SUPPLEMENTARY TEST INSTRUCTION

ORIGINATING SUBSCRIBER SENDER

CONTENTS

1. GENERAL INFORMATION

1.1 This section describes a method of verifying the operation of the Dial Tone First Feature (Apparatus Figures 21 and 22 and ZH wiring) of the Originating Subscriber Sender, SD-27810-01.

1.2 When performing the tests of this section, that relay operation listed in the results column of Paragraph 3 is of primary importance. However, any additional relay operation, which appears to be false, should be investigated.

1.3 After performing the tests of Paragraph 3, and before returning the sender to service, operational tests of existing features are required. See Paragraph 4.

2. TEST EQUIPMENT

2.1 Cords and Accessories

AMT	CODE	DESCRIPTION	WITH
1	R-9572	Test Receiver	ITE-4023
As Req.	KS-16887-L1	Tool, Blocking (Wedge)	"
As Req.	ITE-9404 or Equivalent	Cord, 1 Conductor	"
1	ITE-4442	Volt-Ohmmeter	

3. SUPPLEMENTARY TESTS

3.1 Verify that the sender is made busy at the Sender Make Busy Frame. Block relay MB operated.

3.2 Verify that Fuse "F" for Apparatus Figures 21 and 22 is installed.

3.3 Test Operations

Block Relay (O) Operated (N) Normal	ACTION	RESULTS
1 MB (O) DT, DT1, DTA and IT (N)	Verify all other relays normal.	
2	Verify that the service cross-connections furnished by the Operating Company have been installed. (See SD-27810-01, Note 403).	
3 ON1 (O)	Manually operate and release relay(s) CS- for classes of service other than Dial Tone First.	Relay CN does not operate.
4	Manually operate and release relay(s) CS- for each Dial Tone First Class of service.	Relays CN and ECT operate when CS- relays are operated.
5	Manually operate relay(s) for a Dial Tone First Class of service.	Relays CN and ECT lock operated.
6 SR, DRL (O)	Manually operate relay RGCB.	Relay RGCB locks operated. Relay SCT operates and locks. Relay ECT releases.
7 ECT, CA1 (O)	Manually operate and release, one at a time, relay EDT, TBL, PD and SG5.	Relay SCT releases and reoperates when each relay is operated and released respectively.

Block Relay (0) Operated (N) Normal	ACTION	RESULT
8	Remove blocking tools from relays ON1, SR. DRL, ECT and CA1. Restore all electrically operated relays to normal.	
9 CN (0)		Relay ECT operates.
10	Manually operate relay SCT.	Relay SCT locks operated, relay ECT releases.
11	Manually operate and release relay CA1.	Relay SCT releases, relay ECT reoperates.
12	Manually operate relay SCT.	Relay SCT locks-operated, relay ECT releases.
13	Manually operate relay CA.	Relay SCT releases, relay CA locks operated.
14	Manually operate and release relays DST and CA1.	Relay CA releases, relay ECT operates.
15	Manually operate relay SCT.	Relay SCT locks operated, relay ECT releases.
16	Manually operate relay CP.	Relay SCT releases. relay CP locks operated.
17	Remove blocking tools from relay CN.	Relay CP releases.
18 ON2, SCT (0)		Relay CA operates.
19	Manually operate and release relay ECT.	Relay CA releases and reoperates.
20 AV4 (0)		Relay CP operates.
21	Remove blocking tools from ON2, SCT and AV4. Verify all relays are normal.	
22 AV4, CN and ON1 (0)	Manually operate relays RGC and CA1.	Relay SCT operates.
23	Manually operate relay CP.	Relays CA1 and SCT release.
24	Remove blocking tools from relays AV4, CN and ON1. Restore any electrically operated relays to normal.	
25 SCT (0)		Verify absence of ground on contact 5, relay ON2.
26 ON1 (0)		Verify ground present on contact 5, relay ON2.
27	Manually operate relay AV1.	Relay RGC operates. Ground absent on contact 5, relay ON2.
28	Remove blocking tools from relays SCT and ON1. Restore any electrically operated relays to normal.	
29	Verify absence of ground on contacts; 3M, relay SB; 8F, relay AV1; 2, relay TP; 12F, relay ON1; and 4B, relay CN.	
30 CN (0)		Ground present on contact 3M, relay SB. Ground absent on contact 4B, relay CN.
31	Manually operate, one at a time, relays SG5 and CP.	Ground absent on contact 3M, relay SB. when relays are operated.
32 CA1		Ground absent on contact 3M, relay SB. Ground present on contacts 8F, relay AV1 and 4B, relay CN.
33 AV1 (0)		Ground present on contact 2, relay TP and contact 12F, relay ON1.
34	Remove blocking tools from relays AV1, CA1 and CN. Restore any electrically operated relays to normal.	
35 DRL, DST (0)	Momentarily apply ground through a test receiver to terminal strip SB pch. 03.	Relay SG5 operates and locks.
36	Remove blocking tools from relays DRL and DST.	Relay SGS releases.

Block Relay (0) Operated (N) Normal	ACTION	RESULT
37	Verify absence of ground on T.S. SA pchs. 31, 32, and 33.	
38	Manually operate relay CA1.	Ground present on T.S. SA pchs. 31, 32, and 33.
39	Insulate contacts 1, 2, and 3M relay CA1. Connect ground to T.S. SA pch. 00.	Ground present on T.S. SA pchs. 31, 32, and 33.
40	Manually operate relay CA1.	Ground absent on T.S. SA pchs. 31, 32, and 33.
41 ON1 (0), CA1 (N)		Relay DTR operates. Verify ground present on contact 2M, relay TBL.
42 CA (0)		Relay ROR operates.
43	Remove blocking tool from relay CA1.	Relay CA1 operates. Relays DTR and ROR release. Ground absent on contact 2M, relay TBL.
44	Remove blocking tools from relays CA and ON1.	All relays normal.
45 ROR (0)		Relay RER operates.
46	Manually operate relay CA.	Relay CA1 operates. Relay RER releases.
47	Remove blocking tool from relay ROR.	All relays normal.
48 ON1, RGC (0)		Verify ground present on contacts 2F, relay DTA and 5M, relay ON3.
49	Manually operate relay AV4.	Ground absent on contacts 2F, relay DTA and 5M, relay ON3.
50	Remove blocking tool from relay RGC.	All relays normal except relays ON1 & RGC operated.
51 SR. ON3 (0)	Connect R-9572 Test Receiver to battery.	Verify presence of tone on T.S. (LK TST), Terminals 50 and 60.
52	Manually operate, one at a time, relays SCT and AV4.	Verify absence of tone on T.S. (LK TST), Terminals 50 and 60, in each case.
53	Using 60V scale of an ITE-4442 Volt-Ohmmeter, place the minus lead on Winding L of relay P1 and the positive lead on Terminal 2 of relay GT.	
54	Operate relay CN.	Verify that the voltage reading is 40±1.
55	Remove all blocking tools. Remove ITE-4442 Volt-Ohmmeter. Release all electrically operated relays.	Verify all relays are normal and all test equipment has been removed.
56 CN (N)*		

* Relay CN must be blocked normal until Dial Tone First Feature is placed in service.

4. OPERATIONAL TESTS

4.1 Prior to returning the sender to service, tests per Handbook 61, Section 162.1 should be performed using the Originating Sender Test Frame, SD-25221-01, as follows:

a. Routine 2720 A, Paragraphs 3.201, 3.203, 3.205, and 3.206, and

b. Routine 2720 B, Paragraphs 3.31 and 3.32.

Manager, Crossbar Product Engineering
Control Center