
DS4 / DSP DMX512 1x4 Splitter

Users Guide



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



DS4 OVERVIEW

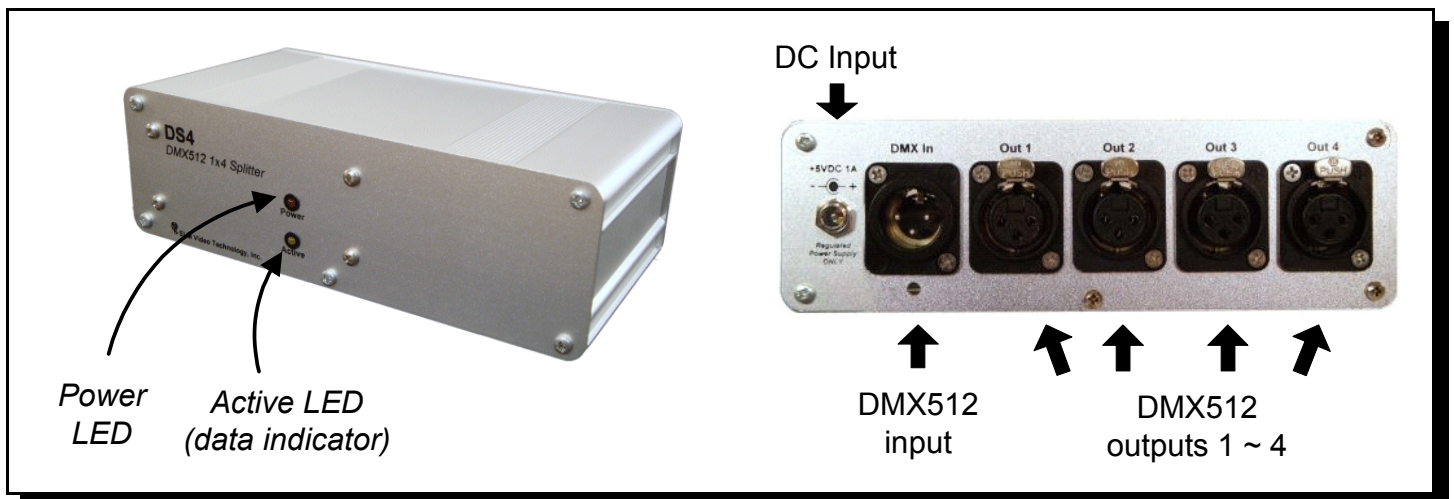
The DS4 is a DMX512 1 in 4 out splitter that takes a DMX512 output of a lighting console or any device that transmits a DMX512 signal and actively splits the signal providing 4 separate DMX512 outputs, and offers electronic protection by separating the input device and output devices using a *Transient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

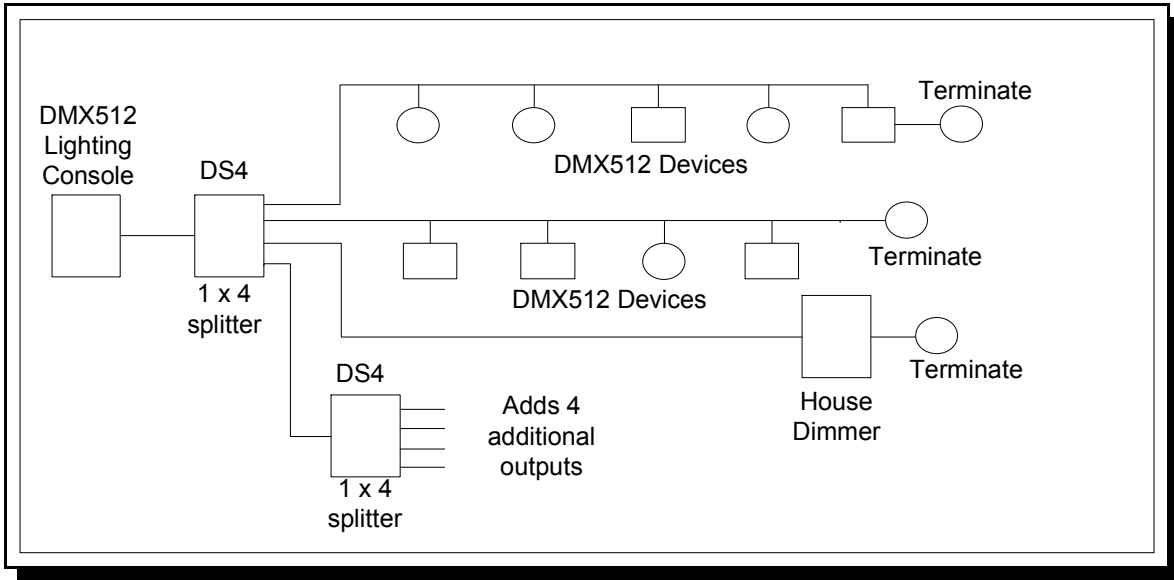
Connect the power supply to the power input connector and apply power. Connect a DMX512 source into the input connector (5 or 3 pin) and insure the data LED is illuminated (showing data is present). If there is an optional loop through connector, connect to other devices or terminate with a 120 ohm terminating 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

