

SD-65775-01

BELL TELEPHONE LABORATORIES, INCORPORATED

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PBX Systems

NO. 701B
KEY SHEET

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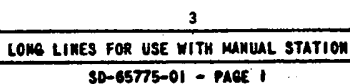
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PRINTED IN U.S.A.

AT&TCO
STANDARDFOR CURRENT DRAIN DATA
SEE SD-65775-02FOR EXPLANATION OF CONVENTIONS SEE
MASTER KEY SHEET SD-90250-01

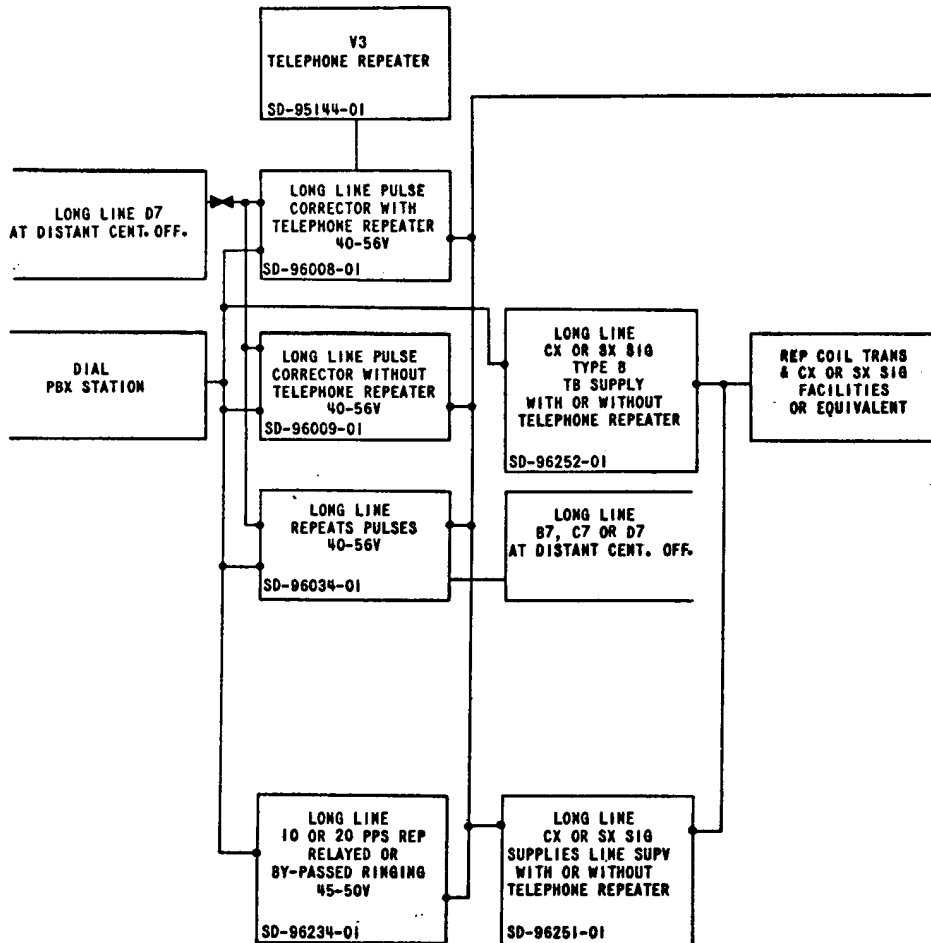
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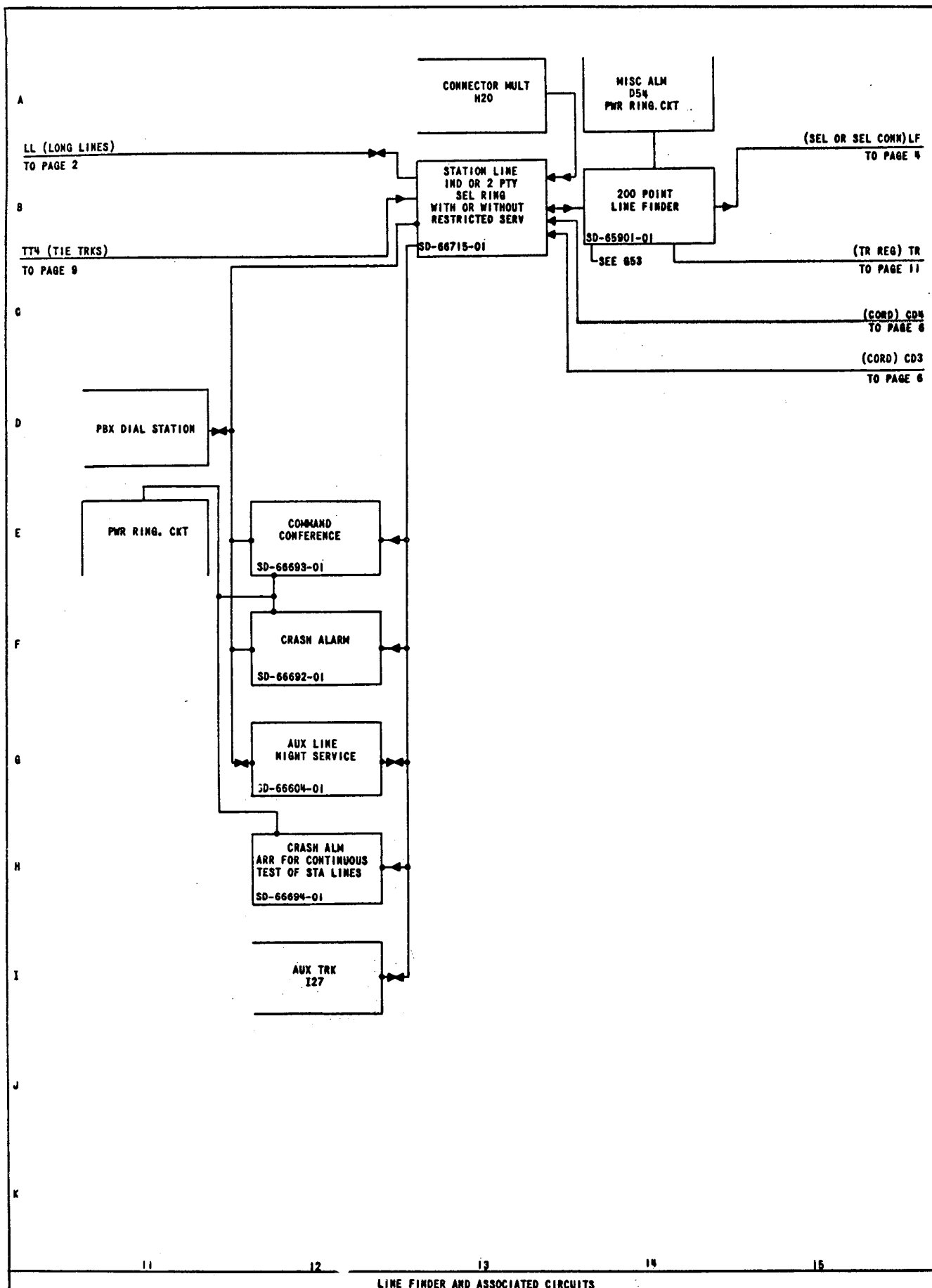
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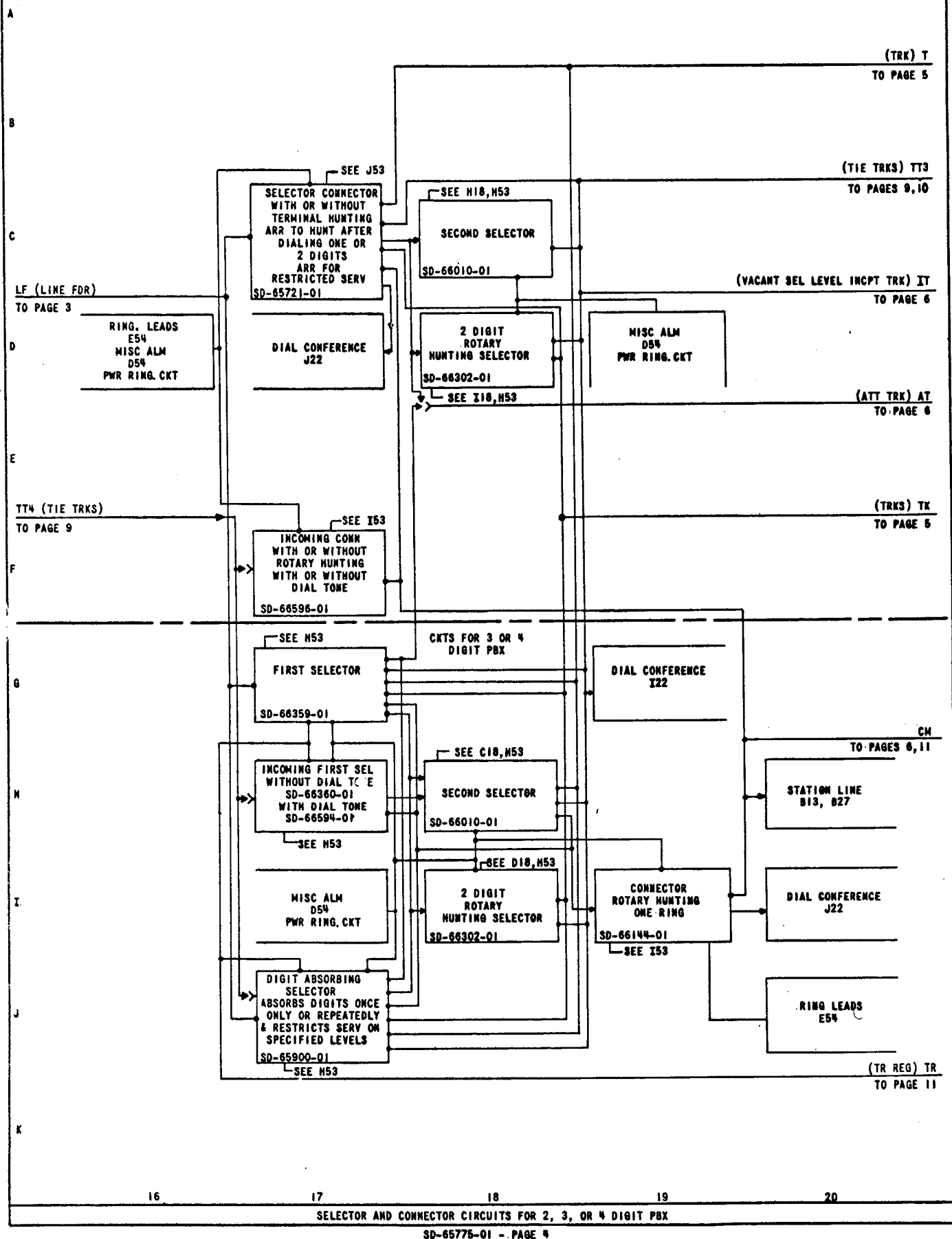
LONG LINES
APPARATUS AT CENTRAL OFFICE

