

PANEL SYSTEMS
AUDIBLE ALARM CIRCUIT
FOR FLOOR ALARM BOARD

CHANGES

A. Changed and Added Functions

A.1 Provision is made for associating alarms of panel offices with alarms of No. 1 ESS offices.

B. Changes in ApparatusB.1 ADDED

185A Networks, M option

DA, Fig. 1, 18, 22

AA, Fig. 2, 19, 23

PF, Fig. 3

GP, Fig. 10

AB, Fig. 37

5-Watt, Mazda 55- to 60-volt lamp, EP, Fig. 41

C. Description of Circuit Changes

C.1 Fig. 39, 40 and 41 are added to provide for interconnecting alarms of panel offices with alarms of No. 1 ESS offices.

C.2 M option contact protection networks are added at the windings of relays which connect directly to the No. 1 ESS office alarm circuit.

C.3 Connecting information for Fig. 39 is added at Fig. 1, 2, 3, 8, 9, 18, 19, 22, 23, and 35. Connecting information for Fig. 40 is added at Fig. 12 and 15.

C.4 Connecting information for Fig. 37 is added at Fig. 6 and 9, and a resistance value is shown at the DFS relay Fig. 37. These were omitted in error from the previous issue.

C.5 M option wiring is added in Fig. 37 to provide connection to the No. 1 ESS office alarm circuit so that an alarm battery fuse alarm occurring is either the No. 1 ESS office or the panel office operates the audible signal relay in both offices.

C.6 Leads A and MN to the Power Audible Alarm Circuit are added in Fig. 23 as TA option. This is covered in Circuit Note 129 which is added.

C.7 Circuit Note 128 is added to cover the addition of Fig. 39, 40 and 41 and M

option. Circuit Note 130 is added to provide a network table.

D.8 The circuit rating is changed from AT&TCo Std to A&M Only.

D.9 Cross-connection Fig. 1K, 3K, 8K, 9K, 11K, 15K, 18K, 19K, 22K, 23K, and 37K are modified and CADs 1 and 2 are added.

F. Changes in Circuit Description

F.1 Change 1.2 to read: To provide means for associating the alarms of a panel office with the alarms of other panel offices and with the alarms of crossbar offices or No. 1 ESS offices.

F.2 Change 4.11 to read: Major Audible Alarm Circuit, SD-95798-01.

F.3 Add to 4:

4.18 Common Systems Teletypewriter Circuit, SD-10001-01.

4.19 No. 1 ESS Office Alarm Circuit, SD-1A158-01.

4.20 Auxiliary Permanent Signal Holding Trunk Circuit, SD-99329-01.

4.21 Concentrating Circuit for Coin Zone Trunk Circuits, SD-96524-01.

4.22 Transmitter Control Circuit for Use with 150 MC Personal Signaling System "Bell Boy", SD-96564-01.

4.23 V4 Telephone Repeater Battery Supply and Connecting Circuits for Two or More VF Amplifiers, SD-97047-01.

4.24 Common Systems PBX Automatic Identified Outward Dialing Fuse Alarm and Miscellaneous Circuit, SD-10006-01.

4.25 Common Systems PBX Automatic Identified Outward Dialing Translator Connector Circuit, SD-99320-01.

F.4 Add to 35:

35.2 When M option is furnished, the AP relay functions as described above and causes the operation of an ABS relay in the associated No. 1 ESS office alarm circuit. Similarly, the operation of an alarm battery fuse alarm in the No. 1 ESS

office alarm circuit causes the operation of the AB relay in this circuit.

F.5 Add the following:

37. Interconnection of Panel Office Alarms with No. 1 ESS Office Alarms (Fig. 39, 40, and 41).

37.1 Fig. 39 provides a means of interconnecting the major and minor alarms of a No. 1 ESS office with panel office

alarms. This arrangement permits isolating the No. 1 ESS office battery and ground supply from that of the panel office.

