



# **USER MANUAL**

# Thank you for choosing PROLIGHTS

Please note that every PROLIGHTS product has been designed in Italy to meet quality and performance requirements for professionals and designed and manufactured for the use and application as shown in this document.

Any other use, if not expressly indicated, could compromise the good condition/operation of the product and/or be a source of danger.

This product is meant for professional use. Therefore, commercial use of this equipment is subject to the respectively applicable national accident prevention rules and regulations.

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Product user manual can be downloaded from the website www.prolights.it, or can be inquired to the official PROLIGHTS distributors of your territory (https://www.prolights.it/sales\_network.html).

Scanning the below **QR Code**, you will access the download area of the product page, where you can find a broad set of always updated technical documentation: specifications, user manual, technical drawings, photometrics, personalities, fixture firmware updates.



Visit the download area of the product page



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# SAFETY INFORMATION



#### WARNING!

- See <a href="https://www.prolights.it/product/JETSPOT120#download">https://www.prolights.it/product/JETSPOT120#download</a> for installation instructions.
- Please read carefully the instruction reported in this section before installing, powering, operating or servicing the product and observe the indications also for its future handling.



This unit is not for household and residential use, only professional applications.



### Connection to mains supply

- The Connection to the mains supply must be carried out by a qualified electrical installer.
- Use only AC supplies 100-240V 50-60 Hz, the fixture must be electrically connected to ground (earth).
- Select the cable cross section in according with the maximum current draw of the product and the possible number of products connected at the same power line.
- The AC mains power distribution circuit must be equipped with magnetic+residual current circuit breaker protection.
- Do not connect it to a dimmer system; doing so may damage the product.



### Protection and Warning against electrical shock

- Do not remove any cover from the product, always disconnect the product from AC power before servicing.
- Ensure that the fixture is electrically connected to ground (earth). And 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 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 components are damaged, defective, deformed or showing signs of overheating.
- Do not reapply power until repairs have been completed.
- Refer any service operation not described in this manual to PROLIGHTS Service team or an authorized PROLIGHTS service center.



### Installation

- Make sure that all visible parts of the product are in good visible condition before its
  use or installation.
- Make sure the point of anchorage is stable before positioning the projector.
- When suspending the fixture above ground level, secure it against failure of primary
  attachments by attaching a safety cable that is approved as a safety attachment for
  the weight of the fixture to the attachment point on the main frame of the product. In
  case the safety cable, enter in action, it needs to be replaced with a new one.
- Install the product only in well ventilated places.
- For non temporary installations, ensure that the fixture is securely fastened to a load-bearing surface with suitable corrosionresistant hardware.
- For a temporary installation with clamps, ensure that the quarter-turn fastener and/or screws are turned fully, and secured with a suitable safety cable.



### Minimum distance of illuminated objects

• The projector needs to be positioned so that the objects hit by the beam of light are at least 1,5 meters (4,92 ft) from the lens of the projector.

# T<sub>a</sub>45°C Max operating ambient temperature (Ta)

• Do not operate the fixture if the ambient temperature (Ta) exceeds 45 °C (113 °F).

# Ta-15°C Minimum operating ambient temperature (Ta)

Do not operate the fixture if the ambient temperature (Ta) is below -15 °C (5 °F).



#### Protection from burns and fire

- The exterior of the fixture becomes hot during use. Avoid contact by persons and materials.
- Ensure that there is free and unobstructed airflow around the fixture.
- Keep flammable materials well away from the fixture
- Do not expose the front glass to sunlight or any other strong light source from any angle. Lenses can focus the sun's rays inside the fixture, creating a potential fire hazard.
- Do not attempt to bypass thermostatic switches or fuses.



#### Indoor use

- This product is designed for indoor and dry environments.
- Do not use in wet location and do not expose the fixture to rain or moisture.
- Never use the fixture in places subject to vibrations or bumps.
- Make certain that no inflammable liquids, water or metal objects enter the fixture.
- Excessive dust, smoke fluid, and particle build up degrades performance, causes overheating and will damage the fixture.
- Damages caused by inadequate cleaning or maintenance are not covered by the product warranty.

### T<sub>C</sub>58°C

### Temperature of the external surface

 The surface of the fixture can reach up to 57,5 °C (135,5 °F) during operation. Avoid contact with people and materials.



#### Maintenance

- Warning! Disconnect the fixture from AC mains power and allow to cool for at least 10 minutes before handling.
- Only technicians who are authorized by PROLIGHTS or Authorised service partners are permitted to open the fixture.
- Users may carry out external cleaning, following the warnings and instructions provided, but any service operation not described in this manual must be referred to a qualified service technician.
- Important! Excessive dust, smoke fluid, and particle build up degrades performance, causes overheating and will damage the fixture. Damages caused by inadequate cleaning or maintenance is not covered by the product warranty.



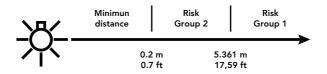
### Photobiological safety

This device emits potentially dangerous optical radiation and is identified in the category of Risk Group 2 according to EN 62471.



### Do not stare at the operating light source

- Do not look directly at the LED source during operation. It can be harmful to the eyes and skin.
- During Installation, operation and maintenance, be prepared for the fixture to light and move suddenly when connected to power.
- The device should be positioned so that prolonged staring into the luminaire at a distance closer than 5.361 m (17,59 ft) is not expected.





# Disposal

 This product is supplied in compliance with European Directive 2012/19/EU – Waste Electrical and Electronic Equipment (WEEE). To preserve the environment please dispose/recycle this product at the end of its life according to the local regulation.



# The product contains a lithium ion battery

- Don't throw the unit into the garbage at the end of its lifetime.
- Make sure to dispose according to your local ordinances and/or regulations, to avoid polluting the environment!
- The packaging is recyclable and can be disposed.



# The products to which this manual refers comply with:

- 2014/35/EU Safety of electrical equipment supplied at low voltage (LVD).
- 2014/30/EU Electromagnetic Compatibility (EMC).
- 2011/65/EU Restriction of the use of certain hazardous substances (RoHS).



# Other approvals

# 1 - PACKAGING

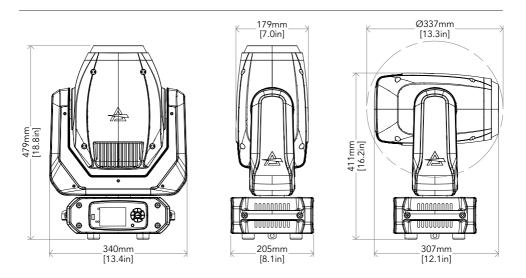
### PACKAGE CONTENT

- 1x JETSPOT120.
- 1x 1,5 meters power cable (BARE END NEUTRIK POWERCON TRUE1 IP65).
- 1x OS24PLUS, Quick-lock omega bracket, M12 hole.
- User Manual.

### **OPTIONAL ACCESSORIES**

Check the updated accessories list, description and informations of the product at the following link: https://www.prolights.it/product/JETSPOT120#accessories

# 2 - TECHNICAL DRAWING



Weight: 13,5 kg - 29,76 lbs Fig. 01

# 3 - INSTALLATION

### MOUNTING

Check that the supporting structure can safely bear the weight of all installed fixtures, clamps, cables, auxiliary equipment, etc. and complies with locally applicable regulations.

When suspending the fixture above ground level, secure it against failure of primary attachments by attaching a safety wire that is approved as a safety attachment for the weight of the fixture to an anchor point on the product main frame.

Do not use removable parts or weak anchors for secondary attachment.

