TRANSVERTER
MISCELLANEOUS TESTS
NO. 1 CROSSBAR OFFICES

1. GENERAL

1.01 This section describes the method of making miscellaneous tests on transverters in No. 1 crossbar offices arranged for LAMA.

1.02 This section is reissued for the following reasons:

(a) To add procedures to Test B for testing trouble detecting features when DAC relay does not operate for changing directory assistance calls.

(b) To include the blocking of one additional relay in Test C.

(c) Test D (Fuse Alarms) has been deleted from this section and is now covered in Section 216-750-501.

This reissue affects the Equipment Test List.

1.03 The tests covered are:

1.04 Due to the short time interval being checked in Test E, the stopwatch will only give an approximate check. If a more accurate check of the timing interval is desired in Test C, D, E, or F, check the timing interval as covered in the circuit requirement tables.

1.05 Tests F and G require actions and/or verifications at the transverter and transverter trouble indicator frame. Test F requires action and verification at the associated switchboard.

1.06 Extra number as used in Part 3 of this section refers to numbers outside the call number series. They are identified by a 2-digit number (00 to 99) preceded by a letter. In effect, it is 4-digit number, the letter prefix A, B, C, etc, used represents the digit 00, 01, 02, etc. respectively.

1.07 Test H necessitates making all but one transverter busy for a short time and, therefore, will limit the traffic handling capacity of the office for LAMA service calls.

1.08 ***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.

1.09 Local instructions should be followed with regard to recording and reporting any register operations caused by performing these tests.

2. APPARATUS

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

2.02 Testing cord, 893, cord, 6 feet long, equipped with two 360A tools (1W13B cord) and one 419A (test connector) tool (for making testing connections to terminals).

2.03 Patching cord P3U cord, 12 feet long, equipped with one 310 plug and one 325 plug (3P27A cord).

2.04 Headset, 716C receiver, or equivalent, attached to a W2AB cord equipped with two 360 tools (2W21A cord), a 411A (test pick) tool and a KS-6278 connecting clip (for checking presence of battery or ground).

TABLE A

APPARATUS	TESTS								
	A	B	C	D	E	F	G	H	I
322A (Make-Busy) Plugs	√	√	√	√	√	√	√	√	√
Test Cord (2.02)		3	1				1		
Test Cord (2.03)								1	
Test Receiver (2.04)		1		1		1			
Stop Watch (2.05)			1	1	1	1			
Handset (2.06)								1	

√ As required

2.05 KS-3008 stopwatch, or equivalent.

2.06 1011G dial hand test set (handset) equipped with a 2W38A cord assembly or the replaced 1011D dial hand test set.

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

3. METHOD

STEP	ACTION	VERIFICATION
A. Locking Circuits		
1	At transverter trouble indicator (TVI) frame—Insert make-busy plug into TVB_jack associated with TV under test.	
2	At transverter—Block operated TIB, CKG, and EXT relays.	
3	Block nonoperated the TMS3, TM5, and TR relays.	
4	Momentarily operate DNK1 relay.	CK7 relay operated and released.
5	Block operated in turn TMS1 and CK6 relays.	CK7 relay not operated.
6	Block operated TM1 and remove blocking tool from TMS1.	CK7 relay not operated.
7	Remove blocking tool from TM1 relay.	CK7 relay operated.
8	Block operated TBC3, CK8 relays.	All relays remain locked operated.
9	Momentarily operate in turn TOK, IC, DNK, OF1, TK, TOM, 25K, FR, and XDK relays.	All relays remain locked operated.
10	Momentarily operate in turn the MSR and BBF relays.	MSR and BBF relays remain locked operated.
11	Block operated SDTA relay.	
12	Momentarily operate SDT2 relay.	SDT2 relay locked operated.
13a	If SDT4 relay is provided—Momentarily operate SDT4 relay.	SDT4 relay locked operated.
14	Momentarily operate in turn X, XRL, XTB, XRB, XP, XNL, XICK, XDC, and XTU relays.	All relays remain locked operated.
15	Remove blocking tool from TR relay.	TR relay operated and released. X, XRL, XTB, XRB, XP, XNL, XICK, XDC, and XTU relays released. XL relay released.

