

1. GENERAL INFORMATION

This instruction manual contains important notifications regarding the safe use of the EXALUX LEDMASTER PULSE.

Please take the time to read this manual carefully and thoroughly before installing and operating the system. We recommend you keep a copy for future use and you transfer it to the buyer if you resell the dimming system.

EXALUX reserves the right to modify and upgrade its range of products, with no obligation to integrate these changes into products already sold. Therefore, all the information found in this manual is subject to change without notice.

2. FEATURES

PWM Technology	Low side PWM with phase shift
Channels	2 channels
Dimming range	0 - 100%
CCT Synthesizer ranges	2600K - 6200K 2700K - 6500K 2200K - 5600K 2200K - 6500K
CCT Presets	3200K 4300K 5600K 6500K
Built-in Special Effects	Candle/Fire TV Lightning Paparazzi Strobe Tunnel
Hardware Controls	On/Off/DMX, Brightness (analog), CCT/settings (digital), Unlock
Display	4 digits LED display
Firmware Update	Bootloader, via XLR 5 Input (a specific cable is required)

3. TECHNICAL SPECIFICATIONS

Power rating	135W
Voltage output	24VDC PWM
Capacity	5,6A per channel
PWM frequency	32 kHz
Built-in converter	Synchronous switching step-up (1MHz switching freq)
Converter Efficiency Min :	93% TYP : 96% Max : 98 %
DMX interface	DMX512-A
DMX input	Neutrik XLR 5 pin male
DMX output	Neutrik XLR 5 pin female
DC Input	Neutrik XLR 4 pin male
Trigger Input	Jack 2,5mm
Battery socket	V-LOCK
Housing / construction	Aluminium / Epoxy black paint finishing
IP Rating	IP20
Certifications	CE, RoHS
Dimensions	180 x 141 x 73 mm
Weight	665g

4. OPERATING CONDITIONS

		Min	Typ	Max	
Input Voltage (XLR 4)	V _{in}	21	24	24,5	V
Input Voltage (battery)	V _{in}	10	14,4	18	V
Storage T°	T _{st}	-30	-	80	°C
Operating T°	Top	-20	25	70	°C

5. WARRANTY

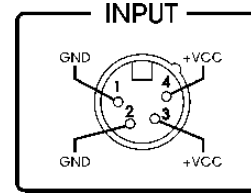
Exalux cannot be responsible for material or personal damage resulting from improper use of the product or non-compliance to the instructions. The warranty will not be applied in these cases.

6. POWER SUPPLY

Input Voltage (via XLR 4):

The typical input voltage of LEDMASTER PULSE is +24VDC (range from min 21VDC to 24,5VDC max).

! Powering the system out of this range can cause malfunctions and the destruction of the product.



Input Voltage (via V-Lock battery socket):

The LEDMASTER PULSE have a built-in step-up converter. Min. input voltage: +10VDC, Max. input voltage: +18VDC Max output current: 5.6A/135W

! Powering the system out of this range can cause malfunctions and the destruction of the product.

Input voltage monitoring:

The LEDMASTER PULSE monitors the voltage input. Under/over range detection will cause an error ("Error dc. In" / "Error batt") to protect hardware output. In this case, the dimmer should be restart with a correct voltage.

7. MODE

The LEDMASTER PULSE offers 2 modes. To change the operation mode, use the mode selector:

- **MANUAL**: control of the brightness and CCT between the channels (6 Light effects available).

- **DMX**: Control from a DMX controller.

Auto-lock function:

An "auto-lock" option can be activated to lock controls after one minute without any activity on the dimmer.

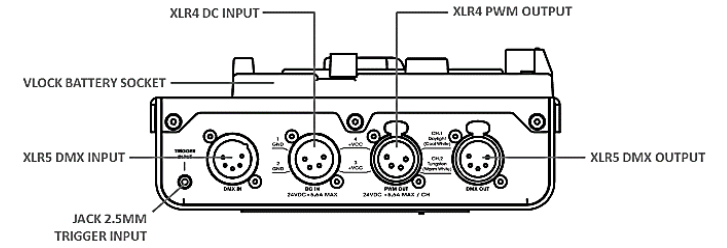
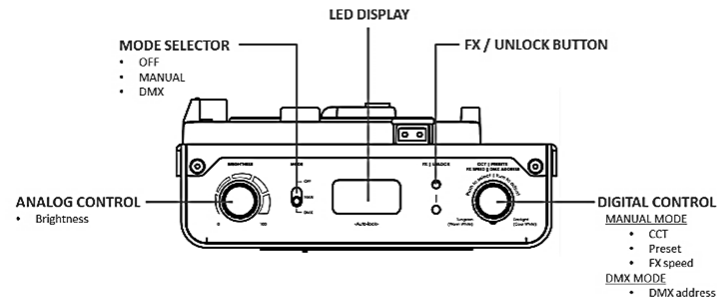
To unlock, push the "FX/UNLOCK" button for 1 second (blue LED blinking).

