CONNECTIONS FOR SHOWCRAFT DMX LINK BOARDS

NOTE: FOR SUPPLY VOLTAGES OVER 9V USE SMALL BOLT-ON HEATSINK FOR REGULATOR

LED[1]∗   LED[2]∗

POWER CONNECTOR

GND
9 to +12 VDC (200Ma DRAW MAX)
GND
5 VDC OUT (SUPPLY 50mA MAX)

MCU

10 →   ← 9
8 →   ← 7
6 →   ← 5
4 →   ← 3
2 →   ← 1

RCV   SND

1-DMX PIN1 Ground
2-DMX PIN2 DATA- Buffered
3-DMX PIN3 DATA+ Buffered
4-DMX PIN4 Direct
5-DMX PIN5 Direct
6-POLARIZE - N/C
7-+12V
8-+12V
9-GND
10-GND

IDC 10 PIN
PARALLEL CONNECTION
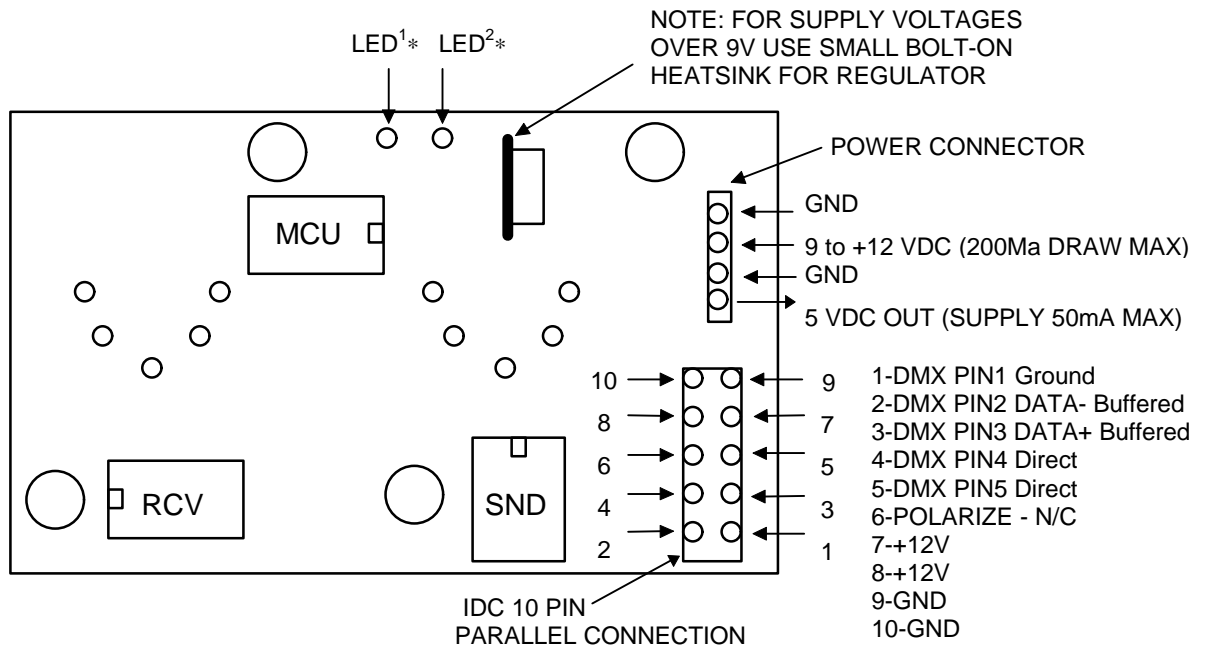
∗ LED[1] and LED[2] are for use with the MCU option.

