

OHR WM-1

ALIGNMENT

- I) Alignment of the WM-1 is very easy. Be sure the switch is in the OFF position. Position your 9V battery so the + terminal engages the bottom terminal of the battery holder. This is the terminal with the BLUE wire soldered to it. Push the battery all the way into the holder making sure the connector snaps are fully engaged.
- 2) Connect the positive lead of your digital voltmeter to "TPI" and the negative lead to the chassis. Turn R6 fully counterclockwise. Turn the wattmeter on to the 10W position. Adjust R6 for a reading of 2.56V on the voltmeter. Adjust R8 for a full scale reading of 10W on the wattmeter. Adjust R6 for a voltage reading of .8V. Set the wattmeter to the 1W position and adjust R12 for a full scale reading of 1W on the wattmeter. Adjust R6 for a voltage reading of .25 IV. Set the wattmeter to the 100mW position and adjust R15 for a full scale reading of 100mW on the wattmeter. Turn the wattmeter off. Disconnect your voltmeter.
- 3) Without disturbing any of the pot settings, carefully cut jumper JP1. Alignment is now complete.
- 4) Position the cover over the chassis and line up the four holes. Secure with the black phillips head 1/4 screws. Install the four rubber feet on the bottom of the chassis, about 1/2" in from each corner. This completes the assembly and alignment of your wattmeter.

OPERATION

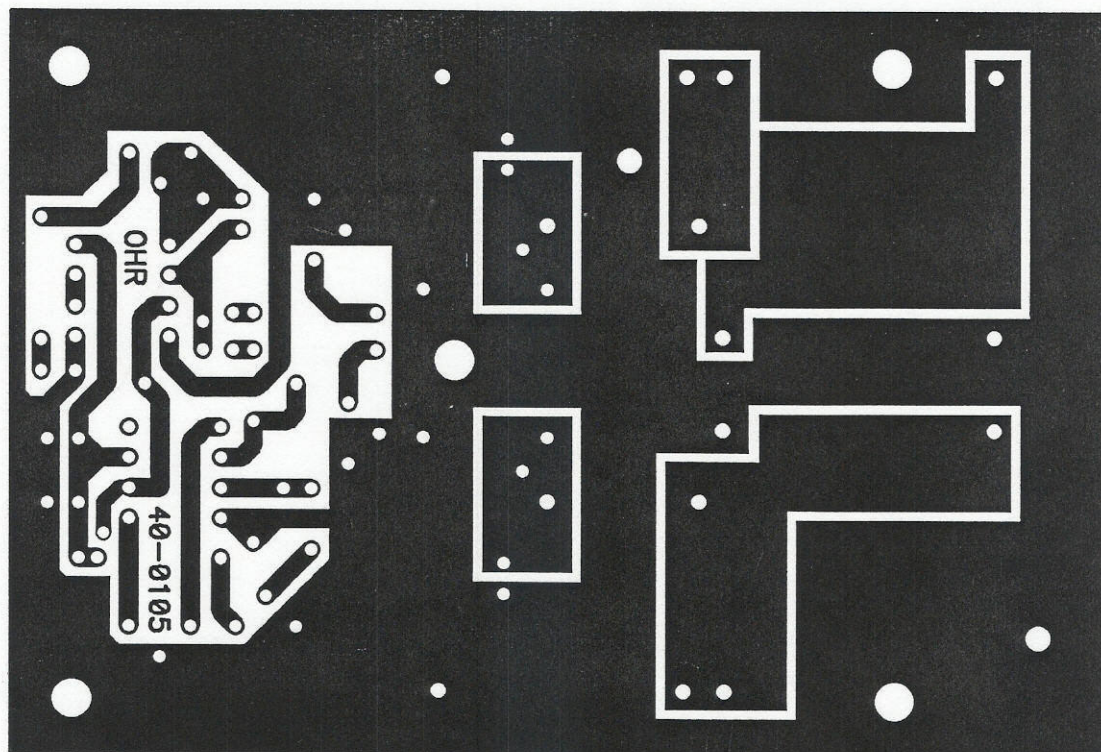
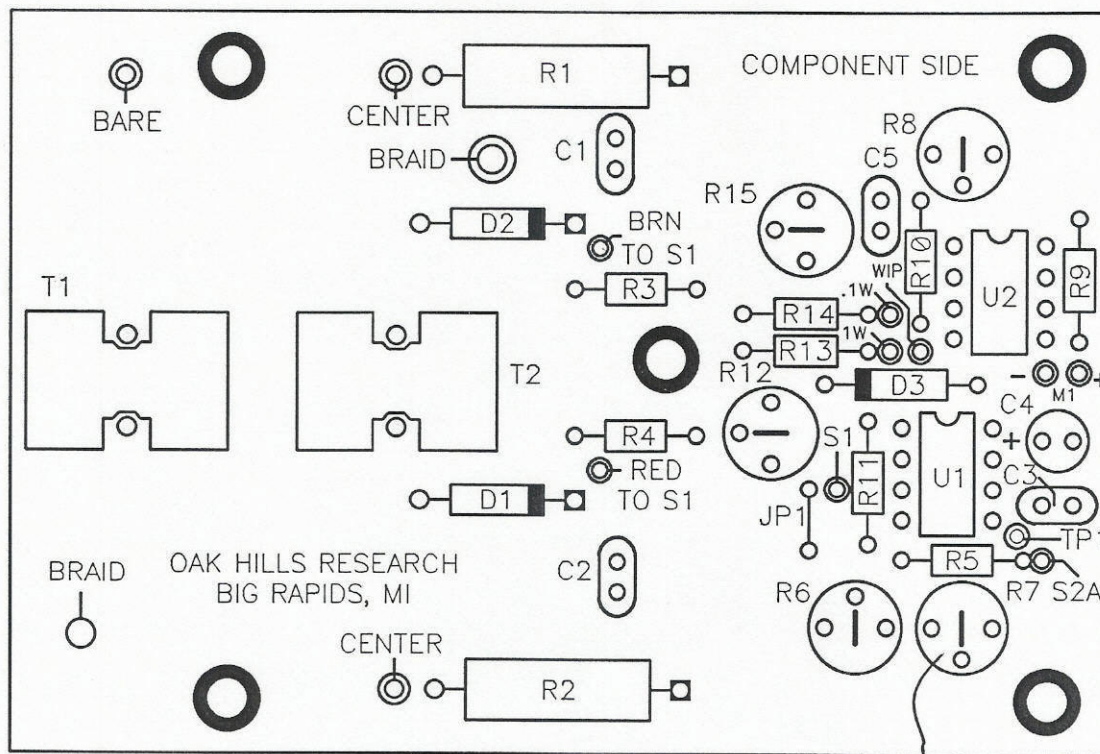
The operation of the WM-1 is very easy and straightforward. Always start a measurement with the wattmeter in the 10W position and then switch to a lower position. To measure power, select the appropriate scale. Put the FWD/REF switch in the FWD position. The power flowing in the line is the forward reading minus the reflected reading. To read the reflected power, simply set the switch to the REF position. To adjust a Transmatch, put the wattmeter between the transmitter and Transmatch and adjust the Transmatch for zero reflected power.

