

COMBINED AND COMPLETING MARKER CIRCUITS—PART 26
TESTS USING MASTER TEST FRAME
NO. 5 CROSSBAR OFFICES

1. GENERAL

PAGE

1.01 This section is Part 26 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 make minor changes as required.

1.03 The tests covered are:

PAGE

CR. Automatic Intercept Service Features—Standard Version:

The following features are checked: (1) Blank number intercept. (2) Regular intercept. (3) Trouble intercept.

2

CS. Trunk Number Intercept: This test checks that a call to a directory number associated with the line link frame appearance of an intertoll trunk or a line link pulsing line circuit is routed to intercept.

9

CT. Trunk Class and Customer Class-of-Service Match Feature:

The following features are checked: (1) A terminating call requiring a class-of-service match will complete to a line having the proper class of service. (2) In an office having some trunks requiring a

class-of-service match, a terminating call using a trunk not requiring a class-of-service match will complete without a class-of-service match. (3) A terminating call using a trunk requiring a class-of-service match will not complete to a line not having the proper class-of-service match.

11

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.

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 For Test CR, obtain from office records information necessary to fill in the office code transmitted to the automatic intercept center representing the called office code for each incoming trunk class and each office designation provided as shown in Table A.

NOTICE

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1.08 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.

1.09 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
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Note: Refer to paragraphs 1.04 through 1.11.

CR. Automatic Intercept Service Features—Standard Version

Intraoffice Call to Blank Number Intercept

- | | | |
|---|--|-------------------------|
| 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 to automatic intercept center for blank number treatment. | |
| 5 | Select OR class of call with translator indication as required for access to selected route. | |
| 6 | Select line location for line having originating service. | |

1.10 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.

1.11 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 218-799-102.4

2. APPARATUS

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

STEP	ACTION	VERIFICATION
7	Select class of service and rate treatment as required for access to selected route.	
8a	◆If ETS provided— Operate PCS key.◆	
9	Select marker under test.	
10	Operate AIS, REC keys.	
11b	◆If ETS provided and CM dump is required— Operate TCPO key.	
	<i>Note:</i> See paragraph 1.11.◆	
12	Momentarily operate ST key.	<p>MRL, DIS1, LK2 lamps lighted. Trouble record taken. FS_, TS_, TB_, TG_, LC_, LV_, FBK designations perforated indicating location of B appearance of IAO trunk. ◆If ETS provided— TG_ designation not perforated.◆ FTT_, FUT_, VGT_, HGT_, VFT_ designations perforated indicating location of line circuit to an automatic intercept center. AIS, BN, OSG_, CL1, CL3, CR7, CR4 designations perforated. ◆If ETS provided— AIS, BN designations not perforated.◆ DL_ designation not perforated. A'_ through C'_ designations perforated for office code sent to automatic intercept center representing office code of number set up in Step 4. D'_ through G'_ designations for directory number perforated.</p>
13	Momentarily operate RL key.	All lamps extinguished.
14	Restore all keys and switches.	
Intraoffice Call to Regular Intercept		
15	At MTF— Restore all keys and switches.	
16	Momentarily operate RL key.	All lamps extinguished.
17	Select ORIG class of test.	

SECTION 218-122-526

STEP	ACTION	VERIFICATION
18	Select A_ through G_ digits as required to direct call to automatic intercept center for regular intercept treatment.	
19	Select OR class of call with translator indication as required for access to selected route.	
20	Select line location for line having originating service.	
21	Select class of service and rate treatment as required for access to selected route.	
22a	◆If ETS provided— Operate PCS key.◆	
23	Select marker under test.	
24	Operate AIS, REC keys.	
25b	◆If ETS provided and CM dump is required— Operate TCPO key.	
	Note: See paragraph 1.11.◆	
26	Momentarily operate ST key.	<p>MRL, DIS1, LK2 lamps lighted. Trouble record taken. FS_, TS_, TB_, TG_, LC_, LV_, FBK designations perforated indicating location of B appearance of IAO trunk. ◆If ETS provided— TG_ designation not perforated.◆ FTT_, FUT_, VGT_, HGT_, VFT_ designations perforated indicating location of line circuit to an automatic intercept center. AIS, RI, OSG_, CL1, CL3, CR1, CR2 designations perforated. ◆If ETS provided— AIS, RI designations not perforated.◆ DL_ designation not perforated. A'_ through C'_ designations perforated indicating office code sent to automatic intercept center representing office code set up in Step 18. D'_ through G'_ designations perforated for directory number.</p>
27	Momentarily operate RL key.	All lamps extinguished.
28c	If office is arranged for more than one office code— Repeat Steps 18 through 27 for office	

