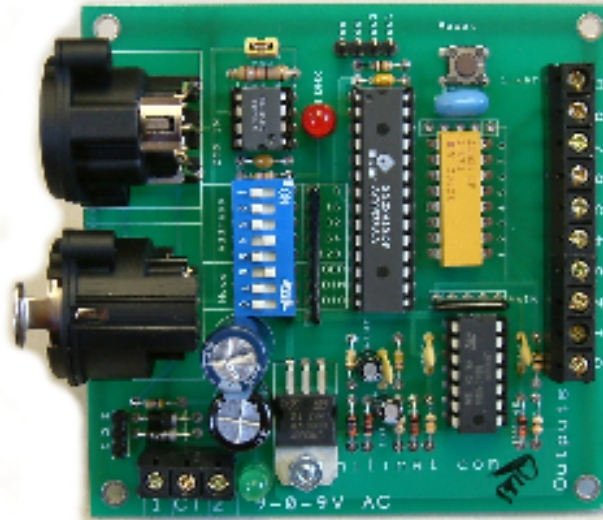


DMX Servo / Digital Module



The DMX Servo/Digital module is designed to provide 8 consecutive channels of output from a standard DMX protocol input signal. The outputs may be configured to be digital (on-off), drive standard RC type servos, or a combination of any two of these.

The base address of the module may be set in stages from 1 to 249 using the on-board setting switches (all address switches OFF for addresses 1 to 8).

Set-up

DMX Bus

Dual XLR connectors are provided for connecting the module into the DMX signal system. If the module is the last item on the DMX cable, insert a jumper over the TRM pins to ensure correct end termination (if you do not then there is a risk of echos on the signal bus which may affect the operation of the bus). The twin connectors are wired in parallel.

Outputs

There are 8 Terminals numbered 1 to 8 each provides an output signal and the ground reference is taken from the G terminal on each end.

The address of output 1 is that determined from the address setting jumpers (see below), the address for output 2 is the module base address plus1 etc.

The outputs are each 5V TTL level with a 470 ohm series resistor to limit current draw from the processor. The maximum current rating from the processor chip pins is 20mA sink or source with a total of 60mA across the whole 8 output lines.

The configuration of the outputs is set by switches 6 to 8:

Switch Setting			Outputs 1-4	Outputs 5-8
6	7	8		
Off	Off	Off	None	None
On	Off	Off	Servos	Servos
On	On	Off		
On	Off	On	Servos	Digital
Off	On	Off		
Off	On	On		
Off	Off	On	Digital	Digital
On	On	On		

The output configuration switches are read continuously so may be changed with power applied.

