



ÆtherBox Two

IP65 2 universes CRMX transceiver, DMX and Ethernet protocols, Wi-Fi, Bluetooth, battery and POE ready



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.

Features, specifications and appearance are subject to change without notice. Music & Lights S.r.l. and all affiliated companies disclaim liability for any injury, damage, direct or indirect loss, consequential or economic loss or any other loss occasioned by the use of, inability to use or reliance on the information contained in this document.

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



The PROLIGHTS Logo, PROLIGHTS names and all other trademark in this document pertaining to PROLIGHTS services or PROLIGHTS product are trademarks OWNED or licensed by Music & Lights S.r.l., its affiliates, and subsidiaries. PROLIGHTS is a registered trademark by Music & Lights S.r.l. All right reserved. Music & Lights – Via A. Olivetti, snc - 04026 - Minturno (LT) ITALY.

INDEX

SAFETY INFORMATION	02
1 - PACKAGING	05
PACKAGE CONTENT	05
OPTIONAL ACCESSORIES	05
2 - TECHNICAL DRAWING	05
3 - INSTALLATION	06
MOUNTING	06
4 - CONNECTION TO THE POWER SUPPLY	07
CONNECT TO THE MAINS	07
POWER WITH BATTERIES	07
POWER WITH EXTERNAL POWER SUPPLY	07
POWER ON ETHERNET (POE)	07
5 - START UP	07
CONNECT AND DISCONNECT POWER FROM THE PRODUCT	07
6 - PRODUCT OVERVIEW	08
7 - MENU STRUCTURE	09
8 - SHORTCUT	14
9 - RDM FUNCTIONS	14
10 - ACCESSORIES INSTALLATION	15
RACK ADAPTER (CODE AEBTWRACKADP)	15
BATTERY HOLDER (CODE AEBBATADP)	16
11 - TEST OF IP65 RATING	17
12 - MAINTENANCE	18
MAINTENANCE THE PRODUCT	18
VISUAL CHECK OF PRODUCT HOUSING	18

SAFETY INFORMATION



WARNING!

- See <https://www.prolights.it/product/AETHERBOXTWO#download> 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.
- The product has XLR sockets for DMX input and output.
- Connection of the control signal: DMX LINE.
- Notice: this control circuit is not isolated.
- Cumulative leakage current of less than 3.5mA on the control circuit.



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.

T_a45°C

Max operating ambient temperature (T_a)

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

T_a-20°C

Minimum operating ambient temperature (T_a)

- Do not operate the fixture if the ambient temperature (T_a) is below -20 °C (-4 °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 attempt to bypass thermostatic switches or fuses.

IP65

Permanent Outdoor use

- This product is rated with an IP (Ingress protection) for permanent outdoor use when used and serviced according to the instruction contained in this document.
- 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_c60°C

Temperature of the external surface

- The surface of the fixture can reach up to 60 °C (140 °F) during operation. Avoid contact with people and materials.



Maintenance

- 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.



Radio receiver/transmitter

This product contains a radio receiver and/or transmitter:

- Maximum output power: 17 dBm.
- Frequency band: 2.4 GHz.
- Frequency range: 2402MHz ~ 2479MHz.
- Channel number: 78 channels.
- Channel spacing: 1MHz.
- Modulation type: GFSK.
- Antenna description: External antenna, 3 dBi.



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.
- 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:

- 2014/53/UE - Radio Equipment Directive (RED).
- 2011/65/EU - Restriction of the use of certain hazardous substances (RoHS)



The products to which this manual refers comply with:

- UL 1573 + CSA C22.2 No. 166 - Stage and Studio Luminaires and Connector Strips.
- UL 1310 + CSA C22.2 No. 223 - Standard for power units class 2.



FCC Compliance:

- This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
 1. This device may not cause harmful interference, and
 2. This device must accept any interference received, including interference that may cause undesired operation.



Other approvals

- The product meets the safety requirements of the certification procedures of the market in which it is placed and sold.

