

**DATA SETS 103A2, 103A2A, AND 103A2B  
TEST PROCEDURES**

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- (b) Procedures for using the 914C data test set (DTS)
  - (c) Procedures for using the 6H impulse counter.
- Since this reissue is a general revision, arrows normally used to indicate changes have been omitted.
- 1.03 Before proceeding with any tests of the data set, verify the following:
- (a) That the data loop meets requirements specified in Section 314-205-501
  - (b) That the telephone portion of the installation meets standard dc talk, signaling, and supervision requirements
  - (c) That the data set strapping options agree with service order.



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

**1. GENERAL**

1.01 This section contains procedures to be used when testing data set (DS) 103A2, 103A2A, or 103A2B on an initial installation or during a maintenance visit.



*DS 103A2A can be used at speeds up to 300 bps. DS 103A2 and 103A2B should not be used at speeds greater than 200 bps.*

1.02 This section is reissued to provide the following:

- (a) Information on the use of an Automatic Data Test System (ADTS) with data sets 103A2, 103A2A, and 103A2B

1.04 **Lettered Steps:** A letter a, b, c, etc, added to a step number in a test procedure indicates an action which may or may not be required, depending on local conditions. The condition under which a lettered step should be performed is given in the action column, and all steps governed by the same condition are designated by the same letter within a test procedure. Where a condition does not apply, all steps designated by that letter should be omitted.

1.05 Tests contained in this section are divided into three parts. Part 2 describes the tests required to verify an installation. Part 3 describes the test to be performed during a maintenance visit. Part 4 describes additional tests that ordinarily are not required during installation and maintenance visits.

**NOTICE**

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2. INSTALLATION TEST PROCEDURES

2.01 The loop-back test in this part should be performed immediately after the data set has been installed to ensure that the installation is ready to be placed in service. The telephone company (telco) employee should also assure that data can be transmitted and/or received using the customer-provided equipment (CPE) and data sets at both the near-end and far-end data stations.

2.02 Although the loop-back test is primarily for use at time of installation, its use during maintenance visits should be considered if the nature of the trouble indicates that this type of test would be useful.



*Data sets 103A2, 103A2A, and 103A2B can be statically tested by an ADTS. For information on communicating with the automatic data test center, refer to the section entitled J1P005 Automatic Data Test System (ADTS)—Operation From Field Locations (590-010-500).*

A. Loop-Back Test

2.03 Perform the test as follows:

- (1) Lift handset of associated telephone set, depress TALK button, call nearest data test center (DTC), and request a loop-back test for DS 103A2, 103A2A, or 103A2B.
- (2) DTC provides instructions for the remainder of the test and restores the data set to normal operation at the end of the test.

B. Loop-Back Test for DS 103A2, 103A2A, or 103A2B Modified for Originate-Only Service

2.04 Perform the test as follows:

- (1) Call DTC and request that a loop-back test be performed on **modified** DS 103A2, 103A2A, or 103A2B.

- (2) DTC calls the station requesting the test.
- (3) When DTC calls, depress TALK/CLEAR button and then lift handset.  
  
**Note:** The sequence of (3) above may be reversed; ie, lift handset and then depress TALK/CLEAR button.
- (4) When requested by DTC, depress TEST button until TEST lamp lights, then hang up.
- (5) DTC now performs the loop-back test on the modified data set.
- (6) At completion of the test, DTC releases the modified data set from the test mode.
- (7) Call DTC after the test has been completed to obtain test results.

3. MAINTENANCE TEST PROCEDURE

3.01 The test in this part is to be used as a troubleshooting aid during maintenance visits. The interface test, in combination with the loop-back test in Part 2, should enable the telco employee to isolate the trouble to either the CPE or the data set.

Interface Test

3.02 The interface test checks the control signals supplied to the customer. The only test equipment required is a 914-type DTS.

