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LABORATORY OF CHEMISTRY FEDERAL BUREAU OF INVESTIGATION U. S. DEPARTMENT OF JUSTICE	100-64000-01-A2
TELEPHONE LABORATORIES	20

GENERAL DESCRIPTION

THE SWITCHBOARD NO. 3C OR 3CL IS USED PRIMARILY TO ESTABLISH CALLS BETWEEN TOLL CENTERS AND BETWEEN SUBSCRIBERS IN ONE TOLL CENTER AND SUBSCRIBERS IN ANOTHER TOLL CENTER.

THE CIRCUITS SHOWN ON THIS KEY SHEET ARE ARRANGED TO PROVIDE THE FOLLOWING FEATURES:

1. 92 TYPE JACKS.
2. 24 V. PAD CONTROL.
3. 48 V. BATTERY FOR TALKING.
4. 24V. HIGH-LOW SLEEVE SUPERVISION.
5. UNIVERSAL TWO RELAY CORD CIRCUITS ARRANGED FOR:
 - 5.01 MONITORING ON CONNECTIONS.
 - 5.02 REPEATED DIALING ON EITHER OR BOTH CORDS, IN CONJUNCTION WITH POSITION CIRCUIT.
 - 5.03 D-C OR M-F KEY PULSING ON EITHER OR BOTH CORDS, IN CONJUNCTION WITH POSITION CIRCUIT.
 - 5.04 APPLIES 48 V. BATTERY ON THE TIP CONDUCTOR FOR RINGING, IN CONJUNCTION WITH POSITION CIRCUIT.
 - 5.05 USE OF A RINGING RELAY, MAKING IT POSSIBLE TO USE A SIMPLE RINGING KEY.
 - 5.06 CODE RINGING ON RURAL LINES FROM POSITION CIRCUIT.
6. OPERATORS RECORDING COMPLETING CORDS IN DSA AND OUTWARD POSITIONS FOR COMPLETING CALLS (1) FROM DSA TO TOLL AND (2) FROM OUTWARD TO MOBILE OPERATORS.
7. HANDLE DSA TRAFFIC FOR CROSSBAR NO. 1 AND NO. 5 STEP-BY-STEP AND PANEL OFFICES.
8. SPLIT CONNECTIONS IN ORDER TO TALK TO EITHER END.
9. TONE REMOVAL OR FLASHING ON INTERCEPTED CALLS.
10. BUSY AND IDLE INDICATING BY MEANS FOR AC OR DC LAMPS OR TONE.
11. TRAIN STUDENT TOLL OPERATORS TO HANDLE CLR TRAFFIC.
12. NUMBER CHANGING BY MEANS OF A CORD IN EACH POSITION FOR PANEL AREAS.
13. SUCCESSIVE GROUPING OF POSITIONS WITH MEANS FOR OPERATING FROM ANY POSITION WITHIN THE GROUP.
14. CONTROL OF AN ADJACENT TOLL SWITCHBOARD NO. 3B POSITION WHICH HAS BEEN TRANSFERRED TO SWITCHBOARD NO. 3C.
15. COIN CONTROL UNDER CONTROL OF CORD RINGING KEYS AND POSITIONAL COIN CONTROL KEYS.
16. AUTOMATIC START OF RINGING ON TRUNKS REQUIRING THIS FEATURE UNDER CONTROL OF POSITIONAL KEY FROM INWARD POSITIONS.
17. TRUNKING ARRANGEMENTS AS FOLLOWS:
 - 17.01 RINGDOWN INTERTOLL TRUNKS BETWEEN DISTANT TOLL OFFICES.
 - 17.02 INTEROFFICE TRUNKS BETWEEN TOLL POSITIONS IN SEPARATE TOLL OFFICES IN SAME TOLL CENTER TO HANDLE INTERPOSITION TRAFFIC SUCH AS WH, AG AND CKT REQUEST.
 - 17.03 INTERPOSITION TRUNKS TO HANDLE MISCELLANEOUS TRAFFIC BETWEEN TOLL POSITIONS IN SAME OR ADJACENT BUILDING.
 - 17.04 RECORDING TRUNKS INCOMING FROM MANUAL OFFICES OR FROM RURAL POSITIONS OF DIAL "A" SWITCHBOARDS.
 - 17.05 RECORDING COMPLETING TRUNKS INCOMING FROM MANUAL, STEP-BY-STEP PANEL OR CROSSBAR OFFICES.
 - 17.06 TOLL SWITCHING TRUNKS OUTGOING TO MANUAL, STEP-BY-STEP, PANEL OR CROSSBAR OFFICES.
 - 17.07 RECORDING COMPLETING SWITCHING TRUNK INCOMING FROM AND OUTGOING TO MANUAL TRIBUTARY OFFICE ARRANGED FOR SELECTIVE SIGNALING.
 - 17.08 TWO-WAY DIAL OR KEY PULSING OPERATOR OFFICE TRUNKS TO COMMUNITY DIAL OFFICES.
 - 17.09 INTERTOLL DIALING TRUNKS BETWEEN TOLL AND TOLL OR TOLL AND LOCAL OFFICES.
 - 17.10 COMPOSITE OR SIMPLEX SIGNALING TRUNKS WHERE RANGES OF LOOP SIGNALING CIRCUITS ARE EXCEEDED OR WHERE PHANTOM CIRCUITS ARE NECESSARY.

17.11 TANDEM TRUNKS TO CROSSBAR TANDEM OFFICES AND TANDEM AND INTERTOLL TRUNKS TO TOLL SWITCHING TYPE OFFICES.

17.12 OPERATOR RECORDING COMPLETING TRUNKS FOR COMPLETING CALLS FROM DSA TO TOLL AND FROM OUTWARD TO MOBILE OPERATORS.

18. THE POSITIONS AVAILABLE ARE: (1) OUTWARD OR COMBINED OUTWARD AND DSA -10 CORDS; (2) INWARD -15 CORDS; (3) COMBINED DSA AND DSB -10 CORDS; (4) DSA OR COMBINED INWARD AND THRU -12 CORDS; (5) DSB; (6) (IN SWBD. NO. 3C ONLY) 3B TANDEM AND ASSOCIATED TROUBLE POSITIONS. MODIFICATIONS MAY BE PROVIDED IN OUTWARD POSITIONS FOR USE WITH TOLL CABINETS NO. 1B. COMBINATIONS OF THE ABOVE POSITIONS MAY BE USED TO BUILD UP SEPARATE DSA OR TOLL OR COMBINED SWITCHBOARD LINE-UPS.
19. ARRANGEMENTS ARE AVAILABLE FOR USE OF POWER PLANTS, INTERRUPTERS, ALARMS, ETC. IN COMMON WITH DIAL OFFICES IN THE SAME BUILDING.

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CIRCUIT NAME	DRAWING NUMBER	BLOCK LOC(1)	CIRCUIT NAME	DRAWING NUMBER	BLOCK LOC(1)
ADJUSTING			APPLIQUE		
MF PULSING RECEIVER	SD-95664-01	B168	TRAFFIC WEIGHTING, FOR USE WITH ANS TIME RCDS ON LINES OR TRKS NOT HAVING FLASHING LAMPS	SD-96497-01	J89
MF PULSING RECEIVER USING ONE MILLIWATT 1000 CYCLE SUPPLY SOURCE	SD-95779-01	B167	TRAFFIC WEIGHTING, ARR FOR RELAY RACK MTG	SD-96538-01	I86
ALARM (ALSO SEE EMERGENCY ALARM)			BANK MULTIPLE SELECTOR	SD-32123-01	C170
ALARM LINE	SEE LINE		BATTERY SUPPLY AMPLIFIER	SD-90608-01	B64
ALARM TRK	SEE TRUNK		BUSY BACK		
DSB POSITIONS BUSY & NIGHT	SD-21139-01	B159	ALSF TOLL SW TOM POS	SD-60803-01	F154
SWITCH TROUBLE FOR INTERTOLL SEL SHELVES	SD-32043-01	E77	CABINET		
WITH PERM SIG, RELEASE, FUSE ALM & COMMON TIMING	SD-55278-01	F77	TRAFFIC REGISTER	SD-95531-01	F122
AUX SIG & NIGHT	SD-55039-01	B88	CALL		
AUX NIGHT OBS OFF. END FOR OBS OPERATION OF NIGHT ALM CKT IN DISTANT MAN. OFF., ARR FOR ONE MINUTE DELAY IN OPERATION OF AUX SIG AND TO USE CONDUCTORS OF AN INTEROFFICE TRK CKT	SD-56350-01	J27	MESSENGER OR SUPERVISOR	SD-95097-01	F88
PNEUMATIC TUBE BLOCK-ADE	SD-64775-01	C78	CALCULAGRAPH		
6 V LAMP 60-CYCLE SUPPLY	SD-95005-01	D77	MOTOR DRIVEN	SD-95012-01	D89
AUDIBLE AND VISUAL, 24V, ALM BAT.	SD-95063-01	E78	CLOCK		
DISTRIBUTION FUSE & COMMON AISLE	SD-95072-01	A77	MOTOR DRIVEN	SD-95012-01	D89
AUDIBLE & VISUAL, TOLL & SXS NO. 355A, 48V ALM BAT.	SD-95075-01	D78	10 I.P.M. INT & IMPULSE	SD-96343-01	E89
POWER SUPPLY	SD-95081-01	B77	COIN CONTROL		
FOR USE WITH SUSPENSION CKT	SD-95872-01	H182	FOR REC COMPL TRK	SD-21549-01	J94
FUSE	SD-96153-01	B78	FOR REC COMPL TRK	SD-21705-01	I94
AUDIBLE & VISUAL	SD-96188-01	A78	TRK, TERMINATING END	SD-64424-01	C94
FUSE, DSA SWBD FUSE BAYS	SD-96444-01	B142	TRK, ORG END	SD-95031-01	K92
ALARM RECEIVING	SD-95418-01	G77	COMPENSATOR		
AMPLIFIER			IMPEDANCE	SD-95756-01	F169
MONITORING, FOR USE WITH OPR TRAINING	SD-95027-01	B63	CONDENSER		
VOICE FREQUENCY	SD-95112-01	G27	LINE BUILDING OUT	SD-63021-01	F97
FOR AUTO. TRANS TESTING	SD-96449-01	J118	CONFERENCE		
AMPLIFIER-RECTIFIER			BETWEEN LOCAL TRKS & ONE INTERTOLL TRK OR BETWEEN ONE LOCAL TRK & 2 INTERTOLL TRKS	SD-64733-01	D167
FOR AUTO. TRANS TESTING	SD-96450-01	J119			

(1) SHOWN ON "B" SHEETS

SWITCHBOARD NO. 3C OR 3CL
KEY SHEET

SD-64800-01-A3

BELL TELEPHONE LABORATORIES
INCORPORATED

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PRINTED IN U.S.A.

CIRCUIT NAME			CIRCUIT NAME			CIRCUIT NAME			CIRCUIT NAME		
DRAWING NUMBER	BLOCK LOC(1)		DRAWING NUMBER	BLOCK LOC(1)		DRAWING NUMBER	BLOCK LOC(1)		DRAWING NUMBER	BLOCK LOC(1)	
CONNECTOR			EMERGENCY ALARM			ISOLATION			DIAL TER MAN. SUB,		
REMOTE CONTROL, FOR USE WITH S.O. DESK NO. 7 OR 12 FOR OBSERVING ON CORDS			ARR FOR CODE SIG, ARR FOR AUTO. FIRE DETECTION			FOR REDUCING BRIDGED CAPACITANCE EFFECTS ON CORD CIRCUITS			ARR FOR COMPLETION BY OPR, NONCOIN, FOR PANEL OFF.		
SD-95793-01	G26		NOT ARR FOR CODE SIG, ARR FOR AUTO. FIRE DETECTION IN MULTIZONE OFF., 24V			JACK			OUT. AUX. FOR USE WITH DIAL SUB LINE IN CBR NO. 5 OFF., WITH OR WITHOUT EMER CONNECTION		
			NOT ARR FOR CODE SIG, ARR FOR AUTO. FIRE DETECTION IN SINGLE ZONE OFF., 24V			MAKE BUSY, FOR USE IN TERMINAL ROOM			FROM SEL MULTIPLE FOR TESTING TANDEM OR INTERTOLL TRKS		
SD-56275-01	C138		INC FROM DISTANT OFF. FOR USE WHEN INC CKT IS NOT TO BE CONNECTED TO ZONE SIG CKT			TONE			MAN. SUB, ARR FOR DIAL TERMINATING SERV FROM CBR NO. 5 OFF. IN SAME BLDG, FOR NONCOIN OR GRD START COIN LINES		
SD-64481-01	C73		NOT ARR FOR CODE SIG, ARR FOR AUTO. FIRE DETECTION IN MULTIZONE OFF., 48V			FOR TRKS, & SUB LINES			TOLL SUBSCRIBER		
SD-95412-01	J92		NOT ARR FOR CODE SIG, ARR FOR AUTO. FIRE DETECTION IN MULTIZONE OFF., 48V			MONITORING & OBSERVING			TOLL SUB, FOR USE WITH PBX TRK CKT ARR FOR GROUND START ON RING		
SD-95797-01	E122		FILTER			TEST, BAT. & GRD AT RELAY RACK			TEST		
SD-95872-01	H182		+130V PLATE SUPPLY			KEY & LAMP			BUSINESS OFFICE		
			TALK OR FILAMENT BAT. SUPPLY			FOR DSB OR COMBINED DSB POSITION			MANUAL SUB, EMER		
SD-95567-01	F29		FIRE DRILL			FOR CAMA CONNECTIONS IN COMBINED TOLL OR DSA & CAMA POSITIONS USING 2 OUT OF 5 DC KEY PULSING			MANUAL SUB, REG OR EMER		
SD-95590-01	E29		FLASHING			KEY SET			MANUAL SUB, PREPAY COIN		
SD-96453-01	G29		FOR POSTED DELAY TONES			MF, SWBD NO. 3C			EMER, TO PROVIDE A DIAL SUB WITH EMER MAN. SERV WHEN LOCAL OFF. IS LOCATED IN DST BLDG		
			GENERATOR			DC, SWBD NO. 3C			PLUGGING UP. TBL OBS & TEST & COMPLETION FOR CBR NO. 1 OR PANEL OFF.		
SD-55871-01	D108		MF SIGNAL, FOR SUPPLYING THE 6 FREQUENCIES REQUIRED FOR MF PULSING			DC & MF, SWBD NO. 3C OR 3CL			RECORDERS TALKING		
SD-56089-01	G3		GROUPING			DC, SWBD NO. 3CL			104 INTERTOLL TRK TRANS TEST		
SD-56183-01	B2		OFFICE KEY, FOR DSB OR COMBINED DSB POS			MF, SWBD NO. 3CL			MAN. SUB, FOR USE WITH DIAL TERMINATING MANUAL LINE CKT IN DISTANT OFF.		
SD-56251-01	C123		ALSF TOLL SW TDM POS			POSITION & MF FOR CAMA			EMER, ARR TO DISCONNECT CALLING PTY ON EMER CALLS		
SD-64737-01	A3		TROUBLE POS			LAMP & JACK			BUSINESS OFF., OUT. TO DIAL OFF.		
			TOLL POS			DIAL COIN SERV CHARGE FOR OGT TO PANEL SDR TDM OFF. FROM PANEL OR CROSSBAR NO. 1 OFF.			ORDER CLERK OR CH OPR		
SD-56340-01	C167		INTERRUPTER			LINE			TRANSMISSION TEST		
SD-64741-01	B4		135 CYCLE - 24V OPER			ALARM			LINK		
SD-95000-01	I119		135 CYCLE - 48V OPER			MAGNETO RURAL, WITH FLASHING RECALL			MAKE BUSY		
SD-90085-01	H90		RELAY - FOR 30, 60 OR 120 I.P.M.			AUXILIARY, FOR BRIDGED TOLL STATIONS			TRUNK		
SD-95830-01	E64		30, 60 OR 120 I.P.M., WITH ALARM, TRANSFER & DISTRIBUTING CKTS			SUB, MANUAL ORG, DIAL TERMINATING, WITH OR WITHOUT COIN CONTROL FOR CBR NO. 1 OFF.			FOR SWBD		
			10 I.P.M.			BUSINESS OFF., FOR CBR NO. 1 OR 5 OFF.			MEASURING		
						OUT. AUX. FOR USE WITH DIAL SUB LINE IN CBR NO. 1 OR PANEL OFF., WITH OR WITHOUT EMER CONNECTION			IT. TRK TRANS, & NOISE CHECKING		

SD-64800-01-A4

(1) SHOWN ON "B" SHEETS

CIRCUIT NAME	DRAWING NUMBER	BLOCK LOC(1)
MONITORING		
DSB POS KEY	SD-21648-01	F127, D157
DIAL	SD-90596-01	G89
DIAL PULSE, FOR USE WITH SERV OBS CKTS CONNECTING TO SERV OBS DESK NO. 7 OR 12	SD-95610-01	H29
MF OR DC KEY PLSG	SD-96314-01	H89
FOR TEL, POS KEY SET, POS DIAL OR PEG COUNT CKTS	SD-96441-01	K90
NETWORKS - LINE & BAL		
OPEN WIRE	SD-59042-01	B97
H44-25 CABLE	SD-60963-02	B97
COMPROMISE AND BALANCING	SD-90517-01	A100
OBSERVING		
SERVICE, MULTILINE, FOR OBS ON TOLL CORDS ARR FOR DIALING, FOR USE WITH SERV OBS DESK NO. 7 OR 12	SD-56295-01	I27
SERVICE, MULTILINE, FOR OBS ON CORDS IN KEY PULS TOLL POSITIONS, FOR USE WITH SERV OBS DESK NO. 7 OR 12	SD-56316-01	F27
CENTRAL OFF., SET NO. 2	SD-90448-01	D90
SERVICE, MULTILINE, FOR SPEED OF ANS ON INC CALLS	SD-95563-01	H27
SERVICE, MULTILINE, FOR OBS ON INC INTERMOLL TRKS OR INC END OF 2 WAY INTERMOLL TRKS, FOR USE WITH SERV OBS DESK NO. 7 OR 12	SD-95604-01	E27
OPERATOR'S TRAINING		
CONTROL POS CKTS FOR SIMULATING NO CKT, REORDER & LINE BUSY SIGNALS & AUD RINGING TONE TO STUDENTS	SD-55163-01	D64
CONTROL POS CKTS FOR USE IN SIMULATING SUPV, TONES & FLASHING TO STUDENT TOLL CABINET OPERATORS	SD-55660-01	B62
LISTENING-IN CKT, ARR TO HANDLE 1 TO 20 STUDENTS WITH INSTRUCTOR AT A REGULAR SWBD POS	SD-55655-01	K63

