

**DATA SETS 108H AND 108J**  
**TEST PROCEDURES**

	<b>CONTENTS</b>	<b>PAGE</b>
<b>1. GENERAL</b>	. . . . .	<b>1</b>
<b>2. INSTALLATION</b>	. . . . .	<b>1</b>
<b>A. Power Supply Test</b>	. . . . .	<b>1</b>
<b>B. Carrier Shift Test</b>	. . . . .	<b>2</b>
<b>C. Current Test</b>	. . . . .	<b>2</b>
<b>D. Digital Loopback</b>	. . . . .	<b>3</b>

**1. GENERAL**

**1.01** This section describes the test procedures to be performed at the time of installation or when investigating trouble conditions associated with data set (DS) 108H and 108J.

**1.02** Whenever this section is reissued, the reason for reissue will be contained in this paragraph.

**1.03** Data sets 108H and 108J do not require routine maintenance after installation tests and adjustments have been made.

**STEP**

**ACTION**

**VERIFICATION**

- |   |   |
|---|---|
| 1 | Lift up cover.                                  |
| 2 | Disconnect the wire from +RD, if any.           |
| 3 | Check the voltage between -RD and +RD (Fig. 3). |

**1.04** The following is a list of test equipment necessary to perform the tests outlined in this section:

- 1013 handset
- Two jumper leads
- KS-20538-L1 volt ohm milliamp meter (VOM)

**1.05** No special tools are required for DS 108H or 108J.

**2. INSTALLATION AND MAINTENANCE TESTS**

**2.01** This part provides the sequence in which tests are to be performed following an installation and trouble report. Refer to Fig. 1 and 2 for the sequence of tests.

**A. Power Supply Test**

**2.02** This test applies to a data set with option X, Y, or Z (2-, 3-, or 4-wire 20 mA current loop interface).

Reading of  $30 \pm 6$  Vdc, indicating data set is powered.

**NOTICE**

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

**SECTION 591-043-500**

**B. Carrier Shift Test**

**2.03** This test applies to a data set with option X (2-wire 20 mA current loop interface), using a 1013 handset.

<b>STEP</b>	<b>ACTION</b>	<b>VERIFICATION</b>
1	Lift up cover.	
2	Disconnect the wire from +RD, if any.	
3	Connect 1013 handset to external tip and ring lead connections.	
3	Connect 1013 handset to tip and ring.	
4	Connect -RD to +RD with wire.	Listen for high pitched tone, which is a marking signal.
5	Open the connection between -RD and +RD.	Listen for low pitched tone, which is a spacing signal.

**2.04** This test applies to a data set with option Y or Z (3- or 4-wire 20 mA current loop interface without local copy, or 3- or 4-wire 20 mA current loop interface with local copy).

<b>STEP</b>	<b>ACTION</b>	<b>VERIFICATION</b>
1	Lift up cover.	
2	Disconnect the wire from +SD, if any.	
3	Connect 1013 handset to external tip and ring lead connections.	
4	Connect -SD to +SD with a wire.	Listen for high pitched tone, which is a marking signal.
5	Open the connection between -SD and +SD.	Listen for low pitched tone, which is a spacing signal.

**C. Current Test**

**2.05** This test applies to 108H and 108J data sets, 2-, 3- or 4-wire types.

<b>STEP</b>	<b>ACTION</b>	<b>VERIFICATION</b>
1	Remove data set cover.	
2	Disconnect lead on +RD.	
3	Connect facility leads T and R with a jumper wire.	

STEP	ACTION	VERIFICATION
4	Temporarily close S1-3.	
5	Adjust VOM to read 20 mA.	
6	Connect meter across -RD and +RD.	Meter reads 20 $\pm$ 4 mA.
7	Open S1-3.	Meter reads less than 1 mA.

#### D. Digital Loop Test

**2.06** A digital loop test is usually set up at the request of the test center, and provides a means whereby the test center can measure round-trip distortion. The test is initiated by operating the TST button located on the cover of the data set. If option F (no local copy in the digital loopback test mode) is installed a steady mark will be delivered to the terminal. During this test the data set will ignore the data output of the terminal.