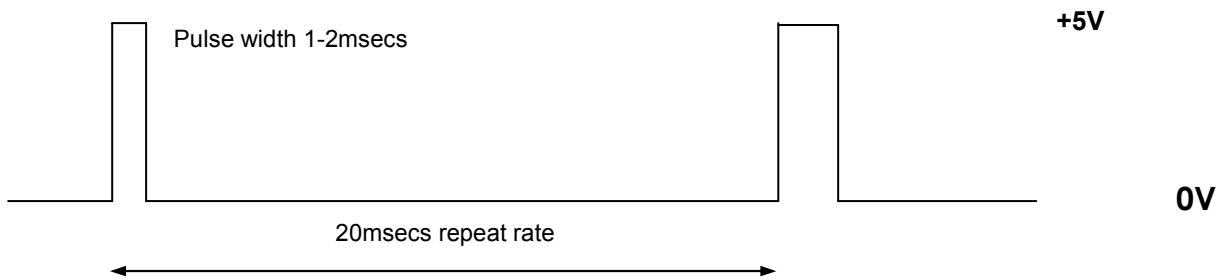
Output signals format

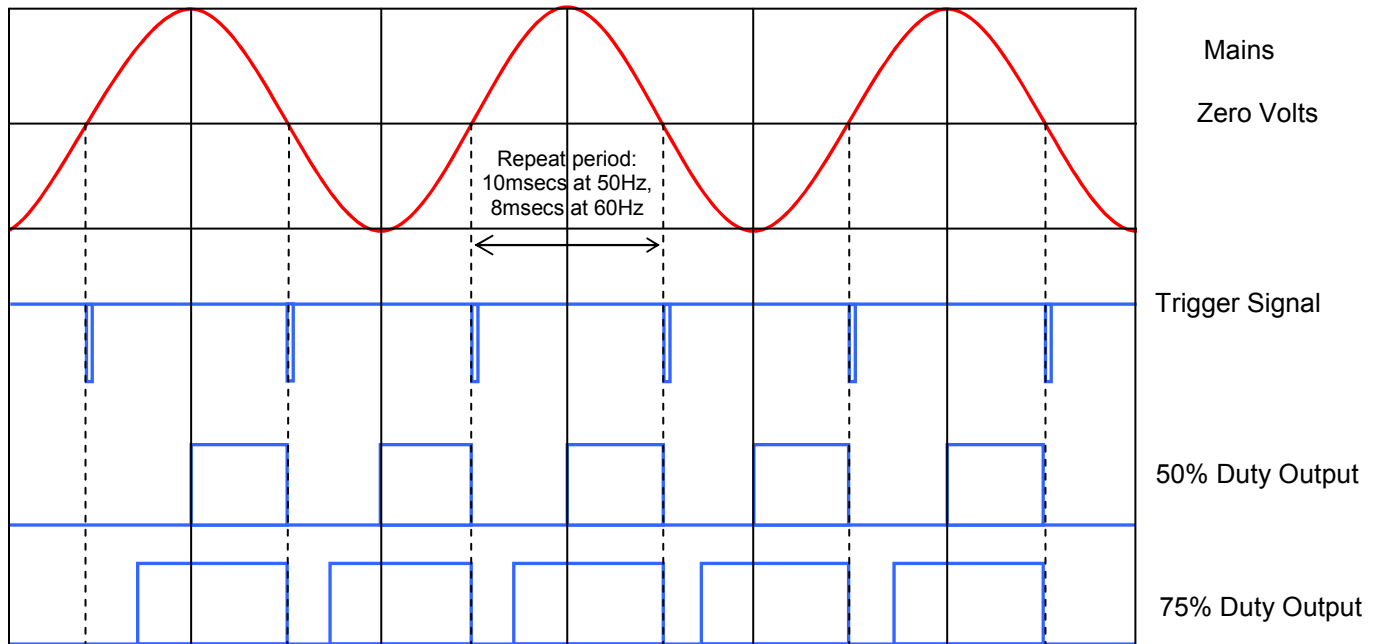
Digital:

The output value is set by the msb of the incoming data byte- ie for data values of >127 the output will be high, for values of 127 and lower, the output will be low. Once set, the outputs will remain unchanged until a new data value is received. The output is refreshed every 4usecs. The start-up and fault value is 0

Servo:

The output is a 1-2 msec duration pulse (high) repeated every 20msecs. A data byte of 0 will output a 1msec pulse, a data byte of 255 will output a 2msec pulse. The output values are refreshed every 20msecs. The default start-up and fault value is 1msec.





Module Address

Jumpers 1 through 5 set the module's base address.

The minimum base address (jumper 1 to 5 set to Off) is 1.

The maximum base address (jumpers 1 to 5 set to On) is 249.

To calculate the base address: add 1 to the values of the Switches set to the ON position.

Eg-: Switches 1 (8), 3 (32) and 5 (128) set to ON would give a base address of $(8+32+128) + 1 = 169$

The base address is continuously read.

Fault LED

The red fault LED will flash regularly if the module does not detect an incoming DMX signal. During this condition, all the outputs are set to their start-up values (0).

The fault LED will extinguish once a valid DMX signal is received but any previous output state information will need to be re-sent.

Power Supply

There are two possible minimum power supply requirements for the module depending on the outputs configuration.

Servos/Digital Outputs only.

An 9V DC at 0.5 Amps minimum supply to the terminal block: +ve connection to either connections 1 or 2 and the ground (-ve) to the central CT connection.

The green LED indicates when power is supplied to the module.

Physical Dimensions

Board size: 86x85x35mm high (3.4/8" x 3.4/8" x 1.3/4")

3mm diameter fixing holes at 79 x 77mm centres (3.1/4"x3.5/16")