

**SWITCHED DIGITAL DATA SYSTEM
SERVING TEST CENTER
TEST PROCEDURES**

CONTENTS	PAGE
1. GENERAL	1
2. APPARATUS	5
3. PROCEDURES	5
A. DSU Loopback Test	5
B. CHAN Loopback Test	8
C. OCU Loopback Test	9
D. DSU Functional Test	10
E. DSU Straightaway Test	21
F. CSU Functional Test	29
G. SRDM Test	33
H. Switched STC to Nonswitched STC Straightaway Test	35
I. Remote DAS 821A-L1 Test	36
J. ACI Test	41
K. Call Response Test of 758C Switch	44
L. Line and Switch Error Performance Test	45
M. Trunk and Switch Error Performance Test	47
N. Trunk Loopback Test	49
O. 56-kb/s Repeater Loopback Test	50

1. GENERAL

1.01 This section describes the procedures to be followed by the serving test center (STC) when performing preservice and maintenance tests on the switched digital data system (SDDS) access lines and trunks. In the case of SDDS, initial system installation and testing will normally be performed by the Western Electric Company (WEC) installation force. The preservice tests are included in this section for use by local telephone company (telco) personnel when testing circuits added to the SDDS after the initial system is installed.



*When performing any of the tests given below that involve placing a call over the customer line, refer to the section entitled **Crediting Charges on Test Calls (010-250-001)** to ensure that the customer is not billed for these test calls.*

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

1.03 The tests covered in this section are as follows.

A. DSU Loopback Test: This test checks the ability of a 501A-type data service unit (DSU) to loop back a channel at the customer interface from the line jacks (Fig. 1) or from a test trunk (Fig. 2). A 15-second block error run is performed for maintenance tests and a 15-minute block error run is performed for installation tests. Assistance at the station *is not* required. Detail location of the loopback point in a 501A-type DSU is shown in Fig. 3A.

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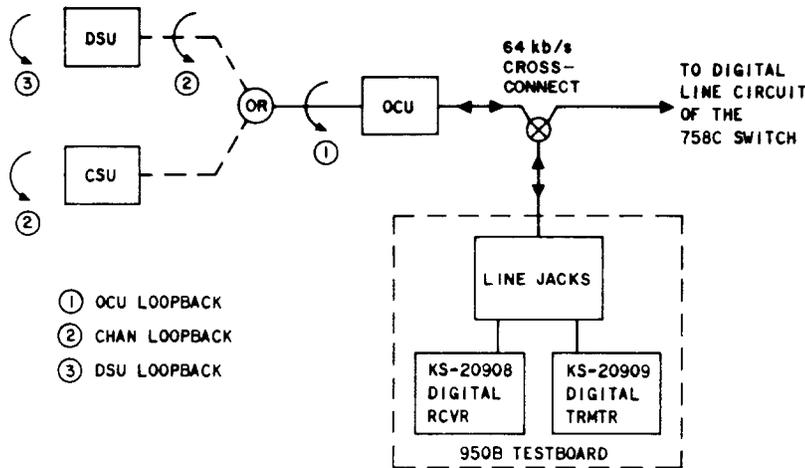


Fig. 1—Local Channel Loopback Tests From Line Jacks

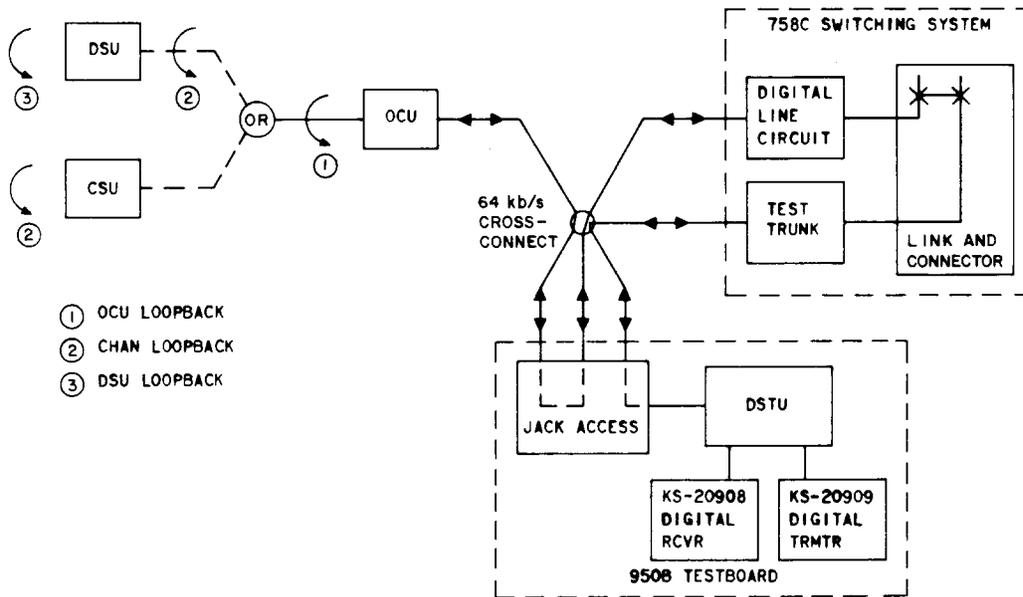
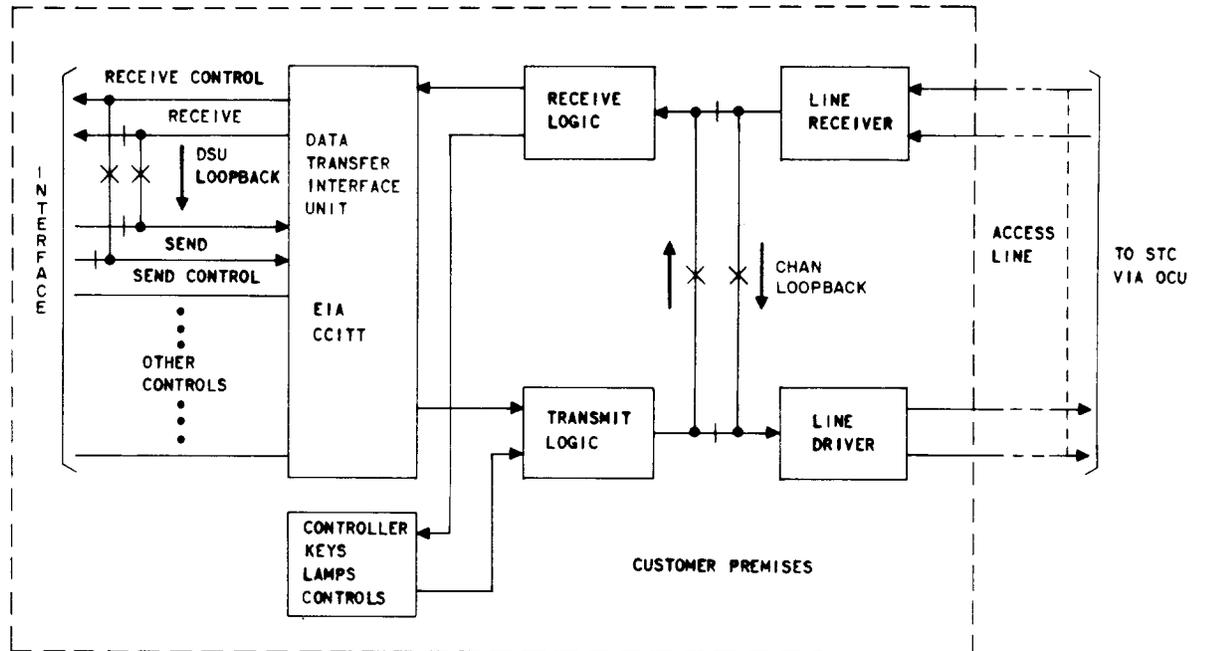


Fig. 2—Local Channel Loopback Tests From Test Trunk

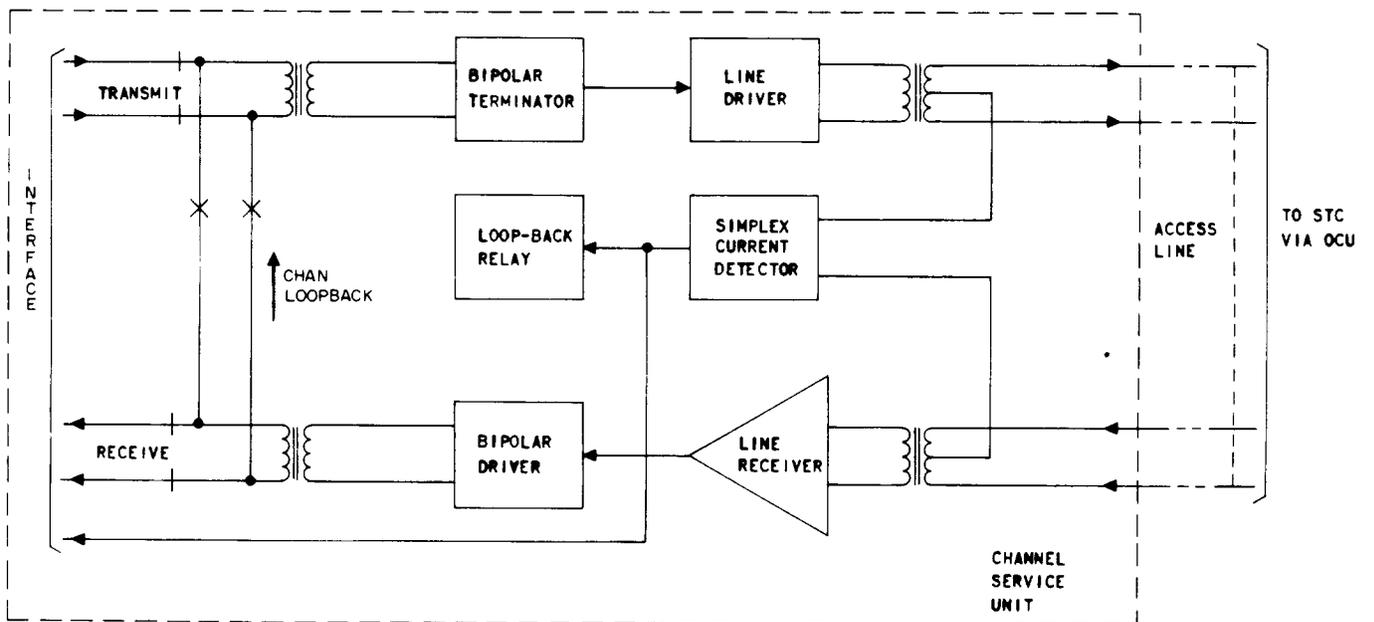
B. CHAN Loopback Test: This test checks the ability of a 501A-type DSU to loop back a channel at the DSU local channel interface or a 550A-type channel service unit (CSU) to loop back a channel at the customer interface from the line jacks (Fig. 1) or from a test trunk (Fig. 2). A 15-second block error run is performed for maintenance tests and a 15-minute block error run is performed for installation tests. Assistance at the station *is not* required. Detail location

of the loopback point in a 501A-type DSU and CSU is shown in Fig. 3A and 3B, respectively.

C. OCU Loopback Test: This test checks the ability of an office channel unit (OCU) to loop back a channel at the OCU local channel interface from the line jacks (Fig. 1) or from a test trunk (Fig. 2). A 15-second block error run is performed for maintenance tests and a 15-minute block error run is performed for



A. LOOPBACK LOCATIONS WITHIN A 501A-TYPE DSU



B. LOOPBACK LOCATIONS WITHIN A 550A-TYPE CSU

Fig. 3—Loopback Locations at Station Location

installation tests. Assistance at the station or OCU *is not* required.