STEP	ACTION	VERIFICATION
	designations (office A and B—physical, theoretical, extra-theoretical).	
29	Restore all keys and switches.	
Terminating Call to Blank Number Intercept		
30	At MTF— Restore all keys and switches.	
31	Momentarily operate RL key.	◆All lamps extinguished.◆
32	Select INC class of test.	
33	Select A_ through G_ digit as required to direct call to blank number intercept for an unequipped number group or blank hundreds block in an equipped number group.	
34	Select incoming class of call with translator indication as required for completion to called line.	
35	Select incoming trunk class for completion to called line.	
36	Select any trunk link frame.	
37	Select marker under test.	
38	Operate REC key.	
39b	◆If ETS provided and CM dump is required— Operate TCPO key.	
	Note: See paragraph 1.11.◆	
40	Momentarily operate ST key.	MRL, DIS1, LK2 lamps lighted. Trouble record taken. FTT_ FUT_ VGT_ HGT_ VFT_ designations perforated indicating location of line circuit to an automatic intercept center. AIS, BN, OSG_, CL1, CL3, CR4, CR7 designations perforated. ◆If ETS provided— AIS, BN designations not perforated.◆ DL_ designation not perforated. A'_ through C'_ designations perforated for office code sent to automatic intercept center for blank number. D'_ through G'_ designations perforated for directory number.

SECTION 218-122-526

STEP	ACTION	VERIFICATION
41	Momentarily operate RL key.	All lamps extinguished.
42d	If office is arranged for more than one office designation (OA, OB, etc)— Repeat Steps 33 through 41 for other office designations.	
43	Restore all keys and switches.	
Terminating Call to Regular Intercept		
44	At MTF— Restore all keys and switches.	
45	Momentarily operate RL key.	All lamps extinguished.
46	Select INC class of test.	
47	Select A_ through G_ digits as required to direct call to directory number connected for regular intercept treatment at automatic intercept center.	
48	Select incoming class of call with translator indication as required for completion to called line.	
49	Select incoming trunk class for completion to called line.	
50	Select any trunk link frame.	
51	Select marker under test.	
52	Operate REC key.	
53b	◆If ETS provided and CM dump is required— Operate TCPO key.	
	Note: See paragraph 1.11.◆	
54	Momentarily operate ST key.	MRL lamp lighted. Trouble record taken. FTT_, FUT_, VGT_, HGT_, VFT_ designations perforated indicating location of line circuit to automatic intercept center. AIS, RI, OSG_, CL1, CL3, CR1, CR2 designations perforated. ◆If ETS provided— AIS, RI designations not perforated.◆ A'_ through C'_ designations perforated for

STEP	ACTION	VERIFICATION
		office code sent to automatic intercept center. (Refer to Table A.)
55	Momentarily operate RL key.	All lamps extinguished.
56	Repeat Steps 47 through 55 for each incoming trunk class of each office designation provided as determined in Table A.	
57	Restore all keys and switches.	
Trouble Intercept		
58	At MTF— Restore all keys and switches.	
59	Momentarily operate RL key.	All lamps extinguished.
60	Select INC class of test.	
61	Select A_ through G_ digits as required to direct call to number temporarily wired for trouble intercept treatment.	
62	Select incoming class of call with translator indication as required for completion to called line.	
63	Select incoming trunk class for completion to called line.	
64	Select any trunk link frame.	
65	Select marker under test.	
66	Operate REC key.	
67b	◆If ETS provided and CM dump is required— Operate TCPO key.	
	Note: See paragraph 1.11.◆	
68	Momentarily operate ST key.	MRL, DIS1, LK2 lamps lighted. Trouble record taken. FTT_ FUT_ VGT_ HGT_ VFT_ designations perforated indicating location of line circuit to an automatic intercept center. AIS, TBI, OSG_, CL1, CL3, CR0, CR1 designations perforated. ◆If ETS provided— AIS, TBI designations not perforated.◆ DL_ designation not perforated.

