AIS LINE CIRCUITS SD-27892-01 AND SD-27893-01
TESTS USING TRUNK TEST CIRCUIT SD-25918-01
NO. 5 CROSSBAR OFFICES
NOT ARRANGED FOR LINE LINK PULSING

1. GENERAL

1.01 This section describes methods for testing supervision) and SD-27893-01 (reverse battery supervision) in No. 5 crossbar offices arranged for Automatic Intercept System (AIS). These circuits are used with an MF sender for the purpose of connecting intercept traffic to an Automatic Intercept Center (AIC). For tests of line sleeves that are monitored by software in offices equipped with Electronic Translation System (ETS), refer to Section 218-799-320.

1.02 This section is reissued to amend Test F to provide means for connecting the trunk test circuit to the voltmeter test circuit at the master test frame. Revision arrows are used to emphasize the more significant changes this reissue does not affect Equipment Test Lists.

1.03 The tests covered are:

A. Seizure and Release: This test checks circuit seizure by sender, answer, and release.

B. Reorder: This test checks for proper response of the circuit to a sender reorder signal.

C. Make-Busy and Remote Make-Busy: The following features are checked: (1) The circuit can be made service-busy from the master test frame (MTF). (2) The circuit can be seized when maintenance-busy. (3) The circuit cannot be seized when service-busy. (4) The circuit cannot be seized when remotely made service-busy by the automatic intercept center (AIC). (5) The MB diode (SD-27893-01) is checked under forward and reverse bias.

D. All-Lines-Busy and Circuit-Busy Indication: The following features are checked: (1) All-lines-busy indication to senders. (2) Idle or busy line indication to senders.

E. AIC Call: This test checks for proper termination to the AIC.

F. Automated Loop Testing (ALT): This test verifies the LT1, LT2, and LT3 resistors that are added to enable automated loop testing equipment to distinguish between a faulty line and a line routed to intercept.

1.04 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.

1.05 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.

1.06 The location statement, At MTF—, is used to refer to all apparatus located on the four basic bays of the MTF.

1.07 On issue 76D of SD-25800-01, a group of 18 "class of test" lamps was replaced by a single "start test" lamp designated STT. Since the designation given to the lamp is not specific, the lamp will not be called out in the section, as well as the 18 discontinued lamps, DT, ORIG, ITDO, ITNP, OGT, INC, OR, SDR, IR MISC, IAO, MLV, LT, IMS, PTT, TVT, ATNT, and IMT.

1.08 When ALT is furnished, a termination is provided to allow distinction between a faulty line condition and a line which has been routed to intercept. The termination consists of three 35.2K-ohm resistors, LT1, LT2, and LT3, which are connected between the tip and ring leads, the tip lead and ground, and the ring lead and ground, respectively. The resistors are under control of the F relay which removes the resistors so that the marker is able to make successful false cross and ground tests.

2. APPARATUS

All Tests

2.01 Master test control circuit, SD-25800-01.

<table>
<thead>
<tr>
<th>STEP</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tests A, B, C, E, F</td>
<td></td>
</tr>
</tbody>
</table>
| 1 | At MTF—
Restore all keys and switches. |
| 2 | Momentarily operate RL key. |
| 3 | Select marker. |
| 4 | Select incoming class of call and associated translator indication. |
| 5a | If SD-27892-01 is under test—
Operate E-M key. |
| 6 | Operate AIRI key. |

2.02 Trunk test circuit, SD-25918-01.

Test C

2.03 322A (make-busy) plug.

Test D

2.04 67C test set, or equivalent, equipped with one KS-6278 connecting clip (for use in checking presence of battery or ground).

Test E

2.05 Blocking and insulating tools as required. Use tools and apply as covered in Section 069-020-801.

2.06 Testing cord, 893 cord, 6 feet long, equipped with two 360A tools (1W13B cord) and one KS-6278 connecting clip (for connecting battery to terminal strip terminals).

Test F

2.07 Master test frame, voltmeter test circuit, SD-25972-01.

2.08 Patching cord, P3E cord, 6 feet long, equipped with two 310 plugs (3P7A cord).

3. PREPARATION

Note: Refer to paragraphs 1.05 through 1.07.

