IP 470 Waterproof Beam moving head light

User Manual

This manual contains important information. Please read before operating fixture.

TABLE OF CONTENTS

1. GETTING STARTED

What's In The Box?

- 1 x Beam IP470 light
- 1 x AC Power Cord
- 1 x Signal Cord
- 2 x Omega Bracket
- User Manual

Getting It Out Of the Box

Congratulations on purchasing the Beam IP470, the ultra-bright Beam wall wash fixture. Now that you've got your Beam IP470, you should carefully unpack the box and check the contents to ensure that all parts are present and in good condition. If anything looks as if it has been damaged in transit, notify the shipper immediately and keep the packing material for inspection. Again, please save the carton and all packing materials.

Powering Up!

All fixtures must be powered directly off a switched circuit and cannot be run off a rheostat (variable resistor) or dimmer circuit, even if the rheostat or dimmer channel is used solely for a 0% to 100% switch.

Warning! All fixtures must be connected to circuits with a suitable Ground (Earthing).

Getting A Hold Of Us

If something happens goes wrong, please feel free to contact me.We'll be happy to help, honest.
Disclaimer: The information and specifications contained in this document are subject to change without notice. We assumes no responsibility or liability for any errors or omissions that may appear in this user manual.We reserves the right to update the existing document or to create a new document to correct any errors or omissions at any time.

Safety Instructions

Please read these instructions carefully. They include
important information about the installation, usage and
maintenance of this product.

•Please keep this User Guide for future use. If you sell the unit to someone else, be sure that they also receive this User Guide.

• ALWAYS make sure that you are connecting to the proper voltage, and that the line voltage you are connecting to is not higher than that stated on the decal or rear panel of the fixture.

• Make sure there are no flammable materials close to the unit while operating.

•It is recommended that the continuous working time of the lamp should not exceed 10 hours, and the interval between continuous starting of the lamp should not be less than 10 minutes, otherwise
The bulb will not trigger properly due to overheating protection.

• The unit must be installed in a location with adequate ventilation, at least 20in (50cm) from adjacent surfaces. Be sure that no ventilation slots are blocked.

• ALWAYS disconnect from the power source before servicing.

• ALWAYS secure mounted fixtures with a safety cable. NEVER carry the fixture by its head. Use its carrying handles.

• DO NOT operate at ambient temperatures higher than 104°F (40°C).

• In the event of a serious operating problem, stop using the unit immediately. NEVER try to repair the unit by yourself. Repairs carried out by unskilled people can lead to damage or malfunction. Please contact the nearest authorized technical assistance center. Always use the same type spare parts.

• NEVER connect the device to a dimmer pack.

• Make sure the power cord is never crimped or damaged.

• Never disconnect the power cord by pulling or tugging on the cord.

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

Caution! There are no user serviceable parts inside the unit. Do not open the housing or attempt any repairs yourself.

2. Specification

Light source: Philips 420W bulb
Expected average lifetime: 6000 hours
Color temperature: 8000K
Color rendering index: 75

Optical system
Advanced optical system
Minimum Optical angle: 2°

Pan/Tilt movement: 540˚/210˚

Gobo
Static gobo wheel: 17 gobos+blank

Color
Color wheel: 14 color+blank, linear color shifing, split color and "Rainbow effect”

Effect
2 prisms, can be rotated independently in two directions. 2 prism can overlap.

