



Artistic Licence



DMX-Buffer, DMX-Clarify & DMX-Protect

User Guide



Please read these instructions before using the product.

This product has been designed & manufactured for professional use only. It should only be installed by a suitably qualified technician and in accordance with electrical regulations in the country of use.

Unless directed in the instructions there are no user serviceable parts inside the outer case of this product.

Always disconnect from the power supply when not in use.

Any specific IP rating, where appropriate, is given in the instructions. Unless otherwise stated this product is designed for indoor use only. If used outdoors it **MUST** be installed in an appropriate IP rated cabinet. Do not allow this product to be exposed to rain or moisture. Do not allow liquid to penetrate the product.

Please recycle all packaging.

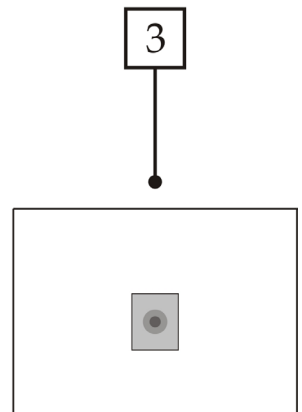
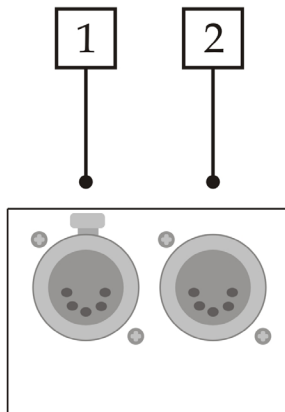
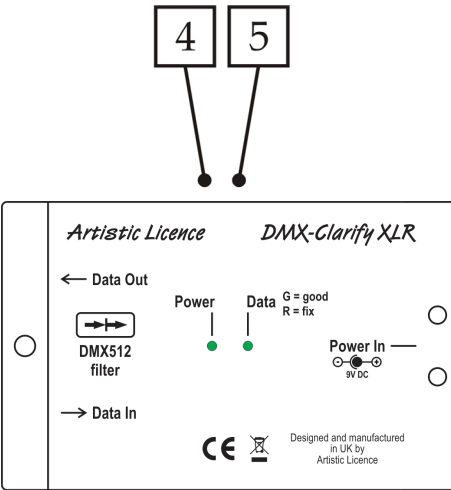
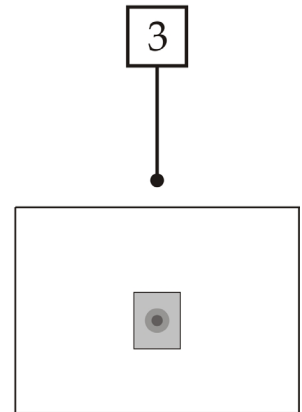
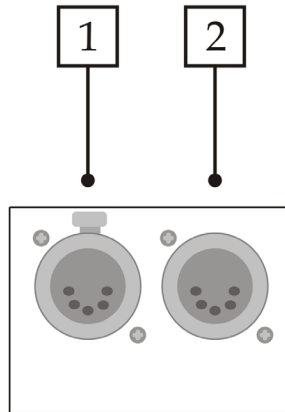
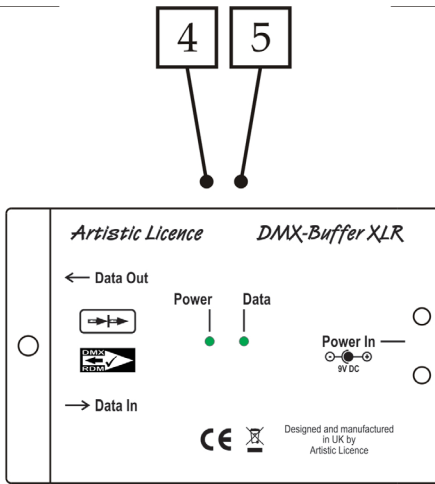
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Download the user guide by scanning the following QR code:

