1. GENERAL

1.01 This section describes a method of verifying cross-connections in No. 5 crossbar offices using the line verification circuit SD-26181-01. This is a separate test circuit and not a part of the master test control circuit.

1.02 This section is reissued to include additions and changes when VR and VT options are provided. These options allow a trouble recorder card to be perforated showing verification of all cross-connections, regardless if they are correct or incorrect. This reissue does not affect Equipment Test Lists.

1.03 The tests covered are:

A. Verification of Lines not Arranged for PBX or Intercept:
The following features are checked: (1) Frame tens, frame units, horizontal group, vertical group, vertical file, ringing combination, and tens block screening cross-connections on the number group frame. (2) Line class of service and rate treatment cross-connections on the line link frame. (3) Office index and line number cross-connections on LAMA or ANI translator.

B. Verification of PBX Lines: The following features are checked: (1) Frame tens, frame units, vertical group, horizontal group, vertical file, ringing combination, and tens block screening cross-connections on the number group frame. (2) Line class of service and rate treatment cross-connections on the line link frame. (3) Sleeve lead cross-connections between the number group and line link frame. (4) Cross-connections in the LAMA or ANI translator for originating office index and either the billing or line number.

C. Verification of Lines Arranged for Intercept: This test verifies that a line is arranged for regular intercept, trouble intercept, blank number intercept, or centrex intercept on a customer group basis.

D. Verification of Lines Arranged for Line Link Pulsing: This test verifies that the number group cross-connections are correct for both number group usages on lines arranged for line link pulsing.

E. Verification of Lines Arranged for Two-Line Number: This test verifies that the number group cross-connections are correct for lines arranged for 2-line number operation.

F. Verification of Lines Arranged for Centrex Features: This test verifies that the number group and line class cross-connections are correct for lines arranged for centrex.

G. Verification of Lines Equipped With Auxiliary Line Circuits: The following features are checked: (1) Frame tens, frame units, vertical group, horizontal group, vertical file, ringing combination, and tens block screening cross-connections on the number group frame. (2) Line class of service and rate

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treatment cross-connections on the line link frame. (3) Office index and line number cross-connections on LAMA or ANI translator. (4) Sleeve lead cross-connections between the number group and line link frames if the auxiliary line circuit is used in a PBX application.

H. Verification of No. 101 ESS Central Office Trunk: This test verifies the line link frame cross-connections for the No. 101 ESS central office trunk.

I. Verification of Office Index and Line Number Cross-Connections on ANI Transverter: This test verifies the office index and line number cross-connection on ANI transverters.

J. Verification of Lines Arranged for Common Control Switching Arrangement (CCSA): This test verifies that the number group cross-connections and line link frame cross-connections are correct for lines arranged for CCSA.

K. Verification of PBX AIOD Trunk Number: This test verifies that the translator cross-connections are correct for the AIOD trunk number.

3. PREPARATION

<table>
<thead>
<tr>
<th>STEP</th>
<th>ACTION</th>
<th>VERIFICATION</th>
</tr>
</thead>
</table>

All Tests

1. At line verification test circuit—Restore all keys and switches.

2. Momentarily operate RL key. All lamps extinguished.

All Tests Except I, K

3. Set CST, CSU, CRU switches or operate CGA/CGB key as required to select class of service and rate treatment of line being verified.
<table>
<thead>
<tr>
<th>STEP</th>
<th>ACTION</th>
<th>VERIFICATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Set ICL switch and operate TCA or TCB key as required.</td>
<td></td>
</tr>
<tr>
<td>5a</td>
<td>If ICL switch is set on a position other than INC— Operate 2DT, FVD, LT, 11, or TT key as required.</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Set NGOF switch to position corresponding to office code group designation associated with line being verified.</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Set FT, FU, VG, HG, VF switches to positions corresponding to line link frame tens digits, units digits, vertical group location, horizontal group location, and vertical file location of line being verified.</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Set RCT, RCU switches or set RCU- switch and operate RCTO/1 keys to select ringing combination of line being verified.</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Set TH, H, T, U switches to positions corresponding to thousands, hundreds, tens, and units digits of line being verified.</td>
<td></td>
</tr>
</tbody>
</table>

**Note 1:** When verifying LLP second number group usage, TH, H, T, and U switches are set to positions corresponding to thousands, hundreds, tens, and units digits of PBX line number.

