

NO-SUCH-NUMBER TONE SIGNAL CIRCUITS
ALARM ROUTINE
NO. 5 CROSSBAR OFFICES

1. GENERAL

1.01 This section outlines the procedure to be followed in response to an alarm associated with no-such number tone signal circuits in No. 5 crossbar offices.

1.02 The no-such-number tone signal circuits are arranged so that one transfer and two tone supply circuits are provided for the office. A transfer key is provided at the no-such-number tone equipment so that either tone supply circuit can be made to serve the office.

1.03 When no trouble condition exists and the TR (transfer) key is in position 1, the number one tone supply circuit is serving the office. If the TR key is in position 2, the number two tone supply circuit is serving the office.

1.04 In the no-such-number tone signal circuit, if the tone supply circuit serving the office fails, the transfer circuit will function to bring in an alarm, and to automatically transfer the tone leads and the start lead from the tone supply circuit that was serving the office before failure occurred, to the other tone supply circuit. These tone and start leads connect to trunk and register circuits requiring no-such-number tone.

1.05 When trouble occurs on the no-such-number tone signal circuit, the minor alarm sounds, and the white main aisle pilot and the white aisle pilot lamps light.

1.06 If the office is equipped with the no-such-number tone circuit provided with 1 and 2 (white) lamps, the lighting of one of these lamps will indicate the tone supply circuit in which trouble occurred.

1.07 Depending upon the type of no-such-number tone equipment in the office, the audible alarm is under the control of the AR (alarm release) and the TST (test) keys, or the AR and the ACO (alarm cut off) keys. When the office is equipped for unattended operation, the audible alarm will also be under the control of the alarm sending circuit.

2. APPARATUS

2.01 None required.

3. METHOD

No-Such-Number Tone Signal Circuit, Oscillating Tone

3.01 If in response to a minor alarm, it is observed that any combination of the TR, 1 and 2 (white) lamps at the no-such-number tone equipment is lighted, operate the TST key to silence the alarm. Depending upon which lamps are lighted, proceed as outlined in 3.02 to 3.30 inclusive.

The TR Lamp Only, is Lighted

3.02 If the TR lamp is lighted, and neither the 1 nor the 2 lamp is lighted, it is an indication that the trouble condition which operated the alarm has cleared. It also indicates that the transfer circuit functioned to automatically transfer the tone and the start leads from the tone generator circuit that was serving the office when the alarm operated, to the idle tone generator circuit.

3.03 Restore the TST key and momentarily operate the AR key. This will transfer the tone and the start leads from the tone generator circuit to which the transfer was made, back to the tone generator circuit that was serving the office when the alarm operated.

3.04 After the transfer is made, observe that the no-such-number tone circuit functions satisfactorily, as indicated by the absence of the audible alarm.

The TR Lamp and the 1 or 2 Lamp Associated with the Tone Generator Circuit that was Serving the Office, are Lighted

3.05 If the TR lamp and the 1 or 2 lamp associated with the tone generator circuit that was serving the office, are lighted, observe whether or not the A or the F relay is operated in that circuit.

3.06 If the A relay is operated, and the F relay is normal, the trouble may be in the operating path of the C relay.

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3.07 If the A relay is not operated, the trouble may be due to the failure of the AM vacuum tube, or to the operation of the F relay.

3.08 If the F relay is operated, the trouble may be due to the failure of the OS vacuum tube.

3.09 After the trouble has been cleared, as indicated by the 1 or 2 lamp being extinguished, restore the TST key and momentarily operate the AR key. This will transfer the tone and the start leads back to the tone generator circuit that was serving the office when the alarm operated.

3.10 After the transfer is made, observe that the no-such-number tone circuit functions satisfactorily, as indicated by the absence of the audible alarm.

The TR Lamp and the 1 or 2 Lamp Associated with The Tone Generator Circuit to which the Transfer was Made, are Lighted

3.11 If the TR lamp and the 1 or 2 lamp associated with the tone generator circuit to which the transfer was made, are lighted, it is an indication that the trouble which operated the alarm has cleared, and that the tone generator circuit to which the transfer was made, failed to operate properly.

