REVERTING CALL TRUNKS
TESTS USING TRUNK TEST CIRCUIT SD-25918-01
NO. 5 CROSSBAR OFFICES

1. GENERAL

1.01 This section provides a method of testing reverting call trunks, SD-25703-01, SD-25704-01, SD-26068-01, and SD-26069-01, using the master test frame and trunk test circuit.

1.02 This section is reissued for the following reasons:

(a) To add testing features for an office arranged for the Electronic Translation System (ETS)

(b) To revise Table A and B for immediate ringing features

(c) To revise Test O

(d) To make minor changes as required.

This reissue does not affect Equipment Test Lists.

1.03 The tests covered are:

A. Trunk Seizure and Release:
   The following features are checked:
   (1) Seizure and release of the trunk and completion of a connection from the master test frame (MTF) to the reverting call trunk. (2) Continuity of the tip and ring of the trunk and the polarity of the talking battery. (3) That a service call can complete to an idle trunk.

B. Ringing Features: This test checks the ability of the trunk to apply all ringing codes and that they are applied to the proper side of the line and are of the correct polarity.

C. Pretrip and Trip: This test checks the operation of the trip relay.

D. Supervision Hold and Release Features: The following features are checked: (1) Operation of the RL relay and ability of the trunk to hold when extra digits are dialed into the trunk. (2) When 4-party selective and 8-party semiselective trunks are being tested, the trunk will release when the called party disconnects if an unused digit is dialed into the trunk.

E. Trunk-Busy Features: This test checks that only a test call can complete to an idle made-busy trunk.

F. Dial Pulse: This test checks loop and leak marginal conditions for various relays in the reverting call trunk when a station digit is received by the trunk.

G. Single Frequency—TOUCH-TONE: This test checks the ability of a reverting call trunk to disregard signals comprised of a single TOUCH-TONE frequency.

H. Special 3-Frequency—TOUCH-TONE: This test checks the ability of a reverting call trunk to disregard signals comprised of three frequencies, two of which are a valid combination of TOUCH-TONE frequencies at a normal

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db level with a third frequency above the band of TOUCH-TONE frequencies at a higher db level.

I. Maximum and Minimum Frequency— TOUCH-TONE: This test checks the ability of a reverting call trunk to function properly when it receives TOUCH-TONE signals comprised of frequencies which are higher or lower than the normal frequency.

J. Low and High Level Test— TOUCH-TONE: This test checks the ability of the reverting call trunk to function properly over a fixed range of signal input levels.

K. Single Frequency: This test checks the ability of a reverting call trunk to disregard signals comprised of a single TOUCH-TONE frequency.

L. Special 3-Frequency: This test checks the ability of a reverting call trunk to disregard signals comprised of three frequencies. Two are TOUCH-TONE frequencies at a normal db level; the third frequency is above the band of TOUCH-TONE frequencies at a higher db level.

M. Maximum and Minimum Frequency: This test checks the ability of a reverting call trunk to function properly when it receives TOUCH-TONE signals comprised of frequencies which are higher or lower than the normal frequency.

N. Low and High Level Test: This test checks the ability of the reverting call trunk to function properly over a fixed range of signal input levels.

O. Dial Pulse: This test checks loop and leak marginal test conditions for various relays in the reverting call trunk when a station digit is received by the trunk. This test is for use in offices equipped only for rotary dial telephone sets.

1.04 After ringing is set, the reverting call trunk will release until ringing is tripped. If the test call is abandoned before ringing is tripped, the trunk will not release. This condition is indicated by the AS lamp being lighted.

1.05 When testing reverting call trunks, a condition of the IAO trunk busy with the same TS as the reverting call trunk under test, will give a trunk-busy (TB) lamp indication. In this case, make all reverting call trunks busy on the same trunk link frame except the one under test. Restore the TS key so that any idle IAO trunk may be used to start the test. If all IAO trunks are busy on the same trunk link frame, the test cannot be done until at least one IAO trunk is idle. Complete the test during periods of low traffic conditions.

1.06 Lettered Steps: A letter a, b, c, etc, added to a step number in Parts 3 and 4 of this section indicates an action which may or may not be required depending on local conditions. The condition under which a lettered step or a series of lettered steps should be made is given in the ACTION column, and all steps governed by the same condition are designated by the same letter within a test. Where a condition does not apply, all steps designated by that letter should be omitted.

1.07 The manner of selecting some circuits and test conditions at the MTF and its associated circuits varies depending on the apparatus options furnished with these circuits. Therefore, where variable means of selection are provided, precise instructions for the selection of circuits and test conditions are not given. Precise instructions for the use of these variable means are given in Section 218-106-301.
1.08 The location statement, At MTF—, is used to refer to all apparatus located on the four basic bays of the MTF.

