



# EOS-90

90watt, LED Moving Head Spot Projector

## Operating Manual



# Introduction

Thank you for using this product. iPhos lighting products are designed with the professional operator in mind and are covered by a one year, parts and labour warranty. Please read this instruction manual carefully and keep it for reference. The instructions contain important information about the safety, installation and use of this lighting fixture. Please follow these instructions carefully when installing and operating this unit. When receiving the product, please check that the product has not been damaged during transit and that all the accessories are included

This product utilizes the international standard DMX512 protocol, and is suitable for small to large stages catering for theatrical performances, concerts, houses of worship, film sets, television studios, and other place where a high quality light projector is needed.

## Before You Begin

### What is included:

1 x EOS-90 Light Fixture  
1 x Omega Bracket  
1 x 1.5mtr, 3pin, Male XLR to Female XLR DMX Signal Cable  
1 x 1.4mtr Mains Power Cable - AS/NZS 3112 Male Plug to Powercon (NAC3FCA type - Blue)  
1 x User Manual

### Unpacking Instructions

Immediately upon receiving a fixture, carefully unpack the carton. Check the contents to ensure that all parts are present, and have been received in good condition. Notify the shipper immediately and retain packing material for inspection if any parts appear damaged from shipping, or the carton itself shows signs of mishandling. Save the carton and all packing materials. In the event that a fixture must be returned to the supplier as "faulty out of the box", it is important that the fixture be returned in the original factory box and packing.

### Safety Instructions

1. This apparatus (light) belongs to CLASS I (Earthed) device, therefore it must be connected to a power source with an earth socket.
2. Use a suitable and safe power outlet or power extension cable to connect the light.
3. \*\*\*\* **Never connect the device to a dimmer pack** \*\*\*\*
4. The light can emit a very powerful beam. Do not stare directly at the light beam. It can hurt your eyes.
5. Keep away from children. To be operated by trained personnel only.
6. Make sure that the supply voltage is within the specified voltage levels of the light.
7. Before connecting to a power source, inspect the power cable, mains plug, powercon connector and lighting fixture power socket, for any damage or lacerations. If the cable/plugs/socket, connectors shows any signs of damage, do not connect the light to a power source. Refer the light to a qualified technician for repairs.
8. The light must be powered-off when it's not in use, in order to extend its life and reduce power consumption. Disconnect from the power source before cleaning.
9. When un-plugging the power cable, from the power source, pull out by gripping the plug. Do not pull it by the cable.
10. If you see bare wires exposed, when the light is in operation, immediately turn the power off from the wall socket or the switch-board, then disconnect the light and refer it to a qualified technician for repairs.
11. Do not modify the light in any way. No User Serviceable parts inside.
12. The Maximum ambient operating temperature is 40° C in the shade. Do not operate fixture at temperatures higher than this. Do not operate the light, when exposed to direct sunlight.
13. Do not daisy chain power to more than 8 units @ 230V.
14. If you are a business or employer (or other PCBU) you must ensure that the light is regularly inspected and tested, by a competent person, to Australian standards AS/NZS 3760: 2013

## Specifications:

### Electrical:

Input Voltage, 100-240V AC-50/60Hz  
Max power Consumption: 120W

### Light Source:

LED: 1 x 90watt

### Control:

Control Protocol: DMX512  
Personality: 6 or 16 channels  
Fixture Connection: Power in/out (powercon), DMX Data in/out (3pin XLR).  
Control Mode: DMX512/Master-Slave/Auto run (Stand Alone)

### Optical System:

**Dimmer: 0-100% Linear dimming, high speed, flicker-free driver chip (video friendly).**

**Strobe: 0-20Hz**

**Beam angle: 60°**

### Environment:

Dry / Indoor  
Ingress Protection Rating: IP20  
Operation Temperature: -20°C - +40°C

### Physical:

Lighting Fixture Dimensions (excluding Bracket) (H\*W\*D): 385\*275\*160mm  
Net Weight (excluding power cable): 7.3kg  
Net Weight (including power cable): 7.5kg  
Shipping (Gross) Weight: 8.68kg  
Shipping Dimensions: 435\*32\*245mm  
Housing: Die-cast Aluminium  
Cooling: Low Noise Fan Cooling

#### TECHNICAL PARAMETERS

DMX channel: 6/16 channels  
Control mode: DMX512/Master-Slave/Auto run  
Display: LCD display  
Movement: pan 540 degree , tilt 270 degree  
Color wheel: 7 color + Open  
Rotating gobo wheel: 6 gobos + open ( interchangeable )  
Static gobo wheel: 8 gobos + open  
Prism: 3 facet  
Focus: Electronic linear focus

