EXL-ML Spot Beam Wash CMY 400W

User Manual

1.   Product Instruction

Input voltage : 100-240V~ 50/60Hz

Power consumption: 500 W

Light source : powerful 400W white LED bulb

Optical System:High - efficiency optical system

Light source life: 50000 hrs

Colour Temperature Output: 7,000K

Pan & Tilt: 540 degrees & 270 degrees (16bit)

Control mode: DMX512, RDM,Auto-run,Sound active,Master-slave,Built-in program

Software upgrede :online software upgrade is available

Channel mode: 22 &26 channels

Color Wheel: 8 colors + white light.

Static Gobo Wheel: 12 gobos plus open

Rotating Gobo Wheel: 7 gobos plus open, convenient replacement

Animation Wheel:animation wheel, rotatable and replaceable, with outstanding water and flame effect

Color Mixing System: Linear CMY color mixing+Variable CTO(3,200-7,000K)

Prism system:6-facet linear prism and   8+8-facet prism

Zoom range:

Beam Mode : 4°~8°

Spot Mode :   4°~35°

Wash Mode : 8°~60°

Dimer:0~100% smooth dimming

Focusing system: Motorized focus

Frost systerm:Independent frost flitter

Atomization system: independent atomization effect, soft and natural light spot

Strobe: 0-30 times/sec. Adjustable speed strobe effect. Strobe macro function

Cooling system:smart axial fans.(electronic temperature control overheating protection, electronic temperature control automatic power-off protection when the overheating system fails.)

Display: LCD display+4 keys

Protection level: IP20

Product net weight: 22.5KG

Fixture Dimensions:38cm*27cm* 62cm

2. 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.

Figure 3   Panel diagram

3.   Operation

1. Operate fixture with touch or encoder/button

● The left area is TFT Displayer and touch(product which support touch), chick 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 been 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.

2. Parameter value setting

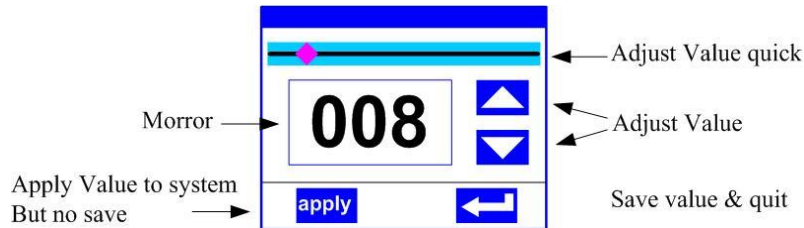When the selected item is value need to been modified, the dialog shown in Figure 4 will popup.

Figure 4   Dialog of value setting

- **Modify value**：Can quickly modify value via pull the slider to the desired position, or click   the button of 'up' or 'down' whit finger on the right side to set the exact desired value, another way is roll encoder on the right hand side of panel.
- **Apply value**：When Value had been modified, Then press the bottom of 'apply' in the left corner to apply to the light, but hav't saved；
- **Save Value**：Any time, click on the lower right corner of the "OK" button, the setting will been 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 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.
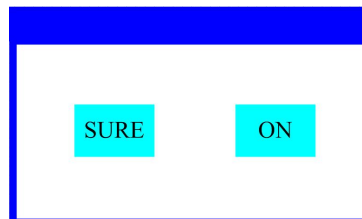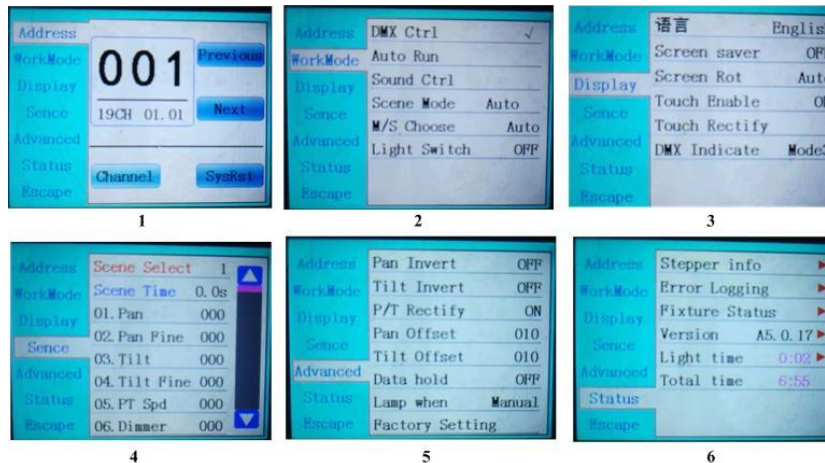

