ALED BSW 280

User Manual

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TECHNICAL PARAMETERS

Light source

Input voltage: AC110v - 240v / 50-60HZ
Light source : 280W LED module
Light source life: 50000 hours
Total power: 350w

Optical

Zoom angle: 2.8-32 degrees
Optical device: combined optical lens

Controls

Channel mode: 16/24/30ch
Display: 1.8-inch LCD display, Chinese and English bilingual operating system, can be reversed
180° display
Control mode :DMX512/Master-Slave/Auto Run/RDM/Manual
Signal line: signal line three-core XLR input, signal line three-core XLR output

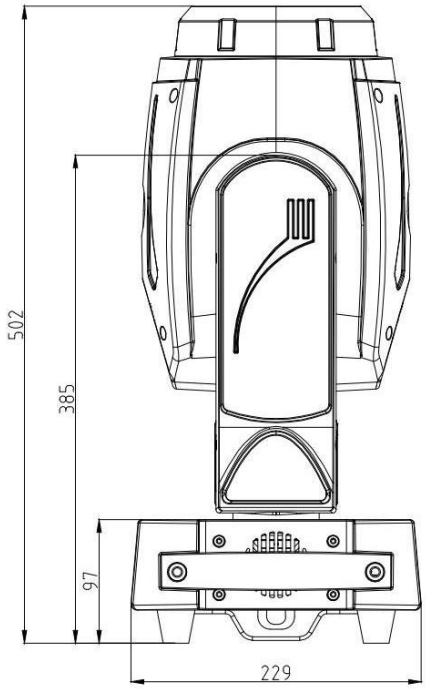
Effect

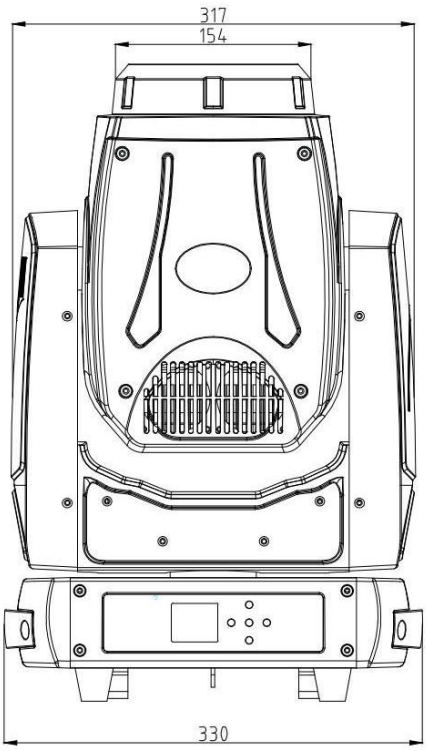
Dimming : 0-100% linear adjustment
Frost system: 1 independent frost effect, soft and natural light spot
Strobe: 0-30 times/second. The speed-adjustable strobe effect is adjustable. Color: 14 colors + white light
Fixed gobo: 12 fixed gobo + white light
Rotating gobo: 7 glass gobo+ white light, each glass gobo can be independently reversed
Prism : standard 3 prisms, can be independently reversed

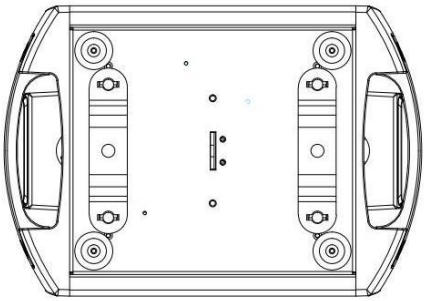
Construction

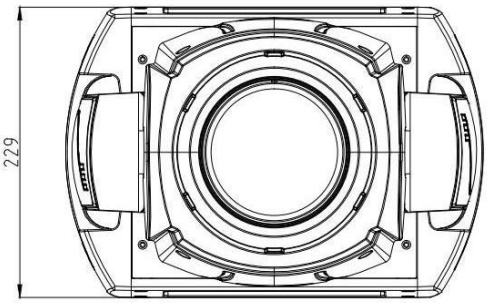
Pan: 540 degrees (16-bit precision scan) electronic error correction
Tilt: 270 degrees (16-bit precision scan) electronic error correction
Cooling method: Axial flow fan is used to enhance cooling
Appearance material: high temperature resistant plastic
Working environment: -20 degrees - 40 degrees
Power line: aviation plug input, output
Protection level: IP20