**2.07** The data set internally loops the receiver output to the transmitter. When a data connection is established between the test center and the data set, the test center can measure the round trip data distortion.

**2.08** The data set must be manually restored to normal by restoring the TST switch.

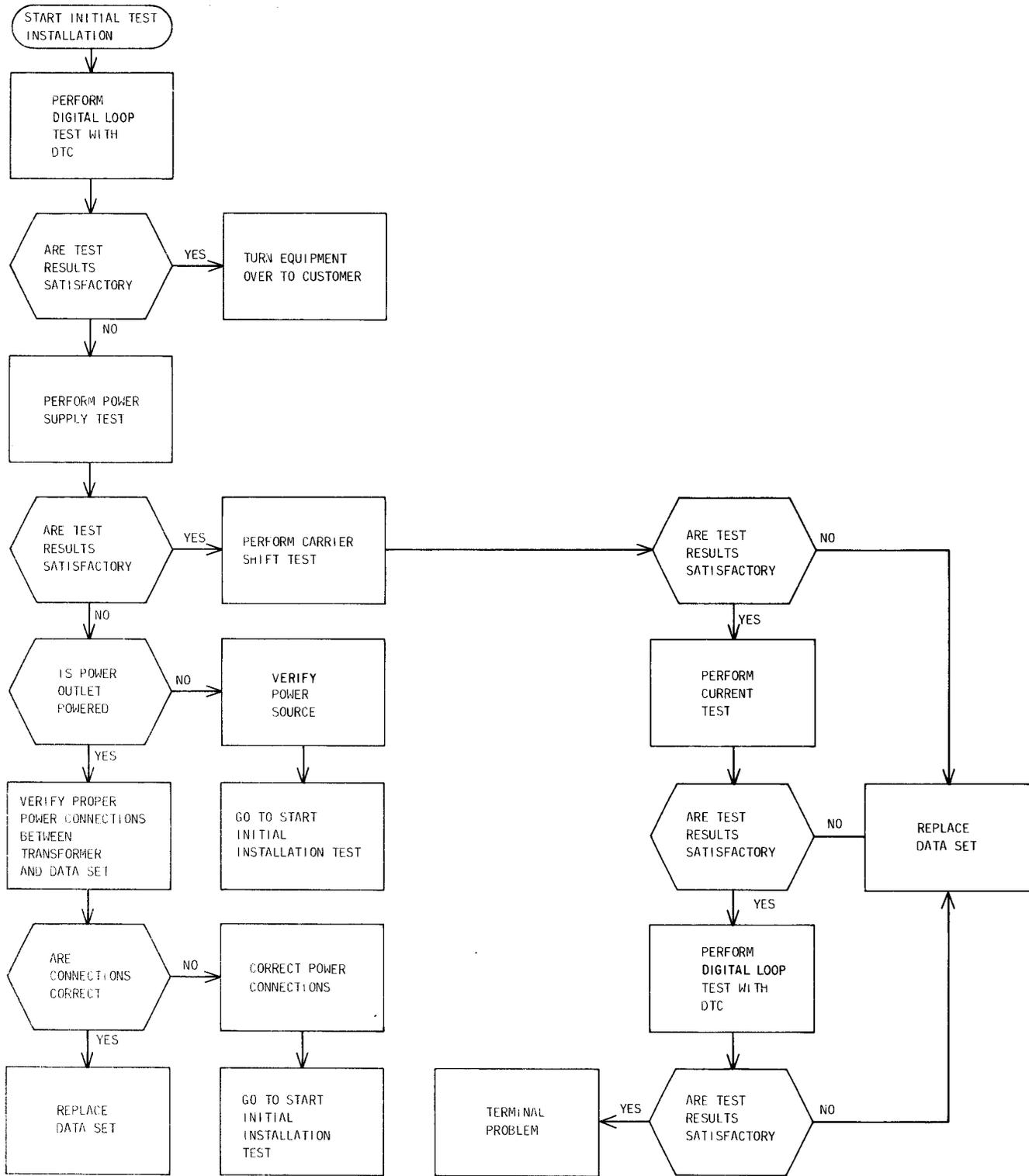


Fig. 1—Installation Test Sequence