CIRCUIT NAME	DRAWING NUMBER	BLOCK LOC(1)
MISC TONES, TRANS REDUCTION, MON, TALKING & START DIAL CONTROL	SD-64745-01	C64
LISTENING-IN CKT, FOR CONTROL OPR & 2 STUDENT OPERATORS	SD-96405-01	A63
PAD		
TRANS, FOR OPR OFF. TRKS	SD-55134-01	G97
FIXED	SD-95756-01	F169
PATCHING		
INTERMOLL, FOR BUILD- ING UP THROUGH RD INTERMOLL TRK CONNECTIONS	SD-55682-01	E92
PATHS BUSY		
FOR INC TRKS ARR FOR THROUGH SUPV	SD-55350-01	J87
PEG COUNT	SD-62390-01	J90
POSITION		
FOR DSB OR COMBINED DSB POSITION	SD-55996-01	B128 C159
ALSF TOLL SW TDM POS	SD-56178-01	D153
FOR TOLL POSITION	SD-64738-01	B3
RECEIVING		
MF PULSING	SD-95536-01	A167
RECORDER		
TRAFFIC USAGE	SD-95738-01	G167
ANS TIME CONCEN- TRATING, TIMING CONTROL & TESTING CKT, PERMANENT TYPE	SD-96235-01	I88
ANS TIME CONCEN- TRATING, TIME CON- TROL & TESTING CKT, PORTABLE TYPE	SD-96275-01	J88
TRAFFIC USAGE, PORT- ABLE NO. 1	SD-96494-01	G168
ANS TIME, MOD OF EXISTING PORTABLE CKT FOR REL RACK MTG WITH OR WITHOUT LAMP GROUP SWITCHING	SD-96532-01	F89
REGISTER		
TRAFFIC, FOR OPERATING GRP BUSY TIME REGIS- TERS GRP BUSY REG- ISTERS GRP BUSY TONE & LAMPS & PEG COUNT REGISTERS	SD-56233-01	H122
TRAFFIC, INTERMOLL DIALING	SD-56290-01	H68

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CIRCUIT NAME	DRAWING NUMBER	BLOCK LOC(1)
RELAY (ALSO SEE RELAY CHAIN)		
30 IPM INTERRUPTER	SD-31868-01	D170
MULT LAMP, FOR USE WITH DC LAMPS & FOR SUPPLYING 24V BAT. FOR LIGHTING LAMPS WHEN CONNECTING CKTS SUPPLY 48V BAT.	SD-56494-01	C93
TEST TRK	SD-62062-01	A82
AC LAMP	SD-95897-01	C87
RELAY CHAIN		
IMMEDIATE RELEASE	SD-55570-01	C88
DELAYED RELEASE	SD-55570-01	D88
REORDER		
ALSF TOLL SW TDM POS	SD-60803-01	F154
REPEATING COIL GROUPS		
OPEN WIRE	SD-60782-02	D97
H44-25 CABLE	SD-63275-02	D97
B88-50 CABLE	SD-63811-01	D97
H88-50 CABLE	SD-63811-02	D97
H172-63 CABLE	SD-63811-03	D97
OPEN WIDE & NONLOADED CABLE, FOR SMALL INSTALLATIONS	SD-95022-01	C97
RESERVATION		
INTERMOLL DIALING DIRECTIONAL	SD-56470-01	I137
RINGBACK		
EMERGENCY	SD-64244-01	H87
RINGING LEAD		
135 CYCLE	SD-62021-01	D94
SELECTING		
POSITION, FOR MON ON CAMA POSITIONS	SD-27013-01	D184
SELECTOR		
TOLL PRECEDING	SD-31241-01	D50
SXS COMB. INTERMOLL & TOLL TRANS	SD-55062-01	F68
SXS INTERMOLL, WITH DIGIT ABSORBING	SD-55242-01	E68
SXS AUX INTERMOLL	SD-55242-01	E70
SXS INTERMOLL THROUGH	SD-55242-01	F70
SXS FOR HANDLING "WE HAVE" CALLS ARR FOR DIGIT ABSORBING & LOOP PULS	SD-55848-01	G48
SXS INTERMOLL, WITH- OUT DIGIT ABSORBING	SD-64470-01	E68

CIRCUIT NAME	DRAWING NUMBER	BLOCK LOC(1)
SENDER		
MFKP-IN, RP-OUT	SD-56072-01	F9
DCKP-IN, RP-OUT	SD-62058-01	C9
DCKP-IN, DP-OUT	SD-95480-01	E9
MFKP-IN, DP-OUT	SD-95481-01	D9
DSB, SWBD PART	SD-96285-01	B157
SIGNAL		
DSB CALLS WAITING	SD-21758-01	B160
OVERFLOW, FOR PERM SIG HOLDING TRK GROUPS	SD-55867-01	A110
PNEUMATIC DISTR SYSTEM	SD-64772-01	D5
AUX - (COIN PILOT)	SD-90464-01	K94
AUX FOR CROSSBAR SDR LOAD CONTROL	SD-90464-01	E94
CALLS WAITING, FOR CAMA	SD-95868-01	F183
CALLING, FOR OPERAT- ING ROOM	SD-96087-01	A89
SIGNALING		
2 WAY, FOR CAMA	SD-95776-01	E183
SUPERVISORY		
STUCK COIN & OVERTIME MONITORING WITH OR WITHOUT TRANSFER TO NIGHT POS	SD-55844-01	G112
STUCK COIN	SD-56032-01	H112
SUPPLY		
MF CURRENT, & DIS- TRIBUTION	SD-95391-01	H94
FILAMENT, WITH EMER TRANSFER FOR MF PULS RECEIVING CKTS	SD-95676-01	A168
SUSPENSION		
FOR USE WHEN ALL POSITIONS ARE VACATED IN AN EMER FOR CAMA	SD-27018-01	G182
SWITCH		
INTERMOLL DIALING ROT. OUT TRK, ARR FOR PRESELECTION	SD-55945-01	D137
SWITCHING		
ANS TIME RCDR	SD-96360-01	I89
TELEPHONE		
TOLL OPERATOR	SD-55110-01	A2
OVERFLOW RECORDING OPR TEL & TRK	SD-55670-01	I92

(1) SHOWN ON "B" SHEETS

SWITCHBOARD NO. 3C OR 3CL
KEY SHEET

SD-64800-01-A5

BELL TELEPHONE LABORATORIES

DRAWING
ISSUE
15
CBM
PR

15

CIRCUIT NAME			CIRCUIT NAME			CIRCUIT NAME			CIRCUIT NAME		
DRAWING NUMBER	BLOCK LOC(1)		DRAWING NUMBER	BLOCK LOC(1)		DRAWING NUMBER	BLOCK LOC(1)		DRAWING NUMBER	BLOCK LOC(1)	
TELEPHONE (CONT)			AC VOLTAGE	SD-64125-01	E83	TRUNK			TX, 121, 181 OR 191, 4 WIRE TALKING, REV BAT. SUPV, SX DC RINGING ON SIG PHANTOM WITH OR WITHOUT TRANSMISSION SW PAD	SD-56055-01	I49
DSB POSITION OPR	SD-55991-01	C129, D160	PULSE REPEATING	SD-64540-01	I82	ALARM			OFFICIAL PBX, FROM CBR SYS NO. 5 IN SAME BLDG	SD-56102-01	I112
SUPERVISOR, FOR USE IN DIVISION WITH DSB OR COMBINED DSB POS	SD-55993-01	D127, E158	FOR SXS SUB REC COMPL TRKS IN SAME BLDG	SD-90469-02	D82	ARR TO EXTEND 3 ALM INDICATIONS	SD-95310-01	H79	SPECIAL SERVICE COIN, FROM PANEL OR CBR NO. 1 OFFICE IN SAME BLDG	SD-56278-01	K112
ALSF TOLL SW TDM POS	SD-56178-01	D153	FOR PANEL SUB REC COMPL TRKS IN SAME BLDG	SD-90470-01	C82	AUXILIARY			VERIFICATION REQUEST, OFFICIAL PBX OR REPAIR SERVICE, EAM LEADS SUPV, PULSE RERING SIG	SD-56424-01	H162
ENERGIZED PERM OPR TRAINING UNIT OPR	SD-56462-01	H64	JACK	SD-95056-01	D85	CONN FROM INTERTOLL OR SXS TDM TRAIN TO OUT. OR OPR OFF. TRK, LOOP OR CX SIG	SD-96384-01	H20	SLEEVE REPEATING, FOR USE WITH 2 WAY TRK IN DIST CBR NO. 5 OFF. WHERE SLEEVE CONDUCTOR RES EXCEEDS 10 OHMS	SD-56458-01	K49
TRAFFIC RECORDER AT TRAFFIC REG RACKS	SD-63694-01	H86	CONTROL, FOR USE WITH POSITION TEST CKT	SD-96490-01	C85	INCOMING			TRANSFERRED INFO OR INCPT, FROM INFO DESK NO. 3, 4 OR 6 TYPE OR OPR ROOM DESK NO. 23A, B, C OR D	SD-56492-01	G49
TROUBLE OPERATOR	SD-64577-01	G91	TIMING			INCPT, FROM INTER-TOLL SEL LEVELS FOR USE WITH AN ANN. MACH, ANN. SYS NO. 7A	SD-32202-01	A74	FOR PBX SERVICE, REV BAT. SUPV, ARR TO RECALL ORIG END, FOR USE WITH CROSSBAR TDM OFFICE	SD-56496-01	H49
SUPERVISOR	SD-64743-01	A88	FOR CONTROLLING 2 SEC RINGING SIG	SD-64587-01	H66	FOR COMPLETING A-B TDM CALLS, REV BAT. SUPV, WITH RERING SUPV	SD-55067-01	A47	FROM LOCAL OPR ROOM DESKS	SD-63109-01	D47
TERMINATING			COMMON & ALM	SD-95052-01	B10	FROM MAN. OFF., LOOP SIG, THROUGH SUPV, HIGH-LOW DRY END, REV BAT. WET END	SD-55081-01	A49	FROM INFO DESKS OR OPR ROOM DESK NO. 19	SD-64221-01	C47
4 WIRE, FOR CKTS NOT IN SAME BLDG	SD-64304-01	A97	FOR INITIAL CHG PERIOD REMINDING ON ORIGINATING CALLS	SD-95801-01	I122	AUTO., WET DRY SUPV	SD-55184-01	A39	INTEROFFICE FROM DISTANT TOLL SWBD ARR TO REPEAT RING. SIG	SD-64440-01	G47
4 WIRE, FOR CKTS TERMINATING IN SWBD IN SAME BLDG	SD-96463-01	I97	TONE			FROM TOLL SWBD NO. 1, AUTO.	SD-55186-01	E47	INTEROFFICE FROM DISTANT TOLL SWBD ARR TO RERING	SD-64441-01	F47
TEST			ORDER	SD-55343-01	H88	INFO, FROM SXS SEL MULT IN SAME BLDG	SD-55335-01	I56	FROM MAN. TDM SXS LOCAL OR TDM PANEL SDR TDM OR CBR TDM OFF.	SD-64553-01	I47
POSITION, FOR CORD, DIAL, KEY SET, JACKS	SD-55056-01	B81	RINGING	SD-62312-01	E65, C152	3 OR 4W FROM SXS OVERFLOW CONN MULT, TRIPS MACH RING, WITHOUT CHARGING	SD-55500-01	D57	2W FROM SXS CONN MULT, OFF. PBX TR	SD-64553-01	B56
TRUNK, FOR MFKP TRKS	SD-55924-01	B117	TRANSFER			FROM TOLL SWBD NO. 1 IN SAME BLDG FOR HANDLING "WE HAVE" CALLS	SD-55643-01	F49	2W FROM PBX CONN MULT, OFF. PBX TR	SD-64553-01	B57
AUTO., FOR MFKP-IN, RP-OUT SENDERS	SD-56097-01	E117	FOR TRANSFERRING CORD CKTS TO TOLL CAB. NO. 1B	SD-55507-01	F3	OFFICIAL PBX OR VERIFICATION REQUEST, HIGH-LOW REV BAT. SUPV	SD-55778-01	B112	2W FROM SXS CONN MULT - EMER SERV	SD-64553-01	E57
INTERTOLL DIALING ROT. OUT TRK SWITCH	SD-56118-01	F117	KEY SET, FOR USE WHEN DSB OR CAMA CALLS ARE HANDLED AT SWBD POS	SD-55992-01	C128, D159	TBL INCPT FROM PANEL OFF.	SD-55869-01	G107	3 OR 4W FROM SXS CONN MULT, OFF. PBX TR	SD-64568-01	A56
MULT LAMP, FOR TESTING AC OR DC IDLE INDICATING AND BUSY LAMPS	SD-56471-01	H84	EMER, TO PROVIDE DIAL SUB IN CBR NO. 5 OFF. WITH EMER MANUAL SERV	SD-56142-01	E114	PERM SIG HOLDING FROM CBR NO. 1 OR PANEL OFF.	SD-55870-01	D107	VERIFICATION REQUEST, FROM SXS CONN MULT IN SAME BLDG	SD-64582-01	H51
AUTO., FOR RP TOLL SENDERS	SD-62059-01	B83	ROUTE, & MAKE BUSY	SD-56048-01	C121	PERM SIG HOLDING FROM PANEL, CBR NO. 1 OR CBR NO. 5 OFF.	SD-55889-01	A107	VERIFICATION REQUEST, FROM PANEL OR CBR NO. 1 OR 5 OFF. IN SAME BLDG	SD-64582-01	D162
DC KEY PULSING TRK, FOR OVER-ALL TESTS	SD-63853-01	B84	KEY, LAMP & TRFR FOR HANDLING CAMA CALLS USING MF KEY PULS, ARR FOR 2 FREQUENCY REGISTER RESET	SD-56441-01	J7	OFFICIAL PBX, FROM CBR NO. 1 OFF., ARR FOR TERMINATING SERV	SD-55958-01	I107			
PAD CONTROL RELAY	SD-63958-01	B85	TROUBLE POS	SD-64577-01	G93	INCPT, REGULAR & TBL FROM PANEL OFF. TRK FOR	SD-55960-01	H107			
INTERTOLL DIAL, SEL FR & REL RACKS	SD-64604-01	G82	EMER, TO PROVIDE DIAL SUB IN SXS, PANEL OR CBR NO. 1 OFF. WITH EMER MAN. SERV WHEN LOCAL OFF. IS LOCATED IN SAME BLDG, ARR TO DISCONNECT CALLING PTY ON EMER CALL	SD-96425-01	H12	TX, REV BAT. SUPV, SIMPLEX RERING INC, REV BAT. RERING OUT.	SD-56045-01	C50			
FOR TESTING 209FA & FD RELAY	SD-90411-01	D81	LAMP	SD-96470-01	E167						
AUTO., FOR DCKP SENDERS	SD-90424-01	C83	EMERG, ARR TO USE EXISTING TRUNK FACILITIES TO TERMINATE EMER LINES FROM DST CBR NO. 5 OFF.	SD-96517-01	I167						
MAN., FOR DCKP-IN, DP-OUT SENDERS	SD-90635-01	D83	TROUBLE OBSERVATION & TEST	SD-95034-01	A92, F59						
MAN., FOR MFKP-IN, DP-OUT SENDERS	SD-95400-01	D117									
BAT. & GRD TERMINALS	SD-90122-01	C84									
SERV OBS, FOR TESTING INTERTOLL SERV OBS CKT	SD-95712-01	D119									
TRUNK, FOR TESTING COIN ZONE OPR TRK CKTS	SD-95875-01	A119									
TRK, FOR TESTING INC INCPT TRK CKTS	SD-96478-01	A117									
TEST SET											
AC REL & SIG, MEAS AC VOLT	SD-63674-01	E84									

SWITCHBOARD NO. 3C OR 3CL
KEY SHEET

SD-64800-01-A6

BELL TELEPHONE LABORATORIES
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CIRCUIT NAME	DRAWING NUMBER	BLOCK LOC(1)
TRUNK (CONT)		
INCOMING (CONT)		
FROM COMMUNITY DIAL OFF.	SD-64626-01	D49
FROM SXS SEL MULT, ARR TO ABSORB 1 TO 5 DIGITS		
REGULAR TRAFFIC	SD-64660-01	J47
TIME OF DAY SERV	SD-64660-01	F56
FROM MAN. OR DIAL OFF., ARR FOR TRFR FROM REPAIR SERVICE DESK NO. 2	SD-64754-01	H57
OFFICIAL PBX FROM SXS OFF. IN SAME BLDG	SD-64767-01	A57
ARR FOR USE WITH OUT. CALL CKTS	SD-90566-01	H47
INCPT OR RURAL SERV. FROM CBR NO. 1 OFF. IN SAME BLDG	SD-95403-01	E49
SENDER MONITORING	SD-95469-01	H50
INCPT, FROM CBR NO. 5 OFF. IN SAME BLDG, WITH OR WITHOUT TBL IDENTIFICATION	SD-95485-01	J112
INCPT, REGULAR AND TROUBLE, WITH OR WITHOUT MACH ANNOUNCEMENTS	SD-95789-01	E162, H172
INCPT, REGULAR AND TBL, WITH OR WITHOUT MACH ANN. FROM SXS OFF. IN SAME OR DISTANT BLDG	SD-95796-01	B172
COIN ZONE OPERATOR, FROM CBR OFF. NO. 5	SD-95851-01	E112
OFFICIAL PBX	SD-96189-01	H114
FROM CBR NO. 1 OFF., VACANT CODE INCPT	SD-96189-01	G114
TO CAMA POSITION	SD-96482-01	C183
INCPT, REGULAR OR REGULAR AND TBL, ARR FOR MACH ANNOUNCEMENTS, E&M LEAD SUPV	SD-96488-01	G162
INTERPOSITION		
ONE WAY AUTO., TO OR FROM TOLL SWBD NO. 1 OR 18	SD-95421-01	D19
BETWEEN TOLL POSITIONS REGULAR INTERPOSITION	SD-62771-01	A19, I52
NIGHT INF. (SXS "A")	SD-62771-01	G58
FROM POINT TO POINT TO CLR POS	SD-64430-01	B19
INTERTOLL DIALING		
OUT. FROM SEL MULT, CS OR SX SIG	SD-55109-01	J71
OUT. FROM SEL MULT, TO PRECEDE A THROUGH OR AUX INTERTOLL SEL	SD-55232-01	C71
OUT. FROM INTERTOLL DIAL INC OR 2 WAY TRK OR SEL TO AUX INTERTOLL SEL	SD-55243-01	G69

CIRCUIT NAME	DRAWING NUMBER	BLOCK LOC(1)
OUT. FROM SEL MULT TO OPR OFF., CS OR SX SIG	SD-55275-01	J73
OUT. FROM SEL MULT TO MAN. OR DIAL OFF.	SD-55301-01	H71
TOLL SW, TO INC TRK IN SXS OFF., TO INC TRK IN SXS OFF., CONTROLLED RING., CX OR SX SIG	SD-55379-01	F73
OUT. TO INTERTOLL SEL, DIAL OPERATION	SD-55990-01	B67
2 WAY, CX OR SX SIG	SD-56036-01	B68
OUT. TO INTERTOLL SEL OR AUX INTER-TOLL TRK CKT, DCKP FROM POSITION, DP FROM SDR	SD-56108-01	B137
AUX INTERTOLL, FOR USE BETWEEN INTER-TOLL TRK CKT & ROTARY OUT. TRK SWITCH CKT	SD-56378-01	F137
NO CKT SIG. FROM INTERTOLL THROUGH SEL MULT	SD-56439-01	H137
AUX, OUT. DIAL, INC AUTO. OR DIAL, FOR USE WITH CX OR SX SIG & SWBD OUT. TRKS	SD-64469-01	E67
OUT. TO TOLL OFF., MAN. OR DIAL OPR, CX OR SX SIG	SD-64472-01	C67
TOLL SW TRK OUT. TO SXS LOOP DIAL TOLL TRANSMISSION SEL	SD-64473-01	D71
INC FROM INTERTOLL TRK OR SEL MULT	SD-64476-01	F67
INC FROM MAN. OR SXS OFF., LOOP SIG	SD-64482-01	J67
4W TOLL SW TRK TO TOLL INTERMEDIATE SEL	SD-64485-01	E71
AUX INTERCEPTING	SD-64485-01	G71
INC FROM MAN. OR SXS OFF., PULSE CORRECTING	SD-64486-01	K67
TOLL SW TRK TO SXS REP DIAL TOLL TRAIN	SD-64487-01	F71
2 WAY, DIAL PULSING, E, MAF OR E&M LEAD SUPV, ARR FOR CONVERSION TO MFKP	SD-64531-01	H67
OUT. OR 2 WAY, E&M LEAD SUPV - OUT. SERV: DCKP-IN, DP-OUT - INC SERV: DP, MFP OR AUTO.	SD-64538-01	D67
OUT. FROM SEL MULT TO INFO DESKS OR OPR ROOM DESK NO. 19 OR 23A, B, C, D OR E	SD-64539-01	I71
INC TO INTERTOLL SEL OR OPERATOR, CX OR SX SIG	SD-64590-01	G67
TALK TRK & TEST CKTS FOR SEL FR & REL RACKS	SD-64604-01	G82

