

COMPLETING MARKER TESTS—PART 7
USING OFFICE TEST FRAME TEST CIRCUIT SD-27633-01 (J23260)
NO. 5 CROSSBAR OFFICES

1. GENERAL

1.01 This section is Part 7 of a series of sections for marker tests previously covered in Section 218-423-501.

1.02 This issue affects Equipment Test Lists.

1.03 The tests covered are:

AE. Route Advance Feature—Tandem

Route: This test checks that the marker functions properly for route advance from tandem route. . . .

2

AF. Transfer of Start Lead Feature:

This test checks that the marker recognizes a transfer of marker start lead within a marker connector. . . .

4

AG. Blank and Unequipped Number

Feature: This test checks that the marker recognizes and terminates calls requiring blank number or intercept routes. . . .

5

AH. Number Series Discrimination or Office Discrimination (Physical, Theoretical, and Extra-Theoretical):

This test checks that the marker recognizes an incorrect combination of office code and numerals and routes the customer to an intercept trunk. . . .

7

AI. Line-Busy Test Feature: This test checks that the marker recognizes a busy line. . . .

9

1.04 Lettered Steps: A letter a, b, c, etc, added to a step number in Part 3 or 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.

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2. APPARATUS

All Tests

2.01 Office Test Frame (OTF).

Tests AE, AF, AJ and AK

2.02 Trouble indicator and connector circuit (TIC).

Tests AE and AF

2.03 322A (make-busy) plug.

Test AF

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

2.05 Testing cord, 893 cord, 6 feet long equipped with two 360A tools (1W13B cord) as required. (Use with tools specified in 2.06 and 2.07.)

2.06 419A (test connector) tools (used for making test connection to contact terminals of relays) as required.

2.07 KS-6278 connecting clips (used for making connection to battery and ground terminals) as required.

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Tests AG through AI

2.08 Two patching cords, P3E cords, 8 feet long, each equipped with two 310 plugs (3P6E cord) (used for patching from ITT jack to T jack of incoming trunk).

2.09 Patching cord, W3M cord, 15 feet long, equipped with one 320 plug, one 360A tool, one 360B tool, one 360C tool (3W4B cord), and one KS-6278 connecting clip (used to connect SP jack to unit terminal strip).

3. PREPARATION

| STEP | ACTION | VERIFICATION |
|-------------|---------------|---------------------|
|-------------|---------------|---------------------|

All Tests

- | | | |
|----|---|--|
| 1 | At OTF— Restore all keys and switches. | |
| 2 | Set L-L switch to 0. | |
| 3 | Set PS switch to 11/56. | |
| 4a | If TOUCH-TONE® dialing is desired— Operate TT key. | |

4. METHOD

| STEP | ACTION | VERIFICATION |
|-------------|---------------|---------------------|
|-------------|---------------|---------------------|

AE. Route Advance Feature—Tandem Route

- | | | |
|-----|--|--|
| 5 | Select from office records an incoming DP or MF tandem trunk and have trunk made busy at distant office. | |
| 6 | Select from office records a tandem outgoing route having no alternate route. | |
| 7b | If trunk used for test has reverse battery supervision— At relay rack frame— When trunk is idle— Patch from ITT jack to T jack of trunk selected. | |
| 8b | At OTF— Operate ITT1 key. | |
| 9c | If trunk used for test has E and M lead supervision— At relay rack frame— When trunk is idle— Patch T1, T2 jacks to T1, T2 jacks of trunk selected. | |
| 10c | At OTF— Operate ITT2 key. | |

| STEP | ACTION | VERIFICATION |
|------|--|--|
| 11 | Operate ITT key. | |
| 12 | Operate MCB, MKR_ keys to select marker under test. | |
| 13d | If trunk selected is MF— Operate MF key. | |
| 14d | Set MF switch to MIN L. | |
| 15e | If trunk selected has short conductor loop— Operate SLP key. | |
| 16f | If trunk selected is bylink— Operate BL key. | |
| 17f | Patch from BL jack to SP jack using P3E cord. | |
| 18f | At relay rack frame— Patch W3M cord to SP jack and connect sleeve to terminal 42 on trunk unit terminal strip. | |
| 19g | If trunk selected does not require a dial start signal— At OTF— Operate ONHK key. | |
| 20h | If trunk selected has A relay ground shunt— At OTF— Operate GS key. | |
| 21 | At OTF— Set A through N DIAL switches as required to select an office code having access to route selected and any number in called office. | |
| 22 | Operate _D key corresponding to number of digits expected from incoming trunk. | |
| 23 | Operate CB key. | |
| 24 | At TIC— Momentarily operate RLS key. | All lamps extinguished. |
| 25 | At OTF— Operate ST key. | At TIC— DR_, FS_, LC_, LV_, TB_, FAK or FBK lamps lighted identifying outgoing trunk in route selected. |
| 26 | Restore ST key. | |

