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CIRCUIT DESCRIPTION
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PANEL MACHINE SWITCHING SYSTEM
MISCELLANEOUS TONES AND INTERRUPTERS
FOR USE IN LINK TYPE OFFICES

CHANGES

A. CHANGED AND ADDED FUNCTIONS

A.1 None.

B. CHANGES IN APPARATUS

B.1 None.

C. CHANGES IN CIRCUIT REQUIREMENTS OTHER THAN THOSE APPLY-
ING TO ADDED OR REMOVED APPARATUS

C.1 None.

D. DESCRIPTION OF CIRCUIT CHANGES

D.1 Figs. 2 and 4 connecting information changed to include "to other circuits as required".

D.2 In note 101 Fig. A was marked "Special" and Fig. B was marked Standard.

D.3 The location of "F" in Fig. 4 has been changed and (LP2) added,

DEVELOPMENT

1. PURPOSE OF CIRCUIT

1.1 This circuit is used to supply miscellaneous tone, interrupter and tone alarm circuits required for use in panel machine switching office.

2. WORKING LIMITS

2.1 None.

OPERATION

3. FUNCTIONS

3.1 Provision of flashing interrupters for:

3.11 Line busy.

3.12 All paths busy.

3.2 Provision of tone for:

3.21 Busy.

3.22 All paths busy.

3.23 Dial.

3.24 Permanent signal.

3.25 Howler.

3.26 Check.

3.27 Trunk Assignment.

3.28 Test.

3.3 Provision of alarms for:

3.31 Ground on line busy circuit.

3.32 No voltage on busy, all paths busy and dial tones.

3.33 Fuse operation on low or high tones.

4. CONNECTING CIRCUITS

4.1 This circuit connects as required with any circuit of a link type panel machine switching office.

DETAILED DESCRIPTION

5. LINE BUSY INTERRUPTER (FIG. 1) - This interrupter causes periodical interruption of the busy tone applied by a final selector circuit. A ground on any of the associated line busy leads "D" will cause operation and release of relay (BB) in unison with the make and break of the interrupter, causing lamp (BB) to flash. Relay (BB) also controls the relay in the associated fuse alarm circuit which, alternately operating and releasing, flashes pilot trouble alarms at the alarm boards and operates the adjacent aisle pilot alarms.

6. TONES (FIGS. 2 TO 8, FIGS. 10 AND 11) - The busy tone lead "B" (fig. 2), all paths busy tone lead "C" (fig. 3) and low test tone lead "TL" (fig. 10) supply the same low tone except that the all paths busy tone is periodically connected and disconnected by the interrupter. A different low tone is provided for dial tone over lead "F" (fig. 4). High tone, either direct or through a repeating coil, is furnished for permanent signal (fig. 5), howler (fig. 6), check (fig. 7), trunk assignment (fig. 8) and high test tone (fig. 11).

7. ALL PATHS BUSY FLASH (FIGS. 9 AND 12) - Interrupted ground is furnished over lead "PB" or "PB2" for operating and releasing the supervisory relay in an incoming circuit from Manual Key Indicator system. This relay, in turn, causes the "A" operator's supervisory lamp to flash as an indication that the Incoming has gone to overflow.

Interrupted ground is furnished over lead "PB1" to operate and release a relay in the Toll Key Indicator Incoming circuit for flashing the toll supervisory lamp to indicate that the Incoming has gone to overflow.

8. PERMANENT SIGNAL TONE (FIG. 5) - When the associated key at the sender monitor position is operated, tone is connected over lead "G" thru the key contacts, over lead "H" to the high winding of output transformer (PS). This causes high tone to be applied, over lead "I", to the ring of each holding line for permanent signals, for identifying defective cable pairs.

9. ALARMS

- 9.1 LOW TONE ALARMS - Relays in the associated alarm circuit are normally held operated over leads "B" and "D" by interrupter battery thru the low tone commutator brushes. Should the tone circuit be opened at either the brush contacts or fuses, the corresponding relay releases, causing operation of visible and audible signals. When a fuse in the battery supply to the low tone interrupter or the dial tone repeating coil operates, battery is connected over lead "K" to operate the associated alarm circuit.
- 9.2 HIGH TONE ALARMS - When a fuse associated with the high tone commutators operates, battery is connected thru resistance (K) over lead "J", causing the associated fuse alarm circuit to function.

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