

P.B.X. SYSTEMS
NO. 550C, 551A OR 551B
AUXILIARY SIGNAL AND
BATTERY CUT-OFF KEY CIRCUIT

CHANGES

B. CHANGES IN APPARATUS

B.1 Superseded	Superseded By
B10 relay "R" option	B1011 relay "N" option

D. DESCRIPTION OF CIRCUIT CHANGES

- D.1 Option "R" is designated and rated, "Mfr. Disc.", replaced by option "N", which is added.
- D.2 Note 102 is changed to add reference to options "R" and "N".
- D.3 "R" and "N" are added to options used table.
- D.4 Winding designations are added for (N) relay, fig. 1.

All other headings under Changes, no change.

1. PURPOSE OF CIRCUIT

- 1.1 The auxiliary signal relay shown in Fig. 1 is used to control the audible signal to the attendant when the buzzer key is turned on, whenever a call is originated from any station line, central office trunk or tie trunk circuit, or upon disconnection by a station line or tie trunk circuit connected to a rear cord.
- 1.2 The battery key shown in Fig. 2 with fuses in Fig. 8 are provided to control the battery supply to the station cord telephone and dial, central office trunk and tie trunk circuit in a single position switchboard where central office and building battery is inaccessible for replacement of fuses.
- 1.3 The battery key shown in Fig. 5 is provided for one position where local battery is used and fuses are accessible for replacement.
- 1.4 The fuses and the battery key shown in Fig. 6 are provided for two positions with central office battery or building battery where the building battery is inaccessible for replacement of fuses.

1.5 The battery key shown in Fig. 7 is provided for two positions with local or building battery and battery is accessible for replacement of fuses.

1.6 The buzzers in Fig. 1A are provided for operation on ringing current. The 8A buzzer differs from the 4B buzzer in that the volume can be regulated by the P.B.X. attendant.

1.7 The buzzer and associated apparatus in Fig. 1B are provided when a buzzer operated on the P.B.X. battery is required.

1.8 The foot switch is provided in Fig. 4 for use when the buzzer is to be silenced by a foot operated switch.

2. WORKING LIMITS

	Station Lines Without Line Relay	
	With 2W Lamps	With B2 Lamps
Maximum External Circuit Loop Resistance	70 ohms	150 ohms
Minimum Insulation Resistance		>15000 ohms

*Combined Insulation Resistance of all station lines without line relays.

3. FUNCTIONS

- 3.1 To provide an audible signal on calls originated by stations, incoming calls on central office trunk circuits and incoming calls on tie trunk circuits.
- 3.2 To provide an audible signal on disconnection by stations or tie trunk on rear cords.
- 3.3 To provide means of cutting off the battery to the station line, cord, telephone and dial, central office, trunk, and tie trunk circuits.
- 3.4 To provide means of equalizing the battery potential between two positions when battery is supplied over cable pairs from the central office or a battery which is inaccessible,

- 3.5 To provide an audible signal operated on ringing current.
- 3.6 To provide an audible signal operated on the P.B.X. battery.
- 3.7 To provide for the use of a local battery at the P.B.X.

4. CONNECTING CIRCUITS

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

- 4.1 550C, 551A or B P.B.X. station line circuit - SD-66181-01 or SD-66110-01.
- 4.2 550C, 551A or B Central office trunk circuit - SD-66163-01 or SD-66109-01.
- 4.3 550C, 551A or B P.B.X. Tie trunk circuits - SD-66401-01 or SD-66039-01.
- 4.4 550C, 551A or B P.B.X. ringing circuit - SD-66182-01 or SD-65118-01.
- 4.5 550C, 551A or B P.B.X. cord circuits - SD-66179-01 or SD-66022-01.
- 4.6 24V central office battery supply leads - SD-90232-01.

- 4.7 550C, 551A or B P.B.X. telephone and dial circuit - SD-66180-01 or SD-66023-01.

- 4.8 Long line or long trunk circuits.

