

DID TEST CIRCUIT

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1. GENERAL INFORMATION

- 1.1 The major operating features of the DID Test Circuit, SD-27766-01, are tested in connection with the tests of the Outgoing Senders, LLP Line Circuits, Direct Access Pretranslator and the 101 ESS Control Office Trunk Circuits.
- 1.2 This section describes a method of verifying the features which are not specifically checked by those tests but are shown on the DID Test Circuit, SD-27766-01 and the Miscellaneous Circuit for DID Test Frame SD-27837-01.
- 1.3 The following cross-connections must be installed prior to application of Sender tests.
- (1) Test Frame - OSG to OSG- (See X-conn information, SD-27766-01, Sheet D2)
- (2) Test Frame - Out of Service Sender Alarm (See Note 102B and CAD209, SD-27766-01)
- (3) Distributing Frame - T and R to Associated Line Link (See CAD102, SD-27766-01)
- (4) Distributing Frame - LS1 and NS1 to NG Connector (See FS10 and CAD110, SD-27766-01)
- 1.4 A lamp (FGMC) is provided on the test frame to detect false grounds on leads MCF- to the terminating marker applique and lead TST to the terminating marker connector. A test call should not be initiated if this lamp is lighted.

2. RECORDS AND REQUIREMENTS

- 2.1 Forms SD-4-1313 and SD-4-1315 are required for recording results of these tests.

3. TEST EQUIPMENT

3.1 Cords and Accessories

	<u>Amt</u>	<u>Code</u>	<u>Description</u>
As Req.	1	ITE-9627	Remote Control Cord
		322A	Make Busy Plug
	1	ITE-9650	Operators Telephone Set
	1	R-9572	Test Receiver
	1	ITE-4442	Volt-Ohmmeter
As Req.		KS-16887-L1	Tool, Blocking (Wedge)

4. FUSE VERIFICATION

4.1 Test Procedure - General

CAUTION: TO ELIMINATE A FIRE HAZARD, VERIFY THAT DIRECT GROUND IS NOT PRESENT ON THE ALARM BAR OR STUD ON A FUSE PANEL BEFORE INSTALLING ITS FEEDER FUSE.

NOTE: Use ITE-4442 Volt-Ohmmeter. To avoid damaging the meter, first verify that battery is not present on the alarm bar by using the voltmeter portion of ITE-4442. If clear, switch to the ohmmeter portion for the resistance reading which should be either infinity or approximately 600 ohms.

- 4.11 Fuse verification is, ordinarily, only required on fuse panels wired by the installer.

- 4.12 On shop wired and fused fuse panels, inspect the panel for missing or operated fuses. If a fuse is missing or operated test the fuse terminal for the absence of low resistance ground. Clear any grounded condition and install the proper fuse. At the completion of this test all fuse panels should be fully equipped with proper fuses. These may be either the proper specified type or a dummy.

4.13 The operation of relays in circuits when fuses or potentials are applied is normal in some circuits. Oscillation, chatter, and signs of overheating should be analyzed and cleared immediately.

4.14 ITE-4442 Volt-Ohmmeter should be used to verify all potentials at fused terminals to insure that polarity and voltages are correct. Many errors are caused by the use of the R-9572 Test Receiver on potentials other than -48 volts. Handbook 100, TMO-4442, provides full instructions for the use of the volt-ohmmeter.

4.15 When the R-9572 Test Receiver is used, avoid placing it directly on the ear.

4.2 Fusing Tests

4.21 Using fuses of the correct type, as indicated by the circuit drawing and fuse panel designations, install the fuses listed in Table A one at a time. Verify that each fuse is associated with the correct circuit and is free from cross with other unfused posts on the panel.

5. MAKE BUSY FEATURES

5.1 LLP Line Circuit

5.11 A jack (MB) per LLP line circuit is provided to make the line circuit busy to service.

5.12 Insert a 322A make busy plug into the first equipped MB jack. Relay D of the associated line circuit operates.

5.13 Remove the make busy plug. Relay D releases.

5.14 Repeat test for each assigned MB jack.

5.2 Outgoing Sender

5.21 A jack (SMB) per sender is provided to make the sender busy to service.

5.22 Insert a 322A make busy plug into the first equipped SMB jack. Relay MB of the associated sender operates. Lamp SS- associated with jack SMB under test is lighted.

5.23 Remove the make busy plug. Relay MB releases and lamp SS- is extinguished.

5.24 Repeat test for all assigned SMB jacks.

6. ALARMS

NOTE: All keys and switches should be in the normal positions.

6.1 Sender Out of Service Alarm

6.11 To determine the number of out of service senders required to operate the major alarm, refer to office records and SD-27766-01, Note 102B.

TABLE A

ASSOCIATED CIRCUIT	TEST LOCATION	
	TERMINAL STRIP	TERMINAL
100V DC TST. BAT	AA-B	99
20V DC TST. BAT	AA-B	97
* +130V	AB-K	99

* Required only in offices arranged for Direct Access to 101 ESS.