Warning! When clamping the fixture to a truss or other structure at any angle, use clamps of half-coupler type. Do not use any type of clamp that does not completely encircle the structure when fastened.

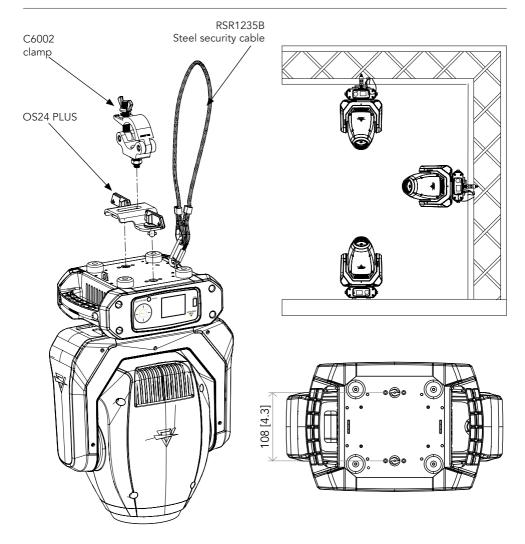


Fig.02

# 4 - CONNECTION TO THE MAINS SUPPLY

WARNING: For protection from electric shock, the fixture must be earthed!

The product is equipped with auto-switching power supply that automatically adjusts to any 50-60Hz AC power source from 100-240 Volts (max absolutes range: 90-264V).

If you need to install a power plug on the power cable to allow connection to power outlets, install a grounding-type (earthed) plug, following the plug manufacturer's instructions. If you have any doubts about proper installation, consult a qualified electrician.

The max power consumption is 238W.

Core (EU)	Core (US)	Connection	Plug terminal marking
Brown	Black	Live	L
Blue	White	Neutral	N
Yellow+green	Green	Earth	

# 5 - START UP

#### CONNECT AND DISCONNECT POWER FROM THE PRODUCT

To apply and disconnect power to the product:

- Check that the product is installed and secured as indicated in the Safety Informations, and that personal safety will not be put at risk when the fixture lights up.
- Connect the power connector into the Mains input socket (100-240 VAC-50/60 Hz).
- The product is then ready for its operations and can be controlled through the available input signals on board.
- To disconnect power from the product, disconnect the Mains from the socket.

# 6 - PRODUCT OVERVIEW

- 1. USB PORT for quick firmware upgrade.
- 2. USER INTERFACE with display and buttons for access to the control panel functions.
- 3. SAFETY EYES: to attach safety cable.
- 4. DMX IN (5-p XLR): 1 = GND, 2 = sign-, 3 = sign+, 4 N/C, 5 N/C.
- 5. DMX OUT (5-p XLR): 1 = GND, 2 = sign-, 3 = sign+, 4 N/C, 5 N/C.
- 6. MAIN FUSE HOLDER: replace a burnt-out fuse by one of the same type only (T3.15A 250V).
- 7. POWER IN: for connection to the Mains 100-240V~/50-60Hz.
- 8. POWER OUT: power output for connection of multiple units in series.

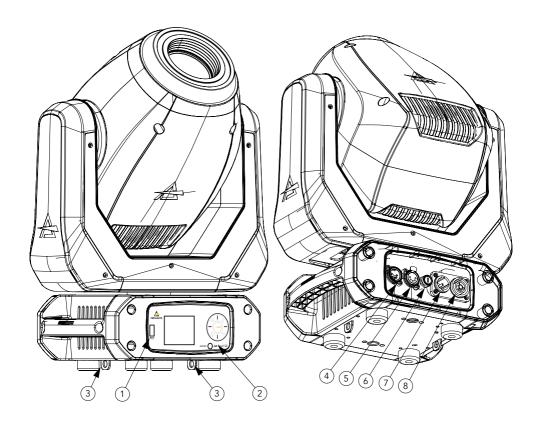


Fig 03

# 7 - DMX CONNECTION

#### CONNECTION OF THE CONTROL SIGNAL: DMX LINE

The product has XLR sockets for DMX input and output.

The default pin-out on both socket is as the following diagram:

# **DMX - INPUT** XLR plug



Pin1: GND - Shield Pin2: - Signal Pin3: + Signal Pin4: N/C Pin5: N/C

# DMX - OUTPUT XLR socket



Fig. 04

#### INSTRUCTIONS FOR A RELIABLE DMX CONNECTION

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 an amplifier is recommended for longer runs.

To split the data link into branches, use splitter-amplifiers in the connection line.

Do not overload the link. Up to 32 devices may be connected on a serial link.

#### CONNECTION DAISY CHAIN

Connect the DMX data output from the DMX source to the product DMX input (male connector XLR)

Run the data link from the product XLR output (female connector XLR) socket to the DMX input of the

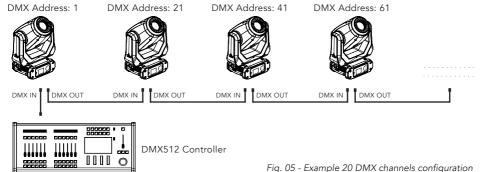
Terminate the data link by connecting a 120 Ohm signal termination. If a splitter is used, terminate each branch of the link.

Install a DMX termination plug on the last fixture on the link.

#### CONNECTION OF THE DMX LINE

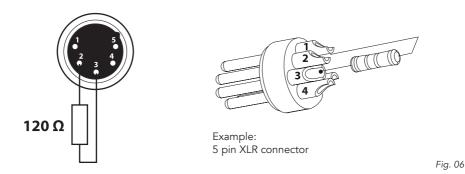
DMX connection employs standard XLR connectors. Use shielded pair-twisted cables with  $120\Omega$  impedance and low capacity.

The following diagram shows the connection mode:



#### CONSTRUCTION OF THE DMX TERMINATION

The termination is prepared by soldering a  $120\Omega$  1/4 W resistor between pins 2 and 3 of the male XLR connector, as shown in figure.



### DMX ADDRESSING

In order to start controlling the product via DMX, the first step is to select a DMX address, also known as the start channel, this is the first channel used to receive instructions from a DMX controller. If you wish to control the product individually, it is necessary to assign a different starting address channel to each fixture.

The number of channels occupied from the product depends on the DMX mode selected, so always verify the DMX Mode in the MENU before start addressing.

If you assign two fixtures the same address, they will be executing the same behaviour. Selecting the same address to multiple fixtures can be useful for diagnostic purposes and symmetrical control.

DMX addressing is limited to make it impossible to set the DMX address so high that you are left without enough control channels for the product.

To set the fixture's DMX address:

- 1. Press ENTER to open the main menu.
- 2. Reach the addressing menu, then select the DMX ADDRESS settings.
- 3. Select the address from 1 to 512 using the navigation arrows/buttons and confirm by pressing ENTER.
- 4. Press Menu to exit and return to the Home screen.

# 8 - CONTROL PANEL

The product has a display and buttons for access to the control panel functions.

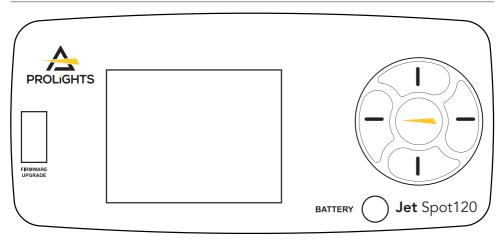
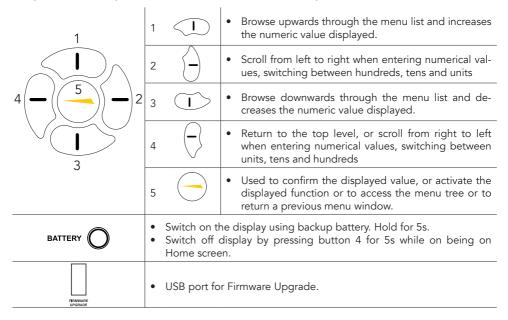


Fig. 07

### **DISPLAY AND BUTTONS LAYOUT**

The product has a display and buttons for access to the control panel functions:



# 9 - MENU STRUCTURE

The following chart describes the MENU tree of the product, the terms shown in **BOLD** indicates the default settings.

