

COMBINED AND COMPLETING MARKER CIRCUITS—PART 16
TESTS USING MASTER TEST FRAME
NO. 5 CROSSBAR OFFICES

1. GENERAL

PAGE

1.01 This section is Part 16 in a series of sections for testing combined and completing markers.

BV. Subscriber Outgoing Call Feature—Coin Zone Route:

This test checks the marker route relay cross-connections for coin zone outgoing and junctor route.

7

1.02 This section is reissued for the following reasons:

BW. Trunk Observing Feature—TOBS Key Provided: This test checks that the trunk observing feature functions properly.

8

(a) To include test procedures required when the No. 5 crossbar office is arranged with the Electronic Translation System (ETS) and the CAMA feature is provided.

(b) To include in tests BS, BT, and BW the TNK (trunk number check) lamp.

(c) To make minor changes as required.

BX. Diverted Route Feature: (No. 5 ETS CAMA not provided). This test checks the marker route relay cross-connections for diverted routes.

11

Since this reissue is a general revision, no revision arrows have been used to denote significant changes.

BY. Reorder Feature—Incompletely Dialed 2-Digit TX Codes: (No. 5 ETS CAMA not provided). This test checks that the incoming trunk is set for reorder when an incomplete 11XX code is dialed.

14

This reissue does not affect Equipment Test Lists.

1.03 The tests covered are:

PAGE

BS. CAMA First Marker Usage Feature: This test checks that the marker functions properly on a CAMA first marker usage call.

2

BT. CAMA Second Marker Usage Feature: This test checks that the marker functions properly on a CAMA second marker usage call.

3

BU. Subscriber Outgoing Call Feature—CAMA Junctor Route or CAMA Intermarker Group Route: This test checks the marker route relay cross-connections for CAMA junctor and intermarker group routes.

6

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

NOTICE

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

SECTION 218-122-516

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 The statement between the asterisks (* *) after ACTION and VERIFICATION statements is added to clarify the function being simulated or the action being taken in the test procedures.

1.08 On Issue 76D of SD-26800-01, 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, such as DT, ORIG, ITDO, ITNP, OGT, etc.

1.09 When the office is arranged for 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 section for the office arrangement.

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

1.10 When the trunk under test is arranged for ETS, the first completed test call from the MTF will cause the TST bit to be set in the trunk register associated with the selected trunk, enabling trunk scanning to be repeated on the FT lamp at the MTF trunk test circuit. As long as the TST bit is set in the trunk register, scanning will continue to be repeated on the lamp, even on service calls. The TST bit will remain set in the trunk register until (1) a test call is made from the MTF to another trunk, or (2) the command ***STOP:TRK TST*** is entered at the maintenance TTY.

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 and REC keys 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.

3. METHOD

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

Note: Refer to paragraphs 1.05 and 1.06.

BS. CAMA First Marker Usage 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 K_ digits as required to direct call to outgoing route. | |

STEP	ACTION	VERIFICATION
5	Select CAMA INC class of call with translator indication as required for access to selected route.	CAMA lamp lighted.
6	Select CAMA sender group.	
7	Select trunk number.	
8	Select recorder number.	
9	Operate ORC, AD/OD, REC keys.	
10a	If No. 5 ETS CAMA is provided— Operate TCPO key. *Test call print out.*	
11	Select marker under test.	
12	Momentarily operate ST key.	MRL lamp lighted. If provided— TNK lamp lighted *Trunk number check* Trouble record taken. OSG, CAMF designations perforated. If No. 5 ETS CAMA is provided— TNK lamp not lighted. At maintenance terminal— Completing marker dump header contains— Rept MTF test. Marker number. Type of call. Called number. Incoming trunk number. Trunk location. The distribute buffer contains— OSG bit is set. OSG bit = 1 (word 01 bits 00-05) Refer to paragraph 1.11.
13	Momentarily operate RL key.	All lamps extinguished except CAMA.
14	Restore all keys and switches.	CAMA lamp extinguished.

