

BELL SYSTEM PRACTICES
Outside Plant Construction
and Maintenance

SECTION G86.061.5
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AT&T Co Standard

99A, 99B AND 95B TEST SETS

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1. GENERAL

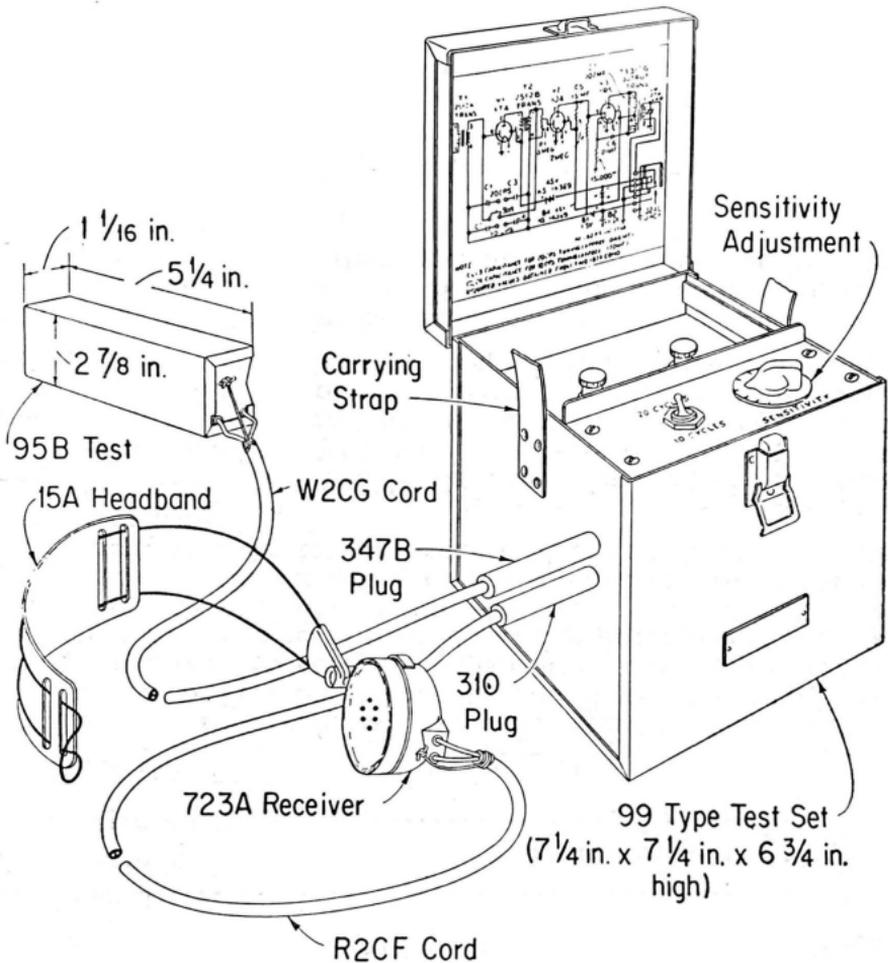
1.01 This section replaces Issue 1. It describes the 99A, 99B and 95B Test Sets. The 99A and B sets are amplifier-detectors and the 95B set is an exploring coil. A 99-type set in conjunction with a 95 set is used in locating grounds and crosses in long or loaded cables by the exploring coil method. The exploring coil method is generally not suitable for use in cables having heavy steel protection because of the shielding effect of the tapes or wires.

1.02 The section has been revised to cover the 99B set which supersedes the 99A set. These sets are similar except for the input transformer. The 99B set utilizes a transformer of new design which improves the sensitivity of the set, thereby facilitating the locating of faults especially in large size cables.

1.03 The 95B Test Set is a hand-held exploring coil. Do not use 95B Test Sets on B Exploring Coil Handles, tree pruner handles or any other type of pole or stick for locating faults in aerial cables.