To activate or disable the Auto-lock option:

- Make sure the dimmer is OFF
- Push the yellow knob and turn-on the dimmer by switching the MODE selector (MAN. or DMX)

The message "Auto Loc ON" or "Auto Loc OFF" should be displayed.

8. CONTROL

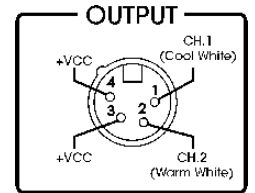


9. OUTPUT

The LEDMASTER PULSE is a dimmer designed to drive "Tunable White" equipments only in balanced mode with PWM control (32kHz). Light sources should be composed of warm white (tungsten) and cool white (daylight).

The outputs are located on the XLR 4 Female connector. The light source to drive should be connected on this connector.

- 1 : Daylight (cool white)
- 2 : Tungsten (warm white)
- 3,4 : +VCC



CCT presets:

Push the yellow knob to select presets (3200K/4300K/5600K/6500K).

CCT Synthesizer ranges:

The LEDMASTER PULSE uses a CCT synthesizer with 4 ranges:

- 2600K - 6200K
- 2700K - 6500K
- 2200K - 5600K
- 2200K - 6500K

The selected range is displayed on start-up.

To change the range, push the yellow coder for 3 seconds, turn to select and push again to validate. The selected range will be saved for next use.

Fuse:

A fuse on the output PWM XLR 4 protect the output against shortcut.



If a shortcut occurs on the output, the fuse will burn and the message "Error FUSE" will appear. In this case, **do not open the dimmer** and contact your reseller.

10. EFFECTS

LEDMASTER PULSE has a built-in special effects generator.

To turn ON or OFF effects, push the "FX/UNLOCK" button for one second.

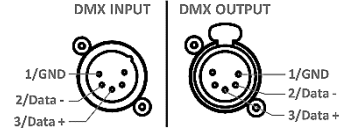
- blue LED ON : effects activated
- blue LED OFF : effects disabled

Push the button to change effect:

EF.1	Candle / Fire	EF.5	Strobe
EF.2	TV	EF.6	Tunnel (Tungsten 3200K)
EF.3	Lightning / storm	EF.7	Tunnel (neutral white 4300K)
EF.4	Paparazzi	EF.8	Tunnel (daylight 5600K)

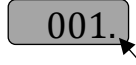
You can control the brightness by using the Analog control potentiometer (WHITE). You can control the speed by using the Digital control encoder (YELLOW).

11. DMX



The DMX input and output are located on the 5 way connector XLR 5. Pins 4 and 5 are not used, not connected.

When the dimmer is receiving valid DMX signal, the dot on the right bottom corner is blinking.



DMX Address:

To modify the DMX address while in DMX Mode, follow these steps:

- Push the yellow knob for 1 second (first digit blinking)
- Turn to select the first value
- Push to validate first digit (2nd digit blinking)
- Select the value of the 2nd digit (same process for the 3rd digit)
- Push for one second to validate the address

DMX modes:

The device can be controlled with 2 different modes.
Push the "FX" button to switch between modes.

o Mode 1: FX **OFF** / 2 channels :

- Addr : Brightness
- Addr +1 : CCT

o Mode 2: FX **ON** / 4 channels :

- Addr : Brightness
- Addr +1 : CCT
- Addr +2 : FX speed
- Addr +3 : FX type

Output values depend on the CCT range selected on the dimmer. Please refer to the DMX following tables for details.

12. TRIGGER

The trigger input is a stereo jack 2.5mm connector used to turn-off quickly the output from a remote shutter (close-ups and Time exposures).

- Release : normal operation
- Push : turn off the output

Do not apply any voltage on this input.

Recommended remote: RS-60E3 (Canon).



13. FACTORY RESET

To proceed the factory reset, push the yellow knob for 5 seconds. The message "rSET" should be displayed.

Factory reset settings :

- Default CCT : 5600K
- CCT range : 2200K-6500K
- DMX addr. : 001
- FX : Off
- Auto-lock : Off

14. SAFETY INSTRUCTIONS

Proper use:

This unit is designed to control lighting sources using PWM commands. Use the device only in its intended use as described in this manual. Any other use, as well as use in other conditions, will be considered non-compliant and can cause injury and damage. No liability will be assumed for damages resulting from improper use.

