

ELECTRONIC DIAL TONE SPEED REGISTER (EDTSR) TESTS AND TROUBLE LOCATING PROCEDURES

1. GENERAL

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1.01 This section provides tests and trouble locating procedures for the electronic dial tone speed register (EDTSR). These tests and procedures are designed to direct maintenance personnel to the circuit pack causing a malfunction.

E. Line Retest: This test verifies that a given line can be repeatedly tested. 4

1.02 This section is reissued for the following reasons:

F. Delay Identification: This test verifies that a dial tone delay is identified. 4

- (a) Adds Tests C, D, E, and F
- (b) Revises Table A
- (c) Adds Fig. 2.

1.04 When replacing circuit packs, Section 032-173-301 should be used to alert maintenance personnel to precautions when working with semiconductor devices.

These changes cover new features incorporated in units manufactured per Issue 13B or later of SD-3B504-01. Since this is a general revision, arrows ordinarily used to denote significant changes have been omitted. This reissue affects the Equipment Test List.

1.05 When an office is equipped with a precise dial tone, the EDTSR may either have CP16 with CP17 circuit packs or have CP14 with CP13 and/or CP17 circuit packs. When an office is equipped with a nonprecise dial tone, the EDTSR should have CP16 with CP17 circuit packs.

1.03 The tests covered are:

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A. Dial Tone Detector (SD-3B504-01, Issue 12 and Earlier): This test verifies accuracy of the electronic counters. 2

1.06 Lettered Steps: A letter a, b, c, etc, added to a step number in Part 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.

B. Calling Rate: This test verifies accuracy of the calling rate. 2

Note: Tests C, D, E, and F apply only to units manufactured per Issue 13B or later.

2. APPARATUS

2.01 KS-3008 stopwatch.

C. Dial Tone Detector (SD-3B504-01, Issue 13B and Later): This test verifies correct operation of the unit using a signal generated internally. 3

3. PREPARATION

3.01 Before attempting any test, verify that switches and indicators conform to position and status shown in Table A. If any indicator does not conform, refer to trouble locating procedures in Part 5.

D. Line Identification: This test verifies that the line being tested is displayed. 4

NOTICE

Not for use or disclosure outside the Bell System except under written agreement

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4. METHOD

STEP	ACTION	VERIFICATION
A. Dial Tone Detector (SD-3B504-01, Issue 12 and Earlier)		
1	At CP2— Operate DELAYED CALLS key.	
2	Set CLASS OF SERVICE switch to 0.	
3	At CP14 or CP16— Operate DTC key to down position.	
4	Momentarily operate COUNTER CLEAR key.	
5	Wait 1 minute.	DELAYED CALLS readout is same as TOTAL CALLS readout.
6	Operate DTC key to up position.	
7a	If verification of Step 5 is not met— Replace the following circuit packs one at a time in order shown, repeating Steps 3 through 6 after each replacement until trouble is cleared: CP14 or CP16, CP9, CP8, CP4.1, CP4.2, CP10, and CP2.	
B. Calling Rate		
1	Obtain from office records the calling rate of the EDTSR.	
2	At CP2— Operate DELAYED CALLS key.	
3	Momentarily operate COUNTER CLEAR key, start stopwatch and time for 6 minutes \pm 1 second.	
4	At end of 6 minutes, stop machine to prevent any peg counts from occurring until readings are made in Steps 4 and 6. Record total calls.	
5	Operate FAULTY CALLS key.	
6	Record faulty calls.	
7	Add total calls and faulty calls.	
8	Refer to Table B to determine calling rate of EDTSR.	Calling rate should agree with cross connections on CP11. (See Note 404, SD-3B504-01.)

STEP	ACTION	VERIFICATION
9a	<p>If verification of Step 8 is not met— Replace the following circuit packs one at a time in order shown, repeating Steps 3 through 7 after each replacement until trouble is cleared: CP8, CP14 or CP16, CP10, CP11, and CP2.</p> <p>Note: The following tests apply only to units manufactured per Issue 13B or later.</p>	
C. Dial Tone Detector (SD-3B504-01, Issue 13B and Later)		
1	<p>At CP10— Operate LR/LS/RC key to LS.</p>	
2	<p>At CP14 or 16— Operate DTC/DTT key to DTT.</p>	DT LED lighted.
3	Operate DTC/DTT key to center position.	DT LED extinguished.
4	Operate DTC/DTT key to DTC.	DT LED remains extinguished.
5	<p>At CP2— Momentarily operate SELECT/COUNTER CLEAR key to COUNTER CLEAR.</p>	
6	Operate display key to the left.	Both displays indicate 000.
7	<p>At CP10— Operate LR/LS/RC key to LR.</p>	TOTAL CALLS and DELAYED CALLS displays increment together.
8	Operate LR/LS/RC key to LS.	
9	<p>At CP2— Momentarily operate SELECT/COUNTER CLEAR key to COUNTER CLEAR.</p>	
10	<p>At CP14 or 16— Operate DTC/DTT key to DTT.</p>	<p>At CP2— Both displays indicate 000.</p>
11	<p>At CP10— Operate LR/LS/RC key to LR.</p>	<p>At CP2— TOTAL CALLS display is incrementing. DELAYED CALLS display indicates 000.</p>
12	Operate LR/LS/RC key to position for normal operation.	
13	<p>At CP14 or 16— Operate DTC/DTT key to center position.</p>	