DESCRIPTION OF OPERATION

5. When the BUZZER key is turned to ON position the buzzer Fig. 1A or 1B is connected to the make contact of relay (N). When the line lamp on a station line, central office trunk, or tie trunk or a rear cord lamp is lighted relay (N) operates causing the buzzer to operate. When the lamp is extinguished relay (N) releases and the buzzer is silenced.

6. Battery is supplied to the central office trunk, cord, tie trunk, telephone and dial, and station line circuits through the BATTERY key when it is in the "ON" position. Battery is disconnected from this apparatus when the BATTERY key is in the "OFF" position to prevent the lamps from lighting and to prevent the relays in the cord circuits from operating in case the associated NIGHT keys are released. The BATTERY for long line or long trunk equipment is not connected through the battery cut-off key in order to provide for night service.

BELL TELEPHONE LABORATORIES, INC.

DEPT. 3310-CJS-RLL-DU

SHEET INDEX

FIG.	CONTENTS	SHEET NO.	ISSUE NO.																											OLD SHEET NO.
			10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27										
	SHEET INDEX SUPPORTING INFORMATION	A1	10																											
1 1A 1B 2 3 4 5 6 7 8	AUX SIG CKT AC BUZZER DC BUZZER BATTERY KEY FUSING WHEN 2 POS ARE LINED UP TOGETHER BUZZER FOOT SW BATTERY KEY BATTERY KEY BATTERY KEY	B1	10																										-011	
	CIRCUIT NOTES EQUIPMENT NOTES FIG. AND OPTIONS USED TABLE WORKING LIMITS KEYTOP DIAGRAMS	D1	10																										-011 -012	
	CIRCUIT REQ TABLE	F1	10																										-012	
51 52 53 54 55 56	FOR FIG. 1 FOR FIG. 1 FOR FIG. 2 FOR FIG. 2 & 8 FOR FIG. 5 FOR FIG. 6	G1	10																										-012	
57 58 59 60 61	FOR FIG. 7 FOR FIG. 2 FOR FIG. 2 & 8 FOR FIG. 5 FOR FIG. 6	G2	10																										-012	
62	FOR FIG. 7	G3	10																										-012	

SHEET INDEX NOTES

1. WHEN CHANGES ARE MADE IN THIS DRAWING, ONLY THOSE SHEETS AFFECTED WILL BE REISSUED.
2. THIS SHEET INDEX WILL BE REISSUED AND BROUGHT UP TO DATE EACH TIME ANY SHEET OF THE DRAWING IS REISSUED, OR A NEW SHEET IS ADDED.
3. THE ISSUE NUMBER ASSIGNED TO A CHANGED OR NEW SHEET WILL BE THE SAME ISSUE NUMBER AS THAT OF THE SHEET INDEX.
4. SHEETS THAT ARE NOT CHANGED WILL RETAIN THEIR EXISTING ISSUE NUMBER.
5. THE LAST ISSUE NUMBER OF THE SHEET INDEX IS RECOGNIZED AS THE LATEST ISSUE NUMBER OF THE DRAWING AS A WHOLE.
6. "OLD SHEET NO." REFERS TO SHEET NO. PRIOR TO ISSUE: 100

SUPPORTING INFORMATION

CATEGORY	NO.
EQUIPMENT INFO	ED-65634-01

SD- 66123-01

PBX SYSTEMS
NO. 550C, 551A, OR 551B
AUXILIARY SIGNAL AND
BATTERY CUT-OFF KEY CIRCUIT

(2)

(AUX)

BELL TELEPHONE LABORATORIES
INCORPORATED

35

M&M ONLY

MFR DISC. FOR 550C PBX

SD-66123-01-A1
7 SHEETS

FIG. 1A
A-C BUZZER

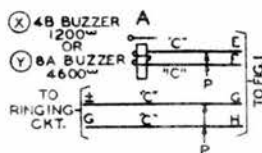


FIG. 1
AUX. SIG. CKT.

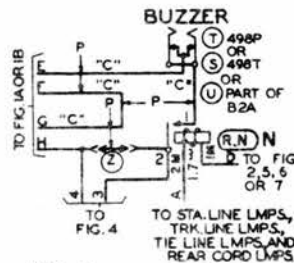


FIG. 2
BATTERY KEY

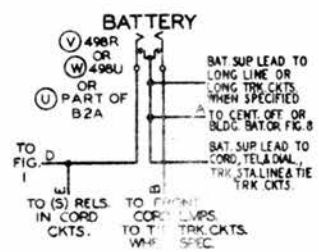


FIG. 4
BUZZER FOOT SW.

