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**COMBINED AND COMPLETING MARKER CIRCUITS—PART 23**  
**TESTS USING MASTER TEST FRAME**  
**NO. 5 CROSSBAR OFFICES**

**1. GENERAL**

**1.001** This addendum supplements Section 218-122-523, Issue 3. Place this pink sheet ahead of Page 1 of the section.

**1.002** This addendum is issued to indicate that Test CJ "PBX-AIOD Calls" does not apply in offices equipped with call data transmitter (CDT).

This addendum does not affect the Equipment Test List.

**2. CHANGES TO SECTION**

**2.001** On Page 2, after Test CJ heading add the following note:

**Note:** If office is equipped with call data transmitter (CDT), use procedure given in Test DW, Section 218-122-534.

**NOTICE**

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

MEMORANDUM FOR THE RECORD

DATE: 10/15/50

TO: SAC, NEW YORK

RE: [Illegible]

[Illegible]

[Illegible]





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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.

**1.08** 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.

**1.09** 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.

**Test CK**

**2.02** Trunk test circuit, SD-25918-01.

**2.03** 322A make-busy plug.

**3. METHOD**

STEP	ACTION	VERIFICATION
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*Note:* Refer to paragraphs 1.04 through 1.09.

**CJ. PBX-AIOD Calls**

- |    |  |                         |
|----|--|-------------------------|
| 1  | At MTF—<br>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 requiring AMA record.         |                         |
| 5  | Select originating class of call with translator indication as required for access to selected route.  |                         |
| 6  | Select line location to select PBX customer having AIOD lines.   |                         |
| 7  | Select class of service and rate treatment as required for AIOD class having access to selected route. |                         |
| 8a | ♦If ETS provided—<br>Operate PCS key.♦   |                         |

STEP	ACTION	VERIFICATION
9b	If 4-wire switching route is selected— Operate 4W key.	
10c	If office is arranged for multilevel preemption— Select CDP, CD control digits as required for access to route selected.	
11	Select marker under test.	
12	Operate REC key.	
13d	◆If ETS provided and CM dump is required— Operate TCPO key.  <i>Note:</i> See paragraph 1.09.◆	
14	Momentarily operate ST key.	MRL lamp lighted. Trouble record taken. AID, RPK designations perforated. ◆If ETS provided— AID designation not perforated.◆ CT_, CU_ designations perforated indicating class of service of originating station.
15	Momentarily operate RL key.	All lamps extinguished.
16	Restore all keys and switches.	

**CK. Preemption Feature and Selection Control—◆ETS  
Not Provided◆**

**No Trunks Available**

1	At MTF— Restore all keys and switches.	
2	Momentarily operate RL key.	All lamps extinguished.
3	Select OGT class of test.	
4	Select A_ through K_ digits as required for outgoing route.	
5	Operate FS, TS keys.	
6	Select outgoing trunk as required for route selected.	
7	Select class of service and rate treatment as required for access to selected route, and ability to upgrade precedence to P-0.	

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STEP	ACTION	VERIFICATION
8	Select CDP, CD control digits as required for P-0 precedence.	
9a	If polygrid route is selected— Select JSQ_ as required for routing control.	
10	Select route advance for access to selected route.	
11	Operate KY, TLK, E-M, 4W, REC keys.	
12b	If trunk is in allotted group— Operate GPA/GPB key.	
13	Select marker under test.	
14	Momentarily operate ST key.	DIS1, LK2, 4W, E, MRL, AS, MTT, ES lamps lighted. Trouble record taken. TOK, TA, STL5, LPMK, TPMK designations perforated.
15	Set REC switch to 0.	
16	Set DC switch to 0.	
17	Operate REC SET, DC SET keys.	
18	Operate TM1, TM2 keys.	
19	Operate MTTA key.	
20	Operate CNR key.	
21	Momentarily operate RL key.	All lamps extinguished, except E, AS, MTT, 4W.
22	Restore REC key.	
23	Select ORIG class of test.	
24	Select line location of an idle auxiliary line circuit or LUNK equipped with a precedence memory.	
25	Select originating class of call with translator indication as required for access to selected route, and ability to upgrade precedence to P-0.	
26	Select CDP, CD control digits as required for P-1 precedence.	

