ADOSO II SYSTEM
(Automatic Distribution of Service Orders)

MAINTENANCE TESTS
For
Branch Station - Business Office
Control Unit PSD-70010-01

1. GENERAL

1.01 This section describes the maintenance and trouble location tests applied to Branch Station - Business Office Control Unit PSD-70010-01. This portion of the ADOSO II System circuitry is located in a BO on a branch circuit, when it is normally associated with a 28 RO teletypewriter and a No. 1, 14, or 28 transmitter-distributor.

1.02 All associated teletypewriter equipment shall be tested, adjusted, and requirements met according to standard BSPs and related instructions. This includes those in PSD-70010-01, PED-70010-10, PJ70010A, and PT-70010-10.

1.03 The paper handling equipment shall be adjusted to fit the form being used.

1.04 Functional operation of the circuit is described in PSD-70010-01.

1.05 The tests in this section assume the station equipment is installed.

2. MATERIAL REQUIRED FOR TESTING

2.01

Quantity	Material
1	KS-14510, L1 Volt Ohmmeter or equivalent VOM.
1	Set of test cords for VOM equipped with small alligator clips.

3. PRELIMINARY TO TESTING RECEIVE CIRCUIT

3.01 Turn off the 110V AC power, and disconnect both cords of rectifier.

3.02 Using VOM on 100 ohm scale, check for frame and wiring crosses.

(A) Place positive of VOM on 32 "A" T.S. and negative on frame. VOM should read infinity.

(B) Place positive of VOM on 15 "A" T.S. and negative on frame. VOM should read infinity.

(C) Place positive of VOM on 15 "A" T.S. and negative on 32 "A" T.S. One of the following readings will be obtained dependent on strapping and associated equipment:

1. With a 1C multiple TD in use and terminals B1 and B18 not strapped, about 2430 ohms, with B1 and B18 strapped about 1700 ohms.

2. With a 14 TD in use and terminals B1 and B18 not strapped, about 2430 ohms, with B1 and B18 strapped about 1700 ohms.

3. With a 28G TD in use and terminals B1 and B18 not strapped, infinity, with B1 and B18 strapped about 6000 ohms.

3.03 Reconnect both cords of rectifier.

3.04 Set message registers at zero.

3.05 If some type of sending and receiving teletypewriter of the proper speed is available, patch it into the local loop. Or have the serving toll testroom place a send and receiving monitor in the loop, preparatory for making following tests.

4. TESTING AC AND DC CIRCUIT

4.01 Turn on power switch 28 TTY.

(A) Machine should run closed.

(B) PWR ON lamp lights.

(C) Copy lamp lights.

4.02 Using VOM, check output of rectifier. Set VOM on 300V DC scale. Place positive clip on 15 "A" T.S. and negative on 32 "A" T.S.

(A) Adjust output for 120V.

4.03 Turn on the transmitter power switch on the key and lamp panel.

(A) Motor in transmitter starts.

4.04 Turn power switch OFF - remove 3-2/10 amp fuse.

4.05 Turn power switch ON.

(A) Motor does not start.

4.06 Turn power switch OFF - replace fuse, and repeat 4.03.

5. RECEIVE CIRCUIT RESPONSE TO VALID CODES

NOTE: The sending shall be done from the teletypewriter covered in 3.05.

5.01 Send FIGS H LTRS A on circuit.

(A) C1 relay operates.

5.02 Send FIGS H on circuit.

(A) H relay operates.

(B) C1 relay releases.

(C) Message register does not count.

5.03 Send LTRS on circuit.

(A) H relay releases.

5.04 Repeat 5.01 to 5.03 using codes C, E, N, R, and X.

5.05 Send FIGS H LTRS J on circuit.

(A) C relay operates.

5.06 Send LTRS CR LTRS LF and a line of RYs.

(A) Machine should print line of RYs.

5.07 Send codes A, C, E, N, R and X.

(A) Machine prints codes.

(B) C1 relay does not operate.

