

PRINTER SERVICE POSITION TELEGRAPH TESTBOARD NO. 9

1. GENERAL

1.01 This section describes a procedure for operating the printer service position of the telegraph testboard No. 9. A brief description of the keyshelf and of the jacks in the face equipment is given to aid in better understanding the section.

1.02 The following operations are described:

- (a) Monitoring telephone typewriter service.
- (b) Answering a telephone call from a patron.
- (c) Making a telephone call to a patron.
- (d) Telephoning over a central office trunk.
- (e) Checking the loop current.
- (f) Test Wire operation.
- (g) Emergency use of the telephone loop.
- (h) Use of looping jacks.

2. KEYSHELF AND JACK ARRANGEMENT

2.01 Figure 1 shows the arrangement of the cords and keys on the keyshelf. For convenience in describing the operating procedure, the cords and plugs have been given a letter designation. The first two cords on the left designated "T1" and "T2" are connected to the operator's telephone set circuits No. 1 and 2, respectively. The next fourteen cords from the left are available for connection to fourteen monitoring printers designated "P1," "P2," etc., to "P14," the odd numbers being in the back row and the even numbers in the front row. The front cord on the extreme right designated "T3" is connected to the operator's telephone set circuit No. 3.

Two of the telephone sets may be equipped with dials, for use in dial areas, the dial on the left side of the keyshelf being connected to operator's telephone set No. 2, and the one at the right to the operator's telephone set No. 3. There are three keys on the keyshelf, one associated with each of the operator's telephone circuits to provide for ringing and for talking battery. It will be noted that the telephone keys associated

with sets 1 and 2 are at the left of the keyshelf near the cords with which they are associated.

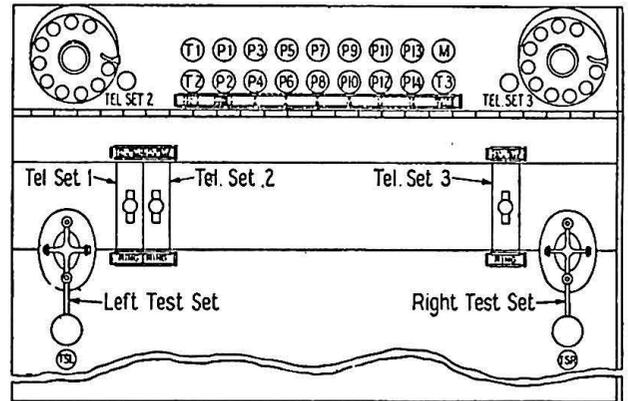


Fig. 1.—Arrangement of Apparatus on the Keyshelf

2.02 The jacks mounted in the face equipment of the printer service equipment are of two general types, the "MON" jacks which are in series with the subscriber's printer circuit and the "TEL-LP" jacks which are used to terminate the subscriber's service telephone loop. (Maximum capacity, 168 printer loop circuits.) There is also a row of miscellaneous jacks which include those for test wires, test sets, telephone trunks, and a group of four looping jacks.

2.03 Only one type of cord is required in making service and testing patches at the printer service position. This is the "C" cord shown in Figure 2.

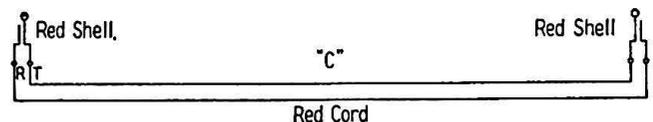


Fig. 2.—Patching Cords

3. METHOD OF OPERATION

(a) Monitoring Telephone Typewriter Service

OPERATION

3.01 To monitor a circuit, insert the plug and cord associated with an idle printer ("P1"-"P14") into the jack associated with the subscriber's circuit which is to be monitored.

3.02 The monitoring features of this switch-board position are obtained by terminating the monitoring printers on cords and plugs in the keyshelf and mounting in the face equipment monitoring jacks connected in series with the printer circuits. Any one of the 14 monitoring printers may thus be connected to any one of the printer subscribers in the position.

3.03 The three figures Figs. 3, 4 and 5 show in schematic form three ways in which monitoring printers are connected to a subscriber's circuit, there being three methods of connecting the monitor jack to repeater circuits.

