

COMBINED AND COMPLETING MARKER CIRCUITS—PART 8
TESTS USING MASTER TEST FRAME
NO. 5 CROSSBAR OFFICES

1. GENERAL		PAGE
1.01	This section is Part 8 in a series of sections for testing combined and completing markers.	
1.02	The reasons for reissuing this section are listed below. Revision arrows are used to emphasize the more significant changes. This issue does not affect Equipment Test Lists.	
	(a) To revise test procedures to include offices arranged with Electronic Translation System (ETS).	
	(b) To exclude under verification in all tests, reference to "class of test" lamps.	
	(c) To expand Test AP "Route Advance Feature—Originating Route" to include offices arranged for interchangeable codes.	
	(d) To make minor changes as required.	
1.03	The tests covered are:	
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	AK. Permanent Overflow Feature: This test checks that the marker terminates a call for a number arranged to return overflow indication.	2
	AL. Stuck Coin Feature: This test checks that the marker functions properly when it is seized by an originating register that is signaling a stuck coin condition.	3
	AM. Trunk Coin Return Feature: This test checks that the marker recognizes a coin to be returned by the trunk circuit.	4
	AN. Register Coin Return Feature: This test checks that the marker recognizes a coin class of call to a route that requires the coin to be returned by the originating register.	5
	AO. Party Check and Service Observing Feature: This test checks calling party check and blocking on mismatches. It also checks that the marker recognizes when a calling line is on service observing as signaled by an originating register.	6
	AP. Route Advance Feature—Originating Route: This test checks that the marker functions properly for route advance from originating route.	7
1.04	Lettered Steps: A letter a, b, c, etc, added to a step number in Part 3 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 master test frame (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.	

NOTICE

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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 the office is arranged for LAMA-C or ETS, the distributors and scanners associated with the marker and trunk used in the test call must be in service or in a *maintenance-busy* condition—not in an *out-of-service* condition. To change a scanner or distributor from an *out-of-service* to a *maintenance-busy* condition, use the procedure given in the following sections for the office arrangement.

218-798-308—Taking LAMA-C Equipment Out-of-Service

218-799-701—Taking ETS Equipment Out-of-Service.

3. METHOD

STEP	ACTION	VERIFICATION
	<i>Note:</i> Refer to paragraph 1.05, 1.06, 1.08, and 1.10.	

AK. Permanent Overflow Feature

1	At MTF— Restore all keys and switches.	
2	Momentarily operate RL key.	All lamps extinguished.
3	Select INC class of test.	
4	Select A_ through G_ digits as required to direct call to permanent overflow number.	
5	Select any trunk link frame.	
6	Select incoming trunk class as required for completion to called line.	

1.09 Additional test procedures are available for verification of leads between the completing marker and the distributor and scanner (DAS). Refer to Section 218-122-531 for DAS application to LAMA-C or Section 218-799-321 for DAS application to ETS.

1.10 When making tests in No. 5 crossbar offices arranged with Electronic Translation System and test verification requires a completing marker trace output (teletype printout or data dump) to determine the data used to process a call, operate the TCPO key at the master test frame (MTF). The data dump received at the maintenance teletypewriters (TTY) may be in a raw form (binary or hexadecimal numbering system), formatted into decimal and written text, or a combination of both. For additional information on data dumps and formats used refer to Section 218-799-102.

2. APPARATUS

All Tests

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

STEP	ACTION	VERIFICATION
7a	If 4-wire switching route is selected— Operate 4W key.	
8b	If office is arranged for multilevel preemption— Select CDP, CDA, CD control digits as required for access to called line.	
9c	If office is arranged for multilevel preemption and call is directed to line with multilevel preemption features— Operate AD key.	
10d	If office is arranged for multilevel preemption and call is directed to line without multilevel preemption features— Operate OD key.	
11	Select incoming class of call with translator indication as required for completion to called number.	
12	Select marker under test.	
13	Operate REC key.	
14e	♦If ETS provided and CM dump is required— Operate TCPO key.	
	Note: See paragraph 1.10.♦	
15	Momentarily operate ST key.	OFL lamp lighted. Trouble record taken. OV, OFH designations perforated.
16	Momentarily operate RL key.	All lamps extinguished.
17	Restore all keys and switches.	
AL. Stuck Coin Feature		
1	At MTF— Restore all keys and switches.	
2	Momentarily operate RL key.	All lamps extinguished.
3	Select ORIG class of test.	
4	Select A_ through G_ digits as required to direct call through intraoffice route to any individual line.	