5.08 Send FIGS H on circuit.

(A) H relay operates.

(B) Message register counts 1.

(C) Machine form-feeds.

5.09 Send LTRS on line.

(A) C relay releases.

(B) H relay releases.

5.10 Repeat 5.05 to 5.09 for codes B and D.

5.11 Check to be sure PO1 relay is released. If operated, check form-out contacts to be sure they are not operated.

5.12 Send LTRS Y on circuit.

(A) S relay should operate.

5.13 Send LTRS on circuit.

(A) S relay should release.

5.14 Send the character T to line, then operate form-out contacts, and keep them operated.

(A) PO1 relay operates.

(B) Busy and break lamp at transmitter position light.

5.15 Send LTRS Y LTRS on circuit.

(A) PO4 relay operates and releases.

(B) PO2 relay operates.

(C) ALARM lamp on 28 TTY lights.

(D) BUZZER operates.

5.16 Operates BZ-RLS key on 28 RO.

(A) PO3 relay operates.

(B) BUZZER is silenced.

5.17 Release form-out contacts.

5.18 Operate BZ-RLS key again.

(A) PO1 relay releases.

(B) PO2 relay releases.

(C) PO3 relay releases.

(D) ALARM lamp goes out.

(E) Busy and break lamp at the transmitter position goes out.

5.19 Repeat 5.11 to 5.18 five times.

5.20 Block S relay operated and send LTRS CR on circuit.

(A) BL relay operates.

5.21 Send any character except CR or BLANK. Then operate START key.

(A) BL relay releases.

5.22 Send FIGS H LTRS to clear circuit.

5.23 Send LTRS BLANK on circuit.

(A) BL relay operates.

5.24 Send the character T on circuit, then operate START key.

(A) BL relay releases.

5.25 Unblock S relay.

6. TEST TAPES REQUIRED FOR TESTING TRANSMITTING POSITION

6.01 Make continuous tape as follows: 10 LTRS J LTRS CR LF (Line of RYs) CR LF FIGS H 10 LTRS. Repeat using the code B and D in place of J.

6.02 Make continuous tape as follows: 10 LTRS A LTRS CR LF (Line of RYs) CR LF FIGS H 10 LTRS. Repeat using codes C, E, N, R, and X.

6.03 Make tape 10 LTRS CR 10 LTRS.

6.04 Make tape 10 LTRS BLANK 10 LTRS.

6.05 Make tape 10 LTRS J LTRS CR LF (Line of RYs) CR LF 10 LTRS.

7. TESTING CIRCUIT ASSURANCE FEATURE

7.01 Insert test tape 6.01 in transmitter.

7.02 Tape withhold magnet should be operated when using #1 or 14 transmitter. When the 14 or 28 transmitter is used, the TR relay should be operated.

7.03 Send LTRS Y on circuit.

(A) Transmitter should send LTRS.

(B) Feed wheel in transmitter should not advance tape.

7.04 Repeat 7.03 ten times.

8. TESTING STARTING AND STOPPING OF TRANSMITTER

8.01 Momentarily operate START key.

(A) Multiple and 14 transmitter tape withhold magnet releases.

(B) S1 relay operates.

(C) When a 14 or 28 transmitter is in use, the TR relay releases.

(D) START lamp lights.

8.02 Place forms in 28 RO and align so that printing starts under the word "route". Turn register back to zero.

8.03 Send LTRS Y on circuit.

(A) Transmitter starts.

(B) BUSY lamp flashes.

(C) 28 RO starts printing on CR and prints line of RYs.

8.04 FIGS H LTRS received on circuit.

(A) Transmitter stops.

(B) Message register operates.

(C) Machine form-feeds.

(D) START lamp remains on.

8.05 Repeat 8.03 two more times. When FIGS H LTRS received, results same as 8.04.

8.06 Remove tape and insert test tape described in 6.02.

8.07 Repeat 8.01.

8.08 Send LTRS Y on circuit.

(A) Start transmitter.

