saved into internal memory.

3. Boolean parameter setting

- when the selected parameters is a Boolean value (such as ON or OFF), can directly modify setting by click corresponding item, the setting will be saved right now.
- When the parameter is a key item, click corresponding item, a dialog shown in Figure 2 will be popup ask for the confirm. Click 'sure' to confirm.

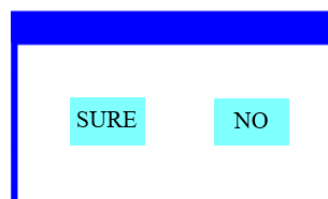


Figure 2 Dialog of confirm

4. Sub Menu (Parameter)

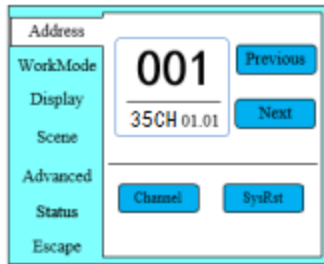


Figure 6-1 Address setting

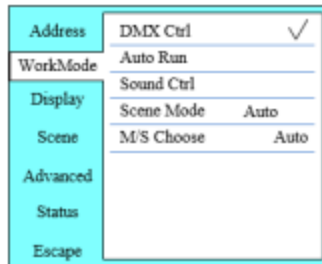


Figure 6-2 Run Settings

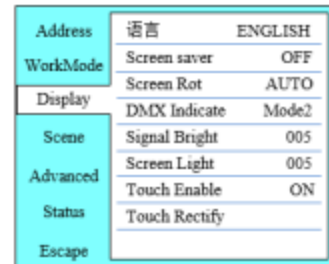


Figure 6-3 Display Settings

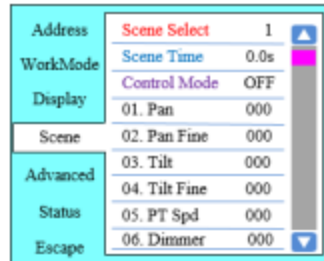


Figure 6-4 Scene Settings

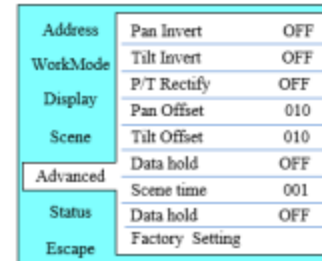


Figure 6-5 Advanced setting



Figure 6-6 Status Settings

Figure 3 Parameter menu

1. Operation and parameter instruction

In the main interface, you can enter the corresponding parameter setting interface by selecting six buttons.

1. DMX Address setting

Enter page show in Figure 6-1, can set fixture DMX address, channel mode and so on.

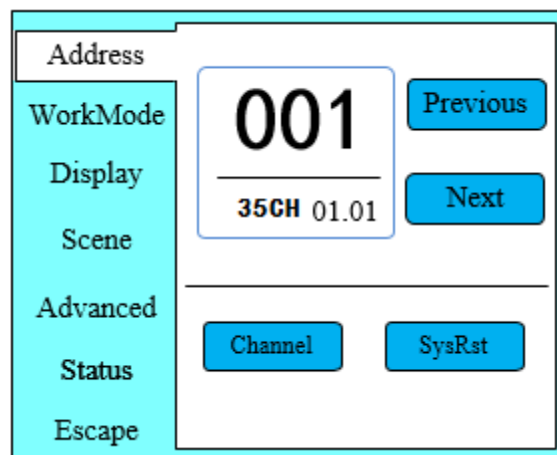


Figure 6-1

The menu settings of fixture have optimized the setting of addresses. Several settings of the address are as follows:

- Select "previous" or "next", the fixture will be based on the current address and channel mode, automatically calculate the next or last address, make address setting can quickly;
- Click on the address agree, you can enter the numeric editing window, where you can set any valid address, fixture system automatically get the current number of channels,

automatically filter the unusable address (512 - the current number of channels).

- Fixture support RDM protocol, remote address can be set through RDM.