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STEP	ACTION	VERIFICATION
D. Line Identification		
1	At CP14 or 16— Operate DTC/DTT key to center position.	
2	At CP10— Operate RPT TST/ADV key to ADV.	
3	Operate LR/LS/RC key to LS.	
4	At terminal strip A— Connect short jumper between terminals 101 and 111.	
5	At CP2— Operate display switch to the right.	LINE NO display is 000. LC LED lighted.
6	Wait approximately 10 seconds.	LINE NO display is 000.
7	At terminal strip A— Remove jumper.	
8	At CP10— Momentarily operate ALARM CUTOFF/ CLEAR key to CLEAR.	
9	Set LR/LS/RC key for normal operation.	
E. Line Retest		
1	At CP10— Operate LR/LS/RC key to LR.	
2	At CP2— Operate display switch to the right.	
3	At CP10— Operate RPT TST/ADV key to RPT TST.	LINE NO display does not change.
4	Operate RPT TST/ADV key to ADV.	LINE NO display changes at approximately 3-second intervals.
5	Set LR/LS/RC key for normal operation.	
F. Delay Identification		
1	Notify traffic administrator that EDTSR will be out of service for approximately 2 minutes.	

STEP	ACTION	VERIFICATION
2	At CP10— Operate LR/LS/RC key to LR.	
3	At CP2— Operate SOD key to ON.	
4	At CP14 or 16— Operate DTC/DTT key to DTC.	SOD LED lighted. Minor alarm sounded.
5	Reset all switches for normal operation.	

5. TROUBLE LOCATING PROCEDURES

5.01 Trouble clearing procedures associated with indicators are given in flowchart form in Fig. 1. A procedure for clearing line trouble is given in Fig. 2 for units manufactured per Issue 13B or later.

5.02 Procedures for clearing trouble associated with the dial tone detector and calling rate circuitry are given in Part 4.

5.03 If all the lines associated with a CP13 or CP17 circuit pack register fault conditions, replace the associated CP13 or CP17 circuit pack.

TABLE A

SWITCH	POSITON	INDICATOR	STATUS
LR/LS/RC	LR	CLK ALM	Extinguished
DTC	UP	LSQ	Extinguished
SOD ON/OFF	OFF	STB 1 and 2 3 SEC DT	Flashing
ISSUE 13B OR LATER			Flashing
DTC/DTT	CENTER		
RPT TST/ADV	ADV		