## Features:

- Flicker-free dimmer makes for a video friendly device
- Built-in temperature sensor - automatically adjusts the light output, when the operating temperature approaches maximum operating levels, to prevent the LED lamp from overheating.
- 6 or 16 DMX channel operation
- DMX512 signal-present indicator.
- LCD digital display.
- Detachable power and signal cables

# Setup

## Installation Requirement

- This product can operate in two positions: "Floor-mounted" on its feet, or vertically hanging from horizontal bars.
- If hanging the fixture for overhead use, then please follow the below steps:
- Overhead mounting requires extensive experience, including amongst others calculating working load limits, a fine knowledge of the installation material being used, and periodic safety inspection of all installation material and the fixture. If you lack these qualifications, do not attempt the installation yourself. Improper installation can result in bodily injury or equipment damage. Be sure to complete all rigging and installation procedures before connecting the main power cord to the appropriate power outlet.
- Clamp mounting : The EOS-90 LED moving head provides a unique mounting bracket assembly that integrates the bottom of the base. The included 'Omega Bracket' attaches to this bracket using the two quick-lock fasteners (see the illustration below).

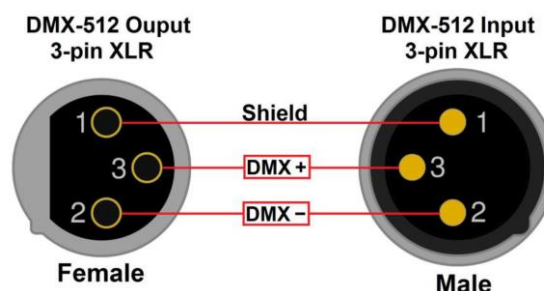


- When mounting this fixture to a truss be sure to secure an appropriately rated clamp to the included omega bracket using a M10 screw fitted through the centre hole of the 'Omega Bracket'. As an added safety measure be sure to attached at least one properly rated safety cable to the fixture utilizing the integrated base assembly.
- When hanging the fixture, it is your responsibility to ensure the hanging apparatus and the hanging point can safely support the total weight of the light.
- Please make sure there are no flammable objects within 1mtr when installing the light.
- The installation must be carried out by trained personnel only. A faulty installation may cause injury or equipment damage.
- During the installation, block access below the work area and use suitable and stable platforms, when installing or servicing the light.
- Lights must be operated placed in well ventilated areas. Make sure any ventilation holes, on the fixture, are not obscured.
- Always use and install a safety cable as a safety measure to prevent accidental damage and /or injury in the event the clamp fails.

## Power Connection:

This fixture has an auto-switching switch-mode power supply that can accommodate a wide range of input voltages. The only thing necessary to do before powering on the unit is to make sure the line voltage you are applying is within the range of accepted voltages. This fixture will accommodate between **100V and 240V AC 50-60 Hz**.

## Connection of DMX Signal Wire



- This light utilizes the standard DMX512 control protocol. Even though the fixture can operate with standard balanced audio cables, using DMX Data cables will ensure there is no “misfiring” or loss of data integrity.
- Connect the first fixture, to the DMX controller, using female to male 3 pin DMX Cable. Connect the first fixture to the next fixture using a male to female 3 DMX Cable. Then, proceed to connect from the output as stated above to the input of the following fixture and so on.
- Numerous fixtures can be connected in series without the need for the signal amplifier.
- Long DMX signal runs (more than 50mtr to 100mtr may require a signal amplifier

## Control Panel Functions

### Display and Control Panel



### Control Panel Operation Instructions:

**Note:** The LCD display turns off after 10 seconds of idle operation.

Press **ESC** to cycle back through the functions

Press **UP** or **DOWN** to step through the different function settings.

Press **ENTER** to confirm and lock in memory.

When display is turned off, pressing any of the **4 keys** to return to the previous open menu.

