

PERMANENT SIGNAL IDENTIFICATION AND  
 OBSERVING ENTRY CONTROL CIRCUITS

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1. GENERAL INFORMATION

1.1 This section describes the tests to be performed on the following ANI circuits.

SD-32247-01	Observing Entry Control Circuit
SD-95817-01	Permanent Signal Identification Circuit

1.2 Timing tests should be performed on the Permanent Signal Identification Circuit in accordance with Section 127 of this handbook.

2. RECORDS AND REQUIREMENTS

2.1 Records

2.11 Record the results of tests per this section on forms ID-1313 and ID-1315 as described in Handbook 50 Section 3.

2.2 Requirements

2.21 The tests of this section agree with performance requirements as listed in BSP's AA632.007, AA633.006 or AA634.008.

3. TEST EQUIPMENT

3.1 Test Sets

Amt	ITE	Description
1	4570	ANI Test Set
1	4137	AC Continuity Test Set
1	4511	Whistler Test Set

3.2 Cords and Accessories

3.21 Cords

Amt	ITE	Lgth	Cdrs	One End	Other End	See Note
1	9606	6'	3	310 Plug	Spade Tips	1
1	9607	12'	3	310 Plug	Spade Tips	1
2	9639	12'	3	310 Plug	3 ITE-2455 Plugs	1
3	9962	12'	10	Jones Socket	10 ITE-2461 Sockets	2
1	9536	12'	1	Test Pick	Alligator Clip	2
1	9317	8'	3	(Power Cord)		2

3.22 Accessories

Amt	Code No.	Description	See Note
1	349A	Make-Busy Plug	1
6	329A		3
As Req.	258C	Dummy Plugs	1
1	ITE-2260	Call Wire Telephone Jacks	
1	R-9572	Test Receiver	1
7	ITE-4085	Push-on Clips	2

NOTES:

- (1) Step-by-Step, Panel or Cross-bar Accessory Sets or may be ordered separately.
- (2) Furnished with ITE-4570.
- (3) Furnished with Misc. Ckt for Trouble Ticketer.

4. PERMANENT SIGNAL IDENTIFICATION CIRCUIT

4.1 General Instructions

4.11 Tests per this paragraph should be performed only with the approval and cooperation of the telephone company.

4.12 Paragraph 4.3 should be performed before the S leads are connected to the Permanent Signal Holding Trunks or while the trunks are released from service for ANI modifications.

4.13 Paragraph 4.4 should be performed after Permanent Signal Holding Trunks are modified and returned to service. This test requires the use of a telephone in one office associated with each identifier group served, and the cooperation of an operator at a switchboard position at which the Permanent Signal Holding Trunks appear.

4.2 Fusing

4.21 Fusing tests for this circuit are contained in Section 107 of this handbook.

### 4.3 Leads Tests

#### 4.31 Jacks and Lamps

- 4.311 Block (ST) relay nonoperated and insulate contact 10 break (SP) relay.
- 4.312 Insert (PS) plug in each (PS-) jack associated with the first identifier group. Relays GPO and GPA operate each time the plug is inserted and release when the plug is removed.
- 4.313 Insert PS plug in each PS- jack associated with the next identifier group. Relay GP- associated with the identifier group under test and relay GPA operate each time the plug is inserted and release when the plug is removed.
- 4.314 Repeat Paragraph 4.313 for each identifier group. Remove insulation from (SP) relay contact 10 after test.
- 4.315 Momentarily operate TO relay. TO lamp lights while relay is operated.
- 4.316 Momentarily operate TPD relay. TPD lamp lights while relay is operated.

#### 4.32 S Leads to PS Holding Trunks

##### 4.321 Test Setup

- 4.3211 Set up a talking circuit between the Trouble Ticketer frame and the permanent signal holding trunks as described in Handbook 50 Section 2 using the ITE-4137 AC Continuity Test Set, and ITE-2260 Call Wire Telephone Jacks.
- 4.3212 Adjust the ITE-4511 Whistler Test Set as described in → Handbook 100 TMO 4511.

