STEP BY STEP SYSTEMS
NO. 1 OR 350A
SWITCH TROUBLE ALARM CIRCUIT
FOR TRUNK AND MISCELLANEOUS SHELVES
NO. 355A
MISCELLANEOUS ALARM CIRCUIT
FOR TRUNK AND MISCELLANEOUS SHELVES

CHANGES

B. CHANGES IN APPARATUS

B.1 Superseded	Superseded by
H&H Toggle Switch 21191	H&H Toggle Switch 21191 BK

D. DESCRIPTION OF CIRCUIT CHANGES

D.1 Connecting information "To Ringing Interrupter and Alarm Circuit", is removed from Fig. 4 and the code of the Toggle Switch for Figs. 5, 10-17 is changed to agree with W.E.Co. drawings.

D.2 Figs. 10 and 16 are rated A&M Only to agree with practice of using 120 IPM for "All Paths Busy" indication.

D.3 The (IT) Lead is added to punching 5 of Fig. 52 to show connection to interrupted tone for No. 1 and 350A office.

D.4 Prior to Issue 120, Note 301 included reference to Fig. 4 as well as Fig. 5 and 7.

4. CONNECTING CIRCUITS

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

4.01 Coin Control Selector - SD-31853-01.

4.02 Test Distributor - SD-32007-01.

4.03 Verification Distributor - SD-31851-01.

4.04 Reverting Call Selectors - SD-31330-01, SD-31344-01, SD-31556-01, SD-31647-01, SD-31762-01, SD-31803-01, SD-31807-01, SD-31831-01.

4.05 Coin Control Connectors - SD-32033-01, SD-32061-01, SD-32064-01, SD-31853-01.

4.06 Trunk Circuits - SD-31728-01, SD-31732-01, SD-31747-01, SD-31754-01, SD-31842-01, SD-31872-01, SD-31874-01.

4.07 Alarm Circuit for Selector Frames - SD-32044-01.

4.08 Miscellaneous Alarm Circuits (Alarm Controls) - SD-31980-01, SD-32192-01.

4.09 Miscellaneous Alarm Circuit (Aisle Pilots) - SD-31970-01, SD-32192-01.

4.10 Miscellaneous Alarm Circuits Traffic Registers - SD-31976-01.

4.11 Power Ringing Circuits - SD-80780-01, SD-81131-01, SD-81225-01, SD-80886-01.

4.12 Trip Battery Supply.

4.13 Ringing Interrupter and Alarm Circuit - SD-31330-01.

4.14 60 and 120 IPM Interrupter Circuit - SD-31606-01.

4.15 Tone Supply Circuit - SD-31521-01.

4.16 Traffic Register Circuit - SD-31109-01, SD-30896-01.

4.17 Interrupter Relay Circuit - SD-31868-01.

4.18 Switch Trouble Alarm Circuit for Connectors Frames - SD-32046-01.

4.19 Tone Interrupter Circuit - SD-31825-01.

All other headings, no change.

BELL TELEPHONE LABORATORIES, INCORPORATED

DEPT. 2335-JAH-FBB-MC

STEP BY STEP SYSTEMS
NO. 1 OR 350A
SWITCH TROUBLE ALARM CIRCUIT
FOR TRUNK AND MISCELLANEOUS SHELVES
NO. 355A
MISCELLANEOUS ALARM CIRCUIT
FOR TRUNK AND MISCELLANEOUS SHELVES

CHANGES

A. CHANGED AND ADDED FUNCTIONS

A.1 Provision is made for a guard lamp indication when the sectionalizing keys are used in trouble testing.

B. CHANGES IN APPARATUS

B.1 Added

2Y(GD) Lamp

B.2

Superseded	Superseded By
KS-13674,L1 Key ("W" Option)	552A Key ("M" Opt.) or H&H Toggle Sw. 21191 ("Q" Opt.)
82E Res. 700ω ("P" Option)	KS-8512L4B ("N" Option)

D. DESCRIPTION OF CIRCUIT CHANGES

D.1 The use of option "W" is rated "MD" and is superseded by Option "Q" for A&M Only use or by Option "M" Standard.

D.2 The use of Option "P" is rated "MD" and is superseded by Option "N."

D.3 Options "Q," "P," "N" and "M" are added to Note 105 and the Options Used table.

D.4 Figure 18 is added to the circuit and the pertinent information is added in Note 102.

D.5 Reference to Fig. E is added to Fig. 53, inadvertently omitted on previous issue.

