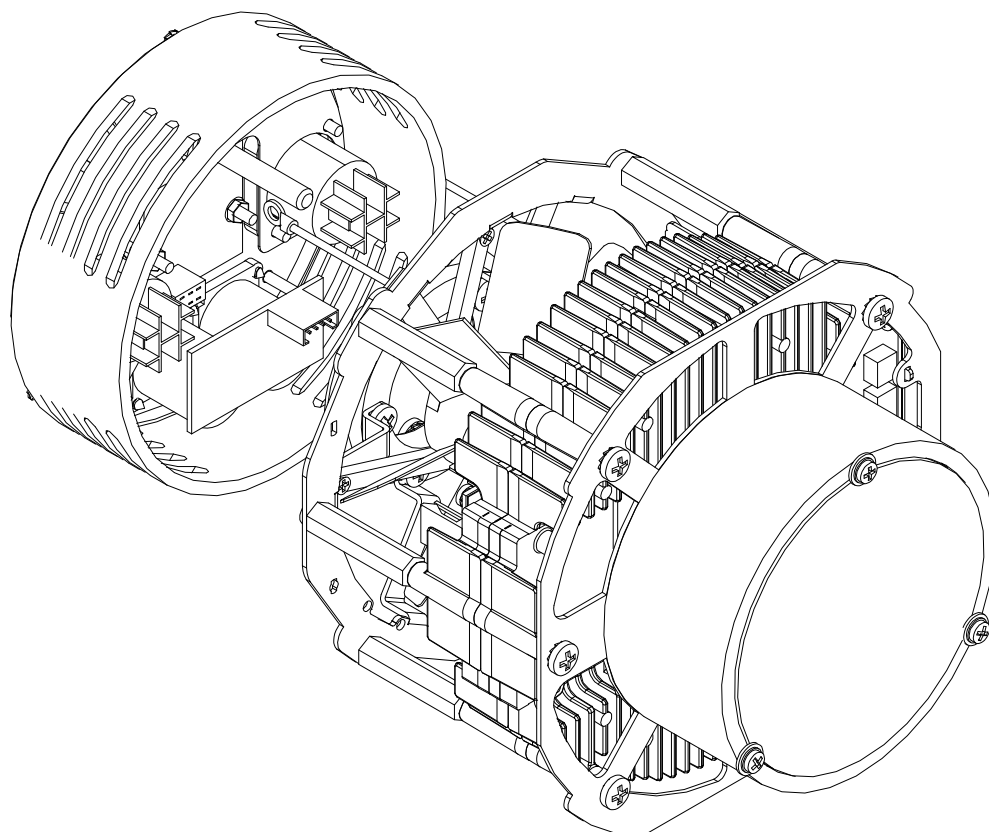


# Lites

## HPLED II 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 HPLED II**

**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 RESPONSABILITY AND LIABILITY.**

[www.litessrl.com](http://www.litessrl.com)

## Unpacking

Unpack the carton and gently remove HPLED II T from the box. Ensure HPLED II T is received in all its parts.

In the event the HPLED II shows any damage, do not use it and contact immediately your transporter as well as your seller

Items in the carton consist of:

HPLED II T Module

Rear metal cover with input connections

Blue Neutrik PowerCon connector

This owner's manual

## **Safety information for the use of the HPLED II and periodical maintenance of unit.**

Users must scrupulously comply with information/indications that follows

HPLED II T must be installed on original " **ETC source 4**" fixture only. Any other use will void warranty and will free the manufacturer of any sort of responsibility and liability.

Never utilise HPLED II T assembly alone as it must always be housed in original ETC Source 4 barrel.

Minimum distance from any flammable source is of 0.25m.

Minimum throw distance from illuminated surface: 0.5m.

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 II T to safety circuit breakers

Install HPLED II T in ventilated ambient which temperature must not exceed 35°C

HPLED II T is NOT for domestic use. HPLED II T can only be used for professional applications

Some outer parts of the ETC Source4 can reach temperatures of up to 60°C when HPLED II T is operated

HPLED II T 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 II T 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 II T 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 II

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

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

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

HPLED II T is rated Class I

**Earth connection is mandatory!**

## **CE Approvals**

The HPLED II T 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)

