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CIRCUIT DESCRIPTION

CD-65787-01
ISSUE 1
APPENDIX 6D
DWG ISSUE 7D

PBX SYSTEMS
NO. 552A, 552B, 552D, 552E, OR 605A
ATTENDANT TELEPHONE AND DIAL CIRCUIT

CHANGES

D. Description of Changes

D.1 The rating of the 605A PBX is changed to Mfr Disc.

BELL TELEPHONE LABORATORIES, INCORPORATED

DEPT 5336-WAI-FNR

CIRCUIT DESCRIPTION

CD-65787-01
Issue 1
Appendix 3D
Dwg Issue 4D

PBX SYSTEMS
NO. 552A, 552B, 552D, 552E OR 605A
ATTENDANT TELEPHONE
AND DIAL CIRCUIT

D. DESCRIPTION OF CHANGES

D.1 Straps are added around relay contacts in the transmission path that do not operate with TOUCH-TONE calling. This neutralizes the effect of resistance build-up of contacts that are not exercised.

BELL TELEPHONE LABORATORIES, INCORPORATED

DEPT. 5336-BEM-FNR-JC

PKX SYSTEMS
NO. 552A, 552B, 552D, 552E OR 605A
ATTENDANT TELEPHONE AND DIAL CIRCUITS

CHANGES

A. ADDED FUNCTIONS

A.1 Provides optional wiring for TOUCH-TONE calling.

D. DESCRIPTION OF CHANGES

D.1 V wiring has been added to show connections to the TOUCH-TONE calling, dial auxiliary circuit.

D.2 Add paragraph 3.6 to read:

3.6 Enables attendant to use TOUCH-TONE calling.

D.3 Add paragraph 4.3 to read:

4.3 TOUCH-TONE calling, dial auxiliary circuit, SD-66196-01.

BELL TELEPHONE LABORATORIES, INCORPORATED

DEPT. 5336-EEB-PNR-ER

PEX SYSTEMS
NO. 552A, 552B, 552D, 552E OR 605A
ATTENDANT TELEPHONE
AND DIAL CIRCUIT

CHANGES

B. CHANGES IN APPARATUS

B.1	Superseded	Superseded By
	111A Resistor - 50 Ohms, X Option	227C Resistor - 51.1 Ohms, W Option

D. DESCRIPTION OF CIRCUIT CHANGES

D.1 The Mfr Disc. 111A resistor (X option) is superseded by the 227C resistor (W option).

D.2 The Options Used table and Circuit Note 104 are revised to reflect this change.

BELL TELEPHONE LABORATORIES, INCORPORATED

DEPT. 6261-RP-AFB-C5

PBX SYSTEMS
NO. 552A, 552B, 552D, 552E OR 605A
ATTENDANT TELEPHONE
AND DIAL CIRCUIT

1. PURPOSE OF CIRCUIT

1.1 This circuit is used by the PBX attendant in establishing local, central office and tie trunk connections.

2. WORKING LIMITS

2.1 See range chart.

3. FUNCTIONS

3.1 To enable the attendant to talk over a PBX cord circuit.

3.2 To enable the attendant to dial over a PBX cord circuit.

3.3 To reduce the intensity of clicks to the attendant when a cord is plugged into a station line circuit or central office trunk.

3.4 To provide a low resistance bridge after dialing.

3.5 Provides repeating coil coupling to reduce noise due to unbalanced longitudinal currents.

4. CONNECTING CIRCUITS

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

4.1 Cord Circuit - SD-66198-01

4.2 Position Grouping Key Circuit - SD-66273-01

DESCRIPTION OF OPERATION

5. TALKING ON CORD CIRCUITS

The attendant connects the attendant's telephone and dial circuit to a cord pair by operating the associated talk and dial key. With the talk and dial key operated, the front and rear cords are connected to the telephone and dial circuit via leads T1, R1, T2, R2 and ZT and the transmitter circuit is energized via leads P1 and P2. The attendant may talk to a station on either cord, originate an outgoing trunk call if dialing is not required or may answer any incoming trunk call.

In answering an incoming trunk call, the ringing is tripped by the bridge consisting of resistor D and inductor D, in parallel with the induction coil.

6. DIALING (OPTION Y)

When the dial is moved off-normal with the TALK AND DIAL key operated and the associated cord in a trunk or tie trunk jack, relay (H) operates from the off-normal contact of the dial.

Relay (H) operated disconnects the "T1," "R1," and "ZT" leads from the telephone circuit, short circuits the 3-4 winding of inductor (D), and closes the circuit to relay (D).

Relay (D) operated closes the circuit to operate relays (R) and (S) and connects capacitor (R) in series with resistor (B) across the station end of the dial circuit. Resistor (B) is in series with capacitor (R) to prevent a large flow of current through the contacts of relay (D) in case the capacity of the station loop is large.

Relay (R) operated short circuits the attendant's receiver for purposes described later.

Relay (S) operated disconnects the station from the trunk battery supply through the cord circuit and connects the station to the by-pass battery and ground supply circuit supplied by relay (B). Capacitor (R) in series with resistor (B) being bridged across the station circuit at this time reduces clicks to the station which may be caused by the breaking and re-connecting of talking battery.

Relay (B) operates in series with the station loop, or if the receiver is not off at the station, in series with the cord bridge, (1) short circuits resistance (D) to provide the low resistance bridge for holding the trunk when the dial returns to normal, (2) provides a locking path for relay (S), and (3) connects winding 1-2 of inductor (D) across the station loop in series with a capacitor (R). The 1-2 winding of inductor (D) is shunted at this time by resistor (B) and the 3-4 winding is shunted by relay (H) contacts to prevent the station hearing the dial pulses.

When the dial returns to normal, relay (H) releases, (1) removes the short circuit on the 3-4 winding of inductor (D), (2) reconnects the attendant's telephone circuit to the trunk, and (3) opens the circuit to relay (D).

Relay (D) releases slowly, (1) opening the circuit to relay (R), (2) removing the 50-ohm shunt from across the 1-2 winding of inductor (D), restoring the transmission circuit to the station through the inductor which is now used as a repeating coil.

Relay (R) releases slowly removing the short circuit from the attendant's

receiver. This prevents the attendant hearing any clicks due to charging or discharging capacitor (S) when the circuit is restored to normal. Resistor (A) is bridged across capacitor (R) to dissipate any charge remaining between digits.

Upon subsequent operation of the dial the circuit functions in a similar manner except that relay (S) is operated from relay (B) which in turn remains operated from the bridge at the station or in the cord circuit.

When the (TALK AND DIAL) key is restored, all relays restore to normal.

BELL TELEPHONE LABORATORIES, INCORPORATED

DEPT. 2745-WVS-PWS-AR