"B" SWITCHBOARD OPERATORS' TELEPHONE CIRCUITS

1. GENERAL

1.01 This section covers the detailed method to be followed in making transmission tests on "B" switchboard operators' telephone circuits in step-by-step offices.

1.02 Reference should be made to Section K20.01 for general testing methods and to Section K20.11 for general testing apparatus requirements.

2. TESTING METHOD

2.01 These circuits are tested at the "B" switchboard during a period of light traffic load.

2.02 In order to include in the test a bridged relay and condenser which are associated with this circuit it will be necessary to extend a pair of wires from the transmission measuring set at the "B" switchboard to the line terminals of the operator's telephone circuit on the relay rack terminal strip.

2.03 Figure 1 shows schematically the connections for the test.

Preliminary Connections

2.04 Provide two regular double-ended patching cords equipped with 110 type plugs, one regular double-ended patching cord equipped with 109 type plugs, one regular double-ended patching cord equipped on one end with a 109 type plug and on the other end with a 110 type plug, and two single conductor patching cords equipped on each end with clips which are suitable for connecting to the terminals on the relay rack terminal strip.

2.05 Connect the B-GRD (48V) jack of the auxiliary test unit to 48 volt battery and ground (battery on tip and ground of sleeve), using the patching cord equipped with the 109 and 110 type plugs.

2.06 Connect the TMS jack of the auxiliary test unit to the sending jack of the transmission measuring set, using one of the patching cords equipped with 110 type plugs.

2.07 Various schemes for reaching the relay rack terminal strip from the "B" switchboard may be employed, but one which has been found convenient is to make use of one of the "B" switchboard position monitoring jacks at the chief operator's desk as the conductors from these jacks terminate on the same terminal strip at the relay rack as the line terminals of the operator's telephone circuit.

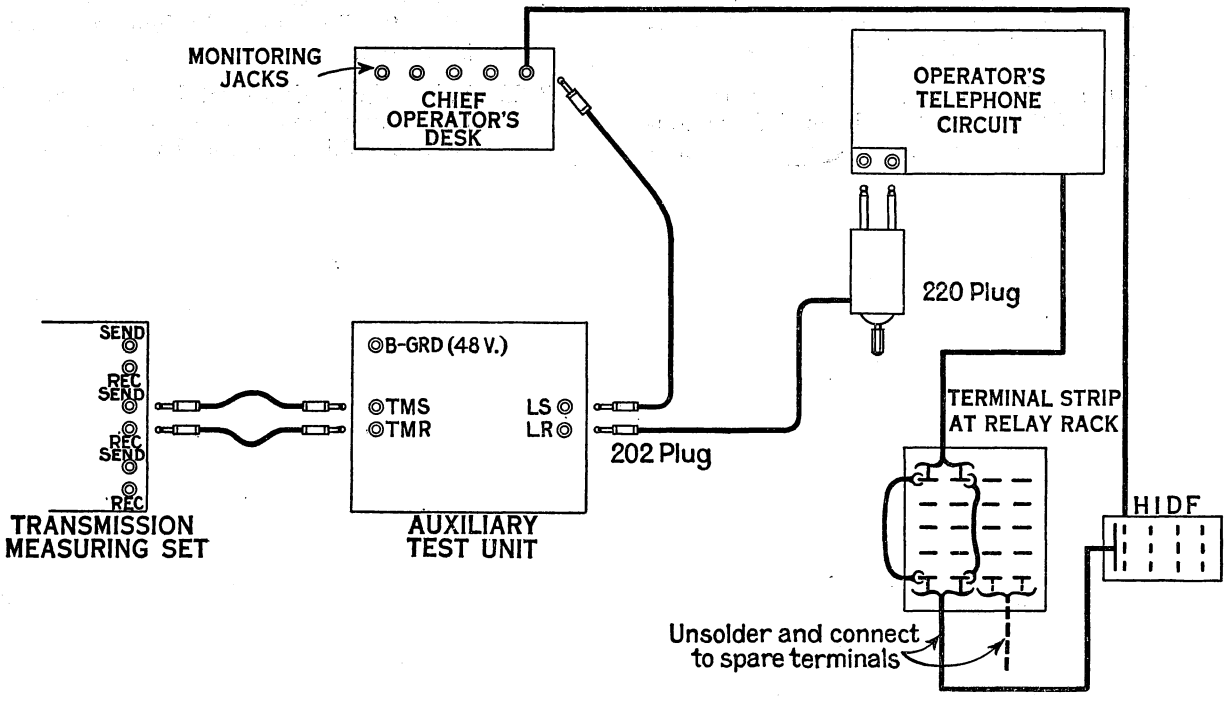

Figure 1

2.08 At the terminal strip on the "B" switchboard relay rack remove the monitoring jack leads of the chief operator's desk and connect them to two spare terminals for the duration of the test.

Testing Procedure

2.09 At the relay rack terminal strip connect the line terminal of a "B" switchboard operator's telephone circuit to be tested to the spare terminals of paragraph 2.08, using the single conductor clip ended cords.

2.10 Operate the following keys of the auxiliary test unit to the positions specified. Keys not mentioned should remain in the normal position.

Key 1 to HOLD
Key 2 to HOLD
Key 4 to MET

2.11 Connect the line terminals of the operator's telephone circuit to the LS jack of the auxiliary test unit, using a regular double-ended patching cord equipped with 109 type plugs by inserting one plug in the LS jack of the auxiliary test unit and the other plug in the monitoring jack of the chief operator's desk chosen above.

2.12 Insert the No. 220 plug in the telephone set jacks of the "B" switchboard position involved with the key of the plug in the normal position.

2.13 On the transmission measuring set connect the sending T and R terminals, respectively, to the receiving T and R terminals.

Note: When a transmission measuring set of the No. 3 type is used these connections are made through the jack contacts of the set when a dummy plug is removed from a jack other than the one to be used in this test.

2.14 Measure the transmission loss.

Note: This will be the loss of the operator's telephone circuit in the bridged talking condition.

2.15 Remove the strapping between the sending and receiving T and R terminals of the transmission measuring set.

2.16 Connect the TMR jack of the auxiliary test unit to the receiving jack of the transmission measuring set, using one of the patching cords equipped with 110 type plugs.

2.17 Insert the No. 202 plug associated with the No. 220 plug in the LR jack of the auxiliary test unit.

2.18 Operate the key of the No. 220 plug to the T position.

2.19 Measure the transmission loss.

Note: This will be the loss of the operator's telephone circuit in the transmitting condition.

2.20 Release the "B" switchboard position associated with the operator's telephone circuit under test by removing the No. 220 type plug from the operator's telephone set jacks and the plug of the patching cord from the LS jack of the auxiliary test unit.

2.21 Repeat the above testing procedure for other "B" operators' telephone circuits to be tested.

2.22 When the testing work has been completed, the connections at the relay rack terminal strip should be restored to normal.