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STEP-BY-STEP SYSTEMS
NO. 1, 350A, 355A, 360A OR 35-E-97
COIN TRUNK TIMED RELEASE CIRCUIT
FOR USE WITH COIN TRUNKS
ARRANGED FOR PREPAY SERVICE

CHANGESB. Changes in Apparatus

B.1	<u>Superseded</u>	<u>Superseded By</u>
	(A) resistor KS-13490,L1 Fig. 1 Y Option	(A) resistor 145C Fig. 1 ZB Option
	(A) capacitor 439QA Fig. 1 ZA Option	(A) capacitor 542G Fig. 1 ZB Option

D. Description of Changes

- D.1 Option ZB is added and rated Standard. Option ZA is designated and rated Mfr. Disc. Option ZB provides new apparatus which extends the timing interval that this circuit provides. Option ZA applies to existing apparatus which is being superseded by option ZB.
- D.2 Circuit Note 104 and options used table are changed to reflect the above modification.
- D.3 The designation of lead B which connects to lead PL in Figures 1 and 4 is changed to B1.
- D.4 The designation "No Danger Fuse" in Figure 5 is changed to "No Danger Alarm".

F. Changes in Description of Operation or Changes in CD Sections

- F.1 Change 4.4 to read "Audible and visual alarm circuit No. 1 office - SD-96188-01".
- F.2 Change the third sentence of 5 to read "when condenser (A) has charged to about 70 volts, which will require about 8 1/2 seconds, tube A will discharge, operating relay (A), and in turn relay (C) and discharging condenser (A)".

BELL TELEPHONE LABORATORIES, INCORPORATED

DEPT 5245-LCB
WECO DEPT 5152-REA-WEA

M
CIRCUIT DESCRIPTION
SWITCHING SYSTEMS DEVELOPMENT DEPARTMENT

CD-31861-01
Issue 5-D
Appendix 1-B
Dwg. Issue 8-B

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CHANGES

D. DESCRIPTION OF CIRCUIT CHANGES

- D.1 Option "J" is added to the circuit and to Circuit Note 103.
- D.2 Option "J" supersedes option "T" for use in a No. 355A office.
- D.3 Circuit note 104 is changed in accordance with D.1.

All other headings, no change.

BELL TELEPHONE LABORATORIES, INCORPORATED

DEPT. 2315-WF-RCD-C6

STEP-BY-STEP SYSTEMS
NO. 1, 350A, 355A, 360A, OR 35-E-97
COIN TRUNK TIMED RELEASE CIRCUIT
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ARRANGED FOR PREPAY SERVICE

CHANGES

D. DESCRIPTION OF CIRCUIT CHANGES

D.1 Option "K" is added to Fig. 5 for use in 35-E-97 offices where the alarm circuit provides a ground where the office is attended. Option "M" is added to Fig. 6 to prevent lighting the (GD) lamp if the (CO) key is inadvertently operated when "K" option is furnished, since the universal equipment arrangement for 35-E-97 offices provides Fig. 6 in all cases.

D.2 Note 103 is changed to cover Options "K" and "M" for 35-E-97 offices.

D.3 Option "K" is added to Note 104 and the options used table and Option "M" is added to Note 104.

D.4 Note 105 is changed and formerly read: "Where the alarm circuit in 35-E-97 office provides a ground where the office is attended, connect lead "BG" to the alarm circuit instead of to Fig. 6."

D.5 Cross connection Fig. 55 is changed to reflect the changes covered by "K" and "M" options.

All other headings under Changes, no change.

I. PURPOSE OF CIRCUIT

1.1 This circuit is provided to limit the number of attempts which a coin box trunk will make to collect or return coins in case the coin collect or return battery does not cause ground to be removed from the coin box line. It will also record the number of times it is required to function as above, and will, when audible alarms are again made effective, give an audible alarm in case the circuit functioned as described above while the audible alarms were silenced. In No. 355A, 360A and 35-E-97 offices, it also gives an audible alarm and lights an aisle pilot lamp whenever a stuck coin condition occurs on the associated trunk while the office is attended.

2. WORKING LIMITS

2.1 None

3. FUNCTIONS

3.1 To start to operate when the first impulse of 60 I.P.M. ground is

furnished the coin box trunk in an attempt to collect or return coins.

3.2 After a predetermined interval to open the battery on the contact of the (I) relay of the coin box trunk to give an indication to the trunk similar to that given when a coin is collected or returned.

3.3 To refuse to open the battery referred to in 3.2 when "A" or "F" wiring is used and the alarms in a normally unattended office are made effective by operation of a key in the alarm circuit.

