

COMMON SYSTEMS
 2-WAY AUXILIARY LINE CIRCUIT
 (SD-99484-01)

CONTENTS

- | | |
|-----------------------------|--------------------------|
| 1. GENERAL INFORMATION | 5. PRELIMINARY SET UP |
| 2. RECORDS AND REQUIREMENTS | 6. FUNCTIONAL TESTS |
| 3. TEST EQUIPMENT | 7. TROUBLESHOOTING GUIDE |
| 4. FUSING | |

1. GENERAL INFORMATION

1.11 Description: This section describes the operational tests to be performed on the Auxiliary Line Circuit (SD-99484-01) which provides a local (DDD) central office line circuit appearance to afford calls from switched service networks (SSN) the same local and toll completions as a regular subscriber in an office. It is also used to switch calls from the DDD network into the SSN.

2. RECORDS AND REQUIREMENTS

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

2.2 Requirements: The tests in this section are based on SD, CO-99484-01.

3. TEST EQUIPMENT

3.1 Test Sets

<u>Amt</u>	<u>ITE</u>	<u>Description</u>
1	4442A	Volt-Ohmmeter
1	4631	Test Receiver

3.2 Accessories

<u>NOTE</u>	<u>AMT</u>	<u>CODE OR ITE</u>	<u>DESCRIPTION</u>
	1	4208A	Combination Talking Set
	1	310	Plug
	1	349A	MB Plug
R	1	KS-3008	Stop Watch

NOTE: R - Requisition

4. FUSING

4.1 Using ITE-4442A Volt-Ohmmeter, check each fuse post for absence of battery and ground.

4.2 Using fuses of correct type, as indicated by circuit drawing and panel designations, install the fuses one at a time, checking that each fuse is associated with the correct equipment and is free from crosses with other unfused posts on the fuse panel.

4.3 Using ITE-4442A Volt-Ohmmeter, check for -48V battery on unit T.S. A, punching 51.

5. PRELIMINARY SET UP

5.1 Insert the 349A plug into the MB jack. The MB lamp lights.

5.2 Insert the 310 (dummy) plug into the TST jack. The TST relay operates.

5.3 Connect the ITE-4208A combination talking set into the PLS jack (MON-TALK switch in the MON position).

5.4 Remove the 349A plug from the MB jack. The MB lamp is extinguished.

5.5 Strap together terminals 44 and 51, 33 and 43, and 23 and 53 on the unit T.S. (A).

6. FUNCTIONAL TESTS6.1 Seizure From SSN and Pulsing

6.11 Operate the MON-TALK switch on the ITE-4208A set to the TALK position. Relays A, B, BA, B1 and ST operate, relay T operates.

6.12 Ground terminal 54 on unit T.S.(A) and observe that relays S, S1, S0 and SL2 operate, and relays B1, ST and T release.

6.13 Dial the digit "0" twice with the ITE-4208A set and observe that relays A and CS follow the dial pulsing, and relays D and C1 operate.

6.14 At the end of dialing, observe that relays CS, C and C1 release, and relay ST operates. Observe that approximately 10 sec. after relay ST operates relay T operates and releases, releasing ST.

6.15 Manually release relays B1 and D.

6.2 On Hook From SSN Office Before Answer

6.21 Perform Paragraph 6.13.

6.22 Operate the MON-TALK switch on the talking set to the MON position after the second "0" has been dialed. Observe that relays A, B, D, S and C1 release, and relays CS and SW operate.

6.23 Remove the ground on terminal 54 of unit T.S.(A) and observe that relays CS and SW release, and the circuit returns to normal.

6.3 Disconnect - Called Party First6.31 Local SxS

6.311 Perform Paragraphs 6.11 through 6.14.

6.312 Manually hold operated relay CS and observe that relay CS1 operates.

6.313 Manually release relay CS and observe that relay D releases and relays S2 and ST operate.

6.314 Manually hold operated relay CS as soon as relay ST operates. Observe that relay D operates and relay ST releases.

6.315 Manually release the CS relay and observe that relay ST operates. Observe that approximately .7 sec. after relay ST operates, relay T operates and releases, releasing relays ST, CS1 and B1.

6.316 Operate the MON-TALK switch on the talking set to the MON position. Relays A, B, S, S2, S1, S0 and SL2 release, and relays CS and SW operate.

6.317 Remove the ground on terminal 54 of unit T.S.(A) and observe that relays CS and SW release and the circuit returns to normal.