Frost ： 1 frost wheel

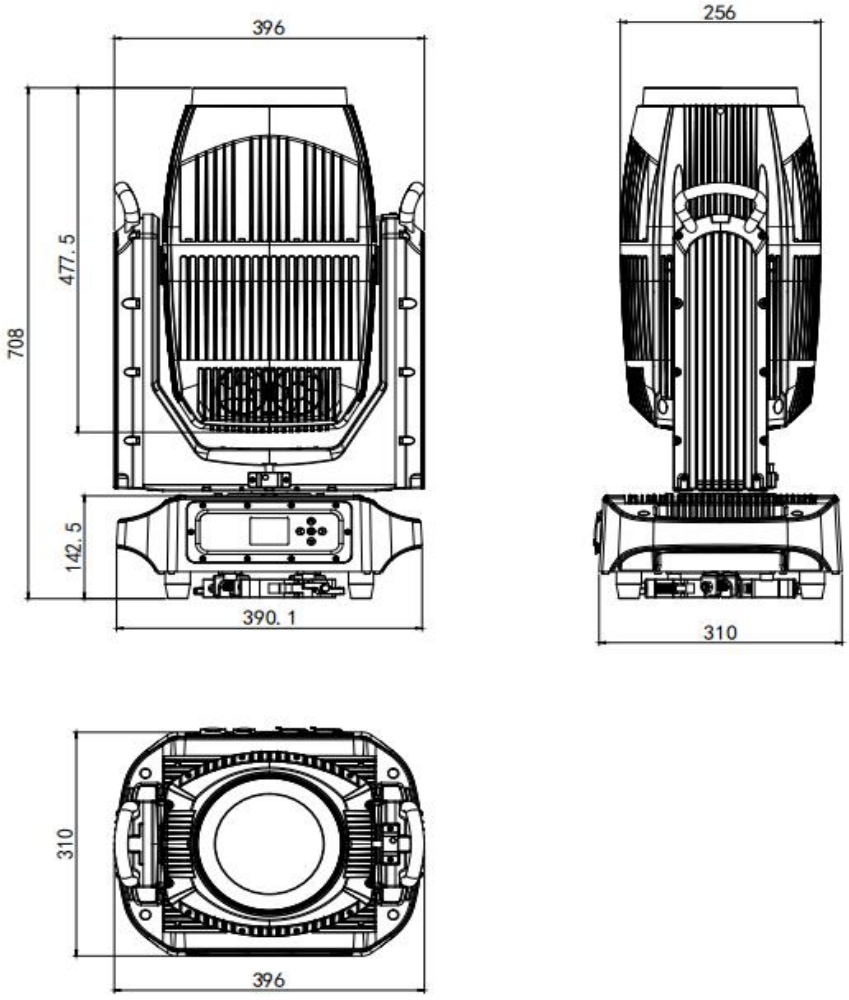
Controls and Program
5 touch control buttons
Control panel: LCD display
Control protocol: DMX512, RDM, master and slave
DMX channel mode: 1 type
Channel mode: 18 channels
Software upgrades: Update software via DMX connection

Electrical and connection
Input voltage range: 100-240V~ 50/60Hz
Power: 550W
Power outlet: Waterproof Power Connector input and output
DMX/RDM signal input/output: 3 Pin + 5 Pin waterproof XLR

Size 390X310X708mm
Net weight:33kg

working environment
Maximum ambient temperature: 40°C
Minimum operating temperature: -10°C
Protection level: IP65

Product Size:



DMX Quick Reference

Channel	DMX	describe
18ch	value	
1		**Pan**
	0-255	Pan spin
2		**Pan fine-tuning**
	0-255	Pan fine-tuning
3		**Tilt**
	0-255	Tilt rotation
4		**Tilt fine-tuning**
	0-255	Tilt fine-tuning
5		**Pan/Tilt speed**
	0	Maximum speed
		In speed mode
	1-255	speed from fast to slow
		In time mode
	1-255	Time from 0.1s to 25.5 seconds
6		**Strobe/Shutter**
	0-3	closure
	4-103	Strobe from slow to fast
	104-107	Open
	108-207	Fast on, slow off, from slow to fast
	208-212	Open
	213-251	Strobe randomly, from slow to fast
	252-255	Open
7		**Dimming**
	0-255	Dimming from 0% to 100%
8		**Dimming fine adjustment**
	0-255	Dimming fine adjustment
9		**color wheel**
	0-127	Choose a color (see also table)
	128-190	Rainbow effect from fast to slow
	191-192	rainbow effect stopped
	193-255	Rainbow effect from slow to fast