**Note 2:** When verifying line circuits arranged for direct access to No. 101 ESS, use the program test number.

10b If a translation of more than four digits is required— Set A, B, C switches as required to select line under test.

11c If line being verified is A or B free number— Operate FNA/FNB key accordingly.

12d If 4-wire line is being verified— Operate 4W key.

13 Operate MG0/1 key to select 0 or 1 marker group (MG0 for offices with only one marker group).

14 Operate MLV0/1 key to select marker.
<table>
<thead>
<tr>
<th>STEP</th>
<th>ACTION</th>
<th>VERIFICATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>15e</td>
<td>If trouble recorder card showing verification is desired— Operate REC key.</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Note:</strong> If VQ and VS options are provided, a trouble recorder card showing verification is perforated <em>only</em> if all cross-connections are <em>correct</em>. Each incorrect cross-connection is indicated by a lighted lamp as indicated in Table A.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>If VR and VT options are provided, a trouble recorder card is perforated showing verification of all cross-connections as they are physically wired, regardless if correct or incorrect. Also each incorrect cross-connection is indicated by a lighted lamp as indicated in Table A. The LVM or LVF punches on the trouble recorder card indicate a line verification match or a line verification failure, respectively.</td>
<td></td>
</tr>
<tr>
<td>16f</td>
<td>If an ANI test is being made and LAMA and ANI transverters are provided in the same marker group— Operate ANI key.</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Tests A, B, C</strong></td>
<td></td>
</tr>
<tr>
<td>17g</td>
<td>If marker group is arranged for tens block screening and terminating treatment— Set TBS, TERT switches as required.</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Tests A, B, D, E</strong></td>
<td></td>
</tr>
<tr>
<td>18h</td>
<td>If line under test is a short-loop customer assigned to a line location equipped for range extension— Operate NOLL key.</td>
<td></td>
</tr>
<tr>
<td>19i</td>
<td>If line under test is a long-loop customer assigned to a line location equipped for range extension— Operate LOLL key.</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Test B</strong></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>Set S switch as required.</td>
<td></td>
</tr>
</tbody>
</table>
### TABLE A

<table>
<thead>
<tr>
<th>MATCH FAILURE LAMP LIGHTED</th>
<th>INDICATES INCORRECT CROSS-CONNECTION</th>
<th>IN</th>
</tr>
</thead>
<tbody>
<tr>
<td>FT</td>
<td>Line link frame tens digit</td>
<td>Number group</td>
</tr>
<tr>
<td>FU</td>
<td>Line link frame units digit</td>
<td>Number group</td>
</tr>
<tr>
<td>VG</td>
<td>Vertical group</td>
<td>Number group</td>
</tr>
<tr>
<td>HG</td>
<td>Horizontal group</td>
<td>Number group</td>
</tr>
<tr>
<td>VF</td>
<td>Vertical file</td>
<td>Number group</td>
</tr>
<tr>
<td>RC</td>
<td>Ringing combination</td>
<td>Number group</td>
</tr>
<tr>
<td>PTE</td>
<td>Office code group (AP, AT, etc)</td>
<td>Number group</td>
</tr>
<tr>
<td>TC</td>
<td>Talking charge</td>
<td>Number group</td>
</tr>
<tr>
<td>TBS</td>
<td>Tens block screening</td>
<td>Number group</td>
</tr>
<tr>
<td>TERT</td>
<td>Terminating treatment</td>
<td>Number group</td>
</tr>
<tr>
<td>CS</td>
<td>Class of service (See Note 1.)</td>
<td>Line link</td>
</tr>
<tr>
<td>CST</td>
<td>Class-of-service tens (See Note 1.)</td>
<td>Line link</td>
</tr>
<tr>
<td>CG</td>
<td>Class-of-service group (See Note 2.)</td>
<td>Line link</td>
</tr>
<tr>
<td>CRG</td>
<td>Rate treatment group</td>
<td>Line link</td>
</tr>
<tr>
<td>CRU</td>
<td>Rate treatment</td>
<td>Line link</td>
</tr>
<tr>
<td>SL</td>
<td>Sleeve lead</td>
<td>Line link to number group</td>
</tr>
<tr>
<td>LOLL</td>
<td>Long loop line</td>
<td>Line link to marker</td>
</tr>
<tr>
<td>NOLL</td>
<td>No long loop line</td>
<td>Line link to marker</td>
</tr>
<tr>
<td>OFF</td>
<td>Office units index</td>
<td>Translator</td>
</tr>
<tr>
<td>OFT</td>
<td>Office tens index</td>
<td>Translator</td>
</tr>
<tr>
<td>TH</td>
<td>Thousands digit</td>
<td>Translator</td>
</tr>
<tr>
<td>H</td>
<td>Hundreds digit</td>
<td>Translator</td>
</tr>
<tr>
<td>T</td>
<td>Tens digit</td>
<td>Translator</td>
</tr>
<tr>
<td>U</td>
<td>Units digit</td>
<td>Translator</td>
</tr>
</tbody>
</table>

