

OUTPULSER

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1. GENERAL INFORMATION

- 1.1 This section describes the tests to be made on the Output Pulser Circuit per SD-95811-01 and the Miscellaneous Circuit for the Output Pulser Frame per SD-95820-01.
- 1.2 Tests of the Output Pulser using the Output Pulser - Identifier Test Frame (SD-95815-01) should not be started until the Output Pulser - Identifier Test Frame has been tested per Section 120.
- 1.3 Timing tests of the Output Pulser are performed per Section 127 of this handbook.

2. RECORDS AND REQUIREMENTS

2.1 Records

- 2.21 Forms SD-97-1313 and SD-97-1315 are required for recording the results of these tests.

2.2 Requirements

- 2.21 Tests of this section agree with performance requirements contained in BSP's 814-200-181, 814-020-181 and 816-200-180.

3. TEST EQUIPMENT

3.1 Test Sets

<u>Amt</u>	<u>Code</u>	<u>Description</u>
T,1	J94723	Pulsing Checking Test Set
	or	
R,1	ITE-4029	Pulse Checking Test Set
1	ITE-4442A	Volt-Ohmmeter
	or	
1	ITE-5356	Digital Volt-Ohmmeter

T - Telephone company maintenance equipment.
 R - Requisition only if J94723 is not available.

3.2 Cords

<u>Amt</u>	<u>Code</u>	<u>Lgth</u>	<u>Cdrs</u>	<u>One End</u>	<u>Other End</u>	<u>With ITE</u>
T	9598	12'	2	310 Plug	310 Plug	*
1	9639	12'	3	310 Plug	3-ITE-2455 Plugs	*
1	9650	Operator's Telephone Set (Panel and #1 Only)				*
1	2850R	Talking Set (SXS Only)				*
1	R-9572	Test Receiver				

*Step or Crossbar Test Accessory Set.

TABLE 1

Resistance	Value		Connections	
	Max	Min	X1	X2
SPL	2347	2300	1U SPL Re1.	GRD
*IY1-IY4	7947	7790	8M RP1 Re1.	11M IYT Re1.
*IY3-IY5	8535	8365	6M TP Re1.	11M IYT
* IY2	2636	2584	4F RP1 Re1.	10M IYT Re1.
* V1	128.3	126	L BAT.	11M PIK Re1.
* V2	386.8	397.2	A BAT.	10M PIK Re1.
*PTA-PTB	6252	6128	L BAT.	2M PIK Re1.

* Required Only for Party Test Feature (App. Fig. 9)

4. RESISTANCE MEASUREMENTS

4.1 Using a Volt-Ohmmeter, verify that the resistances are within the required values as specified in Table 1.

5. PULSING TESTS

5.1 Preparation

5.11 Connect 48 volt battery and ground to the A or BAT-G jack of Pulse Checking Set using cord ITE-9598. Insert the 310 plug of an ITE-9639 cord into the P jack of the test set.

5.12 Connect the tip of the ITE-9639 cord to contact 7 fixed relay PG1. Connect the ring of this cord to contact 6 fixed relay SP. Block TAL and STM1 nonoperated.

5.13 Block operated relay SP. Block relay ON operated to start pulsing.

5.2 Calibration

5.21 Set meter of test set to read 0 per cent break by adjusting CAL knob. When ITE-4029 is used, key C must be operated (during this adjustment only).

5.3 Checking Per Cent Break

5.31 Operate P or PCB key and read per cent break. Release operated key.

5.4 Checking Pulse Speed

5.41 Check that meter reads 0 per cent break as above. Readjust if necessary.

5.4 Checking Pulse Speed

5.41 Check that meter reads 0 per cent break as above. Readjust if necessary.

5.42 With ITE-4029

5.421 Operate S key and read meter. Operate R key and note difference in meter reading. Adjust ADJ knob while R key is alternately operated and released until difference becomes as small as possible.

5.422 Release R and S keys and read pulse speed on meter.

5.43 With J94723

5.431 Operate key PPS and read pulse speed on scale 20-0 or 40-0 depending on setting of SCALE key.

5.44 Referring to the graph on SD-95811-01-FS, verify that the points of intersection of the "percent break" and "pulses per second" lines fall within the triangle of the graph.

