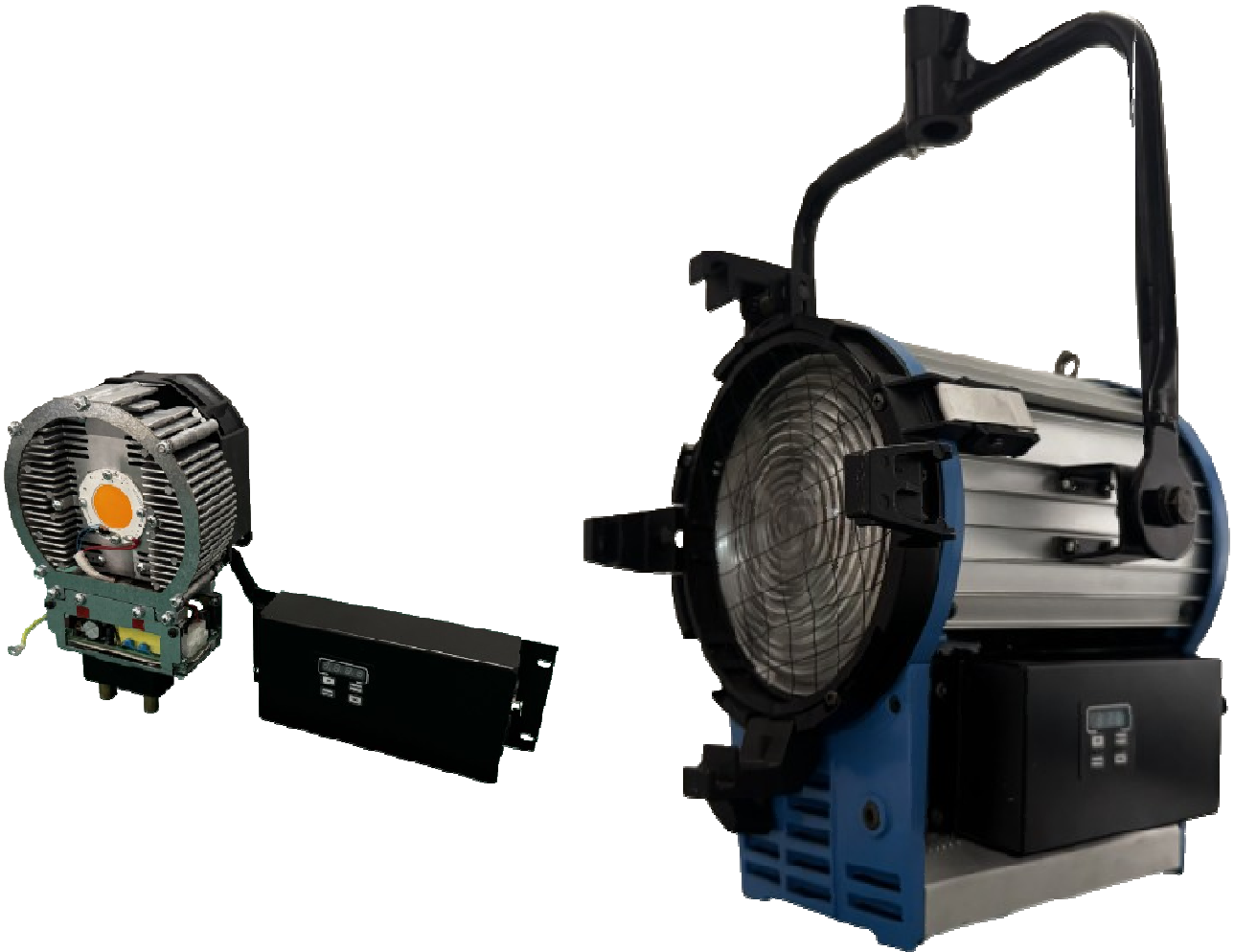


Lites

HPLD AR J-T (tunable)

Owner's and service manual



Read this manual totally and carefully follow all the instructions contained. File this manual for future use

It is essential to read all the information contained to ensure correct installation, service and full operation of the HPLD AR J

All operations must be accomplished, handled and carried out by qualified personnel only

