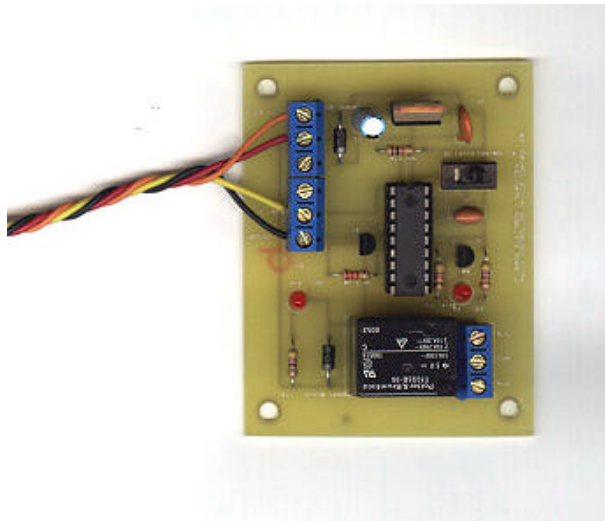


RCDC1 Radio Controlled Device Controller- 1 Channel

- When the Mode Switch is in Position 1, Moving the joystick forward turns on the relay. When the joystick returns to center, the relay goes off (momentary contact). Pulling the joystick back has no effect.
- When the Mode Switch is in Position 0, Moving the joystick ahead turns on the relay. When the joystick returns to center, the relay stays on (latched contact). Pulling the joystick back releases the relay.
- Power input can be anywhere from +9VDC to +24VDC as shown above.
- The relay is a SPDT relay capable of handling up to 10 amps.
- Normally open, normally closed, and common connections of the relay are brought out on the terminal block as shown above.
- The “Channel Center” LED lights when the RC transmitter joystick is at center and the trim is set properly for a 1.5 ms “neutral” pulse.
- The “Relay Operated” LED lights when the relay has been energized.



RCDC-1 Radio Controlled Device Controller- 1 Channel

The RCDC-1 is a handy little circuit board (2.4" X 3.0") that can be used to turn on or off any device, either AC or DC operated, via a standard radio controlled transmitter and receiver. It was specifically designed to be used to control a single weapon on a robot, but can be used to turn on or off any device, 10 amps or less by radio control.

It has two switch selectable modes, momentary or latched. In the momentary position, the relay is activated as long as the RC input pulse is longer than ~1.75 ms and releases when it is not. This corresponds to when the joystick is pushed about three quarters of the way forward or to the right (depending upon which receiver channel is being used for control). In the latched mode, moving the joystick to one side of center turns on the relay. When the joystick returns to center, the relay stays on. Putting the joystick to the other side of center, releases the relay.

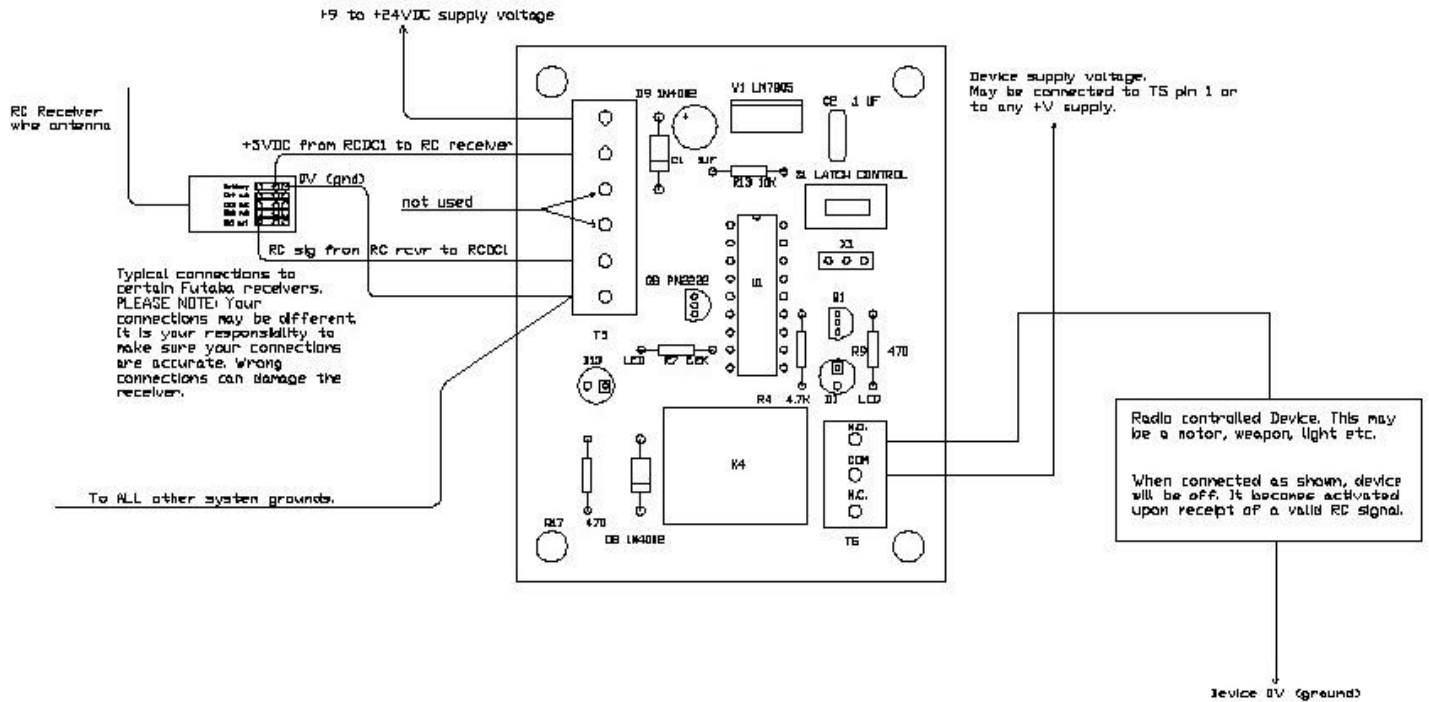
The relay is a compact unit capable of handling loads up to 10 amps. The relay outputs are accessible via a 3 position terminal block located next to the relay. There are 3 contact connections, a common contact which makes or breaks contact with the other two contacts, a normally open contact which does not connect to the common contact until the relay is energized, and a normally closed contact which is connected to the common contact in the de-energized position and which opens up in the energized position.