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| STEP | ACTION | VERIFICATION |
|-------------|---|---|
| 27 | At TIC— Momentarily operate RLS key. | All lamps extinguished. |
| 28 | At OTF— Operate ODD or EVEN, FS_ keys and set TS switch to select a trunk in the route selected. | |
| 29 | Operate RA key. | |
| 30 | At OTF— Operate ST key. | At TIC— DR_, FS_, LC_, LV_, TB_, FAK or FBK, RA, TAN lamps lighted identifying a noncoin tone trunk. |
| 31 | Restore ST key. | |
| 32f | If trunk selected is bylink— At OTF— Remove patching cord from SP, BL jacks. | |
| 33 | At relay rack frame— Remove patching cords from ITT, T, SP jacks and from unit terminal strip. | |
| 34 | Have trunk restored to service at distant office. | |
| 35 | At OTF— Restore all keys and switches. | |

AF. Transfer of Start Lead Feature

- 5 At jack, lamp, and key circuit—
Insert make-busy plug into M_C_MB jack of marker under test.
- 6 At OTF—
Operate OTL, 7D, REC, OGT, and MCB keys.
- 7 Set CST, CSU switches for class of service having access to any office.
- 8 Set A through G DIAL switches to select any office code and line number.
- 9 Operate MKR_ key for marker under test.
- 10 At marker—
Connect ground to 2M of CON1 relay.
- 11 Block nonoperated HTR relay.

| STEP | ACTION | VERIFICATION |
|------|--|--|
| 12 | At TIC— Momentarily operate RLS key. | All lamps extinguished. |
| 13 | At OTF— Operate ST key. | At TIC— DR ₁ , TRS lamps lighted. A2/5 through G2/5 lamps lighted identifying number dialed. |
| 14 | Restore ST key. | |
| 15 | At TIC— Momentarily operate RLS key. | All lamps extinguished. |
| 16 | At marker— Remove test connection from CON1 relay. | |
| 17 | Remove blocking tool from HTR relay. | |
| 18 | At jack, lamp, and key circuit— Remove make-busy plug from M_C_MB jack. | |
| 19 | At OTF— Restore all keys and switches. | |

AG. Blank and Unequipped Number Feature

Intraoffice Call

| | | |
|----|--|------------------------------|
| 5 | Operate OTL, 7D keys. | |
| 6 | Set CST, CSU switches for class of service having access to intraoffice code. | |
| 7 | Set A through G DIAL switches to select intraoffice code and any blank or unequipped number. | |
| 8 | Operate MKR ₁ key for marker under test. | |
| 9 | Operate ST key. | Call completed to intercept. |
| 10 | Restore ST key. | Connection released. |
| 11 | Restore all keys and switches. | |

Incoming Call

| | | |
|----|---|--|
| 12 | Select from office records an incoming DP or MF trunk and have trunk made busy at distant office. | |
|----|---|--|

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| STEP | ACTION | VERIFICATION |
|------|--|------------------------------|
| 13 | At relay rack frame— When trunk is idle— Patch from ITT jack to T jack of trunk selected. | |
| 14 | At OTF— Operate ITT, ITT1, MCB keys and MKR_ key for marker under test. | |
| 15b | If trunk selected is MF— Operate MF key. | |
| 16b | Set MF switch to MIN L. | |
| 17c | If trunk selected has short conductor loop— Operate SLP key. | |
| 18d | If trunk selected is bylink— Operate BL key. | |
| 19d | Patch from BL jack to SP jack using P3E cord. | |
| 20d | At relay rack frame— Patch W3M cord to SP jack and connect sleeve to terminal 42 on trunk unit terminal strip. | |
| 21e | If trunk selected does not require a dial start signal— At OTF— Operate ONHK key. | |
| 22f | If trunk selected has A relay ground shunt— At OTF— Operate GS key. | |
| 23 | At OTF— Set A through G DIAL switches as required to select any blank or unequipped number. | |
| 24 | Operate _D key according to number of digits expected from incoming trunk. | |
| 25 | Operate ST key. | Call completed to intercept. |
| 26 | Restore ST key. | Connection released. |
| 27d | If trunk selected is bylink— Remove patching cord from BL, SP jacks. | |
| 28 | At relay rack frame— Remove patching cords from ITT, T, SP jacks and from unit terminal strip. | |

| STEP | ACTION | VERIFICATION |
|------|---|--------------|
| 29 | Have trunk restored to service at distant office. | |
| 30 | At OTF— Restore all keys and switches. | |

AH. Number Series Discrimination or Office Discrimination (Physical, Theoretical, and Extra-Theoretical)

Intraoffice Call

| | | |
|----|--|------------------------------|
| 5 | Operate OTL, 7D, MCB keys. | |
| 6 | Operate MKR_ key for marker under test. | |
| 7 | Set CST, CSU switches for class of service. | |
| 8 | Set A, B, C DIAL switches to select intraoffice code. | |
| 9 | Set D DIAL switch to select thousands digit of a directory number served by a number group serving two or more number series or office codes. | |
| 10 | Set E through G DIAL switches to select the remaining digits representing a working line number associated with an intraoffice code other than the one selected by Step 8. | |
| 11 | Operate ST key. | Call completed to intercept. |
| 12 | Restore ST key. | Connection released. |
| 13 | Repeat Steps 8 through 12 for all other combinations of unmatched office codes and numerals. | |
| 14 | Restore all keys and switches. | |

