

DECODERS
OPERATION TESTS
USING SENDER CIRCUIT AND TEST SET CIRCUIT SD-32271-01 (J38913A)
STEP-BY-STEP INTERTOLL DIALING OFFICES ARRANGED FOR CAMA

1. GENERAL

1.01 This section describes a method of testing the decoder circuit, SD-32262-01, in step-by-step intertoll dialing offices arranged for CAMA using the sender circuit SD-32261-01, the test circuit SD-32270-01, and test set SD-32271-01 (J38913A).

1.02 This section is reissued to add Test F and Table B and to revise the Test Chart for Tests B and D.

1.03 The tests covered are:

A. Called Number Registration Check: This test checks called number registration with 3- and 6-digit translation, trunk class information registration, and use of the cancel first trial trouble ticket feature to print second trial trouble tickets.

B. Working Codes Check: This test checks working called office and area codes, translator control, route relay operation, information transmitted to sender, and completion on second trial. This test also checks the effect of traffic screening.

C. Vacant Codes Check: This test checks nonworking called office and area codes, translator control, route treatment information transmitted to sender, and completion on second trial.

D. Route Advance Check: This test checks the route advance features for all trunks busy conditions and for irregularly dialed codes and checks the ability to route advance a second time on an alternate route provided with the trunk group busy feature. This test also checks irregular codes having superfluous area codes.

E. Superfluous Area Code Check: This test checks the ability to detect and inform the sender that a superfluous area has been dialed.

F. Vacant Code Trap Check: This test checks that operation of the VCT- key will condition the decoder to cause a transverter trouble ticket to be printed on called vacant and irregular codes.

1.04 Test of trouble detecting features as well as miscellaneous tests of the decoder are covered in Section 227-331-501.

1.05 Whenever a trouble ticket is printed, a 6 for decoder 0 or a 7 for decoder 1 will be printed in ticket position 3 to indicate the decoder under test and the hour and minute information will appear in ticket positions 37 through 40.

1.06 Decoder trouble tickets are forced to determine if the correct information is being received in or transmitted by the decoder.

1.07 DL (display lost) lamp lighting at the trouble ticketer and test frame indicates that a trouble ticket was requested but not printed due to trouble ticketer busy.

1.08 Lettered Steps: A letter a, b, c, etc, added to a step number in Part 4 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 for recording and reporting any register operations caused by performing these tests.

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2. APPARATUS

All Tests

- 2.01** Two patching cords, P3D cords, 3 feet long, equipped with two 309 plugs (3P3C cord) (for connecting test circuit DR jack to decoder T- jack, and test circuit S jack to sender T jack).
- 2.02** Step-by-step CAMA test circuit, SD-32270-01.
- 2.03** Step-by-step CAMA test set, J38913A (SD-32271-01).

2.04 Three testing cords, 10 feet long, equipped with one KS-13875 plug and one KS-13895 plug (W20D cord) (for connecting A, B, C jacks of CAMA test set to A, B, C jacks of CAMA test circuit).

Tests A and D

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

3. PREPARATION

3.01 Miscellaneous keys shall be operated or restored, and digits or signals keyed in accordance with test chart and office records unless otherwise indicated.

3.02 Operation of the CT key on the test set prevents operation of the TM timer in the sender.

STEP	ACTION	VERIFICATION
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All Tests

- 1 At CAMA test set—
Patch A, B, C jacks of CAMA test set to A, B, C jacks of CAMA test circuit.
- 2 Operate CT key.
- 3 At trouble ticketer and test frame—
Patch TST DR jack to DR T- jack associated with decoder under test.
- 4 Patch TST S jack to SDR T- jack of sender used for test.

4. METHOD

STEP	ACTION	VERIFICATION
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A. Called Number Registration Check

- 5 At decoder common equipment frame—
Block nonoperated VC, TKA, TSTA relays.
 - 6 At trouble ticketer and test frame—
Operate keys in accordance with Test Chart.
 - 7 At CAMA test set—
Operate START key.
- At CAMA test set—
BSY lamp lighted until sender is seized.