NOTE: These fuses are not located on the DID Test Frame.

6.12 Insert the required number of 322A make busy plugs into the SMB jacks of the sender group under test. When the maximum number is reached lamp SSA- (red) is lighted and the major alarm sounds.

6.13 Remove one make busy plug. Lamp SSA- remains lighted and major alarm continued to sound.

6.14 Operate key SACO. Lamp SSA- is extinguished and the major alarm is silenced.

6.15 Remove the remaining make busy plugs.

6.16 Repeat test for each sender group.

6.2 False Ground Translator Alarm

6.21 Using an R-9572 test receiver, momentarily ground punching 87, terminal strip AA-B. Lamp FGTR is lighted and the major alarm sounds.

6.22 Operate key SACO. Lamp FGTR is extinguished and the major alarm is silenced.

6.3 False Test Relay Alarm

6.31 Operate and release key PC. Lamp FTST is lighted and the major alarm sounds.

6.32 Operate key SACO. Lamp FTST is extinguished and the major alarm is silenced.

- 6.4 Digit Check Alarm
- 6.41 Momentarily operate relay P1. Lamp DKAL is lighted and the minor alarm sounds.
- 6.42 Operate key LACO. Lamp DKAL is extinguished and the minor alarm is silenced.
- 6.5 Abandoned Call Alarm
- 6.51 Momentarily operate relay ABT. Lamp SAB is lighted and the minor alarm sounds.
- 6.52 Operate key LACO. Lamp SAB is extinguished and the minor alarm is silenced.
- 6.6 Overall Time-Out Alarm
- 6.61 Block operated relay MCF. In 9.4 to 12.3 seconds relay TM operates, lamp TM is lighted and the minor alarm sounds.
- 6.62 Operate key ACO. The minor alarm is silenced.
- 6.63 Operate key LACO. Lamp TM is extinguished.
7. INTERRUPTERS
- 7.1 Block operated relays TC1 and RV1. Verify that lamp LB1 flashes at 60 IPM.
- 7.2 Remove blocking tools from relays TC1 and RV1. Flashing of lamp LB1 eases.
- 7.3 Block operated relays TC2, RV2 and RC2. Verify that lamp LB2 flashes at 120 IPM.
- 7.4 Remove blocking tools from relays TC2, RV2 and RC2. Flashing of lamp LB2 ceases.
8. MISCELLANEOUS CIRCUIT
- 8.1 Verify the below listed features of the Miscellaneous Circuit, not checked on other tests, as follows:
- 8.11 Test Battery Jack and Supply
- 8.111 Verify presence of 48 volts on 48V test battery terminal and tip of jack A.
- 8.112 Verify presence of direct ground on test terminal G.
- 8.113 Verify presence of high resistance ground (12,000 ohms) on test terminal HRG.
- 8.114 Verify presence of direct ground on sleeve of jack A.
- 8.12 Spare Jack
- 8.121 Verify presence of continuity and absence of cross for leads T, R and S of jack B to all associated jack B appearances and to the M.D.F.
- 8.13 Frame Line Jack
- 8.131 Jack TEL (A and B) - Verify presence of continuity and absence of cross for the leads on the tip and sleeve of jack TEL (A and B) to all associated jack TEL appearances and to the M.D.F.
- 8.14 Remote Control Jacks
- 8.141 Jack F - Verify presence of continuity and absence of cross for the tip and ring leads of jack F to the TTI frame.
- 8.15 Fuse Alarm
- 8.151 Connect 48V battery through test receiver R-9572 to the alarm bar of the 20 ampere frame fuse. Observe that the major alarm sounds, lamps 20A and the associated red aisle pilot light, relay A operates in the Floor Alarm Fuse and Time Alarm Circuit, and lamp FA does not light.
- 8.152 Disconnect the battery from the alarm bar. Observe that the alarm is silenced, the lighted lamps are extinguished, and relay A is released.
- 8.153 Verify the 20A resistance shunt by removing lamp 20A and repeating the tests of Paragraphs 8.151 and 8.152. Replace lamp 20A at the completion of this test.
- 8.154 To verify the presence of the 350 ohm resistance between the 20 ampere alarm bar and lamp 20A:
- (1) Connect 48V battery through test receiver R-9572 to the alarm bar for the 20A fuse.
 - (2) Using another test receiver R-9572, connect to the same point on the alarm bar and to the fuse mounting side of lamp 20A.
 - (3) Verify an appreciable click in both receivers.
 - (4) Disconnect both test receivers.

- 8.155 Connect 48V battery through test receiver R-9572 to the frame fuse panel alarm bar. Observe that the major alarm sound, lamps FA and the associated red aisle pilot light, relay A operates in the Floor Alarm Fuse and Time Alarm Circuit, and lamp 20A does not light.
- 8.156 Disconnect the battery from the alarm bar. Observe that the alarm is silenced, the lighted lamps are extinguished, and relay A is released.

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