N°	MENU	LEVEL 1	LEVEL 2	LEVEL 3	DESCRIPTION	
1	CONNECT	ADDRESS	DMX	VALUE ( <b>1</b> -512)	Set DMX address.	
		DMX MODE	STANDARD		Set DMX chart for Main Fixture.	
2	2 SETUP	SCREEN	BACKLIGHT	ON	Allows you to select the timing after that	
				105	display will switch automatically off when unactive.	
				20S		
				30S		
			FLIP DISPLAY	AUTO	Allows you to rotate the display by 180°.	
				ON		
				OFF		
			KEY LOCK	ON	Allows you lock the buttons on the control panel by a password. Press following com-	
				OFF	binations (password) in order to access to the user menu : UP, DOWN, UP, DOWN.	
			TEMPERATURE UNIT	°C	To select the temperature unit.	
				°F		
		MOVEMENT	PAN REVERSE	YES	Allows you to reverse Pan movement.	
				NO		
			TILT REVERSE	YES	Allows you to reverse Tilt movement.	
				NO		
			PAN/TILT FEEDBA	PAN/TILT FEEDBACK	YES	To activate / deactivate the reading of the
				NO	feedbacks given by the encoders.	
			MOVEMENT BLACKOUT	YES	Make fixture goes blackout OFF while	
			BLACKOUT	NO	moving.	
			PAN/TILT MODE	FAST	To choose the horizontal/ vertical move-	
				MEDIUM	ment speed. SYNC mode will sync move- ment speed with the whole	
				SLOW	ASTRAWASH f miliy fixtures.	
			HOME POSITION	STANDARD	Standard: Pan is at 90° to the display when Pan@128dmx	
				сиѕтом	value like all Prolights fixtures.  Custom: Pan is at 0° to the display when Pan@128dmx value.	
			CUSTOM P DEGREE	0°	To choose pan values in case of Custom	
				45°	position.	
				90°		
				135°		
				180°		
				225°		
				270°		
	<u> </u>		<u> </u>	315°		

	MENU	LEVEL 1	LEVEL 2	LEVEL 3	DESCRIPTION	
Ī	SETUP	MOVEMENT	CUSTOM T DEGREE	0%	To choose tilt values in case of Custon	
				12.5%	position.	
			25%			
				50%		
				75%		
				87.5%		
				100%		
		DIMMER	DIMMER CURVE	LINEAR	Select different curve behaviour of dim	
				S-CURVE	mer.	
				SQUARE LAW		
				INVERSE SQUARE LAW		
			DIMMER SPEED	AUTO	Linear dimmer behaviour.	
				FAST	Dimmer curve adding long fade. Dimmer curve adding medium fade.	
				MEDIUM	Dimmer curve adding little fade.	
				SLOW		
		FIXTURE	FAN MODE	AUTO	Select Fan behaviour.	
				SILENT		
				HIGH		
			DMX FAULT	HOLD	To choose the behaviour of fixture in cas	
				BLACKOUT	of dmx signal lost.	
			INVERT ZOOM	ON	Invert zoom values.	
				OFF		
		WHEELS	COLOR WHEEL	ON	To set Gobo Wheel Movement in blackou	
			BLACKOUT	OFF	mode.	
			GOBO WHEEL	ON	To set Gobo Wheel Movement scrolling	
			BLACKOUT	OFF	mode.	
			GOBO WHEEL MODE	STEP	To set Gobo Wheel Movement scrolling	
				COUNTINUOUS	mode.	
		TRANSFER	WITHOUT DMX ADDRE	ESS	To transfer the same menu settings of on	
		CONFIGURA- TION	WITH DMX ADDRESS		fixtures to all the other in the daisy chair including or not the dmx address.	

N°	MENU	LEVEL 1	LEVEL 2	LEV	EL 3	DESCRIPTION
3	ADVANCED		LED FREQUENCY	600 HZ	4000 HZ	Select PWM frequency.
				1200 HZ	6000 HZ	
				2000 HZ	25 KHZ	
				50 H	KHZ	
		RESET	ALL			To reset these functions.
			PAN & TILT			
			PAN			
			TILT			
			COLOR			
			ROT GOBO			
			FIXED GOBO			
			ZOOM			
			FOCUS			
			PRISM			
			FROST			
		CALIBRATION	PASSWORD			To calibrate these functions.
			PAN			
			TILT			
			DIMMER			
			COLOR			
			ROT GOBO			
			FIXED GOBO			
			PRISM			
			PRISM ROT			
			FROST			
			FOCUS			
			ZOOM			
			R. GOBO 1	FOCUS		
			R. GOBO 7	FOCUS		
			R. GOBO 1	INDEX		
			R. GOBO 7	INDEX		
			FIX. GOBO 1	FOCUS		
			FIX. GOBO 10	FOCUS		

N°	MENU	LEVEL 1	LEVEL 2	LEVEL 3	DESCRIPTION
3	ADVANCED	MANUAL	CONTROL		For manual control of the unit.
		CONTROL	PAN		
			PAN FINE		
			TILT		
			TILT FINE		
			DIMMER		
			DIMMER FINE		
			SHUTTER		
			COLOR		
			ROT GOBO		
			GOBO ROT		
			GOBO ROT FINE		
			FIXED GOBO		
			PRISM		
			PRISM ROT		
			FROST		
			ZOOM		
			ZOOM FINE		
			FOCUS		
			FOCUS FINE		
		RELOAD DEFAULT	BASIC RELOAD	YES/NO	Default of all parameters excepted Calibration (both User and Factory)
			FACTORY RELOAD	YES/NO	Default of all parameters. User Calibration parameters need to be overwritten by Factory calibration. Factory reload password: 050.

N°	MENU	LEVEL 1	LEVEL 2	LEV	EL 3	DESCRIPTION
4	NFORMATION	FIXTURE TIME	FIXTURE HOURS	TOTAL	READ	To check the total working hours of the unit.
		THVIE		PARTIAL	RESET	Reset password: 050.
			CURRENT HOURS	TOTAL	RESET	To check the current working hours of the unit.
				PARTIAL	RESET	Reset password: 050.
			SOURCE HOURS	TOTAL	READ	To see the total operating hours of the LED source.
				PARTIAL	RESET	Reset password: 050.
			POWER ON CYCLE	TOTAL	READ	To see the power cycles of the machine. Reset password: 050.
				PARTIAL	RESET	
			MAINTENANCE TIME	ELAPSED TIME	RESET	To choose and reset unit maintenance warning hours (Default: 500).
				ALERT PERIOD	10 – 750	Deafult: 500. Reset password: 050.
		POWER CONSU	JMPTION			Power consumption of the LED source.
		POWER LED				Power consumption of the projector.
		TEMPERATURE	PCB1 TEMP			To see the unit temperature.
			PCBxx TEMP			
			LED TEMP			
			DRIVE TEMP			
		FAN SPEED	BASE FAN 1			To see the speed of the fans.
			LEFT AIR IN FAN			
			RIGHT AIR IN FAN			
			LEFT AIR OUT FAN			
			RIGHT AIR OUT FAN			
			GOBO FAN			
		CHANNEL VALUE	PAN			To see the dmx value of those channels.
		ERROR MES- SAGE	PAN, TILT			To see any error messages.
		DEVICE LABEL	JETSPOT120			View informations about fixture model.
		RDM UID	(READ)			View ID for the RDM control.
		SOFTWARE VERSION	1U01 V1.0.00		-	View informations about software version.