BT. CAMA Second Marker Usage Feature**Tandem Completion**

1	At MTF— Restore all keys and switches.	
2	Momentarily operate RL key.	All lamps extinguished.

SECTION 218-122-516

STEP	ACTION	VERIFICATION
3	Select INC class of test.	
4	Select A_ through K_ digits as required to direct call to outgoing tandem route.	
5	Select CAMA INC class of call with LT translator indication.	CAMA lamp lighted.
6	Operate ACD or LCD_, REC keys.	
7a	If No. 5 ETS CAMA is provided— Operate TCPO key.	
8	Select any trunk link frame.	
9	Select trunk number.	
10	Select marker under test.	
11	Momentarily operate ST key.	MRL lamp lighted. If provided— TNK lamp lighted. Trouble record taken. FS_, TS_, TG_, TB_, LC_, LV_, FAK/FBK designations perforated indicating location of trunk in selected route. If No. 5 ETS CAMA is provided— TNK lamp not lighted. TG designation not perforated. At maintenance terminal— Completing marker dump header contains: Rept MTF test. Marker number. Type of call. Called number. Incoming trunk number. Trunk selection. The scan buffer contains: FS_ bit is set. FS_ bit = 1 (words 16 and 17 bits 01-15 and 00-14 respectively). Refer to paragraph 1.11.
12	Momentarily operate RL key.	All lamps extinguished except CAMA.
13	Restore all keys and switches.	CAMA lamp extinguished.

Intertoll Completion

14 Perform Steps 1 through 3.

STEP	ACTION	VERIFICATION
15	Select A_ through K_ digits as required to direct call to outgoing intertoll route.	
16	Select CAMA INC class of call with translator indication as required for access to selected route.	
17	Operate ACD or LCD_, REC keys.	
18a	If No. 5 ETS CAMA is provided— Operate TCPO key.	
19	Perform Steps 8 through 13.	

Local Completion

20	Perform Steps 1 through 3.	
21	Select A_ through G_ digits as required to direct call to any line.	
22	Select CAMA INC class of call with translator indication as required for completion to called line.	
23	Operate ACD or LCD_, REC keys.	
24a	If No. 5 ETS CAMA is provided— Operate TCPO key.	
25	Select any trunk link frame.	
26	Select trunk number.	
27	Select marker under test.	
28	Momentarily operate ST key.	

MRL lamp lighted.
 Trouble record taken.
 FTT_, FUT_, VGT_, HGT_, VFT_ designations perforated indicating location of called line.
 If No. 5 ETS CAMA is provided—
 At maintenance terminal—
 Completing marker dump header contains:
 Rept MTF test.
 Marker number.
 Type of call.
 Called number.
 Incoming trunk number.
 Trunk location.
 The distribute buffer contains:
 FTT_, FUT_, VGT_, HGT_, VFT_ bits =
 1 (word 07 bits 00-13 and word 08 bits 00-08)

SECTION 218-122-516

STEP	ACTION	VERIFICATION
		respectively). Refer to paragraph 1.11.
29	Momentarily operate RL key.	All lamps extinguished except CAMA.
30	Restore all keys and switches.	CAMA lamp extinguished.
BU. Subscriber Outgoing Call Feature—CAMA Junctor Route or CAMA Intermaker Group Route		
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 selected route.	
5	Select originating class of call with translator indication as required for access to selected route.	
6	Select line location as required for line identification of line having access to selected route.	
7	Select class of service and rate treatment as required for access to selected route.	
8	Select marker under test.	
9	Operate REC key.	
10a	If No. 5 ETS is provided— Operate TCPO, PCS keys. *Permits selected class of service to be used.*	
11	Momentarily operate ST key.	MRL lamp lighted. Trouble record taken. FS_, TS_, TG_, TB_, LC_, LV_, FAK/FBK designations perforated indicating location of CAMA junctor or intermarker group trunk. If No. 5 ETS CAMA is provided— TG designation not perforated At maintenance terminal— Completing marker dump header contains: Rept MTF test. Marker number. Type of call. Called number.

STEP	ACTION	VERIFICATION
		Originating line location. Trunk location. The scan buffer contains: FS_ bit is set. FS_ bit = 1 (words 16 and 17 bits 01-15 00-14 respectively). Refer to paragraph 1.11.
12	Momentarily operate RL key.	All lamps extinguished.
13	Restore all keys and switches.	
BV. Subscriber Outgoing Call—Coin Zone Route		
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 outgoing route.	
5	Select line location as required for line identification of coin line having access to selected route.	
6	Select class of service and rate treatment as required for coin class of service.	
7	Select OR class of call with translator indication as required for access to selected route.	
8	Select marker under test.	
9	Operate REC key.	
10a	If No. 5 ETS CAMA is provided— Operate TCPO, PCS keys.	
11	Momentarily operate ST key.	MRL lamp lighted. Trouble record taken. FS_ TS_ TG_ TB_ LC_ LV_ FAK/FBK designations perforated indicating location of coin zone trunk. If No. 5 ETS is provided— TG designation not perforated. At maintenance terminal— Completing marker dump header contains: Rept MTF test. Marker number.

