LINE LINK PULSING CIRCUITS SD-27729-01 AND SD-27730-01 TESTS USING OFFICE TEST FRAME TEST CIRCUIT SD-27633-01 (J23260) NO. 5 CROSSBAR OFFICES

1. GENERAL

1.01 This section describes a method of testing line link pulsing line circuits SD-27729-01 (reverse battery supervision) and SD-27730-01 (E and M lead supervision) in No. 5 crossbar offices arranged for access to Automatic Intercept System (AIS). These circuits are used with a multifrequency sender for connecting intercept traffic to an automatic intercept center (AIC).

1.02 The reasons for reissuing this section are listed below. Revision arrows are used to emphasize the more significant changes. Equipment Test Lists are affected.

(a) To add Test G.

(b) To add paragraph 1.05.

(c) To make minor revisions as required.

1.03 The tests covered are:

1.04 *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, the steps designated by that letter should be omitted.

1.05 ▶When ALT is furnished a termination is provided to allow distinction between a faulty line condition and a line which has been routed to intercept. The termination consists of three 35.2K ohm resistors, LT1, LT2, and LT3, which are connected between the tip and ring leads, the tip lead and ground, and the ring lead and ground, respectively. The resistors are under

control of the F relay which removes the resistors so that the marker is able to make successful false cross and ground test.

APPARATUS

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

2.02 Patching cord, P3E cord, 6 feet long, equipped with two 310 plugs (3P7A cord) (for patching ITT jack to T jack, T_ jacks to T_ jacks, and BL jack to SP jack).

2.03 Testing cord, W3M cord, 6 feet long, equipped with 310 plug, 360A tool, 360B tool, 360C tool (3W4A cord), and one KS-6278 connecting clip (for connecting sleeve of SP jack to trunk terminal).

2.04 Blocking tools as required. Use tools and apply as covered in Section 069-020-801.

2.05 67C test set or equivalent, equipped with one KS-6278 connecting clip (for checking presence or absence of battery or ground).

3. PREPARATION

STEP	ACTION	VERIFICATION
Tests A Through D, F		
1	At OTF— Restore all keys and switches.	All lamps extinguished.
2	At TIC— Momentarily operate RLS key.	All lamps extinguished.
3	Have incoming trunk to be used in test made busy at distant office.	
4a	If selected incoming trunk is arranged for reverse battery supervision— At incoming trunk relay rack frame— When A relay is released—	

TABLE A

APPARATUS	TESTS						
	A	B	C	D	E	F	G
Office Test Frame Test Circuit J23260 (SD-27633-01)	1	1	1	1		1	1
Cord (2.02)	✓	✓	✓	✓		✓	
Cord (2.03)	✓	✓	✓	✓		✓	
Tools (2.04)					✓		
67C Test Set (2.05)					1		
322A (make-busy) Plug			1	1			

✓ As required.

STEP	ACTION	VERIFICATION
	Patch T jack of incoming trunk to ITT jack on relay rack frame.	
5a	At OTF— Operate ITT, ITT1 keys.	
6b	If selected incoming trunk is arranged for E and M lead supervision— At incoming trunk relay rack frame— When A relay is released— Patch T1, T2 jacks of incoming trunk to T1, T2 jacks on relay rack frame.	
7b	At OTF— Operate ITT, ITT2 keys.	
8	Operate MF or DP key as required.	
9c	If MF pulsing used— Set MF switch to MIN L.	
10d	If trunk used in test is arranged for bylink operation— Operate BL key.	
11d	Patch BL jack to SP jack.	
12d	At relay rack frame— Patch sleeve of SP jack to terminal 42 of terminal strip of trunk under test.	
13e	If trunk used in test is arranged for short loop operation— Operate SLP key.	
14f	If trunk used in test is arranged for ground shunt option— Operate GS key.	
15g	If trunk used in test has battery on ring of T jack in idle condition— Operate ONHK key.	
16	Operate MCB, MKR_ keys to select completing marker.	
17	Operate A_ through H_ SDR switches corresponding to digits to be outpulsed by sender.	
18h	If trunk under test is SD-27730-01— Operate E-M key.	

STEP	ACTION	VERIFICATION
19	Operate 8SD key.	
20	Operate MFS key.	
21	Set L-L switch to 0.	
22	Set PS switch to 11 pps, 56 percent break.	
23	Operate LLP, AIS keys.	
24	Set TBT, TBU switches as required to select tens block within line circuit group for access to line circuit under test.	
25	Operate PBX2, S_ keys as required to select line circuit under test.	
26	Set LLS switch to select line link frame.	

Tests A Through D

27	Set A_ through G_ DIAL switches as required for incoming class assigned to incoming trunk used in test. ***Note:*** Directory number used for test must be an intercepted number.	
28	Operate -D key to agree with number of digits to be dialed.	

4. METHOD

STEP	ACTION	VERIFICATION
A. Seizure and Release		
29	Operate ST key.	TOK, LLP lamps lighted. OFHK lamp momentarily lighted. If SD-27730-01 is under test— EM lamp lighted. If SD-27729-01 is under test— LP lamp lighted. High Tone (1700-Hz) heard.
30	Restore ST key.	All lamps extinguished.
31	Restore all keys and switches not required in next test.	