# 10 - SHORTCUT

Keys	Mode	Description
UP + DOWN after power on	Flip Display	Directly flip display without enter inside menu
DOWN then power on	Reset without pan/tilt movements	Fixture will be powered on without reset on pan/tilt movements
ENTER + UP then power on	Bootloader	Force firmware upgrade

# 11 - RDM FUNCTIONS

The product can communicate using RDM (Remote Device Management) protocol over a DMX512 Networks.

RDM is a bi-directional communications protocol for use in DMX512 control systems, it is the open standard for DMX512 device configuration and status monitoring.

The RDM protocol allows data packets to be inserted into a DMX512 data stream without affecting existing non-RDM equipment. It allows a console or dedicated RDM controller to send commands to and receive messages from specific fixtures.

The PIDs in the following tables are supported in the product.

Category	Parameter	Value	GET	SET
	SUPPORTED_PARAMETERS	0x0050	х	
	PARAMETER_DESCRIPTION	0x0051	Х	
	DEVICE_MODEL_DESCRIPTION	0x0080	Х	
Product	MANUFACTURER_LABEL	0x0081	Х	
Information	DEVICE_LABEL	0x0082	Х	х
	FACTORY_DEFAULTS	0x0090	Х	х
	BOOT_SOFTWARE_VERSION_ID	0x00C1	Х	
	BOOT_SOFTWARE_VERSION_LABEL	0x00C2	Х	
	DMX_PERSONALITY	0x00E0	х	x
	DMX_PERSONALITY_DESCRIPTION	0x00E1	х	
	DMX_START_ADDRESS	0x00F0	х	x
DMVE42 Coton	SLOT_INFO	0x0120	х	
DMX512 Setup	SLOT_DESCRIPTION	0x0121	х	
	DEFAULT_SLOT_VALUE	0x0122	х	
	DMX_FAIL_MODE	0x0141	х	х
	DMX_STARTUP_MODE	0x0142	х	х
	SENSOR_DEFINITION	0x0200	х	
Sensors	SENSOR_VALUE	0x0201	Х	х
	RECORD_SENSORS	0x0202	х	х
	DIMMER_INFO	0x0340	Х	
	CURVE	0x0343	Х	Х
	CURVE_DESCRIPTION	0x0344	Х	х
Dimmer Settings	OUTPUT_RESPONSE_TIME	0x0345	Х	х
	OUTPUT_RESPONSE_TIME_ DESCRIPTION	0x0346	Х	
	MODULATION_FREQUENCY	0x0347	Х	х
	MODULATION_FREQUENCY_ DESCRIPTION	0x0348	Х	
	DEVICE_HOURS	0x0400	Х	х
	LAMP_HOURS	0x0401	Х	х
- "	LAMP_STRIKES	0x0402	Х	х
Power/Lamp Settings	LAMP_STATE	0x0403	Х	х
Settings	LAMP_MODE	0x0404	х	х
	DEVICE_POWER_CYCLES	0x0405	х	х
	BURN_IN	0x0440	х	x
Diamlan Cattin	DISPLAY_INVERT	0x0500	х	х
Display Settings	DISPLAY_LEVEL	0x <u>05</u> 01	<u>x</u> _	

Category	Parameter	Value	GET	SET
	PAN_INVERT	0x0600	х	х
	TILT_INVERT	0x0601	x	х
	PAN_TILT_SWAP	0x0602	x	х
Configuration	REAL_TIME_CLOCK	0x0603	x	х
	LOCK_PIN	0x0640	x	х
	LOCK_STATE	0x0641	x	х
	LOCK_STATE_DESCRIPTION	0x0642	x	
	RESET_DEVICE	0x1001	x	х
	POWER_STATE	0x1010	x	x
	PERFORM_SELFTEST	0x1020	x	x
	SELF_TEST_DESCRIPTION	0x1021	x	
6	CAPTURE_PRESET	0x1030	x	x
Control	PRESET_PLAYBACK	0x1031	x	x
	IDENTIFY_MODE	0x1040	x	x
	PRESET_INFO	0x1041	x	
	PRESET_STATUS	0x1042	x	x
	POWER_ON_SELF_TEST	0x1044	x	x

Manufacturer Specific PIDs

Parameter	PID	GET	SET	Value	Description
HOME_POSITION	0x8160	х	x	0-1	0: Standard 1: Custom
CURRENT HOURS	0x82C5	х		0-65535	
BASIC RELOAD	0x82C8	х	x	0-1	<b>0: No</b> 1: Yes
DMX FAULT	0x82DD	х	х	0-3	<b>0: Hold</b> 1: Blackout
MAINTENANCE TIME:ALERT PERIOD	0x82DF	х	х	10-300	DEFAULT: 300
MAINTENANCE TIME:ELAPSED TIME	0x82E0	х	х	0-1	DEFAULT: 0
ERROR MESSAGES	0x82EA	х		0-31	
POWER CONSUMPTION(AC 220V)	0x82EF	х		0-1	

# 12 - DMX CHARTS

**RDM Personality ID List** 

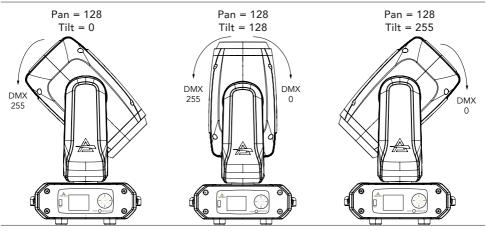
ID	DMX Mode	Footprint
1	STANDARD	20

# RDM Model ID

0xA034

### PAN/TILT POSITION RELATED TO DMX VALUES

Home position set to STANDARD



Tilt movement range: 270° Pan movement range: 540°

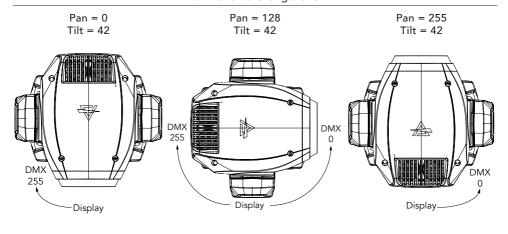


Fig. 08

# **DMX Chart Summary**

Channel	STANDARD
1	Pan
2	Pan fine
3	Tilt
4	Tilt fine
5	Dimmer
6	Dimmer Fine
7	Shutter
8	Color Wheel
9	Rot Gobo
10	Gobo Rot
11	Gobo Rot Fine
12	Fixed Gobo
13	Prism
14	Prism Rotation
15	Frost
16	Zoom
17	Zoom Fine
18	Focus
19	Focus Fine
20	Control