5.45 Strap or insert PG7 or PG8 resistors for changing "percent break". Strap or insert PG5 or PG6 resistors for changing "pulses per second".

5.46 After satisfactory adjustment of the PG relay for Digit Pulsing, insulate 8M KP Relay. Block EP normal and operate relay KP.

5.47 Verify that the points of intersection of the "pulses per second" and the "percent break" lines fall below the diagonal line of the KP pulsing signal chart shown on SD-95811-01-F5.

5.48 If the point does not fall below the diagonal line remove strap or straps as required from the PG4 resistor.

5.49 At completion of test, remove blocks and insulators from relays.

6. OFFICE AND LINE NUMBER CHECK

6.1 Block normal relays STM1, STM2 and TAL.

6.2 Operate the following relays and observe that the proper check relays operate as indicated in Table 2.

TABLE 2

Operate Relays	Relays Operate
TH0, TH1	THK
TH0, TH2	"
TH1, TH4	"
TH2, TH7	"
TH4, TH7	"
H0, H1	HK
H0, H1	"
H1, H4	"
H2, H7	"
H4, H7	"
T0, T1	TK
T0, T2	"
T1, T4	"
T2, T7	"
T4, T7	"
U0, U1	UK
U0, U2	"
U1, U4	"
U2, U7	"
U4, U7	"

6.3 Operate, one at a time, each OF-relay. Observe that as each OF-relay is operated, that relay OFK operates.

6.4 Operate the following combinations of OF- relays and observe that relays and observe that relay AL operates with each pair of OF- relays.

Operate Relays	Relays Operate
OF0, OF1	AL
OF1, OF2 (OPTION)	"
OF2, OF3 "	"
OF3, OF4 "	"
OF4, OF5 "	"

6.5 Operate the combinations of TH-, H-, T- and U- relays as shown in Table 3. Observe that the check relay (THK, HK, TK, UK) does not operate when over-registration occurs. Observe that relay AL operates when the U-relays are operated.

6.6 Release relays STM1, STM2 and TAL.

TABLE 3

Operate Relays	Relays Operate
U0, U1, U2	AL
U1, U2, U4	"
U2, U4, U7	"

7. DOWN CHECK AND TRUNK INFORMATION CONTROL

- 7.1 Block normal relays TAL and STM1.
- 7.2 Block operated relay ON1. Observe that relay DW operates.
- 7.3 Insulate Contact 8 of relay DW.
- 7.4 Operate and release, one at a time, the following relays and observe that relay DW releases as each relay is operated: AL, S0, PTY, OFK, THK, HK, TK, UK, ITR, 2TR and IF.
- 7.5 Remove blocks from relays ON1, TAL and STM1. Remove insulation from relay DW.
- 7.6 Block operated DWA relay. Apply ground at 5 of STP. Observe IIA relay operates. Repeat with battery at 5 of STPP relay. Observe IIB relay operates. Remove block from DWA relay.
- 7.7 Repeat Paragraph 7.6 at 1 of STP and 1 of STPP relays. I2A and I2B relays operate respectively. Remove block from DWA relay.

8. OUTPULSER STEERING

- 8.1 Remove relay PG from its socket. Block normal relay TTST.
- 8.2 Block normal relay IRLA. Block operated relays IRL and MF, relay KP operates (option YZ), relay PD operates (option XA).
- 8.3 Block operated relay SP. Relay IDO operates and relay IDS (option YZ) or PDI (option XA) operate.
- 8.4 Operate and release manually in sequence relay PGI, and observe the results shown in Table 4.
- 8.5 Remove blocks from relays SP, IRLA, IRL, MF and TTST. Replace relay PG in its socket.

TABLE 4

Test No	Test Operation		Observe Results	
	Operate Relay	Release Relay	Relays Operate	Relays Release
+1	PGI			PD
+2		PGI	KP,IDS	
3	PGI			KP,(+)PDI
4		PGI	AS	
5	PGI			IDS

TABLE 4 (Cont'd)

Test No	Test Operation		Observe Results	
	Operate Relay	Release Relay	Relays Operate	Relays Release
6		PG1	BS	
7	PG1			AS
8		PG1	CS	
9	PG1			BS
10		PG1	THS	
11	PG1			CS
12		PG1	HS	
13	PG1			THS
14		PG1	TS	
15	PG1			HS
16		PG1	US	
17	PG1			TS
18		PG1	STS	
19	PG1			US
20		PG1	EP	
21	PG1			STS
22		PG1	RL	

(+) These steps and relays are with options XA.

