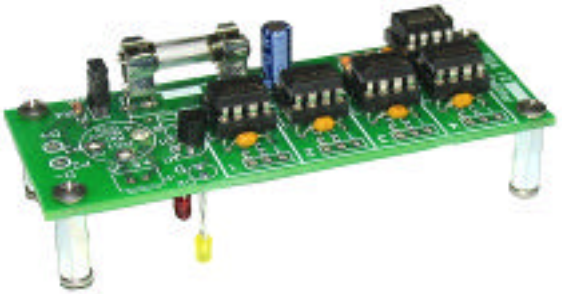
DMX 4X Splitter

Overview

DMX 4X Splitter PC Board



The DMX Splitter is a DMX512 1 in 4 out splitter that takes a DMX512 output of a lighting console or any device that transmits a DMX512 signal and actively splits the signal providing 4 separate DMX512 outputs, and offers electronic protection by separating the input device and output devices using a *Transient Voltage Suppression* on the input from devices on the daisy chain network.

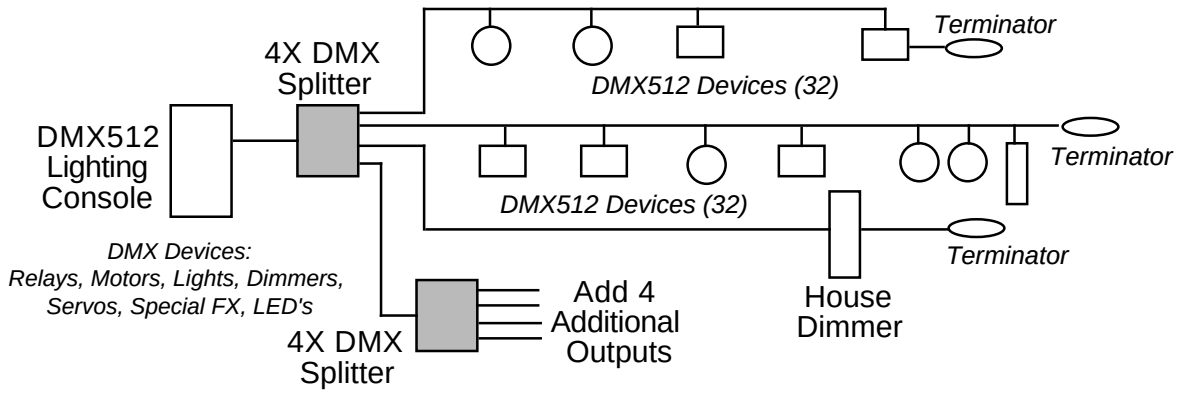
Field serviceable: socketed IC's for easy replacement, standard IC's available from many electronic parts suppliers, replaceable power supply, standard 5 x 20mm internal fuse. Power LED indicating power is present and 'Active' LED indicating DMX signal is present.

Note - the 4 outputs are separately driven and electronically isolated, not "Transient Voltage Suppressed" isolated from each other. *IC components SN65LBC184 & SN75LBC184 - A terminated and open condition is considered an unstable state, the yellow LED could be either full on or full off. Data traffic is indicated by partially on or flickering illumination.

SPECIFICATIONS:

POWER INPUT: +5VDC regulated, 5.5 x 2.1 x 9.5 connector - center positive
FUSE: .7 ~ 1 Amp Fast Acting 5 X 20 mm
POWER: Apx .35 Amps with 4 outputs sourcing 32 loads each
DATA TYPE: DMX512 (250Khz)
DATA INPUT: DMX512 - 5 pin male XLR, *Pin 1 - (Shield) Not connected, Pin 2 Data - ,Pin 3 Data+,*
DATA OUTPUT: 4 separate DMX512 outputs - 5 pin female XLR's, *Pin 1 - Power supply common, Pin 2 Data -, Pin 3 Data +*
Dimensions Approx: 3.7 x 6.7 x 2.1 inches

