MISCELLANEOUS CIRCUITS
RINGING, BATTERY, AUXILIARY SIGNAL, GROUPING, FUSE AND POWER ALARMS
TESTS AND INSPECTIONS
550B, 550C, 550SC, 551A, 551B, 551D, 555, 556A, AND 557A PBX

1. GENERAL

1.01 This section describes a method of testing the miscellaneous circuits of the 550B, 550C, 550SC, 551A, 551B, 551D, 555, 556A, and 557A PBXs and the alarm circuits of the 551D, 556A, and 557A PBX .

1.02 The section is reissued to include the 557A PBX. Since this reissue covers a general revision, the arrows ordinarily used to indicate changes have been omitted.

1.03 In order to avoid the effects of clicks, the test receiver should be kept away from the ear.

1.04 **On 550B, 550C, 550SC, 551A, 551B, and 551D PBXs,** the front cord is designated as TRK & EXT and the rear cord as EXT. Hereafter the front cord is referred to as the TRUNK & STATION cord and the rear cord as the STATION cord. On 555, 556A, and 557A PBXs the TRUNK & STATION cord is the left cord and the STATION cord is the right cord.

2. APPARATUS

Tests A, B, and C, and for 551D PBX—Test E

2.01 Test receiver—No. 716E receiver attached to a W2AB cord equipped with two No. 360A tools (2W21A cord) and two KS-6278 tools or equivalent.

Tests D and E

2.02 Attendant telephone set connected in the telephone set jacks of the PBX.

Test F

2.03 No. 375A (make busy) tool (556A PBX).

2.04 Testing cord—W1AF cord.

3. METHOD

A. Ringing Supply

3.01 To test that the ringing supply is properly connected, connect one clip of the test receiver to ground. Connect the other clip of the test receiver to the tip of an idle cord and operate the associated ringing key. No ringing current should be heard.

3.02 Disconnect the test receiver.

3.03 To test the hand generator and hand generator key on the **550B, 550C, 551A, 551B, 551D, and 557A PBXs** turn the GEN key, or on the **550SC PBX** pull out the GEN key to the H position. Insert the plug of an idle cord into the jack of a nearby idle station. Turn the crank of the hand generator while the cord ringing key is held operated. Verify that the bell rings.

3.04 Restore the GEN key after the test.

3.05 To test the hand generator and automatic generator-transfer switch on the **555 and 556A PBXs,** turn the generator crank while the ringing key is held operated. Verify that the bell rings.

Note: With "B" wiring in the 555 PBX and "M" wiring in the 556A PBX, remove the resistance lamp in the ringing supply circuit during test to avoid paralleling the hand generator.

3.06 Release the generator handle. Verify that it returns to normal. Remount the resistance lamp, if previously removed.

All PBX

3.07 Operate the ringing key. Verify that the bell rings.

3.08 Remove the plug.

B. Battery Supply

3.09 Test for the presence of battery by inserting a STATION plug into an idle station jack. The supervisory lamp should light.

3.10 To test for proper battery supply polarity, first determine that the ringing supply is properly connected in accordance with the test outlined in 3.01. Operate the NIGHT & THRU DIAL key of an idle circuit. Touch the tip of the TRUNK & STATION plug to the sleeve of the STATION plug and operate the ringing key associated with the TRUNK & STATION cord. The supervisory lamp of the STATION cord should light.

Note: If the board is not provided with a ringing supply, use a local ground, such as a nearby water pipe or radiator, connected to the sleeve of the STATION cord instead of the generator ground in making the test in 3.10.

3.11 Restore the equipment to normal.

C. Battery Cutoff and Auxiliary Signal Circuit

Caution: The battery cutoff key should not be operated to its OFF position while connections are up at the switchboard.

3.12 With the buzzer key in the ON position, insert the STATION plug of an idle cord circuit into an idle station line jack. The supervisory lamp should light and the buzzer should sound.

3.13 Operate the buzzer key to the OFF position. The buzzer should stop.

Note: On some 550B PBXs, the buzzer may continue to operate with the buzzer key in the OFF position. In this case operate the TALK & DIAL key. The buzzer should stop.

3.14 Operate the battery cutoff key to the OFF position. The supervisory lamp or lamps should be extinguished.

Note: The 557A PBX is not equipped with a battery cutoff key.

3.15 Restore the battery cutoff key and buzzer key to the ON position and disconnect the cord circuit.

3.16 **On some 550B PBX that are equipped with two auxiliary relays,** insert the plug of an idle cord into an idle station line jack just far enough to bring the tip of the plug in contact with the ring spring of the jack. The station line lamp should light and the buzzer should sound.

