TRUNK TRANSMISSION TESTS
CIRCUITS TERMINATED AT COMMERCIAL ACD
USING OGT TEST FRAME SD-25177-01
NO. 1 CROSSBAR OFFICES

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1. GENERAL

1.01 This section describes the method of making transmission measurements on lines terminating at commercial automatic call distributors [(C/ACD)No. 2A, 2B,and 3A or vendor C/ACDS having 2-wire connections to Bell System Network] from No. 1 crossbar offices using the outgoing trunk (OGT) test frame SD-25177-01. Tests are performed through an auxiliary test set (ATS) at the central office (CO) and an ATS at the C/ACD. For the tests outlined in this section, the OGT test frame must have changes as indicated in SD-25177-01, Issue 73BU, that is, Fig. 48 and options TF and VN must be provided and option VR or VX must be removed.

1.02 This section affects the Equipment Test Lists.

1.03 The tests covered are:

AA. 1004-Hz Loss Measurement (CO to C/ACD): This test provides a 1004-Hz signal of −10 dBm at the CO for measurement of line loss to the C/ACD.

AB. Gain-Slope Measurements (CO to C/ACD): This test provides 404-, 1004-, and 2804-Hz signals of −10 dBm at the CO for measurement of line loss for three frequencies to the C/ACD.

AC. Noise Measurements at CO (Quiet Termination): This test measures the

line noise: (1) at the central office (CO) with the line termination of 900-ohms at the ACD, or (2) simultaneously at the CO and the C/ACD.

AD. Return Loss Balance at CO: This test to a termination at the C/ACD is to verify balance requirements to assure echo control and singing margins for connections to the C/ACD (see paragraph 1.05)

BA. 1004-Hz Loss Measurement (C/ACD to CO): This test provides a 1004-Hz signal of −10 dBm at the C/ACD for measurement of line loss to the CO (see paragraph 1.06).

BB. Gain-Slope Measurements (C/ACD to CO): This test provides 404-, 1004-, and 2804-Hz signals of −10 dBm at the C/ACD for measurement of line loss for three frequencies to the CO.

BC. Noise Measurements at C/ACD (Quiet Termination): This test measures the line noise at the C/ACD and noise to ground at the C/ACD with the line termination of 900-ohms at the CO.

BD. Return Loss Balance at C/ACD: This test to a termination at the CO is to verify balance requirements to assure echo control and singing margins for connections to the C/ACD (see paragraph 1.05).

BE. Seizure of CO from C/ACD: This test verifies that dial tone is received when a call is originated at the C/ACD. (See paragraph 1.16).

Note: If the requirements in these tests are not met, turn down the circuit and report the condition to the transmission engineer.

1.04 Tests AA, AB, AC, and AD are used for central office originated tests and procedures, while Tests BA, BB, BC, BD, and BE are used for C/ACD originated tests and procedures. The second letter of the double-lettered tests identify companion tests, such as Tests AA and BA give test procedures for 1004-Hz loss measurements from the central office and the C/ACD office, respectively. The noise-to-ground measurement (part of Test BC) and Test BE are made only from the C/ACD.

1.05 Tests AD and BD are not required when the CO and C/ACD are in the same metro area and the C/ACD has no overflow or transfer connection. Only test BD is required when the CO and C/ACD are in the same metro area but the C/ACD has overflow and/or transfer connections. Both Tests AD and BD are required when the CO is outside the metro area where the C/ACD is located and with or without overflow or transfer.

1.06 Tests AA and BA require different limits dependent on whether Tests AD and BD are required with no gain, the limits are −12.0 to −13.5 dBm if Tests AD and BD are required or −10.0 to −13.5 dBm if Tests AD and BD are not required (with gain, the received signal should be −13.0 dBm).

Note: The No. 2A C/ACD has the transfer feature, not overflow.

1.07 Transmission requirements for lines to C/ACD are given on circuit layout cards or in local office records.

1.08 General information and requirements for trunk transmission testing can be found in Division 660. (See Section 660-000-000.)

1.09 At the C/ACD, it is necessary that the tip and ring of the transmission facility to be measured is disconnected from the customer premises switching equipment and that the circuit is made busy in the proper manner to avoid annoyance to the customer,interruption of customer service, or unnecessary seizure of the attendant.