1 - PACKAGING

PACKAGE CONTENT

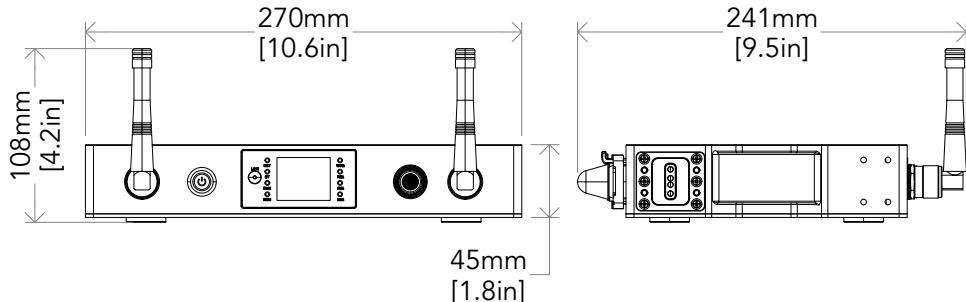
- 1 x AETHERBOXTWO;
- 2 x AEB2DBA90D;
- 1 x 1,5 meters 3G1,5mmq power cable (BARE END - SEETRONIC POWERCON TRUE1 IP65 power connector);
- User Manual

OPTIONAL ACCESSORIES

Check the updated accessories list, description and informations of the product at the following link:

<https://www.prolights.it/product/AETHERBOXTWO#accessories>

2 - TECHNICAL DRAWING



Weight: 2,2 kg - 4,85 lbs

Fig. 01

3 - INSTALLATION

MOUNTING

Check that the supporting structure can safely bear the weight of all installed fixtures, clamps, track adapter, 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.