NOT COMPLYING WITH GIVEN NOTICE IT WILL VOID WARRANTY AND WILL FREE THE MANUFACTURER OF ANY KIND OF RESPONSIBILITY AND LIABILITY.

www.litessrl.com

Unpacking

Unpack the carton and gently remove HPLED AR J from the box. Ensure HPLED AR J is received in all its parts. In the event the HPLED AR J shows any damage, do not use it and contact immediately your transporter as well as your seller

Items in the carton consist of:

HPLED AR J Module

DMX display connector box

This owner's manual

Safety information for the use of the HPLED AR J and periodical maintenance of unit.

Users must scrupulously comply with information/indications that follows

HPLED AR J must be installed on original "ARRI Junior 2000" fixture only. Any other use will void warranty and will free the manufacturer of any sort of responsibility and liability.

Never utilise HPLED AR J assembly alone as it must always be housed in original ARRI Junior 2000 fresnel.

Minimum distance from any flammable source is of 0.25m.

Minimum throw distance from illuminated surface: 1m.

Installation of the unit(s), including external source4 body, must be secured with adequate clamps, safety cords, nuts and bolts to bear at least 4 times the weight of the whole unit(s)

Always Power HPLED AR J to safety circuit breakers

Install HPLED AR J in ventilated ambient which temperature must not exceed 35°C

HPLED AR J is NOT for domestic use. HPLED AR J can only be used for professional applications

Some outer parts of the Arri Junior 2000 can reach temperatures of up to 60°C when HPLED AR J is operated

HPLED AR J must be fitted with protection shields (Lenses)

On no account, directly or indirectly, LED must be touched as it may impair its use.

An Essential and Periodically throughout cleaning of the HPLED is recommended. This practice avoids that layers of dust and other impurity jeopardise and reduce the correct operation of the unit. Lenses must be cleaned to remove layers of dust that may impede and or reduce the passage of the light through the lenses. The correct and periodically maintenance keeps also fans and vents clean thus keeping the HPLED AR J in its best performance conditions. Never touch, directly or indirectly, the Yellow core of the LED nor use solvents that can damage the LED irremediably.

Protection shields if battered/worn, must be replaced with new ones (Lenses)

Warning from electric shocks

All operations must be accomplished, handled and carried out by qualified personnel only

Warning High voltage hazard, always disconnect Power before any handling and any servicing of HPLED AR J

Do not and never handle HPLED AR J with humid/wet hands or near to any water or any kind of moisture sources

Always connect HPLED to mains fitted with safety device switch that cuts power off in case of danger

The HPLED AR J does NOT and CAN NOT be operated via Phase control dimmer nor connected/operated in NON-DiM mode

HPLED AR J is rated Class I

Earth connection is mandatory!

CE Approvals

The HPLED AR J products to which this manual refers to, complies with European directive pursuant to:

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)

WARRANTY!

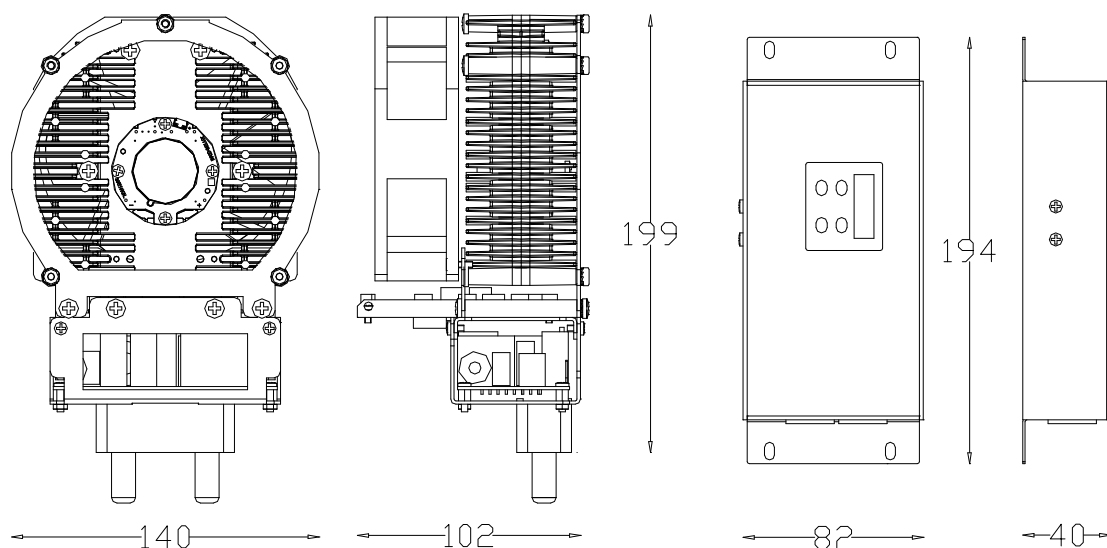
A 24-month warranty is granted on the HPLED AR J from purchase's date. Warranty covers fabrication defects only. Warranty is immediately voided if the HPLED AR J has been handled by unqualified personnel. Any improper and unauthorised use, such modification(s) or misapplication of the HPLED AR J will also void the warranty of the product(s). Silver colour label showing technical data and serial number, if removed or if data are impaired to render details illegible, it will immediately void the warranty