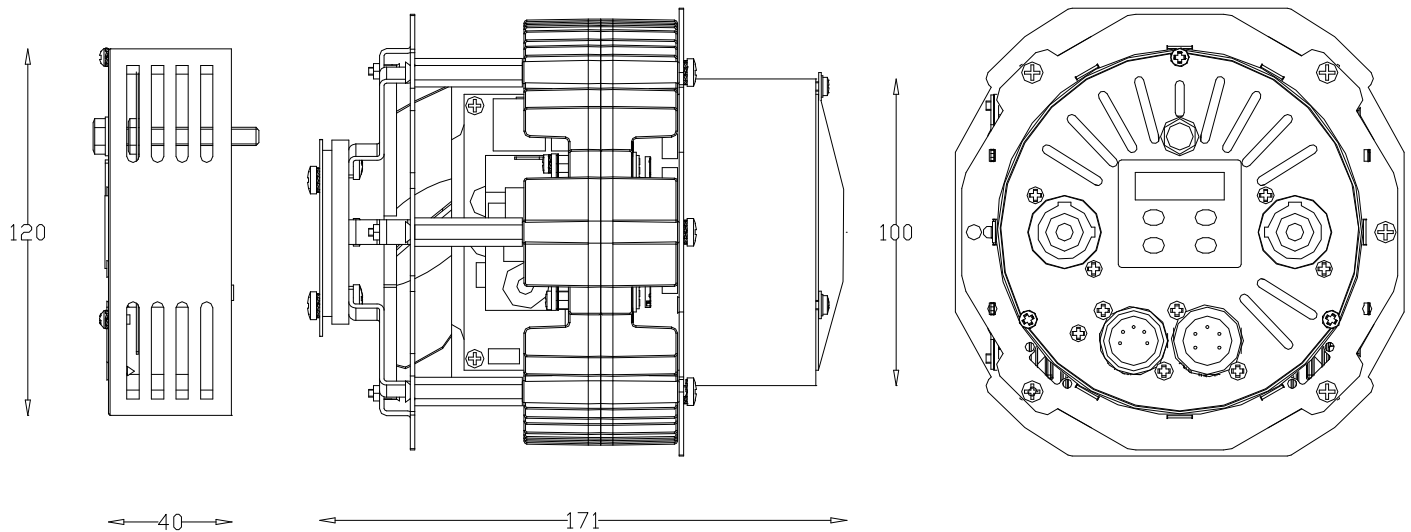
## **WARRANTY!**

A 12-month warranty is granted on the HPLED II T from purchase's date. Warranty covers fabrication defects only.

Warranty is immediately voided if the HPLED II T has been handled by unqualified personnel. Any improper and unauthorised use, such modification(s) or misapplication of the HPLED II T 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	170W	
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	2,49 Kg	
IP Rating	To be housed into original ETC Source four fixture only	
Working position	Any	
Power connectors	IN & OUT Neutrik PowerCon	
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	
2 Dimming curves control:	Selection of four dimming curves control	
CE compliant		
Dimensions (see picture)		



## HPLED II T installation

HPLED II T has been designed to be installed in any original "ETC source 4" fixtures. Some parts of the existing "ETC Source 4" fixture must be removed to lodge the module in

Course of actions:

1. **Disconnect any kind of power/source from any item being handled, that could cause electric shock**
2. Loosen knobs that hold front lens assembly, remove it and place it aside in a safe place
3. Locate rear section of the Source 4 fixture, then start loosening knob that holds the round plate in place until it is totally separated from the main body. You may either store or scrap this part. **HOWEVER LOCK-WASHER AND THE M4 SCREW USED TO HOLD THE GROUND CORD ON THE ETC SOURCE4 BODY MUST BE SECURED ASIDE AS THEY WILL BE USED FOR THE NEW GROUND CORD PROVIDED WITH THE HPLED IIT FIXTURE.**
4. **As of now onwards for your own safety we recommend you must wear protection gloves and safety transparent eye protection goggles.**
  5. Locate the Source 4 inner reflector and start removing it (use the optional Lever if ordered with HPLED II) from its housing as shown in the Source four assembly guide
6. Place HPLED II T on working bench and start loosening the 3 M4 screws that hold the metal ring (marked by red arrow in figure 2).
7. Accommodate the HPLED II in the Source4 body. Ensure the correct inward direction is followed as remarked by the 2-red-round ring references. Make also sure to follow the red arrow direction as shown in figure 3. During such operation make sure that the 3 connecting cables (i.e. power cable, DMX cable and display cable) are not squeezed, while being lead through loop-holes during reassembling of the unit.
8. Remount the metal ring to its former position; tighten now the 3 provided M4x6 screws to their full extent. Do not exceed nor force tightening.
9. Connect the 3 lead-cables to the rear metal cover provided, ensure that connectors are inserted in the correct side. Special attention must be paid to the **flat cable** as it must be handled with extreme care while connecting its ends. (if flat cable is squeezed or impaired it can cause malfunctionings to the product)
10. Ensure that all cable connections are neatly and clearly set to their positions avoiding any contact, interference, interconnections, interpositions with fans and other interfering components that might collide, squeeze hamper the correct operations and eventually damage the product.
11. Remount the rear metal cover to the Source 4 body using any 11mm spanner; tighten the screw to its full extent. Do not exceed nor force tightening.
12. The lock washer and the M4 screw used for holding the eyelet-cord to ground the fixture as expressed in point 3, must be now used to secure the new provided eyelet-cord to ground/earth the fixture as shown in fig.6