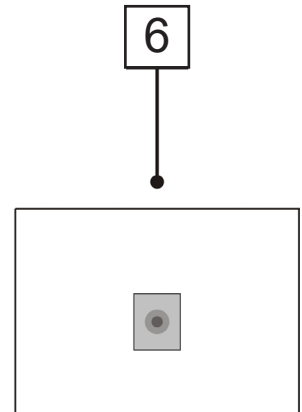
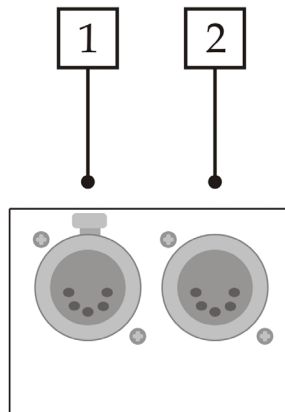
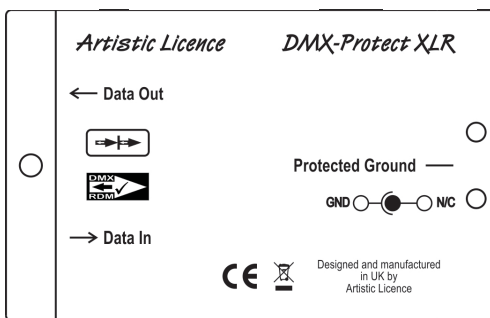


Connections

DMX-Buffer & DMX-Clarify

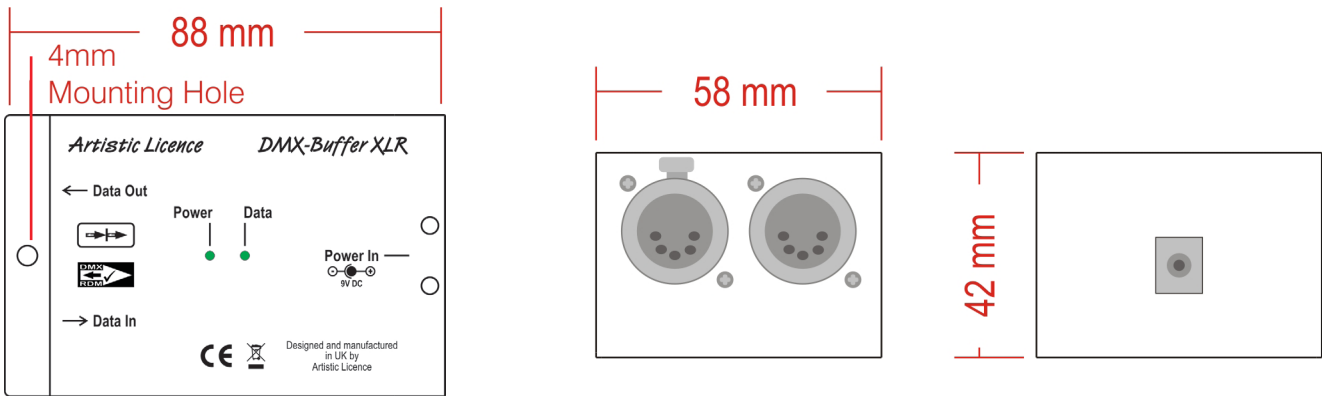


DMX-Protect



Reference	Type	Description
1	Connection	Data out
2	Connection	Data in
3	Connection	Power Input
4	LED	Power indication
5	LED	Data indication
6	Connection	GND

Mounting Diagram



DMX512 Wiring

XLR Pin (convention)	Function	Colour	RJ45 Pin	Cable Colour
1	Ground	Black	7 & 8	White/Brown & Brown
2	Data -	Blue	2	Orange
3	Data +	Red	1	White/Orange
4	Aux Data -		6	Green
5	Aux Data +		3	White/Green

Internal Earth and Isolation

Circuit	Description	
DMX512 Input	Type:	Ground referenced
	Pin 1:	Connected to Internal Logic Ground
DMX512 Output	Type:	Ground referenced
	Pin 1:	Connected to Internal Logic Ground
Internal Logic Ground	Connects to Ground Power Input	

LED indication

		Data signal		
		DMX only	DMX & RDM	None
DMX-Buffer	Power	Green	Green	Green
	Data	Yellow	Green	Off
DMX-Clarify	Power	Green	Red	Green
	Data	Yellow	Green	Off

Overview

DMX-Buffer & DMX-Clarify

DMX-Buffer and DMX-Clarify are designed to allow a DMX line to run further than the standard limit of 300m, without the need for expensive DMX splitters. They achieve this by internally re-buffering the DMX signal.