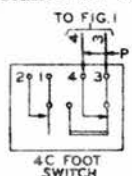


FIG. 1B
D-C BUZZER

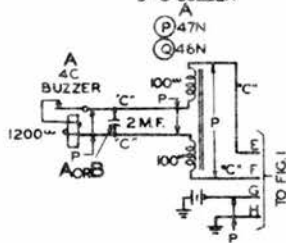


FIG. 3 (MFR. DISC)

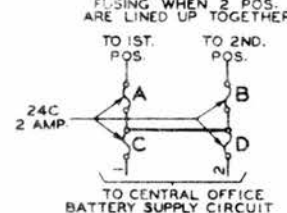


FIG. 5
BATTERY KEY

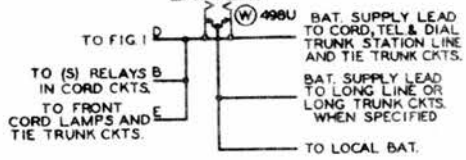


FIG. 6
BATTERY KEY

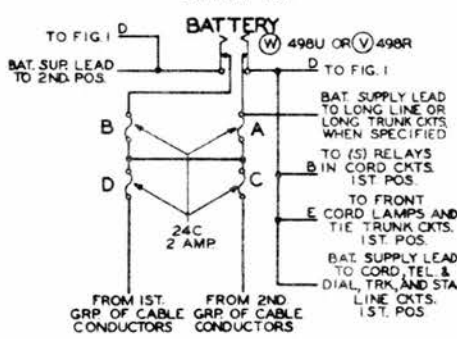


FIG. 7
BATTERY KEY

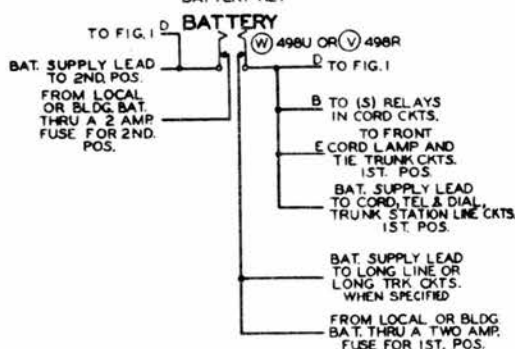
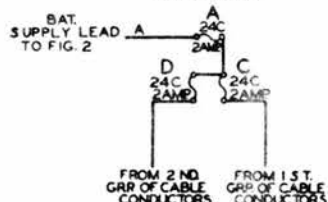


FIG. 8
BATTERY KEY



CIRCUIT NOTES:

101.

FEATURE OR OPTION		PROVIDE	
		FIG.	QUANTITY
A-C BUZZER		1A	1 PER PBX
D-C BUZZER	550C PBX	1B	1 PER PBX
	551A OR 551B PBX	1B	1 PER PBX
AUX SIG. CKT.	550C PBX	1	1 PER PBX
	551A OR 551B PBX	1	1 PER PBX
BUZZER FOOT SW.	PROVIDED	4	1 PER PBX
	NOT PROVIDED	Z IN FIG. 1	
BAT. KEY	FOR ONE POS. WHERE LOCAL BAT IS USED AND FUSES ARE ACCESSIBLE FOR REPLACEMENT	550C PBX	5 W 1 PER PBX
		551A OR 551B PBX	5 W 1 PER PBX
BAT. KEY	FOR ONE POS. WHERE CENT. OFF. OR BLDG. BAT. IS ACCESSIBLE FOR REPLACEMENT OF FUSES.	550C PBX	2 U 1 PER PBX
		551A OR 551B PBX	2 W OR V 1 PER PBX
BAT. KEY	FOR ONE POS. WHERE CENT. OFF. OR BLDG. BAT. IS INACCESSIBLE FOR REPLACEMENT OF FUSES.	550C PBX	2 & 8 U 1 PER PBX
		551A OR 551B PBX	2 & 8 W OR V 1 PER PBX
BAT. KEY	FOR TWO POS. WITH CENT. OFF. BAT. OR BLDG. BAT. WHERE BLDG. BAT. IS INACCESSIBLE FOR REPLACEMENT OF FUSES.	550C PBX	6 W 1 PER 2 POS.
		551A OR 551B PBX	6 W OR V 1 PER 2 POS.
BAT. KEY	FOR TWO POS. WITH LOCAL OR BLDG. BAT. AND BAT. IS ACCESSIBLE FOR REPLACEMENT OF FUSES.	550C PBX	7 W 1 PER 2 POS.
		551A OR 551B PBX	7 W OR V 1 PER 2 POS.