D. DSU Functional Test: This test checks the functions of a 501A-type DSU and the customer interface leads from the line jacks or

a test trunk. Assistance of and coordination with a telco employee at the station location *are* required (see Section 595-300-500).

E. DSU Straightaway Test: This test checks the error performance of a channel terminated

in a 501A-type DSU on a 950-type testboard-to-station basis. A 15-minute bit error run is simultaneously made in both directions of transmission from the line jacks or a test trunk. Assistance of and coordination with a telco employee at the station location **are** required (see Section 595-300-500).

F. CSU Functional Test: This test checks the functions of a 550A-type CSU and the customer interface leads. This test is performed from the line jacks of the channel to be tested. Assistance of and coordination with a telco employee at the station location **are** required (see Section 595-100-500).

G. SRDM Test: This test checks the error performance of a channel between the 950-type testboard and a subrate data multiplexer (SRDM) located on a customer line or trunk. A 5-minute block error run is simultaneously made in both directions of transmission. In hub offices, the test is performed on a loopback basis by use of a loopback plug at the DSX-0B cross-connect bay. In local offices, the assistance of and coordination with a telco employee at the SRDM bay **are** required.

Note: This test requires that all five channels of an SRDM be out of service.

H. Switched STC to Nonswitched STC Straightaway Test: This test checks the error performance of a channel between an STC in a hub office with a switch and an STC in a hub office without a switch.

I. Remote Data Auxiliary Set (DAS) 821A-L1 Test: This test checks the operation of a DAS 821A-L1 and the circuitry in the 501A-type DSU that is associated with the DAS 821A-L1 from a 950B testboard location. Voice coordination with the customer or telco employee at the station location **is** required to perform this test (see Section 595-300-500).

J. Automatic Calling Interface (ACI) Test: This test checks the call originating capability of a 501A-type DSU. Assistance of and coordination with a telco employee at the station location **are** required (see Section 595-300-500).

K. Call Response Test of 758C Switch: This test checks the ability of a switch (modified

758C), used in the SDDS, to exchange signals properly during a call attempt from the line jacks to the digital test line (DTL) in the switch.

L. Line and Switch Error Performance Test:

This test checks the error performance of the portion of the line between the line jacks and the switch and the portion of the switch from the digital line circuit (DLC) to the DTL.

M. Trunk and Switch Error Performance Test:

This test checks the error performance of the portion of a trunk between the trunk jacks and the switch and the portion of the switch from the digital trunk circuit (DTC) to the DTL.

N. Trunk Loopback Test:

This test checks the error performance of a selected trunk between switched STCs. A 5-minute block error run is made in both directions of transmission from the 950-type testboard. This test is performed from the test trunk jacks at the testboard to the DTL in the distant office.

O. 56-kb/s Repeater Loopback Test:

This test checks the ability of a 56-kb/s repeater to loop back a line and checks the error performance of the repeater and the line between the 950-type testboard and the repeater. A 5-minute block error run is made from the line jacks of a 950-type testboard.

1.04 Any or all of these tests may be used for troubleshooting an SDDS channel. However, the various tests are intended for use as described in 1.05 and 1.06.

1.05 Maintenance Tests: The maintenance tests are to be performed in the sequence of and as directed in Section 314-901-310. The maintenance tests and their purposes are as follows:

- (a) **Tests A, B, C, E, H, and O**—Isolation of troubles in the line
- (b) **Tests D, F, I, and J**—Isolation of troubles in the station equipment
- (c) **Tests K, L, and M**—Isolation of troubles to the 758C switch
- (d) **Test N**—Isolation of troubles in the trunk.

1.06 Preservice Tests: All of the tests in this section are for use in testing equipment added to an SDDS network following the initial installation. The sequence in which the tests are to be performed is as follows:

(a) **DSU and DAS 821A-L1**

- (1) Test A (DSU loopback)
- (2) Test D (DSU functional)
- (3) Test I (Remote DAS 821A-L1)
- (4) Test J (ACI)
- (5) Test E (DSU straightaway)

(b) **CSU**

- (1) Test B (CHAN loopback)
- (2) Test F (CSU functional)

(c) **SRDM**

- (1) Test G (SRDM test)

(d) **OCU**

- (1) Test C (OCU loopback)

(e) **758C Switch**

- (1) Test K (Call response of 758C switch)
- (2) Test L (Line and switch error performance)
- (3) Test M (Trunk and switch error performance)

(f) **56-kb/s Regenerative Repeater**

- (1) Test O (56-kb/s repeater loopback)

(g) **SDDS Line—STC-to-STC**

- (1) Test H (Switched STC to nonswitched STC straightaway)

(h) **SDDS Trunk—STC-to-STC**

- (1) Test N (Trunk loopback).

1.07 The procedures given in Part 3 for Tests D, E, F, I, and J require the assistance of and coordination with a telco employee at the station location. To aid in the coordination of these tests, the step numbers of these tests match those given in the station BSPs (595-300-500 and 595-100-500).

1.08 Where no action is required at the 950B testboard, the action being performed at the station and the verification for that action is given parenthetically in each step.

1.09 The performance of Test G requires the assistance of and coordination with a telco employee at the DSX-0B cross-connect bay (hub offices) or SRDM bay (local offices). This test procedure is performed entirely under the direction of the 950B testboard operator.

1.10 Lettered Steps: A letter a, b, c, etc, added to a step number in Part 3 of this section indicates a procedure which may or may not be required, depending on the circuit configuration. The condition under which a lettered step or series of lettered steps are to be performed is given in the ACTION column, and all steps within a test that are governed by the same conditions are assigned the same letter. When a condition does *not* apply, all steps governed by that letter are to be omitted.

2. APPARATUS

2.01 The digital signaling test unit (DSTU), KS-20909 data test set (DTS) (digital transmitter), and KS-20908 DTS (digital receiver), which are required for the performance of these tests, are all provided as part of the 950B testboard.

3. PROCEDURES

STEP	ACTION	VERIFICATION
A. DSU Loopback Test		
1	Verify that the KS-20908 (receiver) and KS-20909 (transmitter) DTSs are powered and receiving clock signals.	POWER ON and CLOCK indicators lighted on both DTSs.

SECTION 314-901-510

STEP	ACTION	VERIFICATION
2a	If performing the test from the test trunk, verify that the DSTU is powered and receiving clock signals.	CLOCK indicator lighted.
3	At the transmitter DTS— Set switches as follows: <ul style="list-style-type: none">● OUTPUT to BIPOLAR when testing from line jacks or to NEAR LOGIC when testing from test trunk● FUNCTION to LOOPBACK TEST● DATA RATE to customer service rate of channel to be tested.	
4	Momentarily operate RESET key.	All LOOPBACK <i>TEST</i> and <i>CONTROL CODES</i> indicators extinguished.
5	At the receiver DTS— Set switches as follows: <ul style="list-style-type: none">● INPUT to BIPOLAR when testing from line jacks or to NEAR LOGIC when testing from test trunk● DATA RATE to customer service rate of channel to be tested● COUNTER to BLOCK ERRORS● TEST WORD to LOOPED● SUBRATE CHANNEL to SINGLE.	
6a	At the DSTU— Operate switches as follows: <ul style="list-style-type: none">● ENQ-CSA-NOT RDY switch to NOT RDY● TRANSMIT to BYTE ALN CONT● RECEIVE to BYTE ALN● DATA RATE to customer service rate of channel to be tested● Depress INIT, CLEAR, and RESET switches● Release all locking pushbutton switches.	

STEP	ACTION	VERIFICATION
7a	Insert the RCV cord reel plug into the LLO jack of the DSTU cord reel unit and insert the DSTU RCV cord reel plug into the appropriate FROM (NEAR or FAR) jack at the test trunk jack module.	
8a	Insert the TRMT cord reel plug into the LLI jack of the DSTU cord reel unit and insert the DSTU TRMT cord reel plug into the appropriate TO (NEAR or FAR) jack at the test trunk jack module.	
9b	If performing the test from the line jacks— Insert the RCV cord reel plug into the MON NEAR jack of channel to be tested.	BYTE PATTERN indicator 8 extinguished (disregard other BYTE PATTERN indicators).
		<i>If BYTE PATTERN indicator 8 is lighted, it indicates that data is present on the channel. DO NOT proceed to Step 10b until the channel is released for testing or data transmission has ceased (BYTE PATTERN indicator 8 extinguished) or customer service will be interrupted.</i>
10b	Disconnect the RCV cord reel plug and insert it into the FROM NEAR jack of channel to be tested and, if the receiver DTS is equipped with a TERMINATE key, depress this key.	TERMINATED indicator lighted.
11b	Insert the TRMT cord reel plug into the TO NEAR jack of channel to be tested.	
12a	At the DSTU— (1) Depress CHK DIGIT switch. (2) Depress CLEAR and RESET switches. (3) Set ENQ-CSA-NOT RDY switch to ENQ. (4) Depress CLEAR switch. (5) Dial three class digits (555), one route digit, and then the station telephone number followed by ETB. (6) Operate EXT DATA switch.	(1) None (2) CONT and IDLE indicators lighted. (3) None (4) CONT and CSA indicators lighted. (5) At the DSTU— Display momentarily indicates) E followed by 00 (fills display except for II in the last two positions). CSA, ETB, and CONT indicators lighted. (6) None
13	At the transmitter DTS— Depress the RESET key and operate and hold operated the DSU LOOPBACK TEST key.	At the transmitter DTS— DSU LOOPBACK TEST indicator lighted. At the receiver DTS—

SECTION 314-901-510

STEP	ACTION	VERIFICATION
		BYTE PATTERN indicator 8 and one other lighted; all others extinguished.
14	Release the DSU LOOPBACK <i>TEST</i> key.	<i>56-kb/s service</i> — At the receiver DTS— All BYTE PATTERN indicators flicker. <i>9.6-kb/s service</i> — At the receiver DTS— BYTE PATTERN indicators 2 through 8 flicker.
15c	If performing installation test— At the receiver DTS— Momentarily operate COUNTER MODE switch to RESET and start timing a 15-minute interval.	OVERFLOW indicator extinguished. Counter resets to 00.
16c	After 15 minutes— Operate COUNTER MODE switch to HOLD.	Counter displays no more than two block errors.
17d	If performing maintenance test— At the receiver DTS— Momentarily operate COUNTER MODE switch to RESET and start timing a 15-second interval.	OVERFLOW indicator extinguished. Counter resets to 00.
18d	After 15 seconds— Operate COUNTER MODE switch to HOLD.	Counter displays zero block errors.
19	At the transmitter DTS— Momentarily operate RESET key.	All LOOPBACK <i>TEST</i> and <i>CONTROL CODES</i> indicators extinguished.
20e	If no further tests are to be made— Disconnect the TRMT and RCV cord reel plugs. If the test was performed from the test trunk, disconnect the DSTU TRMT and DSTU RCV cord reel plugs and depress the EXT DATA switch on DSTU.	