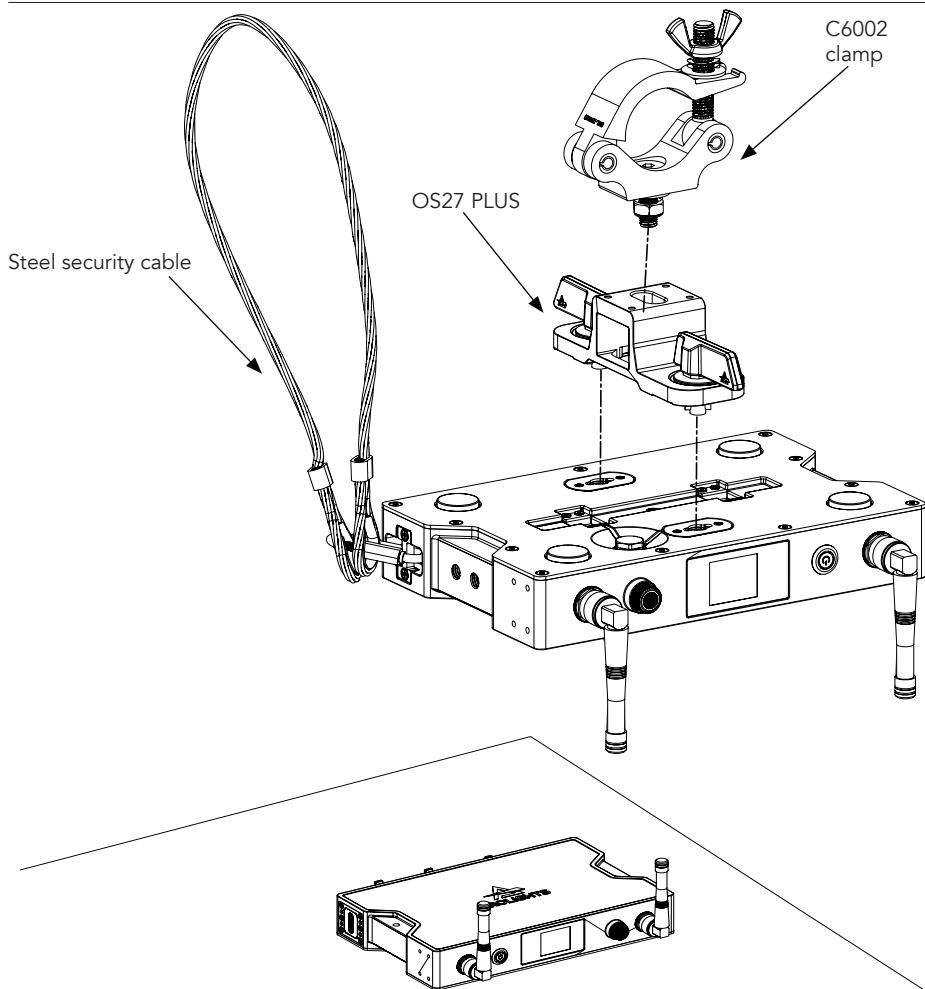


Fig.02

4 - CONNECTION TO THE POWER SUPPLY

CONNECT TO THE MAINS

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 5W.

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

POWER WITH BATTERIES

AETHERBOXTWO can operate with 2x 7.2V batteries NP-F550/F570/F750/F770 to reach the total voltage of 14.4V; the batteries must be inserted using the AEBBATADP battery adapter.

NOTE: It is necessary to install two batteries otherwise the fixture will not work.

POWER WITH EXTERNAL POWER SUPPLY

AETHERBOXTWO can operate with an external power supply, in a 12-48V range, connected to the WEIPU SA6 connector (Number 14 in the next page).

POWER ON ETHERNET (POE)

AETHERBOXTWO can operate with Power on Ethernet (POE) without any additional cables.

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. USER INTERFACE with button and status LEDs for access to the functions;
2. PUSHABLE ENCODER to access and select the menu function;
3. POWER BUTTON to power on the AETHERBOX;
4. AEB2DBA90D 2dBi antenna;
5. SAFETY HOLE: to attach the safety cable;
6. 3/8, M10 HOLES for installations;
7. ANCHOR POINTS for accessories;
8. GORE VALVE;
9. AEBBATADP connector to connect the battery adapter;
10. WIRELESS ANTENNA;
11. POWER IN: for connection to the Mains 100-240V~/50-60Hz;
12. ETHERCON CONNECTOR IN signal;
13. WEIPU SA6 for low voltage DC (12-48V);
14. UNIVERSE A DMX IN / OUT (5-p XLR): 1 = GND, 2 = sign-, 3 = sign+, 4 N/C, 5 N/C;
15. UNIVERSE B DMX IN / OUT (5-p XLR): 1 = GND, 2 = sign-, 3 = sign+, 4 N/C, 5 N/C;

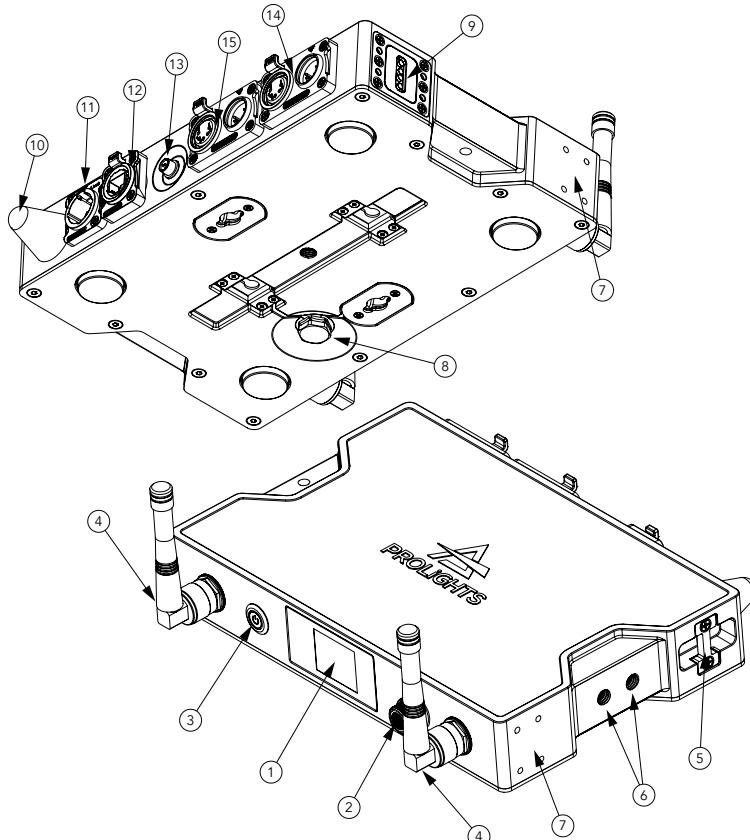
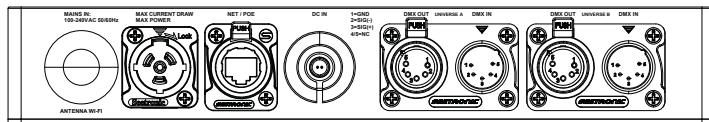


