NO. 1 AND 1B ANNOUNCEMENT SYSTEMS
TIME OF DAY SERVICE
INCOMING DISTRIBUTING CIRCUITS
TESTS

1. GENERAL

1.01 This section describes the tests to be made on the incoming distributing circuits of time announcement equipment in intermediate and terminating offices. The tests are as follows:

(A) Switch Alarm

(B) Line Alarm

(C) Amplifier Alarm

(D) Monitoring on Amplifier

(E) Filament Current Test

(F) Filament Activity Test

(G) Transmission Test

1.02 This section is reissued to change test (B) to cover circuits in which ground for the line alarm is wired through the transfer switch and to omit the visual inspection of vacuum tubes covered in the previous issue of the section as test (F). Test (G) has been added.

1.03 If both circuits are not scheduled for test at the same time they should be so scheduled that they are tested alternately on successive test periods. If test (F) is satisfactory test (G) need not be made.

1.04 Tests (A), (C), (D), (F) and (G) require that the circuit be in service while the tests are being made. Test (B) requires that the circuit be out of service. Test (E) may be made on the circuit in or out of service but preferably on the circuit in service.

1.05 In making tests (A), (B) and (C) the aid of an assistant may be desirable, to observe the alarm lamps. The observation of the alarm lamps may not be required on each test cycle, however.

1.06 In case trouble is encountered, which would be liable to interfere with service, the circuit should be removed from service by operating the transfer switch and the duplicate incoming distributing circuit put in service by restoring the transfer switch to normal.

1.07 A call waiting condition is required for tests (A), (C), (D), (F) and (G). If no announcements are heard, originate a call to the time bureau from a local station or insert the plug connected to a No. 528 receiver into the L jack of a spare outgoing distributing circuit.

2. APPARATUS

Tests (A), (C), (D), (F) and (G)

2.01 No. 528 Receiver equipped with an R2AC Cord and a No. 110 Plug.

Test (C)

2.02 One No. 258B (dummy) Plug.

Test (E)

2.03 One Weston Portable Milliammeter Model No. 280, scale 0-750 milliamperes equipped with a W2BC Cord connected to the tip and ring of a No. 291A (or No. 110) Plug.

3. METHOD

(A) Switch Alarm

3.01 Insert the plug connected with the receiver into the MON jack of the amplifier associated with the incoming distributing circuit in service.

3.02 The observations and operations covered in 3.03 to 3.06 should be conducted, if possible, in the 7-1/2 second period following the time tone.

3.03 Immediately after the time tone is heard, operate the transfer switch of the circuit in service.

3.04 Check that the switch alarm lamp in the associated annunciator cabinet or floor alarm board, and the pilot lamp or ceiling lamp, where provided, light and that the alarm bell rings.

3.05 Restore to normal the switches of both incoming distributing circuits and check that the same signals covered in 3.04 remain operated.

3.06 Reoperate the transfer switch of the circuit originally out of service.

3.07 Check that the alarm lamps and the alarm bell are retired.

(B) Line Alarm

3.08 On circuits in which the ground for the line alarm is wired through springs of the transfer switch, short circuit these springs by placing a No. 136B tool between the springs on the wiring side of the switch.

3.09 Manually operate the S4 relay for an intermediate office or the ST relay for a terminating office of the incoming distributing circuit not in service. After a slight interval the relay will remain locked operated.

3.10 Check that the line alarm lamp in the associated annunciator cabinet or floor alarm board, and the pilot lamp or ceiling lamp, where provided, light and the alarm bell rings.

3.11 Operate the LINE ALM key. Check that the line alarm lamp is extinguished, the alarm bell silenced and the line guard lamp lighted.

3.12 Manually operate the A1 relay. Check that the line alarm again lights and the alarm bell rings. (In manual offices the guard lamp is extinguished.)

3.13 Restore the LINE ALM key. Check that the alarm lamp is extinguished and the alarm bell silenced. (In dial offices the guard lamp is extinguished at this time.)

Note: Remove the No. 136B tool, if used, from the springs of the transfer switch.

(C) Amplifier Alarm

3.14 Insert the plug connected with the receiver into the MON jack of the amplifier associated with the incoming distributing circuit in service.

3.15 The observations and operations covered in 3.16 to 3.20 should be conducted, if possible, in the 7-1/2 second period following the time tone.

3.16 Immediately after the time tone is heard, insert a No. 258B (dummy) plug into the F jack of the associated amplifier.

3.17 Check that the FIL ALM lamp on the amplifier panel lights and the repeater alarm lamp in the associated annunciator cabinet or floor alarm board, and the pilot lamp, or ceiling lamp, where provided, light and the alarm bell rings.

3.18 Operate the transfer switch, removing the circuit from service, and restore the transfer switch of the other incoming distributing circuit.

3.19 Check that the FIL ALM lamp on the amplifier under test, the repeater alarm lamp in the associated annunciator cabinet or floor alarm board, and the pilot lamp or ceiling lamp, where provided, are extinguished and the alarm bell silenced.

3.20 Remove the dummy plug from the F jack and return the transfer switches to their original positions.

(D) Monitoring on Amplifier

3.21 Insert the plug connected with the receiver into the MON jack of the amplifier in service. The time announcements and tone signals should be heard distinctly.

(E) Filament Current Test

3.22 If the amplifier is not in service operate the F key and allow approximately 5 minutes to elapse before measuring the filament current.

3.23 Insert the plug connected to the milliameter into the F jack associated with the amplifier to be tested and observe the reading of the milliammeter.

3.24 The filament current should be within the specified limits. If the reading is outside the limits, replace the ballast lamp with a new lamp and after approximately 5 minutes again read the filament current. Failure to secure proper current after a lamp replacement indicates trouble which should be corrected.

(F) Filament Activity Test

3.25 Connect the monitoring receiver to the MON jack of the amplifier in service.

Note: This test should not be made on a tube until it has been turned on for about 15 minutes.

3.26 At the end of an announcement, operate the M key and observe the meter while the tone is being transmitted. The steady reading of the meter should be between -.5 db and +.5 db. Release the key at the end of the tone period. In case the proper reading is not shown, transmission test (G) should be made before completing this test.

3.27 Operate the TEST 1 key. At the end of an announcement, operate the M key. Note the steady reading of the meter during the tone period. Then restore the M key. This reading is for tube 1, the 102F tube.

Note: The M key should be operated only during the tone period.

3.28 Operate the TEST 2 key. At the end of an announcement, operate the M key. Note the steady reading of the meter during

the tone period. Then restore the M key. This reading is for tube 2, the 101F tube. Restore the TEST 2 key.

3.29 The difference between the readings with only the M key operated and with both the M key and one of the TEST keys operated should not be more than 1.0 db for a 102F tube and not more than 1.5 db for a 101F tube.

(G) Transmission Test

3.30 Connect the monitoring receiver to the L jack of a spare outgoing distributing circuit, if convenient or to the MON jack of the amplifier.

Note: Transmission tests should not be made until the circuit has been in service for at least 10 minutes to allow the tubes to reach a stable condition.

3.31 At the end of an announcement, operate the M key and observe the meter while the tone is being transmitted. The steady reading of the meter should be between -.5 db and +.5 db. Release the key at the end of the tone period.

3.32 In case the specified reading is not shown adjust the switch on the amplifier as required to obtain the proper readings.

4. REPORTS

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