Provide two buttons:

- Channel mode: you can choose different channel modes by cycle.
- Fixture reset: reset all motors. Set Light work mode

2. Fixture operating mode setting

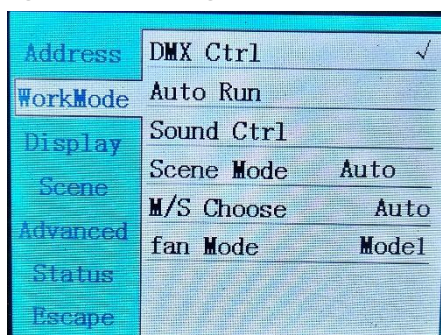


Figure 6-2

Through the page shown in Figure 6-2, the operating mode of the fixture can be set and the lamp can be controlled. The fixture supports four operating modes (DMX mode, auto mode, voice control mode and scene mode). Detailed parameter settings can be refer in the previous section. Specific parameter descriptions are as follows:

operating mode

DMX Ctrl	DMX mode, receive DMX signal, RDM signal	
Auto Run	Fixture run automatically according to built-in programs	
Sound Ctrl	When the fixture detects a strong sound, the fixture automatically runs a scene according to the built-in program, otherwise it will stay the last scene	
Scene Mode 01	runs in a set scene, which supports most of the custom editing of 10 scenes.	
	1~10	outputs the specified scene
	Auto	Automatically loops the output scene in the set scene time (non-zero) order, and the scene with time 0 automatically ignore
M/S Choose	Master and slave selection, non-DMX mode takes effect, select the mode of data output, fixture detect DMX cable state automatic switch output, prevent data conflicts	
	Master	fixture runs built-in program. If DMX has no signal, it outputs data (synchronization), otherwise it does not output data.
	Slave	Fixture runs built-in program and do not output data
	Auto	If DMX has no signal, the fixture will runs built-in program. Otherwise, the fixture will run in DMX Mode(follow DMX).
Fan Mode	Model 1 (Normal mode) Model 2 (Noise reduction by 30%) Model 3 (Noise reduction by 60%) Model 4 (Noise reduction by 90%)	

Scene mode applies to a single or a small number of fixture, just output a fixed scene, or need

to run a simple program, you no need connect to the console, in the scene page can be edited.

If the light source is lamp, wait for 10 minutes before turning off the lamp.

3. Set display

Address	语言	ENGLISH
WorkMode	Screen saver	OFF
	Screen Rot	AUTO
Display	DMX Indicate	Mode2
Scene	Signal Bright	005
	Screen Light	005
Advanced	Touch Enable	ON
Status	Touch Rectify	
Escape		

Figure 6-3

The fixture support Chinese and English, invert display and so on. Enter the corresponding parameter settings as shown in Figure 6-3. The specific menu contents are as follows:

DISPLAY SETTING

Language	display language settings	
	English	English display
	Chinese	Chinese display
Screen saver	Set screen 30 seconds without operation, the screen's display content or method.	
	OFF	Keep the last operation page
	Mode1	Black
	Mode2	Black screen, showing the address code of the current fixture in the lower left corner.
	Mode3	Display trademark information, address code and operation mode.
	Mode4	Display trademark information, address code and operation mode,which lasts for 30 seconds ,black screen.
Screen Rot	Set the display direction of the screen.	
	OFF	No reverse display
	ON	Reverse display
	AUTO	Automatically detect the direction of lamps and automatically switch direction.
DMX Indicate	Set the indication mode of DMX signal indicator.	
	Mode1	When signal is bright, no signal is off.
	Mode2	When signal is off, no signal is bright.
	Mode3	When signal is flash, no signal is off.
Signal Bright	Set the brightness of the signal indicator	
	1~10	10
Screen Light	Set the screen backlight for 10 seconds without operation	
	1~10	10

Touch switch	Choose whether to disable the touch function. When the screen touch is accidentally damaged, you can disable the touch function and use auxiliary input to set the fixture.
Touch	When the screen touch function work anomaly, you can enter the corrected page correction screen touch

Which fixture support touch function, if there is a bad touch, you can enter the correction page to re-calibrate the touch accuracy of the touch screen, under normal circumstances, do not enter this page. If the touch is damaged, please choose to disable the touch switch.

4. Scene

Enter the page shown in Figure 6-4(The channel shown in the picture is only an example of the function, please refer to the channel table description in the next section for the specific channel table of this product), and the fixture enters the scene editing mode. For example,under this page,when the [Control Mode] option is turned off ,the fixture does not receive DMX console data, and the edited data will effect on the fixture immediately.When it turned on, the console signal is received and the console data is read and reflected on the corresponding channel display.