Fig.03

7 - MENU STRUCTURE

The following chart describes the MENU configuration workflow, see the following page to see the complete menu structure

CONFIGURATION WORKFLOW			
CONNECT	TX-RX MODE	TX: CRMX	
		TX: WDMX G4S	
		TX: WDMX G3	
		RX (ALL PROTOCOL)	
	TX SOURCE	NET	sACN SETTINGS
			ARTNET SETTINGS
		DMX IN	
		WIFI ARTNET	ARTNET SETTINGS
		WIFI SACN	sACN SETTINGS
	LINK		
	UNLINK		
	WIRELESS to DMX		
	LINKING KEY		
	UNIVERSE METADATA		
	BLUETOOTH		
	TX RDM HOST		
	LINK STRENGTH		
WIRELESS REPEATER	ON	If ON,will appear on the display: "Please configure one universe as RX and one as TX."	
	OFF		
ETH.	IP ADDRESS		
	SUBNET		
WIFI	MODE	OFF	
		ACCESS POINT	
		CLIENT MODE	
	ACCESS POINT	Configuring AETHERBOXTWO settings as an Access Point	
	CLIENT MODE	Configuring AETHERBOXTWO settings as an Client Mode	
SETUP	DISPLAY		
	KEYLOCK		
	FACTORY RELOAD		
INFO	SOFTWARE VERSION		
	CRMX FIRMWARE		
	WIFI VERSION		
	WORKING HOURS		
	RDM UID		

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

MENU: CONNECT							
LEVEL 1		LEVEL 2	LEVEL 3	LEVEL 4	LEVEL 5		
UNIVERSE A/B	TX-RX MODE	TX: CRMX					
		TX: WDMX G4S					
		TX: WDMX G3					
		RX (ALL PROTOCOL)					
		<- BACK					
TX SOURCE	NET	SACN	UNIVERSE	1 - 64000			
				OFF			
			MERGE MODE	HTP			
				LTP			
			<- BACK				
		ART-NET	NET	0 - 127			
				0 - 15			
				0 - 15			
			ABSOLUTE UNIVERSE				
		<- BACK					
LINK	WIFI ARTNET	DMX IN					
		WIFI ARTNET	NET	0 - 127			
			SUB-NET	0 - 15			
			UNIVERSE	0 - 15			
			ABSOLUTE UNIVERSE				
		<- BACK					
		WIFI SACN	UNIVERSE	1 - 64000			
		<- BACK					
UNLINK		YES					
		NO					
WIRELESS TO DMX		YES					
		NO					

MENU: CONNECT

LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4	LEVEL 5	DESCRIPTION
UNIVERSE A/B	LINKING KEY	ENABLE	YES		
			NO		
		SET KEY	Insert 8 digit code		Not available if a linking key has been previously setted. User MUST erase key to change again linking key code
			RX Mode: Choose mode and universe		
		ERASE KEY	YES		Available ONLY after a Linking Key Code has been inserted
			NO		
		LINKING MODE	CRMX		When In RX Mode: 1. Insert 8 digit code 2. Set mode (CRMX or CRMX2)
			CRMX2		
		LINKING UNIVERSE	A		3. Set universe (CRMX: A,C,E,G CRMX2: A,B,C,D,E,F,G,H)
			B (Only in CRMX2)		
			C		
			D (Only in CRMX2)		
			E		
			F (Only in CRMX2)		
			G		
			H (Only in CRMX2)		
<- BACK					
UNIVERSE METADATA	COLOR	NAME	xxx		RX Mode RGB Color code received from TX TX CRMX Mode 1. RGB Color code set from list
		RED			
		FIRE			
		YELLOW			
		GREEN			
		EMERALD			
		OCEAN			
		BLUE			
		DEEP PURPLE			
		COOL WHITE			
<- BACK					
BLUETOOTH	ENABLE	YES			
		NO			
	RESET PIN	YES			
		NO			
<- BACK					
TX RDM HOST	ENABLE				
	DISABLE				
	<- BACK				
LINK STRENGTH	0 - 100%				
<- BACK					

