CALL IDENTITY INDEXER SD-25621-01

TESTS USING MASTER TEST FRAME

NO. 5 CROSSBAR OFFICES

ARRANGED FOR AMA MAGNETIC TAPE RECORDING

1. GENERAL

1.01 This issue does not affect Equipment Test Lists.

1.02 This section is reissued to remove all reference to XP1 designation for trouble recording, and AL relay and lamp at trunk control.

1.03 The tests covered are:

PAGE

A. *False Operation of TL_Relays:* This test checks the ability of the call identity indexer to cause the transverter to call in the trouble recorder when more than one TL_ relay is operated in the call identity indexer.   4

B. *False Cross on Trunk TC— Lead:* This test checks the ability of the call identity indexer to cause the transverter to call in the trouble recorder when a false cross is detected on the trunk TC_ leads.   4

C. *False Cross or Ground on DJ_ Leads in Different Tens Groups:* This test checks the ability of the call identity indexer to cause the transverter to call in the trouble recorder when a false cross or ground is detected on DJ_ leads in different tens groups of trunks.   6

D. *False Cross or Ground on DJ_ Leads in Same Tens Group:* This test checks the ability of the call identity indexer to cause the transverter to call in the trouble recorder when a false cross

or ground is detected on DJ_ leads in the same tens group of trunks. . . .   6

E. *False Cross in Tens and Units Relay Contact Chain:* This test checks the ability of the call identity indexer to cause the associated trunk control to call in the trouble recorder when a false cross is detected in the tens and units relay contact chain. . .   7

F. *Trunk Identifying Leads:* This test checks for transpositions in the trunk identifying leads to the associated trunk control.   8

G. *Preference Relays—Operating and Lockout Featues:* This test checks the order of preference and lockout features of the TA_, TB_, TL_, U_, UA_ relays.   9

H. *RP_ Lead Continuity Check:* This test checks for continuity of the RP_ leads between the call identity indexer and the associated trunk control. . .   11

I. *Trunk Control Timer Start Lead Check:* This test checks that the operation of the TA_, TB_ relays in the call identity indexer starts the overall timing feature in the associated trunk control.   11

1.04 All tests except F require action and verification at the call identity indexer frame. Tests E, G, H, and I also require action and verification at the associated trunk control frame.

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1.05 Tests G, H, and I require all trunks associated with the call identity indexer under test to be removed from service. These tests should be performed during periods of light traffic since removal from service of a call identity indexer could result in an insufficient number of AMA trunks available for regular service calls.

1.06 Before performing tests requiring trunks to be made busy, verify that all trunks have restored to normal to prevent interference with calls in progress requiring timing entries.

1.07 Tests A through F will score the REC PC plant register. Test E will also score the traffic register associated with the trunk control TPC lead. Reporting of these register operations should be in accordance with local instructions.

1.08 *Lettered Steps:* A letter a, b, c, etc, added to a step number in Parts 3 and 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 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.

1.10 The location statement, At MTF—, is used to refer to all apparatus located on the four basic bays of the MTF.

2. APPARATUS

Tests A Through F

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

2.02 Trunk test circuit, SD-25918-01.

Test A

2.03 Testing cord, 893 cord, 3 feet long, equipped with two 360A tools (1W13A cord) and two 509A or two 509B (relay winding connector) tools (for interconnecting winding terminals of multicontact-type relays).

Tests B through E

2.04 Testing cord, 893 cord, 3 feet long, equipped with two 360A tools (1W13A cord) and two 419A (test connector) tools (for interconnecting contact springs of nonwire-spring-type relays and multicontact-type relays).

Test G

2.05 Two testing cords, 893 cords, 3 feet long, each equipped with two 360A tools (1W13A cords), one KS-6278 connecting clip and one 419A (test connector) tool (for connecting ground to contact springs of nonwire-spring-type relays).

Tests B, D

2.06 32A test set.

Test I

2.07 67C test set or equivalent (for use in testing for presence of ground).

Tests G, H, I

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

All Tests Except F

2.09 322A (make-busy) plugs, as required.

3. PREPARATION

STEP	ACTION	VERIFICATION

Refer to 1.09 and 1.10.

Tests A Through F

1	At MTF— Restore all keys and switches.	
2	Momentarily operate RL key.	All lamps extinguished.
3	Select marker.	
4	Operate TTL, TLK keys.	
5	Select trunk in position 00 in call identity indexer under test.	
6	Operate GPA/GPB key, as required, when trunk selected is in an allotted subgroup.	
7	Select route advance, as required, for access to selected route.	
8	Select AMA class of service and rate treatment, as required, for access to selected route.	
9	Select A_, B_, C_ digits to direct call to trunk selected for test.	
10a	If outgoing trunk is selected for test— Select OGT class of test.	
11a	Select OR or FAC class of call and translator indication as required.	
12b	If intraoffice trunk is selected for test— Select IAO class of test.	
13b	Select ringing combination.	