1.10 A talking path must be established between the CO and the C/ACD prior to applying the procedures given in this section.

1.11 All tests covered in this section require an assistant at the C/ACD.

1.12 Figures 1 and 2 present an overview of the cabling required to connect the auxiliary test set (ATS) at the No. 1 CO and the C/ACD, respectively.

1.13 When the lines to the C/ACD are equipped with auxiliary line circuit SD-99439-01 for INWATS billing, refer to Section 010-250-001 for information relative to crediting charges on test calls. The customer should be advised of any billing adjustments or traffic register/Force Administration Data System (FADS) adjustments to be made as a result of performing these tests.

1.14 When ringing is being applied to the line under test from the ATS, lamp indications may vary due to the type of ringing provided in the CO for C/ACD testing.

1.15 When the line under test is seized at the CO, it is automatically made busy to incoming service calls.

1.16 Test BE is required only if calls can be originated from the C/ACD to the CO.

1.17 ***Lettered Steps:*** A letter a, b, c, etc, added to a step number in Parts 3 and 4 of this section indicates an action which may or may not be required, depending on local conditions. The condition under which a lettered step or a series of lettered steps should be made is given in the ACTION column, and all steps governed by the same condition are designated by the same letter within the test. Where a condition does not apply, all steps designated by that letter should be omitted.

2. APPARATUS

2.01 The apparatus required for each test is given below. Test set calibration and operating procedure may be found in the BSP section referred to within the paragraph.

> ***Note:*** If another type of measuring set is used in lieu of the recommended set, it should be ascertained that its accuracy is good or better than that recommended. If another type of set is used, reference should be made to the manufacturer's instruction manual for operating and calibrating procedures pertaining to the set.

At Central Office

2.02 Outgoing trunk test frame, SD-25177-01.

2.03 322A Make-busy plug.

2.04 Portable Transmission Test Set (TMS), HEWLETT-PACKARD 3551A or equivalent.

2.05 Auxiliary Test Set (ATS) (WILCOM Model T309).

2.06 Patching cords, P3E cord, 6 feet long, equipped with two 310 plugs (3P7A cord), as required. (See Fig. 1.)

2.07 Patching Cord, P3F cord, 6 feet long, equipped with one 310 plug and one 309 plug (3P12E cord), as required. (See Fig. 1.)

2.08 1014B hand test set, equipped with 310 plug.

2.09 262C plug (900-ohm termination).

2.10 Connect one 900-ohm resistor 18 FB or equivalent in series with a 2.16 microfarad capacitor, 439 QA or equivalent,for termination in Test BD.

2.11 Return Loss Measureing Set (RLMS) KS-20501, or equivalent (Section 103-106-115).

At C/ACD Office

2.12 Auxiliary Test Set (ATS) (WILCOM Model T309).

2.13 Portable Transmission Measuring Set (TMS), HEWLETT-PACKARD 3551A or equivalent.

2.14 Incoming Trunk Circuits:

(a) Western Electric Company manufactured equipment

SD-66777-01 — No. 2A ACD

SD-1E088-01 — No. 2B ACD

SD-65961-01 — No. 3A ACD

(b) Vendor manufactured equipment.

2.15 1011B hand test set, equipped with 310 plug.

2.16 Patching cords, P3E cord, 6 feet long, equipped with two 310 plugs (3P7A cord), as required. (See Fig. 2.)

2.17 For No. 2A C/ACD office: Patching cord, W2C cord, equipped on one end with 310 plug and on other end, two 59 cord tips (2W6A cord). (See Fig. 2.)

2.18 Two Patching cords, W1AP cord, equipped with Mueller 30 mini-gator clips or equivalent, as required, to connect C/ACD frame ground to the ATS and to the TMS.

2.19 Return Loss Measuring Set (RLMS) KS-20501, or equivalent, (Section 103-106-115).

2.20 262C plug (900-ohm termination).

2.21 25B-type dummy plug.

2.22 Connect one 900-ohm resistor, 18 FB or equivalent, in series with a 2.16 microfarad capicator, 439 QA equivalent, for termination in Test AD.