STEP	ACTION	VERIFICATION
8	When BSY lamp is extinguished— Key called number in accordance with Test Chart.	At trouble ticketer and test frame— Trouble ticket printed with information as shown in Table A. DL lamp lighted. At CAMA test set— BSY lamp flashes. RV lamp lighted. Digit 1 displayed.
9	Restore START key.	BSY, RV digit display lamps extinguished.
10	At trouble ticketer and test frame— Momentarily operate AR key.	At trouble ticketer and test frame— DL lamps extinguished.
11		
12	Repeat Steps 6 through 10 for tests A11	Same as Steps 6 through 10.
13	through A16 of the Test Chart, each time	Trouble tickets for other codes tested. (See
14	substituting the associated key information	Table A.)
15	in Steps 6 and 8.	
16		
17	At decoder common equipment frame— Remove blocking tools from VC, TKA, TSTA relays.	
18	Restore all keys.	
19	Remove all patching cords.	
B. Working Codes Check		
5	At trouble ticketer and test frame— Operate keys in accordance with Test Chart.	
6	At CAMA test set— Operate START key.	At CAMA test set— BSY lamp lighted until sender is seized.
7	When BSY lamp is extinguished— Key called number in accordance with Test Chart.	At trouble ticketer and test frame— Trouble ticket printed with information as shown in Table A.
8	Restore START key.	
→ 9	Repeat Steps 5 through 8 for other working called office codes to be tested, or for same code for each additional associated traffic screening class.	Trouble tickets for other office codes tested (See Table A).
→ 10	Repeat Steps 5 through 8 for working area codes to be tested, or for same code for each additional associated traffic screening class.	Trouble tickets for area codes tested. (See Table A.)
11	Restore all keys.	
12	Remove all patching cords.	

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STEP	ACTION	VERIFICATION
C. Vacant Codes Check		
5	At trouble ticketer and test frame— Operate keys in accordance with Test Chart.	
6	At CAMA test set— Operate START key.	At CAMA test set— BSY lamp lighted until sender is seized.
7a	Where codes are routed to announcement trunks or intercept operator— When BSY lamp is extinguished— Key called number in accordance with Test Chart.	At trouble ticketer and test frame— Trouble ticket printed with information shown in Table A.
8a	Restore START key.	
→ 9a	Repeat Steps 5 through 8a for other called office codes to be tested, or for same code for each additional traffic screening class.	Trouble tickets for other office codes tested (See Table A.)
→ 10a	Repeat Steps 5 through 8a for area codes to be tested, or for same code for each additional screening class.	Trouble tickets for area codes tested (See Table A.)
11b	Where codes are arranged for reorder treatment— When BSY lamp is extinguished— Key called number in accordance with Test Chart.	At CAMA test set— BSY lamp flashes. RV lamp lighted. Digit 1 displayed.
12b	Restore START key.	BSY, RV digit display lamps extinguished.
13b	Repeat Steps 5, 6, 11b, 12b for other called office codes to be tested.	Same as in Steps 6, 11b, 12b.
14b	Repeat Steps 5, 6, 11b, 12b for area codes to be tested.	Same as in Steps 6, 11b, 12b.
15	At trouble ticketer and test frame— Restore all keys.	
16	Remove all patching cords.	

D. Route Advance Check

First Seizure

5	At trouble ticketer and test frame— Operate keys in accordance with Test Chart.	
6	At CAMA test set— Operate START key.	At CAMA test set— BSY lamp lighted until sender is seized.

STEP	ACTION	VERIFICATION
7	When BSY lamp is extinguished— Key test code as indicated in Test Chart.	At trouble ticketer and test frame— Trouble ticket printed with information shown in Table A.
8	Restore START key.	
9a	Where alternate route having trunk group busy feature is arranged for routing to announcement trunk or intercept operator— At decoder common equipment frame— Insulate 9M of test code alternate route relay. <i>Caution: When insulating springs, use care not to dislodge movable springs from grooves of comb.</i>	
10a	At CAMA test set— Operate START key.	At CAMA test set— BSY lamp lighted until sender is seized.
11a	When BSY lamp is extinguished— Key test code as indicated in Test Chart.	At trouble ticketer and test frame— Trouble ticket printed with information shown in Table A.
12a	Restore START key.	
13a	At decoder common equipment frame— Remove insulator from 9M of test code alternate route relay.	
Second Seizure		
14	Reset keys in accordance with Test Chart.	
15	AT CAMA test set— Operate START key.	At CAMA test set— BSY lamp lighted until sender is seized.
16	Operate BSY key.	
17	Momentarily operate DC key.	
18	When BSY lamp is extinguished— Key called number in accordance with Test Chart.	RV lamp lighted.
19	At trouble ticketer and test frame— Operate DRR key.	
20	AT CAMA test set— Momentarily operate DC key.	Exit digit displayed. At trouble ticketer and test frame— If second exit digit is not required— Trouble ticket printed as shown in Table A.