STEP	ACTION	VERIFICATION
23	Block operated XTB relay.	
24	Momentarily operate XL relay.	XL relay locked.
25	Remove blocking tool from XTB relay.	XL relay released.
26	Repeat Steps 23 to 25 substituting in turn the XRB, XNL, XICK, XDC, XG, XP, XP1, and XTL relays in place of the XTB relay.	
27	Remove blocking tool from SDTA relay.	
28	Block operated TR relay.	
29	Momentarily operate SDTA relay.	SDTA relay locked operated.
30	Remove blocking tool from TIB relay.	TIB relay locked operated.
31	Remove blocking tools from EXT, CK6, CK8, CKG, TMS3, TM5, CO4, TR, X, and XRL relays.	CK7, DNK, OF1, TK, TOM, 25K, TOK, IC, FR, XDK, MSR, BBF, SDT2, SDTA, and, if provided, SDT4 relays released.
32b	If no other tests are to be performed— At TVI frame— Remove make-busy plug from TVB_ jack.	

B. Trouble Detecting Features for False Ground, False Battery and Crosses

1	At transverter trouble indicator (TVI) frame— Insert make-busy plug into TVB_jack associated with TV under test.	
2	Insert make-busy plug into TV-TIB jack associated with TV under test.	
3	At transverter— Block nonoperated TM5 relay. Insulate 4B contact SDTA relay.	
4	Test each lead listed in the first column of Table B, testing one lead at a time, as indicated in the column headings. Block one relay at a time under column 3 (Test Condition). Remove insulators and/or blocking tools after each lead is tested.	Relays operated as indicated in Table B.
5	Connect ground to terminals in order indicated in Table C.	Relays operate as indicated in Table C.

TABLE B

LEAD UNDER TEST	(PREPARATION) CONTACTS INSULATED OR RELAY BLOCKED	(TEST CONDITION) BLOCK OPERATED RELAY	OBSERVE RELAYS OPERATED
UTK		U0 to U9	XNL, XL
UTK	Insulate 5B CO3	T0 to T9	XNL, XL
HTHK	Insulate 5B CO3	TH0 to TH9	XNL, XL
HTHK		HN0 to HN9	XNL, XL
DNK		OFF0 to OFF9	XNL, XL
TOM	Insulate 9B CO4 and Block UO operated	U1 to U9	XNL, XL
TOM	Insulate 9B CO4	T1 to T9	XNL, XL
TOM	Insulate 7B CO4 and Block HN0 operated	HN1 to HN9	XNL, XL
TOM	Insulate 7B CO4	TH1 to TH9	XNL, XL
TOM	Block CO3, OFF0 operated	OFF1 to OFF9	TOM, DL
XNL		CH0 to CH7	XNL, XL
XNL		CT0 to CT7	XNL, XL
XNL		CU0 to CU7	XNL, XL
XNL		VF0 to VF7	XNL, XL
TOM	Block CUA, CH2, CH4, CH7 and CO9 operated	CK7	TOM, DL
M10		M10	XNL, XL
M11		M11	XNL, XL
M12		M12	XNL, XL
M14		M14	XNL, XL
M17		M17	XNL, XL
DC		TOK	XDC, XL
DC		RK	XDC, XL
ICK		ICB	XICK, XL
ICK		IC	XICK, XL
ARL		RL	XRL, XL
ARL	Block RL nonoperated	F4	XRL, XL
F1		P5	XNL, XL
F2		F1	XNL, XL
F4		F2	XNL, XL
F5		F5	XNL, XL
F10		FTB	XNL, XL
RP		RP	XNL, XL
TP		TP	XNL, XL
EA		EA	XNL, XL
LA		LA	XNL, XL
OT		OT	XNL, XL
SDT		SDTB	XNL, XL
2L		2L	XNL, XL
5L		5L	XNL, XL
PS		PS	XNL. XL
ACT		CTH	XNL, XL
IDOK		IDOK	XNL, XL
ODN		ODN	XNL, XL
INF		INF	XNL, XL

