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STEP-BY-STEP SYSTEMS  
 NO. 355A OR 35E97  
 MISCELLANEOUS ALARM CIRCUIT  
 KEY, RINGING FUSE  
 AND FUSE ALARM CIRCUITS  
 FOR ALARM AND RELAY RACK BAYS

SECTION I - GENERAL DESCRIPTION

1. PURPOSE OF CIRCUIT

1.01 This circuit shows the various keys, relays and fuse alarm equipment mounted on relay racks.

SECTION II - DETAILED DESCRIPTION

1. DESCRIPTION OF OPERATION

KEY EQUIPMENT

1.01 The various ringing leads, interrupter leads, tone leads, tripping battery and pickup leads are connected to the various circuits through the key equipment. In cases of trouble conditions the operation of the key disconnects the various leads from the connecting circuits to facilitate locating the lead in trouble. When T option is provided, operation of a key lights a guard lamp.

RINGING FUSE ALARMS

1.02 When the ringing supply lead is connected through fuses, a trouble condition will operate the ringing fuse which in turn connects current directly to a 0.180 ampere 48-volt battery fuse causing the T fuse to operate and send in an alarm, as described in 1.04.

COIN BATTERY, TELEPHONE REPEATER AND MESSAGE REGISTER VOLTAGE PLATE BATTERY FUSES

1.03 When one of these fuses blows, it connects the potential protected to a 0.180 ampere 48V fuse, which will blow and give an alarm as described in 1.04. The 100D resistor is provided to limit the current when 120V+ or 130V+ battery is connected to the 0.180 ampere fuse.

48- OR 24-VOLT FUSE ALARM

1.04 When a 48- or 24-volt fuse operates, battery will be connected through the TA or DF lead respectively, through the FA or DF lamp to the aisle pilot or alarm control circuit causing the lamp to light and to give a major or minor alarm, respectively.

NO-SUCH-NUMBER TONE FUSE ALARM

1.05 When a 48-volt, 1/2 amp no-such-number

tone fuse of Fig. 40 operates, 48 volts is applied to the winding of the NT relay. The NT relay operates and supplies 48-volt battery through the FA lamp to the winding of a low resistance relay in the miscellaneous alarm circuit. This lights the FA lamp and sounds a minor audible alarm. Removal of the operated fuse silences the alarm and extinguishes the lamp. The FA resistor provides a path for operating the alarm relay when the FA lamp is open.

RELAY EQUIPMENT

1.06 Relay "REP" Fig. 41, will repeat a 120 IPM pulse to 24 individual circuits to prevent an overload on the interrupter contact.

SECTION III - REFERENCE DATA

1. WORKING LIMITS

None.

2. FUNCTIONAL DESIGNATIONS

2.01 Relays

<u>Designation</u>	<u>Meaning</u>
REP	Repeater

None.

3. FUNCTIONS

- 3.01 Provides means for disconnecting the various leads from the associated connecting circuits in cases of trouble.
- 3.02 To cause an alarm to be given when fuses operate.
- 3.03 To repeat the 120 IPM lead under control of a connecting circuit.

4. CONNECTING CIRCUITS

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

	<u>No. 355A</u>	<u>No. 35E97</u>
(a) Power Ringing Circuit	SD-80885-01 typical	SD-80885-01 typical

	<u>No. 355A</u>	<u>No. 35E97</u>
(b) Trunk Circuits	SD-31884-01 typical SD-31885-01 typical	SD-30889-01 typical
(c) Subscriber Line Circuit With Rotary Line Switch	SD-31259-01	
(d) Rotary Outgoing Trunk Switch Circuit	SD-31990-01	SD-30936-01
(e) Operator Office Trunk Circuit	SD-31747-01 typical	SD-30890-01 typical
(f) Prepayment Coin Trunk Circuit	SD-31592-02	SD-31592-02
(g) Miscellaneous Alarm Circuit	SD-32192-01 typical	SD-30930-01 typical
(h) Tone Interrupter Circuit	SD-31825-01	
(i) Signal Circuit No-Such-Number Tone Supply	SD-96537-01	
(j) Test Trunk Ring Circuit	SD-96474-01	SD-30966-01
(k) Telephone Repeater	SD-95465-01	SD-95465-01
(l) Interrupter Relay Circuit	SD-31868-01	
(m) Power Shelf Terminal Blocks (Automatic Electric Co)		H-62539 typical H62707 typical

(n) Originating Register Circuit, Outpulsing Controller Circuit-SD-32351-01.

(o) TOUCH-TONE<sup>(R)</sup> Calling Signal to Dial Pulse Converter Circuits-SD-32328-01.

(p) Trunk Circuit - SD-31493-01.

(q) Trunk Circuit - SD-32042-01.

(r) SXS CAMA Pretranslator and Pretranslator Connector Circuit SD-32513-01.

B. Changes in Apparatus

B.1 Added

AJ702 Relay - Fig. 41

B.2 Superseded                      Superseded By

2Y Lamps (Figs. 1-18, 27, 30, 35, 37, 39, 40)	M1 Lamps (Figs. 1-18, 27, 30, 35, 37, 39, 40)
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D. Description of Changes

D.1 Fig. 41 is added to make an individual 120 IPM contact available for each associated circuit.

D.2 The word "Relays" added after keys in Paragraph 1.01 Section 1.

D.3 Paragraph 1.06 is added to Section II.

D.4 Paragraph 2.01, 3.03 and 4.01 (q) & (r) are added to Section III.

D.5 2Y lamps changed to M1 on a lineout basis in Fig. 1-18 **827,30,35-37,39 & 40.**

D.6 CAD Fig. 60 is added.