B. CHAN Loopback Test

1	Perform Steps 1 through 12a of Test A.	
2	At the transmitter DTS— Operate and hold operated the CHAN LOOPBACK <i>TEST</i> key.	At the transmitter DTS— CHAN LOOPBACK <i>TEST</i> indicator lighted. At the receiver DTS— BYTE PATTERN indicator 8 and two others lighted; all others extinguished.
3	At the transmitter DTS— Release the CHAN LOOPBACK <i>TEST</i> key.	<i>56-kb/s service</i> — At the receiver DTS—

STEP	ACTION	VERIFICATION
	<i>Note:</i> If the data rate of the line being tested is 56 kb/s and the line contains 56-kb/s repeaters, momentarily depress the transmitter DTS ALL 1s key once for each repeater in the line, then repeat Steps 2 and 3.	All BYTE PATTERN indicators flicker. 9.6-kb/s service— At the receiver DTS— BYTE PATTERN indicators 2 through 8 flicker.
4a	If performing installation test— At the receiver DTS— Momentarily operate COUNTER MODE switch to RESET and start timing a 15-minute interval.	OVERFLOW indicator extinguished. Counter resets to 00.
5a	After 15 minutes— Operate COUNTER MODE switch to HOLD.	Counter displays no more than two block errors.
6b	If performing maintenance test— At the receiver DTS— Momentarily operate COUNTER MODE switch to RESET and start timing a 15-second interval.	OVERFLOW indicator extinguished. Counter resets to 00.
7b	After 15 seconds— Operate COUNTER MODE switch to HOLD.	Counter displays zero block errors.
8	At the transmitter DTS— Momentarily operate RESET key.	All LOOPBACK <i>TEST</i> and <i>CONTROL CODES</i> indicators extinguished.
9c	If no further tests are to be made— Disconnect the TRMT and RCV cord reel plugs. If the test was performed from the test trunk, disconnect the DSTU TRMT and DSTU RCV cord reel plugs and depress the EXT DATA switch on DSTU.	
C. OCU Loopback Test		
1	Perform Steps 1 through 12a of Test A.	
2	At the transmitter DTS— Operate and hold operated the OCU LOOPBACK TEST key.	OCU LOOPBACK <i>TEST</i> indicator lighted. At the receiver DTS— BYTE PATTERN indicator 8 and one other lighted; all others extinguished.
3	Release the OCU LOOPBACK <i>TEST</i> key.	56-kb/s service— At the receiver DTS— All BYTE PATTERN indicators flicker.
		9.6-kb/s service— At the receiver DTS— BYTE PATTERN indicators 2 through 8 flicker.
4a	If performing installation test— At the receiver DTS—	OVERFLOW indicator extinguished. Counter resets to 00.

SECTION 314-901-510

STEP	ACTION	VERIFICATION
	Momentarily operate COUNTER MODE switch to RESET and start timing a 15-minute interval.	
5a	After 15 minutes— Operate COUNTER MODE switch to HOLD.	Counter displays no more than two block errors.
6b	If performing maintenance test— At the receiver DTS— Momentarily operate COUNTER MODE switch to RESET and start timing a 15-second interval.	OVERFLOW indicator extinguished. Counter resets to 00.
7b	After 15 seconds— Operate COUNTER MODE switch to HOLD.	Counter displays zero block errors.
8	At the transmitter DTS— Momentarily operate RESET key.	All LOOPBACK <i>TEST</i> and <i>CONTROL CODES</i> indicators extinguished.
9c	If no further tests are to be made— Disconnect the TRMT and RCV cord reel plugs. If the test was performed from the test trunk, disconnect the DSTU TRMT and DSTU RCV cord reel plugs and depress the EXT DATA switch on DSTU.	

D. DSU Functional Test

1	Verify that the KS-20908 (receiver) DTS, KS-20909 (transmitter) DTS, and DSTU are powered and receiving clock signals. (<i>9.6-kb/s DSU</i> : Connect 914C DTS interface connector cable between DSU interface connector and connector A of 914C DTS.)	At the transmitter and receiver DTSs— POWER ON and CLOCK indicators lighted. At the DSTU— CLOCK indicator lighted. (None)
2	At the transmitter DTS— Operate switches as follows: <ul style="list-style-type: none"> ● OUTPUT to NEAR LOGIC ● FUNCTION to LOOPBACK TEST ● DATA RATE to customer service rate of channel to be tested ● MODE to REPEAT ● Release all <i>CONTROL CODES</i> keys. (<i>9.6-kb/s DSU</i> : Connect 914C DTS power cord to 117-volt 60-Hz outlet.)	None (None)

STEP	ACTION	VERIFICATION
3	Momentarily operate RESET key.	All LOOPBACK <i>TEST</i> and <i>CONTROL CODES</i> indicators extinguished.
	<i>(9.6-kb/s DSU: Program 914C DTS matrix and position controls per Section 595-300-500.)</i>	(None)
4	At the receiver DTS— Operate switches as follows:	
	<ul style="list-style-type: none"> ● INPUT to NEAR LOGIC ● DATA RATE to customer service rate of channel to be tested ● SUBRATE CHANNEL to SINGLE ● COUNTER to BIT ERRORS ● TEST WORD to LOOPED. 	None
	<i>(9.6-kb/s DSU: Operate 914C DTS POWER switch.)</i>	<i>(914C DTS POWER indicator lighted.)</i>
5	At the DSTU— Operate switches as follows:	
	<ul style="list-style-type: none"> ● ENQ-CSA-NOT RDY switch to NOT RDY ● TRANSMIT to BYTE ALN CONT ● RECEIVE to BYTE ALN ● DATA RATE to customer service rate of channel to be tested ● Depress INIT, CLEAR, and RESET switches 	None
	<i>(56-kb/s DSU: Connect 912A wideband data test set [WDTS] interface cable between DSU interface connector and high-speed interface unit of 912A WDTS.)</i>	(None)
6	Insert the RCV cord reel plug into the LLO jack of the DSTU cord reel unit.	None
	<i>(56-kb/s DSU: Connect 912A WDTS power cord to 117-volt 60-Hz outlet.)</i>	(None)

SECTION 314-901-510

STEP	ACTION	VERIFICATION
7	Insert the DSTU RCV cord reel plug into the FROM NEAR jack of the channel to be tested.	At the receiver DTS— IDLE CODE CONTROL CODES indicator lighted.
		56-kb/s service— BYTE PATTERN indicators 1 through 7 lighted.
		9.6-kb/s service— BYTE PATTERN indicators 2 through 7 lighted.
	(56-kb/s DSU: Position 912A WDTS controls per Section 595-300-500.)	(None)
8	Insert the TRMT cord reel plug into the LLI jack of the DSTU cord reel unit and insert the DSTU TRMT cord reel plug into the TO NEAR jack of the channel to be tested.	None
	(56-kbs DSU: Position 912A WDTS POWER switch to ON.)	(912A WDTS POWER indicator lighted.)
	Note: If testing a 56-kb/s DSU, proceed to Step 33.	
9.6-kb/s DSU		
9	None (Verify that the DSU slide switch is in the center position.)	None (DSU PWR indicator lighted; all others extinguished.)
10	None (If Option XQ [enable not ready] is installed in the DSU, position S3 on 914C DTS to ON.)	None (None)
11	None (If the DSU is equipped with Option XS [4.8-kb/s data transfer rate], remove this option.)	None (None)
12	At the request of the telco employee at the station, operate and hold operated the transmitter DTS DSU LOOPBACK TEST key.	Transmitter DTS DSU LOOPBACK TEST indicator lighted. At the receiver DTS— BYTE PATTERN indicator 8 and one other lighted; all others extinguished.
	(None)	(RT indicator lighted.)

STEP	ACTION	VERIFICATION
13	At the request of the telco employee at the station, release the DSU LOOPBACK <i>TEST</i> key, operate RESET key, then operate and hold operated the transmitter DTS CHAN LOOPBACK <i>TEST</i> key.	Transmitter DTS CHAN LOOPBACK <i>TEST</i> indicator lighted. At the receiver DTS— BYTE PATTERN indicator 8 and two others lighted; all others extinguished.
	(None)	(RT indicator extinguished and LL indicator lighted.)
14	At the request of the telco employee at the station, release the CHAN LOOPBACK <i>TEST</i> key, operate RESET key, then operate and hold operated the transmitter DTS OCU LOOPBACK <i>TEST</i> key.	Transmitter DTS OCU LOOPBACK <i>TEST</i> indicator lighted. At the receiver DTS— BYTE PATTERN indicator 8 and one other lighted; all other extinguished.
	(None)	(LL indicator extinguished and NS indicator lighted.)
15	Release the transmitter DTS OCU LOOPBACK <i>TEST</i> key and operate RESET key.	Transmitter DTS OCU LOOPBACK TEST indicator extinguished.
	(None)	(None)
16a	If the test is being performed from test trunk jacks— Insert the DSTU TRMT and DSTU RCV cord reel plugs into the TO (NEAR or FAR) and FROM (NEAR or FAR) test trunk jacks, respectively.	
	At the DSTU—	
	(1) Release EXT DATA switch.	(1) None
	(2) Depress CHK DIGIT switch.	(2) None
	(3) Depress CLEAR and RESET switches.	(3) IDLE and CONT indicators lighted.
	(4) Set ENQ-CSA-NOT READY switch to ENQ.	(4) None
	(5) Depress CLEAR and RESET switches.	(5) CONT and CSA indicators lighted.
	(6) Dial three class digits, one route digit, and then the station telephone number followed by ETB.	(6) At the DSTU— Display momentarily indicates <i>E</i> followed by <i>00</i> (fills display except for <i>II</i> in the last two positions). CSA, ETB, and CONT indicators lighted.
	(7) Set TRANSMIT switch to BYTE ALN DATA.	(7) None

SECTION 314-901-510

STEP	ACTION	VERIFICATION
(8) Depress CLEAR and RESET switches.		(8) CONT and CSA indicators lighted.
(None)		(At the 914C DTS— DS4 lamp flashes for approximately 1-second lighted and 3 seconds extinguished.)
17b If the test is being performed from line jacks— Insert the DSTU TRMT and DSTU RCV cord reel plugs into TO NEAR and FROM NEAR line jacks, respectively. At the DSTU—		
(1) Release EXT DATA switch.		(1) None
(2) Depress CLEAR and RESET switches.		(2) IDLE and CONT indicators lighted.
(3) Depress and hold depressed the RPT switch, then the CME switch.		(3) None
(None)		(At the 914C DTS— DS4 lamp flashes for approximately 1-second lighted and 3 seconds extinguished.)
18 After the telco employee at the station positions S2 on the 914C DTS to ON, depress the RESET switch on DSTU.		At the DSTU— If the test is being performed from test trunk jacks— If the DSU is equipped with Option YS (continuous request-to-send) or Options YT (switched request-to-send) and XA (continuous carrier)— Display indicates ? (fills display). DATA indicator lighted. If the DSU is equipped with Options YT and XB (switched carrier)— Display indicates + (fills display). CONT indicator remains lighted. If the test is being performed from line jacks— Display indicates ? (fills display). DATA indicator lighted.
(At the 914C DTS— Position S2 to ON.)		(At the DAS— CALL indicator lighted.)
19 At the DSTU—		
<ul style="list-style-type: none"> ● Depress EXT DATA switch. ● If testing from line jacks, release the CME and RPT switches. 		