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CIRCUIT NAME	DRAWING NUMBER	BLOCK LOC(1)
TRUNK (CONT)		
INTERTOLL DIALING (CONT)		
TO CONNECT CX SIG CKT TO SXS TOLL PRECEDING SEL	SD-64824-01	J69
INTERTOLL		
RD, ARR FOR 20 OR 135 CYCLE RINGING	SD-55123-01	F17
OUT. MFKP OR STFD, ARR FOR EMER ACCESS OPERATION, E&M LEAD SUPV	SD-55852-01	F102
2 WAY, INC AUTO., OUT. MFKP, CX SUPV	SD-56062-01	B132
OUT. MFKP, INC DP OR AUTO., CX SUPV	SD-56109-01	C132
2 WAY, MFKP-IN, DP-OUT, E&M LEAD SUPV, ARR FOR CONNECTION TO AUX TRK CKT FOR OPERATION WITH INTERTOLL DIALING SEL OR CBR TDM OFF.	SD-56352-01	E132
AUX, 4 WIRE TALKING, HIGH-LOW REV BAT. SUPV, SX DC RING. ON SIG PHANTOM, FOR USE WITH RD INTER-TOLL TRK	SD-56405-01	D20
OUT., DCKP-IN, DP-OUT, E&M LEAD SUPV, PULSE RERING SIG, WITHOUT START PULSING SIG, WITH OR WITHOUT TRANS SW PAD	SD-56453-01	F134
RD, REGULAR	SD-62614-01	B17
RD, AUX INTERTOLL & SWITCHING TRANS PAD	SD-62632-02	A16
INTERMEDIATE, MF PULS, INC REV BAT. SUPV, OUT. E&M LEAD SUPV, INC 20 CYCLE, SX OR NO RERING, OUT. PULSE RINGING	SD-95443-01	J132
MONITORING		
SDR, FOR CBR NO. 1 OR PANEL OFF. SUB SDRS	SD-55868-01	B107
COIN SUPV & OVERTIME, FOR CBR NO. 1 OR PANEL OFF.	SD-56000-01	E107
COIN SUPV & OVERTIME MON FOR CBR NO. 1 OFFICE	SD-56086-01	F109

CIRCUIT NAME	DRAWING NUMBER	BLOCK LOC(1)
OPERATOR'S TRAINING		
D-C KP TOLL SW OR INTERTOLL WHERE KEY SET START KEY IS USED	SD-55071-01	E63
INTERTOLL TRK OR OPR OFF., DIAL. ARR FOR DIAL TONE	SD-55288-01	F62
RD INTERTOLL, FOR OUTWARD, INWARD, THROUGH OR COMBINED INWARD & THROUGH OPERATION	SD-56069-01	H62
DCKP TOLL SW FOR NONSTART KEY OPERATION	SD-55794-01	F63
NUMBER CHECKING	SD-64445-01	C62
RECORDING OR REC COMPLETING	SD-64515-01	G62
MAN. TOLL SW, MAN. TDM, MAN. TOLL TDM, MFKP TOLL TDM OR INTERTOLL OR STFD INTERTOLL	SD-64558-01	E62
OUTGOING		
TO PANEL OR CBR OFF. NO. 1, WITH OR WITHOUT CONTROLLED RING, START SIGNAL, COIN CONT & PAD CONT	SD-55191-01	D102
VERIFICATION TO SXS TEST DISTRIBUTOR, DCKP	SD-55291-01	H52
TO SXS SELS, DIAL, SPL SERVICE	SD-55346-01	C52
VERIFICATION TO SXS TEST DISTRIBUTOR, REPEATED DIALING	SD-55346-01	H52
DCKP, NO TEST, TO CBR NO. 1 OFF., 20 CYC RINGING CONTROLLED BY OPR, TYPE "A" TB SUPPLY	SD-55819-01	A102
MFKP OR STFD, REV BAT. SUPV, 20 CYCLE, SIMPLEX OR NO RINGING START SIG, WITH OR WITHOUT COIN CONTROL	SD-55879-01	E104
TOLL TANDEM, 4W TALK. REV BAT. SUPV, SX DC RING. ON SIG PHANTOM MFKP OR AUTO., WITH OR WITHOUT SW PAD OPERATION	SD-56056-01	I48
MFKP OR STFD, REV BAT. SUPV WITH REPEATED SUPV, AUTO. START OF RINGING	SD-56082-01	G42

SWITCHBOARD NO. 3C OR 3CL
KEY SHEET

SD-64800-01-A7

BELL TELEPHONE LABORATORIES
INCORPORATED

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CIRCUIT NAME	DRAWING NUMBER	BLOCK LOC(1)	CIRCUIT NAME	DRAWING NUMBER	BLOCK LOC(1)	CIRCUIT NAME	DRAWING NUMBER	BLOCK LOC(1)	CIRCUIT NAME	DRAWING NUMBER	BLOCK LOC(1)
TRUNK (CONT)			NONCOIN, ARR TO RECALL SUB & FOR USE AS EMER LINE FROM CBR NO. 5 OFF.	SD-55872-01	C112	TRUNK (CONT)			DCKP-IN, RP OR PCI-OUT, REV BAT. OR WET DRY SUPV WITH OR WITHOUT REPEATED SIMPLEX SUPV, 20 CYCLE, SIMPLEX OR NO RINGING START SIG WITH OR WITHOUT COIN CONTROL OVER SEPARATE SINGLE TRK CONDUCTOR	SD-55821-01	K34
OUTGOING (CONT)			COIN, FROM CBR NO. 5 OFF.	SD-55875-01	F112	TOLL SWITCHING (CONT)			DCKP, WET DRY SUPV, CONTROLLED RING., TO REPEATED DIAL TOLL TRAIN OR COMBINED LOOP & REPEATED DIAL TOLL TRAIN	SD-55901-01	G104
DCKP-IN, DP-OUT, REV BAT. SUPV, SIMPLEX OR NO RINGING START SIG, WITH OR WITHOUT COIN CONT OVER SEPARATE SINGLE TRK CONDUCTOR, WITH OR WITHOUT ACCESS FROM INTERTOLL DIALING TRK CKT OR SXS REPEATER	SD-56105-01	F147	3W INC FROM PANEL OFF., 4W INC FROM CBR OFF. NO. 1, ARR FOR NO. CHECKING IN CBR OFF. NO. 1, COIN	SD-55946-01	F24	TO SXS LOCAL OR TOLL TRANS SEL, K.P. (SXS "A")	SD-55291-01	C53	MFKP-IN, RP-OUT, WET DRY OR REV BAT. SUPV, 20 CYC, SX, OR NO RINGING START SIG WITH OR WITHOUT COIN CONTROL	SD-56245-01	J147
TO POLICE, FIRE OR AMBULANCE, LINES IN DIST DIAL OFF.	SD-56355-01	A42	FROM SXS OFF. IN SAME BLDG, ARR TO RECALL SUB & FOR CLASS OF SERVICE TONE, NONCOIN	SD-56007-01	G22, A52, C56	DCKP-IN, DP-OUT., BRIDGED SUPV, WITH OR WITHOUT REPEATED SX SUPV, 20 CYC OR NO RINGING START SIG, WITH OR WITHOUT COIN CONTROL	SD-55341-01	J34	MFKP, E&M LEAD SUPV, PULSE RINGING START SIG, NONCOIN	SD-56434-01	B150
TO INFO DESK NO. 17MC OR OPR ROOM DESK NO. 19, ARR FOR NIGHT TRFR TO DSA SWBD OR SWBD NO. 3C OR 3CL	SD-60499-01	C44	FROM SXS OFF. IN SAME BLDG, ARR FOR COIN CONT & FOR CLASS OF SERV TONE	SD-56008-01	H22, A52	TO MAN. OFF., TEMPORARY MAN. OPR	SD-55341-01	I32	DCKP-IN, DP-OUT, REV BAT. SUPV, ARR FOR COIN CONT & RERING USING 2 FREQUENCIES OVER TIP & RING, WITH OR WITHOUT ACCESS FROM DIAL SWITCHING OFFICE	SD-56480-01	H148
NUMBER CHECKING TO PANEL "A" SWBD	SD-62890-01	A20	OPERATOR, 2 WIRE COIN, DSA TO TOLL, OR TOLL TO MOBILE SERV POS	SD-56090-01	J22	DCKP-IN, DP-OUT, TO SXS TOLL INTERMEDIATE SEL, BRIDGED SUPV WITH OR WITHOUT REPEATED SIMPLEX SUPV 20 CYC OR NO RINGING START SIG, WITH OR WITHOUT COIN CONTROL	SD-55341-01	J34	DCKP-IN, DP-OUT, E&M LEAD SUPV, ARR FOR COIN CONTROL & RERING USING 2 FREQUENCIES OVER TIP & RING, WITH OR WITHOUT ACCESS FROM DIAL SWITCHING OFFICE	SD-56481-01	D150
FOR POLICE, FIRE & AMBULANCE CALLS	SD-63288-01	H44	E&M LEAD SUPV, ARR FOR COIN CONTROL & RECALL USING 2 FREQUENCIES OVER TIP & RING	SD-56478-01	E23	4W TO SXS TOLL INT SEL, K.P., (SXS "A")	SD-55341-01	B53	MFKP, REV BAT. SUPV, ARR FOR COIN CONTROL AND RERING USING 2 FREQUENCIES OVER TIP & RING	SD-56482-01	F148
STFD OR AUTO., HIGH-LOW SUPV	SD-63820-01	F42	E&M LEAD SUPV, WITH OR WITHOUT PULSE RERING, WITH OR WITHOUT COIN CONTROL OVER SEPARATE SINGLE TRK CONDUCTOR, ARR FOR USE WITH EMER TRANSFER CKT	SD-56488-01	E24	TO MAN. OFF., TEMP. MAN. OPR	SD-55346-01	I32	MFKP, E&M LEAD SUPV, ARR FOR COIN CONTROL AND RERING USING 2 FREQUENCIES OVER TIP & RING	SD-56483-01	D149
STFD & MF PULSING HIGH-LOW SUPV, REV BAT. OR 20 CYCLE RERING SIGNAL	SD-64116-01	H42	2W INC FROM COIN OR NONCOIN LINES IN CROSSBAR OFF. NO. 1 OR NONCOIN LINES IN PANEL OFF., ARR TO RECALL SUB & FOR NUMBER CHECKING	SD-63013-01	I22	REPEATED DIALING, WET DRY OR REV BAT. SUPV WITH OR WITHOUT REPEATED SIMPLEX SUPV, 20 CYCLE, SIMPLEX OR NO RINGING START SIG, WITH OR WITHOUT COIN CONT OVER SEPARATE SINGLE TRK CONDUCTOR	SD-55346-01	C147	TO SXS TOLL SEL	SD-62022-01	E32, B52
NUMBER CHECKING, MF OR STFD TO CBR OFF. NO. 1	SD-64412-01	B20	3W OPR, FROM SXS OFF.	SD-63864-01	I24	TO MAN. OFF., TEMP. MAN. OPR	SD-55352-01	I32	TOLL SWITCHING TDM		
INTEROFFICE TO DISTANT TOLL SWBD OR DSA SWBD ARR TO REPEAT RINGING SIG	SD-64440-01	J42	SUB OR OPR, WITH OR WITHOUT RECALL, WITH OR WITHOUT COIN CONTROL	SD-64571-01	B22, A51	4W TO SXS TOLL INTERMEDIATE SEL, DIAL, CONTROLLED RING., COIN CONTROL	SD-55352-01	B34	ALSF TOLL SW TDM POS INC	SD-56179-01	B153
INTEROFFICE TO DISTANT TOLL SWBD ARR FOR RERING	SD-64441-01	I42	TOLL SWITCHING			REPEATED DIALING, E&M OR E, M&N LEAD SUPV PULSE OR NO RINGING START SIG, WITH OR WITHOUT COIN CONTROL, WITH OR WITHOUT ACCESS FROM INTERTOLL DIALING TRK CKT, WITH OR WITHOUT START DIAL SIGNAL	SD-55380-01	D147	ALSF TOLL SW TDM POS AUX INC, 4 WIRE, REV BAT. SUPV, FROM TOLL SW OFF. NO. 4, 4A OR 4M	SD-56180-01	B152
RECORDING			TO MAN. OFF., TEMP. MAN. OPR	SD-55291-01	I32	DCKP-IN, DP-OUT, E&M OR E, M&N LEAD SUPV, PULSE OR NO RINGING START SIG, WITH OR WITHOUT COIN CONTROL, WITH OR WITHOUT ACCESS FROM INTERTOLL DIALING TRK CKT	SD-55386-01	H147			
3W INC FROM PANEL "A" OR MAN. OFF.	SD-62278-01	B27	DCKP-IN, RP OR DP-OUT WITHOUT START PULSE SIG, WET DRY OR REV BAT. SUPV WITH OR WITHOUT REPEATED SX SUPV, 20 CYC, SX OR NO RING. START SIG, WITH OR WITHOUT COIN CONTROL, WITH OR WITHOUT ACCESS FROM DIAL SW OFF. SWITCH MULT	SD-55291-01	G34						
3W INC FROM SWBD NO. 1C	SD-62280-01	B28									
2W INC FROM PANEL "A" OR MAN. OFF.	SD-64221-01	A27									
RECORDING COMPLETING											
3W INC FROM SXS LOCAL SELS CONNECTING TO OPR OFF. TRKS ARR FOR 1 DIGIT TDM OPR	SD-55344-01	A24									
3W INC FROM PANEL OFF., 4W INC FROM CBR OFF. NO. 1, ARR TO RECALL SUB AND FOR NO. CHECKING IN CBR OFF. NO. 1, NONCOIN	SD-55430-01	C24									

(1) SHOWN ON "B" SHEETS

SWITCHBOARD NO. 3C OR 3CL
KEY SHEET

SD-64800-01-A8

BELL TELEPHONE LABORATORIES
INCORPORATED

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CIRCUIT NAME	DRAWING NUMBER	BLOCK LOC(1)
TRUNK (CONT)		
TOLL SWITCHING TDM (CONT)		
AUX INC. FROM CBR TDM OFF., REV BAT. SUPV. SIMPLEX RE- RING	SD-56394-01	B152
AUX INC. STFD AND/OR MF PULSING, HIGH-LOW OR REV BAT. SUPV. 20 CYCLE OR SX RING. SIG	SD-56445-01	H152
TRANSFER - INTERTOLL		
ORIG OFF. END, HIGH- LOW SUPV. REV BAT. RINGING, ARR FOR COIN CONT	SD-55897-01	E102
TER OFF. END, HIGH- LOW SUPV. REV BAT. RINGING, ARR FOR COIN CONTROL	SD-55900-01	C103
BETWEEN SWBDS IN SAME BLDG	SD-56003-01	J102
2 WAY		
REC COM SW. REV BAT., E&M OR E, M & N LEAD SUPV	SD-55158-01	D37
AUTO., WET DRY SUPV	SD-55184-01	A39
OPR OFF., TO COM- MUNITY DIAL OFF., REPEATED DIALING, WITH DIAL BACK OPERATION, HIGH-LOW REV BAT., E&M OR E, M & N LEAD SUPV, WITH OR WITHOUT REPEATED SX SUPV	SD-55255-01	A37
OPR OFF. TO COM- MUNITY DIAL OFF., DCKP, HIGH-LOW REV BAT., E&M OR E, M & N LEAD SUPV, WITH OR WITHOUT REPEATED SX SUPV	SD-55256-01	C37
AUTO. TO OR BETWEEN BAYS, FRAMES OR RACKS	SD-55348-01	J83
OPR OFF., DCKP-IN, DP-OUT, DC KEY PULS- ING, CX, SX OR E&M LEAD CX TYPE SUPV, ARR FOR DIAL BACK OPERATION & FOR OUT. SERV FROM INTERTOLL SELECTORS	SD-55951-01	B177
OPR OFF. TO COM- MUNITY DIAL OFF., MFKP-IN, DP-OUT, HIGH-LOW REV BAT. SUPV, ARR FOR OUT. SERV FROM TDM OR INTERTOLL SELECTORS	SD-56116-01	D37

CIRCUIT NAME	DRAWING NUMBER	BLOCK LOC(1)
OPR OFF., MFKP-IN, DP-OUT, E&M LEAD SUPV, WITH OR WITHOUT ACCESS FROM INTERTOLL OGT CKT	SD-56184-01	D177
DCKP-IN, DP-OUT, HIGH-LOW REV BAT. SUPV, ARR FOR COIN CONTROL & RERING USING 2 FREQ OVER TIP & RING, WITH OR WITHOUT ACCESS FROM DIAL SW OFFICE, ARR FOR USE WITH 600 OHM LINKS	SD-56474-01	B188
DCKP-IN, DP-OUT, E&M LEAD SUPV, ARR FOR COIN CONTROL & RERING USING 2 FREQ OVER TIP & RING, WITH OR WITHOUT ACCESS FROM DIAL SW OFFICE, ARR FOR USE WITH 600 OHM LINKS	SD-56475-01	F188
REPEATED DIALING, HIGH- LOW REV BAT. SUPV, ARR FOR COIN CONTROL & RERING, USING 2 FREQUENCIES OVER TIP & RING, WITH OR WITH- OUT ACCESS FROM DIAL SWITCHING OFFICE	SD-56476-01	D188
REPEATED DIALING, E&M LEAD SUPV, ARR FOR COIN CONTROL & RERING, USING 2 FREQUENCIES OVER TIP & RING, WITH OR WITHOUT ACCESS FROM DIAL SWITCHING OFFICE	SD-56477-01	H188
TO REPAIR SERVICE DESK NO. 2 OR L.T.D. NO. 12B, 12C, OR 14	SD-60759-01	B39
TO L.T.D. NO. 13	SD-62469-01	C39
INTEROFFICE TO DISTANT TOLL OR DSA BD, AUTO., ARR TO REPEAT RING. SIG	SD-64440-01	E39
INTEROFFICE TO DISTANT TOLL OFF., AUTO., ARR FOR RERING	SD-64441-01	D39
TO LOCAL OFF., TOLL CONN FOR ESTABLISH- ING CONN WITH COMMUNITY DIAL SUB	SD-64626-01	F37
MISCELLANEOUS		
COMBINED INC AND TEST, USING 2 PAIRS OF CONDUCTORS, ARR FOR MF PULS FROM TEST BD OR DC OR MF PULS OR DIALING FROM SEPA- RATE JACK BY OPERATOR	SD-56371-01	G117

CIRCUIT NAME	DRAWING NUMBER	BLOCK LOC(1)
TRUNK (CONT)		
MISCELLANEOUS (CONT)		
ENERGIZED PERM OPR TRAINING UNIT, CORD, JACK & LAMP	SD-56461-01	H63
TONE & HOLDING, FOR TBL TRACING IN 2 WIRE TOLL SW OFF.	SD-56466-01	H119
TEL REP TOLL CONFERENCE	SD-64625-01	J17

CIRCUIT NAME	DRAWING NUMBER	BLOCK LOC(1)
TEST TRK, FROM L.T.D. NO. 14. IN OR OUT TYPE, FOR USE AT M.D.F., PROT FRAME OR JACK PANEL	SD-90070-01	F84
TEST TRK, FROM L.T.D. NO. 14, BRIDGING, FOR USE AT M.D.F. & PROT FRAME	SD-90071-01	F83
TALKING TRK AT M.D.F. OR PROT FRAME TO L.T.D.	SD-96074-01	F82

DRAWING
ISSUE15
C.B.
P.D.

