

STATION RINGER TEST CIRCUIT (SD-2H129) TESTS NO. 2 AND NO. 2B ELECTRONIC SWITCHING SYSTEMS

1. GENERAL

1.01 This section describes the method of testing the station ringer test circuit (SD-2H129) used in the No. 2 and No. 2B Electronic Switching Systems (ESS).

1.02 This section is being reissued to clarify and make corrections to the test procedures.

1.03 The station ringer test circuit is used to measure the station ringer ground connection at subscriber sets and to provide suitable indications of the results. When used with a TOUCH-TONE® station test circuit, the station ringer test circuit is able to test subscriber telephone oscillators for proper frequency range and output amplitude.

1.04 Whenever the term TOUCH-TONE® telephone service is used, it refers to the equipment required to provide this service to the customer.

1.05 The following tests will be performed:

A. Circuit State And Scan Point Operation:

This test verifies the operation of the circuit relays and saturation of the ferrod sensor associated with the circuit to ensure saturation during the proper circuit states.

B. High Tone Output Levels: This test checks the circuit continuity and circuit states when high tones are required.

1.06 The station ringer test circuit tests are to be performed on a periodic basis as prescribed by the equipment test list or when a malfunction of the circuit is suspected.

1.07 The keys on the TTP are either a locking or a nonlocking type. In order to differentiate between the two types of keys, the use of a locking key shall be identified by the words "operate" and "release" and the use of a nonlocking type key

shall be identified by the word "depress" in the ACTION column.

Note: Nonlocking keys require a depression of a least one-half second to ensure system recognition.

1.08 The tests will be performed from the trunk test panel (TTP) in conjunction with the display buffer and teletypewriter (TTY). For detailed information about the TTP and its operation, refer to Section 232-130-301, Trunk Test Panel—Method of Operation.

1.09 Testing and adjustments for the TOUCH-TONE station test circuit (SD-1A199) shall be conducted in accordance with Section 232-135-501.

1.10 **Lettered Steps:** A letter a, b, c, etc, added to a step number in Part 3 or 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.

2. APPARATUS

2.01 A 262C-type (900 ohm) plug.

2.02 Headset for receiving only, with a 310 plug on the end.

2.03 W2FT cord with a 310 plug at each end.

2.04 35F test set or equivalent.

2.05 KS-14510 L1 Volt-Ohm-Milliammeter (VOM) or equivalent.

2.06 W2DL cord equipped with a 310 plug.

105-441-222 (29)

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SECTION 232-144-501

2.07 A 900-ohm resistor.

3. PREPARATION

3.01 Refer to the office records to obtain the member number (MEMN), and directed scan point number (DSP) of the station ringer test circuit. The MEMN will be that of the controlling port (port 0) and the trunk group number (TGN) for port 0 is 045.

*045-000
DSP = 02 3901*

3.02 Verify the scan point number obtained in 3.01 and obtain the MEMN for the noncontrolling port (port 1) as follows:

064-067

At maintenance TTY, type in:

A VY:SVC:aaa bbb!

aaa = 045

bbb = MEMN

The system will respond by giving the TGN and MEMN for both ports as follows:

AR VY SVC 045 bbb
TEN nn gcsl

STEP	ACTION	VERIFICATION
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All Tests

- | | | |
|---|--|---|
| 1 | At telephone set on TTP—
Operate access trunk 1 key. | |
| 2 | Lift handset off-hook, or operate TRFR key at TEL CKT on TTP if using headset. | At telephone set—
Access trunk 1 key lamp lighted.
At ACCESS TRUNK 1 CONTROL—
SUPV lamp lighted.
At TEL CKT—
TRFR lamp lighted if TRFR key is operated. |
| 3 | At TOUCH-TONE dial—
Dial 1 + TGN + MEMN + ST. | At ACCESS TRUNK 1 CONTROL—
EQPT ST lamp lighted steadily or flashing at a rate of 120 interruptions per minute (ipm).
At MISC TEST CONTROL—
P & E lamp lighted if connection was successful. |

Note: If the EQPT ST lamp is flashing and the P & E lamp is not lighted steadily, the TTP is not connected to the circuit to be tested.