Verification

All lamps extinguished.
STEP ACTION

7 Operate ND key.

Tests A, B, C, F

8 Select LT class of test.

9 Select digits of any directory number.

4. METHOD

STEP ACTION

A. Seizure and Release

10b If a particular sender is required—
Set AIS_ switch to select sender.

11 Set AIL_ switch to select line for test.

12 Operate TLK, SIL, AIS keys.

13 Momentarily operate ST key.

MBF lamp lighted.
If SD-27892-01 is under test—
E lamp lighted.
If SD-27893-01 is under test—
AA lamp lighted.

14 Operate ANS key.

High tone heard.

15 Restore ANS key.

High tone silenced.

16 Restore TLK key.

If SD-27892-01 is under test—
E lamp extinguished.
If SD-27893-01 is under test—
AA lamp extinguished.

17 Momentarily operate RL key.

All lamps extinguished.

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

B. Reorder

10 Set AIL_ switch to select line for test.

11 Operate TLK, ROT, SIL, AIS keys.

12 Momentarily operate ST key.

MBF, CK, lamps lighted.
Overflow tone heard.
If SD-27892-01 is under test—
E lamp not lighted.
<table>
<thead>
<tr>
<th>STEP</th>
<th>ACTION</th>
<th>VERIFICATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>13</td>
<td>Restore TLK, ROT keys.</td>
<td>If SD-27893-01 is under test— AA lamp <em>not</em> lighted.</td>
</tr>
<tr>
<td>14</td>
<td>Momentarily operate RL key.</td>
<td>Overflow tone silenced.</td>
</tr>
<tr>
<td>15</td>
<td>Restore all keys and switches not required in next test.</td>
<td>All lamps extinguished.</td>
</tr>
</tbody>
</table>

C. Make-Busy and Remote Make-Busy

<table>
<thead>
<tr>
<th>STEP</th>
<th>ACTION</th>
<th>VERIFICATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>Set AIL_ switch to select line for test.</td>
<td>MBF lamp flashes once.</td>
</tr>
<tr>
<td>11</td>
<td>Insert make-busy plug into MB_jack associated with line under test.</td>
<td>If SD-27892-01 is under test— E lamp lighted.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>If SD-27893-01 is under test— AA lamp lighted.</td>
</tr>
<tr>
<td>12</td>
<td>Operate TLK, NTIL, AIS keys.</td>
<td>High tone heard.</td>
</tr>
<tr>
<td>13</td>
<td>Momentarily operate ST key.</td>
<td>All lamps extinguished.</td>
</tr>
<tr>
<td>14</td>
<td>Operate ANS key.</td>
<td>OFL lamp lighted.</td>
</tr>
<tr>
<td>15</td>
<td>Restore TLK, NTIL, ANS keys.</td>
<td>If SD-27892-01 is under test— E lamp <em>not</em> lighted.</td>
</tr>
<tr>
<td>16</td>
<td>Momentarily operate RL key.</td>
<td>If SD-27893-01 is under test— AA lamp <em>not</em> lighted.</td>
</tr>
<tr>
<td>17</td>
<td>Operate TLK, SIL keys.</td>
<td>All lamps extinguished.</td>
</tr>
<tr>
<td>18</td>
<td>Momentarily operate ST key.</td>
<td>MBF lamp lighted.</td>
</tr>
<tr>
<td>19</td>
<td>Momentarily operate RL key.</td>
<td>If SD-27892-01 is under test— E lamp lighted.</td>
</tr>
<tr>
<td>20</td>
<td>Remove make-busy plug from MB_jack associated with line under test.</td>
<td>If SD-27893-01 is under test— A lamp lighted.</td>
</tr>
<tr>
<td>21</td>
<td>Momentarily operate ST key.</td>
<td>High tone heard.</td>
</tr>
<tr>
<td>22</td>
<td>Operate ANS key.</td>
<td></td>
</tr>
<tr>
<td>STEP</td>
<td>ACTION</td>
<td>VERIFICATION</td>
</tr>
<tr>
<td>------</td>
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<td>--------------</td>
</tr>
<tr>
<td>23</td>
<td>Operate LTH key.</td>
<td>High tone silenced. MBF lamp extinguished. MB_ lamp associated with line under test lighted.</td>
</tr>
<tr>
<td>24</td>
<td>Restore TLK key.</td>
<td>MBF lamp lighted. MB_ lamp associated with line under test extinguished. If SD-27893-01 is under test— AA lamp extinguished.</td>
</tr>
<tr>
<td>25</td>
<td>Restore ANS key.</td>
<td>All lamps extinguished.</td>
</tr>
<tr>
<td>26</td>
<td>Restore LTH key.</td>
<td>All lamps extinguished.</td>
</tr>
<tr>
<td>27</td>
<td>Momentarily operate RL key.</td>
<td>All lamps extinguished.</td>
</tr>
<tr>
<td>28</td>
<td>Restore all keys and switches not required in next test.</td>
<td>All lamps extinguished.</td>
</tr>
</tbody>
</table>