6.32 #1 and #5 Crossbar and SxS

6.321 Perform Paragraphs 6.11 through 6.14.

6.322 Remove the ground from terminal 54 of the unit T.S.(A) and observe that relays S and D release and relays S2 and ST operate.

6.323 Manually hold operated relay CS as soon as ST operates and observe relay D operates and relay ST releases.

6.324 Manually release relay CS and observe that relay D releases and relay ST operates. Observe that approximately .7 sec. after relay ST operates, relay T operates and releases, releasing relays B1 and ST.

6.325 Operate the MON-TALK switch on the talking set to the MON position. Relays A, B, S2, S1, S0 and SL2 release and the circuit returns to normal.

6.4 Disconnect - SSN Office First

6.41 Perform Paragraphs 6.11 through 6.14.

6.42 Operate the MON-TALK switch on the talking set to the MON position. Relays A and S release, and relays S2 and CS operate.

6.43 Remove the ground from terminal 54 on unit T.S.(A) and observe that relays CS, D, B, B1, S2, S1, S0 and SL2 release, and the circuit returns to normal.

6.5 Disconnect - Network Office First - Local SxS (after Answer)

6.51 Perform Paragraphs 6.11 through 6.14.

6.52 Reverse the leads on terminals 54 and 44 on unit T.S.(A).

CAUTION: BATTERY AND GROUND ON ADJACENT TERMINALS. WHEN REVERSING LEADS MAKE SURE BOTH LEADS ARE NOT ON THE SAME TERMINAL AT THE SAME TIME.

Observe that relays CS and CS1 operate.

6.53 Operate the MON-TALK switch on the talking set to the MON position. Observe that relays A and S release.

6.54 Remove the ground on terminal 44 on unit T.S.(A) and observe that relays CS, B and D release, and relay ST operates.

6.55 Observe that approximately .7 sec. after relay ST operates, relay T operates and releases, releasing relays B1, CS1, ST, T, S1, S2, S0 and SL2 and the circuit returns to normal.

6.56 Remove the strap connection from terminal 54 and connect it to terminal 44 on unit T.S.(A).

6.6 Seizure From DDD Network - SSN Office Answer and Disconnect From DDD Network

6.61 Ground terminals 13 and 54 on unit T.S.(A). Relays SL, SL1 and S operate.

6.62 Connect the (-) lead of the ITE-4442A Volt-Ohmmeter to contact 6 of the TST jack, and the (+) lead to ground.

6.63 Set the selector switch on the ITE-4442A Volt-Ohmmeter to 60 VDC.

6.64 Block relay OG operated and observe that the needle on the ITE-4442A Volt-Ohmmeter deflects upscale, returns to zero, again deflects upscale and remains at approximately -48 volts. Observe that relays OG1, OG2A, OGB and W operate. The OGB releases.

6.65 Operate the MON-TALK switch on the talking set to the TALK position and block the ST relay operated. Relays A, B, CSA, CSA1, CS1, BA, B1 and CH operate. Relay W releases.

6.6 Operate the MON-TALK switch on the talking set to the MON position. Remove the block from the OG and ST relays. All the relays release except the SL, SL1 and S.

6.7 DDD Disconnect On Call to SSN Office

6.71 Perform Paragraphs 6.64 and 6.65.

6.72 Remove the ground from terminal 54 on unit T.S.(A). Relays S, CSA, CS1, CSA1 and B1 release.

6.73 Operate the MON-TALK switch on the talking set to the MON position. Remove the blocks from the ST and OG relays. Remove the ground from terminal 13 on unit T.S.(A). All relays return to normal.

6.74 After the completion of test, restore circuit to normal and remove all associated cords, plugs, strapping, insulators and blocking tools if applicable.

7. TROUBLESHOOTING GUIDE

7.1 The following is a list of possible troubles and the suggested action to be taken to remedy the trouble.

<u>TROUBLE</u>	<u>ACTION</u>
Relay T fails to operate after relay ST operates.	Check timer TM.
Sequence of relays fail to operate after MON-TALK switch is operated.	Check relays A and B
Paragraph 6.314 and 6.323, B relay fails to operate.	Relay CS not operated quickly enough after relay ST operates.
Paragraphs 6.52 - CS and CS1 relays fail to operate.	Check connections of CS relay to unit T.S.(A).
Paragraph 6.4 - needle fails to operate correctly.	Check CF1 timer and TM timer.

Manager, Product Engineering
Control Center

Reason for Reissue:
Relays SL and SL1 added to prevent stuck CCSA senders.