3.03 The interface test is divided into an originating station test and an answering station test. Both tests should be performed if the station is an originate/answer station. Only the originating station test should be performed if the data set is modified for originate-only service.

3.04 Perform the test as follows:

STEP	ACTION	VERIFICATION
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**Originating Station**

- 1 Connect and condition the test equipment as shown in Fig. 1.

STEP	ACTION	VERIFICATION
2	Apply power to the data set and then to the DTS.	POWER lamp lighted.
3	Set switch S6 to ON.	DS6 lamp lighted (CD <i>on</i> ).
4a	If space-hold option installed in data set, set METER POLARITY switch to NOR.	
5	Set FUNCTION switch to VOLT INT.	Meter indicates 7.0 to 10.0 Vdc. If space-hold option installed— DS2 lamp lighted (BB <i>space</i> ). If mark-hold option installed— DS2 lamp off (BB <i>mark</i> ).
6	Set FUNCTION switch to OFF.	
7	Set VERTICAL MONITOR switch to 6.	
8	If space-hold option installed in data set, set METER POLARITY switch to REV.	
9	Set FUNCTION switch to VOLT INT.	Meter indicates 8.0 to 10.0 Vdc (CC <i>off</i> ).
10	Set VERTICAL MONITOR switch to 5.	Meter indicates 8.0 to 10.0 Vdc (CB <i>off</i> ).
11	Set FUNCTION switch to OFF.	
12	Set VERTICAL MONITOR switch to 6.	
13	Set METER POLARITY switch to NOR.	
14	Use telephone associated with data set to call and request DTC to send a tone of 2225 Hz.	
15	When tone is heard in handset, depress DATA button and replace handset on-hook.	DATA lamp lighted.
16	Set FUNCTION switch to VOLT INT.	Meter indicates 8.0 to 10.0 Vdc. DS4 lamp lighted (CC <i>on</i> ).
17	Set VERTICAL MONITOR switch to 5.	Meter indicates 8.0 to 10.0 Vdc. DS3 lamp lighted (CB <i>on</i> ).
18	Set FUNCTION switch to OFF.	
19	Set VERTICAL MONITOR switch to 3.	
20	Set METER POLARITY switch to REV.	
21	Set FUNCTION switch to VOLT INT.	Meter indicates 7.0 to 10.0 Vdc (BB <i>mark</i> ).
22	Set FUNCTION switch to OFF.	

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STEP	ACTION	VERIFICATION
23	Set VERTICAL MONITOR switch to 8.	
24	Set METER POLARITY switch to NOR.	
25	Set FUNCTION switch to VOLT INT.	Meter indicates 8.0 to 10.0 Vdc. DS5 lamp lighted (CF <b>on</b> ).
26	Set FUNCTION switch to OFF.	
27b	If respond-to-disconnect option installed in data set, use an adjacent telephone to call and request DTC to send a tone of 2025 Hz.	DATA lamp goes off approximately 1-1/2 seconds after tone changes frequency. All DS lamps except DS6 are off. DS2 lamp lighted during 1-1/2 second interval. DS2 lamp remains lighted if space-hold option installed.
28b	Use telephone associated with data set to call and request DTC to send a tone of 2225 Hz.	
29b	When tone is heard in handset, depress DATA button.	
30b	Set switch S6 to OFF.	If initiate disconnect option not installed— DATA lamp immediately goes off. DS2 lamp remains lighted if space-hold option installed. If initiate disconnect option installed— DATA lamp goes off after 3 seconds. DS2 lamp remains lighted if space-hold option installed.
31c	If respond-to-disconnect option not installed in data set, set VERTICAL MONITOR switch to 3.	
32c	Use an adjacent telephone to call and request DTC to send a tone of 2025 Hz.	
33c	When tone is received, set FUNCTION switch to VOLT INT.	Meter indicates 7.0 to 10.0 Vdc (BB <b>space</b> ). DS2 lamp lighted.  <b>Note:</b> Data set does not disconnect. DATA lamp remains lighted.
34c	Set FUNCTION switch to OFF.	
35c	Request DTC to remove carrier.	DS2 lamp off (CB <b>off</b> ). DS5 lamp off (CF <b>off</b> ).
36c	Set METER POLARITY switch to REV.	
37c	Set VERTICAL MONITOR switch to 5.	

