CD-32063-01
Issue 2-D
Appendix 1-D
Dwg. Issue 3-D

STEP BY STEP SYSTEMS
NO. 350A, 355A OR 356A
TRUNK OR CONNECTOR
ALTERNATING RELAY CIRCUIT

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 further demand for new 356A dial offices.

D.2 In Connecting Information at the S, R, T, and A or F leads, 356A was removed.

D.3 The equipment designation was changed to read "Alt Rel" instead of "Trk Alt Rel".

All other headings, no change.

BELL TELEPHONE LABORATORIES, INCORPORATED

DEPT. 2336-JPD-RCD-GD

STEP-BY-STEP SYSTEMS
NO. 350A, 355A OR 356A
TRUNK OR CONNECTOR
ALTERNATING RELAY CIRCUIT

CHANGES

D. DESCRIPTION OF CIRCUIT CHANGES

D.1 The title previously read:

STEP-BY-STEP SYSTEMS
NO. 350A OR 355A
TRUNK ALTERNATING RELAY CIRCUIT

D.2 Battery symbol, 45-52V. is added for 355A and 356A office.

D.3 Fig. 51 is revised in accordance with the circuit changes.

D.4 In Fig. 1 designation of leads "A" is changed to "A or F".

D.5 In Fig. 1 the connecting information on the "T", "R", "S" and "A or F" leads is changed to read "To Trunk or Connector (356A) Ckt. No. 1" and "To Trunk or Connector (356A) Ckt. No. 2".

D.6 Note 102 is added.

All other headings under "Changes", no change.

1. PURPOSE OF CIRCUIT

1.1 This circuit is for use between selector multiple and trunk or connector circuits to allot calls alternately between two trunks or connectors. It insures that one trunk or connector will not remain idle while the other trunk or connector continues to handle successive calls.

2. WORKING LIMITS

2.1 None.

3. FUNCTIONS

3.1 On calls to trunk or connector No. 1 to release preceding switch train and make it busy on disconnect.

3.2 To remove busy condition from trunk or connector No. 1 when a call is received by trunk or connector No. 2.

4. CONNECTING CIRCUITS

When this circuit is listed on a keysheet, the connecting information thereon is to be followed.

4.1 Selector circuit SD-31725-01 or SD-31964-01.

4.2 Trunk circuit SD-31747-01 or SD-32144-01.

4.3 Connector circuit SD-30956-01 (Typical).

DESCRIPTION OF OPERATION

5. When connector No. 1 is seized from the selector multiple or when trunk No. 1 is seized either from the selector multiple or on an incoming call from the distant office if it is a two-way trunk, ground is connected to lead "S" operating relay (S) which in turn operates relay (S1). Relay (S1) operated locks under control of relay (S2).

When disconnection takes place on the trunk or connector circuit, ground is removed from the "S" lead releasing relay (S) and the forward switch train. Relay (S) released, operates relay (S2). Relay (S2) operated (a) locks to relay (S) independently of relay (S1), (b) connects the primary winding of relay (S) to the sleeve of trunk or connector No. 2, (c) disconnects the secondary winding of the (S) relay and the sleeve of the trunk or connector circuit No. 1 from the selector multiple, (d) connects the sleeve of the selector multiple to the back contact of relay (S1) and (e) releases relay (S1). When relay (S1) releases, ground is connected to the sleeve of the selector multiple.

Relay (S1) is slow in releasing to give the preceding circuits time to release before ground is reconnected to the sleeve. Trunk or connector No. 1 is now made busy to calls from the selector multiple and the next call from the selector multiple is now routed to trunk or connector No. 2.

When connector No. 2 is seized from the selector multiple or when trunk No. 2 is seized either from the selector multiple or on an incoming call from the distant office if it is a two-way trunk, ground is connected to lead "S" of trunk or connector No. 2 energizing relay (S) on its primary winding causing relay (S2) to release, thereby making trunk or connector No. 1 available for calls from the selector multiple and restoring this circuit to normal.

Should trunk or connector No. 2 become busy while trunk or connector No. 1 is in use relay (S1) will not operate since the currents in both windings are opposing. If trunk or connector No. 2 should release first the current thru the P2 winding of relay (S1) is removed and it now operates on its P1 winding. The circuit releases and makes trunk or connector No. 1 busy as described above. If trunk or connector No. 1 should release first the (S) relay releases and the (S1) and (S2) relays will not function. Trunk or connector No. 1 is now available for a new call.

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DEPT. 3320-LAH-RCD-AF