Incoming Call

| | | |
|----|---|--|
| 15 | Select from office records an incoming DP or MF trunk and have trunk made busy at distant office. | |
| 16 | At relay rack frame— When trunk is idle— Patch from ITT jack to T jack of trunk selected. | |

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| STEP | ACTION | VERIFICATION |
|------|---|------------------------------|
| 17 | At OTF— Operate ITT, ITT1, MCB keys. | |
| 18b | If trunk selected is MF— Operate MF key. | |
| 19b | Set MF switch to MIN L. | |
| 20c | If trunk selected has short conductor loop— Operate SLP key. | |
| 21d | If trunk selected is bylink— Operate BL key. | |
| 22d | Patch from BL jack to SP jack using P3E cord. | |
| 23d | At relay rack frame— Patch W3M cord to SP jack and connect sleeve to terminal 42 on trunk unit terminal strip. | |
| 24e | If trunk selected does not require a dial start signal— At OTF— Operate ONHK key. | |
| 25f | If trunk selected has A relay ground shunt— At OTF— Operate GS key. | |
| 26 | At OTF— Set A through G DIAL switches as required to cause a mismatch between the incoming office class (OA, OB) and working line number called. | |
| 27 | Operate _D key corresponding to number of digits expected from incoming trunk. | |
| 28 | Operate MKR_ key for marker under test. | |
| 29 | Operate ST key. | Call completed to intercept. |
| 30 | Restore ST key. | Connection released. |
| 31 | Repeat Steps 26, 29, 30 for all combinations of unmatched incoming office class and line number called. | |
| 32d | If trunk selected is bylink— Remove patching cord from BL, SP jacks. | |

| STEP | ACTION | VERIFICATION |
|------|---|--------------|
| 33 | At relay rack frame— Remove patching cords from ITT, T, SP jacks and from unit terminal strip. | |
| 34 | Have trunk restored to service at distant office. | |
| 35 | At OTF— Restore all keys and switches. | |

Al. Line-Busy Test Feature

Intraoffice Call

| | | |
|----|--|------------------|
| 5 | Operate OTL, 7D, TTLD, MCB keys. | |
| 6 | Set CST, CSU switches for class of service. | |
| 7 | Set A through G DIAL switches to select intraoffice code and terminating test line (TTL) number. | |
| 8 | Set RS1, RS2 switches as required for ringing combination. | |
| 9 | Operate MKR_ key for marker under test. | |
| 10 | At line link frame appearance of TTL— Insert make-busy plug into line link vertical of TTL. | |
| 11 | At OTF— Operate ST key. | Busy tone heard. |
| 12 | Restore ST key. | Tone silenced. |
| 13 | Restore all keys and switches. | |
| 14 | At line link frame appearance of TTL— Remove make-busy plug from line switch vertical of TTL. | |

Incoming Call

| | | |
|----|---|--|
| 15 | Select from office records an incoming DP or MF trunk and have trunk made busy at distant office. | |
| 16 | At line link frame appearance of TTL— Insert make-busy plug into line switch vertical of TTL. | |

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| STEP | ACTION | VERIFICATION |
|-------------|--|---------------------|
| 17 | At relay rack frame— When trunk is idle— Patch from ITT jack to T jack of trunk selected. | |
| 18 | At OTF— Operate ITT, ITT1, TTLD, MCB keys. | |
| 19 | Set CST, CSU switches for class of service of test line. | |
| 20 | Set RS1, RS2 switches as required for ringing combination. | |
| 21b | If trunk selected is MF— Operate MF key. | |
| 22b | Set MF switch to MIN L. | |
| 23c | If trunk selected has short conductor loop— Operate SLP key. | |
| 24d | If trunk selected is bylink— Operate BL key. | |
| 25d | Patch from BL jack to SP jack using P3E cord. | |
| 26d | At relay rack frame— Patch W3M cord to SP jack and connect sleeve to terminal 42 on trunk unit terminal strip. | |
| 27e | If trunk selected does not require a dial start signal— At OTF— Operate ONHK key. | |
| 28f | If trunk selected has A relay ground shunt— At OTF— Operate GS key. | |
| 29 | At OTF— Set A through G DIAL switches as required to select TTL. | |
| 30 | Operate _D key corresponding to number of digits expected from incoming trunk. | |
| 31 | Operate MKR_ key for marker under test. | |
| 32 | Operate ST key. | Busy tone heard. |
| 33 | Restore ST key. | Tone silenced. |

| STEP | ACTION | VERIFICATION |
|------|---|--------------|
| 34 | At line link frame appearance of TTL— Remove make-busy plug from line switch vertical of TTL. | |
| 35 | At relay rack frame— Remove patching cord from ITT, T, SP jacks and from unit terminal strip. | |
| 36d | If trunk selected is bylink— At OTF— Remove patching cord from BL, SP jacks. | |
| 37 | Have trunk restored to service at distant office. | |
| 38 | At OTF— Restore all keys and switches. | |

