

DATA SET 602D-TYPE TRANSMITTER-RECEIVER TEST PROCEDURES

1. GENERAL

1.01 This section covers test procedures for Data Set 602D-type. These procedures may be used at the time of installation and on repair visits.

1.02 The following tests are described in this section:

- Power Ground Noise Test
- Remote Test
- End-to-End Test

2. POWER GROUND NOISE TEST

2.01 Make the noise test between grounds as shown in Fig. 1.

3. REMOTE TEST

3.01 The remote test procedure is essentially to determine that the Data Set 602D-type sends out one of two signals as a transmitter and recognizes one of two signals as a receiver. It also tests receiver sensitivity.



*Take the proper steps to insure that the customer is not billed for test calls. Refer to the section entitled **Crediting Charges on Test Calls (010-250-001)**.*

3.02 Call the nearest data test center and request a remote test for Data Set 602D-type. The data set must be attended during the remote test. When instructed to do so, depress the RCV, TRMT, TST1, and TST2 pushbuttons on Data Set 602D-type in the sequence indicated by the data test center.

3.03 The remote test checks the operation of the following circuits of the 602D.

- Carrier detector circuit
- Send data circuit
- Receive data circuit
- Modulator-demodulator circuits and linearity

4. END-TO-END TEST (Interface Test Adapter Method)

4.01 A block diagram of the end-to-end test using the interface test adapter method is shown in Fig. 2. The purpose of this test is to check the linearity of the data system.

4.02 Test Equipment:

- 901-type Data Test Set
- KS-14510, List 1 volt-ohm-milliammeter, or equivalent 20,000 ohms-per-volt meter
- 901B Data Test Set (interface test adapter)

4.03 Transmitting End Preparation:

- Set the controls of the 901-type Data Test Set as follows:
 - SELECTOR switch to position 4 (901A Data Test Set to position 202A)
 - A TEST switch to position 8
 - B TEST switch to OFF
 - UNATT-ATT switch to ATT.



Do not open any of the interface test adapter captive shorting clips.

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- (b) Connect the KS-14510 meter between the TRANSMIT DATA terminals on the 901-type Data Test Set. Connect + to the red terminal, - to the black terminal. Set meter selector to the 12-VDC scale.
- (c) Connect the 901-type Data Test Set cord into the interface test adapter connector.
- (d) Connect the interface test adapter cord into the Data Set 602D-type interface jack (in place of the business machine).

4.04 Receiving End Preparation:

- (a) Set the controls of the 901-type Data Test Set as follows:
 - SELECTOR switch to position 4 (901A Data Test Set to position 202A)
 - A TEST switch to OFF
 - B TEST switch to OFF
 - UNATT-ATT switch to ATT.
- (b) Connect the KS-14510 meter between the RECEIVE DATA terminals of the 901-type Data Test Set. Connect + to the red terminal, - to the black terminal. Set meter selector to the 12-VDC scale.
- (c) Connect 901-type Data Test Set to Data Set 602D-type (in place of the business machine cord).

4.05 Procedure:

- (a) Establish a call on the data line over the switched network or line facilities that the customer will normally use.
- (b) Inform the receiving station that the transmitting station is ready to proceed with testing.

- (c) Request the receiving station to depress the RCV button and hold the TST1 button upon hearing a transmitted tone.
- (d) Depress the TRMT button and hold the TST1 button at the transmitting station for at least 10 seconds. Then depress the TALK button. Observe that the TST1 lamp lights at the receiving station. After the TST1 lamp has lit, release the TST1 button at the receiving station.
- (e) Record the voltage obtained at the receiving station when the TST1 button is released. The meter should read 0 ± 0.5 volt at the receiving station. Depress the TALK button.
- (f) Request the receiving station to depress the RCV button and hold the TST2 button upon hearing a transmitted tone.
- (g) Depress the TRMT button and hold the TST2 button at the transmitting station for at least 10 seconds. Then depress the TALK button. Observe that the TST2 lamp lights at the receiving station. After the TST2 lamp has lit, release the TST2 button at the receiving station.
- (h) Record the voltage obtained at the receiving station when the TST2 button is released. The meter should read 7 ± 1.0 volts at the receiving station. Depress the TALK button and acknowledge completion of test.

Note: Voltage differences between the readings should be calculated from readings taken on the same meter scale.

- (i) If calls and data transmission will be made in both directions, change the setup so that the former transmit station becomes the receive station, and the former receive station becomes the transmit station. Repeat Steps (a) through (h).