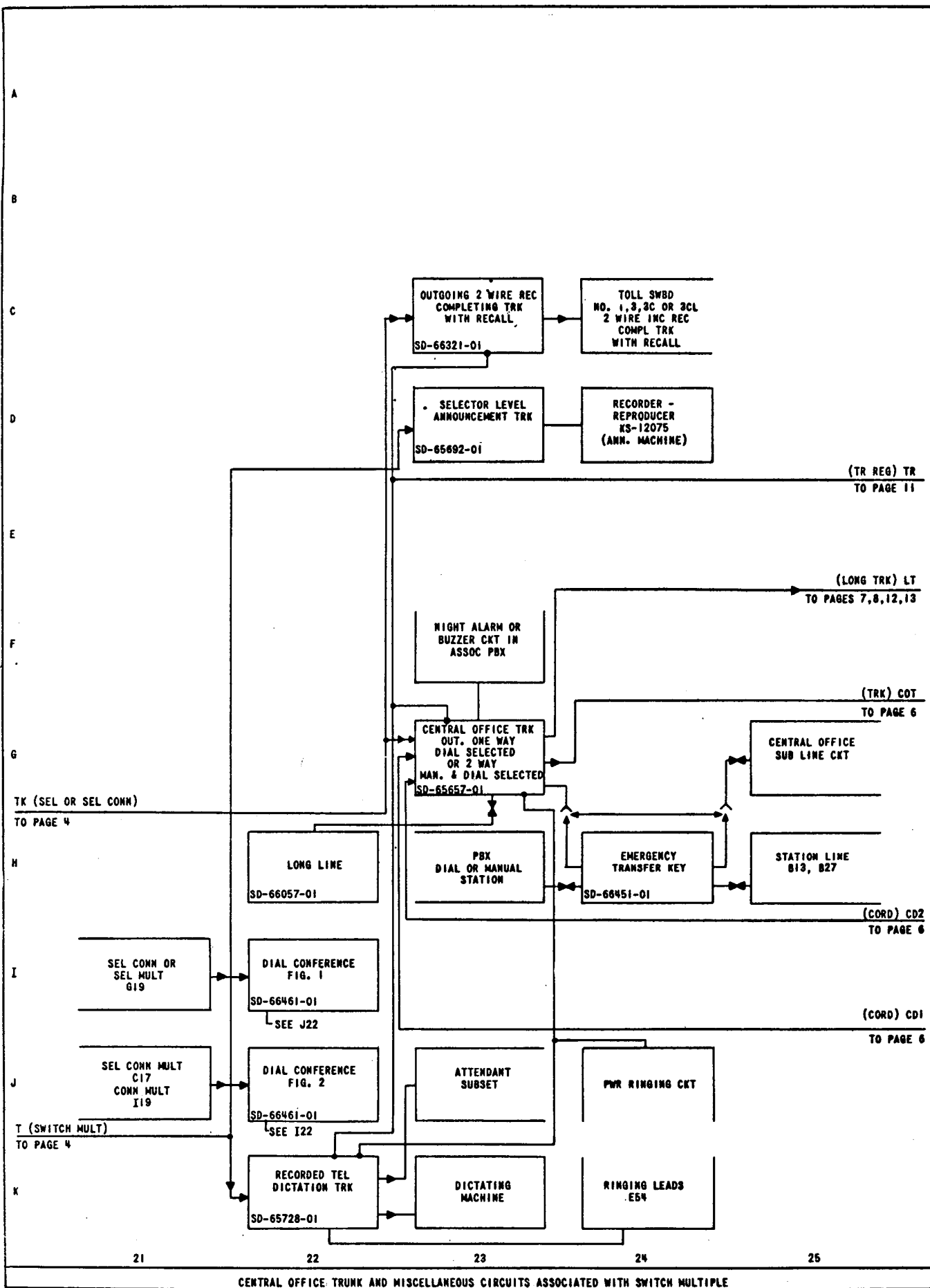
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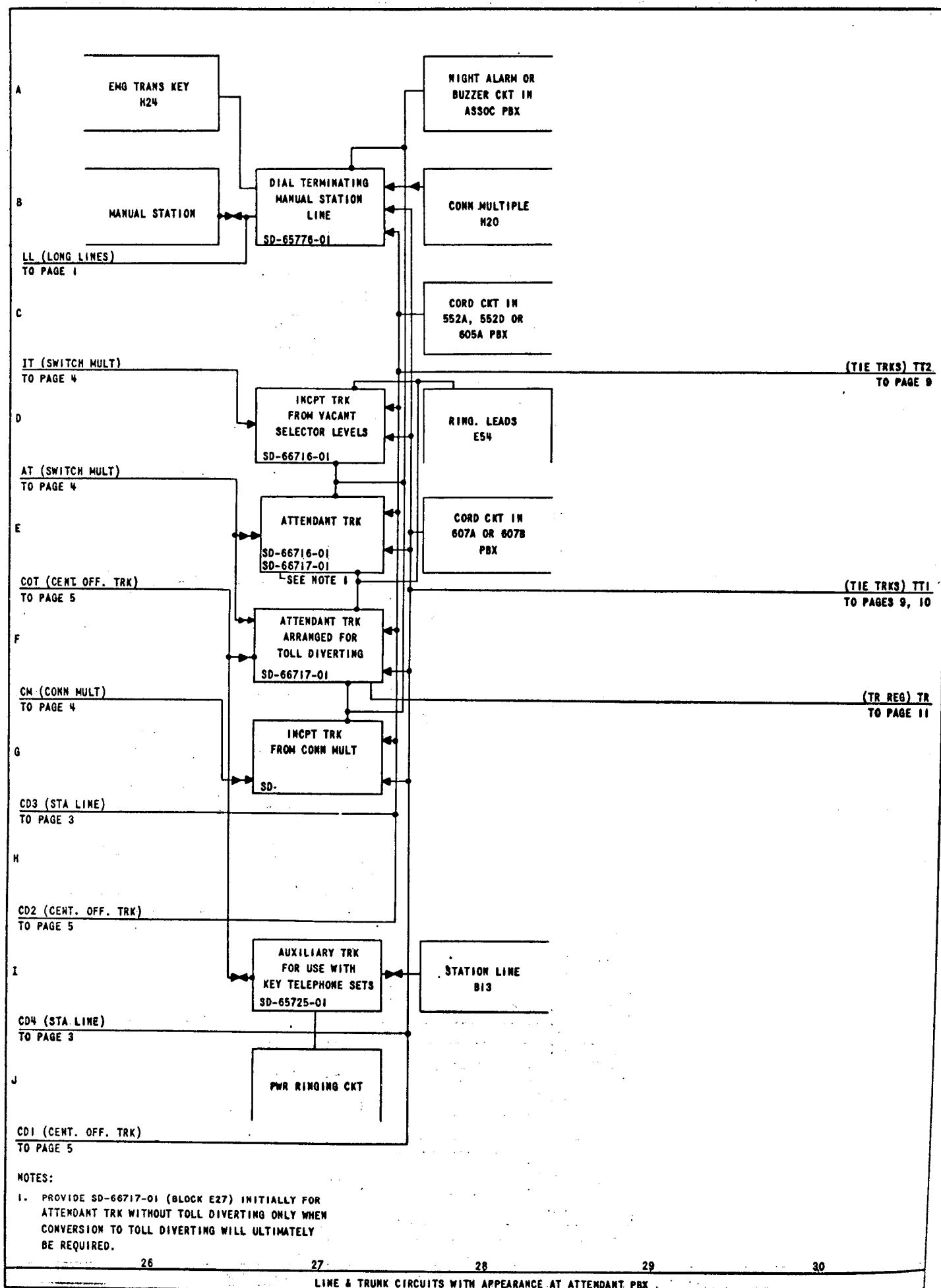