STEP	ACTION	VERIFICATION
38c	Set FUNCTION switch to VOLT INT.	Meter indicates 8.0 to 10.0 Vdc (CB <i>off</i> ).
39c	Set FUNCTION switch to OFF.	
40c	Set switch S6 to OFF.	If initiate disconnect option not installed— DATA lamp and all DS lamps immediately go off. DS2 lamp remains lighted if space-hold option installed. If initiate disconnect option installed— DS6 lamp immediately goes off. DATA lamp and all DS lamps go off after 3 seconds. DS2 lamp remains lighted if space-hold option installed.
41	Remove all test equipment and restore data set to pretest condition.	
	<b>Note:</b> The following test is <i>not</i> to be performed on DS 103A2, 103A2A, or 103A2B modified for originate-only service.	

### Answering Station

1	Connect and condition the test equipment as shown in Fig. 1.	
2	Apply power to the data set and then to the DTS.	POWER lamp lighted.
3	Set VERTICAL MONITOR switch to 22.	
4	Set RANGE switch to 30 DCV.	
5	Set FUNCTION switch to VOLT INT.	Meter indicates 8.0 to 10.0 Vdc (CE <i>off</i> ).
6a	If permanent automatic answering (option Z) installed in data set, set METER POLARITY switch to NOR.	
7a	Use an adjacent telephone to call and request DTC to place a call to data set.	When call is received— Meter indicates 8.0 to 10.0 Vdc during ringing interval (CE <i>on</i> ), and off scale to the left during silent interval. DS7 lamp lighted during ringing interval, and off during silent interval.
8a	Set FUNCTION switch to OFF.	

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STEP	ACTION	VERIFICATION
9b	If part-time automatic answering (option W) installed in data set, depress AUTO button and perform Steps 6a through 8a.	
10	Set switch S6 to ON.	DS6 lamp lighted (CD <b>on</b> ). Ringer associated with data set stops ringing. DS4 lamp lighted (CC <b>on</b> ).
11	Lift handset associated with data set and depress TALK button.	DS4 lamp goes off (CC <b>off</b> ). Verify communication with DTC.
12	Set METER POLARITY switch to REV.	
13	Set VERTICAL MONITOR switch to 6.	
14	Set RANGE switch to 10 DCV.	
15	Set FUNCTION switch to VOLT INT.	Meter indicates 8.0 to 10.0 Vdc (CC <b>off</b> ).
16	Set FUNCTION switch to OFF.	
17	Depress DATA button.	DATA lamp lighted. DS4 lamp lighted (CC <b>on</b> ).
18	Set METER POLARITY switch to NOR.	
19	Set FUNCTION switch to VOLT INT.	Meter indicates 8.0 to 10.0 Vdc (CC <b>on</b> ).
20	Set FUNCTION switch to OFF.	
21	Replace handset on-hook.	
22	Use an adjacent telephone to call and request DTC to send a tone of 1270 Hz.	When tone is received— DS3 lamp lighted (CB <b>on</b> ). DS4 lamp lighted (CC <b>on</b> ). DS2 lamp off (BB <b>mark</b> ).
23	Set VERTICAL MONITOR switch to 5.	
24	Set FUNCTION switch to VOLT INT.	Meter indicates 8.0 to 10.0 Vdc (CB <b>on</b> ).
25	Set FUNCTION switch to OFF.	
26	Set METER POLARITY switch to REV.	
27	Set VERTICAL MONITOR switch to 3.	
28	Set FUNCTION switch to VOLT INT.	Meter indicates 8.0 to 10.0 Vdc (BB <b>mark</b> ).
29	Set FUNCTION switch to OFF.	