3.17 Remove the plug.

3.18 **On some 555 PBX equipped with two auxiliary relays,** insert the TRUNK & STATION plug of an idle cord into an idle station line jack just far enough to bring the tip of the plug into contact with the ring of the jack. Connect the tip of the associated STATION plug through the test receiver to ground at the rear of the switchboard. The station line lamp should light and the buzzer should sound.

3.19 **On the 557A PBX** make the following additional tests.

3.20 In manual central office areas, request the operator to ring back on the trunk. In dial system central office areas, except those with line-switch message rate trunks (see note), dial the appropriate reverting call code if available. In all other cases call the test desk and request a ring on the trunk.

Note: False registration of the message register may be caused by the ringing through message register trunks in line switch offices.

3.21 After requesting a ring or after dialing the reverting call code, disconnect from the trunk. When the ringing signal is received, the trunk lamp or lamps should light steadily and the auxiliary signal should sound.

3.22 Insert the TRUNK & STATION plug into the jack. The trunk lamp or lamps should be extinguished and the auxiliary signal should be silenced.

3.23 Remove the TRUNK & STATION plug.

3.24 Obtain a ring on a secretarial line located in each panel. The line and panel lamps should light and the auxiliary signal should sound.

3.25 Insert a STATION cord in the jack. The line and panel lamps should be extinguished and the auxiliary signal should be silenced.

3.26 Remove the STATION cord.

D. 2-position Grouping Circuit of the 555 and 556A PBXs

3.27 Connect the attendant telephone set to the telephone set jacks of position 2. Insert the STATION plug of an idle cord of position 2 into the jack of a nearby idle station. Operate the RING RIGHT key. Verify that the bell rings. Push the hand crank of the hand generator on position 1 all the way in and verify that the bell stops ringing. Talk over the connection.

3.28 Remove the cord.

3.29 Connect the attendant telephone set to the telephone set jacks of position 1 and disconnect the attendant telephone set of position 2. Insert the STATION plug of an idle cord circuit of position 2 into the jack of a nearby idle station. Talk over the connection.

3.30 Remove the cord.

E. 2-position Grouping Circuit of the 557A PBX

3.31 Connect the attendant telephone set to the telephone jacks of position 1. Operate the position grouping key. Using an idle cord on position 2, make a talking test with an idle station or trunk.

Note: In cases of dial trunks, the hearing of the dial tone will be a sufficient test.

F. Alarm Circuit of 551D, 556A, and 557A PBXs

3.32 **Before starting the tests for the 556A PBX,** notify the proper person at the central office of the tests if the alarms are extended to the central office.

556A PBX Permanent Signal Alarm

3.33 Place a make-busy tool between the tip and ring springs of a selector or selector-connector test jack. After a 20- to 30-minute interval, verify that the white PS AL lamp at the switchboard lights and the alarm bell sounds.

3.34 Momentarily operate the PS AL key. Verify that the bell is silenced while the key is operated.

3.35 Remove the make-busy tool from the selector or selector-connector test jack. Verify that the alarm is retired.

556A PBX Fuse Alarm

3.36 By means of the W1AF cord connect the equipment end of one of the alarm-type fuses with the alarm bus bar. Verify that the red FR AL lamp at the switchboard lights and the alarm bell sounds.

3.37 Momentarily operate the FR AL key. Verify that the bell is silenced while the key is operated.

3.38 Remove the W1A cord. Verify that the alarm is retired.

556A PBX Power Alarm

3.39 By means of the W1AF cord, connect the equipment end of an alarm-type fuse with its alarm stud at the power board. Verify that the red PWR ALM lamp at the switchboard lights and the alarm bell sounds.

3.40 Momentarily operate the PWR ALM key. Verify that the bell is silenced while the key is operated.

3.41 Remove the W1AF cord. Verify that the alarm is retired.

3.42 After completion of these tests with extended alarms, notify the proper person at the central office that the tests have been completed.

551D and 557A PBX Fuse Alarm

3.43 Connect one clip of the W1AF cord to battery and the other clip to the test receiver. With the other clip of the test receiver, touch the fuse alarm strips. Verify that the fuse alarm lamp lights and the buzzer sounds.

3.44 Operate the fuse alarm key. Verify that the buzzer stops.

3.45 Restore the fuse alarm key and remove the cord and test receiver.