

STEP BY STEP SYSTEMS
NO. 355A DIAL OFFICE
COIN TRUNK OR
NO. 355A & NO. 356A
AUXILIARY COIN LINE CIRCUIT
FOR DIAL POST PAYMENT SERVICE

CHANGES

D. DESCRIPTION OF CIRCUIT CHANGES

- D.1 In Fig. 53 the "RLS" leads were rated
A&M Only.
- D.2 In Fig. 57 the "RLS" lead was rated
A&M Only and the "LO" lead was not
previously shown.

BELL TELEPHONE LABORATORIES, INCORPORATED

DEPT. 2335-MPC-FBB-MR

STEP BY STEP SYSTEMS
NO. 355A DIAL OFFICE
COIN TRUNK OR
NO. 355A AND NO. 356A
AUXILIARY COIN LINE CIRCUIT
FOR DIAL POST PAYMENT SERVICE

CHANGES

D. DESCRIPTION OF CIRCUIT CHANGES

- D.1 In Fig. 53 the "X" option stran between terminals 4 and 20 was rated Mfr. Disc.
- D.2 The RS lead terminating on terminal 4 was designated "V" option.
- D.3 The lead from 2(F) relay that terminates at terminal 4 was designated "V" option.

All other headings, no change.

BELL TELEPHONE LABORATORIES, INCORPORATED

DEPT. 2335-MEB-FBB-BJ

STEP BY STEP SYSTEMS
NO. 355A DIAL OFFICE
COIN TRUNK OR
NO. 355A & NO. 356A
AUXILIARY COIN LINE CIRCUIT
FOR DIAL POST PAYMENT SERVICE

CHANGES

D. DESCRIPTION OF CIRCUIT CHANGES

D.1 Added following replacement note: "Replaces SD-31895-01 for use as Auxiliary Line Ckt. with coin stations only for No. 355A office".

D.2 Options Used table is added.

All other headings, no change.

BELL TELEPHONE LABORATORIES, INCORPORATED

DEPT. 2336-AH-RCD-ME

STEP BY STEP SYSTEMS
NO. 355A DIAL OFFICE
COIN TRUNK OR
NO. 355A & NO. 356A
AUXILIARY COIN LINE CIRCUIT
FOR DIAL POST PAYMENT SERVICE

CHANGES

D. DESCRIPTION OF CIRCUIT CHANGES

D.1 The rating of this circuit for 356A
offices is changed to A&M Only since
it is expected that there will be no fur-
ther demand for new 356A dial offices.

All other headings, no change.

BELL TELEPHONE LABORATORIES, INCORPORATED

DEPT. 2336-JPD-RCD-DC

STEP BY STEP SYSTEMS
NO. 355A DIAL OFFICE
COIN TRUNK OR
NO. 355A & NO. 356A
AUXILIARY COIN LINE CIRCUIT
FOR DIAL POST PAYMENT SERVICE

CHANGES

C. CHANGES IN CIRCUIT REQUIREMENTS OTHER
THAN THOSE APPLYING TO ADDED OR REMOVED
APPARATUS

C.1 Title of Circuit Requirements table
formerly read "Aux. Coin Line (Aux
CN L)".

D. DESCRIPTION OF CIRCUIT CHANGES

D.1 Cross connection Fig. 53 is revised
and Fig. 56 is added.

D.2 Title of Fig. 1 formerly read "Aux-
iliary Coin Line Ckt."

D.3 Circuit abbreviation in title box
formerly read "(CN TRK)".

D.4 Under "Equipment Information" J38809K
is added and ED-31019-01 is lined out.

All other headings, no change.