##### 4.322 Panel Offices

- 4.3221 Insert 258C dummy plugs in all PS- jacks associated with permanent signal holding trunks in panel offices.
- 4.3222 Touch the probe of the Whistler to each lead at the permanent signal holding trunk location. Each lead should produce a whistle of the same pitch and volume. As each lead is whistled remove the dummy plug from the associated PS- jack. The pitch of the whistle should be lowered.

##### 4.323 #1 Crossbar Offices

- 4.3231 Touch the probe of the Whistler to each lead at the permanent signal holding trunk location. Each lead should produce a whistle of the same pitch and volume. As each lead is whistled insert a 349A make busy plug in the associated PS- jack. The pitch of the whistle should be lowered.
- 4.3232 Remove 349A plug from PS-jack.

#### 4.33 OSC Leads

- 4.331 Connect a test receiver between tip of the PS plug and ground.

- 4.332 Insert a 329A make-busy plug in IOB jack associated with the first identifier group. Block operated relays ID and GPO.
- 4.333 At Identifier 0 operate relay ON. Tone (5800 cycles) is heard in the test receiver. Release ON relay.
- 4.334 Remove 329A plug from IOB jack and insert in IIB jack of first identifier group.
- 4.335 Operate ON relay at Identifier 1. Tone (5800 cycles) is heard in test receiver. Release ON relay and → move plug from IIB jack. Release GPO relay.
- 4.336 Repeat Paragraphs 4.332 to 4.335 using jacks and GP- relay associated with each remaining identifier group.
- 4.337 Remove test receiver from PS plug and ground.
- 4.338 Remove blocking tool from ST relay.

### 4.4 Line Identification

- 4.41 Insert 329A make-busy plugs in all OP-B jacks except one.
- 4.42 At a telephone (individual or two party line) in an office served by the first identifier group, listen for dial tone in the handset and wait for an operator to answer. Do not dial any digits. When the phone has been off-hook and no digits have been dialed for a period of time sufficient for the sender to time out, the line is placed in a permanent signal condition and connected to a Permanent Signal Holding Trunk.
- 4.43 When an operator answers inform her that this is a test call and ask her not to release this line from the permanent signal condition. Ask the operator for the number of the Permanent Signal Holding Trunk on the associated PS- jack at the trouble ticketer frame. Leave the telephone off-hook.
- 4.44 At the trouble ticketer frame insert PS plug into the PS- jack associated with the PS Holding Trunk to which the line is connected. The trouble ticketer prints a permanent signal record. TPD lamp lights. Operate CT key (Trouble Ticketer Ckt) to advance and cut ticket.

- 4.45 Remove PS plug from PS- jack and replace handset of the telephone used for test. Check that all relays in the Permanent Signal Identification Ckt are restored to normal.

#### 4.46 Checking PS Record

- 4.461 Compare the digits printed on the permanent signal record as indicated in Figure 1.
- 4.462 The digits printed in positions 12-15 should correspond to the thousand, hundred, ten and unit digits of the line used for test.