CKTS FOR 2 DIGIT PBX



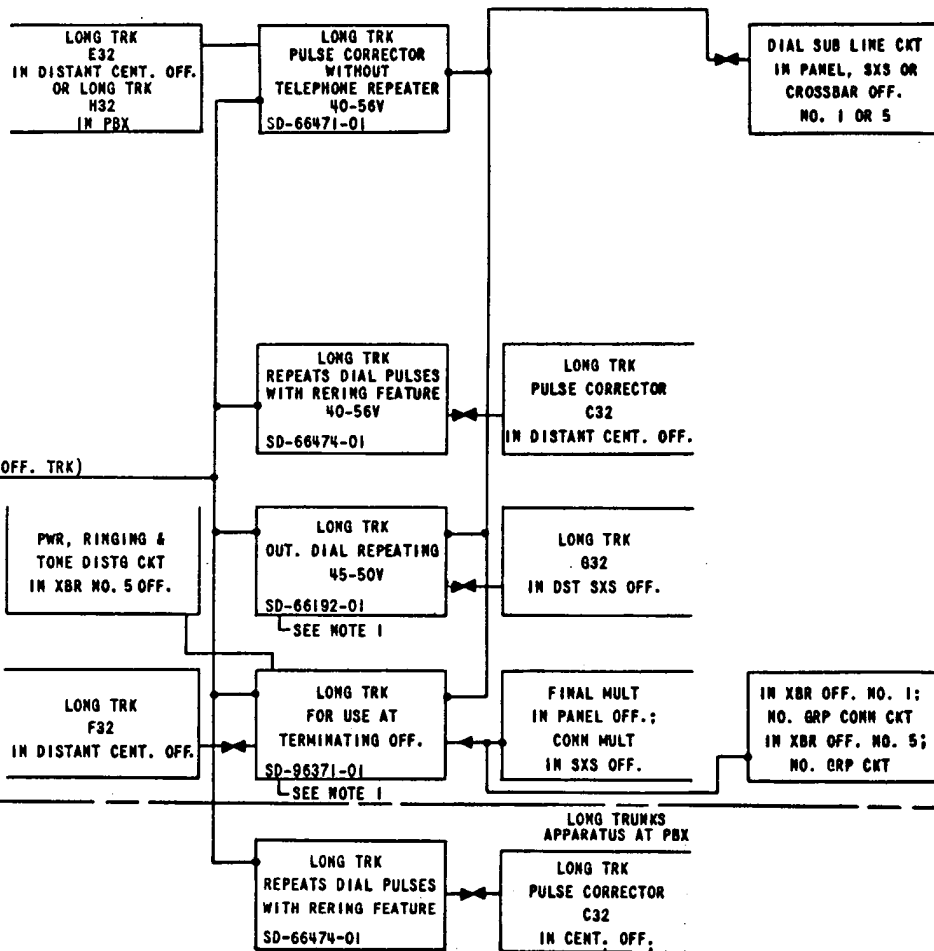


CENTRAL OFFICE TRUNK AND MISCELLANEOUS CIRCUITS ASSOCIATED WITH SWITCH MULTIPLE



LONG TRUNKS
APPARATUS AT CENTRAL OFFICE

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NOTES:

1. PROVIDE SD-96371-01 (BLOCK G32) FOR USE AT TERMINATING OFFICE, OTHERWISE PROVIDE SD-66192-01 (BLOCK F32).

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LONG TRUNKS INTERCONNECTING WITH DIAL CENTRAL OFFICE

LONG TRUNKS
APPARATUS AT CENTRAL OFFICE

A

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LT(CENT. OFF. TRK)
TO PAGE 5

E

F

G

H

LONG TRKS
APPARATUS AT PBX

I

K

V3
TELEPHONE REPEATER
SD-95144-01

LONG TRK
D37, F38
IN DST CENT. OFF.

LONG TRK PULSE
CORRECTOR WITH
TEL. REP
40-56V
SD-96008-01

LONG TRK
F37
IN DST. CENT. OFF.

LONG TRK.
D37
IN DST. CENT. OFF.

LONG TRK PULSE
CORRECTOR WITHOUT
TEL. REP
40-56V
SD-96009-01

DIAL
SUB. LINE CKT.
IN STEP-BY-STEP
PANEL, OR
XBR OFF. NO. 1 OR 5

LONG TRK
D37
IN DST CENT. OFF.

LONG TRK. REPEATS
DIAL PULSES WITHOUT
RERING FEATURE
40-56V
SD-96034-01

LONG TRK
B37
IN DST CENT. OFF.

LONG TRK REPEATS
DIAL PULSES WITH
RERING FEATURE
40-56V
SD-96010-01

LONG TRK REPEATS
DIAL PULSES WITH
RERING REATURE
40-56V
SD-96010-01

LONG TRK.
PULSE CORRECTOR
B37, C37
IN DST. CENT. OFF.

LONG TRK.
10 OR 20 PPS REP
RELAYED OR
BY-PASSED RINGING
45-50V
SD-96234-01

DIAL
SUB. LINE CKT.
IN XBR. OFF. NO.1
OR 5 OR 1200 OHM
PANEL OFF.

