

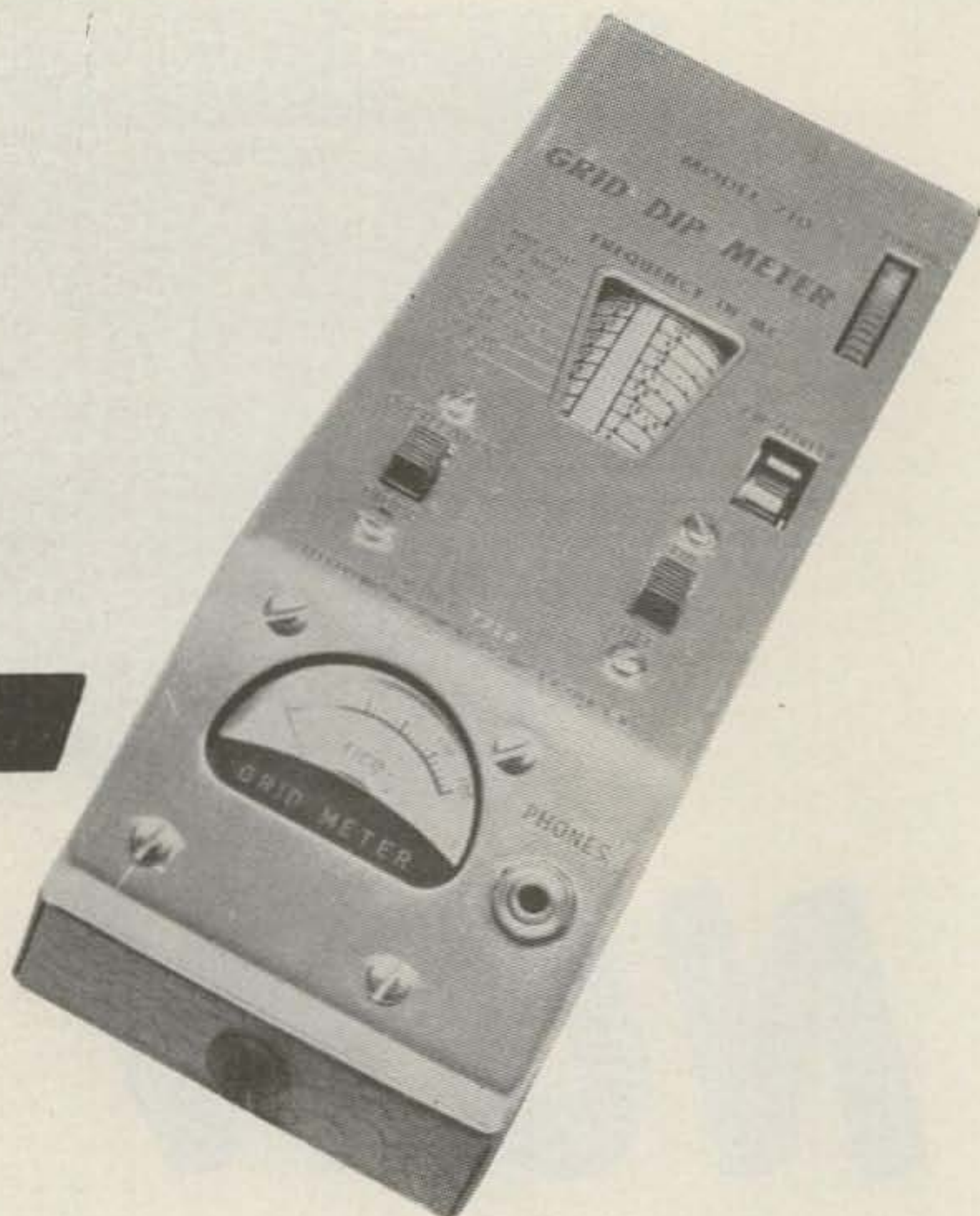
# 73 Tests

the

# EICO

## 710 G. D. O.

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Associate Editor



**Price:** \$29.95

**Time for construction:** 3 hours

**Range:** 400 kc—250 mc

- A. 400-700 kc
- B. 700-1380 kc
- C. 1380-2900 kc
- D. 2900-7500 kc
- E. 7.5-18 mc
- F. 18-42 mc
- G. 42-100 mc
- H. 100-250 mc

**Input power:** 117 vac at 10 watts  
(little enough to be used with a small inverter in your car)

**Warm up time:** 90 seconds for use  
3 minutes for stability

**Uses:** Checking frequency of a tuned circuit

- Modulation monitor
- Crystal checker
- Marker generator
- Signal generator
- Oscillation detector
- Neutralization detector
- Finding capacity of unknown condenser
- Finding inductance of unknown coil

