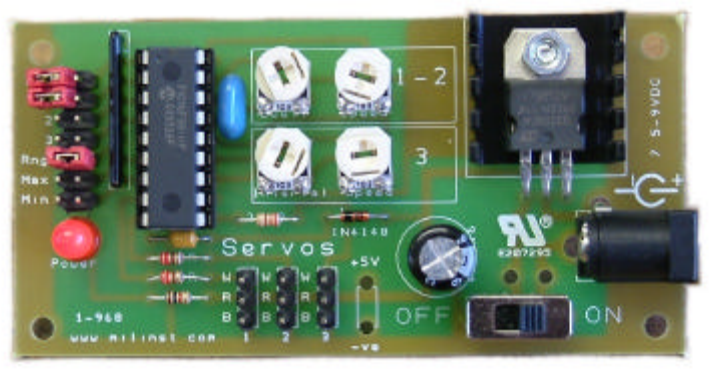


MILFORD INSTRUMENTS Limited

Wizard 6 (# 1-968)

17-12-03



87x43mm

The Wizard 6 board provides random motion for up to 3 servos with speed, dwell, maximum and minimum range setting options.

Servos 1 and 2 are synchronised- for example for eye left-right and up-down movements. Servo 3 is driven independently eg for eye-lid blink action.

Connections

Power- 7.5 to 9V DC to the board, centre pin positive. The Wizard 6 board itself requires approximately 5mA. Allow up to 0.4 Amps per connected standard servo.

Servos:

Connect up to 3 servos to the locations indicated- ensure correct polarity otherwise the servos/board may be damaged.

Setting Controls

R/S Jumper: Selects Run mode (jumper out) or Setting mode (jumper in)

1,2 and 3 Jumpers: Placing a jumper over a pin pair selects that servo for parameter setting.

Rng Jumper: Selects the servo range- jumper in gives a standard 90 degree motion range, jumper out gives a 180 degree range pulse stream for servos capable of rotating 180 degree. If using in the 180 degree range, make sure your servos are not hitting their internal stops- this can cause damage to the servo and the Wizard board. The range servo is continuously checked during operation.

Max Jumper: Sets the upper travel limit of the currently selected servo.

Min Jumper: Sets the lower travel limit of the currently selected servo.

Potentiometers

Servos 1-2 Dwell: Sets the time between moves (maximum of 50 seconds). Increases with clockwise rotation

Servos 1-2 Speed: Sets the travel speed of servos 1 and 2. Clockwise to increase speed

Servo 3 Interval: Sets the time between servo 3 moves (maximum of 50 seconds)

Servo 3 Speed: Sets the travel speed of servo 3

Setting Up the Servos

The maximum and minimum positions may be set for each servo and are stored in memory.

Switch off the board

Place a jumper over the **Run-Set** pin pair. Remove any jumper across the **1-2-3** pin pairs

Switch On the board

Servo 1

Place a jumper across pin pair 1- the position of servo1 will now follow the **Dwell** potentiometer.

When the required minimum position for Servo1 is reached, momentarily short the **Min-Pos** pin pair.

Re-adjust servo 1 to its maximum position- set this position by momentarily shorting the **Max-Pos** pin pair.

Remove the servo 1 select jumper.

Servo 2

Insert a jumper over the **2** pin pair- the **Dwell** potentiometer now controls servo 2.

When the required minimum position for Servo 2 is reached- momentarily short the **Min-Pos** pin pair.

Re-adjust servo 2 to its maximum position- set this position by momentarily shorting the **Max-Pos** pin pair.

Remove the servo 2 select jumper

Servo 3

Insert a jumper over the **3** pin pair- the **Dwell** potentiometer now controls servo 3.

When the required minimum position for Servo 3 is reached- momentarily short the **Min-Pos** pin pair.

Re-adjust servo 2 to its maximum position- set this position by momentarily shorting the **Max-Pos** pin pair.

Switch off. Remove all jumpers and re-power.

Set the dwell and speed potentiometers to the required values for the various servos.

Running

Ensure the R/S jumper is removed.

Select the required servo range.

Turn the Interval and Dwell potentiometers fully anticlockwise, set the Speed potentiometers to halfway.

Connect 3 servos and power to the Wizard 6 board.

The servos will start to move in a random manner- the speed of travel is set by the Speed potentiometers- clockwise for maximum speed.