

**DATA SET 109E-TYPE  
MULTIPLE DATA SET ARRANGEMENT  
USING 28A1 DATA MOUNTING AND 27-TYPE DATA UNIT  
TEST PROCEDURES**

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**1. GENERAL**

**1.01** This section describes the test procedures to be followed when installing or maintaining data set 109E-type in the multiple data set arrangement. The section covers both full-duplex (FDX) and half-duplex (HDX) operations and is limited to the arrangement using the 27-type data unit(s) and the 28A1 data mounting as associated mounting apparatus.

**1.02** This section is reissued to revise the test preparation procedures and to add information concerning the 27B1 data unit. Since this reissue constitutes a general revision, arrows ordinarily used to indicate changes have been omitted.

**1.03** All of the tests in this section may be used during a maintenance visit if needed to find and correct a trouble. Normally, only Tests A and C are performed following completion of an installation.

These tests are designed to verify that equipment has been assembled properly and that the installation is operative. Test B need only be made if the requirements for Test A are not met.

**1.04** When performing tests C, F, and G, refer to the section entitled Crediting Charges on Test Calls (010-250-001) to ensure that the customer is not charged with the test calls. Assistance is required at the concentrator and the remote station end when performing Tests C, F, and G.



*Before performing Tests C, F, and G, ensure the proper word generator matrix (5-element or 8-element code) is installed in the 911A data test set(s).*

**1.05** The maintenance tests should be performed in accordance with the maintenance philosophy and troubleshooting procedure given in the section entitled Data Set 109E-Type Multiple Data Set Arrangement Using 28A1 Data Mounting and 27-type Data Unit—Maintenance (591-036-301).

**1.06** A letter, a, b, c, etc, is added to a step number in Part 2 of this section to an action which may or may not be required, depending on local conditions. The condition under which a lettered step should be made is given in the ACTION column, and all steps governed by the same condition are designated by the same letter within that test. Where a condition does not apply, all steps designated by that letter should be omitted.

**2. TEST PROCEDURES**

**2.01** The test apparatus required for each test is listed at the beginning of each test and shown in Table A. The details of each item are covered in the paragraph indicated by the number in parentheses in Table A.

TABLE A

TEST	APPARATUS				
	911A DATA TEST SET (2.02)	INTERFACE TEST ADAPTER (2.03)	METER (2.04)	CORD (2.05)	CORD (2.06)
A			1		
B			1		
C		1	1		
D		1	1		
E		1	1		
F	1	1		1	2
G	1*	1*		1*	1*

\* This test equipment is also needed at the remote data station. At remote stations where use of the 911A data test set is not feasible due to lack of access to the data set interface leads, the station terminal equipment may be used to originate or receive test messages.

**2.02** The 911A data test set (DTS) is the J79911A DTS consisting of a test sentence generator (TSG) and distortion measuring set (DMS). Information pertaining to 911A DTS may be found in Section 103-813-100.

**2.03** The interface test adapter is a 901B-L3 DTS (cover of the 901B DTS).

**2.04** KS-16979-L1 volt-ohm-milliammeter (VOM), or equivalent.

**2.05** W1AD cord, 4 feet 7 inches long, equipped with one 35 cord tip and one 27 Mueller test clip with insulator, black (used for connection of the interface test adapter and the 911A DTS).

**2.06** W1AH cord, 6 feet long, equipped with one Amp No. 6 terminal and one 45 Mueller pee-wee clip with one 47 Mueller insulator, black (used for connection of the interface test adapter to the 911A DTS).

**A. Power Source Output (Loaded) Test**

**2.07** This test checks the (+) 24 and (-) 24 volt dc outputs of the power source under loaded conditions.

**2.08** A KS-16979-L1 VOM, or equivalent, is needed to perform this test.

STEP	ACTION	VERIFICATION
1	Condition meter to measure 24 volts dc.	
2	At TB 1 on 28A1 data mounting— Connect meter leads in accordance with Table B.	Meter indicates 20 to 30 Vdc.