STEP	ACTION	VERIFICATION
27	Set STS switch to 0.	
28	Momentarily operate ST key.	BT-OF, RBT1, CHMT, TLH lamps lighted. RA_ lamp(s) lighted for number of route advances required.
29	Momentarily operate RL key.	All lamps extinguished, except E, AS, MTT, 4W.
30	Set STS switch to 1.	
31	Momentarily operate ST key.	BT-OF, RBT1, CHMT, TLH lamps lighted. RA_ lamp(s) lighted for the number of route advances required.
32	Momentarily operate RL key.	All lamps extinguished, except E, AS, MTT, 4W.
33c	If office is arranged for other precedence levels— Repeat Steps 26 through 29 substituting P-2, P-3, P-4 in Step 26 and STS switch setting to 2, 3, 4 in Step 27 as required.	
34	Restore all keys and switches.	All lamps extinguished.
<b>Trunk Available</b>		
35	At MTF— Restore all keys and switches.	
36	Momentarily operate RL key.	All lamps extinguished.
37d	IF IPR key is operated— Insert make-busy plug into MMB_ or M-C-MB jack for marker under test.	
38d	At marker under test— Block IPR relay nonoperated.	
39	At MTF— Select A_ through K_ digits as required for outgoing route.	
40	Select line location of an idle auxiliary line circuit or LUNK equipped with a precedence memory.	
41	Operate FS, TS keys.	
42	Select outgoing trunk as required for route selected.	

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STEP	ACTION	VERIFICATION
43	Select class of service and rate treatment as required for access to selected route, and ability to upgrade precedence to P-0.	
44	Select originating class of call with translator indication as required for access to selected route.	
45a	If polygrid route is selected— Select JSQ_ as required for routing control.	
46	Select route advance as required for access to selected route.	
47	Operate KY, TLK, E-M, 4W, REC, MTTA keys.	
48	Set REC switch to 0.	
49	Set DC switch to 0.	
50b	If trunk is in allotted group— Operate GPA/GPB key.	
51	Select marker under test.	
52	Select OGT class of test.	
53	Select CDP, CD control digits as required for P-1 precedence.	
54	Momentarily operate ST key.	DIS1, LK2, 4W, E, MRL, AS, MTT, ES lamps lighted. Trouble record taken. TOK, TA, STL5, LPMK, TPMK designations perforated.
55	Operate REC SET, DC SET keys.	
56	Operate TM1, TM2 keys.	
57	Momentarily operate RL key.	All lamps extinguished, except E, AS, MTT, 4W.
58	Restore REC key.	
59	Select ORIG class of test.	
60	Select CDP, CD control digits as required for P-0 precedence.	
61	Set STS switch to 1.	

STEP	ACTION	VERIFICATION
62	Momentarily operate ST key.	PE, CHMT, TLH lamps lighted. RA_ lamp(s) lighted for number of route advances required.
63	Momentarily operate RL key.	All lamps extinguished, except E, AS, MTT, 4W.
64	Operate CNR key.	
65	Operate REC key.	
66	Momentarily operate ST key.	DIS1, LK2, MRL, ES, LHMT, TLH, LLJ, PRE lamps lighted. Trouble record taken. FS_, TS_, TB_, TG_, LC_, LV_, FAK/FBK designations perforated indicating location of trunk. STL1, TPMK, LPMK designations perforated.
67	Restore CNR, REC SET, DC SET, TM1, TM2 keys.	
68	Momentarily operate RL key.	All lamps extinguished.
69c	If office is arranged for other precedence levels— Repeat Steps 52 through 68, substituting P-1, P-2, P-3 in Step 60 and STS switch setting 2, 3, 4 in Step 61 as required.	Verification is same as Step 66 except STL perforation should agree with STS switch setting.
70d	If IPR key is operated— At marker under test— Remove blocking tool from IPR relay.	
71d	At MTF— Remove make-busy plug placed in Step 37d.	
72	Restore all keys and switches.	

