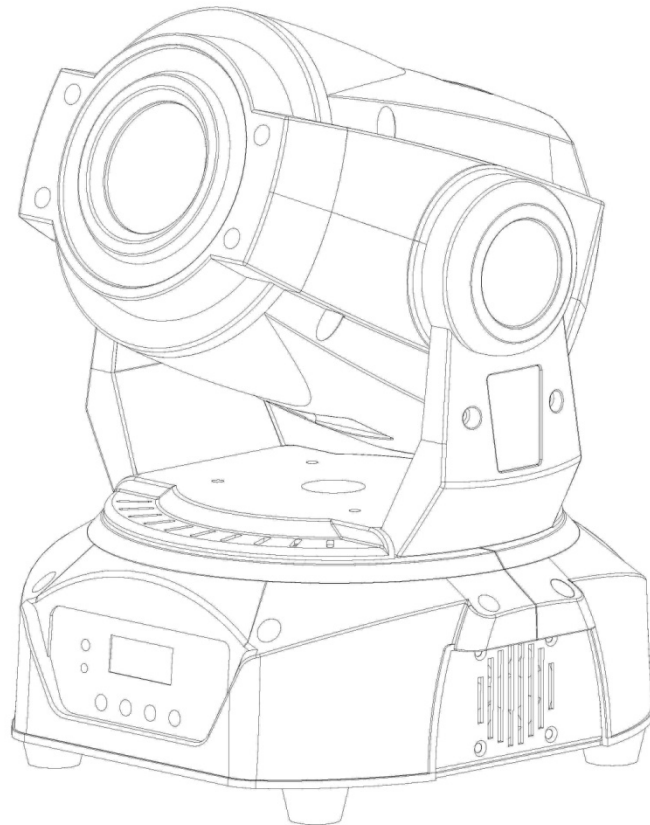


# X SPOT

## USER'S MANUAL



## Dimensions

250 mm (W) x 246 mm (D) x 345 mm (H)

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## Safety Information

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### WARNING!

**Read the safety precautions in this section before installing, powering, operating or servicing this product.**

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**Warning! Class 2M LED product. Do not look into the beam at a distance of less than 0.5 meters(20 inches) from the front surface of the product. Do not view the light output with optical instruments or any device that may concentrate the beam.**



This product is for professional use only. It is not for household use.

This product presents risks of severe injury or death due to fire and burn hazards, electric shock and falls.



**Read this manual** before installing, powering or servicing the fixture, follow the safety precautions listed below and observe all warnings in this manual and printed on the fixture. If you have questions about how to operate the fixture safely, please contact your Ludi supplier.



#### PROTECTION FROM ELECTRIC SHOCK

- Disconnect the fixture from AC power before removing or installing any cover or part – including fuses - and when not in use.
- Always ground (earth) the fixture electrically.
- Use only a source of AC power that complies with local building and electrical codes and has both overload and ground-fault (earth-fault) protection.
- Before using the fixture, check that all power distribution equipment and cables are in the perfect condition and rated for the current requirements of all connected devices.
- Isolate the fixture from power immediately if the power plug or any seal, cover, cable, or other component is damaged, defective, deformed, wet or showing signs of overheating. Do not reapply power until repairs have been completed.
- Do not expose the fixture to rain or moisture.
- Refer any service operation not described in this manual to a qualified technician.

- Socket outlets used to supply fixtures with power or external power switches must be located near the fixtures and easily accessible so that the fixtures can be easily disconnected from power.



#### **PROTECTION FROM BURNS AND FIRE**

- Do not operate the fixture if the ambient temperature ( $T_a$ ) exceeds 40° C (104° F).
- The exterior of the fixture becomes hot during use. Avoid contact by persons and materials. Allow the fixture to cool for at least 10 minutes before handling.
- Keep all combustible materials (e.g. fabric, wood, paper) at least 100 mm (4 ins.) away from the head.
- Keep flammable materials well away from the fixture.
- Do not illuminate surfaces within 250 mm (10 ins.) of the fixture.
- Do not attempt to bypass thermostatic switches or fuses. Replace defective fuses with ones of the specified type and rating.
- Do not stick filters, masks or other materials onto any optical component.
- Do not modify the fixture in any way not described in this manual.
- Install only genuine Ludi parts.