9. OUTPUTSER PREFERENCE

- 9.01 Block normal relay CH at the Miscellaneous circuit for the Outputser frame.
- 9.02 Block relays STM1, STM2 and TAL normal in all Outputser.
- 9.03 Block normal relays ON and ON2 at the Identifier frames.
- 9.04 At the first Outputser, block operated relays L1, PK and ST. Observe that relay OP(-) of the first Outputser operates. Also relays OC (A-E) operate.
- 9.05 Block operated relays L1, PK and ST of the remaining outputser in numerical order. Observe that the OP- relays of the remaining Outputser operate, but the associated OC(A-E) relays do not operate.
- 9.06 Release and reoperate relay ST of the first Outputser.
- 9.07 Observe that relays OPO and OC(A-E) of the first Outputser release and do not reoperate, and that the OP- and OC(A-E) relays of the next higher numbered Outputser operates. Observe that the OP- relay of no other Outputser operates.
- 9.08 Remove blocks from relays L1, PK and ST of the first Outputser.
- 9.09 At the second Outputser, momentarily release and reoperate relay ST. Observe that the OP- and OC(A-E) relays of the second Outputser release and do not reoperate, and that the OP- and OC-(A-E) relays of the next higher numbered Outputser operate.
- 9.10 Remove blocks from relays L1, OK and ST of the second Outputser.
- 9.11 Repeat test in this manner on the remaining Outputser and observe that when a higher numbered OP- relay is operated that the lower numbered OP- relay cannot operate, and that when a lower numbered OP- relay is operated the higher numbered OP- relay can operate, but its associated OC(A-E) relays do not operate.
- 9.12 Release all L1, PK and ST relays an operate key TR at the Miscellaneous circuit for the Outputser frame. Observe that relay TR operates at the Miscellaneous circuit for the Outputser frame.
- 9.13 Repeat tests of Paragraph 9.04 through 9.11 and observe the same results, except that the E- relay operates rather than the OP- relay operates rather than the OP- relay.
- 9.14 Upon completion of test, remove blocks from all STM1, STM2, TAL, L1, OK and ST relays in the Outputser, release relays ON and ON2 at the Identifiers and remove block from th CH relay at the Miscellaneous circuit for the Outputser frame.
- 9.15 Release key TR at the Miscellaneous circuit for the Outputser frame and observe that relay TR releases.

10. RELAY OPERATIONS

10.1 IK and TRS Operation (ZD Option)

- 10.11 Block normal relay L1 of the Outputser under test.
- 10.12 Block operated relay PK.
- 10.13 Operate, one at a time, where equipped, relays I1, I2, I3 and I4. Observe that as each relay is operated and released, that the IK relay operates and releases.