STEP ACTION VERIFICATION

TABLE C

LEAD UNDER TEST	CONNECT GROUND TO CONTACT	OBSERVE RELAYS OPERATED
A0	5T Relay A2	XNL, XL
A1	8T Relay A2	XNL, XL
A2	5B Relay A2	XNL, XL
A4	2T Relay A5	XNL, XL
A7	5T Relay A4	XNL, XL
B0	3B Relay B2	XNL, XL
B1	6B Relay B2	XNL, XL
B2	1T Relay B2	XNL, XL
B4	9T Relay B2	XNL, XL
B7	5B Relay B4	XNL, XL
C0	5T Relay C1	XNL, XL
C1	9B Relay C2	XNL, XL
C2	5T Relay C2	XNL, XL
C4	1T Relay C5	XNL, XL
C7	5B Relay C4	XNL, XL
TS-(chain)	3B highest numbered TS-relay	XTST, DL
ST-(chain)	3T or 6T of highest numbered ST-relay as required	XST, DL
TB-(chain)	9B highest numbered TS-relay	XTB, XL
RB-(chain)	3B highest numbered ST-relay	XRB, XL

LEAD UNDER TEST	CONNECT GROUND TO TERM.	TERM. STRIP	OBSERVE RELAYS OPERATED
TH0	15	TIA	XNL, XL
TH1	16	TIA	XNL, XL
TH2	17	TIA	XNL, XL
TH4	18	TIA	XNL, XL
TH7	19	TIA	XNL, XL
SW0	20	TIA	XNL, XL
SW1	21	TIA	XNL, XL
SW2	22	TIA	XNL, XL
SW4	23	TIA	XNL, XL
SW7	24	TIA	XNL, XL
H0	25	TIA	XNL, XL
H1	26	TIA	XNL, XL
H2	27	TIA	XNL, XL
H4	28	TIA	XNL, XL
H7	29	TIA	XNL, XL
T0	35	TIA	XNL, XL
T1	36	TIA	XNL, XL
T2	37	TIA	XNL, XL
T4	38	TIA	XNL, XL
T7	39	TIA	XNL, XL
U0	45	TIA	XNL, XL
U1	46	TIA	XNL, XL
U2	47	TIA	XNL, XL
U4	48	TIA	XNL, XL
U7	49	TIA	XNL, XL
ST0	55	TIA	XNL, XL
ST1	56	TIA	XNL, XL
ST2	57	TIA	XNL, XL
ST4	*58	TIA	XNL, XL
ST7	*59	TIA	XNL, XL

* Block operated the STH relay while testing the ST4 and ST7 leads.

6	Using headset, connect battery to terminal 54 on TID terminal strip.	XP1, XP, and XL relays operated. X, DL, TR relays operate and released.
7	Remove test connection from TID terminal strip.	XP1, XP, and XL relays released.

STEP ACTION VERIFICATION

TABLE C (Cont)

LEAD UNDER TEST	CONNECT GROUND TO TERM.	TERM. STRIP	OBSERVE RELAYS OPERATED
D1	15	TIB	XNL, XL
D2	16	TIB	XNL, XL
D4	17	TIB	XNL, XL
D8	18	TIB	XNL, XL
SGR	27	TIB	XNL, XL
FT	48	TIB	XNL, XL
NT	36	TIC	XNL, XL
ARL	50	TIC	XRL, XL
OV	52	TIC	XRL, XL
TRL	05	TVC	XRL, XL
DTK	18	TVC	DK, XDK, DL
DC	24	TVC	XDC, XL
SA1	25	TVC	XST, DL
SA2	26	TVC	XST, DL
RD	28	TVC	XP1, XP, XL
DS	38	TVC	XP1, XP, XL
UK	39	TVC	XTU, DL
DTKA	45	TVC	DK, XDK, DL
TCT	46	TVC	XP1, XP, XL
ICK	47	TVC	ICK, IC, XICK, XL
PA	57	TVC	XP1, XP, XL
CK	59	TVC	XP1, XP, XL
C	07	MDR	XP1, XP, XL
PT	11	MDR	XP1, XP, XL
P1	31	MDR	XP1, XP, XL
P	50	MDR	XP1, XP, XL
PT1	53	MDR	XP1, XP, XL