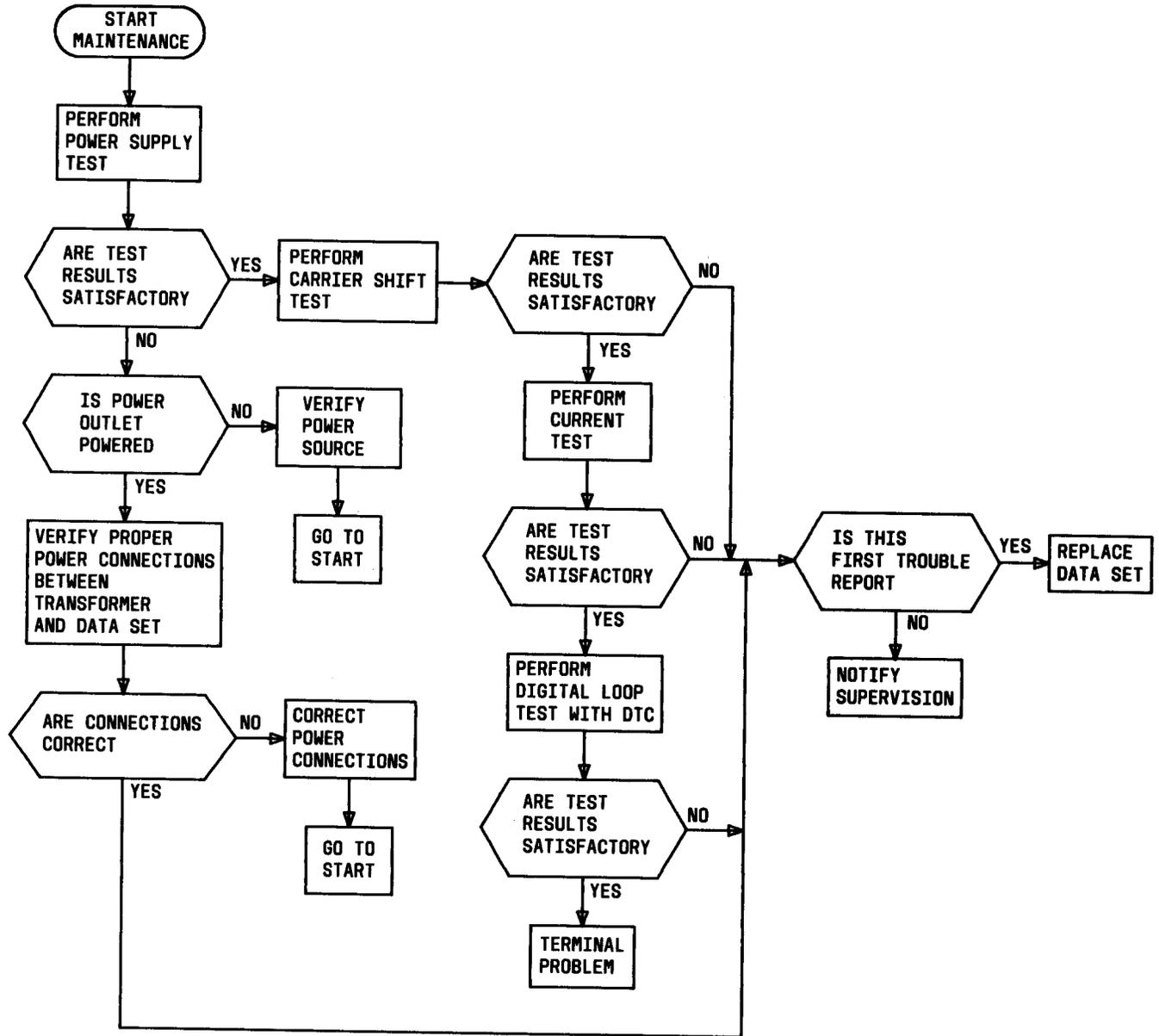


Fig. 2—Maintenance Test Sequence

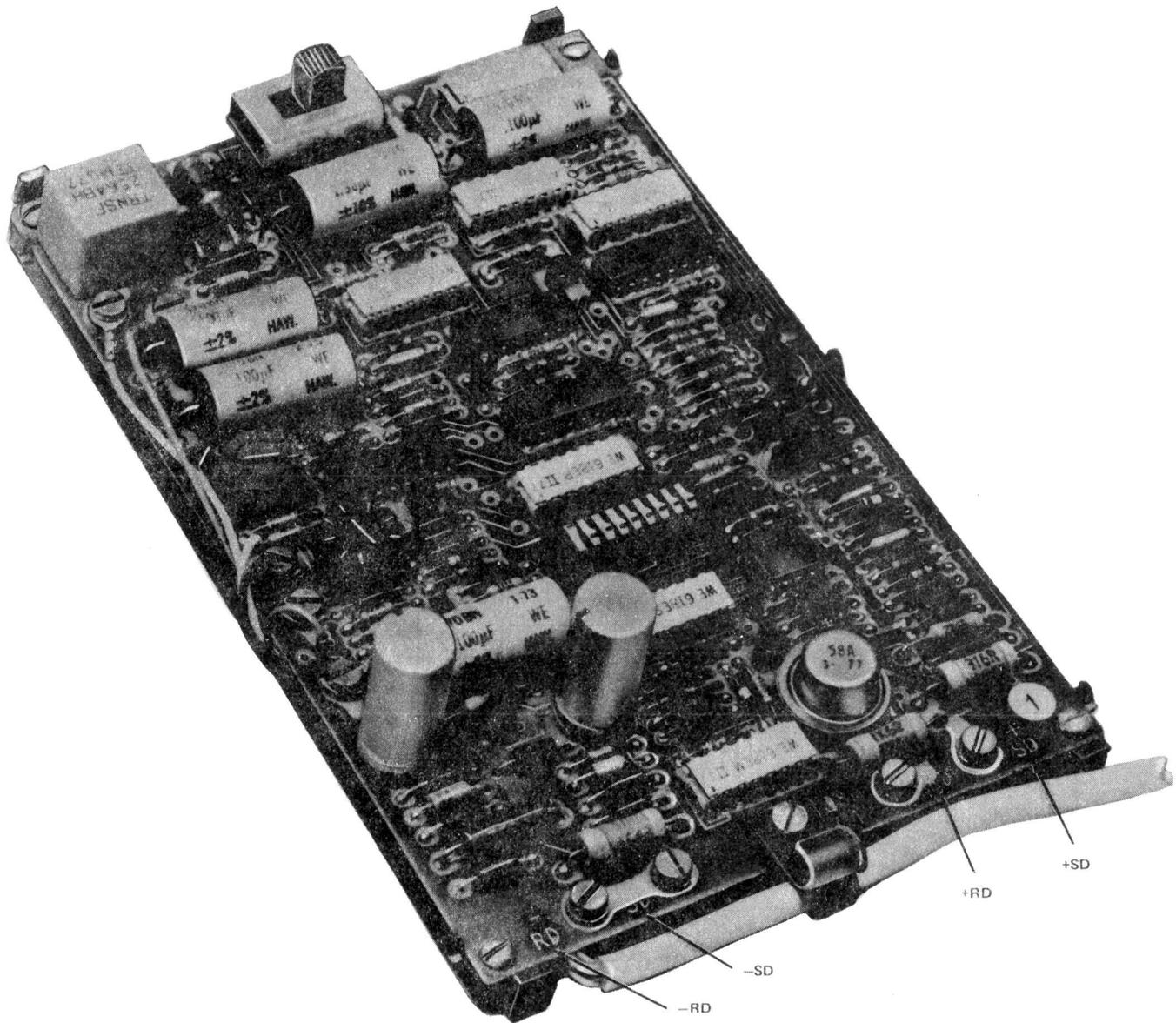


Fig. 3—Circuit Pack of DS 108H (Similar to DS 108J)