Channel STANDARD	Name	Function	Min DMX	Max DMX	Default
1	Pan	Lineary from 0% to 100%	0	255	128
2	Pan fine	Lineary from 0% to 100%	0	255	128
3	Tilt	Lineary from 0% to 100%	0	255	128
4	Tilt fine	Lineary from 0% to 100%	0	255	128
5	Dimmer	Lineary from close to open	0	255	000
6	Dimmer Fine	Lineary from close to open	0	255	000
		Close	0	1	255
		Strobe from slow to fast	2	62	
		Open	63	64	
		Pulse in from slow to fast	65	125	
7	Shutter	Open	126	127	
		Pulse out from slow to fast	128	188	1
		Open	189	190	1
		Randon from slow to fast	191	251	
		Open	252	255	
		Open		)	000
		Color Positioning		Ī	
		Open + Dark Red	1	14	1
		Dark Red		5	1
		Dark Red + Yellow	16	29	1
		Yellow		0	1
		Yellow + Magenta	31	44	-
		_		.5	
		Magenta L Cuan		59	
		Magenta + Cyan	46		-
		Cyan		74	-
		Cyan + Deep Orange	61	74	-
		Deep Orange		5	-
		Deep Orange + Forest Green	76	89	-
		Forest Green		0	-
8	Color	Forest Green + CTO 3200K	91	104	-
	wheel	CTO 3200K		)5	-
		CTO 3200K + Deep Blue	106		-
		Deep Blue		20	-
		Deep Blue + Open	121	134	_
		Open	135	159	_
		Color Slot			
		Open	160	161	
		Dark Red	162	163	
		Yellow	164	165	
		Magenta	166	167	
		Cyan	168	169	]
		Deep Orange	170	171	
		Forest Green	172	173	
		CTO 3200K	174	175	
		Deep Blue	176	199	

Channel STANDARD	Name	Function	Min DMX	Max DMX	Default
		Color Wheel Rotation			
	Color	Forward rainbow - Fast to slow	200	224	1
8	wheel	No rotation	225	230	1
		Backwards rainbow - Slow to fast	231	255	1
		Open	0	11	000
		Gobo Indexing			1
		GOBO 1	12	19	1
		GOBO 2	20	27	1
		GOBO 3	28	35	1
		GOBO 4	36	43	1
		GOBO 5	44	51	1
		GOBO 6	52	59	1
		GOBO 7	60	67	1
		Gobo Rotation			1
		GOBO 1	68	75	1
		GOBO 2	76	83	1
		GOBO 3	84	91	1
		GOBO 4	92	99	1
9	Rot Gobo	GOBO 5	100	107	1
		GOBO 6	108	115	]
		GOBO 7	116	123	]
		Gobo shaking - Slow to fast			]
		GOBO 1	124	133	]
		GOBO 2	134	143	
		GOBO 3	144	153	
		GOBO 4	154	163	
		GOBO 5	164	173	
		GOBO 6	174	183	
		GOBO 7	184	193	
		Gobo Wheel Rotation			
		Forward rotation - Fast to slow	194	223	
		No rotation	224	225	
		Backwards rotation - Slow to fast	226	255	
		Gobo Indexing			000
		Gobo index 0° - 360°	0	255	
		Gobo Rotation			
10	Gobo Rot	No rotation	0	0	]
	3333	Forward gobo rotation - Fast to slow	1	127	
		No rotation	128	128	
		Backwards gobo rotation - Slow to fast	129	255	]

Channel STANDARD	Name	Function	Min DMX	Max DMX	Default
11	Gobo Rot Fine	Fine indexing/rotation	0	255	000
		Open	0	3	000
		GOBO 1	4	7	
		GOBO 2	8	11	
		GOBO 3	12	15	
		GOBO 4	16	19	
		GOBO 5	20	23	
		GOBO 6	24	27	
		GOBO 7	28	31	
		GOBO 8	32	35	
		GOBO 9	36	39	
		GOBO 10	40	43	
		Gobo shaking - Slow to fast			
12	Fixed	GOBO 1	44	58	
12	Gobo	GOBO 2	59	73	
		GOBO 3	74	88	
		GOBO 4	89	103	
		GOBO 5	104	118	
		GOBO 6	119	133	
		GOBO 7	134	148	
		GOBO 8	149	163	
		GOBO 9	164	178	
		GOBO 10	179	193	
		Gobo Wheel Rotation			
		Forward rotation - Fast to slow	194	223	
		No rotation	224	225	
		Backwards rotation - Slow to fast	226	255	
	Prism	Open	0	29	000
13		Prism Indexing (set next ch)	30	59	-
10		Prism Rotation (set next ch)	60	89	-
		Reserved	90	255	
		Prism Indexing			000
14		Prism Indexing	0	255	-
	Prism	Prism Rotation			-
	Rotation	Prism No Rotation	0	0	
	Kotation	Prism forward rotation fast to slow	1	127	_
		Prism No Rotation	128	128	-
		Prism backwards rotation slow to fast	129	255	
15	Frost	Lineary from 0% to 100%	0	255	000
16	Zoom	Lineary from Narrow to Wide	0	255	128
17	i e	Fine Zoom Position	0	255	128
18	Focus	Lineary from Far to Near	0	255	128
19	Focus Fine	Fine Focus Position	0	255	128

Channel STANDARD	Name	Function	Min DMX	Max DMX	Default
		No Function/Safe	0	1	000
		PAN REVERSE ON	2	3	1
		PAN REVERSE OFF	4	5	1
		TILT REVERSE ON	6	7	
		TILT REVERSE OFF	8	9	
		PAN/TILT MODE FAST	10	11	
		PAN/TILT MODE MEDIUM	12	13	
		PAN/TILT MODE SLOW	14	15	
		MOVEMENT IN BLACKOUT ON	16	17	
		MOVEMENT IN BLACKOUT OFF	18	19	
		COLOR WHEEL BLACKOUT ON (index)	20	21	
		COLOR WHEEL BLACKOUT OFF (index)	22	23	
		ROTATING GOBO WHEEL BLACKOUT ON (index)	24	25	
		ROTATING GOBO WHEEL BLACKOUT OFF (index)	26	27	
		FIXED GOBO WHEEL BLACKOUT ON (index)	28	29	
		FIXED GOBO WHEEL BLACKOUT OFF (index)	30	31	
		ROTATING GOBO WHEEL CONTINUOUS MOVEMENT (index)	32	33	
		ROTATING GOBO WHEEL STEP MOVEMENT (index)	34	35	
20	Control	FIXED GOBO WHEEL CONTINUOUS MOVE- MENT (index)	36	37	
		FIXED GOBO WHEEL STEP MOVEMENT (index)	38	39	1
		HOME MODE STANDARD	40	41	
		HOME MODE CUSTOM	42	43	1
		DISPLAY ON	44	45	
		DISPLAY 10S	46	47	
		DISPLAY 20S	48	49	
		DISPLAY 30S	50	51	
		FLIP DISPLAY ON	52	53	
		FLIP DISPLAY OFF	54	55	1
		FLIP DISPLAY AUTO	56	57	1
		KEY LOCK ON	58	59	1
		KEY LOCK OFF	60	61	1
		FAN MODE AUTO	62	63	1
		FAN MODE SILENT	64	65	
		FAN MODE HIGH	66	67	
		NO SIGNAL HOLD	68	69	
		NO SIGNAL BLACKOUT	70	71	
		DIMMER CURVE LINEAR	72	73	
		DIMMER CURVE S-CURVE	74	75	
		DIMMER CURVE SQUARE LAW	76	77	L