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<b>STEP</b>	<b>ACTION</b>	<b>VERIFICATION</b>
8	Disconnect both meter leads and reconnect power source leads removed in Step 2.	

**C. Interface Lead Test**

**2.11** This test checks for the proper voltage on the CF, CC, CD, BA, and BB leads when the data set is operating in a private line or Data Line Concentrator System (DLCS).

**2.12** A KS-16979-L1 VOM, or equivalent, and an interface test adapter are needed to perform this test.

***Data Line Concentrator Installations***

<b>STEP</b>	<b>ACTION</b>	<b>VERIFICATION</b>
1	Disconnect the CPT interface cable of the data set to be tested from the 27-type data unit at the customer interface connector.	
2	On the interface test adapter— Open shorting bars 2 and 20, close all other shorting bars.	
3	Connect the interface test adapter to the 27-type data unit via the customer interface connector.	
4	Connect a strap wire (supplied with the interface test adapter) between terminals EQ 20 and 8.	
5	Call the concentrator location and request the attendant to reserve the trunk associated with the data set under test and the line associated with the remote station being used in the test.	
6	Condition VOM to measure 24 volts dc.	
7	At interface test adapter— Connect negative (–) VOM lead to terminal 7 and positive (+) VOM lead to terminal 8.	Meter deflects upscale indicating CF and CD leads ON (positive).
8	Disconnect VOM leads from interface test adapter.	

STEP	ACTION	VERIFICATION
9	Connect (+) VOM lead to terminal 7 and (-) VOM lead to terminal 6.  <i>Note:</i> If meter deflects downscale, indicating CL lead ON (positive), verify that the correct action is being taken at the concentrator.	Meter deflects upscale indicating CC lead OFF (negative). Lamp on faceplate of data set under test lighted.
10	Disconnect VOM leads from interface test adapter.	
11	Using a nearby telephone— Request the attendant at the concentrator to force a connection between the trunk associated with the data set under test and the line associated with the remote station to be used for the test.	
12	After forced connection is made— Request attendant at remote station being used for the test to initiate a call.	When remote station initiates call— Lamp on faceplate of data set under test extinguished.
13	At interface test adapter— Connect (-) VOM lead to terminal 7 and (+) VOM lead to terminal 6.  <i>Note:</i> If meter deflects downscale, indicating CC lead is OFF, verify that the correct action is being taken at the concentrator and the remote station.	Meter deflects upscale indicating CC lead ON (positive) and loop current flowing.
14	Disconnect VOM leads from interface test adapter.	
15	Condition VOM to measure 12 volts dc.	
16	Connect (+) VOM lead to terminal 7 and (-) VOM lead to terminal 3.	Meter deflects upscale indicating BB lead marking (negative).
17	Disconnect VOM leads from interface test adapter.	
18a	If the remote station terminal equipment is a TTY— Connect the (-) VOM lead to terminal 7.	
19a	Request remote station attendant to operate and hold the REPEAT key and simultaneously operate the SPACE bar for about 15 seconds.  <i>Note:</i> If a model 37 TTY is used as terminal equipment, operate and hold the SPACE bar only.	

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<b>STEP</b>	<b>ACTION</b>	<b>VERIFICATION</b>
20a	While the remote station attendant is performing Step 19a— Momentarily connect the (+) VOM lead to terminal 3.	Meter deflects upscale indicating the BB lead is spacing (positive).
21a	Disconnect VOM.	
22a	Verify with remote station attendant that the TTY is <i>not</i> running open (BA marking).	
23a	Momentarily connect a strap between terminals EQ 8 (data line concentrator) and terminal EQ 2 of interface test adapter.	TTY at remote end runs open while strap is connected (BA spacing).
24	At 27A1 data unit associated with data set being tested— Operate NORMAL OFF switch associated with data set being tested to the OFF position.	See Table D for verification.