3. PREPARATION

STEP	ACTION	VERIFICATION
All Tests Except Test BE		
Preliminary Preparations at Central Office (CO)		
1a	If incoming test trunk cut-in circuits are provided— Insert make-busy plug into proper unit jack to select a trunk in office unit or pair of office units in which line to be tested is located.	
2b	If line to be tested is located in section unit of a pair and incoming test trunk is common to both units— Operate HF key.	
3c	If line to be tested is in extra number series— Operate XN key.	
4	Set up number of line to be tested on the numerical keys. ***Note:*** When setting up number to be tested on numerical keys, the number group is set up on TH and H keys, coded number on T and U keys.	
5d	If revertive pulsing— Operate 900-ohm trunk compensating and DM keys.	
6e	If multifrequency pulsing— Operate LT-MF, MF1 keys.	
7	Insert the ATS BATT cord 310 plug into the A jack (−48v and ground) on the test frame miscellaneous circuit.	
8	At the ATS— Operate BATT key to NORM position. (−48 volts on RING, ground on TIP)	
9	Operate DC FEED-HOLD-DISCONNECT key to DC FEED position. NORM lamp lighted.	

STEP	ACTION	VERIFICATION
10	Operate TEL JACK-MEASURE key to TEL JACK position.	TIP GND lamp lighted. (Indicates correct polarity on tip and ring leads.)
11	Operate TEL JACK-MEASURE key to MEASURE position.	TIP GND lamp extinguished.
12	Operate TEL JACK-MEASURE key to TEL JACK position. (Verifies correct lamp operation.)	TIP GND lamp lighted. NORM lamp extinguished.
13	Connect hand test set (MON-TALK key in MON position) to TEL JACK jack on ATS.	
14	Establish communications with craft at C/ACD office. (Do not use line to be tested.)	
15	Advise craft at C/ACD which line has been selected for test.	
	Preliminary Preparations at C/ACD	
16	At ATS— Operate BATT key to NORM position. (−48 volts on RING, ground on TIP)	
17	Operate DC FEED-HOLD-DISCONNECT key to DISCONNECT position.	
18	Operate TEL JACK-MEASURE key to TEL JACK position.	
19	Connect GRD pin on ATS to C/ACD frame ground. (W1AP cord)	
20	Connect TMS ground terminal to C/ACD frame ground. (W1AP cord)	
21	Connect hand test set (MON-TALK key in MON position) to TEL JACK jack on ATS.	
	Continue Preparation at CO and C/ACD	
22	At CO— Connect 3P12E cord between ACD RING jack on test frame and RINGING jack on ATS.	
23	Momentarily operate LT-ST key.	If line is busy— LT lamp flashes.

STEP	ACTION	VERIFICATION
		If line is idle (seized for testing)— CT, RP, TP, or HG lamps lighted. LT-ON lamp lighted.
24	Operate ACD, VM1 keys. (Control of line under test transferred to CO ATS)	
25f	If at No. 2A C/ACD office— At C/ACD—incoming trunk— Insert dummy plug into TRK jack associated with line under test.	
26f	Using 2W6A cord— Insert end of cord with 310 plug into LINE jack on ATS.	
27f	If option K is provided— Clip TIP and RING ends of cord to terminals 5 and 3, respectively, on TRK jack.	
28f	If option Q is provided— Clip TIP and RING ends of cord to terminals 7 and 5, respectively, on TRK jack. ***Note:*** It may be preferable to clip the 2W6A cord T and R ends to appropriate terminals on the distributng frame.	
29g	If at No. 2B C/ACD office— At C/ACD incoming trunk— Insert a dummy plug into the TRK jack.	
30g	Patch L jack of line under test to LINE jack on ATS, using a 3P7A cord.	
31h	If at No. 3A C/ACD office— At C/ACD incoming trunk— Insert a dummy plug into the IN jack.	
32h	Patch OUT jack of line under test to LINE jack on ATS, using 2P4C cord.	
33i	If at a vendor-provided C/ACD interface— Disconnect incoming tip and ring leads and connect to LINE jack on ATS.	
34	Patch T1 jack on test frame to LINE jack on ATS using a 397A cord.	At C/ACD ATS— TIP GND lamp lighted.