## Menu Function

DMX Address	001~512		
Operating Mode	DMX 6 Ch		
	DMX 16 Ch		
	Auto	Perform Mode 1	
		Perform Mode 2	
		Perform Mode 3	
		Perform Mode 4	
		Perform Mode 5	
		Perform Mode 6	
		Perform Mode 7	
		Perform Mode 8	
	Sound		
	Master Auto	Perform Mode 1	
		Perform Mode 2	
		Perform Mode 3	
		Perform Mode 4	
		Perform Mode 5	
		Perform Mode 6	
		Perform Mode 7	
		Perform Mode 8	
	Master Sound		
	Slave		

Language Setting	简体中文		
	English		
Advanced Setting	Pan Reverse		
	Tilt Reverse		
	Display Reverse		
	Mic Sensitive = 000		
	Reset Motor		
	Factory Reset		
	Home Position	Password	Code =018
		PAN	PAN =000
		TILT	TILT =000
		Colour	
		Fixed Gobo	
		Rotating Gobo	
		Focus	
		Prism	
System Info	Current Time		
	Total Time		
	Current Mode		
	Temperature		
	Software Version		
Manual Control	PAN	PAN =000	
	PAN-FINE	PAN-Fine =000	
	TILT	TILT =000	
	TILT-FINE	TILT-Fine =000	
	Pan/Tilt Speed	Move Speed =000	
	Dimmer	Dimmer =000	
	Strobe	Strobe =000	
	Color		
	Fixed Gobo		
	Rotating Gobo		
	Wheel Gobo		
	Rotation		
	Focus		
	Prism		

## 5: Function Mode

### 5.1 DMX address setting

With this function, you can adjust the desired DMX-address via the Control Board.

Select DMX mode via the Control Panel

Select the starting DMX address by from the **UP/DOWN** buttons.

Press **ENTER** to confirm.

Press the **ESC** button in order to return to the previous menu.

### 5.2 Run Mode

a. Select from 6 Channel, or 16 Channel DMX control.

Refer to **6: DMX CHANNELS**, for the DMX definition tables.

b. In the **【Run】** mode, you can chose:

- **【Master】** mode [ Sound Control ] [Master Auto Run ] [Master Sound Control ]
- **【Slave】** mode.

### 5.3 Language Setting

- Choose between English or Chinese Screen Display Language.

### 5.4 Advanced Setting

#### a. Pan Reverse:

With this function you can reverse the Pan movement.

#### b. Tilt Reverse:

With this function you can reverse the Tilt movement.

#### c. Display Reverse:

Turn the display by 180deg, to facilitate hanging from a lighting grid.

#### d. Reset Motor

With this function, you can reset the motors via the Control Board.

#### e. Factory Reset

Select factory restore "ON" or "OFF". the default is "OFF".

#### d. Home Position - Set the home position for: (password required)

- Pan
- Tilt
- Dimmer
- Colour
- Fixed Gobo
- Rotation Gobo
- Focus

#### e. Mic Sensitivity

Select the Microphone sensitivity for Sound Controlled functions.

000 ~ 100 (minimum to maximum sensitivity)

### 5.5 System Info - Select from:

- Current Time
- Total Time
- Current Run Mode
- Temperature
- Software Version

### 5.6 Manual Control - With this function, you can select and adjust:

- Pan
- Tilt
- XY speeds
- Dimmer
- Strobe
- Colour
- Fixed Gobo
- Rotation Gobo
- Rotation Gobo Wheel
- Focus
- Prism

## 6: DMX CHANNELS

**6.1 - 6 channel definition table**

Channel	DMX Value	Function
1	000 - 255	X axis (540deg, pan)
2	000 - 255	255 Y (270deg, tilt)
3	000-250	Dimmer(0-100%)
4	000-004	Shutter closed



	005-250	Strobe effect - Slow to Fast
	251-255	Shutter Open
5	000-007	Empty
	008-047	Auto Play 1 (Project Only )
	048-087	Auto Play 2 (Project Only )
	088-127	Auto Play 3 (Project Only )
	128-167	Auto Play 4 (Project Only )
	168-207	Auto Play 5 (Project Only )
	208-247	Auto Play 6 (Project Only )
	248-255	Color/Gobo Sound Control (Project Only )
6	000-007	Empty
	008-032	X/Y Movement - Auto Run 1
	033-058	X/Y Movement - Auto Run 2
	059-084	X/Y Movement - Auto Run 3
	085-110	X/Y Movement - Auto Run 4
	111-136	X/Y Movement - Auto Run 5
	137-162	X/Y Movement - Auto Run 6
	163-188	X/Y Movement - Auto Run 7
	189-214	X/Y Movement - Auto Run 8
	215-240	X/Y Movement - Auto Run 9
	241-255	X/Ymovement - Sound Control

