BELL SYSTEM PRACTICES
Outside Plant Construction
and Maintenance

SECTION G86.064.3
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AT&TCo Standard

96A TEST SET

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1. GENERAL

1.01 This section describes the 96A Test Set used in locating conductor faults in toll cables terminated in auxiliary repeater stations. The set can also be used to locate faults in cables terminated in unattended dial offices.

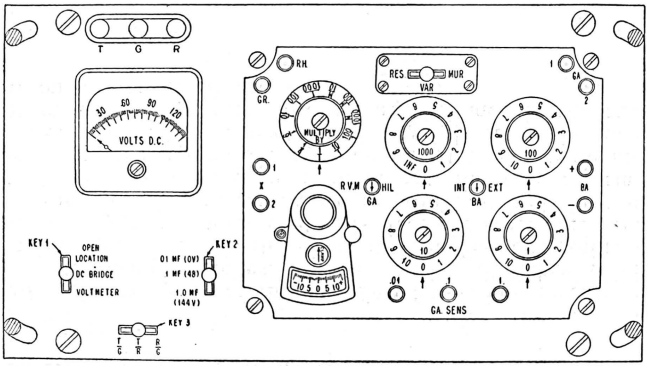
1.02 The section has been reissued to cover the changes made in the circuitry of the set.

1.03 A 96A Test Set may be equipped with either the 5430A Wheatstone bridge manufactured by the Leads and Northrup Company or the RN3 bridge manufactured by the Industrial Instruments Company.

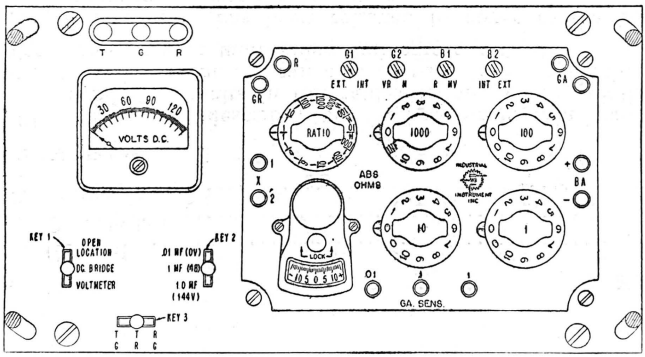
2. DESCRIPTION

2.01 The faceplate of the 96A Test Set is illustrated in the following sketches. The set consists of either a 5430A Test Set (Leads and Northrup) or an RN3 Test Set (Industrial Instruments), a voltmeter (150 volts, 1000 ohms per volt), apparatus for supplying dc or ac bridge potentials and three cam keys. These are housed in a metal carrying case measuring 9 by 15 by 10-1/2 inches having an adjustable carrying strap. The set, equipped with dry batteries, weighs about 24 pounds. Instructions for operating the set are included in the circuit label on the cover of the set.

(a) Faceplate of a 96A set equipped with a 5430A bridge.



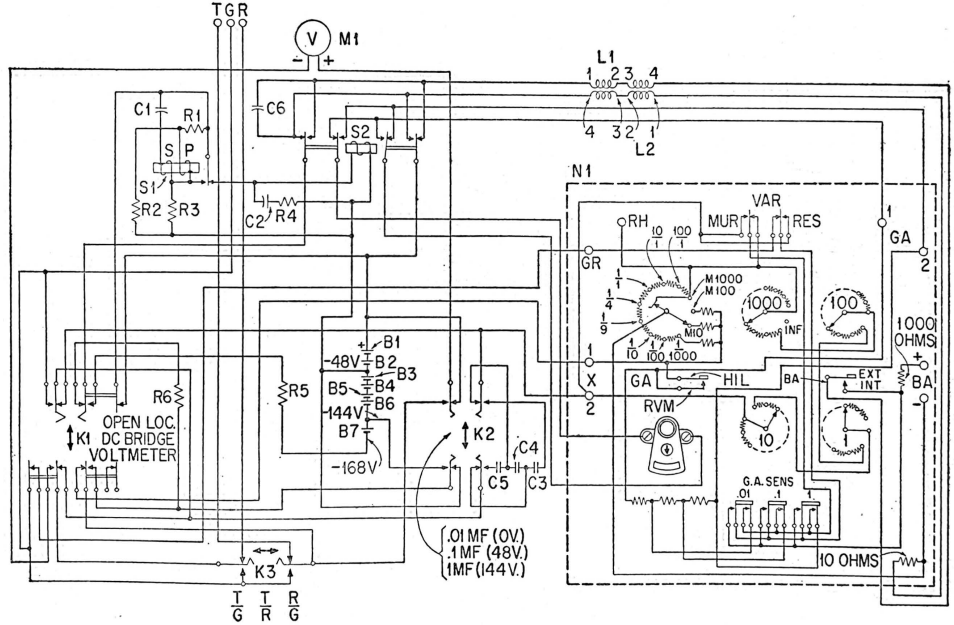
(b) Faceplate of a 96A set equipped with an RN3 bridge.



