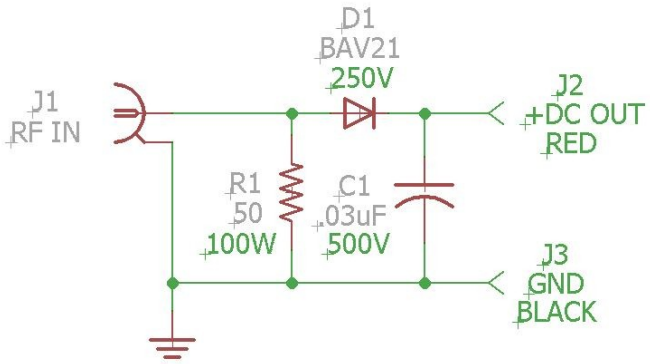
# WA8LBZ DUMMY LOAD WITH OPTIONAL PEAK DETECTOR PROJECT

## SCHEMATIC:




## WHAT YOU NEED TO BUILD THE PROJECT

**1. RF connector of the type that suits your needs (type N, UHF, BNC, etc.)**

**2. Low inductance 50 ohm, 100 watt, 1% resistor. (Caddock MP9100-50.0-1%)**

**3. High reverse voltage, high speed silicon switching diode. (BAV-21, 250 V)**

**4. Ceramic disc capacitor between .01 and 1 uF. (0.06 uF, 1000 VDC)**

**5. Two jacks, one red (J2) and one black (J3) for the DC voltage output.**

**6. Terminal strip or insulated mounting post on which C1 and D1 is connected.**

**7. Heatsink on which R1 and the terminal strip or mounting post is to be mounted. (3-1/4” Wide x 2-3/4” Deep x 1-3/4” High)**

**8. Aluminum angle stock. Used for the sides of the unit and to mount J1, J2 and J3. (1-1/2”)**

**9. A fan for cooling. (came attached to the heatsink)**

## SPECIFICATIONS:

- **Resistance: 50 ohms, +/- 1%**
- **Power Rating: 100 watts continuous**
- **Frequency Range: 80 - 6 meters**
- **SWR: 1:1.0**

## PEAK DETECTOR MEASUREMENT AND CALCULATIONS

**The usual way to use a peak detector is measure the Vpk and multiply it by 0.707 to convert it to Vrms and then calculate the power (P). For example 70.7Vrms:**

**P = Vrms x Vrms / 50**

**P = 70.7 x 70.7 / 50**

**P = 4,998.49 / 50**

**P = 99.97 watts**

**There is a way to make the calculation without first converting Vpk to Vrms. Assume you measure 99.97Vpk.**

**P = Vpk x Vpk / 2 x 50**

**P = 99.97 x 99.97 / 100**

**P = 9,994.0 / 100**

**P = 99.94 watts**

**If you need further information or have any questions, you can contact me through the clubs talk group:**

**cres_email@yahoogroups.com**