Tests A through E

14	Operate NTFS, NTTS keys.	

STEP	ACTION	VERIFICATION

4. METHOD

A. False Operation of TL‾ Relays

Refer to 1.06.

STEP	ACTION	VERIFICATION
15	Remove from service all trunks in first and second tens group of call identity indexer under test.	
16	At call identity indexer under test— Interconnect T winding terminal of TL0, T winding terminal of TL1 relays.	
17	At MTF— Momentarily operate ST key.	AS, IE, T4, T7, U4, U7 lamps lighted. RN‾ lamp lighted corresponds to number of trunk control associated with call identity indexer under test. Trouble record taken. TV, XTKK, XTC, XTL designations perforated.
18	Momentarily operate RL key.	All lamps extinguished.
19	At call identity indexer under test— Remove test connection from TL‾ relays.	
20	At MTF— Restore all keys and switches not required in next test.	
21	Restore to service all trunks made busy for this test.	

B. False Cross on Trunk TC‾ Lead

Refer to 1.06.

STEP	ACTION	VERIFICATION
15	Remove from service all trunks in first tens group of call identity indexer under test.	
16c	If TL0 relay is a 263A type relay— At call identity indexer under test— Interconnect 20, 21 stationary contacts of TL0 relay.	
17d	If TL0 relay is a 287A type relay— At call identity indexer under test— Interconnect 20, 21 movable contacts of TL0 relay.	
18	At MTF— Momentarily operate ST key.	AS, IE lamps lighted. T‾, U‾ lamps lighted correspond to tens, units

STEP	ACTION	VERIFICATION
		digit of number assigned to selected trunk in call identity indexer.
		RN_ lamp lighted corresponds to number of trunk control associated with call identity indexer under test.
		Trouble record taken.
		XU, XTKK, XTC designations perforated.
19	Momentarily operate RL key.	All lamps extinguished.
20	Change trunk selection to select trunk in position 01 in call identity indexer under test.	
21	Repeat Steps 6 through 14, as required, 18, 19.	
22	Change trunk selection to select trunk in position 00 in call identity indexer.	
23	Repeat Steps 6 through 14, as required.	

Note: Remaining tests should be performed at the call identity indexer frame using the 32A test set.

STEP	ACTION	VERIFICATION
24a	If TL0 relay is a 263A type relay— At call identity indexer under test— Remove test connection from 21 of TL0 relay and connect in turn to stationary contacts 22, 23, 24, 30, 31, 32, 33, 34 of TL0 relay, repeating Steps 18 and 19 for each contact connected.	
25b	If TL0 relay is a 287A type relay— At call identity indexer under test— Remove test connection from 21 of TL0 relay and connect in turn to movable contacts 22, 23, 24, 30, 31, 32, 33, 34 of TL0 relay, repeating Steps 18 and 19 for each contact connected.	
26	Remove test connection from TL0 relay.	
27	At MTF— Restore all keys and switches not required in next test.	
28	Restore to service all trunks made busy for this test.	

STEP	ACTION	VERIFICATION

C. False Cross or Ground on DJ_ Leads in Different Tens Groups

Refer to 1.06.

STEP	ACTION	VERIFICATION
15	Remove from service all trunks in first and second tens group for call identity indexer under test.	
16	At call identity indexer under test—Interconnect 8B of TB0, 8B of TB1 relays.	
17	At MTF—Momentarily operate ST key.	AS, IE, T0, T1, U4, U7 lamps lighted. RN_ lamp lighted corresponds to number of trunk control associated with call identity indexer under test. Trouble record taken. XU designation perforated.
18	Momentarily operate RL key.	All lamps extinguished.
19	At call identity indexer under test—Remove test connection from TB0, TB1 relays.	
20	At MTF—Restore all keys and switches not required in next test.	
21	Restore to service all trunks made busy for this test.	

D. False Cross or Ground on DJ_ Leads in Same Tens Group

Refer to 1.06.

STEP	ACTION	VERIFICATION
15	Remove from service all trunks in first tens group of call identity indexer under test.	
16	At call identity indexer under test—Interconnect 8B (DJ0 lead), 5B (DJ1 lead) of TB0 relay.	
17	At MTF—Momentarily operate ST key.	AS, IE, T4, T7 lamps lighted. U_ lamps lighted correspond to highest numbered crossed DJ_ lead. RN_ lamp lighted corresponds to number of trunk control associated with call identity indexer under test. Trouble record taken. XU designation perforated.