3.12 Restore the TST key and momentarily operate the AR key. This will transfer the tone and the start leads back to the tone generator circuit that was serving the office when the alarm operated.

3.13 After the transfer is made, observe that the tone generator circuit functions satisfactorily, as indicated by the absence of the audible alarm.

3.14 Reoperate the TST key.

3.15 In the tone generator circuit not serving the office, observe whether the A or the F relay is operated. The trouble may be determined from the positions of the A and F relays as outlined in 3.06 to 3.08.

3.16 After the trouble has been cleared, as indicated by the associated 1 or 2 lamp being extinguished, restore the TST key to return the circuit to normal.

The TR Lamp Lighted or Extinguished and the 1 and 2 Lamps Lighted

3.17 If both the 1 and the 2 lamps are lighted, with or without a lighted TR lamp, it is an indication:

- (1) That the tone generator circuit serving the office failed causing an automatic transfer.

- (2) That the tone generator circuit to which the transfer was made is in trouble.

3.18 If the TR lamp failed to light, it may be due to an open in its operating path.

3.19 When the trouble, if any, in the TR lamp circuit has been cleared, observe whether the A or the F relay is operated in the tone generator circuit that was serving the office when the alarm operated. The trouble may be determined from the positions of the A and the F relays as outlined in 3.06 to 3.08.

3.20 After the trouble has been cleared, as indicated by the associated 1 or 2 lamp being extinguished, restore the TST key and momentarily operate the AR key. This will transfer the tone and the start leads from the tone generator circuit to which the transfer was made, back to the tone generator circuit that was serving the office when the alarm operated.

3.21 Reoperate the TST key.

3.22 In the tone generator circuit not serving the office, observe whether the A or the F relay is operated. The trouble may be determined from the positions of the A and the F relays as outlined in 3.06 to 3.08.

3.23 After the trouble has been cleared restore the TST key to return the circuit to normal.

The TR Lamp Extinguished and the 1 or 2 Lamp Associated with the Tone Generator that was Serving the Office, Lighted

3.24 If the TR lamp is not lighted, but the 1 or 2 lamp associated with the tone generator circuit that was serving the office when the alarm operated is lighted, it is an indication that the tone generator circuit that was serving the office failed. It also indicates that the transfer circuit did not operate properly.

3.25 The trouble that caused failure to transfer, may be due to an open in the operating path of the J relay.

3.26 After clearing the trouble in the transfer circuit, restore the TST key to allow the J relay to operate and to transfer the tone and the start leads to the tone generator circuit not serving the office.

3.27 Reoperate the TST key.

3.28 Observe whether the A or the F relay is operated in the tone generator circuit that was serving the office when the alarm operated. The trouble may be determined from the positions of the A and the F relays as outlined in 3.06 to 3.08.

3.29 After the trouble has been cleared, as indicated by the 1 or 2 lamps being extinguished, restore the TST key and momentarily operate the AR key. This will transfer the tone and the start leads back to the tone generator circuit that was serving the office when the alarm operated.

3.30 After the transfer is made, observe that the no-such-number tone circuit functions satisfactorily, as indicated by the absence of the audible alarm.

No-Such-Number Tone Signal Circuit,
Interrupted Low Tone

3.31 If in response to a minor alarm, it is observed that the TR lamp is lighted at the no-such-number tone signal circuit equipment, operate the ACO key to silence the alarm and to light the GD (guard) lamp at the no-such-number tone signal circuit equipment.

3.32 An alarm is operated by the no-such-number tone signal circuit if the ST (start) relay fails to operate, or if the

counting relays in the tone signal circuit fail to operate or release correctly.

3.33 If the ST relay fails to operate, the trouble is probably in the operating path of the ST relay. Failure of the counting relays may be due to the RC relay failing to operate, or the A relay failing to release.

3.34 When the trouble has been cleared, momentarily operate the AR key and restore the ACO key. This will transfer the tone and the start leads back to the tone generator circuit that was serving the office when the alarm operated, and extinguish the GD lamp.

3.35 After the transfer is made, observe that the no-such-number tone circuit functions satisfactorily, as indicated by the absence of the audible alarm.

4. REPORTS

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