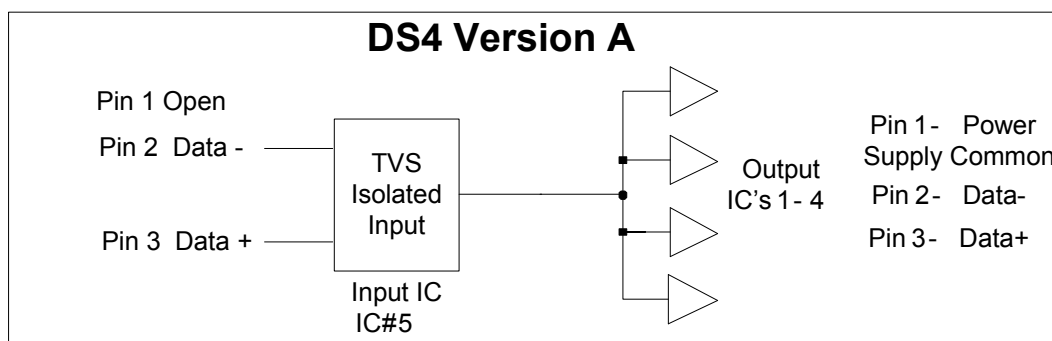
The DS4 is simple to use. Connect a DMX512 data signal input into the input connector the same DMX512 data signal will be sent out to all 4 outputs independently. Each output can source up to 32 DMX512 devices. There is no user operational controls.



CONFIGURATION EXAMPLE



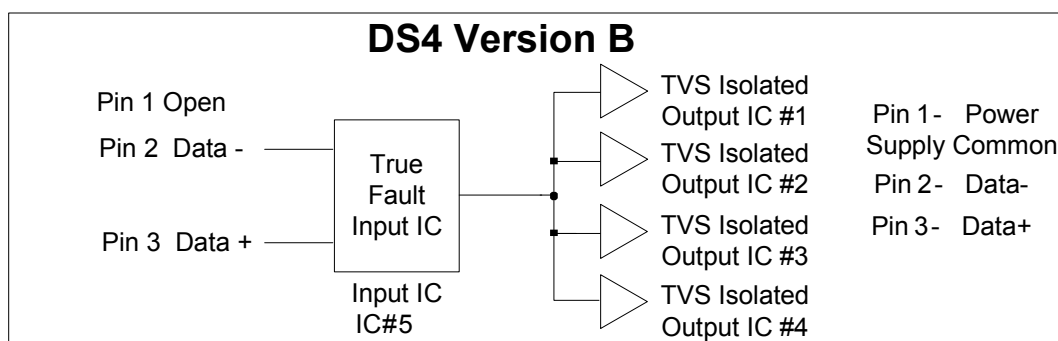
PCB BLOCK DIAGRAMS



STANDARD CHIPSET

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.