10		**pattern**
	0-3	Open
	4-54	Select pattern (see also table)
	55-180	Select a pattern and dither, from slow to fast (see also table)
	181-201	Open
	202-227	The pattern scrolls forward, from fast to slow
	228-229	stop scrolling
	230-255	The pattern scrolls in reverse direction, from slow to fast
11		**prism 1**
	0-63	No prism
	64-255	Prism 1 insert
12		**Prism 1 Positioning and Rotation**
	0-127	Prism 1 Positioning and Rotation
	128-190	Prism 1 rotates in the opposite direction, from fast to slow
	191-192	Prism 1 stops rotating
	193-255	Prism 1 rotates forward, from slow to fast
13		**prism 2**
	0-63	No prism
	64-255	Prism 2 insert
14		**Prism 2 Positioning and Rotation**
	0-127	Prism 2 Positioning and Rotation
	128-190	Prism 2 rotates in the opposite direction, from fast to slow
	191-192	Prism 2 stops rotating
	193-255	Prism 2 rotates forward, from slow to fast
15		**Atomized/Colorful**
	0-7	null
	8-131	atomization
	132-255	Colorful
16		**Zoom (focus)**
	0-255	Continuous adjustment from far to near
17		**reset**

		To achieve the following effect, push the DMX value to the corresponding position and stay still for at least 4 seconds
	0-199	null
	200-209	Effect reset
	210-219	Pan/Tilt reset
	220-229	reset all
	230-255	null
18		**Light bulb**
		To achieve the following effect, push the DMX value to the corresponding position and stay still for at least 4 seconds
	0-129	null
	130-139	Turn on the light
	140-229	null
	230-239	Turn off the lights
	240-255	null

Pattern:

DMX value	Effect
0-3	Open (white light hole)
4-6	Pattern 1
7-9	Pattern 2
10-12	Pattern 3
13-15	Pattern 4
16-18	Pattern 5
19-21	Pattern 6
22-24	Pattern 7
25-27	Pattern 8
28-30	Pattern 9
31-33	Pattern 10
34-36	Pattern 11
37-39	Pattern 12
40-42	Pattern 13
43-45	Pattern 14
46-48	Pattern 15
49-51	Pattern 16

52-54	Pattern 17
55-62	Pattern 1 jitter from slow to fast
63-70	Pattern 2 jitter from slow to fast
71-78	Pattern 3 dithering from slow to fast
79-86	Pattern 4 dithering from slow to fast
87-94	Pattern 5 dithering from slow to fast
95-102	Pattern 6 jitter from slow to fast
103-110	Pattern 7 dithering from slow to fast
111-118	Pattern 8 jitter from slow to fast
119-126	Pattern 9 dithering from slow to fast
127-134	Pattern 10 jitter from slow to fast
135-142	Pattern 11 jitter from slow to fast
143-150	Pattern 12 jitter from slow to fast
151-158	Pattern 13 jitter from slow to fast
159-166	Pattern 14 jitter from slow to fast
167-174	Pattern 15 jitter from slow to fast
175-182	Pattern 16 jitter from slow to fast
183-190	Pattern 17 jitter from slow to fast

Color:

DMX value	Effect
0-4	Color 1 (white light)
5-8	color1+color2
9-12	Color 2
13-17	Color 2 + Color 3
18-21	Color 3
22-25	Color 3+Color 4
26-29	Color 4
30-34	Color 4+Color 5
35-38	Color 5
39-42	Color 5+Color 6
43-46	Color 6
47-51	Color 6+Color 7
52-55	Color 7
56-59	Color 7+Color 8
60-63	Color 8
64-68	Color 8+Color 9
69-72	Color 9

73-76	Color 9+Color 10
77-81	Color 10
82-85	Color 10+Color 11
86-89	Color 11
90-93	Color 11+Color 12
94-98	Color 12
99-102	Color 12+Color 13
103-106	Color 13
107-110	Color 13+Color 14
111-115	Color 14
116-119	Color 14+Color 15
120-123	Color 15
124-127	Color 15+Color 1

3. SETUP

Before replacing a fuse, disconnect the power cord.
ALWAYS replace with the same type and rating of fuse.

Fuse Replacement

The IP470 utilizes a high-output switch-mode power supply with an internal fuse. Under normal operating conditions, the fuse should not require replacement. The fuse is field replaceable, however it is an advanced procedure suited to qualified individuals. Should the fuse require replacement, please contact we for instructions.

