

MISCELLANEOUS TESTS OF PARTIAL
TOUCH-TONE ARRANGEMENT-SUBSCRIBER
SENDER LINK AND CONTROLLER CIRCUIT

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1. GENERAL INFORMATION

1.1 Description of Test: This section describes the miscellaneous tests to be applied to subscriber sender link and controller circuit if Touch-Tone feature is provided on a partial arranged basis.

1.2 Testing Additions: These tests should be applied before cross-connections of associated leads are made at D.J.G.F. and after cross-connections per note 212 (note 146 for SD-25004) have been made in sender link and controller circuit.

2. TEST EQUIPMENT

2.1 Test Sets:

Amt	ITE	Description
1	4442 or 4034	Volt-Ohmmeter
1	4033B	Link Frame Test Set

2.2 Cords required with ITE-4033B:

Amt	ITE	Lgth	Cdrs	One End	Other End	Equipped With
1	9598	12'	2	310 Plug	310 Plug	10 ITE-4085
1	9984	12'	10	Jones P-312CCT	10 ITE-2461	10 ITE-4085 Push-on Clips

2.3 Accessories:

Amt	ITE	Description	Supplied With
2	9548	Cords	ITE-4023
1	R-9572	Test Receiver	ITE-4023
1	R-1824	Pencil Lamp	ITE-4023
20	KS-16887L1 or 768A	Blocking Wedge	ITE-4023

3. OPERATION OF RELAYS RDA, TDA, RD, TTD, RD1, AND TD1

3.1 Block operated relay GO. Connect -48V battery with an ITE-9548 cord to punching 53 (40 for SD-25004) of D.J.G. T.S. 0-1. Verify relays RD and RD1 operate. Remove ITE-9548 cord from battery and connect it to ground. Verify relays TTD and

TD1 operate. Repeat procedure at T.S. 2-3, 4-5, 6-7, and 8-9 with relay G1, G2, G3, and G4 respectively blocked operated. Release G-relay and remove ITE-9548 cord from circuit.

3.2 Operate relay TL. Verify relay RD operates. Release relay TL. Block operated relay ClB. Apply ground to punching 51 of T.S. AMA. Verify relay RD operates. Remove ground from punching 51 and apply to punching 52. Verify relay TTD operates. Remove ground cord.

4. OPERATION OF RELAY TR THROUGH IDK AND IDK1 LEADS

4.1 For SD-25554 or SD-25004 with Figure B or D Alarm Circuit, block operated relays HD and ZA. For SD-25004 with Figure A or C, block operated relays HD, DS, and TA. Verify relay TR is not operated. Block operated relay RD1. Verify relay TR operates. Release relays TD1, HD, DS, TA, and ZA.

5. RD AND TD DIODES

5.1 Prepare ITE-4442 Volt-ohmmeter for use by attaching red cord to plus(+) jack and black cord to minus(-) jack. Set scale to R x 1000. Block operated relays GBO-9 and GO. At D.J.G. T.S. 0-1 connect black lead to punching 39. Connect red lead first to punching 22 (41 for SD-25004) then to punching 24 (22 for SD-25004). Read high resistance at both points. Connect red lead to punching 39, connect black lead to punching 22(41 for SD-25004). Read low resistance. Operate relay TD1 and read (∞) resistance. Release relay TD1. Move black lead to punching 24 (22 for SD-25004). Read low resistance. Operate relay RD1 and read (∞) resistance. Release relay RD1. Repeat test at D.J.G. T.S. 2-3, 4-5, 6-7 and 8-9 with relays G1, G2, G3 and G4 operated respectively. Leave relays GBO-9 blocked operated for next test

6. MAKE BUSY

6.1 Block operated relays GBO-9. Verify ground is present at punching 25 of D.J.G. T.S. 0-1, 2-3, 4-5, 6-7, and 8-9, provided make busy plug is not inserted in jack. Leave GB- relays operated for next test.

7. GT AND TGT LEADS

7.1 Block operated relays GO and GBO-9. Block operated relay RD. Release in turn relays GBO-9. Verify relays SGO-9 respectively operate. Release relay RD and block operated relays TGBO-9. Block operated relay TTD. Release in turn relays TGBO-9. Verify relays SGO-9 respectively operate. Release relay TTD and GO. Repeat test for groups 1-4 with G1, G2, G3, and G4 respectively blocked operated, instead of GO.

8. RDA AND TDA LEADS

8.1 Block operated relays GBO-9 and TGBO-9. Using ITE-9598 cord supplied with test set ITE-4033B, connect -48V battery and ground from frame -48V TBS to jack A of ITE-4033B. Connect ITE-9984 cord supplied with test set to jack S of ITE-4033B and equip the ten leads at other end with ITE-4085 push-on clips. At test set, turn key SB-SG to SB position. Connect leads 0-4 to punching 22 (41 for SD-25004) of D.J.G. T.S. 0-1, 2-3, 4-5, 6-7, and 8-9 respectively. Connect leads 5-9 to punching 24 (22 for SD-25004) of T.S. 0-1, 2-3, 4-5, 6-7, and 8-9 respectively.