OPTIONAL UPGRADED CHIPSET

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.

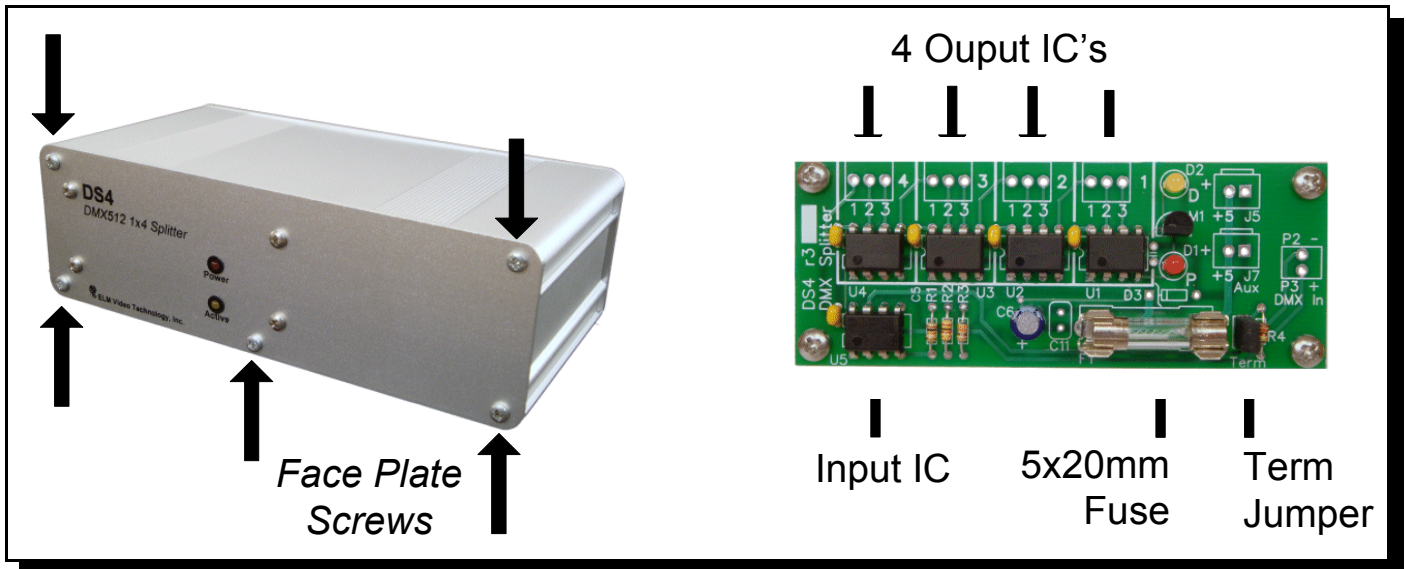
SERVICING

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 |
|--|--|
| <ul style="list-style-type: none"> Unit won't power up | <ul style="list-style-type: none"> check fuse and power connections |
| <ul style="list-style-type: none"> If any one of the outputs don't work and the others do | <ul style="list-style-type: none"> replace the respective output IC (i.e. output doesn't work 4 replace IC # 4). |
| <ul style="list-style-type: none"> If all outputs don't work | <ul style="list-style-type: none"> 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 DS4, if not check the DMX512 console or source. If the data and power are o.k. replace the input IC and possibly the output IC's. |

SPECIFICATIONS

| | |
|------------------------|---|
| Chassis: | Anodized Aluminum .093" thick RoHS compliant. |
| Voltage Input: | +5VDC |
| Power: | Apx 350mA 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 |
| Internal PCB Fuse: | 500mA 5x20 mm |
| External Power Supply: | +5VDC wall mount |
| Voltage Input: | 100 ~ 132 (or 240) VAC |
| Current Output: | 1 Amps Typical |
| Power: | 5 Watts Typical |
| Polarization: | Positive Center |
| Output Connector: | Barrel Plug, 2.5mm I.D. x 5.5mm O.D. x 9.5mm |