



## ***RDM DMX Splitter 6-way***



### ***Information specifically for:***

- **AC-RDMSPLIT6XD:** 3pin Female + 5pin Female XLR
- **AC-RDMSPLIT6RJ:** RJ45 Female + 5pin Female XLR

This manual contains important information.  
Please read before operating fixture.

**V.1**



# **IMPORTANT INFORMATION**

**Save original packing and documentation for warranty, service and return issues.**

Limited Warranty: This warranty covers defects or malfunctions in this equipment. This warranty lasts for a period of one year from date of purchase. It is the owner's responsibility to provide invoices for proof of purchase, purchase date and dealer or distributor. If purchase date can not be provided, warranty period will start at manufacture date. It is the sole discretion of Techni-Lux to repair or replace parts or equipment. All shipping will be paid by purchaser. This warranty does not cover lamps, fuses, belts, power semiconductors, relays, cleaning, standard maintenance adjustments or normal wear items or any problem resulting from the following: improper wiring, incorrect voltage (including low or over voltage conditions and lightning), abuse, misuse, improper maintenance or an act of God or damage resulting from shipping. Warranty will be null and void if the product is altered, modified, misused, damaged, or subjected to unauthorized repairs. Lamps are covered by relevant manufacturer warranty. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. Any liability for consequential and incidental damages is expressly disclaimed. No other warranty, expressed or implied is made. Techni-Lux liability in all events is limited to, and shall not exceed, the purchase price paid.

Returning equipment and Repairs: All returns must be accompanied by a Return Merchandise Authorization (RMA) number and sent pre-paid. Contact the dealer or Techni-Lux directly to obtain an RMA. The RMA number must be clearly listed on the shipping label. Due care must be exercised in packing all merchandise to be returned. All repairs must be accompanied by a written explanation of the claimed problem or error encountered. Techni-Lux is solely responsible for determining a product's eligibility for coverage under warranty. If returning for consideration of credit, all accessories and documentation, original protective material and cartons must be included and the equipment, packing and carton must be in new resalable condition. Credit for returned merchandise will be issued at the lowest current price and is subject to a restocking fee. No returns accepted on discontinued items. Techni-Lux is not responsible for merchandise damaged in transit and reserves the right to refuse any return that is damaged by the carrier, not accompanied by a Return Authorization Number (RMA#) or sent by freight collect.

Claims: All claims must be made within seven (7) days of receipt of merchandise. Any physical damage must be reported to carrier upon receipt of merchandise.

**Please record the following information for future reference:**

**Model Number:** AC-RDMSPLIT6XD and AC-RDMSPLIT6RJ

Serial Number: \_\_\_\_\_

Dealer: \_\_\_\_\_

Date of Purchase: \_\_\_\_\_

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# TABLE OF CONTENTS

<b>CONTENTS</b> .....	3
<b>PRECAUTIONS</b> .....	4
<b>UNPACKING</b> .....	4
<b>FEATURES</b> .....	5
<b>SPECIFICATIONS</b> .....	5
<b>PRODUCT VIEW</b> .....	6
<b>INSTALLATION</b> .....	7
<b>RACK MOUNTING</b> .....	7
<b>CONNECTION AND OPERATION</b> .....	8
<b>DMX-512 Background</b> .....	9
<i>Adapter 5-to-3 pin</i> .....	10
<b>TROUBLESHOOTING</b> .....	10
<b>ACCESSORY ITEMS (sold separately)</b> .....	11

## CONTENTS

- RDM DMX Splitter 6-way
- Power Cord - 6' Molded Edison to Neutrik PowerCON
- Mounting Bracket w/ Hardware
- Manual

## **PRECAUTIONS**

- Product intended for indoor use only!
- Always turn off, unplug power before attempting to service.
- Ensure that this unit is properly grounded.
- Please keep this User Manual for future consultation.
- To prevent risk of fire or shock, do not expose unit to rain or moisture.
- The unit must be installed in a location with adequate ventilation.
- Be sure no ventilation slots are blocked.
- Make sure power cord is never crimped or damaged.
- Do not remove open cover under any conditions. There are no user serviceable parts inside.
- Disconnect the unit's main power when left unused for long periods of time.
- Never connect this unit's power input to a dimmer.
- Never operate this unit when its cover is removed.
- Never plug an audio line, audio XLR, or Ethernet RJ45 into this device.