TABLE A

INCOMING TRUNK CLASS	KEY OR SWITCH SETTING		MARKER OFC RELAY OPERATED	OFFICE CODE TRANSMITTED TO AIS CENTER*		
	IC & PHC/THC OR TRNB	ITC		A'	B'	C'
Trunk group requires reverte pulse — incoming register	AB, PHC		0			
	AB, THC		2			
Trunk link indicates toll class — physical number	OA	ISE	0			
	OB	ISE	1			
Trunk link indicates toll class — theoretical number	OA	ISE	2			
	OB	ISE	3			
Trunk link does not indicate toll, full select, or manual — extra-theoretical number	OA	ISE	4			
	OB	ISE	5			
More than one office code per trunk group — physical number	OA	2SA	0			
	OB	2SA	1			
More than one office code per trunk group — theoretical number	OA	2SA	2			
	OB	2SA	3			
More than one office code per trunk group — extra-theoretical number	OA	2SA	4			
	OB	2SA	5			
More than one office code per trunk group — non-discriminating number	OA	2SA				
	OB	2SA				
More than one office code per trunk group — non-discriminating number	OA	3NA				
	OB	3NA				
More than one office code per trunk group — physical number	OA	3NA	0			
	OB	3NA	1			
More than one office code per trunk group — theoretical number	OA	3NA	2			
	OB	3NA	3			
More than one office code per trunk group — extra-theoretical number	OA	3NA	4			
	OB	3NA	5			
Trunk link indicates toll class — theoretical numbers only	OA	4NE	2			
	OB	4NE	3			
Trunk link does not indicate toll, full select, or manual — extra-theoretical number only	OA	4NE	4			
	OB	4NE	5			

STEP

ACTION

VERIFICATION

TABLE A (Contd)

INCOMING TRUNK CLASS	KEY OR SWITCH SETTING		MARKER OFC RELAY OPERATED	OFFICE CODE TRANSMITTED TO AIS CENTER*		
	IC & PHC/THC OR TRNB	ITC		A'	B'	C'
Trunk group terminates to theoretical numbers only	OA	5ST	2			
	OB	5ST	3			
Trunk group terminates to theoretical numbers only	OA	6NT	2			
	OB	6NT	3			
Trunk link indicates toll class — physical numbers only	OA	7RN	0			
	OB	7RN	1			
Trunk group terminates to physical numbers only	OA	8SP	0			
	OB	8SP	1			
Trunk group terminates to physical numbers only	OA	9NP	0			
	OB	9NP	1			

* Refer to 1.07 for instructions for filling in table.

A' through C' designations perforated for office code sent to automatic intercept center for trouble intercept.
 D' through G' designations perforated for directory number.

69 Momentarily operate RL key.

All lamps extinguished.

70 Restore all keys and switches.

CS. Trunk Number Intercept

Trunk Number

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 directory number assigned to line link appearance of trunk.

SECTION 218-122-526

STEP	ACTION	VERIFICATION
5	Select incoming class of call with translator indication as required for completion to called line.	
6a	If 4-wire switching route is selected— Operate 4W key.	
7b	If office is arranged for multilevel preemption— Select CDP_, CD_, CDA_ control digits as required for completion to called line.	
8c	If office is arranged for multilevel preemption and call is directed to line with multilevel preemption feature— Operate AD key.	
9d	If office is arranged for multilevel preemption and call is directed to line without multilevel preemption features— Operate OD key.	
10	Select incoming trunk class for completion to called line.	
11	Select any trunk link frame.	
12	Select marker under test.	
13	Operate REC key.	
14e	◆If ETS provided and CM dump is required— Operate TCPO key.	
	Note: See paragraph 1.11.◆	
15	Momentarily operate ST key.	MRL, DIS1, LK2 lamps lighted. Trouble record taken. BN or RI designation perforated. ◆If ETS provided— BN or RI designation not perforated.◆ If office is arranged for separate trunk groups for line link frame intercept trunks— FTT_, FUT_, VGT_, HGT_, VFT_ designations perforated for intercept trunk.
16	Momentarily operate RL key.	All lamps extinguished.
17	Restore all keys and switches.	