Technical specifications

Power Supply	100-240	V~ 50/60Hz
Maximum power consumption	180W	
Stand-by power consumption	5W	
Minimum ambient temperature	-10°C	
Maximum ambient temperature	35°C	
LED Colour Temperature:	3000°K - 5700°K	
LED CRI	96 (3000°K) and 94 (5700°K)	
LED Life	(see Manufacturers ' specifications)	
Weight	1,7 Kg	
IP Rating	To be housed into original Arri Junior 2000 fresnel fixture only	
Working position	Any	
Data connectors	IN & OUT XRL5	
Data protocols	DMX 512; RDM ready	
User interface	4-digit display and 4 buttons	
Manual operation:	Users must operate via buttons provided on the display	
Fan control:	Fan speed adjustment	
Control of LED frequency:	Selection of LED frequency refresh	
4 Dimming curves control:	Selection of four dimming curves control	

CE compliant

Dimensions (see picture)



⚠ Installation operations must be performed with the Fresnel projector disconnected from the power supply.

HPLD AR J – Installation Procedure for ARRI Junior 2000 Fresnels

The HPLD AR J module has been designed to replace the halogen lamps normally used in ARRI Junior 2000 Fresnels. For installation, some parts of the original fixture must be removed, including the reflector, reflector support bracket and side sheet metal panel.

1. Using the Fresnel zoom knob, move the lamp carriage to the flood position, with the beam fully open. This will make the disassembly operations easier.
2. Open the lens door. Using a screwdriver, remove the 2 screws securing the reflector (see Fig. 1).
3. Remove the 3 front M4 screws (Fig. 2) and the 3 rear screws securing the lower housing to the fixture body (Fig. 3).
4. Remove the 4 side M4 screws securing the right-hand side panel (RH) (Fig. 4). This panel will no longer be used.
5. Remove the 4 screws securing the left-hand side panel (LH), where the power cable is located (Fig. 5).
6. Separate the upper fixture body from the lower slide housing (Fig. 6).
7. Using a sheet-metal shear or a hacksaw, cut the aluminium reflector support at its base (Fig. 7).
8. Reinstall the 4 screws securing the side panel with the power cable (Fig. 8).