STEP	ACTION	VERIFICATION
● Depress CLEAR switch.	<p>At the transmitter DTS— FUNCTION switch to 511 TEST WORD.</p> <p>At the receiver DTS— TEST WORD switch to 511.</p>	<p>At the DSTU— All indicators extinguished except CLOCK.</p> <p>At the receiver DTS— If the DSU is equipped with Options YT and XA— BYTE PATTERN indicators 2 through 8 lighted. If the DSU is equipped with Options YT and XB— BYTE PATTERN indicators 2, 3, 5, and 7 lighted (DME code).</p>
(None)		<p>(If the DSU is equipped with Option YS [continuous request-to-send]— DS1, DS2, and DS3 indicators lighted; DS4 indicator extinguished.</p> <p>If the DSU is equipped with Option YT [switched request-to-send]— DS2 and DS3 indicators lighted; DS1 and DS4 indicators extinguished.)</p>
20	<p>None</p> <p>(At the 914C DTS— Position S1 to ON.)</p>	<p>None</p> <p>(If the DSU is equipped with Option YT— DS1, DS2, and DS3 indicators are lighted; DS4 indicator extinguished.)</p>
21	<p>Request telco employee at station to reset counter on 914C DTS and operate the receiver DTS COUNTER MODE switch momentarily to RESET.</p> <p>(Depress RESET button on 914C DTS to reset counter.)</p>	<p>The receiver DTS OVERFLOW indicator extinguished and counter indicates zero errors.</p> <p>(None)</p>
22	<p>Start timing a 1-minute interval.</p> <p>(Start timing a 1-minute interval.)</p>	<p>No errors recorded by receiver DTS counter.</p> <p>(No errors recorded by 914C DTS counter.)</p>
23	None	<p>If DSU is equipped with Option XA (continuous carrier) and YT (switched request-to-send)— Receiver DTS BYTE PATTERN indicators 2 through 8 lighted.</p>

SECTION 314-901-510

STEP	ACTION	VERIFICATION
	(At the 914C DTS— Position S1 to OFF.)	If DSU is equipped with Option XB (switched carrier) and YT (switched request-to-send)— Receiver DTS BYTE PATTERN indicators 2, 3, 5, and 7 lighted. (If the DSU is equipped with Option YS [continuous request-to-send]— No change in indicators. If the DSU is equipped with Option YT [switched request-to-send]— DS1 indicator extinguishes.)
24	At the DSTU— • Depress and hold depressed the RPT switch, then the DME switch. • Release EXT DATA switch. (None)	None (At the 914C DTS— DS3 indicator extinguishes.)
25	At the transmitter DTS— • Depress MUX OUT OF SYNC <i>CONTROL CODES</i> key. • FUNCTION to CONTROL CODES. At the DSTU— • Depress EXT DATA switch. • Release the DME and RPT switches. (None)	At the transmitter DTS— MUX OUT OF SYNC <i>CONTROL CODES</i> indicator lighted. (No change in indications.)
26	At the transmitter DTS— • Set BYTE ENCODER switches to 0, 0, 0, 0, 0, 0, 0, 1. • Operate the FUNCTION switch to BYTE ENCODER. (None)	None (At the 914C DTS— DS3 indicator lighted.)
27	At the transmitter DTS—	

STEP	ACTION	VERIFICATION
	<ul style="list-style-type: none"> ● Depress OCU LOOPBACK <i>CONTROL CODES</i> key. ● Operate the FUNCTION switch to CONTROL CODES. 	OCU LOOPBACK <i>CONTROL CODES</i> indicator lighted.
	(None)	(NS indicator lighted on DSU. At the 914C DTS— DS2 and DS3 indicators extinguished. If the DSU is equipped with Option YS [continuous request-to-send]— DS1 indicator also extinguishes.)
28	Depress IDLE CODE <i>CONTROL CODES</i> key on transmitter DTS.	IDLE CODE <i>CONTROL CODES</i> indicator lighted.
	(None)	(At the DSU— NS indicator extinguishes.)
29a	None	If DSU is equipped with Option XQ (enable not ready)— Receiver BYTE PATTERN indicators 2, 3, 4, 5, and 7 lighted.
	(At the 914C DTS— If the DSU is equipped with Option XQ [enable not ready], position S3 to OFF.)	(None)
30	None	None
	(At the 914C DTS— Position S2 to OFF.)	(None)
31	None	None
	(Restore Option XS [4.8-kb/s data transfer rate] if removed in Step 11.)	(None)
32b	If no further tests are to be made— Disconnect TRMT, RCV, DSTU TRMT, and DSTU RCV cord reel plugs.	
56-kb/s DSU		
33	None	None
	(Verify that the DSU slide switch is in the center position.)	(DSU PWR indicator lighted; all others extinguished.)
34	None	None

SECTION 314-901-510

STEP	ACTION	VERIFICATION
	(If DSU is equipped with Option XQ [enable not ready], temporarily remove this option.)	(None)
35	Perform Step 12.	
36	Perform Step 13.	
37	Perform Step 14.	
38	Perform Step 15.	
39	Perform Step 16a or 17b, as appropriate, but disregard the action and verification at the station.	
	(None)	(At the 912A WDTS— The RING IND indicator flashes for approximately 1-second lighted and 3 seconds extinguished. At the DAS— CALL indicator flashes as RING IND flashes.)
40	After the telco employee at the station positions the DATA TERM READY switch on the 912A WDTS to ON, depress the RESET switch on the DSTU.	At the DSTU— If the test is being performed from test trunk jacks— If the DSU is equipped with Option YS (continuous request-to-send) or Options YT (switched request-to-send) and XA (continuous carrier)— Display indicates ? (fills display). DATA indicator lighted. If the DSU is equipped with Options YT and XB (switched carrier)— Display indicates +(fills display). CONT indicator remains lighted. If the test is being performed from line jacks— Display indicates ? (fills display). DATA indicator lighted. If the test is being performed from line jack— Display indicates ? (fills display). DATA indicator lighted.
	(At the 912A WDTS— Position DATA TERM READY switch to ON.)	(At the DAS— CALL indicator lighted.)
41	At the DSTU—	
	<ul style="list-style-type: none"> ● Depress EXT DATA switch. ● If testing from line jacks, release the CME and RPT switches. 	At the DSTU— All indicators extinguished except CLOCK.

STEP	ACTION	VERIFICATION
	At the transmitter DTS— FUNCTION switch to 2047 TEST WORD.	At the receiver DTS— If the DSU is equipped with Options YT and XA— BYTE PATTERN indicators 1 through 8 lighted. If the DSU is equipped with Options YT and XB— BYTE PATTERN indicators 2, 3, 5, and 7 lighted (DME code).
	At the receiver DTS— TEST WORD switch to 2047.	
	(None)	(If the DSU is equipped with Option YS— At the 912A WDTS— CLEAR TO SEND, DATA SET READY, RCVD LINE SIG DETR indicators lighted. RING IND indicator extinguished.
		If the DSU is equipped with Option YT— At the 912A WDTS— DATA SET READY and RCVD LINE SIG DETR indicators lighted. CLEAR TO SEND and RING IND indicators extinguished.)
42	None	At the receiver DTS— BTYE PATTERN indicators 1 through 7 flicker and 8 lighted.
	(At the 912A WDTS— Position REQ TO SEND switch to ON.)	(If the DSU is equipped with Option YT— CLEAR TO SEND, DATA SET READY, and RCVD LINE SIG DETR indicators lighted.)
43	None	None
	(Position COUNTER switch on 912A WDTS to ON.)	(None)
44	Request telco employee at station to reset counter on 912A WDTS and operate the receiver DTS COUNTER MODE switch momentarily to RESET.	The receiver DTS OVERFLOW indicator extinguished and COUNTER indicates zero errors.
	(Depress reset button located on counterface.)	(None)
45	Start timing a 1-minute interval.	No errors recorded by receiver DTS counter.
	(Start timing a 1-minute interval.)	(No errors recorded by 912A WDTS counter.)
46	None	If DSU is equipped with Options XA (continuous carrier) and YT (switched request-to-send)—

STEP	ACTION	VERIFICATION
	(At the 912A WDTS— Position REQ TO SEND switch to OFF.)	Receiver DTS BYTE PATTERN indicators 1 through 8 lighted. If DSU is equipped with Options XB (switched carrier) and YT (switched carrier)— Receiver DTS BYTE PATTERN indicators 1, 2, 3, 5, and 7 lighted. (If the DSU is equipped with Option YS [continuous request-to-send]— No change in indicators. If the DSU is equipped with Option YT [switched request-to-send]— CLEAR TO SEND indicator extinguishes.)
47	At the DSTU— • Depress and hold depressed the RPT switch, then the DME switch. • Release EXT DATA switch. (None)	None (At the 912A WDTS— RCVD LINE SIG DETR indicator extinguishes, NO DATA and NO SYNC indicators lighted.)
48	At the transmitter DTS— Depress MUX OUT OF SYNC CONTROL CODES key. FUNCTION to CONTROL CODES. At the DSTU— Depress EXT DATA switch. Release the DME and RPT switches. (None)	At the transmitter DTS— MUX OUT OF SYNC CONTROL CODES indicator lighted. (No change in indications.)
49	At the transmitter DTS— • Set BYTE ENCODER switches to 0, 0, 0, 0, 0, 0, 0, 1. • FUNCTION to BYTE ENCODER. (None)	None (At the 912A WDTS— RCVD LINE SIG DETR indicator lighted.)
50	At the request of the telco employee at the station— At the transmitter DTS—	

STEP	ACTION	VERIFICATION
	<ul style="list-style-type: none"> ● Depress OCU LOOPBACK <i>CONTROL CODES</i> key. ● FUNCTION to CONTROL CODES. 	OCU LOOPBACK <i>CONTROL CODES</i> indicator lighted.
	(None)	(NS indicator lighted. At the 912A WDTS— DATA SET READY and RCVD LINE SIG DETR indicators extinguished. If the DSU is equipped with Option YS [continuous request-to-send]— CLEAR TO SEND indicator also extinguishes.)
51	At the request of the telco employee at the station, depress IDLE CODE <i>CONTROL CODES</i> key on transmitter DTS.	IDLE CODE <i>CONTROL CODES</i> indicator lighted.
	(None)	(At the DSU— NS indicator extinguishes.)
52	None	None
	(At the 912A WDTS— Position DATA TERM READY switch to OFF.)	(None)
53	None	None
	(Restore Option XQ [enable not ready] if removed at beginning of test.)	(None)
54a	If no further tests are to be made— Disconnect TRMT, RCV, DSTU TRMT, and DSTU RCV cord reel plugs.	
E. DSU Straightaway Test		
1	Verify that the KS-20908 (receiver) DTS, KS-20909 (transmitter) DTS, and DSTU are powered and receiving clock signals.	At the transmitter and receiver DTSs— POWER ON and CLOCK indicators lighted. At the DSTU— CLOCK indicator lighted.
	(<i>9.6-kb/s DSU</i> : Connect 914C DTS interface connector cable between DSU interface connector and connector A on 914C DTS.)	(None)
2	At the transmitter DTS— Operate switches as follows:	
	● OUTPUT to NEAR LOGIC	

SECTION 314-901-510

STEP	ACTION	VERIFICATION
	<ul style="list-style-type: none"> ● FUNCTION to TEST WORD 511 for 9.6-kb/s channels or TEST WORD 2047 for 56-kb/s channels ● DATA RATE to customer service rate of channel to be tested ● MODE to REPEAT. 	<p>None</p> <p>(None)</p>
3	<p>None</p> <p>(9.6-kb/s DSU: Program 914C DTS matrix and position controls per Section 595-300-500.)</p>	<p>None</p> <p>(None)</p>
4	<p>At the receiver DTS— Operate switches as follows:</p> <ul style="list-style-type: none"> ● INPUT to NEAR LOGIC ● DATA RATE to customer service rate of channel to be tested ● SUBRATE CHANNEL to SINGLE ● COUNTER to BIT ERRORS ● TEST WORD to 511 for 9.6-kb/s channels or 2047 for 56-kb/s channels ● COUNTER MODE to COUNT. 	<p>None</p> <p>(914C DTS POWER indicator lighted.)</p>
5	<p>At the DSTU— Operate switches as follows:</p> <ul style="list-style-type: none"> ● ENQ-CSA-NOT RDY switch to NOT RDY ● TRANSMIT to BYTE ALN CONT ● RECEIVE to BYTE ALN ● DATA RATE to customer service rate of channel to be tested ● Depress INIT switch ● Release all locking pushbutton switches ● Depress CLEAR and RESET switches. 	<p>None</p> <p>(None)</p>
	<p>(56-kb/s DSU: Connect 912A WDTS interface cable between DSU interface connector and high-speed interface unit of 912A WDTS.)</p>	<p>(None)</p>