The difference between the products lies in the way they handle RDM data.

- Each product provides an extra 300m of cable run
- Protected (non-isolated) input
- Single buffered output
- DMX-Buffer supports RDM, allowing remote configuration of the fixtures
- DMX-Clarify filters out RDM (see detailed operation below)
- Powered from a standard 9V PSU with DC jack connector; protective metal case
- Data input: standard 5-pin male XLR connector with internal termination
- Data output: standard 5-pin female XLR connector
- DMX-Buffer is also available with RJ45 Ethercon input/output connectors

DMX-Protect

DMX-Protect is a passive in-line protector designed to protect a DMX line from damage due to electrocution. It has two levels of protection.

The first is a self-healing circuit that protects against accidental connection to mains and will recover when the fault is removed.

The second is a 'protection of last resort' that will sacrifice the product in order to protect against high energy faults such as lightning strikes.

- Passive in-line protector
- Bidirectional protection - both I/P & O/P are protected from fault on other side
- Protects against accidental connection to mains (recoverable fault)
- Sacrificial protection against lightning strikes (non-recoverable fault)
- Supports RDM
- Protective metal case
- Data input: standard 5-pin male XLR connector with internal termination
- Data output: standard 5-pin female XLR

DMX-Clarify detailed operation

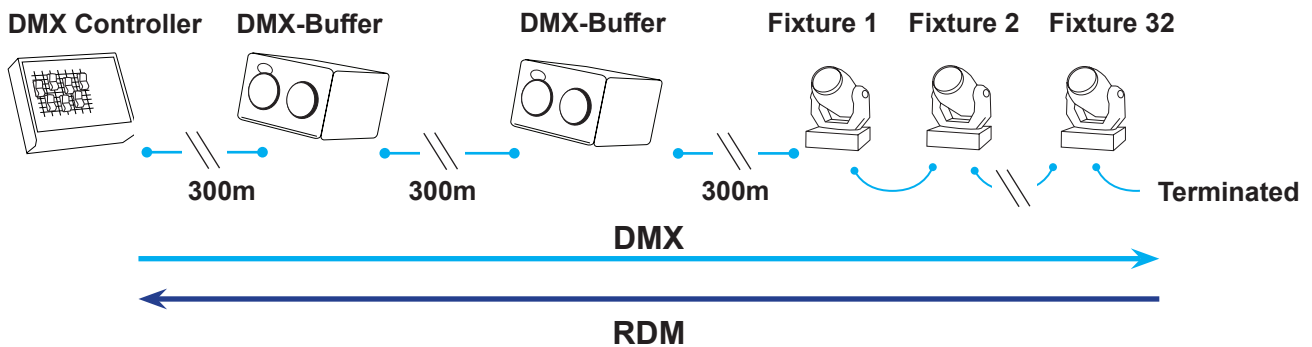
DMX-Clarify is designed to solve product compatibility problems. There are numerous products on the market that will not accept the wide range of legal DMX timings and data. DMX-Clarify cleans out any unusual or non-standard timing and data before sending to the output. This includes stripping out all non-zero start codes (including RDM), forcing a 512-channel footprint and calming any timing jitter.

- Accepts and corrects break in range 56 μ s – 1000 μ s and outputs 250 μ s
- Accepts and corrects MaB in range 5 μ s – 1000 μ s and outputs 30 μ s
- Accepts and corrects MaB in range 0 μ s – 1000 μ s and outputs 30 μ s
- Accepts channel count 1 – 512 and outputs 512
- Accepts refresh period from 23 ms – 1000 ms and outputs 30ms
- Filters out multiple consecutive breaks
- Re-times bytes of 1 stop bit to 2 stop bits
- Filters out all non-zero start code packets
- Re-times digital signal