DMX 4-Splitter Configuration Example



*The standard chip SN75176A can be one of 32 chips on a daisy chain, with the *SN65LBC184 or SN75LBC184 IC, it could be one of 128 chips on a daisy chain.*

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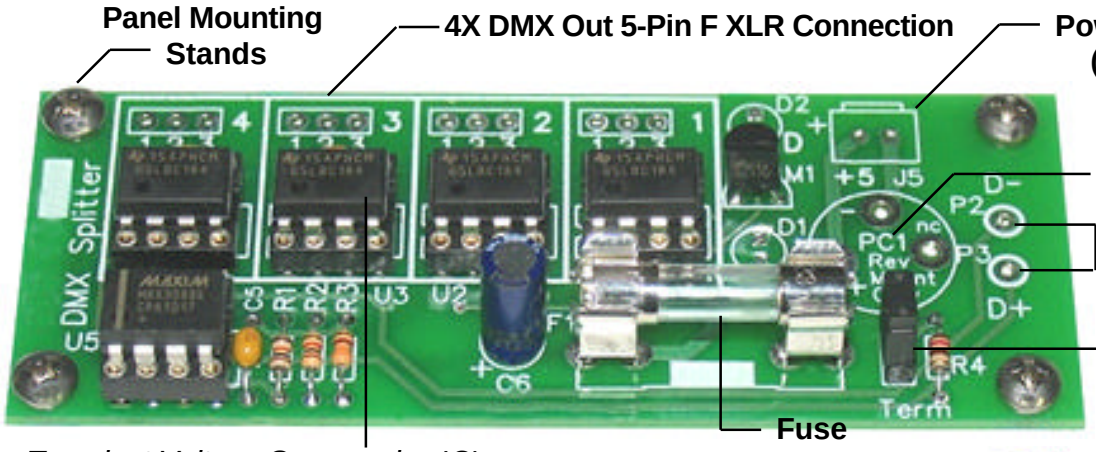
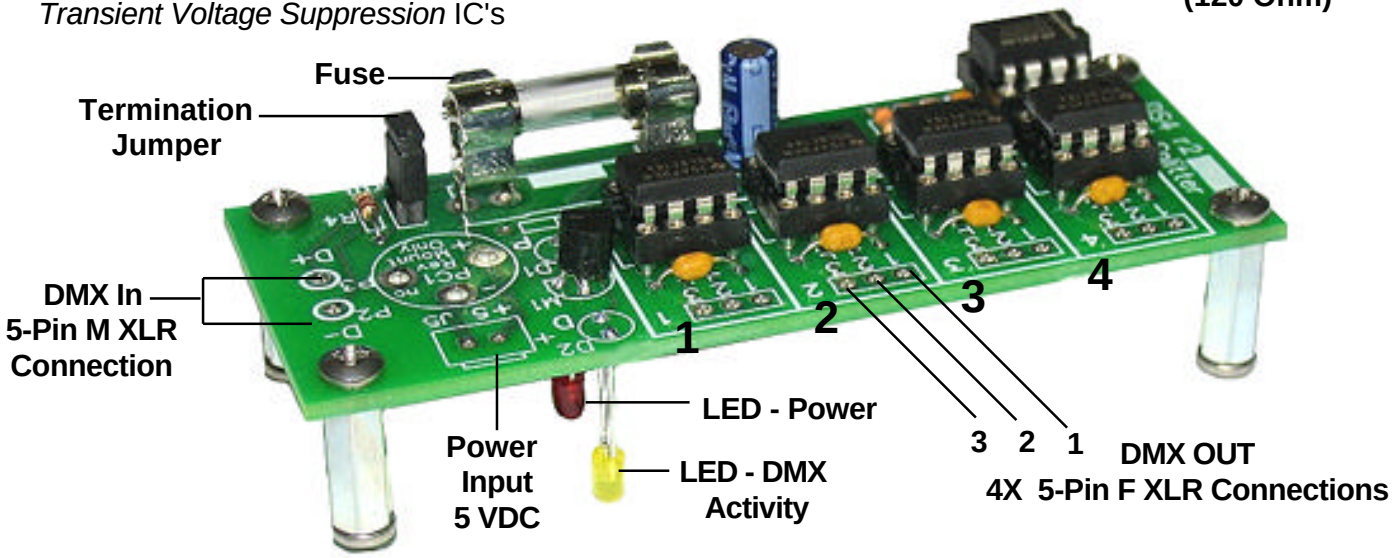
DMX 4X Splitter - Components / KIT

