

AIOD TRANSLATOR AND
AIOD TRANSLATOR CONNECTOR

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1.	<u>GENERAL</u>
1.1	<u>Description</u> This section describes tests to be applied to: AIOD Translator, SD-99319 and AIOD Translator Connector, SD-99320.
1.2	<u>Test of Associate Equipment</u> The tests of this section are to be applied before Short Loop Tests and Long Loop Tests are made from the Master Test Control Circuit or the Output Identifier Test Circuit or the Originating and Auxiliary Sender Test Circuit or the Test and Line Verification Circuit.
2.	<u>RECORDS AND REQUIREMENTS</u>
2.1	<u>Records</u> Results of tests covered in this section should be recorded on form SD-4-1313 and summarized on form SD-4-1315.
2.2	<u>Requirements</u> Tests in this section are based on requirements of SD and CD information.

4.	<u>SETUP INFORMATION</u> No special test setup is required.
5.	<u>TEST OPERATION</u>
5.1	<u>Fusing</u>
5.11	All fuses should be removed from the fuse panel, if installed.
5.12	Using the ITE-4442A Volt-Ohmmeter, verify that all fuse posts are free from foreign battery and ground.
5.13	Install each fuse one at a time. As each fuse is installed, (a) verify that -48V is present at the Test Point designated per Fuse Table, (b) verify that all unfused posts are free of battery and (c) repeat steps (a) and (b) until all fuses are installed.

FUSE TABLE

CIRCUIT	FUSE	TEST POINT
SD-99320-01	AA	pchg.11 TS(A) Trnsl. Conn Pref&Cont Unit
"	AB	pchg.31 TS(A) "
"	BA	pchg.21 TS(A) "
"	BB	pchg.41 TS(A) "
"	C	pchg.51 TS(A) "
"	D	pchg.12 TS(A) "
"	E(ZB option)	pchg.22 TS(A) "
SD-99319-01	A	pchg.56 TS(B) Trnsl. Reg & Cont Unit
"	B	pchg.46 TS(B) "
"	C	pchg.36 TS(B) "

3.	<u>TEST EQUIPMENT</u>
3.1	<u>Test Sets</u>
	<u>Amt</u> <u>ITE</u> <u>Description</u>
	1 4442A Volt-Ohmmeter
3.2	<u>Cords</u>
	<u>Amt</u> <u>ITE</u> <u>Lqth</u> <u>Cond</u> <u>One End</u> <u>Other End</u>
	2 9546 6' 1 ITE-2455 ITE-2461 or Plug Socket equi- valent

- 5.2 AIOD Translator Connector -
SD-99320-01
- 5.21 Alarms
- 5.211 Momentarily apply ground through a test receiver to terminal 11 of terminal strip C on Translator Connector Preference And Control Unit. Lamp XTB on the frame should light and a minor alarm will sound. Momentarily operate key RXTB to release the alarm and extinguish the lamp.
- 5.212 Verify that key TR is normal. Open contact 8B of relay TVPO and check that relay CH1 momentarily operates and Relays OTR and TRO-4 operate and lamp CH lights. A minor alarm will sound. Release contact 8B of relay TVPO. Momentarily operate key AR to release the alarm, extinguish the lamp, and release relays OTR and TRO-4.
- 5.213 Open contact 2B of relay TVPO and check that relay CH momentarily operates and Relays OTR and TRO-4 operate and lamp CH lights. A minor alarm will sound. Release contact 2B of relay TVPO. Momentarily operate key AR to release the alarm, extinguish the lamp, and release relays OTR and TRO-4.
- 5.214 Open contact 12B of relay TVPO and check that relays CH and CH1 momentarily operate and Relays OTR and TRO-4 operate and lamp CH lights. A minor alarm will sound. Release contact 12B of relay TVPO. Momentarily operate key AR to release the alarm, extinguish the lamp, and release relays OTR and TRO-4.
- 5.215 Operate key TR, relays TRT and TRO-4 operate. Repeat the operations of Paragraphs 5.212 thru 5.214 substituting relay EO instead of TVPO. Observe the same results for relays CH, CH1, and OTR; lamp CH; and the alarm. Relay TRO-4 will release when the contact is opened and operate when key AR is momentarily operated.
- 5.22 Preference Chains
- 5.221 Two test receivers are required to perform this test. Connect one end of both to -48V test battery, then equip the other end of each short clip cords such as ITE-9546 to facilitate connecting to the front winding terminals of the TVP- relays.
- 5.222 Apply battery through a test receiver to lower winding of relay TVFO; it operates. With a screwdriver or other metallic object verify relays TVBO, and TVDO for magnetic pull. Apply battery through second test receiver to lower winding of relay TVP1; it operates. Verify that no magnetic pull exists at relays TVB1 and TVD1.
- 5.223 Remove battery from relay TVPO; it releases. Apply battery to lower winding of relay TVP2; it operates. Verify that magnetic pull is removed from relays TVB0 and TVD0; is present on relays TVB1 and TVD1; and is not present on relay TVD2 and TVD2.
- 5.224 Repeat the operations of Paragraphs 5.222 and 5.223 until all equipped TVP- relays have been verified, observing the same results.
- 5.225 After last TVP- relay has been verified, operate key TR and repeat the operations of Paragraph 5.222 to 5.224 substituting the appropriate E- relay for each TVP- relay, observing the same results. At conclusions of test, release key TR.
- 5.226 Apply battery through a test receiver to the lower winding of the highest numbered, equipped TVP- relay; it operates. Apply battery to the lower winding of the next lower numbered TVP- relay; it does not operate.
- 5.228 Repeat the operations of Paragraphs 5.226 and 5.227 to all TVP- relays; operate key TR and repeat the operation on all equipped E- relays observing the same results.
- 5.229 At conclusion of test remove blocking tools from all TVA-, TVB-, TVC- and TVD- relays.