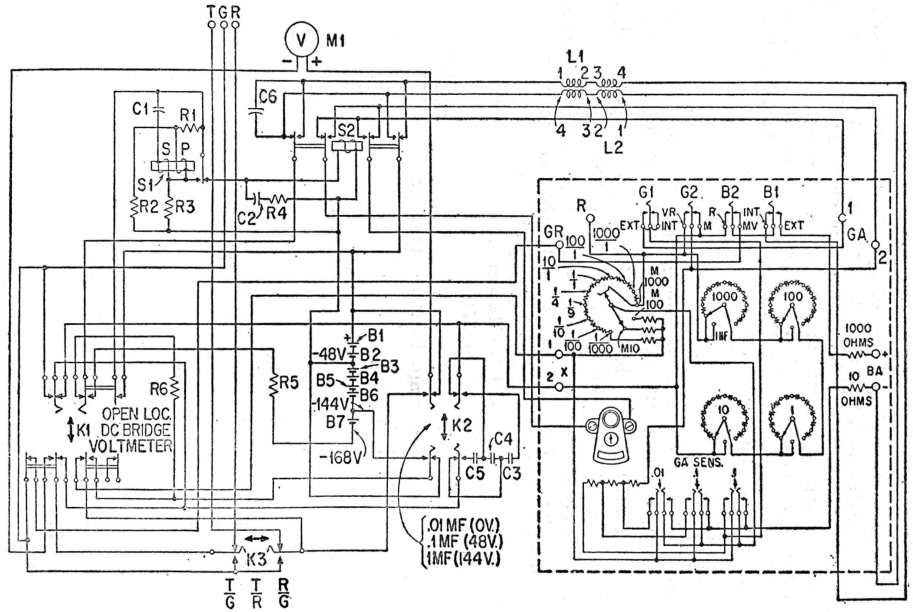
2.02 A W3AG Cord is provided for connecting the set to a cable pair and to ground or a third wire in the cable. The cord is 20 feet long and has a waterproof jacket. The individual conductors are rubber insulated and colored green, white and black. The cord can be stored in the compartment in the cover of the set.

2.03 The circuit of the 96A set is shown in the following diagrams. The circuit of the bridge is that portion included in the dotted lines. The circuit arrangements and battery voltages are selected by means of three (3) position cam keys. Key 1 is used to select the type of test, OPEN LOCATION, DC BRIDGE or VOLTMETER. Key 2 selects the capacitor 0.01MF, 0.1MF or 1.0MF for making open locations and the voltages 0V, 48V or 144V for dc bridge and other tests. The third key, Key 3, makes the test connection to the cable circuit, tip to ground, ring to ground or tip to ring. The alternating current, 168 volts at approximately 15 cycles per second, for making open locations is provided by the relays, capacitors and resistors shown in the upper left-hand corner of the diagrams. The relays reverse the battery connection to the bridge and also reverse the galvanometer polarity in synchronism with the bridge potential.

(a) Circuit diagram of a 96A set equipped with a 5430A bridge.



(b) Circuit diagram of a 96A set equipped with an RN3 bridge.



2.04 Connections to the 96A set should be made at only the T, G and R binding posts and not to any post on the Wheatstone bridge.

2.05 **Dry Batteries:** The set operates on seven KS-6571 Dry Batteries which must be ordered separately. The battery compartment is in the bottom of the case. To install the batteries, loosen the four screws at the corners of the panel, remove the plate and place the batteries in the compartment. Connect the batteries as shown in the label inside the cover of the battery compartment.

3. MAINTENANCE

3.01 The 96A set is of sturdy construction and should require little maintenance aside from battery renewals.

3.02 The KS-6571 battery should be replaced when the voltage measures less than 17 volts.

3.03 The leather strap on the case should be cleaned and oiled about every six months to keep it in good condition.

3.04 **Parts for Field Replacement:**
Battery, Dry, KS-6571
Cord, W3AG
Strap, Carrying, for 96A Test Set