Address	Scene Select	1	▲
WorkMode	Scene Time	0.0s	■
Display	Control Mode	OFF	
	01. Pan	000	
Scene	02. Pan Fine	000	
	03. Tilt	000	
Advanced	04. Tilt Fine	000	
Status	05. PT Spd	000	
Escape	06. Dimmer	000	▼

Figure 6-4

The content of the page depends on the currently selected channel mode, and the channel content and order displayed are consistent with the fixture channel table. Through this page, you can edit 10 scenes, as shown in the following table:

SCENE MODE

Scene Select	Select the current operation scenario.	
	1~10	The 10 scenes sets the format
Scene Time	Sets the retention time of the current scene when it is automatic,the final time is determined by the scene time multiplier, unit in 0.1 seconds.	
	0	The current scene is not output in automatic scene output.
	1-255	0..1s-25.5s
Control Mode	Choose whether to use the console to manipulate the settings data	
	OFF	It is not possible to control the console and set the data directly

		from the current interface
	ON	Using console control, the console data comes first when setting, and the setting is invalid in the current interface
1. PAN	0-255	Set up the data of each channel, and the contents and order of the display are one-to-one correspondence with the channel list of fixture.
.....	0-255	
.....	0-255	
N. Function	0-255	

If the reset channel in the scene edits the effective reset data, the fixture will reset, but after reset, the corresponding reset channel value will automatically set 0, preventing multiple consecutive resets.

Looking at this page, you can get the current channel table slot of the fixture. For specific channel data, please refer to the detailed channel description.

5. Set light run parameter

Address	Pan Invert	OFF
WorkMode	Tilt Invert	OFF
Display	P/T Rectify	OFF
Scene	Pan Offset	010
	Tilt Offset	010
Advanced	Data hold	OFF
	Scene time	001
Status	Data hold	OFF
Escape	Factory Setting	

Figure 6-5

Enter the page shown in Figure 6-5, adjust the field parameters of fixture, facilitate the installation of fixture, etc.

ADVANCED SETTING

Pan Invert	Set the rotation direction of PAN	
	OFF	
	ON	
Tilt Invert	Set the rotation direction of TILT	
	OFF	
	ON	
P/T Rectify	Setting up fixture to detect XY lost step and correct	
	OFF	Uncorrected position after out of step
	ON	After losing step, the position is automatically corrected and the out of step fault is recorded.
Pan Offset	Setting the zero point of the PAN of the fixture	
	4-150	
Tilt Offset	Setting the zero point of the TILT of the fixture	
	4-48	

Data hold	When the fixture is not equipped with DMX signal, the output state of the fixture	
	OFF	No signal, so the motor and light source return to the position and state when reset is completed.
	ON	No signal, keep the last frame DMX data output.
Scene Time (multiple)	Work with the scene time to determine the scene retention time	
	1-255	Retention time = Scene time * multiple
Lamp mode	Set the way to first open the lamp after power up	
	Power on	Turn on the lamp at power up and reset the lamp after 30 seconds.
	After reset	Reset the fixture after 3 seconds when power-on, and turn on the lamp after reset.
	Manual	After reset, manually turn on the lamp through the menu or console.
Factory Setting	Pop up the confirmation box, select "SURE", and return the lamp parameters to the factory settings.	

When choosing power-on mode, the lamp will wait for 30 seconds after power-on, let the lamp fully start, internal voltage is stable enough, then start the reset program, if the field capacity is stable, recommend power-on mode.

When the fixture can not calibrate the position, please check whether the "P/T Rectify" is turned off.

When the signal is unplugged, check the Data Hold setting first if the position of the fixture is not output as expected.

When setting the XY offset, after setting up, please control XY with the maximum stroke first to check that XY will not bump into the positioning rod or shell.