102.

RECORD OF FIGURES, WIRING, AND APPARATUS CHANGES						
IF JOB CHANGED ON ISS.	RECORDS DO NOT SPECIFY	THIS OPTION WAS FURN.	SEE NOTE	USE IN CIRCUIT		
				STD.	A & M	M.D.
3-D	S OR T	(BUZ) FOR PBX NO. 551A, 551B		S		T
3-D	W OR V	(BAT) FOR PBX NO. 551A, 551B		W		V
4-D		FOR PBX 550C		U		
7-D	X OR Y	X		Y		X
7-D	Z OR FIG. 4	Z		Z FIG. 4		
8-D				FIG. 5		
8-D				FIGS. 6 OR 7		FIG. 3
8-D				FIG. 8		
9-D	N OR R	R		N		R

EQUIPMENT NOTES:

201. NEW LEAD TO BE RUN TO THE BATTERY CUT-OFF KEY IN THE CROWN MOLDING.

202. ON THE CIRCUIT LABEL IN THE 550C PBX THE "BUZ" PUNCHING IS DESIGNATED "BAT".

203. PUNCHINGS B4 & B5 ARE PROVIDED ON THE 550C, 80 & 320 LINE, PBX ONLY.

204. THE BATTERY CUT-OFF KEY IN THE 2ND, 551 PBX POSITION SHOULD BE REMOVED AND ALL LEADS CONNECTED TO IT SPliced AND TAPED TOGETHER.

205. ALL LEADS CONNECTED TO THE 550C PBX BATTERY CUT-OFF KEY SHOULD BE REMOVED AND SPliced AND TAPED TOGETHER.

FIGURES AND OPTIONS ON THIS DWG.	
CKT FIG.	APP. OR WIRING
1	Z
1A	X
1B	X
2	W
3	V
4	U
5	T
6	S
7	R
8	Q
9	P

BUZZER
ON OFFBATTERY
ON OFF

14-26V.