The device should only be used by people in full possession of their physical, sensory and mental abilities who must have the knowledge and experience required. All the other persons are only allowed to use the device under the supervision or direction of a person responsible for their safety.

Safety:

Risk of electric shock

This lighting system requires high voltage, which can result in an electrical shock. Never remove covers. The parts inside the device are maintenance free.

Dangers for children

Ensure a proper disposal of plastic envelopes and packaging. They should not be near babies nor young children: suffocation danger. Make sure that children do not remove small parts of the unit (e.g. knobs, screws or similar). Children could swallow the pieces and choke.
Never leave unattended children use electrical devices.

Electric shock caused by a short circuit

Do not modify the power cord nor the plug. In case of non-compliance, there is a risk of electric shock and fire hazard and death. If in doubt, contact a certified technician.

Eye injuries due to a high light intensity

Do not look at the beam light directly to avoid any visual problems.

Epileptic seizure danger

The flash (strobe) may cause seizures on sensitive individuals, who should avoid looking at the flashes.

Risk of fire

Never cover the device nor its ventilation slots. Do not install the device close to a source of heat. Keep the device away from flames.

Terms of use

The device is designed for indoor use. To prevent damage, do not expose the product to liquid or moisture. Avoid direct sunlight, clogging and strong vibrations.

Power supply

Check the operation of the power supply before connecting to the system.
Before connecting the appliance, check if the voltage indicated on the device matches the voltage on the local supply network and if the socket is fitted with a differential circuit breaker. In case of non-compliance, the device could be damaged and the user might be injured.

When a storm is announced or the unit must not be used for a long time, unplug it to reduce the risk of electric shock or fire.

CARE

- Unplug the unit when cleaning it and during all maintenance operations.
- Do not use cleaning product: use a dry cloth and rub gently.

Store the device in a clean, dry place, away from direct exposure from sunlight and dust.

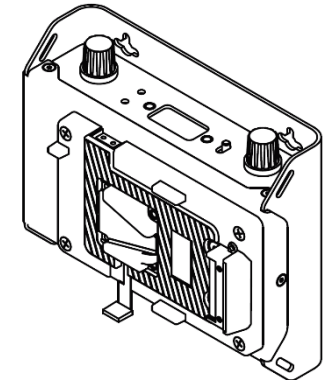
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LEDMASTER PULSE



MODE 2200K-6500K - FX ON

Value	Addr	Addr +1	Addr +2	Addr +3
0	Brightness	2200K	0% (SLOW)	
1	0%			NO FX (0 ≤ DMX ≤ 33)
3	0%			
4	0.4%			
..		Step :16.8K		
35				
36				FX = FIRE (36 ≤ DMX ≤ 71)
59		3200K		
71				
72	Step: 0.4%			FX = TV (72 ≤ DMX ≤ 108)
108				
109		Step :16.8K		
125				
128	50.0%	4300K	50%	FX = LIGHTNING (109 ≤ DMX ≤ 144)
144				
145		Step :16.8K		FX = PAPARAZZI (145 ≤ DMX ≤ 173)
173				
174	Step: 0.4%			
202		5600K		FX = STROBE (174 ≤ DMX ≤ 217)
217				
218		Step :16.8K		
253	100%			
254	100%			FX = TUNNEL (DMX ≤ 218)
255	100%	6500K	100% (FAST)	

MODE : 2200-6500K (LEDZEP) | FX ON

MODE 2700K-6500K - FX ON

Value	Addr	Addr +1	Addr +2	Addr +3
0	Brightness	2700K	0% (SLOW)	
1	0%			NO FX (0 ≤ DMX ≤ 33)
3	0%	Step :14.84K		
4	0.4%			
..		3200K		
34				
35				FX = FIRE (36 ≤ DMX ≤ 71)
36				
71		Step :14.84K		FX = TV (72 ≤ DMX ≤ 108)
72				
108				
109		4300		
125				
128	50.0%		50%	FX = LIGHTNING (109 ≤ DMX ≤ 144)
144		Step :14.84K		
145				FX = PAPARAZZI (145 ≤ DMX ≤ 173)
173				
174	Step: 0.4%			
196		5600		FX = STROBE (174 ≤ DMX ≤ 217)
217				
218		Step :14.84K		
253	100%			
254	100%			FX = TUNNEL (DMX ≤ 218)
255	100%	6500K	100% (FAST)	