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SWITCHBOARD NO. 30 OR 30L
KEY SHEETBELL TELEPHONE LABORATORIES
INCORPORATED

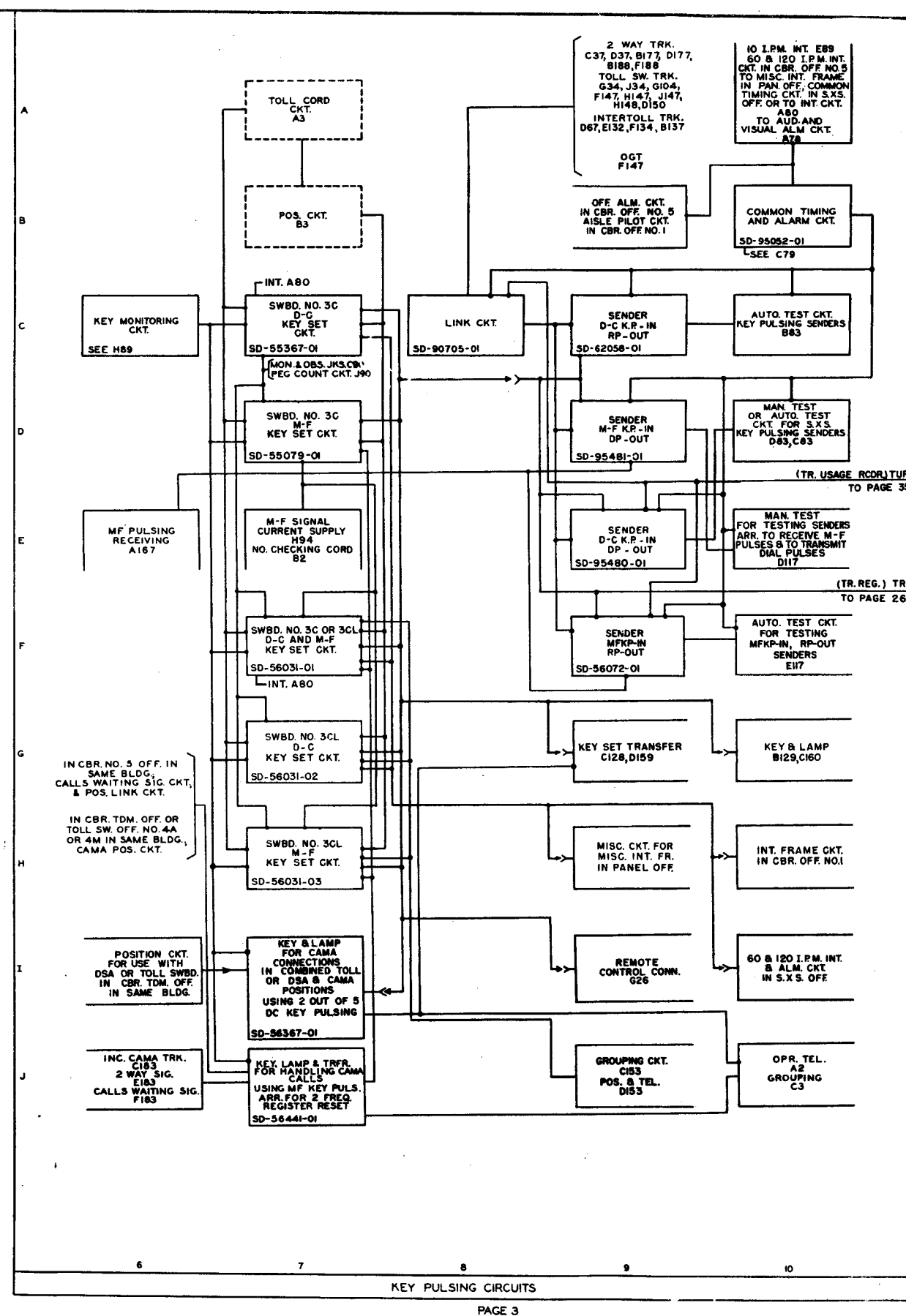
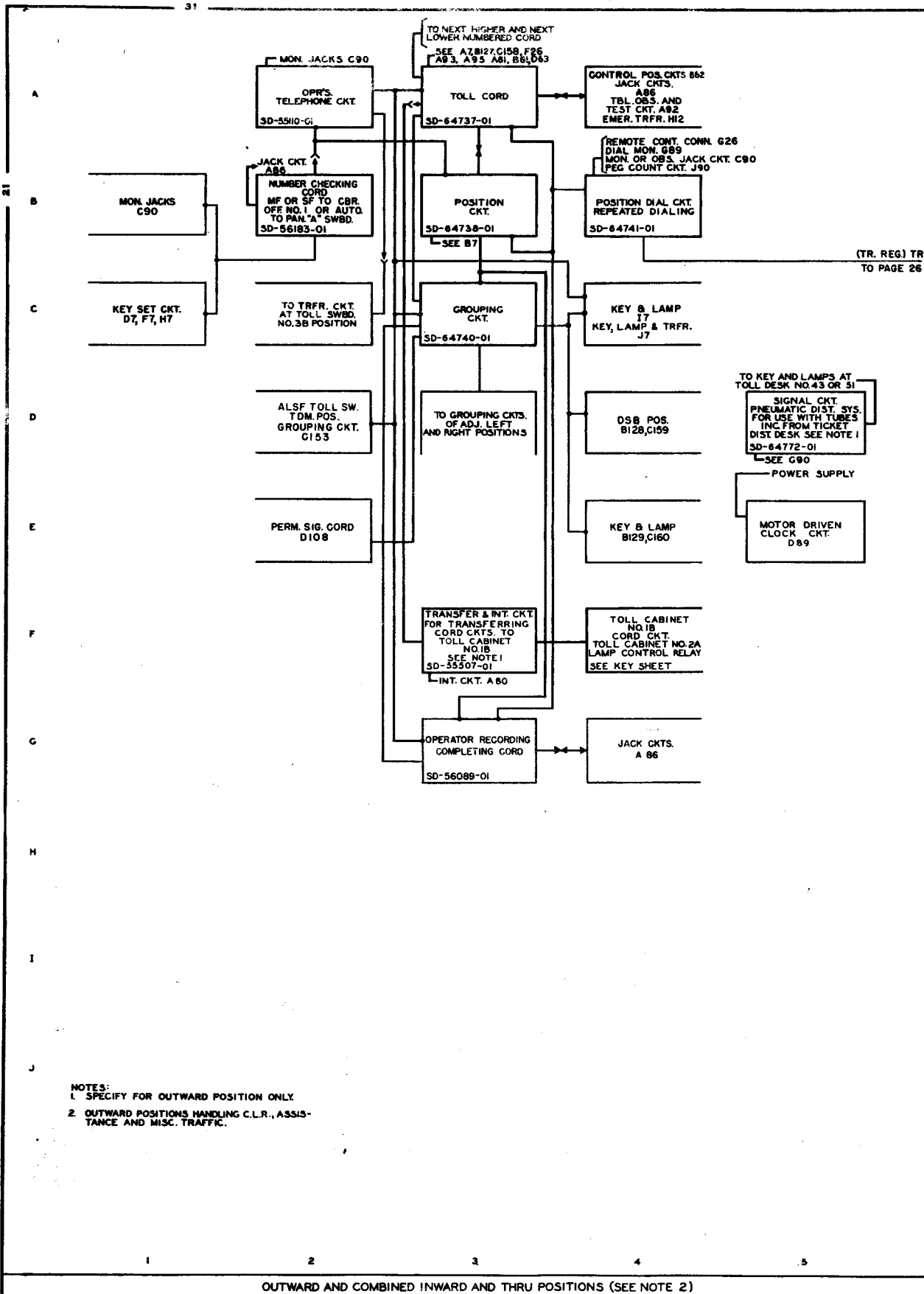
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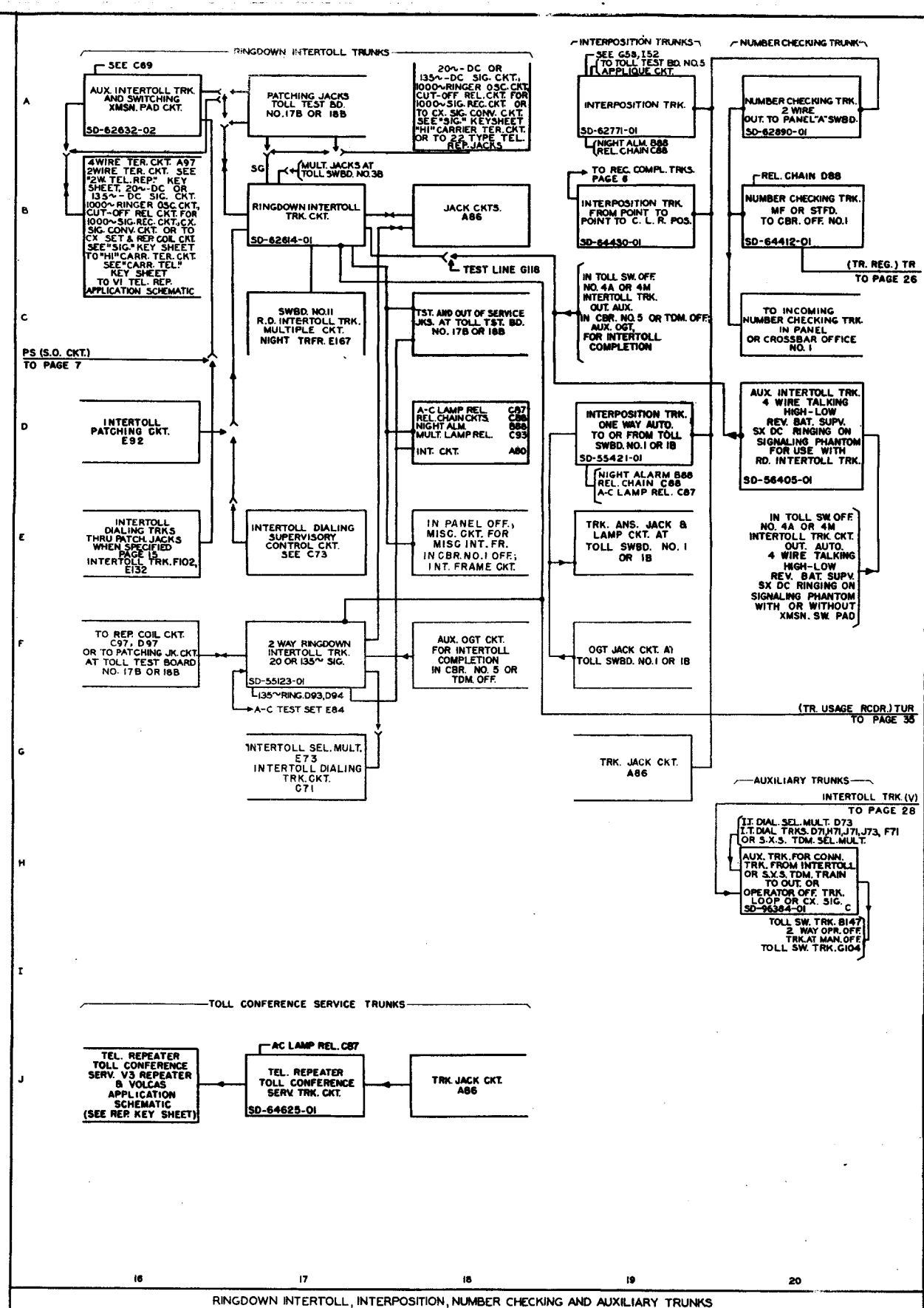
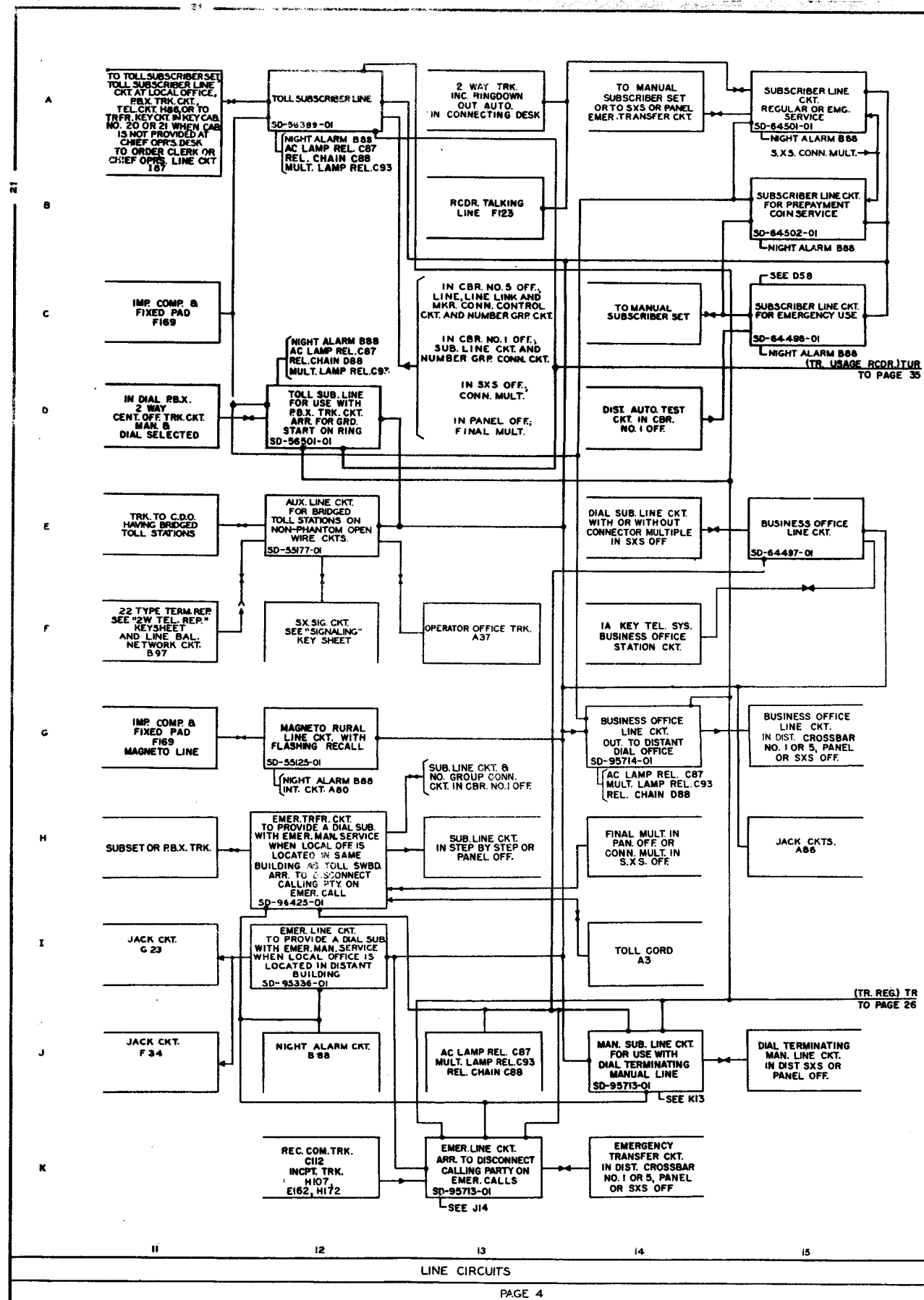
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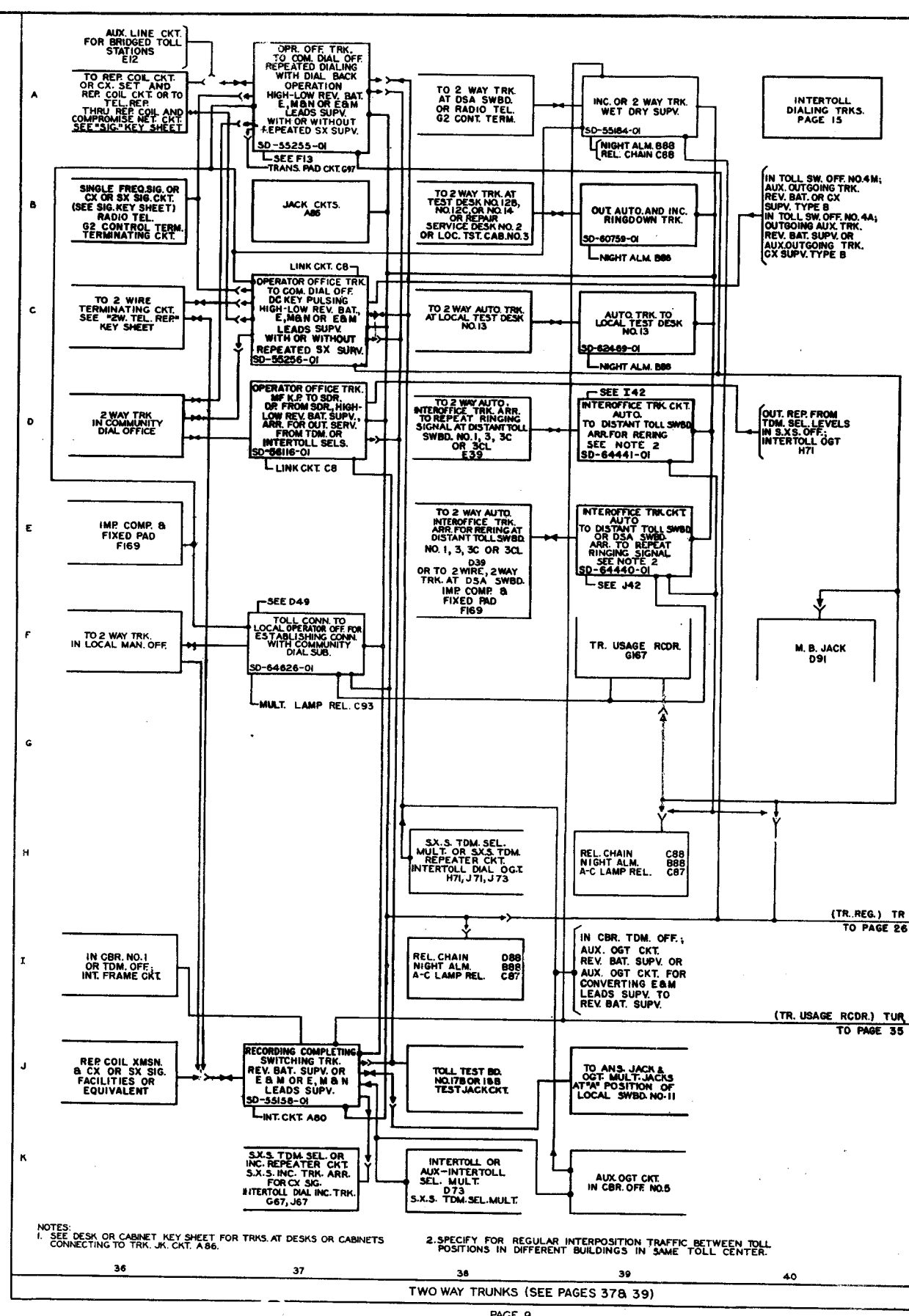
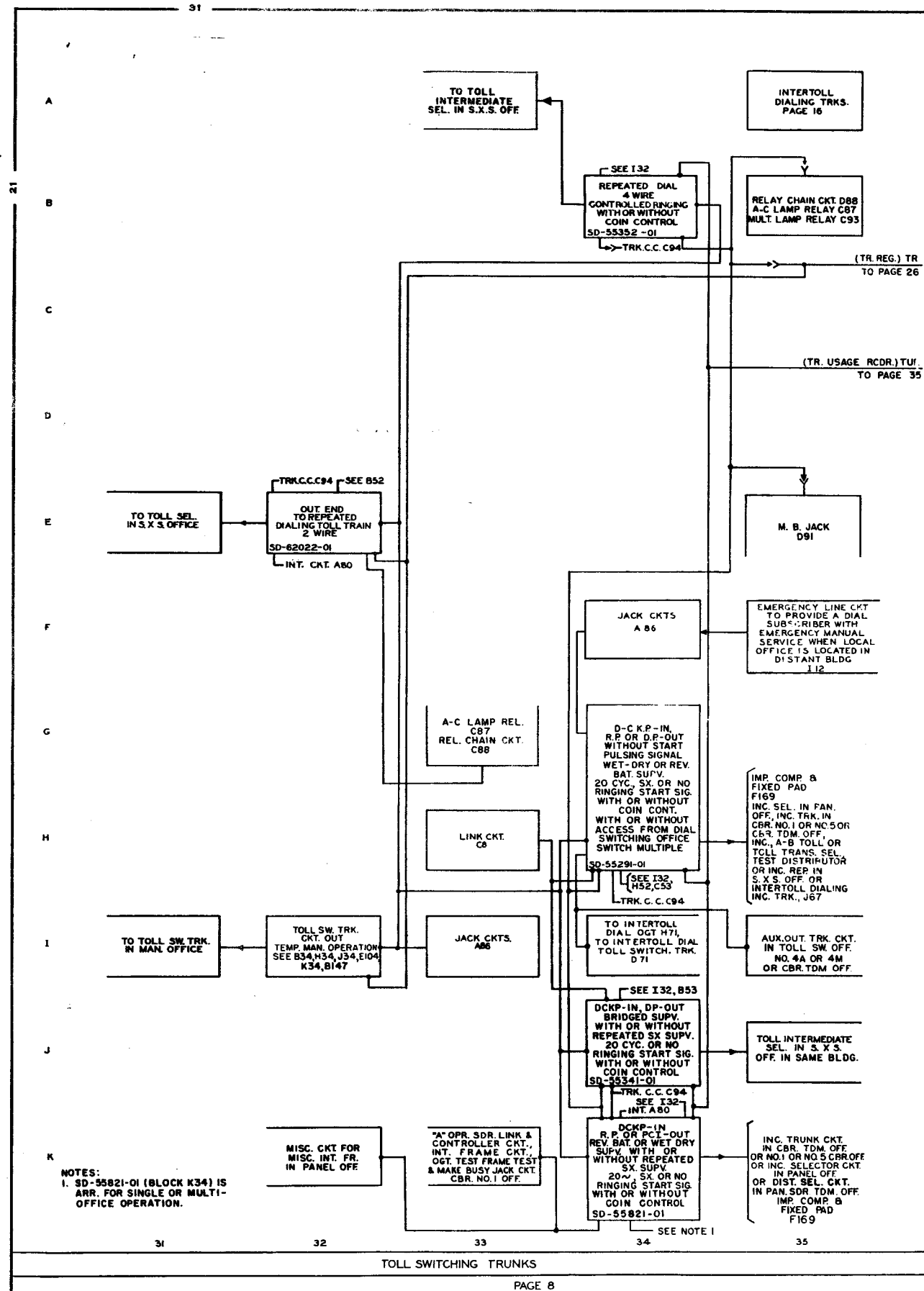
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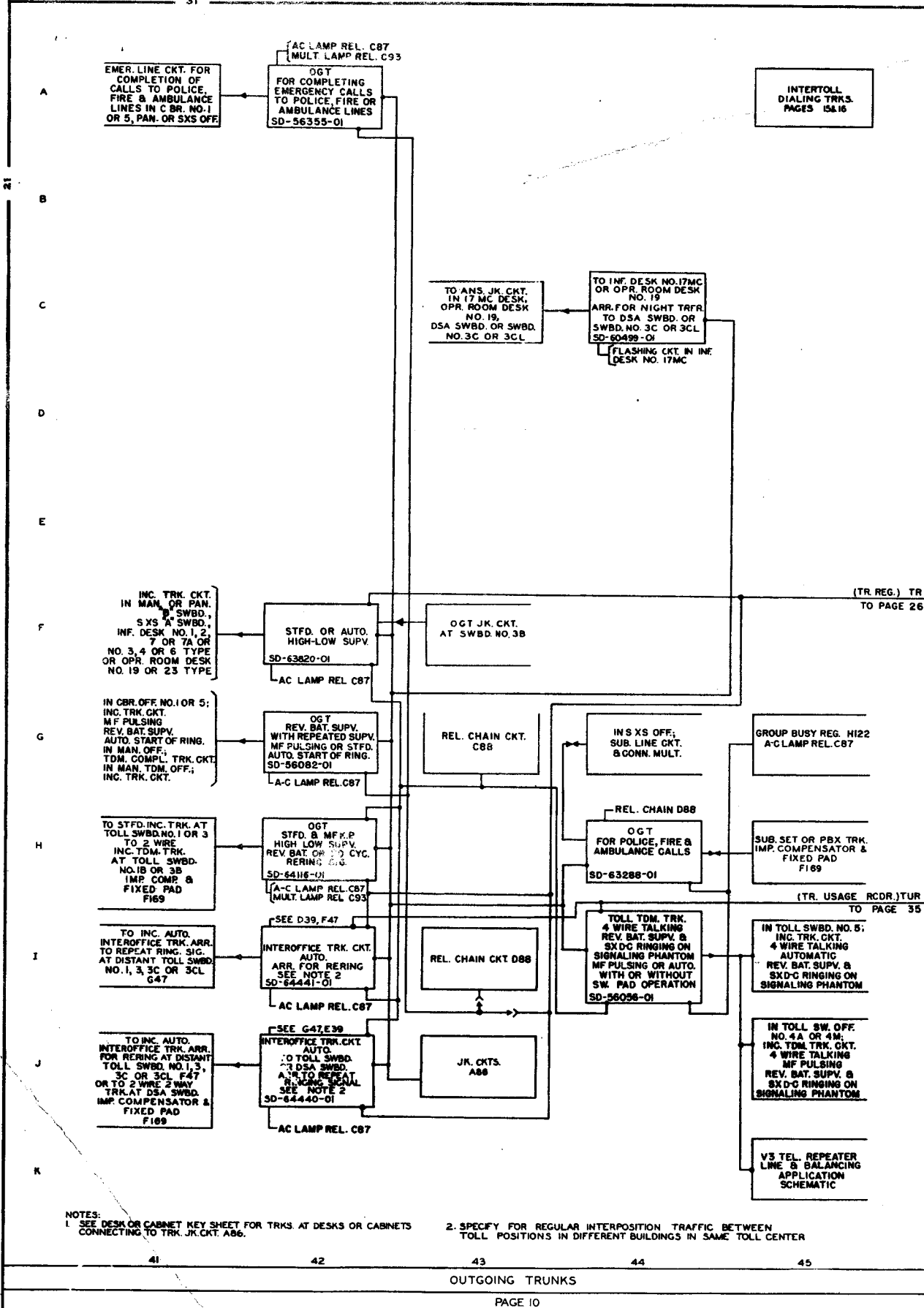
(1) SHOWN ON "B" SHEETS