DSP ss rrb
TRK 064 bbb

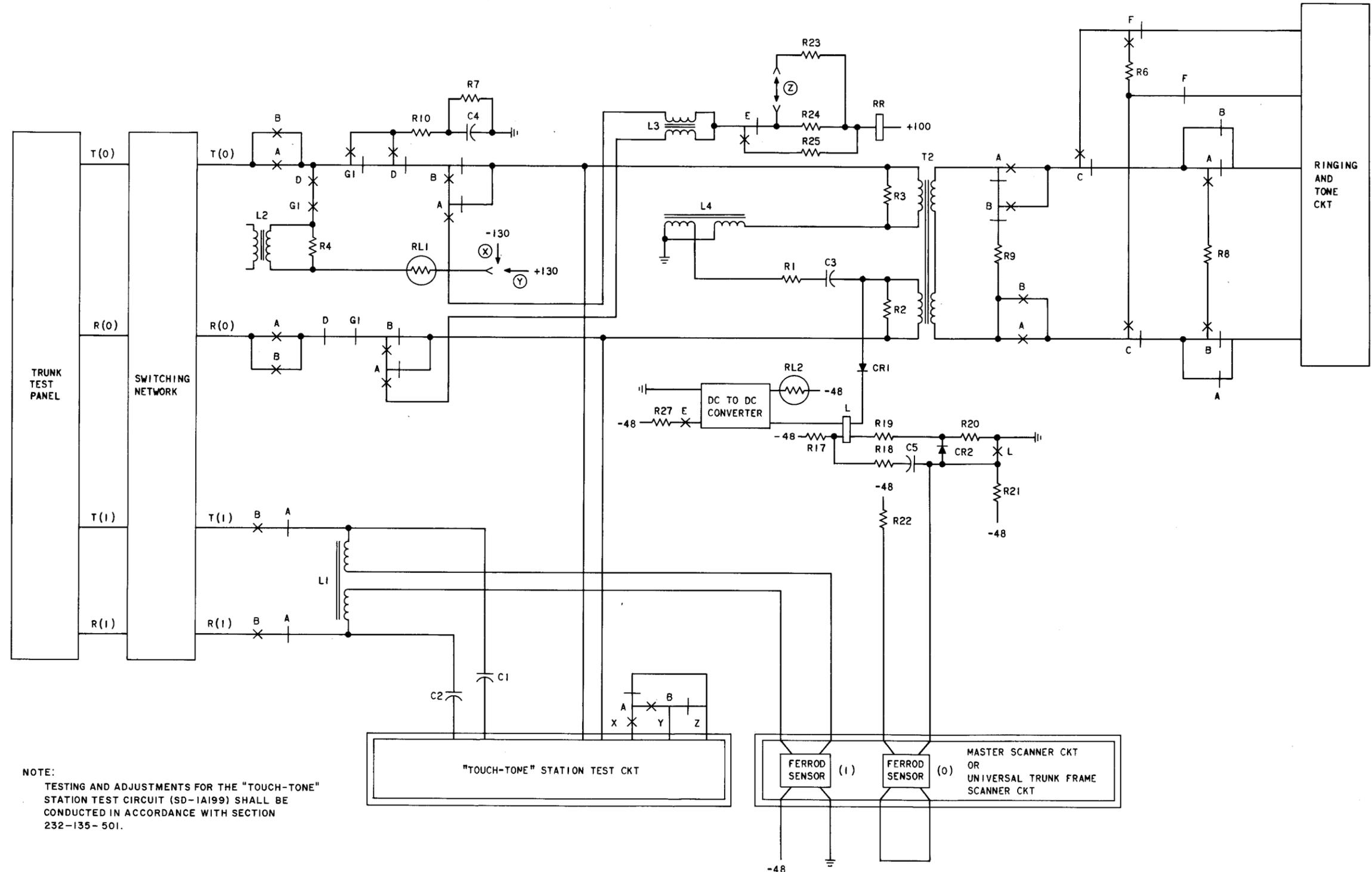
ss = scanner number

rr = scanner row

bb = bit in row

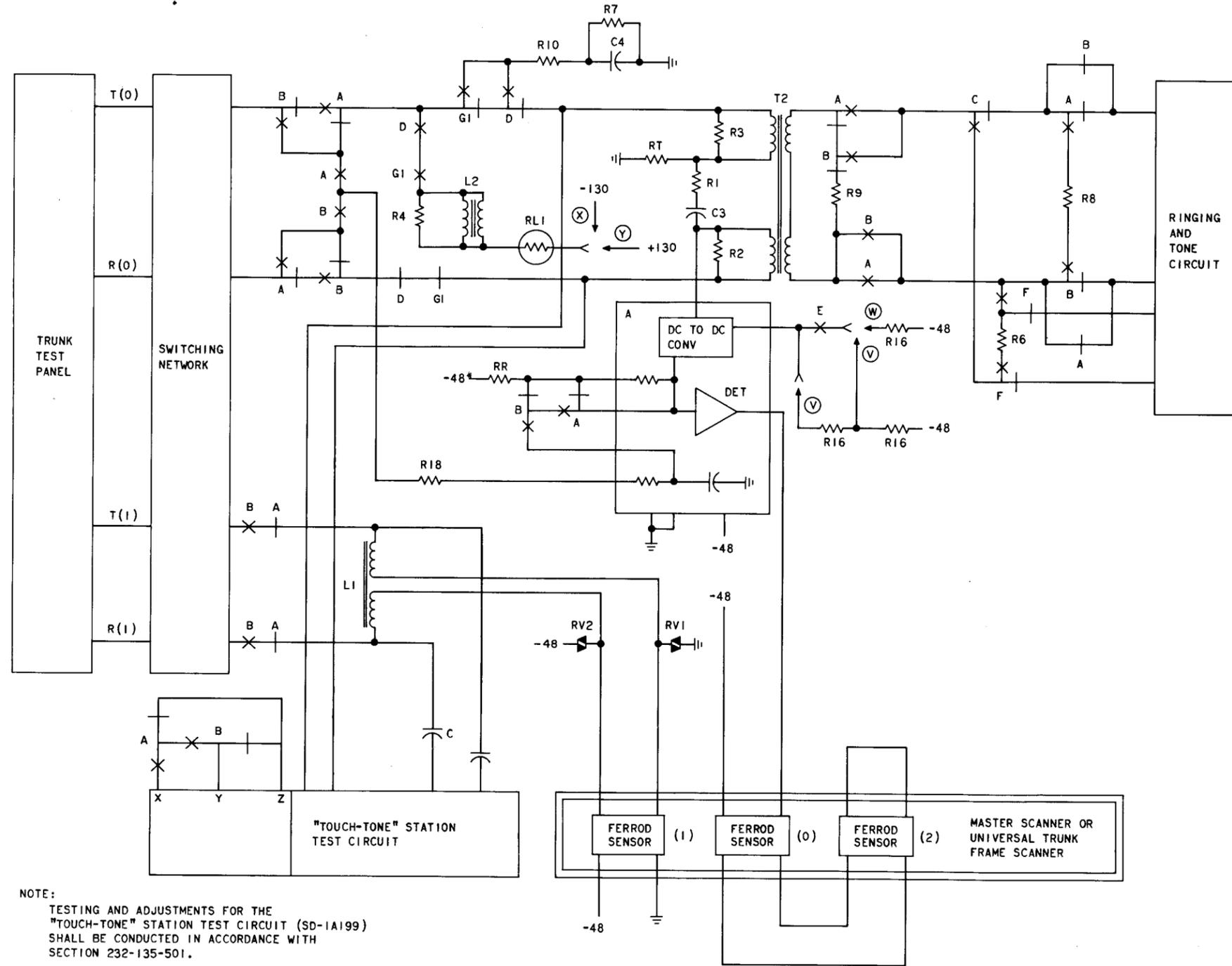
The bb bit represents the first ferrod sensor (0) in the scanner row that is associated with the station ringer test circuit. All other ferrod sensors assigned to the same circuit follow in consecutive order (0, 1, 2, etc). Refer to the output message manual (OM-2H200) for explanation of other data fields, if required.

3.03 Use the following procedure to make the station ringer test circuit (Fig. 1 and Fig. 2) traffic busy and to connect it to the TTP.