1.09 When the office is arranged for ETS, the distributors and scanners associated with the marker and trunk used in the test call must be in service or in a maintenance-busy condition—not in an out-of-service condition. To change a scanner on distribution from an out-of-service to a maintenance-busy condition, use the procedure given in the following section for the office arrangement.


1.10 When the trunk under test is arranged for ETS, the first completed test call from the MTF will cause the TST bit to be set in the trunk register associated with the selected trunk, enabling trunk scanning to be repeated on the FT lamp at the MTF trunk test circuit. As long as the TST bit is set in the trunk register, supervision will continue to be repeated on the lamp, even on service calls. The TST bit will remain set in the trunk register until (1) a test call is made from the MTF to another trunk, or (2) the command STOP:TRK TST is entered at the maintenance TTY.

2. APPARATUS

All Tests

2.01 Master test control circuit SD-25800-01.

3. PREPARATION

All Tests

Note: Refer to §1.04, 1.05, 1.07, 1.09, and 1.10.

1. At MTF—
   Restore all keys and switches.

2. Momentarily operate RL key.

3. Select A through G digits for office code and number assigned to originating test line.

   All lamps extinguished.

2.02 Trunk test circuit SD-25918-01.

Test D

2.03 KS-3008 stopwatch or equivalent.

Tests F Through J

2.04 Automatic monitor, register, and sender test circuit SD-25680-01.

Tests K Through N

2.05 Test circuit for register and CAMA sender circuits SD-25988-01.

2.06 Test set circuit for register and CAMA sender circuits (test set) SD-25676-01.

2.07 Patching cord, P3K cord, 6 feet long, equipped with two 310 plugs (3P15A cord) (for patching RC jacks).

2.08 Testing cord, 20-conductor cord, 6 feet long, equipped with one KS-13875 plug and one KS-13895 plug (W20C cord) (for connecting IRT jack of test circuit for register and CAMA sender circuits to IRT jack of test set).

Test O

2.09 3A pulse generating test set J94732A and power supply unit J94732B (SD-95686-01).
<table>
<thead>
<tr>
<th>STEP</th>
<th>ACTION</th>
<th>VERIFICATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Select marker.</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Select MISC class of test.</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Operate FS, TS, KRC keys.</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Select class of service and rate treatment as required.</td>
<td></td>
</tr>
<tr>
<td>8a</td>
<td>If ETS provided— Operate PCS, PTS keys.</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Select originating class of call and translator indication as required.</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Select trunk.</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Operate GPA/GPB key as required for selected group when trunk is in an allotted subgroup.</td>
<td></td>
</tr>
</tbody>
</table>

**Tests A Through E, G Through J**

| 12b  | If TOUCH-TONE signaling is used— Operate PB key. |  |

**Tests A, C Through N**

| 13   | Select ringing combination 01. |  |
| 14   | Operate TLK key. |  |

**Tests B, C, F Through N**

| 15c  | If RVC key is provided— Operate RVC key. |  |
| 16d  | If TR key is provided and RVC key is not provided— Operate TR key. |  |

**Tests K Through N**

| 17   | Connect test set IRT jack to IRT jack at MTF. |  |
| 18   | Patch test set RC jack to master test control circuit RC jack. |  |
| 19   | At test set— Set L switch to OFF. |  |
| 20   | Operate PB, RP keys. |  |

Page 4
### 4. Method

#### A. Trunk Seizure and Release

15. Momentarily operate ST key.

16c. If trunk under test is SD-25703-01 or SD-26068-01—
   Momentarily restore TLK key.

17. Restore TLK key.

18. Momentarily operate RL key.

19. Restore all keys and switches not required in next test.

#### B. Ringing Features

For SD-25703-01 or SD-26068-01 Reverting Call Trunks

17. Operate TLK key.

18. Select first ringing combination as shown in Table A.
<table>
<thead>
<tr>
<th>RC</th>
<th>TRUNK EQUIPPED TO SERVE</th>
<th>RINGING DETECTION</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2P</td>
<td>4PSS</td>
</tr>
<tr>
<td>*01</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>02</td>
<td></td>
<td>√</td>
</tr>
<tr>
<td>03</td>
<td></td>
<td>√</td>
</tr>
<tr>
<td>04</td>
<td></td>
<td>√</td>
</tr>
<tr>
<td>05</td>
<td></td>
<td>√</td>
</tr>
<tr>
<td>*11</td>
<td></td>
<td>√</td>
</tr>
<tr>
<td>12</td>
<td></td>
<td>√</td>
</tr>
<tr>
<td>13</td>
<td></td>
<td>√</td>
</tr>
<tr>
<td>14</td>
<td></td>
<td>√</td>
</tr>
<tr>
<td>15</td>
<td></td>
<td>√</td>
</tr>
</tbody>
</table>

* In offices arranged for marker controlled immediate ring, set RMBR switch to position 1.