- | | Operate Relays | Relays Operate |
|---|---|--|
| 10.14 Release relay PK. | | |
| 10.15 When crossbar offices of panel offices without party test are served by the Identifier group, block operated relay SPL1. Observe that relay TRS operates. | RP, TP
I1, I2
I2, I3
I3, I4
I4, I2
I4, I1 | TTST Operates
"
"
"
"
" |
| 10.16 Momentarily operate, one at a time, relays I1, I2 and SPL. Observe that as each relay is momentarily operated, that relay TRS momentarily releases. | 2TR
CCKF
TALI
ETMA (TRS NORM) | "
"
"
" |
| 10.17 Remove block from relay SPL1. | IF, ON (IFI NORM)
IRLA, PS | "
" |
| 10.2 <u>IK and TRS Operation (Apparatus Figure 9 and 14)</u> | TLB
FTM | "
" |
| 10.201 Block operated relay GRT. Verify relay TRS operates. | 10.33 Remove make busy plug from TTB jack, and block from relay L1. | |
| 10.202 Apply Paragraph 10.13 | 10.34 Momentarily operate relays AIB, CTT and PSK (option), and observe that as each relay is momentarily operated that relay TAL momentarily operates. | |
| 10.203 Release relay GRT. Verify relay TRS releases. | 10.35 Momentarily release relays CH1 and CH2 and observe that as each relay is momentarily released that relay TAL operates. | |
| 10.204 Block relay SPL1 operated. | 10.4 <u>STP and STPP Operation</u> | |
| 10.205 Momentarily operate relays STP and STPP one at a time, verify relay TRS is operated. | 10.41 Block relays PK and I1A operated. | |
| 10.206 Operate relays STP and STPP simultaneously. Verify relay TRS does not operate. | 10.42 Alternately operate relays I-1, I-2, I-3 and I-4. Relay STP is operated each time an I- relay is operated. | |
| 10.207 Release relay SPL1. | 10.43 Repeat Paragraphs 10.41 and 10.42 substituting relay I2A for I1A. | |
| 10.208 Block relay ON operated. | 10.44 Repeat Paragraphs 10.41 to 10.43 substituting relays I1B and I2B for I1A and I2A respectively. Relay STPP operates instead of STP in Paragraph 10.42. | |
| 10.209 Manually operate relay IK. Verify relay IK locks operated through its I2 make contact. | 10.45 Release relay PK. | |
| 10.210 Release relay ON. Relay IK releases. | 10.5 <u>I1A, I1B, I2A and I2B Operation</u> | |
| 10.211 Block relay ON operated. Momentarily operate relay STP. Relay IK locks operated. | 10.51 Block relay DWA operated. | |
| 10.212 Release relay IK. | 10.52 Using Test Receiver ITE-9572 apply ground to contact 5, relay STP or STPP. Relay I1A should operate. | |
| 10.213 Momentarily operate relay STPP. Relay IK locks operated. | 10.53 Using Test Receiver ITE-9572 apply battery to contact 5, relay STP or STPP. Relay I1B should operate. | |
| 10.214 Release relay ON. Relay IK releases. | 10.55 Release relay DWA. | |
| 10.3 TTST and TAL Operation | | |
| 10.31 Insert make busy plug into the TTB jack at the Trouble Ticketer Circuit. | | |
| 10.32 Operate the following relays and observe that the TTST relay operates as each combination of relays is operated. | | |

11. LINE VERIFICATION AND PERMANENT SIGNAL

11.1 Operation tests of the Outpulser to determine its ability to handle calls from the Line Verification Circuits and Permanent Signal Circuit are performed in the sections covering these circuits. These are listed in this handbook as Sections 124 through 126.

11.2 These tests should be performed after all other tests of the Outpulser have been completed.

12. MISCELLANEOUS CIRCUIT TESTS (SD-95820-01)

12.1 Frame Test Battery

12.11 Check 48V test battery terminals and tip of the "A" jack for presence of 48 volt battery.

12.12 Check the "G" terminal and sleeve of the "A" jack for direct ground.

12.13 Check the HRG test terminals for high resistance ground (12,000 ohm).

12.2 Miscellaneous Jacks

12.21 Spare "B" jack

12.211 Make a continuity test of the B jack to all associated outgoing trunk frame and also to the MDF, IDF or CDF.

12.22 "C" Jack

12.221 Check for presence of +130 volts of the tip of the "C" jack.

12.222 Check for presence of ground on the sleeve of the "C" jack.

12.23 Remote Control "RC" Jack

12.231 Check for ground on the sleeve of the RC jack. Make a continuity test of the tip and ring leads of the "RC" jack to all associated RC jacks and to the Outpulser - Identifier - Trunk test circuit.

12.24 Frame Line Jacks - No. 1 Crossbar Offices

12.241 Make a continuity and cross test of the tip and sleeve leads of the TEL (A and B) jacks to all associated TEL jack appearances and to the Frame Line

Circuit. Check transmission between appearances of the TEL jacks using an ITE-9650, Operator's telephone set.

12.25 Frame Line Jacks - SXS Offices

12.251 Make a continuity and cross test of the tip and ring leads of the "SWMN" jack to other ANI frames and to the "SWMN" talking line circuit.

12.252 Check transmission between appearances of the "SWMN" jack using an ITE-2580B talking set.

12.3 Fuse Alarm

12.31 48 Volt Alarm

12.311 Connect -48 volt battery through a test receiver to one side of the 20A resistance.

12.312 Observe that relay FA operates, also relay FA1 in step-by-step offices, and that the red FA lamp lights and the audible alarm sounds.

