

Joystick Breakout Modules

DT Workshop Equipment Reference — D&T / STEM resource for school workshops | Electronics & Prototyping

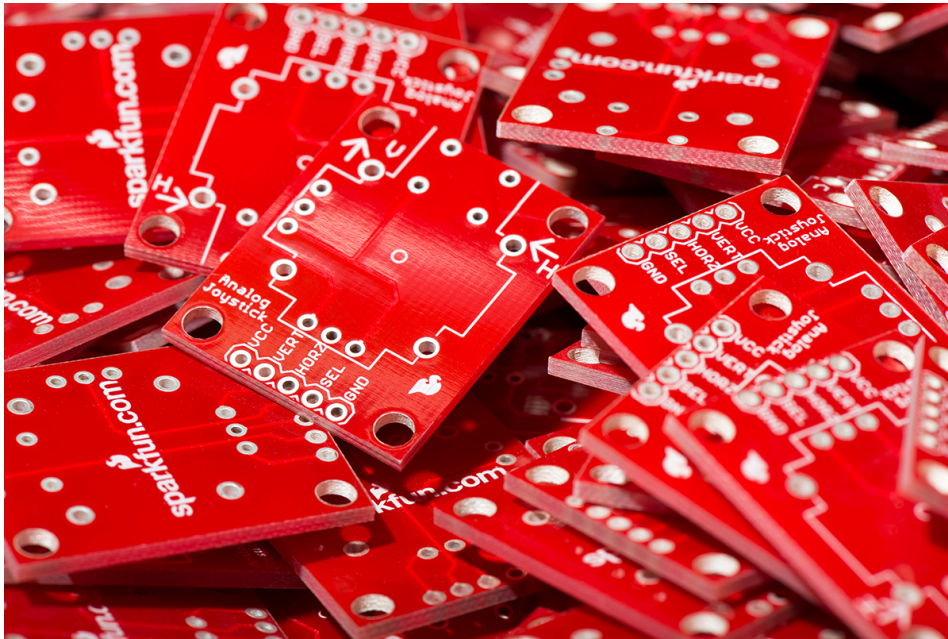


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(SparkFun_breakout-board-for-thumb-joystick_16096160437_o.jpg)

A joystick breakout module combines two potentiometers for X/Y position and a push button for the Z press, giving projects an analogue input that controls robots, games and cameras with thumb precision.

Key Features

- Dual 10 k ohm potentiometers
- Push-button Z axis
- 5 V operation with analog outputs
- Spring return to centre
- Breakout pin headers

Typical Uses in the Workshop

- Control robot movement direction
- Navigate menus on displays
- Play games with analogue control
- Pan-tilt camera control

Safe Operation

1. Wire VCC, GND and the X/Y outputs
2. Read the analog values for each axis
3. Map the centre and full-range values
4. Detect the Z press as a digital input
5. Calibrate the dead zone

SAFETY NOTES

- Do not exceed the module voltage
- Keep the stick clean and free of grit
- Check wiring before powering
- Do not snap the stick past its stops
- Store modules in trays

Maintenance & Consumables

- Clean the stick mechanism
- Check the solder joints
- Recalibrate the range values
- Keep springs centred
- Replace worn modules

Specification & Buying Notes

Standard joystick modules are cheap; buy quality ones with smooth springs for consistent calibration. Add a button and LED kit for the controls panel.