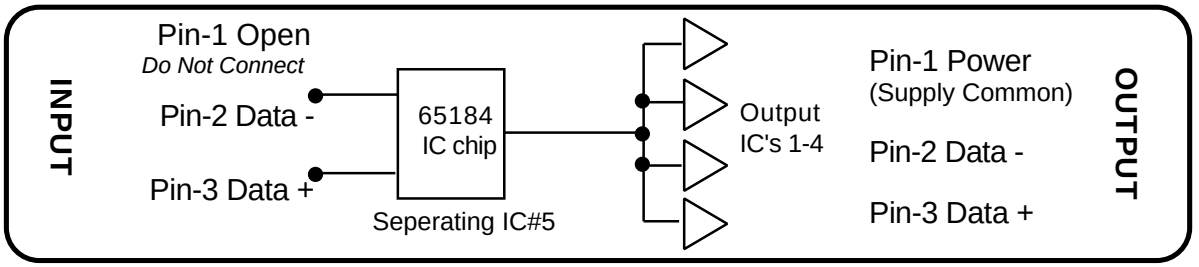
Components

CAUTION **Handle the PCB with static electricity precautions - touch a grounded source to discharge static electricity before touching the PCB anytime.**





INPUT: The input stage (pins 2 and 3) connects directly to the input of the 65184 chip (IC # 5).
OUTPUT: The output of IC #5, sources IC #'s 1 ~ 4 that supplies data to the output connectors 1 ~ 4. Pins 1 of each of the output connectors are tied to the power supply common.