STEP	ACTION	VERIFICATION
35	At C/ACD ATS— Operate TEL JACK-MEASURE key to MEASURE position.	At C/ACD ATS— TIP GND lamp extinguished.
36	Operate TEL JACK-MEASURE key to TEL JACK position. (Verifies correct lamp operation.)	TIP GND lamp lighted.
37	At CO ATS— Operate TEL JACK-MEASURE key to MEASURE position.	TIP GND lamp extinguished.
38	At CO ATS— Hold depressed RINGING push- button switch.	At CO ATS— RINGING lamp flashes. At C/ACD ATS— TIP GND lamp flashes. Ringing tone heard in hand test set.
39	At C/ACD ATS— When TIP GND lamp is flashing— Operate MON-TALK key on hand test set to TALK position. (Trip Ringing)	At CO ATS— RINGING lamp extinguished. At C/ACD ATS— TIP GND lamp stops flashing and lights at reduced intensity. Ringing tone not heard in hand test set.
40	At CO ATS— Release RINGING pushbutton switch.	
41	At CO— Operate MON-TALK key on hand test set to TALK position.	
42	Operate TEL JACK-MEASURE key to TEL JACK position.	TIP GND lamp lighted at reduced intensity.
43	Verify verbal communications between CO and C/ACD using hand test sets.	CO and C/ACD craft should be able to talk to one another over the line under test.
44	At both CO and C/ACD— Operate MON-TALK key on hand test set to MON position.	At both CO and C/ACD ATS— TIP GND lamp lighted at full intensity.
45	At CO ATS— Operate DC FEED-HOLD-DISCONNECT key to DISCONNECT position. (Verifies correct response to simulated calling customer disconnect.)	At C/ACD ATS— TIP GND lamp extinguished.
46	At CO ATS— Operate DC FEED-HOLD-DISCONNECT key to DC FEED position.	At C/ACD ATS— TIP GND lamp lighted.

STEP	ACTION	VERIFICATION
47	At C/ACD ATS— Operate DC FEED-HOLD DISCONNECT key to HOLD position.	At C/ACD ATS— TIP GND lamp extinguished.

4. METHOD

Note: For Tests AA through BD, maintain the following settings on the ATS at the CO and C/ACD:

KEY	CO ATS	ACD ATS
BATT	NORMAL	NORMAL
DC FEED-HOLD-DISCONNECT	DC FEED	HOLD
TEL JACK-MEASURE	MEASURE	MEASURE
BATT CORD	CONNECTED	(not used)

AA. 1004-Hz Loss Measurement (CO to C/ACD)

STEP	ACTION	VERIFICATION
48	At C/ACD— Apply power to TMS	
49	Adjust TMS to RECV at 900 ohms.	
50	Patch TMS INPUT jack to TMS jack on ATS using 3P7A cord.	
51	At CO— Patch OUTPUT jack on TMS to TMS jack on ATS using 3P7A cord.	
52	Adjust TMS for 1004-Hz signal at −10 dBm level at 900 ohms.	
53	At C/ACD TMS— Measure the received signal level.	Received signal level should be −13.0 dBm with gain within the limits of −10.0 to −13.5 dBm or −12.0 to −13.5 dBm without gain. (See paragraph 1.06). Record this value.
54j	If no further tests are to be performed— At CO test frame— Restore ACD key.	
55j	At C/ACD, remove patch from line under test to LINE jack on ATS.	
56j	At CO test frame— Momentarily operate LT-DIS key.	All lamps extinguished.
57j	At CO and C/ACD, remove all patching cords, and the dummy plug.	

STEP	ACTION	VERIFICATION
AB.	**Gain-Slope Measurements (CO to C/ACD)**	
	Note: The gain-slope measurements are deviations from the 1004-Hz signal measurement. A 404-Hz loss is measured between the central office and the C/ACD which should be within 3.0 dB more and 1.0 dB less than the 1004-Hz signal loss. The 2804-Hz loss is measured and the limits should be within 4.5 dB more and 1.0 dB less than the 1004-Hz loss.	
48	At C/ACD— Apply power to TMS.	
49	Adjust TMS to RECV at 900 ohms.	
50	Patch TMS INPUT jack to TMS jack on ATS using 3P7A cord.	
51	At CO— Patch OUTPUT jack on TMS to TMS jack on ATS using 3P7A cord.	
52	Adjust TMS for 1004-Hz signal at −10 dBm level at 900 ohms.	
53	At C/ACD TMS— Measure the received signal level.	Received signal level should be −13.0 dBm with gain or within the limits of −10.0 to −13.5 dBm or −12.0 to −13.5 dBm without gain. (See paragraph 1.06). Record this value.
54	At CO TMS— Adjust output signal for 404-Hz at −10 dBm level at 900 ohms.	
55	At C/ACD TMS— Measure the received signal level.	Received signal deviation from 1004-Hz (Step 53) should be within the loss limits 3.0 dB more and 1.0 dB less.
56	At CO TMS— Adjust output signal for 2804-Hz at −10 dBm level at 900 ohms.	
57	At C/ACD TMS— Measure the received signal level.	Received signal deviation from 1004-Hz (Step 53) should be within the loss limits 4.5 dB more and 1.0 dB less.
58j	If no further tests are to be performed— At test frame— Restore ACD key.	