9. Reinstall the 2 M4 screws on the RH side panel (Fig. 9).
 10. The internal light-shielding metal sheets must now be modified. Manually straighten and fold them into the positions shown in Fig. 10, respecting the dimensions indicated.
 11. Reassemble the two parts of the Fresnel by tightening the 3 front screws (Fig. 2) and the 3 rear screws (Fig. 3).
 12. Check that the internal metal sheets comply with the dimensions shown in Fig. 10. If necessary, adjust them manually.
 13. Take the HPLED AR J module and remove the 2 M4 screws marked in red. Separate the module into its two parts (Figs. 13–14), disconnecting the 6-pin connector (Fig. 12).
 14. Insert the upper part of the HPLED AR J module (Fig. 13), routing the DMX cables and display connector through the opening on the right-hand side of the fixture (Fig. 16).
 15. Slide the upper part of the module all the way to the rear of the fixture body (Fig. 15).
 16. Take the lower part of the module and insert the yellow/green earth wire, fitted with a 5 mm ring terminal, through the opening on the left-hand side where the power cables are located (Fig. 17).
 17. Insert the lower part of the module into the G38 lamp holder (Fig. 18).
 18. Turn the lamp-holder lever clockwise to lock the module securely in position (Fig. 18).
 19. Connect the 6-pin connector from the upper part of the module to the connector on the lower module power supply (Fig. 18).
 20. Secure the upper part of the module by fitting it into the dedicated groove and tighten the 2 M4 screws (Fig. 19).
 21. Take the display/connector box.
 22. Connect the flat cable with the red connector to the display board.
 23. Connect the black female DMX connector to the corresponding male connector on the display/connector box (Fig. 20).
 24. Secure the connected cables using the cable tie supplied with the display box (Fig. 20).
 25. Secure the display/connector box to the fixture using the 4 M4 screws (Fig. 21).
 26. Remove the 2 M4 screws and remove the U-shaped metal cover protecting the power cable (Fig. 22).
 27. Connect the previously installed yellow/green earth wire, using its 5 mm ring terminal, to the earth/ground point of the Fresnel (Fig. 23).
 28. Reinstall the U-shaped metal cover and secure it with the 2 M4 screws (Fig. 24).
- The HPLED AR J module is now mechanically installed. Before operating the fixture, verify that all screws, mechanical parts, electrical connections and the earth connection are correctly secured.



