

PANEL SYSTEM
VACANT CODE TRUNK CIRCUIT

CHANGES

A. CHANGED AND ADDED FUNCTIONS

- A.1 The circuit is arranged to operate in connection with a common systems signal circuit to provide a distinctive tone with an ascending and descending pitch for indicating to a subscriber that a wrong number was dialed.

B. CHANGES IN APPARATUS

B.1 Superseded

Apparatus in Fig. A
(T) Condenser 0.5 mf.
(T) Repeating Coil 103B

Superseded By

Apparatus in Fig. B
(T) & (R) Condensers 0.1 mf.
(TS) Relay U1027

D. DESCRIPTION OF CIRCUIT CHANGES

- D.1 Fig. A, which was formerly a part of Fig. 1 is designated "A & M Only."
- D.2 Fig. B is added for use with common systems signal circuit - no-such-number tone supply.
- D.3 Fig. 1 is designated "Figure 1 - Trunk Circuit."
- D.4 The circuit title was formerly:

VACANT CODE TRUNK
ARRANGED TO GIVE SUBSCRIBER
AN INTERMITTENT BUSY TONE

- D.5 The former circuit note 102 "Leads marked "C" shall be run in separate cable" is removed, and circuit note 103 is renumbered 102.
- D.6 Circuit note 103 is added.
- D.7 Circuit note 101 is revised to specify one 1-1/3 amp. fuse from 48 V. bat. per five Figs. B.
- D.8 Cross connections are changed.

All other headings under "Changes," no change.

1. PURPOSE OF CIRCUIT

- 1.1 This circuit provides means for transmitting a distinctive tone signal to the subscriber when an unassigned code is dialed.

2. WORKING LIMITS

- 2.1 The maximum external apparatus resistance for the (L) relay is 573 ohms.

3. FUNCTIONS

- 3.1 This circuit is arranged to operate with district or office selectors.
- 3.2 When figure A is used the circuit is arranged to give the calling subscriber an intermittent busy tone when the circuit is selected.
- 3.3 When Figure B is used the circuit is arranged to connect an ascending and descending pitch tone to the subscriber's line when the circuit is selected.
- 3.4 Supplies battery and ground to the district selector in a direction which will not operate the polarized relay in the district circuit and thus prevent charging the calling subscriber.

4. CONNECTING CIRCUITS

- 4.1 District or office selector circuits.
- 4.2 Tone and interrupter circuits.
- 4.3 Miscellaneous circuit for the miscellaneous interrupter frame.
- 4.4 Common Systems - Signal circuit, No-such-number tone supply.

DESCRIPTION OF OPERATION

5. TRUNK SELECTED

When a subscriber dials an office code which has not been assigned the sender routes the call to a district or office selector bank terminal to which a vacant code trunk is connected. After selections are completed the (L) relay operates in series with the polarized supervisory relay in the district selector circuit but the polarized relay does not operate as the battery and ground from the vacant code trunk is in the non-operate direction, that is, battery on the tip and ground on the ring. This prevents the subscriber from being charged for the call, likewise, it prevents collection on coin lines.

6. TONE APPLIED TO TRUNK, FIG. A (A & M ONLY)

The operation of the (L) relay connects ground through the primary winding of the (T) repeating coil to the "IB" lead of the interrupter and tone circuit thereby causing an interrupted busy tone to be induced in the secondary winding of the (T) repeating coil which is connected across the trunk thus transmitting a signal to the calling subscriber that a wrong code was dialed.

7. TONE APPLIED TO TRUNK, FIG. B

The operation of the (L) relay operates the (TS) relay which (a) connects ground to the "A" lead, and interrupted ground to the "B" lead of the no-such-number tone supply signal circuit, and (b) connects the "T" and "R" leads of the trunk through the "T" and "R" condensers respectively to the signal circuit. The closure of the "A" and "B" leads enables the signal circuit to operate and apply a variable pitch tone to the "T" and "R" leads of the trunk thus signaling the subscriber that a wrong code was dialed. The variable pitch tone has an ascending and descending pitch which is controlled by the interrupter over the "A" lead, and is known as the no-such-number signal.

8. DISCONNECTION

When the subscriber disconnects the (L) relay releases and with figure A opens the tone circuit through the primary winding of the (T) repeating coil, and with figure B releases the (TS) relay. The release of relay (TS) stops the operation of the signal circuit and disconnects the tip and ring leads thereby restoring the circuit to normal.

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8. TONE APPLIED TO TRUNK, FIG. A (A & M ONLY)

The operation of the (L) relay connects ground through the primary winding of the (T) repeating coil to the "IB" lead of the interrupter and tone circuit thereby causing an interrupted busy tone to be induced in the secondary winding of the (T) repeating coil which is connected across the trunk thus transmitting a signal to the calling subscriber that a wrong code was dialed.

9. TONE APPLIED TO TRUNK, FIG. B

The operation of the (L) relay operates the (TS) relay which (a) connects ground to the "A" lead, and interrupted ground to the "B" lead of the no-touch-number tone supply signal circuit, and (b) connects the "T" and "R" leads of the trunk through the "T" and "R" condensers respectively to the signal circuit. The closure of the "A" and "B" leads enables the signal circuit to operate and apply a variable pitch tone to the "T" and "R" leads of the trunk thus signaling the subscriber that a wrong code was dialed. The variable pitch tone has an ascending and descending pitch which is controlled by the interrupter over the "A" lead, and is known as the no-touch-number signal.

10. DISCONNECTION

When the subscriber disconnects the (L) relay releases and with figure A opens the tone circuit through the primary winding of the (T) repeating coil, and with figure B releases the (TS) relay. The release of relay (TS) stops the operation of the signal circuit and disconnects the tip and ring leads thereby restoring the circuit to normal.

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