19 Momentarily operate ST key.  
   • If ETS provided—
     FT lamp lighted.  
     AS lamp lighted.  
     PK lamp not lighted.  
     Line-busy tone heard.

20 Restore TLK key.  
   Lamp associated with ringing combination selected lighted as indicated in Table A.  
   If R- lamp lighted—
     T- lamp lighted for 1/2 second every 3 seconds.  
   If T- lamp lighted—
     R- lamp lighted for 1/2 second every 3 seconds.

21 Operate TLK key.  
   AS lamp remains lighted.  
   R-, T- lamps extinguished.

22 Restore TLK key.  
   • If ETS provided—
     FT lamp extinguished.  
     AS lamp extinguished.

23 Momentarily operate RL key.  
   All lamps extinguished.

24 Repeat Steps 17 through 23 for each ringing combination provided as indicated in Table A.
25  Restore all keys and switches not required in next test.

26  Operate TLK key.

27  Select first ringing combination as indicated in Table B.

28  Momentarily operate ST key.

29  Using dial of MTF telephone circuit—
    Dial station digit associated with ringing combination as indicated in Table B.

30  Restore TLK key.

31  Operate TLK key.

---

\*TABLE B\*

<table>
<thead>
<tr>
<th>RC</th>
<th>STATION DIGIT</th>
<th>TRUNK EQUIPPED TO SERVE</th>
<th>RINGING DETECTION</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>2P</td>
<td>4PFS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LAMP</td>
<td>CODE</td>
</tr>
<tr>
<td>11</td>
<td>2</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>01</td>
<td>3</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>07</td>
<td>4</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>06</td>
<td>5</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>12</td>
<td>6</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>03 or 08*</td>
<td>7</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>12 or 09*</td>
<td>8</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>02</td>
<td>9</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

* Trunk equipped with 4W ringing selection switch.

† In offices arranged for marker controlled immediate ring, set RMBR switch to position 1.
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<table>
<thead>
<tr>
<th>STEP</th>
<th>ACTION</th>
<th>VERIFICATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>32</td>
<td>Restore TLK key.</td>
<td>• If ETS provided—&lt;br&gt;  FT lamp extinguished. •&lt;br&gt;  AS lamp extinguished.</td>
</tr>
<tr>
<td>33</td>
<td>Momentarily operate RL key.</td>
<td>All lamps extinguished.</td>
</tr>
<tr>
<td>34</td>
<td>Repeat Steps 26 through 33 for each ringing combination provided as indicated in Table B.</td>
<td></td>
</tr>
<tr>
<td>35</td>
<td>Restore all keys and switches not required in next test.</td>
<td></td>
</tr>
</tbody>
</table>

C. Pretrip and Trip

17   | Momentarily operate ST key.                                            | • If ETS provided—<br>  FT lamp lighted. •<br>  AS lamp lighted. PK lamp **not** lighted. If trunk under test is SD-25703-01 or SD-26068-01—<br>  Line-busy tone heard. If trunk under test is SD-25704-01 or SD-26069-01—<br>  High tone heard. If TOUCH-TONE signaling is used—<br>  TOUCH-TONE dial tone or 440-Hz tone heard. |

18   | If trunk under test is SD-25703-01 or SD-26068-01—<br> Restore TLK key. | AS lamp remains lighted. R- lamp lighted for 2 seconds every 6 seconds. T- lamp lighted for 1/2 second every 3 seconds. |

19f  | If trunk under test is SD-25704-01 or SD-26069-01—<br> Using dial of MTF telephone circuit, dial station digit 3. | AS lamp remains lighted. Line-busy tone heard. |

20f  | Restore TLK key.                                                       | AS lamp remains lighted. R- lamp lighted for 2 seconds every 6 seconds. T- lamp lighted for 1/2 second every 3 seconds. |

21   | While R-, T- lamps are extinguished—<br> Operate PTP key for 1/2 second. | R-, T- lamps continue to flash. |

22   | While R-, T- lamp are extinguished—<br> Operate TRP key for 1 second.   | R-, T- lamps **not** lighted. AS lamp extinguished. • If ETS provided—<br>  FT lamp extinguished. • |

23   | Momentarily operate RL key.                                            | All lamps extinguished.                                                                        |
24. Restore all keys and switches not required in next test.