37.2 Fig. 40 provides a means of lighting exit pilot lamps on No. 1 ESS floors when an alarm condition occurs on a panel floor.

37.3 Fig. 41 provides an exit pilot lamp for panel floors which indicates an alarm condition on a No. 1 ESS floor.

BELL TELEPHONE LABORATORIES, INCORPORATED

DEPT 5641-JLB-RMW

PANEL SYSTEM
AUDIBLE ALARM CIRCUIT
FOR FLOOR ALARM BOARD

CHANGES

D. DESCRIPTION OF CIRCUIT CHANGES

D.1 In Fig. 9, lead "OF" to the Alarm Transfer Circuit is added as "G" option, and is provided when alarms are arranged for transfer to an alarm receiving center within the building, except in the Fig. 9 corresponding to the floor on which the alarm receiving center is located.

D.2 In Fig. 12, lead "EP" to the Alarm Transfer Circuit is added as "F" option, and is provided when alarms are arranged for transfer to an alarm receiving center within the building in the Figs. 12 corresponding to the floor on which the alarm receiving center is located.

D.3 Circuit note 127 is added to cover the use of "F" and "G" options.

All other headings under Changes, no change.

1. PURPOSE OF CIRCUIT

1.1 To provide exit pilot lamps, "other floor" pilot lamps and associated circuits for the panel system.

1.2 To provide means for associating the alarms of a panel office with the alarms of other panel offices and with the alarms of crossbar offices.

2. WORKING LIMITS

2.1 None.

3. FUNCTIONS

3.1 To provide a power failure audible signal.

3.2 To provide an alarm battery supply audible signal.

3.3 To provide exit pilot aisle pilot, "other floor" pilot lamps.

3.4 To provide means for grouping certain alarms with corresponding alarms on other floors.

3.5 To provide for transfer of the power failure alarm to a master office during unattended light load periods.

3.6 To provide for a distinctive major audible alarm by means of a code signal.

4. CONNECTING CIRCUITS

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

4.01 Floor Alarm Board Miscellaneous and Auxiliary Alarm Circuit, SD-21203-01.

4.02 Miscellaneous Alarm Circuit, ES-20241-01.

4.03 Audible Alarm Circuit for Power Alarm Cabinet, SD-21820-01.

4.04 Aisle Pilot Circuit, SD-25087-01.

4.05 Floor Alarm Board Fuse and Time Alarm Circuit, SD-21201-01.

4.06 Power Alarm Circuit Miscellaneous and Auxiliary Alarms, SD-21204-06.

4.07 Extension Alarm Circuit, SD-96217-01.

4.08 DC Power Alarm Circuit, SD-21204-05.

4.09 Ringing Power Alarm Circuit, SD-21204-02.

4.10 Alarm Transfer Circuit, SD-20733-01, SD-20736-01.

4.11 Major Audible Alarm Circuit, SD-95454-01.

4.12 Power Audible Alarm Circuit, SD-80730-01.

4.13 No. 5 Crossbar Alarm Circuit, SD-25671-01.

4.14 Power Systems Auxiliary Ringing Supply and Bat. Distributing Ckt. SD-81202-01.

4.15 Air Raid Warning Ckts. SD-95678-01, SD-95685-01.

4.16 Audible Alarm Circuit for Operating Room, SD-21884-01.

4.17 Power Systems No. Voltage Alm. Ckt. SD-80847-01

DESCRIPTION OF OPERATION

5. DC AUXILIARY SIGNAL RELAYS (FIG. 1)

When ground is connected to the "DL" or "DQ" lead, relay (DL) operates, operating relay (DA), operating the (DA) relay of the adjacent floor or power room, if a controlling alarm switching key is operated, operating relay (F), Fig. 9 and opening lead "H" to prevent operation of the AC auxiliary signal. Operation of relay (DA) operates the associated DC auxiliary signal and closes a circuit for operating an audible signal in the operating room.

