

LINE FINDERS
OPERATION TESTS
702A PBX

1. GENERAL

1.01 This section describes methods of testing the operating features of line finders in a No. 702-A P B X

1.02 These features are covered by the following tests:

- (A) Dial Tone Test.
- (B) Restricted Service Test.
- (C) Group and Chain Circuit Test.
- (D) Particular Extension Test.

1.03 Test (B) is usually made at infrequent intervals and only on line finders arranged for restricted service. Test (D) is made when it is necessary to check a complaint.

1.04 When a trouble is encountered on a line finder, it should be made busy until the trouble has been cleared.

2. APPARATUS

2.01 Test Set per SD-90210-01. (J-34704-A.)

2.02 Attendant's Telephone Set or Dial Hand Test Set equipped with a No. 2-CB Dial and a No. 240-F Plug. (Lamp omitted.)

2.03 Four No. P3E Cords, equipped with No. 110 Plugs.

2.04 One No. W1B Cord, equipped with No. 110 Plug and one No. 59 Cord Tip.

2.05 One No. W2C Cord, equipped with No. 110 Plug and two No. 59 Cord Tips.

3. METHOD

(A) Dial Tone Test

3.01 See that each test set key is in the normal position.

3.02 Connect the BAT jack of the test set to the BAT jack on the line finder jack panel using a P3E cord.

3.03 Connect the attendant's telephone set to the TEL jacks of the test set or a dial hand test set to the HS jacks of the test set. In the latter case operate the TRS key of the test set. Also, in making tests operate the C button in the hand set and use the hand set dial instead of the test set dial.

3.04 Connect the test set jacks A and B to the line finder test panel jacks A and B, respectively, using P3E cords.

Note: In order to provide tests on both the upper and lower line finder bank test line terminals, the test set jacks B and A should be connected to test line jacks A and B, respectively, on each alternate cycle of the routine.

3.05 Connect the test set jack LF to the test jack of the line finder under test located on the jack panel using a P3E cord.

3.06 Operate the SD key and leave it operated throughout the test.

3.07 Operate the LP key and note that the line finder hunts and finds the test line terminals.

3.08 Note that dial tone is heard in the receiver when the line finder stops.

3.09 Note that the REV lamp on the test set remains extinguished during the test. A lighted REV lamp indicates that the tip and ring wires of the line finder or first selector circuit are reversed.

3.10 Restore the LP key and note that the line finder restores to normal.

3.11 If a failure is encountered note whether the C, S or C-BLK lamps on the line finder jack panel are lighted. If so proceed to trace the alarms.

(B) Restricted Service Test

3.12 Proceed as outlined in 3.01 to 3.05. Operate the P B X and RS keys and then the LP key. When the line

finder has selected the test line, note that dial tone is heard in the receiver. Restore the RS key to normal.

3.13 With the LP key operated, dial a restricted level and after the selection has been made, note that busy tone is heard in the receiver.

Note: It should be recognized that if all trunks on the level dialed are busy when the test is made, a check is not made of the restricted service feature.

3.14 Note that the REV lamp on the test set remains extinguished during the test. A lighted REV lamp indicates that the tip and ring wires of the line finder or first selector circuit are reversed.

3.15 With the LP key operated, dial the level above the restricted level and after the selection has been made, note that the busy tone is not heard.

3.16 Repeat the test in 3.15 but dial the level below the restricted level. Note that busy tone is not heard.

3.17 Restore the LP key and note that the line finder restores to normal.

(C) Group and Chain Circuit Test

3.18 Operate the FDR ST TST key on the line finder jack panel. Note that each idle line finder, in turn, beginning with No. 1 steps to the proper level as indicated by the following table, rotates to the 10th step in the case of line finders equipped with the "Z" relay or the 11th step of line finders not equipped with the "Z" relay.

Sequence of Operation
200 Point Line Finders
Capacity of Unit—Switches

30 Switch No.	20 Switch No.	16 Switch No.	Level Cut In
1, 11, 21	1, 11	1, 11	1
10, 20, 30	10, 20	10	2
9, 19, 29	9, 19	9	3
8, 18, 28	8, 18	8	4
7, 17, 27	7, 17	7	5
6, 16, 26	6, 16	6, 16	6
5, 15, 25	5, 15	5, 15	7
4, 14, 24	4, 14	4, 14	8
3, 13, 23	3, 13	3, 13	9
2, 12, 22	2, 12	2, 12	10

3.19 Should an extension station originate a call while the FDR ST TST key is operated, the test may be momentarily interrupted while a line finder seizes the calling line, after which the operation of the line finders will continue. The operation of a line finder due to a call will usually be indicated by the line finder operating and not releasing while the other idle line finders continue to operate and release in the proper order.

3.20 The failure of any line finder to respond usually indicates that the start lead is open through the last switch seized. The defect should be cleared at this time.

3.21 If no failure is encountered, the last switch in the group should open the multiple chain circuit. This is indicated by the first line finder again operating. Note that the red C-BLK (call block) lamp and associated aisle pilot lamps light and that the audible alarm operates.

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3.22 Restore the FDR ST TST keys, retiring the alarm.

(D) Particular Extension Test

3.23 Proceed as outlined in 3.01 to 3.03.

3.24 Connect the W1B cord to the test set jack C and to the "S" terminal of the line circuit to be tested, by means of the No. 59 cord tip. If the BSY lamp in the test set does not light (indicating that the line is idle) or when the lamp is extinguished, following a busy condition, connect the W2C cord to the test set jack T. Then connect the No. 59 cord tip on the white conductor to the tip terminal and the No. 59 cord tip on the blue conductor to the ring terminal of the extension under test at the line finder frame terminal block.

3.25 Operate the LP key and note that dial tone is heard in the receiver.

3.26 Dial a central office trunk level and check that central office dial tone or an operator's answer is received, de-

pending on whether the central office trunks terminate in a dial or manual central office.

Note: If the line is wired for restricted service on the central office trunk level, busy tone should be heard in the receiver.

3.27 Restore the LP key. When the line finder returns to its normal position, operate the LK key. Note that dial tone is heard in the receiver.

3.28 Dial the number of the line under test and after the selection has been made note that busy tone is received. Restore the LK key.

3.29 Disconnect the test apparatus.

4. REPORTS

4.01 The required record of this routine should be entered on the proper form.