**TABLE D**

<b>TYPE INSTAL- LATION</b>	<b>OPTION IN DATA SET</b>	<b>LAMP CONDITION</b>	<b>ACTION</b>
Data Line Concen- trator	Z*	Lighted	Data set OK — Return equipment to normal.
		Extinguished	Replace data set and repeat last step performed.
Private Line	Y	Extinguished	Data set OK — Return equipment to normal.
		Lighted	Replace data set and repeat last step performed.
	Z	Lighted	Data set OK — Return equipment to normal.
		Extinguished	Replace data set and repeat last step performed.

\* Required in Data Line Concentrator installation.

- 25 End of test:  
Instruct attendant at the remote station and attendant at the concentrator to disconnect trunk from line (data line concentrator installations only), and return data set station to service.

***PL Installations***

- 1 Disconnect the CPT interface cable of the data set to be tested from the 27-type data unit at the customer interface connector.

STEP	ACTION	VERIFICATION
2	On the interface test adapter— Open shorting bars 2 and 20. Close all other shorting bars.	
3	Connect the interface test adapter connecting cord to the customer interface connector on the 27-type data unit.	
4	Connect a strap wire (supplied with the interface test adapter) between adapter terminals EQ 20 and EQ 6.	
5	Call the remote station being used for the test and request that no calls be initiated until instructed to do so.	
6	At interface test adapter— Connect (–) VOM lead to terminal 7 and (+) VOM lead to terminal 6.	Meter deflects upscale indicating CC and CD leads ON (positive).
7	Disconnect VOM leads from interface test adapter.	
8	From the circuit layout record— Determine whether the loop associated with the data set under test is hubbed or not and proceed as follows.	
9a	If the loop associated with the data set under test is hubbed— Call the serving central office on a nearby telephone and have the attendant remove the associated hub data set from the hub nest.	When central office attendant removes the data set from the hub— Lamp on faceplate of data set under test lighted.
10b	If the loop associated with the data set under test is not hubbed— Call the remote station on a nearby telephone and have the attendant disconnect power from the station.	When the remote station attendant disconnects power to the remote station— Lamp on faceplate of data set under test lighted.
	<b>Note:</b> If remote station is equipped with data set 109D-type mounted in a DAS 820-type, gain access to the DAS and remove the data set from the DAS.	
11	Connect (+) VOM lead to terminal 7 and (–) VOM lead to terminal 8.	Meter deflects upscale indicating CF lead OFF (negative).
12	Disconnect VOM leads from interface test adapter.	

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STEP	ACTION	VERIFICATION
13a	Call the serving central office on a nearby telephone and have the attendant reinstall the hub data set in the hub nest.	
14b	Call the remote station on a nearby telephone and have the attendant reconnect power to the remote station.	
	<i>Note:</i> If data set 109D-type at remote end is removed from the DAS, reconnect the data set at this time.	
15	At interface test adapter— Connect (–) VOM lead to terminal 7 and (+) VOM lead to terminal 8.	Meter deflects upscale indicating CF lead ON (positive).
16	Disconnect VOM leads from interface test adapter.	
17	Condition VOM to measure 12 volts dc.	
18	Connect (+) VOM lead to terminal 7 and (–) VOM lead to terminal 3.	Meter deflects upscale indicating BB lead marking (negative).
19	Disconnect VOM leads from interface test adapter.	
20c	If the remote station terminal equipment is a TTY— Connect the (–) VOM lead to terminal 7.	
21c	Request remote station attendant to operate and hold the REPEAT key and simultaneously operate the SPACE bar for about 15 seconds.	
	<i>Note:</i> If a model 37 TTY is used as terminal equipment, operate and hold the SPACE bar only.	
22c	While the remote station attendant is performing Step 21c— Momentarily connect the (+) VOM lead to terminal 3.	Meter deflects upscale indicating the BB lead is spacing (positive).
23c	Disconnect VOM.	
24c	Verify with remote station attendant that the TTY is <i>not</i> running open (BA marking).	
25c	Momentarily connect a strap between terminals 6 (PL) or 8 (data line concentrator) and terminal EQ 2 of interface test adapter.	TTY at remote end runs open while strap is connected (BA spacing).