Connecting A Bunch of Beam IP470 Fixtures

You will need a serial data link to run light shows using a DMX-512 controller or to run shows on two or more fixtures set to sync in master/slave operating mode. The combined number of channels required by all the fixtures on a serial data link determines the number of fixtures the data link can support.

Fixtures on a serial data link must be daisy chained in one single line. Also, connecting more than 8 fixtures on one serial data link without the use of a DMX optically-isolated splitter may result in deterioration of the digital DMX signal. The maximum recommended cable-run distance is 500 meters (1640 ft). The maximum recommended number of fixtures on a serial data link is 8 fixtures.

Data/DMX Cabling

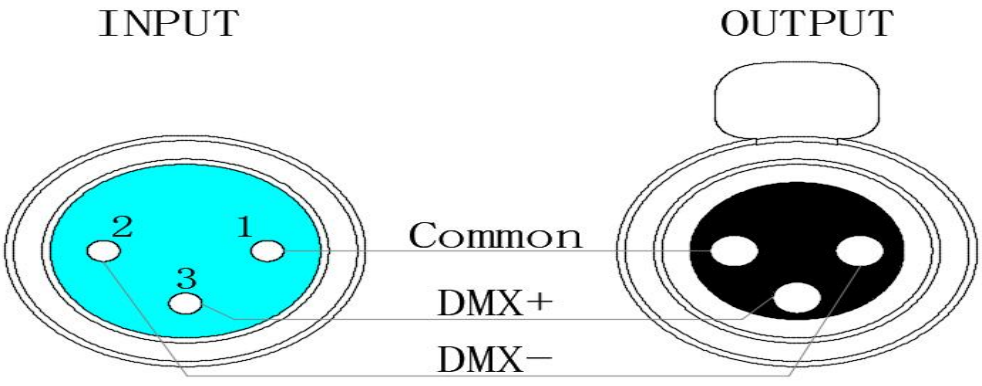
To link fixtures together you'll need data cables. You should use data-grade Cables that can carry a high quality signal and are less prone to electromagnetic interference.

In any event,the cable should have the following characteristics:

- •2-conductor twisted pair plus a shield
- •Maximum capacitance between conductors – 30 pF/ft.
- •Maximum capacitance between conductor & shield – 55 pF/ft.
- •Maximum resistance of 20 ohms / 1000 ft.
- •Nominal impedance 100 – 140 ohms

Cable Connectors

Cables must have a male XLR connector on one end and a female XLR connector on the other end. (Duh!)



CAUTION: Do not allow contact between the common and the fixture's chassis ground. Grounding the common can cause a ground loop, and your fixture may perform erratically. Test cables with an ohm meter to verify correct polarity and to make sure the pins are not grounded or shorted to the shield or each other.

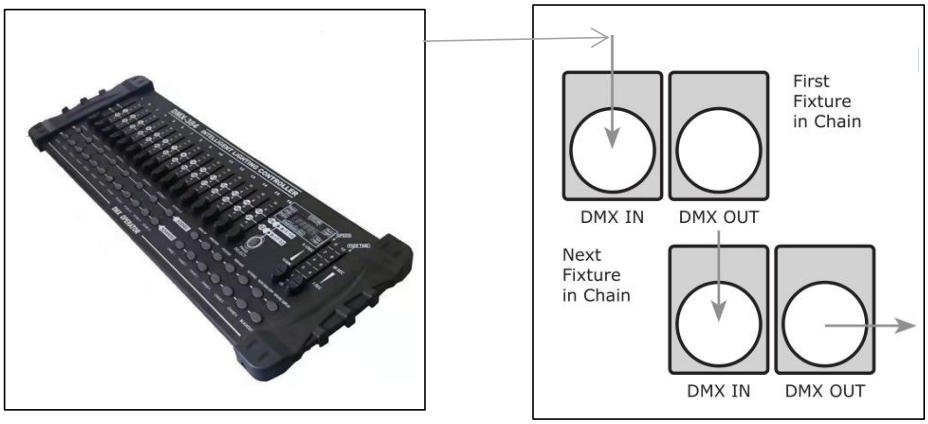
Take It To The Next Level: Setting Up DMX Control

Step 1: Connect the male connector of the DMX cable to the female connector (output) on the controller.