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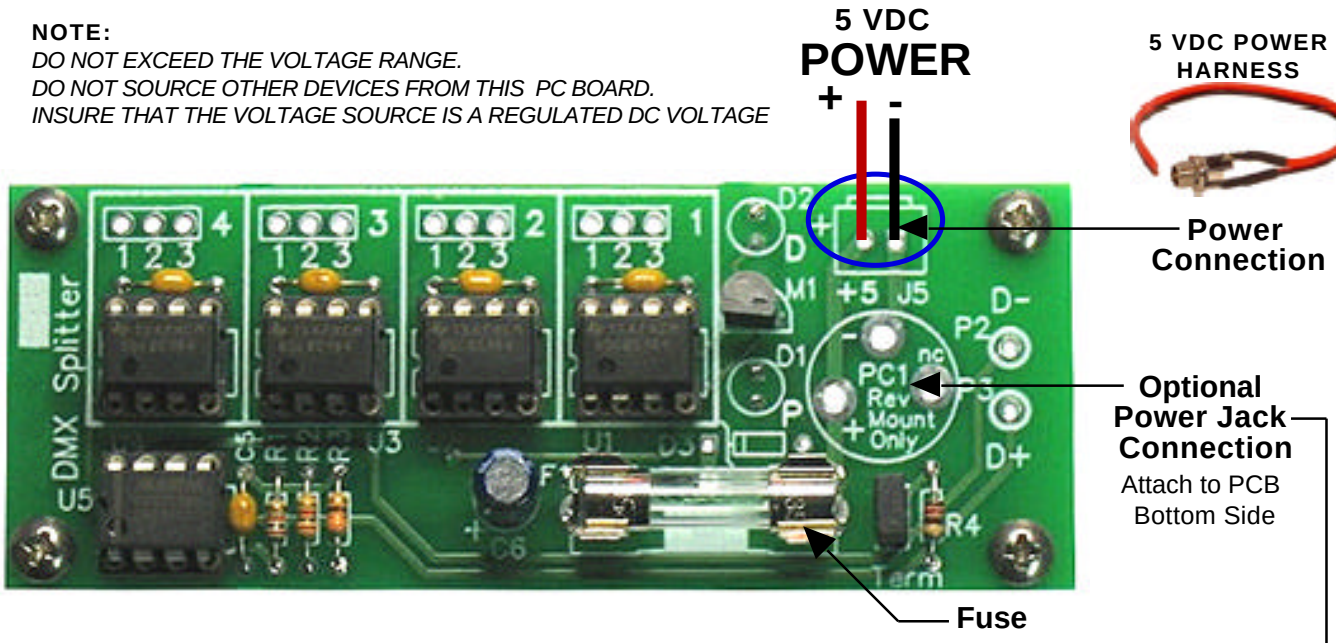
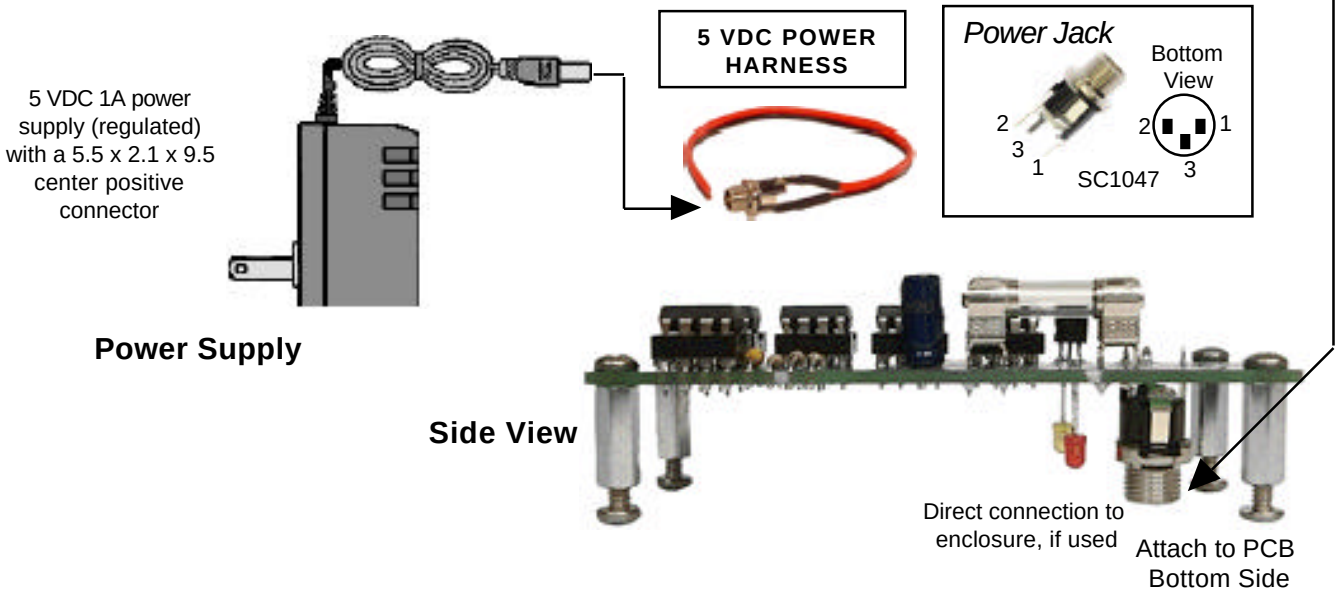
DMX 4X Splitter - Setup

POWER INPUT SETTINGS AND CONNECTIONS

Assemble the power setup harness or power connection Jack and attach to PC Board
(Optional kit- not included)

NOTE:
DO NOT EXCEED THE VOLTAGE RANGE.
DO NOT SOURCE OTHER DEVICES FROM THIS PC BOARD.
INSURE THAT THE VOLTAGE SOURCE IS A REGULATED DC VOLTAGE





SETUP

Determine the Hardware / Enclosure Box layout if needed and assemble the 4X DMX Female 5 Pin connectors and the 1-DMX Male 5 Pin Connector to the Box and PCB.
See Layout and Wiring Diagrams 1and 2 for details.

