J1H011A SWITCH UNIT ATTENDANT NUMBER TRANSLATOR CIRCUIT TESTS USING 124A TEST SET SD-1H070-01 NO. 101 ELECTRONIC SWITCHING SYSTEM

1. GENERAL

1.01 This section describes a method for testing the attendant number translator circuit when there are indications from the control unit teletypewriter or other sources that this circuit is the cause of switch unit failures.

These tests should be performed only on the attendant number translator circuit associated with the off-line bus. This bus must remain powered.

1.02 The tests covered are:

A. Attendant Bit 1 Test: This test checks the ability of the circuit to translate the attendant bit information into pulses for enabling the time-division gate in attendant circuit 1.

B. Attendant Bit 2 Test: This test checks the ability of the circuit to translate the attendant bit information into pulses for enabling the time-division gate in attendant circuit 2.

C. Attendant Bits 1 and 2 Test: This test checks the ability of the circuit to translate the attendant bit information into pulses for enabling the time-division gate in attendant circuit 3.

Caution: The proximity of the attendant number translator circuit to on-line circuits makes it imperative that extreme caution be used when attaching test set leads.

Caution: In Part 4 of this section it is required to make a momentary connection to the off-line switch store circuit. Be doubly certain to make this connection to the correct test point.

1.03 All tests in this section require assistance at the control unit. Test messages required to perform these tests must be originated by an appropriate ***manual request*** teletypewriter print-in.

1.04 The control unit must be notified whenever an inadvertent disruption of service occurs as a result of testing. This applies to blown fuses in both on- and off-line circuits.

1.05 *Lettered Steps:* A letter a, b, c, etc, added to a step number in Part 4 of this section indicates an action which may or may not be required depending on test conditions. The condition under which a lettered step or 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 a test. Where a condition does not apply, all steps designated by that letter should be omitted.

2. APPARATUS

All Tests

2.01 124A test set, SD-1H070-01.

2.02 M3BP cord, power cable, 6 feet long (for patching battery from switch unit to test set).

2.03 W9B cord, testing cord, 6 feet long (for patching various switch unit test points to 9 terminal test set connector, INPUTS 25-32).

2.04 P1U cord (test lead, 10 inches long, equipped with pin plugs).

2.05 W1BD cord (test lead, 8 feet long, equipped with test point contact spring and pin plug).

2.06 731A (key, extractor) tool (for CP removal).

3. PREPARATION

STEP	ACTION	VERIFICATION
All Tests		
1	Connect power to test set.	
2	Request control unit to type in test message 1 for the ***on-line*** bus in time slot number 10. ***Note:*** In the event time slot number 10 is unavailable for any reason, any other time slot may be used. It is suggested that a lower numbered time slot be selected to avoid competing with call processing for the high order time slots.	
3	Connect the test set inputs to the ***off-line*** switch store circuit at the following locations.	

TEST SET INPUT	SWITCH UNIT TEST POINT
25	TP4 at 37A14
26	TP1 at 37B11
27	TP1 at 37B8
28	TP1 at 37B5
29	TP1 at 37B2
30	TP1 at 37A23

4	On test set — Operate K1 to PULSE FREQ.	
5	Operate K2 to SEP.	
6	Operate K4 to H.	
7	Operate SYNC DELAY to 40K.	
8	Operate DIAL B key 25 to red.	
9	Operate DIAL B keys 26 through 30 to the key settings in Table A that agree with the time slot number selected in Step 2 of Part 3. Table A gives the dial B key settings for all switch unit time slot numbers and the corresponding control unit nomenclature. Unlisted keys must remain in their amber positions.	

TABLE A

SW UN TIME SLOT NUMBER	EQUIVALENT TIME SLOT NUMBER FOR TTY PRINT-IN		DIAL B KEY SETTINGS G = GREEN, R = RED				
	BUS 1	BUS 2	26	27	28	29	30
1	2	3	G	G	G	G	R
2	4	5	G	G	G	R	G
3	6	7	G	G	G	R	R
4	8	9	G	G	R	G	G
5	10	11	G	G	R	G	R
6	12	13	G	G	R	R	G
7	14	15	G	G	R	R	R
8	16	17	G	R	G	G	G
9	18	19	G	R	G	G	R
10	20	21	G	R	G	R	G
11	22	23	G	R	G	R	R
12	24	25	G	R	R	G	G
13	26	27	G	R	R	G	R
14	28	29	G	R	R	R	G
15	30	31	G	R	R	R	R
16	32	33	R	G	G	G	G
17	34	35	R	G	G	G	R
18	36	37	R	G	G	R	G
19	38	39	R	G	G	R	R
20	40	41	R	G	R	G	G
21	42	43	R	G	R	G	R
22	44	45	R	G	R	R	G
23	46	47	R	G	R	R	R
24	48	49	R	R	G	G	G
25	50	51	R	R	G	G	R

4. METHOD

STEP	ACTION	VERIFICATION
	A. Attendant Bit 1 Test	
10a	If testing attendant translator circuit number 1 (BAY 3) — Connect test set jack M2 to TP9 at 37D18 (CP17) in BAY 1, momentarily.	
11a	Connect INPUT C to TP5 at 30D16 (CP125).	On 0-4 scale — PULSE FREQ reads 1.1 to 1.4. *Note:* No verification indicates a bad CP127 at 30D13 or CP125 at 30D16.
12a	Remove INPUT C from TP5 at 30D16 (CP125).	
13a	Connect INPUT C to M5.	