Channel STANDARD	Name	Function	Min DMX	Max DMX	Default
		DIMMER CURVE INVERSE SQUARE LAW	78	79	000
		DIMMER SPEED AUTO	80	81	
		DIMMER SPEED FAST	82	83	
		DIMMER SPEED MEDIUM	84	85	
		DIMMER SPEED SLOW	86	87	
		LED FREQUENCY 600HZ	88	89	
		LED FREQUENCY 1200HZ	90	91	
		LED FREQUENCY 2000HZ	92	93	
		LED FREQUENCY 4000HZ	94	95	
		LED FREQUENCY 6000HZ	96	97	
		LED FREQUENCY 25KHZ	98	99	
		LED FREQUENCY 50KHZ	100	101	
		INVERT ZOOM OFF	102	103	
		INVERT ZOOM ON	104	105	
20	Control	RESET ALL	106	107	
		RESET PAN/TILT	108	109	
		RESET PAN	110	111	
		RESET TILT	112	113	
		RESET COLOR	114	115	
		RESET ROTATING GOBO	116	117	
		RESET FIXED GOBO	118	119	
		RESET ZOOM	120	121	
		RESET FOCUS	122	123	
		RESET PRISM	124	125	
		RESET FROST	126	127	
		RESET OTHER	128	129	_
		Reserved	130	251	
		FACTORY DEFAULT OF CONTROL FUNCTIONS	252	253	
		Reserved	254	255	

# 13 - FIXED GOBOS WHEEL

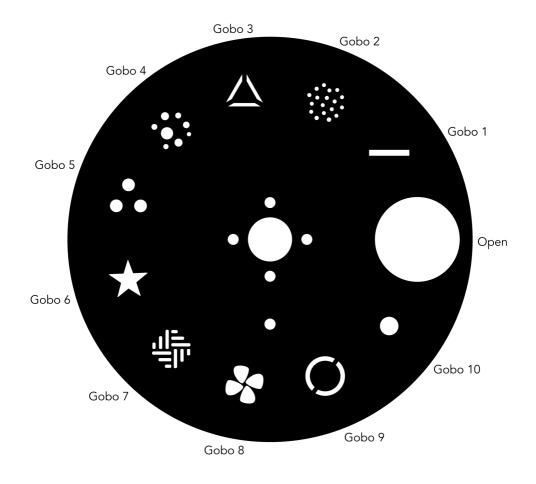
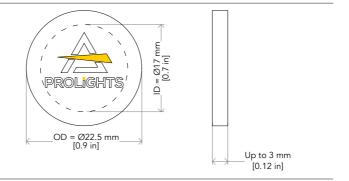


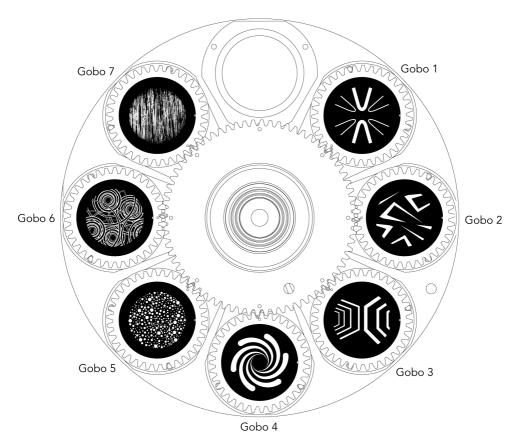
Fig. 09

# 14 - ROTATING GOBOS WHEEL

### Gobo dimensions:

- Ø external (OD)= 22,5 mm
- Ø of image (ID)= 17 mm
- Thinckness= up to 3 mm





ATTENTION! Load with mirror surface toward the light source.

Fig. 10



# 16 - ERROR MESSAGES

The error is shown on the unit display. In the table below, the "ERROR SHOWED ON SCREEN" column lists the possible errors, accompanied by a possible cause ("POSSIBLE" CAUSES "column).

The color of the error messages (listed in the "COLOR MESSAGES" column) is different for each board it refers to ("PCB" column).

On page 32 you can see the location of the various pcb boards with their respective error colors.

ERROR SHOWED ON SCREEN			
[MAINTENANCE TIME]	This error message is displayed when a maintenance is needed.	1U	
[POWER SUPPLY FAN ERROR]	* Blower for cooling the nower supply failed		
[PAN/TILT PCB ERROR]	Pan sensor not detecteld.	2U	
	This message will appear after the reset of the product if:		
	the PAN magnetic-indexing circuit detect a failure (sensor failed or magnet is missing).		
[PAN MOTOR ERROR]	or the stepping motor is defective.	2U	
	or its driving IC on the PCB is defective.		
	or the product is not located in the default position after the reset of the fixture.		
[PAN LOCKED]	Pan is locked	2U	
	This message will appear after the reset of the product if:		
[TILT MOTOR ERROR]	the TILT magnetic-indexing circuit detect a failure (sensor failed or magnet is missing) .		
	or the stepping motor is defective.	2U	
	or its driving IC on the PCB is defective.		
	or the product is not located in the default position after the reset of the fixture.		
[TILT LOCKED]	Tilt is locked	2U	
[PAN ENCODER ERROR]	Pan encoder not detecteld	2U	
[TILT ENCODER ERROR]	Tilt encoder not detecteld	2U	
[FAN PCB ERROR]	Fan PCB not detected	3U	
[LED TEMPERATURE ERROR]  This error message indicates that an overheating on the LED has occurred and the lamp has been switched OFF by the product protection system.		3U	
[LED TEMP. SENSOR ERROR]	I I EL) sensor damaged (open or in short circuit)		
[LEFT AIR IN FAN ER- ROR]	Left air in blower for cooling the LED failed, the LED has been switched OFF.	3U	
[RIGHT AIR IN FAN ERROR]	Right air in blower for cooling the LED failed, the LED has been switched OFF.	3U	

ERROR SHOWED ON SCREEN	POSSIRI E CALISES	
[MOTOR PCB 2 ERROR]	Motor pcb 3U not detected	4U
[ROTATING GOBO WHEEL ERROR]	Failure detected during the reset of the rotating gobo wheel, if this wheel is not located in the default position	4U
[GOBO ROTATION ERROR]	Failure detected during the reset of the rotation of the rotating gobo, if the rotating gobos are not located in the default positions	4U
[FIXED GOBO WHEEL ERROR]	9 , 1	
[COLOR WHEEL ERROR]	Failure detected during the reset of the color wheel, if this wheel is not located in the default position	4U
[MOTOR PCB 3 ERROR]	Motor pcb 4U not detected	5U
[FOCUS ERROR]	Failure detected during the reset of the FOCUS, if the focus lens is not located in its default position.	5U
[ZOOM ERROR]	Failure detected during the reset of the ZOOM system, if the focus lens is not located in its default position.	5U
[PRISM ERROR]	Failure detected during the reset of the prism, if the focus lens is not located in its default position.	5U
[PRISM ROTATION ERROR]	Failure detected during the reset of the prism wheel rotation, if the focus lens is not located in its default position.	5U
[FROST ERROR]	Failure detected during the reset of the frost, if the focus lens is not located in its default position.	5U

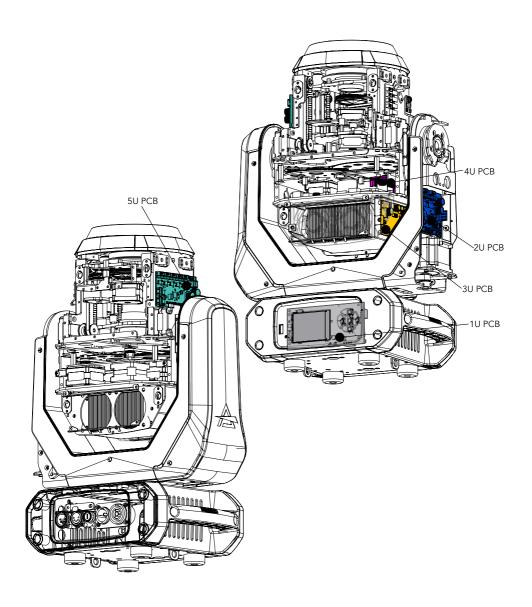
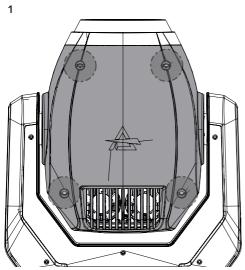


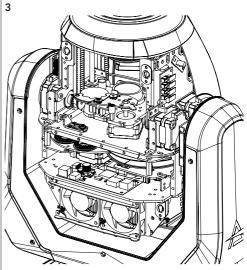
Fig. 12

# 17 - PERIODICAL CLEANING

WARNING! Turn OFF power and allow approximately 20 minutes for the fixture to cool down.