**Notes:**

1. If the marker group is arranged for 100 classes of service, the CS lamp indicates the class-of-service unit and the CST lamp indicates the class-of-service tens digit. If the marker group is not arranged for 100 classes of service, the CS lamp indicates the class-of-service tens and units digit.

2. The CG lamp indicates the class-of-service group if the marker group is arranged for 30 or 60 classes of service.
SECTION 218-102-502

4. METHOD

A. Verification of Lines not Arranged for PBX or Intercept

20j If line being verified is arranged for LAMA or ANI—
Operate TLV0/1 key to select transverter.

21j Set OFF switch and operate OFT1/2 key to select office index of line being tested.

22 Momentarily operate ST key.

Verification:

MG0 or MG1 lamp lighted.
If cross-connections being verified are correct—
MLVM lamp lighted.
If OV lamp (part of XK option) is provided and marker detects failure to match condition—
OV lamp lighted.
MLVM lamp not lighted.
Repeat test when linkage can be completed.
If TLV0/1 key is operated—
TLVM lamp lighted.
If one or more cross-connections being verified in marker line verification part of test are incorrect—
Incorrect cross-connections are as indicated in Table A.
Circuit did not proceed to transverter part of test.

Note: Cross-connections verified on 4-wire lines appearing in two number groups will be associated with the A number group of the line.

If cross-connections being verified in marker line verification part of test are correct but cross-connections being verified on transverter line verification part of test are incorrect—
MLVM lamp lighted.
TLVM lamp not lighted.
Incorrect cross-connections are as indicated in Table A.
If 1000-line translator is provided and line is denied AMA service—
OF lamp lighted to indicate cross-connection to overflow.
TLVM lamp not lighted.
23 Momentarily operate RL key.

24k If 4-wire line appearing in two number groups is being verified—
  Operate NGB key.

25k Restore TLV0/1, OPT1/2 keys, OFF switch.

26k Momentarily operate ST key.

27k Momentarily operate RL key.

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

B. Verification of PBX Lines

21j If a PBX line with LAMA or ANI is being verified and is billed on telephone number basis—
  Operate TLV0/1 key to select transverter.

Note: Each line of a PBX group has a different telephone number, one of which is the directory number. The billing number is the one to which originating lines are billed. The billing number is usually the directory number but it may be any one of the telephone numbers in the PBX group.

Note: If TR or TRL lamp lighted, refer to 1.05.

Verification

Note: If TR or TRL lamp lighted, refer to 1.05.

All lamps extinguished.