Figure 5   Dialog of confirm

4. Sub Menu（Parameter）

5. Fixture operating mode setting

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 scebe, 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	ixture runs built-in program and do not output data
	Auto	If DMX has no signal, the fxiture will runs built-in program. Otherwise, the fixture will run in DMX Mode(follow DMX).
Lamp switch	(Lamp 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

6. Set display

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.
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 Lihgt	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	

7. Scene

<div align="center">SCENE MODE</div>

Scene	Select the current operation scenario.	
Select	1~10	The 10 scenes sets the format
Scene Time	Sets the retention time of the current scene when it is automatic, unit in 0.1 seconds.	
	0	The current scene is not output in automatic scene output.
	1-255	0..1s-25.5s
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	

8. Set light run parameter

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

<div align="center">ADVANCED SETTING</div>

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.
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.

9. **Status and 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 Temperatrue	Displays the temperature of the current display panel or the ambient temperature.
	Sensor1 Temperatrue	Display the ambient temperature of the motherboard temperature or the motherboard installation position.
Version	Display the information and version of the current fixtrue, 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.	

1. Channel table

CHANNEL1	CHANNEL2	NAME	VALUE	DEFIE
CH1	CH1	PAN	0-255	0-540
CH2	CH2	PAN Fine	0-255	
CH3	CH3	TILT	0-255	0-270
CH4	CH4	TILT Fine	0-255	
CH5		XY speed	0-255	fast to slow
CH6	CH5	Dimmer	0-255	0-100% Dimmer
CH7	CH6	Strobe	0-3	Drak

			4-103	Slow strobe to fast strobe
			104-107	White
			108-155	Slow strobe to open strobe
			156-207	Slow strobe to close open strobe
			208-212	White
			213-251	Free strobe
			252-255	White
CH8	**CH7**	**Color**	0-127	White
			128-133	Color1
			134-138	Color2
			139-143	Color3
			144-149	Color4
			150-154	Color5
			155-159	Color6
			160-164	Color7
			165-170	Color8
			171-175	Color9
			176-180	Color10
			181-185	Color11
			186-191	Color12
			192-220	Rotate forward (fast to slow)
			221-224	Stop
			225-255	Rotate reverse (slow to fast)
CH9	**CH8**	**C**	0-255	
CH10	**CH9**	**M**	0-255	
CH11	**CH10**	**Y**	0-255	
CH12	**CH11**	**CTO**	0-255	
CH13	**CH12**	**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 GOBO2
			70-74	Shake slow to fast GOBO3
			75-79	Shake slow to fast GOBO4
			80-84	Shake slow to fast GOBO5
			85-89	Shake slow to fast GOBO6

			90-94	Shake slow to fast GOBO7
			95-99	Shake slow to fast GOBO8
			100-104	Shake slow to fast GOBO9
			105-109	Shake slow to fast GOBO10
			110-114	Shake slow to fast GOBO11
			115-119	Shake slow to fast GOBO12
			120-127	GOBO12
			128-190	Rotate forward (fast to slow)
			191-192	Stop
			193-255	Rotate reverse (slow to fast)
CH14	**CH13**	**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
			150-200	Rotate forward (fast to slow)
			201-205	Stop
			206-255	Rotate reverse (slow to fast)
CH15	**CH14**	**Gobo rot**	0-127	0-400 degrees
			128-190	Rotate forward (fast to slow)
			191-192	Stop
			193-255	Rotate reverse (slow to fast)
CH16		**Gobo fine**	0-255	
CH17	**CH15**	**Prism1**	0-63	Close prism
			64-127	Lnsert prism1
CH18	**CH16**	**Prism1 Rot**	0-127	0-400 degrees
			128-190	Rotate forward (fast to slow)
			191-192	Stop
			193-255	Rotate reverse (slow to fast)
CH19	**CH17**	**Prism2**	0-63	Close prism
			64-127	Lnsert prism2
CH20	**CH18**	**Prism2 Rot**	0-127	0-400 degrees
			128-190	Rotate forward (fast to slow)
			191-192	Stop
			193-255	Rotate reverse (slow to fast)

CH21	**CH19**	**Frost**	0-127	None
			128-255	Insert frost
CH22		**Autofocsus**		None
CH23	**CH20**	**Zoom**	0-255	small to large
CH24	**CH21**	**Focus**	0-255	far to near
CH25		**Focus fine**		
CH26	**CH22**	**Function**	210-215	Reset XY(over 6 seconds)
			220-235	Reset effect moto(over 6 seconds)
			240-255	Reset all(over 6 seconds)