Application Diagram

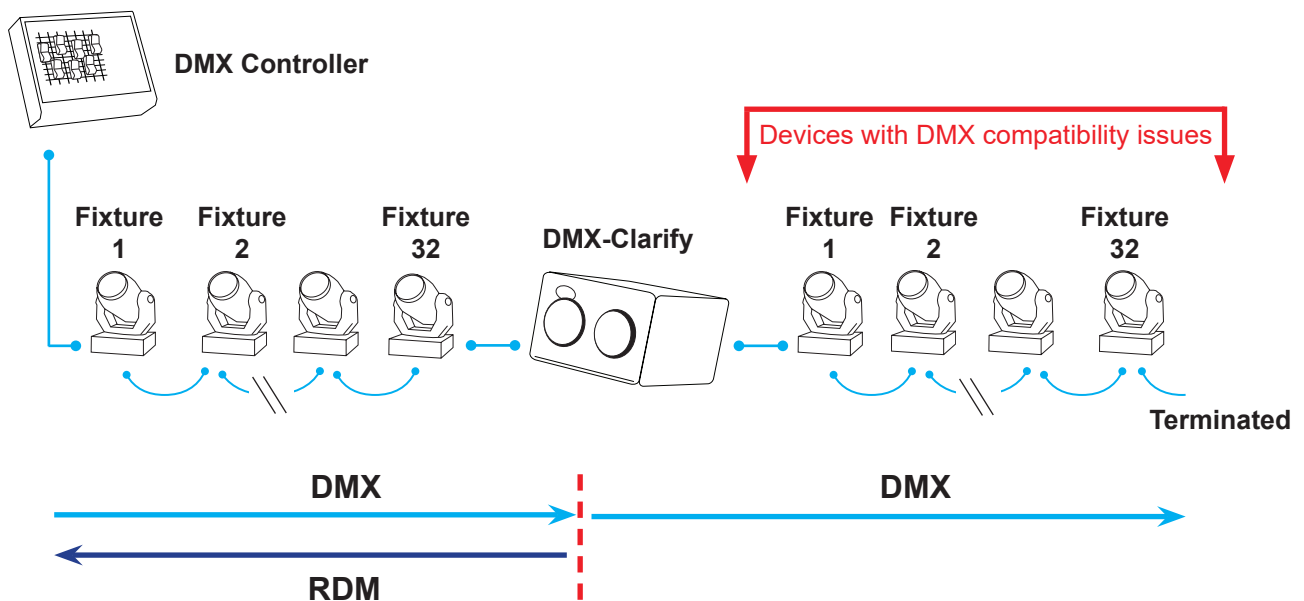
DMX-Buffer

In the diagram below, two DMX-Buffer products are used to provide an extra 600m of cable run.



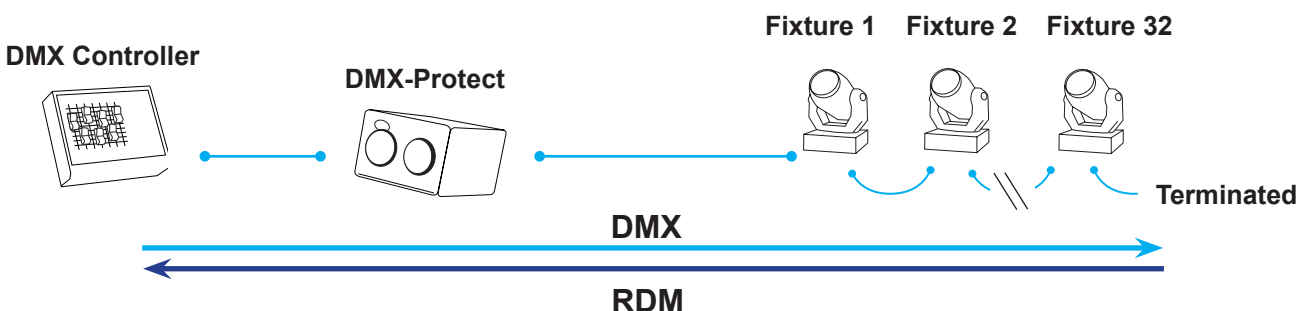
DMX-Clarify

In the diagram below, DMX-Clarify is used as an in-line buffer to provide a filtered DMX signal to a group of fixtures that cannot handle RDM.