MG0 or MG1 lamp lighted.
If cross-connections being verified are correct—
  MLVM lamp lighted.
If OV lamp (part of XK option) is provided and marker detects failure to match condition—
  OV lamp lighted.
  MLVM lamp not lighted.
  Repeat test when linkage can be completed.
If one or more cross-connections being verified are incorrect—
  MLVM lamp not lighted.
  Incorrect cross-connections are as indicated in Table A.

Note 1: On 4-wire line appearing in two number groups, any incorrect cross-connection will be associated with the B number group of the line.

Note 2: If TRL lamp lighted, refer to 1.05.

All lamps extinguished.
ACTION VERIFICATION

**STEP 22j** Set OFF switch and operate OFT1/2 key to select office index of line being tested.

**STEP 23** Momentarily operate ST key.

- MG0 or MG1 lamp lighted.
- If cross-connections being verified are correct—MLVM lamp lighted.
- If OV lamp (part of XK option) is provided and marker detects failure to match condition—OV lamp lighted.
- MLVM lamp **not** lighted.
- Repeat test when linkage can be completed.
- If TLVO/1 key is operated—TLVM lamp lighted.
- If one or more cross-connections in the marker line verification are incorrect—MLVM, TLVM lamps **not** lighted.
- Incorrect cross-connections are as indicated in Table A.
- If TLVO/1 key is operated and if cross-connections being verified in marker line verification are correct but one or more cross-connections being verified in translator line verification are incorrect—MLVM lamp lighted.
- TLVM lamp **not** lighted.
- Incorrect cross-connections are as indicated in Table A.
- If 1000-line translator is provided and line is denied AMA service—OF lamp lighted to indicate cross-connection to overflow.
- TLVM lamp **not** lighted.

**Note 1:** If a 4-wire line appearing in two number groups is being verified, the cross-connection will be associated with the A number group of the line.

**Note 2:** If TR or TRL lamp lighted, refer to 1.05.

**STEP 24** Momentarily operate RL key.

**STEP 25k** If 4-wire line appearing in two number groups is being verified—Operate NGB key.

**STEP 26k** Restore TLVO/1, OFT1/2 keys, OFF switch.

**STEP 27k** Repeat Steps 23, 24 to verify cross-connections in B number group of line.
<table>
<thead>
<tr>
<th>STEP</th>
<th>ACTION</th>
<th>VERIFICATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>28k</td>
<td>Restore NGB key.</td>
<td>Any incorrect cross-connections will be associated with B number group of 4-wire line.</td>
</tr>
</tbody>
</table>
| 29l  | If a PBX line with LAMA or ANI is being verified and is not billed on telephone number basis—  
Restore MLV0/1 key. | Note: Any incorrect cross-connections will be associated with B number group of 4-wire line. |
| 30l  | Operate TLV0/1 key to select transverter. | Note: Any incorrect cross-connections will be associated with B number group of 4-wire line. |
| 31l  | Set TH, H, T, U switches to correspond to billing number assigned to PBX. | Note: Any incorrect cross-connections will be associated with B number group of 4-wire line. |
| 32l  | Set OFF switch and operate OPT1/2 key to select office index of billing number assigned to PBX. | Note: Any incorrect cross-connections will be associated with B number group of 4-wire line. |
| 33l  | Momentarily operate ST key. | Note: Any incorrect cross-connections will be associated with B number group of 4-wire line. |
| 34l  | Momentarily operate RL key. | MG0 or MG1 lamp lighted. |
| 35   | Restore all keys and switches not required in next test. | If translator cross-connections are correct—  
TLVM lamp lighted.  
If one or more translator cross-connections are incorrect—  
TLVM lamp not lighted.  
Incorrect cross-connections are as indicated in Table A.  
Note: If TR lamp lighted, refer to 1.05. |

C. Verification of Lines Arranged for Intercept

♦Note: This test is not intended to verify proper procedures when disconnecting a working line.♦

<table>
<thead>
<tr>
<th>STEP</th>
<th>ACTION</th>
<th>VERIFICATION</th>
</tr>
</thead>
</table>
| 18   | Momentarily operate ST key. | MG0 or MG1 lamp lighted.  
BN, RI, or TBI lamp lighted depending on marker and number group cross-connection.  
MLVM lamp extinguished.  
Note 1: If a 4-wire line appearing in two number groups is being verified, the cross-connection will be associated with the A number group of the line. |

Note: If TR lamp lighted, refer to 1.05.  
All lamps extinguished.
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STEP ACTION VERIFICATION

19 Momentarily operate RL key.

Note 2: If TRL lamp lighted, refer to 1.05.