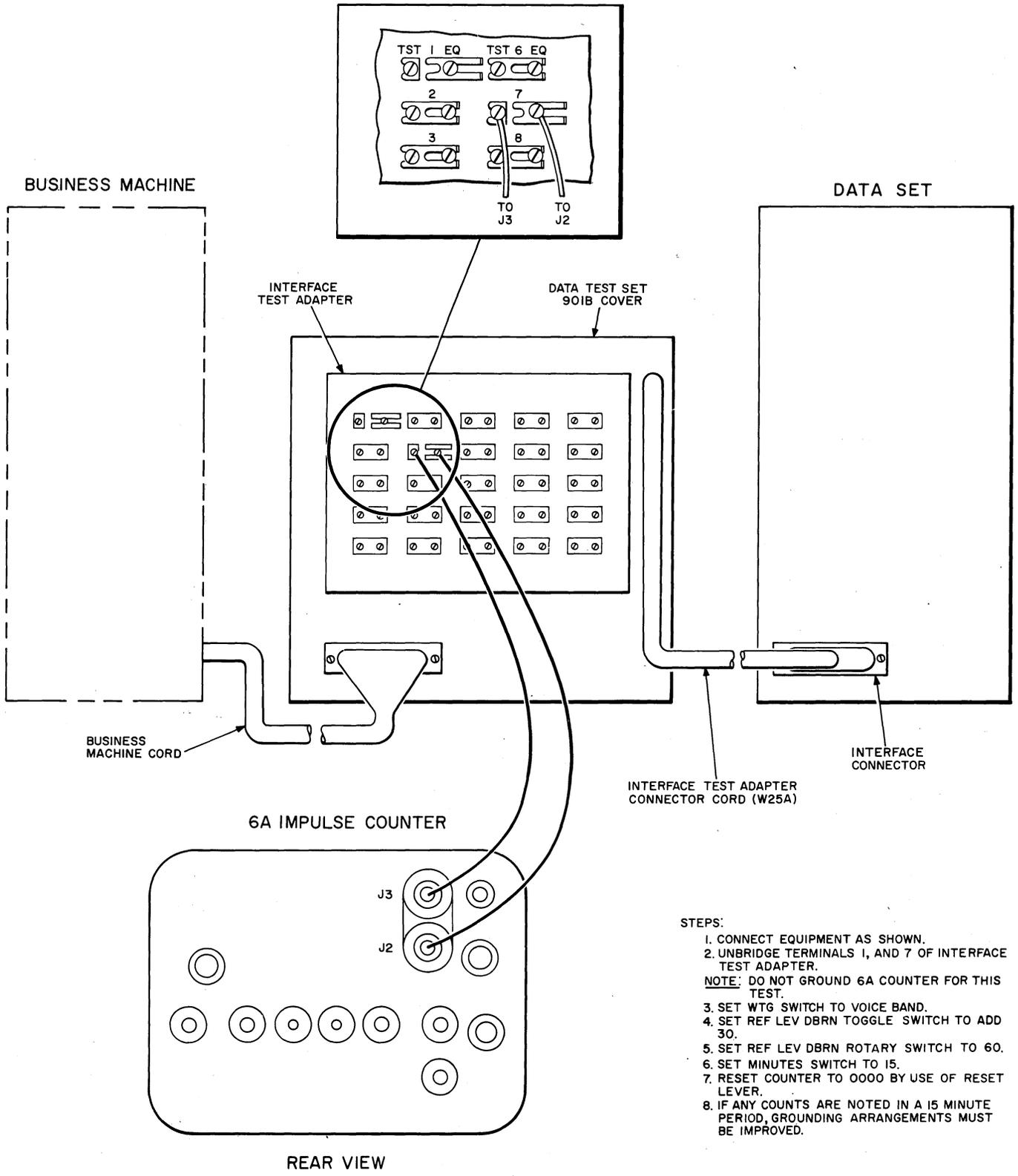


Fig. 1—Power Ground Noise Test Using 6A Impulse Counter Test

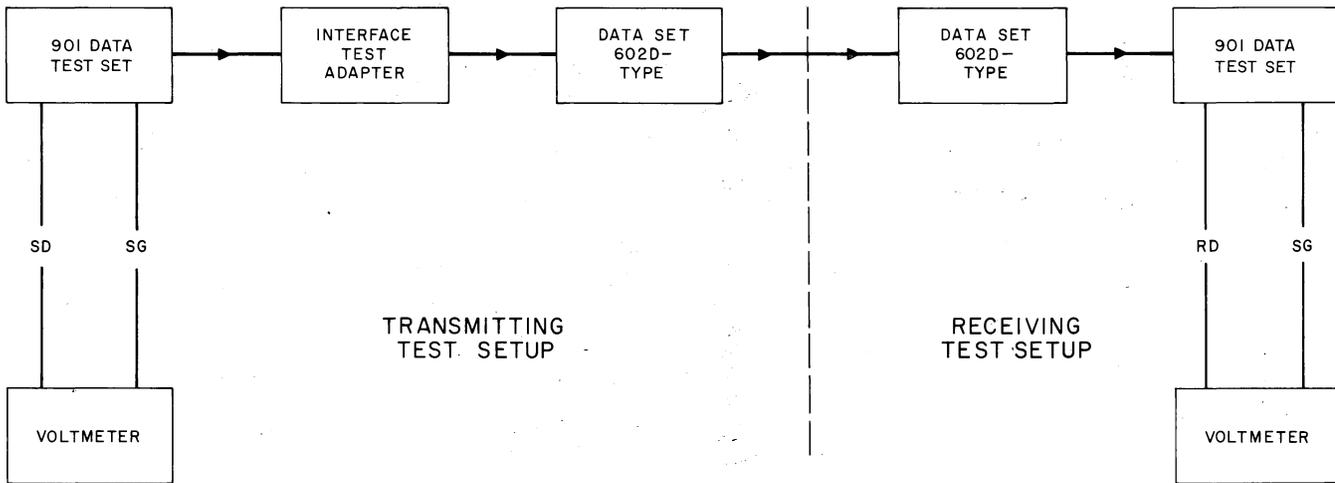


Fig. 2—Block Diagram, End-to-End Test, Interface Test Adapter Method