6. AC AUXILIARY SIGNAL (FIG. 2)

When ground is connected to the "F" or "AG" lead, relay (AL) operates, operating relay (AA), operating the (AA) relay of the adjacent floor or power room, if a controlling alarm switching key is operated, and operating relay (F), Fig. 9. Operation of relay (AA) operates the associated AC auxiliary signal, unless the DC auxiliary signal is operating because of a major trouble condition.

7. POWER FAILURE AUDIBLE SIGNAL (FIGS. 3 & 4)

7.1 Attended Operation (Figs. 3 & 4, "S" Option)

Operation of a battery distributing fuse or a trouble in the Auxiliary Ringing Supply Circuit causes operation of relay (DF), operating relay (PF), operating the (PF) relay of the adjacent floor or power room, if a controlling alarm switching key is operated, lighting lamp (GP), Fig. 17, and operating relay (F), Fig. 9. Operation of relay (PF) operates bells (PF) and closes a circuit for operating an audible signal in the operating room. In case of a major power failure, all relays (PF) are operated, operating the (PF) bells on all floors.

7.2 Unattended Operation (Fig. 3, "R" Option)

The circuits required a Power Failure Signal as described in paragraph 7.1 operate an alarm at the distant master office.

8. ALARM BATTERY SUPPLY AUDIBLE SIGNAL (FIGS. 5, 6 & 7)

Operation of an alarm battery supply fuse on any floor or in the power room, operates relay (AB) which closes a circuit for operating an audible signal in the

operating room, and operates the (AB) subsets, and a corresponding subset in the power room. Operation of an individual alarm battery supply fuse also connects ground to lead "QL", operating the (F) relay, Fig. 9, for the floor on which the fuse is located.

9. ALARM SWITCHING KEY (FIG. 8)

Operation of key (SW) connects the major, minor and distributing fuse audible signals of a floor to the adjacent floor or power room in such a manner that an alarm which operates the audible signal of one floor will operate the audible signals of both floors. Operation of key (SW) also connects to the (OF) relay of an adjacent floor so that operation of an audible signal on one floor operates the (OF) relay of the second floor, lighting the "other floor" pilot lamps of the second floor.

10. FLOOR SIGNAL RELAY (FIG. 9)

Operation of a major, minor, distributing fuse or alarm battery supply audible signal operates relay (F) which disconnects the corresponding (OF) relay, Fig. 10, operates the "other floor" signal relay of the adjacent floor or power room, if a controlling alarm switching key is operated, and operates an (EP) relay, corresponding to the operated (F) relay, on each associated floor and in the power room. Where a 301C power plant is furnished, the power room (EP) relay is omitted and relay (E), Fig. 21, operates, lighting a lamp in the power room.

When alarms are transferred to an alarm receiving center within the same building, option "G" is furnished except for the Fig. 9 associated with the floor on which the alarm receiving center is located. The operation of an alarm on one floor operates the (F) relay corresponding to that floor, preventing the operation of the associated (OF) relay. The (OF) relays on all other floors, except the floor on which the alarm receiving center is located, are operated from ground on the "OF" lead from the transfer circuit. The (F) relay operated also operates the (EP) or (E) relay as described above.

11. OTHER FLOOR PILOT LAMP (FIGS. 10 & 11)

When alarm switching keys are operated to connect together the alarms of two or more adjacent floors, operation of an alarm on one floor, operating the (F) relay,

Fig. 9, corresponding to that floor, operates the (OF) relays of all connected floors. Operation of relay (OF) lights the (FP) lamps.

When alarms are transferred to an alarm receiving center within the same building, the operation of an alarm operates the (F) relay corresponding to the floor on which the alarm occurred, preventing the operation of the associated (OF) relay. The (OF) relays on all other floors, except the floor on which the alarm receiving center is located, are operated from ground on the "OF" lead from the transfer circuit. Operation of relay (OF) lights the (OF) lamps.