STEP	ACTION	VERIFICATION
6a	<p>If the test is being performed from test trunk jacks— Insert the TRMT and RCV cord reel plugs into the LLI and LLO jacks, respectively, of the DSTU cord reel unit. Insert the DSTU TRMT and DSTU RCV cord reel plugs into the appropriate TO (NEAR or FAR) and FROM (NEAR or FAR) jacks, respectively, at the test trunk jack module.</p>	None
	<i>(56-kb/s DSU: Connect 912A WDTS power cord to 117-volt 60-Hz outlet.)</i>	(None)
7b	<p>If the test is being performed from line jacks— Insert the TRMT and RCV cord reel plugs into the LLI and LLO jacks, respectively, of the DSTU cord reel unit. Insert the DSTU TRMT and DSTU RCV cord reel plugs into the TO NEAR and FROM NEAR line jacks, respectively, of the channel to be tested.</p>	None
	<i>(56-kb/s DSU: Position 912A WDTS controls per Section 595-300-500.)</i>	(None)
8	<p>None</p> <p><i>(56-kb/s DSU: Position 912A WDTS POWER switch to ON.)</i></p>	None (912A WDTS POWER indicator lighted.)
	<i>Note: If testing a 56-kb/s DSU, proceed to Step 22.</i>	
9.6-kb/s DSU		
9	<p>None</p> <p>(If Option XS [4.8-kb/s data transfer rate] is installed in the DSU, temporarily remove this option and install Option XT [9.6-kb/s data transfer rate].)</p>	None (None)
10	<p>None</p> <p>(Verify that the DSU slide switch is in the center position.)</p>	None (DSU PWR indicator lighted; all others extinguished.)
11a	<p>If the test is being performed from test trunk jacks— At the DSTU—</p> <p>(1) Depress CHK DIGIT switch.</p> <p>(2) Depress CLEAR and RESET switches.</p> <p>(3) Set ENQ-CSA-NOT RDY switch to ENQ.</p>	(1) None (2) CONT and IDLE indicators lighted. (3) None

STEP	ACTION	VERIFICATION
	(4) Depress RESET switch.	(4) CONT and CSA indicators lighted.
	(5) Place a call to the station by dialing three class digits, one route digit, and then the station telephone number followed by ETB.	(5) At the DSTU— Display momentarily indicates E followed by 00 (fills display except for II in the last two positions.) CSA, ETB, and CONT indicators lighted.
	(6) Set TRANSMIT switch to BYTE ALN DATA.	(6) None
	(7) Depress CLEAR and RESET switches.	(7) CONT and CSA indicators lighted.
	(None)	(At the 914C DTS— DS4 lamp flashes for approximately 1-second lighted and 3 seconds extinguished.)
12b	If the test is being performed from line jacks— At the DSTU—	
	(1) Release EXT DATA switch.	(1) None
	(2) Depress CLEAR and RESET switches.	(2) IDLE and CONT indicators lighted.
	(3) Depress and hold depressed the RPT switch, then the CME switch.	(3) None
	(None)	(DS4 indicator on the 914C DTS will flash for approximately 1-second lighted and 3 seconds extinguished.)
13	At the DSTU—	
	● Depress EXT DATA switch.	
	● Release the CME and RPT switches.	
	(At the 914C DTS— Position S1, S2, and S3 to ON.)	At the DSTU— All indicators extinguished except CLOCK. (DS1, DS2, and DS3 lamps lighted.)
14	Momentarily operate the COUNTER MODE switch to RESET and request the telco employee at the station to reset the counter on the 914C DTS.	The receiver DTS counter resets to zero. OVERFLOW indicator extinguished.
	(Momentarily operate 914C DTS RESET button.)	(914C DTS counter resets to zero. OVERFLOW lamp extinguished.)
15	Start timing a 15-minute interval.	After 15 minutes— The receiver DTS counter indicates no more than three errors.
	(Start timing a 15-minute interval.)	(914C DTS counter indicates no more than three errors.)

STEP	ACTION	VERIFICATION
16c	If more than three errors are counted by either the 914C DTS or the receiver DTS— Momentarily operate the receiver DTS COUNTER MODE switch to RESET and start timing another 15-minute interval.	Same as Step 15.
	(Momentarily operate 914C DTS RESET button and start timing another 15-minute interval.)	(Same as Step 15.)
17d	If more than three errors are counted by either the 914C DTS or the receiver DTS during the first 5 minutes of the second 15-minute interval— Wait 5 minutes and then repeat Step 16c.	
	 <p><i>An extraordinary condition, such as a severe electrical storm, an intermittent failure of customer-supplied ac power, or a faulty test trunk, if the test is being performed from test trunk jacks, may affect the error performance test of the channel. The straightaway test cannot properly be performed until these conditions have cleared or been repaired, respectively.</i></p>	
18e	If three 15-minute error runs fail to meet the requirements— Troubleshoot the channel in accordance with Section 314-901-310 if this section is not presently being used to isolate trouble on the channel.	None
	(None)	(None)
19	None (If Option XS [4.8-kb/s data transfer rate] was removed as instructed in Step 9, replace Option XT [9.6-kb/s data transfer rate] with Option XS and perform the DSU local test.)	None (None)
20	At the request of the telco employee at the station, perform a 15-minute DSU and CHAN loopback error run as follows.	
	(None)	(None)
	(1) Operate the receiver DTS TEST WORD switch to LOOPED.	(1) None

SECTION 314-901-510

STEP	ACTION	VERIFICATION
	(2) While depressing the ALL 1s key, operate the transmitter DTS FUNCTION switch to LOOPBACK TEST.	(2) None
	(3) Depress the transmitter DTS DSU LOOPBACK TEST key.	(3) DSU LOOPBACK TEST indicator lighted.
	(4) Momentarily operate COUNTER MODE switch to RESET and start timing a 15-minute interval.	(4) Counter indicates zero and OVERFLOW indicator extinguished.
	(5) After 15 minutes— Operate the receiver COUNTER MODE switch to HOLD and record the counter indication on the PL/SW DDS STC initial test record card (Form E-6527).	(5) Counter displays no more than two block errors.
	(6) Momentarily operate the transmitter DTS RESET switch.	(6) None
	(7) Depress the transmitter DTS CHAN LOOPBACK TEST key.	(7) CHAN LOOPBACK TEST indicator lighted.
	(8) Momentarily operate the receiver DTS COUNTER MODE switch to RESET and start timing a 15-minute interval.	(8) Counter indicates zero and OVERFLOW indicator extinguished.
	(9) After 15 minutes— Operate the receiver DTS COUNTER MODE switch to HOLD and record counter indication on the PL/SW DDS STC initial test record card (Form E-6527).	(9) Counter displays no more than two block errors.
21f	If no further tests are to be made— Disconnect RCV, TRMT, DSTU RCV, and DSTU TRMT cord reel plugs.	

56-kb/s DSU

22	None (Verify that the DSU slide switch is in the center position.)	None (PWR indicator lighted; all others extinguished.)
23	None (If Option XQ [enable not ready] is installed in the DSU, temporarily remove this option and install Option XR [disable not ready].)	None (None)

STEP	ACTION	VERIFICATION
24a	If the test is being performed from test trunk jacks— At the DSTU—	
	(1) Depress CHK DIGIT switch.	(1) None
	(2) Depress CLEAR and RESET switches.	(2) CONT and IDLE indicators lighted.
	(3) Set ENQ-CSA-NOT RDY switch to ENQ.	(3) None
	(4) Depress CLEAR and RESET switches.	(4) CONT and CSA indicators lighted.
	(5) Dial three class digits, one route digit, and then the station telephone number followed by ETB.	(5) At the DSTU— Display momentarily indicates E followed by 00 (fills display except for II in the last two positions). CSA, ETB, and CONT indicators lighted.
	(6) Set TRANSMIT switch to BYTE ALN DATA.	(6) None
	(7) Depress CLEAR and RESET switches.	(7) CONT and CSA indicators lighted.
	(None)	(RING IND on the 912A WDTS will flash for approximately 1-second lighted and 3 seconds extinguished. CALL indicator on DAS flashes.)
25b	If the test is being performed from line jacks— At the DSTU—	
	(1) Release EXT DATA switch.	(1) None
	(2) Depress CLEAR and RESET switches.	(2) IDLE and CONT indicators lighted.
	(3) Depress and hold depressed the RPT switch, then the CME switch.	(3) None
	(None)	(RING IND on the 912A WDTS will flash for approximately 1-second lighted and 3 seconds extinguished. CALL indicator on DAS flashes.)
26	At the DSTU—	
	● Depress EXT DATA switch.	
	● Release the CME and RPT switches.	At the DSTU— All indicators extinguished except CLOCK.

SECTION 314-901-510

STEP	ACTION	VERIFICATION
	(At the 912A WDTS— Position REQ TO SEND and DATA TERM READY switches to ON.)	(At the 912A WDTS— CLEAR TO SEND, RCVD LINE SIG DETR, and DSR indicators lighted. NO SYNC and NO DATA indicators extinguished.)
27	None (Position the 912A WDTS COUNTER switch to ON.)	None (None)
28	Momentarily operate the receiver DTS COUNTER MODE switch to RESET and request the telco employee at the station to reset the counter on the 912A WDTS. (Reset 912A WDTS counter by depressing the reset button located on the counter faceplate.)	OVERFLOW indicator extinguished. Counter resets to 00. (None)
29	Start timing a 15-minute interval. (Start timing a 15-minute interval.)	After 15 minutes— The receiver DTS counter indicates no more than three errors. (912A WDTS counter indicates no more than three errors.)
30c	If more than three errors are counted by either the 912A WDTS or the receiver DTS— Momentarily operate the receiver DTS COUNTER MODE switch to RESET and start timing another 15-minute interval. (Momentarily operate 912A WDTS reset button and start timing another 15-minute interval.)	Same as Step 29. (Same as Step 29.)
31d	If more than three errors are counted by either the 912A WDTS or the receiver DTS during the first 5 minutes of the second 15-minute interval— Wait 5 minutes and then repeat Step 30c.	



An extraordinary condition, such as a severe electrical storm, an intermittent failure of customer-supplied ac power, or a faulty test trunk, if the test is being performed from test trunk jacks, may affect the error performance test of the channel. The straightaway test cannot properly be performed until these conditions have cleared, or been repaired, respectively.

STEP	ACTION	VERIFICATION
32	If three 15-minute error runs fail to meet the requirements— Troubleshoot the channel in accordance with Section 314-901-310 if this section is not presently being used to isolate trouble on the channel.	None
	(None)	(None)
33	None	None
	(If Option XQ [enable not ready] was removed in Step 23, replace Option XR [disable not ready] with Option XQ.)	(None)
34	Perform Step 20.	
35e	If no further tests are to be made— Disconnect RCV, TRMT, DSTU RCV, and DSTU TRMT cord reel plugs.	