20h If 4-wire line appearing in two number groups is being verified—
Operate NGB key.

21h Repeat Steps 18, 19 to verify B number group cross-connection of number.

Note: Any incorrect cross-connections will be associated with B number group of 4-wire line.

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

D. Verification of Lines Arranged for Line Link Pulsing

20j If first number group usage is being tested—
Set TERT switch to LLP, TBS switch as required.

21j Operate NG1K key.

22j Momentarily operate ST key.

MG0 or MG1 lamp lighted.
If cross-connections are correct—
MLVM lamp lighted.
If OV lamp (part of XK option) is provided and marker detects failure to match condition—
OV lamp lighted.
MLVM lamp not lighted.
Repeat test when linkage can be completed.
If any cross-connections are incorrect—
MLVM lamp not lighted.
Incorrect cross-connections are as indicated in Table A.

Note: If TRL lamp lighted, refer to 1.05.

23j Momentarily operate RL key.

24j Restore NG1K key.

25k If second number group usage is being tested—
Set TERT switch to OSG, TBS switch as required.

26k Operate NG2K key.

All lamps extinguished.
<table>
<thead>
<tr>
<th>STEP</th>
<th>ACTION</th>
<th>VERIFICATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>27k</td>
<td>Operate SGT0/1 key and set SGU switch to select sender group.</td>
<td>MG0 or MG1 lamp lighted. If cross-connections are correct—MLVM lamp lighted. If OV lamp (part of XK option) is provided and marker detects failure to match condition—OV lamp lighted. MLVM lamp not lighted. Repeat test when linkage can be completed. If any cross-connections are incorrect—MLVM lamp not lighted. Incorrect cross-connections are as indicated in Table A.</td>
</tr>
<tr>
<td>28k</td>
<td>Set TBT, TBU, S switches to select line circuit under test.</td>
<td></td>
</tr>
<tr>
<td>29k</td>
<td>Operate LLP key.</td>
<td></td>
</tr>
<tr>
<td>30k</td>
<td>Momentarily operate ST key.</td>
<td></td>
</tr>
<tr>
<td>31k</td>
<td>Momentarily operate RL key.</td>
<td></td>
</tr>
<tr>
<td>32k</td>
<td>If NG2K key is operated and line circuit is made busy—Operate LLNT key.</td>
<td></td>
</tr>
<tr>
<td>33k</td>
<td>Repeat Steps 30k, 31k.</td>
<td></td>
</tr>
<tr>
<td>34k</td>
<td>Restore LLNT key.</td>
<td></td>
</tr>
<tr>
<td>35k</td>
<td>Restore all keys and switches not required in next test.</td>
<td></td>
</tr>
</tbody>
</table>

**E. Verification of Lines Arranged for Two-Line Number**

- **20** Set TERT switch to 2LN, TBS switch as required. MG0 or MG1 lamp lighted. 2LN lamp lighted. If cross-connections being verified are correct—MLVM lamp lighted. If OV lamp (part of XK option) is provided and marker detects failure to match condition—OV lamp lighted. MLVM lamp not lighted. |
- **21** Set S switch to units digit of second line. |
- **22** Momentarily operate ST key. |
SECTION 218-102-502