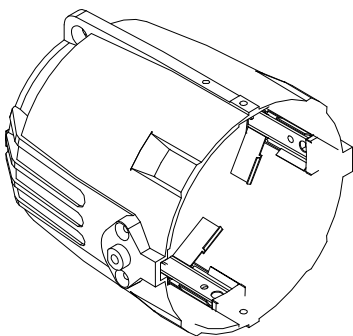


Fig.1

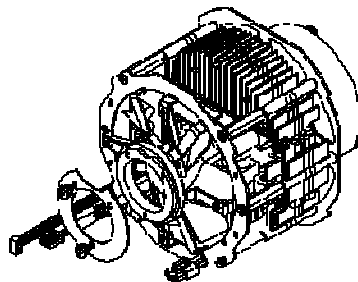


Fig.2

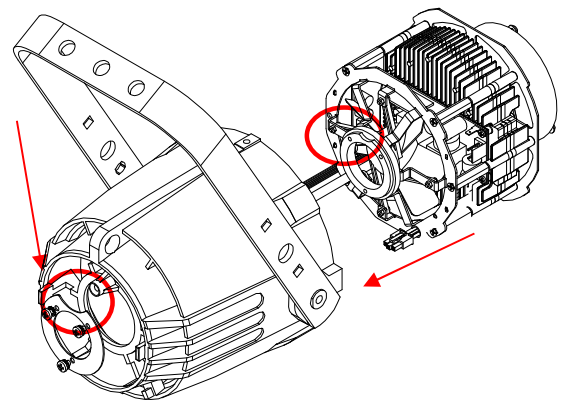


Fig.3

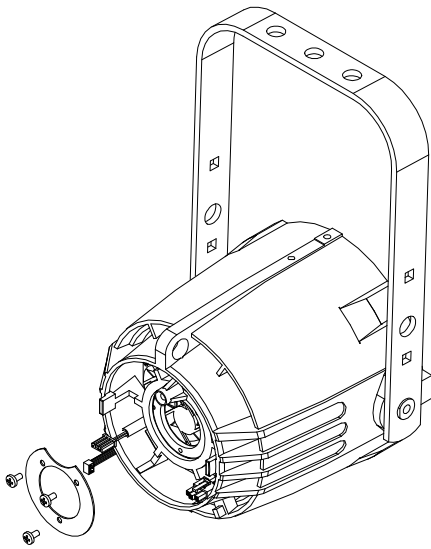


Fig.4

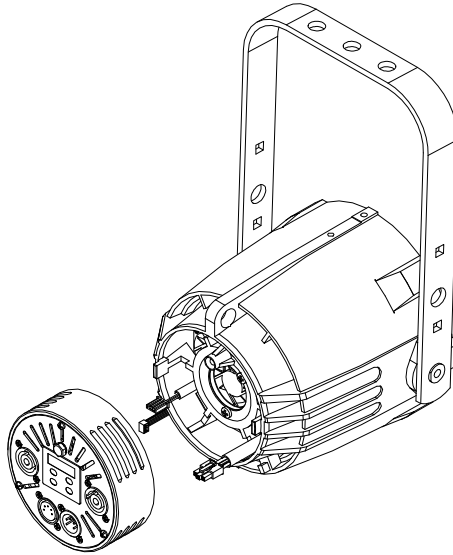


Fig.5

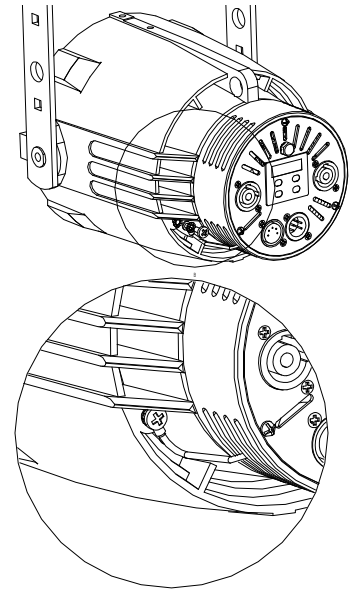


Fig.6

### **⚠ 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**

HP LED II T is supplied with a free-Blue Neutrik PowerCon plug that must be wired using a 3x1.5mm<sup>2</sup> lead which additional specifications include:

Operating Voltage: 300/500V

Test Voltage: 2KV

Operating Temperature: -10°C / +90°C

Connect blue wire to N terminal, brown wire to L terminal and Yellow/Green wire to earth terminal. Ensure the use of safety circuit breaker at all times. Daisy chain of up to 10 units is permitted when connected to 230VAC. Daisy chain of up to 5 units is permitted when connected to 110VAC. Maximum daisy chain length: 20 m.

**⚠ WARNING:NEVER CONNECT HP LED IIC5 ENGINE TO ANGLE PHASE DIMMER PACK NOR TO NON-DIM MODE**

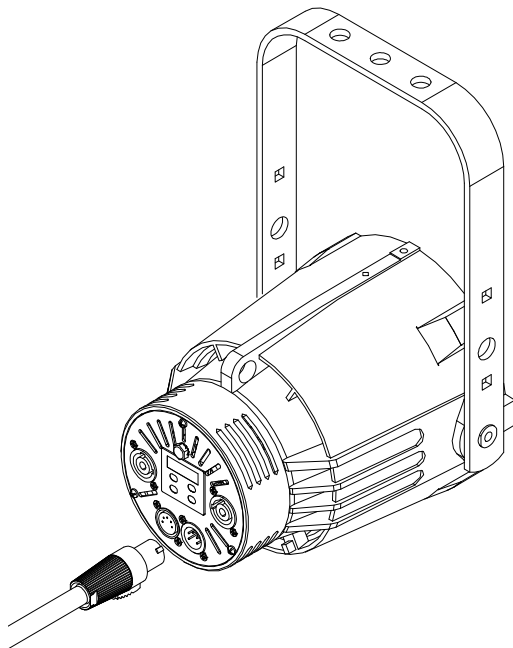


Fig.7

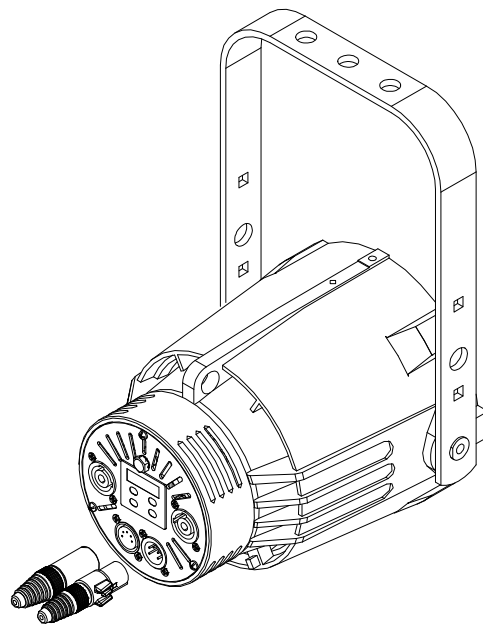


Fig.8

## Signal control connection

HPLD II T 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.**

## 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 (HPLD-dU)

Software version information (HPLD-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

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

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

RDM Device Model ID	
5445:1214xxxx	

The following parameters are allowed:

Denominazione Plasa/ESTA	RDM PID Value	Get	Set	Descrizione
<b>CATEGORY – NETWORK MANAGMENT</b>				
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
<b>CATEGORY – RDM INFORMATION</b>				
SUPPORTED PARAMETERS	0x0050	X		List of allowed parameters
PARAMETER DESCRIPTION	0x0051	X		Parameters description <i>Manufacturer specific</i>
<b>CATEGORY – PRODUCT INFORMATION</b>				
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</i> <b>HPLD-II-DW</b>
MANUFACTURER LABEL	0x0081	X		Text description <i>manufacturer</i> <b>LITES</b>
SOFTWARE VERSION LABEL	0x00C0	X		Text description <i>sw version</i> <b>HPLD-II-DW v.1.xx</b>
<b>CATEGORY – DMX512 SETUP</b>				
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
<b>CATEGORY – SENSORS</b>				
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]
<b>CATEGORY – DIMMER SETTINGS (ADDITIONAL MESSAGES)</b>				
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
<b>CATEGORY – POWER/LAMP SETTINGS</b>				
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]
<b>CATEGORY – CONTROL</b>				
IDENTIFY DEVICE	0x1000	X		Flashing LEDs to allow visual identification of the device
<b>CATEGORY – MANUFACTURER-SPECIFIC PIDs</b>				
BOOST	0x9000	X	X	Read/Write BOOST value
FAN MODE	0x9001	X	X	Read/Write FAN MODE value