#### **PROTECTION FROM INJURY**

- Do not look continuously at LEDs from a distance of less than 0.5 meters (20 inches) from the front surface of the fixture without protective eyewear such as shade 4-5 welding goggles. At less than this distance, the LED emission can cause eye injury or irritation. At distances of 0.5 meters (20 inches) and above, light output is harmless to the naked eye provided that the eye's natural aversion response is not overcome.
- Do not look at LEDs with magnifiers, telescopes, binoculars or similar optical instruments that may concentrate the light output.
- Ensure that persons are not looking at the LEDs from within 0.5 meters (20 inches) when the product lights up suddenly. This can happen when power is applied, when the product receives a DMX signal, when a stand-alone program suddenly increases light output intensity or when SERVICE menu items are selected.
- Install as described in this manual a secondary attachment such as a safety cable that is approved by an official body such as TUV as a safety attachment for the weight of all the fixtures it secures. The safety cable must comply with EN 60598-2-17 Section 17.6.6 and be capable of bearing a static suspended load ten times the weight of the fixture.
- If suspending from a rigging structure, attach the fixture with two evenly spaced clamps. Do not use only one clamp.
- Ensure that any supporting structure and/or hardware used can hold at least 10 times the weight of all the devices they support.
- Allow enough clearance around the head to ensure that it cannot collide with an object or another fixture when it moves.
- Check that all external covers and rigging hardware are securely fastened.
- Block access below the work area and work from a stable platform whenever

installing, servicing or moving the fixture.

- Do not operate the fixture with missing or damaged covers, shields or any optical component.

## Introduction

Thank you for selecting the X Spot, an intelligent lighting fixture from Ludi Lighting. This LED-based moving-head spot light features:

Luminous high-power emitters

DMX control and stand-alone operation with scenes programmed on fixture or captured via DMX

Onboard control panel and backlit LCD graphic display

8 colors

8 fixed gobos

6 rotating gobos

Rotating prism

Motorized focus

Smooth electronic dimming

Electronic strobe

630° pan and 270° tilt ranges

8 bit and 16 bit DMX control modes

## Data link

A data link is required in order to control a X Spot via DMX.

The X Spot has 3 pin connectors for DMX data input and output. The pin-out on all connectors is pin 1 = shield, pin 2 = cold (-), and pin 3 = hot (+). Do not use the outputs to split the DMX link.

### Tips for reliable data transmission

Use shielded twisted-pair cable designed for RS-485 devices: standard microphone cable cannot transmit control data reliably over long runs. 24 AWG cable is suitable for runs up to 300 meters (1000 ft). Heavier gauge cable and/or amplifier is recommended for longer runs.

Never use both a fixture's outputs to split a DMX link. To split the link into branches, use a splitter. Terminate the link by installing a termination plug in the output socket of the last fixture. The termination plug, which is a male XLR plug with a 120 Ohm, 0.25 Watt resistor soldered between pins 2 and 3, "soaks up" the control signal so it does not reflect and cause interference. If a splitter is used, terminate each branch of the link.

### Connecting the data link

1. Connect the DMX data output from the controller to the X Spot 3-pin input (male) socket.
2. Using the sockets that match your data cable, connect the output of the fixture closest to the controller to the input of the next fixture.
3. Insert a male 120 Ohm XLR termination plug in the 3-pin or 5-pin output of the last fixture on the link.

## Setting menu

Primary menus	Settings	Secondary menus	Settings
Address	=1-512		
Run Mode	=DMX		
	=Auto 1		
	=Auto 2		
	=Sound		
RevSet		PanRev	=YES
			=NO
		TiltRev	=YES
			=NO
Degree		Pan	=540°
			=360°
			=180°
		Tilt	=270°
			=180°
			=90°
Channel	=15		
Reset	=YES		
	=NO		
Reload	=YES		
	=NO		

## DMX protocol

DMX channel	DMX value	Function
1	000-255	Pan position
2	000-255	Pan position (16 bit)
3	000-255	Tilt position
4	000-255	Tilt position (16 bit)
5	000-255	Pan & tilt motor speed, fast → slow
6	000-015	White
	016-031	Magenta
	032-047	Green
	048-063	Yellow
	064-079	Cyan
	080-095	Red
	096-111	Light green
	112-127	Blue
	128-191	Scroll clockwise, slow → fast
	192-255	Scroll anti-clockwise, slow → fast

