

# XTBA SMART SPLITTER R/RDM

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# XTBA

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## **XTBA SMART SPLITTER R/RDM**

The XTBA SMART SPLITTER R/RDM is a single input, five output data splitter with isolation in a rig mount case. Designed for use with lighting/moving light controls using USITT DMX512 (1990/1986) protocol and DMX Remote Data Management (RDM). Opto isolation is provided between the input and the five outputs. The five outputs are fully buffered so each of the five outputs can drive the DMX standard number of unit loads - 32.



### **RDM Control**

Unlike standard DMX512, RDM messages are bidirectional. The controller requests information or sets a function and the responder will give an answer to the request or acknowledge the function change. The unit will look after all this traffic from the controller and responders.

The unit monitors all messages and will block any responses from wrongly formatted requests.

The Smart Splitter R/RDM will function as a RDM device so is discoverable and can have its personality set, labels changed, comms status checked and supply information about itself. This function can be turned off – see below.

### **Output Monitoring**

The unit continuously monitors its outputs to look for any line overloads and shorted outputs. A shorted output with normal DMX means that branch won't function, so far so obvious. But with RDM a shorted output may disable some RDM functionally or in some cases disable all RDM response messages both after the splitter and before preventing discovery of all devices.

If the unit detects an overload on any output the red power led will flash and the splitter will block RDM responses from its outputs preventing the problem crashing all RDM traffic.

### **Input Monitoring**

The unit also monitors its input and checks the incoming data. If it detects a problem the green data led will flash. Most commonly input connections in the wrong order or other line problems.

### **Inputs and Outputs**

Any output can be linked to another splitter's input (along with another 31 units if the mood takes you) to provide multiple DMX outputs from a single input. With multiple splitters the DMX inputs can be linked together to provide multiple isolated and buffered outputs.

Up to six splitters may be daisy chained if connected from the previous splitters output when using RDM. This limit is due to RDM turn around time.

## **SYSTEM OPERATION**

### **Power Up Display**

On power up the splitter will check the five outputs. If a problem is detected e.g. a short on the line the power led will flash for 30 seconds. After this time the SSR/RDM will display the personality of the splitter as follows:

Flashing green data LED – Clean Port On

Flashing yellow LED – Clean Up All

If the unit is in standard splitter mode (and there is no line problem) the red power LED will be lit directly after power on.

**Note:** If the unit detects a problem with the outputs unaffected outputs will still transmit DMX but the splitter will be unable to pass back replies to RDM requests from its outputs. The splitter itself will still be able to communicate RDM messages.

### **DISPLAYS**

In normal operation following power up the Smart Splitter R/RDM will display the following:

Red LED - Unit power. Shows that the on board power supply is active.

Green LED - DMX In. Shows if valid DMX is being received.

Yellow LED – RDM traffic. Shows when the unit is receiving valid RDM data.

Alternating Green/Yellow – RDM Identify

### **Error displays**

Flashing red LED - Output overload or short.

Flashing green LED – Input problem.

The LED displays can be turned off using the RDM command 'Display Level'. 0% is off and 100% is on.

### **Smart Splitter R/RDM Supported Functions**

XTBA's UID = 2C2A (first two bytes)

#### **Supported PIDs**

Product Detail ID, Device Model Description, Manufacturer Label, Device Label, Factory Defaults, DMX Personality, Personality Description, Reset Device, Comms Status, Display Level.

#### **Personalities**

The Smart Splitter R/RDM has three RDM settable personalities:

Personality 1 : Normal RDM Splitter

The splitter will pass through DMX levels and RDM requests and responses.

Personality 2 : Clean Port On

In this mode output 1 will allow DMX level messages to pass through but RDM requests are blocked. The other four outputs will run as normal.

DMX level messages have a zero start code to identify them as levels. RDM messages have code 204 and in some older DMX receivers this code is not checked. So the receiver thinks that RDM data is level data with unexpected results. By connecting 'legacy' units to output 1 the units will not receive RDM data.

Personality 3 : Clean All

In this mode all five outputs will block RDM requests as in above.

#### **Splitter Lock**

The SSR/RDM is discoverable as an RDM responder. By moving the PCB mounted switch away from the edge of the PCB the unit will no longer respond to RDM messages but will still pass through RDM requests and responses.

This may be useful as it reduces the number of RDM devices on the line or once the unit has been set up via RDM its personality can be locked.

### **POWER SUPPLY**

The mains input to the transformer is via a 2A a/s panel mounted fuse holder.

Technical Specifications

Power 190/250V AC Nominal 1A 230V AC

Data DMX512 1986/1990 DMX RDM

Pin Configuration Pin 1 Common, Pin 2 minus data, Pin 3 plus data.  
Pins 4 and 5 are not connected on any connectors.

General Information

**This product may only be used for controlling dimmers and moving lights. It must not be used in DMX512 applications for stage machinery or pyrotechnics. Using the product out of these specifications will remove all responsibility from the supplier.**

CE Declaration of conformity

XTBA declares that the following equipment meets the requirements of the EMC Directive 89/366/EEC. WEE/FC2753ZS

CE



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