## **UNPACKING**

Immediately upon receipt, carefully unpack and inspect the fixture to verify that all parts are present and have been received in good condition. If any parts appear damaged from shipping or the shipping carton shows signs of mishandling, retain all packing material for inspection and notify the shipper immediately. Save all original packing and carton. In the event that the merchandise is to be returned, the original carton and packing must be used. The customer will be billed for a new carton and packing if merchandise is received without the original carton and packing. The plastic bag shipped with the fixture can be used to keep the fixture clean if stored or installed in a temporarily dusty environment. Do not operate fixture with plastic bag in place.

**Save Shipping Materials** *The packing and carton are designed to provide the fixture with protection during shipping. Save original packing and documentation for warranty, service and return issues. Additional charges will be applied to return items not received in original or incomplete packing.*

**Claims** *Physical damage must be reported to the Freight Carrier or Shipping Company upon receipt of merchandise. Damage incurred in shipping is the responsibility of the Freight Carrier or Shipping Company. It is the customer's obligation in the event that merchandise is received damaged caused by shipping to notify the Freight Carrier or Shipping Company immediately. All other claims not related to damage incurred during shipping must be made to the Dealer or Distributor within 7 (seven) days of receiving merchandise.*

**Returns** *Returned merchandise must be sent prepaid, in the original packing with a Return Merchandise Authorization number (RMA) clearly listed on the shipping label. Items sent by Freight Collect or without a RMA number will be refused. Call your sales person and request a RMA prior to shipping. Be prepared to provide the model number, serial number and a brief description of the nature of the return. Shipping damage resulting from inadequate packaging is the customer's responsibility. Customer will be charged additional shipping charges to return products received in non-original packing and or cartons.*