6. Status and information

Address	Stepper info	▶
WorkMode	Error Logging	▶
Display	Fixture Status	▶
Scene	version	H3.12 ▶
Advanced	Light time	0:02 ▶
	Total time	10:02
Status		
Escape		

Figure 6-6

Entering the page shown in Figure 6-6, you can view the information and real-time status of the fixture to get their usage status. If the fixture need customer service, please provide the status information displayed on the page as a basis for judgment, as shown in the following table:

STATUS INFORMATION

Stepper info	Display information status of all motors and signals in fixture.
---------------------	--

	Hall	No display, indicating that the motor has no Hall, 0 indicating that the motor leaves the correction position point, 1 indicating that the motor is in the correction position point
	Status	Display motor reset status
	PAN	Display real-time position value of PAN optocoupler feedback
	TILT	Display real-time position value of TILT optocoupler feedback
	PAN OP	Displays the PAN TILT optocoupler two signal level state, binary
Error Logging	Show the latest 8 error records when the fixture is reset and running. The error records are not saved after power failure. The current power cycle is valid.	
	Error Logging	Total number of failures detected after power on
	12: :03	The time of power failure when the fault occurs is in minutes.
	Hall error	The effective hall signal is not detected when the motor is reset
	Hall short	When the motor is reset, the hall signal of the motor is always effective
	Opti error	No effective optocoupler signal is detected when the motor is reset.
	Lose stop	The corresponding motor is out of step during its operation.
	Hit	Striking the positioning rod when the motor is reset
	Lamp error	Lamp explosion accident
	NTC error	The temperature sensor signal is abnormal
	Fan error	The main fan is not working properly.
Fixture status	Displays the critical state data of the current fixture for reference.	
	Communication prec	0~100%, Communication quality of internal data link of lamps and lanterns
	Error Cnt	The number of erroneous frames was detected after power on, and the total number of erroneous frames was detected.
	Light Temperature	Show the temperature of the current light source, "---" means no detection.
	Panel Temperature	Displays the temperature of the current display panel or the ambient temperature.
	Sensor1 Temperature	Display the ambient temperature of the motherboard temperature or the motherboard installation position.
Version	Display the information and version of the current fixture, important reference for after sales maintenance.	
	Device	The name of the fixture is the same as the equipment information of RDM.
	Model	The type of fixture is the same as the model information of RDM.
	Panel	Firmware version and serial number of display panel
	Main Board	Firmware version and serial number of mother board 1
Light time	Record the total cumulative time of light source opening, unit minute, user manual cleaning, as a reference for regular maintenance of light source time	
Total time	The total accumulated time for recording the opening of fixture is not allowed to be removed.	

08/ DMX Protoco

CH35-CHANNEL MODE:

CH35	Function	Value	Instruction
CH1	Pan	0-255	0-540(degree)
CH2	Pan Fine	0-255	0-2(degree)
CH3	Tilt	0-255	0-270(degree)
CH4	Tilt Fine	0-255	0-1(degree)
CH5	PT Spd	0-255	Fast to slow
CH6	Strobe	0-3	Dark
		4-103	Pluse strobe slow to fast
		104-107	Open
		108-155	FadeIn strobe slow to fast
		156-207	FadeOut strobe slow to fast
		208-212	Open
		213-251	Rand strobe slow to fast
		252-255	Open
CH7	Dimmer	0-255	0-100% dimmer
CH8	Colour	0-4	White
		5-9	White+colour1
		10-14	Colour1
		15-19	Colour1+Colour2
		20-24	Colour2
		25-29	Colour2+Colour3
		30-34	Colour3
		35-39	Colour3+Colour4
		40-44	Colour4
		45-49	Colour4+Colour5
		50-54	Colour5
		55-59	Colour5+Colour6
		60-64	Colour6
		65-255	Rotate reverse (slow to fast)
CH9	CTO	0-255	
CH10	Gobo	0-9	White
		10-19	Gobo1
		20-29	Gobo2
		30-39	Gobo3
		40-49	Gobo4
		50-59	Gobo5
		60-69	Gobo6
		70-79	Shake slow to fast Gobo1