Step 2: Connect the female connector of the DMX cable to the first fixture's male connector(input).

Note: It doesn't matter which fixture address is the first one connected. We recommend connecting the fixtures in terms of their proximity to the controller, rather than connecting the lowest fixture number first, and so on.

Step 3: Connect other fixtures in the chain from output to input as above. Place a DMX terminator on the output of the final fixture to ensure best communication.

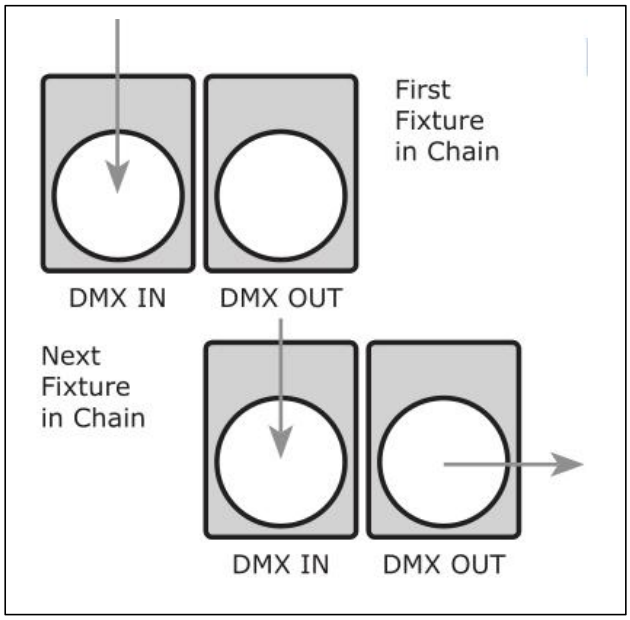


Fixture Linking (M/S Mode)

1. Connect the male connector side of the DMX cable to the output female connector of the first fixture.

2. Connect the end of the cable coming from the first fixture which will have a

female connector to the input connector of the next fixture consisting of a male connector. Then, proceed to connect from the output as stated above to the input of the following fixture and so on.



A quick note: Often, the setup for Master-Slave and Standalone operation requires that the first fixture in the chain be initialized for this purpose via either settings in the control panel or DIP-switches. Secondarily ,the fixtures that follow may also require a slave setting.

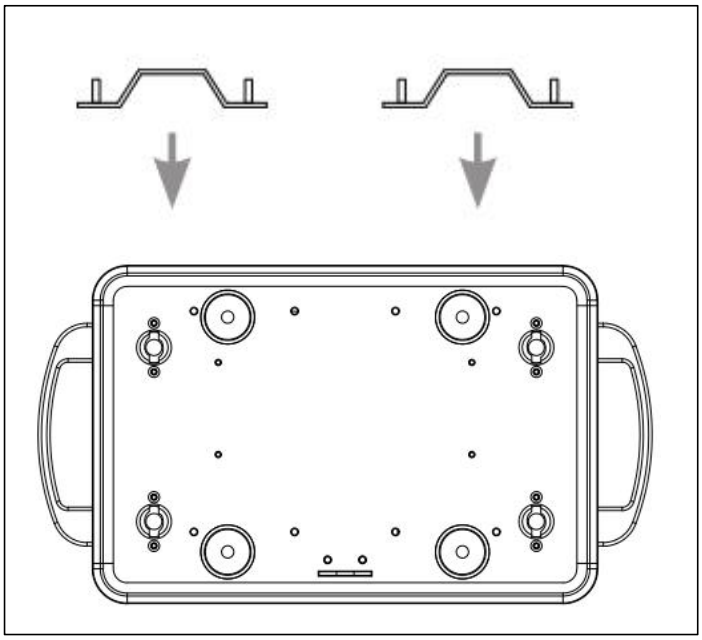
Check the "**Operating Adjustments**" section in this manual for complete instructions for this type of setup and configuration.