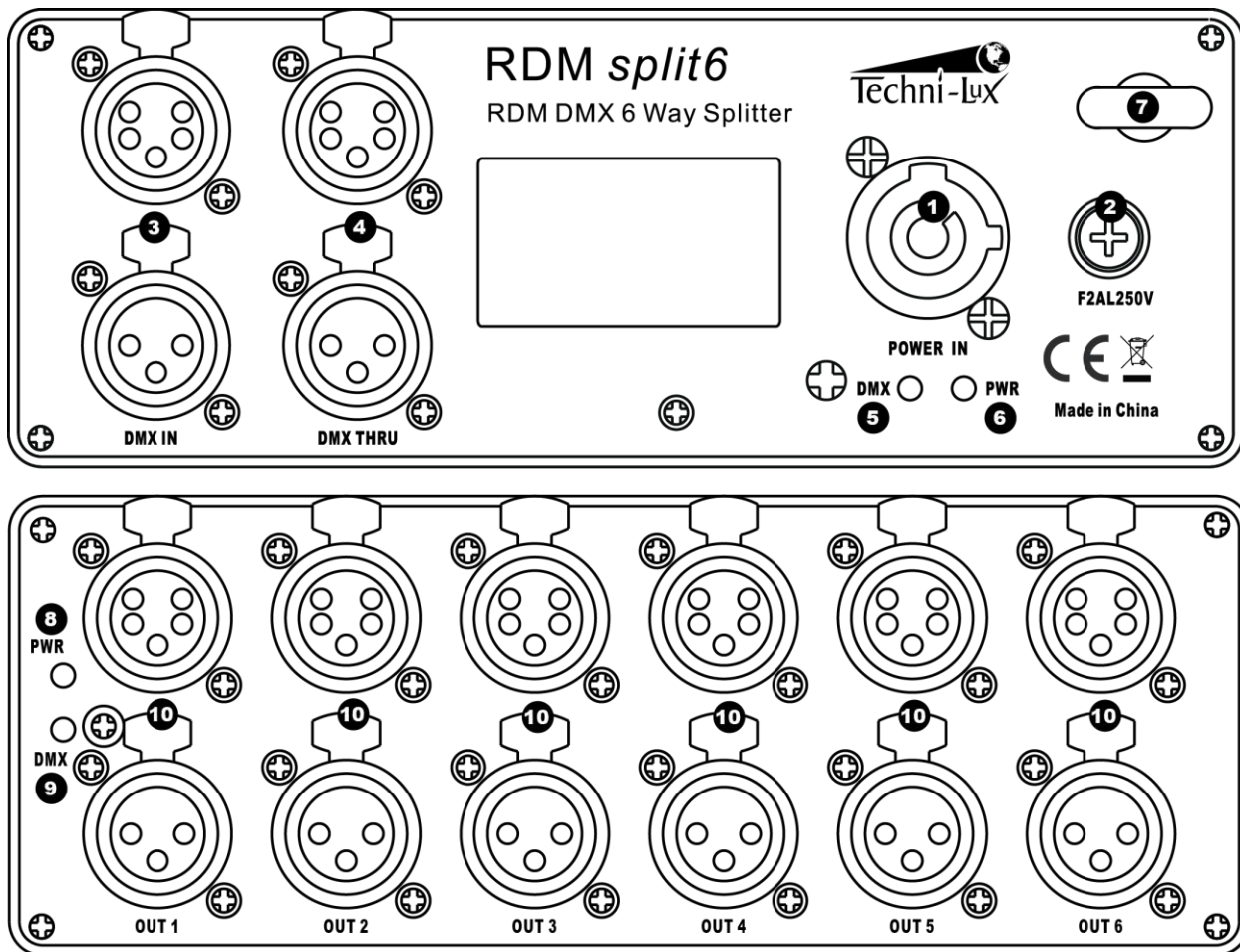
## **FEATURES**

- RDM Capable DMX Splitter and Booster
- 6 DMX Output Ports with full galvanic isolation between IN/THRU Ports and each other
- **AC-RDMSPLIT6XD**: 3pin Female + 5pin Female XLR Connector Pairs for each Port
- **AC-RDMSPLIT6RJ**: RJ45 Female + 5pin Female XLR Connector Pairs for each Port
- Industry Standard PowerCON power cord
- Mounting Bracket, M10x3 thread clamp mounting points, and Safety Lug
- Operating Voltage: 100–240 Vac, 50/60 Hz
- Accessory 2U Rack Mounting Brackets available for single or double unit mounting

## **SPECIFICATIONS**

- Product Type: DMX Splitter/Booster
- Type: DMX 512 protocol, RDM-capable
- DMX In/Thru: 1 Port Each (non-isolated parallel)
- DMX Out: 6 Ports
- DMX Connections: **AC-RDMSPLIT6XD**: 3pin Female + 5pin Female XLR  
**AC-RDMSPLIT6RJ**: RJ45 Female + 5pin Female XLR
- Indicators: Power and Signal LEDs Front and Rear
- Mains Connection: Neutrik PowerCON
- Operating Voltage: 100–240 Vac, 50/60 Hz
- Power: 10 Wmax
- Fuse: 2A 250V Slow/Delay, 5 x 20 mm
- Ambient Temp: 0°C – 40°C Operation
- RH: < 85%, non-condensing
- Color: Black
- Size: 6.5" x 7.25" x 3" (185 x 77 x 170 mm)
- Weight: 3.4 lbs. (1.5 kg)

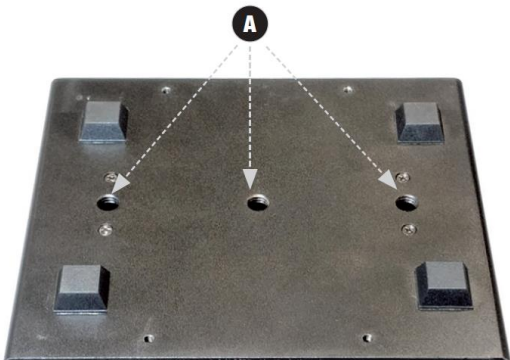
# PRODUCT VIEW



- 1 **POWER IN:** PowerCON
- 2 **Fuse Holder:** 2A 250V Slow/Delay, 5x20mm. Replace with same type and value
- 3 **DMX IN PORT:** DMX Signal Input. Only use one connection per Port, never connect to both.
- 4 **DMX THRU PORT:** Continues original DMX/RDM Signal Source. DMX THRU Port is not isolated from DMX IN Port. Only use one connection per port, never connect to both.
- 5 **DMX LED:** GREEN Flashing indicates a DMX Signal Source is detected at the DMX IN Port. If not flashing, indicates no signal is detected.
- 6 **PWR LED:** RED indicates the device is powered.
- 7 **Safety Lug:** Suitable for use as Safety attachment point.
- 8 **PWR LED:** Rear power indicator.
- 9 **DMX LED:** Rear DMX Signal indicator.
- 10 **DMX OUT PORT 1-6:** Galvanically Isolated DMX/RDM outputs with full electrical isolation between IN/THRU and each OUT Port. Only use one connection per port, never connect to both.

