

TYPE 874-VR/-VRL VOLTMETER RECTIFIER

Constant output voltage is very important when the oscillator is being swept (for instance by a Type 1750-A Sweep Drive) for rapid measurement of the frequency response of a network. Remember, however, to correct for the diode resonance characteristic (Figure 2) at high frequencies. If a Type 874-VQ Voltmeter Detector is used as a matched detector after the unknown network, no frequency correction is required because the frequency errors in the two diodes tend to cancel each other. However, irregularities of up to 10 percent may occur owing to the output diode's response to harmonics generated by the input diode.

3.4 DETECTOR. With a Type 874-WN Short Circuit Termination connected to end marked "R", the Type 874-VR/-VRL can be used as a detector. The unit will have a fairly good match at frequencies up to 300 Mc.

The frequency response of the demodulated output is greatly dependent upon the amount of d-c load resistance connected across the detector output terminals. (For 1-Mc bandwidth the resistance should be less than 500 ohms.)

3.5 HETERODYNE MIXER. The Type 874-VR/-VRL can be used as a heterodyne mixer. The local oscillator should, in this case, be connected to the arm marked "R". I-f performance is frequency limited by the 300 pf bypass capacitor.

4 SERVICE AND MAINTENANCE

4.1 DIODE REPLACEMENT. To replace the Type 1N23B diode, unscrew the knurled mount supporting the rectified output connector, loosen the spring contact with a screwdriver, and remove the diode. The replacement diode should have a back resistance of at least 20,000 ohms at 1 volt dc (General Radio part no. is 6084-1002).

4.2 RESISTOR REPLACEMENT. If the resistor is damaged (this can be checked by measurement of the resistance, which should be 50 ohms, between the two r-f center conductors), unscrew the coupling nut on the "R" connector. The resistor will be accessible when the connector is removed. Replacement resistor (Part No. 6740-0600) can be obtained from our Service Department. Use of a Type 874-TOK Tool Kit will aid in connector removal.

4.3 CAPACITOR REPLACEMENT. To replace the bypass capacitor, unscrew the knurled assembly and remove the two diametrically positioned screws. The capacitor then comes apart. To decrease capacitance, insert additional mica spacers.