**No Line Available—PBX Hunting Group**

73	At MTF— Restore all keys and switches.	
74	Momentarily operate RL key.	
75	Select INC class of test.	
76	Select A_ through G_ digits as required corresponding to directory number of auxiliary line being used for test.	

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STEP	ACTION	VERIFICATION
77	Select last line in tens block associated with directory number of auxiliary line being used for test.	
78	Select TOL incoming class of call with translator indication as required for completion to called line.	
79	Select incoming trunk class for completion to called line.	
80	Select any trunk link frame.	
81	Select marker under test.	
82	Operate 4W, AD, PBXH, REC keys.	
83	Select CDP, CD control digits as required for P-0 precedence.	
84	Set STS switch to 0.	
85	Momentarily operate ST key.	MRL, PLB lamps lighted. Trouble record taken. PLB designation perforated.
86	Momentarily operate RL key.	All lamps extinguished.
87	Select CDP, CD control digits as required for P-1 precedence.	
88	Set STS switch to 1.	
89	Momentarily operate ST key.	MRL, PLB lamps lighted. Trouble record taken. PLB designation perforated.
90	Momentarily operate RL key.	All lamps extinguished.
91c	If office is arranged for other precedence levels— Repeat Steps 87 through 90, substituting P-2, P-3, P-4 in Step 87 and STS switch setting 2, 3, 4 in Step 88 as required.	Verification is same as Step 89, except for precedence level P-4; BY designation should be perforated instead of PLB.
92	Restore all keys and switches.	
<b>Line Available—PBX Hunting Group</b>		
93	At MTF— Restore all keys and switches.	

STEP	ACTION	VERIFICATION
94	Momentarily operate RL key.	All lamps extinguished.
95	Select INC class of test.	
96	Select A_ through G_ digits as required corresponding to directory number of auxiliary line being used for test.	
97	Select last line in tens block associated with directory number of auxiliary line being tested.	
98	Select TOL incoming class of call with translator indication as required for completion to called line.	
99	Select incoming trunk class for completion to called line.	
100	Select any trunk link frame.	
101	Select marker under test.	
102	Operate 4W, AD, PBXH, REC keys.	
103	Select CDP, CD control digits as required for P-0 precedence.	
104	Set STS switch to 1.	
105	Momentarily operate ST key.	4W, DIS1, LK2, MRL lamps lighted. PLB or LB lamp <i>not</i> lighted. Trouble record taken. PML designation perforated.
106	Momentarily operate RL key.	All lamps extinguished.
107c	If office is arranged for other precedence levels— Repeat Steps 103 through 106 substituting P-1, P-2, P-3, P-4 in Step 103 and STS switch setting 2, 3, 4, 5 in Step 104 as required.	Verification is same as Step 105, except when using P-4 precedence and STS switch setting 5; LRL designation will not be perforated.
108	Restore all keys and switches.	
<b>Line Available—Individual Line</b>		
109	At MTF— Restore all keys and switches.	
110	Momentarily operate RL key.	All lamps extinguished.
111	Select LT class of test.	

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STEP	ACTION	VERIFICATION
112	Select A_ through G_ digits as required corresponding to directory number assigned to an individual preemptable auxiliary line circuit.	
113	Select translator indication as required for completion to called line.	
114	Operate DC SET key.	
115	Set DC switch to 2.	
116	Select marker under test.	
117	Operate 4W, AD, E-M, TM2, TLK, E, keys.	
118	Select CDP, CD control digits as required for P-1 precedence.	
119	Momentarily operate ST key.	4W, DIS1, LK2, MTT lamps lighted.
120	Operate MTTA key.	
121	Momentarily operate RL key.	4W lamp extinguished.
122	Operate 4ANS, ANS, TM1, REC keys.	
123	Select CDP, CD control digits as required for P-0 precedence.	
124	Momentarily operate ST key.	4W, PRE, AS lamps lighted. Trouble record taken. LI designation perforated.
125	Restore MTTA key.	
126	Momentarily operate RL key.	All lamps extinguished.
127c	If office is arranged for other precedence levels— Repeat Steps 118 through 126, substituting P-2, P-3, P-4 in Step 118 and P-1, P-2, P-3 in Step 123 as required.	
128	Restore all keys and switches.	
CL.	Line Lockout—Multilevel Preemption Provided—ETS Not Provided	
1	At MTF— Restore all keys and switches.	

