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ELECTRICAL MEASUREMENTS AND THEIR INDUSTRIAL APPLICATIONS

Also
IN THIS ISSUE

DIRECT-READING WAVEMETER FOR ULTRA-HIGH FREQUENCIES

● THE TYPE 758-A WAVEMETER is a convenient instrument for measuring high frequencies in the laboratory, where quite frequently ease of operation is found to be more important than high accuracy. The direct-reading dial covers in a single rotation frequencies from 55 to 400 megacycles. This wide range of frequencies, which is covered without switching or changing coils, is particularly welcome in the high-frequency field where an oscillator may produce frequencies quite different from those for which the circuit was designed.

The TYPE 758-A Wavemeter is a tuned circuit instrument comprising a variable condenser and a variable inductance. The variable condenser is of the conventional straight-line frequency type. The variable inductance is obtained by sliding a silver spring, which is attached to the rotor of the condenser, along a silver strip connected to the stator. Because inductance and capacitance are varied simultaneously, a wider range of frequency is covered in a single band than when only one element is made variable.

FIGURE 1. Measuring the frequency of an ultra-high-frequency oscillator with the TYPE 758-A Wavemeter.

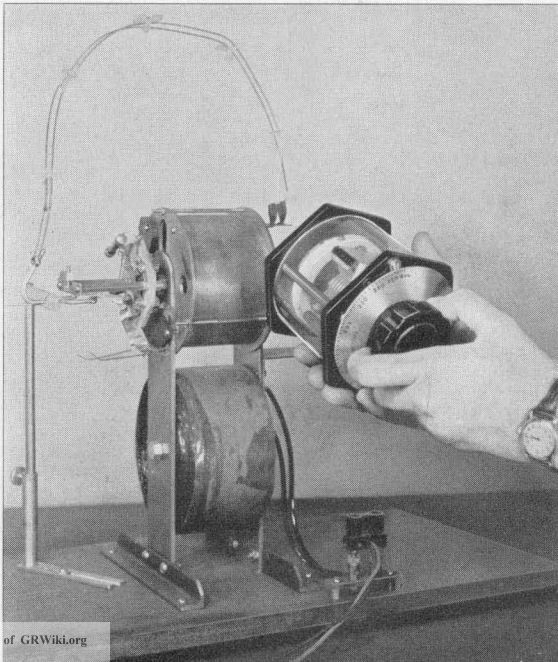

FIGURE 2. Direct-reading frequency scale of the TYPE 758-A Wavemeter.

Loosely coupled to the measuring circuit is an aperiodic indicator circuit. A flashlight lamp that will light readily with a 2-watt oscillator is used as an indicator of resonance. If the oscillator power is not sufficient to light the lamp, the wavemeter can be made to react on the oscillator and will change plate or grid current of the tube sufficiently to determine resonance.

The complete unit is mounted in a transparent but almost unbreakable case so that the indicating lamp can be observed from all directions. Since the location of condenser and coil of the wavemeter can be seen from the outside, effective coupling to an oscillator is obtained easily. The two bakelite end plates of the completed instrument are cut hexagonally so that the wavemeter can be rested in any one of six different positions.

— E. KARPLUS

SPECIFICATIONS

Range: 55 to 400 Mc, direct reading.
Accuracy: 2%.
Resonance Indicator: Incandescent lamp.
Dimensions: 4¼ x 4⅞ x 4⅝ inches, over-all.
Net Weight: 1 pound, 10 ounces.

Type	*Description*	*Code Word*	*Price*
758-A	Wavemeter	WITTY	$28.00

FIGURE 3. Two views of the TYPE 758-A Wavemeter with the various parts identified.