Mounting & Rigging

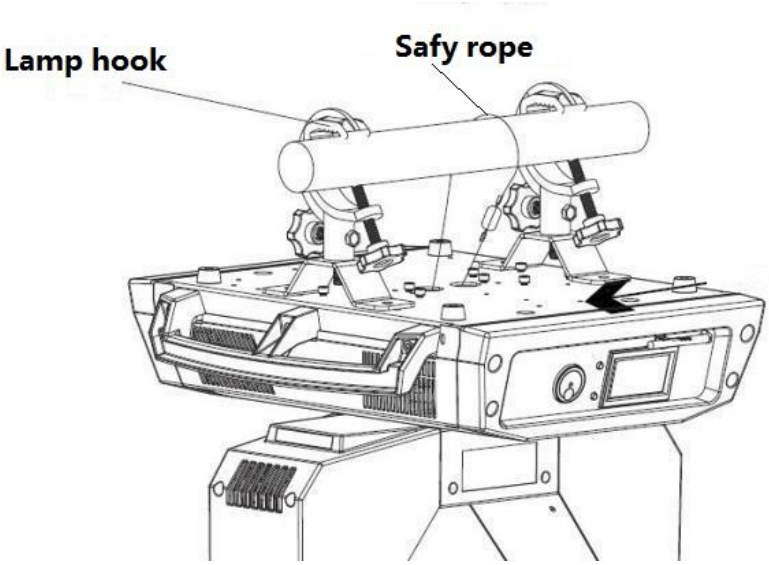
This fixture may be mounted in any SAFE position provided there is enough room for ventilation. The fan or vents pathway must never obstructed.

A mounting bracket assembly is provided that secures the bottom of the base, the Omega bracket, and the safety cable rigging point together. When mounting to truss, be sure to secure an appropriately rated clamp to the omega bracket.

IMPORTANT: Regardless of the rigging option you choose for your fixtures, always be sure to secure your fixture with a safety cable.



Attach the 2x ¼-turn quick lock Omega brackets to the base, and the clamps to the brackets.



Mount the fixture using a suitable "C" or "O" type clamps. The clamps should be rated to hold at least 10x the fixture's weight to ensure structural stability. Do not mount to surfaces of unknown strength, and ensure properly rated rigging is used when mounting fixtures overhead.
Overhead mounting requires extensive experience, which includes calculating working load limits, knowledge of the installation material being used, and periodic safety inspections. If you lack these qualifications, do not attempt the installation yourself. Improper installation can result in bodily injury.

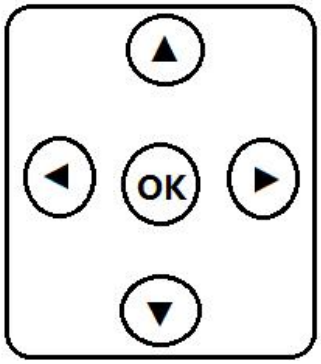
4. OPERATING ADJUSTMENTS

The Control Panel

All of the features and different modes possible with this fixture are accessed by using the control panel on the front of the fixture. There are 4 control buttons next to the LED display which allow you to navigate through the various control panel menus.

M **<MENU>**
Is used to navigate to the previous higher-level menu item.

U **<UP>**
Scrolls through menu items and numbers in ascending order.



D **<DOWN>**
Scrolls through menu items and numbers in descending order.

E **<ENTER>**
Is used to navigate to the previous higher-level menu item.

O **<OK>**
Execute the function, start editing, exit editing

Pressing any button from the home screen will show the selectable menu items from the menu map on page #15. When a menu function is selected, the display will immediately show the first available option for the selected menu function. To select a menu item, press **<OK>**.
Use the **<UP>** and **<DOWN>** buttons to navigate the menu options. Press the **<OK>** button to select the menu function currently displayed, or to enable a menu option. To return to the previous option or menu without changing the value, press the **<MENU>** button.

LCD display home page Introductions

<table>
<tr><td colspan="3">2</td></tr>
<tr><td colspan="2" rowspan="3">1</td><td>3</td></tr>
<tr><td>4</td></tr>
<tr><td>5</td></tr>
<tr><td>6</td><td></td><td>7</td></tr>
<tr><td>8</td><td>9</td><td>10</td></tr>
</table>

1 — Shows current DMX address in big font size.
2 — Customer logo display area.
3 — DMX signal frame rate (FPS).
4 — Display the channels mode, and the figures shows current channels number.
5 — Fan speed display. (select whether to display according to the lighting conditions)
6 —Current mode (Master or slave).
7 — Current operating mode (DMX512, self-propelled, user).
8 — error information. It turns yellow if has some errors when self-test.(Press the down key to view specific error messages)
9 — Temperature display or other(according to lamp configuration).
10 — Lock and Deadline.