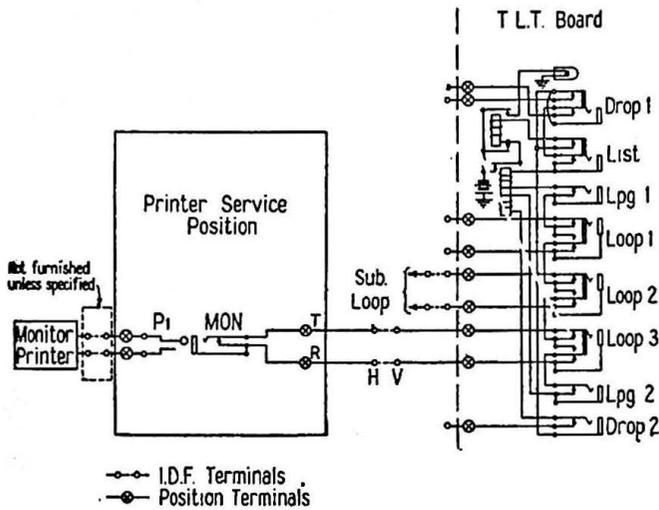


Fig. 3.—This schematic shows the circuit arrangement of the printer connections to the printer service position and the monitoring jack connection to the Telegraph Loop Terminal Board ("Mon." jack connected to "Loop 3" jack).

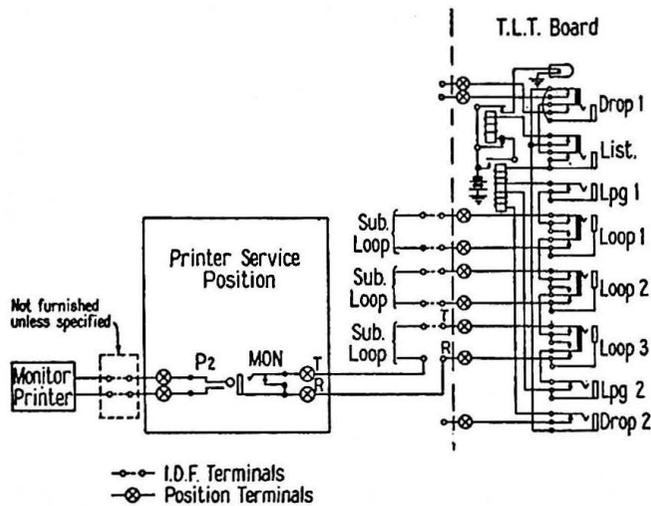


Fig. 4.—Schematic circuit similar to Fig. 2 but in this case "Mon." jack is connected in series with the subscriber's loop to "Loop 3" jack (used where there are no loop jacks available for separate use).

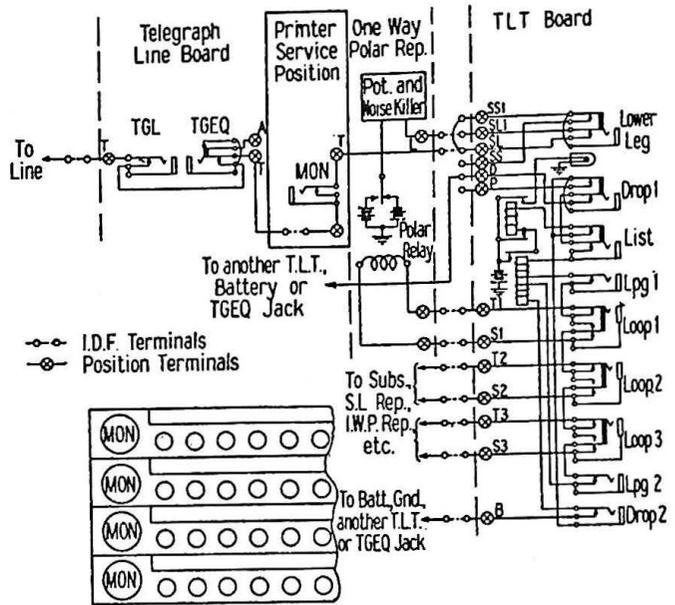


Fig. 5.—Arrangement of "Mon." jack in circuit for one-way Polar Repeater (Monitor printer operated polar). Designation and assembly of "Mon." jacks.

(b) Answering a Telephone Call from a Patron

OPERATION

3.04 To answer a subscriber's call, insert plug "T1" associated with set 1 into the jack associated with the subscriber's service telephone and operate corresponding talking key, "TEL SET 1," to "Talk-battery" position. If set 2 or 3 is to be used, insert plug "TEL-2" or "TEL-3" and operate corresponding key.

3.05 The service telephone used by subscribers to communicate with the test room terminates in a jack for each subscriber in the upper group of jacks on the printer service position. The telephone at the subscriber's office is of the common battery type and the subscriber calls by lifting the receiver from the hook.

3.06 Figure 6 shows a schematic of the circuit arrangement including the jacks at the Telegraph Loop Terminal Board, the termination of the loop at the Printer Service position, the operator's telephone circuit and the subscriber's telephone. As noted on the schematic, in dial areas the dial and associated relays are connected in series with the coil "C." Two of the telephone circuits are connected to hand sets, as shown in the schematic sketch, while the third is connected to jacks in the keyshelf apron—for use with operator's telephone set.

