

CIRCUIT DESCRIPTION

CD-66110-01
Issue 5D
Appendix 1D
Dwg Issue 7D

PBX SYSTEMS
NO. 550C, 551A, OR 551B
STATION LINE CIRCUIT
WITH OR WITHOUT LINE RELAY

Drawings for SD-66110-01 have been converted to 8-1/2 by
11 inch handbook size.

BELL TELEPHONE LABORATORIES, INCORPORATED

DEPT 5336-LEVD-EVDL

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P.B.X. SYSTEMS
No. 550C, 551A OR 551B
STATION LINE CIRCUIT
WITH OR WITHOUT LINE RELAY

CHANGES

C. CHANGES IN CIRCUIT REQUIREMENTS OTHER THAN THOSE APPLYING TO
ADDED OR REMOVED APPARATUS

- C.1 Test value for relay (L) operate, changed from 11 ma. to 8.4
ma. to provide for increased range of station line circuit.
Test Note 1 added.

D. DESCRIPTION OF CIRCUIT CHANGES

- D.1 Working limit, with line relay, changed from 150 ohms max.
external ckt. loop to 500 ohms. Note 107 added.

All other headings under Changes, No change.

1. PURPOSE OF CIRCUIT

- 1.1 This circuit is used at a No. 550C, 551A or 551B P.B.X.
switchboard to provide a means of establishing a connection
to a station on incoming and outgoing calls.

2. WORKING LIMITS

2.1	Line Signaling		
	With Line Relay	Without Line Relay Using 2W Lamp	Without Line Relay Using B2 Lamp
Max.Ext.Ckt.Loop Res.	500 ohms	70 ohms	150 ohms
Min. Ins. Res.	20,000	*	*

*The combined minimum insulation resistance of all lines com-
mon to one aux. signal relay shall not be less than the min.
insulation resistance specified for the aux. signal relay.

3. FUNCTIONS

- 3.1 To give a visual signal on incoming calls from associated
station.
- 3.2 Extinguishing line lamp when call is answered.

- 3.3 Preventing lamp from lighting when calling associated station.

4. CONNECTING CIRCUITS

- 4.1 No. 550C, 551A or 551B P.B.X. Auxiliary Signal and Battery Cut Off Key Circuit.
- 4.2 No. 550C, 551A or 551B P.B.X. cord circuit.

DESCRIPTION OF OPERATION

5. ANSWERING INCOMING CALLS

5.1 With Line Relay

When the receiver is removed from the switchhook at the associated station relay (L) operates. Relay (L) operated causes the line lamp to light and the audible signal to function, if the buzzer key in the associated auxiliary signal and battery cut off key circuit is operated, as an indication that a call is being made. When the plug of the P.B.X. cord circuit is inserted in the jack associated with the lighted line lamp relay (L) releases extinguishing the lighted line lamp.

5.2 Without Line Relay

When the receiver is removed from the switchhook at the associated station the line lamp lights and the audible signal functions if the associated buzzer key is operated. When the plug of the cord is inserted in the jack the line lamp is extinguished.

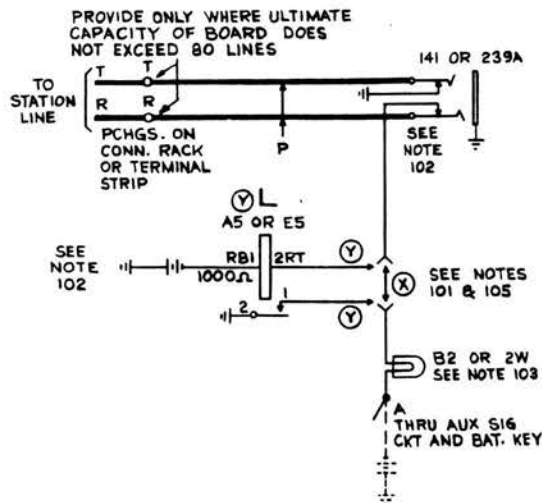
6. OUTGOING CALLS

When the station associated with this line circuit is to be called, the plug of a cord circuit is inserted in the jack but no operation takes place other than the opening of the jack contacts.

BELL TELEPHONE LABORATORIES, INC.

DEPT. 332

AB)
WEM) GK



- CIRCUIT NOTES:
- (MFR DISC.)
101. (A) PROVIDE Y WIRING AND APPARATUS WHERE THE EXTERNAL CIRCUIT LOOP RESISTANCE IS GREATER THAN 70Ω AND NOT GREATER THAN 500Ω .
(B) PROVIDE X WIRING WHERE THE EXTERNAL CIRCUIT LOOP IS LESS THAN 70Ω .
102. THE USE OF THE A5 RELAY IS RATED "A&M ONLY" AND IS SUPERSEDED BY THE USE OF THE E5 RELAY ON ISSUE 20.
103. THE USE OF THE 2W LAMP IN THIS CIRCUIT IS RATED "MFR DISC" AND IS SUPERSEDED BY THE USE OF THE B2 LAMP ON ISSUE 30. PRIOR TO ISSUE 30 THE B2 LAMP WAS NOT SHOWN.
- 104.
105. PROVIDE Y WIRING AND APPARATUS OR X WIRING IN ACCORDANCE WITH THE MIN INS RES NOTE UNDER WORKING LIMITS.
106. PRIOR TO ISSUE 40 THE MAX EXT CKT LOOP RES WITHOUT LINE RELAY USING B2 OR 2W LAMP WAS 70Ω , NOTE 101 WAS NOT RATED "MFR DISC", AND NOTE 105 WAS NOT SHOWN.
107. PRIOR TO ISSUE 60 MAX EXT CKT LOOP WITH LINE RELAY WAS 150Ω .

14 - 26V

WORKING LIMITS:

	WITH LINE REL	LINE SIGNALING WITHOUT LINE REL USING 2W LAMP	WITHOUT LINE REL USING B2 LAMP
MAX EXT CKT LOOP RES	500Ω	70Ω	150Ω SEE NOTE 106
MIN INS RES	$20,000\Omega$	*	*

* THE COMBINED MINIMUM INSULATION RESISTANCE OF ALL LINES COMMON TO ONE AUX SIGNAL RELAY SHALL NOT BE LESS THAN THE MINIMUM INSULATION RESISTANCE SPECIFIED FOR THE AUX SIG RELAY.

REPLACING 190-B-10 & ES-203306 FOR STATION LINE CIRCUIT

SD-66110-01

PBX SYSTEMS

NO. 550C, 551A, OR 551B
STATION LINE CIRCUIT

WITH OR WITHOUT LINE RELAY

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A&M ONLY
"MFR DISC." FOR 550C PBX

SD-66110-01-1

2 SHEETS

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