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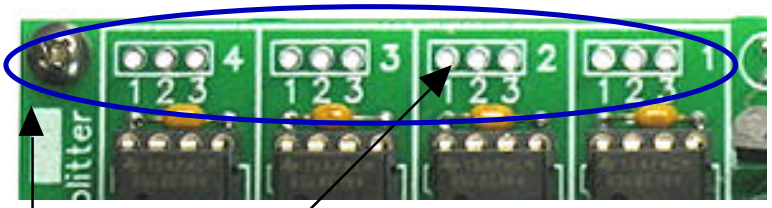
DMX 4X Splitter - Setup A

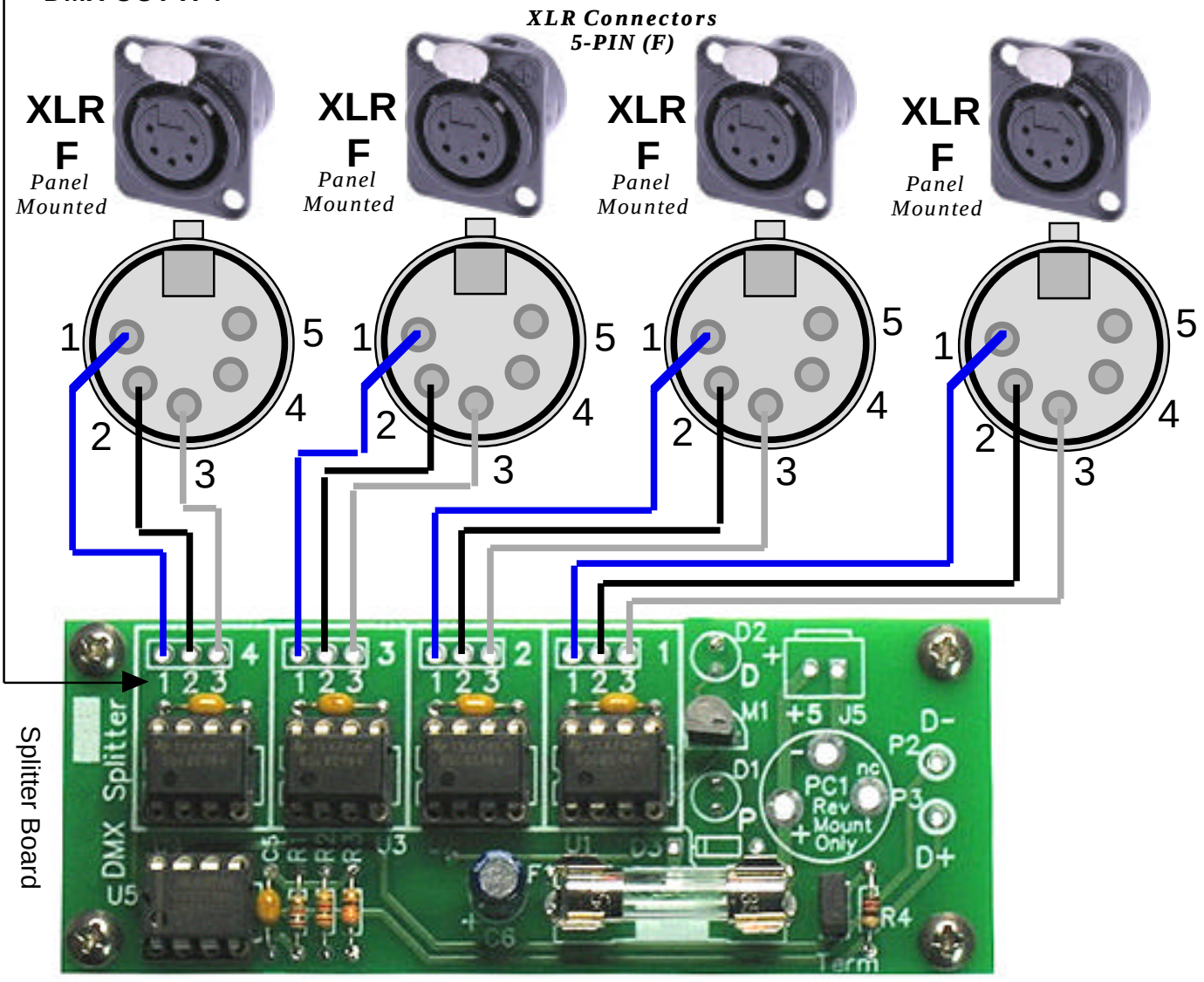
DMX - OUTPUT

LAYOUT & WIRING DIAGRAM - 1



Determine the Hardware / Enclosure Box layout if needed and assemble the 4X DMX Female 5 Pin connectors to the Box and PCB.

Note - Electrostatic discharge may cause permanent damage to the module. Handle the PCB with static electricity precautions.



DMX Wire

Twisted Wire 24 AWG

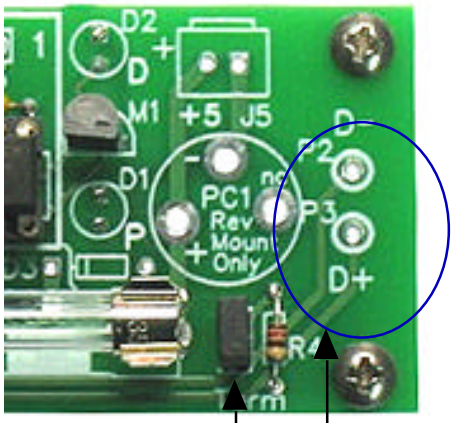