MODE : 2700-6500K | FX ON

MODE 2200K-6500K - FX OFF

Value	Addr	Addr +1	Addr +1
	Brightness		CCT
0	0%	2200K	
1	0%		
3	0%		
4	0.4%		
..		Step :16.8K	
35			
36			
59		3200	
71			
72	Step: 0.4%		
108			
109		Step :16.8K	
125			
128	50.0%	4300	
144			
145		Step :16.8K	
..			
173			
174	Step: 0.4%		
202		5600	
..			
217			
218		Step :16.8K	
253	100%		
254	100%		
255	100%	6500K	

MODE : 2200-6500K (LEDZEP) | FX OFF

MODE 2700K-6500K - FX OFF

Value	Addr	Addr +1	Addr +1
	Brightness		CCT
0	0%	2700K	
1	0%		
3	0%		
4	0.4%		
..		Step :14.84K	
34			
35		3200K	
36			
71		Step :14.84K	
72			
108			
109		4300	
125			
128	50.0%		
144			
145		Step :14.84K	
..			
173			
174	Step: 0.4%		
196		5600	
..			
217			
218		Step :14.84K	
253	100%		
254	100%		
255	100%	6500K	

MODE : 2700-6500K | FX OFF

MODE 2200K-5600K - FX OFF

Value	Addr	Addr +1	Addr +2	Addr +3
0	0%	2200K	0% (SLOW)	NO FX (0 ≤ DMX ≤ 35)
1	0%	0%		
3	0%	0%		
4	0.4%	0.4%		
35				
36				
72				
75				
108				
109				
128	50.0%	50.0%	50%	FX = LIGHTNING (109 ≤ DMX ≤ 144)
144				FX = TV (72 ≤ DMX ≤ 108)
145				FX = FIRE (36 ≤ DMX ≤ 71)
159				
173				
174				
217				
218				
253	100%	100%	100%	FX = PAPARAZZI (145 ≤ DMX ≤ 173)
254	100%	100%	100%	FX = STROBE (174 ≤ DMX ≤ 217)
255	100%	100%	100%	FX = TUNNEL (DMX ≥ 218)

MODE : 2200-5600K (PILLOW) | FX OFF

MODE 2200K-5600K - FX ON

Value	Addr	Addr +1	Addr +2	Addr +3
0	0%	2200K	0% (SLOW)	NO FX (0 ≤ DMX ≤ 35)
1	0%			
3	0%			
4	0.4%			
35				
36				
72				
75				
108				
109				
128	50.0%	50.0%	50%	FX = LIGHTNING (109 ≤ DMX ≤ 144)
144				FX = TV (72 ≤ DMX ≤ 108)
145				FX = FIRE (36 ≤ DMX ≤ 71)
159				
173				
174				
217				
218				
253	100%	100%	100%	FX = PAPARAZZI (145 ≤ DMX ≤ 173)
254	100%	100%	100%	FX = STROBE (174 ≤ DMX ≤ 217)
255	100%	100%	100%	FX = TUNNEL (DMX ≥ 218)

MODE : 2200-5600K (PILLOW) | FX ON

MODE 2600K-6200K - FX OFF

Value	Addr	Addr +1	Addr +2	Addr +3
0	0%	2600K	0% (SLOW)	NO FX (0 ≤ DMX ≤ 35)
1	0%			
3	0%			
4	0.4%			
35				
36				
43				
71				
72				
108				
109				
121				
128	50.0%	50.0%	50%	FX = LIGHTNING (109 ≤ DMX ≤ 144)
144				FX = TV (72 ≤ DMX ≤ 108)
145				FX = FIRE (36 ≤ DMX ≤ 71)
173				
174				
213				
217				
218				
253	100%	100%	100%	FX = PAPARAZZI (145 ≤ DMX ≤ 173)
254	100%	100%	100%	FX = STROBE (174 ≤ DMX ≤ 217)
255	100%	100%	100%	FX = TUNNEL (DMX ≥ 218)

MODE : 2600-6200K | FX OFF

MODE 2600K-6200K - FX ON

Value	Addr	Addr +1	Addr +2	Addr +3
0	0%	2600K	0% (SLOW)	NO FX (0 ≤ DMX ≤ 35)
1	0%			
3	0%			
4	0.4%			
35				
36				
43				
71				
72				
108				
109				
121				
128	50.0%	50.0%	50%	FX = LIGHTNING (109 ≤ DMX ≤ 144)
144				FX = TV (72 ≤ DMX ≤ 108)
145				FX = FIRE (36 ≤ DMX ≤ 71)
173				
174				
213				
217				
218				
253	100%	100%	100%	FX = PAPARAZZI (145 ≤ DMX ≤ 173)
254	100%	100%	100%	FX = STROBE (174 ≤ DMX ≤ 217)
255	100%	100%	100%	FX = TUNNEL (DMX ≥ 218)

MODE : 2600-6200K | FX ON