

LINE VERIFICATION

TESTS USING OFFICE TEST FRAME TEST CIRCUIT SD-27633-01 (J23260)

NO. 5 CROSSBAR OFFICES

1. GENERAL

PAGE

1.01 This section describes a method of making verification tests of lines in No. 5 crossbar offices equipped with the office test frame test circuit (OTF) SD-27633-01 (J23260), and the trouble indicator and connector circuit (TIC) SD-27634-01.

appears in more than one tens block. (5) Verification of the end-of-group (EG) cross-connection. (6) Verification when a customer line is associated with range extension equipment.

4

1.02 The reasons for reissuing this section are listed below. Revision arrows are used to emphasize the more significant changes. Equipment Test Lists are affected.

C. Lines Arranged for Line Link Pulsing—Individual Treatment:

This test verifies cross-connections for the vertical group, horizontal group, vertical file, LLP (RC cross-connections), and when the line link pulsing line is associated with range extension equipment.

7

(a) To add Test F.

(b) To add paragraph 1.07.

(c) To make minor changes, as required.

D. AMA Translator: This test checks the cross-connections for the originating office and the billing or directory number in the translator that serves the line being verified.

8

1.03 The tests covered are:

PAGE

A. Number Group and Line Link Frame—Nonterminal Hunting:

This test checks frame units, vertical group, horizontal group, vertical file, class of service, ringing combination, and verification when a customer line is associated with range extension equipment.

3

E. ANI Translator: This test checks the cross-connections for the directory number in the translator that serves the line being verified.

9

B. Number Group and Line Link Frame—Terminal Hunting or PBX Line:

This test checks the following: (1) Frame units, vertical group, horizontal group, vertical file, and ringing combination. (2) The number of line sleeves connected to each SC relay. (3) Verification that the correct line sleeve cross-connections have been made. (4) Verification of the A (advance) cross-connection where a PBX group

F. Lines Arranged for 2-Line Hunt Numbers: This test checks the number group line location and ringing combination cross-connections for lines arranged for 2-line numbers.

10

1.04 Test B requires that all lines of a PBX group be made busy for a short interval. Care should be exercised to minimize service interruptions.

1.05 When testing lines that appear in the AMA translator, a special NNX code should be

NOTICE

Not for use or disclosure outside the Bell System except under written agreement

used for test purposes to prevent the customer from being falsely charged for a call.

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 conditions 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 When lamp display control feature (option YR) is provided at the trouble indicator and connector circuit (TIC), a stored trouble condition is indicated by a lighted red DR lamp. Momentary operation of the LD key will cause the trouble indicating lamps to light. These lamps will be extinguished with the momentary operation of the RLS key. Application of this feature will prevent

trouble lamp displays from occurring in unattended offices.

2. APPARATUS

All Tests

2.01 Two patching cords, P3E cord, 8 feet long, equipped with two 310 plugs (3P6E cord).

Tests B, F

2.02 351C (make-busy) plug for regular size crossbar switches, or 459E (make-busy) plug as required for small size crossbar switches.

Tests D, E

2.03 Patching cord, P3U cord, 7 feet long, equipped with one 310 plug and one 351A plug (3P27B cord) for regular size crossbar switches or patching cord, P3BE cord, 7 feet long, equipped with one 310 plug and one 459A plug for small size crossbar switches.

3. PREPARATION

| STEP | ACTION | VERIFICATION |
|--------------------------|---|-------------------------|
| All Tests | | |
| 1 | At OTF— Restore all keys and switches | All lamps extinguished. |
| 2 | At TIC— Momentarily operate RLS key | All lamps extinguished. |
| Tests A Through C | | |
| 3a | If incoming trunk is used for test— Have trunk made busy at originating office. | |
| 4a | At trunk relay rack frame— Check that A relay of trunk is not operated. | |
| 5b | If incoming trunk does not have E and M signaling— Patch T jack on trunk unit to ITT jack on relay rack frame. | |
| 6b | At OTF— Operate ITT, ITT1 keys. | |

