20W Dummy Load Kit

Quick Start Guide

Visit http://k7rhy.app/DL20W for complete documentation and assembly guide.

Disclaimer

Thank you for purchasing our 20W Dummy Load Kit! Please read this important information:

- **Use at Your Own Risk** – This kit is provided as-is. By using it, you accept all risks. We are not liable for any damage or injury resulting from its use or misuse.
- **Component Replacement** – We will replace defective components, but are not responsible for any damages or injuries resulting from their use.
- **No Warranty** – This product comes without any warranties, express or implied, including merchantability or fitness for a particular purpose.
- **Safety and Compliance** – Follow all safety guidelines and local regulations. It is your responsibility to ensure safe and lawful use of this kit.
- **Assumption of Responsibility** – You assume all responsibility for the assembly and use of this kit. Consult a professional if you are unsure about any aspect of its use.

Thank you for your understanding and cooperation. Enjoy your 20W Dummy Load Kit!

I. Introduction

This kit contains all the components you need to build a 20W 50Ω dummy load optimized for HF frequencies. Additionally, it has components that can be used to measure transmitted RF power (see our website for instructions). **Important:** A dummy load converts RF energy to heat; this device can get hot enough to cause injury. Use with caution.

Operating frequency & expected SWR:

- 160m – 10m: <1.1 SWR
- 6m: <1.5 SWR
- 2m: <2.5 SWR
- 70cm: <1.3 SWR

This device is designed to dissipate 20W of sustained input power. However, it is a passive, air-cooled device, so heat dissipation varies by environment. It can handle up to 100W for short periods.

Before You Begin

To assemble the kit, you will need a soldering iron, lead-free rosin core solder, and small wire cutters.

II. Parts List

Before assembling your kit, verify that you have all of the parts. If anything is missing, contact us for a replacement.

Qty	Description
1	Printed circuit board
1	BNC connector
1	.01 µF ceramic capacitor – marked 103
1	1N5711 Schottky diode
8	100Ω resistor – brown, black, brown, gold

III. Build Instructions

These instructions assume that you have experience building electronic components. For step-by-step illustrated build instructions, visit http://k7rhy.app/DL20W.

All components are installed on the top of the printed circuit board (the side with the writing), and can be installed in any order. Install the components in the marked locations on the board as follows:

R1–R8: 100Ω resistors

D1: Schottky diode – Observe polarity and match the printed band on the diode with the band on the board.

C1: Capacitor

J1: BNC connector – The legs will need to be bent out slightly to fit in the board. Solder the mounting pins before the narrow legs.

Important: Keep the component legs as short as possible in order to minimize SWR.

IV. Test Procedure

Examine the Printed Circuit Board

1. Using the picture on the front of this guide, verify that all components are in the correct location and that the diode is oriented correctly.
2. Examine all solder joints and look for cold joints. All solder joints should be shiny and without gaps.

Test Resistance Values

Using a multimeter, measure the resistance across the two legs of the BNC connector. It should be close to 50Ω. If it isn't, inspect the solder connections for the resistors and make repairs as needed.

Test Operational Performance

When operating for the first time, start with low power and confirm that the SWR readings are as expected. Increase power incrementally to 20W, confirming the SWR at each step of the way.