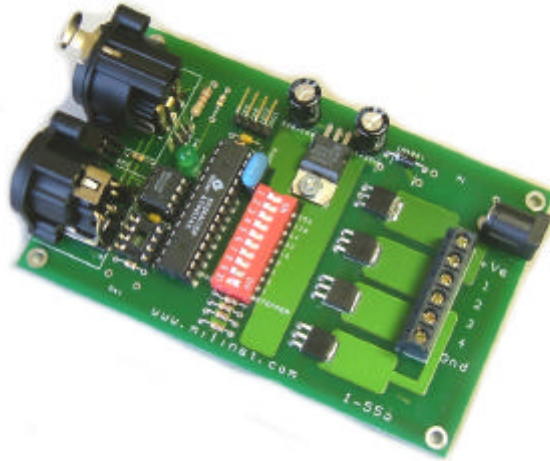


## DMX-PWM / Stepper Driver Board



The DMX-PWM driver board allows LED arrays to be driven and controlled directly from a DMX512 network. The board supports 4 output channels running at 2kHz and also incorporates the ability to drive a standard Unipolar stepper motor. The base address may be set anywhere between 1 and 509.

### Connections

DMX : Dual 5-pin XLR connections

Power: 2.1mm socket, centre positive. Board power requirements are 9-12V DC at 0.5Amps

Outputs: 4 Open collector type outputs via screw terminals plus common ground connection point and isolated contact for the LED/Stepper motor +ve supply point if required.

### Command Syntax

The DMX-PWM board may be set to operate in the PWM (LED) or Stepper motor drive modes by DIP switch #10.

#### In PWM (LED) mode:

The value in the base address channel controls the PWM stream on channel 1- a value of 0 will switch the load permanently OFF and a value of 255 will switch the load ON. 128 will generate a 50% duty PWM signal running at 2kHz. The resolution of the PWM stream is 8-bit.

The value of the base address+1 channel controls output channel 2 etc

The PWM signal is suspended if a valid DMX signal is not recognised.

#### Stepper Motor Drive Mode:

The 4 outputs are configured to drive a standard Unipolar stepper motor.

The direction and motor speed is controlled by the value on the DMX base address channel.

For value greater than 128, the motor rotates in the clockwise direction- a value of 129

produces the slowest rotation at 128msecs per step and 255 produces the fastest rotation speed of 0.5msecs per step.

For values less than 128, the motor will rotate in the anticlockwise direction- a value of 127 produces the slowest rotation speed at 128msecs per step and 0 produces the fastest rotation speed of 0.5msecs per step.

For the outputs to be energised, the value on the base address+1 channel must be greater than 128 also.

Stepping is suspended if no valid DMX signal is recognised.

### **Base Address Selection**

The base address may be set between 1 and 509 using the DIP switches. Calculate the setting by adding the value of the switches that are set to the ON position.

The Base Address is read ONLY at power-up.

The Base address may be set between 1 and 509

Addresses greater than 509 are treated as being 509

Address 0 is treated as being 1.

### **Outputs**

The 4 output channels are rated at 5 Amps/ 30VDC and are arranged as open collector devices.

#### **PWM (LED) mode**

The LEDs should be wired in common anode format and the cathodes routed via a suitable current limiting resistor to the relevant channel number on the board. The –Ve output terminal should be connected to the LED –ve supply point (figure1).

#### **Stepper Motor Drive mode**

The unipolar motor windings should be connected as shown in figure 2. The centre connection of both windings should be connected to the +ve supply and the ends of the windings connected to the driver outputs.