NOTE:
 TESTING AND ADJUSTMENTS FOR THE "TOUCH-TONE"
 STATION TEST CIRCUIT (SD-1A199) SHALL BE
 CONDUCTED IN ACCORDANCE WITH SECTION
 232-135-501.

Fig. 1—Station Ringer Test Circuit (SD-2H129-01)



NOTE:
 TESTING AND ADJUSTMENTS FOR THE
 "TOUCH-TONE" STATION TEST CIRCUIT (SD-1A199)
 SHALL BE CONDUCTED IN ACCORDANCE WITH
 SECTION 232-135-501.

Fig. 2—Station Ringer Test Circuit (SD-2H129-02)

STEP	ACTION	VERIFICATION
4a	If the P & E lamp is not lighted steadily— At ACCESS TRUNK 1 CONTROL— Depress RLS key.	
5a	Repeat Steps 3 and 4a until connection is successful.	
6	Place handset on-hook, or release TRFR key.	At telephone set— Access trunk 1 lamp extinguished. At TEL CKT— TRFR lamp extinguished.

4. METHOD

4.01 If the verification procedure fails or if a malfunctioning circuit is indicated during any part of these tests, proceed as follows.

- (1) Discontinue the test.

- (2) Troubleshoot the circuit which failed.
(3) Replace faulty circuit components using standard repair procedures.
(4) Repeat the test that failed. If verification is successful, continue the test.

STEP	ACTION	VERIFICATION
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A. Circuit State and Scan Point Operation

7	Use the TTY printout from 3.02 to determine the trunk scanner number and the scanner row associated with the scan point assigned to the station ringer test circuit.	
8	At maintenance TTY— For No. 2 ESS offices type in: UBRL TS:RSN:ssrr! ss = Number of trunk scanner in decimal (00-11) rr = Number of scanner row to be displayed in decimal (00-63). For No. 2B ESS offices type in: MON:TSSN ssrr;RDT LAMPS! ss = Number of trunk scanner in decimal (00-11) from Step 7. rr = Number of scanner row to be displayed in decimal (00-63) from Step 7. RDT LAMPS = Direct the result to the DISPLAY BUFFER.	At DISPLAY BUFFER— Scanner row containing specific scan point displayed. Lamps associated with ferrod sensors 0, 1, and 2 lighted.
9	At ACCESS TRUNK 1 CONTROL— Depress VM key.	At VOLTMETER— Meter indicates 0. At VOLTMETER CONTROL— 100K lamp lighted. At ACCESS TRUNK 1 CONTROL— VM lamp lighted.

SECTION 232-144-501

STEP	ACTION	VERIFICATION
10	At VOLTMETER CONTROL— Operate TR REV key.	At VOLTMETER— Meter indicates 0. At VOLTMETER CONTROL— TR REV lamp lighted.
11	Depress FEMF key.	At VOLTMETER— Meter indicates 0. At VOLTMETER CONTROL— FEMF lamp lighted. 100K lamp extinguished.
12	Release TR REV key.	At VOLTMETER— Meter indicates 0. At VOLTMETER CONTROL— TR REV lamp extinguished.
13	Depress MET VM key.	At VOLTMETER— Meter indicates 0. At VOLTMETER CONTROL— FEMF lamp extinguished. MET VM lamp lighted.
14	At TTP (test and control)— Set PD GROUP switch to 0-5 position.	
15	At PERIPHERAL DECODER POINTS— Operate 0 key.	At PERIPHERAL DECODER POINTS— 0 lamp lighted.
16	Depress AT 1 key.	At VOLTMETER— For circuit without Option V— Meter indicates between 42.75 and 52.50 volts on 120-volt scale. For circuit with Option V— Meter indicates between 63.5 and 82.0 volts At circuit under test— Relay A operated.
17b	If the office has zone 16 service and is using Option V of the SD-2H129-02 circuit, connect a 900-ohm resistor across the two ends of the W2DL cord.	
18b	Connect the positive lead of the KS-14510 L1 VOM to the white wire of the W2DL cord and the negative lead of the VOM to the black wire of the W2DL cord.	
19b	Condition the VOM to measure dc volts on the 60-volt scale and insert the 310 plug on the end of the W2DL cord into ACCESS TRK-1 jack on the TTP.	At VOM— Meter indicates less than 52.5 volts. At circuit under test— Relay A remains operated.