STEP	ACTION	VERIFICATION
32i	If no further tests are to be performed— At incoming trunk relay rack frame— Remove patching cord(s).	
33j	If no further tests are to be performed and incoming trunk is bylink— At OTF— Remove patching cord from SP, BL jacks.	
34i	If no further test are to be performed— Have trunk used in test restored to service at distant office.	
B. Reorder		
29	Operate OF key.	
30	Operate ST key.	OFHK lamp momentarily lighted. LLP lamp lighted. At completion of dialing— 120-ipm tone heard. If SD-27730-01 is under test— EM lamp ***not*** lighted.
31	Restore ST key.	120-ipm tone silenced. All lamps extinguished.
32	Restore all keys and switches not required in next test.	
33i	If no further tests are to be performed— At incoming trunk relay rack frame— Remove patching cord(s).	
34j	If no further tests are to be performed and incoming trunk is bylink— At OTF— Remove patching cord from SP, BL jacks.	
35i	If no further tests are to be performed— Have trunk used in test restored to service at distant office.	
C. Make-Busy		
29	Insert make-busy plug into MB jack associated with circuit under test.	MB lamp associated with circuit under test lighted.
30	Operate NTLS key.	
31	Operate ST key.	OFHK lamp momentarily lighted. LLP lamp lighted.

STEP	ACTION	VERIFICATION
		If SD-27730-01 is under test— EM lamp lighted. If SD-27729-01 is under test— LP lamp lighted. Hightone (1700-Hz) heard.
32	Restore ST, NTLS keys.	All lamps extinguished. Hightone (1700-Hz) silenced.
33	Operate ST key.	OFHK lamp momentarily lighted. LLP lamp lighted. 120-ipm high tone heard. If SD-27730-01 is under test— EM lamp ***not*** lighted. If SD-27729-01 is under test— LP lamp ***not*** lighted.
34	Remove make-busy plug associated with circuit under test.	MB lamp associated with circuit under test extinguished.
35	Restore ST key.	All lamps extinguished. 120-ipm high tone silenced.
36	Restore all keys and switches not required in next test.	
37i	If no further tests are to be performed— At incoming trunk relay rack frame— Remove patching cord(s).	
38j	If no further tests are to be performed and incoming trunk is bylink— Remove patching cord from SP, BL jacks.	
39i	If no further tests are to be performed— Have trunk used in test restored to service at distant office.	
D. Remote Make-Busy (MB Diode)		
29	Insert make-busy plug into MB jack of line to be tested.	
30	Operate NTLS key.	
31	Operate ST key.	TOK lamp lighted.
32	Operate RTL key.	
33	Operate LTH key.	LTH lamp lighted.
34	Restore ST key.	

STEP	ACTION	VERIFICATION
35	Restore RTL key.	AIS LMB lamp lighted.
36	Operate RVT key.	AIS LMB lamp extinguished.
37	Restore RVT key.	AIS LMB lamp lighted.
38	Remove make-busy plug from MB jack of line under test.	
39	Restore NTLS key.	
40	Operate ST key.	Reorder tone heard.
41	Restore all keys and switches not required for next test.	All lamps extinguished.
E. Circuit-Busy Indication to Number Group		
1	At relay rack frame— When circuit is idle— Test for battery on terminal 45 of terminal strip A.	Battery present.
2	Block operated B relay.	Ground present on terminal 45 of terminal strip A.
3	Block operated SL relay.	
4	Remove blocking tool from B relay.	Ground present on terminal 45 of terminal strip A.
5	Block operated D relay.	
6	Remove blocking tool from SL relay.	Ground present on terminal 45 of terminal strip A.
7	Remove blocking tool from D relay.	
F. AIC Call		
27	Operate DOT, DL4 keys.	
28	Set A_ through G_ DIAL switches as required for access to 102 test line at AIC. ***Note:*** The hundreds, tens, and units digits must correspond to 102.	
29i	If dedicated intercept number ***not*** provided— Operate AIRI key.	
30	Operate 7D key.	

STEP	ACTION	VERIFICATION
31	Operate ST key.	OFHK lamp momentarily lighted. 1000-Hz tone heard.
32	Restore ST key.	All lamps extinguished. 1000-Hz tone silenced.
33	Restore all keys and switches.	
34i	If no further tests are to be performed— At incoming trunk relay rack frame— Remove patching cord(s).	
35k	If no further tests are to be performed and incoming trunk is bylink— At OTF— Remove patching cord from SP, BL jacks.	
36j	If no further tests are to be performed— Have trunk used in test restored to service at distant office.	

G. ▶Automated Loop Testing

Note: This test should be done during light traffic to prevent interference with service calls.

1	Select line number associated with intercept line circuit.	
2	Operate LT, SCO keys.	If dial pulsing is provided— Low tone heard If MF pulsing is provided— KP lamp lighted.
3	Dial or key C digit, of office code if required and numericals of line being tested.	If dial pulsing is provided— Low tone silenced If MF pulsing is provided— KP lamp extinguished.
4	Restore LT, SCO keys.	
5	At voltmeter test circuit— Operate VMT1 key.	
6	Operate and restore T1REV key several times.	On 120V scale voltmeter indicates a constant deflection between 80 and 82.
7	Operate 20000, G keys.	On 24V scale voltmeter indicates a reading between 10 and 12.

STEP	ACTION	VERIFICATION
8	Operate T1REV key.	On 24V scale voltmeter indicates a reading between 10 and 12.
9	Restore T1REV, 20000, G, VMT1 keys.	
10b	If no further tests are to be made— At MTF— Restore all keys and switches.◀	