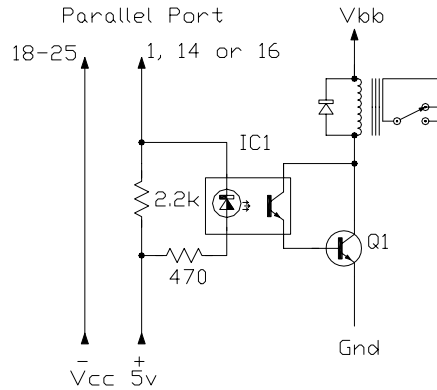# Relay Circuits for Homebrew CNC Machines

By: Cletus Berkeley

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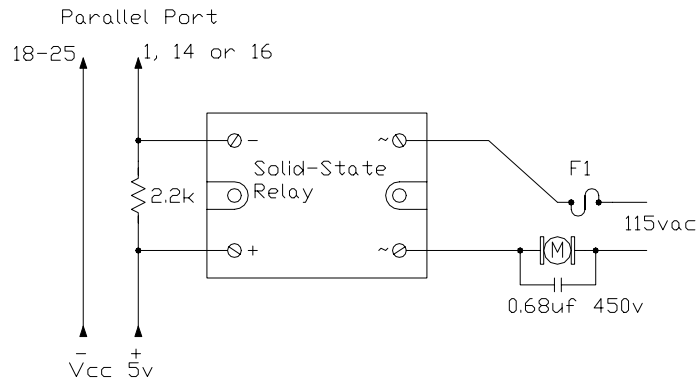
## DC RELAY DRIVER



| | | |
|---|---|---|
| IC1 | 4N25 | A DC solenoid valve of appropriate voltage may |
| Q1 | TIP132 | be substituted for the relay above. |
| DIODE | 1N4148 | |

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## AC SOLID-STATE RELAY:



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

**PRESENTED FOR INFORMATION PURPOSES ONLY**