STEP	ACTION	VERIFICATION
		Type of call. Called number. Originating line location. The scan buffer contains: FS_ bit is set. FS_ bit = 1 (words 16 and 17 bits 01-15 and 00-14 respectively). Refer to paragraph 1.11.
12	Momentarily operate RL key.	All lamps extinguished.
13	Restore all keys and switches.	

BW. Trunk Observing Feature—TOBS Key Provided

Observed Trunk Serves 10-Digit DDD Calls

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 for foreign area code, office code, and any line number.	
5	Select FAC class of call with translator indication as required for access to selected route.	
6	Select line location as required for line identification of any line having access to selected route.	
7	Select class of service and rate treatment as required for access to selected route.	
8	Select trunk.	
9	Operate GPA/GPB key as required if trunk is in an allotted subgroup.	
10	Select route advance as required for access to selected route.	
11a	If No. 5 ETS CAMA is provided— Operate switch TB-RA to select route advance as required for access to selected route.	
12	Select marker under test.	

STEP	ACTION	VERIFICATION
13	Operate TOBS, REC keys.	
14a	If No. 5 ETS CAMA is provided— Operate TCPO, PCS keys.	
15	Momentarily operate ST key.	MRL lamp lighted. Trouble record taken. TOBS designation perforated. If service observing position is occupied and idle— TOB designation perforated. If No. 5 ETS CAMA is provided— At maintenance terminal— Completing marker dump header contains: Rept MTF test. Marker number. Type of call. Called number. Originating line location. Trunk location. The scan buffer contains: OBS bit is set. OBS bit = 1 (word 00 bit 01). Refer to paragraph 1.11.
16	Momentarily operate RL key.	All lamps extinguished.
17	Operate HFA key. *Home and foreign area*	
18	Repeat Steps 15, 16.	
19	Restore all keys and switches.	

Observed Trunk Serves 11 Prefix Foreign Area Calls

- | | | |
|----|------------------------------------------------------------------------------|--|
| 20 | Perform Steps 1 through 3. | |
| 21 | Select A_ through G_ digits as required for office code and any line number. | |
| 22 | Select OR class of call with 11 translator indication. | |
| 23 | Perform Steps 6 through 16 and 19. | |

Observed Trunk Serves 7-Digit Calls Requiring More Than One Message Unit Charge

- | | | |
|----|----------------------------|--|
| 24 | Perform Steps 1 through 3. | |
|----|----------------------------|--|

SECTION 218-122-516

STEP	ACTION	VERIFICATION
25	Select A_ through G_ digits as required for office code and any line number.	
26	Select OR class of call with translator indication as required for access to selected route.	
27	Operate HFA key.	
28	Perform Steps 6 through 16 and 19.	

Observed Trunk Serves CAMA Junctor Calls

29	Perform Steps 1 through 3.	
30	Select A_ through K_ digits as required to direct call to CAMA junctor route.	
31	Select OR class of call with translator indication as required for access to selected route.	
32	Operate CAM key.	
33	Perform Steps 6 through 16 and 19.	

Observed Trunk Serves CAMA-First Calls

34	At MTF— Restore all keys and switches.	
35	Momentarily operate RL key.	
36	Select INC class of test.	
37	Select A_ through K_ digits as required for foreign area code, office code, and any line number.	
38	Select CAMA INC class of call with translator indication as required for access to selected route.	CAMA lamp lighted.
39	Select CAMA sender group.	
40	Select trunk number.	
41	Select recorder number.	
42	Operate ORC_, AD/OD, CAM, TOBS, REC keys.	
43	Select marker under test.	

STEP	ACTION	VERIFICATION
44	Momentarily operate ST key.	MRL lamp lighted. If provided— TNK lamp lighted. Trouble record taken. TOBS designation perforated. If service observing position is occupied and idle— TOB designation perforated. If No. 5 ETS CAMA is provided— TNK lamp not lighted. At maintenance terminal— Completing marker dump header contains: Rept MTF test. Marker number. Type of call. Called number. Incoming trunk number. The distribute buffer contains: OBS bit is set. OBS bit = 1 (word 00 bit 01). Refer to paragraph 1.11.
45	Momentarily operate RL key.	All lamps extinguished except CAMA.
46	Restore all keys and switches.	CAMA lamp extinguished.