CAUTION: Before applying this test in a working office, block normal all TVA, TVB, TVC and TVD relays in the translator connector under test to prevent interference with service calls.

- 5.3 AIOD Translator - SD-99319-01
- 5.31 Trunk Number Translation, For Operation With Outputers - Y wrq per SD-99320
- 5.311 Momentarily ground the terminals of Table A and check that the appropriate relay momentarily operates. T.S. TB1 is in the Translator Connector Circuit.

TABLE A

T.S.	TERM.	RELAY OPERATES
TB1	20	TNTH0
TB1	21	TNTH1
TB1	22	TNTH2
TB1	23	TNTH4
TB1	24	TNTH7
TB1	30	TNH0
TB1	31	TNH1
TB1	32	TNH2
TB1	33	TNH4
TB1	34	TNH7
TB1	40	TNT0
TB1	41	TNT1
TB1	42	TNT2
TB1	43	TNT4
TB1	44	TNT7
TB1	50	TNU0
TB1	51	TNU1
TB1	52	TNU2
TB1	53	TNU4
TB1	54	TNU7

- 5.312 Perform tests of Paragraph 5.311 using Terminal Strip TB2, if equipped.

5.32 Trunk Number Translation For Operation with Transverters - X wrq per SD-99320

- 5.321 At T.S.D (Transl. Unit) momentarily ground terminals 22, 32 and 42; relays VFO, VF1 and VF2 respectively should momentarily operate.
- 5.322 Block operated Relay VFO. Momentarily ground the Terminals of Table B and check that the correct G-, GT- and TNT- relays operate. The TNH- relays under VFO blocked should operate.

NOTE: If more relays operate a short or cross exists or a diode matrix is bad.

- 5.323 Remove blocking tool from VFO and block relay VF1 operated. Momentarily ground the Terminals of Table B and check that the correct G-, GT- and TNT- relays operate. The TNH- relay under VF1 blocked should operate.

- 5.324 Remove blocking tool from VF1 and block relay VF2 operated. Momentarily ground the Terminals of Table B and check that the correct G-, GT- and TNT- relays operate. The TNH- relays under VF2 blocked should operate.

TABLE C

T.S. TB1 Pchn No.	G- and GT- Relays Operate	TNH- Relays Operate			TNT- Relays Operate
		VFO Blocked	VF1 blocked	VF2 blocked	Operate
20	GA, GTO	4,7	1,2	2,4	4,7
21	GA, GTO	4,7	1,2	2,4	0,1
22	GA, GTO	4,7	1,2	2,4	0,2
23	CA, GTO	4,7	1,2	2,4	1,2
24	GA, GTO	4,7	1,2	2,4	0,4
30	GA, GTO	4,7	1,2	2,4	1,4
31	GA, GTO	4,7	1,2	2,4	2,4
32	GA, GTO	4,7	1,2	2,4	0,7
33	GA, GTO	4,7	1,2	2,4	1,7
34	GA, GTO	4,7	1,2	2,4	2,7
40	GA, GT1	0,1	0,4	0,7	4,7
41	GA, GT1	0,1	0,4	0,7	0,1
42	CA, GT1	0,1	0,4	0,7	0,2
43	CA, GT1	0,1	0,4	0,7	1,2
44	CA, CT1	0,1	0,4	0,7	0,4
50	GA, GT1	0,1	0,4	0,7	1,4
51	CA, GT1	0,1	0,4	0,7	2,4
52	CA, GT1	0,1	0,4	0,7	0,7
53	CA, CT1	0,1	0,4	0,7	1,7
54	CA, CT1	0,1	0,4	0,7	2,7

TABLE B (Cont)

