CROSSBAR SYSTEMS
NO. 5
COIN SUPERVISORY
CONCENTRATING CIRCUIT

CHANGES

D. Description of Changes

D.1 Provision is made for this circuit to function with the Centralized Status, Alarm and Control System (CSACS). Connecting lead information for the LK alarm lead is expanded to show connection to the interface and control circuit.

F. Changes in Sections

F.1 In SECTION II, 1.4, change the last sentence in the first paragraph to read:

Relay TA is held under control of the AR key or, if provided, under control of the alarm sending circuit or interface and control circuit (CSACS).

F.2 In SECTION III, add the following circuit to the list of Connecting Circuits:

3.5 Interface and Control Circuit - SD-28075-01.

BELL TELEPHONE LABORATORIES, INCORPORATED

DEPT 5241-JAM-RBC-MH

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CROSSBAR SYSTEMS
NO. 5
COIN SUPERVISORY
CONCENTRATING CIRCUIT

SECTION I - GENERAL DESCRIPTION

1. PURPOSE OF CIRCUIT

1.1 This circuit is for connecting coin supervisory circuits, when they require operator service, to an idle trunk to a coin supervisory operator.

SECTION II - DETAILED DESCRIPTION

1. DESCRIPTION OF OPERATION

1.1 Trunk Selection

When lead "ST" of Fig. 2 is grounded from the coin supervisory circuit, relay ST is operated. Relay ST in operating, (a) connects 91Ω battery through the normal contacts of the M relay to lead "B" to the selector banks of the associated trunk circuits (b) connects ground to the winding of the M relay (c) connects ground through the normal contacts of relay M to the start lead "ST" to the associated trunk circuits, and (d) connects the winding of the ST relay to the "LK" lead to the coin supervisory circuit for a locking path.

Ground on the "ST" lead of Fig. 1 through the normal contacts of the TA and CT relays causes the operation of relay A. Relay A in operating, connects ground from the contacts of relay TA normal to the winding of the B relay and also connects ground through the normal contacts of the B relay, through the normal contacts of the H relay and through the normal contacts of the step magnet to relay IN, to cause its operation. Relay IN, operates and provides ground for the operation of the step magnet C. The step magnet in operating opens the operating path of the IN relay. The IN relay in releasing permits the step magnet to release and move the brushes to the next terminal. The IN relay and the step magnet continue to operate until brush 1 connects to the bank terminal which has had battery connected to it by the operation of an ST relay in a start circuit. When this occurs, relay B operates from this battery and from ground supplied by the operated A relay. Relay B in operating opens the circuit to the IN relay thus preventing the selector from stepping off the terminal and connects ground to the secondary winding of the H relay, to cause its operation. Relay H in operating provides another open in the circuit to the IN relay and to the step magnet and connects the primary winding of the H relay through the brush 2 of the selector to the "H" lead of the start circuit. The "H" lead of the start circuit is connected to the winding of the M relay which has been previously grounded by the operation of the ST relay. This operates the M relay in the start circuit and locks the H relay through its primary winding. The operation of relay M removes ground from the common "ST" lead and removes the 91Ω battery from the "B" lead to arc 1, C selector.

1.2 Cut-Through

The operation of relay H provides ground for the operation of relay CT. Relay CT in operating connects brushes 3, 4, 5 and 6 of the selector to the "T", "T1", "R", and "R1" leads to the trunk conductors to the coin supervisory circuit in the central DSA office, opens the operating path of relay A and closes a path from the "ST" lead to a succeeding Fig. 1 to a normal contact on the A relay. The release of the A relay advances the "ST" lead from this busy trunk to the next idle trunk. The release of the A relay also removes ground from the winding of the B relay, insuring its release. The coin supervisory circuit is now cut through to the trunk to the operator and is held under control of ground on the "LK" lead from the coin supervisory circuit.

1.3 Release

When ground is removed from the "LK" lead of the coin supervisory circuit, relay ST will release and will remove ground from the winding of the M relay. This allows the M relay and the H relay to release together. Relay H in releasing removes ground from CT relay causing its release. This restores the circuit to normal.

1.4 Time-Out

When relay A operates from ground on the common "ST" lead, ground is connected to the heater of the TM thermal relay. The A relay normally releases when the CT relay operates to connect the coin supervisory circuit to the trunk conductors. Should the C selector not find the identified terminal, marked by battery on lead "B", either because of failure of the selector to step or because the selector repeatedly over steps, relay A will remain operated and keep the TM relay energized long enough to close its contacts. This operation

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connects ground from the AR key normal, to the winding of relay TA. Relay TA in operating, (1) advances the ground on the common "ST" lead to the succeeding circuit (2) opens the circuit to relay A to cause its release (3) opens the circuit to the winding of relay B before the slow releasing relay A releases (4) short circuits the contacts of TM relay to lock TA operated (5) lights the AL lamp, and (6) connects 800Ω battery to the "MN" lead to the alarm circuit. The release of relay A opens the circuit to the heater of relay TM. Relay TA is held under control of the AR key or under control of the alarm sending circuit if that option is provided.

With option "W" provided a ground on the "ST" lead is connected to the TM relay through the normal contact of the A relay. If relay A fails to operate, relay TM will time-out and cause an alarm as described above.

SECTION III - REFERENCE DATA

1. WORKING LIMITS

1.1 None

2. FUNCTIONS

2.1 To receive a start signal from a coin supervisory circuit which requires a trunk to an operator.

2.2 To mark, with battery, the selector terminals associated with the coin supervisory circuit which requires a trunk.

2.3 To select the first idle trunk to an operator.

2.4 To cause the selected idle trunk to search for the marked terminals associated with coin supervisory circuit requiring an operator.

2.5 To remove the battery mark from the selector terminal and to establish a holding path from the coin supervisory circuit when the marked terminal is found.

2.6 To connect through the 4-wire trunk circuit to the coin supervisory circuit in the DSA switchboard.

2.7 To advance the start signal to the next circuit when this circuit is in use.

2.8 To advance the start signal to the next circuit when this circuit fails to connect through to the trunk to the operator within 13 seconds minimum.

3. CONNECTING CIRCUITS

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

3.1 Coin Supervisory Circuit - SD-25736-01

3.2 Trunk to Coin Supervisory Circuit in DSA Switchboard - SD-55844-01 (Typical)

3.3 Alarm Circuit for No. 5 Crossbar SD-25671-01

3.4 Alarm Sending Circuit - SD-95417-01

SECTION IV - REASONS FOR REISSUE

CHANGES

D. Description of Changes

D.1 Figures 54 and 58 are modified to show switchboard cable on leads that run between J23058J (Fig. 1) and J23058K (Fig. 2) units. These units may be located on different relay rack frames.

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