<table>
<thead>
<tr>
<th>STEP</th>
<th>ACTION</th>
<th>VERIFICATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>23</td>
<td>Momentarily operate RL key.</td>
<td>Repeat test when linkage can be completed. If one or more cross-connections being verified are incorrect—MLVM lamp not lighted. Incorrect cross-connections are as indicated in Table A.</td>
</tr>
<tr>
<td></td>
<td><strong>Note:</strong> If second line of a 2-line number has a nontranslatable ringing combination (RC01, 06, 07, 08, 10, 11), the second line may be verified as any regular number using procedures described in Test A.</td>
<td></td>
</tr>
<tr>
<td>24j</td>
<td>If second line of a 2-line number has a translatable ringing combination (RC02, 03, 04, 05, 09, 12, 13, 14, 15)—Repeat Steps 1 through 19i for second line.</td>
<td></td>
</tr>
<tr>
<td>25j</td>
<td>Set S switch to units digit of first line.</td>
<td>MG0 or MG1 lamp lighted. 2LN lamp lighted. If cross-connections being verified are correct—MLVM lamp lighted. If OV lamp (part of XK option) is provided and marker detects failure to match condition—OV lamp lighted. MLVM lamp not lighted. Repeat test when linkage can be completed. If one or more cross-connections being verified are incorrect—MLVM lamp not lighted. Incorrect cross-connections are as indicated in Table A.</td>
</tr>
<tr>
<td>26j</td>
<td>Momentarily operate ST key.</td>
<td></td>
</tr>
<tr>
<td>27j</td>
<td>Momentarily operate RL key.</td>
<td><strong>Note:</strong> If TRL lamp lighted, refer to 1.05. All lamps extinguished.</td>
</tr>
<tr>
<td>28</td>
<td>Restore all keys and switches not required in next test.</td>
<td></td>
</tr>
</tbody>
</table>

F. Verification of Lines Arranged for Centrex Features

17g If line being verified is restricted to incoming calls—Operate RIP key.
<table>
<thead>
<tr>
<th>STEP</th>
<th>ACTION</th>
<th>VERIFICATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>18g</td>
<td>Set TERT switch to PAN.</td>
<td></td>
</tr>
<tr>
<td>19h</td>
<td>If line being verified is not restricted to incoming calls— Set TERT switch to terminating treatment as required.</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>Set TBS switch as required to select tens block screening.</td>
<td></td>
</tr>
<tr>
<td>21i</td>
<td>If line being verified is billed on a telephone number basis and is arranged for ANI or LAMA calls— Operate TLV0/1 key.</td>
<td></td>
</tr>
<tr>
<td>22i</td>
<td>Set OFF switch and operate OFT1/2 key as required to select office index of line being verified.</td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>Momentarily operate ST key.</td>
<td>MG0 or MG1 lamp lighted. If line being verified is restricted to incoming calls— RIP, BN lamp lighted. If only marker line verification cross-connections are being checked and all cross-connections are correct— MLVM lamp lighted. If one or more cross-connections being verified in marker line verification part of test are incorrect— MLVM lamp not lighted. Incorrect cross-connections are as indicated in Table A. Circuit did not proceed to transverter part of test. If combination marker and transverter line verification cross-connections are being checked and all cross-connections are correct— MLVM, TLVM lamps lighted. If cross-connections being verified in marker line verification part of test are correct but cross-connections on transverter line verification part of test are incorrect— MLVM lamp lighted. TLVM lamp not lighted. Incorrect cross-connections are as indicated in Table A. If 1000-line translator is provided and line is denied AMA service— OF lamp lighted to indicate cross-connection to overflow. TLVM lamp not lighted.</td>
</tr>
</tbody>
</table>
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#### STEP ACTION VERIFICATION

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
</table>
| 24 | Momentarily operate RL key. | **Note:** If TR or TRL lamp lighted, refer to 1.05.  
All lamps extinguished. |
| 25 | Restore RIP key. |  |
| 26j | If line being verified is restricted to incoming calls and a marker POTS cross-connection is required—  
Set TERT switch to POTS. | MG0 or MG1, RIP lamps lighted.  
If all cross-connections being verified are correct—  
MLVM lamp lighted.  
If one or more cross-connections being verified are incorrect—  
MLVM lamp *not* lighted.  
Incorrect cross-connections are as indicated in Table A.  
**Note:** If TRL lamp lighted, refer to 1.05.  
All lamps extinguished. |
| 27j | Momentarily operate ST key. |  |
| 28j | Momentarily operate RL key. |  |
| 29 | Restore all keys and switches not required in next test. |  |

