LED 481 Hybrid BS
Moving Head Light

Item Number: LL481HYB

USER MANUAL

This user manual includes important information for installation and operation. Please read this user manual carefully to install, operate, and maintain the lighting safety and correctly. A verified technician should do the installation and operation.

Please carefully check for any damages caused by transportation.

Before delivery, this device has passed strict quality control and inspection. Please follow the user manual for proper operation. If this fixture is damaged due to operation error or disregard of this manual, the fixture will be out of warranty, and the manufacture or dealer will not be held responsible.

Installation:

This unit is for indoor use only. Use only in a dry location. To prevent or reduce the risk of electrical shock or fire, do not expose to rain or moisture.

Maximum ambient temperature for operation is between 25°F and 113°F. Do not use under or above this range. Turn off the power and allow 15 minutes for the unit to cool down before handling. Do not open the unit within five minutes after switching off.

Keep the fixture at least 1.5ft. away from any combustible material, as it is not suitable for direct installation on these surfaces. The unit must be installed in a location with adequate ventilation, at least 20 inches from adjacent surfaces. Ensure that no ventilation slots are blocked.

We advise that an electrician confirms the safety of the electrical data prior to installation. Power off the fixture before installation or maintenance. Before operating, ensure that the voltage and frequency of power supply match the power requirements of the unit.

Rigging:

Insert the quick-lock fasteners of the first holder into the respective holes on the bottom of the device. Tighten the quick-lock fasteners fully clockwise.

Pull the safety rope through the holes on the bottom of the base and fasten it on the truss or other fixing point. Ensure that the fixture is secure and will not drop due to clamp damage.

The truss used for hanging this fixture must be able to hold 10 times the weight of this fixture without deformation one hour after installation. Always use a safety cable that can hold 12 times the weight of the unit. Do not stand directly under the fixture while installing, uninstalling or adjusting the fixture.

Product specifications:

Voltage: 100-240V， 50/60HZ

Power Consumption: 450W

Lamp: 350W White LED

DMX Channel: 24CH

Operation mode: master-slave/DMX/Auto/RDM

Electronic strobe: 25Hz

Dimming: 0-100% linear dimming

Fixed gobo: 11 gobos+open

Rotation gobo: 8 gobos+open

Color: 9 colors+open+CTO+CTB

Prism 1: 8-facet

Prism 2: 3-facet

Pan: 540°

Tilt: 270°

Frost: Yes

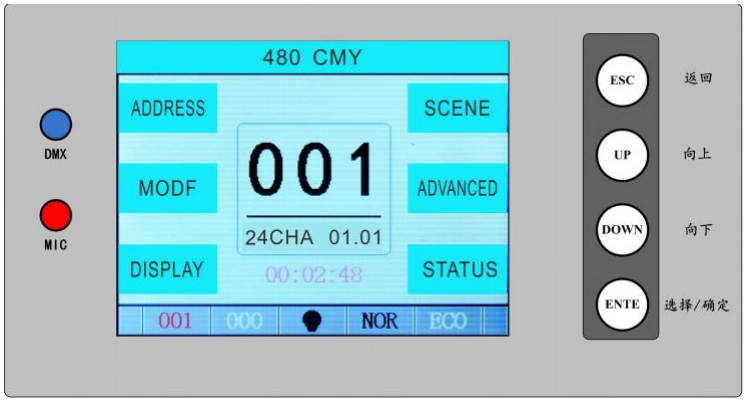
Focus: Yes

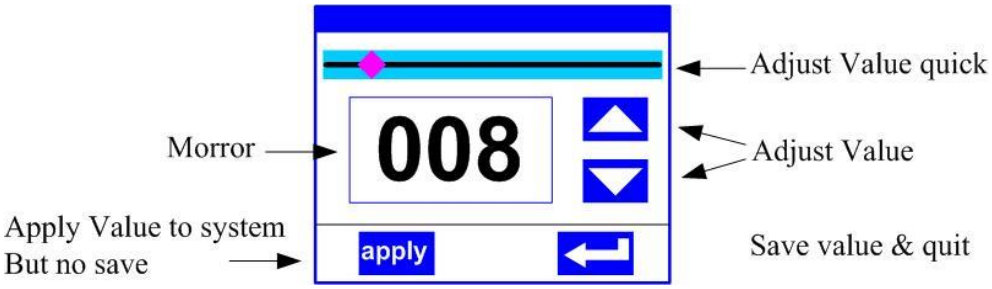
Zoom: Yes

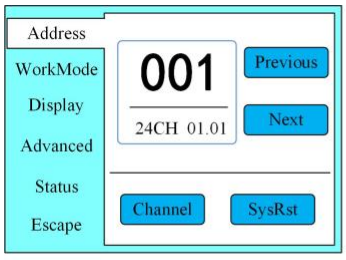
CMY: Yes

Display: LED LCD touch screen

Display and Operation:







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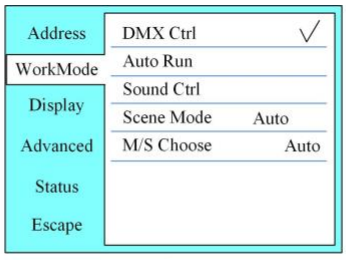

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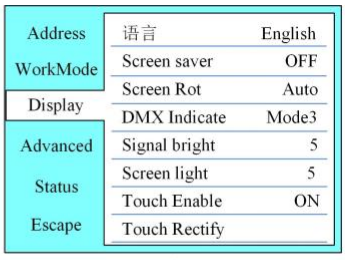

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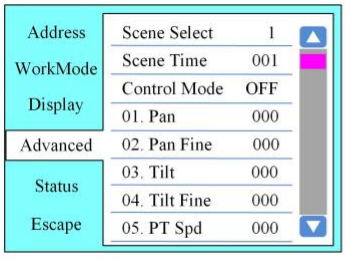

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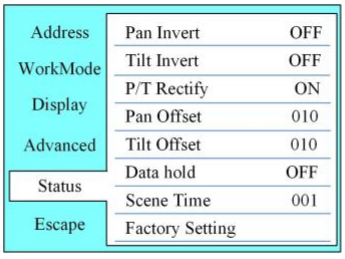

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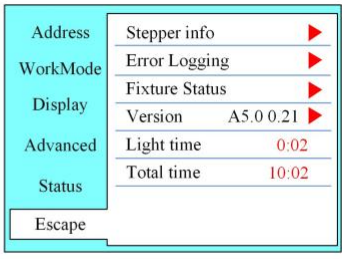

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Set DMX address code:

The menu settings of the lamps optimize the address settings. The operations of several address codes are as follows:

A. Select "Previous" or "Next", the lamp will automatically calculate the next or previous address code according to the current address code and channel data.

B. Click the address code value to enter the value editing window, where you can set any valid address code, the fixture will automatically obtain the current channel number of the fixture, and filter the unavailable address code (512-current channel number).

C. The lamps support RDM protocol, and the address code of lamps can be set remotely through RDM.

Two buttons are provided:

D. Channel mode: Different channel modes can be selected cyclically

E. Fixture reset: reset all motors.

Working Mode Setting:

DMX	Console mode, Receive DMX signal, RDM signal	
Auto	built-in program auto	
Sound	When the light detects a strong sound, the light automatically runs a scene according to the built-in program, otherwise it keeps the last scene	
Scene 01	Runs in the set scene mode, supports custom editing up to 10 scenes	
	1~10	Output the specified scene
	Auto	Automatically loop and output scenes in the order of the set scene time (non-0), and the scene with time of 0 is automatically skipped and ignored
Master/Slave	not in DMX mode, select the data output mode, the light automatically detects the DMX state and automatically switches the output to prevent data conflict	
	Master	The light runs as built-in, if there is no DMX signal, it will output data (synchronization), otherwise it will

		not output data
	Slave	The lights run as built-in and do not output data (other fixtures are not synchronized)
	Auto	If no DMX signal, the fixture operates as built-in, otherwise, the fixture operates as DMX signal
Lamp	(Bulb light source) A dialog box pops up, select "SURE" to confirm the current operation, turn on or off the light bulb, and the switching time interval is limited to 30 seconds	
	Off	The current lamp output is off
	On	The current lamp output is on

Panel Display Setting:

Language	Set the displayed language	
	English	English display
	Chinese	Chinese display
Screen saver	Set the display content or method of the screen after there is no operation on the screen for 30 seconds	
	Off	Keep the last operation page, bright screen
	Mode 1	Screen off
	Mode 2	The screen is black, and the address code of the current fixture is displayed in the lower left corner
	Mode 3	Displays trademark information, address code and operating mode
Screen Rotation	Set the display orientation of the screen	
	Off	Does not reverse the display
	On	reverse display
	Auto	Automatically detect the direction of the lights, and automatically switch the display direction
DMX indication	Set the indication method of the DMX signal indicator	
	Mode 1	On when there is a signal, off when no signal
	Mode 2	Off when there is a signal, on when no signal
	Mode 3	Flashes when there is a signal, and off when no signal
Signal Indication Brightness	Set the brightness of the signal indicator	
	1~10	10 levels
Screen backlight	Set the brightness of the screen backlight after 10 seconds of no operation, and it will be fully bright during operation	
	1~10	10 levels
Touch screen switch	Select whether to disable the touch screen, when the screen touch is accidentally damaged, the touch function can be disabled, use the auxiliary input to set the light	