(B) BUSY lamp flashes.

(C) 28 does not print RYs.

8.09 FIGS H LTRS received on circuit.

(A) Transmitter stops.

(B) Register does not operate.

8.10 Repeat 8.08 and 8.09 until tape runs out.

9. TESTING ALARM CIRCUITS TRANSMITTING POSITION

9.01 Use test tape 6.03 - insert in transmitter.

9.02 Repeat 8.01.

9.03 Send LTRS Y on circuit.

(A) Transmitter starts.

(B) BUSY lamp flashes.

9.04 CR received on circuit.

(A) Transmitter stops.

(B) BL relay operates.

(C) BUZZER operates at transmitting position.

(D) BREAK lamp lights.

9.05 Send LTRS Y.

(A) No LTRS response.

9.06 Send FIGS H LTRS Y.

(A) No LTRS response.

9.07 Momentarily operate START key.

(A) Will not clear alarm condition.

9.08 For 14 or 28 transmitter, remove tape. Operate START key. For multiple transmitter, remove tape. Operate MANUAL TAPE-OUT key, and then operate START key.

(A) BL relay releases.

(B) Silences BUZZER.

(C) BREAK lamp OUT.

9.09 Place test tape 6.04 in transmitter.

9.10 Repeat 8.01 and 8.03 (A and B).

9.11 Blank received on line.

(A) Transmitter stops.

(B) BL relay operates.

(C) BUZZER operates at transmitting position.

(D) BREAK lamp lights.

9.12 Repeat 9.06 to 9.08.

9.13 Insert test tape 6.05.

9.14 Repeat 8.01 - 9.03.

9.15 Message sent - copy made on receive machine.

9.16 No FIGS H LTRS in tape. Tape clears 6 pin.

(A) Release 6 pin.

(B) Releases S1 relay.

(C) BL relay operates.

(D) Transmitter stops.

(E) BUZZER operates.

(F) BREAK lamp lights.

9.17 Send LTRS Y on circuit.

(A) No LTRS response.

9.18 Send FIGS H LTRS Y.

(A) No LTRS received on circuit.

9.19 Operate START key.

(A) BL relay releases.

(B) BUZZER is silenced.

(C) BREAK lamp OFF.

10. PAPER OUT OR RIBBON CHANGE TEST

10.01 Insert test tape 6.03 in transmitter.

(A) Operate START key.

(B) S1 relay operates.

(C) START lamp lights.

(D) Raise cover of machine so form-out contacts operate.

(E) PO1 relay operates.

(F) BREAK and BUSY lamps light.

(G) S1 relay releases.

(H) START lamp goes out.

10.02 Send LTRS Y on circuit.

(A) Transmitter starts sending LTRS.

(B) PO4 relay operates.

(C) Transmitter stops.

(D) PO2 relay operates.

(E) PO4 relay releases.

(F) Transmitter starts sending LTRS again.

(G) BUZZER on receive machine operates.

(H) ALARM lamp ON.

10.03 Operate BZ-RLS key momentarily.

(A) PO3 relay operates.

(B) BUZZER is silenced.

(C) Transmitter continues to send LTRS..

10.04 Turn off power switch on 28 machine.

(A) PWR ON lamp OFF.

(B) Copy lamp out.

(C) ALARM lamp lit.

(D) Transmitter continues to send LTRS.

10.05 Turn power switch ON.

(A) PWR lamp ON.

(B) Copy lamp on.

(C) Transmitter continues to send LTRS.

10.06 Close cover of machine - be sure form-out contacts release.

10.07 Operate BUZZER RELEASE key momentarily.

(A) Release PO1 relay.

(B) Release PO2 relay.

(C) Release PO3 relay.

(D) ALARM lamp out.

(E) Transmitter stops.

11. RELATED MATERIAL

11.01 A rearrangement of the test procedures in this section are published for the Western Electric Company under the title, "ADOSO II, Branch Station Control B. O. Test Procedure No. 18".