# INSTALLATION

Rubber feet allow the Splitter to be positioned securely in a suitable location on a level and stable surface. For Truss mounting, use supplied mounting bracket. Five 0.5" holes are provided to attach suitable clamp. Optionally three M10 threaded mounting holes are provided on the bottom chassis (A) of the base. Ensure everything is firmly attached and secure the device by the Safety Lug using a suitable safety cable.



# RACK MOUNTING

Accessory 2U Rack Adapters are available to mount in standard 19" racks. Part ZHPL0053 allows the mounting of a single Splitter. Part ZHPL0054 allows the mounting of two Splitters side by side. Splitters mount to the adapter plates using M4 Screws and can be oriented either Input or Output forward.

Part Number: ZHPL0053

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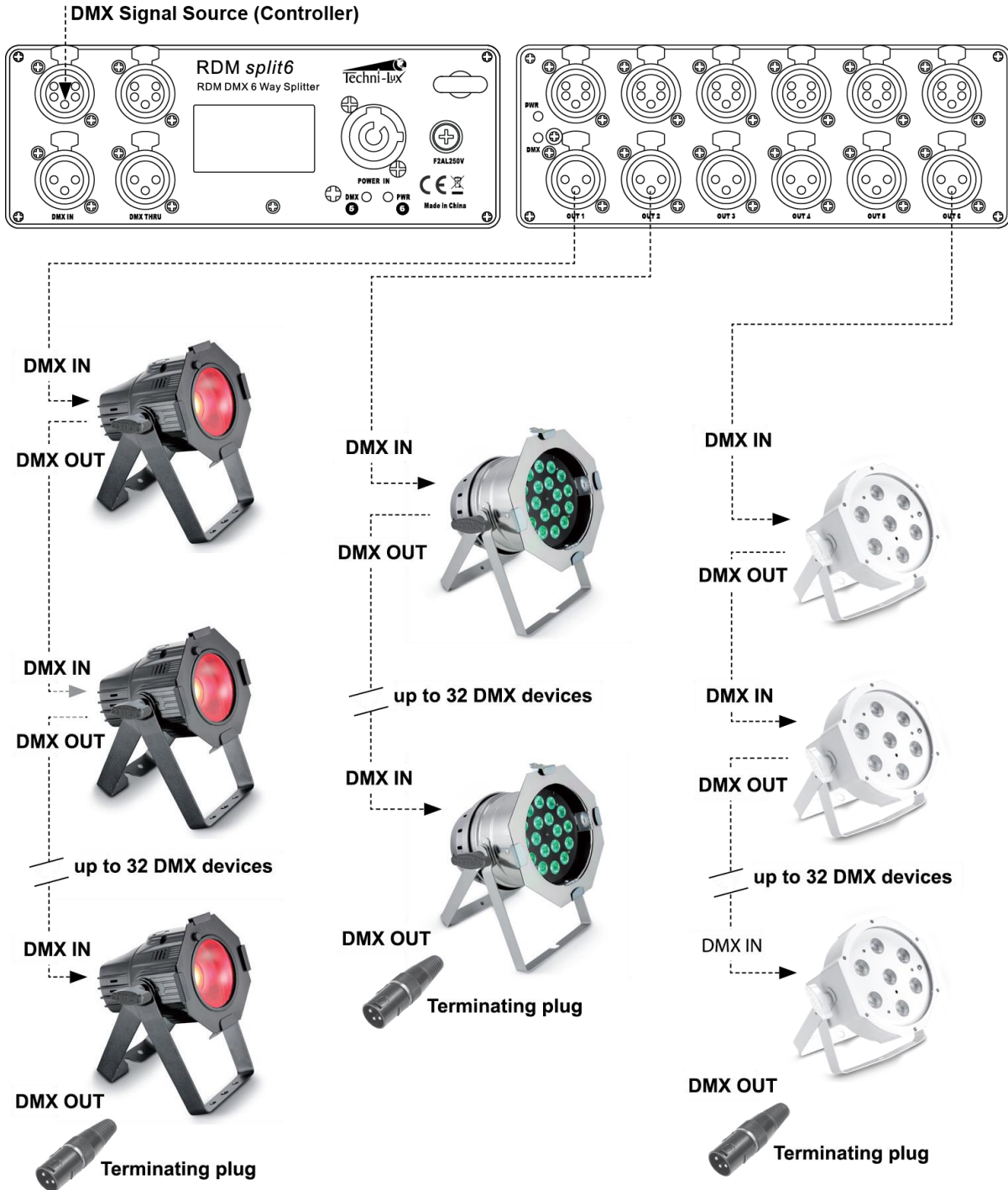


# CONNECTION AND OPERATION

The DMX Signal Source is connected to the DMX IN Port. Optionally the THRU Port can continue the original signal to other equipment. The DMX IN Port and THRU Port are not isolated from each other.