12. EXIT PILOT RELAY (FIG. 12)

Operation of relay (F), Fig. 9, or operation of the (F) relay in the aisle pilot circuit, operates relays (EP) on all other floors, and operates an exit pilot relay in the power alarm cabinet. Operation of relay (EP) lights a corresponding lamp (EP), Fig. 13, at each exit.

When alarms are transferred to an alarm receiving center within the same building, "F" option is furnished. The (EP) relays corresponding to the floor on which the trouble occurs are operated, as described above, and in addition, the operation of a relay in the alarm transfer circuit operates the (EP) relays corresponding to the floor on which the alarm receiving center is located. If a trouble condition occurs in a distant building from which alarms are transferred, only the (EP) relays corresponding to the floor on which the alarm receiving center is located are operated.

13. EXIT PILOT LAMP (FIG. 13)

Lighting of a lamp (EP) indicates that there is a trouble condition on the floor or in the power room corresponding to the lighted lamp.

When alarms are transferred to an alarm receiving center within the same building, (EP) lamps corresponding to the floor on which the trouble occurred are lighted and in addition, (EP) lamps corresponding to the floor on which the alarm receiving center is located are lighted. If the trouble occurred in a distant building from which alarms are transferred, only the (EP) lamps corresponding to the floor on which the alarm receiving center is located are lighted.

14. ALARM SWITCHING KEY (FIG. 14) (MFR. DISC.)

Operation of key (PBI SW) connects the alarms of the alarm cabinet to the alarms of the floor alarm board near which the alarm cabinet is located, in such a manner that operation of an alarm cabinet alarm operates the floor alarm board alarms.

15. POWER ROOM EXIT PILOT RELAY (FIG. 15)

Operation of the power failure audible signal or AC auxiliary signal in the power room operates relay (PE) lighting corresponding lamps (EP), Fig. 13, at each exit.

16. PULSE MACHINE ALARM (FIG. 16) (A & M ONLY)

Operation of a pulse lead fuse, crossing of battery with a pulse lead, or failure of pulse machine timing, operates relay (PM) which operates the DC auxiliary signal, lights lamp (GP), Fig. 17, and lights a lamp and operates the DC auxiliary signal at the trouble desk or main alarm board.

17. FLOOR ALARM BOARD PILOT LAMP (FIG. 17)

Operation of an alarm which does not light an aisle pilot lamp, lights lamp (GP).

18. DC AUXILIARY SIGNAL RELAYS FOR FLOOR ALARM BOARD NEAREST POWER ROOM (FIG. 18 AND 26 COMBINED) (MFR. DISC.)

Connection of ground to the "DG" or "DL" lead operates relay (DL) operating relay (DA), operating the (DA) relay of the adjacent alarm board, if a controlling alarm switching key is operated, operating relay (F), Fig. 9, and opening lead "R" to prevent operation of the AC auxiliary signal. Operation of relay (DA) operates the DC auxiliary signal of the associated alarm board, and connects ground to lead "AB" to cause operation of the power room DC bell if the power alarm circuit ALM MULT key is operated. When a major power failure occurs, ground is connected to leads "M" and "AB" operating relay (PD) and operating relay (H) which operates relay (RP), Fig. 19 and operates relay (PB) and operates the power room exit pilot relay and the "other floor" pilot relay. Operation of relay (PB) operates relays (NV) and (NV1), Fig. 26, which operates the (PF) relays on all floors and operates the (OF) relays on all other floors. When a minor trouble condition occurs in the power room, ground is connected to lead "A", operating relay (A), which

operates relay (RP), Fig. 19, which operates relay (AA), Fig. 19, to cause operation of the AC auxiliary signal, and operates the power room exit pilot relay and the "other floor" pilot relay.

19. AC AUXILIARY SIGNAL RELAYS FOR FLOOR ALARM BOARD NEAREST POWER ROOM (FIG. 19) (MFR. DISC.)

Connection of ground to the "F" or "AL" lead operates relay (AL) operating relay (AA), operating the (AA) relay of the adjacent alarm board, if a controlling alarm switching key is operated, and operating relay (F), Fig. 9. Operation of relay (AA), operates the AC auxiliary signal of the associated alarm board, if relay (DL), Fig. 18, is not operated, and connects ground to lead "AC" to cause operation of the power room ringer if the power alarm circuit (ALM MULT) key is operated.

