



# DS4

## DMX512 1x4 Splitter

### User Guide



**ELM Video  
Technology, Inc.**  
*"Innovative Midi and DMX Products"*





## DS4 OVERVIEW

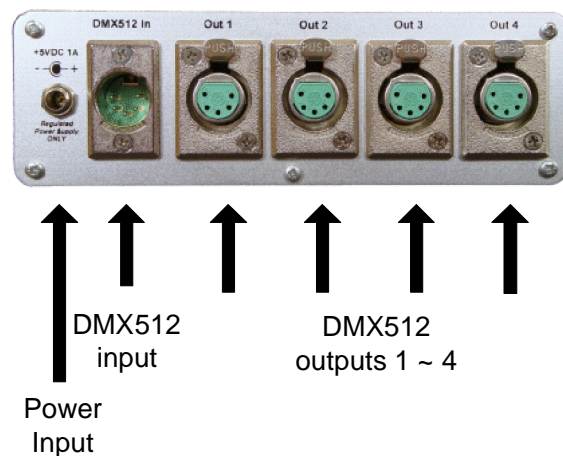
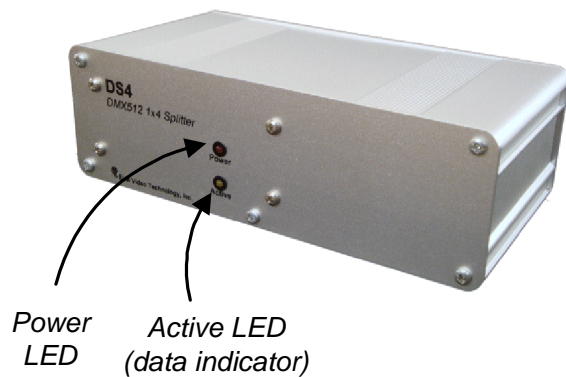
The DS4 is a DMX512 1 in 4 out splitter that takes a DMX512 output of a lighting console or any device that transmits a DMX512 signal and actively splits the signal providing 4 separate DMX512 outputs, and offers electronic protection by separating the input device and output devices using a *Transient Voltage Suppression* chip. 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.

## CONNECTION

Loop the power cord through the strain relief. Connect the power supply to the power input connector and apply power. Connect a DMX512 source into the input connector (5 or 3 pin) 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 a 120 ohm terminating connector. If a loop through connector is not installed the internal termination jumper should be bridged. 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.

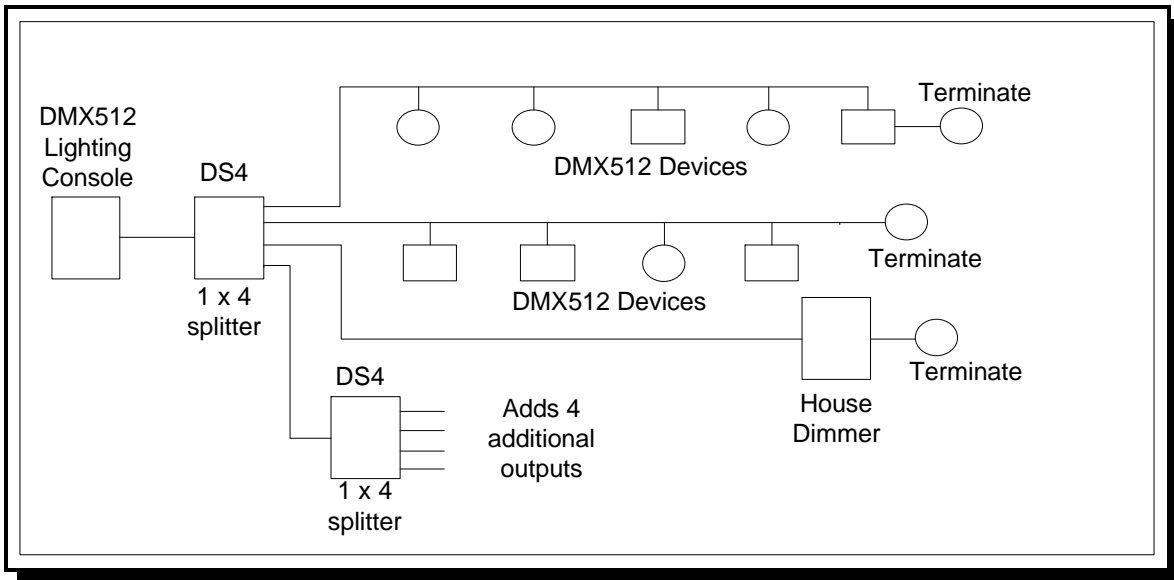
## OPERATION

The DS4 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.