SD-64800-01-A9



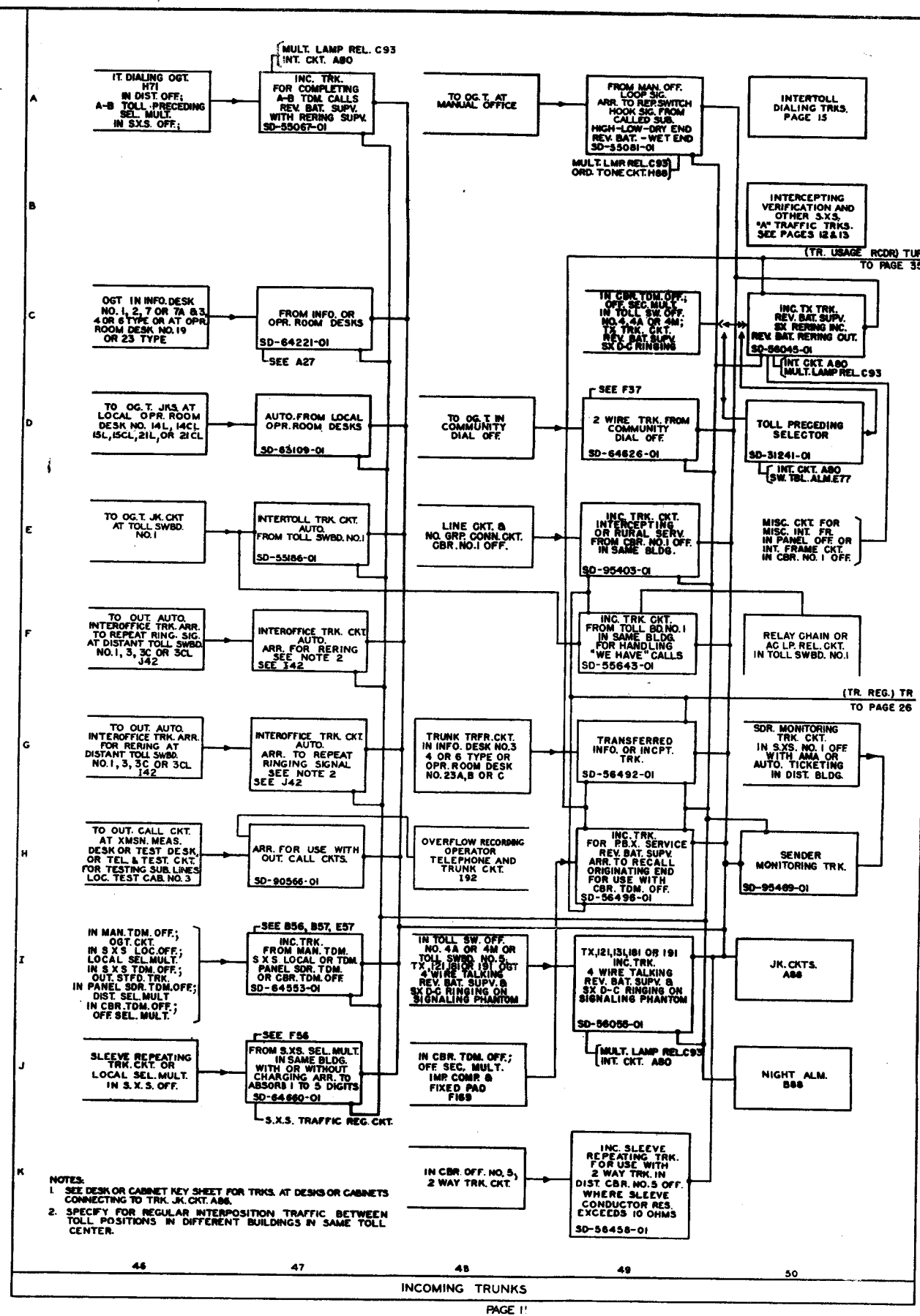






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15

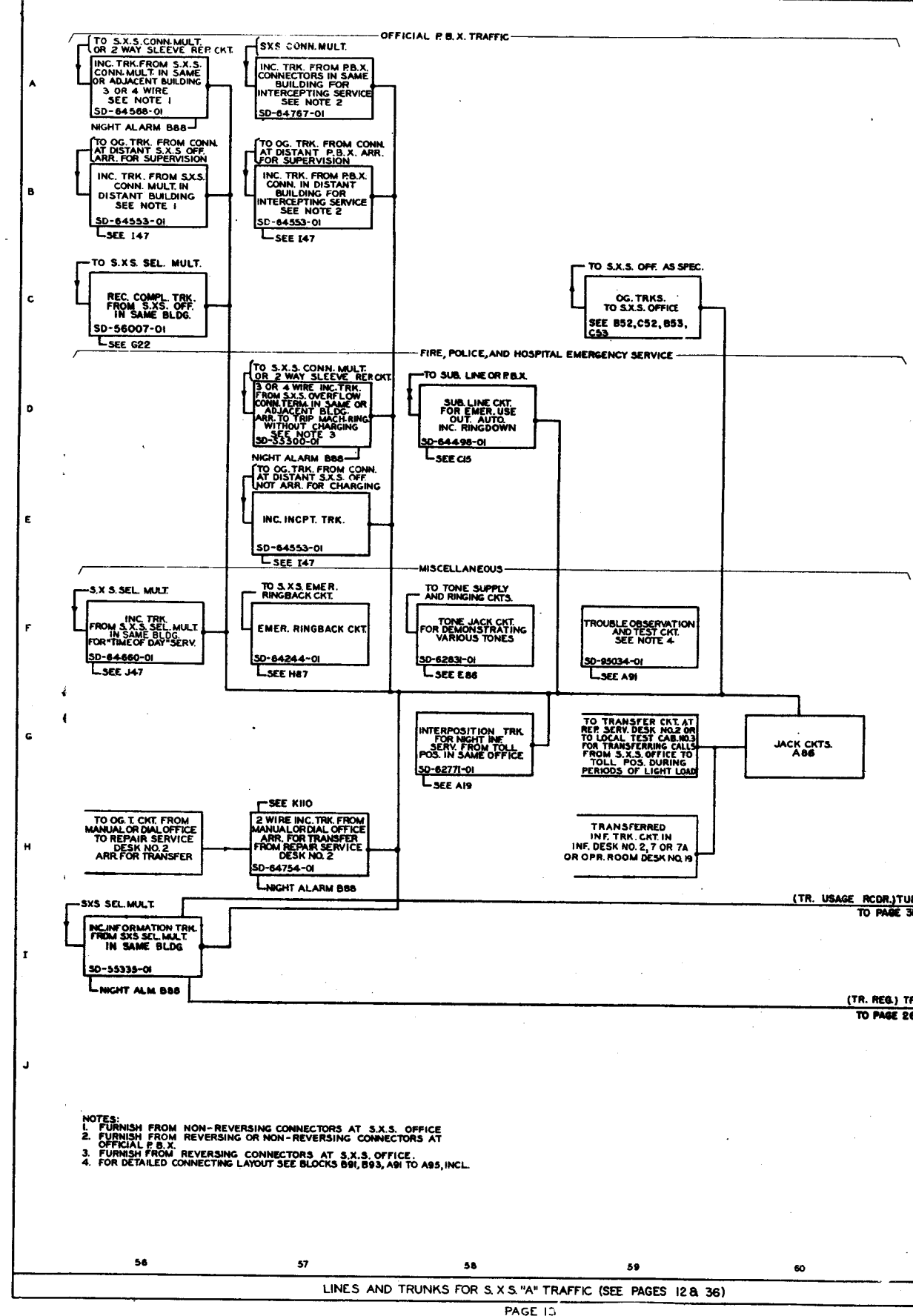
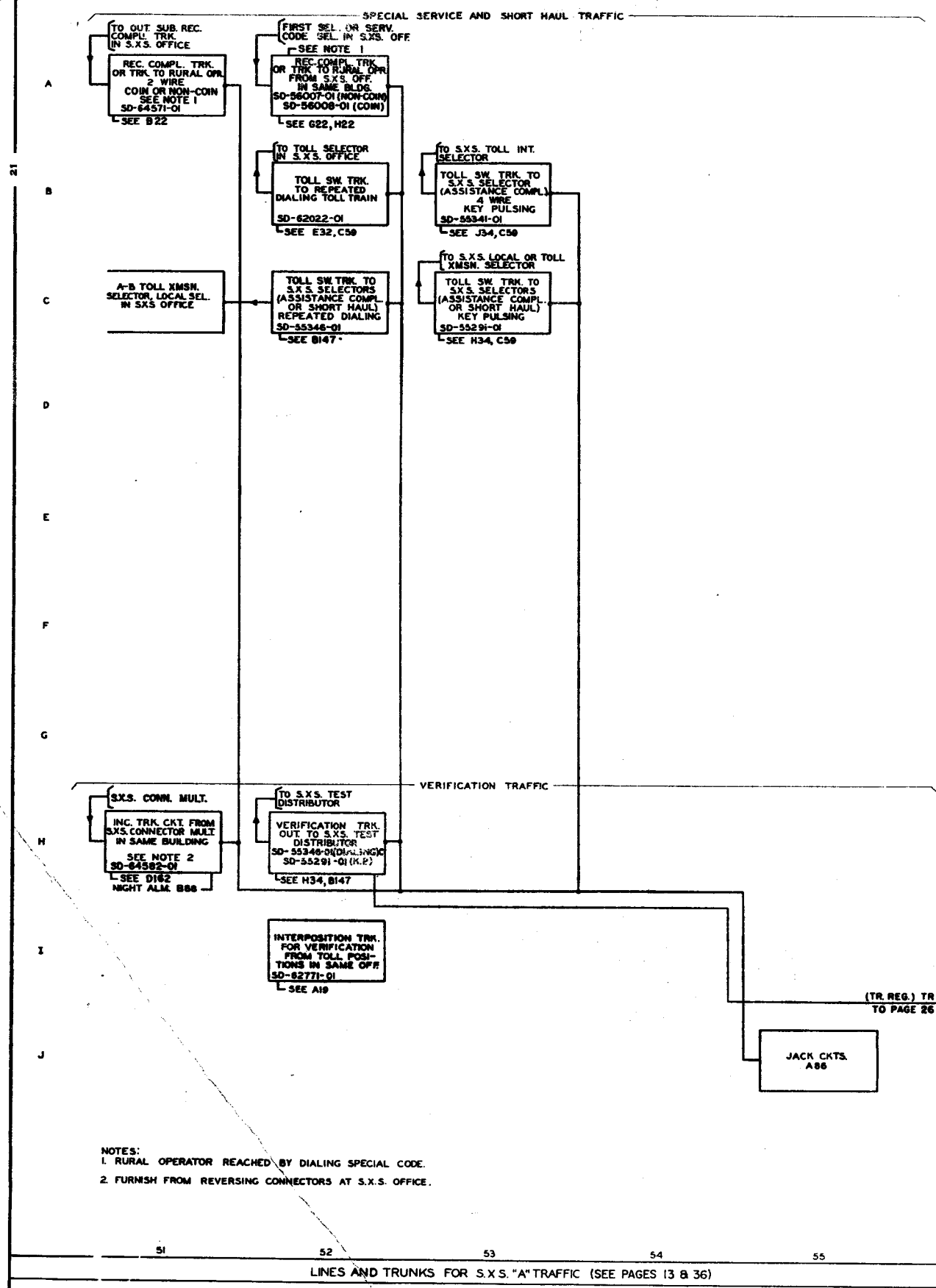
SWITCHBOARD NO. 3C OR 3CL
KEY SHEET