TABLE B

TOTAL CALLS PLUS FAULTY CALLS	CALLING RATE (PER HOUR)
88 — 91	900
58 — 61	600
43 — 46	450
20 — 23	225

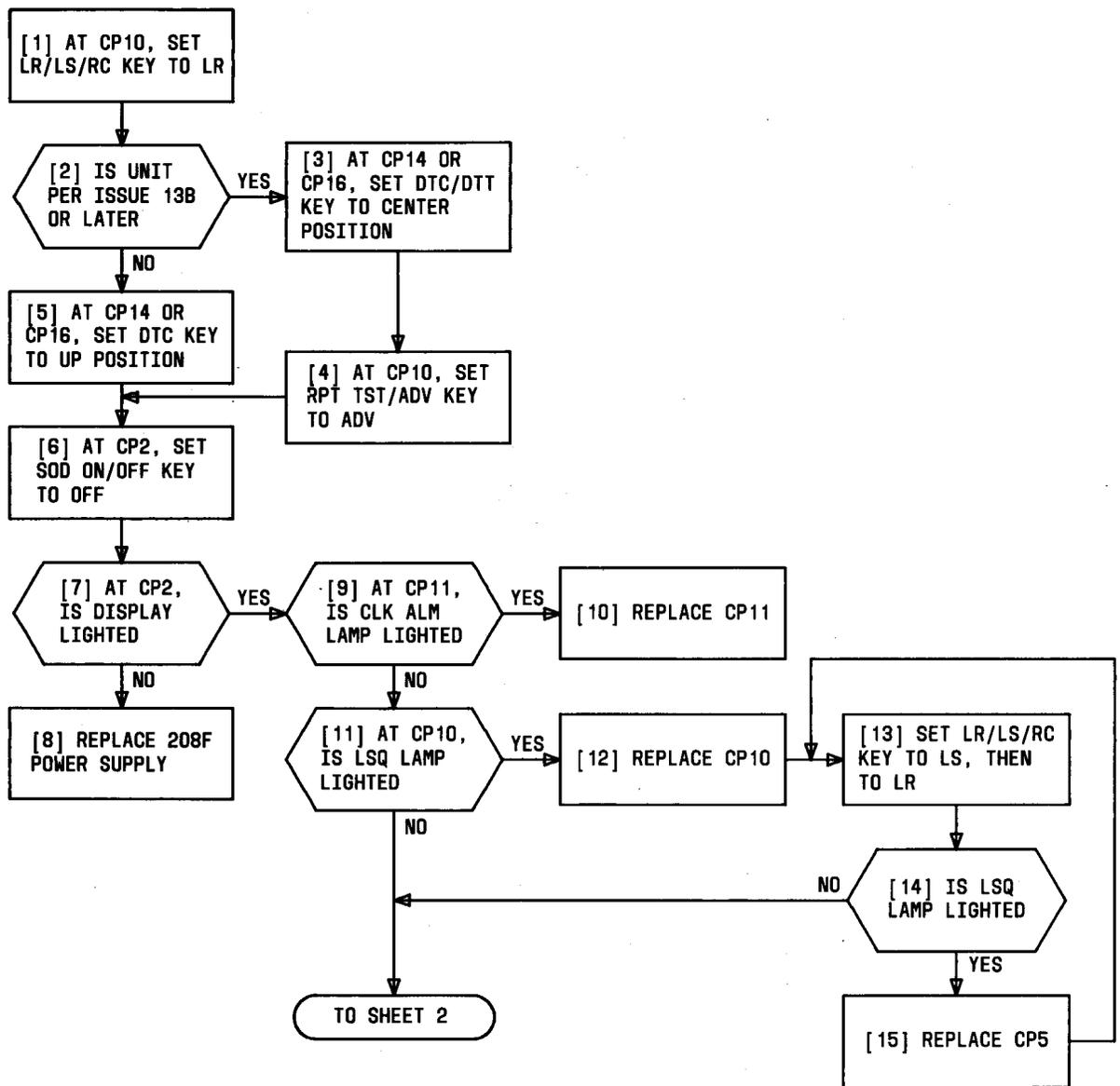


Fig. 1—Clear Trouble Identified by Indicators (Sheet 1 of 2)