(c) Making a Telephone Call to a Patron

OPERATION

- 3.07 To call the patron to the service telephone, insert the plug, "T1," into the jack associated with the subscriber's line. Operate key "TEL. SET-1" to "RING" position. Then operate to "TALK BATTERY" position. The other Telephones are of course available if telephone set 1 is in use.
- 3.08 The circuit arrangement is that already referred to and shown in Figure 6.

(d) Telephoning Over a Central Office Trunk

OPERATION

- 3.09 To answer an incoming or to make an outgoing call leave key normal and insert the plug of "TEL-1," "TEL-2" or "TEL-3" cord into trunk jack. Use the corresponding telephone set.

- 3.10 One or more trunks will usually be terminated in jacks with the miscellaneous jacks in the face equipment.

(e) Checking Loop Current

OPERATION

- 3.11 To read the current in any subscriber's loop circuit, insert the plug ("M") into the "MONITOR" jack associated with that line.
- 3.12 The milliammeter terminates in a cord ("M") at the right of position.
- 3.13 The circuit arrangement is shown in Figure 7.
- 3.14 A relay is provided to protect the meter against excessive current. A current larger than about .165 ampere will cause the relay to operate and cut-off the meter.
- 3.15 Current in the proper direction in the loop will cause the meter to read to the right.

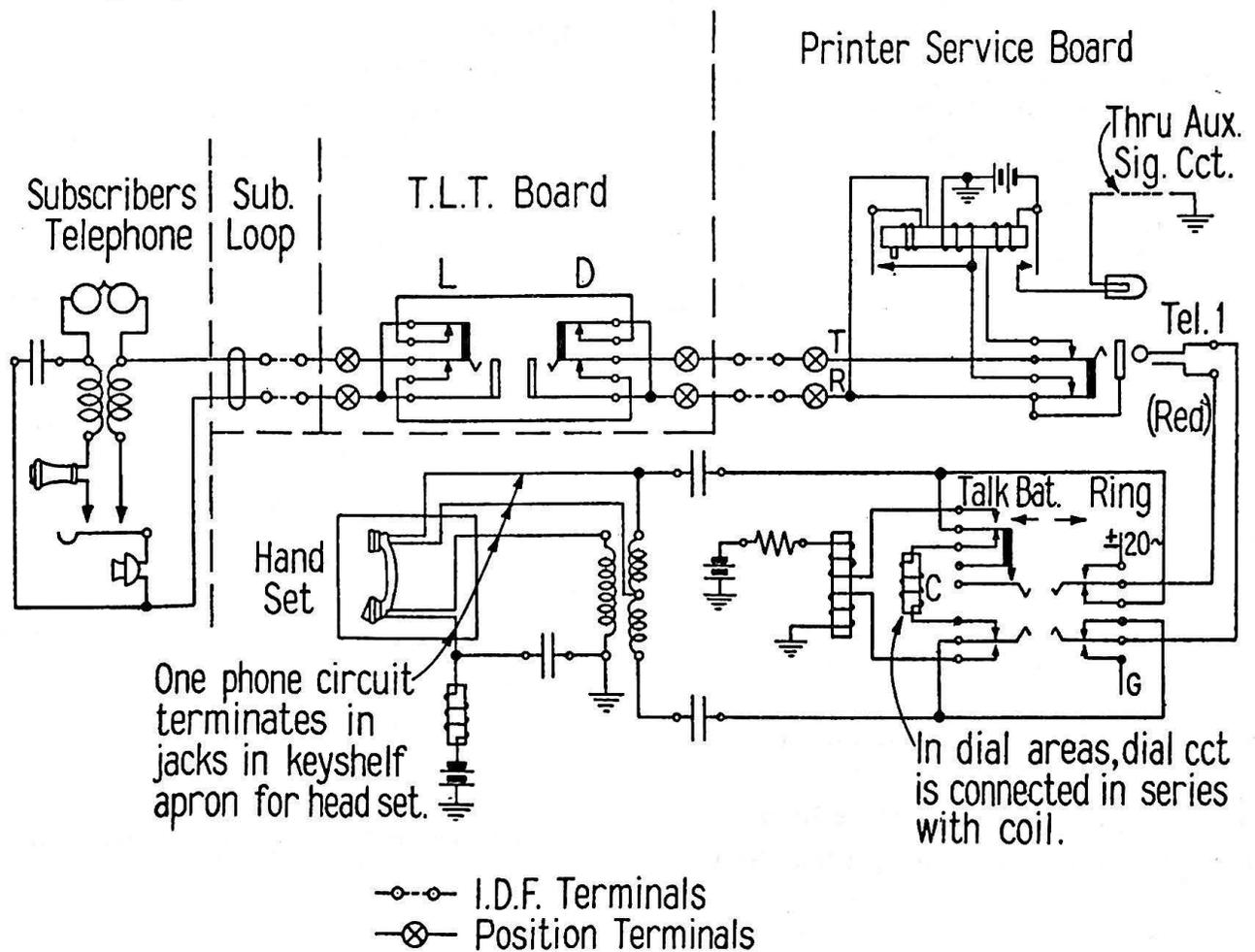


Fig. 6.—Schematic circuit of Service Telephone including operator's set.

