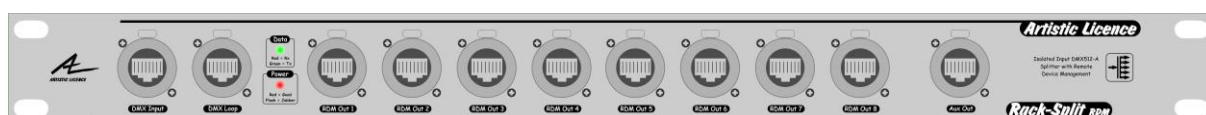


Rack-Split RDM RJ45

User's Guide



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Manual Revision V1.2

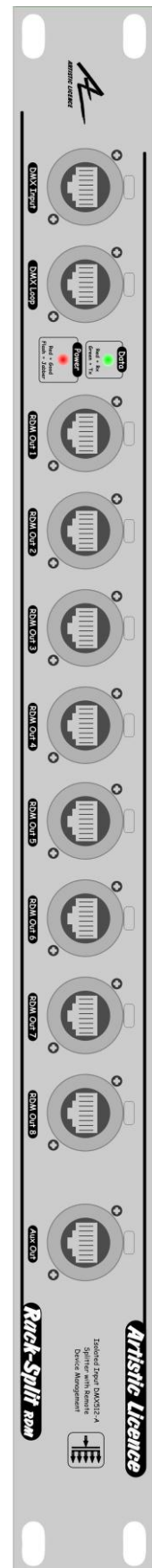
Rack-Split RDM RJ45

Rack-Split RDM RJ45 is a fully bi-directional DMX512 splitter or Distribution Amplifier using Neutrik Ethercon's (RJ45). All data connections are mounted on the front panel of a 1RU 19 inch rack case.

The product provides all the electronics needed to support the ESTA RDM - Remote Device Management Protocol. It supports both the Draft and Standard version V1.0.

Major features include:

- Isolated DMX512 input.
- Input loop through facility for either termination or connection to further DMX512 products.
- Eight independent bi-directional DMX512 output ports connected via RJ45 (Ethercon).
- Safe output for connection to non-compliant DMX512 products.
- Power indicator.
- Received data activity indicator.
- Transmit data activity indicator.
- Jabber detection circuitry.
- Automatic disconnection of output in fault condition.
- Universal Input Mains Power Supply.
- Rear panel provides two M4 safety chain points to allow the product to be used without rack mounting.



Front Panel Indicators

Two dual colour indicators are provided:

Data:

- ❑ Green: Indicates that DMX512 data is flowing from input to all outputs (normal operation).
- ❑ Red: Indicates that RDM data received by the outputs is being returned to the controller.

Power:

- ❑ Red: Indicates good power and normal operation.
- ❑ Flashing: Indicates that a connected RDM device is jabbering (returning unwanted data continuously). Return data from this output will be disconnected.

DMX512 Input

The DMX512 input is connected to the RJ45 Ethercon on the left of the front panel. The RJ45 connector to the right provides a passive loop through such that multiple DMX512 receivers can be connected to the same signal. When the Rack-Split RDM RJ45 is to be used at the end of a DMX512 cable, a termination connector should be fitted to the loop through.

The DMX512 input is optically isolated from the outputs and mains earth.

DMX512 Output

The DMX512 outputs are provided on eight RJ45 Ethercon connectors. Each output is independently buffered.

Cable connection for both input and output is as follows:

Function	RJ45 Pin	Colour	XLR Pin	Colour
Ground	7	Wht/Brn	1	Black
Ground	8	Brown	1	Black
Data -	2	Orange	2	Blue
Data +	1	Wht/Org	3	Red
Aux Data -	6	Green	4	-
Aux Data +	3	Wht/Grn	5	-

Each output is capable of driving 32 DMX512 devices. It is not necessary to terminate unused outputs.

Safe Output

A ninth output called 'Safe' is provided. The Safe output is a copy of the received data with all non-zero start code data filtered out.

The Safe output is intended to help solve compatibility problems sometimes experienced with products that are not quite DMX512 compatible!

The Safe output can be used as an extra output, although it will not respond to RDM data.

DMX512

The Rack-Split RDM RJ45 uses the wiring specification as documented by the DM512A standard.

Rack-Split RDM will automatically select uni-directional or bi-directional operation as directed by the DMX512 controller.

No user selection is required.

RDM

RDM or Remote Device Management is an ESTA protocol from the Technical Standard program that allows Bi-Directional communication over standard DMX cable.

Rack-Split RDM RJ45 is compatible with both the Draft V1.0 and Standard V1.0. For older units there is a firmware upgrade available. Order Code: RDM-Split-Up. Please contact sales@ArtisticLicence.com for more details.

Power Supply

The internal power supply provides a universal input in the range 85 to 264 VAC via a 3 pin IEC connector.

The mains fuse should only be replaced with a 3.15A Slow Blow.

Earthing

The following table summarises the internal earth interconnection and isolation:

Please note that we use the term Earth-Ground to avoid international confusion. In Europe Earth-Ground is called Earth, in the USA Earth-Ground is called Ground.

Circuit	Description	
Chassis	Bonded to Earth-Ground.	
DMX512 Input (including Loop Through)	Type:	Isolated.
	Pin 1:	Connects to internal isolated circuit. No connection to Earth-Ground.
	Cable Shield	Connected to chassis
	Shell:	The connector shell is connected to chassis.
DMX512 Outputs	Type:	Grounded.
	Pin 1:	Connected to Earth-Ground.
	Cable Shield	Connected to chassis
	Shell:	The connector shell is connected to chassis.
Internal Logic Ground	Connects to Earth-Ground.	

CE Compliance



Rack-Split RDM RJ45 is CE Compliant when shielded Category x cable is used. The cable shield must be connected to shielding tab of connector.

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