Black Wire = 2 — Data- (2)

White Wire = 3 — Data+ (3)

DMX 4X Splitter - Setup B

DMX - INPUT

LAYOUT & WIRING DIAGRAM - 2



Determine the Hardware / Enclosure Box layout if needed and assembly the DMX Male 5 Pin connector to the Box and PCB.

DMX IN

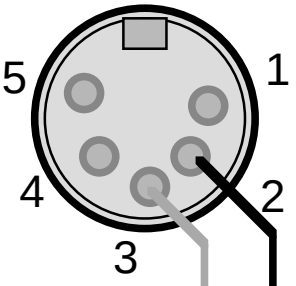
5 Pin Neutrik

XLR M

Panel Mounted

XLR Connector 5-PIN (M)

DMX IN

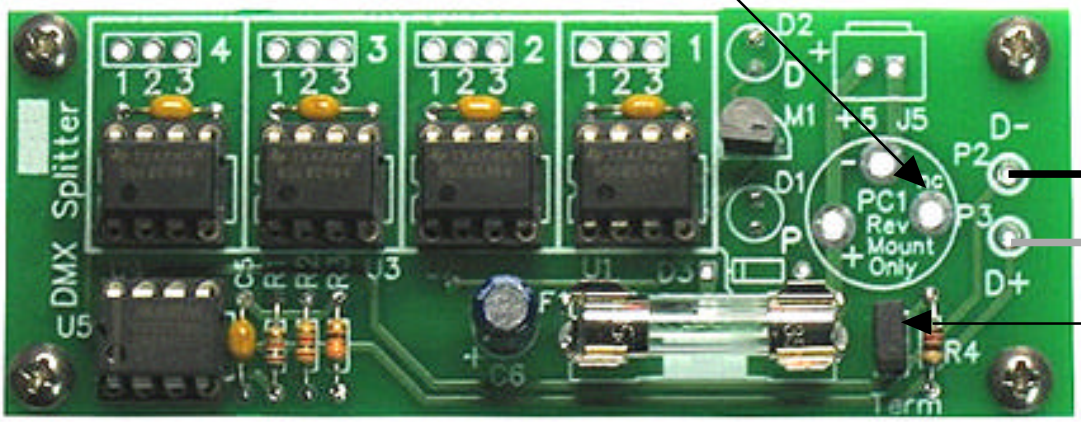


Termination Jumper

Note - Electrostatic discharge may cause permanent damage to the module. ***Handle the PCB with static electricity precautions.***