When a minor alarm condition occurs in the power room, ground is connected to lead "AC", operating relay (PA), and to lead "A" of Fig. 18. Ground on lead "A" operates relay (A) of Fig. 18, operating relay (RP), which lights lamps (PF) and (GP). Operation of relay (A) also operates the power room exit pilot relay and the "other floor" pilot relay. Operation of relay (RP) operates relay (AA) and the (AA) relay of the adjacent alarm board, if a controlling alarm switching key is operated. Operation of relay (AA) operates the AC auxiliary signal of the associated alarm board.

20. DC ALARM RELAY FOR MULTIPLIED ALARMS (FIG. 20)

When a DC alarm is multiplied to another floor alarm board, operation of the alarm operates relay (DS) of that alarm board. Operation of relay (DS) lights lamp (GP), Fig. 17, and operates relay (DA), Fig. 1, 18 or 22, which operates the DC auxiliary signal.

21. POWER ROOM SIGNAL RELAY (FIG. 21)

Operation of any alarm operates the (F) relay, Fig. 9, corresponding to the floor on which the alarm condition is located. Operation of the (F) relay operates relay (E), which lights a lamp in the power room.

22. DC AUXILIARY SIGNAL RELAYS FOR FLOOR ALARM BOARD NEAREST POWER ROOM (FIG. 22 AND 26 COMBINED)

Connection of ground to the "DC" or "DL" lead operates relay (DL) operating

relay (DA), operating the (DA) relay of the adjacent alarm board, if a controlling alarm switching key is operated, operating relay (F), Fig. 9, and opening lead "R" to prevent operation of the AC auxiliary signal. Operation of relay (DA) operates the DC auxiliary signal of the associated alarm board, connects ground to lead "TB" or "MJ" to cause operation of the power room tone bar signal if the power alarm circuit (ALM MULT) key is operated, and closes a circuit for operating an audible signal in the operating room. Operation of a battery distributing fuse on the floor adjacent to the power room operates the (DF) relay, Fig. 3, which connects ground to lead "PF" or "MJ" to operate the power failure audible signal in the power room if the power alarm circuit (ALM MULT) key is operated.

When a major power failure occurs, ground is connected to leads "PF" or "MJ" and "D", operating relay (PF), Fig. 3, of the floor adjacent to the power room, and operating relay (H). Operation of relay (PF) operates the corresponding power failure audible signal. Operation of relay (H) opens lead "R" to prevent operation of the AC auxiliary signal, operates the (PE) relays on all floors to light the corresponding power room exit pilot lamps, operates relay (RP), Fig. 23, and operates relay (NV), Fig. 26. Operation of relay (NV) operates the (OF) relays on all floors to light the associated "other floor" pilot lamps, and operates relay (NV1). Operation of relay (NV1) operates the (PF) relays on all floors, operating the associated power failure audible signals. Operation of the (RP) relay lights the (PF) lamp, Fig. 23, and lights the floor alarm board pilot lamp.

23. AC AUXILIARY SIGNAL RELAYS FOR FLOOR ALARM BOARD NEAREST POWER ROOM (FIG. 23)

Connection of ground to the "F" or "AL" lead operates relay (AL), operating relay (AA), operating the (AA) relay of the adjacent alarm board, if a controlling alarm switching key is operated, and operating relay (F), Fig. 9. Operation of relay (AA), operates the AC auxiliary signal of the associated alarm board, if relay (DL), or (H), Fig. 22, is not operated, and connects ground to lead "AC" to cause operation of the power room ringer if the power alarm circuit (ALM MULT) key is operated.