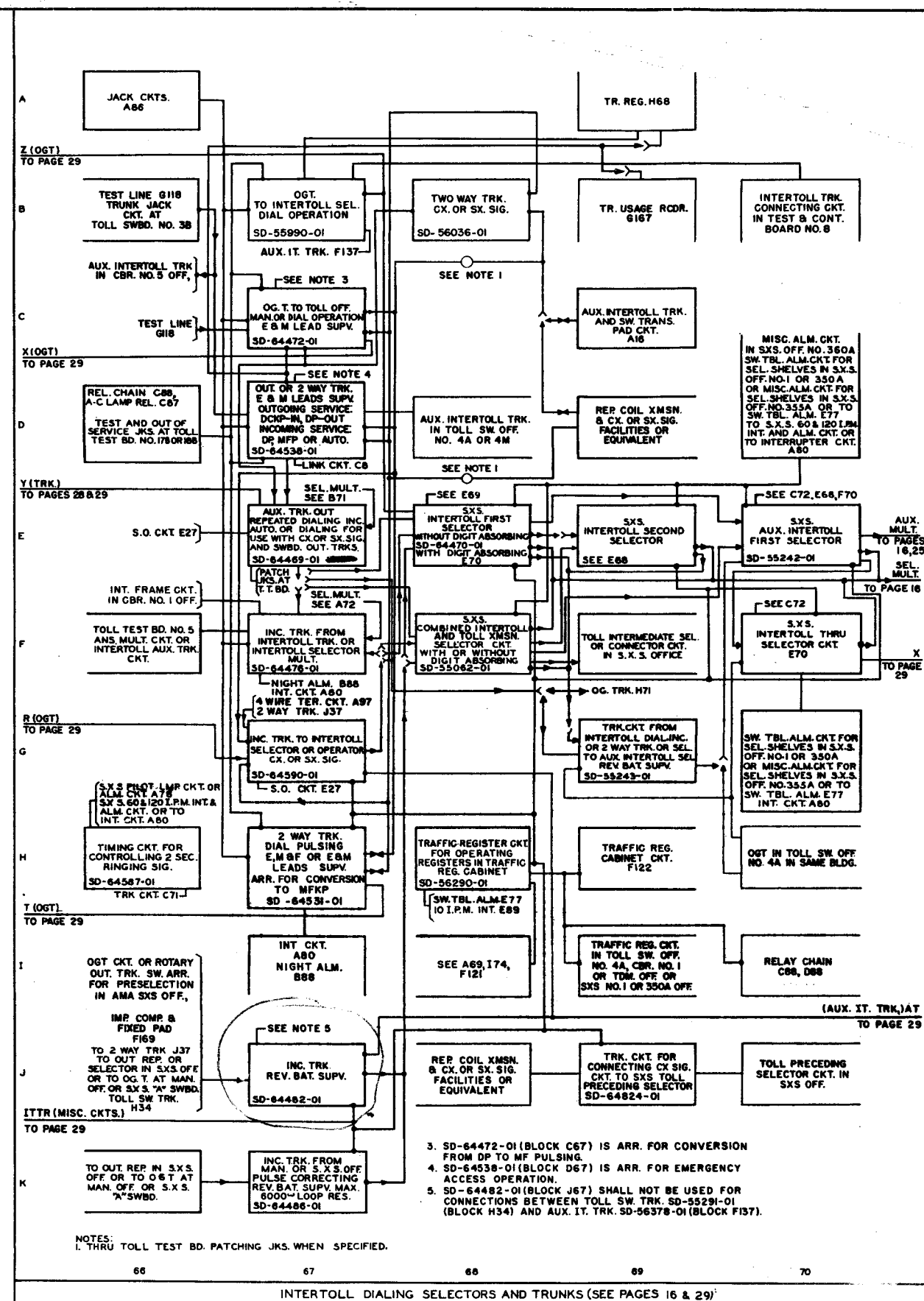
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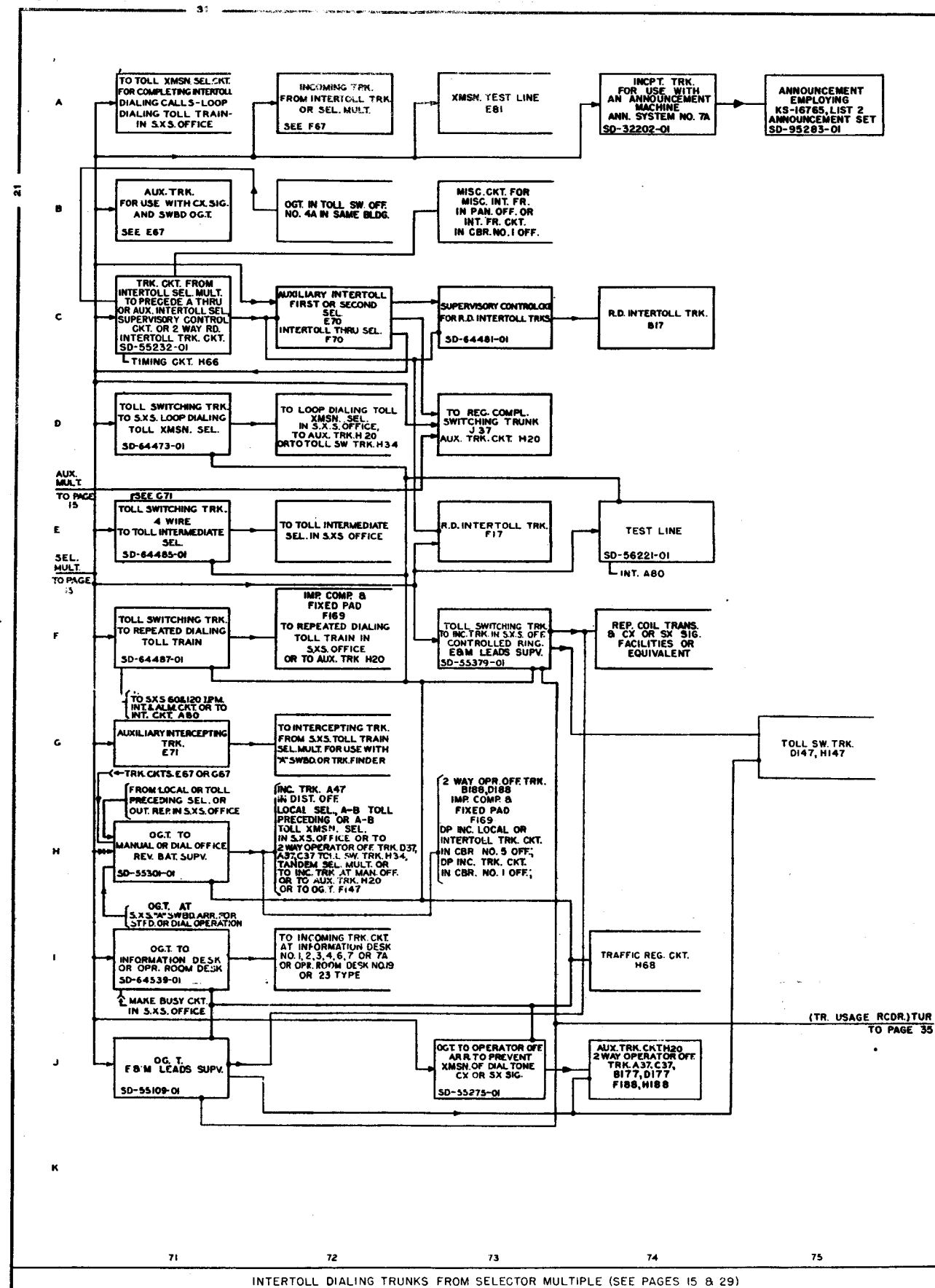
BELL TELEPHONE LABORATORIES
INCORPORATED

OWG SIZE
25

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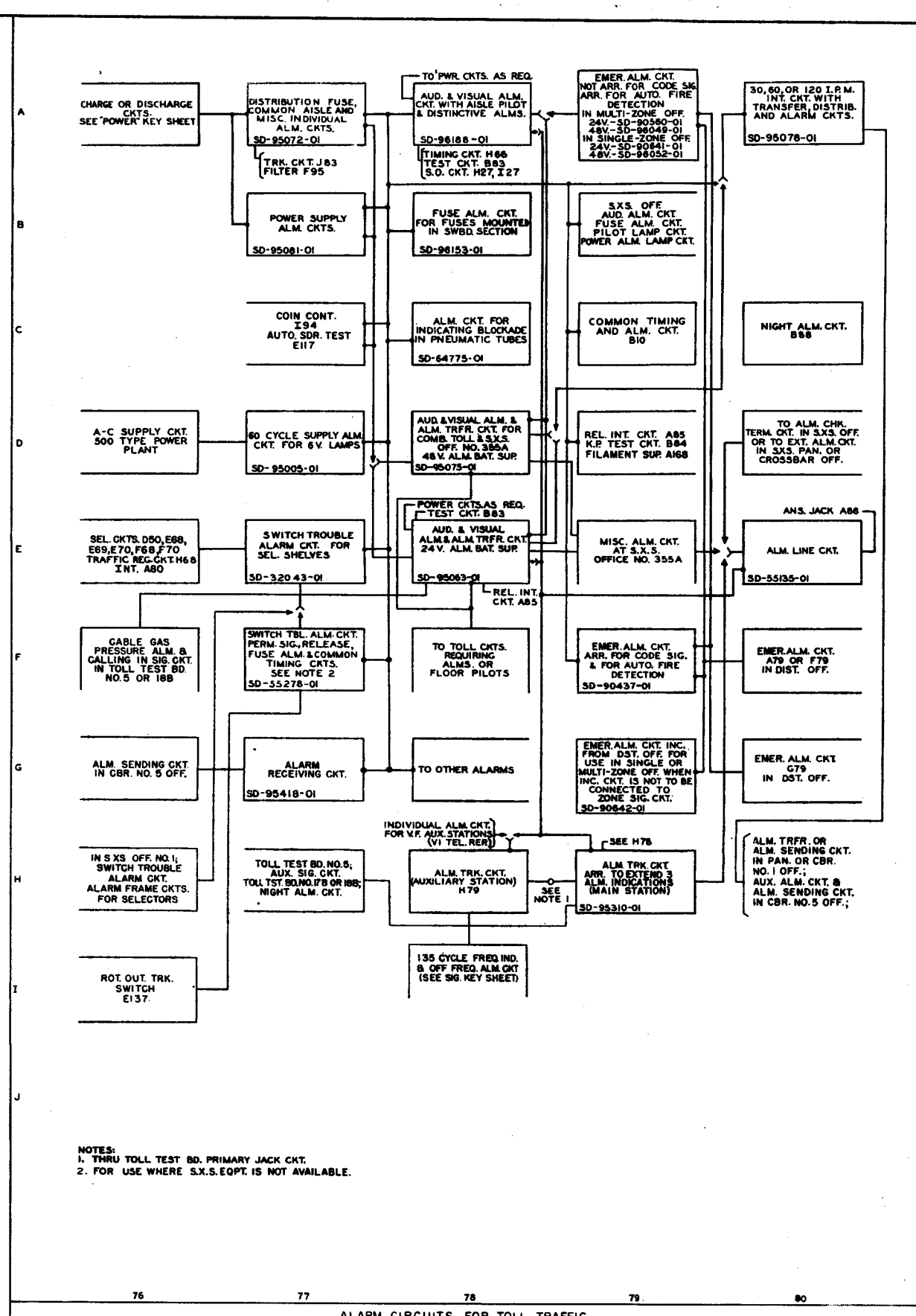






INTERTOLL DIALING TRUNKS FROM SELECTOR MULTIPLE (SEE PAGES 15 & 29)

PAGE 16



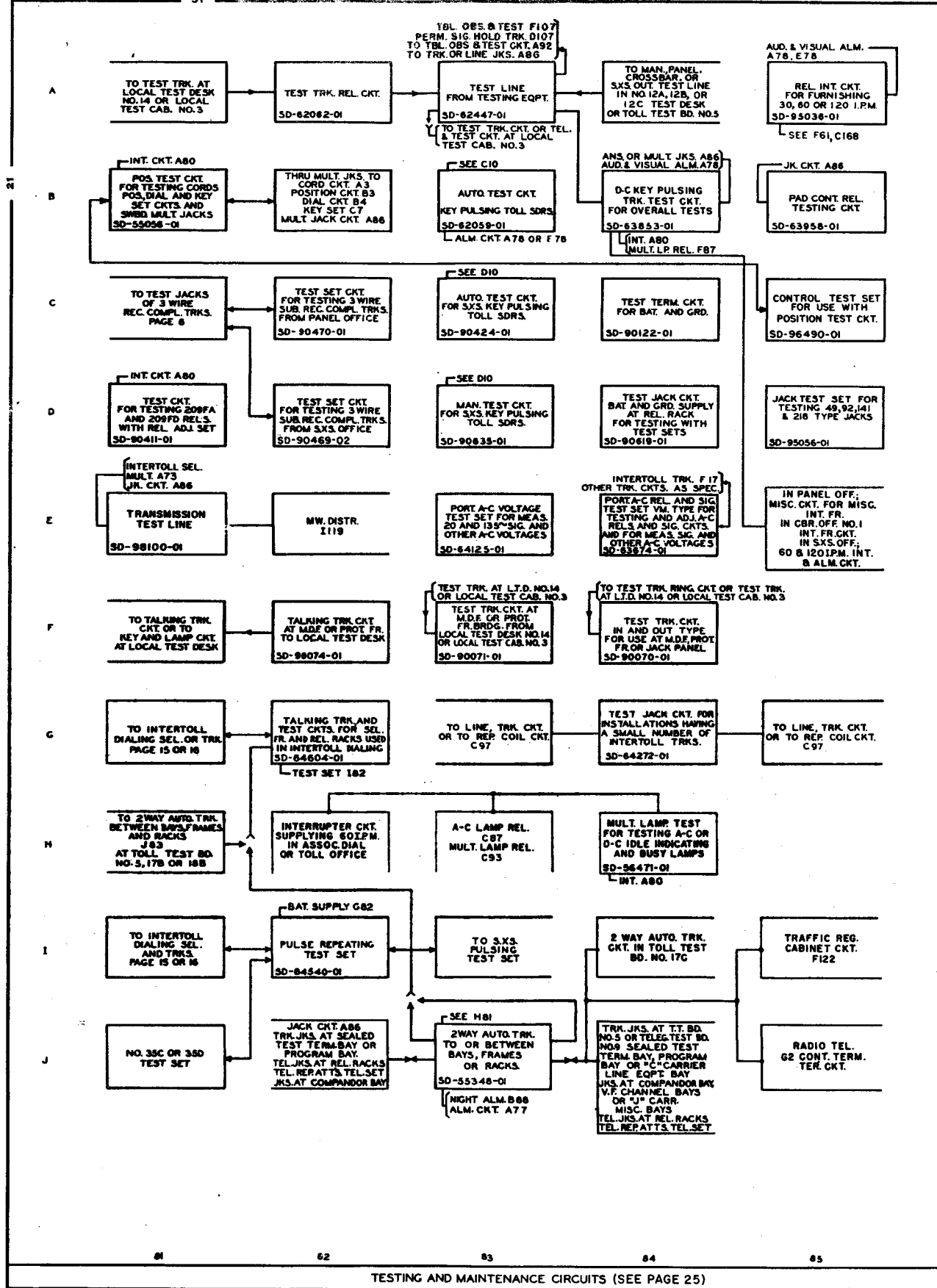
ALARM CIRCUITS FOR TOLL TRAFFIC

PAGE 17

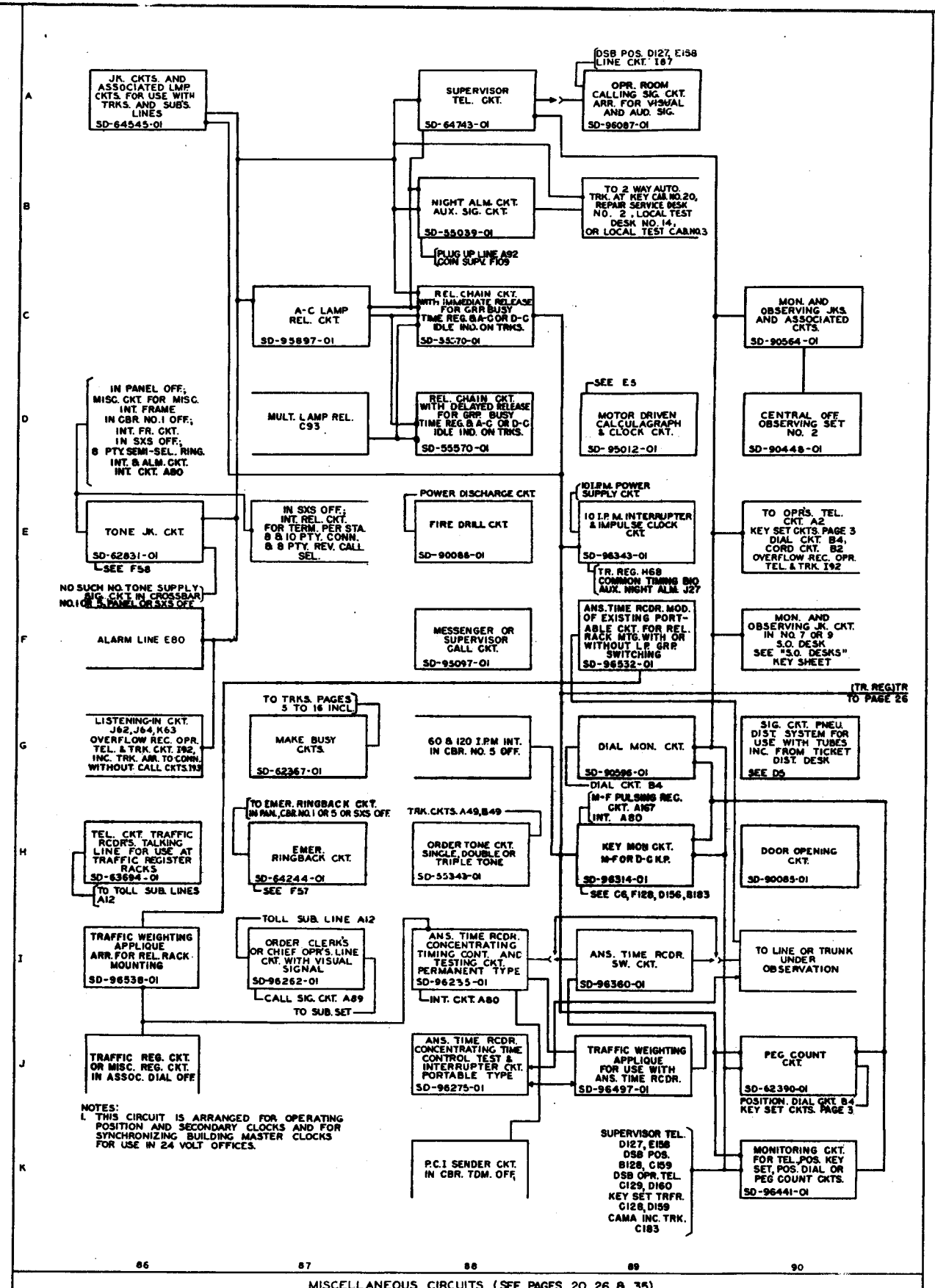
SWITCHBOARD NO. 3C OR 3C1
KEY SHEETBELL TELEPHONE LABORATORIES
INCORPORATED

SD-64800-01-B8

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TESTING AND MAINTENANCE CIRCUITS (SEE PAGE 25)



NOTES:
1. THIS CIRCUIT IS ARRANGED FOR OPERATING POSITION AND SECONDARY CLOCKS AND FOR SYNCHRONIZING BUILDING MASTER CLOCKS FOR USE IN 24 VOLT OFFICES.