SIZE DRAWING

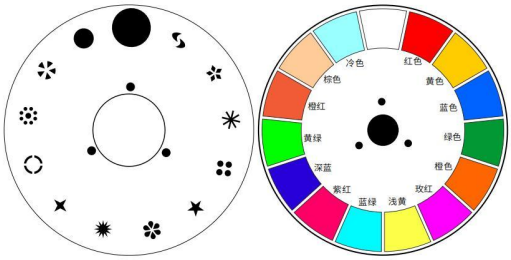




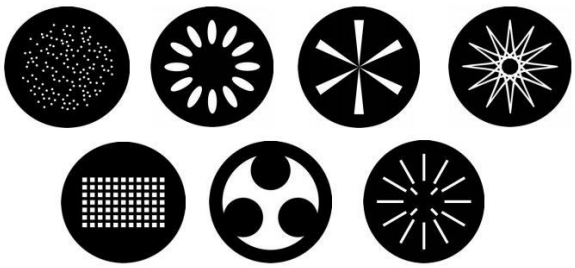




Fixed Gobo and Color Wheel



Rotation Gobo



Chapter 1 Installation and attention

1. Maintenance

- To reduce the risk of electrical shock or fire, do not expose this unit to rain or moisture.
- Intermittently using will extend this item's service life.
- Please clear the fan, fan net, and optical lens in order to keep good work state.
- Do not use the alcohol or any other organic solvent to wipe the shell.

2. Statement

The product has perfect performance and integrity packing. All users should be strictly complying with the warning and operating instructions as stated. Or we aren't in charge of any result by misusing. Any damage resulting by misuse is not within the Company's warranty. Any fault or problem caused by neglecting the manual is also not in the charge of dealers.

Note: All information is subject to change without prior notice.

3. Safety Precaution

- In order to guarantee the product's life, please don't put it in the damp places or even the environment over 60degress.
- Always mount this unit in safe and stable matter.
- Install or dismantle should operate by professional engineer.
- Using lamp,the change rate of power voltage should be within±10%, If the voltage is too high, it will shorten the light's life; If it's not enough, will influence the effect.
- Please restart it 20 minutes later after turning off light , until full-cooling. Frequent switching will reduce the life span of lamps and bulbs; intermittent using will improve the life of bulbs and lamps.
- In order to make sure the product is used well, please read the Manual carefully.

4. Cable connection（DMX）

Use a cable conforming to specifications EIA RS-485: 2-pole twisted, shielded, 120Ohm characteristic impedance, 22-24AWG,low capacity. Do not use microphone cable or other cable withch aracteristics differing from those specified. The end connections must be made using XLR type3 or 5-pin male/female connectors. A terminating plug must be inserted into the last projector with a resistance of 120Ohm (minimum 1/4 W) between terminals 2 and 3.Figure 1 shows a signal line connection diagram (the fixture in the figure is an example picture and does not represent the real appearance of this product).

IMPORTANT: The wires must not make contact with each other or with the metal casing of the connectors. The casing itself must be connected to the shield braid and to pin 1 of the connectors.

