

ELECRAFT DL1 WIDEBAND DUMMY LOAD

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The Elecraft DL1 is a general-purpose wideband 50-ohm dummy load that can be used with an Elecraft or other manufacturer's transceiver for test purposes. The DL1 also includes a diode detector that can be used to measure power output. The chart on the next page indicates the voltage measured at TP1 for various power levels. Other power levels can be calculated from the voltage measured at TP1 using the following formula:

$$P(\text{watts}) = (V + 0.25)^2 / 25 \text{ where } V = \text{volts and } 0.25 \text{ is the RF voltage drop across the diode.}$$

Specifications

Power Rating	20 watts maximum.
Bandwidth	Input VSWR less than 1.1, 0 to 30 MHz 1.2, 0 to 144 MHz 1.3, 0 to 225 MHz
Power Measurement Accuracy	10%, typical, 1 watt to 20 watts

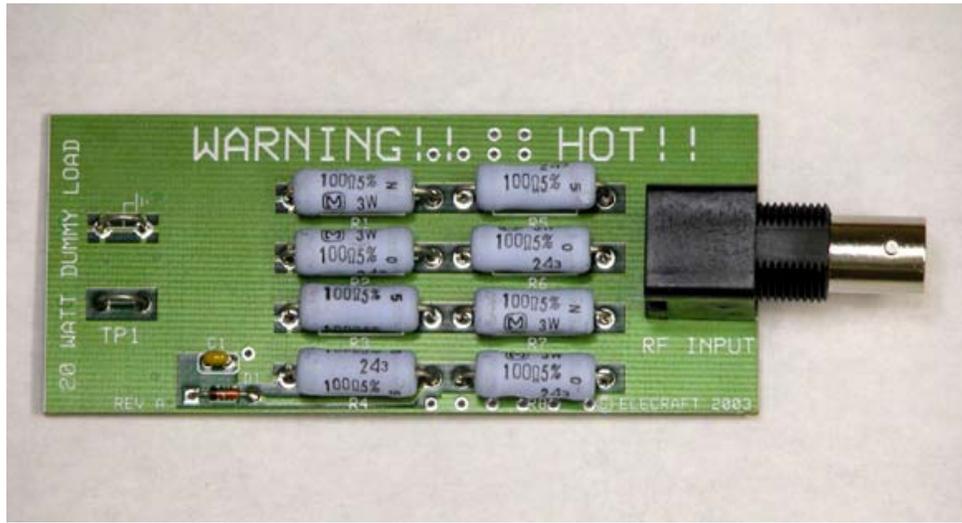
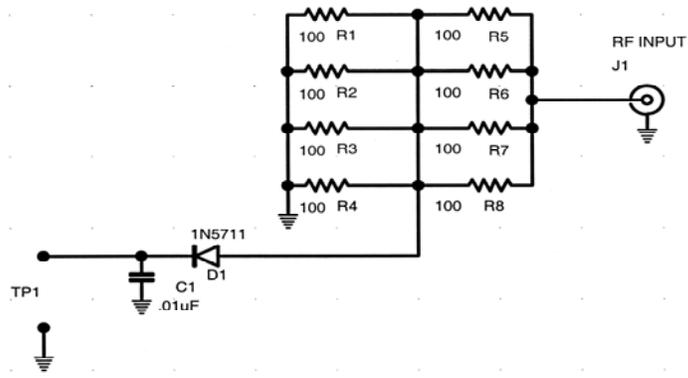
Assembly

- Do an inventory of all parts in the kit .

Parts List

1 Dummy Load Printed Circuit Board	1 Right angle PC-mount BNC Connector
8 100 ohm 3 Watt Resistors	1 1N5711 Diode
1 0.01 uF Ceramic Capacitor	4 Self-Adhesive Mounting Feet

- Install J1, the BNC connector in the position indicated on the PC board silkscreen
- Install the eight (8) 100-ohm resistors in positions R1 to R8. Space the resistors about 1/16 inch (1.6mm) above the PCB. A piece of scrap printed circuit board, a Popsicle stick, or similar object can be used as a spacer. Turn the board over and trim the resistor leads. Save two of the resistor leads for use in the next step.
- Using two cut resistor leads create two 1/8 inch (3.2mm) wire U-shaped loops. Install these loops in the holes provided at TP1 and at the GROUND symbol. These will be used to connect a high impedance voltmeter to measure power.
- Install D1 in the position indicated on the PCB. Make sure the banded end of the diode matches the silkscreen outline on the PCB.
- Install C1 in its indicated position.
- Turn the PCB over and install a mounting foot in each corner.



TP1 Voltage vs Power