MISCELLANEOUS CIRCUITS (SEE PAGES 20, 26 & 35)

SWITCHBOARD NO. 3, OR 3CL
KEY SHEET

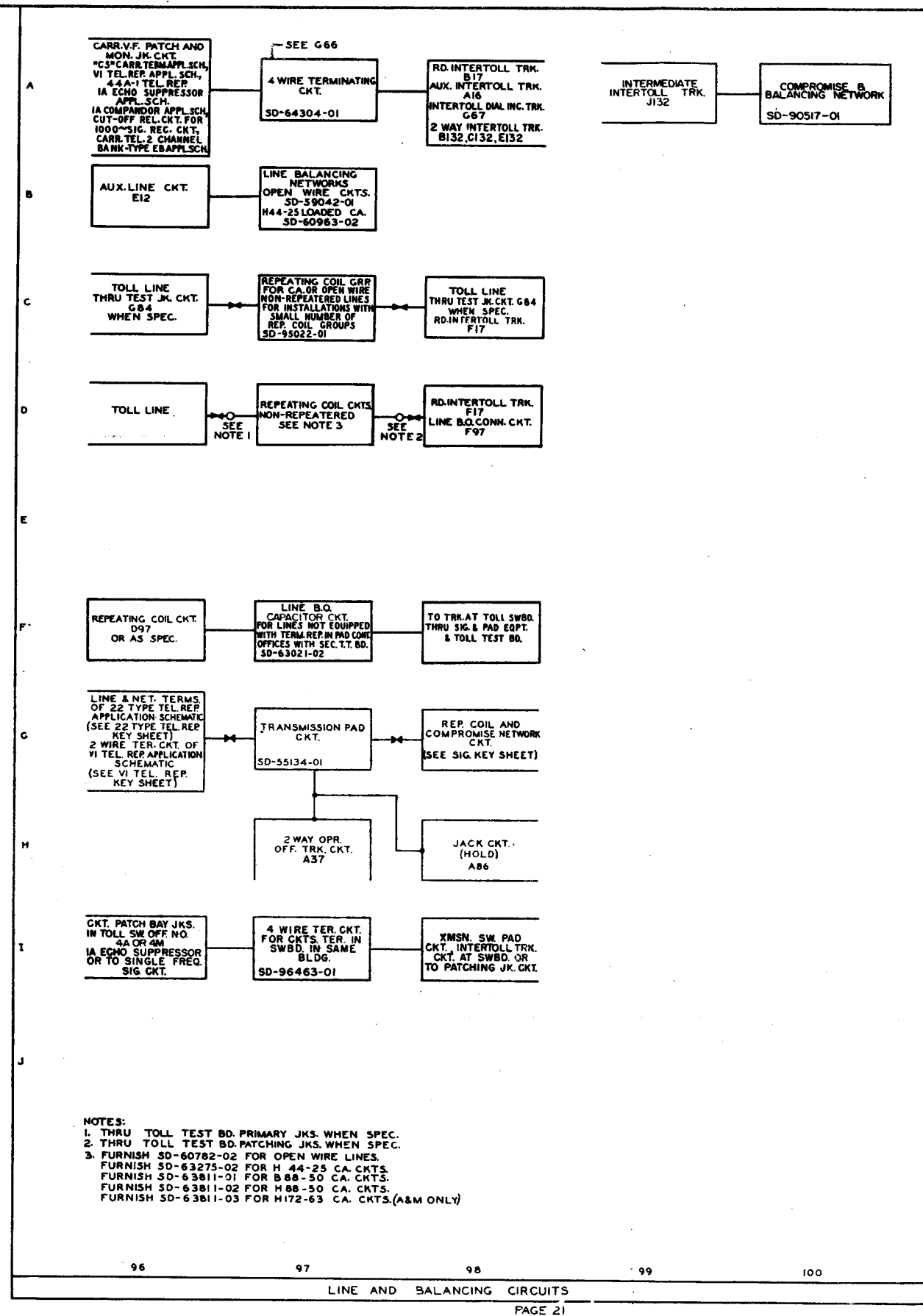
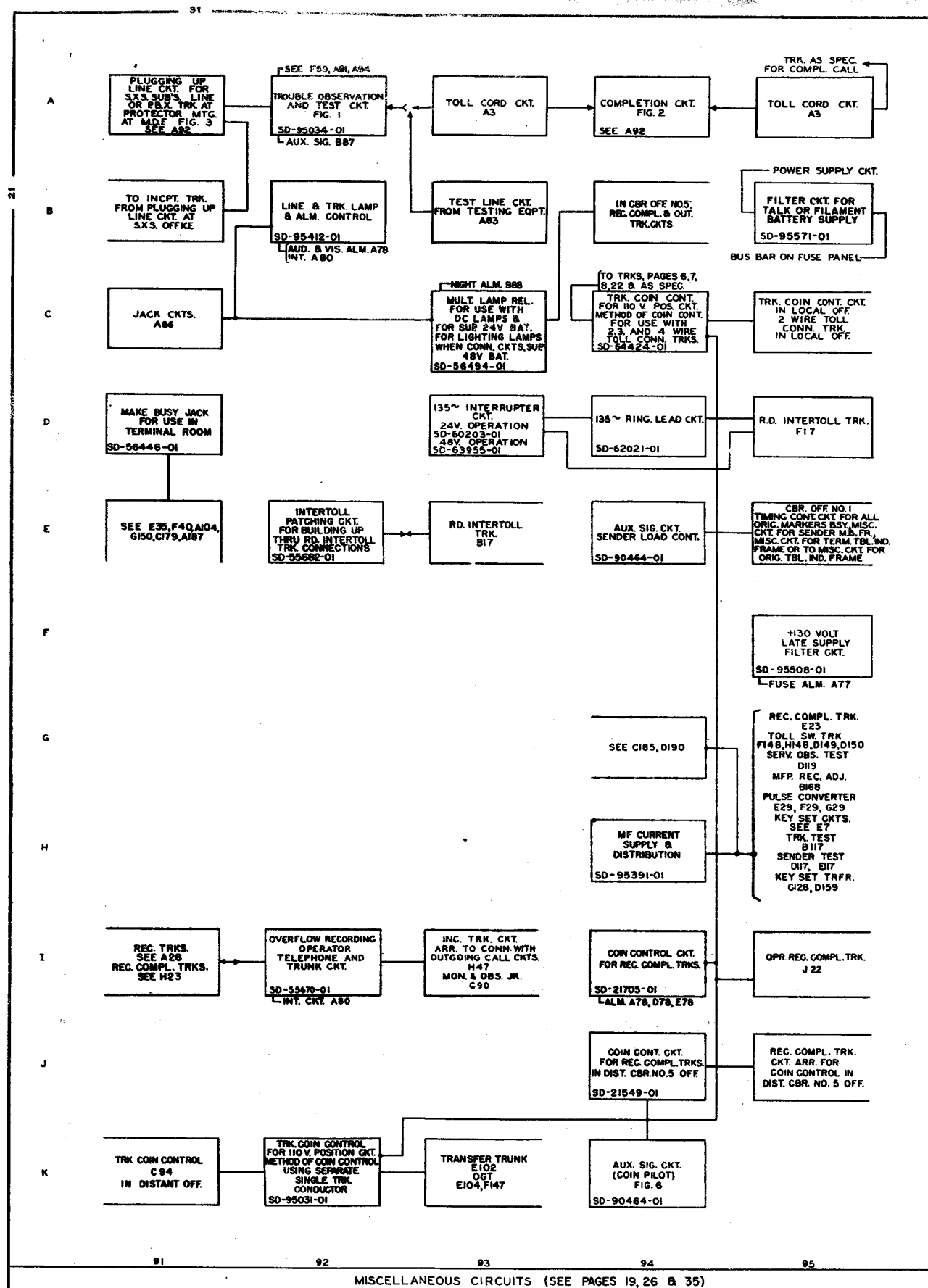
SD-64800-01-B9

BELL TELEPHONE LABORATORIES
INCORPORATED

DWG. SIZE
25

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SWITCHBOARD NO. 3C OR 3CL
KEY SHEETBELL TELEPHONE LABORATORIES
INCORPORATED

2S

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1

OUTGOING, INTERTOLL, & TOLL SWITCHING TRUNKS

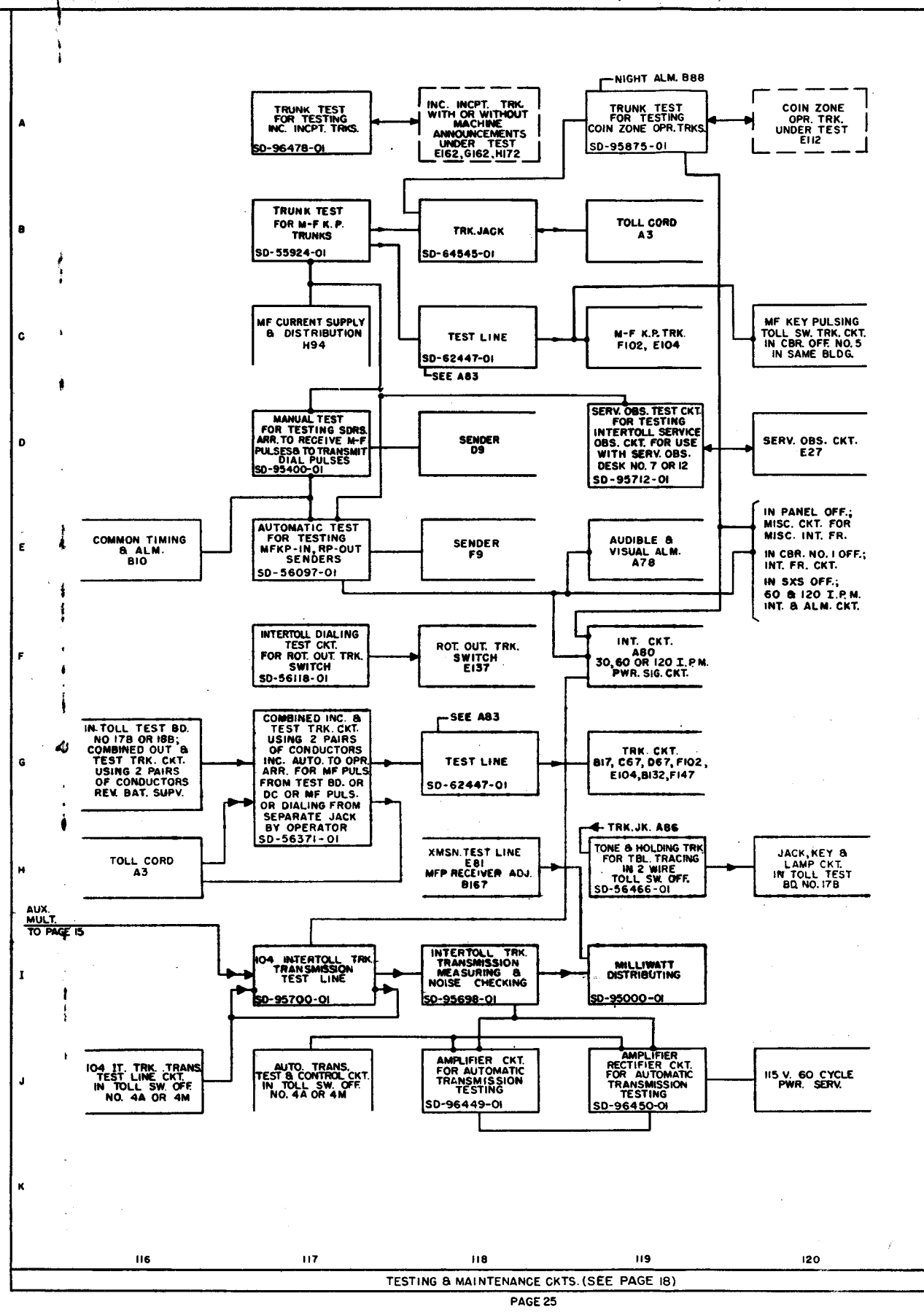
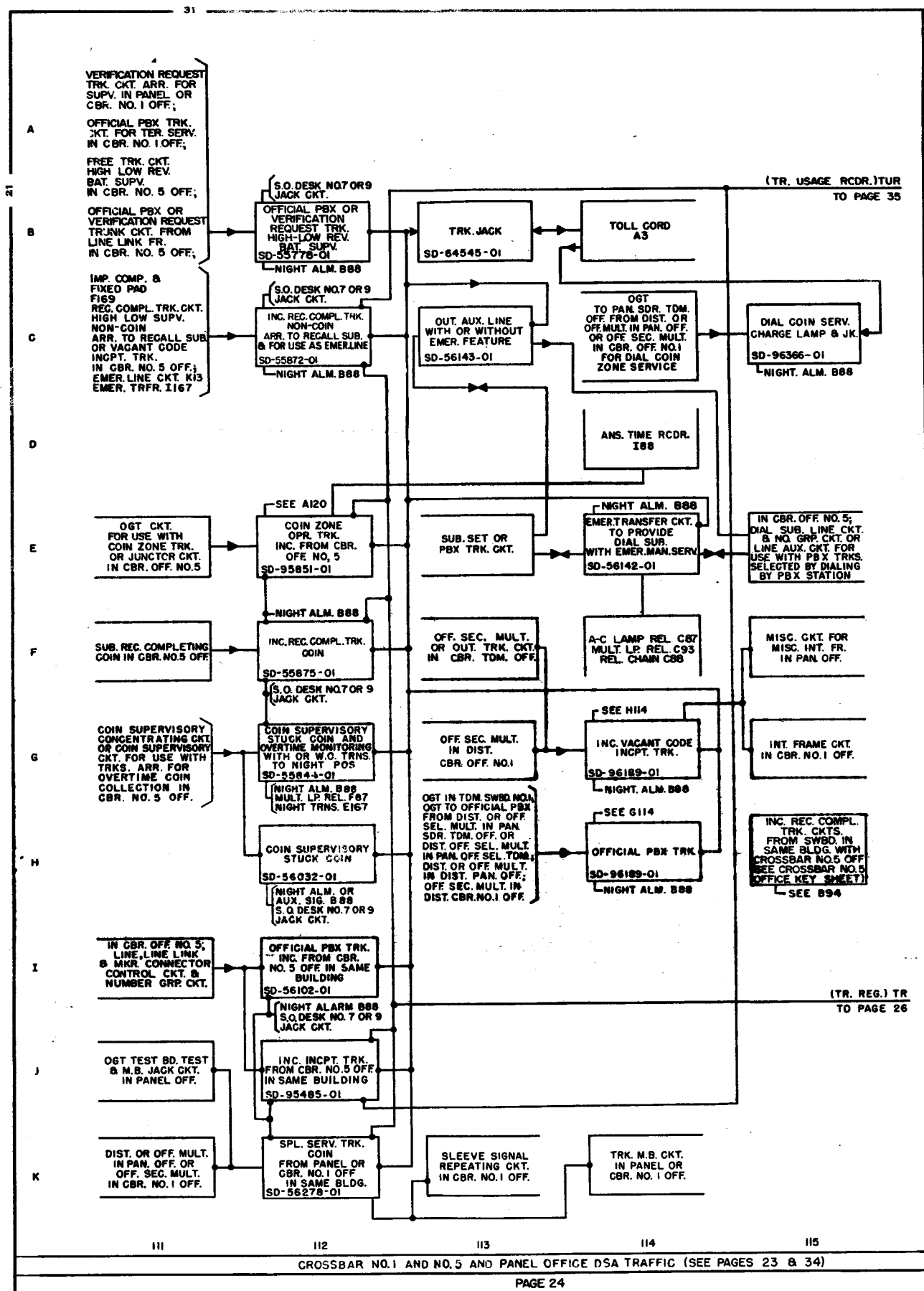
PAGE 22



PAGE 23

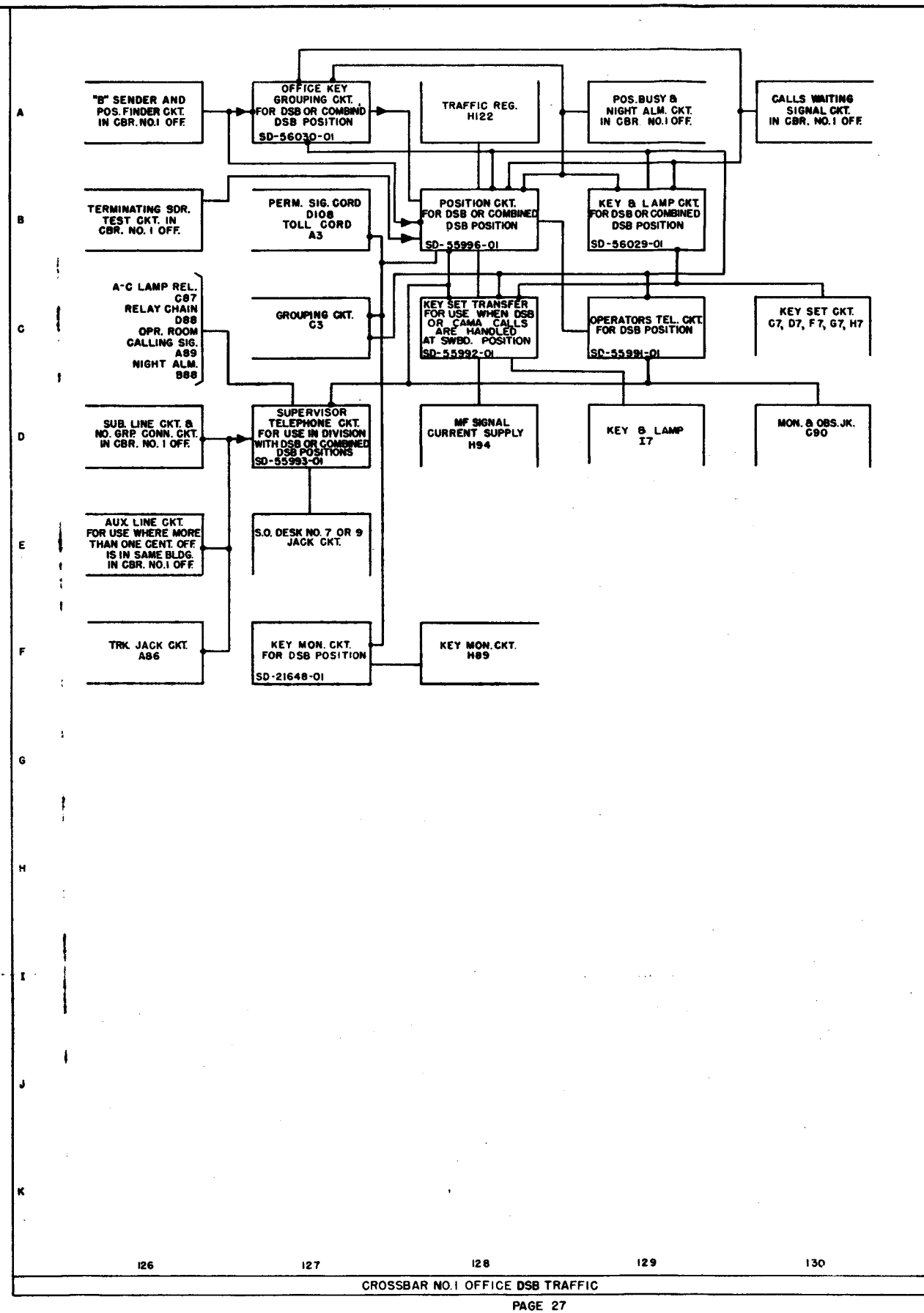
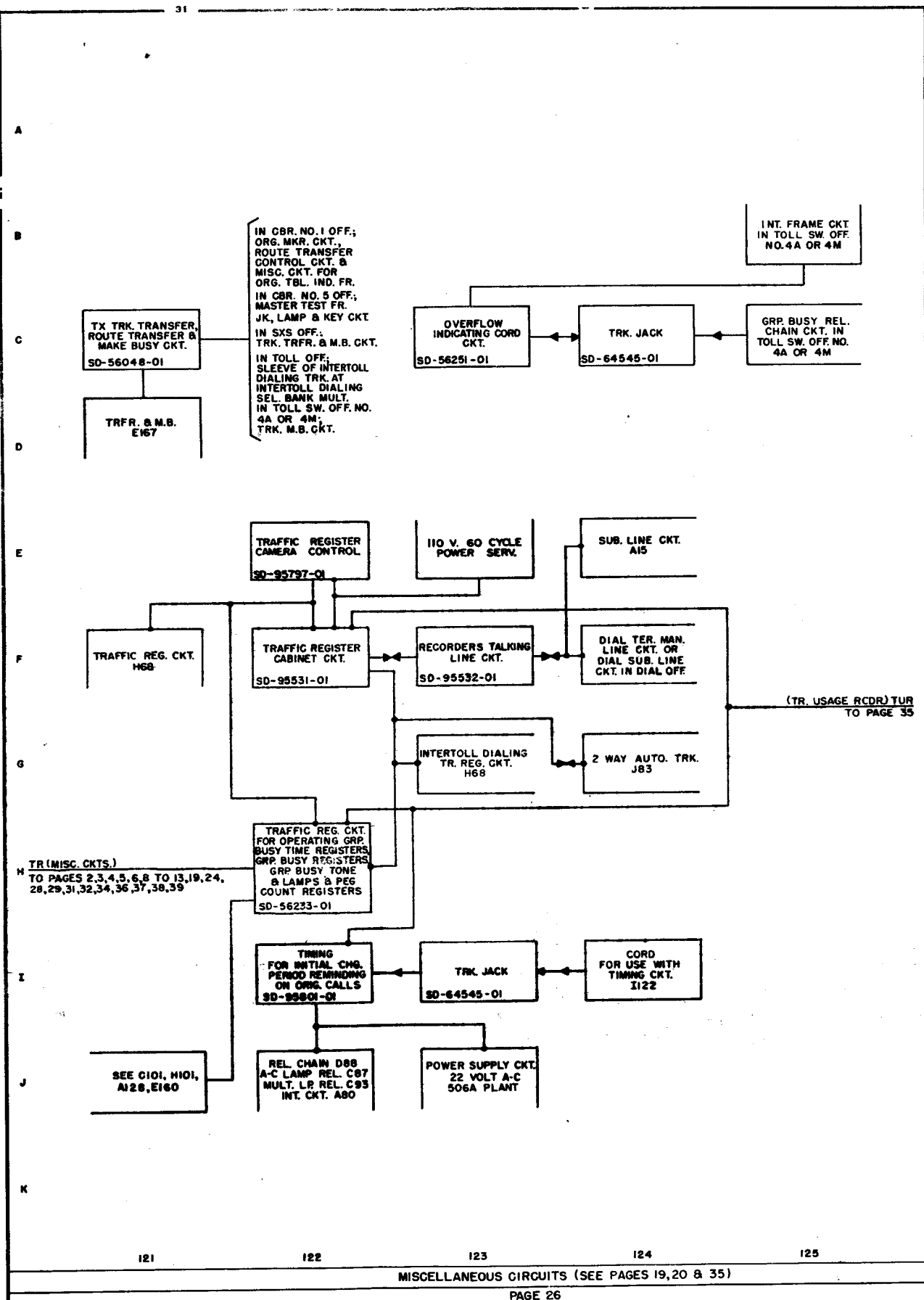
BELL TELEPHONE LABORATORIES
INCORPORATED

