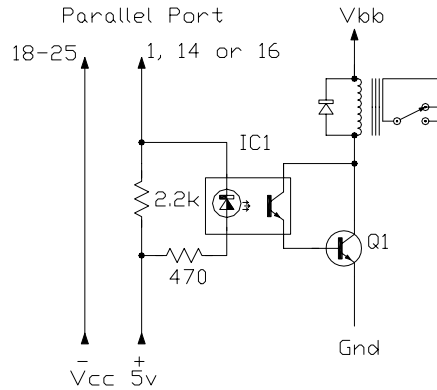


# Relay Circuits for Homebrew CNC Machines

By: Cletus Berkeley

Here are two simple ways to switch loads such as Spindles, Solenoid Valves, Vacuums, Etc.

## DC RELAY DRIVER

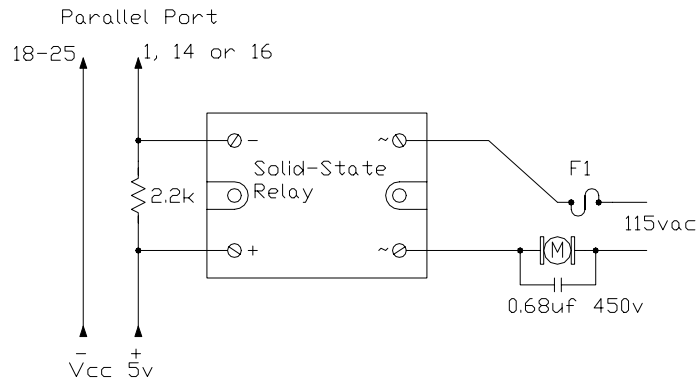


IC1 4N25  
Q1 TIP132  
DIODE 1N4148

A DC solenoid valve of appropriate voltage may be substituted for the relay above.

\*\*\*\*\*

## AC SOLID-STATE RELAY:



Solid-State Relay KD20C40AX Kyoto (or equiv.) (Good to 40Amps)  
F1 Fuse appropriately to load used.

### WARNING

These circuits may have LINE VOLTAGE PRESENT. If you are not experienced and/or comfortable working with mains potential, seek assistance from someone qualified to do so. The author assumes no responsibility for injury or death resulting from the above projects.

PRESENTED FOR INFORMATION PURPOSES ONLY