| STEP | ACTION | VERIFICATION |
|------|---|--------------|
| 7c | If incoming trunk has E and M signaling— Patch T1, T2 jacks at trunk to T1, T2 jacks at relay rack frame. | |
| 8c | Operate ITT, ITT2, EM keys. | |
| 9d | If incoming trunk being used requires MF pulsing— Operate MF key. | |
| 10d | Set MF switch to MIN L. | |
| 11e | If trunk being used does not require start dial signal— Operate ONHK key. | |
| 12f | If trunk is equipped with A relay ground shunt option— Operate GS key. | |
| 13g | If trunk is arranged for short loop operation— Operate SLP key. | |
| 14h | If IAO trunk is used for test— Operate IAO, OTL keys. | |
| 15 | Set CST_, CSU_ switches to select class of service. | |
| 16 | Set LL switch to 0. | |
| 17 | Set PS switch to desired pulsing speed. | |
| 18 | Operate 4D, 5D, or 7D key. | |
| 19 | Operate CB, MKR-, MCB keys. | |

4. METHOD

| STEP | ACTION | VERIFICATION |
|--|--|--------------|
| A. Number Group and Line Link Frame—Nonterminal Hunting | | |
| 20 | Set A_ through G_ DIAL switches to select directory number under test or to select IAO code and directory number under test. | |
| 21 | Operate ST key. | |

At TIC—
FUT_, VGT_, HGT_, VFT_, RCT_, CT_, CU_
lamps lighted corresponding to line link location,
ringing combination, and class of service of

SECTION 218-401-501

| STEP | ACTION | VERIFICATION |
|------|---|--|
| | | line being verified. If line being verified is arranged for calling line identification— LVM lamp lighted. |
| 22 | At OTF— Restore ST key. | |
| 23 | At TIC— Momentarily operate RLS key. | All lamps extinguished. |
| 24 | At OTF— Restore all keys and switches not required in next test. | |
| 25a | If incoming trunk is used for test— At trunk relay rack frame— Remove all patching cords. | |
| 26a | Have trunk restored to service at originating office. | |

B. Number Group and Line Link Frame—Terminal Hunting or PBX Line

| | | |
|----|---|---|
| 20 | Operate PBX1 key. | |
| 21 | Set A_ through G_ DIAL switches to select lowest directory number in PBX or intraoffice code and lowest directory number being verified in PBX group. | |
| 22 | Operate ST key. | At TIC— FUT_ VGT_ HGT_ VFT_ RCT_ CT_ CU_ lamps lighted corresponding to line link location, ringing combination and class of service of line under test in PBX group. S0 through S9 lamps lighted corresponding to number of lines with sleeve cross-connections in PBX group. If line being verified is arranged for range extension— LOLL lamp lighted. |
| | | Note: If the line is busy or if the sleeve cross-connection is missing, S lamp is not lighted. |
| 23 | At OTF— Restore ST key. | |

| STEP | ACTION | VERIFICATION |
|---|--|--|
| 24 | At TIC— Momentarily operate RLS key. | All lamps extinguished. |
| 25 | At OTF— Restore PBX1 key; operate PBX2 key. | |
| 26 | Operate S_ key corresponding to first line in PBX hunting group. | |
| 27 | Operate ST key. | At TIC— FUT_ VGT_ HGT_ VFT_ RCT_ CT_ CU_ lamps lighted corresponding to line link location, ringing combination, and class of service of line in hunting group associated with operated S_ key. S0 through S9 lamps not lighted. If line being verified is arranged for range extension— LOLL lamp lighted. |
| 28 | At OTF— Restore ST key. | |
| 29 | At TIC— Momentarily operate RLS key. | All lamps extinguished. |
| 30 | At OTF— Restore S_ key and operate succeeding S_ key corresponding to next line in PBX hunting group. | |
| 31 | Repeat Steps 27 through 30 until all lines in tens block have been verified. | |
| PBX Group Consists of One Tens Block | | |
| 32 | Restore S_ key. | |
| 33 | Restore CB key. | |
| 34 | Operate ST key. | Line-busy tone heard. This checks that an EG cross-connection has been made. |
| 35 | Restore ST key. | |
| PBX Group Consists of More Than One Tens Block | | |
| 36 | Set A_ through G_ DIAL switches to select last line in tens block just tested. | |