MENU: CONNECT

	LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4	LEVEL 5	DESCRIPTION
W. REPEATER	ON					If Wireless Repeater@ ON, you can only change the mode settings (RX/TX) for the respective universe. Example: - Wireless Repeater@ ON - UNIVERSE A set to RX - UNIVERSE B set to TX
	OFF					

MENU: ETHERNET SETTINGS

LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4	DESCRIPTION
IP Address	xxx.xxx.xxx.xxx			
SubNet	xxx.xxx.xxx.xxx			

MENU: WIFI

	LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4	DESCRIPTION
Mode	OFF				
	Access Point				
	Client Mode				
	<- BACK				
Access Point	SSID	not editable, just readable.	Device Label		not editable, just readable.
	Password				16 alphanumeric parameters (Hex)
	Encryption	WPA			
		WPA2			
		WPA3			
	IP	x.x.x.x	0.0.0.0		
	Netmask	x.x.x.x	0.0.0.0		
	<- BACK				
Client Mode	SSID	16 alphanumeric parameters (Hex).			
	Password				16 alphanumeric parameters (Hex)
	DHCP	ON			16 alphanumeric parameters (Hex)
		OFF			
	IP	x.x.x.x	0.0.0.0		
	Netmask	x.x.x.x	0.0.0.0		
	Gateway	x.x.x.x	0.0.0.0		
	<- BACK				

<- BACK

MENU: SETUP

LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4	DESCRIPTION
DISPLAY	DISPLAY TIMEOUT	Always On		Allows you to select the timing after that display will switch automatically off when unactive.
		10s		
		30s		
		60s		
		<- BACK		
	DISPLAY INTENSITY	25%		Allows you to select the intensity of the display.
		50%		
		75%		
		100%		
		<- BACK		
	FLIP DISPLAY	YES		Allows you to rotate the display by 180°.
		NO		
	<- BACK			
KEYLOCK	ENABLE	NO		
		YES		
	EDIT KEY	Check KEYLOCK SET		DEFAULT: 0000
	<- BACK			
FACTORY RELOAD	YES			
	NO			
<- BACK				

MENU: INFO

LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4	DESCRIPTION
Software Version	V1.1.00.0			Box FW version
	<- BACK			
CRMX Firmware	V1.1.1.5			CRMX TimoTwo FW version
	<- BACK			
WIFI Version	xxxx			
	<- BACK			
Working hours	From <0h> to <65535h>			Box working hours
	<- BACK			
RDM UID	xxxx			
	<- BACK			
<- BACK				

8 - SHORTCUT

Keys	Mode	Description
LINK Keep pushed while power-on	FACTORY RESET	Soft reset, factory reset keeping working hours
Keep pushed ENCODER and then push LINK (1 sec)	LOCK/UNLOCK (KEYLOCK)	Works only with KEYLOCK ON

9 - 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
Product Information	SUPPORTED_PARAMETERS	0x0050	x	
	PARAMETER_DESCRIPTION	0x0051	x	
	DEVICE_MODEL_DESCRIPTION	0x0080	x	
	MANUFACTURER_LABEL	0x0081	x	
	DEVICE_LABEL	0x0082	x	x
	FACTORY_DEFAULTS	0x0090	x	x
DMX512 Setup	DMX_PERSONALITY	0x00E0	x	x
	DMX_PERSONALITY_DESCRIPTION	0x00E1	x	
	DMX_START_ADDRESS	0x00F0	x	x
Power/Lamp Settings	DEVICE_HOURS	0x0400	x	x
	DEVICE_POWER_CYCLES	0x0405	x	x
Display Settings	DISPLAY_INVERT	0x0500	x	x