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STEP	ACTION	VERIFICATION
5	Select line location as required for line identification of any coin line.	
6	Select class of service and rate treatment as required for coin class.	
7a	◆If ETS provided— Operate PCS key.◆	
8	Select OR class of call with LT translator indication.	
9	Select marker under test.	
10	Operate SCN, REC keys.	
11b	◆If ETS provided and CM dump is required— Operate TCPO key.	
	<i>Note:</i> See paragraph 1.10.◆	
12	Momentarily operate ST key.	MRL lamp lighted. Trouble record taken. SCN designation perforated. FS_ TS_ TG_ TB_ LC_ LV_ FAK/FBK designations perforated indicating location of stuck coin trunk. ◆If ETS provided— TG_ designation not perforated.◆
13	Momentarily operate RL key.	All lamps extinguished.
14	Restore all keys and switches.	
AM. Trunk Coin Return Feature		
1	At MTF— Restore all keys and switches.	
2	Momentarily operate RL key.	All lamps extinguished.
3	Select ORIG class of call.	
4	Select A_ through K_ digits as required to direct call to route requiring coin return by trunk.	
5	Select line location as required for line identification of any coin line.	
6	Select class of service and rate treatment as required for coin class.	

STEP	ACTION	VERIFICATION
7a	◆If ETS provided— Operate PCS key.◆	
8	Select OR class of call with LT translator indication.	
9	Select marker under test.	
10	Operate REC key.	
11b	◆If ETS provided and CM dump is required— Operate TCPO key. <i>Note:</i> See paragraph 1.10.◆	
12	Momentarily operate ST key.	MRL lamp lighted. Trouble record taken. CN designation perforated.
13	Momentarily operate RL key.	All lamps extinguished.
14	Restore all keys and switches.	
AN. Register Coin Return Feature		
1	At MTF— Restore all keys and switches.	
2	Momentarily operate RL key.	All lamps extinguished.
3	Select ORIG class of test.	
4	Select A_ through K_ digits as required to direct call to route requiring coin return by originating register.	
5	Select line location as required for line identification of any coin line which has access to selected route.	
6	Select class of service and rate treatment as required for access to selected route.	
7a	◆If ETS provided— Operate PCS key.◆	
8	Select OR class of call with LT translator indication.	
9	Select marker under test.	
10	Operate REC key.	

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STEP	ACTION	VERIFICATION
11b	♦If ETS provided and CM dump is required— Operate TCPO key.	
	<i>Note:</i> See paragraph 1.10.♦	
12	Momentarily operate ST key.	CNR, MRL lamps lighted. Trouble record taken. CNR designation perforated.
13	Momentarily operate RL key.	All lamps extinguished.
14	Operate CNR key.	
15	Momentarily operate ST key.	MRL lamp lighted. Trouble record taken. CR designation perforated.
16	Momentarily operate RL key.	All lamps extinguished.
17	Restore all keys and switches.	
AO. Party Check and Service Observing Feature		
1	At MTF— Restore all keys and switches.	
2	Momentarily operate RL key.	All lamps extinguished.
3	Select ORIG class of test.	
4	Select A_ through G_ digits as required to direct call through intraoffice route to any individual line.	
5	Select line location as required for line identification of any 2-party line.	
6	Select 2-party class of service and rate treatment as required for access to selected route.	
7a	♦If ETS provided— Operate PCS key.♦	
8	Select OR class of call with LT translator indication.	
9	Select marker under test.	
10	Operate OBS, REC keys.	
11b	♦If ETS provided and CM dump is required— Operate TCPO key.	

STEP	ACTION	VERIFICATION
	<i>Note:</i> See paragraph 1.10.4	
12	Momentarily operate ST key.	DIS1, LK2, MRL lamps lighted. Two trouble records taken. First and second trouble records— RP, OBS designations perforated.
13	Momentarily operate RL key.	All lamps extinguished.
14	Restore OBS key.	
15	Operate PMM key.	
16	Momentarily operate ST key.	<i>Nonwire-spring-relay type circuit—</i> MRL lamp lighted. DIS1, LK2 lamps not lighted. Two trouble records taken. First and second trouble records— RP, TP designations perforated. <i>Wire-spring-relay type circuit—</i> TRL lamp lighted. DIS1, LK2 lamps not lighted. Trouble record taken— RP, TP designations perforated.
17	Momentarily operate RL key.	All lamps extinguished.
18	Restore PMM key.	
19	Operate TP key.	
20	Momentarily operate ST key.	DIS1, LK2, MRL lamps lighted. Two trouble records taken. First and second trouble records— NOB, TP designations perforated.
21	Momentarily operate RL key.	All lamps extinguished.
22	Restore all keys and switches.	

AP. Route Advance Feature—Originating Route

**Noncoin Routes—2- and 4-Wire Offices—Multilevel
Preemption Not Provided**

1	At MTF— Restore all keys and switches.	
2	Momentarily operate RL key.	All lamps extinguished.
3	Select ORIG class of test.	