F. CSU Functional Test

1	Condition the KS-20808 (receiver) and KS-20909 (transmitter) DTSs as follows.	
	(Insert CSU power cord plug into a 117-volt 60-Hz outlet.)	(CSU PWR indicator lighted and TST indicator extinguished.)
	(1) Verify that the receiver and the transmitter DTSs are powered and receiving clock pulses.	(1) POWER ON and CLOCK indicators lighted.
	(2) Operate the transmitter DTS switches as follows:	
	● OUTPUT to BIPOLAR	
	● FUNCTION to CONTROL CODES	
	● DATA RATE to customer service rate of channel to be tested	
	● MODE to REPEAT.	(2) None
	(3) Momentarily operate the transmitter DTS RESET switch.	(3) All LOOPBACK <i>TEST</i> and <i>CONTROL CODES</i> indicators extinguished.
	(4) Operate the receiver DTS switches as follows:	
	● INPUT to BIPOLAR	

SECTION 314-901-510

STEP	ACTION	VERIFICATION
	<ul style="list-style-type: none"> ● SUBRATE CHANNEL to SINGLE ● COUNTER to BIT ERRORS ● TEST WORD to LOOPED ● DATA RATE to customer service rate of channel to be tested. 	(4) None
2	<p>Insert the TRMT cord reel plug into the TO NEAR line jack of the channel to be tested.</p> <p>(Disconnect the CPE from the CSU.)</p>	(None)
3	<p>None</p> <p>(Insert the power plug of the 914C DTS into a 117-volt 60-Hz ac outlet.)</p>	None
4	<p>None</p> <p>(Program 914C DTS matrix per Section 595-100-500.)</p>	None
5	<p>Insert the RCV cord reel plug into the FROM NEAR line jack and, if the receiver DTS is equipped with a TERMINATE key, operate this key.</p> <p>(None)</p>	The receiver DTS TERMINATED indicator lighted.
6	<p>None</p> <p>(Set INTERFACE MODE switch on DTS to VOLTAGE position.)</p>	None
7	<p>None</p> <p>(Set COUNTER switch on DTS to BIT ERRORS.)</p>	None
8	<p>None</p> <p>(Set OUTPUT [TP3] switch to OFF.)</p>	None
9	<p>None</p> <p>(Set [RCV] BIT RATE switch on DTS to EXT +.)</p>	None
10	<p>None</p>	None

STEP	ACTION	VERIFICATION
	(Set [TRANSMIT] BIT RATE switch on DTS to EXT +.)	(None)
11	None	None
	(Set TEST SET MODE switch on DTS to SER.)	(None)
12	None	None
	(Place the VOM function switch in the DCV 30 position.)	(None)
13	None	None
	(Place the VOM polarity switch in the positive position.)	(None)
14	None	None
	(Connect + test lead and - test lead of VOM to TP1 and GRD, respectively, on DTS.)	(None)
15	None	None
	(Construct an adapter cable per Section 595-100-500.)	(None)
16	None	None
	(Connect adapter cord end of adapter cable to the customer interface connector on the CSU, and the other end to connector A on the DTS.)	(None)
17	None	None
	(Depress POWER switch on the DTS.)	(POWER and DS1 lamps lighted. VOM indicates between 5 and 8 Vdc.)
18	None	None
	(Remove matrix pin connecting DS1 and connector pin 2.)	(VOM indicates between 7 and 9 Vdc.)
19	None	None
	(Disconnect the + test lead of the VOM from TP1.)	(None)
20	None	None

SECTION 314-901-510

STEP	ACTION	VERIFICATION
	(Place the VOM polarity switch in the negative position.)	(None)
21	Depress the transmitter DTS CHAN LOOPBACK <i>CONTROL CODES</i> key.	The transmitter DTS CHAN LOOPBACK <i>CONTROL CODES</i> indicator lighted.
	(None)	(TST indicator on CSU lighted. DS1 lamp on DTS extinguished.)
22	None	None
	(Reconnect the + test lead of the VOM to TP1.)	(VOM indicates between -7 and -9 Vdc.)
23	None	None
	(Reinsert matrix pin connecting DS1 and connector pin 2.)	(VOM indicates between -5 and -8 Vdc.)
24	None	None
	(Disconnect the VOM test leads.)	(None)
25	None	None
	(Place the VOM function switch in the ACV 15 position.)	(None)
26	None	None
	(Connect the VOM test leads across TP2 and TP3 of the DTS.)	(VOM indicates zero volts.)
27	At the transmitter DTS— Operate and hold operated the ALL 1s key.	At the receiver DTS— All BYTE PATTERN indicators lighted.
	(None)	(VOM indicates between 1 and 2 Vac. TST indicator on CSU extinguished and DS1 lamp on DTS lighted.)
28	Depress the transmitter DTS OCU LOOPBACK <i>CONTROL CODES</i> key.	The transmitter DTS OCU LOOPBACK <i>CONTROL CODES</i> indicator lighted.
	(None)	(Meter indicates zero volts.)
29	At the transmitter DTS— Operate BYTE ENCODER switches to 0, 0, 0, 0, 0, 0, 1 and then operate FUNCTION switch to BYTE ENCODER.	At the receiver DTS— BYTE PATTERN indicator 8 lighted; all others extinguished.
	(None)	(None)

STEP	ACTION	VERIFICATION
30	At the transmitter DTS— Operate FUNCTION switch to CONTROL CODES and then momentarily operate IDLE CODE CONTROL CODES key.	At the receiver DTS— 9.6-kb/s CSU: BYTE PATTERN indicators 1 and 8 extinguished; all others lighted. 56-kb/s CSU: BYTE PATTERN indicator 8 extinguished; all others lighted.
	(None)	(None)
31	Disconnect the TRMT cord reel plug.	None
	(Remove DTS adapter cable from customer interface connector on CSU.)	(None)
32	Disconnect the RCV cord reel plug.	None
	(Restore the CSU to normal operation.)	(None)
G. SRDM Test		
1	Ensure that the KS-20908 (receiver) and KS-20909 (transmitter) DTSs are powered and receiving clock pulses.	PWR and CLOCK indicators of both DTSs lighted.
2	Operate the transmitter DTS switches as follows:	
	<ul style="list-style-type: none"> ● FUNCTION to TEST WORD 511 ● OUTPUT to BIPOLAR ● DATA RATE to customer service rate of channel to be tested ● MODE to REPEAT. 	
3	Operate the receiver DTS switches as follows:	
	<ul style="list-style-type: none"> ● INPUT to BIPOLAR ● SUBRATE CHANNEL to SINGLE ● TEST WORD to 511 ● COUNTER to BLOCK ERRORS ● DATA RATE to customer service rate of channel to be tested. 	
4a	If testing an SRDM located in a local (end or intermediate) office— Plug the receiver and transmitter DTS power	POWER ON indicator lighted on both DTSs.

SECTION 314-901-510

STEP	ACTION	VERIFICATION
	cords into 117-volt 60-Hz outlets and operate the POWER ON switches on both DTSs.	
5a	Connect the clock cords of the transmitter and receiver DTSs to clock connectors of the bay clock, power, and alarms (BCPA) unit or local timing supply (LTS) shelf.	CLOCK indicators on both DTSs lighted.
6a	Plug the receiver DTS input cord into the submultiplexer jack and connector panel (SM-JCP) FROM FAR jack of the channel under test.	
7a	Plug the transmitter DTS output cord into the SM-JCP TO FAR jack of the channel under test.	
8b	If testing an SRDM located in a hub office— Have a telco employee disconnect the multiplexed side of the SRDM DSX-0B cross-connection and then install a loopback plug.	
9b	At the 950-type testboard— When testing an SRDM on a trunk— Insert the TRMT cord reel plug into the TO FAR trunk jack and the RCV cord reel plug into the FROM FAR trunk jack of the trunk under test. When testing an SRDM on a line— Insert the TRMT cord reel plug into the TO NEAR line jack and the RCV cord reel plug into the FROM NEAR line jack of the line under test.	
10b	If the receiver DTS is equipped with a TERMINATE key, operate this key, momentarily operate the COUNTER MODE switch to RESET, and start timing a 5-minute interval.	
11a	If testing an SRDM located in a local (end or intermediate) office— Momentarily operate the portable receiver DTS COUNTER MODE switch to RESET and start timing a 5-minute interval.	
12	After 5 minutes— Operate COUNTER MODE switch to HOLD.	Counter indicates less than two errors.
13	Disconnect TRMT and RCV cord reel plugs.	

STEP	ACTION	VERIFICATION
14b	If testing an SRDM located in a hub office— Remove loopback plug from DSX-0B cross-connection and restore original cross-connection.	
15	Disconnect the portable receiver DTS and transmitter DTS input and output cords from the SM-JCP.	

H. Switched STC to Nonswitched STC Straightaway Test



The following procedures apply to both the switched and nonswitched STCs.

- | | | |
|---|---|---|
| 1 | Ensure that the receiver and transmitter DTSs are powered and receiving clock signals. | POWER ON and CLOCK indicators on both DTSs lighted. |
| 2 | Set the transmitter DTS switches as follows: <ul style="list-style-type: none"> ● FUNCTION to TEST WORD 511 for 9.6-kb/s channels or TEST WORD 2047 for 56-kb/s channels ● OUTPUT to BIPOLAR ● DATA RATE to customer service rate of channel to be tested ● MODE to REPEAT. | |
| 3 | Set the switches on the receiver DTS as follows: <ul style="list-style-type: none"> ● INPUT to BIPOLAR ● DATA RATE to customer service rate of channel to be tested ● SUBRATE CHANNEL to SINGLE ● TEST WORD to 511 for 9.6-kb/s channels or 2047 for 56-kb/s channels ● COUNTER to BLOCK ERRORS. | |
| 4 | At the switched STC—
Insert the TRMT and RCV cord reel plugs into the TO NEAR and FROM NEAR jacks, respectively, of the channel to be tested. If the receiver DTS is equipped with a TERMINATE key, depress this key. | |

SECTION 314-901-510

STEP	ACTION	VERIFICATION
	At the nonswitched STC— Insert the TRMT and RCV cord reel plugs into the TO FAR and FROM FAR jacks, respectively, of the channel to be tested. If the receiver DTS is equipped with a TERMINATE key, depress this key.	TERMINATED indicator lighted.
5	Momentarily operate receiver DTS COUNTER MODE switch to RESET and start timing a 5-minute interval.	
6	After 5 minutes— Operate COUNTER MODE switch to HOLD.	Counter indicates less than two errors.
7a	If no further tests are to be made— Disconnect the TRMT and RCV cord reel plugs.	
I. Remote DAS 821A-L1 Test		
1	Verify that the DSTU is powered and receiving clock signals. <i>(9.6-kb/s DSU: Connect 914C DTS interface connector cable between DSU interface connector and connector A on 914C DTS.)</i>	CLOCK indicator lighted. (None)
2	Condition the DSTU as follows: <ul style="list-style-type: none"> ● TRANSMIT to BYTE ALN CONT ● RECEIVE to PREC DATA ● DATA RATE to customer service rate of channel to be tested ● ENQ-CSA-NOT RDY to NOT RDY ● Depress ETB CNT switch and release all other locking pushbutton switches ● Depress INIT switch. 	None
	<i>(9.6-kb/s DSU: Connect 914C DTS power cord to 117-volt 60-Hz outlet.)</i>	(None)
3	None <i>(9.6-kb/s DSU: Program 914C DTS matrix and position controls per Section 595-300-500.)</i>	None (None)
4	None	None