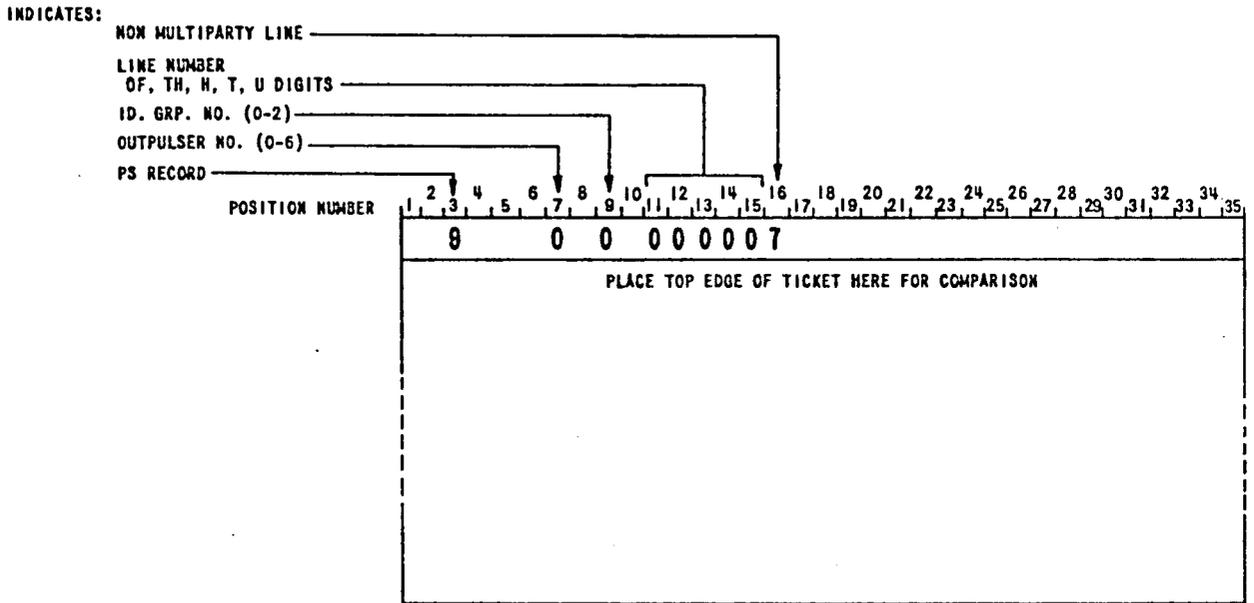


FIG. 1 PERMANENT SIGNAL RECORD

4.463 The digit printed in position 11 is the numeral assigned to represent the three digit office code of the line used for test.

4.464 An asterisk or dash in any position where Figure 1 indicates a digit should be printed in an indication of trouble in the trouble ticketer.

4.47 Repeat tests per Paragraphs 4.41-4.46 for each outpulser, by inserting 329A make-busy plugs in (OP-B) jacks of all other outpulsers.

4.48 Repeat the tests per Paragraphs 4.41-4.47 for each identifier group using a telephone in an office served by the identifier group under test.

5. OBSERVING ENTRY CONTROL CIRCUIT

5.1 Test Setup

5.11 ANI Test Set

5.111 Locate the ITE-4570 ANI test set adjacent to the identifier frame.

5.112 Connect 110 volts, 60 cycle AC to the test set using an ITE-9317 cord.

5.113 Connect -48 volt battery and ground to the 48V and GRD binding post of the test set using 20 gauge minimum cords or conductors. The supply should be fused for 3 amperes minimum.

5.114 Connect the Jones socket of 3 ITE-9962 cords to the C, D, E connectors of the test set. Connect the other ends of the cords equipped with

ITE-4085 push-on clips to the identifier frame terminal strips as indicated in Table 1.

NOTE: If the test set is already connected to the identifier frame per Section 117 of this handbook, all leads may be left connected.

TABLE 1

<u>Jones Socket</u>	<u>Cord End</u>	<u>Identifier</u>	<u>T.S. Lead</u>
C2	1	C-14	SO
D3	2	C-27	ST
D4	3	C-37	RP
D5	4	C-47	TP
D10	9	C-48	WC
E7	6	MISC-04	FA
E8	7	G-48	OSC

5.12 Test "S" Lead Extension

5.121 A lead from the S binding post of ITE-4570 must be extended to a point near the distributing frame termination or the service observing patch bay, depending on where the circuit under test terminates.

5.122 Extension to Distributing Frame

5.1221 Connect the tip of an ITE-9639 cord (No. 1 Crossbar) or an ITE-9606 cord (Panel or SXS) to the S binding post of ITE-4570. Connect the 310 plug of this cord to the spare B jack of an adjacent frame.

5.1222 At the distributing frame insert the 310 plug of an ITE-9639 cord (No. 1 Crossbar) or an ITE-9607 cord (Panel of SXS) into the spare B jack. Connect the tip of this cord to the alligator clip of an ITE-9536 cord (supplied with ITE-4570). Insulate this connection by wrapping with friction tape.

