# Split2.8 RDM
2 input DMX/RDM Splitter

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.

Overview

Split2.8 **RDM** is a 2 input, 8 output DMX & RDM Splitter than has individual input selection. Either of the two inputs may be routed to any of the eight outputs, by means of an A/B select switch. Housed in a metal case it is ideal as a desktop unit or, using the supplied Rack Ears, it can be easily mounted in any 19" rack enclosure. Using a standard IEC connector, Split2.8 **RDM** can be used anywhere in the world due to its universal mains voltage input. Both inputs are opto-isolated offering protection against high voltage accidents and eliminating potential Earth / Ground issues. Split.2 **RDM** supports all generations of DMX512 and is fully compliant with the Remote Device Management protocol (E1.20 - 2006 RDM).
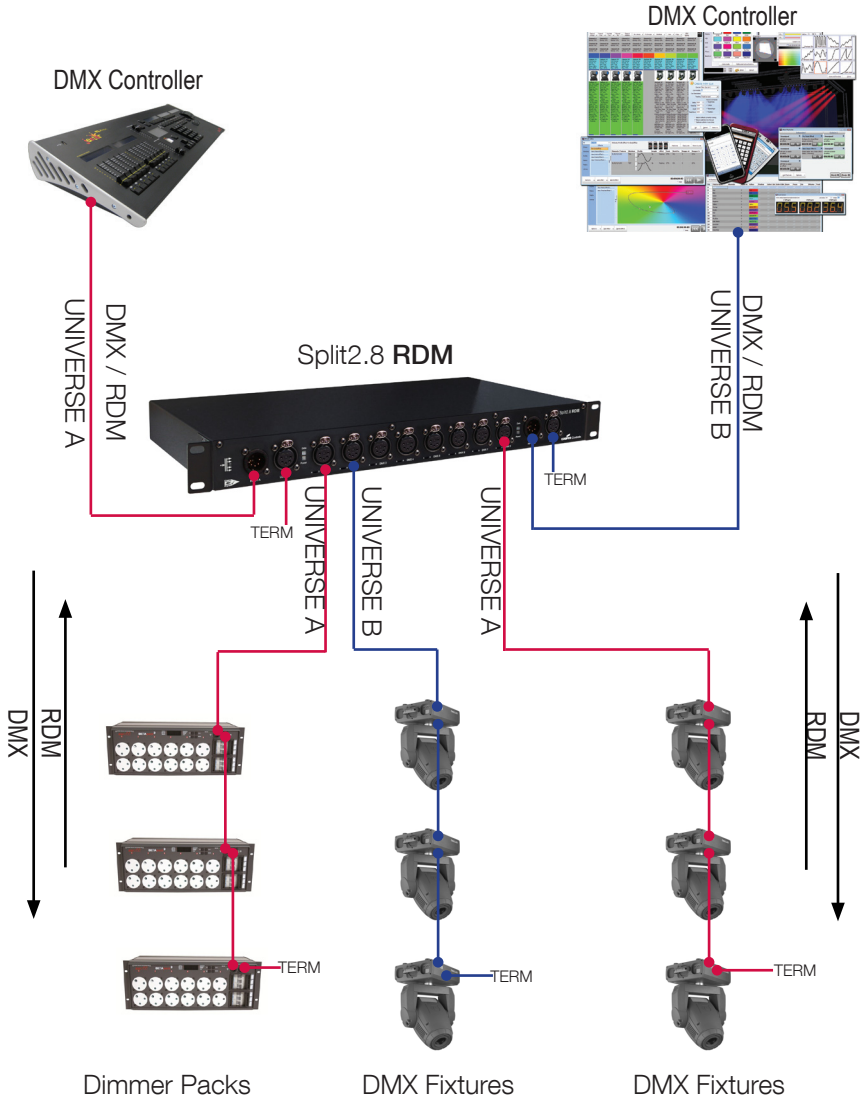
COOPER Controls
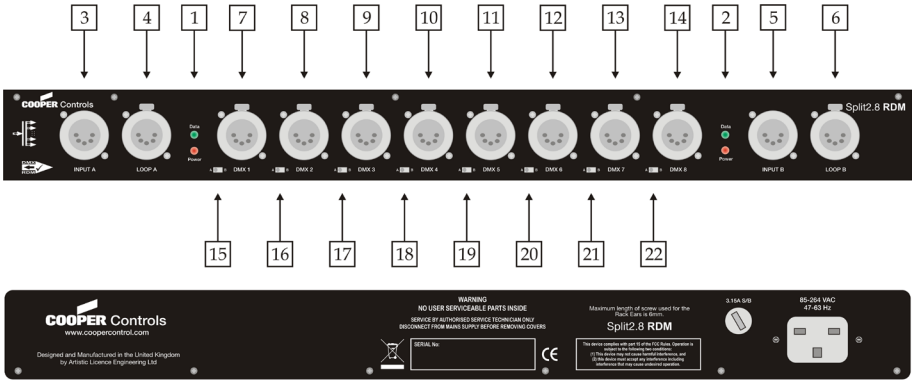
Connections

Ref	Type	Description
1	LED	Data / RDM & Power - Input A
2	LED	Data / RDM & Power - Input B
3	Data Connection	DMX / RDM Input A
4	Data Connection	Input A Loop Through
5	Data Connection	DMX / RDM Input B
6	Data Connection	Input B Loop Through
7	Data Connection	DMX Output 1
8	Data Connection	DMX Output 2
9	Data Connection	DMX Output 3
10	Data Connection	DMX Output 4
11	Data Connection	DMX Output 5
12	Data Connection	DMX Output 6
13	Data Connection	DMX Output 7
14	Data Connection	DMX Output 8

Ref	Type	Description
15	Switch	Output 1 A/B Selection
16	Switch	Output 2 A/B Selection
17	Switch	Output 3 A/B Selection
18	Switch	Output 4 A/B Selection
19	Switch	Output 5 A/B Selection
20	Switch	Output 6 A/B Selection
21	Switch	Output 7 A/B Selection
22	Switch	Output 8 A/B Selection
23	Fuse	Mains Input Fuse
24	Power Connection	Mains Input Connection

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Electrical Wiring

Split2.8 **RDM** has two DMX / RDM Splitters in one box. The outputs are switched to select what input port they are connected to. The Electrical connection is identical to a normal DMX Splitter.