STEP	ACTION	VERIFICATION
14a	Connect INPUT −HV to TP1 at 30D16 (CP125).	On 0-4 scale — PULSE FREQ reads 1.1 to 1.4. ***Note:*** No verification indicates a bad CP125 at 30D16 or CP4 at 14C17 (BAY 4).
15b	If testing attendant translator circuit number 2 (BAY 4) — Connect test set jack M2 to TP9 at 37D18 (CP17) in BAY 2, momentarily.	
16b	Connect INPUT C to TP5 at 30A10 (CP125).	On 0-4 scale — PULSE FREQ reads 1.1 to 1.4. ***Note:*** No verification indicates a bad CP127 at 30A13 or CP125 at 30A10.
17b	Remove INPUT C from TP5 at 30A10 (CP125).	
18b	Connect INPUT C to M5.	
19b	Connect INPUT −HV to TP1 at 30A10 (CP125).	On 0-4 scale — PULSE FREQ reads 1.1 to 1.4. ***Note:*** No verification indicates a bad CP125 at 30A10 or CP4 at 14C17 (BAY 4).
20	Remove INPUT −HV from switch unit.	
21	On switch store circuit associated with circuit under test — Ground momentarily: TP1 at 42A10 (CP159) TP2 at 42A10 (CP159) TP4 at 42A10 (CP159)	
22c	If no further tests are to be made at this time — Remove connections between test set and switch unit made in Part 3, Step 3.	
23c	Remove test set power connection.	
24c	Request control unit to type in appropriate message to remove test message.	

B. Attendant Bit 2 Test

10a	If testing attendant translator circuit number 1 (BAY 3) — Connect test set jack M2 to TP8 at 37D14 (CP17) in BAY 1, momentarily.	

STEP	ACTION	VERIFICATION
11a	Connect INPUT C to TP2 at 30D16 (CP125).	On 0-4 scale — PULSE FREQ reads 1.1 to 1.4. ***Note:*** No verification indicates a bad CP127 at 30D13 or CP125 at 30D16.
12a	Remove INPUT C from TP2 at 30D16 (CP127).	
13a	Connect INPUT C to M5.	
14a	Connect INPUT −HV to TP4 at 30D16 (CP125).	On 0-4 scale — PULSE FREQ reads 1.1 to 1.4. ***Note:*** No verification indicates a bad CP125 at 30D16 or CP4 at 14C22 (BAY 4).
15b	If testing attendant translator circuit number 2 (BAY 4) — Connect test set jack M2 to TP8 at 37D14 (CP17) in BAY 2, momentarily.	
16b	Connect INPUT C to TP2 at 30A10 (CP125).	On 0-4 scale — PULSE FREQ reads 1.1 to 1.4. ***Note:*** No verification indicates a bad CP127 in location 30A13 or CP125 at 30A10.
17b	Remove INPUT C from TP2 at 30A10 (CP125).	
18b	Connect INPUT C to M5.	
19b	Connect INPUT −HV to TP4 at 30A10 (CP125).	On 0-4 scale — PULSE FREQ reads 1.1 to 1.4. ***Note:*** No verification indicates a bad CP125 at 30A10 or CP4 at 14C22 (BAY 4).
20	Remove INPUT −HV from switch unit.	
21	On switch store circuit associated with circuit under test — Ground momentarily: TP1 at 42A10 (CP159) TP2 at 42A10 (CP159) TP4 at 42A10 (CP159)	
22c	If no further tests are to be made at this time — Remove connections between test set and switch unit made in Part 3, Step 3.	
23c	Remove test set power connection.	
24c	Request control unit to type in appropriate message to remove test message.	

STEP	ACTION	VERIFICATION
	C. Attendant Bits 1 and 2 Test	
10a	If testing attendant translator circuit number 1 (BAY 3) — Connect test set jack M2 to TP9 at 37D18 (CP17) and then to TP8 at 37D14 (CP17) in BAY 1, momentarily.	
11a	Connect INPUT C to TP3 at 30D16 (CP125).	On 0-4 scale — PULSE FREQ reads 1.1 to 1.4. ***Note:*** No verification indicates a bad CP127 at 30D13 or CP125 at 30D16.
12a	Remove INPUT C from TP3 at 30D16 (CP125).	
13a	Connect INPUT C to M5.	
14a	Connect INPUT −HV to TP6 at 30D16 (CP125).	On 0-4 scale — PULSE FREQ reads 1.1 to 1.4. ***Note:*** No verification indicates a bad CP125 at 30D16 or CP4 at 14A2 (BAY 3).
15b	If testing attendant translator circuit number 2 (BAY 4) — Connect test set jack M2 to TP9 at 37D18 (CP17) and then to TP8 at 37D14 (CP17) in BAY 2, momentarily.	
16b	Connect INPUT C to TP3 at 30A10 (CP125).	On 0-4 scale — PULSE FREQ reads 1.1 to 1.4. ***Note:*** No verification indicates a bad CP127 at 30A13 or CP125 at 30A10.
17b	Remove INPUT C from TP3 at 30A10 (CP125).	
18b	Connect INPUT C to M5.	
19b	Connect INPUT −HV to TP6 at 30A10 (CP125).	On 0-4 scale — PULSE FREQ reads 1.1 to 1.4. ***Note:*** No verification indicates a bad CP125 at 30A10 or CP4 at 14A2 (BAY 3).
20	Remove INPUT −HV from switch unit.	
21	On switch store circuit associated with circuit under test — Ground momentarily: TP1 at 42A10 (CP159) TP2 at 42A10 (CP159) TP4 at 42A10 (CP159)	

STEP	ACTION	VERIFICATION
22	Remove connections between test set and switch unit made in Part 3, Step 3.	
23	Remove test set power connection.	
24	Request control unit to type in appropriate message to remove test message.	