### **Indicators**

#### Power LED

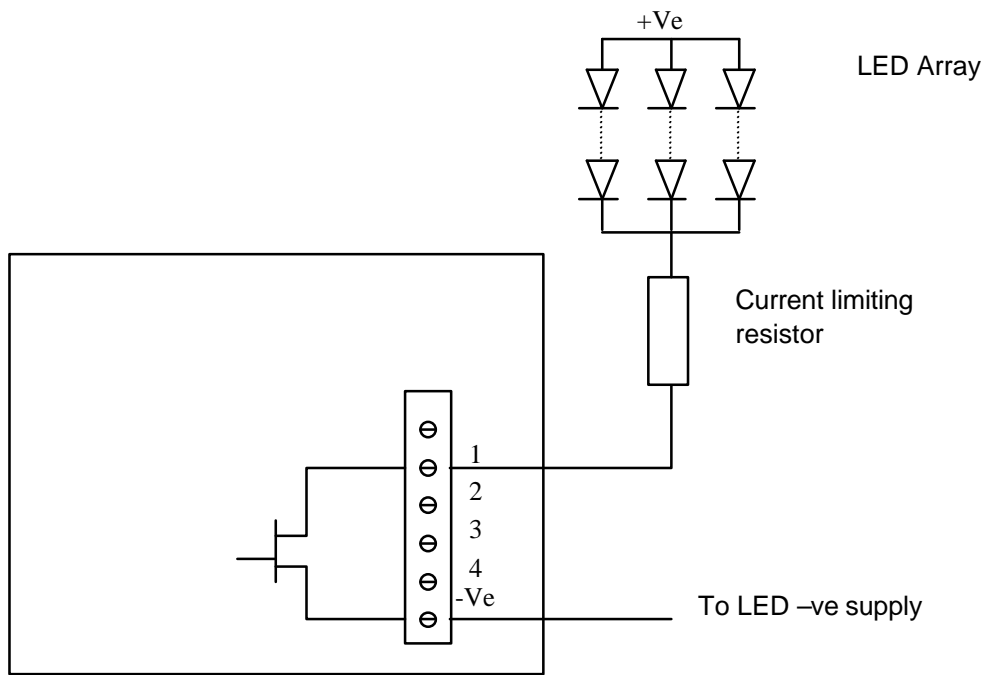
Correct power applied

#### DMX Status LED

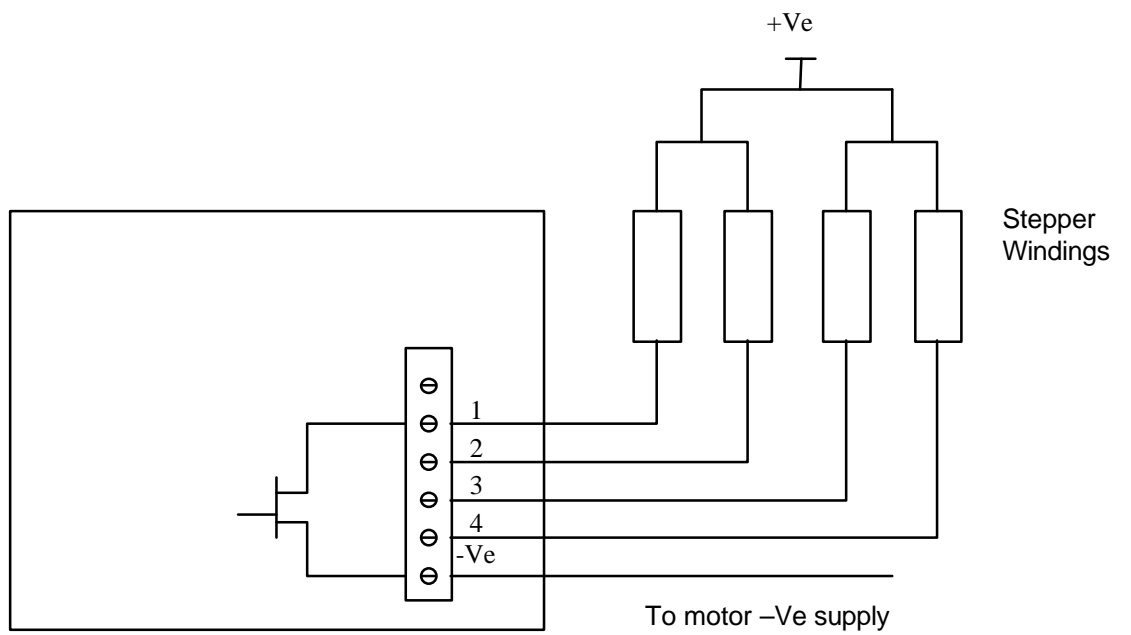
No DMX signal, flashing red led

### **Mechanical**

PCB size: 110x70mmmm



Typical PWM (LED) connection details (figure 1)



Typical Unipolar Stepper Drive connection details (figure 2)