5.1223 Another method which may be more convenient is to use a spare lead from a cable to the distributing frame. Connect one end to the S binding post of ITE-4570 and at the distributing frame connect the ITE-9536 cord to the other end of this lead.

#### 5.123 Extension to Service Observing Patch Bay

5.1231 Using a spare lead from a cable between the identifier frame and the SO patching panel, connect one to the S binding post of ITE-4570 and at the patch bay connect the other end to the alligator clip of an ITE-9536 cord (supplied with ITE-4570). Insulate this connection by wrapping with friction tape.

### 5.2 Test Operations

#### 5.21 SXS Offices

5.2101 Observe that all keys on ITE-4570 are normal, and that only lamp NS is lighted. If other lamps are lighted operate RLS key to extinguish these lamps.

5.2102 At the distributing frame check that T key is normal and operate IG- key, if provided, associated with the identifier group under test.

5.2103 Touch the probe of ITE-9536 cord to the S distributing frame terminal of this circuit.

5.2104 Operate ST key of ITE-4570 momentarily. Lamps SO and TRL light.

5.2105 Remove probe from terminal and operate RLS key momentarily on ITE-4570. Lamps SO and TRL are extinguished.

5.2106 At the distributing frame operate T key to TFR position.

5.2107 Touch the test probe to the S D.F. terminal of this circuit.

5.2108 Operate TP key on ITE-4570 and then ST key momentarily. Lamps SO, TRL light.

5.2109 Remove test probe from S terminal and return TP key of ITE-4570 to normal. Operate RLS key momentarily on ITE-4570. Lamps SO and TRL are extinguished.

5.2110 At the distributing frame operate T key to TMF position.

5.2111 Touch the test probe to the A or MR D.F. terminal of this circuit.

5.2112 Operate ST key on ITE-4570 momentarily. Lamps SO and TRL light.

→ Arrowed lines indicate new or changed information.

Reason for Reissue:  
To remove fusing tests and make minor corrections.

5.2113 Remove test probe from A or MR terminal and operate RLS key of ITE-4570 momentarily. Lamps SO and TRL are extinguished.

5.2114 Return T and IG- keys to normal at the distributing frame.

5.2115 Repeat these tests for each Observing Entry Control circuit furnished. If more than one identifier group is provided repeat tests for each identifier group, using the associated IG-key.

#### 5.22 Panel and No. 1 Crossbar Offices

5.2201 Observe that all keys on ITE-4570 are normal and that only NS lamp is lighted. If other lamps are lighted operate RLS key to extinguish these lamps.

5.2202 At the distributing frame or patch panel check that T key is normal and operate IG- key associated with the identifier group under test.

→ 5.2203 Touch test probe of ITE-9536 cord to the S distributing frame terminal of this circuit or to the tip of the OE plug farthest from the knurled edge (S lead).

5.2204 Operate ST key of ITE-4570 momentarily. Lamps SO and TRL light.

5.2205 Remove test probe from terminal or plug and operate RLS key of ITE-4570 momentarily. Lamps SO and TRL are extinguished.

5.2206 Operate T key at the distributing frame or patch panel.

5.2207 Touch test probe again to the S distributing frame terminal of this circuit or to the tip of the OE plug farthest from the knurled edge (S lead).

5.2208 Operate TP key on ITE-4570 and then operate ST key momentarily. Lamps SO and TRL light.

5.2209 Remove test probe from terminal or plug and return TP key on ITE-4570 to normal. Operate RLS key momentarily. Lamps SO and TRL are extinguished.

5.2210 Return T and IG- keys to normal at the distributing frame.

5.2211 Repeat these tests for each Observing Entry Control circuit furnished. If more than one identifier group is provided, repeat tests for each identifier group using the associated IG-key.

R. W. HILLEGAS  
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Replaces Section 126 dated 11-17-60.