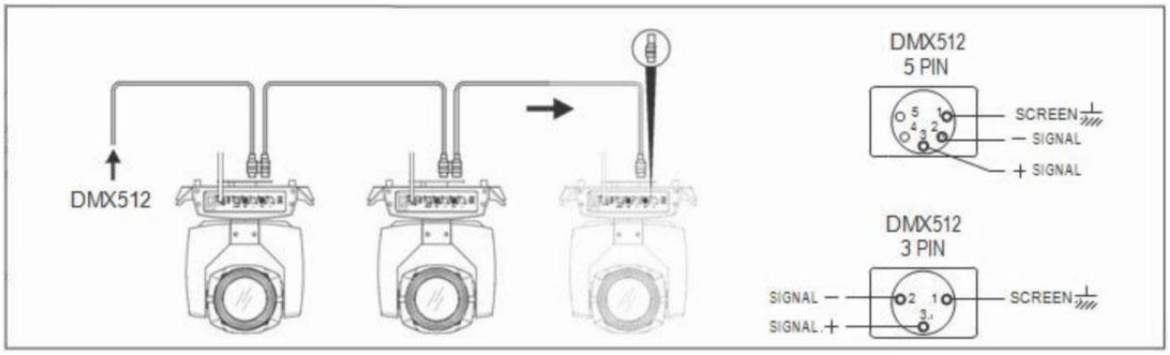


Figure 1 Diagram of the DMX Cable connection

5. Rigging (Optional)

As shown in Figure 2 (the fixture in the figure is an example picture and does not represent the real appearance of this product),this equipment can be positioned and fixed by clamp in every direction of the stage. Locking system makes it easy to fasten to the bracket.

Attention! Two clamps is needed to fix the equipment. Every clamp is locked by fastener of 1/4 kind. Fastener can only be locked clockwise.

Attention! Fasten a safety string to the additional hole of side aluminum piece. The secondary accessory can not hang on the delivery handle. Nip the equipment on bracket.

- Check if rigging clamp (not including the one inside) damaged or not? If stand ten times weight as the equipment. Make sure the architecture can stand ten times weight as all the equipments, clamps, wirings and other additional fixtures.
- Screws for clamping must be fixed firmly. Take one M12 screw (Grade 8.8 or higher) to clamp bracket, and then screw the nuts.
- Level the two hanging points at the bottom of clamp. Insert fastener to the bottom, lock the two levers by 1/4 rotating clockwise; then install another clamp.
- Install on safety string which stands at least ten times weight as equipment. Terminal of the accessory is designed for clamps.
- Make sure pan/tilt lock unlocked or not. Keep the distance more than 1M from equipment to flammable material or lighting source.

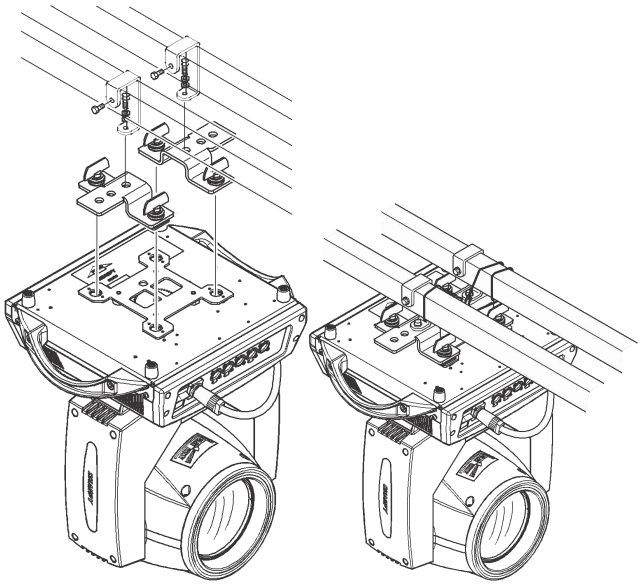


Figure 2 Diagram of the Installation

6. RDM Note

RDM is an extended version of DMX512-A protocol. It is a remote device management protocol. Traditional DMX512 protocol communication is one-way communication. The protocol is based on RS-485 bus. RS-485 is a time-sharing multi-point, half-duplex protocol. Only one port is allowed to output at the same time. So, when using RDM, we should pay attention to it. The following points:

- To use console or host device that supports RDM host protocol.
- Use bidirectional signal amplifier, traditional one-way signal amplifier is not suitable for RDM protocol, because the RMD protocol needs feedback data, the use of one-way amplifier will block the return of data, resulting in no search fixture;
- All fixture must be set to DMX mode to ensure only one host on the cable.
- A 120 ohm impedance matching resistor must be inserted between terminals 2 and 3 of the terminal plug. When the signal line is longer, reducing the signal reflection will make the differential signal more stable and beneficial to the quality of communication.
- When the fixture appears to accept DMX control, but can not been search by RDM host, first check the signal amplifier, and then check whether the signal line 2, 3 lines have bad contact.