Touch calibration	When the screen touch is not accurate, you can enter the calibration page to calibrate the screen

Scene Mode:

Scene selection	Select the current scene to be operated	
	1~10	10 scene setting formats
Scene time	Set the retention time of the current scene in automatic mode, the unit is 0.1 seconds	
	0	The current scene does not participate in automatic scene output
	1-255	0.1s to 25.5s
1. X-axis	0-255	Set the data of each channel, the display content and sequence are in one-to-one correspondence with the channel table of the fixture
……	0-255	
……	0-255	
N. Function	0-255	

Setting the Working Parameters of the Light:

X-axis reverse	Set the X-axis rotation direction	
	Off	no reverse
	On	reverse
Y-axis reverse	Set the Y-axis rotation direction	
	Off	no reverse
	On	reverse
Optocoupler calibration	Set whether the lamp detects XY out-of-sync and corrects it	
	Off	Does not correct position after out of step
	On	Automatically correct the position after out-of-step, and record out-of-step fault
X-axis offset	Set the position of the X-axis zero point of the fixture	
	4-150	
Y-axis offset	Set the position of the zero point of the Y-axis of the fixture	
	4-48	
Data Hold	Set the output state of the fixture when the fixture has no DMX signal	
	Off	No signal, so the motor and light source return to the position and state when the reset was completed
	On	No signal, keep the last frame of DMX data output
Light On Mode	Sets the way the bulb is turned on for the first time after it is powered on	
	Turn on the	Turn on the bulb first, and reset the light after 30

	bulb when power on	seconds
	Turn on the bulb after reset	Reset the light after 3 seconds of power-on, and turn on the bulb after the reset is complete
	Manually turn on the bulb	After the reset is completed, manually turn on the bulb through the menu or console
Factory settings	A confirmation box will pop up, after selecting "SURE", the light parameters will return to the factory settings	

Check the Current Status of the Light:

Motor Info	Shows the information status of all motors and signals in the fixture	
	Hall	If not displayed, it means that the motor has no Hall calibration, 0 means the motor leaves the calibration position, 1 means the motor is at the calibration position
	Status	Shows motor reset completion status
	X-axis	Shows the real-time position value of the X-axis optocoupler feedback
	Y-axis	Shows the real-time position value of the Y-axis optocoupler feedback
	Optocoupler	Shows the level status of the two signals of the X and Y axis optocouplers, binary
Fault/status record	Displays the last 8 fault records when the light is reset and running. The fault record will not be saved after the power is turned off, and it will be valid for the current power-on cycle.	
	Fault data	Total number of faults detected after power up
	12：:03	Power-on time when the fault occurs, the unit is minute
	Hall fault	The motor does not detect a valid Hall signal when the motor is reset
	Hall short circuit	When the motor is reset, the Hall signal detected by the motor is always valid
	Optocoupler fault	No valid optocoupler signal is detected when the corresponding motor is reset
	Out of step	The corresponding motor is out of step during operation
	Crash rod	Corresponding to the collision of the positioning rod when the motor is reset
	Lamp failure	Lamp unexpectedly goes out
	Sensor failure	Temperature sensor signal is abnormal
	Fan failure	The main fan is not working properly
Fixture Status	Displays the key status data of the current fixture for reference	
	Communication	0~100%, the communication quality of the data link inside the fixture

	Error count	The total number of error frames detected after power-on, accumulated
	Light source temperature	Display the temperature of the current light source, "---" means no detection
	Display panel temperature	Displays the current display panel temperature or the nearby ambient temperature
	Sensor 1 temperature	Displays the current motherboard temperature or the ambient temperature where the motherboard is installed
Version information	Display the current lighting information and version, an important reference for after-sales maintenance	
	Device	Name of the fixture, same as RDM's device information
	Model	The model of the fixture, the same as the model information of the RDM
	Display board	The firmware version and serial number of the display board
	Mainboard 1	The firmware version and serial number of mainboard 1
Light source time	Record the total accumulated time when the light source is turned on, in minutes, and the user can manually clear it as a time reference for the regular maintenance of the light source	
Fixture time	Record the total accumulated time of the fixture being turned on, in minutes, cannot be cleared	