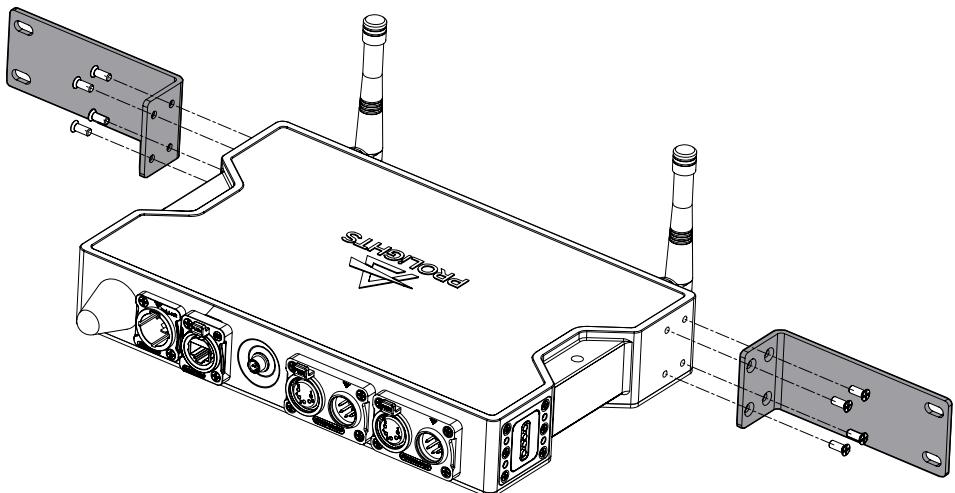
Manufacturer Specific PIDs

Parameter	PID	GET	SET	Value	Description
WIRELESS MODE	0x8213	x	x	0-3	0: TX CRMX 1: TX G4S 2: TX G3 3: RX
TX LINK	0x8214		x	0-1	0: Not Link 1: Link
RX RESET	0x8215	x	x	0-1	0: No 1: Yes
TX RESET	0x8347	x	x	0-1	0: Not link 1: Link
TX RF OUTPUT POWER	0x8318	x	x	0-3	0: 20 1: 16 2: 11 3: 5 dBm
BLUETOOTH	0x8319	x	x	0-1	0: Off 1: On
IDENTIFY	0x8317	x	x	0-1	0: No identify 1: Identify active
RDM DOWNSTREAM	0x8316	x	x	0-1	0: Off 1: On
LINK QUALITY	0x831A	x	x	0-255	

10 - ACCESSORIES INSTALLATION

RACK ADAPTER (CODE AEBTWRACKADP)

1



Place the two metal plates as shown in figure (1), then fix them with the provided screws.