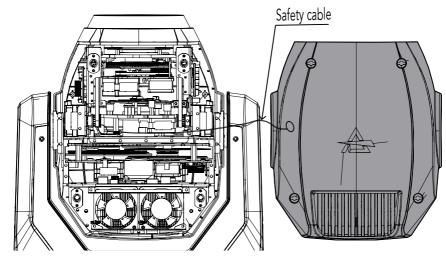


Loosen and remove the marked screws and opening the head covers (1) from both sides.



Use a soft cloth dampened with any detergent liquid for cleaning glass to remove the dirt from the reflectors, from the lenses and filters.

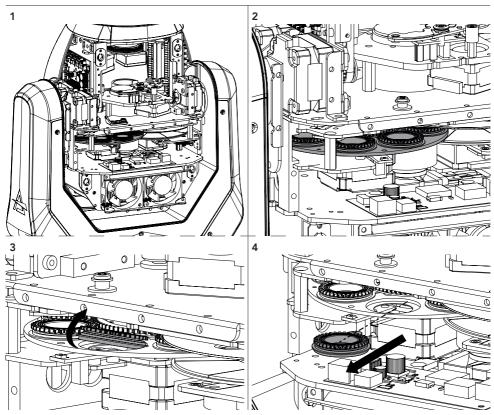
2



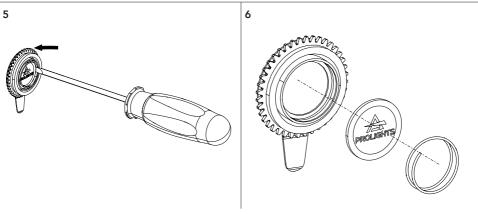
Unclip the safety cable on both sides (2).

Fig. 13

# 18 - GOBOS REPLACEMENT



Open the head covers (see the "PERIODICAL CLEANING" paragraph, point 1). Gently remove the gobo holder from the gobo wheel (3, 4).

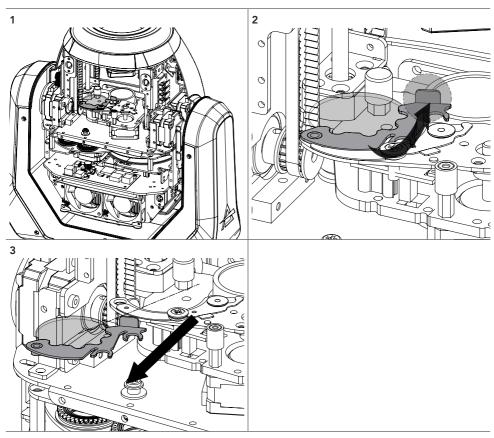


Remove the spring and the gobo (5, 6). **NOTE**: the mirrored part of the gobo must be placed in the direction of the LED Source

Fig. 14

# 19 - FROST REPLACEMENT

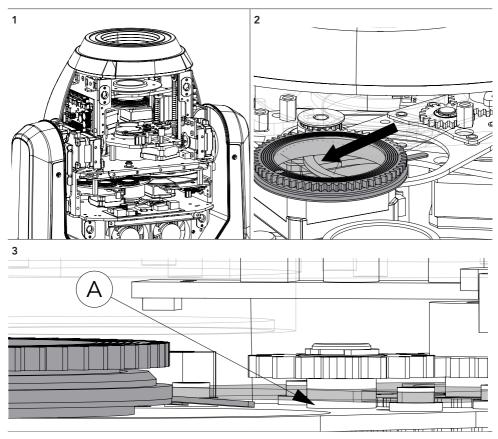
**HEAVY FROST: (CODE JS120HF - OPTIONAL)** 



Open the head covers (see the "PERIODICAL CLEANING" paragraph, point 1). Gently remove the frost filter pressing the metal plate as indicated in the figure (2). Now you can remove the frost filter and install JS120HF optional frost filter (3).

## 20 - PRISM REPLACEMENT

3F Prism: (CODE JS120P3F - INCLUDED); 4F Prism: (CODE JS120P4F - OPTIONAL); 5F Prism: (CODE JS120P5F - OPTIONAL).



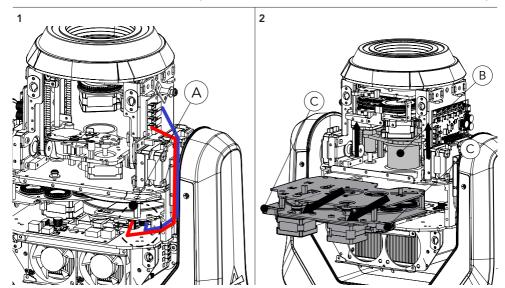
Open the head covers (see the "PERIODICAL CLEANING" paragraph, point 1). Gently remove the prism as indicated in the figure (2).

Now you can install JS120P4F/JS120P5F optional prism (3).

**NOTE**: pay attention to insert the clips of the prism as indicated by the arrow (A).

Fi

# 21 - MODULE REMOVAL (ANIMATION, COLOR, GOBOS WHEEL)



To remove the Color and Gobo wheels module, open the head covers (see section "PERIODIC CLEANING") and proceed as follows:

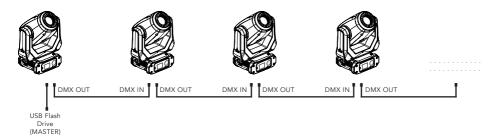
- Disconnect the two connectors, power and serial bus plugs (marked A in drawing 1);
- Unscrew the two screws marked in the front view (marked B in drawing 2);
- Raise the zoom and focus plates (marked C in drawing 2);
- Pull out the plate with animation wheel and rotating gobo (2).

. 01

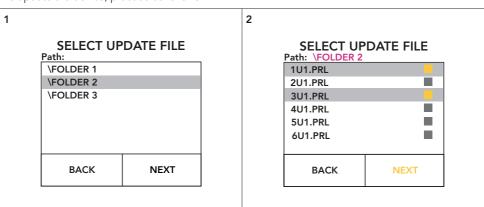
## 22 - USB UPDATE MODE

NOTE: It is necessary to prepare a FAT32-formatted flash drive for the update and copy the prl files onto it. It is advisable to use a flash drive that is empty and free of other files to facilitate the update.

Several machines can be upgraded simultaneously on the same DMX line. Necessarily there must be a master machine to which you connect the drive and all other machines must be connected to its output DMX line.