LONG TRK
REPEATS
DIAL PULSES WITH
RERING FEATURE
SD-96010-01

LONG TRK
CX OR SX SIG
TYPE "B" T.B. SUPPLY
WITH OR WITHOUT
TEL. REP
SD-96252-01

REP. COIL TRANS
& CX OR SX SIG
FACILITIES
OR EQUIVALENT

LONG TRK
REPEATS
DIAL PULSES
SD-66060-01

LONG TRK
CX OR SX SIG
SUPPLIES LINE SUPY
WITH OR WITHOUT
TEL. REP
SD-96251-01

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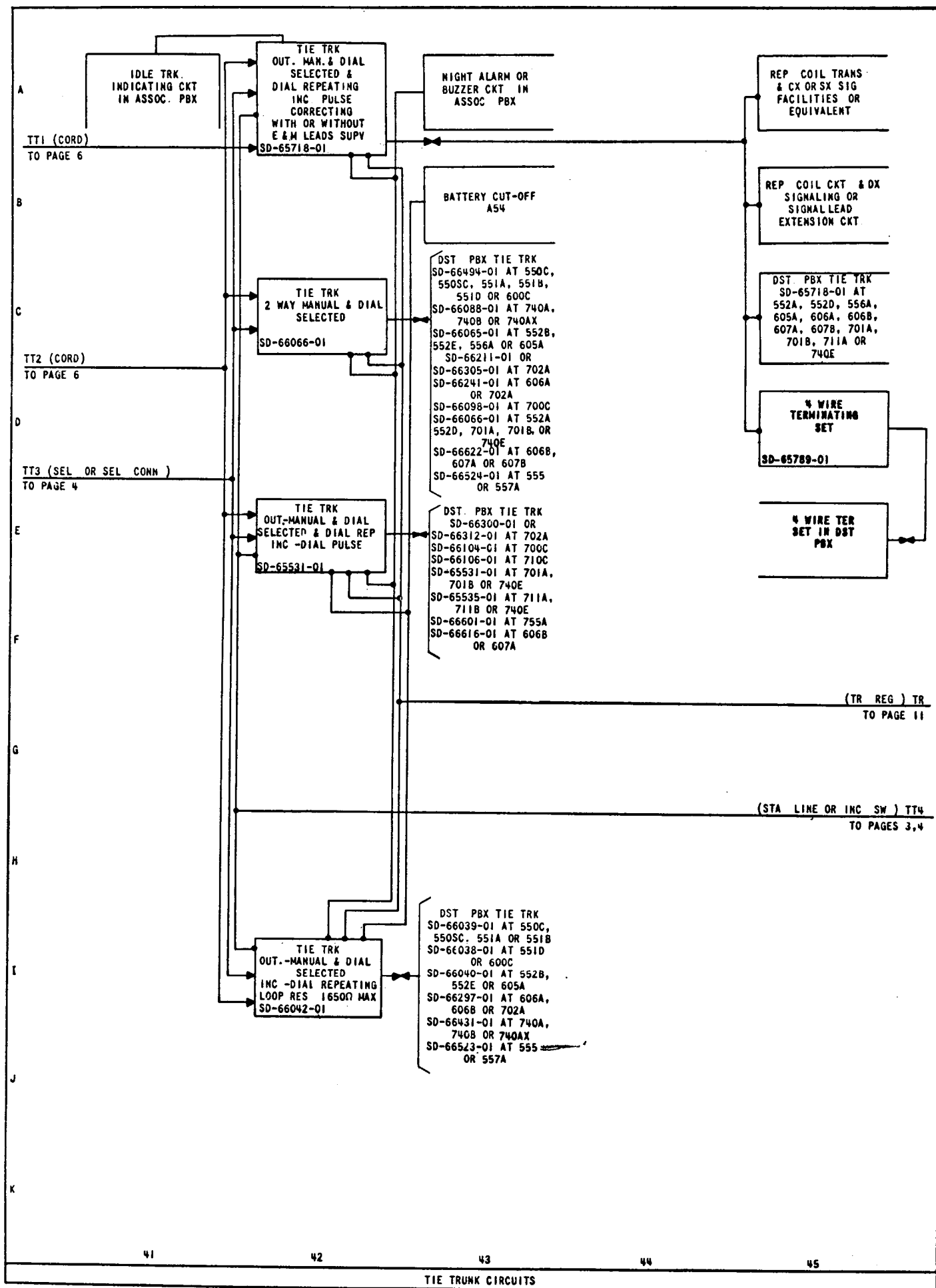
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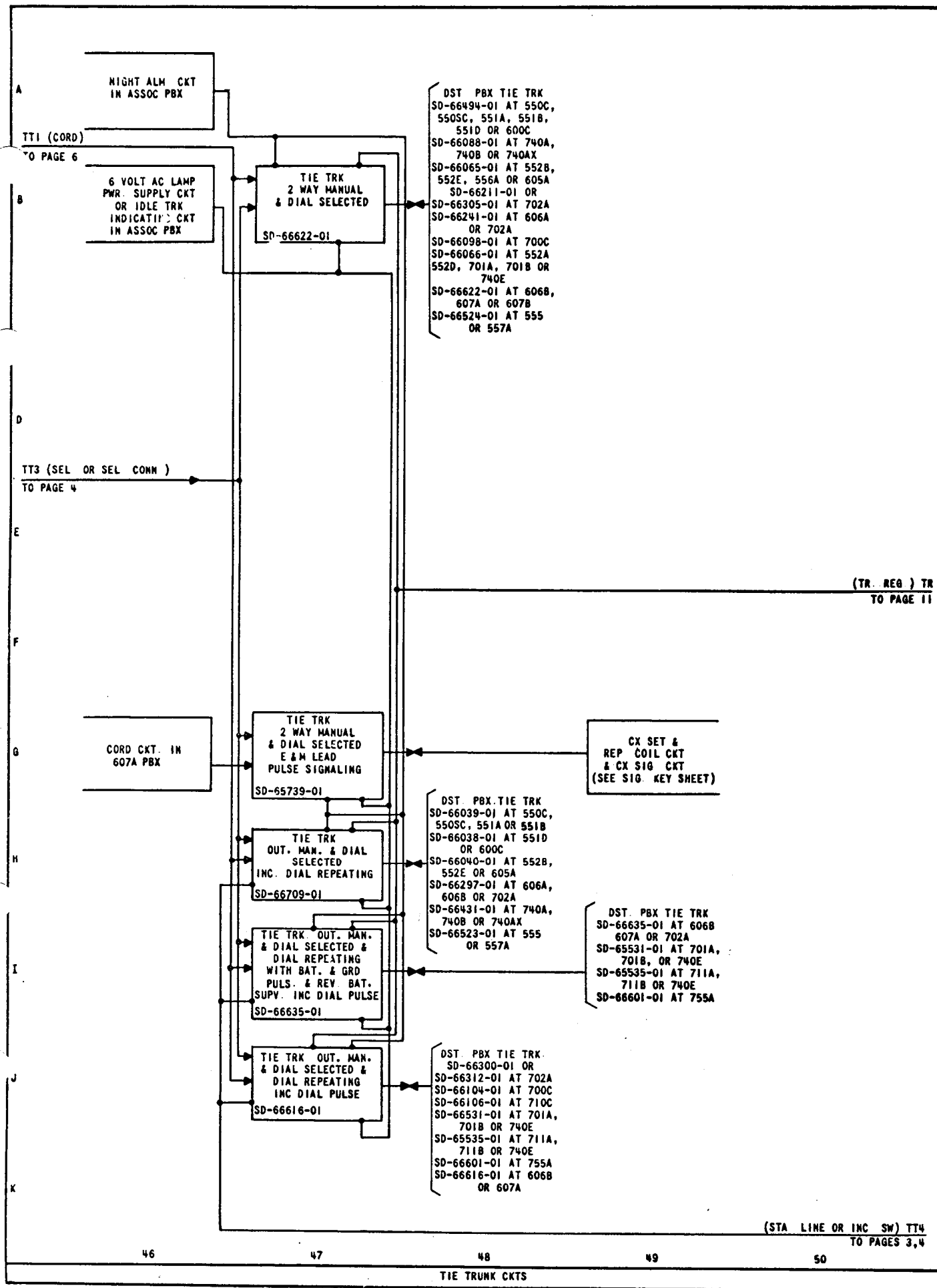
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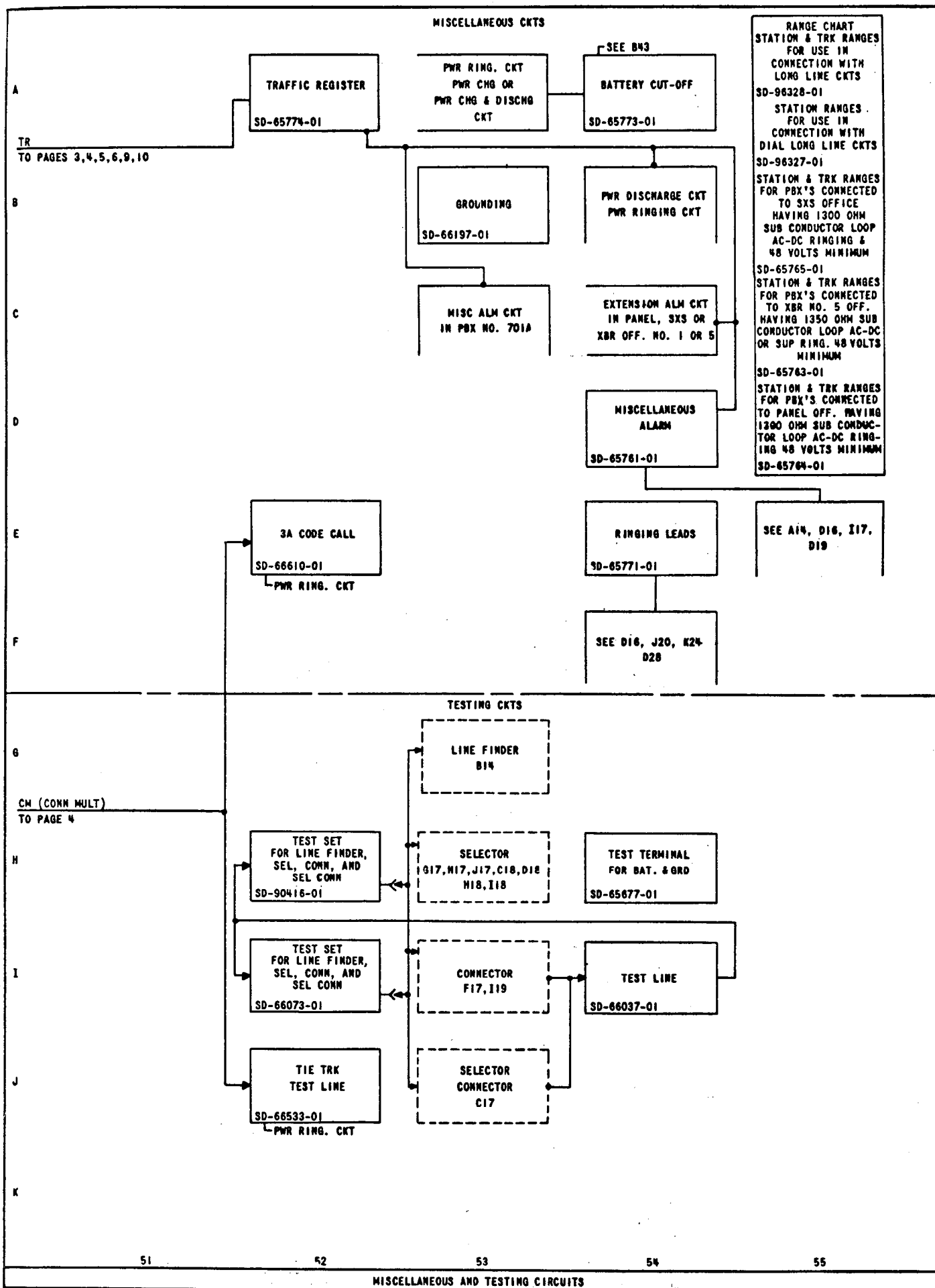
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LONG TRUNKS INTERCONNECTING WITH DIAL CENTRAL OFFICE