STEP	ACTION	VERIFICATION
18	Momentarily operate RL key.	All lamps extinguished.

Note: Remaining tests should be performed at the call identity indexer frame using the 32A test set.

19	At call indentity indexer under test— Remove test connection from 5B of TB0 relay and connect in turn to the relay contacts below, repeating Steps 17 and 18 for each contact connected. TB0, 2B (DJ2) TA0, 5B (DJ6) TB0, 2T (DJ3) TA0, 2B (DJ7) TB0, 7T (DJ4) TA0, 2T (DJ8) TB0,8B (DJ5) TA0, 7T (DJ9)	
20	Remove test connection from TA0 relay.	
21	At MTF— Restore all keys and switches not required in next test.	
22	Restore to service all trunks made busy for this test.	

E. False Cross in Tens and Units Relay Contact Chain

Refer to 1.06.

Tens Relay

15	Remove from service all trunks in first tens group of call identity indexer under test.	
16	At call identity indexer under test— Interconnect 1B, 2B, of T0 rely.	
17	At MTF— Momentarily operate ST key.	AS, IE, T4, T7, U4, U7 lamps lighted. RN_ lamp lighted corresponds to trunk control number associated with call identity indexer under test.
18	Operate ANS key.	OGT_CS lamp lighted. In 2 to 5 seconds— AE lamp lighted. Trouble record taken. XT1 designation perforated. Major alarm sounds.
19	At MTF— Momentarily operate RL key.	All lamps extinguished.

STEP	ACTION	VERIFICATION
20	At associated trunk control— Momentarily operate AR key.	Major alarm silenced.
21	At call indentity indexer under test— Remove test connection from T0 relay.	
22	Interconnect 1T, 2T of T0 relay.	
23	Repeat Steps 17 through 21.	

Units Relay

STEP	ACTION	VERIFICATION
24	Interconnect 2B, 3B of U0 relay.	
25	Repeat Steps 17 though 20.	
26	Remove test connection from U0 relay.	
27	Interconnect 1T, 3T of U0 relay.	
28	Repeat Steps 17 through 20, 26.	
29	At MTF— Restore all keys and switches not required in next test.	
30	Restore to service all trunks made busy for this test.	

F. Trunk Identifying Leads

STEP	ACTION	VERIFICATION
14	Operate FS, TS keys.	
15	Momentarily operate ST key.	AS, IE lamps lighted. T_, U_ lamps lighted correspond to tens, units digit of number assigned to selected trunk in call identity indexer. RN_ lamp lighted corresponds to trunk control number associated with call identity indexer under test.
16	Momentarily operate RL key.	All lamps extinguished.
17	Change trunk selection to select trunk in next higher tens group in call identity indexer under test.	
18	Repeat Steps 6 through 13b, 14 through 16.	
19	Repeat Steps 17 and 18 for each remaining tens group in call identity indexer under test.	

STEP	ACTION	VERIFICATION
20	Change trunk selection to select trunk in units position 0 in any tens group in call identity indexer under test.	
21	Repeat Steps 6 through 13b, 14 through 16.	
22	Change trunk selection to select, in turn, trunks assigned to units position 1 through 9 in any tens group, repeating Steps 6 through 13b, 14 through 16 for each trunk selected.	
23	Restore all keys and switches not required in next test.	

G. Preference Relays—Operating and Lockout Features

Refer to 1.05, 1.06.

1	Remove from service all trunks associated with call identity indexer under test.	

TA_, TB_, TL_ Relays

STEP	ACTION	VERIFICATION
2	At call identity indexer under test— Insulate 4B, 5B of T0 relay.	At associated trunk control— TL relay released.
3	Block nonoperated TM relay.	
4	At call identity indexer under test— Insulate 6B of T0 through T9 relays.	
5	Connect ground to 6B of T0 relay.	T0, TA0, TB0, TL0 relays operated.
6	Connect ground to 6B of T1 relay.	T1, TA1, TB1, TL1 relays operated. TA0, TB0, TL0 relays released.
7	Remove ground from 6B of T0 relay.	T0 relay released.
8	Connect ground to 6B of next higher numbered T_ relay.	Next higher numbered T_, TA_, TB_, TL_ relays operated. Next lowered numbered TA_, TB_, TL_ relays released.
9	Remove ground from 6B of next lower numbered T_ relay.	Next lower numbered T_ relay released.
10	Repeat Steps 8, 9 for remaining higher numbered T_ relays.	
11	Remove ground from 6B of highest numbered T_ relay.	Highest numbered T_, TA_, TB_, TL_ relays released.