BX. Diverted Route Feature (No. 5 ETS CAMA Not Provided)

Customer Originated Call

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 selected diverted route.	
5	Select originating class of call and translator indication as required for access to selected route.	
6	Select line location as required for line identification of any line having access to selected route.	
7	Select class of service and rate treatment as required for access to selected route.	

SECTION 218-122-516

STEP	ACTION	VERIFICATION
8a	If 4-wire switching route is selected— Operate 4W key.	
9b	If office is arranged for multilevel preemption— Select CDP, CD control digits as required for access to selected route.	
10	Select marker under test.	
11	Operate REC key.	
12	Momentarily operate ST key.	MRL lamps lighted. Trouble record taken. FS_, TS_, TG_, TB_, LC_, LV_, FAK/FBK designations perforated indicating location of trunk in diverted route.
13	Momentarily operate RL key.	All lamps extinguished.
14	Restore all keys and switches.	
Terminating Call Through Incoming or Intermarker Group Trunk		
15	At MTF— Restore all keys and switches.	
16	Momentarily operate RL key.	All lamps extinguished.
17	Select INC class of test.	
18	Select A_ through G_ digits as required to direct call to selected diverted route.	
19	Select incoming class of call with translator indication as required for access to diverted route.	
20	Select any trunk link frame.	
21	Select incoming trunk class as required for access to diverted route.	
22	Select marker under test.	
23	Operate REC key.	
24	Momentarily operate ST key.	MRL lamp lighted. Trouble record taken. BN designation perforated.
25	Momentarily operate RL key.	All lamps extinguished.

STEP	ACTION	VERIFICATION
26	Restore all keys and switches.	
Terminating Call Through Tandem, Intertoll, or Incoming CAMA Trunk		
27	At MTF— Restore all keys and switches.	
28	Momentarily operate RL key.	All lamps extinguished.
29	Select INC class of test.	
30	Select A_ through K_ digits as required to direct call to selected diverted route.	
31	Select incoming class of call with translator indication as required for diverted route.	
32	Select any trunk link frame.	
33a	If 4-wire switching route is selected— Operate 4W key.	
34b	If office is arranged for multilevel preemption— Select CDP, CD, CDA control digits as required for completion to diverted route.	
35c	If office is arranged for multilevel preemption and call is directed to line with multilevel preemption features— Operate AD key.	
36d	If office is arranged for multilevel preemption and call is directed to line without multilevel preemption features— Operate OD key.	
37e	If CAMA feature is being tested— Operate ORC_, ACD or LCD_, TCB keys.	
38	Select marker under test.	
39	Operate REC key.	
40	Select incoming trunk class as required for access to diverted route.	
41	Momentarily operate ST key.	MRL lamp lighted. Trouble record taken. BN designation perforated.
42	Momentarily operate RL key.	All lamps extinguished.

SECTION 218-122-516

STEP	ACTION	VERIFICATION
43	Restore all keys and switches.	
Through-Switched Call Through Tandem, Intertoll, or Incoming CAMA Trunk		
44	Perform Steps 27 through 39.	
45	Select trunk number as required for access to diverted route.	
46	Momentarily operate ST key.	MRL lamp lighted. Trouble record taken. FS_, TS_, TG_, TB_, LC_, LV_, FAK/FBK designations perforated indicating location of special service operator, tone, or announcement trunk.
47	Momentarily operate RL key.	All lamps extinguished.
48	Restore all keys and switches.	
BY. Reorder Feature—Incompletely Dialed 2-Digit TX Codes (No. 5 ETS CAMA Not Provided)		
1	At MTF— Restore all keys and switches.	
2	Momentarily operate RL key.	All lamps extinguished.
3	Select INC class of test.	
4	Select 11 translator and A_ digit for first three digits of working 11XX, 2-digit TX code.	
5	Select incoming class of call.	
6	Select any trunk link frame.	
7	Select incoming trunk class as required for completion to called line.	
8	Select marker under test.	
9	Operate REC key.	
10	Momentarily operate ST key.	OFL, MRL lamps lighted. Trouble record taken. R0, OV, OFH, RS0, RS9 designations perforated.
11	Momentarily operate RL key.	All lamps extinguished.
12	Restore all keys and switches.	