

ALARMS
OPERATION TESTS
700C AND 710C PBX
(MANUAL SWITCHBOARD AND DIAL EQUIPMENT)

1. GENERAL

- 1.01 This section describes methods of testing alarms in No. 700-C and No. 710-C PBX's.
- 1.02 This section is reissued to specify a WIAF cord for testing of fuse alarms, and to amplify Test (A). This reissue is a general revision and, therefore, arrows ordinarily used to indicate changes have been omitted.
- 1.03 The tests cover the operation and release of the various alarms provided in these PBX's as listed below:
- (A) Central Office Alarm
 - (B) Line and Master Switch Heat Coil Alarm
 - (C) Selector and Connector Heat Coil Alarm
 - (D) Fuse Alarms
 - (E) Permanent Signal Alarm
 - (F) Call Block Alarm
 - (G) Ringing Voltage Alarm

- 1.04 Test (A) is performed when the PBX alarm is extended to the central office. In this case the central office should be notified before and after any tests are made.
- 1.05 Test (E) should be made on different switches each time the test is made.
- 1.06 The procedures outlined in each test are designed to bring in a visual and audible alarm indication, with the audible alarm control keys normal.

2. APPARATUS

Test (A)

- 2.01 No. 1011G Dial Hand Test Set, equipped with a 2W39A Cord Assembly consisting of a W2CL Cord, a No. 471A Jack and a No. 240A Plug (or equivalent).

Tests (A) and (E)

- 2.02 No. 477A (or No. 375A) Tool (make-busy).

Tests (A) and (D)

- 2.03 Testing Cord—WIAF Cord, 8 feet 6 inches long, equipped with one KS-6278 Clip and one No. 411A Tool (for use in connecting battery to alarm bars).

Tests (A), (B) and (C)

- 2.04 Orange Stick KS-6320.

Test (D)

- 2.05 Testing Cord—WIU (or No. 760) Cord, 1 foot 8 inches long (for use in connecting ground to alarm studs).

3. METHOD

(A) Central Office Alarm

- 3.01 Before starting this test observe that no alarm lamps are lighted.
- 3.02 Connect the dial hand test set to the test jack of an idle first selector or selector-connector. Call the proper person at the central office and arrange to have the Class A (major) and B (minor) alarms observed at the central office.
- 3.03 Connect battery to the alarm bus-bar on a selector fuse panel, or by means of an orange stick force spring No. 1 of a master switch heat coil assembly against the ground bar.
- 3.04 Observe the lighting of the red shelf and pilot lamps at the selector frame, or the green lamp at the line switch frame.

- 3.05 Have the central office attendant check that the red Class A (major) lamp is lighted at the central office and that the alarm bell rings.

- 3.06 Have the central office attendant operate the associated PBX-A or DA key and check that the red Class A (major) lamp remains lighted and the alarm bell is silenced.

- 3.07 Remove the battery from the alarm bar or release the heat coil spring and observe that the alarm lamps at the PBX are extinguished.

- 3.08 Have the central office attendant check that the red Class A (major) lamp is extinguished, the white supervisory lamp is lighted and the alarm bell rings.

- 3.09 Have the central office attendant reoperate the PBX-A or DA key and check that the white supervisory lamp is extinguished and the alarm bell is silenced.

Note: If the PBX is connected to a central office using alarm circuit SD-21482-01 the PBX-A or DA key will have to be restored to extinguish the supervisory lamp and silence the bell.

- 3.10 Place a make-busy tool between the tip and ring springs of a selector or selector-connector test jack. After a period of 30 to 60 seconds, the associated white permanent signal shelf and pilot lamps at the selector frame or white lamp at the line switch frame will light.

- 3.11 Force spring No. 3 against spring No. 4 of a selector or connector heat coil assembly by means of an orange stick.

- 3.12 Observe the lighting of the green shelf and pilot lamps at the selector frame, or the green lamp at the line switch frame.

- 3.13 Have the central office attendant check that the white Class B (minor) lamp at the central office is lighted and that the alarm bell rings.

- 3.14 Have the central office attendant operate the associated PBX-A or DA key at the central office and check that the Class B (minor) lamp remains lighted and that the alarm bell is silenced.

- 3.15 Repeat the operations outlined in 3.03 and 3.04 which bring in the red Class A (major) alarm.