LEAD UNDER TEST	CONNECT GROUND TO TERM.	TERM. STRIP	OBSERVE RELAYS OPERATED
A0	02	TID	XP1, XP XL
A2	04	TID	XP1, XP, XL
F0	10	TID	XP1, XP, XL
F1	11	TID	XP1, XP, XL
F2	12	TID	XP1, XP, XL
F4	13	TID	XP1, XP, XL
F7	14	TID	XP1, XP, XL
E0	20	TID	XP1, XP, XL
E1	21	TID	XP1, XP, XL
E2	22	TID	XP1, XP, XL
E4	23	TID	XP1, XP, XL
E7	24	TID	XP1, XP, XL
D0	30	TID	XP1, XP, XL
D1	31	TID	XP1, XP, XL
D2	32	TID	XP1, XP, XL
D4	33	TID	XP1, XP, XL
D7	34	TID	XP1, XP, XL
C0	40	TID	XP1, XP, XL
C1	41	TID	XP1, XP, XL
C2	42	TID	XP1, XP, XL
C4	43	TID	XP1, XP, XL
C7	44	TID	XP1, XP, XL
B0	50	TID	XP1, XP, XL
B1	51	TID	XP1, XP, XL
B2	52	TID	XP1, XP, XL
B4	53	TID	XP1, XP, XL
B7	54	TID	XP1, XP, XL
XVF	25	TV1	XTL, XL

8	Block nonoperated TS0 and TS1 relays.	
9	Connect ground to terminals SC0 and SC1 on the X terminal strip.	XTS relay operated.
10	Momentarily connect ground to 2T contact XTS relay.	DNK relay not operated.

STEP	ACTION	VERIFICATION
11	Remove test connection from X terminal strip.	XTS relay released.
12	Remove blocking tools from TS0 and TS1 relays.	
13	Block operated RGL relay.	
14	Block nonoperated ST0 and ST1 relays.	
15	Connect ground to 3B contact and 6B contact FTA relay.	XFR relay operated.
16	Test for presence of battery on 3T contact XFR relay.	Battery not present.
17	Remove test cords from FTA relay.	
18	Remove blocking tools from RGL, ST0 and ST1 relays.	XFR relay released.
19	Using headset, connect battery to terminal 26 on TVI terminal strip.	XG and XL relays operated.
20	Remove test connection from TVI terminal strip.	XG and XL relays released.
21	Connect ground to terminal 20 on TVI terminal strip.	XET, XTL, and XL relays operated.
22	Remove test connection from TVI terminal strip.	XET, XTL and XL relays released.
23	Block operated CK8 relay.	
24	Connect ground to 3T contact P4A and P3A relays.	X2P1 and DL relays operated.
25	Remove test connection from P4A and P3A relays.	X2P1 and DL relays released.
26	Block operated CTM3 relay.	
27	Connect ground to 1T contact P4 and P3 relays.	X2P1 and DL relays operated.
28	Remove test cord from P4 and P3 relays.	X2P1 and DL relays released.
29	Remove blocking tool from CK8 and CTM3 relays.	
30	Block operated LP relay.	

STEP	ACTION	VERIFICATION
31	Using headset, connect battery to terminal 39 on TVC terminal strip.	XTU and DL relays operated.
32	Remove test connection from TVC terminal strip.	
33	Remove blocking tool from LP relay.	
34	Connect ground to 2RT winding terminal of XT relay.	
35	Using headset, connect battery to terminal 48 on TVC terminal strip.	XTU and DL relays operated.
36	Remove test connection from TVC terminal strip.	XTU and DL relays released.
37	Remove test connection from XT relay.	
38	Remove insulator from 4B contact SDTA relay.	
39	Remove blocking tool from TM5 relay.	
40	Block nonoperated TR relay.	
41	Insulate 5T contact X relay.	
42	Block operated X relay.	
43	Test for presence of ground on 3T contact RB relay.	Ground present.
44	Remove blocking tool from X relay.	
45	Block operated XL relay.	
46	Test for presence of ground on 3T contact RB relay.	Ground present.
47	Remove blocking tool from XL relay.	
48	Remove insulator from X relay.	
49	Block nonoperated X relay.	
50	Block operated XRL relay.	
51	Test for presence of ground on 3T contact RB relay.	Ground present.
52	Remove blocking tool from XRL relay.	