BELL TELEPHONE LABORATORIES, INCORPORATED

DEPT. 2315-WAO-RCD-CI

STEP BY STEP SYSTEMS
NO. 355A DIAL OFFICE
COIN TRUNK OR
NO. 355A & NO. 356A
AUXILIARY COIN LINE CIRCUIT
FOR DIAL POST PAYMENT SERVICE

CHANGES

D. DESCRIPTION OF CIRCUIT CHANGES

- D.1 To make this circuit available for No. 355A dial offices the following changes are initiated:
- D.11 Title is changed to add No. 355A Dial Office Coin Trunk or No. 355A Auxiliary Coin Line Ckt.
- D.12 "S", "RS", and "A" leads, (X and W) options, are added going to Line Finder Ckt. when this circuit is used as a Coin Trunk Ckt.
- D.13 "A" lead is added going to Sel. Ckt. when this circuit is used as a Coin Trk. Ckt.
- D.14 "X" option is shown when this circuit is used for a Coin Line Ckt.

All other headings, no change.

1. PURPOSE OF CIRCUIT

- 1.1 This circuit is for use in controlling postpayment coin service.

2. WORKING LIMITS

- 2.1 Maximum external circuit loop resistance - 1000 ohms.
- 2.2 Minimum insulation resistance 50,000 ohms.
- 2.3 Maximum number of stations per coin line, 1 bridged or 5 on tip and 5 on ring. Only high impedance ringers to be used.

3. FUNCTIONS

- 3.1 To provide a pulsing path to the succeeding switches.
- 3.2 To recognize when the called subscriber has answered and to split the connection.
- 3.3 To hold the switches beyond when the connection is split.
- 3.4 To give a tone to the calling subscriber when the connection is split

as an indication to deposit five or ten cents.

- 3.5 To remove the tone indication if the called subscriber hangs up before the calling subscriber deposits a coin.
- 3.6 To recognize when a coin is deposited in the coin box and to connect the subscriber together for conversation.
- 3.7 To ground the motor start or tone start lead when tone is required.
- 3.8 To restore to normal if the calling subscriber hangs up while the connection is split.

4. CONNECTING CIRCUITS

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

- 4.1 Power Ringing Ckt. - SD-80780-01
SD-81131-01.
- 4.2 Connector Circuit - *SD-30977-01.
- 4.3 Subscribers Line Circuit -
SD-31777-01.
- 4.4 Subscribers Line
- 4.5 Selector Circuit - SD-31735-01*.
- 4.6 Line Finder Circuit - SD-32000-01*.

*Typical

DESCRIPTION OF OPERATION

5. GENERAL

This circuit is used as a coin line or a coin trunk. When it is used as a coin line it is connected between the subscribers line and the subscribers line circuit and "X" wiring is used which permanently connects ground to the inner winding terminal and armature of the (F) relay. When it is used as a coin trunk it is connected between a line finder and the associated first selector and the "RS" lead from the line finder circuit is connected to the inner winding terminal and the armature of the (F) relay. This provides a means for conditioning the trunk for coin service

since the trunk will have access to noncoin lines as well as coin lines. A ground on the "RS" lead will condition the trunk for coin service. The "A" lead is used, to provide a means for informing the operator as to the class of service the calling subscriber has. "V" wiring is used when two classes of service are provided and "W" wiring is used when three classes of service are provided. When the circuit is used as a coin line and the subscriber originates a call the line will be extended thru to the subscribers line circuit. When it is used as a coin trunk and a subscriber originates a call, the line, after it is found by the line finder, will be extended thru to the selector, otherwise this circuit performs no function at this time.

6. CALLED SUBSCRIBER ANSWERS

When the called subscriber answers, battery is reversed by the connector (battery on tip and ground on ring), causing relay (A) to operate. When the call is from a coin line, ground is connected to the armature and winding of relay (F) either directly or over the "RS" lead from the line finder. Relay (A) operates relay (F) which operates relay (B) and relay (C). Relay (C) is operated by a direct ground at this time for the purpose of obtaining a faster operation over long loops thereby preventing a false operation of relay (E). Relay (B) operating, connects resistance (A) across the tip and ring toward the selector or subscribers line circuit as a holding bridge and closes a path for operating relay (D). Relay (D) operating transfers the tip and ring of the calling subscriber from the called subscriber to relays (F) and (C). Relay (F) remains operated and relay (C) momentarily releases and reoperates over the calling subscriber's loop. Relay (C) grounds the motor start lead "MS" to start the ringing machine in order to obtain tone on the "LT2" lead. Relay (D) connects this tone to the calling subscriber through the "B" res. as an indication that the called subscriber has answered and that one or two nickels or 10¢ should be deposited in the coin box.