D. Supervision Hold and Release Features

For SD-25703-01 or SD-26068-01 Reverting Call Trunks

15. Momentarily operate ST key.

16. Using dial of MTF telephone circuit, dial station digit 0.

17. Restore TLK key.

18. Operate TLK key.

19. Restore TLK key.

20. Momentarily operate RL key.

21c. If trunk is equipped with a 235-type RL relay—
Allow 2 minutes to elapse before proceeding with Step 21.

22d. If trunk is equipped with a tube-type RL relay—
Allow 4 minutes to elapse before proceeding with Step 21.

23. Operate TLK key.

24. Momentarily operate ST key; *start timing.*

25. Momentarily operate RL key.

26. Restore all keys and switches not required in next test.

VERIFICATION

• If ETS provided—
  FT lamp lighted.
  AS lamp lighted.
  PK lamp not lighted.
  Line-busy tone heard.

AS lamp remains lighted.

AS lamp remains lighted.

AS lamp remains lighted.

• If ETS provided—
  FT lamp extinguished.
  AS lamp extinguished.

All lamps extinguished.

• If ETS provided—
  FT lamp lighted.
  AS lamp lighted.
  Line-busy tone heard.
  In 13 to 32 seconds—
  AS lamp extinguished.

• If ETS provided—
  FT lamp extinguished.

All lamps extinguished.
For SD-25704-01 or SD-26069-01 Reverting Call Trunks

27   Momentarily operate ST key.
     • If ETS provided—
       FT lamp lighted.
       AS lamp lighted.
       PK lamp not lighted.
       High tone heard.
     If TOUCH-TONE signaling is used—
       TOUCH-TONE dial tone or 440-Hz tone heard.

28   Using dial of MTF telephone circuit, dial station digit 0.
     AS lamp remains lighted.
     Line-busy tone heard.

29   Restore TLK key.

30   Momentarily operate RL key.
     All lamps extinguished.

31   Operate TLK key.

32   Momentarily operate ST key.
     • If ETS provided—
       FT lamp lighted.
       AS lamp lighted.
       High tone heard.
     If TOUCH-TONE signaling is used—
       TOUCH-TONE dial tone or 440-Hz tone heard.

33   Dial station digit 1.
     Line-busy tone heard.
     AS lamp remains lighted.

34   Restore TLK key.
     • If ETS provided—
       FT lamp extinguished.
       AS lamp extinguished.

35   Momentarily operate RL key.
     All lamps extinguished.

36f  If trunk under test is arranged for 4-party selective ringing only—
     Repeat Steps 31 through 35 using each of digits 6, 7, 8, 9.

37d  If trunk is equipped with a tube-type RL relay—
     Allow 4 minutes to elapse before proceeding with Step 36.

38   Operate TLK key.
39  Momentarily operate ST key; *start timing.*

*VERIFICATION*

◇ If ETS provided—
  - FT lamp lighted.
  - AS lamp lighted.
  - High tone heard.
If TOUCH-TONE signaling is used—
  - TOUCH-TONE dial tone or 440-Hz tone heard.
If trunk is equipped with a tube-type RL relay—
  In 13 to 32 seconds—
    - AS lamp extinguished.
    ◇ If ETS provided—
      - FT lamp extinguished.
If trunk is *not* equipped with a tube-type RL relay—
  In 21 to 32 seconds—
    - AS lamp extinguished.
    ◇ If ETS provided—
      - FT lamp extinguished.

40  Momentarily operate RL key.

41d  If trunk is equipped with a tube-type RL relay—
  Allow 4 minutes to elapse before proceeding with Step 40.

42  Momentarily operate ST key.

43  Using dial of MTF telephone circuit, dial station digit 3; *start timing.*

*VERIFICATION*

◇ If ETS provided—
  - FT lamp lighted.
  - AS lamp lighted.
  - High tone heard.
If TOUCH-TONE signaling is used—
  - TOUCH-TONE dial tone or 440-Hz tone heard.
If trunk is equipped with a tube-type RL relay—
  In 13 to 32 seconds—
    - AS lamp extinguished.
    ◇ If ETS provided—
      - FT lamp extinguished.
If trunk is *not* equipped with a tube-type RL relay—
  In 21 to 32 seconds—
    - AS lamp extinguished.
    ◇ If ETS provided—
      - FT lamp extinguished.

