COMMON SYSTEMS TEST CIRCUIT FOR CHECKING CURRENT AND EARTH POTENTIAL IN LEGS OF CX SIGNALING CIRCUITS TEST AND CONTROL BOARD NO. 8 AND TOLL TEST BOARD NO. 5, 16, 17B, 17C, 18B

1. PURPOSE OF CIRCUIT

1.1 This circuit provides means for checking current flow in the CX legs of composite signaling lines and for checking the ground potential and continuity of the compensating legs.

2. WORKING LIMITS

2.1 None.

3. FUNCTIONS

3.1 Provides means for connecting to a circuit for measurement of current in the CX signaling legs.

3.2 Provides means for measurement of earth potential in the compensating leg.

3.3 Provides means for a continuity test of the compensating leg.

4. CONNECTING CIRCUITS

When this circuit is listed on a key sheet the connecting information thereon is to be followed.

4.1 Signaling Test Set - SD-56080-01

4.2 Composite Signaling Circuit - Type B - SD-95048-01, SD-55415-01

4.3 V1-V2 Telephone Repeater Application Schematic - SD-64903-01

4.4 Type "C" Composite Set and Repeating Coil Circuit - SD-95004-01

4.5 A-C Earth Potential Filter Circuits - SD-95073-01

DESCRIPTION OF OPERATION

5. CX TEST JACK CIRCUIT (FIG. 1)

The legs of the CX signaling circuit are brought out to jacks which have the normal of the tip strapped to the sleeve so that an ammeter connected to the (MA) jack (Fig. 2) may be connected in series with signaling leads without breaking the circuit.

6. VOLT-MILLIAMMETER CIRCUIT (FIG. 4)

The D8A volt-milliammeter in this circuit has a 150-0-150 scale with 60 divisions. The approximate resistance of the voltmeter circuit in this meter is 100,000 ohms and that of the milliammeter circuit is 10 ohms. The accuracy is ± 1-1/2%.

For tests on the ground potential compensating legs, the (V MA) jack should be patched to the CX test jack circuit.

To measure ground potential operate the (VM) key and then the (LINE) key. The (LINE) key should be operated only momentarily if the CX circuit is in service because the operation of this key opens the ground compensating lead between the drop and the distant end.

To check the continuity of the ground potential compensating lead patch the jacks as previously described and then operate the (LINE) key. If this reading is small (because the ground potential is low), operate the (MA BAT) key. The continuity may be checked by comparing the readings obtained with those on other CX lines to the same distant point.

7. SIGNALING TEST CIRCUIT JACK (FIG. 2)

Current flow in the signaling legs may be measured by patching the (MA) jack to the CX test jack circuit. This jack is connected to a milliammeter in the signaling test circuit.

8. TEST CORD (FIG. 3)

This cord is provided to patch the jacks of the CX test jack circuit to the (MA) and (V MA) jacks.