STEP	ACTION	VERIFICATION
59j	At C/ACD— Remove patch from line under test to LINE jack on ATS.	
60j	At CO test frame— Momentarily operate LT-DIS key.	All lamps extinguished.
61j	At CO and C/ACD, remove all patching cords and the dummy plug.	

AC. Noise Measurement at CO (Quiet Termination)

CIRCUIT NOISE

Note: Two methods for performing the circuit noise measurement are given. The first method may be used when separate noise measurements are desired (Tests AC and BC). The second method may be used to make simultaneous measurements at the C/ACD and the central office, thus eliminating the use of Test BC.

First Method — (At CO)

48	At C/ACD— Insert 262C plug (900-ohm termination) into TMS jack on ATS.	
49	At CO— Apply power to TMS.	
50	Patch INPUT jack on TMS to TMS jack on ATS and adjust TMS for 900-ohm termination and message circuit noise — C message.	
51	At CO TMS— Obtain noise measurement.	Refer to Table A for limits, depending on facility and length of circuit.
52	At C/ACD— Remove 262C plug from TMS jack on ATS.	
53	Proceed to Step 61j.	

Second Method — (At CO and C/ACD)

54	At C/ACD— Apply power to TMS.	
55	Patch TMS jack on ATS to INPUT jack on TMS.	

STEP	ACTION	VERIFICATION
56	At TMS— Adjust for 900-ohm termination and message circuit noise — C message.	
57	At CO— Apply power to TMS.	
58	Patch INPUT jack on TMS to TMS jack on ATS.	
59	At TMS— Adjust for 900-ohm termination and message circuit noise — C message.	
60	At both CO and C/ACD— Obtain noise measurement.	Refer to Table A for limits, depending upon facility and length of circuit.
61j	If no further tests are to be performed— At CO test framee— Restore ACD key.	
62j	At C/ACD, remove patch from line under test to LINE jack on ATS.	
63j	At CO test frame— Momentarily operate LT-DIS key.	All lamps extinguished.
64j	At CO and C/ACD, remove all patching cords and the dummy plug.	
AD.	**Return Loss Balance at CO**	
48	At C/ACD— Terminate the line and under test with a 900-ohm resistor in series with a 2.16 microfarad capacitor at the ATS TMS jack.	
49	At CO— Set up the RLMS for a 2-wire measurement. (See Section 103-106-115)	
50	Patch RLMS to TMS jack on the ATS.	
51	Measure ERL, SRL, and SRL-HI	ERL should read 18 dB or greater. SRL and SRL-HI should read 10 dB or greater.
52j	If no further tests are to be performed— At CO test frame— Restore ACD key.	

STEP	ACTION	VERIFICATION
53j	At C/ACD— Remove resistor-capacitor patch from line under test to the ATS TMS jack.	
54j	At CO test frame— Momentarily operate LT-DIS key.	All lamps extinguished.
55j	At CO and C/ACD— Remove all patching cords and the dummy plug.	
BA.	**1004-Hz Loss Measurement (C/ACD to CO)**	
48	At CO— Apply power to TMS.	
49	Patch INPUT jack on TMS to TMS jack on ATS and adjust TMS to RECV at 900 ohms.	
50	At C/ACD— Patch OUTPUT jack on TMS to TMS jack on ATS.	
51	Adjust TMS for 1004-Hz signal at −10 dBm at 900 ohms.	
52	At CO TMS— Measure the received signal level.	Received signal level should be −13 dBm with gain or within the limits of −12.0 to −13.5 dBm or −12.0 to −13.5 without gain. (See paragraph 1.06) Record this value.
53j	If no further tests are to be performed— At CO test frame— Restore ACD key.	
54j	At C/ACD— Remove patch from line under test to LINE jack on ATS.	
55j	At CO test frame— Momentarily operate LT-DIS key.	All lamps extinguished.
56j	At CO and C/ACD— Remove all patching cords and dummy plug.	
BB.	**Gain-Slope Measurements (C/ACD to CO)**	
	NOTE: The gain-slope measurements are deviations from the 1004-Hz signal measurement. A 404-Hz loss is measured between the	