44  Momentarily operate RL key.

45  Restore all keys and switches not required in next test.
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**E. Trunk-Busy Features**

<table>
<thead>
<tr>
<th>STEP</th>
<th>ACTION</th>
<th>VERIFICATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>At relay rack frame—&lt;br&gt;Set MB switch to MB.</td>
<td>MB lamp lighted.</td>
</tr>
<tr>
<td>16</td>
<td>At MTF—&lt;br&gt;Operate NTFS, NTTS keys.</td>
<td>•If ETS provided—&lt;br&gt;FT lamp lighted.&lt;br&gt;AS lamp lighted.&lt;br&gt;PK lamp not lighted.&lt;br&gt;Line-busy tone or high tone heard.&lt;br&gt;If TOUCH-TONE signaling is used—&lt;br&gt;TOUCH-TONE dial tone or 440-Hz tone heard.</td>
</tr>
<tr>
<td>17</td>
<td>Momentarily operate ST key.</td>
<td>•If ETS provided—&lt;br&gt;FT lamp remains lighted.</td>
</tr>
<tr>
<td>18c</td>
<td>If trunk under test is SD-25703-01 or SD-26068-01—&lt;br&gt;Momentarily restore TLK key.</td>
<td>AS lamp remains lighted.</td>
</tr>
<tr>
<td>19</td>
<td>Restore TLK key.</td>
<td>AS lamp extinguished.</td>
</tr>
<tr>
<td>20</td>
<td>Momentarily operate RL key.</td>
<td>All lamps extinguished.&lt;br&gt;•If ETS provided—&lt;br&gt;FT lamp remains lighted.</td>
</tr>
<tr>
<td>21</td>
<td>Operate FS, TS keys.</td>
<td>TB lamp lighted.</td>
</tr>
<tr>
<td>22</td>
<td>Operate TLK key.</td>
<td>All lamps extinguished.</td>
</tr>
<tr>
<td>23</td>
<td>Momentarily operate ST key.</td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>Momentarily operate RL key.</td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>Restore all keys and switches not required in next test.</td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>At relay rack frame—&lt;br&gt;Restore MB switch to N.</td>
<td>•If ETS provided—&lt;br&gt;FT lamp extinguished.</td>
</tr>
</tbody>
</table>

**STATION DIGIT MARGINAL TESTS (DIAL PULSE AND "TOUCH-TONE") USING AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT SD-25680-01**

**F. Dial Pulse**

<table>
<thead>
<tr>
<th>STEP</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>17</td>
<td>Operate 7PPS MIN BR key.</td>
</tr>
<tr>
<td>18</td>
<td>Select L digit 2 (station digit).</td>
</tr>
<tr>
<td>STEP</td>
<td>ACTION</td>
</tr>
<tr>
<td>------</td>
<td>--------</td>
</tr>
<tr>
<td>19</td>
<td>Momentarily operate ST key.</td>
</tr>
<tr>
<td>20</td>
<td>Operate RVTK key.</td>
</tr>
<tr>
<td>21</td>
<td>Restore TLK key.</td>
</tr>
<tr>
<td>22</td>
<td>Momentarily operate ST key.</td>
</tr>
<tr>
<td>23</td>
<td>Operate TLK key.</td>
</tr>
<tr>
<td>24</td>
<td>Restore RVTK key.</td>
</tr>
<tr>
<td>25</td>
<td>Restore TLK key.</td>
</tr>
<tr>
<td>26</td>
<td>Operate TLK key.</td>
</tr>
<tr>
<td>27</td>
<td>Momentarily operate RL key.</td>
</tr>
<tr>
<td>28</td>
<td>Repeat Steps 18 through 27 for each station digit 3 through 9 as required for party identification in use.</td>
</tr>
<tr>
<td>29</td>
<td>Repeat Steps 17 through 28 operating 7PPS MAX BR, 15PPS MIN BR, 15PPS MAX BR, 24PPS MAX BR keys.</td>
</tr>
<tr>
<td>30</td>
<td>Restore all keys and switches not required in next test.</td>
</tr>
</tbody>
</table>

**G. Single Frequency—TOUCH-TONE**

<table>
<thead>
<tr>
<th>STEP</th>
<th>ACTION</th>
<th>VERIFICATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>17</td>
<td>Operate SLO key.</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>Select L_ digit 2 (station digit).</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>Set FCB, FCA switches to first position as indicated in Table C.</td>
<td>• If ETS provided.—&lt;br&gt; FT lamp lighted.&lt;br&gt; AS lamp lighted.&lt;br&gt; TOUCH-TONE dial tone or 440-Hz tone heard.</td>
</tr>
<tr>
<td>20</td>
<td>Momentarily operate ST key.</td>
<td>TOUCH-TONE dial tone or 440-Hz tone silenced.</td>
</tr>
<tr>
<td>21</td>
<td>Operate RVTK key.</td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>Restore TLK key.</td>
<td></td>
</tr>
</tbody>
</table>
TABLE C