STEP	ACTION	VERIFICATION
53	Repeat Steps 50 to 52 substituting in turn the XTB, XRB, XNL, XICK, XDC, XP, XP1, SDTA, and TR relays in place of the XRL relay.	
54	Remove blocking tool from X and TR relays.	
55a	▶If charge for directory assistance feature is provided— Insulate 7,8T and 9,10T of C02 relay.	
56a	Block nonoperated DAC relay.	
57a	Block operated MI4 and MI7 relays.	XNL and XL relays operated.
58a	Remove blocking tool from MI4 relay.	XNL and XL relays released.
59a	Remove insulators from CO2 relay.	XNL and XL relays operated.
60a	Remove blocking tool from MI relay.	XNL and XL relays released.
61a	Remove blocking tool from DAC relay.◀	
62b	If no other tests are to be performed— At TVI frame— Remove make-busy plug from TVB_ and TV-TIB jacks.	

C. Short and Long Time-Out Features

1	At transverter trouble indicator (TVI) frame— Insert make-busy plug into TVB_jack associated with TV under test.	
2	At TVI frame— Insert make-busy plug into TV-TIB jack.	
3	At transverter— Block nonoperated TM3 relay.	
4	Connect ground to 1B contact EXT relay.	In 2.4 to 3.8 seconds— DL and TR relay operated. Minor alarm sounds.
5	Remove test connection from EXT relay.	
6	At TVI frame— Momentarily operate RL key.	Minor alarm silenced.
7	At transverter— Remove blocking tool from TM3 relay.	

STEP	ACTION	VERIFICATION
8	Block nonoperated DL relay.	
9	Connect ground to 1B contact EXT relay.	In 3.7 to 5.0 seconds— TA lamp lighted. Major alarm sounds. At TVI frame— TT lamp lighted.
10	At transverter— Remove blocking tool from DL relay.	
11	Remove test connection from EXT relay.	
12	Momentarily operate AR key.	At transverter— TA lamp extinguished. Major alarm silenced.
13	Block operated EXT relay.	
14	Connect ground to 1B contact EXT relay. Allow a minimum of 4 seconds before proceeding with next step.	DL relay not operated.
15	Remove test connection from EXT relay.	
16	Block nonoperated TR, ▶TBC2,◀ TBC3, XL, and TM2 relays.	
17	Block operated CKG and CK6 relays.	CK1, CK2, and CK3 relays operated.
18	Insulate 1T and contact X relay.	
19	Momentarily operate X relay.	X relay locked. In 1.1 to 2.5 seconds— DL relay operated.
20	Momentarily operate CK4 relay.	CK4 relay locked. CK1 relay released.
21	Momentarily operate CK5 relay.	CK5 relay locked. CK2, CK3, and DL relays released.
22	Operate and release CK1 relay.	DL relay operated and released.
23	Momentarily operate CK2 relay.	DL relay operated and released.
24	Momentarily operate CK3 relay.	DL relay operated and released.
25	Block nonoperated CK1, CK2, and CK3 relays.	
26	Release and operate CK4 relay.	DL relay operated and released.

STEP	ACTION	VERIFICATION
27	Release CK5 relay.	DL relay operated.
28	Remove blocking tool from TR relay.	TR relay operated. Minor alarm sounds. X relay released.
29	Remove insulator from X relay.	
30	Remove blocking tools from TM2, CK1, CK2, and CK3 relays.	
31	At TV1 frame— Momentarily operate RL key.	Minor alarm silenced.
32	At transverter— Insulate 6B contact TM1 relay.	
33	Block nonoperated TM3 relay.	
34	Momentarily operate X relay.	X relay locked operated. In 2.4 to 3.8 seconds— DL and TR relays operated. Minor alarm sounds. X relay released.
35	At TVI frame— Momentarily operate RL key.	Minor alarm silenced.
36	At transverter— Remove blocking tools from CK6 and EXT relays.	
37	Remove insulator from TM1 relay.	
38	Block operated RKA and CK7 relays.	
39	Momentarily operate X relay.	X relay locks. In 2.4 to 3.8 seconds— DL and TR relays operated. Minor alarm sounds. X relay released.
40	At TVI frame— Momentarily operate RL key.	Minor alarm silenced.
41	At transverter— Block operated CTM2 and RGL relay.	
42	Block nonoperated TM2 relay.	
43	Connect ground to 6T contact COCL relay.	