Figura 1



Figura 2



Figura 3



Figura 4

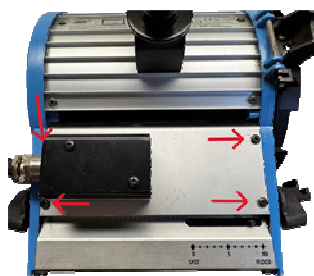


Figura 5



Figura 6



Figura 7

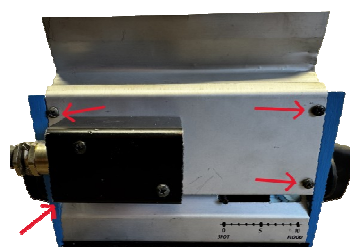


Figura 8

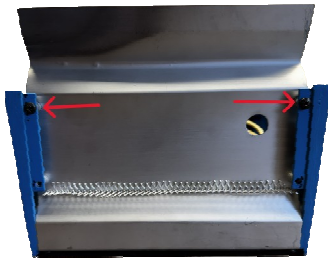


Figura 9

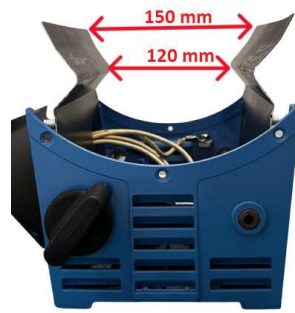


Figura 10



Figura 11



Figura 12



Figura 13

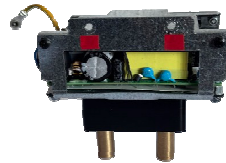


Figura 14



Figura 15

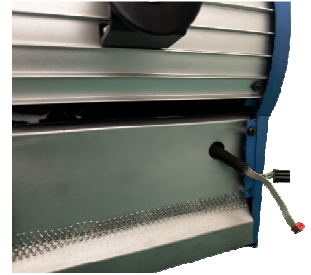


Figura 16

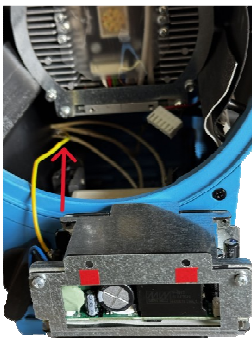


Figura 17

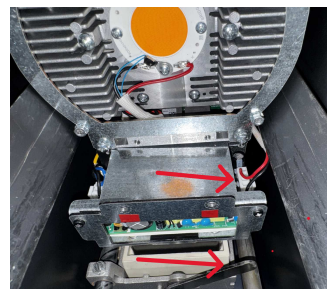


Figura 18



Figura 19

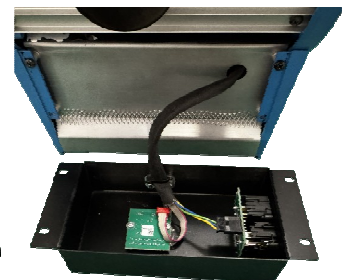


Figura 20

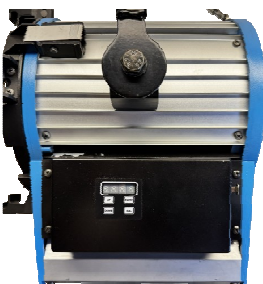


Figura 21

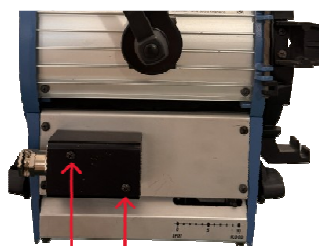


Figura 22

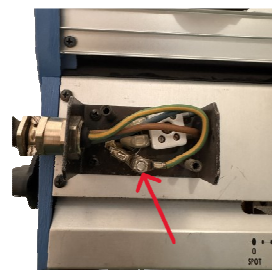


Figura 23

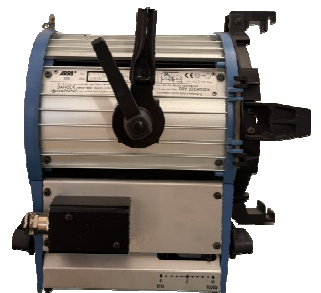


Figura 24

Connection to mains

WARNING ! Installation(s) must be accomplished, handled and carried out by qualified personnel only and must comply with all norms in force in the installation's country

Power up the projector using the supplied cable.

 WARNING: NEVER CONNECT HPLED AR J ENGINE TO ANGLE PHASE DIMMER PACK NOR TO NON-DIM MODE

Signal control connection

HPLED AR J can be operated via either DMX512A and or RDM ready Protocols. For Daisy chain DMX line use a-2 lead wire plus shield.

Important note: when DMX is available a red dot will illuminate on the right hand of the display. When red dot is off no DMX signal is available.

DMX XLR 5 Pin As sigment	
pin	Description
1	GND
2	DMX-
3	DMX+
4	Not connected
5	Not connected



RDM – Remote Device Management

RDM Controller allows for remote standard operations

RDM default options include:

Discovery mode: RDM is engaged when controller incepts this mode, the device reports itself by giving a flash of light (Controller sets the device in a listing to read: settings, DMX address, personality settings, (Read all DMX mode including all DMX channels above)

ON/OFF "Identify": This mode is used to identify the manufacturer's device (Lites srl). It gives a flash of light from the LED

Model information (HPLED-dU)

Software version information (HPLED-dU v.x.xx)

Mode to reveal temperatures of the LED and of the driver

Mode to reveal hour-meters of the LED and of the device

The device allows RDM protocol, ANSI E1.20-010 version

RDM Device Model ID
5445:120FXXXX

The following parameters are allowed:

<i>Denominazione Plasa/ESTA</i>	<i>RDM PID Value</i>	<i>Get</i>	<i>Set</i>	<i>Descrizione</i>
CATEGORY – NETWORK MANAGMENT				
DISC UNIQUE BRANCH	0x0001			Message related to Discovery RDM process
DISC MUTE	0x0002			Message related to Discovery RDM process
DISC UN MUTE	0x0003			Message related to Discovery RDM process
CATEGORY – RDM INFORMATION				
SUPPORTED PARAMETERS	0x0050	X		List of allowed parameters
PARAMETER DESCRIPTION	0x0051	X		Parameters description <i>Manufacturer specific</i>
CATEGORY – PRODUCT INFORMATION				
DEVICE INFO	0x0060	X		Reading of following parameters: - Protocol RDM version - Device Model ID - Product category - sw version ID - number of DMX channels - DMX mode index - DMX address - number of sensors
DEVICE MODEL DESCRIPTION	0x0080	X		Text description <i>device model HPLED-II-DW</i>
MANUFACTURER LABEL	0x0081	X		Text description <i>manufacturer LITES</i>
SOFTWARE VERSION LABEL	0x00C0	X		Text description <i>sw version HPLED-II-DW v.1.xx</i>
CATEGORY – DMX512 SETUP				
DMX PERSONALITY	0x00E0	X	X	DMX mode setting
DMX PERSONALITY DESCRIPTION	0x00E1	X		Text description DMX mode
DMX START ADDRESS	0x00F0	X	X	DMX address setting/reading
CATEGORY – SENSORS				
SENSOR DEFINITION	0x0200	X		Value related to the sensor
SENSOR VALUE	0x0201	X	X	Parameter for the visualisation of values read by [Board / Led Temperature °C]
CATEGORY – DIMMER SETTINGS (ADDITIONAL MESSAGES)				
CURVE	0x0343	X	X	Parameter for gamma correction (gamma) selection
CURVE DESCRIPTION	0x0344	X		Description of gamma correction parameter
OUTPUT RESPONSE TIME	0x0345	X	X	Parameter related to output smoothness (smooth)
OUTPUT RESPONSE TIME DESCRIPTION	0x0346	X		Output smoothness parameter description
MODULATION FREQUENCY	0x0347	X	X	Parameter related to the selection of pmw signal frequency
MODULATION FREQUENCY DESCRIPTION	0x0348	X		Description of parameter related to the selection of pmw signal frequency
CATEGORY – POWER/LAMP SETTINGS				
DEVICE HOURS	0x0400	X		Parameter related to the reading of device lifespan
LAMP HOURS	0x0401	X		Parameter related to the reading of maximum value hours of led ignition [max between LED1...LED6]
CATEGORY – CONTROL				
IDENTIFY DEVICE	0x1000	X		Flashing LEDs to allow visual identification of the device
CATEGORY – MANUFACTURER-SPECIFIC PIDS				
BOOST	0x9000	X	X	Read/Write BOOST value
FAN MODE	0x9001	X	X	Read/Write FAN MODE value

RDM Parameters – Values

Name	Valid Values	Value Description
ADDITIONAL MESSAGES		
CURVE	1 2 3 4	Read / Write GAMMA value 1 = LINEAR 2 = QUADRATIC [DEF] 3 = S-CURVE 4 = GAMMA 2.2
OUTPUT RESPONSE TIME	1 2 3 4	Read / Write SMOOTH value 1 = SMOOTH 0 → FAST [250 ms] 2 = SMOOTH 1 → MEDIUM [450ms] [DEF] 3 = SMOOTH 2 → SLOW [800 ms] 4 = SMOOTH 3 → SUPER FAST [15 ms]
MODULATION FREQUENCY	1 2 3 4 5 6 7 8 9 10	Read / Write PWM FREQUENCY value 1 = 1 kHz 2 = 2 kHz 3 = 3 kHz 4 = 4 kHz 5 = 5 Hz 6 = 6 kHz 7 = 7 kHz 8 = 8 kHz 9 = 9 kHz 10 = 10 kHz [DEF]
CATEGORY – MANUFACTURER-SPECIFIC PIDs		
BOOST	0 1	Read/Write BOOST value 0 = OFF [75%] [DEF] 1 = ON [90%]
FAN MODE	0 1 2 3	Read/Write FAN MODE value 0 = AUTO 1 = MEDIUM HIGH [DEF] 2 = MEDIUM LOW 3 = LOW

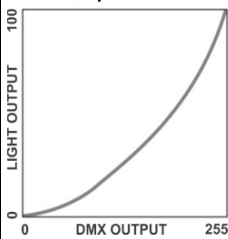
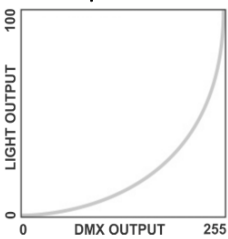
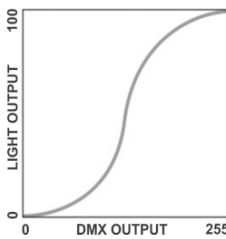
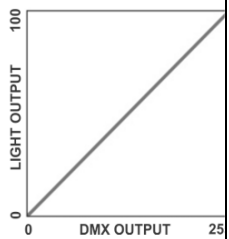
Power HPLED AR J ON

WARNING ! Before powering HPLED AR J ensure that all installation(s) procedure(s) have(s) been properly set and accomplished.