This directional wattmeter can do anything an SWR meter can do, and much more. Because you can measure power anywhere in a system, you can use the wattmeter to find cable and Transmatch losses, measure transmitter power, measure power at various points in a transmitter during the building process and much more.

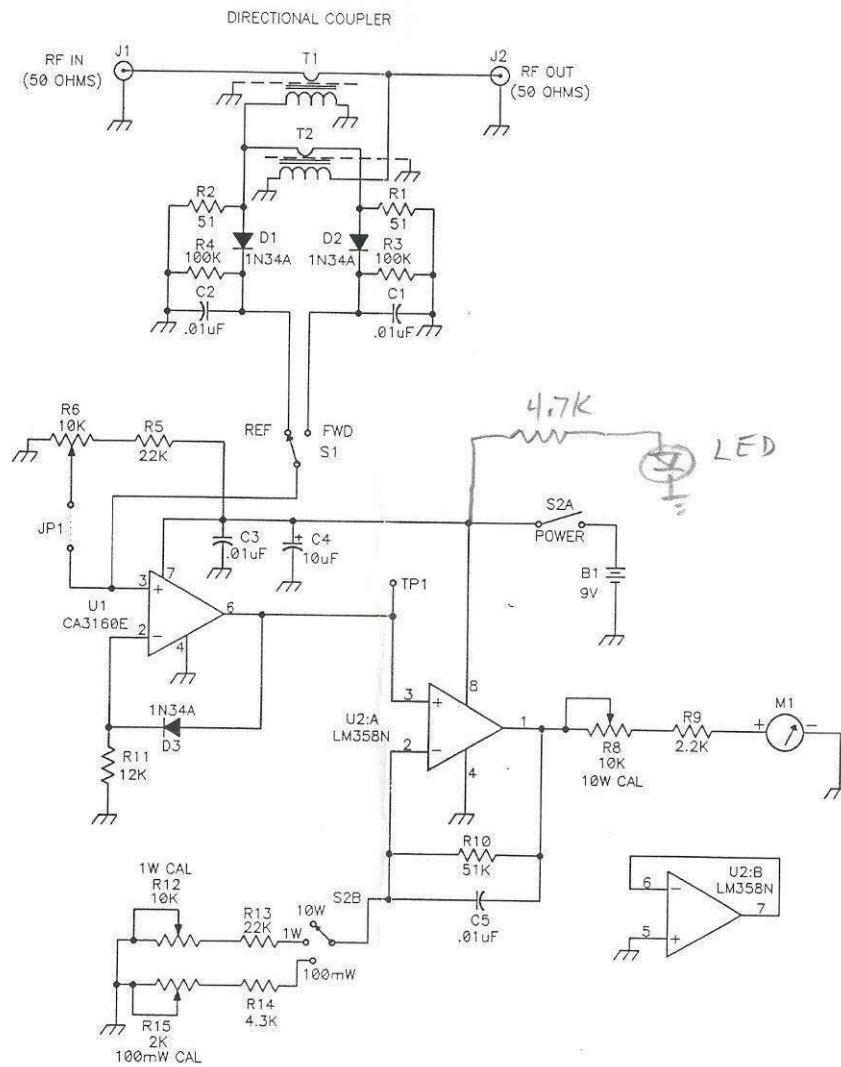
The WM-1 draws very little current, typically 1.2mA. However, if you leave the unit on for extended periods of time, it will drain the battery. Therefore, be sure to turn the unit off when not in use.

Thank you for purchasing this kit. We hope you have enjoyed building this wattmeter kit and that it will provide you with many years of trouble free service. As always, we welcome your comments and suggestions.

Oak Hills Research



WM-1 Board Layout



WM-1 Schematic