STEP	ACTION	VERIFICATION
44	Momentarily operate X relay.	X relay locked operated. In 1.11 to 2.5 seconds— Minor alarm sounds. X relay released.
45	At TVI frame— Momentarily operate RL key.	Minor alarm silenced.
46	At transverter— Remove test connection from COCL relay.	
47	Remove blocking tool from CTM2, RGL, TM2, TM3, ▶TBC2◀ , TBC3, XL, RKA, CK7, and CKG relays.	
48	At transverter— Connect ground to 3T contact RB relay.	In 14 to 29 seconds— TA lamp lighted. Major alarm sounds. At TVI frame— TT lamp lighted. TV_ lamp associated with transverter under test lighted.
49	Remove test connection from RB relay.	
50	Momentarily operate AR key.	Major alarm silenced. TT and TV_ lamps extinguished. At transverter— TA lamp extinguished.
51a	At TVI frame— If no other tests are to be performed— Remove make-busy plug from TVB_ and TV-TIB jacks.	

D. Deleted

E. Condenser Timed Time-Out Features

1	At transverter trouble indicator (TVI) frame— Insert make-busy plug into TVB_ jack associated with TV under test.	
2	At transverter— Block nonoperated TR, TM5, TMS3, and XDC1 relays.	
3	Insulate 4B contact XDK relay.	
4	Block operated CKG, DA1, and CK6 relays.	CK7 relay operated.

STEP	ACTION	VERIFICATION
5	Momentarily operate CK5 relay.	CK5 relay locked operated. In approximately 0.25 second— DL relay operated.
6	Block operated XDK relay.	DL relay released.
7	Remove blocking tool from XDK relay.	In approximately 0.25 second— DL relay operated.
8	Block operated SDTA relay.	DL relay released.
9	Remove blocking tool from SDTA relay.	In approximately 0.25 second— DL relay operated.
10	Block operated CBG relay.	DL relay released.
11	Remove blocking tool from CBG relay.	In approximately 0.25 second— DL relay operated.
12	Block operated EXT relay.	DL relay released.
13	Remove blocking tool from EXT relay.	In approximately 0.25 second— DL relay operated.
14	Block operated CTM1 relay.	DL relay released.
15	Remove blocking tool from CTM1 relay.	In approximately 0.25 second— DL relay operated.
16	Block nonoperated CTM1 and CTM2 relays.	
17a	If transverter is modified for AIOD feature— Block operated TCSO and TMB relay.	DL relay released.
18a	Remove blocking tool from TMB relay.	In approximately 0.25 second— DL relay operated.
19a	Remove blocking tool from TCSO relay.	
20a	Repeat Steps 17a to 19a for TCS1 and TCS2 relays, if transverter is so equipped.	
21	Block operated CBG relays.	DL relay released.
22	Momentarily operate TK relay.	TK relay locked operated. In approximately 0.25 second— DL relay operated.
23	Remove blocking tool from CTM1 relay.	CTM1 relay operated. DL relay released.

STEP	ACTION	VERIFICATION
24b	If transverter is arranged for 5L entries— Block operated CLS relay.	
25	Momentarily operate DNK relay.	DNK relay locked operated. CTM1 relay released.
26	Block operated RKM relay.	In approximately 0.25 second— DL relay operated.
27	Remove blocking tool from RKM relay.	DL relay released.
28	Block operated RK relay.	In approximately 0.25 second— DL relay operated.
29	Remove blocking tool from RK relay.	
DL	relay released.	
30	Remove blocking tool from CBG relay.	In approximately 0.25 second— DL relay operated.
31c	If transverter is arranged for ODN— Block operated DNKA relay.	DL relay released.
32c	Remove blocking tool from DNKA relay.	In approximately 0.25 second— DL relay operated.
33c	Block operated ODN relay.	DL relay released.
34c	Block nonoperated DNG and CTM1 relays.	
35c	Block operated CTH relay.	In approximately 0.25 second— DL relay operated.
36c	Remove blocking tools from CTM1 and DNG relays.	CTM1 and DNG relays operate. DL relay released.
37c	Release CTH relay.	CTM1 and DNG relays released.
38c	Release ODN relay.	In approximately 0.25 second— DL relay operated.
39d	If office is equipped with sender circuit SD-27810-01— Block operated DNKA relay.	DL relay released.
40d	Block operated NS relay.	In approximately 0.25 second— DL relay operated.
41d	Remove blocking tool from NS relay.	DL relay released.