STEP	ACTION	VERIFICATION
	(<i>9.6-kb/s DSU</i> : Operate 914C DTS POWER switch.)	(914C DTS POWER indicator lighted.)
5	None	None
	(<i>56-kb/s DSU</i> : Connect 912A WDTS interface cable between DSU interface connector and high-speed interface unit of 912A WDTS.)	(None)
6	None	None
	(<i>56-kb/s DSU</i> : Connect 912A WDTS power cord to 117-volt 60-Hz outlet.)	(None)
7	None	None
	(<i>56-kb/s DSU</i> : Position 912A WDTS controls per Section 595-300-500.)	(None)
8	None	None
	(<i>56-kb/s DSU</i> : Position 912A WDTS POWER switch to ON.)	(912A WDTS POWER indicator lighted.)
9	Insert the DSTU TRMT and DSTU RCV cord reel plugs into the TO NEAR and FROM NEAR line jacks, respectively, of the channel to be tested.	None
	(Verify that the DSU slide switch is in the center position.)	(PWR indicator lighted.)
10	Depress CLEAR and RESET switches.	CONT and IDLE indicators lighted.
	(None)	(None)
11	None	None
	(Depress MM switch.)	(MM indicator lighted.)
12	Depress RESET switch on DSTU.	SYN indicator lighted.
	(Depress CALL switch.)	(CALL indicator lighted.)
13	Operate ENQ-CSA-NOT RDY switch to CSA.	SYN indicator remains lighted.
	(None)	(PROCEED indicator lighted.)
14	None	DSTU displays all dialed digits in the order dialed and the ETB and DIS INH indicators light.

SECTION 314-901-510

STEP	ACTION	VERIFICATION
	(Depress each digit button then the # button.)	(None)
15	At the DSTU—	
	(1) Depress STORE switch.	
	(2) Depress CME switch.	
	(3) Depress ACK switch.	
	(4) Depress CSA switch twice.	(4) RDY indicator lighted.
	(5) Depress OUT STORE switch.	(5) RDY indicator extinguished.
	(None)	(PROCEED indicator will extinguish.)
16	At the DSTU—	
	(1) Depress CME switch.	
	(2) Depress 0 switch twice.	
	(3) Depress ETB switch.	(3) RDY indicator lighted.
	(4) Depress OUT STORE switch.	(4) RDY indicator extinguished.
	(5) Repeat Steps (1) through (4).	
	(None)	(REMOTE RING indicator lighted.)
17	At the DSTU—	
	(1) Depress CME switch.	
	(2) Depress switch 1.	
	(3) Depress switch 2.	
	(4) Depress ETB switch.	(4) RDY indicator lighted.
	(5) Depress OUT STORE switch.	(5) RDY indicator extinguished.
	(6) Repeat Steps (1) through (5).	
	(None)	(REMOTE RING indicator extinguished, RECALL indicator lighted, and digits 1 and 2 displayed.)
18	Release the ETB CNT and STORE switches and position the TRANSMIT switch to BYTE ALN DATA.	None

STEP	ACTION	VERIFICATION
	(None)	(RECALL and digit display indicators extinguished. CONNECT indicator lighted.)
19	Position the TRANSMIT switch to BYTE ALN CONT and operate the ENQ-CSA-NOT RDY switch to NOT RDY.	SYN and DATA indicators lighted.
	(None)	(CONNECT indicator extinguished.)
20	Depress CLEAR and RESET switches. Position the RECEIVE switch to BYTE ALN.	IDLE and DATA indicators extinguished and CONT and NR indicators lighted.
	(Depress NR switch.)	(NR indicator lighted and CALL indicator extinguished.)
21	Depress RESET switch.	NR indicator extinguished and IDLE indicator lighted.
	(Depress NR switch.)	(NR indicator extinguished.)
22	At the request of the telco employee at the station— Depress and hold depressed the RPT switch, then the CME switch.	None
	(None)	(CALL indicator flashes approximately 1-second lighted and 3 seconds extinguished. Audible ringer sounds continuously.
		9.6-kb/s service— DS4 indicator on 914C DTS flashes as CALL indicator flashes.
		56-kb/s service— RING IND on 912A WDTS flashes.)
23	Depress RESET switch.	IDLE indicator extinguished and DATA indicator lighted.
	(Depress CALL switch.)	(CALL indicator lighted.)
24	Release the RPT and CME switches. Depress the RESET switch.	None
	(None)	(None)
25	Depress CLEAR switch.	DATA indicator extinguished, display cleared, and CONT and IDLE indicators lighted.
	(Depress CALL switch.)	(CALL indicator extinguished.)
26	None	None

STEP	ACTION	VERIFICATION
	<i>(9.6-kb/s service—</i> Position S2 on 914C DTS to ON.	
	<i>56-kb/s service—</i> Position DATA TERM READY switch on 912A WDTS to ON.)	(None)
27	None (Depress MM switch on DAS.)	None (MM indicator extinguished.)
28	Depress RESET switch. (Depress NR switch.)	IDLE indicator extinguished and NR indicator lighted. (NR indicator lighted.)
29	Arrange the controls on the DSTU per Step 2 and repeat Steps 12, 13, and 14.	
30	Position the TRANSMIT switch to BYTE ALN DATA and release the ETB CNT switch. (None)	None (At the DAS— PROCEED indicator extinguishes and CONNECT indicator lights. At the 914C DTS— If the DSU is equipped with Option YT [switched request-to-send]— DS2 and DS3 indicators lighted. If the DSU is equipped with Option YS [continuous request-to-send]— DS1 indicator will also light. At the 912A WDTS— If the DSU is equipped with Option YT [switched request-to-send]— DATA SET READY and RCVD LINE SIG DETR indicators lighted. If the DSU is equipped with Option YS [continuous request-to-send]— CLEAR TO SEND, DATA SET READY, and RCVD LINE SIG DETR indicators lighted.)
31	None (Depress CALL switch on DAS.)	None (No change in indicators.)
32	None (Depress MM switch on DAS.)	None (At the DAS— MM indicator lighted.)

SECTION 314-901-510

STEP	ACTION	VERIFICATION
4	Depress CLEAR and RESET switches. (At the 914C DTS— Depress POWER switch.)	DSTU display indicates < and CONT indicator lighted. (POWER indicator lighted.)
5	Operate the RECEIVE switch to PREC DATA and depress CLEAR switch. (Apply power to the DSU.)	CONT and IDLE indicators lighted. (PWR and DS3 indicators lighted and all others extinguished.)
6a	None (If the DSU is equipped with Option XP [call not terminated by CRQ after COS ON], temporarily remove this option.)	None (None)
7	None (None)	None (At the 914C DTS— DS1, DS2, DS4, and DS5 indicators extinguished.)
8	Depress RESET switch. (Position S2 to ON.)	IDLE indicator extinguished. DATA and SYN indicators lighted. (At the 914C DTS— DS5 indicator lighted. DS1 indicator will light if 12 seconds elapse before Step 9 is performed.)
9	Operate ENQ-CSA-NOT RDY switch to CSA. (None)	None (DS2 indicator lighted.)
10	Depress RESET switch. (Position S1 to ON.)	DSTU display indicates a 0. (None)
11	None (When DS2 extinguishes, position S1 to OFF.)	None (DS1 indicator will light if 12 seconds elapse before Step 12 is performed.)
12	None (Position S6 to OFF.)	None (None)
13	None (When DS2 illuminates, position S1 to ON.)	DSTU display indicates 01. (None)

STEP	ACTION	VERIFICATION
14	None (When DS2 extinguishes, position S1 to OFF.)	None (None)
15	None (Transmit the remaining eight digits by positioning the DTS switches as given in Section 595-300-500.)	DSTU display indicates all digits 0 through 9 in the order transmitted from the station. (DS1 indicator will be lighted if 12 seconds elapsed before Step 13 was performed.)
16	None (Position 914C DTS switches as follows: S3—OFF S4—ON S5—OFF S6—OFF.)	None (DS1 will light if 12 seconds elapse before Step 15 is performed.)
17	None (When DS2 lights, position S1 to ON.)	DIS INH and ETB indicators lighted. (None)
18	None (When DS2 extinguishes, position S1 to OFF.)	None (None)
19	Release ETB CNT switch. (Position DTS switches as follows: S3—OFF S4—OFF S5—ON S6—ON.)	DIS INH indicator extinguishes. (None)
20	None (When DS2 illuminates, position S1 to ON.)	CONT indicator lighted. (DS4 indicator lighted.)
21	None (Position S2 to OFF.)	None (DS1 and DS2 indicators extinguished.)
22	Operate ENQ-CSA-NOT RDY switch to NOT RDY. (None)	None (DS4 and DS5 indicators extinguished; DS3 indicator lighted.)
23a	None	None

STEP	ACTION	VERIFICATION
	(Restore Option XP [call not terminated by CRQ after COS ON] if removed at beginning of test.)	(None)
24b	If no further tests are to be made— Disconnect the DSTU cord reel plugs and depress the EXT DATA switch.	None
K. Call Response Test of 758C Switch		
1	Verify that the DSTU is powered and receiving clock signals.	CLOCK indicator lighted.
2	Condition the DSTU as follows: <ul style="list-style-type: none"> • TRANSMIT to PREC DATA • RECEIVE to BYTE ALN • DATA RATE to customer service rate of channel to be tested • ENQ-CSA-NOT RDY to ENQ • Release all locking pushbutton switches except IDLE • Depress INIT switch. 	
3	Insert the DSTU RCV cord reel plug into the MON FAR line jack and depress the CLEAR switch.	IDLE and CONT indicators lighted.
		<i>If the IDLE indicator is extinguished and another indicator, except CLOCK, or display is lighted, it indicates that the channel is in use. DO NOT proceed to Step 4 until the channel is released for testing or customer service will be interrupted.</i>
4	Insert the DSTU TRMT and the DSTU RCV cord reel plugs into the TO FAR and FROM FAR line jacks, respectively.	None
5	Depress CLEAR switch.	CONT and IDLE indicators lighted.
6	Release IDLE switch and depress RESET switch.	CONT and CSA indicators lighted.
7	Dial number of digital test line followed by ETB.	DSTU display momentarily indicates) E followed by all segments of the readouts dimly lighted. DATA, SYN, ENQ, CSA, and ETB indicators lighted.

STEP	ACTION	VERIFICATION
8	Operate TRANSMIT switch to BYTE ALN DATA. Depress CLEAR and RESET switches.	ENQ and DATA indicators lighted.
9	Depress DSTU switches 0 through 9 (one at a time).	DSTU display indicates digits 0 through 9 in the order transmitted.
10	Operate TRANSMIT switch to PREC DATA. Depress IDLE switch, then CLEAR switch.	IDLE and CONT indicators lighted.
11a	If no further tests are to be made— Disconnect the DSTU cord reel plugs and depress the EXT DATA switch.	

