



- Control Speed and Direction of 2 Stepper Motors
- On Board Buttons for Motor Run and Direction
- On Board Mini Joystick for Motor Run and Direction
- External Switch Inputs for Buttons or Joystick
- On Board Potentiometer for Speed Control
- Useful for Pan and Tilt Controller or XY Table Jog Controller
- Output between 70 Hz and 4.8 kHz
- Requires Step and Direction input Stepper Motor Driver for each Stepper Motor

The Ocean Controls KTA-276 Step Pulser is a small circuit board designed to provide step and direction signals to two stepper motor drivers. The speed of both of the motors is controlled by a single potentiometer which is adjustable in the range 70 Hz to 4.8 kHz. When any of the buttons are pressed the associated motor will turn in the correct direction at the speed defined by the potentiometer.

Connections:

Connection	Description
V+	Power supply positive input 8-30 Vdc
COM	Power supply negative input
RIGHT	Input for Motor 1 Forward (short to 5V to activate)
5V	5 Vdc output
LEFT	Input for Motor 1 Reverse (short to 5V to activate)
UP	Input for Motor 2 Forward (short to 5V to activate)
5V	5 Vdc output
DOWN	Input for Motor 2 Reverse (short to 5V to activate)
S1	Motor 1 (Left/Right) step output
COM	Common ground
D1	Motor 1 (Left/Right) direction output
S2	Motor 2 (Up/Down) step output
COM	Common ground
D2	Motor 2 (Up/Down) direction output

Output signals are 5V at a maximum of 20mA, suitable for stepper motor drivers with opto-coupler inputs.

Frequency Modification:

The frequency range of the output can be modified by replacing capacitor C1. Inserting C1 in Farads into the following equations will determine the maximum and minimum frequencies for that capacitor value.

$$F_{max} = \frac{1.44}{3000 \times C1} \text{ Hz}$$

$$F_{min} = \frac{1.44}{203000 \times C1} \text{ Hz}$$