

BELL SYSTEM PRACTICES
 Outside Plant Construction
 and Maintenance

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78A AND 95A TEST SETS DESCRIPTION AND MAINTENANCE

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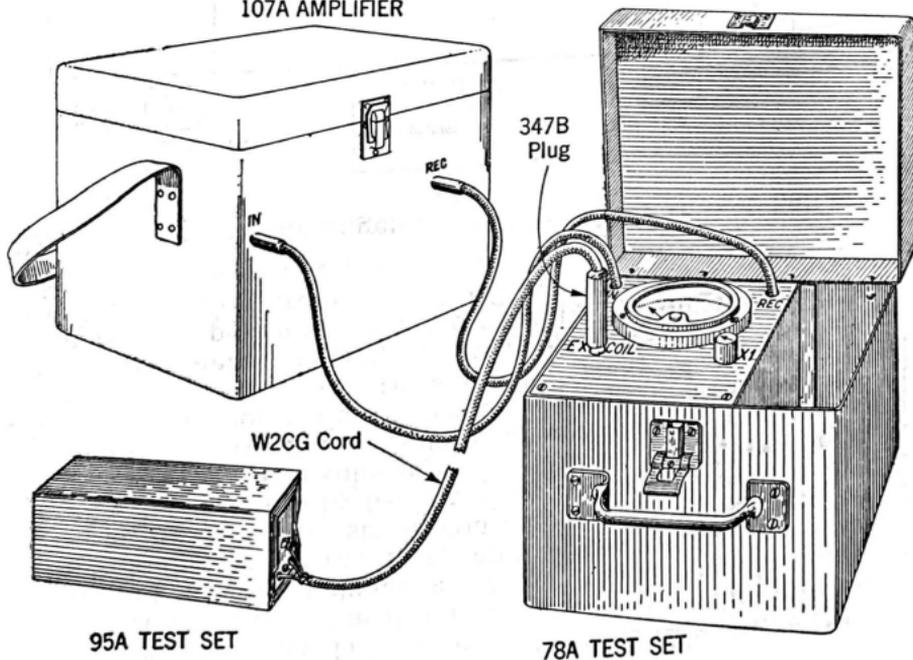
1. GENERAL

1.01. This section describes the 78A and 95A (Exploring Coil) Test Sets used in locating grounds and crosses in long and loaded cables by the exploring coil method. These sets are used in conjunction with the 107A Amplifier. The exploring coil method is generally not suitable for use in cables having any form of steel protection because of the shielding effect of the tapes or wires.

2. DESCRIPTION

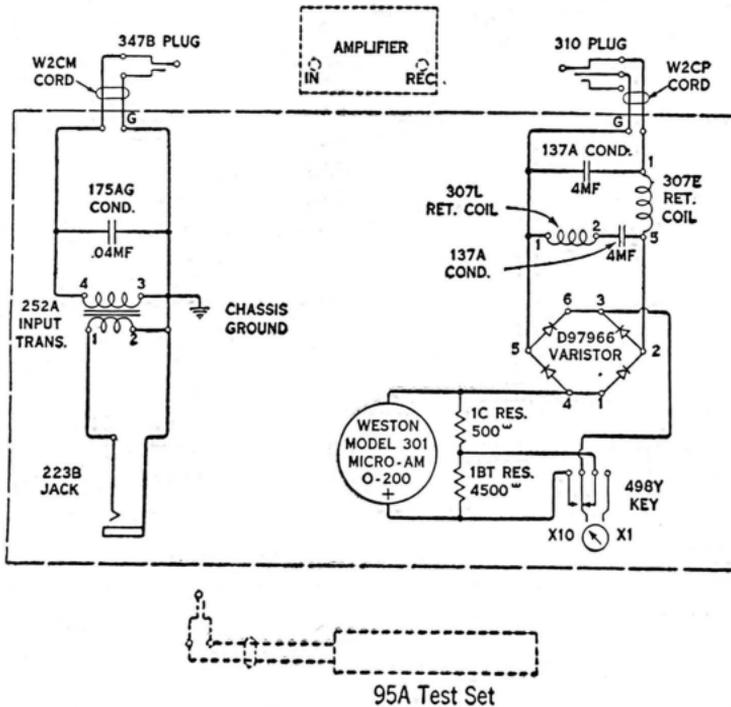
2.01 The 78A and 95A Test Sets and the 107A Amplifier arranged for testing are illustrated below.

107A AMPLIFIER

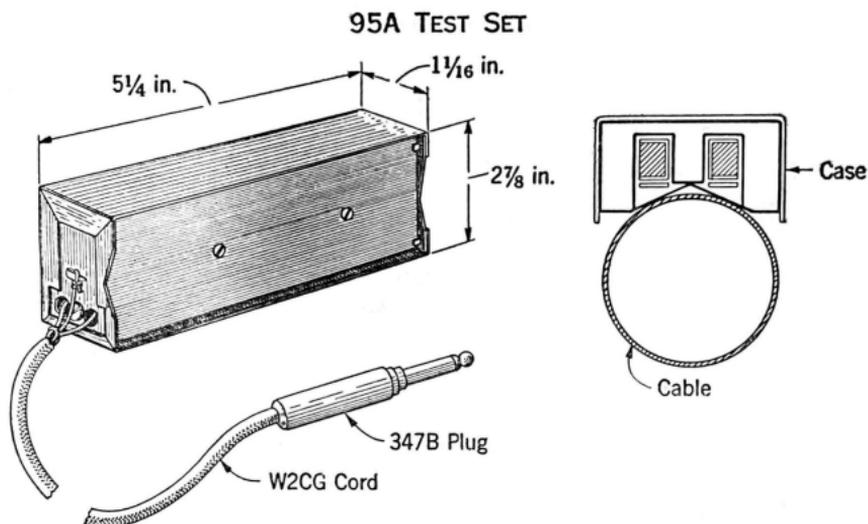


2.02 **78A Test Set:** This set provides a 20-cycle tuned input circuit and a tuned output circuit for the amplifier. The output circuit includes a copper oxide varistor and a d-c microammeter for rectifying and measuring the pick-up of the exploring coil. The set is contained in a metal box 7-1/2 inches by 7-1/2 inches by 6-1/2 inches. Space is provided in the case for storing the exploring coil (47B or 95A Test Set). A jack is provided on the face-plate for connecting the exploring coil. The short cords that enter the face-plate are for use in connecting the set to the IN and REC jacks of the amplifier. The microammeter is equipped with a shunt. With the shunt key in the X1 position, the scale reading is from 0 to 200, and in the X10 position, from 0 to 2,000. This set with the 95A set and cords weighs about 12.5 pounds.

2.03 The circuit arrangement of the set is shown below.



2.04 **95A Test Set:** The coil of this set consists of a U-shaped laminated steel core containing a single winding of 4500 turns of wire. The arrangement of the winding on the core is such that the pick-up of the coil is not materially affected by current flowing in the sheath of the cable. The set, which is illustrated in the following figure, is equipped with a W2CG Cord 30 feet long having a 347B Plug. The set weighs about 14 ounces.



3. MAINTENANCE

3.01 The 78A and 95A Test Sets are of sturdy construction and should require little maintenance. The sets should not be repaired nor should cords other than the W2CG Cord be replaced in the field. If repairs are necessary, the sets should be returned in accordance with local routine.