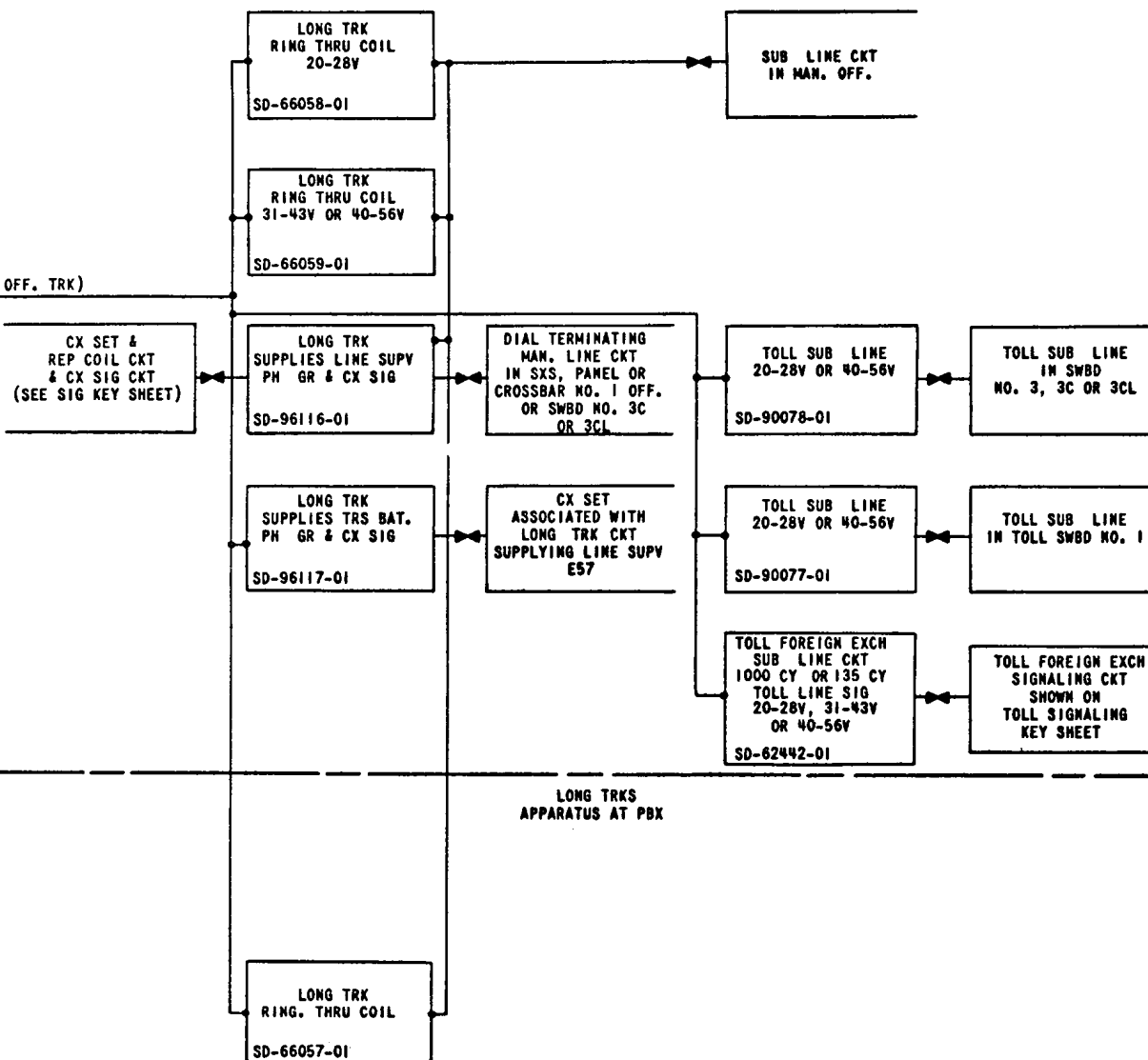




LONG TRUNKS
APPARATUS AT CENTRAL OFFICE

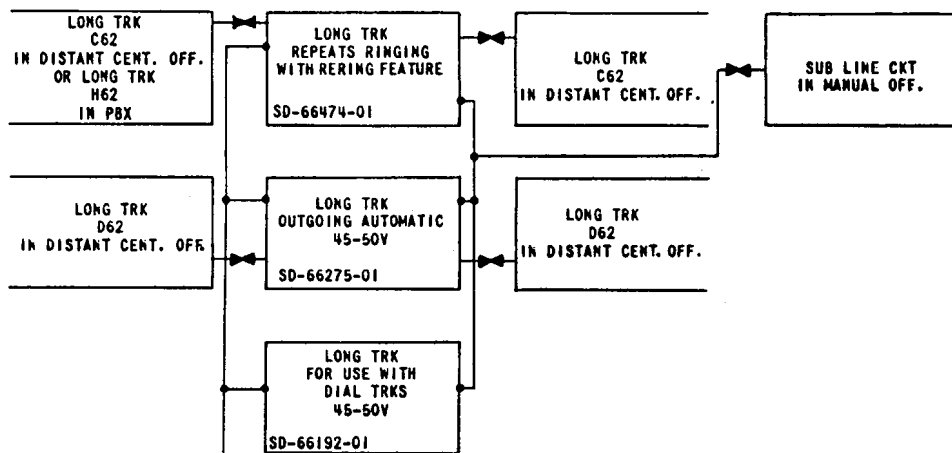
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LT (CENT. OFF. TRK)
TO PAGE 5



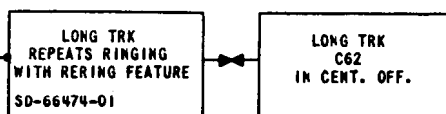
LONG TRUNKS
APPARATUS AT CENTRAL OFFICE

A
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J



LT (CENT. OFF. TRK)
TO PAGE 5

LONG TRUNKS
APPARATUS AT PBX



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LONG TRUNKS INTERCONNECTING WITH MANUAL CENTRAL OFFICE

701B PBX
TIE TRK
OUT. MANUAL &
DIAL SELECTED &
DIAL REPEATING
INC PULSE
CORRECTING
WITH OR WITHOUT
E & M LEADS SUPV

SD-65718-01

5000Ω
MIN INS RES 30,000Ω

DISTANT PBX TIE TRK
SD-65718-01 AT
552A, 552D, 556A,
605A, 606A, 606B,
607A, 607B, 701A, 701B
711A, 711B OR 740E

NOTES:

- ALL TIE TRK RANGES SHOWN ON THE RANGE CHART INCLUDE THE RESISTANCE OF THE OUTSIDE CABLING, THE WIRING AT THE PBX AND THE HEAT COILS. THE RESISTANCE OF THE PBX APPARATUS IS NOT INCLUDED. VALUES ARE SHOWN IN TERMS OF CONDUCTOR LOOP BETWEEN PBX'S. VALUES INCLUDE LOOP RESISTANCE OF BATTERY AND GROUND LEADS WHEN FURNISHED FROM CENTRAL OFFICE.