STEP	ACTION	VERIFICATION
	central office and the C/ACD which should be within 3.0 dB more and 1.0 dB less than the 1004-Hz signal loss. The 2804-Hz loss is measured and the limits should be within 4.5 dB more and 1.0 dB less than the 1004-Hz loss.	
48	At C/ACD— Apply power to TMS.	
49	Patch TMS OUTPUT jack to TMS jack on ATS.	
50	At CO— Apply power to TMS.	
51	Patch INPUT jack on TMS to TMS jack on ATS.	
52	At C/ACD TMS— Adjust TMS for 1004-Hz signal at −10 dBm at 900 ohms.	
53	At CO TMS— Measure the received signal level.	Received signal level should be −13 dBm with gain or within the limits of −12.0 to −13.5 or −12.0 to −13.5 dBm without gain. (See paragraph 1.06) Record this value.
54	At C/ACD— Adjust output signal for 404-Hz at −1 dBm at 900 ohms.	
55	At CO TMS— Measure the received signal level.	Received signal deviation from 1004-Hz (Step 53) should be within the loss limits 3.0 dB more and 1.0 dB less.
56	At C/ACD— Adjust output signal for 2804-Hz at −10 dB at 900 ohms.	
57	At CO TMS— Measure the received signal level.	Received signal deviation from 1004-Hz (Step 53) should be within the loss limits 4.5 dB more and 1.0 dB less.
58j	If no further tests are to be performed— At CO test frame— Restore C/ACD key.	
59j	At C/ACD— Remove patch from line under test to LINE jack on ATS.	

STEP	ACTION	VERIFICATION
60j	At CO test frame— Momentarily operate LT-DIS key.	All lamps extinguished.
61j	At CO and C/ACD— Remove all patching cords and the dummy plug.	

BC. Noise Measurement (At C/ACD) (Quiet Termination)

CIRCUIT NOISE

48	At CO— Insert 262C plug (900-ohm termination) into TMS jack on ATS.	
49	At C/ACD— Apply power to TMS.	
50	Patch INPUT jack on TMS to TMS jack on ATS and adjust TMS for 900-ohm termination and message circuit noise — C message.	
51	At C/ACD TMS— Obtain noise measurement.	Refer to Table A for limits, depending on facility and length of circuit.
52	At CO— Remove 262C plug from TMS jack.	

CIRCUIT NOISE TO GROUND

	Note: Add 40 dBrnC to reading obtained on Western Electric Company. No. 3 type noise measuring sets if used instead of the HP3351A TMS.	
53	Repeat Steps 48 through 52 under CIRCUIT NOISE, adjusting the TMS at the C/ACD for noise measurement to ground.	The noise reading should be 80 dBrnC or less.
54j	If no further tests are to be performed— At CO test frame— Restore ACD key.	
55j	At C/ACD, remove patch from line under test to LINE jack on ATS.	
56j	At CO test frame— Momentarily operate LT-DIS key.	All lamps extinguished.
57j	At CO and C/ACD— Remove all patching cords and the dummy plug.	

STEP	ACTION	VERIFICATION
BD.	**Return Loss Balance (At C/ACD)**	
48	At CO— Terminate the line under test to the ATS TMS jack with a 900-ohm resistor in series with a 2.16 microfarad capacitor termination.	
49	At C/ACD— Set up RLMS for a 2-wire measurement (Section 103-106-115).	
50	Patch RLMS to TMS jack on ATS.	
51	Measure ERL, SRL, and SRL-H1.	ERL should read 18 dB or greater. SRL and SRL-H1 should read 10 dB or greater.
52j	If no further tests are to be performed— At CO test frame— Restore ACD key.	
53j	At C/ACD— Remove patch from line under test to LINE jack on ATS.	
54j	At CO test frame— Momentarily operate LT-DIS key.	All lamps extinguished.
55j	At CO and C/ACD— Remove all patch cords and the dummy plug.	
BE.	**Seizure of CO From C/ACD**	
1	At C/ACD main distributing frame (or at vendor C/ACD interface)— Connect hand test set (MON-TALK key in MON position) to T and R (tip and ring) of the line under test.	Conversation on line indicates a busy line. No conversation indicates an idle line. ***Note:*** Line must be idle before proceeding with test.
2	Operate the hand test set MON-TALK key to TALK and momentarily ground the R lead.	Dial tone is heard.
3	Disconnect the hand test set from line under test.	