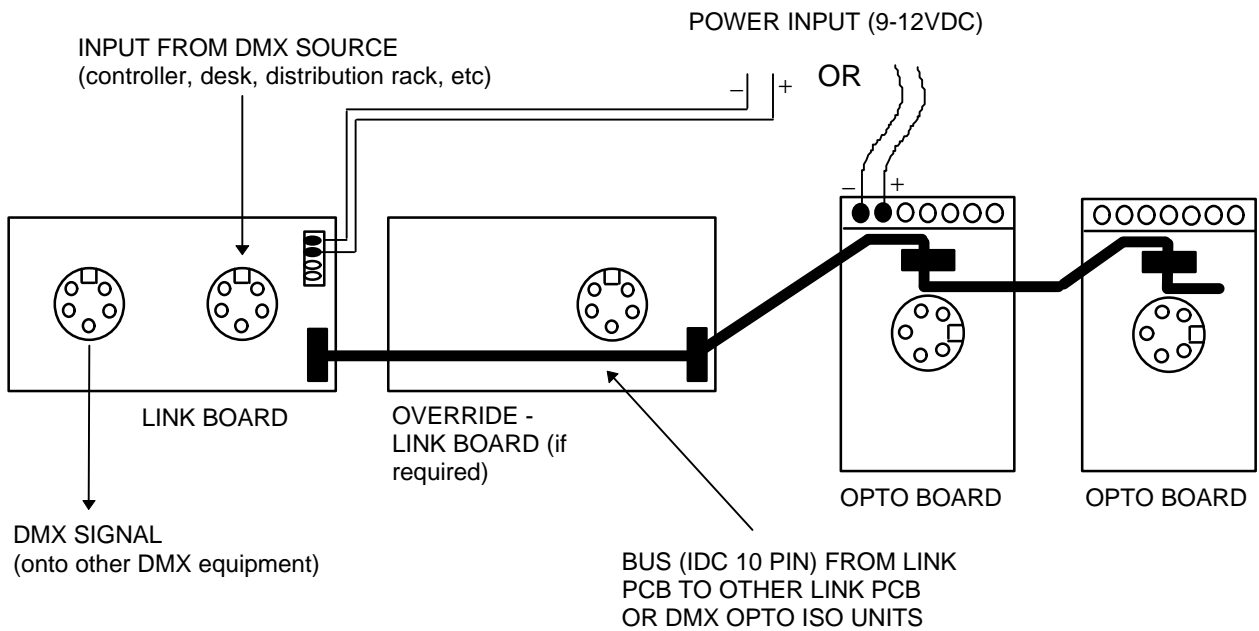VIEW FROM COMPONENT SIDE OF BOARD

Signal
PCB mounted 5 pin XLR connectors are linked PIN1 to PIN1, PIN2 to PIN2, etc. The DMX signal detected across pins 2 and 3 is buffered for outputting on the 10 pin IDC. PIN1, PIN4 and PIN5 are connected directly to the 10 pin IDC.

Power Options
1. Through power connector on Link PCB.
   or
2. Through IDC loom, where power comes from other devices.

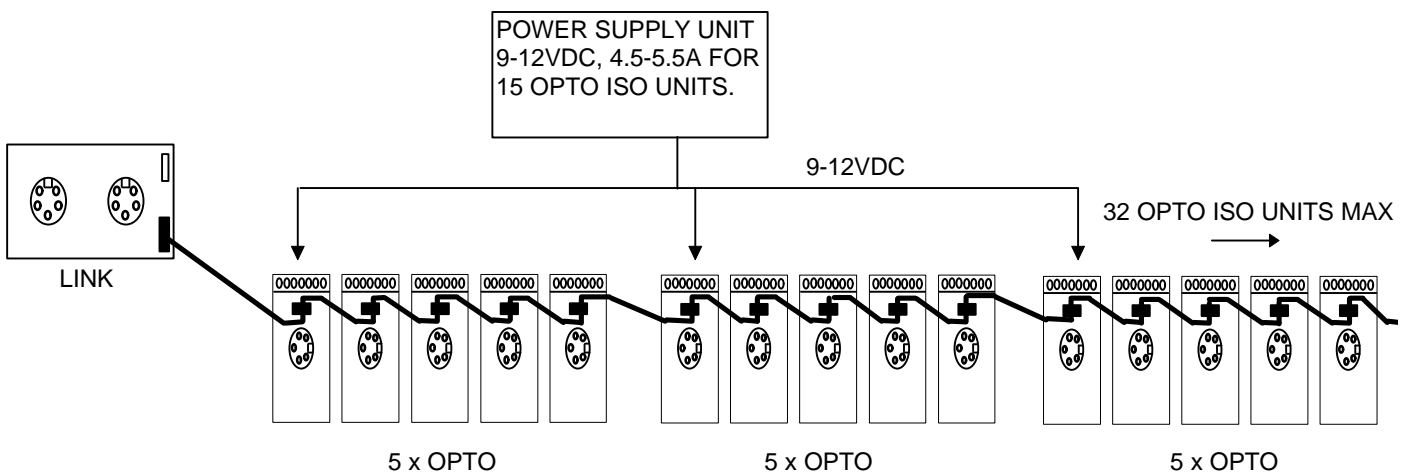**Optional Configurations - Using Microcontroller (MCU)**
DMX signal detect / LED signal indicators / DMX stream override options / DMX priority changeover.