STEP	ACTION	VERIFICATION
20b	Remove the 310 plug from the ACCESS TRK-1 jack and disconnect the VOM and the 900-ohm resistor.	
21	Connect the KS-14510 L1 VOM, to the T and R terminal screws on the 35F test set using test leads.	
22	Operate the BATT & GRD CO and G (ground) keys on the 35F test set.	
23	Operate and lock the No. 1 telegraph key on the 35F test set and move all of the resistance sliders (red and black knobs) to the extreme right.	
24c	◆If the circuit under test is SD-2H129-01, turn VOM function select switch to OHMS X100 position.◆	
25c	Adjust the No. 1 coarse (red) slider on the 35F test set until the KS-14510 L1 VOM indicates approximately 1550 ohms.	
26c	Adjust the No. 1 fine (black) slider for an indication of 1500 ohms on the KS-14510 L1 VOM.	
27c	◆Turn VOM function select switch to OFF.◆	
28c	Insert one end of W2FT cord into the 310 T&R jack of the 35F test set.	
29c	At the front of the writing shelf— Insert the other 310 plug of the W2FT cord into ACCESS TRK-1 jack.	At DISPLAY BUFFER— Lamp associated with ferrod sensor 0 extinguished.
30c	Remove the 310 plug from ACCESS TRK-1 jack.	Lamp associated with ferrod sensor 0 lighted.
31d	If the circuit under test is SD-2H129-02, ◆turn VOM function select switch to OHMS X100 position.◆	
32d	Adjust the No. 1 coarse (red) slider on the 35F test set for an indication of approximately 1850 ohms on the KS-14510 L1 VOM.	
33d	Adjust the No. 1 fine (black) slider for an indication of 1800 ohms on the KS-14510 L1 VOM.	

SECTION 232-144-501

STEP	ACTION	VERIFICATION
34d	◆Turn VOM function select switch to OFF position.	
35d	Insert one end of W2FT cord into the 310 T&R jack of the 35F test set.◆	
36d	At the front of the writing shelf— Connect the 35F test set to the circuit under test by inserting the other 310 plug on the W2FT cord into the ACCESS TRK-1 jack.	Lamps associated with ferrod sensors 0 and 2 extinguished.
37d	Remove the 310 plug from the ACCESS TRK-1 jack.	Lamps associated with ferrod sensors 0 and 2 lighted.
38	At PERIPHERAL DECODER POINTS— Operate 4 key.	At PERIPHERAL DECODER POINTS— 4 lamp lighted.
39	Depress AT 1 key.	At VOLTMETER— ◆Without zone 16 service or range extension, meter indicates between 42.75 and 52.5 volts on 120-volt scale.◆ ◆With zone 16 service or range extension◆ meter indicates between 63.5 and 82 volts on 120-volt scale. At circuit under test— Relay E operated. Relay A remains operated.
40	◆Turn VOM function select switch to OHMS X100 position.◆	
41	Adjust the No. 1 coarse (red) slider on the 35F test set for an indication of approximately 2750 ohms on the KS-14510 L1 VOM.	
42	Adjust the No. 1 fine (black) slider for an indication of 2700 ohms on the KS-14510 L1 VOM.	
43	◆Turn VOM function select switch to OFF position.◆	
44	At front of writing shelf— Insert the 310 plug on the W2FT cord, connected to the 35F test set, into ACCESS TRK-1 jack.	At DISPLAY BUFFER— For SD-2H129-01— Lamp associated with ferrod sensor 0 extinguished. For SD-2H129-02— Lamps associated with ferrod sensors 0 and 2 extinguished. At circuit under test— Relays A and E remain operated.