When HPLED AR J is powered the setup display will show the software release version. The UP, DOWN, ENTER and ESC buttons will allow for the operations of HPLED AR J menu. UP and DOWN buttons allow to browse through menu options, the ENTER button is to confirm selection. The ESC button is to return to the previous menu or to quit previous setting (s).



Menu items

Displayed Message	Allowed or displayed values	Function	
Addr	001..512	Set Up DMX Address	
Auto (Automatic mode)	3000 3100 3200 3400 3600 4000 4400 4900 5300 5500 5600 5700	Preset 1 White 3000°k Preset 2 White 3100°k Preset 3 White 3200°k Preset 4 White 3400°k Preset 5 White 3600°k Preset 6 White 4000°k Preset 7 White 4400°k Preset 8 White 4900°k Preset 9 White 5300°k Preset 10 White 5500°k Preset 11 White 5600°k Preset 12 White 5700°k	Values between 3000 through 5700 allow for fixed white set-up without DMX 512 protocol signal. When fixture is turned, the last selected preset will be held. By pressing the Enter button, "U" appears on the display and using the UP and Down buttons you can adjust the white tone. By pressing the ENTER key, the message D will appear and by using the UP and Down keys it will be possible to adjust the output brightness from 0 to 255. Once the preset has been modified, the dot at the bottom right of the display will flash.
	Pr01 Pr02	Program 1: auto Program 2 : auto	Automatic mode without DMX 512 Protocol signal. Program selections run between Pr01 through Pr 02 Both programs can be modified. To change program select Enter then view (Scn0...Scn9; max scenes of each program). Clicking on enter once more it shows P.00.0 (time) followed by F.00.0 (speed) and ultimately the last view shows 1c.01... though c12 (colour to be assigned to each scene) The use of UP/Down keys allow for setting values. When selections are completed press enter to confirm
MaSL	Master Mode	The Master Mode uses the same settings as the Auto Menu. The only exception is that when all fixtures are connected to DMX 001 in daisy-chain, they perform the same presets and or the same presets selected on the Master fixture. .(Slave devices must be set in Mode 2ch)	
Mode	2 ch	3000/5700 °K	Dmx mode (view next page)
	2 ch (D)	3000/5700°K -dimmer (default)	
	3 ch	3000/5700°k-dimmer- strobo	
	4 ch	3000/5700°k-dimmer16(bit) strobe	
	9 ch	3000/5700°k setting options	
drUt	..°C	Shows driver operating temperature	
LEdt	..°C	Shows leds operating temperature	
PUM	0..100%	Shows current led power (0-100%)	
SMOO	SFSt FAST MED SLOW	DMX data Speed adjustment	
GAMM	qUAd SCUr qUAd2 LInE	qUAd  qUAd2  ScUr  LInE 	
		Dimming curves available	

FREQ	1K 2K 3K 4K 5K 6K 7K 8K 9K 10K	LED operation frequency
booS	Off on	When OFF, LED max flux : 90% When ON, LED max flux : 100%
FAn	Aut MEDH MEDL LOW	4 fan operating modes i.e automatic, medium fast, medium slow, slow speed. Fan speed adjustments (fan-sound) reflect on self-correct output LED brightness and other factors as room-temperature, number of engaged channels
PoS	AA VV	Display orientation selection: AA = normal VV = inverted
StbY	Off on	Standby display activity: off = display always switched on = display switched off after few seconds of buttons inactivity (only the right side dot will be lighted to indicate DMX availability)
dEF	Off on	ON Will restore the default factory values
SoFt		Shows Software version

DMX Operating Modes (Mode)

Selecting 1 of the 5 available modes it enables the number of channels required, and its relevant modes, needed to operate HPLED AR J.