STEP	ACTION	VERIFICATION
26d	If a 27A1 data unit is associated with the data set being tested— Operate NORMAL OFF switch associated with the data set being tested to the OFF position.	See Table D for verification.
27e	If a 27B1 data unit is associated with the data set being tested— Operate TEST NORMAL switch associated with the data set being tested to TEST.	See Table D for verification.
28	End of test: Instruct attendant at the remote station and attendant at the concentrator to disconnect trunk from line (data line concentrator installations only), and return data set station to service.	

#### D. Voltage Test

**2.13** This test is intended to be used to isolate problems concerning data set 109E-type.

**2.14** A KS-16979-L1 VOM and an interface test adapter are needed to conduct this test.

STEP	ACTION	VERIFICATION
1	Call the far-end data station on a nearby telephone and instruct the attendant to maintain the far-end data set in the idle (marking) condition.	
2	Ensure that the data set under test is idle (marking).	
3	Position the range selector on the VOM to measure 30 Vdc.	
4	Connect (+) VOM lead to TP 10 on the front panel of the data set.	
5	Momentarily connect the (–) VOM lead to TP 11.	Meter indicator between 4.0 and 4.6 Vdc (near-end and far-end data sets marking).
6	Obtain a release of the circuit to be tested from the customer.	
7	On the interface test adapter— Connect a patch cord between EQ 6 (ON) and EQ 2 (BA).	

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STEP	ACTION	VERIFICATION
8	Disconnect the customer interface cord from the 27-type data unit.	
9	Connect the interface test adapter connecting cord to the data unit in place of the customer interface cord.	
10	Connect (+) VOM lead to TP 11 on the data set.	
11	Momentarily connect the (-) VOM lead to TP 10.	Meter indicates between 11.9 and 13.9 Vdc (near end spacing, far end marking).
12	End of test: Instruct attendant at far end to return the data set to the idle condition.  <i>Note:</i> Verify that the current squelch option is <i>not</i> activated. If this option <i>is</i> activated, zero volts will be measured between TP 10 and TP 11.	
13	If the problem cannot be determined from the results of this test, perform the line current test.	

### E. Current Test

**2.14** This test is intended to be used to detect trouble conditions which indicate good when tested in accordance with the voltage test. A typical example is the condition where the only problem is an open loop. Under this condition the voltage test requirements would be met, but there would be no loop current.

**2.15** A KS-16979-L1 VOM and an interface test adapter are needed to conduct this test.

*Note:* This test will not give reliable results if *both* the near-end and far-end data sets have chassis ground connected to signal ground. This condition causes excessive loop current to flow.

STEP	ACTION	VERIFICATION
1	Call the far-end data station on a nearby telephone and instruct the attendant to maintain the far-end data set in the idle (marking) condition.	

STEP	ACTION	VERIFICATION
2	Ensure that the data set under test is idle (marking).	
3	Position the range selector on the VOM to measure 1.5 Vdc.	
4	Connect (+) VOM lead to TP 10 on the front panel of the data set.	
5	Momentarily connect the (-) VOM lead to TP 12.	Meter indicates between 0.42 and 0.49 Vdc (near-end and far-end data sets marking). For extended range connections (2500-ohm loop), the minimum reading is 0.35 Vdc.
6	Obtain a release of the circuit to be tested from the customer.	
7	If the system is private line— Connect a patch cord between EQ 6 (ON) and EQ 2 (BA). If the system is DLCS— Connect a patch cord between EQ 8 (ON) and EQ 2 (BA).	
8	Disconnect the customer interface cord from the 27-type data unit.	
9	Connect the interface test adapter connecting cord to the data unit in place of the customer interface cord.	
10	Connect (+) VOM lead to TP 12 on the data set.	
11	Momentarily connect the (-) VOM lead to TP 10.	Meter indicates between 0.42 and 0.49 Vdc (near end spacing, far end marking). For extended range connections (2500-ohm loops), the minimum reading is 0.35 Vdc.
12	Request the attendant at the far end to cause the terminal equipment to send a steady SPACE signal.	
13a	If the far-end data set is full-duplex— Connect (+) VOM lead to TP 12 on the data set.	
14a	Momentarily connect the (-) VOM lead to TP 10.	Meter indicates between 1.26 and 1.47 Vdc (near end and far end spacing).
15	Disconnect the patch cord between EQ 6 and EQ 2.	

