

COMPLETING MARKER TESTS—PART 12
USING OFFICE TEST FRAME TEST CIRCUIT SD-27633-01 (J23260)
NO. 5 CROSSBAR OFFICES

1. GENERAL

- 1.01** This section is Part 12 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:

PAGE

AZ. Calling Line Identification Feature:

This test checks the following: (1) An intraoffice call to a line arranged for calling line identification will cause the calling line location to be displayed on the trouble indicator. (2) A terminating call to a line arranged for calling line identification will cause a trouble display indicating the location of trunk used in the call. (3) An outgoing call to a number arranged for calling line identification will cause a trouble display indicating the calling line location. (4) A call to a line arranged for calling line identification or a call to a number set up on the called number detector will cause a major alarm.

2

BA. Range Extension for Unigauge Cabling Feature:

This test checks the range extension feature of the marker on: (1) Subscriber outgoing calls. (2) Incoming calls, non-PBX. (3) Incoming calls, PBX (4) Calls to long loop lines where range extension unit is not required.

8

- 1.04** Test BA requires action and verification at the local test desk or No. 3 local test cabinet and the trouble indicator and connector circuit (TIC).
- 1.05** *Lettered Steps:* A letter a, b, c, etc, added to a step number in Part 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 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.

2. APPARATUS

2.01 The apparatus required for each test is listed in Table A. The details of each item are covered in the paragraph indicated by the number in parentheses.

TABLE A

APPARATUS	TEST	
	AZ	BA
Office Test Frame (OTF)	1	1
Trouble Indicator and Connector Circuit (TIC)	1	1
322A (make-busy) Plug	✓	✓
Tools (2.02)		✓
Cord (2.03)	✓	
Cord (2.04)	2	2
Cord (2.05)	✓	✓
Cord (2.06)		✓
Tool (2.07)	✓	
Tool (2.08)	✓	
Tool (2.09)	✓	
Tool (2.10)	✓	

✓ as required

SECTION 218-423-512

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

2.03 Testing cord, 893 cord, 6 feet long, equipped with two 360A tools (1W13B cord) (use with tools specified in 2.07 through 2.10).

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

2.05 Patching cord, W3M cord, 15 feet long, equipped with one 310 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).

2.06 Patching cord, P3U cord, 7 feet long, equipped with one 351A plug and one 310 plug (3P27B

cord) (used for patching from line vertical to SP jack on regular crossbar switch) or P3BE cord, 7 feet long, equipped with one 310 plug and one 459A plug (used for patching line vertical to SP jack on small crossbar switch).

2.07 624A (terminal connector) tools (used for making test connection to winding terminals of wire-spring-type relays).

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

2.09 651D (relay contact connector holder) tool (used for holding relay contact connector tools when making test connections to fixed contacts or wire-spring-type relays).

2.10 639A (relay contact connector) tools (used in conjunction with 651D tools).

3. PREPARATION

STEP	ACTION	VERIFICATION
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

AZ. Calling Line Identification Feature

Intraoffice Call

- 5 Operate 7D, MCB, OTL keys.
- 6 Set CST, CSU switches for class of service having access to IAO route.
- 7b If coin class of service is used—
Operate CN key.
- 8 At number group frame—
Remove F_ to RF_ cross-connection jumper from a test line number and replace with test

STEP	ACTION	VERIFICATION
	jumpers from F ₋ to F1 or F2 and RF ₋ to RF1 or RF2.	
9	At jack, lamp, and key circuit— Insert make-busy plug into M ₋ C ₋ MB jack associated with marker under test.	
10	At marker— Connect ground to 1F of TRST relay.	
11	At OTF— Set A through G DIAL switches to select intraoffice code and test line number cross-connected for calling line identification.	
12	Operate MKR ₋ key for marker under test.	
13	At TIC— Momentarily operate RLS key.	All lamps extinguished.
14	At OTF— Operate ST key.	Call completed to test line. At TIC— FU ₋ , HG ₋ , VG ₋ , VF ₋ lamps lighted identifying line location of calling line. A ₋ through E ₋ lamps lighted indicating directory number of called line. DR ₋ , FS ₋ , LC ₋ , LV ₋ , FAK or FBK lamps lighted identifying intraoffice trunk for class of service used. If office alarms are not transferred to distant office— At jack, lamp, and key circuit— CLI lamp lighted. Alarm sounds. If office alarms are transferred to distant office— At distant office— Calling line identification alarm received.
15	At jack, lamp, and key circuit— Momentarily operate TRR-AR key.	If alarms are not transferred to distant office— CLI lamp extinguished. Alarm silenced. If office alarms are transferred to distant office— At distant office— Alarm silenced.
16	At OTF— Restore ST key.	Connection released. If coin class of service is used— CR or CC lamp momentarily lighted. CND lamp lighted.