Chapter 2 Panel operation

1. Brief

The diagram of the display panel show as Figure 3, above area is title for fixture description, the white font in the lower right corner shows the fault status of the fixture (when the fault information is not viewed, it displays "ERR", otherwise it displays "NOR"), and the status bar below shows the signal of the current fixture , fixture status, communication status, etc. (the panel in the figure is an example picture and does not represent the real appearance of the product panel，please select the panel of the same type as your product for reference.). RDM protocol is embed in fixture, user set DMX address via cable using the controller support RDM function. when fixture was search by controller, display will echo ‘ RDM ’ indicate this RDM is work. Note: Prevent damage the TFT display, Can not use sharp objects chick display.

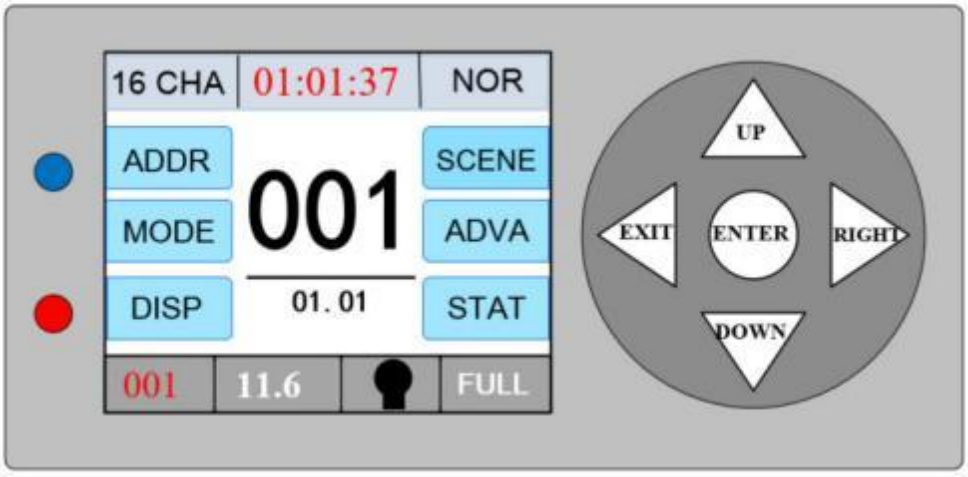


Figure 3-1 Diagram of the Five-buttons display panel

2. Operation

1. Operate fixture with knob or button

- The left area is the display area, the right area is the input area, you can use the key or knob to control the cursor to select the item that needs to be set or viewed, and press the "ENTE" button to complete the operation.
- 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 4 will popup.

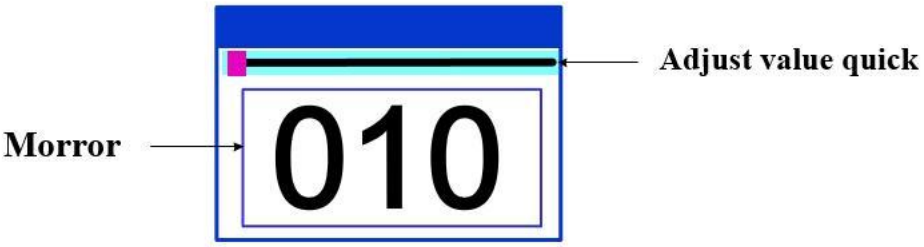


Figure 4 Dialog of value setting

- Modify value ： The desired value can be set by pressing the "Up" and "Down" buttons or by turning the knob.
- Save Value ： After setting the data by pressing the button, press the "ENTE" button, the values are immediately saved to the internal memory, and the saved values are applied to the fixture the next time the machine is turned on.

3. Boolean parameter setting

- when the selected parameters is a Boolean value (such as ON or OFF), can directly modify. setting by chick corresponding item, the setting will been saved right now.
- When the parameter is a key item, chick corresponding item, a dialog shown in Figure 5 will been popup ask for the confirm. Chick ‘sure’ to confirm.