STEP	ACTION	VERIFICATION
42d	Remove blocking tool from DNKA relay.	In approximately 0.25 second— DL relay operated.
43b	If transverter is arranged for 5L entries— Remove blocking tool from CLS relay.	DL relay released.
44b	Release TK relay.	In approximately 0.25 second— DL relay operated.
45	Release DNK relay.	
46	Release CK5 relay.	DL relay released.
47	Block operated 25K relay.	In approximately 0.25 second— DL relay operated.
48	Block operated CK7 relay.	
49	Remove blocking tool from CK6 relay.	DL relay released.
50	Remove blocking tool from TR relay.	
51	Block operated CK6 relay.	In approximately 0.25 second— DL and TR relays operated. Minor alarm sounds.
52	Remove blocking tools from DA2, CK6, CK7, CTM2, TM5, TMS3, CKG, XDC1, and 25K relays.	
53	Remove insulator from XDK relay.	
54	At TVI frame— Momentarily operate RL key.	Minor alarm silenced. Trouble indicator released.
55e	If no other tests are to be performed— Remove make-busy plugs from TVB_ and TV-TIB jacks.	

F. All Transverter Busy Alarm

1	At TVI frame— Insert make-busy plug into TVB_ jack of highest numbered transverter.	At transverter under test— ATB relay operated.
2	Remove make-busy plug from TVB_ jack.	ATB relay released.
3	Repeat Steps 1 and 2 for each equipped transverter.	

STEP	ACTION	VERIFICATION
4	At transverters— Block operated ATB relay for each transverter except the highest.	
5	At TVI frame— Insert make-busy plug into TVB_ jack of highest numbered transverter.	At TVI frame— ATVB lamp lighted. In 40 to 60 seconds— TVBA lamp lighted. Minor alarm sounds. If the All Transverter Busy Alarm is arranged to bring in an auxiliary signal— At associated switchboard— Auxiliary lamp lighted.
6	Remove make-busy plug from highest numbered TVB_ jack.	At TVI frame— ATVB lamp extinguished.
7a	If the All Transverter Busy Alarm is arranged to bring in an auxiliary signal— At associated switchboard— Momentarily operate RL key.	At associated switchboard— Auxiliary lamp extinguished.
8	At TVI frame— Momentarily operate RLA key.	At TVI frame— TVBA lamp extinguished. Minor alarm silenced.
9	At lowest or first transverter— Block nonoperated ATB relay.	
10	At highest or last transverter— Test for presence of ground on 3T contact ATB relay.	At highest or last transverter— Ground not present.
11	At all other transverters— Remove blocking tool from ATB relay.	

G. Trouble Indicating Features

1	At TVI frame— Insert make-busy plug into TVB jack associated with TV under test.	
2	At transverter— Momentarily operate X relay.	X relay locked operated. Minor alarm sounds. At TVI frame— TI lamp lighted.
3	At TVI frame— Momentarily operate ACO key.	Minor alarm silenced.
4	Operate LP key.	DR_ lamp associated with transverter under test lighted.

