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STEP BY STEP SYSTEMS  
NO. 1, 350A OR 355A  
AUXILIARY TRUNK CIRCUIT  
DIGIT ABSORBING  
FOR USE BETWEEN TOLL SELECTOR MULTIPLE  
AND INTERCEPTING TRUNK CIRCUIT  
OR BETWEEN LOCAL SELECTOR MULTIPLE  
AND OPERATOR OFFICE TRUNK CIRCUIT  
FOR DELAYING CUT THRU

CHANGES

D. DESCRIPTION OF CIRCUIT CHANGES

- D.1 In Figs. 51 and 52 the "MS", "120 IPM",  
"GRD" and "BAT" leads assigned to  
terminals 10, 12, 14 and 16 were rated Mfr.  
Disc. and reassigned to terminals 16, 19, 20,  
and 10.
- D.2 Equipment Note 201 was not previously  
shown.

BELL TELEPHONE LABORATORIES, INCORPORATED

DEPT. 2335-MEB-FBB-AC

NOTICE

This document is either  
AT&T - Proprietary, or WESTERN  
ELECTRIC - Proprietary

Pursuant to Judge Greene's Order of August 5, 1983,  
beginning on January 1, 1984, AT&T will cease to use  
"Bell" and the Bell symbol, with the exceptions as set  
forth in that Order. Pursuant thereto, any reference to  
"BELL" and/or the BELL symbol in this document is here-  
by deleted and "expunged".

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CHANGES

B. CHANGES IN APPARATUS

B.1 Superseded                      Superseded By  
Relay Y105 Opt. "Z"      Relay Y252 Opt. "Y"

D. DESCRIPTION OF CIRCUIT CHANGES

- D.1 The use of relay Y105 is rated "Mfr. Disc." and superseded by relay Y252 which has an extra make contact to provide a motor start ground.
- D.2 The title is changed, it formerly read,  
"STEP-BY-STEP SYSTEMS  
NO. 1, 350A, OR 355A  
AUXILIARY TRUNK CIRCUIT  
FOR USE BETWEEN TOLL SELECTOR MULTIPLE  
AND INTERCEPTING TRUNK CIRCUIT  
FOR DELAYING CUT THRU"
- D.3 The connecting information for the T, R, S, and C leads is changed, it formerly read, "To Toll Sel. Multiple Intercepting Trk. Ckt."
- D.4 The connecting information for the T, R, S and C leads is changed, it formerly read, "To Toll Transmission and Toll Intermediate Sel. Multiples or Repeated Dialing Toll Train Preceding Sel. Multiple".
- D.5 Designation of the (C) lead connecting to "Sel. Bank Multiple Circuit for Local Selector, Toll Transmission or Toll Intermediate Sel. or Repeated Dialing Toll Train Preceding Sel." is changed to (C) or (A).
- D.6 The equipment designation is changed, to include "Del. Cut Thru".
- D.7 Notes 103 and 104 are added.
- D.8 ED-31057-01 is added to the equipment information.
- D.9 Cross Connection Figs. 51 and 52 are changed to cover the added "MS" lead.
- All other headings under Changes, no change.

1. PURPOSE OF CIRCUIT

- 1.1 To delay cut thru to toll selector level intercepting trunk circuit on calls to the intercepting operator.
- 1.2 To delay cut thru when used between the local selector multiple and operator office trunk circuit when a digit such as 20 is dialed to await completion of the dialing of the second digit before reaching the operator.

2. WORKING LIMITS

- 2.1 Maximum external circuit loop, 2,200 ohms.
- 2.2 Minimum insulation resistance, 30,000 ohms.

3. FUNCTIONS

- 3.1 To cut thru the tip and ring to the succeeding circuit when a minimum continuous period without pulsing being received has elapsed after seizure.
- 3.2 To restore selector (A) to normal whenever added digits are received and when circuit cuts thru.
- 3.3 To restore to normal when ground is removed from sleeve after cut thru.
- 3.4 To provide a ground to the Power Ringing Circuit for the purpose of starting the ringing machine.