2

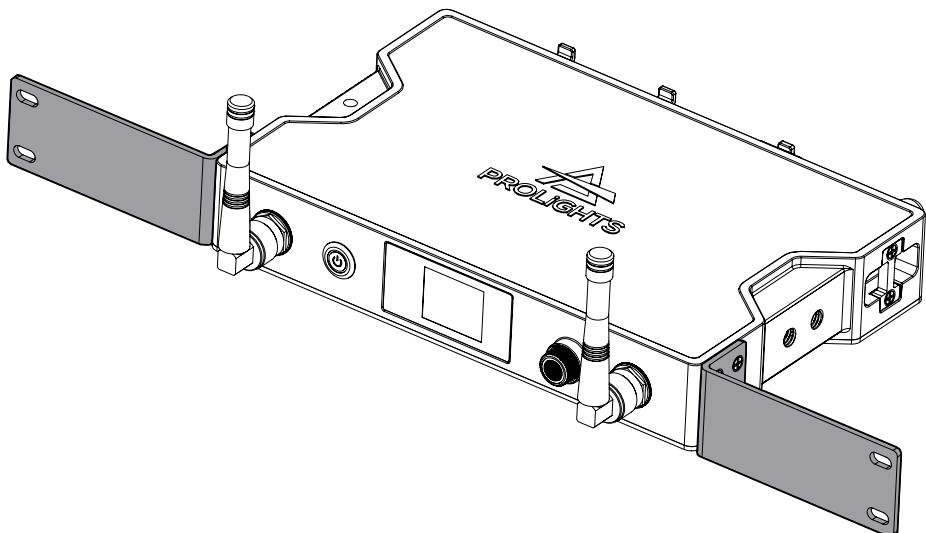
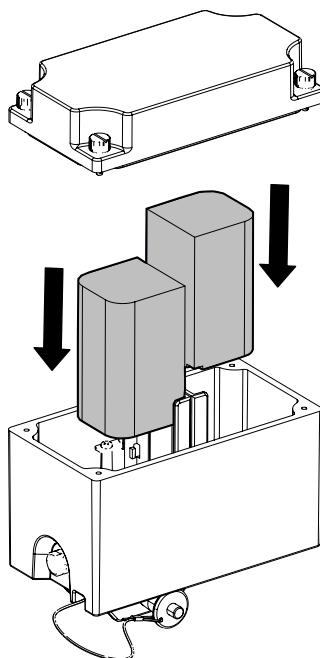


Fig. 06

BATTERY HOLDER (CODE AEBBATADP)

For battery operation is necessary to use 2x NP-F550/F570/F750/F770 (Not included).

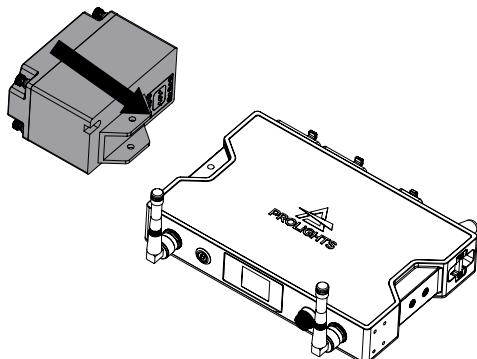
1



Open the AEBBATADP and insert two batteries.

NOTE: it is necessary to install two batteries otherwise the fixture will not work. (1)