WORKING LIMITS

STATION LINES
WITHOUT LINE RELAYS
WITH
2W LAMPS 82 LAMPS
70^W 150^W
*15,000^W

MAX EXT. CKT. LOOP
MIN. INSULATION RES

*COMBINED INSULATION RESISTANCE OF ALL
STATION LINES WITHOUT LINE RELAYS

PBX SYSTEMS

NO. 550C, 551A, OR 551B
AUXILIARY SIGNAL AND
BATTERY CUT-OFF KEY CIRCUIT

②

SD-66123-01-D1

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3S

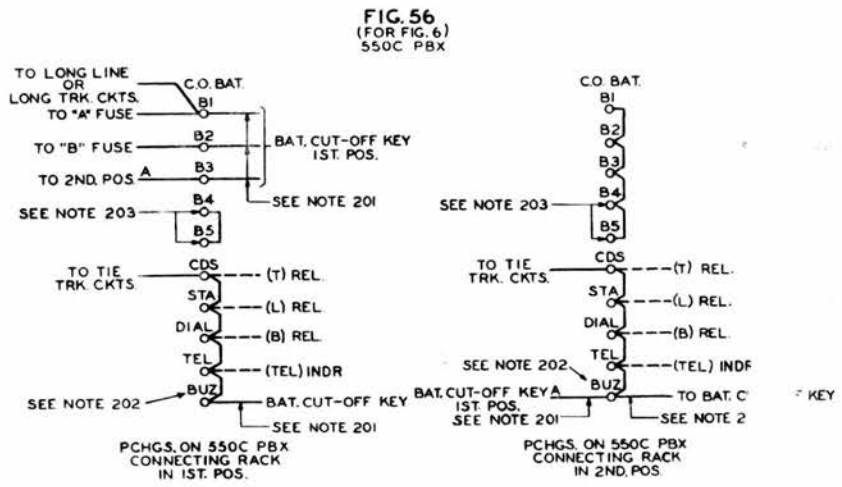
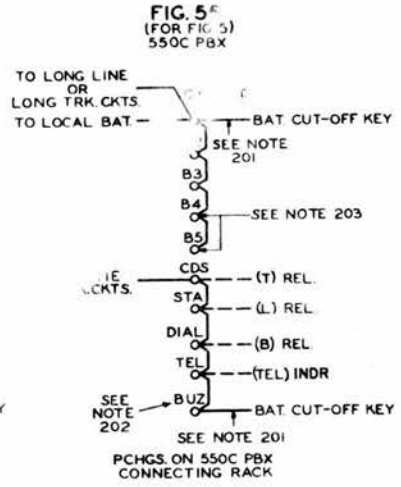
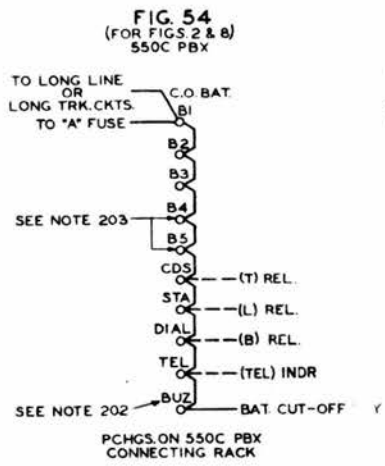
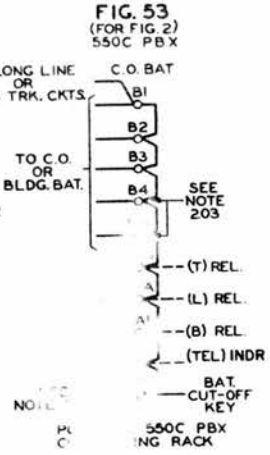
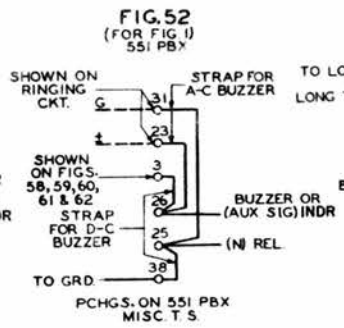
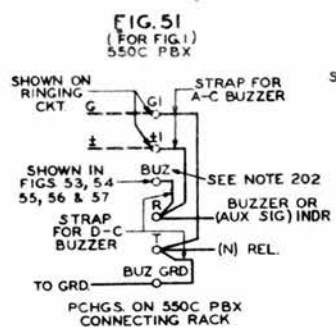
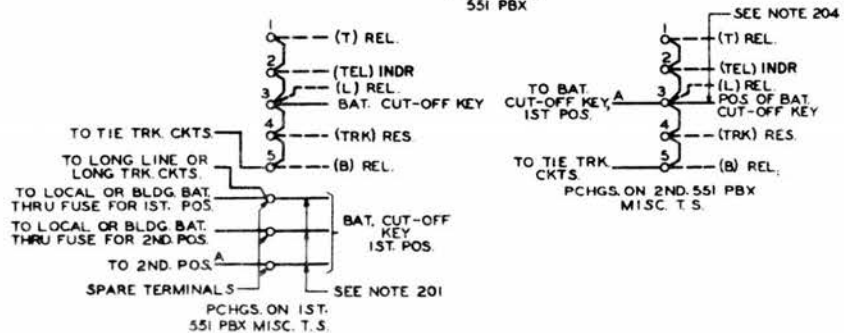




FIG. 62
(FOR FIG. 7)
551 PBX



TCI Library: www.telephonecollectors.info