## 6.2 - 16 channel definition table

Channel	DMX Value	Function
1	000 - 255	X axis (540deg, pan)
2	000 - 255	X-Fine (1deg, pan fine)
3	000 - 255	Y (270deg, tilt)
4	000 - 255	Y-Fine (1deg, tilt fine)
5	000 - 255	XY Speed
6	000 - 255	Dimmer (0-100%)
7	000-004	Shutter closed
	005-250	Strobe effect - Slow to Fast
	251-255	Shutter open
8	000-004	Open (White)
	005-013	White/Colour 1 (white/red)
	014-022	Colour 1 (red)
	023-031	Colour 1/Color 2 (red/orange)
	032-040	Colour 2 (orange)
	041-049	Colour 2/Color 3 (orange/green)
	050-058	Colour 3 (green)
	059-067	Colour 3/Colour 4 (green/blue)
	068-076	Colour 4 (sky blue)
	077-085	Colour 4/Colour 5 (sky blue/yellow)
	086-094	Colour 5 (yellow)
	095-103	Colour 5/Colour 6 (yellow/maya blue)
	104-112	Colour 6 (maya blue)
	113-121	Colour 6/Colour 7 (maya blue/pinkish purple)
	122-130	Colour 7 (pinkish purple)
	131-139	Open (White)
	140-195	Forward Rainbow effect from fast to slow
	196-199	Rotation Stop



	200-255	Backward Rainbow effect from slow to fast
9	000-005	Open(White)
	006-021	Static Gobo1
	022-037	Static Gobo2
	038-053	Static Gobo3
	054-069	Static Gobo4
	070-085	Static Gobo5
	086-101	Static Gobo6
	102-117	Static Gobo7
	118-133	Static Gobo8
	134-194	Static Gobo Wheel Forward Rotation Rainbow effect from fast to slow
	195-255	Static Gobo Wheel Backward Rotation Rainbow effect from slow to fast
10	000-007	Open(White)
	008-028	Gobo1
	029-049	Gobo2
	050-070	Gobo3
	071-091	Gobo4
	092-112	Gobo5
	113-133	Gobo6
	134-194	Forward rainbow effect from fast to slow
	195-255	Backward rainbow effect from slow to fast
11	000-009	Stop
	010-129	Forward Gobo2 Rotation from fast to slow
	130-134	Stop
	135-255	Backward Gobo2 Rotation from slow to fast
12	000-255	Focus
13	000-007	Open(White)
	008-134	Prism
	135-255	Forward Prism Rotation from slow to fast
14	000-007	Empty
	008-047	Auto Play 1 (Project Only )
	048-087	Auto Play 2 (Project Only )
	088-127	Auto Play 3 (Project Only )
	128-167	Auto Play 4 (Project Only )
	168-207	Auto Play 5 (Project Only )
	208-247	Auto Play 6 (Project Only )
	248-255	Color/Gobo Sound Control
15	000-007	Empty
	008-032	X/Y Movement - Auto Run 1
	033-058	X/Y Movement - Auto Run 2
	059-084	X/Y Movement - Auto Run 3
	085-110	X/Y Movement - Auto Run 4
	111-136	X/Y Movement - Auto Run 5
	137-162	X/Y Movement - Auto Run 6
	163-188	X/Y Movement - Auto Run 7
	189-214	X/Y Movement - Auto Run 8
	215-240	X/Y Movement - Auto Run 9
	241-255	X/Y Movement - Sound Control
16	250-255	RESET(10 Seconds)

## Service and Maintenance

**Note:** No User Serviceable parts are inside this light fixture. For all repairs and service, please consult a qualified technician.

<b>Fault/Symptom</b>	<b>Cause/Remedy</b>
Low Output	There may be excessive dirt built-up on the front glass cover. Clean the glass with a non-abrasive cloth and glass cleaner
Circuit Breaker/Fuse keeps tripping/blowing.	Check the total load connected to the electrical supply. Reduce the number of items connected to the supply.
	Check for damaged power cables which may cause a short circuit. Disconnect and remove faulty item from the electrical supply.
Fixture has no power	Check for connection to the electrical supply. Check power cable and replace it if it is faulty. If there is still, no power, send fixture to an authorized service agent for repair.
Not responding to DMX	Check Input Panel for correct addressing
	Check DMX cables, input and output, for short circuits or open circuits.
	Check the polarity switch settings on the DMX controller
	If fixture is still not responding, send fixture to an authorized service agent for repair.
Loss of signal or responding to commands	Install a DMX cable terminator
	Use only DMX Cables
	Connect directly to DMX controller to test fixture. If it's still, not responding to DMX commands, send fixture to an authorized service agent for repair.