POWER INPUT (9-12VDC)

INPUT FROM DMX SOURCE
(controller, desk, distribution rack, etc)

OR

LINK BOARD

OVERRIDE -
LINK BOARD (if
required)

OPTO BOARD   OPTO BOARD

DMX SIGNAL
(onto other DMX equipment)

BUS (IDC 10 PIN) FROM LINK
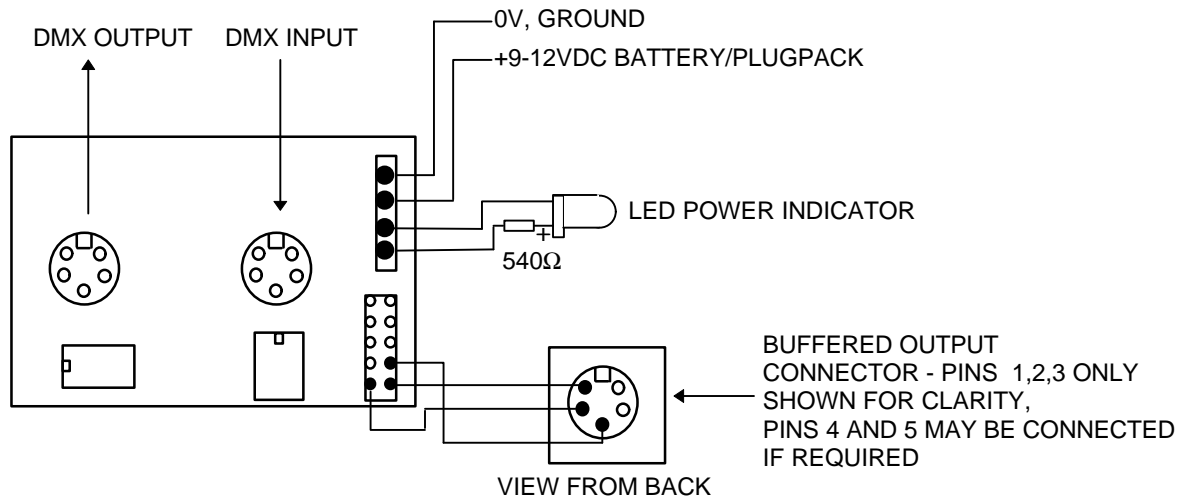PCB TO OTHER LINK PCB
OR DMX OPTO ISO UNITS

Up to 32 isolator boards can be connected to the link PCB. Each isolator output will supply up to 32 DMX devices once again.