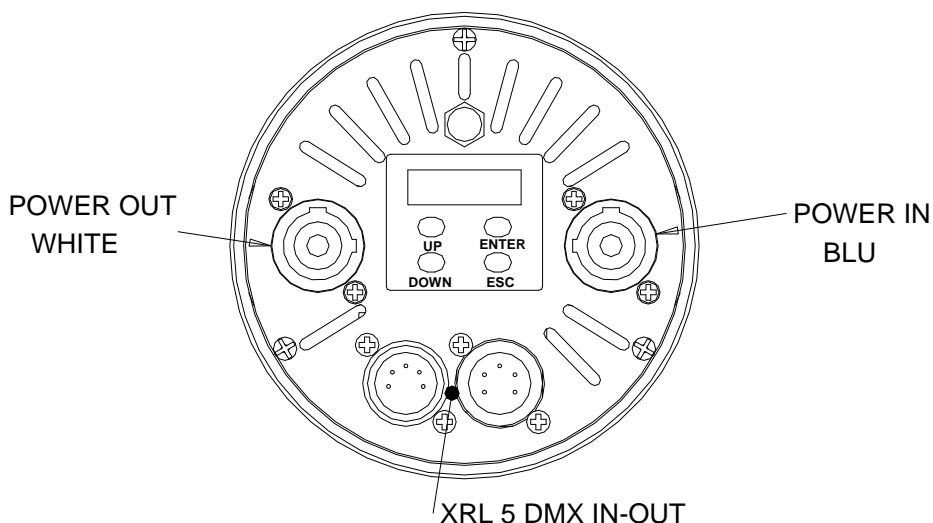
## RDM Parameters – Values

Name	Valid Values	Value Description
<b>ADDITIONAL MESSAGES</b>		
<b>CURVE</b>	1 2 3 4	Read / Write GAMMA value 1 = LINEAR 2 = QUADRATIC [DEF] 3 = S-CURVE 4 = GAMMA 2.2
<b>OUTPUT RESPONSE TIME</b>	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]
<b>MODULATION FREQUENCY</b>	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]
<b>CATEGORY – MANUFACTURER-SPECIFIC PIDs</b>		
<b>BOOST</b>	0 1	Read/Write BOOST value 0 = OFF [75%] [DEF] 1 = ON [90%]
<b>FAN MODE</b>	0 1 2 3	Read/Write FAN MODE value 0 = AUTO 1 = MEDIUM HIGH [DEF] 2 = MEDIUM LOW 3 = LOW

## Power HPLED IIT ON

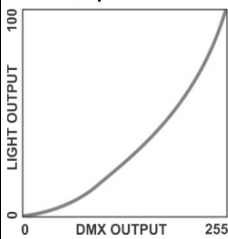
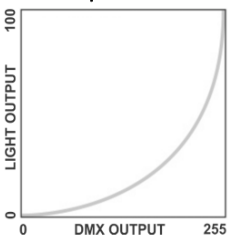
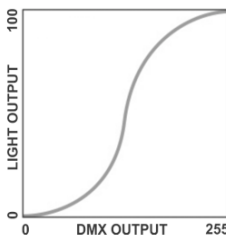
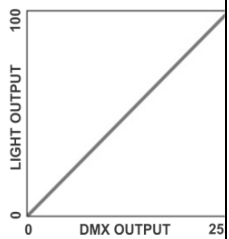
**WARNING ! Before powering HPLED IIT ensure that all installation(s) procedure(s) have(s) been properly set and accomplished.**

When HPLED II T 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 II T 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	<div><div><div>qUAd</div></div><div><div>qUAd2</div></div><div><div>ScUr</div></div><div><div>LInE</div></div></div>	
		Dimming curves available	



<b>FREQ</b>	1K 2K 3K 4K 5K 6K 7K 8K 9K 10K	LED operation frequency
<b>booS</b>	Off on	When OFF, LED max flux : 90% When ON, LED max flux : 100%
<b>FAn</b>	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
<b>PoS</b>	AA VV	Display orientation selection: AA = normal VV = inverted
<b>StbY</b>	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)
<b>dEF</b>	Off on	ON Will restore the default factory values
<b>SoFt</b>		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 II T.

### 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 HPLED II T and promptly contact any authorized service centre.

## Periodical maintenance

To ensure the correct HPLED II T 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, HPLED II T 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.