7. CALLING SUBSCRIBER DEPOSITS COIN

When the calling subscriber deposits one or two nickels or 10¢ in the coin box a 4450 ohm resistance is momentarily inserted in series with the loop. Relay (C) releases on the reduced line current caused by the insertion of this resistance but relays (F) and (B) hold. With relay (C) normal and relays (B) and (D) operated, relay (E) operates. Relay (E) locks to battery and to ground on the sleeve. Relay (E) opens the circuit of relay (D) which releases. Relay (D) releasing, recloses the talking circuit, removes tone from the calling subscriber's line and opens relays (F) and (C) from the line. Relay (F) releases relay (B) and

relay (B) releasing, opens the (A) resistance holding bridge from across the tip and ring. The circuit is now in the talking position.

8. DISCONNECTION FROM COIN LINE CALLS

Relays (E) and (D) release and the circuit is restored to normal when ground is removed from the sleeve by the connector switch.

9. CALLED SUBSCRIBER HANGS UP BEFORE COIN IS DEPOSITED

Should the called subscriber hang up before the calling party deposits the coin, that is, while relays (A), (D), (F), (B) and (C) are operated, relay (A) will release on the reversal of current, removing tone from the calling party's line. Removal of the tone is an indication that the called subscriber has hung up. Should the called subscriber again take his receiver off the switchhook before the calling party disconnects tone will be reconnected to the calling line.

10. CALLING SUBSCRIBER HANGS UP BEFORE DEPOSITING COIN

Should the calling subscriber hang up after hearing the coin tone instead of depositing the coin, that is, with relays (A), (D), (F), (B) and (C) operated, relays (F) and (C) will both release releasing relay (B). Relay (E) is slow operating so that it will not operate should relay (C) close the operating circuit before relay (B) opens it. Relay (B) releasing will open the holding bridge consisting of resistance (A) and cause the connector to release and also relay (A). Relay (D) then releases restoring the circuit to normal when ground is removed from the sleeve lead.

11. TRUNK CALLS

When the calling subscriber reaches a trunk to an operator where the operator will supervise the deposit of coins, no battery reversal will take place and this coin trunk circuit will remain normal. When this circuit is used as a coin trunk "V" or "W" wiring is used. When the coin trunk has access to two classes of service lines such as coin lines and flat rate lines "V" wiring is used. When the coin trunk has access to three classes of service such as coin lines, flat rate and extended scope "W" wiring is used. When a direct ground is connected on the "A" lead either by means of V or W wiring an indication is given to the operator that a coin line is calling. If no ground is placed on the "A" lead using either "V" or "W" wiring an indication will be given to the operator that a noncoin line having a certain class of service such as flat rate was calling. If a ground thru a resistance is connected to the A lead using only "W" wiring an indication will be given

to the operator that a noncoin line having another class of service such as extended scope was calling. When this circuit is used as a coin line indication is given to the operator by another means in the trunk. This circuit shall not be used in connection with trunk circuits having a re-ring feature because the ringing current may operate relay (A) and cause the splitting of the talking circuit.

12. OUTGOING CALLS

On an outgoing call ground will be connected to the "S" lead at the connector which will be extended to the subscribers line circuit to operate the cutoff relay clearing the tip and ring leads of battery and ground.

BELL TELEPHONE LABORATORIES, INCORPORATED

DEPT. 2315-DMF-RCD-GH