Figure 5 Dialog of confirm

4. Sub Menu（Parameter)

Figure 6-1 Address setting

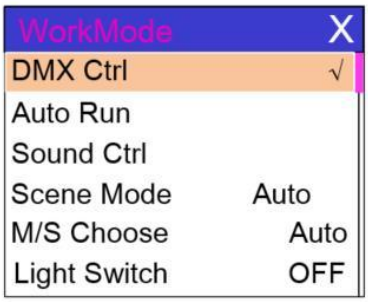


Figure 6-2 Run Settings

Figure 6-3 Display Settings

Figure 6-4 Scene Settings

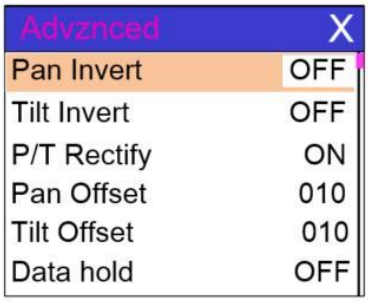


Figure 6-5 Advanced setting

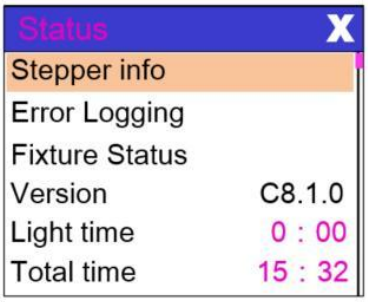


Figure 6-6 Status Settings

Figure 6 Diagram of the Parameter menu

3. Operation and parameter instruction

Chick item of main menu, enter corresponding sub menu shown in Figure 6, In main menu, chick 1/6 function button into corresponding parameter menu.

1. DMX Address setting

Enter page show in Figure6-1, 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 " Prev " 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 value, 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.
- Channel mode: you can choose different channel modes by cycle.

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).
Light switch	(light source) pop-up confirmation dialog box, select "SURE" to confirm the current operation, turn on or off the lamp, switch time interval limited to 30 seconds	
	Off	the current lamp output is off
	On	The current lamp output is turned on

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

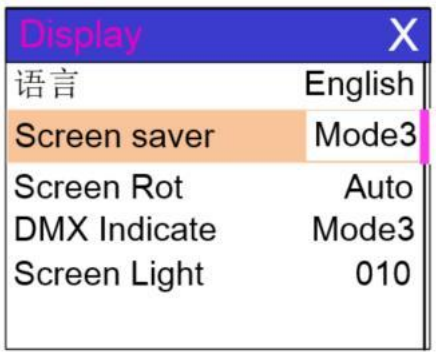


Figure 6-3

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
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.
Screen Light	Set the screen backlight for 10 seconds without operation	
	1~10	10

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,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.

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

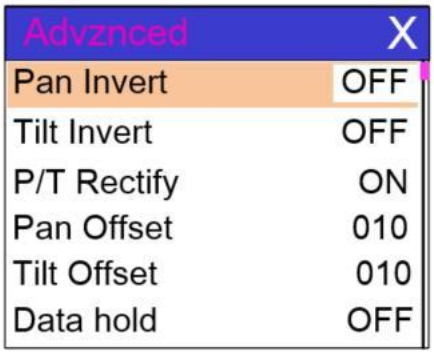


Figure 6-5

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.
	NO	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	(lamp light source) 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.
Reset	Pop up the confirmation box, select "SURE", and reset the fixture.	
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

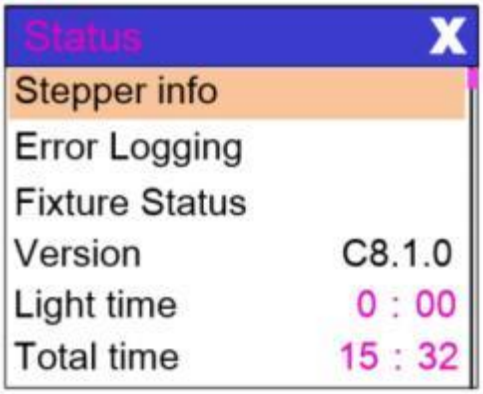


Figure 6-6

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.	

Chapter 3 Channel description

1. Channel table

Note: the channel tables of different lamps are different. The following channel tables are for reference only

This luminance channel can be viewed in scene mode in order, channel mode is set in the "Address Settings" page, specific details of the data as follows:

CHANNEL TABLE

24CH	16CH	30CH	NAME	VALUE	BRIEF
1	1	1	Pan	0-255	0-540(degree)
2	*	2	Pan Fine	0-255	0-2(degree)
3	2	3	Tilt	0-255	0-270(degree)
4	*	4	Tilt Fine	0-255	0-1(degree)
5	3	5	PT Spd.	0-255	Fast to slow
				0-209	None
				210-215	Reset Pan/Tilt motor over 3 second