<table>
<thead>
<tr>
<th>SWITCH POSITIONS</th>
<th>FREQUENCIES TRANSMITTED</th>
<th>HZ</th>
</tr>
</thead>
<tbody>
<tr>
<td>FCB</td>
<td>FCA</td>
<td>DESIGNATION</td>
</tr>
<tr>
<td>SFH</td>
<td>4</td>
<td>HF4</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>HF3</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>HF2</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>HF1</td>
</tr>
<tr>
<td>SFL</td>
<td>1</td>
<td>LF0</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>LF3</td>
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<td>3</td>
<td>LF6</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>LF9</td>
</tr>
</tbody>
</table>

23. Momentarily operate ST key.

24. Operate TLK key.

25. Restore RVTK key.

26. Restore TLK key.

27. Momentarily operate RL key.

28. Operate TLK key.

29. Repeat Steps 19 through 28 for each setting of FCB, FCA switches as indicated in Table C.

30. Repeat Steps 18 through 29 for each station digit 3 through 9 as required for party identification in use.

31. Restore all keys and switches not required in next test.

H. Special 3-Frequency—TOUCH-TONE

17. Operate SLO key.

18. Select L, digit 2 (station digit).
STEP

19

Set FCB, FCA switches to first position as indicated in Table D.

VERIFICATION

If ETS provided—
FT lamp lighted.
AS lamp lighted.
TOUCH-TONE dial tone or 440-Hz tone heard.

20

Momentarily operate ST keys.

TOUCH-TONE dial tone or 440-Hz tone silenced.

21

Operate RVTK key.

22

Restore TLK key.

23

Momentarily operate ST key.

24

Operate TLK key.

25

Restore RVTK key.

26

Restore TLK key.

27

Momentarily operate RL key.

28

Operate TLK key.

29

Repeat Steps 19 through 28 for each setting of FCA switch as indicated in Table D.

30

Repeat Steps 18 through 29 for each station digit 3 through 9 as required for party identification in use.

31

Restore all keys and switches not required in next test.

TABLE D

<table>
<thead>
<tr>
<th>SWITCH POSITIONS</th>
<th>FREQUENCIES TRANSMITTED</th>
</tr>
</thead>
<tbody>
<tr>
<td>FCB</td>
<td>FCA</td>
</tr>
<tr>
<td>3FS</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>4</td>
</tr>
</tbody>
</table>
### Step 1: Maximum and Minimum Frequency—TOUCH-TONE

<table>
<thead>
<tr>
<th>STEP</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>17</td>
<td>Operate SLO key.</td>
</tr>
<tr>
<td>18</td>
<td>Set FCA switch to OFF.</td>
</tr>
<tr>
<td>19</td>
<td>Set FCB switch to MNF.</td>
</tr>
<tr>
<td>20</td>
<td>Select L_ digit 2 (station digit).</td>
</tr>
<tr>
<td>21</td>
<td>Momentarily operate ST key.</td>
</tr>
</tbody>
</table>

#### Verification
- If ETS provided—
  - FT lamp lighted.
- AS lamp lighted.
- TOUCH-TONE dial tone or 440-Hz tone heard.

<table>
<thead>
<tr>
<th>STEP</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>22</td>
<td>Operate RVTK key.</td>
</tr>
<tr>
<td>23</td>
<td>Restore TLK key.</td>
</tr>
<tr>
<td>24</td>
<td>Momentarily operate ST key.</td>
</tr>
<tr>
<td>25</td>
<td>Operate TLK key.</td>
</tr>
<tr>
<td>26</td>
<td>Restore RVTK key.</td>
</tr>
<tr>
<td>27</td>
<td>Restore TLK key.</td>
</tr>
</tbody>
</table>

#### Verification
- TOUCH-TONE dial tone or 440-Hz tone silenced.
- Line-busy tone heard.

<table>
<thead>
<tr>
<th>STEP</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>28</td>
<td>Operate TLK key.</td>
</tr>
<tr>
<td>29</td>
<td>Momentarily operate RL key.</td>
</tr>
</tbody>
</table>

#### Verification
- R-, R+, T-, or T+ lamp flashes to coincide with L- setting. (Refer to Table B.)
- Line-busy tone silenced.
- R-, R+, T-, or T+ lamp extinguished.
- All lamps extinguished.

