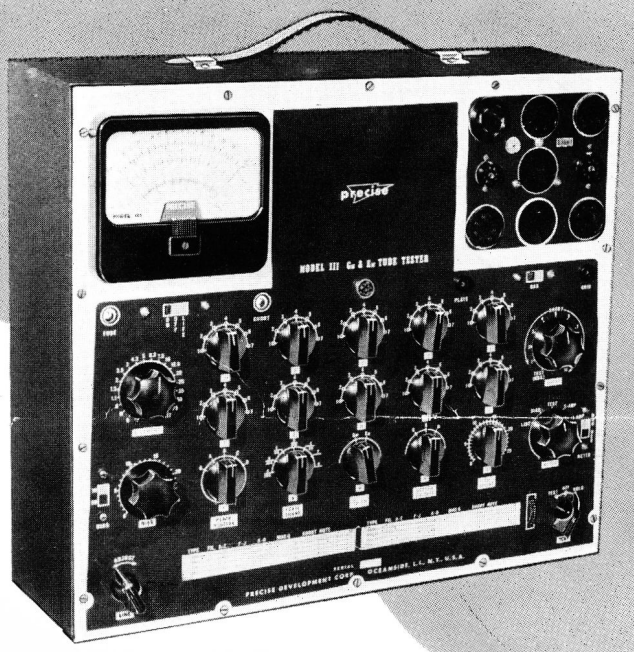
precise

MODEL #111 MUTUAL CONDUCTANCE AND EMISSION TUBE TESTER

Stop Complaints



I KNOW IT'S BAD— BUT IT CHECKS GOOD.

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Both of these statements are correct — even for the same tube. It depends upon the tube application and the tube tester.

ONLY THE PRECISE #111 TUBE TESTER GIVES YOU THE RIGHT ANSWER BASED ON *MORE THAN ONE* TUBE APPLICATION . . . NOW, you can do with this tube tester what more than two testers must normally do.

HOW DOES PRECISE DO IT? . . . If a tube is to be used as an IF amplifier, we are worried about GM (mutual transconductance). If it is to be used as a horizontal sweep tube, we can almost forget GM and be mostly interested in pulse Emission. If it is used for AC-DC applications we must consider whether it is a "Voltage Sapper" along with GM or Emission characteristics.

ENGINEERING DESIGN CONSIDERATIONS: — To understand the Model 111 Mutual Conductance and Emission Tube Tester, it is perhaps best to spend a moment with the original design considerations.

Basically we recognized the fact that:

1. A GM or Emission type tube tester actually read a goodly percentage of tube troubles — BUT each alone missed a great many. We could not say with any degree of assurance which type of tube test was the best. Certain applications required GM, while others required Emission. PRECISE Solution: — The Model 111 checks GM and Emission separately. It indicates on the roll chart the most important single test for normal applications. It is, of course, desirable to make both tests.

2. In AC-DC equipment, or series filaments arrangements, which are daily enjoying greater popularity, the "Voltage Sapper" (a tube which developed too much filament voltage as compared to the other tubes) was a constant trouble. PRECISE Solution: — The Model 111 allows the filament current to be measured directly on the meter.

3. A whole series of different test voltages (sweeping from zero voltage up) was required. PRECISE Solution: — The Model 111 sweeps from 0 through the normal testing range when making measurements. This gives an average evaluation for the tube over an extended range of operation.

4. Due to the fact that seven different voltage lines are required to feed the tube elements (filament 1, filament 2, fil. 3, grid, plate, screen, cathode), we would have to relinquish lever switches. (Lever switches only cover five positions maximum.) PRECISE Solution: — The Model 111 uses rotary switches for connecting to each element individually. There are 10 different switches (the 10th being a spare for new tubes).

5. Short tests usually require elaborate switch manipulation. PRECISE Solution: — The Model 111 uses a single rotary switch which checks each element against every other element. No conversion chart is required to ascertain which pins are shorted. This test may be made at any time hot or cold without changing any other switches.

6. The instrument would have to be rugged to stand the 'trunk of a car' type of abuse. PRECISE Solution: — In the Model 111 a heavy steel cabinet houses the entire unit. The panel is deeply etched aluminum.

7. Tube Bias, being an important consideration, should actually be measured on the meter. PRECISE Solution: — The Model 111 measures tube bias directly on the indicating meter.

8. The instrument should be simple to operate. PRECISE Solution: — The Model 111 uses different type knobs, a no-backlash roll chart, and a sectionalized design setting off each section.

9. There should be a provision for new tubes. PRECISE Solution: — The Model 111 is one of the simplest type tube testers to set up for new tubes. The pin connections and function positions may be taken directly from the tube manual. The instrument already includes provisions for testing many color tubes.

10. It should check all modern tubes. PRECISE Solution: — The Model 111 is provided with sockets for testing the following type bases. Large 4 prong, large 5 prong, large 6 prong, large 7 prong, medium 7 prong, miniature 7 prong, in-line 7 prong, (sub-miniature), Octal, Noval, sub-miniature 8 prong, Acorn, CRT and Loctals.

11. The instrument should check Cathode Ray Tubes. PRECISE Solution: — The Model 111 also checks cathode ray tubes by an included adaptor.

Wt: 30 lbs. Size: 14" x 16" x 6".

111K ..... kit form **$69.95**

111W ..... factory wired **$139.95**

Prices slightly higher in the West. Prices and specifications subject to change without notice.

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