STEP	ACTION	VERIFICATION
45	Remove the 310 plug from ACCESS TRK-1 jack.	At DISPLAY BUFFER— For SD-2H129-01— Lamp associated with ferrod sensor 0 lighted. For SD-2H129-02— Lamps associated with ferrod sensors 0 and 2 lighted.
46	At PERIPHERAL DECODER POINTS— Release 0 and 4 keys.	At PERIPHERAL DECODER POINTS— 0 and 4 lamps extinguished.
47	Depress AT 1 key.	At VOLTMETER— Meter indicates 0. At circuit under test— Relays A and E released.
48	Repeat Steps 1 through 13 for access trunk 2 using 064 and the MEMN of port 1 of station ringer test circuit.	Same as for Steps 1 through 13.
49	At PERIPHERAL DECODER POINTS— Operate 1 key.	At PERIPHERAL DECODER POINTS— 1 lamp lighted.
50	Depress AT 1 key.	At VOLTMETER— Meter indicates between 42.75 and 52.5 volts on 120-volt scale. At circuit under test— Relay B operated.
51	At front of writing shelf— Insert No. 262C plug (900 ohm) into ACCESS TRK-2 jack.	At DISPLAY BUFFER— Lamp associated with ferrod sensor 1 extinguished.
52	Remove the No. 262C plug from ACCESS TRK-2 jack.	Lamp associated with ferrod sensor 1 lighted.
53	At VOLTMETER CONTROL— Depress FEMF key.	At VOLTMETER— Meter indicates between 42.75 and 52.50 volts on 120-volt scale. <i>80V</i> At VOLTMETER CONTROL— FEMF lamp lighted. MET VM lamp extinguished. 100K lamp extinguished.
54c	If circuit under test is SD-2H129-01— At VOLTMETER CONTROL— Operate VM REV key.	At VOLTMETER CONTROL— VM REV lamp lighted.
55	At PERIPHERAL DECODER POINTS— Operate 0 key.	At PERIPHERAL DECODER POINTS— 0 lamp lighted. 1 lamp remains lighted.

SECTION 232-144-501

STEP	ACTION	VERIFICATION
56	Depress AT 1 key.	<p>At VOLTMETER— For SD-2H129-01— Voltmeter indicates between 93 and 104 volts on 120-volt scale. For SD-2H129-02— Voltmeter indicates between 42.75 and 52.50 volts on 120-volt scale.</p>
57	<p>◆At VOLTMETER CONTROL— Operate GD key.◆</p>	<p>At DISPLAY BUFFER— ◆Lamps associated with ferrod sensor 2 of SD-2H129-01 extinguished. Lamps associated with ferrod sensors 0 and 2 of SD-2H129-02 extinguished.◆ Lamps associated with ferrod sensors 1 through 8 of the associated TOUCH-TONE station test circuit extinguished. (<i>Note:</i> These ferrod sensors are represented by bits 8-15 of the same scanner row as the station ringer test circuit.) Lamp associated with ferrod sensor 0 of associated TOUCH-TONE station test circuit lighted (Bit 0). At circuit under test— Relay A operated. Relay B remains operated.</p>
58	◆Release GD key.◆	<p>At DISPLAY BUFFER— ◆Lamps associated with ferrod sensor 2 of SD-2H129-01 lighted. Lamps associated with ferrod sensors 0 and 2 of SD-2H129-02 lighted. Lamps associated with ferrod sensors 1 through 8 of the associated TOUCH-TONE station test circuit lighted. (<i>Note:</i> These ferrod sensors are represented by bits 8-15 of the same scanner row as the station ringer test circuit.) Lamp associated with ferrod sensor 0 of associated TOUCH-TONE station test circuit extinguished (Bit 0).◆</p>
59	Operate 4 key.	<p>At PERIPHERAL DECODER POINTS— 4 lamp lighted.</p>
60	Depress AT 1 key.	<p>◆At VOLTMETER— For SD-2H129-01— Voltmeter indicates between 93 and 104 volts on the 120-volt scale. For SD-2H129-02— Voltmeter indicates between 42.75 and 52.5 volts on the 120-volt scale.◆ At circuit under test—</p>