<table>
<thead>
<tr>
<th>STEP</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>30</td>
<td>Repeat Steps 20 through 29 for each station digit 3 through 9 as required for party identification in use.</td>
</tr>
<tr>
<td>31</td>
<td>Set FCB switch to MXF.</td>
</tr>
<tr>
<td>32</td>
<td>Repeat Steps 20 through 29 for each station digit 2 through 9 as required for party identification in use.</td>
</tr>
<tr>
<td>33</td>
<td>Restore all keys and switches not required in next test.</td>
</tr>
</tbody>
</table>

### Step J: Low and High Level Test—TOUCH-TONE

<table>
<thead>
<tr>
<th>STEP</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>17</td>
<td>Operate SLO key.</td>
</tr>
<tr>
<td>18</td>
<td>Operate LLV key.</td>
</tr>
</tbody>
</table>

Page 16
19. Select L-digit 2 (station digit).

20. While trunk is idle—
   Momentarily operate ST key.

21. Operate RVTK key.

22. Restore TLK key.

23. Momentarily operate ST key.

24. Operate TLK key.

25. Restore RVTK key.

26. Restore TLK key.

27. Operate TLK key.

28. Momentarily operate RL key.

29. Operate HLV key.

30. Repeat Steps 19 through 28 for each station digit 3 through 9 as required for party identification in use.

31. Restore all keys and switches not required in next test.

**STATION DIGIT MARGINAL TESTS ("TOUCH-TONE")
USING REGISTER AND CAMA SENDER TEST SET
CIRCUIT SD-25676-01**

**K. Single Frequency**

21. Set FCB, FCA switches to first position as indicated in Table C.

22. At test set—
   While trunk is idle—
   Momentarily operate STT key.

At MTF—
   AS lamp lighted.
   TOUCH-TONE dial tone or 440-Hz tone heard.
   If ETS provided—
   FT lamp lighted.

TOUCH-TONE dial tone or 440-Hz tone silenced.

R-, R+, T-, or T+ lamp flashes to coincide with L- setting. (Refer to Table B.)

Line-busy tone heard.
R-, R+, T-, or T+ lamp extinguished.

R-, R+, T-, or T+ lamp flashes to coincide with L- setting. (Refer to Table B.)
Line-busy tone silenced.

R-, R+, T-, or T+ lamp extinguished.

All lamps extinguished.
SECTION 218-279-501

STEP | ACTION | VERIFICATION
---|---|---
23 | Operate RVTK key. | TOUCH-TONE dial tone or 440-Hz tone silenced.
24 | Restore TLK key. | TOUCH-TONE dial tone or 440-Hz tone heard.
25 | At test set—
| Momentarily operate SF-IA key. | TOUCH-TONE dial tone or 440-Hz tone silenced.
| AS lamp extinguished.
| If ETS provided—
| FT lamp extinguished. | All lamps extinguished.
26 | At MTF—
| Operate TLK key. | TOUCH-TONE dial tone or 440-Hz tone silenced.
27 | Restore RVTK key. | TOUCH-TONE dial tone or 440-Hz tone silenced.
28 | Restore TLK key. |
29 | Momentarily operate RL key. |
30 | Operate TLK key. |
31 | Repeat Steps 21 through 30 for each setting of FCB, FCA switches as indicated in Table C. |
32 | Repeat Steps 21 through 31 for each station digit 3 through 9 as required for party identification in use. |
33 | Restore all keys and switches not required in next test. |
34 | Remove patching and testing cords from test set. |

L. Special 3-Frequency

21 | Set FCB, FCA switches to first position as indicated in Table D. | At MTF—
| AS lamp lighted.
| TOUCH-TONE dial tone or 440-Hz tone heard. | TOUCH-TONE dial tone or 440-Hz tone silenced.
| If ETS provided—
| FT lamp lighted. | TOUCH-TONE dial tone or 440-Hz tone silenced.
22 | At test set—
| While trunk is idle—
| Momentarily operate STT key. |
23 | Operate RVTK key. |
24 | Restore TLK key. |
STEP | ACTION | VERIFICATION
--- | --- | ---
25 | At test set— Momentarily operate SF-IA key. | TOUCH-TONE dial tone or 440-Hz tone heard.
26 | At MTF— Operate TLK key. | • If ETS provided— FT lamp extinguished. AS lamp extinguished. TOUCH-TONE dial tone or 440-Hz tone silenced.
27 | Restore RVTK key. | All lamps extinguished.
28 | Restore TLK key. | |
29 | Momentarily operate RL key. | |
30 | Operate TLK key. | |
31 | Repeat Steps 21 through 30 for each setting of FCA switch as indicated in Table D. | |
32 | Repeat Steps 21 through 31 for each station digit 3 through 9 as required for party identification in use. | |
33 | Restore all keys and switches not required in next test. | |
34 | Remove patching and testing cords from test set. | |