T.S. TD1	G- and GI- Relays Operate	TNH - Relays Operate			TN1- Relays Operate
		VFO blocked	VF1 blocked	VF2 blocked	
Pchg No.					
20	GB,GT0	0,2	1,4	1,7	4,7
21	GB,GT0	0,2	1,4	1,7	0,1
22	GB,GT0	0,2	1,4	1,7	0,2
23	GB,GT0	0,2	1,4	1,7	1,2
24	GB,GT0	0,2	1,4	1,7	0,4
30	GB,GT0	0,2	1,4	1,7	1,4
31	GB,GT0	0,2	1,4	1,7	2,4
32	GB,GT0	0,2	1,4	1,7	0,7
33	GB,GT0	0,2	1,4	1,7	1,7
34	GB,GT0	0,2	1,4	1,7	2,7
40	GB,GT1	2,7	-	-	4,7
41	GB,GT1	2,7	-	-	0,1
42	GB,GT1	2,7	-	-	0,2
43	GB,GT1	2,7	-	-	1,2
44	GB,GT1	2,7	-	-	0,4
50	GB,GT1	2,7	-	-	1,4
51	GB,GT1	2,7	-	-	2,4
52	GB,GT1	2,7	-	-	0,7
53	GB,GT1	2,7	-	-	1,7
54	GB,GT1	2,7	-	-	2,7

5.325 Perform tests of steps 5.322, 5.323 and 5.324 a second time using T.S. TB2 and TD2, if equipped.

5.33 Test of Station Number and Office Index

5.331 With the SU, ST, SH, STH, OFU and OF circuit packs in place and the EX and EXG leads connected, all SU-, ST-, SH- OFU- and OF-relays should be nonoperated.

5.332 Momentarily ground the Pchgs. in Table C and check that the appropriate relay momentarily operates.

TABLE C

T.S.	Pchg.	Relay Operates
E	11	SU0
E	21	SU1
E	31	SU2
E	41	SU4
E	51	SU7
E	14	ST0
E	24	ST1
E	34	ST2
E	44	ST4
E	54	ST7
F	11	SH0
F	21	SH1
F	31	SH2
F	41	SH4
F	51	SH7
F	14	STH0
F	24	STH1
F	34	STH2
F	44	STH4
F	54	STH7

TABLE C (Cont)

T.S.	Pchg.	Relay Operates
F	45	OFU0
F	55	OFU1
F	17	OFU2
F	27	OFU4
F	37	OFU7
F	15	OF0
F	25	OF1
F	35	OF2

5.34 Translator Control Tests

5.3401 Use Volt-Ohmmeter to make battery and ground checks through test of Paragraph 5.24.

5.3402 Ground T.S. TVB0 pchg. 02, relay COH operates. Relays CUN0 and CON1 (Trnsl. Conn. Pref and Conn Unit) operate. Check for ground on T.S.Tb1 pchg. 01 (TK lead).

5.3403 Block relay TNK operated. Check that relay TNKA (mercury relay) is operated by checking for ground (ZC option) or +6V (ZD option) on T.S.b, pchg. 11 (TKR1 lead) on Trnsl. Reg. and Cont. Unit. Check for ground on T.S. TB1, pchg. 11 (SWG lead). Relays OFU0 - OFU7 and OF0 - OF2, as equipped, may operate.

5.3404 Ground T.S. TB1, pchg. 13, (TST lead). Relay TST operates and with R option TST1 also operates.

5.3405 (R option only) ground T.S. E pchg. 27, relay LLT operates.

- 5.3406 Momentarily operate relays STH0, STH1, SH0, SH1, ST0, ST1, SU0, SU1, OF0, OFU0 and OFU1 (OFU-relays are provided with R option). These relays lock operated. Relay SNK operates. Verify relay THKA releases by checking for approximately +6V or +12V (ZC option) or approximately +.2V (ZD option) on T.S.B pchg 11, (TKR1 lead) on Trnsl. Reg. and Cont. Unit.
- 5.3407 Ground T.S. TB1 pchg. 04, RR lead. Relays RRK, RRK1, RRK1A and RRK1B operate (relays RRK1A and RRK1B are provided with T option).
- 5.3408 Unblock relay THK, relay THK releases.
- 5.3409 Remove ground from T.S. TV60 pchg. 02. Relays CON, CON0, CON1, STH-, SH-, ST-, SU- OF-, OFU and SNK release.
- 5.3410 Remove grounds from T.S. TB1 pchg. 13, T.S.E pchg. 27 and T.S. TB1 pchg. 04.
- 5.3411 Check for no ground on T.S. B pchg. 41, TST lead.

→ Arrowed lines not shown due to extensive changes.

Manager, Engineering, Switching
Equipment and SXS P.E.C.C.

Reason for Reissue:

Corrections and Additions.