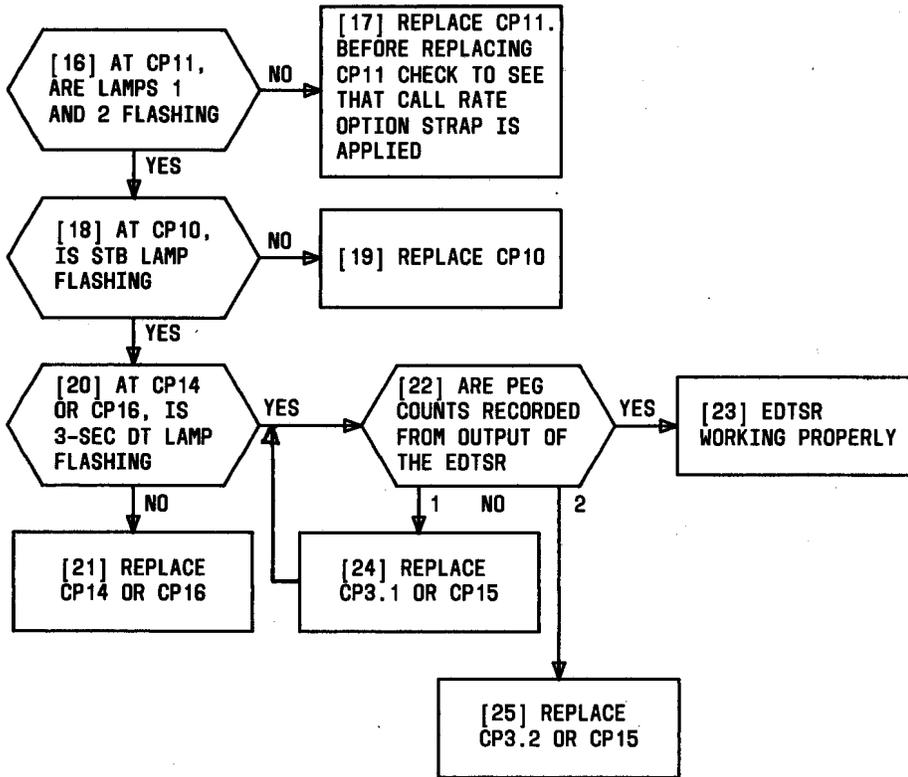
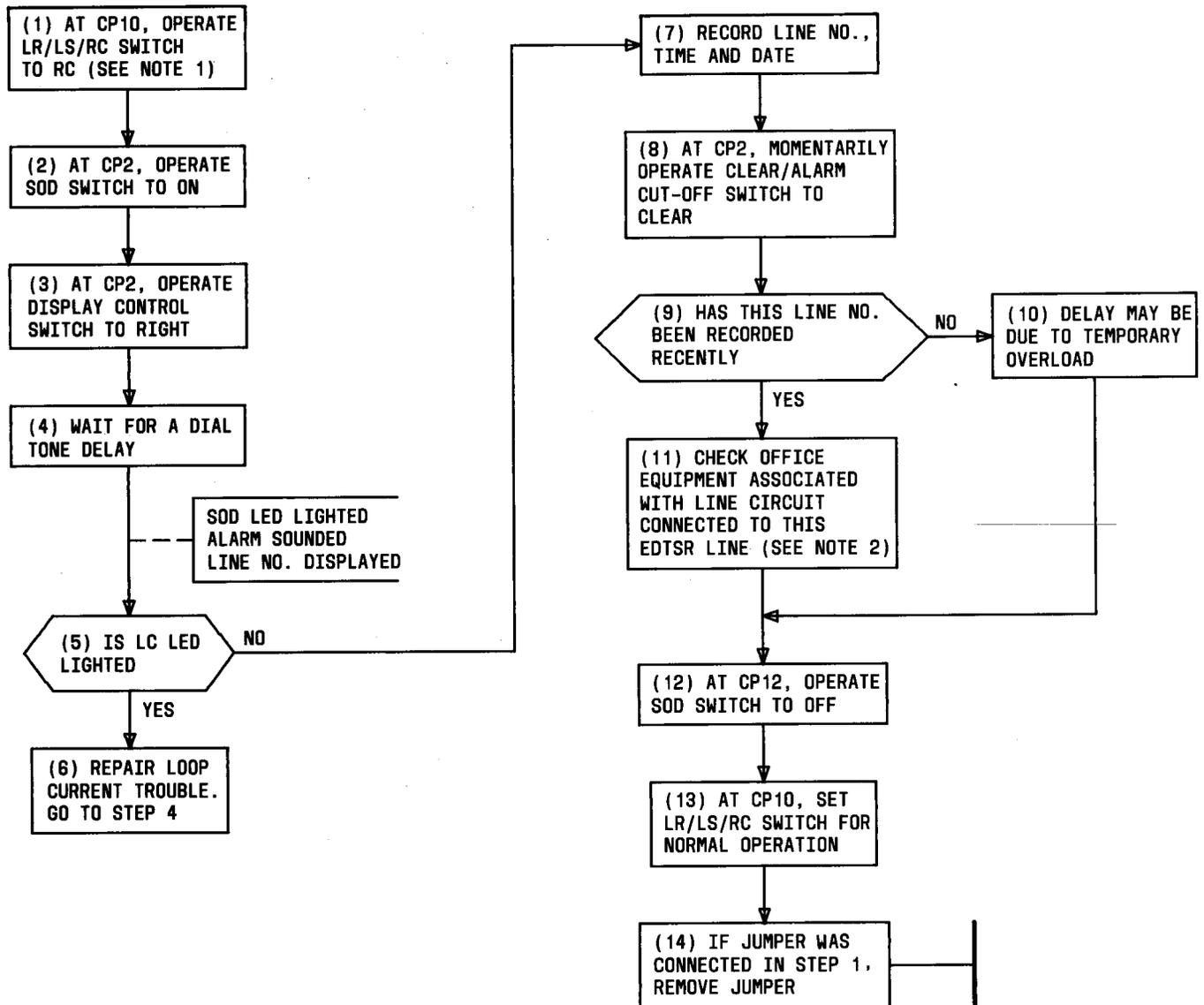


Fig. 1—Clear Trouble Identified by Indicators (Sheet 2 of 2)



NOTES

1. IF REMOTE CONTROL OPERATION IS NOT PROVIDED, OR IDENTIFICATION IS DESIRED FOR OTHER THAN NORMAL PROGRAMMED RUNNING TIME, CONNECT A JUMPER BETWEEN TERMINALS 15 AND 25 ON TS(A).
2. THE SUBSCRIBER LINE NO. IS GIVEN ON THE DESIGNATION CARD.

Fig. 2—Clear Trouble on Lines Causing Delays (Issue 13B or Later)