L. Line and Switch Error Performance Test

- | | | |
|---|--|---|
| 1 | Ensure that the KS-20908 (receiver) DTS, KS-20909 (transmitter) DTS, and DSTU are powered and receiving clock signals. | At the transmitter and receiver DTSs—
POWER ON and CLOCK indicators lighted.
At the DSTU—
CLOCK indicator lighted. |
| 2 | At the transmitter DTS—
Operate switches as follows: <ul style="list-style-type: none"> <li data-bbox="315 1098 675 1119">● OUTPUT to NEAR LOGIC <li data-bbox="315 1161 906 1245">● FUNCTION to TEST WORD 511 for 9.6-kb/s channels or TEST WORD 2047 for 56-kb/s channels <li data-bbox="315 1287 906 1350">● DATA RATE to customer service rate of channel to be tested <li data-bbox="315 1381 586 1402">● MODE to REPEAT. | |
| 3 | At the receiver DTS—
Operate switches as follows: <ul style="list-style-type: none"> <li data-bbox="315 1539 651 1560">● INPUT to NEAR LOGIC <li data-bbox="315 1602 906 1665">● DATA RATE to customer service rate of channel to be tested <li data-bbox="315 1696 769 1717">● SUBRATE CHANNEL to SINGLE <li data-bbox="315 1759 906 1822">● TEST WORD to 511 for 9.6-kb/s channels or 2047 for 56-kb/s channels <li data-bbox="315 1854 743 1875">● COUNTER to BLOCK ERRORS. | |

STEP	ACTION	VERIFICATION
4	At the DSTU— Operate switches as follows: <ul style="list-style-type: none"> • TRANSMIT to PREC DATA • RECEIVE to BYTE ALN • DATA RATE to customer service rate of channel to be tested • ENQ-CSA-NOT RDY switch to ENQ • Release all locking pushbutton switches except IDLE. 	
5	Insert the TRMT and RCV cord reel plugs into the LLI and LLO jacks, respectively, in the DSTU cord reel unit. Insert the DSTU RCV cord reel plug into the MON FAR line jack of channel to be tested.	
6	Depress CLEAR switch.	CONT and IDLE indicators lighted.
		<p><i>If the IDLE indicator is extinguished and another indicator, except CLOCK, or display is lighted, it indicates that the line is in use. DO NOT proceed to Step 7 until the line is released for testing or customer service will be interrupted.</i></p>
7	Insert the DSTU RCV and DSTU TRMT cord reel plugs into the FROM FAR and TO FAR line jacks, respectively, of channel to be tested.	None
8	Depress CLEAR switch.	CONT and IDLE indicators lighted.
9	Release IDLE switch and depress RESET switch.	CONT and CSA indicators lighted.
10	Dial number of digital test line followed by ETB.	DSTU display momentarily indicates <i>)/E</i> followed by all segments of the readouts dimly lighted. DATA, SYN, ENQ, CSA, and ETB indicators lighted.
11	Operate TRANSMIT switch to BYTE ALN DATA. Depress CLEAR and RESET switches.	ENQ and DATA indicators lighted.
12	Depress DSTU EXT DATA switch.	None

STEP	ACTION	VERIFICATION
13	Momentarily operate the receiver DTS COUNTER MODE switch to RESET and start timing a 5-minute interval.	After 5 minutes— The receiver DTS counter indicates zero errors.
14a	If no further tests are to be made— Disconnect RCV, TRMT, DSTU RCV, and DSTU TRMT cord reel plugs.	

M. Trunk and Switch Error Performance Test

1	Ensure that the KS-20908 (receiver) DTS, KS-20909 (transmitter) DTS, and DSTU are powered and receiving clock signals.	At the transmitter and receiver DTSs— POWER ON and CLOCK indicators lighted. At the DSTU— CLOCK indicator lighted.
2	At the transmitter DTS— Operate switches as follows: <ul style="list-style-type: none"> ● OUTPUT to NEAR LOGIC ● FUNCTION to TEST WORD 511 for 9.6-kb/s channels or TEST WORD 2047 for 56-kb/s channels ● DATA RATE to customer service rate of channel to be tested ● MODE to REPEAT. 	
3	At the receiver DTS— Operate switches as follows: <ul style="list-style-type: none"> ● INPUT to NEAR LOGIC ● DATA RATE to customer service rate of channel to be tested ● SUBRATE CHANNEL to SINGLE ● TEST WORD to 511 for 9.6-kb/s channels or 2047 for 56-kb/s channels ● COUNTER to BLOCK ERRORS. 	
4	At the DSTU— Operate switches as follows: <ul style="list-style-type: none"> ● TRANSMIT to BYTE ALN CONT ● RECEIVE to BYTE ALN 	

SECTION 314-901-510

STEP	ACTION	VERIFICATION
	<ul style="list-style-type: none"> ● DATA RATE to customer service rate of channel to be tested ● ENQ-CSA-NOT RDY switch to NOT RDY ● Depress CHK DIGIT switch and release all other locking pushbutton switches ● Depress INIT switch. 	
5	Insert the TRMT and RCV cord reel plugs into the LLI and LLO jacks, respectively, in the DSTU cord reel unit. Insert the DSTU RCV cord reel plug into the MON FAR trunk jack of channel to be tested.	
6	Depress CLEAR and RESET switches.	CONT and IDLE indicators lighted.
		<p><i>If the IDLE indicator is extinguished and another indicator, except CLOCK, or display is lighted, it indicates that the trunk is in use. DO NOT proceed to Step 7 until the trunk is in the IDLE state or customer service will be interrupted.</i></p>
7	Insert the DSTU RCV and DSTU TRMT cord reel plugs into the FROM NEAR and TO NEAR trunk jacks, respectively, of the trunk to be tested.	None
8	Depress CLEAR switch.	CONT and IDLE indicators lighted.
9	Operate ENQ-CSA-NOT RDY switch to ENQ and depress CLEAR switch.	CONT and CSA indicators lighted.
10	Dial the three class digits, the route digit, and digital test line number followed by ETB.	<p>DSTU display momentarily indicates F followed by 000 (fills display except for II in the last two positions). CONT, CSA, and ETB indicators lighted.</p>
11	Operate TRANSMIT switch to BYTE ALN DATA. Depress CLEAR and RESET switches.	DATA and ENQ indicators lighted.
12	Depress DSTU EXT DATA switch.	None
13	Momentarily operate the receiver DTS COUNTER MODE switch to RESET and start timing a 5-minute interval.	<p>After 5 minutes— The receiver DTS counter indicates zero errors.</p>

STEP	ACTION	VERIFICATION
14a	If no further tests are to be made— Disconnect RCV, TRMT, DSTU RCV, and DSTU TRMT cord reel plugs.	
N. Trunk Loopback Test		
1	Ensure that the KS-20908 (receiver) DTS, KS-20909 (transmitter) DTS, and DSTU are powered and receiving clock signals.	At the transmitter and receiver DTSs— POWER ON and CLOCK indicators lighted. At the DSTU— CLOCK indicator lighted.
2	At the transmitter DTS— Operate switches as follows: ● OUTPUT to NEAR LOGIC ● FUNCTION to TEST WORD 511 for 9.6-kb/s channels or TEST WORD 2047 for 56-kb/s channels ● DATA RATE to customer service rate of channel to be tested ● MODE to REPEAT.	
3	At the receiver DTS— Operate switches as follows: ● INPUT to NEAR LOGIC ● DATA RATE to customer service rate of channel to be tested ● SUBRATE CHANNEL to SINGLE ● TEST WORD to 511 for 9.6-kb/s channels or 2047 for 56-kb/s channels ● COUNTER to BLOCK ERRORS.	
4	At the DSTU— Operate switches as follows: ● TRANSMIT to BYTE ALN CONT ● RECEIVE to BYTE ALN ● DATA RATE to customer service rate of channel to be tested ● ENQ-CSA-NOT RDY switch to NOT RDY	

SECTION 314-901-510

STEP	ACTION	VERIFICATION
	<ul style="list-style-type: none"> ● Depress CHK DIGIT switch and release all other locking pushbutton switches ● Depress INIT switch. 	
5	Insert the TRMT and RCV cord reel plugs into the LLI and LLO jacks, respectively, in the DSTU cord reel unit. Insert the DSTU TRMT and DSTU RCV cord reel plugs into the test trunk jacks.	
6	Depress CLEAR and RESET switches.	CONT and IDLE indicators lighted.
7	Operate ENQ-CSA-NOT RDY switch to ENQ and depress CLEAR switch.	CONT and CSA indicators lighted.
8	Dial 666, the route digit (1 or 0), 999, the number of the desired trunk (4 digits), and ETB. Dial 666, another route digit, and after receiving "dial tone," dial the 7-digit number of the digital test line at the distant office followed by ETB. Depress CLEAR switch.	DSTU display momentarily indicates F followed by 000 (fills display except for II in the last two positions).
9	Operate TRANSMIT switch to BYTE ALN DATA. Depress CLEAR switch.	DATA and ENQ indicators lighted.
10	Depress DSTU EXT DATA switch.	None
11	Momentarily operate the receiver DTS COUNTER MODE switch to RESET and start timing a 5-minute interval.	
12	After 5 minutes— Operate COUNTER MODE switch to HOLD.	Counter indicates less than three errors.
13a	If no further tests are to be made— Disconnect RCV, TRMT, DSTU RCV, and DSTU TRMT cord reel plugs.	
O. 56-kb/s Repeater Loopback Test		
1	Verify that the KS-20908 (receiver) and KS-20909 (transmitter) DTSs are powered and receiving clock signals.	POWER ON and CLOCK indicators lighted.
2	At the transmitter DTS— Set switches as follows: <ul style="list-style-type: none"> ● OUTPUT to BIPOLAR 	

STEP	ACTION	VERIFICATION
	<ul style="list-style-type: none"> ● FUNCTION to LOOPBACK TEST ● DATA RATE to 56 ● MODE to REPEAT. 	
3	At the receiver DTS— Set switches as follows:	
	<ul style="list-style-type: none"> ● INPUT to BIPOLAR ● DATA RATE to 56 ● TEST WORD to LOOPED ● COUNTER to BLOCK ERRORS. 	
4	Insert the RCV cord reel plug into the MON NEAR jack of line to be tested.	BYTE PATTERN indicator 8 extinguished (disregard other BYTE PATTERN indicators).
		 <p><i>If BYTE PATTERN indicator 8 is lighted, it indicates that data is present on the line. DO NOT proceed to Step 5 until the line is released for testing or data transmission has ceased (BYTE PATTERN indicator 8 extinguished) or customer service will be interrupted.</i></p>
5	Disconnect the RCV cord reel plug, insert it into the FROM NEAR jack of line to be tested and, if the receiver DTS is equipped with a TERMINATE key, depress this key.	Receiver DTS TERMINATED indicator lighted.
6	Insert the TRMT cord reel plug into the TO NEAR jack of line to be tested.	
7	Depress the transmitter DTS RESET key.	All transmitter DTS LOOPBACK TEST and CONTROL CODES indicators extinguished.
8	Operate and hold operated the transmitter DTS CHAN LOOPBACK TEST key.	At the transmitter DTS— CHAN LOOPBACK TEST indicator lighted.
		At the receiver DTS— BYTE PATTERN indicator 8 and two others lighted.
9	Release CHAN LOOPBACK TEST key.	At the receiver DTS— All BYTE PATTERN indicators flicker.
10a	If testing the second repeater beyond STC, momentarily depress the ALL 1s key on the transmitter DTS.	None

STEP	ACTION	VERIFICATION
<i>Note:</i> This removes the loopback condition from the first repeater and places the second repeater in the loopback condition.		
11	Momentarily operate the receiver DTS COUNTER MODE switch to RESET and start timing a 5-minute interval.	Counter displays zero block errors.
12a	If the line contains two repeaters and the second repeater beyond STC is to be tested at this time, perform Steps 10a and 11.	
13b	If no further tests are to be made— Disconnect the TRMT and RCV cord reel plugs.	