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STEP	ACTION	VERIFICATION
4	Select A_ through K_ digits as required to direct call to noncoin route.	
5	Select line location as required for line identification of noncoin line having access to selected route.	
6	Select class of service and rate treatment as required for access to selected route.	
7a	◆If ETS provided— Operate PCS key.◆	
8	Select class of call and translator indication as required for access to selected route.	
9b	If 4-wire route is selected— Operate 4W key.	
10	Select marker under test.	
11	Select route advance 0.	
12a	◆If ETS provided— Operate PTS key.◆	
13	Operate REC key.	
14c	◆If ETS provided and CM dump is required— Operate TCPO key.	
	Note: See paragraph 1.10.◆	
15	Momentarily operate ST key.	MRL lamp lighted. Trouble record taken. FS_, TS_, TG_, TB_, LC_, LV_, FAK/FBK designations perforated indicating location of trunk in selected route. ◆If ETS provided— TG_ designation not perforated.◆
16	Momentarily operate RL key.	All lamps extinguished.
17	Select route advance 1.	
18	Momentarily operate ST key.	RA1, MRL lamps lighted. Trouble record taken. FS_, TS_, TG_, TB_, LC_, LV_, FAK/FBK designations perforated indicating location of tone trunk or trunk in alternate route. ◆If ETS provided—

STEP	ACTION	VERIFICATION
		RA1 lamp not lighted. TG_ designation not perforated.⚡
19	Momentarily operate RL key.	All lamps extinguished.
20	Determine number of alternate, tone, or common overflow routes associated with call; select route advance one more than number of routes.	
21	Restore REC key.	
22	⚡Restore TCPO key.⚡	
23	Momentarily operate ST key.	RBT1, BT-OF lamps lighted. RA_ lamp(s) lighted for number of route advances required. ⚡If ETS provided— RA_ lamps not lighted.⚡
24	Momentarily operate RL key.	All lamps extinguished.
25	⚡Select PS auxiliary originating translation indication.⚡	
26	Operate REC key.	
27c	⚡If ETS provided and CM dump is required— Operate TCPO key.⚡	
28	Momentarily operate ST key.	RBT1, BT-OF lamps lighted. Trouble record taken. If 2-wire testing— RL designation perforated. If 4-wire testing— RL designation <i>not</i> perforated.
29	Momentarily operate RL key.	All lamps extinguished.
30	Restore all keys and switches.	
Noncoin Routes—4-Wire Offices—Multilevel Preemption Provided—⚡ETS Not Provided⚡		
31	At MTF— Restore all keys and switches.	
32	Momentarily operate RL key.	All lamps extinguished.
33	Select ORIG class of call.	

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STEP	ACTION	VERIFICATION
34	Select A_ through K_ digits as required to direct call to 4-wire route.	
35	Select line location as required for line identification of 4-wire line having access to selected route.	
36	Select class of service and rate treatment as required for access to selected route.	
37	Select class of call and translator indication as required for access to selected route.	
38	Select CDP, CD control digits as required for access to selected route.	
39d	If polygrid route is selected— Select JSQ_ as required for routing control.	
40	Operate 4W key.	
41	Select marker under test.	
42	Select route advance as required to one more than available for associated call.	
43	Momentarily operate ST key.	RBT1, BT-OF lamps lighted. RA_ lamp(s) lighted for number of route advances required.
44	Momentarily operate RL key.	All lamps extinguished.
45	Select CDP, CD control digits as required for other than routine priority.	
46	Momentarily operate ST key.	PE lamp lighted. RA_ lamp(s) lighted for number of route advances required.
47	Momentarily operate RL key.	All lamps extinguished.
48	◆Select PS auxiliary originating translation indication.◆	
49	Operate REC key.	
50	Momentarily operate ST key.	RBT1, BT-OF lamps lighted. Trouble record taken. RL designation not perforated.
51	Momentarily operate RL key.	All lamps extinguished.

STEP	ACTION	VERIFICATION
Coin Routes—2-Wire Offices		
52	At MTF— Restore all keys and switches.	
53	Momentarily operate RL key.	All lamps extinguished.
54	Select ORIG class of test.	
55	Select A_ through G_ digits as required to direct call to coin route having no alternate route.	
56	Select line location as required for line identification of any coin line having access to route selected.	
57	Select class of service and rate treatment as required for access to selected route.	
58a	◆If ETS provided— Operate PCS key.◆	
59	Select marker under test.	
60	Select route advance 0.	
61a	◆If ETS provided— Operate PTS key.◆	
62	Operate REC key.	
63c	◆If ETS provided and CM dump is required— Operate TCPO key.◆	
64	Momentarily operate ST key.	MRL lamp lighted. Trouble record taken. FS_, TS_, TG_, TB_, LC_, LV_, FAK/FBK designations perforated indicating location of trunk in selected routed. ◆If ETS provided— TG_ designation not perforated.◆
65	Momentarily operate RL key.	All lamps extinguished.
66	Select route advance 1.	
67	Momentarily operate ST key.	RA1, MRL lamps lighted. Trouble record taken. FS_, TS_, TG_, TB_, LC_, LV_, FAK/FBK designations perforated indicating location of tone trunk.