12.313 Observe at the Outpulser frame that relay MB operates when relay FA is operated.

12.314 Remove 48 volt Battery from resistance 20A. Observe that lamp FA is extinguished. The alarm silenced and that lamp FG lights.

12.315 Operate key AR to release relay FA, extinguish lamp FG and release relay MB at the Outpulser.

12.316 Repeat test, by applying 48 volt battery to resistance FA. Observe the same results.

12.32 +130 Volt Alarm

12.321 Using a test receiver, connect +130 volt battery to either side of the FA2 resistance.

12.322 Observe that relays FA and FA2 operate and that lamp FA lights and the alarm sounds.

12.323 Remove +130 volts from resistance FA2 and observe that lamp FA is extinguished, the alarm silenced and that lamp FG lights.

12.324 Momentarily operate key AR to extinguish lamp FG.

12.33 -24 Volt and -110 Volt Alarm

12.331 Using a test receiver connect -24 volt battery to either side of the FA4 resistance.

12.332 Observe that the FA lamp lights and the alarm sound.

12.333 Remove -24 volt battery from resistance FA4 and observe that lamp FA is extinguished, the alarm silenced and that lamp FG lights.

12.334 Momentarily operate key AR to extinguish lamp FG.

12.335 Using a test receiver, connect -110 volt battery to either side of resistance FA3.

12.336 Observe that the FA lamp lights and the audible alarm sounds.

12.337 Remove -110 volt battery from FA3 resistance. Lamp FA is extinguished, the alarm silenced and lamp FG lighted.

12.338 Momentarily operate key AR to extinguish lamp FG.

12.34 TA and TTT Lamps

12.341 Momentarily operate relay TAL2 at the Outputser circuit. Observe that lamp TA lights momentarily at the Miscellaneous circuit.

12.342 Momentarily operate relay TTA at the Outputser circuit. Observe that lamp TTT lights momentarily at the Miscellaneous circuit.

12.4 Preference Chain Transfer and Alarm

12.401 At the Outputser frame, insulate contact 8 break relay OP-.

12.402 Observe that relay CH at the Miscellaneous Circuit operates momentarily and that relay ATR operates and locks.

12.403 Observe that lamp CH lights and the alarm sounds.

12.404 Operate that key TR and momentarily operate key AR.

12.405 Observe that relay TR operates, lamp CH is extinguished and relay ATR releases.

12.406 Remove insulation from contact 8 relay OP- and insert in contact 8 break relay EO-.

12.407 Observe that relay ATR operates and locks, lamp CH lights and the alarm sounds.

12.408 Release key TR and momentarily operate key AR.

12.409 Observe that relay TR releases and lamp CH is extinguished.

12.410 Repeat test of Paragraph 12.401 through Paragraph 12.409 for each outputser.

13. TESTS USING OUTPUTSER - IDENTIFIER TEST FRAME

NOTE: Voltage and frequency tests on the MF current supply or the MF Signal Generator supplying the outputser should be performed per Handbook 50, Sections 30 and 31 prior to start of tests using the test frame.

13.1 Test Calls

13.11 Using the Outputser - Identifier Test Frame, operate keys for each test call according to the test chart.

13.12 Keys OIT (Outputser - Identifier Test) and the appropriate IG- must be operated for each call.

13.13 Operate the OP- key which corresponds to the Outputser under test and the TS- key corresponding to the Translator under test.

13.14 Either of keys ID0 or ID1 may be operated depending upon the Identifier to be used during the test. If no particular Identifier is desired, leave key ID0/ID1 normal, and the Identifier will be chosen by the Outputser.

13.15 If AIOD is furnished, the OFF- and TH0- keys operated are not to be associated with an AIOD PBX group.

13.151 After the proper keys are set for the desired type of test, operate the ST key. The test should progress through to completion, and the proper lamps light as indicated on the test chart of Table 5. Other lamps may be disregarded.

13.16 Operate key RN to return test frame to normal.

13.17 Test No's 1 through 16 as required, should be performed at least once on each identifier associated with the outpulser under test. In case of a trouble condition, the test should be performed twice after the trouble is cleared. For any test, verify that there is no duplication of operated keys to interfere with selected circuits.