2



3

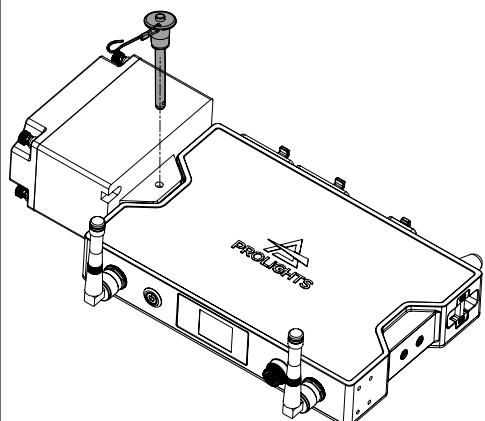


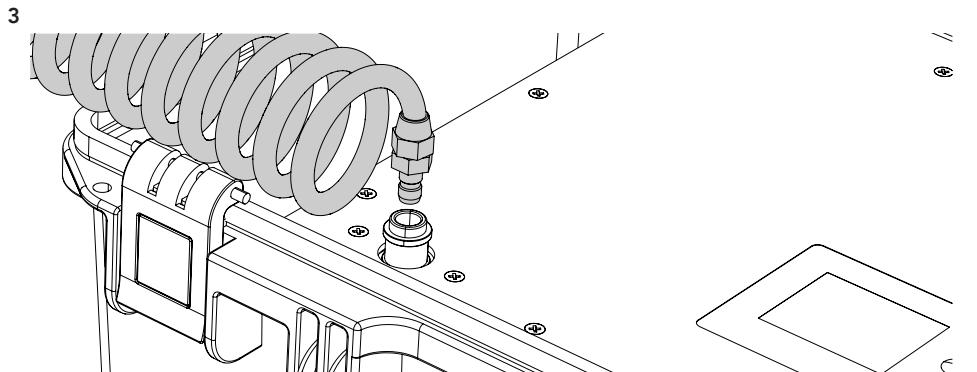
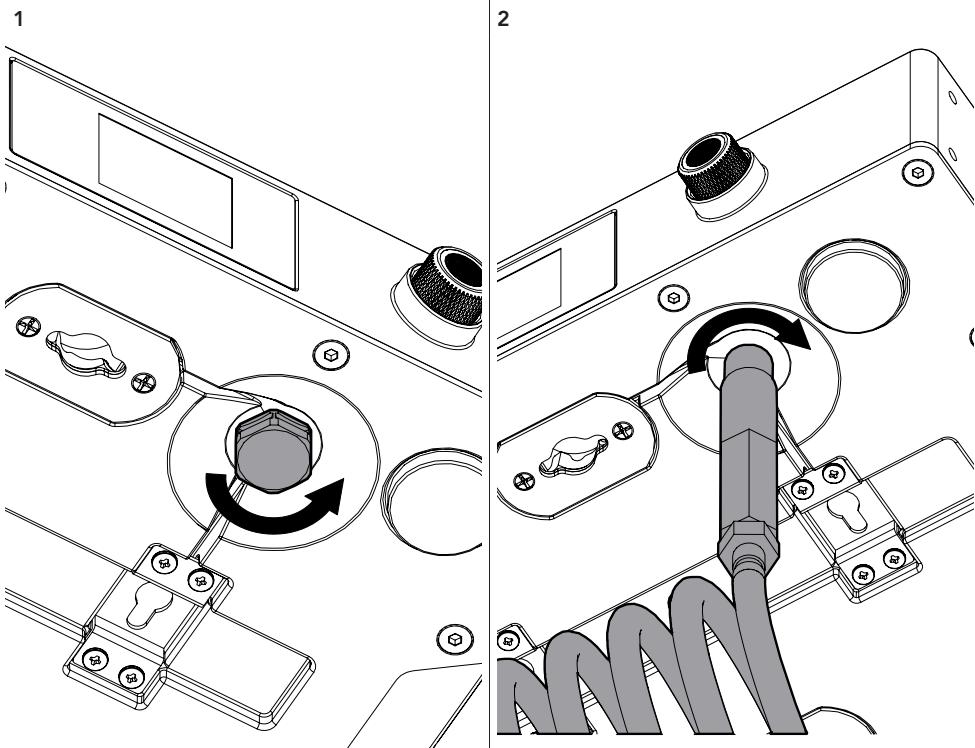
Fig. 07

Place the battery holder as shown in figure (2).

Lock the accessory by the provided pin as shown in figure (3).

11 - TEST OF IP65 RATING

To check sealing after servicing use the IPTESTBOX.



For the operating procedure using the instrument, refer to the IPTESTBOX user manual.

Fig. 08

12 - MAINTENANCE

MAINTENANCE THE PRODUCT

It is recommended that the product be checked at regular intervals.

- For cleaning use a soft, clean cloth moistened with a mild detergent. Never use a liquid, it might penetrate the unit and cause damage to it.
- The user may also upload firmware (product software) to the fixture via the DMX signal input port using UPBOXPRO or UPBOX2 and instructions from PROLIGHTS.
- It is recommended to check at least annually if new firmware is available and a visual check of the status of the device and mechanical parts.
- **Only for IP65/IP66 fixtures:** It is recommended to verify IP grade using IPTESTBOX every time the bodies are removed for maintenance, this tool helps to double check the correct assembling of the covers with a check of the IP grade of the fixture.
- 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 use the best quality materials available to ensure optimum performance and the longest possible component lifetimes. However, components are subject to wear and tear over the life of the product. 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 components if their characteristics are affected by wear and tear after an extended period of use.
- Use only accessories approved by PROLIGHTS.

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. 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.

Note



PROLIGHTS is a trademark of
MUSIC & LIGHTS S.r.l.
musiclights.it

Via A.Olivetti snc
04026 - Minturno (LT) ITALY
Tel: +39 0771 72190

prolights.it
support@prolights.it