#### G. Verification of Lines Equipped With Auxiliary Line Circuits

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>17</td>
<td>Set TBS, TERT switches as required.</td>
<td></td>
</tr>
</tbody>
</table>
| 18g | If ringing combination 10 is selected—  
Set S switch as required. |  |
| 19h | If line circuit being verified is arranged for LAMA or ANI—  
Operate TLVO/1 to select transverter. |  |
| 20h | Set OFF- or OFU- switch and operate OPT1/2 key to select office index of line circuit being tested. | MG0 or MG1 lamp lighted.  
If cross-connections being verified are correct—  
MLVM lamp lighted.  
If PBX line circuit is busy—  
BY lamp lighted.  
MLVM lamp *not* lighted.  
Repeat test when line circuit is idle. |
| 21 | Momentarily operate ST key. |  |
**STEP** | **ACTION**  
---|---  
22 | Momentarily operate RL key.  
23 | Restore all keys and switches not required in next test.  

**H. Verification of No. 101 ESS Central Office Trunk**  
17g | If marker group is arranged for tens block screening and terminating treatment—  
| Set TERT switch to POTS, TBS switch as required.  
18 | Momentarily operate ST key.  

**VERIFICATION**  
If OV lamp (part of XK option) is provided and marker detects failure to match condition—  
OV lamp lighted.  
MLVM lamp *not* lighted.  
Repeat test when linkage can be completed.  
If TLVO/1 key is operated and all translator cross-connections are correct—  
TLVM lamp lighted.  
If one or more cross-connections being verified in marker line verification part of test are incorrect—  
MLVM lamp *not* lighted.  
Incorrect cross-connections are as indicated in Table A.  
Circuit did not proceed to transverter part of test.  
If cross-connections being verified in marker line verification part of test are correct but cross-connections being verified on transverter line verification part of test are incorrect—  
MLVM lamp lighted.  
TLVM lamp *not* lighted.  
Incorrect cross-connections are as indicated in Table A.  

*Note:* If TR or TRL lamp lighted, refer to 1.05.  
All lamps extinguished.  

MG0 or MG1, CCSA or POTS lamps lighted.  
If cross-connections being verified are correct—  
MLVM lamp lighted.  
If OV lamp (part of XK option) is provided and marker detects failure to match condition—  
OV lamp lighted.  
MLVM lamp *not* lighted.  
Repeat test when linkage can be completed.  
If one or more cross-connections being verified in marker line verification part of test are incorrect—  
MLVM lamp *not* lighted.
I. Verification of Office Index and Line Number Cross-Connections on ANI Transverter

3 Set FT, FU, VG, HG, VF switches to positions corresponding to line link frame tens digits, units digits, vertical group location, horizontal group location, and vertical file location of line being verified.

4 Set TH, H, T, U switches to positions corresponding to thousands, hundreds, tens, and units digits of line being verified.

5 Operate TLV0/1 key to select transverter.

6 Set OFF switch and operate OFT1/2 key to select office index of line being tested.

7a If 4-wire line is being verified—
Operate 4W key.

8 Operate MG0/1 key to select 0 or 1 marker group (MG0 for offices with only one marker group).

9b If trouble recorder card showing verification is desired—
Operate REC key.

Note: *If VQ and VS options are provided, a trouble recorder card showing verification is perforated only if all cross-connections are correct.* Each incorrect cross-connection is indicated by a lighted lamp as indicated in Table A. If VR and VT options are provided, a trouble recorder card is perforated showing verification of all cross-connections as they are physically wired, regardless if correct or incorrect. Also each incorrect cross-connection is indicated by a lighted lamp is indicated in Table A. The LVM or LVF punches on the
**Step** | **Action** | **Verification**
--- | --- | ---
10c | If ring party line is being verified— Set RCT switch to 0, or operate RCT0 key. | TLVM lamp lighted. If cross-connections being verified are incorrect— TLVM lamp not lighted. Incorrect cross-connections are as indicated in Table A.