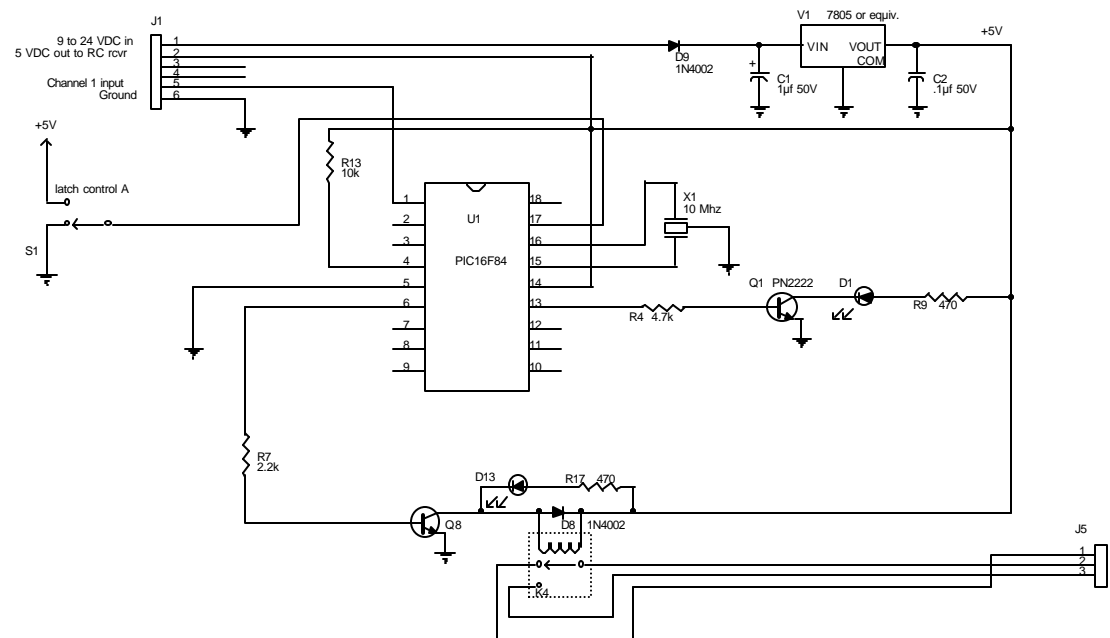
The RCDC1 has 2 LEDs. One of the LEDs light when the RCDC1 is seeing a 1.5ms (plus a small dead band) RC pulse. This lets you know that the proper signal for control is present. The other LED lights when the relay has been activated. Both serve as a visual diagnostic on the operative state of the RCDC1.

Power and RC signal connections are made via a 6 position terminal block located in the top left corner of the PCB as shown in the above picture. Only 4 of the six positions are used in this model. The top most pin (#1) is a power-input pin. Any voltage from 9 to 24 volts may be applied here. Pin number 2 can be used in either of 2 ways. When 9 to 24 volts is applied to pin #1, it can be used as a 5 volt output point to power your RC receiver so that a separate battery is not necessary. Or, it can be used as a 5 to 6 volt input to power the RCDC1 from the RC Battery. If used in the latter mode, pin 1 MUST NOT BE CONNECTED. Pins 3 & 4 are not used on this model. Pin #5 is where the output of your chosen channel on your RC receiver is connected. It goes directly to the microprocessor and is monitored for RC pulses to act upon. Pin #6 is your circuit ground (a.k.a. 0V). IT MUST BE CONNECTED TO ALL OTHER SYSTEM GROUNDS.