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STEP	ACTION	VERIFICATION
16	Connect (+) VOM lead to TP 12 on the data set.	
17	Momentarily connect the (–) VOM lead to TP 10.	Meter indicates between 0.42 and 0.49 Vdc (near end marking, far end spacing). For extended range connections (2500-ohm loops), the minimum reading is 0.35 Vdc.
18	End of test: Restore all equipment to normal, instruct attendant at far end to return the data set to the idle condition.	

**F. Loop-Back Test**

**2.16** This test measures the distortion level of a data signal that has been transmitted to a remote station and looped back to the multiple arrangement.

**2.17** The following test equipment is needed to perform Test F:

- W1AD cord (1)
- W1AH cord (2)
- Interface Test Adapter (1)
- 911A DTS (1)



*Before performing Test F with a hubbed PL remote station or a remote service data line concentrator station, ensure that the remote station data sets (eg, hubs, 1A Data Station, PL interconnecting arrangements, etc) are arranged for FDX operation. If Test F must be omitted, Test G should be performed.*

STEP	ACTION	VERIFICATION
1	Disconnect the CPT cable of the data set to be tested from the 27-type data unit.	
2	Open shorting bars 2 and 20 and close all other shorting bars on the interface test adapter.	

STEP	ACTION	VERIFICATION
3	Connect the interface test adapter connecting cord to the customer interface connector on the 27-type data unit.	
4a	If the data set to be tested is in a data line concentrator installation— Connect a strap wire (supplied with the interface test adapter) between adapter terminals EQ 20 and EQ 8.	
5a	Call the attendant at the concentrator on a nearby telephone and reserve the trunk associated with the data set under test and the line associated with the remote station to be used in the test.	
6b	If the data set to be tested is in a private line installation— Connect a strap wire (supplied with interface test adapter) between adapter terminals EQ 20 and EQ 6.	
7b	Call the remote station on a nearby telephone and request that no call be initiated until instructed to do so.	
8	At the interface test adapter— Connect the spade-tipped end of W1AD cord to terminal 7.	
9	Using the first W1AH cord— Connect alligator clip end of W1AH cord to terminal EQ 2.	
10	Using the second W1AH cord— Connect the alligator clip end of W1AH cord to terminal 3.	
	 <p><b><i>Before performing Test F, ensure the proper word generator matrix (5-element or 8-element code) is installed in the 911A data test set. Before making any connections to 911A DTS, ensure that power is not applied to 911A DTS until instructed to do so.</i></b></p>	
11	At 911A DTS— Connect alligator clip end of W1AD cord to ground post adjacent to OUTPUT VOLT jack.	
12	Using first W1AH cord— Plug terminal end of W1AH cord into OUTPUT VOLT jack.	

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<b>STEP</b>	<b>ACTION</b>	<b>VERIFICATION</b>
13	Using second W1AH cord— Plug terminal end of W1AH cord into VOLT IN. jack.	
14	Operate controls on TSG of 911A DTS in accordance with Table E and controls on DMS of 911A DTS in accordance with Table F.	