7	000-006	Clear
	007-013	Gobo #1
	014-020	Gobo #2
	021-027	Gobo #3
	028-034	Gobo #4
	035-041	Gobo #5
	042-048	Gobo #6
	049-055	Gobo #7
	056-062	Gobo #8
	063-069	Gobo #8
	070-076	Gobo #7
	077-083	Gobo #6
	084-090	Gobo #5
	091-097	Gobo #4
	098-104	Gobo #3
	105-111	Gobo #2
	112-118	Gobo #1
	119-127	Clear
	128-191	Scroll clockwise, slow → fast
	192-255	Scroll anti-clockwise, slow → fast
8	000-018	Clear
	019-037	Gobo #1
	038-056	Gobo #2
	057-075	Gobo #3
	076-094	Gobo #4
	095-113	Gobo #5
	114-127	Gobo #
	128-191	Scroll clockwise, slow → fast
	192-255	Scroll anti-clockwise, slow → fast
9	000-009	Stop
	010-116	Gobo rotate clockwise, slow → fast
	117-244	Gobo rotate anti-clockwise, slow → fast
	245-255	Gobo rotate in both directions
10	000-008	Null
	009-016	Light on
	017-239	Strobe, slow → fast
	240-255	Stop strobing
11	000-007	Light off
	008-255	Dimming, dark → bright
12	Null	Null
13	000-015	Pan and tilt controlled by channel 1-5
	016-255	Pan and tilt auto moving, disable channel 1-5
14	000-015	Off
	016-239	Prism rotate, slow → fast

	240-255	Prism
15	0-255	Focus

## Troubleshooting

Problem	Probable cause(s)	Remedy
Fixture is completely dead.	No power to fixture	Check power and connections.
	Fuse blown	Disconnect fixture from power. Check fuses and replace.
One or more fixtures resets correctly but responds erratically or not at all to the controller.	Fault on data link	Inspect connections and cables. Correct poor connections. Repair or replace damaged cables.
	Data link not terminated.	Insert termination plug in output connector of the last fixture on the link.
	Incorrect fixture DMX addressing.	Check addressing on fixture and controller. Check fixture is set to correct DMX mode.
	One of the fixtures is defective and is disturbing data transmission on the link.	Unplug XLR in and out connectors and connect them directly together to bypass one fixture at a time until normal operation is regained. Have faulty fixture serviced by Ludi service technician.
	XLR pin-out on fixtures does not match (pins 2 and 3 reversed).	Install a phase-reversing cable between the fixtures or swap pins 2 and 3 in the fixture that behaves erratically.
Light output shuts down unexpectedly.	Fixture is too hot.	Clean the fixture, especially air vents. Ensure free airflow around fixture. Check that ambient temperature does not exceed max. permitted level. If problem persists, contact Ludi for advice.



### Disposing of this product

Ludi products are supplied in compliance with Directive 2002/96/EC of the European Parliament and of the Council of the European Union on WEEE (Waste Electrical and Electronic Equipment), as amended by Directive 2003/108/EC, where applicable.

Help preserve the environment! Ensure that this product is recycled at the end of its life. Your supplier can give details of local arrangements for the disposal of Ludi products.

## Specifications

### Physical

Length ..... 240 mm  
Width ..... 235 mm  
Height ..... 355 mm

Weight .....	7.2 kg excl. brackets
<b>Dynamic Effects</b>	
Colors .....	7
Fix gobos .....	8
Rotating gobos .....	7
Focus .....	Motorized
Prism .....	Rotating in varied speeds
Electronic dimming .....	0 - 100%
Strobe effect. ....	Electronic
Pan. ....	630°
Tilt .....	270°
Adjustable pan/tilt and effects speed	
<b>Optics</b>	
Light source .....	Luminous high power emitter
Color temperature. ....	5700 K
<b>Light Output</b>	
Max. in white color .....	720 lux @ 5 M
<b>Control and Programming</b>	
Control options. ....	DMX, stand-alone, master/slave
Control resolution. ....	.8- and 16-bit
DMX channels .....	15
Setting and addressing .....	Control panel with backlit LCD display
Protocol .....	USITT DMX512/1990
Stand-alone programming .....	Control panel with backlit graphic display
<b>Construction</b>	
Color .....	Black
Housing .....	High-impact flame-retardant thermoplastic
Protection rating. ....	IP 20
<b>Electrical</b>	
AC power .....	100-240 V, 50/60 Hz
Maximum total power consumption .....	126 W
Main fuse .....	6.3 AT (for use at 100-130 V nominal), 4 AT (for use at 200-240 V nominal)
Standby power .....	28 W
<b>Thermal</b>	
Cooling. ....	Forced air
Maximum ambient temperature (Ta max.) .....	40° C (104° F)
Minimum ambient temperature (Ta min.) .....	5° C (41° F)
<b>Approvals</b>	
EU safety .....	EN 60598-1, EN 60598-2-17
EU EMC .....	EN 61000-3-2, EN 61000-3-3, EN 61000-6-2, EN 61000-6-4





LUDI LIGHTING

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