STEP	ACTION	VERIFICATION
LLP Trunk Number		
18	At MTF— Restore all keys and switches.	
19	Momentarily operate RL key.	All lamps extinguished.
20	Select INC class of test.	
21	Select A_ through G_ digits as required to direct call to a line link pulsing trunk.	
22	Select incoming class of call with translator indication as required for completion to called line.	
23	Select incoming trunk class for completion to called line.	
24	Select any trunk link frame.	
25	Select marker under test.	
26	Operate REC key.	
27e	◆If ETS provided and CM dump is required— Operate TCPO key.	
	Note: See paragraph 1.11.◆	
28	Momentarily operate ST key.	TNK, MRL lamps lighted. Trouble record taken. BN or RI designation perforated. ◆If ETS provided— BN or RI designation not perforated.◆ If office is arranged for separate trunk groups for intercept trunks— FTT_ FUT_ VGT_ HGT_ VFT_ designations perforated for intercept trunk.
29	Momentarily operate RL key.	All lamps extinguished.
30	Restore all keys and switches.	

CT. Trunk Class and Customer Class-of-Service Match Feature

Match Required—Call Completed

1	At MTF— Restore all keys and switches.	
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SECTION 218-122-526

STEP	ACTION	VERIFICATION
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 line requiring class of service and trunk class match.	
5	Select incoming class of call with LT3 translator indication.	
6	Select incoming trunk class for completion to called line.	
7	Select any trunk link frame.	
8	Select marker under test.	
9	Operate REC key.	
10a	<p>◆If ETS provided and CM dump is required— Operate TCPO key.</p> <p>Note: See paragraph 1.11.◆</p>	
11	Momentarily operate ST key.	<p>MRL lamp lighted. Trouble record taken. CM designation perforated. ◆If ETS provided— CM designation not perforated.◆ FTT_, FUT_, VGT_, HGT_, VFT_ designations perforated indicating location of called line.</p>
12	Momentarily operate RL key.	All lamps extinguished.
13b	<p>If more than one class of service must match with one trunk class— Repeat Steps 4 through 12 for each class of service to which trunk class must match.</p> <p>Note: For classes of service matched only according to tens digit, only one class of service associated with each tens digit should be repeated.</p>	
14b	Repeat Steps 4 through 13b for each trunk class requiring class-of-service match.	
15	Restore all keys and switches.	

STEP	ACTION	VERIFICATION
Match Not Required		
16	At MTF— Restore all keys and switches.	
17	Momentarily operate RL key.	All lamps extinguished.
18	Select INC class of test.	
19	Select A_ through G_ digits as required to direct call to line not requiring class of service and trunk class match.	
20	Select incoming class of call with translator indication as required for completion to called line.	
21	Select incoming trunk class for completion to called line.	
22	Select any trunk link frame.	
23	Select marker under test.	
24	Operate REC key.	
25a	♦If ETS provided and CM dump is required— Operate TCPO key.	
	Note: See paragraph 1.11.♦	
26	Momentarily operate ST key.	MRL lamp lighted. Trouble record taken. CM designation not perforated. FTT_ FUT_ VGT_ HGT_ VFT_ designations perforated indicating location of called line.
27	Momentarily operate RL key.	All lamps extinguished.
28	Restore all keys and switches.	
Class Mismatch		
29	At MTF— Restore all keys and switches.	
30	Momentarily operate RL key.	All lamps extinguished.
31	Select INC class of test.	
32c	If trunk class is provided which requires a match determined by class-of-service tens digit	

SECTION 218-122-526

STEP	ACTION	VERIFICATION
	only— Select A_ through G_ digits as required to direct call to line requiring class of service tens digit and trunk class match.	
33d	If trunk class is provided which requires a match determined by class-of-service units digit— Select A_ through G_ digits as required to direct call to line requiring class-of-service units digit and trunk class match.	
34	Select incoming trunk class which will mismatch with called line.	
35	Select incoming class of call with LT3 translator indication.	
36	Select any trunk link frame.	
37	Select marker under test.	
38	Operate REC key.	
39a	♦If ETS provided and CM dump is required— Operate TCPO key.	
	Note: See paragraph 1.11.♦	
40	Momentarily operate ST key.	MRL lamp lighted. Trouble record taken. FTT_, FUT_, VGT_, HGT_, VFT_ designations perforated indicating line location of announcement or intercept trunk. PUL, BN, RIP, NMR, TBS_ designations perforated. ♦If ETS provided— BN, RIP, NMR, TBS_ designations not perforated.♦
41	Momentarily operate RL key.	All lamps extinguished.
42	Restore all keys and switches.	