STEP	ACTION	VERIFICATION
30c	If respond-to-disconnect option installed in data set, use an adjacent telephone to call and request DTC to send a tone of 1070 Hz.	<p>Approximately 1-1/2 seconds after tone is received— DS3 lamp off (CB <i>off</i>).</p> <p>DS4 lamp off (CC <i>off</i>). DATA lamp off. DS5 lamp off (CF <i>off</i>). DS2 lamp off (BB <i>mark</i>) if mark-hold option installed. DS2 lamp lighted (BB <i>space</i>) if space-hold option installed.</p> <p><b>Note:</b> DS2 lamp lighted during 1-1/2 second interval.</p>
31c	Set VERTICAL MONITOR switch to 8.	
32c	Set FUNCTION switch to VOLT INT.	Meter indicates 8.0 to 10.0 Vdc (CF <i>off</i> ).
33c	Set FUNCTION switch to OFF.	
34c	Use an adjacent telephone to call and request DTC to call data set and send a tone of 1270 Hz.	
35c	When DTC calls data set, answer call and listen for tone.	
36c	When tone is heard in handset of data set, depress DATA button.	<p>DATA lamp lighted. DS3 lamp lighted (CB <i>on</i>). DS5 lamp lighted (CF <i>on</i>). DS6 lamp lighted (CD <i>on</i>).</p>
37c	Set switch S6 to OFF.	<p>If initiate disconnect option not installed— DATA lamp and all DS lamps immediately go off. DS2 lamp remains lighted if space-hold option installed.</p> <p>If initiate disconnect option installed— DS6 lamp immediately goes off. DATA lamp and all DS lamps go off after 3 seconds. DS2 lamp remains lighted if space-hold option installed.</p>
38c	If respond-to-disconnect option not installed in data set, use an adjacent telephone to call and request DTC to send a tone of 1070 Hz.	<p>When tone is received— DS2 lamp lighted (BB <i>space</i>).</p> <p><b>Note:</b> Data set does not disconnect. DATA lamp remains lighted.</p>
39d	Set VERTICAL MONITOR switch to 3.	

STEP	ACTION	VERIFICATION
40d	Set FUNCTION switch to VOLT INT.	Meter indicates 7.0 to 10.0 Vdc (BB <i>space</i> ).
41d	Set FUNCTION switch to OFF.	
42d	Set switch S6 to OFF.	If initiate disconnect option not installed— DATA lamp and all DS lamps immediately go off. DS2 lamp remains lighted if space-hold option installed. If initiate disconnect option installed— DATA lamp and all DS lamps go off after 3 seconds. DS2 lamp remains lighted if space-hold option installed.
43	Remove all test equipment and restore data set to pretest condition.	

#### 4. SUPPLEMENTARY TEST PROCEDURES

**4.01** These tests ordinarily are not required during installation and maintenance visits but should be performed when needed. The end-to-end test is performed when it is necessary to identify facility troubles that the data set has been occasionally experiencing over a period of time. The ground noise test is performed to detect the presence of noise potentials caused by a potential difference between data set and CPE grounds.

##### A. End-to-End Test

**4.02** The end-to-end test checks the transmitter and receiver of both data sets and the transmission of data over the connecting facilities. This test consists of transmitting random data and then measuring the error rate at the receiving station. The only test equipment required is a 914-type DTS at the transmitting and receiving stations.

**4.03** For an originate-only or answer-only station, a complete end-to-end test involves making one 15-minute and ten 1-minute test calls in one direction only. For an originate/answer station, a complete end-to-end test involves making one 15-minute and ten 1-minute test calls in both directions. These test calls should be made during busy hours to assure that all calls do not use the same trunks and routes.