DMX Controller

DMX Controller

UNIVERSE A

DMX / RDM

Split2.8 **RDM**

UNIVERSE B

DMX / RDM

TERM

UNIVERSE A

UNIVERSE A

UNIVERSE B

TERM

RDM

DMX

DMX

RDM

TERM

TERM

TERM

Dimmer Packs

DMX Fixtures

DMX Fixtures

COOPER Controls

Mode of Operation

Split2.8 **RDM** retransmits two DMX / RDM sources on upto eight of the outputs. Each output has an input selection switch that will define which input is connected.
All connections use 5pin XLRs.

DMX Inputs

Both inputs on Split2.8 **RDM** use a male XLR connector along with a loop through female XLR connector. The loop through connection must be terminated if not being used.

Each of the inputs is optically isolated from the outputs and Mains Earth. This isolation offers protection from potentially dangerous high voltage accidents. It can also eliminate potential Earth / Ground Differential issues as the input is not electrically connected to any of the outputs.

DMX Outputs

The DMX512 / RDM Outputs are provided on eight 5pin XLR female connectors. Each output is independently buffered.
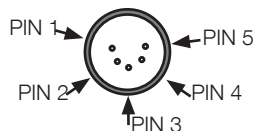The source of the DMX512 / RDM is selected by the switch to the left of the output connector.
Each output is capable of driving upto 32 DMX devices. It is not necessary to terminate the unused outputs.

DMX512 Wiring

XLR Pin	RJ45 Pin	Convention	Function	RJ45 Colour
1	7	Black	Ground	White / Brown
1	8	Black	Ground	Brown
2	2	Blue	Data -	Orange
3	1	Red	Data +	White / Orange
4	6	n/c	Aux Data -	Green
5	3	n/c	Aux Data +	White / Green

PIN 5   PIN 1
PIN 4   PIN 2
PIN 3

XLR5 Female

PIN 1   PIN 5
PIN 2   PIN 4
PIN 3

XLR5 Male

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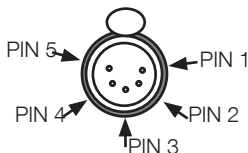
Front Panel Indicators

Each input has its own set of LED indicators that report on the status of that input port.

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).

RDM

RDM (Remote Device Management) is a PLASA Standards protocol from the Technical Standard Program that allows Bi-Directional communication over standard DMX cable.

This enables a controller to have access to a DMX / RDM fixtures configuration and to alter this configuration remotely. The most obvious use is to be able to remotely set the start address of the fixture. However there are many other benefits to RDM such as sensor feedback, firmware uploads and automatic patching.

Split2.8 **RDM** fully supports the RDM protocol (E1.20 - 2006) but can also be used within networks where there is no RDM present.

Power Supply

The internal power supply provides a universal input in the range of 90 to 250V AC via a 3 pin IEC C13 Connector.

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

Earthing

The following table summarises the internal Earth interconnection and isolation:

Please note that we use the term Earth-Ground to avoid international confusions. 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
	Shell:	The connector shell is connected to chassis
DMX512 Outputs	Type:	Grounded
	Pin 1:	Connected to Earth-Ground
	Shell:	The connector shell is connected to chassis
Internal Logic Ground	Connects to Earth-Ground	

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Mechanical

- Housing: 19" 1U Rack Enclosure
- Dimensions: 1RU (H) x 19" Rack (W) x 257mm (D)
- Mass: 2.8kg
- Mounting: Desktop or 19" Rack Mounting (with supplied Rack Ears)

Electrical

- Input Voltage: 90 - 250V AC
- Input Connector: IEC C13 Male
- Input Power (max): 250W
- Duty Cycle: 80% @ 25°C
- Mains Earthing: Case connected to Mains Earth
- Mains Fuse: 3.15A Slow Blow

Environmental

- 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 FCC, WEEE, RoHS
- Warranty: 3 Year (Return to Base)

Package Contents

- Split2.8 RDM
- User Guide
- IEC Mains Lead

User Interface / Indication

- Connections:
  - 2 x 5pin Male XLR DMX Input
  - 2 x 5pin Female XLR DMX Loop
  - 8 x 5pin Female XLR DMX Outputs
  - 1 x IEC C13 Male Mains Input
- Indication: Power / Data / RDM (for both inputs)

Control

- 2 input / 8 Output DMX / RDM Splitter
- Input Protocols:
  - DMX512, DMX512(1990), DMX512-A
  - RDM V1.0 (E1.20 - 2006 PLASA Standard)
- Input Connector: 5pin Male XLR
- Output Protocols: Same as input
- Output Connector: 5pin Female XLR
- Configuration: Input selection switch (x8)

Isolation

- DMX Input Opto-Isolated to 1kV
- DMX Output - Ground Referenced

Protection

- Mains 3.15A Slow Blow Fuse
- Internal Resettable Fuse - Control Electronics
- +15kV ESD DMX Driver Protection

Ordering Info

- Catalogue Number: Split2.8 RDM

Mounting Diagram

COOPER Controls

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