happens at step 56

happens at step 67E

STEP	ACTION	VERIFICATION
		Relay E operated. Relays A and B remain operated.
61	At VOLTMETER CONTROL— Operate TR REV key.	At VOLTMETER— For SD-2H129-01— Meter indicates between 93 and 104 volts on 120-volt scale. For SD-2H129-02— Meter indicates between 42.75 and 52.5 volts on 120-volt scale. At VOLTMETER CONTROL— TR REV lamp lighted. ♦At circuit under test— Relays A, B and E remain operated.♦
62c	At PERIPHERAL DECODER POINTS— Release 4 key.	At PERIPHERAL DECODER POINTS— 4 lamp extinguished.
63c	Depress AT 1 key.	At DISPLAY BUFFER— Lamp associated with ferrod sensor 2 remains extinguished. At circuit under test— Relay E released. Relays A, B, and ♦RR (-01 circuit)♦ remain operated.
64c	At PERIPHERAL DECODER POINTS— Release 0 and 1 keys.	At PERIPHERAL DECODER POINTS— 0 and 1 lamps extinguished.
65c	Depress AT 1 key.	At VOLTMETER— Meter indicates 0. At DISPLAY BUFFER— ♦Lamp associated with ferrod sensor 2 lighted.♦ Lamps associated with ferrod sensors 1 through 8 of associated TOUCH-TONE station test circuit lighted. Lamp associated with ferrod sensor 0 of associated TOUCH-TONE station test circuit extinguished. At circuit under test— Relays A and B released.
66c	At VOLTMETER— Release VM REV key.	At VOLTMETER CONTROL— VM REV lamp extinguished.
67e	If circuit under test is ♦SD-2H129-02 with option X or Y♦ — At PERIPHERAL DECODER POINTS— Release 1 and 4 keys. ATI	At PERIPHERAL DECODER POINTS— 1 and 4 lamps extinguished. ♦At DISPLAY BUFFER— Lamps associated with ferrod sensors 0 and 2 lighted.♦ <i>lighted on step 58 + never went out</i>

SECTION 232-144-501

STEP	ACTION	VERIFICATION
68e	Operate 3 key.	At PERIPHERAL DECODER POINTS— 3 lamp lighted.
69e	Depress AT 1 key.	At VOLTMETER— Meter indicates full scale or reverse deflection. At circuit under test— Relays A, D, and G1 operated. Relays B and E released.
70f	If meter indicates reverse deflection— At VOLTMETER CONTROL— Operate VM REV key.	At VOLTMETER— Meter indicates full scale deflection. At VOLTMETER CONTROL— VM REV lamp lighted.
71	At PERIPHERAL DECODER POINTS— Release 0 and 3 keys.	At PERIPHERAL DECODER POINTS— 0 and 3 lamps extinguished.
72	Depress AT 1 key.	At VOLTMETER— Meter indicates 0. At circuit under test— Relay A, D, and G1 released.
73f	If meter indicates reverse deflection— At VOLTMETER CONTROL— Release VM REV key.	At VOLTMETER CONTROL— VM REV lamp extinguished.
74	At VOLTMETER CONTROL— Release TR REV key.	At VOLTMETER CONTROL— TR REV lamp extinguished.
75	At PERIPHERAL DECODER POINTS— Operate 1 and 4 keys.	At PERIPHERAL DECODER POINTS— 1 and 4 lamps lighted.
76	Depress AT 1 key.	At VOLTMETER— Without zone 16 service or range extension, meter indicates 42.75 and 52.5 volts on 120-volt scale. With zone 16 service or range extension, meter indicates between 63.5 and 82 volts on 120-volt scale. At circuit under test— Relays B and E operated.
77	Release 1 and 4 keys.	At PERIPHERAL DECODER POINTS— 1 and 4 lamps extinguished.
78	Depress AT 1 key. ◆ Note: If Test B is to be performed proceed to Test B, Step 8.◆	At VOLTMETER— Meter indicates 0. At circuit under test— Relays B and E released.
79	At ACCESS TRUNK 2 CONTROL and ACCESS TRUNK 1 CONTROL—	At ACCESS TRUNK 1 CONTROL— VM lamp extinguished.