Each Link and Opto Iso PCB can draw 200mA peak, although much lower in normal operation - each 5 x Optos should be allocated 1.5 - 2A DC. Allowing less than this to each module may cause loss/corruption of DMX data if the DMX distribution system is driving maximum loads, with terminators at each DMX branch.
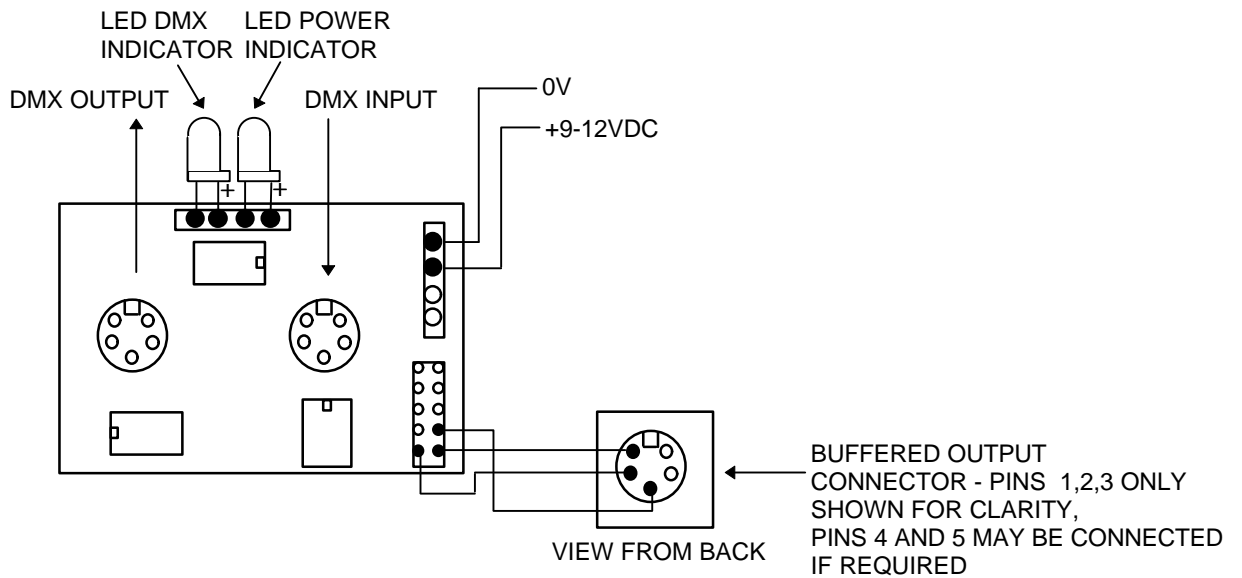
Although power runs down the IDC connector, it may be wise to make several points where power is fed if there are more than 5 units, to compensate for voltage drops if one or more Opto Iso units are driving maximum load.
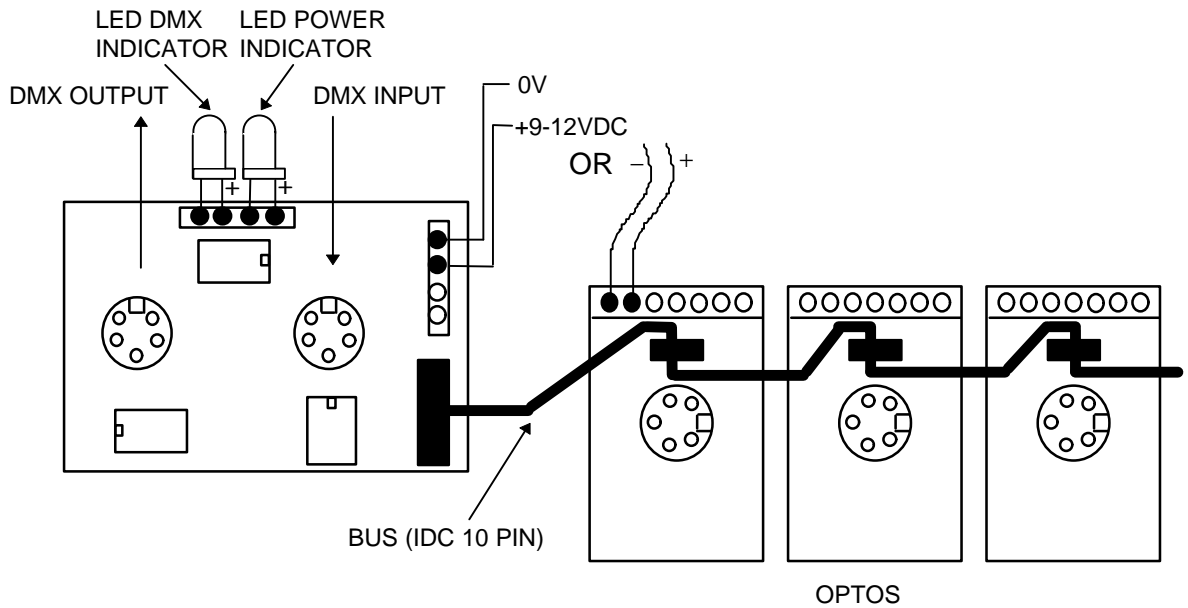
POWER SUPPLY UNIT
9-12VDC, 4.5-5.5A FOR
15 OPTO ISO UNITS.