Since the product model is numerous, the function is different, and often upgrades, causes the menu content to change frequently, this manual instruction is hard to update in time, therefore only lists part of the important menu items here.

DMX Addr: Use the menu to set desired fixture address setting

Channel Mode: Use the menu to select desired DMX channel mode. The numbers on the menu represents the number of control channels.

Reset Operating: Reset Motors

Motor power off: Select “Y” to turn off the motors power，and select “N” to turn on the motors power，it will reset automatically. You can plug the motor and reset it without turn off main power supply via this menu.

Pan/Tilt: Use the menu to reset Pan and Tilt

……

Run: Use the menu to select operational mode

Following is the instructions of the menu options(Note：the “test” mode option may be different according to product model):

- DMX：Controlled by DMX512 signal。
- Test(factory)：Controlled by built-in program which is for factory test.
- Program：Controlled by User's program。User the menu [Running Cnfg]- [Mixed Scene] and [Scene Edit] to set up or edit the scenes。

Lamp: Use the menu to turn on or off the lamp. It will take effect after 3 seconds , if the value was switched back in 3 seconds, the operation will be canceled. If the lamp was turn off，it must wait for 1 to 2 minutes before it can turn on again。You can set the menu value to “on” and it will turn on automatically after 1 to 2 minutes。

An example of the value is shown below :

Manual Control: Set DMX value manually

Running Cnfg: configuration of Running.

M/S Mode: Slave mode is for receiving external DMX signals and Master mode is for sending DMX signals to external slave fixtures

Maunual Pan/Tilt: Select “Y” to Manual Pan/Tilt.

Pan Reverse cnfg:

Reverse: The item allows to invert Tilt movement

Tilt Reverse cnfg:

Reverse: The item allows to invert Tilt movement

Pan Cnfg:

Origin: Set desired Origin value to change Pan Movement range (set the DMX value to 0 before changing this value, the tile motor will move when changing this value)

End: Set desired final stop value to change Pan movement range (set the DMX value to 255 before changing this value, the tile motor will move when changing this value)

Tilt Cnfg:

Origin: Set desired Origin value to change Tilt movement range (set the DMX value to 0 before changing this value, the tile motor will move when changing this value)

End: Set desired final stop value to change Tilt movement range (set the DMX value to 255 before changing this value, the tile motor will move when changing this value)

Color linear: You can set the color wheel rotate by “half color” or “linear”.

Dim Curves: Select the dim curve (For LED light only).

DMX Lost: Use the menu to select run mode when external DMX cannot be connected.

Start Up: Following is the instructions of the menu options：

- Middle: The DMX of pan and tilt are set to 128, all other DMX are set to 0.
- Test (factory/gobo/color) ： Controlled by built-in program. Refer to the menu “Run” for more information.
- Program：Program：Controlled by User's program。User the menu [Running Cnfg]- [Mixed Scene] and [Scene Edit] to set up or edit the scenes.

Running: Whenever the DMX is lost：

- Keep：Keep the last state when reset finished..
- Shutter Off:.shutter off.

Advanced:

Fine Adj: This is the factory adjustment function locked with password.

Display: Display flip setting.

Language: Use the menu to select desired system language

Ignore Errors: Some error reports may not affect the final use effect, or for the general purpose of the product, you can choose to turn off some meaningless error reports.

FactorySetting: Show Logo.

Fine tune recovery: After replacing the display board, use this menu to restore the trim data saved by the motor board to the display board.

Lamp Off: Use the menu to select what the motor should do when lamp is off. If ""No Act"" is selected, lamp doesn't lead to any changes of motors. If "Sleep" is selected, motors except Pan/Tilt will sleep when lamp is off.

Info:

DMX Monitor: Display the DMX value from controller

Chn: Use the menu to select desired channel which you need to watch.