13.2 Physical - Theoretical Office Code

13.201 Determine from the telephone company prior to the start of this test, the three digit office codes associated with keys OFF0 through OFF5 as equipped.

13.202 Also determine whether these offices are composed of both physical and theoretical offices.

13.203 If the offices have no associated theoretical offices, initiate a test call for each OFF- key, and verify that the three digit office code registered on the A, B and C lamps of the test frame correspond to the office code assigned by the telephone company for that particular OFF- key.

13.204 If any OFF- key has a physical and theoretical office associated with it, operate the particular OFF- key involved.

13.205 Determine the numbers in the thousands and hundreds groups represented by the physical and theoretical offices.

13.206 As an example, let us say that the office code CR-8 represents numbers from 5000 to 9999, all numbers being represented by the same OFF- key.

13.207 On the test frame operate any four keys representing a line number in the physical office CR-8. Say TH04, H05, T06 and U07.

13.208 Operate the ST key and observe that the A, B and C digits are registered as A0, A2, B0, B7 and C1, C7 (CR-8).

13.209 For the theoretical office R0-7, operate keys TH05, H06, T07 and U08.

13.210 Operate the ST key and observe that the A, B and C digits are represented as A0, A7 B2, B4 and C0, C7 (R0-7).

13.211 Repeat test in this manner and verify that the proper A, B and C digits are outpulsed for each physical and theoretical office.

13.3 ID- Digit Verification (All Identifiers Busy)

13.31 At the trouble ticketer frame, insert make busy plug into the OP-B jack associated with the outpulser under test.

13.32 At the trouble ticketer frame insert make busy plugs into all I-BOP- jacks associated with the outpulser under test.

13.33 At the outpulser frame, connect ground, with cord to contact 7 relay RC.

13.34 At the test frame, operate ST key.

13.35 Observe that lamps OB, RL, IO and I1 light.

13.36 Restore test frame to normal, remove ground from relay RC and remove make busy plugs at trouble ticketer frame.

13.4 Identifier Preference Test

13.41 Operate OF-, TH-, H-, T- and U- keys to simulate calling line directory number.

13.42 At the trouble ticketer frame, insert a make busy plug into the OP-B jack associated with the outpulser under test.

13.43 Operate ID0 key. Operate ST key.

13.44 Observe that lamps OB, RL, I4, I7 and ID0 light.

13.45 Restore ID0 and ST keys. All lamps extinguished.

13.46 Operate ST key. Observe that lamps OB, RL, I4, I7 and ID1 are lighted.

13.47 Restore and reoperate ST key.

13.48 Observe that lamps OIT, RL, I4, I7 and ID0 are lighted.

13.49 Restore ST key. At the trouble ticketer remove make busy plug from the OP-B jack.

13.5 Automatic Identified Outward Dialing (AIOD) Provided

NOTE 1: Any OFF- key may be associated with a PBX group arranged for AIOD. When OFF6 is furnished, it is always arranged for AIOD. Refer to office records to determine OFF- arranged for AIOD.

NOTE 2: Any THO- key may be associated with an AIOD translator for trunk number to be identified. See FS22 and refer to office records to determine THO- arranged for AIOD. Keys HO-, TO-, and UO- simulate remaining digits of PBX trunk number.

NOTE 3: When AIOD PBX groups are associated with:

(a) A Station Identification Store (SIS) Circuit, operate the UNO- key.

(b) A IOIESS, operate the POF- key.

13.51 Short and Long Loop Around Tests

13.511 Perform TEST NO's 20 and 21 of Table 5, attached. Verify the lamps light as indicated in Table 5.

13.52 AIOD Operational Tests

NOTE 1: Refer to Sequence Chart 14 of Outputser Circuit, SD-95811-01, for AIOD call progress information.

NOTE 2: Refer to NOTE 301 of Trouble Ticketer Circuit, SD-95816-01, for information to interpret an AIOD trouble ticket.

13.521 Operate keys OFF-, THO-, HO-, TO-, UO-, THNO-, HNO-, TNO-, and UNO- for association with PBX groups arranged for AIOD service. This information is obtained from local office records.