SECTION 218-423-512

STEP	ACTION	VERIFICATION
17b	If coin class of service is used— Restore CN key.	CND lamp extinguished.
18	At TIC— Momentarily operate RLS key.	All lamps extinguished.
19	At OTF— Restore all keys and switches.	
20	At marker— Remove connection from TRST relay.	
21	At jack, lamp, and key circuit— Remove make-busy plug from M_C_MB jack.	
22	At number group frame— Remove test jumpers from F_, F1 or F2, RF_, RF1 or RF2 and replace F_ to RF_ cross-connections.	

Terminating Call

23	Select from office records an incoming DP or MF trunk.	
24	Have trunk selected made busy at distant office.	
25	At relay rack frame— When trunk is idle— Patch from ITT jack to T jack of trunk selected.	
26	At OTF— Operate ITT, ITT1, MCB keys.	
27c	If trunk selected is MF— Operate MF key.	
28	Set MF switch to MIN L.	
29	If trunk selected has short conductor loop— Operate SLP key.	
30	If trunk selected is bylink— Operate BL key.	
31	Patch BL jack to SP jack.	
32	At relay rack frame— Patch W3M cord to SP jack and connect sleeve to terminal 42 on trunk unit terminal strip.	

STEP	ACTION	VERIFICATION
33	If trunk selected does not require a dial start signal— At OTF— Operate ONHK key.	
34	If trunk selected has A relay ground shunt— At OTF— Operate GS key.	
35	At number group frame— Remove F_ to RF_ cross-connection jumper from a test line number and replace with test jumpers from F_ to F1 or F2 and RF_ to RF1 or RF2.	
36	At jack, lamp, and key circuit— Insert make-busy plug into M_C_MB jack associated with marker under test.	
37	At marker— Connect ground to 1F of TRST relay.	
38	At OTF— Set A through G DIAL switches as required to select test line cross-connected for calling line identification.	
39	Operate _D key corresponding to number of digits expected from incoming trunk.	
40	Operate MKR_ key for marker under test.	
41	At TIC— Momentarily operate RLS key.	All lamps extinguished.
42	At OTF— Operate ST key.	Call completed to test line. At TIC— DR_, LC_, LV_ and FAK or FBK lamps lighted identifying trunk used in test. If office alarms are not transferred to distant office— At jack, lamp, and key circuit— CLI lamp lighted. Alarm sounds. If office alarms are transferred to distant office— At distant office— Calling line identification alarm received.
43	Restore ST key.	Connection released.

SECTION 218-423-512

STEP	ACTION	VERIFICATION
44	At TIC— Momentarily operate RLS key.	All lamps extinguished.
45	At jack, lamp, and key circuit— Momentarily operate TRR-AR key.	If alarms are not transferred to distant office— CLI lamp extinguished Alarm silenced. If office alarms are transferred to distant office— At distant office— Alarm silenced.
46	At relay rack frame— Remove patching cords from ITT, T, SP jacks and from unit terminal strip.	
47	If trunk selected is bylink— At OTF— Remove patching cord from BL, SP jacks.	
48	Have trunk restored to service at distant office.	
49	At marker— Remove connection from TRST relay.	
50	At number group frame— Remove test jumpers from F_, F1 or F2, RF_, RF1 or RF2 and replace F_ to RF_ cross-connections.	
51	At jack, lamp, and key circuit— Remove make-busy plug from M_C_MB jack.	
52	At OTF— Restore all keys and switches.	

Outgoing Call—Identification of Calling Line on Call to Number Arranged for Calling Line Identification

53	Operate 7D, MCB, OTL, OGT keys.	
54	Set CST, CSU switches for class of service having access to an outgoing route.	
55a	If coin class of service is used— Operate CN key.	
56	Operate MKR_ key for marker under test.	
57	At relay rack frame— Set A through G switches of called number detector circuit associated with marker under	

STEP	ACTION	VERIFICATION
	test to select an outgoing route and any test line number.	
58	At jack, lamp, and key circuit— Operate ENA, ENB, or ENC key to enable the digit detector used.	
59	At OTF— Set A through G DIAL switches to select the outgoing route and test line number set up on called number detector.	
60	Operate ST key.	At TIC— DR_, FS_, LC_, LV_, FAK or FBK lamps lighted identifying outgoing trunk in route selected. If AMA class of service is used— AMA lamp lighted. At OTF— Call completed to test line number. If office alarms are not transferred to distant office— At jack, lamp, and key circuit— CLI lamp lighted. Alarm sounds. If office alarms are transferred to distant office— At distant office— Calling line identification alarm received.
61	At jack, lamp, and key circuit— Momentarily operate TRR-AR key.	If alarms are not transferred to distant office— CLI lamp extinguished. Alarm silenced. If office alarms are transferred to distant office— At distant office— Alarm silenced.
62	Restore ST key.	Connection released. If coin class of service is used— CR or CC lamp momentarily lighted. CND lamp lighted.
63b	If coin class of service is used— Restore CN key.	CND lamp extinguished.
64	At TIC— Momentarily operate RLS key.	All lamps extinguished.
65	At jack, lamp, and key circuit— Restore ENA, ENB or ENC key.	