To update the device, proceed as follows:

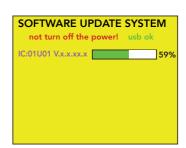


- With the machine turned on, insert the USB drive;
- A screen will appear showing the files and folders on the USB stick, so use the UP and DOWN buttons to go to the directory with the update files and press ENTER (figure 1). To return to the previous path press the LEFT button;
- Select the files to be updated. To select the desired files, move with the UP and DOWN buttons and select the file by pressing ENTER (Figure 2);
- The selected files will be shown with a yellow square, select "NEXT" pressing RIGHT button, then
  press ENTER to confirm. (Figure 2)

1

## **SELECT UPDATE**



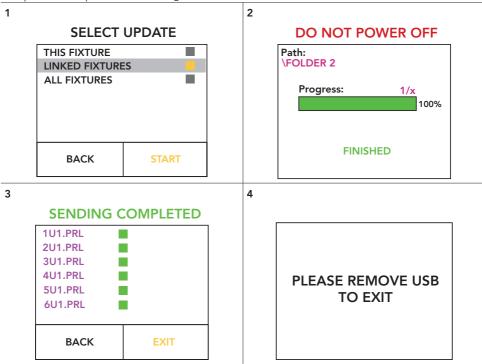


• To update only the Master Fixture, press ENTER on "THIS FIXTURE", a yellow square will be shown, select "START" pressing RIGHT button, then press ENTER to confirm. (Figure 1);

2

• A screen with the progress of the update will appear (Figure 2), once update is completed the fixture will restart automatically and the update will be completed.

It is possible to update several Prolights fixtures from the Astra and Jet series at the same time.



- To update only the Linked Fixtures, press ENTER on "LINKED FIXTURES", a yellow square will be shown, select "START" pressing RIGHT button, then press ENTER to confirm. (Figure 1);
- A screen will appear showing the progress of the update (Figure 2), once update is completed press ENTER:
- A screen with the summary of the updates will appear (Figure 3), select "EXIT" pressing RIGHT button to exit from the update menu; Select "BACK" pressing LEFT button to return to the update menu; then press ENTER to confirm your choice;
- Once you have selected EXIT (Figure 3), remove the USB drive as shown in the last screen (Figure 4) and the update menu will close automatically.

**NOTE**: To update **all fixtures** (Master and Linked) the procedure is the same of updating linked fixtures, once the progress of the update is completed, press ENTER (Figure 2) and the update of the master fixture will start.

## 23 - MAINTENANCE

#### MAINTENANCE AND CLEANING THE PRODUCT

WARNING: Disconnect from the mains before starting any maintenance work

It is recommended to clean the front at regular intervals, from impurities caused by dust, smoke, or other particles to ensure that the light is radiated at maximum brightness.

- For cleaning, disconnect the main plug from the socket. Use a soft, clean cloth moistened with a mild detergent. Then carefully wipe the part dry. For cleaning other housing parts use only a soft, clean cloth. Never use a liquid, it might penetrate the unit and cause damage to it.
- The user must clean the product periodically to maintain optimum performance and cooling. The
  user may also upload firmware (product software) to the fixture via the DMX signal input port or USB
  port using firmware and instructions from PROLIGHTS.
- The frequency of such maintenance operations is to be performed according to various factors, such
  as the amount of the use and the condition of the installation environment (air humidity, presence
  of dust, salinity, etc.). It is recommended that the product is subject to annual service by a qualified
  technician for special maintenance involving at least the following procedures:
- General cleaning of internal parts.
- For all the parts subject to friction, using lubricants specifically supplied by PROLIGHTS.
- General visual check of the internal components, cabling, mechanical parts, etc.
- Electrical, photometric and functional checks; eventual repairs.
- Cleaning the lenses. Only use neutral soap and water to clean the lenses, then dry it carefully with a soft, non-abrasive cloth.

WARNING: the use of alcohol or any other detergent could damage the lenses.

- All other service operations on the product must be carried out by PROLIGHTS, its approved service
  agents or trained and qualified personnel.
- It is PROLIGHTS policy to apply the strictest possible calibration procedures and use the best quality materials available to ensure optimum performance and the longest possible component lifetimes. However, optical components are subject to wear and tear over the life of the product, resulting in gradual changes in colours over many thousands of hours of use. The extent of wear and tear depends heavily on operating conditions and environment, so it is impossible to specify precisely whether and to what extent performance will be affected. However, you may eventually need to replace optical components if their characteristics are affected by wear and tear after an extended period of use and if you require fixtures to perform within very precise optical and colour parameters.
- Do not apply filters, lenses or other materials on lenses or other optical components. Use only accessories approved by PROLIGHTS.

#### REPLACING THE FUSE

WARNING: Before replacing the fuse, unplug the product from the mains.

Remove the old fuse from the housing with a suitable screwdriver (anticlockwise) and replace it with
one of the same type and of the same classification (T3.15A 250V).

### VISUAL CHECK OF PRODUCT HOUSING

- The parts of the product cover/housing should be checked for eventual damages and breaking start at least every two months. In addition, especially the parts of the front lens holder have to be checked mechanically (by means of movement by the part) if it is firmly fastened to the fixture. If hint of a crack is found on some plastic part, do not use the product until the damaged part will be replaced.
- Cracks or another damages of the cover/housing parts can be caused by the product transportation or manipulation and also ageing process may influence materials.
- This checking is necessary for both fixed installations and preparing product for renting. Any free
  moving parts inside of the product, cracked cover/housing or any part of front lens not sitting properly in place need to be immediately replaced.

#### RESETTING THE MAINTENANCE TIME MESSAGE

When the machine shows the message "MAINTENANCE TIME" it means that the fixture needs an overall check. once you have checked and cleaned the whole machine to reset the message follow the steps below:

- enter the menu, go to INFORMATIONS and press Enter
- go to FIXTURE TIME and press Enter
- finally go to MAINTENANCE TIME and press Enter
- Press enter again and enter the password 050 to reset the message.

Problems	Possible causes	Checks and remedies		
Product doesn't power ON	No power to the product	• Check that power is switched ON and cables are plugged in.		
	• Fuse blown or internal fault	Check if the Fuse is intact and eventually replace it if necessary. Contact the PROLIGHTS Service or authorized service partner. Do not remove parts and/or covers, or carry out any repairs or service that are not described in this Safety and User Manual unless you have both authorization from PROLIGHTS and the service documentation.		
Product reset correctly but does not respond correctly	Bad signal connection	Inspect connections and cables. Fix eventual bad connections. Repair or replace damaged cables.		
to the contoller.	Signal connection not terminated	Insert DMX termination plug in signal output socket of the last product on the signal line.		
	Incorrect addressing of the product	Check the product address and control settings		
	One of the product is defective and is corrupt- ing the signal transmis- sion on the signal line	Unplug the XLR in and out connectors and connect them directly together to bypass one product at a time until normal operation is regained. Once found the error, have that fixture serviced by a qualified technician.		
Timeout error after fixture reset.	One or more hardware components requires mechanical adjustments	Check product stored error messages for more information. Contact PROLIGHTS Service or an authorized service partner.		
Mechanical effect loses position	Mechanical hardware require cleaning, adjust- ment or lubrification	Check product stored error messages for more information. Contact PROLIGHTS Service or an authorized service partner.		
Light output turn OFF Intermittently	Fixture is too hot	<ul> <li>Check product stored error messages.</li> <li>Allow product to cool.</li> <li>Clean the product and airflow filters.</li> <li>Reduce ambient temperature.</li> </ul>		
	Hardware failure (tem- perature sensor, fans, Light source)	Check product stored error messages for more information. Contact. PROLIGHTS Service or an authorized service partner.		
General low light intensity	<ul><li>Dirty lens assembly</li><li>Dirty or damaged filters</li></ul>	Clean the fixture regularly. Install lens assembly properly.		

Contact an authorized service center in case of technical problems or not reported in the table can not be resolved by the procedure given in the table.

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