24 DMX channel

24CH	Function	Value	Description
CH1	**Pan**	0-255	0-540°
CH2	**Pan fine**	0-255	0-2°
CH3	**Tilt**	0-255	0-270°
CH4	**Tilt fine**	0-255	0-1°
CH5	**Pan/Tilt Speed**	0-255	Speed fast to slow
CH6	**Dimming**	0-255	0-100% dimming
CH7	**Strobe**	0-3	off
		4-127	Strobe from slow to fast
		128-131	on
		132-251	Random Strobe from slow to fast
		252-255	on
CH8	**Color**	0-4	White
		5-9	Red 1
		10-14	Green 2
		15-19	Blue 3
		20-24	Yellow 4
		25-29	Orange red 5
		30-34	Blue green 6
		35-39	Rose 7
		40-44	Orange 8
		45-49	Light blue purple 9

		50-54	CTO 10
		55-59	CTB11
		60-64	White + Red
		65-69	Red+ Green
		70-74	Green + Blue
		75-79	Blue + Yellow
		80-84	Yellow + Rose
		85-89	Rose + Blue green
		90-94	Blue green+ Rose
		95-99	Rose+ Orange
		100-104	Orange+ Light blue purple
		105-109	Light blue purple+ CTO
		110-114	CTO+CTB
		115-119	CTB+White
		120-185	Forward flow from fast to slow
		186-189	Stop
		190-255	Reverse flow from slow to fast
CH9	**CMY1**	0-255	CMY Blue
CH10	**CMY2**	0-255	CMY Red
CH11	**CMY3**	0-255	CMY Yellow
CH12	**Fixed gobo**	0-5	White
		6-11	Gobo 1
		12-17	Gobo 2
		18-23	Gobo 3
		24-29	Gobo 4
		30-35	Gobo 5
		36-41	Gobo 6
		42-47	Gobo 7
		48-53	Gobo 8
		54-59	Gobo 9
		60-65	Gobo 10
		66-71	White 11
		72-77	Gobo 1 shake from slow to fast
		78-83	Gobo 2 shake from slow to fast
		84-89	Gobo 3 shake from slow to fast
		90-95	Gobo 4 shake from slow to fast
		96-101	Gobo 5 shake from slow to fast
		102-107	Gobo 6 shake from slow to fast
		108-113	Gobo 7 shake from slow to fast
		114-119	Gobo 8 shake from slow to fast
		120-125	Gobo 9 shake from slow to fast
		126-131	Gobo 10 shake from slow to fast
		132-136	Gobo 11 shake from slow to fast
		137-190	Reverse flow from fast to slow
		191-192	Stop

		193-255	Forward flow from slow to fast
CH13	**Glass gobo**	0-6	White
		7-13	Gobo 1
		14-20	Gobo 2
		21-27	Gobo 3
		28-34	Gobo 4
		35-41	Gobo 5
		42-48	Gobo 6
		49-55	Gobo 7
		56-62	Gobo 8
		63-69	Gobo 1 shake from slow to fast
		70-76	Gobo 2 shake from slow to fast
		77-83	Gobo 3 shake from slow to fast
		84-90	Gobo 4 shake from slow to fast
		91-97	Gobo 5 shake from slow to fast
		98-104	Gobo 6 shake from slow to fast
		105-111	Gobo 7 shake from slow to fast
		112-118	Gobo 8 shake from slow to fast
		119-185	Forward flow from fast to slow
		186-189	Stop
		190-255	Reverse flow from slow to fast
CH14	**Gobo rotation**	0-127	0-360°
		128-190	Reverse flow from fast to slow
		191-192	Stop
		193-255	Forward flow from slow to fast
CH15	**Prism 1**	0-127	no prism
		128-255	prism 1
CH16	**Prism 1 rotation**	0-127	0-400°
		128-187	Forward flow from fast to slow
		188-195	Stop
		196-255	Reverse flow from slow to fast
CH17	**Prism 2**	0-127	no prism
		128-255	prism 2
CH18	**Prism 2 rotation**	0-127	0-400°
		128-187	Forward flow from fast to slow
		188-195	Stop
		196-255	Reverse flow from slow to fast
CH19	**Frost**	0-127	No effect
		128-255	Frost
CH20	**Zoom**	0-255	Small to large
CH21	**Focus**	0-255	far to near
CH22	**Focus fine**	0-255	
CH23	**Auto**	0-49	No effect
		50-99	Pan auto
		100-149	Tilt auto

		150-199	Pan/Tilt auto
		200-255	Sound control
CH24	**Reset**	0-209	No effect
		210-215	Pan/Tilt reset after 6s
		220-235	Effect motor reset after 6s
		240-255	All reset after 6s

Symbol Instruction on Fixture:

CE certificate

RoHS certificate