9-12VDC

32 OPTO ISO UNITS MAX

LINK

5 x OPTO   5 x OPTO   5 x OPTO

1. 1x Buffered DMX output, male/female Link input. Using plain Link PCB.

DMX OUTPUT   DMX INPUT

0V, GROUND

+9-12VDC BATTERY/PLUGPACK

LED POWER INDICATOR

540Ω

BUFFERED OUTPUT
CONNECTOR - PINS 1,2,3 ONLY
SHOWN FOR CLARITY,
PINS 4 AND 5 MAY BE CONNECTED
IF REQUIRED

VIEW FROM BACK

2. Buffered DMX output, male/female Link input, DMX signal LED, power LED. Using MCU Link PCB.

LED DMX   LED POWER
INDICATOR   INDICATOR

DMX OUTPUT   DMX INPUT

0V

+9-12VDC

BUFFERED OUTPUT
CONNECTOR - PINS 1,2,3 ONLY
SHOWN FOR CLARITY,
PINS 4 AND 5 MAY BE CONNECTED
IF REQUIRED

VIEW FROM BACK

3. 3x Isolated DMX outputs, male/female Link input, DMX signal LED, power LED. Using MCU Link PCB and Optos.

LED DMX   LED POWER
INDICATOR INDICATOR

DMX OUTPUT   DMX INPUT   0V

+9-12VDC

OR

BUS (IDC 10 PIN)

OPTOS

4. Connection of modules in a building installation using CAT5 cable. The DMX source originates from a link module. Cable runs should be 1600m maximum. Power supplys should be distributed over a large system.

4 TWISTED PAIR + SHIELD
CAT 5 CABLE (MULTISTRAND)

1

2 & 3

TO LINK
OR   4 & 5
PREVIOUS
OPTO   +V

0V

PAIR 1 PAIR 2 PAIR 3A PAIR 3B PAIR 4A PAIR 4B SHIELD

FIRST / MID OPTO

PAIR 1 PAIR 2 PAIR 3A PAIR 3B 4A 4B SHIELD

120Ω 0.25W
TERMINATING
RESISTOR
(LAST UNIT IN
CHAIN)