3.4 After operation as described in 3.2 to light pilot lamps and to give an audible alarm when the office audible alarms are again made effective.

3.5 To give an immediate alarm in a No. 355A, 360A or 35-E-97 office when a stuck coin condition occurs on a prepay coin trunk while the office is attended.

4. CONNECTING CIRCUITS

When this circuit is listed on a key-sheet the connecting information thereon is to be followed.

4.1 Prepay Coin Trunk Circuit - SD-31592-02*

4.2 Coin trunk Alarm Circuit No. 1 or 350A - SD-30852-01*, No. 355A - SD-31975-01.

4.3 Misc. Alarm Circuit - 355A - SD-32192-01.*

4.4 Audible and Visual Alarm Circuit - No. 1 Office - SD-96118-01.

4.5 Pilot Lamp Circuit - No. 1 Office - SD-31548-01.*

4.6 Pilot Lamp and Power Alarm Lamp Circuit - No. 350A Office - SD-31573-01.

4.7 Misc. Alarm Circuit No. 360A - SD-31209-01.

4.8 Alarm Circuit 35-E-97.

4.9 Power Shelf Term. Block 35-E-97.

*Typical Circuit

TO BE USED AS AN ORIGINAL
BY THE HANDBORNE PRINT SHOP

DESCRIPTION OF OPERATION

5. When the coin box trunk circuit has reached the stage where an attempt is made to collect or return coins, leads "I" and "A" are closed to battery thru relays in the coin box trunk circuit and 60 I.P.M. ground received from the coin box trunk alarm circuit will operate relay (B) which will lock thru its secondary winding. Relay (B) operated connects 120 volt positive battery thru resistor (A) to condenser (A), which will charge slowly. When condenser (A) has charged to about 70 volts, which will require about 3-1/2 seconds, tube (A) will discharge, operating relay (A), and in turn relay (C) and discharging condenser (A). Relay (C) operated, removes battery from the contact of the (I) relay of the associated coin box trunks, and operates message register (E) and relay (AL) when provided. Relay (AL) will lock to key (RLS) and will light lamp (S-CN).

6. After the battery is removed from the contacts of the (I) relay of a coin box trunk, the next open period of the 60 I.P.M. ground will cause the release of all operated relays in the trunk circuit, removing battery from leads "A" and "I". This releases relay (B), extinguishing tube (A) and releasing relays (A) and (C) restoring the circuit to normal.

7. When the key in the alarm circuit or in Fig. 6 is operated to make effective the alarms, ground or battery is removed from the operating circuit of the (C) relay, thus preventing this circuit from stopping the normal operation of the coin box trunk circuit, which will give an alarm in its normal manner if the coin collect or return battery is not effective in removing the coin ground. When the trouble condition is cleared by the maintenance man, the coin box trunk will remove battery from leads "A" and

"I" thus releasing relay (B) of this circuit, restoring it to normal. Until the trouble is cleared relay (A) will be operated. In a 355A office, where the coin trunk stuck coin alarm is delayed 2 to 8 minutes, relay (A), by grounding leads "AL" and "PL", gives an immediate alarm. In the No. 1 or 350A office, a stuck coin alarm is delayed only 18-48 seconds, hence an immediate alarm is not required.

8. When "A" or "F" wiring is used, and the key is operated in the miscellaneous or audible alarm circuit to make effective the local alarms in a normally unattended office, ground (direct in No. 355A office or over leads "BG" in No. 1 or 350A office) will operate the pilot lamps and aisle pilots, if provided, and will sound an audible alarm if relay (AL) has been operated while the audible alarms were silenced. This will indicate to the maintenance man that a "stuck coin" condition has been encountered and he can make such tests as necessary to locate the source of the trouble. The alarms are silenced and the lamps extinguished by momentarily operating key (RLS) to release relay (AL).

9. CUTOFF RELAY FIG. 5 AND KEY - FIG. 6

When a 360A or 35-E-97 office is attended, lead G will be grounded operating (CO). This disables the timed release feature by opening lead CO to Fig. 1, closes the alarm leads "AL" and "PL" and supplies ground to lamp (S-CN), of Fig. 4. Where the 35-E-97 alarm circuit does not provide ground when the office is attended, key (CO) operated (Fig. 6) while the office is attended lights guard lamp (GD) and operates the (CO) relay of Fig. 5. Where the 35-E-97 alarm circuit provides ground when the office is attended, Option "K", the (CO) key of Fig. 6 is made ineffective since ground is not connected to the key.

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