SECTION 218-423-512

STEP	ACTION	VERIFICATION
66	At OTF— restore all keys and switches.	
67	At relay rack frame— Restore A through G switches of called number detector.	
BA. Range Extension for Unigauge Cabling Feature		
5	Select from office records an incoming DP or MF trunk.	
6	Have trunk selected made busy at distant office.	
7	At relay rack frame— When trunk is idle— Patch from ITT jack to T jack of trunk selected.	
8b	If trunk selected is bylink— Patch W3M cord to SP jack and connect sleeve to terminal 42 on trunk unit terminal strip.	
9c	If trunk selected is MF— At OTF— Operate MF key.	
10c	Set MF switch to MIN L.	
11d	If trunk selected has short conductor loop— Operate SLP key.	
12b	If trunk selected is bylink— Operate BL key.	
13b	Patch from BL jack to SP jack using P3E cord.	
14e	If trunk selected does not require dial start signal— Operate ONHK key.	
15f	If trunk selected has A relay ground shunt— Operate GS key.	
16	Operate ITT, ITT1, MCB keys.	
17	Set A through G DIAL switches as required to direct call to a non-PBX, nonlong-loop line in a horizontal group equipped with range extension for unigauge lines.	

STEP	ACTION	VERIFICATION
18	Operate _D key corresponding to number of digits expected from incoming trunk.	
19	Operate MKR_ key for marker under test.	
20	Operate CB key.	
21	Operate RET key for range extension test.	
22	Operate ST key.	At TIC— LOLL lamp not lighted.
23	At TIC— Momentarily operate RLS key.	All lamps extinguished.
24	At OTF— Restore ST key.	
25	Set A through G DIAL switches as required to direct call to a non-PBX, long-loop line in a horizontal group equipped with range extension for unigauge lines.	
26	Operate ST key.	At TIC— LOLL lamp lighted.
27	At TIC— Momentarily operate RLS key.	All lamps extinguished.
28	At OTF— Restore ST key.	
29	Set A through G DIAL switches as required to direct call to a long-loop line in a PBX hunting group appearing in a horizontal group equipped with range extension for unigauge lines.	
30	Operate ST key.	At TIC— LOLL, RCT10 lamp lighted.
31	At TIC— Momentarily operate RLS key.	All lamps extinguished.
32	At OTF— Restore ST key.	
33	At relay rack frame— Remove patching cords from ITT, T, SP jacks and from unit terminal strip.	

SECTION 218-423-512

STEP	ACTION	VERIFICATION
34b	At OTF— If trunk selected is bylink— Remove patching cord from SP, BL jacks.	
35	Have trunk restored to service at distant end.	
36	At OTF— Restore ITT, ITT1, MF, SLP, BL, ONHK, GS keys if operated.	
37c	Restore MF switch if operated.	
38	Set A through G DIAL switches for outgoing trunk route and any number.	
39	Operate _D key for number of digits to be outpulsed.	
40	Operate OTLP key for connection to particular originating line being used.	
41	Operate CH, LOLL keys.	
42	Set CH switch to select channel associated with horizontal group of line under test.	
43	Patch OTL jack to SP jack.	
44	At line link frame— In horizontal group arranged for long-loop lines, patch SP jack to line switch vertical dedicated to OTF.	
45	Operate ST key.	At TIC— LOLL lamp lighted.
46	At TIC— Momentarily operate RLS key.	All lamps extinguished.
47	At OTF— Restore ST key.	
48	Operate NLL key.	
49	Operate ST key.	At TIC— LOLL lamp lighted.
50	At TIC— Momentarily operate RLS key.	All lamps extinguished.
51	At OTF— Restore ST key.	

STEP	ACTION	VERIFICATION
52	Restore LOLL, NLL keys.	
53	Operate NOLL key.	
54	Operate ST key.	At TIC— LOLL lamp not lighted. TOK lamp lighted.
55	Restore ST key.	
56	At TIC— Momentarily operate RLS key.	All lamps extinguished.
57	At OTF— Remove patching cord from OTL, SP jacks.	
58	At line link frame— Remove patching cord from SP jack and line switch vertical.	
59	At OTF— Restore all keys and switches.	
60	Select from office records a test line number in horizontal group of line link frames equipped with range extension.	
61	At jack, lamp, and key circuit— Insert 322A make-busy plug into M_C_MB jack of marker <i>not</i> under test.	
62	At line link frame— Block non-operated the hold magnet associated with test line number selected.	
63	At local test desk or No. 3 local test cabinet— Using no-test trunk, originate a call to selected test line number.	At TIC— Display registered. LOLL, LODD lamps lighted indicating range extension <i>not</i> required on no-test calls.
64	At local test desk or No. 3 test cabinet— Release test call.	
75	At line link frame— Remove blocking tool from hold magnet of test line used.	
66	At jack, lamp, and key circuit— Remove 322A make-busy plug from M-C-MB jack.	

SECTION 218-423-512

STEP	ACTION	VERIFICATION
67	At TIC— Momentarily operate RLS key.	All lamps extinguished.
68	At OTF— Restore all keys and switches.	