LAST OPTO
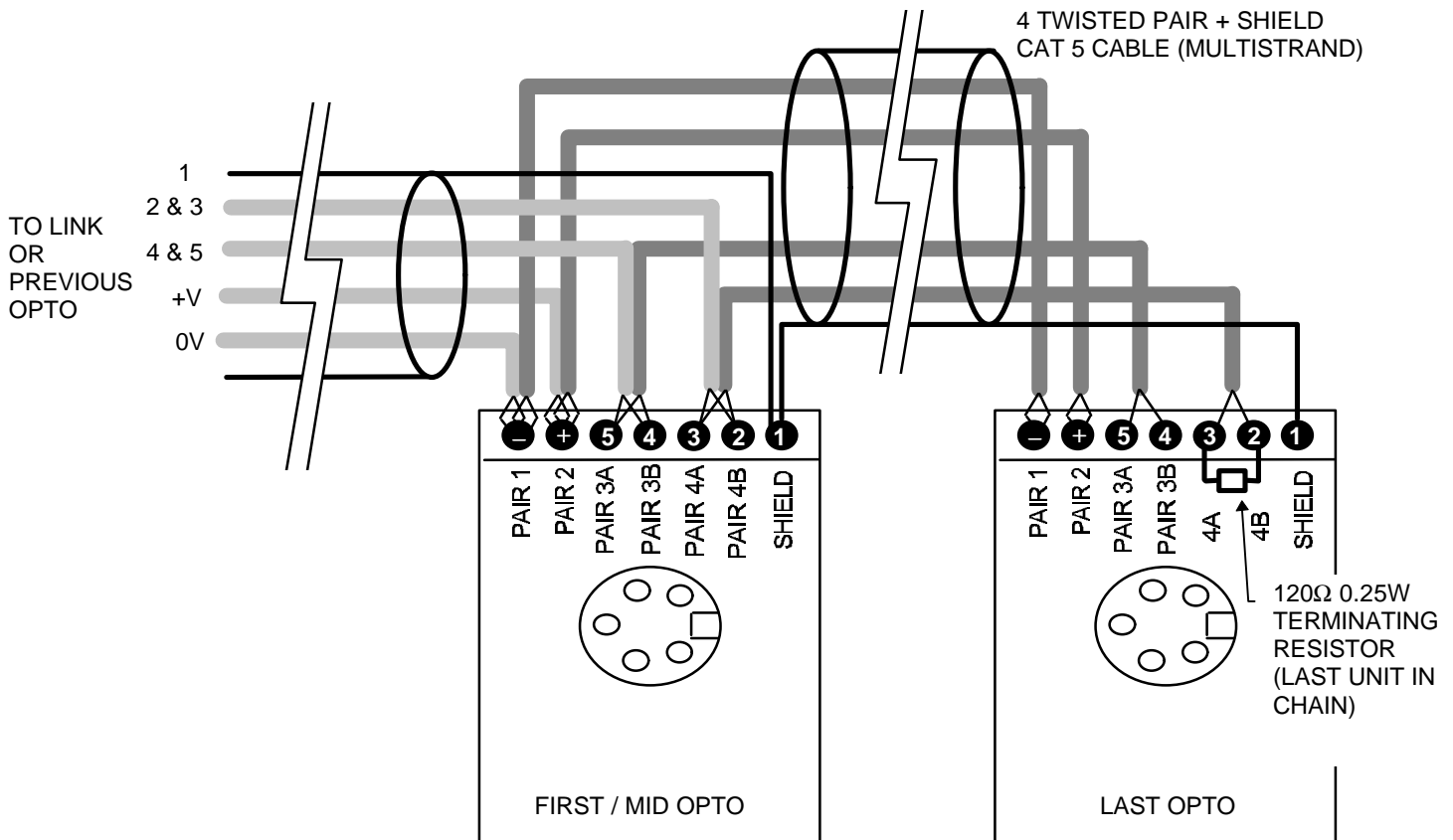
The above examples show how the DMX link PCB can be used. Many more examples can be achieved. Please contact Showcraft Australia for information.

SPECIFICATIONS :

Input Load: One single load RS485.
Output Drive: 32 Loads RS485.
Compliance: USITT DMX512 Standard.
PCB Size: 34mm (w) x 60mm (h).
Clearance depth: 60mm from rear of mounting plate.
Output connector / Parallel interconnect: 10 Pin IDC.
DMX Input connector: XLR series 5 pin Male.
DMX Link Out connector: XLR series 5 pin Female.
Power supply: 9 Volts DC to 12 Volts DC 200mA
Options:
Microcontroller - Detecting presence of DMX, Override, Priority, etc.
2 LEDs - Shows presence of DMX, DMX priority indication.