4. CONNECTING CIRCUITS

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

- 4.01 Toll Transmission Selector Circuit, SD-31522-01
- 4.02 AB Toll Transmission Selector Circuit, SD-31722-01
- 4.03 Toll Intermediate Selector Circuit, SD-31179-01

- 4.04 Repeated Dialing Toll Train Preceding Selector Circuit, SD-30200-01
- 4.05 Intercepting Trunk Circuit for Toll Transmission and Toll Intermediate Selectors, SD-31768-01
- 4.06 Intercepting Trunk Circuit for Repeated Dialing Toll Train Preceding Selectors, SD-32076-01
- 4.07 60 and 120 I.P.M. Interrupter Circuit, SD-31606-01
- 4.08 Miscellaneous Alarm Circuit for Relay Racks in 355A Offices, SD-31974-01
- 4.09 Two Way Operators Office Trunk Circuit, SD-31747-01
- 4.10 Typical Local Selector Circuit, SD-31964-01, Thru Sel. Banks Multiple Ckt., SD-32123-01
- 4.11 Power Ringing Circuit, SD-81225-01

slow to release remain operated during the pulsing of a digit. The (C) relay operated locks to off normal ground from the selector, holds the 120 I.P.M. lead open, opens the operating circuit for the (D) relay and releases the (A) selector. At the end of the digit the (A) relay remains operated holding the (B) relay and releasing the (C) relay after the (A) selector is released. The (C) relay released again closes 120 I.P.M. ground to the rotary magnet of the (A) selector restarting the counting of time.

8. CUT THRU

When the brushes are advanced under control of 120 I.P.M. to the first wired terminal the (D) relay operates locking under control of sleeve ground, releasing the (A) relay and closing thru the tip and ring to the associated trunk. The (A) relay released opens the 120 I.P.M. lead, operates the (C) relay and releases the slow to release (B) relay. The (C) relay operated releases the (A) selector. When the (B) relay and (A) selector release the (C) relay releases. The minimum delay obtained from the stepping time of the (A) selector is given in circuit note 102. The corresponding maximum time is 0.5 second longer. The delay time should be kept as short as possible allowing sufficient time to cover the maximum interdigital time expected.

9. DISCONNECT

9.1 Before Cut Thru

If the call is abandoned before cut thru the (A) relay releases opening the 120 I.P.M. lead, operating the (C) relay and releasing the slow to release (B) relay. The (C) relay operated releases the (A) selector. When the (B) relay and (A) selector release the (C) relay releases, restoring the circuit to normal. Re-selection of this circuit before the (C) relay has released is permissible as the (A) selector must release before the (C) relay releases to start timing for the new call.

9.2 After Cut Thru

When ground is removed from the sleeve the (D) relay releases disconnecting the succeeding circuit from the tip and ring and reconnecting the (A) relay to the tip and ring thus restoring the circuit to normal.

DESCRIPTION OF OPERATION

5. GENERAL

This circuit is used between the intercepting trunk for toll transmission, toll intermediate and local selectors and the multiple banks of these selectors and also is used between the intercepting trunk for repeated dialing toll train preceding selectors and the multiple banks of these selectors. The circuit is arranged to delay the cut thru to the intercepting trunk long enough to cover the time between digits and the timing is reset each time a digit is received. When a time has elapsed longer than the time allowed between digits this circuit cuts thru.

6. SEIZURE

When this circuit is seized the (A) relay operates operating the (B) relay and connecting 120 I.P.M. to the rotary magnet causing it to step the brushes of the selector one terminal each time ground is received on the 120 I.P.M. lead advancing them towards the first wired terminal. The (B) relay operated grounds "S" and "MS" lead. Ground on the "MS" lead starts the ringing machine.

7. PULSING

If further pulsing is received before the wired terminal is reached the (A) relay releases on the first pulse opening the 120 I.P.M. lead and operating the (C) relay. The (B) and (C) relays being