When a minor alarm condition occurs in the power room, ground is connected to leads "AC" and "A". Ground on lead "AC" operates relay (AA) and operates the (AA) relay of the adjacent floor alarm board, if the controlling alarm switching key is

operated. Operation of relay (AA) operates the AC auxiliary signal of the associated floor alarm board. Ground on lead "A" operates relay (A) which operates the power room exit pilot relay and operates the "other floor" pilot relay.

Operation of an alarm battery supply fuse in the power room operates the (AB) relays, Fig. 5, to operate the alarm battery supply audible signals, and operates relay (A) to light the power room exit pilot lamp and light the "other floor" pilot lamp.

24. AUXILIARY SIGNAL RELAYS FOR 803C POWER PLANT OUTSIDE OF POWER ROOM (FIG. 24)

When a major failure of ringing power occurs, ground is connected to lead "DP" operating relay (P), which operates the (F) relay, Fig. 9, to disconnect the (OF) relay for the floor on which the ringing power plant is located, operates the (NV) and (NVL) relays, Fig. 22, to operate the power failure audible relays on all floors and operate the (OF) relays on all floors except the one on which the ringing power plant is located, and lights the (GP) lamp, Fig. 17.

When a minor alarm condition occurs in the ringing power plant, the AC auxiliary signal of the adjacent floor alarm board is operated in the usual manner, and ground on lead "AP" lights the (GP) lamp, Fig. 17.

25. PBX ALARM CABINET ALARM RELAY (FIG. 25)

When the alarm cabinet alarm switching key is operated, a major or minor alarm at the alarm cabinet operates relay (CL), lighting lamp (GP), Fig. 17, lighting lamp (C), and operating the (F) relay, Fig. 9.

26. DC AUXILIARY SIGNAL RELAYS (FIG. 27)

When ground is connected to the "DL" or "DG" lead, the (DL) relay will operate. The (DL) relay operated will open the "H" lead to prevent operation of the AC auxiliary signal, connect a ground to the "DA" lead to Fig. 9 and operate the floor signal of that floor. The (DL) relay operated will operate the (DA) relay. The (DA) relay operated will ground the "T" lead to the Audible Alarm Circuit for Operating Room; connect ground to the "LO" and "S" leads to actuate a code signal in the Major Audible Alarm Circuit to give a distinctive alarm to indicate from which system the alarm originated. When alarm switching relays per Fig. 30 are provided, the alarms are switched to other floors when the keys per Fig. 29 are operated.

27. DC AUXILIARY SIGNAL RELAYS FOR FLOOR ALARM BOARD NEAREST POWER ROOM (FIGS. 28 AND 26 COMBINED)

When ground is connected to the "DG" or "DL" leads the (DL) relay will operate. The (DL) relay operated will connect ground to the "DA" lead to Fig. 9 and operate the floor signal of that floor; will open the "H" lead to prevent operation of the AC auxiliary signal; and operate relay (DA). The (DA) relay operated will connect ground to lead "TB" or "MJ" to cause operation of the power room tone bar signal if the power alarm circuit (ALM MULT) key is operated; ground the "T" lead to the Audible Alarm Circuit for Operating Room; and connect ground to the "LO" and "S" leads to actuate a code signal in the Major Audible Alarm Circuit to give a distinctive alarm to indicate from which system the alarm originated. When alarm switching relays per Fig. 30 are provided, the alarms are switched to other floors when the keys per Fig. 29 are operated. Operation of a battery distributing fuse on the floor adjacent to the power room operates the (DF) relay, Fig. 3, which connects ground to lead "PF" or "MJ" to operate the power failure audible signal in the power room if the power alarm circuit (ALM MULT) key is operated.

When a major power failure occurs ground is connected to leads "PF" or "MJ" and "D", operating relay (PF), Fig. 3, of the floor adjacent to the power room, and operating relay (H). Operation of relay H functions as described in paragraph 22.