STEP	ACTION	VERIFICATION
		X lamp lighted. If equipped, G0 or G100 lamp associated with transverter group lighted.
5	Momentarily operate RL key.	All lamps extinguished.
6	Insert make-busy plug into TV-TIB jack associated with transverter under test.	
7	At transverter— Momentarily operate X relay.	At transverter— X relay locked operated. Minor alarm sounds. At TVI frame— DL_ lamp associated with transverter under test lighted.
8	At TVI frame— Momentarily operate ACO key.	Minor alarm silenced.
9	Momentarily operate RL key.	All lamps extinguished.
10a	If equipped for 10-digit dialing— At auxiliary transverter link— Momentarily connect ground to terminal 25 on TS A on terminal strip unit associated with transverter under test.	Minor alarm sounds. At TVI frame— DO_ lamp associated with transverter under test lighted.
11	At TVI frame— Momentarily operate RL key.	Minor alarm silenced. All lamps extinguished.
12b	If no other tests are to be performed— Remove make-busy plugs from TVB_ and TV-TIB jacks.	

H. Line Verification Features

1	At line link frame of first line in Table D— Using P3U cord, interconnect T jack and line vertical of line to be used in test.	
2	At miscellaneous frame having line verification trunk for terminating marker group serving line used in test— Operate CS- tens and units keys to indicate class-of-service of line used in test.	
3a	If office designation of line used in test is A— Operate A0 key.	

STEP ACTION VERIFICATION

TABLE D

LINE	ITEM
1	Individual line
2	Tip party line
3	First or intermediate line in a terminal hunting group
4	Extra number line (see 1.06)
5	Non-LAMA line assigned to a vertical containing lines requiring LAMA

4b If office designation of line used in test is B—
Operate B0 key.

5c If line used in test is a tip party—
Operate T key.

6d If line used in test is a ring party—
Operate R key.

7e If line used in test is a first or an intermediate line of a terminal hunting group—
Operate H key.

8f If line used in test is an extra number—
Operate XN key (see 1.06).

9g If line used in test is a coin line—
Operate key as shown in Table E.

10h If line used in test is non-LAMA and is located on a vertical requiring LAMA operation—
Operate NAL key.

11 At TVI frame—
Insert make-busy plugs into TVB_ jacks of all transverters except transverter under test.

Note: If this office is arranged to outpulse directory number, when the special transverters are made busy a major alarm will sound, STVB lamp will light and the ODN type calls

STEP	ACTION	VERIFICATION

TABLE E

TYPE OF LINE	LINE RELAY USED	OPERATE
Coin first	R2032	CN Key
Coin first	E6498 or EA1	CNCF Key
Coin, Dial tone first	E3698, EA1, or R2032	CNDF Key

will be sent to the TSP with identification failures. (See Test I.)

12	At miscellaneous frame— While BY lamp is extinguished— Insert plug of handset into VC jack.	Dial tone heard. BY lamp lighted.
13	Dial the line verification code followed by the line under test number. (Extra or any other number to be used, see 1.06.)	If line under test is a tip party— T lamp lighted. If line under test is part of a ring party— R lamp lighted. If line under test is part of a terminal hunting group— H lamp lighted. V lamp lighted. CS_ lamps indicate class of service of line under test. If directory number display is provided— TH_, H_, T_, and U_ lamps light indicating billing number of line under test or billing number assigned to non-LAMA lines.
14	At TVI frame— Remove make-busy plugs from TVB_ jacks.	
15	At miscellaneous frame— Remove plug from VC jack.	All lamps extinguished.
16	At line link frame— Remove cord from T jack and line vertical.	
17	At printer table of maintenance recorder— Momentarily operate P key.	Trouble ticket printed. Check ticket for billing number, call number,

STEP	ACTION	VERIFICATION
		class of service, calling line party identification, and line equipment number of line used in test.
18	Repeat Steps 1 to 17 to each of the remaining lines shown in Table D.	
I. Special Transverter Busy Alarm		
1	At TVI frame— Insert make-busy plug into TVB_ jack of first special transverter.	At transverter under test— ATB relay operated. RB relay operated. At TVI frame— STVB relay associated with the special transverter made busy operated.
2	Insert make-busy plug into TVB_ jack of second special transverter. ***Note:*** All ODN traffic will be routed to the TSP as directory number identification failures when both special transverters are made busy.	At transverter under test— ATB relay operated. RB relay operated. At TVI frame— STVB relay associated with the special transverter made busy operated. Major alarm sounds. STVB lamp lighted.
3	Remove make-busy plugs for the TVB jacks.	At TVI frame— STVB lamp extinguished. Major alarm retired.