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STEP	ACTION	VERIFICATION
		♦If ETS provided— RA1 lamp not lighted. TG_ designation not perforated.♦
68	Momentarily operate RL key.	All lamps extinguished.
69	Restore REC key.	
70	♦Restore TCPO key.♦	
71	Select route advance 2.	
72	Momentarily operate ST key.	RA1, RA2, BT-OF, RBT1 lamps lighted. ♦If ETS provided— RA1, RA2 lamps not lighted.♦
73	Momentarily operate RL key.	All lamps extinguished.
74	Restore all keys and switches.	

Unauthorized 10-Digit DDD Calls—DDD Code Followed by Second DDD Code or Followed by OXX or 1XX Code—Interchangeable Codes Not Provided—♦ETS Not Provided♦

75	At MTF— Restore all keys and switches.	
76	Momentarily operate RL key.	All lamps extinguished.
77	Select ORIG class of test.	
78	Select A_ through K_ digits as required to direct call to DDD route.	
79	Select line location as required for line identification of any line having access to selected route.	
80	Select class of service and rate treatment as required for access to selected route.	
81	Select FAC class of call with LT1 translator indication as required for access to selected route.	
82	Select marker under test.	
83	Operate REC key.	
84	Select route advance 0.	

STEP	ACTION	VERIFICATION
85	Momentarily operate ST key.	MRL lamp lighted. Trouble record taken. FS_, TS_, TG_, TB_, LC_, LV_, FAK/FBK designations perforated indicating location of trunk in selected route.
86	Momentarily operate RL key.	All lamps extinguished.
87	◆Restore route advance selection to normal.◆	
88	Select digit D0.	
89	Momentarily operate ST key.	MRL lamp lighted. RA_ lamp(s) lighted for number of route advances required. Trouble record taken. FS_, TS_, TG_, LC_, LV_, FAK/FBK designations perforated indicating location of intercept trunk.
90	Momentarily operate RL key.	All lamps extinguished.
91	Select digit D1.	
92	Repeat Steps 89, 90.	
93	Select digit D_ for D digit used in Step 78.	
94	Select digit E0.	
95	Repeat Steps 89, 90.	
96	Select digit E1.	
97	Repeat Steps 89, 90.	
98	Restore all keys and switches.	
◆Unauthorized 10-Digit DDD Calls—DDD Code Followed by OXX or 1XX code—Interchangeable Codes Provided—ETS Not Provided		
99	At MTF— Restore all keys and switches.	
100	Momentarily operate RL key.	All lamps extinguished.
101	Select ORIG class of test.	
102	Select A_ through K_ digits as required to direct call to DDD route.	

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STEP	ACTION	VERIFICATION
103	Select line location as required for line identification of any line having access to selected route.	
104	Select class of service and rate treatment as required for access to selected route.	
105	Select FAC class of call with LT1 translator indication as required for access to selected route.	
106	Select marker under test.	
107	Operate REC key.	
108	Select route advance 0.	
109	Momentarily operate ST key.	MRL lamp lighted. Trouble record taken. FS_, TS_, TG_, TB_, LC_, LV_, FAK/FBK designations perforated indicating location of trunk in selected route.
110	Momentarily operate RL key.	All lamps extinguished.
111	Restore route advance selection to normal.	
112	Select digit D0.	
113	Momentarily operate ST key.	MRL lamp lighted. RA_ lamp(s) lighted for number of route advances required. Trouble record taken. FS_, TS_, TG_, LC_, LV_, FAK/FBK designations perforated indicating location of intercept trunk.
114	Momentarily operate RL key.	All lamps extinguished.
115	Select digit D1.	
116	Repeat Steps 113, 114.	
117	Select digit D_ for D digit used in Step 102.	
118	Select digit E0.	
119	Select route advance 0.	
120	Momentarily operate ST key.	MRL lamp lighted. Trouble record taken. FS_, TS_, TG_, TB_, LC_, LV_, FAK/FBK

STEP

ACTION

VERIFICATION

designations perforated indicating location of trunk in selected route.

- 121 Momentarily operate RL key.
- 122 Select digit E1.
- 123 Repeat Steps 120, 121.
- 124 Restore all keys and switches.⚡

All lamps extinguished.