13.522 Repeat TEST NO's 1, 2, 6-9, and 6-9 of Table 5 operating remaining keys as specified in Table 5. Verify the results indicated in Table 5. In addition, verify lamp IOD lights for each test call.

13.523 Operate key FTM. Change one of keys HO-, TO-, or UO- to a number not arranged for AIOD service in the translator.

13.524 Repeat TEST NO's 1 and 2 of Table 5. Verify that the calls fail to complete satisfactorily and that the trouble ticket show:

- (a) Character 5 in Position 3
- (b) Character 0-2 in Position 10
- (c) Character 0-8 in Position 11
- (d) Character 8 in Position 27

13.525 Restore OITT to normal.

13.6 Automatic Intercept Service (AIS)

13.61 AIS Operational Tests

NOTE: Refer to Sequence Chart 15 of the Outputser Circuit, SD-95811-01, for AIS call progress information.

13.611 Perform Test No's. 17-19 of Table 5. Verify lamps indicated in Table 5 light.

13.612 Verify correct trouble ticket information as indicated in Table 5.

13.613 The above test should be performed at least once for each identifier associated with one outputser circuit.

13.614 To force a trouble ticket connect a temporary ground to contact 4 make of relay IRL on the outputser selected for these tests.

Arrowed Lines indicate new or changed information.

ATTACHMENTS

Table 5 Notes on Page 10.

Table 5 on Page 11.

Manager, Product Engineering
Control Center

Reason for Reissue

To delete reference to PANEL type offices.

To change notes 14, 15, & 16 of Table 5 and add Paragraph 13.614.

TABLE 5 NOTES:

- * Indicates Keys That Must Be Operated
- X Indicates Keys That Are Optional
- Indicates Keys That Must Be Operated Per Information Obtained From Local Office Records.

(1) OP-, TS-, ID- and OF-I lamps lighted to match corresponding key operated; TH2/5, H2/5, T2/5, U2/5 lamps lighted to match TH0-, H0-, T0-, U0- keys operated.

(2) Trouble Ticket printed. Minor alarm sounded. (Major alarm on CLI call, Test No. 25)

(3) Momentarily operate AR key at Trouble Ticketer Frame to restore alarm.

(4) Check Trouble Ticket for:
 Character 5 in Position 3
 " 5 " " 16
 " 1 " " 25
 " 8 " " 30

Calling Line No. Positions 12-15
 Calling Office No. Position 11

(5) Check Trouble Ticket for:
 Character 5 in Position 3
 " 6 " " 16
 " 1 " " 25
 " - " " 29
 " 8 " " 30

Calling Line No. Positions 12-15
 Calling Office No. Position 11

(6) Check Trouble Ticket for:
 Character 5 in Position 3
 " 9 " " 8
 " 3 " " 25
 " 1 " " 33

(7) Check Trouble Ticket for:
 Character 5 in Position 3
 " 9 " " 8
 " 4 " " 20
 " - " " 29
 " 1 " " 32
 " 3 " " 33

(8) Check Trouble Ticket for:
 Character 5 in Position 3
 " 2 or 3 in Position 8
 " Dash " " 11-15
 " 8 in Position 21
 " 3 " " 32

(9) Check Trouble Ticket for:
 Character 2 or 3 in Position 8
 Asterisk in Position 12

(10) Check ticket for Character 2 or 3 in Position 8. Asterisk in Position 13.

(11) Check ticket for Character 2 or 3 in Position 8. Asterisk in Position 14.

(12) Check ticket for Character 2 or 3 in Position 8. Asterisk in Position 15.

(13) Check ticket for Character 6 or 7 in Position 8

(14) Check Trouble Ticket for:
 Character 5 in Position 3.
 Character 1 in Position 29 NON OBS.
 Character 4 in Position 29 SER. OBS.

(15) Check Trouble Ticket for:
 Character 5 in Position 3
 Character 1 in Position 29 NON OBS.
 Character 4 in Position 29 SER. OBS.

(16) Check Trouble Ticket for:
 Character 5 in Position 3
 Character 0 in Position 29 NON OBS.
 Character 3 in Position 29 SER. OBS.

(17) Lamps A-, B-, C- momentarily lighted to match AIOD office code corresponding to operated OFF- and TH0- keys. Lamps A-, B-, C- immediately relighted to match PBX office index corresponding to operated UNO- or POF- key.

