SUPPLEMENTARY TESTS
REMOTE TELEGRAPH TESTBOARD
SWITCH FRAME

CONTENTS

1. GENERAL

1.1 This section provides information for making supplementary tests on the selector, connector, alarm and interrupter circuits in the Remote Telegraph Testboard Switch Frame.

1.2 Circuits included are as follows:

SD-98132-01 Incoming Selector
SD-98133-01 Test Line Control Circuit
SD-98134-01 Test Group Selector
SD-98135-01 Test Connector
SD-98136-01 Figures 3, 4, 5 and 6 Alarm Interrupter Circuits

2. RECORDS AND REQUIREMENTS

2.1 Records: Results of tests covered in this section should be recorded on SD-4-1313 and summarized on SD-4-1315.

NOTE: If Handbook 91 will not be available at the time of test, the following sections from this handbook should be requisitioned as they will be referred to in this section: Handbook 91, Sections 201,203,206, 301 and 811.

2.2 Requirements: The tests in this section meet the requirements of the following:

SD and CD-98132
SD and CD-98133
SD and CD-98134
SD and CD-98135
SD and CD-98136

3. TESTING EQUIPMENT

3.1 Test Sets

Amt	Code	Description
1	ITE-4442	Volt ohmmeter
1	J94713A or ITE-4027	Relay Timing Test Set
1	J34717A or ITE-4019A	Pulsing Test Set
1	1011G	Handset Dial
1	J34720	Pulse Repeating Set

3.2 Cords

3.21 Required cords are provided with the maintenance test sets.

4. FUSING

NOTE 1: Before installing the -48V fuse in the Test Line Control Circuit (SD-98133-01) remove the plug in VF amplifier units from each control circuit. Do not install these units until directed to do so during performance of tests described in Section 902 of Handbook 59.

4.1 Remove all fuses associated with the circuit to be tested. Using a test receiver or volt ohmmeter check each fuse for absence of battery and ground. Using fuses of correct type as indicated install the fuses one at a time. See NOTE 1. Check that each fuse is free from crosses with other unfused posts or the fuse panel. Circuits to be tested are:

SD-98132
SD-98133
SD-98134
SD-98135
SD-98136

5. INSULATION

5.1 Insulation Tests

5.11 Perform insulation test as described in Paragraph 5.1, Section 201, Handbook 91 on incoming and group selectors.

NOTE: Dial tone is not supplied to this switch frame.

5.12 Perform insulation test on connectors as described in Paragraph 5.1, Section 301, Handbook 91.

6. ALARM AND INTERRUPTER CIRCUIT

6.1 Release Magnet Alarm

6.11 Starting on the top shelf of the incoming selector, group selector and connector switches, manually raise and hold the first switch shaft off normal. Observe that the VOR springs operate and that within 30-90 seconds the associated R-lamp lights and the audible alarm sounds.

6.12 While holding the first switch off normal, raise the second switch off normal.

6.13 Restore the first switch to normal. Observe that the associated R-lamp remains lit, and the audible alarm continues to sound. The switch shaft of the next switch to be tested will be raised before the switch shaft on the preceding switch is released.

6.14 Repeat steps 6.12 and 6.13 on each switch of the top shelf and for every switch on the remaining shelves of the bay.

6.15 After the last switch tested has been restored to normal, observe that the associated R-lamp is extinguished and the audible alarm silenced.

6.2 Interrupter Circuit

6.21 Raise each incoming selector (SD-98132-01) switch shaft off normal, one at a time. Observe that with the switch off normal the interrupter circuit (SD-98136-01) ST relay operates and that the 30 relay operates and releases at a 30 I.P.M. rate. On one test, using a test handset observe that interrupted ground of 120 I.P.M., 60 I.P.M. and 30 I.P.M. rate is available at make contacts 12, 10 and 8 respectively of the ST relay.

7. SELECTOR AND CONNECTOR CIRCUIT OPERATION TESTS

7.1 Cut-in and Smooth Rotation-Connector and Incoming Selector Switches

7.11 Perform the following tests on each incoming selector switch (SD-98132) and each connector switch (SD-98135).

7.12 Connect the plug of the 10011C handset dial to the test jack of the switch under test. Operate the handset switch to TALK position.

7.13 Dial digit 1. Observe that the connector or selector steps to the first level. Dial digit 0. Observe that the connector or selector cuts in without chattering and rotates smoothly to the 10th terminal of the first level. Operate handset switch to the MONITOR position. The selector or connector releases.

7.14 Repeat the above tests using first the fifth level (dial 50) and then the tenth level (dial 60).

7.2 Cut-in and Smooth Rotation - Group Selector Switches

7.21 Check each group selector switch (SD-98134-01) for cut-in and smooth rotation as follows:

7.22 Connect ground to the TS wiper of the switch under test. Connect the handset to the switch test jacks. Operate handset switch to TALK and dial digit 1. Observe that the switch steps to the first level, cuts in without chattering and rotates smoothly to the 11th rotary step. Release switch immediately as soon as it reaches the 11th rotary step, by switching the handset switch to MONITOR position.

7.23 Repeat the above test on the 5th and 10th levels of the switch.

7.3 Smooth Rotation - 204 Type Selector in Test Line Control Circuit

7.31 Check the selector in each test line control circuit for smooth rotation as follows:

7.32 Connect the handset dial to the test line control circuit test jack. Operate TALK switch Dail digit 0. Observe that 204 type selector rotates smoothly to its 10th bank terminal and then releases.

7.4 Group Selector Switch C Relay Release

7.41 Check C relay release timing on each group selector circuit. Use method described in Handbook 91, Section 203, Paragraph 5.

NOTE: In order to make this switch rotary hunt, it is necessary to ground the switch TS wiper.

7.42 C relay release requirement: The C relay shall release the switch shall rotate horizontally to the 11th rotary step in 0.375 to 0.385 seconds.

7.5 Pulsing Test - Selector, Connector Test Line Control Circuit

7.51 Using the telephone company maintenance pulsing test set, pulse each selector and connector switch to its 9th level. Pulse the 204 type selector in each test line control circuit to its 9th rotary step.

7.52 Each switch shall be pulsed using each of the following loop or leak conditions:

a. 0Ω Loop
b. 1400Ω Loop
c. Leak A

→ Arrowed lines indicate new or changed information.

Reason for Reissue:
To remove Paragraphs 4.1, 4.2, 4.3, 4.4, 5.2, 5.21, 6.1. To change Paragraphs 1.2, 2.1, 3.1, 5. To add Paragraphs 2.2, 4.1.

7.53 Perform the tests of Handbook 91, Section 206, Paragraphs listed below:

Section 206	Circuit Under Test
Par. 5.61,6.1,6.2,) 6.3,6.4,6.7,7)	All
Par. 6.51	SD-98134
Par. 6.52	SD-98132, SD-98135
Par. 6.53	SD-98133

7.6 Pulsing Test - A Relay - Figure 2 of SD-98132-01

7.61 Using telephone company maintenance pulsing test set and pulse repeating test set, make a pulsing test of each Incoming Loop Signaling Circuit A relay as described in Section 811 of Handbook 91.

7.62 Use LC Requirement (See Paragraph 2.22 of Section 811). Relay shall meet 56-72% break limit as measured at A relay B test jack when pulses are applied at A relay A test jack.

Manager, Panel and Step-by-Step
Switching Systems Engineering