8.2 Release relays GBO and TGBO. All ten lamps should light. At secondary switch 0, momentarily operate in turn D-hold magnets 0-4. Lamps (0,5), (1,6), (2,7), (3,8), and (4,9) should extinguish in pairs. Reoperate and block relays GBO and TGBO. Release relays GB5 and TGB5. Momentarily operate in turn D-hold magnets 5-9. Lamps should extinguish in pairs as before. Reoperate and block relays GB5 and TGB5.

8.3 Repeat test at secondary switch 1 with GB1, TGB1 released for D-hold magnets 0-4 and GB6, TGB6 released for D-hold magnets 5-9. Repeat test at secondary switches 2, 3, and 4 with relays (GB2, TGB2—GB7, TGB7) (GB3, TGB3—GB8, TGB8) and (GB4, TGB4—GB9, TGB9) released respectively. Release relays GBO-9 and TGBO-9. Remove ITE-4033B test set from frame.

8.4 Apply -48V battery to punching 6 of terminal strips at secondary switches. Verify relays TGBO-9 respectively operate.

9. RDP AND TTP LEADS

9.1 At relay CO, verify ground is not present at 10M or 11M. Operate relay RD1. Ground should be present at 10M. Release relay RD1 and operate relay TD1. Ground should be present at 11M. Release relay TD1. Repeat test at relays C1-C9.

10. SUBSCRIBER SENDER SELECT UNIT

10.1 At subscriber sender select unit 0 (SSS-0) mounted on miscellaneous frame, block operated all relays SB-associated with either Rotary-Dial or Overflow senders. Verify relay SGB operates, relay TTGB normal. Release relays SB- associated with Rotary-Dial senders and block operated re-

lays SB- associated with Touch-Tone senders. Verify relay TTGB operates, relay SGB normal. If no senders are arranged for Touch-Tone at this time, apply ground momentarily to punching 54(TMB) of T.S. on unit. Verify relay TTGB operates. Release all SB- relays and remove ground from punching 54.

10.2 Connect the cords of an R-3311 test lamp across punchings 10 and 57 of T.S. on unit. Block operated relays SB- associated with either Rotary-Dial or Overflow senders. Verify test lamp lights. Release relays SB- associated with Rotary-Dial senders. If any senders are arranged for Touch-Tone at this time, remove cord from punching 10 and reconnect to punching 11. Block operated relays SB- associated with Touch-Tone senders. Verify test lamp lights. Release relays SB- and remove R-3311 test lamp from circuit.

10.3 Ground punching 35 of T.S. unit. Verify that relay SGB operates and that relay TTGB and its associated TGB relay at the Sender Link Frame operate. Remove ground from punching 35 and (SD-25554-01 only) connect it to punching 74. Verify as before the operation of the SGB, TTGB, and TGB relays. Remove ground from punching 74.

10.4 Block operated relays TTGB and SGB. Verify ground is present at punching 37 of T.S. on unit. Release relays TTGB and SGB. Using an R-3311 test lamp, verify continuity from relay SGB-10B to relay TTGB-10B. Verify ground is present at relay TTGB-9B. Using an ITE-4442 or ITE-4034 Volt-ohmmeter, verify 1200 resistance from relay TTGB-6B to punching 38 (55 for SD-25004) of T.S. on unit. Check that ground is present at relay TTGB-SB. Block operated relay TTGB. Using an ITE-4137 AC continuity test set or any other continuity test device, verify continuity between punching 38 (55 for SD-25004) of all SSS units in same group.

10.5 If ZU wiring is provided for SD-25554 or VE wiring is provided for SD-25004, block operated all SB- relays associated with either Rotary-Dial or Overflow senders. Block operated relay SGB. Verify relay FB does not operate. Momentarily release each SB- relay associated with either a Rotary-Dial or Overflow sender in turn. Verify that if at least one SB-relay associated with either a Rotary-Dial or Overflow sender is normal, relay RF operates. Release relay SGB and all SB-relays associated with Rotary-Dial senders. Block operated relay TTGB and all SB- relay associated with Touch-Tone senders. Verify relay FB does not operate. Release each SB- relay associated with a Touch-Tone sender in turn. Verify if at least one SB-relay associated with a Touch-Tone sender is normal, relay FB operates. Release relay TTGB and all SB- relays associated with either Touch-Tone or Overflow senders. Block operated relay FB. Verify ground is present at punching 36 (78 for SD-25004) of T.S. on unit. Release relay FB.

10.6 Repeat test at all subscriber sender select circuits.

→ Arrowed lines indicate new or changed information

Reason for Reissue:
To incorporate a TI and to remove reference to toothpicks.

Manager, Crossbar Product Engineering
Control Center