DMX-Protect

In the diagram below, DMX-Protect ensures that the DMX controller will not be damaged in the event of accidental mains connection or even lightning strike on the output circuit.



DMX-Buffer & DMX-Clarify Specification

<p>Mechanical</p> <ul style="list-style-type: none"> • Housing: metal desktop case • Material: Steel • Overall dimensions: 88 mm (W) x 58 mm (H) x 42 mm (D) • Mass: 0.2 kg • Mounting: Free-standing or surface mount • Country of manufacture: UK 	<p>DMX Input</p> <ul style="list-style-type: none"> • Input mode: Ground referenced • Input isolation: n/a • Input ESD protection: 12 kV • Input voltage protection: n/a
<p>Environmental</p> <ul style="list-style-type: none"> • Operating temperature: 0°C to 40°C • Storage temperature: -10°C to +50°C • Operating relative humidity (max): 80% non-condensing • IP rating: IP20 indoor use only • Certification: CE, WEEE, RoHS • Warranty: 2-year (return to base) 	<p>DMX Output</p> <ul style="list-style-type: none"> • Output mode: Buffered • Output isolation: n/a • Output ESD protection: 10 kV • Output voltage protection: n/a
<p>Power & Electrical</p> <ul style="list-style-type: none"> • Input voltage: 9 VDC • Input connector: DC jack (1 no.) • Input power (max): 5 W • Duty cycle: 80% @ 25°C • DC fuse: internal resettable fuse for control electronics 	<p>Control</p> <ul style="list-style-type: none"> • Input Protocols: DMX512, DMX512 (1990), DMX512-A, RDM V1.0 (E1.20 - 2006 ESTA Standard) • Output Protocols: Same as input, except that DMX-Clarify does not output RDM
<p>Data Connections</p> <ul style="list-style-type: none"> • Input connection: 5-pin XLR male or (DMX-Buffer only) RJ45 Ethercon (1 no.) • Output connection: 5-pin XLR female or (DMX-Buffer only) RJ45 Ethercon (1 no.) 	<p>LED Indication</p> <ul style="list-style-type: none"> • Power / Data <p>Package Contents</p> <ul style="list-style-type: none"> • DMX-Buffer (XLR or RJ45) or DMX-Clarify • User guide <p>Accessories (not included)</p> <ul style="list-style-type: none"> • PSU-9-1.5-DCJ

DMX-Protect Specification

<p>Mechanical, Environmental, Data Connections, Control</p> <ul style="list-style-type: none"> • As above 	<p>DMX output</p> <ul style="list-style-type: none"> • Protected against continuous connection to 425 VAC • Protected by gas discharge from static electrocution and lightning strike above 420 VDC
<p>Power & Electrical</p> <ul style="list-style-type: none"> • Passive 	<p>LED Indication</p> <ul style="list-style-type: none"> • Not applicable
<p>DMX input</p> <ul style="list-style-type: none"> • Protected against continuous connection to 425 VAC • Protected by gas discharge from static electrocution and lightning strike above 420 VDC 	<p>Package Contents</p> <ul style="list-style-type: none"> • DMX-Protect • User guide

Compliance

All Products manufactured or sold by Artistic Licence Engineering Ltd are fully compliant with the appropriate CE and RoHS regulations. Product specific information is available on request.

Waste Electrical & Electronic Equipment (WEEE)

Artistic Licence is a member of a WEEE compliance scheme and will happily recycle any of our products that you, at your expense, return to us.

Warranty

All products are covered from date of purchase by a two-year return to base warranty.

By return to base, we mean that the customer is responsible for all costs of transport to and from Artistic Licence.

Returns will not be accepted without prior authorisation. In order to discuss a request to return goods, please email:

Sales@ArtisticLicence.com

CE Compliance

DMX-Buffer, DMX-Clarify & DMX-Protect are CE compliant when installed in a shielded and earthed metal case



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Due to our policy of continuing product improvement specifications are subject to change without notice