Value: Show the current value of the selected channel

Err State: Error information (If there is any error shown in this menu, a exclamatory mark will show at the top right corner of menu cover)

Storage: This message will appear when Flash goes bad.

Sensor Err: The states of all of the sensors

Pan Raster: Is the position sensor (raster) error.

……

Lamp: The communication between CPU and lamp driver. If this communication go out of work, the CPU cannot determine the lamp is on or off, and some functions may be affected.

Bus: This message informs you that the communication between the display PCB in the fixture base and the motor driver PCB in the fixture head failed, and cables may be broken.

Lamp Driver: The communication between CPU and lamp driver. If this communication go out of work, the CPU cannot determine the lamp is on or off, and some functions may be affected.

RAM Err: A memory allocation failure occurs. Please contact your Dealer or Fabricator for repair assistance.

Fan Stalling: Fan stop.

Lamp Service time: Lamp service time

ThisTime (m): The menu shows the total number of the operation hours with the lamp on since the last operation of clear.

Clear Lamp Time: Use the menu to reset the counter of operation hours with the lamp to 0, when a new lamp replaces the old one.

Test mode: for factory test, users do not need to pay attention to it

Product Code: the internal code of the product, which is only for product production and maintenance reference.

Control Panel Menu Structure

Level 1	Level 2	Level 3	Level 4	content
DMX address				1 - 512
channel mode				Different channel numbers are displayed depending on the lamp model.
reset operation				
	Motor power supply			no/yes
	XY axis			
	…			
run				DMX/Self-propelled/voice control/user program
Light bulb				close/on (current-on/off)
Manual control				
	Channel 1			
	Channel 2			
	…			
Run settings				
	master-slave mode			Slave machine/host
	XY axis general settings			
		Manual scan		no/yes
		X axis reverse		no Yes
		Y axis reverse		no Yes
		speed channel real time		no Yes
		time pattern		no/yes
	X-axis settings			

		starting range		0-254
		end range		0-255
	Y axis settings			
		starting range		0-254
		end range		0-255
	color wheel linear			no Yes
	Dimming curve (only for LED light source)			**straight line**/square/Prescribe a prescription/S-curve/logarithm
	self programming			
		Step count		
			aisle	**0-255**
	When there is no signal			
		When booting		**Centered, self-propelled, user, no effect**
		Runtime		**keep, close the light**
advanced settings				
	fine-tuning			
	Display			
		brightness		Not Enabled
		flip		Invert screen display
	language			Chinese/English
	ignore errors			
		code disk waveform		no Yes
	Standby hibernation			
		No signal waiting		selection period
		Turn off the light and wait		selection period

		light closing threshold		0-255
information				
	DMX value			
		aisle		0-255
	mistake			
		storage		
		RAM		
		Bus communication		
		Lightbulb Newsletter		
		Lighting board		
		X code plate		
		Y code disc		
		X axis reset		
		Y axis reset		
		...		
		Fan stalls		
	Lamp usage time			
		Usage time (hours)		
		Time reset		
	product code			The internal code of the product is for reference only in product production and maintenance.

5. APPENDIX

Keeping Your Fixture Good As New

The fixture you've received is a rugged, tough piece of pro lighting equipment, and as long as you take care of it, it will take care of you. That said, you'll need to take care of it if you want it to operate as designed. You should keep the fixture clean, especially if you are using it in an environment with a lot of dust, fog, haze, wild animals, wild teenagers or spilled drinks.

Cleaning the optics routinely with a suitable glass cleaner will greatly improve the quality of light output. Keeping the fans free of dust and debris will keep the fixture running cool and prevent damage from overheating.

In transit, keep the fixtures in cases. You wouldn't throw a prized guitar, or other piece of expensive gear into a gear trailer without a case, and similarly, you shouldn't even think about doing it with your shiny new light fixtures.

Common sense and taking care of your fixtures will be the single biggest thing you can do to keep them running at peak performance and let you worry about designing a great light show, putting on a great concert, or maximizing your client's satisfaction and "wow factor." That's what it's all about, after all!

Shipping Issues

Damage incurred in shipping is the responsibility of the shipper, and must be reported to the carrier immediately upon receipt of the items. Claims must be made within seven (7) days of receipt.