- 3.16 Have the central office attendant check that the white Class B (minor) lamp is extinguished, the red Class A (major) lamp is lighted and the alarm bell rings.

- 3.17 Have the central office attendant reoperate the PBX-A or DA key and check that the red Class A (major) lamp remains lighted and that the alarm bell is silenced.

Note: If the P.B.X. is connected to a central office using alarm circuit SD-21482-01 it will be necessary to restore and reoperate the PBX-A or DA key in order to silence the alarm bell.

- 3.18 Remove the battery from the alarm bar or release the heat coil spring of the master switch. Observe that the red shelf and pilot lamps are extinguished if the test is made from the selector frame.

- 3.19 Have the central office attendant check that the red Class A (major) lamp is extinguished, the white Class B (minor) lamp is lighted and the alarm bell rings.

Note 1: If the PBX is connected to a central office using alarm circuit SD-21482-01, the alarm bell will not ring. If Fig. 1-B of this circuit is used, the central office alarm indication may not change from a major to a minor alarm.

- 3.20 Remove the orange stick from the selector or connector heat coil assembly and observe that the green lamps are extinguished.

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- 3.21 Have the central office attendant check that the lamp indication remains unchanged.
- 3.22 Remove the make-busy tool from the test jack of the selector or selector-connector and observe that the white lamps at the selector or line switch frame are extinguished.
- 3.23 Have the central office attendant check that both the major and minor alarm lamps are extinguished, the white supervisory lamp is lighted and the alarm bell rings.
- 3.24 Have the central office attendant reoperate the PBX-A or DA key and check that the white supervisory lamp is extinguished and the alarm bell is silenced.
- Note: If the P B X is connected to a central office using alarm circuit SD-21482-01, the PBX-A or DA key will have to be restored to extinguish the supervisory lamp and silence the bell.
- 3.25 Disconnect from the central office by removing the plug of the dial hand test set from the test jack of the selector or selector-connector.
- (B) Line and Master Switch Heat Coil Alarm**
- 3.26 Force spring No. 1 of a line or master switch heat coil assembly against the ground bar by means of an orange stick.
- 3.27 Check that the green lamp on the line switch frame is lighted and that the alarm bell rings.
- 3.28 Check that the L and M.S. HEAT COIL lamps light at the switchboard on the No. 700-C P B X and on the ceiling panel when provided.
- 3.29 Momentarily operate the C-AL key at the switchboard on the No. 700-C P B X and note that the bell is silent while the key is operated.
- 3.30 Release the heat coil spring and check that the green lamp at the switch frame, the L and M.S. HEAT COIL lamps at the switchboard and ceiling panel are extinguished and the bell silenced.
- 3.31 Repeat the operations covered in 3.26, 3.27 and 3.30 on one spring on each heat coil mounting strip.
- (C) Selector and Connector Heat Coil Alarm**
- 3.32 Force spring No. 3 against spring No. 4 of a selector or connector heat coil assembly, by means of an orange stick.
- 3.33 Check that the green shelf and pilot lamps at the selector frame, or the green lamp at the line switch frame is lighted and that the alarm bell rings.
- 3.34 Check that the SEL HEAT COIL or CONN HEAT COIL lamp lights at the switchboard on the No. 700-C P.B.X. and on the ceiling panel when provided.
- 3.35 Release the heat coil spring and check that the green lamps at the switch frame, the associated HEAT COIL lamps at the switchboard and ceiling panel are extinguished and the bell silenced.
- 3.36 Repeat the operations covered in 3.32, 3.33 and 3.35 on one spring on each heat coil mounting strip.
- (D) Fuse Alarms**
- 3.37 **Line Switch Fuse Alarm:** At the fuse panel on the line switch frame, connect battery to the alarm bus-bar.
- 3.38 Check that the red fuse alarm lamp on the line switch frame lights and the alarm bell rings.
- 3.39 Check that the red L.S. FUSE lamp lights at the switchboard and ceiling panel when provided.
- 3.40 Remove the battery from the alarm bar and check that the alarm lamps are extinguished and the bell silenced.
- 3.41 Repeat the operations covered in 3.37, 3.38 and 3.40 on each line switch fuse panel.
- 3.42 **Selector Frame Fuse Alarm:** At the fuse panel on the selector frame, connect battery to the alarm bus-bar.