28. ALARM SWITCHING KEY (FIG. 29)

When the SW key is operated it will close a ground over SW lead to Fig. 30 to operate the (SW) relay in that figure, connect the minor and distributing fuse audible signals of a floor to a succeeding floor or power room in such a manner that an alarm which operates the audible signals of one floor will operate the audible signals of both floors and also connect to an (OF) relay of the succeeding floor so that operation of an audible signal on one floor operates the (OF) relay of the succeeding floor, lighting the "other floor" pilot lamps of the succeeding floor.

29. ALARM SWITCHING RELAY (FIG. 30)

The (SW) relay is operated from a ground on the (SW) key, Fig. 29, when it is operated. The operation of the (SW) relay grounds the "L" lead to the alarm switching pilot lamp, Fig. 31, connects the S1, S2, S3, or S4 and LQ leads to the Major Audible Alarm Circuit so that the code signal

actuated in the major audible alarm circuit will sound on both floors.

30. ALARM SWITCHING PILOT LAMP (FIG. 31)

The (SW) lamp lights when the (SW) relay, Fig. 30, is operated. This provides a visual indication that the Alarm Switching Key is operated.

31. CODE SIGNAL (FIG. 32)

The bell is operated from ground on the "B1" lead from the Major Audible Alarm Circuit when only one bell is used or from ground on the "B" lead from Fig. 33 when more than one bell is used.

32. CODE AUXILIARY SIGNAL RELAY (FIG. 33)

This figure is used when more than one bell is needed. The relay is operated from ground on the B1 lead from the Major Audible Alarm Circuit and in turn operates the bells used.

33. ALARM SWITCHING CIRCUIT. DISTINCTIVE ALARMS NOT PROVIDED (FIGS. 34 AND 35)

When the alarms are supervised at the local office, the operation of key SW Fig. 34 operates relay FS Fig. 35. Relay FS operated connects the major, minor and distributing fuse audible signals of a floor to an adjacent floor or power room in such a manner that an alarm which operates the audible signal of one floor will operate the audible signals of both floors. The FS relay operated also connects to the OF relay of an adjacent floor so that the operation of an audible signal on one floor operates the OF relay of the second floor lighting the "other floor" pilot lamps on the second floor.

When the office alarms are transferred at the alarm receiving center the alarm transfer circuit removes ground from lead "SW" and the FS relay if operated will release irrespective of the position of the SW key.

34. ALARM SWITCHING CIRCUIT. DISTINCTIVE ALARMS PROVIDED (FIGS. 34 AND 36)

When the alarms are supervised at the local office, the operation of the SW key

Fig. 34 operates relay DFS Fig. 36. Relay DFS operates relay SW Fig. 30, connects the minor and distributing fuse audible signals of a floor to a succeeding floor or power room in such a manner that an alarm which operates the audible signal of one floor will operate the audible signals of both floors and also connect to an OF relay of the succeeding floors so that the operation of an audible signal on one floor operates the OF relay of the succeeding floor which in turn lights the "other floor" pilot lamps on the succeeding floor.

When the office alarms are transferred to an alarm receiving center, the alarm transfer circuit removes ground from lead "SW" and the DFS relay, if operated, will release irrespective of the position of the SW key.

35. ALARM BATTERY SUPPLY AUDIBLE SIGNAL (FIGS. 37, 6 & 7)

Operation of an alarm battery supply fuse on any floor or in the power room operates relay AB which (1) closes the circuit for operating the audible signal in the operating room (2) operates the AB subsets, and a corresponding subset in the power room. Operation of an individual ABS fuse also connects ground to lead "GL" to operate the floor signal relay Fig. 9 for the floor on which the fuse is operated. When the AB relay operates it changes the battery supply to the audible signal in the operating room from ABS to signal battery to insure that this audible signal could operate if either an ABS fuse or a signal battery fuse operates.

36. AISLE PILOT LAMP FIG. 38

Any circuit connecting ground to lead A, G, R or W Fig. 38 will light the aisle pilot lamp as an indication of trouble in that aisle.

BELL TELEPHONE LABORATORIES, INC.

DEPT. 3040-JLB-COM