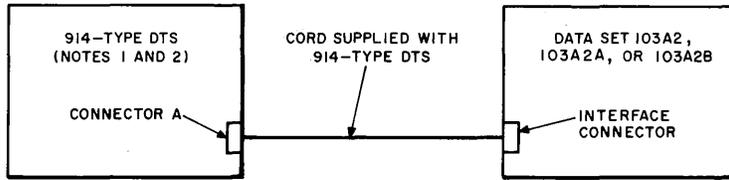
##### 4.04 Perform the test as follows:

- (1) Establish voice communication between the data stations and agree to conduct an end-to-end test.
- (2) Connect and condition the test equipment at both data stations as shown in Fig. 2.
- (3) Apply power to the data set and then to the DTS at both data stations.
- (4) Verify that both data sets are in the data mode.



*The attendant at the receiving data station should verify that the DTS NO DATA and NO CLOCK lamps are off. This indicates that a valid connection has been established between data stations. If either lamp lights during the test, the receiving station attendant must contact the transmitting station and agree to retest.*

- (5) At the receiving data station, operate DTS controls as follows:
  - (a) Set FUNCTION switch to PHASE ADJ.
  - (b) Adjust PHASE control for zero indication on DTS meter.



	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	STG	
GRD	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	GRD
SD	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	SD
RD	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	RD
SI	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	SI
DS1	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	DS1
DS2	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	DS2
S2	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	S2
DS3	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	DS3
TP1	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	TP1
TP2	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	TP2
S3	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	S3
DS4	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	DS4
DS5	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	DS5
S4	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	S4
SCT	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	SCT
S5	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	S5
SCR	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	SCR
DS6	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	DS6
S6	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	S6
DS7	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	DS7
DS8	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	DS8
S7	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	S7
TP3	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	TP3
S8	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	S8

NOTES:

1. SET SWITCHES ON 914-TYPE DTS AS FOLLOWS:

SWITCH	SETTING
INTERFACE SELECTOR A	ALL DEPRESSED
INTERFACE MODE	VOLTAGE
VERTICAL MONITOR	3
FUNCTION	OFF
RANGE	10 DCV
METER POLARITY	REV
S1 (BA)	OFF
S6 (CD)	OFF

2. 914-TYPE DTS INDICATOR LAMPS CORRESPOND TO THE FOLLOWING INTERFACE LEADS:

LAMP	FUNCTION	EIA
DS2	RECEIVED DATA (RD)	BB
DS3	CLEAR TO SEND (CS)	CB
DS4	DATA SET READY (DSR)	CC
DS5	DATA CARRIER DETECTOR (DCD)	CF
DS6	DATA TERMINAL READY (DTR)	CD
DS7	RING INDICATOR (RI)	CE

Fig. 1—Interface Test Setup

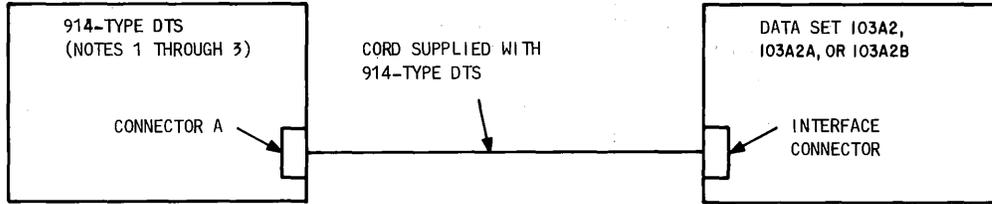
- (c) Set FUNCTION switch to OFF.
- (d) Set WORD SYNC switch momentarily to MAN.
- (6) Initiate a 15-minute test call.
- (7) At the receiving data station, depress DTS RESET button. At the end of a 1-minute period, record total errors indicated on DTS counter.
- (8) Repeat (7) above for a total of 15 periods. Eliminate the two periods with the highest number of errors.

**Requirement:** Ten of the remaining thirteen periods have no errors. The other three periods have less than three errors each.