All DMX OUT1-6 Ports will regenerate the DMX source. Outputs are galvanically isolated from each other and the IN/THRU Ports to provide signal isolation and data integrity.

**For all Ports, IN/THRU/OUT1-6: Only one connection per port, never connect to both.**





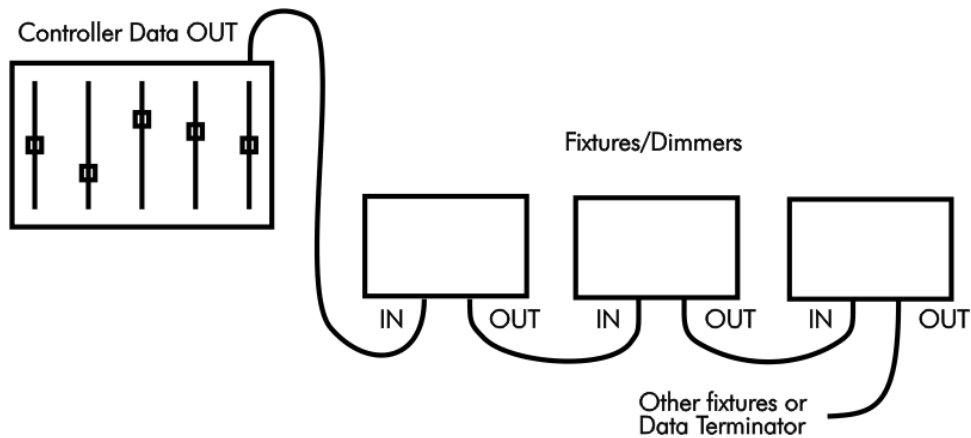
# DMX-512 Background

DMX-512 is a digital data transmission standard developed by the United States Institute for Theater Technology (USITT). It is designed to enable control of lighting equipment, originally dimmers. DMX deals solely with the formatting of data for transmission and does not dictate how the data is created or used.

Under DMX, signals are transmitted in much the same way a computer modem transmits data. The Data, divided in to channels, is "Framed" using a start bit, high (1), eight data bits and finally, two stop bits, both high (1). DMX uses no parity to check the integrity of the signal. Instead, DMX relies on the ultra-low probability of an error occurring in the same place when the data is resent. The rate at which data is sent allows all data on a DMX chain to be updated more than 44 times every second.

The transmitted data follows a specific format. DMX allows for 512 channels each with eight data bits, giving each channel the possibility of 256 values. When a data "Packet" is sent, all channels are transmitted one after another. Even if the data on a specific channel has not been changed, it must be sent. In a packet, a "start code" of all zeros is sent before the data to identify the signal as a Standard DMX transmission. This start code is transparent to the user and is handled by the controller.

The physical signals are transmitted using a twisted pair of wires and a common shield, a configuration called Balanced. The controller and all receiving equipment are connected using a "Daisy Chain" connection. The signal is jumped from the controller to a piece of DMX equipment. From there, the signal is jumped to the next piece of equipment and so on until the last piece of equipment is connected. No branches are allowed and the signal does not come back to the controller. The final piece of equipment will have only one cable connection. As a result, all equipment connected to the chain will see exactly the same signal whether it is first or last. When connecting equipment, no particular attention needs to be paid to the order in which the equipment is connected. Depending on the conditions and equipment, a line terminator may be required. If there is any question, in most circumstances the addition of a terminator will not degrade the signal. To make a terminator, add a 120-ohm resistor between the Signal Data Negative and Signal Data Positive pins of a connector in the last piece of equipment in the chain.