(18) The long loop - around test must conform with requirements covered in the PBX AIOD trouble location manual. The PBX trunk number set into the OITT must be the same as the PBX trunk number used by the PBX AIOD test circuit to address the SIS circuit.

TABLE 5
TEST CHART

TST NO.	FEATURE TESTED	Operate Keys													Optional Keys	Note	Lamp Indication		
		OIT	IG-	TS-	OP-	IDO	ID1	OFF-	THO	HO	TO	UO	THNO	HNO				TNO	UNO
1	Ring Party	*	*	*	X	X	X	*	0	1	2	3	4	5	6	7	-	1	PR PK IK I4 I7
2	Tip Party	*	*	*	X	X	X	*	1	2	3	4	5	6	7	8	TP	1	TP PK ITP IK I4 I7
3	Start Prime Pulse Test (SxS)	*	*	*	X	X	X	*	8	9	0	1	2	3	4	5	STPP (Normal) (Operated)		
4	Ground Removal Failure (SxS) Flat Rate	*	*	*	X	X	X	*	5	6	7	8	9	0	1	2	GRFFR	2,3,4	TLK TP PK GRF IK
5	Message Rate	*	*	*	X	X	X	*	6	7	8	9	0	1	2	3	GRFMR	2,3,5	TLK RP PK IK GRF
6	Abandoned Call	*	*	*	X	X	X	*	7	8	9	0	1	2	3	4	AB		TM1 ABK RL
7	Work Timer	*	*	*	X	X	X	*	8	9	0	1	2	3	4	5	WT1	2,3,6	TRL TM1 (KP-OPTION-YZ)
8	Party Test and Abandoned Call Timer	*	*	*	X	X	X	*	9	0	1	2	3	4	5	6	WT2	2,3,7	TM1 TM2 CCKF TRS
9	Second Trial Test	*	*	*	X	X	X	*	0	1	2	3	4	5	6	7	2TR	2,3,8	1TR RL I4 I7
10	Party Test	*	*	*	X	X	X	*	6	7	8	9	0	1	2	3	PTY		IO I1 PTY
11	Trunk Lock Up (Y Option)	*	*	*	X	X	X	*	2	3	4	5	6	7	8	9	TH2AT, H2AT, CTT	2,3	TLK IO I2 TLK (AT TBL. TRKTR Fr.)IDG2
12	Digit Over-registration (TH- Digit)	*	*	*	X	X	X	*	2	4	5	6	7	8	9	0	DX IDK	2,3,9	THO TH1 TH2 1TR 2TR IO I2
13	Digit Over-registration (H- Digit)	*	*	*	X	X	X	*	2	3	5	6	7	8	9	0	DX IDK	2,3,10	HO H1 H2 H4 1TR 2TR IO I2
14	Digit Over-registration (T- Digit)	*	*	*	X	X	X	*	2	3	4	6	7	8	9	0	DX IDK	2,3,11	TO T1 T4 2TR IO I2
15	Digit Over-registration (U- Digit)	*	*	*	X	X	X	*	2	3	4	5	7	8	9	0	DX IDK	2,3,12	U1 U2 U4 1TR IO I2
16	Cancel First Trial Failure	*	*	*	X	X	X	*	2	3	4	5	7	8	9	0	DK IDK, plug in CFTF jack (at TBL. TKTR)	2,3,13	
17	Blank Number Intercept	*	*	*	X	X	X	*	1	3	6	0	3	6	0	7	INT, TP/INT UT	2,3,14	INT
18	Trouble Intercept	*	*	*	X	X	X	*	6	0	7	1	0	7	1	3	INT, INT-TBL	2,3,15	INT
19	Regualr Intercept	*	*	*	X	X	X	*	3	6	0	7	6	0	7	1	INT	2,3,16	INT
20	Short Loop Around (AIOD Provided)	*	*	*	X	X	X	-	-	-	-	-	-	-	-	-	UNO- or POF-	1,17	OB RL I4 I7 SKD IOD
21	Long Loop Around (AIOD Provided)	*	*	*	X	X	X	-	-	-	-	-	-	-	-	-	UNO- or POF-, LLT	1,17, 18	OG RL I4 I7 SDK LLT IOD