		80-89	Shake slow to fast Gobo2
		90-99	Shake slow to fast Gobo3
		100-109	Shake slow to fast Gobo4
		110-119	Shake slow to fast Gobo5
		120-129	Shake slow to fast Gobo6
		130-191	Rotate reverse (fast to slow)
		192-255	Rotate forward (slow to fast)
CH11	Rot Gobo	0-9	White
		10-19	Gobo1
		20-29	Gobo2
		30-39	Gobo3
		40-49	Gobo4
		50-59	Gobo5
		60-69	Gobo6
		70-79	Gobo7
		80-89	Shake slow to fast Gobo1
		90-99	Shake slow to fast Gobo2
		100-109	Shake slow to fast Gobo3
		110-119	Shake slow to fast Gobo4
		120-129	Shake slow to fast Gobo5
		130-139	Shake slow to fast Gobo6
		140-149	Shake slow to fast Gobo7
		150-190	Rotate reverse (fast to slow)
		191-192	Stop
		193-255	Rotate forward (slow to fast)
CH12	Gobo.Rot	0-127	0-360(degree)
		128-190	Rotate reverse (fast to slow)
		191-192	Stop
		193-255	Rotate forward (slow to fast)
CH13	Eft Gobo	0-10	None
		11-255	Rotate forward (slow to fast)
CH14	Focus	0-255	Far to near
CH15	Focus F	0-255	
CH16	Zoom	0-255	Large to small
CH17	CUT1	0-255	
CH18	CUT2	0-255	
CH19	CUT3	0-255	
CH20	CUT4	0-255	
CH21	CUT5	0-255	
CH22	CUT6	0-255	
CH23	CUT7	0-255	
CH24	CUT8	0-255	
CH25	Cut Rot	0-255	

CH26	Cyan	0-255	
CH27	Magenta	0-255	
CH28	Yellow	0-255	
CH29	CRI	0-127	None
		128-255	Inert CRI
CH30	Prism1	0-127	None
		128-255	Inert prism1
CH31	Prism1.R	0-127	0-360(degree)
		128-187	Rotate forward (fast to slow)
		188-195	Stop
		196-255	Rotate reverse (slow to fast)
CH32	Frost1	0-3	None
		4-255	Linear frost
CH33	Iris	0-255	
CH34	Reset	0-209	None
		210-215	Reset XY motor over 3 second
		216-219	None
		220-235	Reset Effect motor over 3 second
		236-239	None
		240-255	Reset fxiture over 3 second
CH35	Fan Speed	0-255	The speed of the fan decreases from fast to slow.

09/ Troubleshooting

Problem	Potential cause(s)	Remedies
Fixture does not respond or appears to be off.	No power to the fixture.	Confirm that the power is switched on and cables are plugged in.
	No output from PSU.	Replace the PSU.
Fixture suddenly turned off.	Power was turned off.	Check the power supply, switches and breakers
Light output cuts out intermittently.	Fixture is too hot.	Check fixture's stored error messages for more information. Allow fixture to cool. Clean fixture. Reduce ambient temperature.
Fixture suddenly stopped responding.	DMX cables were disconnected.	Inspect DMX cables.
Fixture operates irregularly / abnormal.	Incorrect DMX address or DMX mode.	Inspect and enter the correct DMX address or mode
	DMX link is not terminated.	Install a XLR 120ohm DMX termination at the end of the DMX link.
	Bad data link.	Replace or repair defective cables and/or connections
	One of the fixtures is defective and is disturbing data transmission on the link.	Track and isolate the corrupted fixture. Have the fixture serviced by a qualified technician.
Pan / tilt is skipping / shuddering	Pan/ tilt locks are not released.	Release the pan / tilt locks
	Obstacles are within the required pan / tilt clearance.	Inspect and remove any obstacles constraining free operation of the pan / tilt.
	The Hall element is damaged	Replace the Hall element
	The magnetic steel fell out	Replace the magnetic steel

10/ Fixture Cleaning

Regular cleaning is very important for fixture life and performance. Buildup of dust, dirt, smoke particles, fog fluid residues, etc. degrades the fixture's light output and cooling ability.

Cleaning schedules for lighting fixtures vary greatly depending on the operating environment.

It is therefore impossible to specify precise cleaning intervals for the fixture.

Environmental

factors that may result in a need for frequent cleaning include:

- Use of smoke or fog machines.

- High airflow rates (near air conditioning vents, for example).

- Airborne dust (from stage effects, building structures and fittings or the natural environment at outdoor events, for example).

If one or more of these factors is present, inspect fixtures within their first few hours of operation to see whether cleaning is necessary. Check again at frequent intervals. This procedure will allow you to assess cleaning requirements in your particular situation.

Follow these precautions when cleaning the fixture:

- Work in a clean, dry, well-lit area.

- Use gentle pressure only. A soft lint-free cloth dampened with a solution of water and a mild detergent is recommended, under no circumstances should alcohol, solvents or abrasives be used! Use care when cleaning optical components: surfaces are fragile and easily scratched.