6	4	6	Reset	216-219	None
				220-235	Reset Effect motor over 3 second
				236-239	None
				240-255	Reset fixture over 3 second
7	5	7	Colour	0-209	None
				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
				65-69	Colour6 + Colour7
				70-74	Colour7
				75-79	Colour7 + Colour8
				80-84	Colour8
				85-89	Colour8 + Colour9
				90-94	Colour9
				95-99	Colour9+ Colour10
				100-104	Colour10
				105-109	Colour10 + Colour11
				110-114	Colour11
				115-119	Colour11 + Colour12
				120-124	Colour12
				125-129	Colour12 + Colour13
				130-134	Colour13
				135-139	Colour13 + Colour14
				140-144	Colour14
				145-149	Colour14 + Colour15
				150-202	Rotate forward (fast to slow)
				203-255	Rotate reverse (slow to fast)
8	*	8	Colour F.	0-255	Fine positioning
		9	Effect Spd.	0-255	Speed of Rot. Gobo selection from max. to min

9	6	10	Frost time	0-255	0-255 Frost time
		11	Static Gobo time	0-255	0-255 Static Gobo time
		12	Colour time	0-255	0-255 Color time
		13	Prism time	0-255	0-255 Prism time
		14	Zoom time	0-255	0-255 Zoom time
		15	Focus time	0-255	0-255 Focus time
10	7	16	Gobo	0-4	White
				5-9	Gobo1
				10-14	Gobo2
				15-19	Gobo3
				20-24	Gobo4
				25-29	Gobo5
				30-34	Gobo6
				35-39	Gobo7
				40-44	Gobo8
				45-49	Gobo9
				50-54	Gobo10
				55-59	Gobo11
				60-64	Gobo12
				65-69	Shake slow to fast white
				70-74	Shake slow to fast Gobo1
				75-79	Shake slow to fast Gobo2
				80-84	Shake slow to fast Gobo3
				85-89	Shake slow to fast Gobo4
				90-94	Shake slow to fast Gobo5
				95-99	Shake slow to fast Gobo6
				100-104	Shake slow to fast Gobo7
				105-109	Shake slow to fast Gobo8
				110-114	Shake slow to fast Gobo9
				115-119	Shake slow to fast Gobo10
				120-124	Shake slow to fast Gobo11
				125-208	Rotate reverse (fast to slow)
				209-210	Stop
				211-255	Rotate forward (slow to fast)
				0-9	White
				10-19	Gobo1
				20-29	Gobo2
				30-39	Gobo3
				40-49	Gobo4
				50-59	Gobo5

11	8	17	Rot Gobo	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
				150-200	Rotate forward (fast to slow)
				201-255	Rotate reverse (slow to fast)
12	9	18	Gobo.Rot	0-127	0-360(degree)
				128-190	Rotate reverse (fast to slow)
				191-192	Stop
				193-255	Rotate forward (slow to fast)
13	*	19	Rot. Gobo F.	0-255	Fine Rot. Gobo
14	10	20	Prism	0-127	None
				128-255	Inert prism1
15	11	21	Prism.R	0-127	0-360(degree)
				128-187	Rotate forward (fast to slow)
				188-195	Stop
				196-255	Rotate reverse (slow to fast)
16	12	22	Frost	0-127	None
				128-255	Insert frost
17	13	23	Zoom	0-255	Large to small
18	*	24	Zoom F.	0-255	Zoom focus
19	14	25	Focus	0-255	Far to near
20	*	26	Focus F	0-255	Fine focus
21	*	27	Auto focus	0-255	Auto focus
22	15	28	Strobe	0-3	Dark
				4-127	Pulse strobe slow to fast
				128-191	Fade strobe slow to fast
				192-251	Rand strobe slow to fast
				252-255	Open
23	16	29	Dimmer	0-255	0-100% dimmer
24	*	30	Dimmer F.	0-255	Fine dimming

REMARK

The product has perfect performance and intergrity packing.
All users should be strictly comply with the warning and operating instructions as stated.
Or we aren ’t in charge of any result by misusing.
Any damage resulting by misuse is not within the Company ’s warranty.
Any fault or problem caused by neglecting the manual is also not in the charge of dealers.
Errors and omissions for every information given in this manual excepted.
All information is subject to change without prior notice.