mode U2 ch white independents

Ch	Function	dmx levels	
1	3000°k White	0..255	From 0 to max 255
2	5700°k White	0..255	From 0 to max 255

mode 2 ch (default)

Ch	Function	dmx levels	
1	3000°k-5700°k	0..255	When set to level 0 = 3000°k – When set to level 255 = to 5700°k
2	dimmer	0..255	From 0 to max 255

mode 3 ch dimmer

Ch	Function	dmx levels	
1	3000°k-5700°k	0..255	When set to level 0 = 3000°k – When set to level 255 = to 5700°k
2	dimmer	0..255	From 0 to max 255
3	shutter	0-15	Strobe disengaged
		16..255	Strobe from slow (16) to fast (255)

mode 4 ch dimmer 16 bit

Ch	Function	dmx levels	
1	3000°k-5700°k	0..255	When set to level 0 = 3000°k – When set to level 255 = to 5700°k
2	dimmer	0..255	From 0 to max 255
3	Dimmer fine	0..255	From 0 to max 255
4	shutter	0-15	Strobe disengaged
		16..255	Strobe from slow (16) to fast (255)

mode 9 ch "w9ch" (setting options)

Ch	Function	dmx levels	
1	3000°k White	0..255	From 0 to max 255
2	5700°k White	0..255	From 0 to max 255
3	dimmer	0..255	From 0 to max 255
4	Dimmer fine	0..255	From 0 to max 255
5	shutter	0-15	Strobe disengaged
		16..255	Strobe from slow (16) to fast (255)
6	DMX data Speed adjustment	0..24	values selected from display
		25..74	SLOW
		75..124	MED
		125..174	FAST
		175..224	SFAST
		225..255	(reserved)
7	Dimming curves available	0..24	values selected from display
		25..74	qUAd
		75..124	SCUr
		125..174	qUAd2
		175..224	LInE
		225..255	(reserved)
8	Frequency Modulation (LED PWM Freq.)	0..39	values selected from display
		40..54	(reserved)
		55..69	PWM Frequency 1KHz
		70..84	PWM Frequency 2KHz
		85..99	PWM Frequency 3KHz
		100..114	PWM Frequency 4KHz
		115..129	PWM Frequency 5KHz
		130..144	PWM Frequency 6KHz
		145..159	PWM Frequency 7KHz
		160..174	PWM Frequency 8KHz
		175..189	PWM Frequency 9KHz
		190..204	PWM Frequency 10KHz
		205..219	(reserved)
		220..255	(reserved)
9	BOOST	0..24	values selected from display
		25..124	OFF
		125..224	ON
		225..255	(reserved)

Error messages

In case of malfunction, the following messages can be shown:

HP Fan Error: means problems on fan

Temperature Error: LED sensor might be defective and or temperature has trespass threshold limit

Should any of the above given messages occur, the LED will automatically switch off. Refrain and halt the use of the HP LED AR J and promptly contact any authorized service centre.

Periodical maintenance

To ensure the correct HP LED AR J operation, we suggest the following periodical maintenance operations:

Remove dust or any kind of other dirt from the fans and loop-holes, this operation ensures the correct air flow. Remove dust from lenses using a clean cloth. This will ensure the maximum light efficiency

Replace damaged protection screen and lenses when necessary

Do not touch nor clean the LEDs nor the surrounding area with solvent

Device disposal information

At the end of its life, HP LED AR J must be disposed to an appropriate electrical and electronic equipment waste collection centre. Eco-friendly disposal, helps to avoid possible negative impact on the environment and human health and promotes the reuse and/or recycling of the materials making up the product. Illegal disposal involves administrative sanctions provided by laws enacted.



Manufacture declines any sort of personal/corporate responsibility/liability for damages caused by people that are not scrupulously following indications given in this manual as for the inadequacy or for misuse of the product they do, as well as if the product has been handled by unqualified personnel. Not complying with security norms/periodical maintenance and all information contained and as expressed in the owner's/service manual will also totally free personal/corporate responsibility/liability. Text, wordings, drawings, specifications, modifications and other changes of this manual may apply anytime without notice. The specifications are not binding.