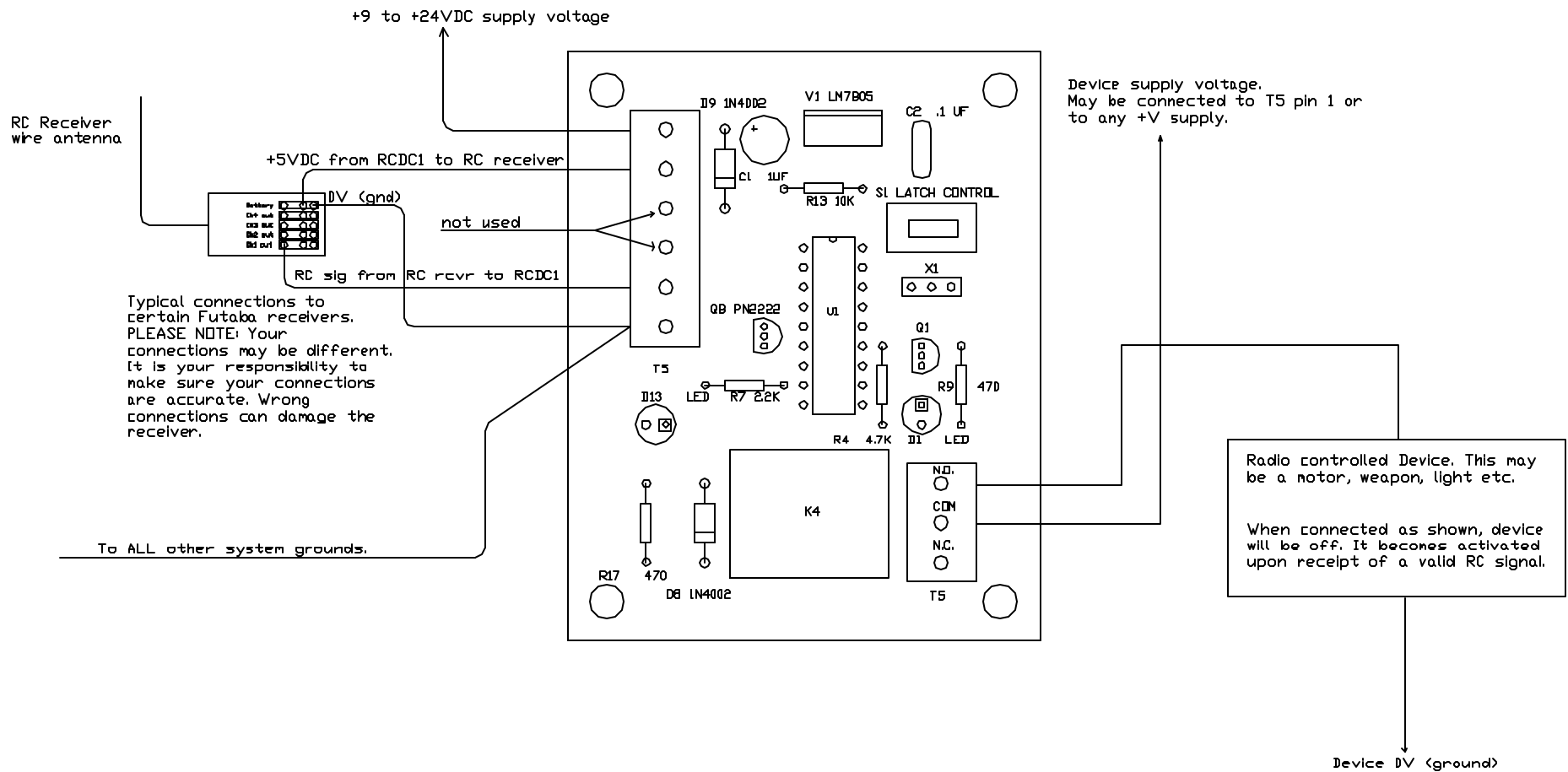
The slide switch is used to select the mode of operation (momentary or latched). Sliding the switch towards the edge of the board (position 1) chooses the momentary mode. Latched mode is selected by sliding the switch towards the center of the board (position 0).

Below, is a schematic of how the board would be hooked up to a RC receiver to control a device by turning it on when the joystick is moved three quarters of the way to it's full on position. (BTW, three quarters movement to achieve an "on" condition was chosen to prevent false activation of the device by accidentally moving the joystick a little.)





RCDC1 Single Channel Radio Controlled Device Controller



RCDC1 Connections