Twisted pair
Wire 24 AWG

Splitter Board



Termination Jumper

DMX Wire

Black Wire = 2 ——— Data- (2)

White Wire = 3 ——— Data+ (3)

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DMX 4X Splitter - Operation

OPERATION

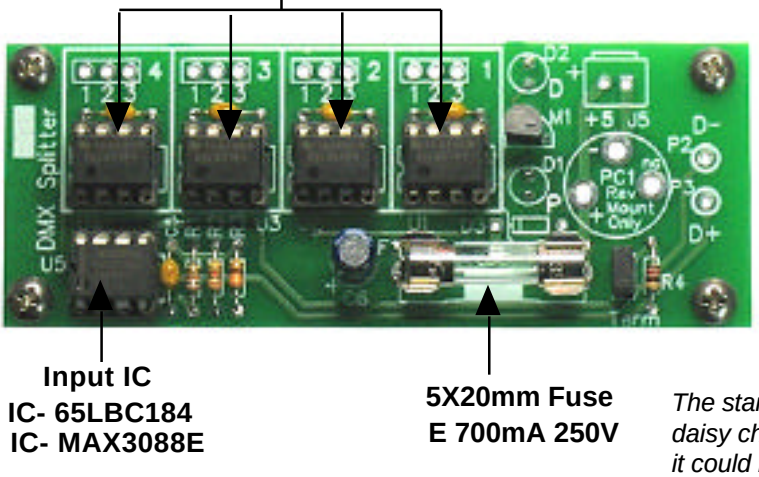
The Splitter is simple to use. Connect a DMX512 data signal input into the input connector the same DMX512 data signal will be sent out to all 4 outputs independently . Each output can source up to 32 DMX512 devices. There is no user operational controls.

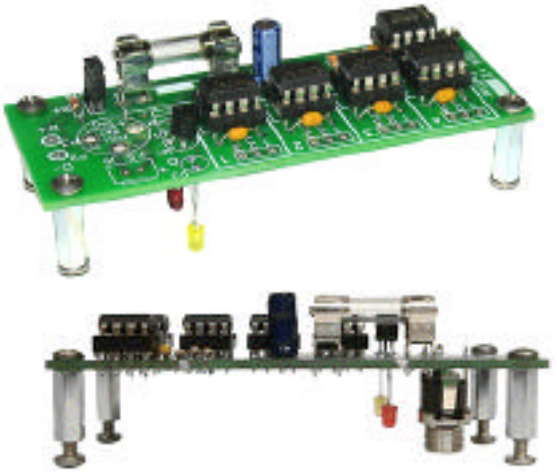
Connect the 5VDC power supply to the power input connector and apply power. Connect a DMX512 source into the input connector (5pin) and insure the data LED is illuminated (showing data is present). If there is an optional loop through connector, connect to other devices or terminate with the on-board Termination Jumper Activated ON (120 ohm resistor).

Use any of the outputs to source up to 32 DMX512 devices *(depending on the devices and configuration*). As with any DMX512 daisy chain, each output must be terminated at the end of each daisy chain. Unused outputs do not have to be terminated.

TROUBLESHOOTING

PROBLEM	CHECK
• Unit won't power up.	• Check fuse and power connections
• If any one of the outputs don't work and the others do.	• Replace the respective output IC (i.e. output doesn't work 4 replace IC # 4).
• If all outputs don't work	• Check if power is present via the power LED, if not check the internal fuse. • Check if the input has a DMX512 signal by bypassing the splitter, if not check the DMX512 console or source. • If the data and power are okay. replace the inputI C and possibly the output IC's.





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