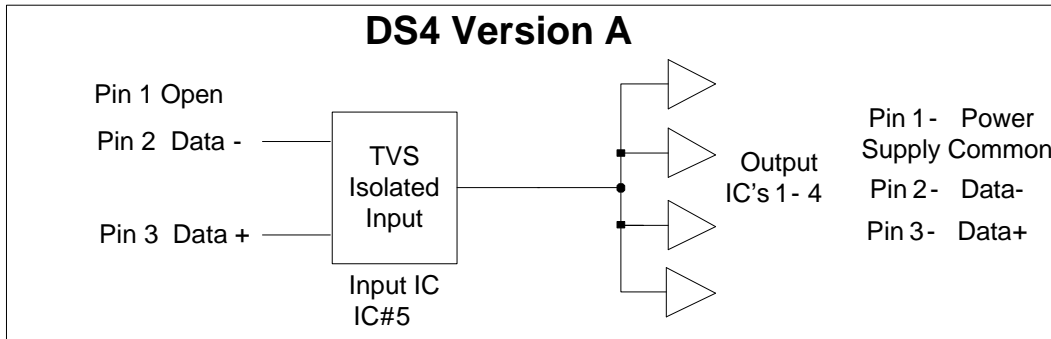


## CONFIGURATION EXAMPLE



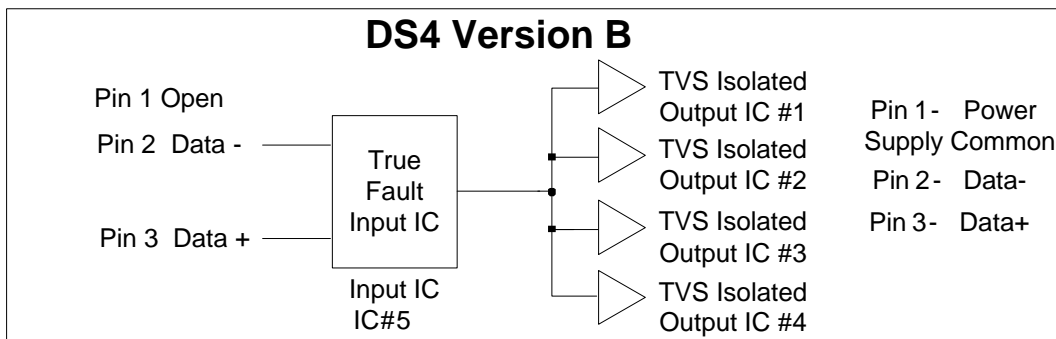


## PCB BLOCK DIAGRAMS



**INPUT:** The input stage (pins 2 and 3) connects directly to the input of the 75184 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.



**INPUT:** The input stage (pins 2 and 3) connects directly to the input of the MAX3088 chip (IC #5).

**OUTPUT:** The output of IC #5, sources IC #'s 1 ~ 4 that supplies data to the output connectors 1 ~ 4. Each of these IC's are TVS (Transient Voltage Suppression) IC's that provide isolation for each of the outputs. Pins 1 of each of the output connectors are tied to the power supply common.



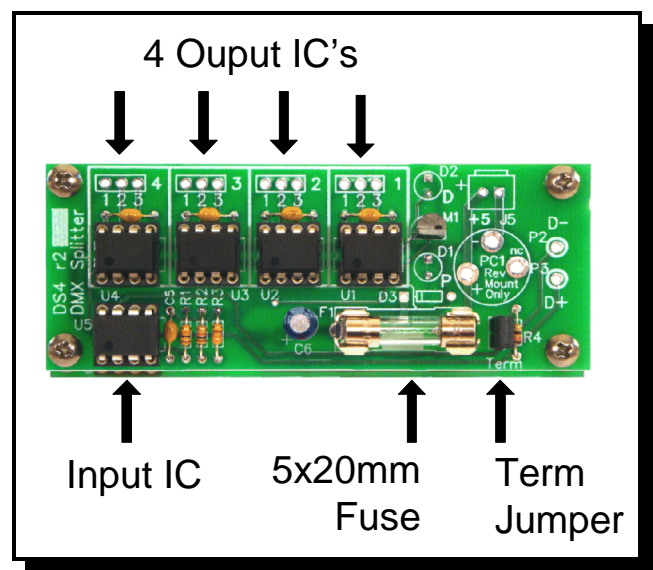
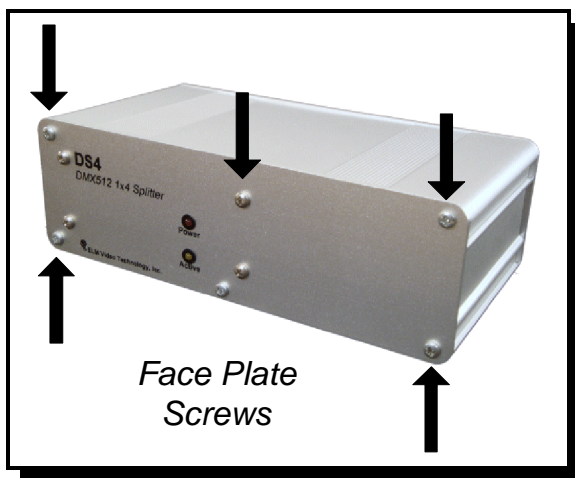
## SERVICING

**FIELD SERVICE:** For Experienced Technicians

*Note - Take care not to touch the component pins or the inner pins of the connectors. Electrostatic discharge may cause permanent damage to the unit.*

Disconnect all power and data connections. Remove the 5 face plate mounting screws on the PCB side. Use only direct replacement parts and use static discharge precautions.

To replace an IC, using a small flat screwdriver carefully remove the IC by gently lifting up between the socket and the IC keeping the IC as flat as possible. Bend the replacement IC's legs so they are pointing straight down and not angled outward. Align each pin in the center of each pin hole and gently snap into place, all legs at one time, DO NOT insert at an angle. Insure the IC is flush on the socket and all pins are inserted.



## 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	<p>check if power is present via the power LED, if not check the internal fuse.</p> <p>check if the input has a DMX512 signal by bypassing the DS4, if not check the DMX512 console or source.</p> <p>If the data and power are o.k. replace the input IC and possibly the output IC's.</p>



## **SPECIFICATIONS**

CHASSIS:	Anodized Aluminum .093" thick RoHS compliant.
POWER INPUT:	+5VDC regulated 5%, 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 (or 3) pin male XLR, <i>Pin 1 - (Shield) Not connected, Pin 2 Data - , Pin 3 Data +,</i>
DATA OUTPUT:	4 separate DMX512 outputs - 5 (or 3) pin female XLR's, <i>Pin 1 - Power supply common, Pin 2 Data -, Pin 3 Data +</i>
Dimensions:	3.7 x 6.7 x 2.1 inches
Weight:	1.5 pounds