- (9) Initiate a 1-minute test call.
- (10) At the receiving end station, depress DTS RESET button. At the end of a 1-minute period, record total errors indicated on DTS counter.
- (11) Repeat (9) and (10) above for a total of ten periods.

**Requirement:** Eight of the ten periods have less than three errors each.

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NOTES:

1. AT TRANSMITTING DATA STATION, SET SWITCHES ON 914-TYPE DTS AS FOLLOWS:

SWITCH	SETTING
INTERFACE	
SELECTOR A	ALL DEPRESSED
INTERFACE MODE	VOLTAGE
TEST SET MODE	SER (914C)
	TRMT SER (914B)
COUNTER	BIT ERRORS
FUNCTION	OFF
TRANSMIT BIT RATE (914C)	(NOTE 4)
BIT RATE (914B)	(NOTE 4)
TRANSMIT WORD LENGTH (914C)	63
WORD LENGTH (914B)	63
SIG-LEV (914C)	±4V
SIGNAL LEVEL (914B)	±4V
S6(CD)	ON

2. AT RECEIVING DATA STATION, SET SWITCHES ON 914-TYPE DTS AS FOLLOWS:

SWITCH	SETTING
INTERFACE	
SELECTOR A	ALL DEPRESSED
INTERFACE MODE	VOLTAGE
TEST SET MODE	SER (914C)
	RCV SER (914B)
COUNTER	BIT ERRORS
FUNCTION	OFF
RCV BIT RATE (914C)	(NOTE 4)
BIT RATE (914B)	(NOTE 4)
RCV WORD LENGTH (914C)	63
WORD LENGTH (914B)	63
SAMPLE WIDTH	.5 US
PHASE	MIDPOSITION (DOT POINTING UP)
SI (BA)	OFF
S6(CD)	ON

3. AT RECEIVING DATA STATION, REMOVE PIN FROM MATRIX POSITION SD-2 AND INSERT IN POSITION S1-2.
4. FOR DS 103A2 AND 103A2B, SET TO 150. FOR DS 103A2A, SET TO 300.

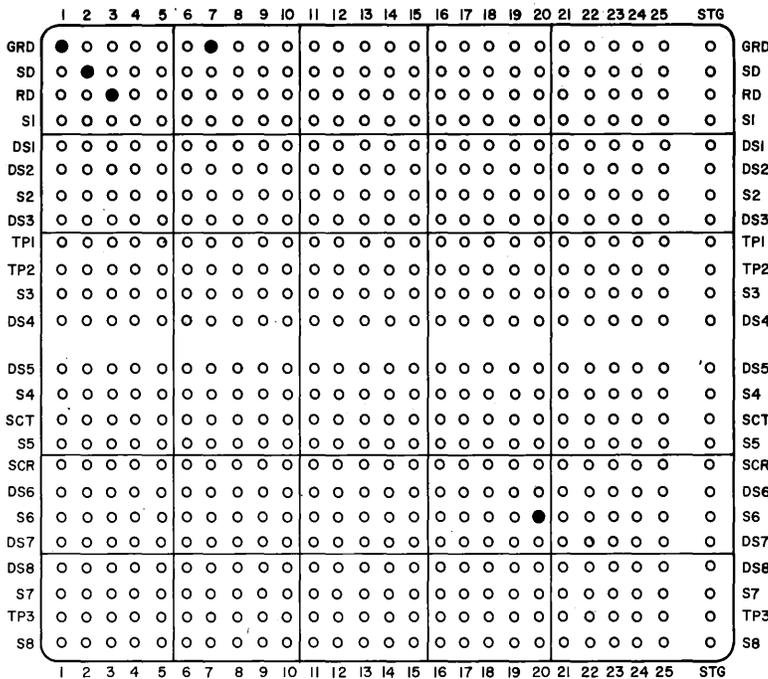


Fig. 2—End-to-End Test Setup

(12) For an originate/answer station, establish voice communication between the data stations and agree to repeat the end-to-end test in the opposite direction. The transmitting data station now becomes the receiving data station. Condition the DTS at both data stations as shown in Fig. 2 and repeat (4) through (11) above.