STEP	ACTION	VERIFICATION
12	Remove insulators from 6B of T0 through T9 relays.	
13	Remove insulator from 4B, 5B of T0 relay.	At associated trunk control— TL relay operated.
14	Remove blocking tool from TM relay.	

U_, UA_ relays

STEP	ACTION	VERIFICATION
15	At associated trunk control— Block nonoperated IP, TM relays.	
16	At call identity indexer under test— Connect ground to 7B of TB0 relay.	U0, UA0 relays operated.
17	Connect ground to 4B of TB0 relay.	U1, UA1 relays **not** operated.
18	Remove ground from 7B of TB0 relay.	U1, UA1 relays operated. U0, UA0 relays released.
19	Connect ground to 1B of TB0 relay.	U2, UA2 relays **not** operated.
20	Remove ground from 4B of TB0 relay.	U2, UA2 relays operated. U1, UA1 relays released.
21	Connect ground to 1T of TB0 relay.	U3, UA3 relays **not** operated.
22	Remove ground from 1B of TB0 relay.	U3, UA3 relays operated. U2, UA2 relays released.
23	Connect ground to 6T of TB0 relay.	U4, UA4 relays **not** operated.
24	Remove ground from 1T of TB0 relay.	U4, UA4 relays operated. U3, UA3 relays released.
25	Connect ground to 7B of TA0 relay.	U5, UA5 relays **not** operated.
26	Remove ground from 1T of TB0 relay.	U5, UA5 relays operated. U4, UA4 relays released.
27	Connect ground to 4B of TA0 relay.	U6, UA6 relays **not** operated.
28	Remove ground from 7B of TA0 relay.	U6, UA6 relays operated. U5, UA5 relays released.
29	Connect ground to 1B of TA0 relay.	U7, UA7 relays **not** operated.
30	Remove ground from 4B of TA0 relay.	U7, UA7 relays operated. U6, UA6 relays released.
31	Connect ground to 1T of TA0 relay.	U8, UA8 relays **not** operated.

STEP	ACTION	VERIFICATION
32	Remove ground from 4B of TA0 relay.	U8, UA8 relays operated. U7, UA7 relays released.
33	Connect ground to 6T of TA0 relays.	U9, UA9 relays *not* operated.
34	Remove ground from 4B of TA0 relay.	U9, UA9 relays operated. U8, UA8 relays released.
35	Remove ground from 6T of TA0 relay.	U9, UA9 relays released.
36	At associated trunk control— Remove blocking tools from IP, TM relays.	
37	Restore to service all trunks made busy for this test.	

H. RP_ Lead Continuity Check

Refer to 1.05, 1.06.

STEP	ACTION	VERIFICATION
1	Remove from service all trunks associated with call identity indexer under test.	
2	At call identity indexer under test— Block nonoperated TA0, TB0, TL0 relays.	
3	Block operated T0 relay.	At associated trunk control— TL relay released.
4	Block operated TL relay.	RIP1 relay operated.
5	Remove blocking tool from TL relay.	RIP1 relay released.
6	At call identity indexer under test— Remove blocking tools, in the following order, from T0, TA0, TB0, TL0 relays.	
7	Repeat Steps 2 through 6 substituting T1, TA1, TB1, TL1 through T9, TA9, TB9, TL9 relays for T0, TA0, TB0, TL0 relays.	
8	Restore to service all trunks made busy for this test.	

I. Trunk Control Timer Start Lead Check

Refer to 1.05, 1.06.

STEP	ACTION	VERIFICATION
1	Remove from service all trunks associated with call identity indexer under test.	

STEP	ACTION	VERIFICATION
2	At associated trunk control— Block nonoperated TBL relay.	
3	At call identity indexer under test— Block operated TA0 relay.	In 3.0 to 4.5 seconds— Major alarm sounds. At associated trunk control— TM1 relay operated.
4	At call identity indexer under test— Remove blocking tool from TA0 relay.	At associated trunk control— TM1 relay released.
5	Momentarily operate AR key.	Major alarm silenced.
6	Block nonoperated TM relay.	
7	At call identity indexer under test— Block operated TB0 relay.	
8	Test for ground at terminal strip FA, terminal 11.	Ground present.
9	Remove blocking tool from TB0 relay.	
10	Repeat Steps 7 through 9 substituting TA1, TB1 through TA9, TB9 relays for TB0 relay.	
11	At associated trunk control— Remove blocking tools from TM, TBL relays.	
12	Restore to service all trunks made busy for this test.	