**TABLE E**

<b>CONTROL</b>	<b>SETTING</b>
BIAS	0
DIST 5%	0
DIST 1%	0
BAUDS	Rate provided by terminal equipment
CODE	Code used by terminal equipment
OUTPUT	EIA
AUTO MAN STEP	MAN
All other	OFF

**TABLE F**

<b>CONTROL</b>	<b>SETTING</b>
INPUT	EIA
DIST %	0
BAUDS	Rate provided by terminal equipment
CODE	Code used by terminal equipment
AUTO PK PIP	PK
PARITY	OFF
POLARITY	+
FILTER	OUT

15 Call the remote station on a nearby telephone and have the attendant operate the TEST key at the station.

STEP	ACTION	VERIFICATION
16	At the 911A DTS— Apply power to the 911A DTS and operate both TSG and DMS RESET switches.	
17	Set the AUTO.-MAN.-STEP switch to AUTO.	
18	Move the AUTO.-PK-PIP switch to PIP, then back to PK.	DMS indicates less than 20 percent distortion.
19	Repeat Step 18.	DMS indicates less than 20 percent distortion.
20	Call the remote station and request attendant to return the station to normal operation.	
21	Remove power from 911A DTS.	
22	Disconnect all leads from 911A DTS.	
	 <i>If Test F fails and further check of the transmission or remote station is desired, proceed to Test G.</i>	
23	If no further tests are to be performed— Return the multiple data set station to normal operation.	

### G. End-to-End Test

**2.18** This test measures the distortion level of the transmitted and received data signals at both ends of a data loop. The test procedures for the multiple arrangement *and* the remote station are given in this section, although the person at the remote station should have a copy of the procedures.

**2.19** The data set at the multiple arrangement will be referred to as *station A* and the remote data station will be referred to as *station B*.

**2.20** The test equipment listed below is required at station A *and* station B.

- Interface Test Adapter (1)
- W1AD cord (1)
- W1AH cord (1)
- 911A DTS (1)

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<b>STEP</b>	<b>ACTION</b>	<b>VERIFICATION</b>
1a	For DLCS— Request the person at the concentrator to reserve the trunk associated with the data set under test and the line associated with the remote station (station B).	
2	Disconnect the terminal equipment interface cable from the 27-type data unit. Connect the interface test adapter connecting cord to the 27-type data unit.	
3	For private line service— Connect a strap between terminals EQ 6 and EQ 20. For DLCS— Connect a strap between terminals EQ 8 and EQ 20.	
4	Instruct the person at station B not to initiate any calls until requested to do so.	
5	Using W1AD cord— Connect the spade-tipped end to terminal EQ 7 of the interface test adapter. Connect the alligator clip end to the ground post adjacent to the OUTPUT VOLT jack of the 911A DTS.	
6	Using W1AH cord— Connect the alligator clip end to terminal EQ 2 of the interface test adapter. Insert the plug end of the cord into the OUTPUT VOLT jack of the 911A DTS.	
7	Operate the 911A DTS in accordance with Table E.	

**Note:** The test procedures which follow are divided into two parts. The procedure given in Steps 8 through 21 is intended to be used to test with remote stations equipped with 25-pin EIA interface connectors. Steps 22 through 29 are intended to be used to test with remote stations equipped with interface connectors *other* than 25-pin EIA.

***Test Procedures for Remote Station (Station B) Utilizing EIA Interface Connector***

- 8 Instruct the person at station B to proceed as follows:

STEP	ACTION	VERIFICATION
	(1) At the data set 25-pin EIA connector— Disconnect the terminal equipment interface cable and connect the cord of the interface test adapter (cover of 901B DTS).	
	(2) For private line service— Connect a strap between terminals EQ 6 and EQ 20. For DLCS— Connect the strap between terminals EQ 8 and EQ 20.	
	(3) Using W1AD cord— Connect spade-tipped end to terminal EQ 7 of the interface test adapter and the alligator clip end to the ground post adjacent to the VOLT IN jack of the 911A DTS.	
	(4) Using W1AH cord— Connect the alligator clip end to terminal EQ 3 of the interface test adapter and the plug end into the VOLT IN jack of the 911A DTS.	
	(5) Operate the controls of the 911A DTS in accordance with Table F.	
9a	Request the person at the concentrator to force a connection between the trunk associated with the data set being tested and the line associated with station B.	
10	Request station B to originate a call.	At station A— The lamp on the faceplate of the data set extinguished.
11	Instruct the person at station B to apply power to the 911A DTS and operate the RESET switch of the distortion measuring set (DMS).	
12	At station A— Apply power to the 911A DTS, operate the RESET switch of the test sentence generator (TSG), and position the AUTO.-MAN.-STEP switch to AUTO.	
13	Instruct the person at station B to position the AUTO.-PK-PIP switch to PIP, then back to PK.	The DMS indicates less than 10 percent distortion.
14	Repeat Step 13.	Same as Step 13.
15	Remove power from both 911A DTS and prepare to reverse the direction of transmission.	

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<b>STEP</b>	<b>ACTION</b>	<b>VERIFICATION</b>
16	At station A, proceed as follows:  (1) Remove power from 911A DTS.  (2) Disconnect the W1AH cord placed in Step 6. Reconnect the cord between terminal EQ 3 of the interface test adapter and the VOLT IN jack of the 911A DTS.  (3) Operate controls of 911A DTS in accordance with Table F.	
17	Instruct the person at station B to proceed as follows:  (1) Remove power from 911A DTS.  (2) Disconnect the W1AH cord placed in Step 8. Reconnect the cord between terminal EQ 2 of the interface test adapter and the OUTPUT VOLT jack of the 911A DTS.  (3) Operate the controls of the 911A DTS in accordance with Table E.  (4) Apply power to the 911A DTS.  (5) Operate the RESET switch of the TSG.  (6) Position the AUTO.-MAN.-STEP switch to AUTO.	
18	At station A— Apply power to the 911A DTS and operate the RESET switch of the DMS.	
19	Position the AUTO.-PK-PIP switch to PIP, then back to PK.	The DMS indicates less than 10 percent distortion.
20	Repeat Step 19.	Same as Step 19.
21	End of test: Return station A to normal, instruct the personnel at the concentrator and station B to return the equipment to normal.	
<b><i>Test Procedures for Remote Station (Station B) Utilizing Non-EIA Interface Connector</i></b>		
22a	Request the person at the concentrator to force a connection between the trunk associated with the data set being tested and the line	

STEP	ACTION	VERIFICATION
	associated with the remote station being used for test.	
23	Request station B to originate a call.	At station A— The lamp on the faceplate of the data set extinguished.
24	At station A— Apply power to the 911A DTS, operate the RESET switch of the TSG, and position the AUTO. MAN. STEP switch to AUTO.	The terminal equipment at station B prints the QUICK BROWN FOX JUMPED OVER THE LAZY DOGS BACK 1234567890 TESTING error free. Each test message is preceded by two carriage returns, a rubout character, and a line feed.
25	At station A, proceed as follows:  (1) Remove power from 911A DTS.  (2) Disconnect the W1AH cord placed in Step 6 and reconnect it between terminal EQ 3 of the interface test adapter and the VOLT IN jack of the 911A DTS.  (3) Operate the controls of the 911A DTS in accordance with Table F.  (4) Apply power to the 911A DTS and operate the RESET switch on the DMS.	
26	Instruct the person at station B to repeatedly type the QUICK BROWN FOX test message <i>or</i> RY.	
27	At station A— Position the AUTO.-PK-PIP switch to PIP, then back to PK.	The DMS indicates less than 15 percent distortion.
28	Repeat Step 27.	Same as Step 27.
29	End of test: Return station A to normal, instruct the personnel at the concentrator and station B to return the equipment to normal.	