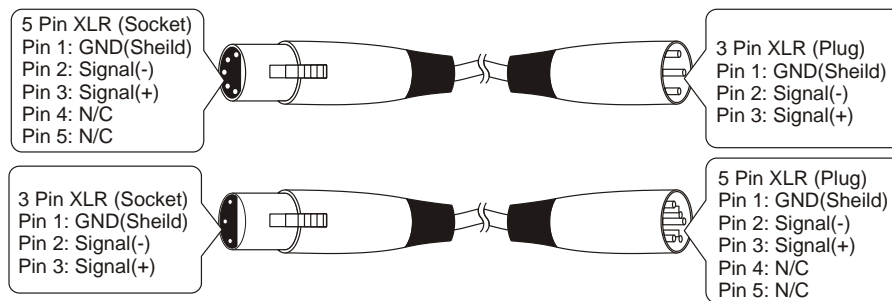


The DMX Standard calls for connections between DMX compatible equipment to be made using 5 pin XLR connectors. However, it is common to see fixtures with 3 pin XLR connectors as these types of balanced or “Lo-Z” cables are common in the audio industry. In either case, pin numbers are the same and carry the same signals.

Pin	Connection
1	Common (Shield)
2	Data Negative (S- or Cold)
3	Data Positive (S+ or Hot)
4	n/c (not used)
5	n/c (not used)

### Adapter 5-to-3 pin

Numbers designating each pin can be found on connectors. Converting between the two XLR types is done in a pin-to-pin fashion. Connect the shields to pin 1, then connect pin 2 to pin 2 and pin 3 to pin 3. This is true for converting either 5 to 3 pin or 3 to 5 pin regardless of either connector’s gender. Pins 4 and 5 are not used on the 5 pin XLR connectors.



## TROUBLESHOOTING

LED Status	Possible Issue
No RED PWR LED	Check breaker and power at outlet. Check PowerCON connection. Check fuse.
No Flashing GREEN DMX LED	Check that DMX Signal Source is active. Check data connectors.
NO signal on one/multiple DMX OUT Ports	Check data connectors at Splitter and further in chain/at fixture. Verify fixture is working. Verify Cue is valid.
GREEN DMX LED is intermittent or DMX OUT Ports are intermittent	Check for loose connectors in all connections before/at/after Splitter. Verify valid DMX Signal Source. <b>Verify only one connection per port, never connect to both outputs of any Port: IN/THRU/OUT1-6</b>
For further assistance please contact:	<a href="mailto:Support@Techni-Lux.com">Support@Techni-Lux.com</a>

## **ACCESSORY ITEMS** *(sold separately)*

Order Code	Description
ZHPL0053	Rack mounting plate for a single Splitter 6-Way
ZHPL0054	Rack mounting plate for two Splitter 6-Way
CA-XLR5/1	Pre-made 1' 5-pin XLR Cable
CA-XLR5/5	Pre-made 5' 5-pin XLR Cable
CA-XLR5/10	Pre-made 10' 5-pin XLR Cable
CA-XLR5/25	Pre-made 25' 5-pin XLR Cable
CA-XLR5/50	Pre-made 50' 5-pin XLR Cable
CA-XLR5/100	Pre-made 100' 5-pin XLR Cable
CA-XLR3/1	Pre-made 1' 3-pin XLR Cable
CA-XLR3/5	Pre-made 5' 3-pin XLR Cable
CA-XLR3/10	Pre-made 10' 3-pin XLR Cable
CA-XLR3/25	Pre-made 25' 3-pin XLR Cable
CA-XLR3/50	Pre-made 50' 3-pin XLR Cable
CA-XLR3/100	Pre-made 100' 3-pin XLR Cable
CO-XLR5M	XLR Connector 5-pin Male
CO-XLR5F	XLR Connector 5-pin Female
CO-XLRTERM5	XLR 5 Pin Data Terminator
CO-XLRTERM3	XLR 3 Pin Data Terminator
CO-RJ45TERM	RJ45 120 Ohm DMX512 Terminator
CO-XLR3MTO5F	XLR 3 Pin Male to 5 Pin Female Adapter
CO-XLR5MTO3F	XLR 5 Pin Male to 3 Pin Female Adapter
CO-RJ45XLR5M	RJ45 CAT5 to DMX XLR 5 Pin Male Adaptor
CO-RJ45XLR5F	RJ45 CAT5 to DMX XLR 5 Pin Female Adaptor
CO-RJ45XLR3M	RJ45 CAT5 to DMX XLR 3 Pin Male Adaptor
CO-RJ45XLR3F	RJ45 CAT5 to DMX XLR 3 Pin Female Adaptor
CO-RJ45DMX3	DMX COMPANDER RJ45 CAT5 3-to-1 or 1-to-3 Adaptor
CO-RJ45FF	RJ45 Female to Female Coupler



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