STEP	ACTION	VERIFICATION
	Depress RLS keys, respectively.	SUPV lamps extinguished. EQPT ST lamps extinguished. At MISC TEST CONTROL— P & E lamp extinguished. At VOLTMETER CONTROL— FEMF lamp extinguished.
B. High Tone Output Levels		
Note: Repeat Steps 1 through 6 on ACCESS TRUNK 1 CONTROL for group 45.		
7	Repeat Steps 1 through 6 for access trunk 2 using 064 and the MEMN of port 1 of station ringer test circuit.	Same as for Steps 1 through 6.
8	Set PD GROUP switch to 0-5 position.	
9	At PERIPHERAL DECODER POINTS— Operate 0 and 2 keys.	At PERIPHERAL DECODER POINTS— 0 and 2 lamps lighted.
10	Depress AT 1 key.	At circuit under test— Relays A and C operated.
11	At front of writing shelf— Connect headset to ACCESS TRK-1 jack.	At headset— High tone present.
12	Set PD GROUP switch to 6-11 position.	
13	At PERIPHERAL DECODER POINTS— Operate 7 key. Release 8 key.	At PERIPHERAL DECODER POINTS— 7 lamp lighted. 8 lamp extinguished. 6 lamp remains lighted.
14	Depress AT 1 key.	At headset— Busy tone present (60 ipm). At interrupter applique circuit— Relays A and B operated. At circuit under test— Relay F operating at 60 ipm. Relays A and C remain operated.
15	At PERIPHERAL DECODER POINTS— Release 7 key.	At PERIPHERAL DECODER POINTS— 7 lamp extinguished. 6 lamp remains lighted.
16	Depress AT 1 key.	At headset— Overflow tone present (120 ipm). At interrupter applique circuit— Relay A remains operated. At circuit under test—

SECTION 232-144-501

STEP	ACTION	VERIFICATION
		Relay F operating at 120 ipm. Relays A and C remain operated.
17	Set PD GROUP switch to 0-5 position.	
18	At PERIPHERAL DECODER POINTS— Depress AT 1 key.	At headset— Dial tone present. At circuit under test— Relay C released. Relay A remains operated. Relay F continues to operate at 120 ipm.
19	At front of writing shelf— Move headset connection from ACCESS TRK-1 jack to ACCESS TRK-2 jack.	
20	At PERIPHERAL DECODER POINTS— Release 0 key. Operate 1 key.	At PERIPHERAL DECODER POINTS— 0 lamp extinguished. 1 lamp lighted.
21	Depress AT 1 key.	At headset— Dial tone present. At circuit under test— Relay A released. Relay B operated. Relay F continues to operate at 120 ipm.
22	At PERIPHERAL DECODER POINTS— Operate 2 key.	At PERIPHERAL DECODER POINTS— 2 lamp lighted.
23	Depress AT 1 key.	At headset— Overflow tone present (120 ipm). At circuit under test— Relay C operated. Relay B remains operated. Relay F continues to operate at 120 ipm.
24	Set PD GROUP switch to 6-11 position.	
25	At PERIPHERAL DECODER POINTS— Release 8 key. Operate 6 key.	At PERIPHERAL DECODER POINTS— 6 lamp lighted. 8 lamp extinguished. 7 lamp remains lighted.
26	Depress AT 1 key.	At headset— Busy tone present (60 ipm). At interrupter applique circuit— Relays A and B operated. At circuit under test— Relays B and C remain operated. Relay F operating at 60 ipm.

STEP	ACTION	VERIFICATION
27	At PERIPHERAL DECODER POINTS— Release 6 and 7 keys.	At PERIPHERAL DECODER POINTS— 6 and 7 lamp extinguished.
28	Depress AT 1 key.	At headset— High tone present. At interrupter applique circuit— Relay A and B released. At circuit under test— Relay F released. ◆Relays B and C remain operated.◆
29	Set PD GROUP switch to 0-5 position.	
30	Depress AT 1 key.	At circuit under test— Relays B and C released.
31	At front of writing shelf— Disconnect headset from ACCESS TRK-2 jack.	
32	◆At ACCESS TRUNK 2 CONTROL— Depress RLS keys.	At ACCESS TRUNK 2 CONTROL— SUPV lamp extinguished. EQPT ST lamp extinguished.
33	At ACCESS TRUNK 1 CONTROL— Depress RLS key.	At ACCESS TRUNK 1 CONTROL— SUPV lamp extinguished. EQPT ST lamp extinguished.◆
34	Operate green release key.	
35	At maintenance TTY— For No. 2 ESS offices type in: UB SY:CLB! For No. 2B ESS offices type in: STOP:UTIL!	Ferrod sensor display cleared from DISPLAY BUFFER.