D.6 Note 105 was changed to show Fig. E for standard use and Fig. D for A&M Only, inadvertently reversed.

All other headings under Changes, no change.

1. PURPOSE OF CIRCUIT

1.1 This circuit is used to indicate alarms on trunk and miscellaneous shelves.

2. WORKING LIMITS

2.1 None.

3. FUNCTIONS

3.1 To provide for giving an audible and visual alarm in case of a permanent signal condition on reverting call selectors.

3.2 To provide for giving an audible and visual alarm in case of a stuck release magnet condition on reverting call or coin control selectors, or test or verification distributors.

3.3 To provide for the operation of traffic registers whenever the release magnet of a reverting call selector operates.

3.4 To provide for giving an alarm whenever a fuse blows.

3.5 To provide for lighting a guard lamp on the shelf whenever a sectionalizing key is operated.

4. CONNECTING CIRCUITS

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

4.01 Coin Control Selector - SD-31853-01.

4.02 Test Distributor - SD-32007-01.

4.03 Verification Distributor - SD-31851-01.

4.04 Reverting Call Selectors - SD-31330-01, SD-31344-01, SD-31556-01, SD-31647-01, SD-31762-01, SD-31803-01, SD-31807-01, SD-31831-01.

4.05 Coin Control Connectors - SD-32033-01, SD-32061-01, SD-32064-01, SD-31853-01.

4.06 Trunk Circuits - SD-31728-01, SD-31732-01, SD-31747-01, SD-31754-01, SD-31842-01, SD-31872-01, SD-31874-01.

4.07 Alarm Circuit for Selector Frames - SD-32044-01.

4.08 Miscellaneous Alarm Circuits (Alarm Controls) - SD-31980-01, SD-32192-01.

4.09 Miscellaneous Alarm Circuit (Aisle Pilots) - SD-31970-01, SD-32192-01.

4.10 Miscellaneous Alarm Circuits Traffic Registers - SD-31976-01.

4.11 Power Ringing Circuits - SD-80780-01, SD-81131-01, SD-81225-01, SD-80886-01.

4.12 Trip Battery Supply.

4.13 Ringing Interrupter and Alarm Circuit - SD-31330-01.

4.14 60 and 120 IPM Interrupter Circuit - SD-31606-01.

4.15 Tone Supply Circuit - SD-31521-01.

4.16 Traffic Register Circuit - SD-31109-01, SD-30896-01.

4.17 Interrupter Relay Circuit - SD-31868-01.

4.18 Switch Trouble Alarm Circuit for Connectors Frames - SD-32046-01.

DESCRIPTION OF OPERATION

5. PERMANENT SIGNAL

5.1 When a reverting call selector is seized, ground is connected to the "PERM. SIG." lead operating relay (PS). This relay operated connects ground to the timing relays of the switch trouble alarm circuit for selector frames or to the miscellaneous alarm circuit. At the end of the time-out period ground is returned over lead "B," figure 1 to line lamp (PS).

6. RELEASE ALARMS

When the release magnet of a switch is operated ground is connected through it over lead "RLS. BAT." operating the (RLS) relay of Figure 3. Where 12 type traffic registers are provided this relay locks through its secondary winding until the traffic register has operated. It also connects ground through the (RLS) lamp in the 355 office to the "RLS" lead of the miscellaneous alarm circuit causing the latter to sound an audible alarm and light the aisle pilot lamps after a predetermined interval. The (RLS) lamp will light at once. In the No. 1 and 350A offices relay (RLS) connects ground over lead (RA) to the switch trouble alarm circuit for selectors and after a predetermined interval the relays of that circuit will operate to sound the audible alarms and light the pilot lamps or aisle pilots, and will return ground over lead "RL" to light the (RLS) lamps.

7. FUSE ALARMS

When a fuse blows battery is connected thru lamp (FA) to the associated relay circuit which will sound the audible alarm and light the pilot lamps or aisle pilots immediately. Fuses associated with ringing current or trip battery (other than 48 volt negative) are so arranged that when they blow the alarm contact of the fuse will connect the ringing or trip battery bus bar to a .180 ampere 48 volt fuse which will in turn blow and light the (FA) lamp as described above.

8. SECTIONALIZING KEYS

Keys are provided in the pickup, interrupter, and tone leads to facilitate location of ground on these leads. The keys are normally closed and are opened one at a time when a ground condition is encountered until the ground is cleared. This indicates the section of the lead in trouble. Whenever one of these keys is operated the guard lamp of Fig. 18 will light.

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DEPT. 2315-WCB-RCD-SW