**Note that tuning and sensitivity controls are on right, making for simple one-hand operation.**

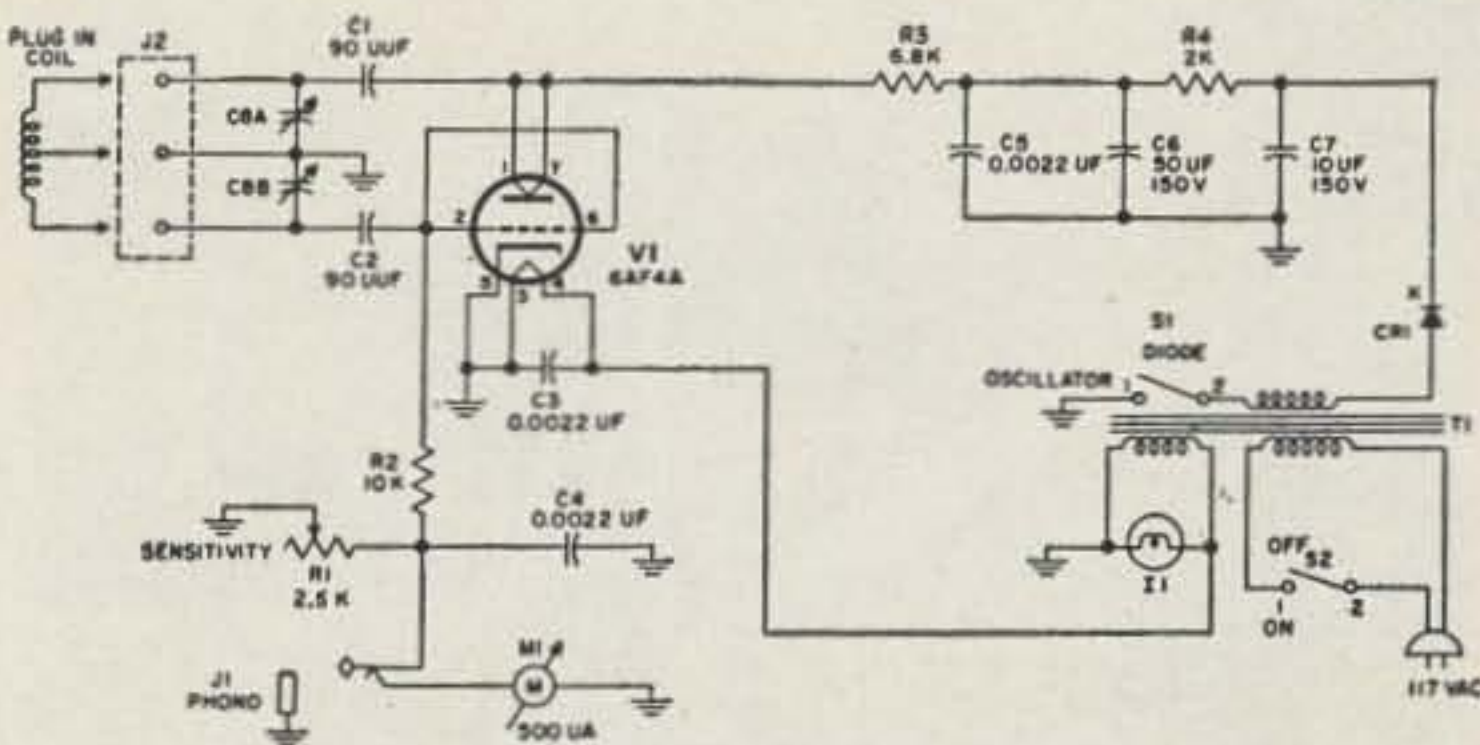
A GRID dip meter is one of those *must* pieces of equipment for the ham shack. By building one you can save money and become completely familiar with the unit at the same time. The Eico Model 710 comes in kit form and sells for \$29.95. It has a band coverage of 400 kc to 250 mc, with all coils pre-wound and calibrated.

The unit is very small (2¼" high, 2 9/16" wide and 6 7/8" long), permitting easy, one hand operation. It has its own built-in ac power supply, as well as a 500 microampere meter for reading oscillator current. The frequency scales are on a cylindrical drum which is rotated through 340°, all scales having the same length. The front panel is brushed satin aluminum, with markings etched into the panel. The cabinet is a grey finished steel, for ruggedness and good shielding characteristics.

The circuit used in the Eico G.D.O., is a Colpitts oscillator, using the excellent 6AF4A high frequency triode. Eight different ranges between 400 kc and 250 mc are provided by eight pre-wound plug-in coils. All scales are 3¾" long. A sensitivity control is placed in parallel with the 500  $\mu$ a meter to adjust the oscillator current to a mid-scale reading. A switch is provided to cut off the B+ to the oscillator, thus permitting the circuit to work as a tuned diode detector. A headphone jack is mounted on the front panel for CW or phone monitoring, and zero beat purposes. The meter is automatically disconnected when phones are used and the sensitivity control is used to control the volume at the headphones. A pilot lamp is included to provide light for the dial scales.

Building the unit requires some care, though it is not difficult. It is necessary to keep the leads short in the oscillator circuit. Also, the unit was designed to be compact, which is a real advantage when using it in tight places. The oscillator tube is mounted at an angle, as can be seen in the photos, reducing lead length and lowering stray capacities. The oscillator circuit is wired first with the power supply and other parts following. The drum (dial scales) and gearing between the drum and variable capacitor are mounted after the wiring is almost complete. The gearing system almost completely eliminates backlash in the dial system. The meter and phone jack are the last to be wired before the unit is mounted in its cabinet.

Eico has done a very complete job on its instructions for the use of the unit. The manual explains over one dozen uses, including the



finding of "Q" in a circuit, unknown inductance, checking neutralization, etc. Drawings are provided in the manual, showing various methods of coupling the g.d.o. to tuned circuits, crystals, etc. This feature of the instruction manual will be of great help to the amateur who has not used a grid dip meter before.

### Shacks

No matter how elaborate the equipment or ornate the setting, the room where Johnny ham sets up business is called "the shack." This is not because a good many such installations do actually deserve such a name, it's just a part of the old ham tradition. In the early days of amateur radio, communication of sorts was accomplished with the aid of motor-driven spark gaps, chemical rectifiers in fruit jars, extremely high voltages and huge antennas.

No mother or XYL would tolerate the accompanying odors, din and acute danger of fire and explosion anywhere in the house. The only solution was a 'shack' in the backyard. Long after spark was replaced by CW, shacks remained popular for the privacy they afforded and were frequently seen right up to WWII. Now, years later, the shacks are gone but the term continues on.

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