| STEP | ACTION | VERIFICATION |
|------|---|--|
| 37 | At line link frame— Insert make-busy plug into line link vertical appearance of line selected. | |
| 38 | Operate ST key. | At TIC— FUT_, VGT_, HGT_, VFT_, RCT_, CT_, CU_ lamps lighted for first line in succeeding tens block, ringing combination, and class of service. If line is busy— Next line location displayed. |
| 39 | At OTF— Restore ST key. | |
| 40 | At TIC— Momentarily operate RLS key. | All lamps extinguished. |
| 41 | At line link frame— Remove make-busy plug from line link vertical. | |
| 42 | At OTF— Set A_ through G_ DIAL switches to select first line in subsequent tens block. | |
| 43 | Repeat Steps 26 through 31 to test lines in subsequent tens block. | |
| 44 | Repeat Steps 36 through 43 until all tens blocks associated with PBX hunting group have been verified. | |
| 45 | At OTF— Release S_ key when last line of tens block associated with PBX hunting group has been tested. | |
| 46 | Operate ST key. | Line-busy tone heard. This checks that an EG cross-connection has been made. |
| 47 | Restore ST key. | |

Line Sleeve Cross-Connection

Caution: Before proceeding with this test, refer to paragraph 1.04.

- | | | |
|----|--|--|
| 48 | Set A_ through G_ DIAL switches to select intraoffice code and billing or directory number of PBX group. | |
| 49 | Restore CB, PBX2 keys. | |

| STEP | ACTION | VERIFICATION |
|---|--|---|
| 50 | At line link frame— Insert make-busy plugs into all line link appearances of PBX hunting group. | |
| 51 | Operate ST key. | Line-busy tone heard. |
| 52 | Restore ST key. | |
| 53 | Restore all keys and switches not required in next test. | |
| 54 | At line link frame— Immediately remove all make-busy plugs from line link appearances of PBX hunting group. | |
| 55a | If incoming trunk is used for test— At trunk relay rack frame— Remove all patching cords. | |
| 56a | Have trunk restored to service at originating office. | |
| C. Lines Arranged for Line Link Pulsing—Individual Treatment | | |
| 20 | Set A_ through G_ DIAL switches as required to select directory number of line being verified. | |
| 21 | Set TBT, TBU switches for tens block of number selected. | |
| 22 | Operate LLP, RTK keys. | LLP lamp lighted. |
| 23i | If line being tested is in a PBX hunting group— Operate NTLs, S_ keys for line being tested. | |
| 24 | Operate ST key. | At TIC— FUT_, VGT_, HGT_, VFT_, RCT_, CT_, CU_ lamps lighted corresponding to line link location, ringing combination, and class of service of line being verified. If line being verified is arranged for range extension— LOLL lamp lighted. |
| 25 | At OTF— Restore ST key. | |
| 26 | At TIC— Momentarily operate RLS key. | All lamps extinguished. |

| STEP | ACTION | VERIFICATION |
|--------------------------|---|--|
| 27 | At OTF— Restore all keys and switches not required in next test. | |
| 28a | If incoming trunk is used for test— At trunk relay rack frame— Remove all patching cords. | |
| 29a | Have trunk restored to service at originating office. | |
| D. AMA Translator | | |
| 3 | At line link frame— Patch from SP jack to line link vertical unit of line being verified. | |
| 4 | At OFT— Patch OTL jack to SP jack. | |
| 5a | If line being verified is arranged for TOUCH-TONE®— Operate TT key. | |
| 6 | Set LL switch to 0. | |
| 7 | Set PS switch to desired pulsing speed. | |
| 8 | Operate OTLP, TV_, TVR_ keys. | |
| 9b | If tip party is being verified— Operate TP key. | |
| 10 | Set A_ through N_ DIAL switches to select office code and directory number assigned for permanent busy. | |
| 11 | Operate ST key. | At TIC— TV_, TVR_, FU 2/5, VG 2/5, HG 2/5, VF 1/5 lamps lighted corresponding to line location of calling customer. |
| 12 | At OTF— Restore ST key. | |
| 13 | At TIC— Momentarily operate RLS key. | All lamps extinguished. |
| 14 | At OTF— Remove patching cord from OTL, SP jacks. | |