STEP	ACTION	VERIFICATION
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 line.	
5	Select OR class of call with LT translator indication.	
6	Select line location having originating service.	
7	Select class of service and rate treatment as required for access to selected route.	
8	Select marker under test.	
9	Operate 4W, NGPA/NGPB, LO, REC keys as required.	
10	Select CDP, CD control digits to select routine precedence.	
11	Momentarily operate ST key.	4W, RA1 lamps lighted. Trouble record taken. FTT_ FUT_ VGT_ HGT_ VFT_ designations perforated indicating location of called line. LB designation perforated.
12	Momentarily operate RL key.	All lamps extinguished.
13	Select CDP, CD control digits for precedence other than routine.	
14	Momentarily operate ST key.	4W, RA1 lamps lighted. Trouble record taken. FTT_ FUT_ VGT_ HGT_ VFT_ designations perforated indicating location of called line. PLB designation perforated.
15	Momentarily operate RL key.	All lamps extinguished.
16	Restore all keys and switches.	
17	Select INC class of test.	
18	Select A_ through G_ digits as required to direct call to line.	
19	Select TOL incoming class of call with translator indication as required for completion to called line.	

STEP	ACTION	VERIFICATION
20	Select incoming trunk class for completion to called line.	
21	Select any trunk link frame.	
22	Select marker under test.	
23	Operate 4W, NGPA/NGPB, LO, AD, REC keys as required.	
24	Select CDP, CD, CDA control digits as required for precedence other than routine.	
25	Momentarily operate ST key.	4W, RA1 lamps lighted. Trouble record taken. FTT_, FUT_, VGT_, HGT_, VFT_ designations perforated indicating location of called line. PLB designation perforated.
26	Momentarily operate RL key.	All lamps extinguished.
27	Restore all keys and switches.	

**CM. Status Test—Multilevel Preemption Provided—ETS  
Not Provided**

**Trunks**

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 outgoing route.	
5	Select originating class of call with translator indication as required for access to selected route.	
6	Select line location for line having access to selected route.	
7	Select class of service and rate treatment as required for access to selected route.	
8	Select route advance for access to selected trunk group.	

STEP	ACTION	VERIFICATION
9a	If polygrid route is selected— Select JSQ_ for routing control.	
10	Select CDP, CD control digits as required for access to selected route.	
11	Select marker under test.	
12	Operate 4W, SKTK keys.	
13	Momentarily operate ST key.	4W, DIS1, LK2, MRL, SKS lamps lighted. MTT lamp momentarily lighted.
14	Momentarily operate RL key.	All lamps extinguished.
15	Repeat Steps 4 through 13 as required for testing all trunk groups that have multilevel preemption.	
16	Restore all keys and switches.	
<b>Lines</b>		
17	At MTF— Restore all keys and switches.	
18	Momentarily operate RL key.	All lamps extinguished.
19	Select INC class of test.	
20	Select A_ through G_ digits as required for listed directory number of line under test.	
21	Select corresponding line in tens block associated with directory number in Step 20.	
22	Select TOL 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	Set STS switch to 5.	
26	Select marker under test.	
27	Operate 4W, AD, SKAL, PBXH, keys.	

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STEP	ACTION	VERIFICATION
28	Select CDP, CD, CDA control digits as required for completion to called line.	
29	Momentarily operate ST key.	4W, DIS1, LK2, MRL, SKS lamps lighted.
30	Momentarily operate RL key.	All lamps extinguished.
31	Repeat Steps 20 through 30 as required for testing all line circuits that have multilevel preemption.	
32	Restore all keys and switches.	