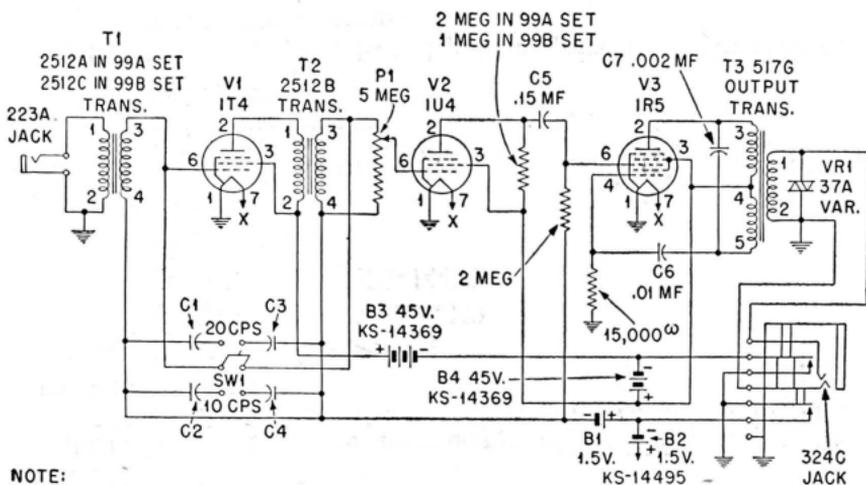
2. DESCRIPTION

2.01 The 99-type and 95B Test Sets arranged for testing are illustrated below.



2.02 **99A and 99B Test Sets:** These are battery operated amplifier-detectors housed in a metal case equipped with a carrying strap. A set with batteries weighs about 20 pounds. These sets are designed to respond to 10- or 20-cycle tracing current and provide an audible signal in the receiver. Miniature electron tubes are employed. The bias voltage and filament currents are supplied by two KS-14495 Dry Batteries and the plate voltages by two KS-14369 Dry Batteries; these must be ordered separately.

2.03 The circuit diagram of the 99-type test sets is shown below.



NOTE:

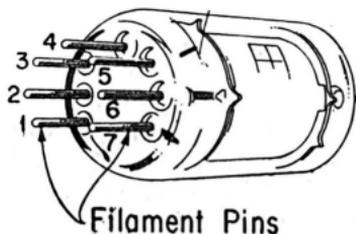
C1, C3 Capacitance for 20 CPS Tuning (approx. .046 MF)
 C2, C4 Capacitance for 10 CPS Tuning (approx. .170 MF)
 Required values obtained from two 187A Cond.

2.04 **95B Test Set:** This set has a single winding coil associated with U-shaped laminated core pieces. The arrangement of the winding and core pieces is such that the pickup of the coil is not materially affected by current flowing in the sheath of the cable. The set is equipped with a W2CG Cord having a 347B Plug. The set weighs about 14 ounces. The 95A set can be used in place of the 95B set but is less sensitive.

3. MAINTENANCE

3.01 The 99-type set is of sturdy construction and should require little maintenance aside from battery renewals. The KS-14495 and KS-14369 Dry Batteries should be replaced when the voltages, with the set in operation, measure 1.2 and 38 volts or less, respectively. The batteries should be tested with a voltmeter having a resistance of at least 1000 ohms per volt.

3.02 The filaments of the 1T4, 1U4 and 1R5 electron tubes can be tested for opens with an ohmmeter. The resistance between Pins 1 and 7 of each tube should measure about 30 ohms.



3.03 If the set is inoperative and the tubes and batteries are satisfactory, the continuity of the wiring and transformer windings should be tested with an ohmmeter. The approximate d-c resistances of the transformer windings are:

<u>Transformer</u>	<u>Low Winding (Ohms)</u>	<u>High Winding (Ohms)</u>
Input (2512A)	6	10,000
Input (2512C)	2	10,000
Interstage (2512B)	950	10,000
Output (517G)	50	3,300

3.04 If repairs are necessary, other than the replacement of the tubes, the set should be returned in accordance with local routine.

3.05 **Replacement Parts:**

- Battery, Dry, KS-14369
- Battery, Dry, KS-14495
- Cord, R2CF
- Cord, W2CG
- Tube, Electron, 1T4
- Tube, Electron, 1U4
- Tube, Electron, 1R5

3.06 The 95B Test Set should require no maintenance except cord replacement.