| STEP | ACTION | VERIFICATION |
|--------------------------|---|--------------|
| 15 | At line link frame— Remove patching cord from SP jack and line link vertical. | |
| 16 | At OTF— Restore all keys and switches not required in next test. | |
| E. ANI Translator | | |
| 3 | At line link frame— Patch from SP jack to line link vertical unit of line being verified. | |
| 4 | At OTF— Patch OTL jack to SP jack. | |
| 5a | If line being verified is arranged for TOUCH-TONE— Operate TT key. | |
| 6 | Operate MKR_, MCB_, OGT, NT, NCH, CB keys. | |
| 7 | Operate TB_, TVR_, OTLP keys. | |
| 8 | Operate _D key for number of digits to be dialed. | |
| 9 | Operate ANI, 8SD, FS- keys. | |
| 10b | If multifrequency sender is used— Operate MFS key. | |
| 11c | If dial pulse sender is used— Operate DPS key. | |
| 12d | If line circuit being verified is arranged for E and M supervision— Operate EM key. | |
| 13 | Set LL switch to 0. | |
| 14 | Set PS switch to desired pulsing speed. | |
| 15 | Set A_ through N_ DIAL switches to select office code and directory number requiring ANI operation. | |
| 16 | Set A_ SDR switch for identifying digit and set B_ through H_ SDR switches as required for calling line number. | |

SECTION 218-401-501

| STEP | ACTION | VERIFICATION |
|------|---|--|
| 17 | Operate ST key. | At TIC— TV_ FU 2/5, VG 2/5, HG 2/5, VF 1/5, TH_ HN_ T_ U_ lamps lighted corresponding to line location and line number set up on SDR switches. |
| 18 | At OTF— Restore ST key. | |
| 19 | At TIC— Momentarily operate RLS key. | All lamps extinguished. |
| 20 | At OTF— Remove patching cord from OTL, SP jacks. | |
| 21 | At line link frame— Remove patching cord from SP jack and line link vertical. | |
| 22 | At OTF— Restore all keys and switches. | |

F. ♦2-Line Hunt Group Feature

| | | |
|----|--|---|
| 20 | At OTF— Set A through G DIAL switches to select an intraoffice code and the first directory number of a 2-line hunt group. | |
| 21 | At OTF— Operate ST key. | At TIC— FUT_ HGT_ VGT_ VFT_ and RCT_ lamps lighted for line location associated with first directory number of 2-line hunt group. |
| 22 | Restore ST key. | |
| 23 | At TIC— Momentarily operate RLS key. | All lamps extinguished. |
| 24 | At line link frame location of first directory line number— When line is idle— Insert make-busy plug into line switch vertical. | |
| 25 | Operate ST key. | At TIC— FUT_ HGT_ VGT_ VFT_ and RCT_ lamps lighted for line location associated with second directory number of 2-line hunt group. |
| 26 | Restore ST key. | |

| STEP | ACTION | VERIFICATION |
|------|--|--|
| 27 | At TIC— Momentarily operate RLS key. | All lamps extinguished. |
| 28 | At OTF— Set A through G DIAL switches to select second directory number of 2-line hunt group. | |
| 29 | At line link frame location of first directory line number— Remove make-busy plug from line switch vertical. | |
| 30 | At line link frame location of second directory line number— When line is idle— Insert make-busy plug into line switch vertical. | |
| 31 | At OTF— Operate ST key. | At TIC— If marker is cross-connected to route to first line when second line is busy— FUT_, HGT_, VGT_, VFT_, RCT_ lamps lighted for line location of first line. If marker is cross-connected to route to line busy when second line is busy— FUT_, HGT_, VGT_, VFT_, RCT_ lamps lighted for line location of second line. Line busy tone heard. |
| 32 | Restore ST key. | |
| 33 | At TIC— Momentarily operate RLS key. | All lamps extinguished. |
| 34 | At line link frame location of first directory number— When line is idle— Insert make-busy plug into line switch vertical. | |
| 35 | At OTF— Operate ST key. | Line busy tone heard. |
| 36 | Restore ST key. | Line busy tone silenced. |
| 37 | Restore all keys and switches. | |
| 38 | Remove make-busy plugs from line switch verticals of first and second lines of 2-line hunt group.⚡ | |