(13) Remove all test equipment at both data stations and restore both data sets to pretest condition.

#### B. Ground Noise Test

**4.05** If the data set and the CPE are not connected to the same ground, errors may be caused by a potential difference between data set ground and CPE ground. To detect the presence of noise potentials, a test should be made using the 6-type impulse counter. This counter is used to count the number of impulse noise peaks during a measured time period. The counter registers only the peaks that exceed a pretest amplitude and that are separated by about 150 ms or more.

**4.06** The following test equipment is required:

1—6H impulse counter or equivalent

1—914-type DTS or interface test adapter (cover of 901B DTS)

1—2W6A test cord (310 plug on one end, alligator clips connected to tip and ring on other end).

**Note:** Refer to Section 103-620-101 for information on the 6H impulse counter. If the 6H impulse counter is not available, a 6A impulse counter may be used. Refer to Section 103-620-100 for information on the 6A impulse counter.

**4.07** In this test, the impulse counter is connected between the grounds of the data set and the CPE. The impulse counter registers when potential differences of sufficient amplitude have developed between the separated grounds. The 914-type DTS is used to gain access to the ground interface leads. It is assumed that protective ground from the CPE appears at the customer interface.

**4.08** Perform the test as follows:

(1) Using the cables provided with the 914-type DTS, connect the 914-type DTS connector A to the customer connector on the data set, and connect the 914-type DTS connector B to the data set connector on the CPE.

(2) On the 914-type DTS, remove all programming pins from the matrix. Pull up all A and B interface selector switches.

(3) Connect one clip of 2W6A cord to interface selector switch 1A and connect other clip to switch 1B.

(4) Verify that power is applied to data set and CPE.

(5) Insert 310 plug of 2W6A cord into 310 MEAS jack on 6H impulse counter.

(6) Set 6H impulse counter DIAL-MEAS switch to MEAS.

(7) Set 6H impulse counter DBRN dial to 90.

(8) Reset counter on 6H impulse counter to 0.

(9) Set 6H impulse counter MINUTES control to 15. At the end of the 15-minute period, record number of counter indications.

(10) Remove clips of 2W6A cord from 1A and 1B and connect to 7A and 7B.

(11) Repeat (8) and (9) above.

**4.09** At the end of both 15-minute periods, there should be no indications on the counter of the 6H impulse counter. If there is an indication on the counter, the data set and CPE grounds must be bonded together according to local instructions. At the end of the test, remove all test equipment and restore the data station to pretest condition.

**SECTION 591-014-500**

**5. REFERENCES**

**5.01** Additional information concerning the testing of data sets 103A2, 103A2A, and 103A2B is contained in the following publications:

<b>SECTION</b>	<b>TITLE</b>	<b>SECTION</b>	<b>TITLE</b>
			Dialing Network—Test Requirements for Subscriber, Foreign Exchange, and Remote Exchange Lines
103-620-100	J94006A (6A) Impulse Counter—Description, Operation, and Maintenance	590-010-500	J1P005 Automatic Data Test System (ADTS)—Operation From Field Locations Data Set 103A-Type—Description and Operation
103-620-101	6H and 6HR Impulse Counters (J9006HandJ9006HR)—Description, Operation, and Maintenance	591-014-100	Data Set 103A-Type—Description and Operation
107-101-100	914-Type Data Test Sets—Description and Operation	591-014-200	Data Set 103A-Type—Installation and Connections
		591-014-300	Data Set 103A-Type—Maintenance
314-205-501	Data Systems—DATA-PHONE® Service and Data Access Arrangements on Direct Distance	668-101-500	Data Test Center—904A- and 904C-Types—Test Procedures—Data Set 103A-Type—Loop-Back Test