LOOP DESIG	MAX LOOP RES (OHMS)	MIN INS RES (OHMS)	BAT. SUPPLY REL (L) AT DST PBX	HIGH-LOW REL (S) AT LOCAL AND DST PBX	BAT. SUPPLY AT DST PBX
A	1420	20,000	G93	85-12,000	32-46V
	1720	30,000	G93	85-12,000	32-46V
	2270	20,000	G93	85-12,000	44-50V OR 44-52V
	2370	30,000	G93	85-12,000	44-50V OR 44-52V
	3220	30,000	G93	85-12,000 IN SERIES WITH 12,000Ω RES	32-46V
	4320	30,000	G93	85-12,000 IN SERIES WITH 12,000Ω RES	44-50V OR 44-52V

LOOP DESIG	MAX LOOP RES (OHMS)	MIN INS RES (OHMS)	BAT. SUPPLY REL (G) AT DST PBX	HIGH-LOW REL (S) AT LOCAL PBX	HIGH-LOW REL (IC) AT DST PBX	BAT. SUPPLY AT DST PBX
B	1940	20,000	221A	85-12,000	85-12,000	44-52V

LOOP DESIG	MIN LOOP RES (OHMS)	MAX LOOP RES (OHMS)	MIN INS RES (OHMS)	BAT. SUPPLY REL (L) AT DST PBX	HIGH-LOW REL (S) AT LOCAL AND DST PBX	BAT SUPPLY AT DST PBX
C		1290	20,000	B1067	85-12,000	14-26V
		1390	20,000	B1067	85-12,000	15-20V
		2070	20,000	B1067	85-12,000	20-28V
	1270	4320	30,000	B1067	85-12,000 IN SERIES WITH 12,000Ω RES	45-50V

LOOP DESIG	MAX LOOP RES (OHMS)	MIN INS RES (OHMS)	BAT. SUPPLY REL (L) AT DST PBX	HIGH-LOW REL (S) AT LOCAL AND DST PBX	BAT. SUPPLY AT DST PBX
D	920	30,000	B1165	85-12,000	16-52V
	1780	30,000	B1165	85-12,000	16-25V
	1120	30,000	B1165	85-12,000	18-52V
	2060	30,000	B1165	85-12,000	18-25V
	1290	30,000	B1165	85-12,000	20-52V
	2220	30,000	B1165	85-12,000	32-52V
	3320	30,000	B1165	85-12,000 IN SERIES WITH 12,000Ω RES	44-52V
	3420	30,000	B1165	85-12,000 IN SERIES WITH 12,000Ω RES	45-52V

701B PBX
TIE TRK
2 WAY MANUAL
AND DIAL SELECTED

SD-66066-01

A
SEE NOTE 1

DISTANT PBX TIE TRK
SD-66066-01 AT 552B
552E, 556A OR 605A
SD-66066-01 AT 552A,
552D, 701A, 701B OR 740E
SD-66098-01 AT 700C
SD-66211-01 OR
SD-66305-01 AT 702A
SD-66241-01 AT 606A
OR 702A
SD-66622-01 AT 606B,
607A OR 607B

B
SEE NOTE 1

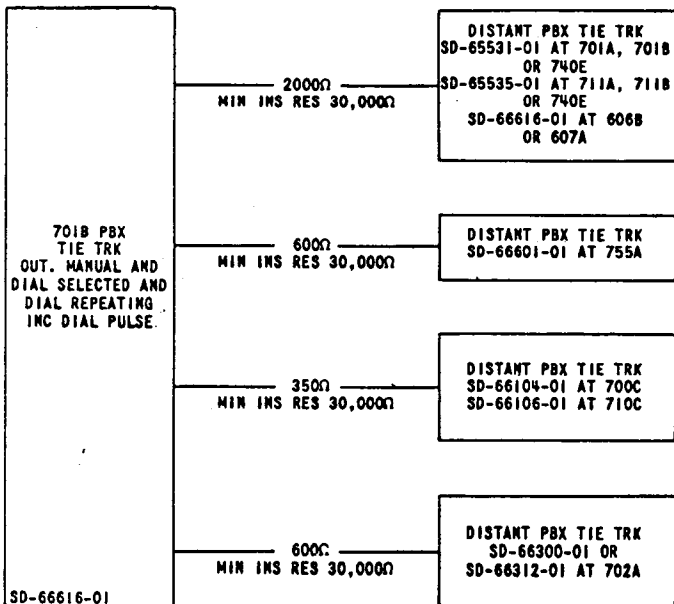
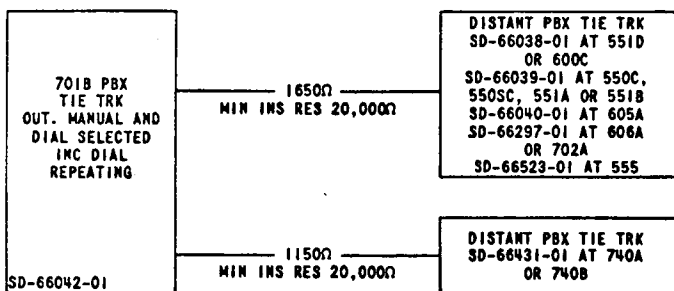
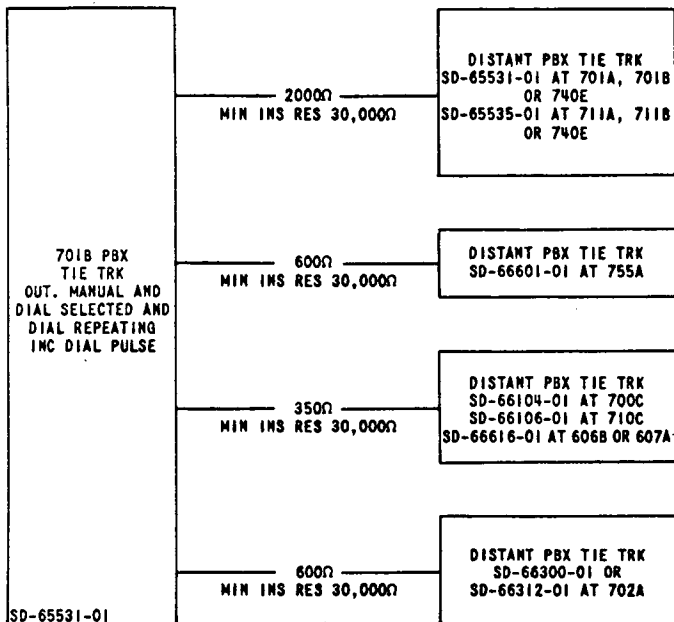
DISTANT PBX TIE TRK
SD-66088-01 AT 740A,
740B OR 740AX