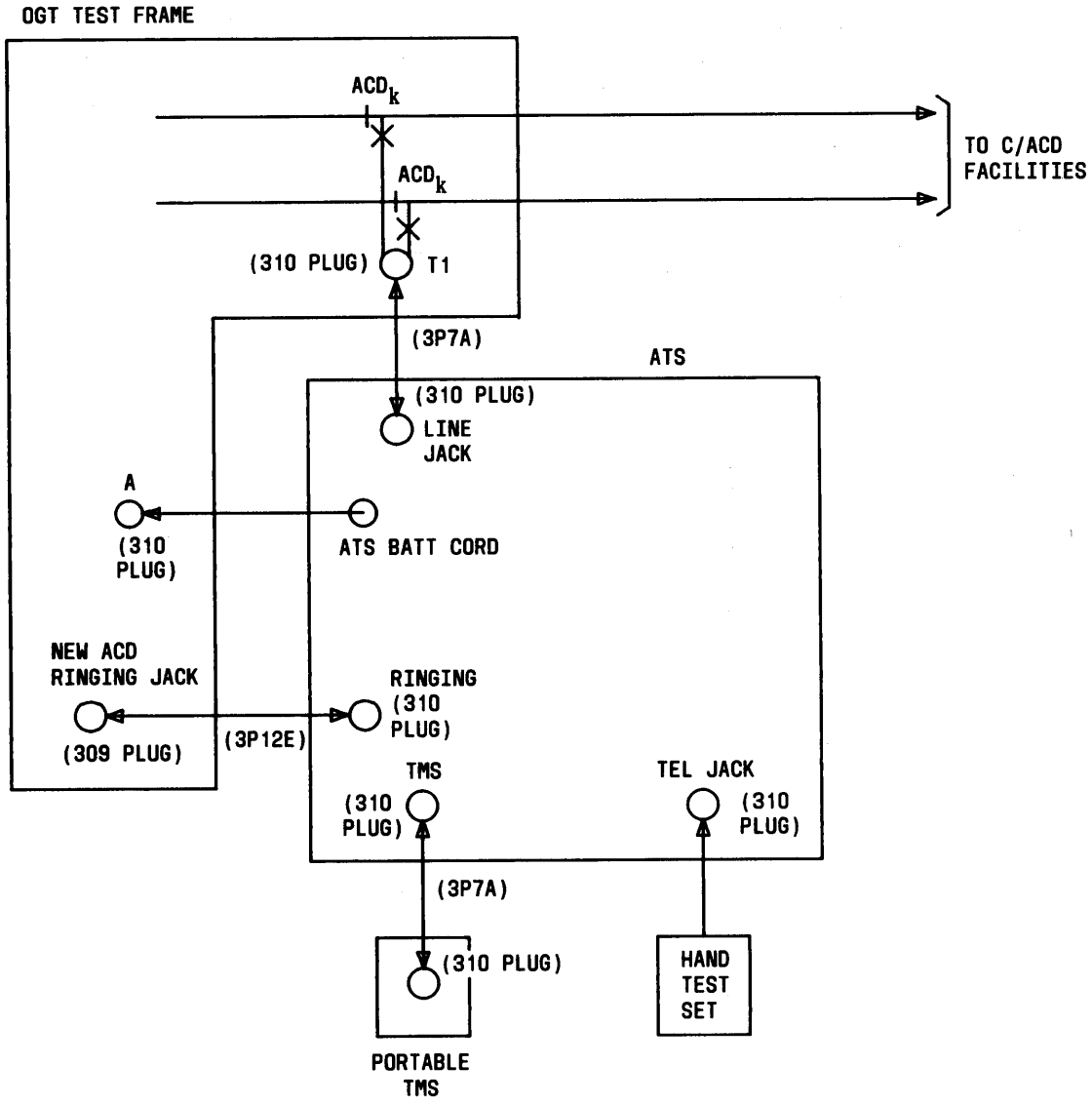

Fig. 1—Transmission Test Arrangements in No. 1 Crossbar Office

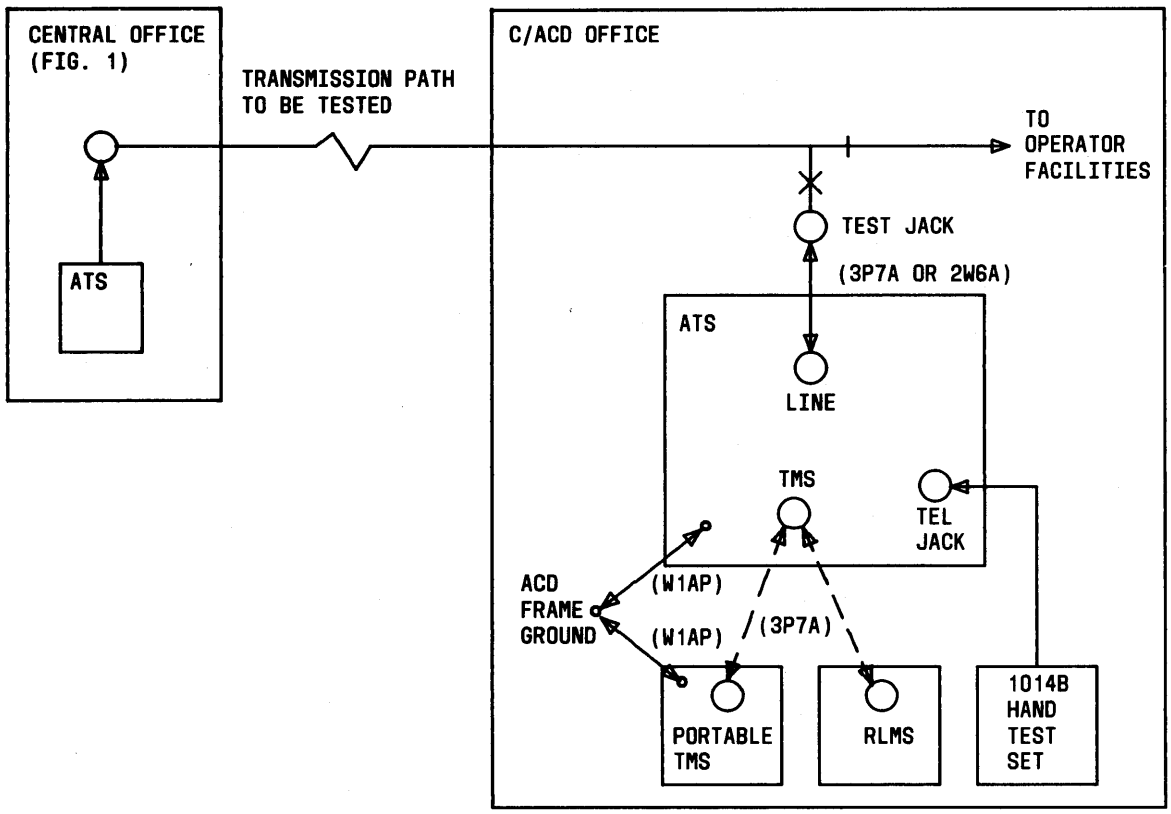

Fig. 2—Transmission Testing Arrangement at Commercial ACD

TABLE A

CIRCUIT NOISE LIMITS (A/B)*

FACILITY	ROUTE MILEAGE				
	0-50	51-100	101-200	201-400	401-1000
METALLIC	25/36	—	—	—	—
ANALOG CARRIER NON-COMPANDED (L-Type)	28/36	30/36	32/36	34/38	37/42
ANALOG CARRIER COMPANDED (N-Type)	23/30	25/30	27/32	—	—
DIGITAL CARRIER	25/30	25/30	25/30	25/30	25/30

* A/B
A — Circuit order and maintenance limit in dBrnC
B — Immediate action limit in dBrnC