D. All-Lines-Busy and Circuit-Busy Indication

1. At relay rack frame—
   When circuit is idle—
   Block operated SLI relay.
   Battery present on terminal 54 of circuit under test.

2a. If circuit under test is first circuit—
   Connect battery to terminal 44.

3b. If circuit under test is other than first circuit—
   Connect battery to terminal 54 of preceding circuit.
   Battery present on terminal 54 of circuit under test.

4. Block operated D relay.
   Battery present on terminal 54. Ground absent on terminal 45.

5. Remove blocking tool from SLI relay.
   Battery present on terminal 54. Ground absent on terminal 45.

6. Block operated B relay.
   Battery present on terminal 54. Ground absent on terminal 45.

7. Remove blocking tool from D relay.
   Battery present on terminal 54. Ground absent on terminal 45.

8. Remove blocking tool from B relay.
   Battery present on terminal 54. Ground absent on terminal 45.

9. Remove battery connection from terminal 44 or 54.
   When circuit is idle—
   Ground present on terminal 45.
SECTION 218-113-503

E. AIC Call

Note: Test will not work if idle AIC trunk is not available.

8 Set AIL switch to select line for test.

9 Select LT class of test.

10 Restore ND key.

11 Operate DL4, SIL, LTNO keys.

12 Select A through G digits as required for routing to a 10X automatic intercept test line.

13 Operate TLK key.

14 Momentarily operate ST key.

15 Momentarily operate RL key.

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

F. Automated Loop Testing

Note; Refer to paragraph 1.08.

10b If the master test frame trunk test circuit is arranged with TM jack (O option)—Using P3E patching cord, insert one plug into TM jack and other plug into T1 jack.

11c If the master test frame trunk test circuit is arranged with TM1 jack(P) option—Using P3E patching cord, insert one plug into TM1 jack and other plug into T1 jack.

12c Operate TM1 key.

13 Set AIL switch to select line for test.

14 Operate SIL, AIS key.

15 Momentarily operate ST key.

VERIFICATION

MBF lamp lighted.
1000-Hz tone heard.

All lamps extinguished.
Tone silenced.

MBF lamp lighted.
If SD-27892-01 is under test—E lamp lighted.
If SD-27893-01 is under test—AA lamp lighted.
<table>
<thead>
<tr>
<th>STEP</th>
<th>ACTION</th>
<th>VERIFICATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>16</td>
<td>At voltmeter test circuit—</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Operate VMT1 key.</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>Operate and restore T1REV key several times.</td>
<td>On 120V scale, voltmeter indicates a constant</td>
</tr>
<tr>
<td></td>
<td></td>
<td>deflection between 78 and 80.</td>
</tr>
<tr>
<td>18</td>
<td>Operate 20000, G key.</td>
<td>On 24V scale, voltmeter indicates a reading</td>
</tr>
<tr>
<td></td>
<td></td>
<td>between 8 and 10.</td>
</tr>
<tr>
<td>19</td>
<td>Operate T1REV key.</td>
<td>On 24V scale, voltmeter indicates a reading</td>
</tr>
<tr>
<td></td>
<td></td>
<td>between 8 and 10.</td>
</tr>
<tr>
<td>20</td>
<td>Restore T1REV, 20000, G, VMT1 keys.</td>
<td></td>
</tr>
<tr>
<td>21d</td>
<td>If no further tests are to be made—</td>
<td></td>
</tr>
<tr>
<td></td>
<td>At MTF—</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Restore all keys and switches.</td>
<td></td>
</tr>
<tr>
<td>22d</td>
<td>#Remove P3E patching cord from TM/TM1 and T1 jacks.#</td>
<td></td>
</tr>
</tbody>
</table>