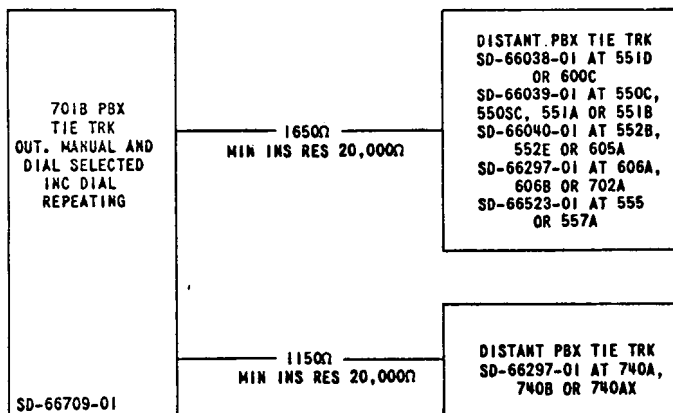
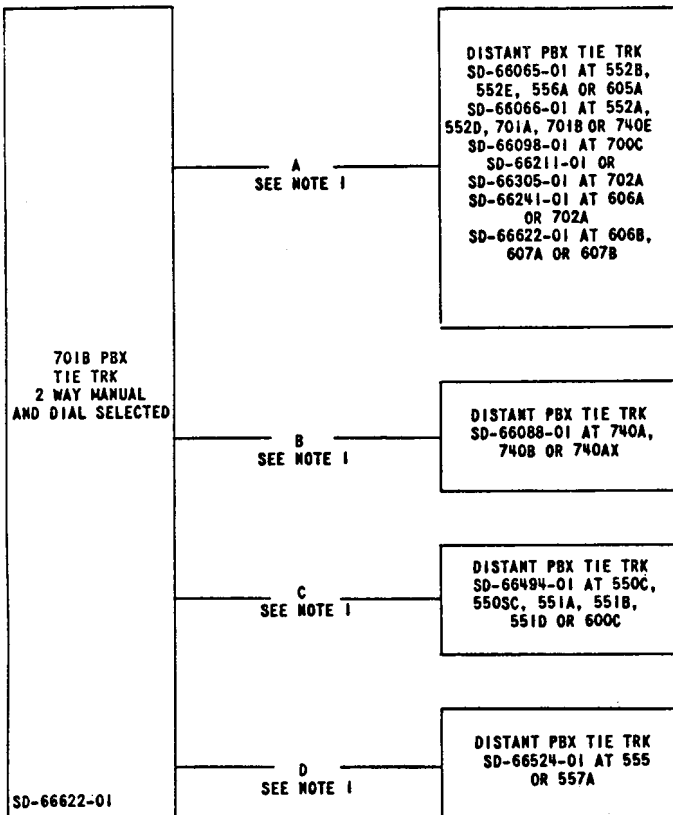
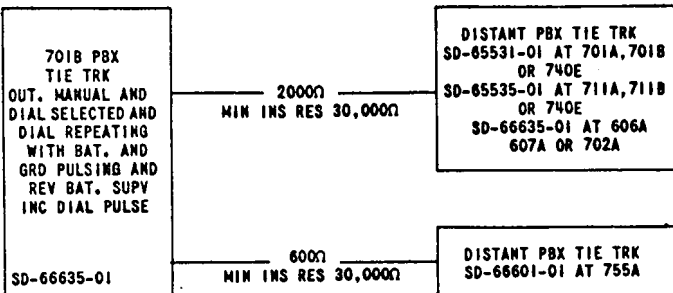
C
SEE NOTE 1

DISTANT PBX TIE TRK
SD-66494-01 AT 550C,
550SC, 551A, 551B,
551D OR 600C

D
SEE NOTE 1

DISTANT PBX TIE TRK
SD-66524-01 AT 555
OR 557A





NOTES:

- ALL TIE TRK RANGES SHOWN ON THE RANGE CHART INCLUDE THE RESISTANCE OF THE OUTSIDE CABLING, THE WIRING AT THE PBX AND THE HEAT COILS. THE RESISTANCE OF THE PBX APPARATUS IS NOT INCLUDED. VALUES ARE SHOWN IN TERMS OF CONDUCTOR LOOP BETWEEN PBX'S. VALUES INCLUDE LOOP RESISTANCE OF BATTERY AND GROUND LEADS WHEN FURNISHED FROM CENTRAL OFFICE.

LOOP DESIG	MAX LOOP RES (OHMS)	MIN INS RES (OHMS)	BAT. SUPPLY REL (L) AT DST PBX	HIGH-LOW REL (S) AT LOCAL AND DST PBX	BAT. SUPPLY AT DST PBX
A	1420	20,000	693	85-12,000	32-46V
	1720	30,000	693	85-12,000	32-46V
	2270	20,000	693	85-12,000	44-50V OR 44-52V
	2370	30,000	693	85-12,000	44-50V, OR 44-52V
	3220	30,000	693	85-12,000 IN SERIES WITH 12,000Ω RES	32-46V
	4320	30,000	693	85-12,000 IN SERIES WITH 12,000Ω RES	44-50V, OR 44-52V

LOOP DESIG	MAX LOOP RES (OHMS)	MIN INS RES (OHMS)	BAT. SUPPLY REL (S) AT DST PBX	HIGH-LOW REL (S) AT LOCAL PBX	HIGH-LOW REL (IC) AT DST PBX	BAT. SUPPLY AT DST PBX
B	1940	20,000	221A	85-12,000	85-12,000	44-52V

LOOP DESIG	MIN LOOP RES (OHMS)	MAX LOOP RES (OHMS)	MIN INS RES (OHMS)	BAT. SUPPLY REL (L) AT DST PBX	HIGH-LOW REL (S) AT LOCAL AND DST PBX	BAT. SUPPLY AT DST PBX
C		1290	20,000	81067	85-12,000	14-26V
		1390	20,000	81067	85-12,000	15-20V
		2070	20,000	81067	85-12,000	20-28V
	1270	4320	30,000	81067	85-12,000 IN SERIES WITH 12,000Ω RES	45-50V

LOOP DESIG	MAX LOOP RES (OHMS)	MIN INS RES (OHMS)	BAT. SUPPLY REL (L) AT DST PBX	HIGH-LOW REL (S) AT LOCAL AND DST PBX	BAT. SUPPLY AT DST PBX
D	920	30,000	81165	85-12,000	16-52V
	1780	30,000	81165	85-12,000	16-25V
	1120	30,000	81165	85-12,000	18-52V
	2060	30,000	81165	85-12,000	18-25V
	1290	30,000	81165	85-12,000	20-52V
	2220	30,000	81165	85-12,000	32-52V
	3320	30,000	81165	85-12,000 IN SERIES WITH 12,000Ω RES	44-52V
	3420	30,000	81165	85-12,000 IN SERIES WITH 12,000Ω RES	45-52V

General Description

The PBX No. 701B is a new dial PBX employing step by step switches for making connections between local stations, and from these stations to a manual or dial central office or another PBX. The associated PBX switchboard may be the non-multiple No. 552A or the multiple No. 552D, 605A, 607A or 607B. All calls from a central office are completed through the switchboard. Calls to the central office and also calls to and from another PBX may be completed either through the switchboard or by means of the dial switching equipment.

The type of switchboard used depends upon the number of lines and trunks required and also upon the amount of traffic to be handled through the switchboard.

The capacity of this PBX is as follows:

<u>Type of Operation</u>	<u>Type of Swbd.*</u>	<u>Station Lines**</u>
2 Digit	552A Non-Mult	90
3 Digit	552A Non-Mult	300
3 Digit	552D Multiple	600
3 Digit	605A, 607A, or 607B Multiple	999
4 Digit	605A Multiple 24 1/8-inch Jack Panel	2000

<u>Type of Operation</u>	<u>Type of Swbd.*</u>	<u>Station Lines**</u>
4 Digit	605A Multiple, 34 1/2-inch Jack Panel	3200
4 Digit	607A Multiple	5600
4 Digit	607B Multiple	5600

*The capacities are based on the use of one selector level for attendant trunks to the switchboard.

**When selector levels are used for central office trunks or for trunks to another PBX the capacity of the 2-digit PBX will be reduced by 10 and the 3-digit PBX by 100 per level used.

Ringing current, dial tone and busy tone and interrupters are supplied by the 806G power plant.

The circuits shown on this keysheet are arranged for 44-52 volt battery operation.

The conductor loop range between the PBX dial station line circuit and the station apparatus is 800 ohms allowing for a maximum of 200 ohms in the station apparatus. The minimum insulation resistance is 20,000 ohms.