11d | If tip party line is being verified— Set RCT switch to 1, or operate RCT1 key. | All lamps extinguished.

12 | Set RCU switch to 1. | 

13 | Operate ANI key. | 

14 | Momentarily operate ST key. | 

15 | Momentarily operate RL key. | MG0 or MG1 lamp lighted.

16 | Restore all keys and switches not required in next test. | If cross-connections being verified are correct— MLVM lamp lighted.

J. Verification of Lines Arranged for Common Control Switching Arrangement (CCSA) | 

17 | Momentarily operate ST key. | If OV lamp (part of XK option) is provided and marker detects failure to match condition— OV lamp lighted.

Note 1: Cross-connections verified on 4-wire lines appearing in two number groups will be associated with the A number group of the line.

Note 2: If TRL lamp lighted, refer to 1.05. | All lamps extinguished.

18 | Momentarily operate RL key. |
### SECTION 218-102-502

<table>
<thead>
<tr>
<th>STEP</th>
<th>ACTION</th>
<th>VERIFICATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>19g</td>
<td>If 4-wire line appearing in two number groups is being verified—</td>
<td>Operate NGB key.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>MG0 or MG1 lamp lighted.</strong> If cross-connections being verified are correct—</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>MLVM lamp lighted.</strong> If OV lamp (part of XK option) is provided and marker detects failure to match condition—</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>OV lamp lighted.</strong> If cross-connections being verified are incorrect—</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>MLVM lamp not lighted.</strong> Incorrect cross-connections are as indicated in Table A.</td>
</tr>
<tr>
<td>20g</td>
<td>Momentarily operate ST key.</td>
<td></td>
</tr>
<tr>
<td>21g</td>
<td>Momentarily operate RL key.</td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>Restore all keys and switches.</td>
<td></td>
</tr>
</tbody>
</table>

**Note 1:** On 4-wire lines appearing in two number groups, any incorrect cross-connection will be associated with the B number group of the line.

**Note 2:** If TRL lamp lighted, refer to 1.05.

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### K. Verification of PBX AIOD Trunk Number

3. Set RCT switch to 1, or operate RCT1 key.

4. Set RCU switch to 1.

5. Set FT, FU, VG, HG, VF switches to positions corresponding to line link frame tens digit, unit digit, vertical group location, horizontal group location, and vertical file location of AIOD trunk being verified.

6. Set TH, H, T, U switches to positions corresponding to thousands, hundreds, tens, and unit digits of AIOD trunk being verified.

7a. If 4-wire AIOD trunk is being verified— Operate 4W key.

8b. If trouble recorder card showing verification is desired— Operate REC key.
Note: If VQ and VS options are provided, a trouble recorder card showing verification is perforated only if all cross-connections are correct. Each incorrect cross-connection in indicated by a lighted lamp as indicated in Table A. If VR and VT options are provided, a trouble recorder card is perforated showing verification of all cross-connections as they are physically wired, regardless if correct or incorrect. Also each incorrect cross-connection is indicated by a lighted lamp as indicated in Table A. The LVM or LVF punches on the trouble recorder card indicate a line verification match or a line verification failure, respectively.

9c If an ANI test is being made and LAMA and ANI transverters are provided in same marker group—
   Operate ANI key.

10 Operate TLVO/1 key to select transverter.

11 Set OFF switch and operate OFT1/2 key to select office index of AIOD trunk being tested.

12 Operate MG0/1 key to select 0 or 1 marker group.

13 Momentarily operate ST key.

14 Momentarily operate RL key.

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

TLVM lamp lighted.
If cross-connections being verified are incorrect—
TLVM lamp not lighted.
Incorrect cross-connections are as indicated in Table A.

All lamps extinguished.