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STEP	ACTION	VERIFICATION
21b	If second exit digit is required— Momentarily operate DC key.	Second exit digit displayed. At trouble ticketer and test frame— Trouble ticket printed as shown in Table A.
22	Restore START key.	At CAMA test set— RV, digit display lamps extinguished.
23	Restore BSY key.	
24	Reset keys in accordance with Test Chart.	
25	At CAMA test set— Operate START key.	At CAMA test set— BSY lamp lighted until sender is seized.

Irregular Dialed Codes

26c	Where codes are routed to announcement trunks or intercept operator— When BSY lamp is extinguished— Key called number in accordance with Test Chart.	At trouble ticketer and test frame— Trouble ticket printed as shown in Table A.
27c	Restore START key.	
28c	Restore all keys.	
29d	Where codes are arranged for reorder treatment— When BSY lamp is extinguished— Key called number in accordance with Test Chart.	At CAMA test set— BSY lamp flashes. RV lamp lighted. Digit 1 displayed.
30d	Restore START key.	BSY, RV, digit display lamps extinguished.
31d	At trouble ticketer and test frame— Restore all keys.	
32	Remove all patching cords.	

E. Superfluous Area Code Check

5	At trouble ticketer and test frame— Operate keys in accordance with Test Chart.	
6	At CAMA test set— Operate START key.	At CAMA test set— BSY lamp lighted until sender is seized.
7	When BSY lamp is extinguished— Key called number in accordance with Test Chart.	At sender used for test— SAC relay operated.
8	Restore START key.	

STEP	ACTION	VERIFICATION
9	Restore CT key.	
10	At trouble ticketer and test frame— Remove all patching cords.	
11	Restore all keys.	
F. Vacant Code Trap Check		
5	At trouble ticketer and test frame— Operate keys in accordance with Test Chart.	
6	At CAMA test set— Operate START key.	At CAMA test set— BSY lamp lighted until sender is seized.
7a	If non-ANI call is simulated— When BSY lamp is extinguished— Key called number in accordance with Test Chart.	RV lamp lighted. If vacant code routing to reorder provided— BSY lamp flashes. If vacant code routing to intercept or announcement provided— Arbitrary digits displayed. At trouble ticketer and test frame— Transverter trouble ticket printed as shown in Table B.
8b	If ANI call is simulated— When BSY lamp is extinguished— Key called number as shown in Test Chart.	RV lamp lighted.
9b	When RV lamp lights— Key calling number as shown in Test Chart.	If vacant code routing to reorder provided— BSY lamp flashes. If vacant code routing to intercept or announcement provided— Arbitrary digits displayed. At trouble ticketer and test frame— Transverter trouble ticket printed as shown in Table B.
10	Restore START key.	
11	Repeat Steps 3 (Preparation), 6 through 10 for other decoders to be tested. Restore all keys.	All lamps extinguished.
12	Remove all patching cords.	

5. PREPARATION OF TEST CHART

5.01 The Test Chart shown at the end of this section is a typical Test Chart intended as a guide in the preparation of particular number Test Charts required. It indicates the trouble tick-

eter and test frame and CAMA test set keys to be operated for each test. Information obtained from local office records should be used in preparing the required Test Charts as indicated and explained in the following Test Chart and notes.

TABLE B — TRANSVERTER TROUBLE TICKET

TRANSVERTER TROUBLE TICKET POSITION	VCT	TRUNK NO.		CALLED NUMBER										CALLING NUMBER				SEE NOTES			
	TST	6	7	AREA CODE			OFFICE CODE			TH	H	T	U	OFFICE CODE			TH		H	T	U
	4			13	14	15	16	17	18	19	20	21	22	30	31	32	33		34	35	36
Test F (10-Digit Call)	0	X	X	V	V	V	X	X	X	X	X	X	X	X	X	X	X	X	X	X	1, 2, 3
	0	X	X	X	0/1	X	V	V	V	V	X	X	X								1, 2, 3
Test F (7-Digit Call)	0	X	X				V	V	V	X	X	X	X	X	X	X	X	X	X	X	1, 2, 3
	0	X	X				V	V	V	X	X	X	X								1, 2, 3

Notes:

- VVV represents any called vacant or irregular code.
- X represents any acceptable digit.
- Calling number: printed out on ANI-calls.
not printed out on OI calls.