M. **Maximum and Minimum Frequency**

21 | Set FCA switch to OFF. | |
22 | Set FCB switch to MNF. | |
23 | At test set— Momentarily operate STT key. | At MTF— AS lamp lighted. TOUCH-TONE dial tone or 440-Hz tone heard. • If ETS provided— FT lamp lighted. |
24 | Operate RVTK key. | TOUCH-TONE dial tone or 440-Hz tone silenced. |
25 | Restore TLK key. | |
26 | At test set— Key station digit 2 on TOUCH-TONE set. | At MTF— R-, R+, T-, or T+ lamp flashes to coincide with digit keyed. (Refer to Table B.)
SECTION 218-279-501

STEP  ACTION  VERIFICATION
27  Operate TLK key.  R-, R+, T-, or T+ lamp extinguished.
28  Restore RVTK key.  AS lamp extinguished.
29  Restore TLK key.  •If ETS provided—

30  Momentarily operate RL key.  FT lamp extinguished.
31  Operate TLK key.  All lamps extinguished.
32  Repeat Steps 22 through 31 for each station
digit 3 through 9 as required for party
identification in use.
33  Repeat Steps 23 through 31 for MXF setting
of PCB switch for each station digit 2 through
9 as required for party identification in use.
34  Restore all keys and switches not required in
next test.
35  Remove patching and testing set.

N. Low and High Level Test

21  Operate LLV key.  At MTF—
22  At test set—  AS lamp lighted.
   Momentarily operate STT key.  TOUCH-TONE dial tone or 440-Hz tone heard.
   •If ETS provided—

23  Operate RVTK key.  FT lamp lighted.
24  Restore TLK key.  TOUCH-TONE dial tone or 440-Hz tone

25  At test set—  silenced.
   Key station digit 2 on TOUCH-TONE set.
26  Operate TLK key.  At MTF—
27  Restore RVTK key.  R-, R+, T-, or T+ lamp flashes to coincide
with digit keyed. (Refer to Table B.)
28  Restore TLK key.  R-, R+, T-, or T+ lamp extinguished.

AS lamp extinguished.
•If ETS provided—
   FT lamp extinguished.
STEP ACTION verification

29 Momentarily operate RL key. All lamps extinguished.

30 Operate TLK key.

31 Operate HLV key.

32 Repeat Steps 24 through 31 for each station digit 3 through 9 as required for party identification in use.

33 Restore all keys and switches not required in next test.

34 Remove patching and testing cords from test set.

STATE DIGIT MARGINAL TESTS (DIAL PULSE) USING 3A PULSE GENERATING TEST SET SD-25686-01

O. Dial Pulse

Note: The 3A pulse generating test set shall be known to be correctly calibrated.

23 At 3A pulse generating test set— Prepare test to provide condition A as indicated in Table E.

<table>
<thead>
<tr>
<th>TABLE E</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONDITION</td>
</tr>
<tr>
<td>A</td>
</tr>
<tr>
<td>B</td>
</tr>
<tr>
<td>C</td>
</tr>
<tr>
<td>D</td>
</tr>
<tr>
<td>E</td>
</tr>
</tbody>
</table>

24 Set PULSES PER TRAIN switch to 2.

25 At MTF— Momentarily operate ST key. If ETS provided— FT lamp lighted. AS lamp lighted. High tone heard.
SECTION 218-279-501

STEP | ACTION | VERIFICATION
---|---|---
26 | Operator RVTK key. | 
27 | At MTF— Restore TLK key. | High tone silenced. 
28 | At 3A pulse generating test set— Operate TRAIN CONTROL key to PULSE. | 
29 | Operate TLK key. | Line-busy tone heard. 
30 | At 3A pulse generating test set— Restore TRAIN CONTROL key to NOR. | 
31 | At MTF— Restore RVTK, TLK keys. | R-, R+, T-, or T+ lamp flashes to coincide with 3A pulse generating test set PULSES PER TRAIN switch setting. (Refer to Table B.) Line-busy tone silenced. 
32 | Operate TLK key. | R-, R+, T-, or T+ lamp extinguished. 
33 | Momentarily operate RL key. | All lamps extinguished. 
34 | Repeat Steps 24 through 33 for each station digit 3 through 9 as required for party identification in use. | 
35 | Repeat Steps 23 through 34 to provide conditions B through E as indicated in Table E. | 
36 | Restore all keys and switches. | 
37 | Remove patching cord from MTF. |