- 3.43 Check that the red shelf and pilot fuse alarm lamps on the selector frame light and the alarm bell rings.
- 3.44 Check that the red SEL FUSE lamp lights at the switchboard and ceiling panel when provided.
- 3.45 Remove the battery from the alarm bar and check that the alarm lamps are extinguished and the bell silenced.
- 3.46 Repeat the operations covered in 3.42, 3.43 and 3.45 on each selector frame fuse panel.
- 3.47 **Relay Rack Fuse Alarm:** At the fuse panel on a relay rack, connect battery to the alarm bus-bar.
- 3.48 Check that the red pilot fuse alarm lamp lights and the alarm bell rings.
- 3.49 Check that the red R.R. FUSE CLASS A (for Class A circuits) or R.R. FUSE CLASS B (for Class B circuits) lamp lights at the switchboard and ceiling panel when provided.
- 3.50 Remove the battery from the alarm bar and check that the alarm lamps are extinguished and the bell silenced.
- 3.51 Repeat the operations covered in 3.47, 3.48 and 3.50 on each relay rack fuse panel.
- 3.52 At the 62C protector block, connect ground to the alarm stud of the block and check that the alarm bell rings.
- 3.53 Remove the ground from the alarm stud and check that the bell is silenced.
- 3.54 **Supervisory Circuit Protector Alarm:** At the 62C protector block in the alarm supervisory circuit, connect ground to the alarm stud of the block.
- 3.55 Check that the L.S. FUSE lamp lights at the switchboard and ceiling panel when provided and the alarm bell rings.
- 3.56 Remove the ground from the alarm stud and check that the lamps are extinguished and the bell silenced.
- 3.57 **Switchboard Fuse Alarm (No. 700-C P B X Only):** At the fuse panel in back of one of the positions of the switchboard, connect battery to the alarm bus-bar.
- 3.58 Check that the associated red SECT lamp lights at the switchboard and ceiling panel when provided and the alarm bell rings.
- 3.59 Remove the battery from the alarm bar and check that the alarm lamps are extinguished and the bell silenced.
- 3.60 Repeat the above test by connecting ground to the alarm bar on the ground fuse panels.
- 3.61 Repeat the operations covered in 3.57 to 3.60 on all switchboard positions.
- 3.62 **Power Board Fuse Alarm:** At the fuse panel on the power board, connect battery to the alarm bus-bar or stud.
- 3.63 Check that the red fuse pilot lamp and PWR BD FUSE lamp at the switchboard and ceiling panel when provided light and the alarm bell rings.
- 3.64 Remove the battery from the alarm bar or stud and check that the lamps are extinguished and the bell silenced.
- (E) Permanent Signal Alarm**
- 3.65 Place a make-busy tool between the tip and ring springs of the test jack of an idle selector or selector-connector. Check that after a period of approximately 30 to 60 seconds the white shelf and pilot lamps at the selector frame or the white pilot lamp at the line switch frame lights.
- 3.66 Check that when the lamps at the switch frame light, the white PERM SIG lamp lights at the switchboard on the No. 700-C P B X and on the ceiling panel when provided and that the alarm bell rings. Momentarily operate the PS-AL key and note that the bell is silenced while the key is operated.
- 3.67 Remove the make-busy tool from the selector or selector-connector test jack and check that the white PS or PERM SIG lamps are extinguished immediately and the bell silenced.

3.68 Repeat the operations described in 3.65 and 3.67 on one switch of each shelf of selectors or selector-connectors.

(F) Call Block Alarm

3.69 Operate the test key of the master switch. Check that after a period of approximately 15 to 30 seconds the blue lamp at the line switch frame lights and the alarm bell rings.

3.70 Check that the CALL BLOCK lamp at the switchboard and ceiling panel, when provided, lights.

3.71 Release the test key and check that the alarm lamps are extinguished immediately and the bell silenced.

3.72 Repeat the operations described in 3.69 and 3.71 for each line switch group.

(G) Ringing Voltage Alarm

3.73 The ringing machine must be running when this test is made. Momentarily open the left-hand transfer switch of the ringing machine.

3.74 Check that the N-V RINGING lamp at the power board lights and the alarm bell rings.

3.75 Check that the red RINGING lamp at the switchboard and ceiling panel, when provided, lights.

3.76 Close the switch and check that the alarm lamps are extinguished and the bell silenced.

4. REPORTS

4.01 The required record of these tests should be entered on the proper form.