ALARM			Toll Subscriber, to	SD-90077-01	F59
			Toll Swbd. No. 1		
Miscellaneous	SD-65761-01	D54	Toll Subscriber, to	SD-90078-01	E59
Crash	SD-66692-01	F12	Swbd. No. 3, 3C		
Crash, Arr. for Con-	SD-66694-01	H12	or 3CL		
tinuous Test of Sta.					
Lines			LEADS		
AUXILIARY LINE			Ringing	SD-65771-01	E54
Night Service	SD-66604-01	G12	LONG LINE, DIAL		
CALL			<u>Apparatus at Central Office</u>		
3A Code	SD-66610-01	E52	Pulse Corrector, with	SD-96008-01	B7
CONFERENCE			Tel. Repeater 40-50V.		
Dial	SD-66461-01	I22,	Pulse Corrector,	SD-96009-01	C7
Command	SD-66693-01	J22	without Tel. Repeater		
CONNECTOR		E12	40-56V.		
Selector, with or	SD-65721-01	C17	Repeats Pulses 40-56V.	SD-96034-01	D7
without Terminal			10 or 20 P.P.S. Rep.,	SD-96234-01	F7
Hunting, Arr. to			Relayed or By Passed		
Hunt After Dialing			Ringing 45-50V.		
One or 2 Digits,			CX or SX Signaling,	SD-96251-01	F8
Arr. for Restricted			Supplies Line Supv.		
Serv.			with or without Tel.		
Rotary Hunting, One	SD-66144-01	I19	Repeater		
Ring			CX or SX Signaling,	SD-96252-01	C8
Incoming, with or	SD-66596-01	F17	Type "B" TB Supply,		
without Rotary			with or without Tel.		
Hunting, with or			Repeater		
without Dial Tone			LONG LINE, MANUAL		
CUT-OFF			<u>Apparatus at Central Office</u>		
Battery	SD-65773-01	A54	Ring Through Coil,	SD-66058-01	C2
FINDER			20-28V.		
200 Point Line	SD-65901-01	B14	Ring Through Coil,	SD-66059-01	D2
GROUNDING	SD-66197-01	B53	31-43V. or 40-56V.		
KEY			Ph. Group & CX Sig.,	SD-96116-01	E2
Emergency Transfer	SD-66451-01	H24	Supplies Line Supv.		
LINE			Ph. Group & CX Sig.,	SD-96117-01	F2
Auxiliary (See			Supplies Trans-		
Auxiliary Line)			mitter Battery		
Long (See Long Line)			<u>Apparatus at PBX</u>		
Test (See Test Line)			Ring Through Coil	SD-66057-01	G2,
Toll Foreign Exchange	SD-62442-01	G59			H22
Subscriber, 1000			LONG TRUNK, DIAL		
Cycle or 135 Cycle			<u>Apparatus at Central Office</u>		
Toll Line Signaling			Out., Dial Repeating	SD-66192-01	F32
Dial Terminating	SD-65776-01	B27	45-50V.		
Manual Station			Pulse Corrector,	SD-66471-01	C32
Station, Ind. or 2	SD-66715-01	B13	without Tel. Repeater		
Pty. Sel. Ring.,			40-56V.		
with or without			Repeats Pulses, with	SD-66474-01	E32
Restricted Serv.			Rering Feature		
			40-56V.		
			Pulse Corrector, with	SD-96008-01	B37
			Tel. Repeater,		
			40-56V.		
			Pulse Corrector, with-	SD-96009-01	C37
			out Tel. Repeater,		
			40-56V.		

LONG TRUNK, DIAL (Cont'd.)

Repeats Pulses, with Rering Feature 40-56V.	SD-96010-01	F37, F38
Repeats Pulses, without Rering Feature 40-56V.	SD-96034-01	D37
10 or 20 P.P.S. Rep., Relayed or By Passed Ringing, 45-50V.	SD-96234-01	H37
CX or SX Signaling, Supplies Line Supv. with or without Tel. Repeater	SD-96251-01	J38
CX or SX Signaling, Type "B" TB Supply, with or without Tel. Repeater	SD-96252-01	I38
For Use at Terminating Office	SD-96371-01	G32

Apparatus at PBX

Repeats Pulses	SD-66060-01	J37
Repeats Pulses, with Rering Feature	SD-66474-01	H32
Repeats Pulses, with Rering Feature	SD-96010-01	I37

LONG TRUNK, MANUAL

Apparatus at Central Office

Ring Through Coil 20-28V	SD-66058-01	C57
Ring Through Coil 31-43V. or 40-56V.	SD-66059-01	D57
For Use with Dial Trunks	SD-66192-01	E62
Out. Automatic	SD-66275-01	D62
Repeats Ringing, with Rering Feature	SD-66474-01	C62
Ph. Group & CX Sig., Supplies Line Supv.	SD-96116-01	E57
Ph. Group & CX Sig., Supplies Transmitter Battery	SD-96117-01	F57

Apparatus at PBX

Ring Through Coil	SD-66057-01	I57
Repeats Ringing with Rering Feature	SD-66474-01	H62

RANGE CHART

For Stations and Trunks Used in Connection with Xbar. No. 5 Off. Having 1350 Ohm Sub. Conductor Loop AC-DC or Sup. Ring. 48 Volts Min.	SD-65763-01	A55
For Stations and Trunks Used in Connection with Panel Off. Having 1300 Ohm Sub. Conductor Loop AC-DC Ringing 48 Volts Min.	SD-65764-01	A55

For Stations and Trunks Used in Connection with SXS Off. Having 1300 Ohm Sub. Conductor Loop AC-DC Ringing 48 Volts Min.	SD-65765-01	A55
For Stations Used in Connection with Dial Long Line Ckts.	SD-96327-01	A55
For Station and Trunks Used in Connection with Long Line Ckts.	SD-96328-01	A55

REGISTER

Traffic	SD-65774-01	A52
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SELECTOR

Digit Absorbing, Absorbs Digits Once Only or Repeatedly and Restricts Service on Specified Levels	SD-65900-01	J17
Second	SD-66010-01	C18, H18
2 Digit Rotary Hunting	SD-66302-01	D18, I18
First Inc. First, without Dial Tone	SD-66359-01	G17
Inc. First, with Dial Tone	SD-66360-01	H17
Inc. First, with Dial Tone	SD-66594-01	H17

TELEPHONE REPEATER

V3	SD-95144-01	A7, A37
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TERMINATING SET

4 Wire	SD-65789-01	D45
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TEST LINE

Connector Tie Trunk	SD-66037-01	I54
	SD-66533-01	J52

TEST SET

Line Finder, Selector, Connector and Selector Connector	SD-66073-01	I52
Line Finder, Selector, Connector and Selector Connector	SD-90416-01	H52

TEST TERMINAL

For Bat. and Grd.	SD-65677-01	H54
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TRUNK

Long Trunk (See Long Trunk)

TRUNK (Cont'd.)

Tie (See Tie Trunk)		
Central Office, Out-	SD-65657-01	G23
going One Way Dial		
Selected or 2 Way		
Manual and Dial		
Selected		
Incpt., from Conn.		G27
Mult.		
Recorded Tel.	SD-65728-01	K22
Dictation		
Auxiliary, for Use	SD-65725-01	I27
with Key Telephone		
Sets		
Announcement, from	SD-65692-01	D23
Selector Level		
Recording Compl.,	SD-66321-01	C23
Out. 2 Wire, with		
Recall		
Attendant	SD-66716-01	E27
Incpt., from Vacant	SD-66716-01	D27
Selector Levels		
Attendant, Arr. for	SD-66717-01	E27,
Toll Diverting		F27

TIE TRUNK

Out. Man. & Dial	SD-65531-01	E42
Selected & Dial		
Repeating, Incoming		
Dial Pulse		

Out. Man. & Dial	SD-65718-01	A42
Selected & Dial		
Repeating, Inc. Pulse		
Correcting, with or		
without E&M Leads		
Supv.		
2 Way Man. & Dial	SD-65739-01	G47
Selected, E&M Lead		
Pulse Signaling		
Out. Manual and Dial	SD-66042-01	I42
Selected, Inc. Dial		
Repeating, Loop Res.		
1650 Ohms Max.		
2 Way Manual and Dial	SD-66066-01	C42
Selected		
Out. Man. & Dial	SD-66616-01	J47
Selected & Dial		
Repeating, Inc.		
Dial Pulse		
2 Way Man. & Dial	SD-66622-01	B47
Selected		
Out. Man. & Dial	SD-66635-01	I47
Selected & Dial		
Repeating, with		
Bat. & Grd. Puls. &		
Rev. Bat. Supv.,		
Inc. Dial Pulse		
Out. Man. & Dial	SD-66709-01	H47
Selected, Inc.		
Dial Repeating		