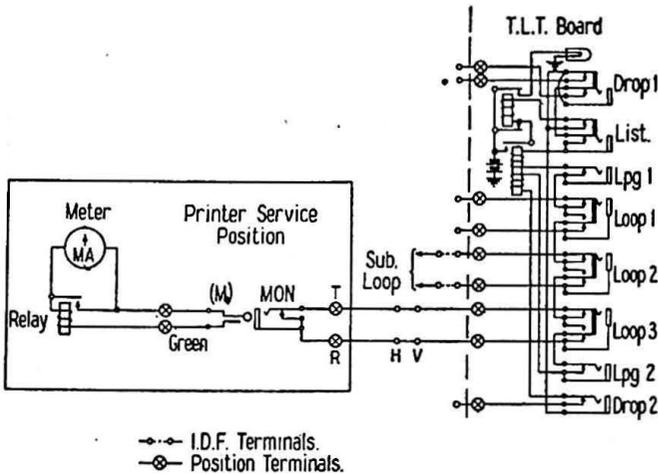


Fig. 7.—Schematic showing circuit arrangement when the meter is used.

(f) Test Wire Operation

3.16 Provision for the operation of two test wires is made in each position, the telegraph keys being located on the keyshelf and the sounders above the jacks in the face equipment. The circuit arrangement is shown in Figure 8. It will be noted that two jacks are provided in connection with each telegraph test set, a "looping" jack on the left and a "test" jack on the right, mounted with the miscellaneous jacks.

3.17 To connect the telegraph test set in series with a test wire appearing at the position in a single jack, insert the plug of a "C" patching cord in one of the test set "TEST" jacks and the other end in the test wire "LOOPING" jack.

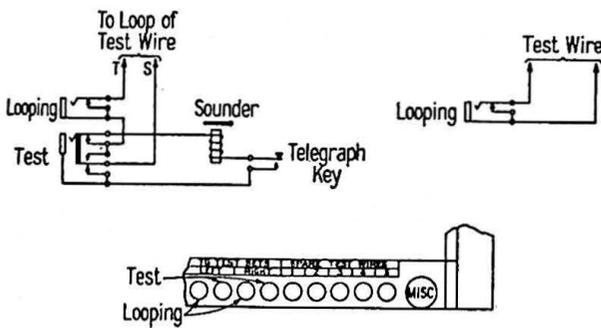


Fig. 8.—Telegraph testing set (two are provided); a test wire terminated in a looping jack; jack arrangement and designation for test wires.

(g) Emergency Use of Telephone Loop

3.18 It is possible to make a patch at the T. L.

T. board which will connect the printer loop to the printer service board as a telephone loop for emergency operation.

3.19 If the trouble in the regular printer loop is not such as to prevent its use as a telephone circuit, or if the trouble has been cleared, but to avoid interrupting service the loop has not been put back into regular use, the printer loop may be used temporarily for the telephone. This is also done at the T. L. T. board.

(h) Use of Looping Jacks

The three general uses of the set of Looping Jacks are as follows:

3.20 Connect two monitoring printers on same circuit.

Patch from "L" looping jack to "MON" jack with "C" cord and insert plug associated with the two monitoring printers ("P1," "P2," etc.) into "1," "2" or "3" looping jacks.

3.21 Reversing connections to monitoring printer when the loop is "turned over."

Patch from "1" looping jack to "MON" jack with "C" cord and plug monitoring printer in "2" or "3" looping jack.

3.22 Reading current while monitoring printer is also connected to the circuit.

Patch from "L" looping jack to "MON" jack with "C" cord and insert the plug associated with the monitoring printer "P1," "P2," etc. Into "1," "2" or "3" looping jack and plug associated with the meter ("M") into either of remaining looping jacks.

3.23 The circuit connections of the jacks are shown in Fig. 9.

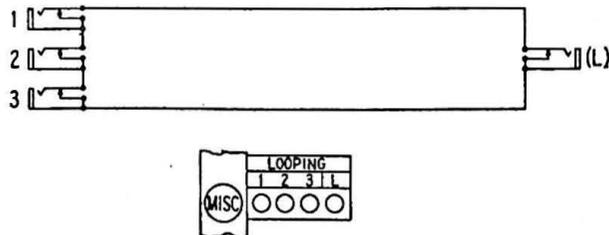


Fig. 9.—Circuit, jack arrangement designation of "looping" jacks.