SD-64800-01-B11

SWITCHBOARD NO. 3C OR 3CL
KEY SHEETBELL TELEPHONE LABORATORIES
INCORPORATED

SD-64800-01-B12

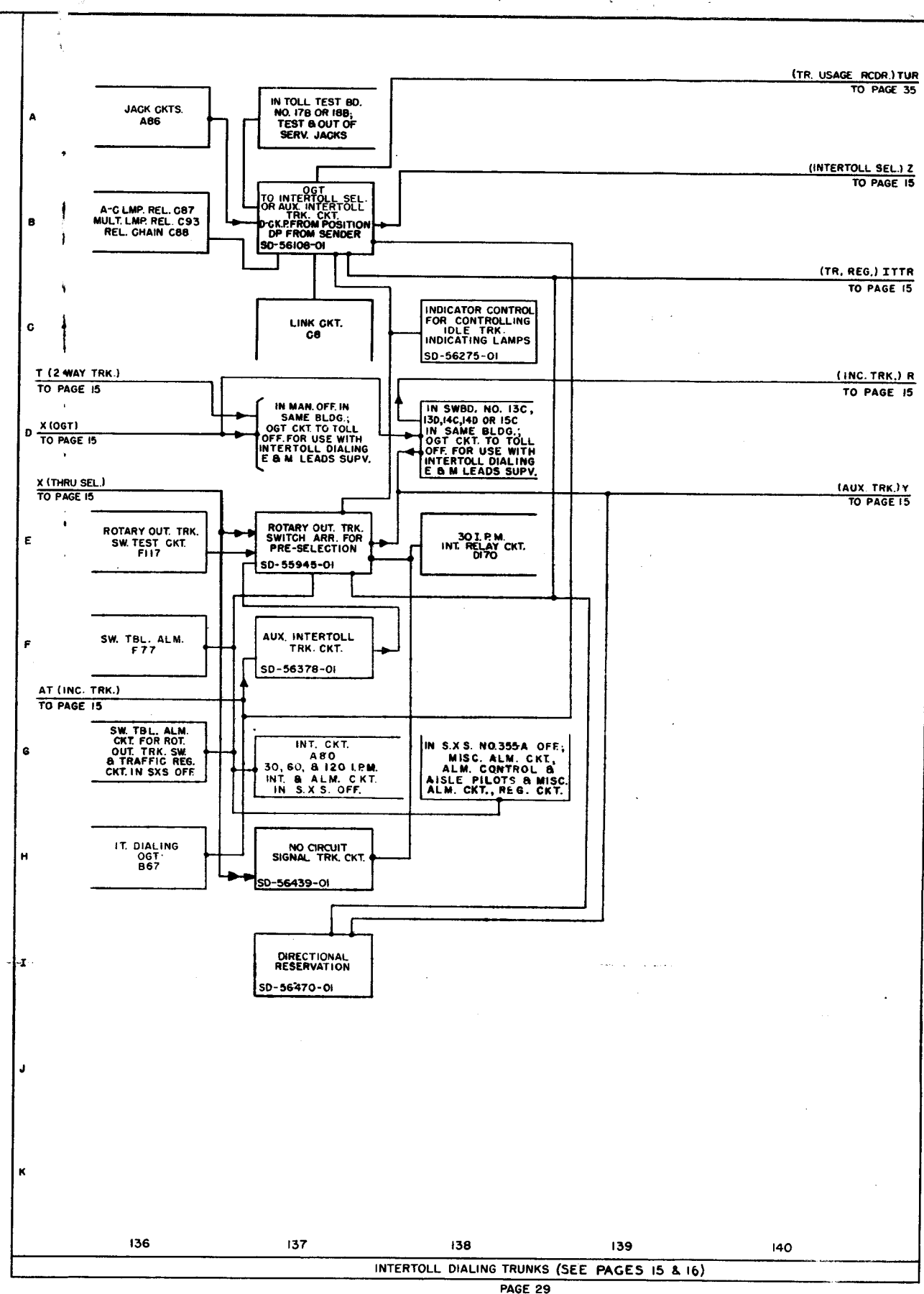
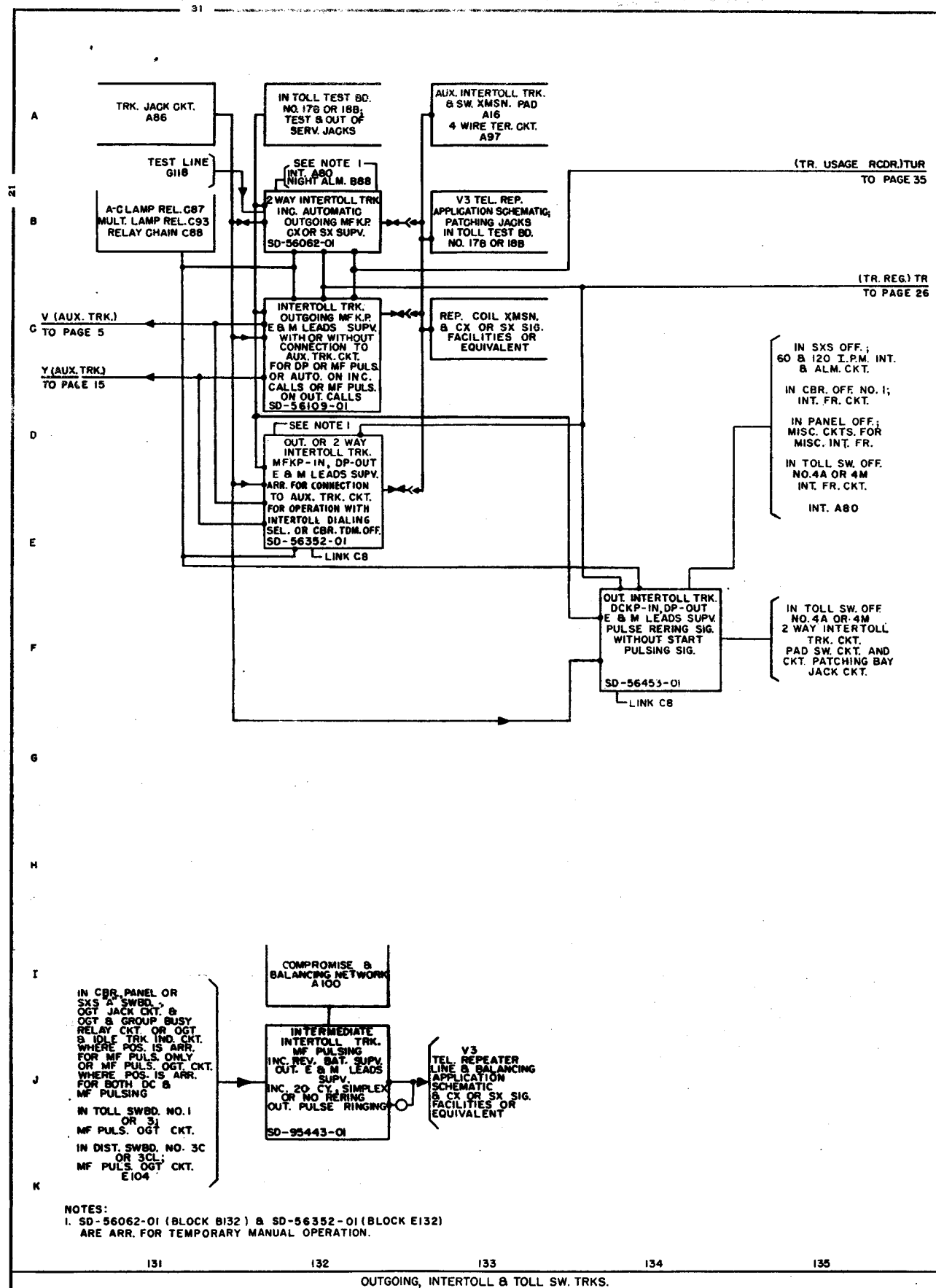
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SWITCHBOARD NO. 3C OR 3CL
KEY SHEETBELL TELEPHONE LABORATORIES
INCORPORATED

25

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SWITCHBOARD NO. 3C OR 3CL
KEY SHEETBELL TELEPHONE LABORATORIES
INCORPORATED

25

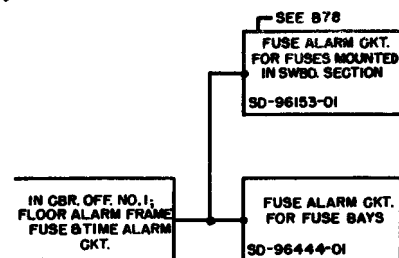
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DRAWING
ISSUE
15
J.T.
M.S.
P.D.

15

FOR CROSSBAR OFFICE NO. 1



141

142

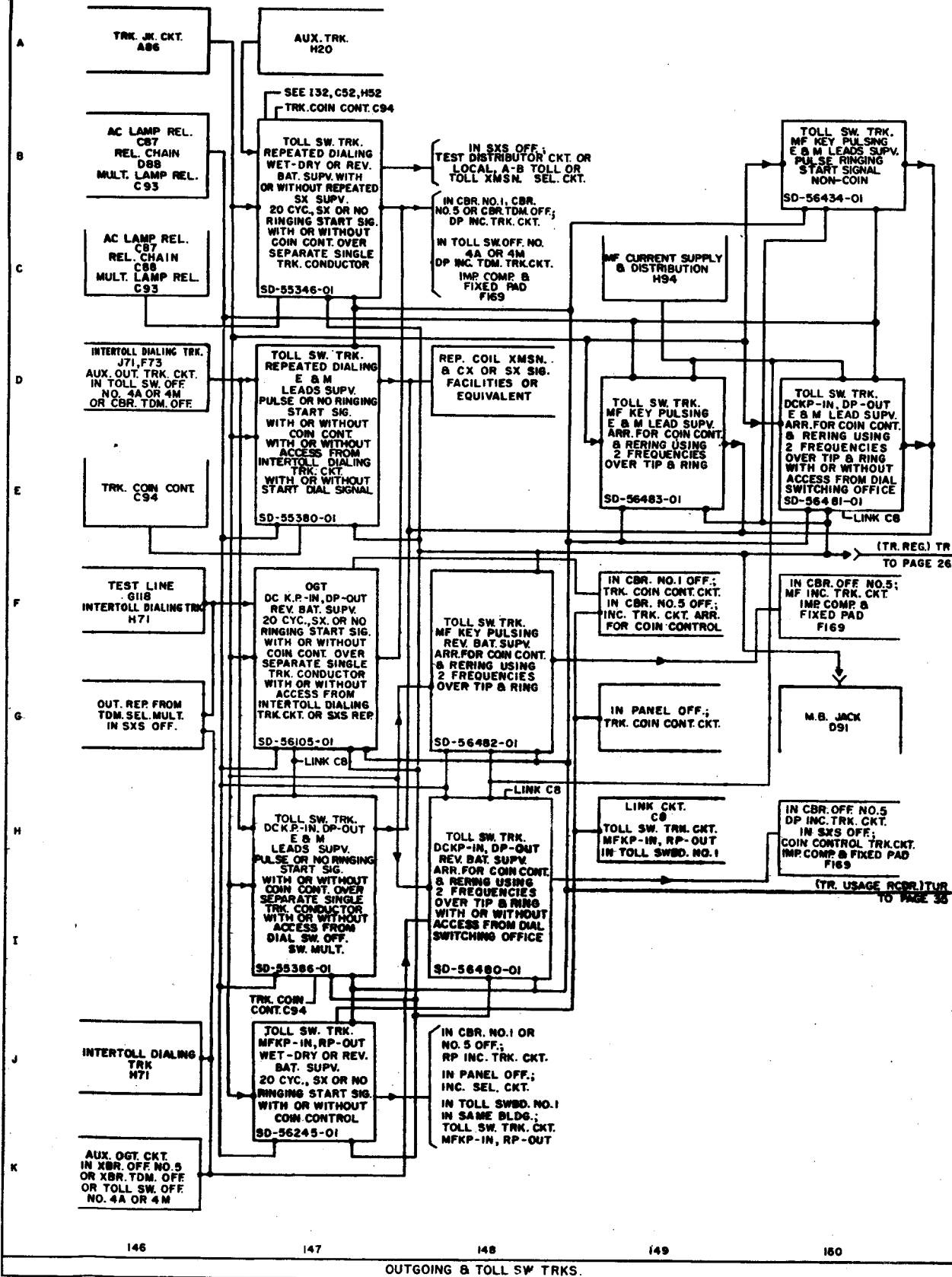
143

144

145

ALARM CIRCUITS FOR USE WHEN SWBD. HANDLES DSA TRAFFIC ONLY

PAGE 30

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ISSUE
15
J.T.
M.S.
P.D.

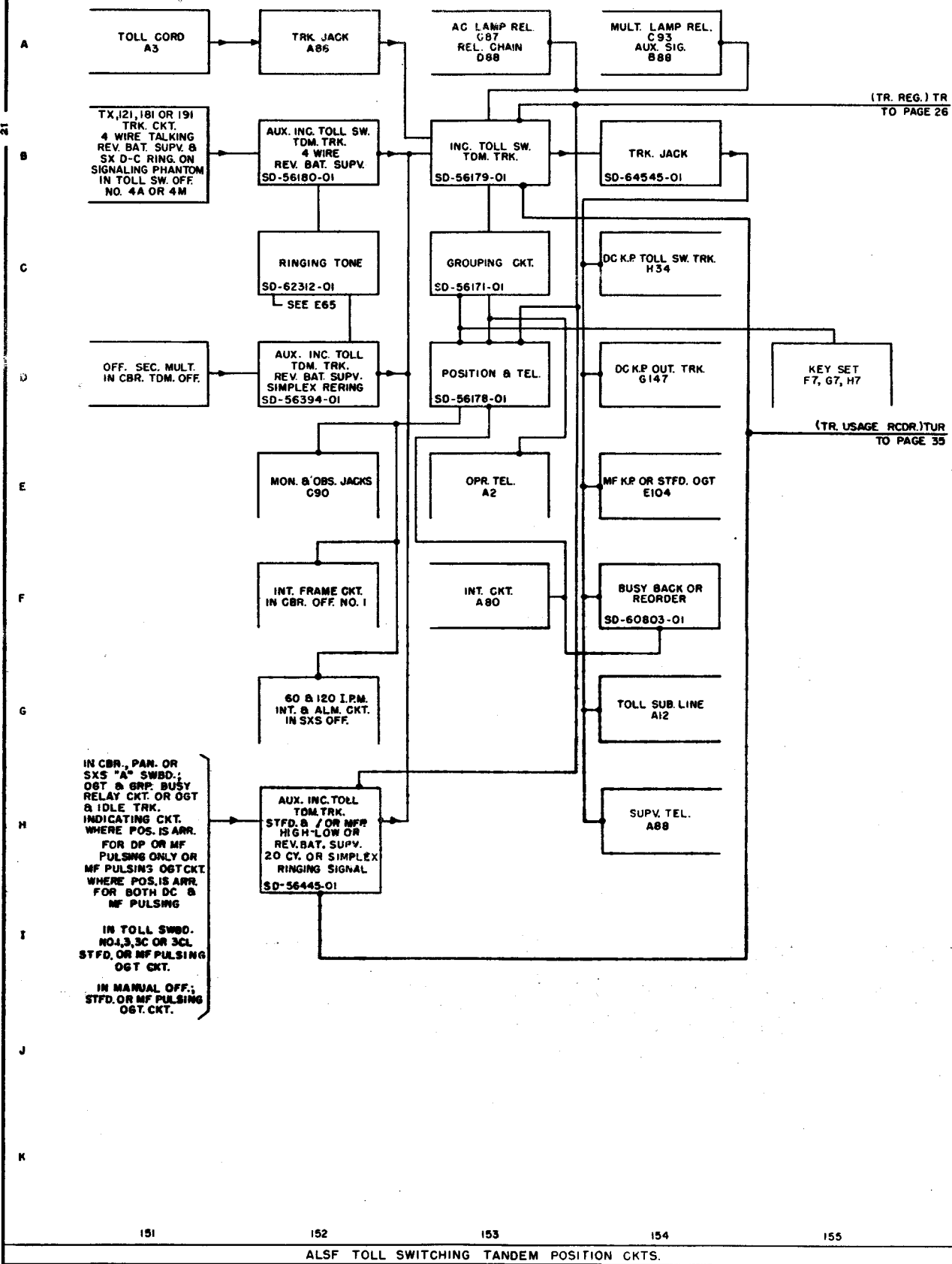
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SWITCHBOARD NO. 3C OR 3CL
KEY SHEETBELL TELEPHONE LABORATORIES
INCORPORATED

25

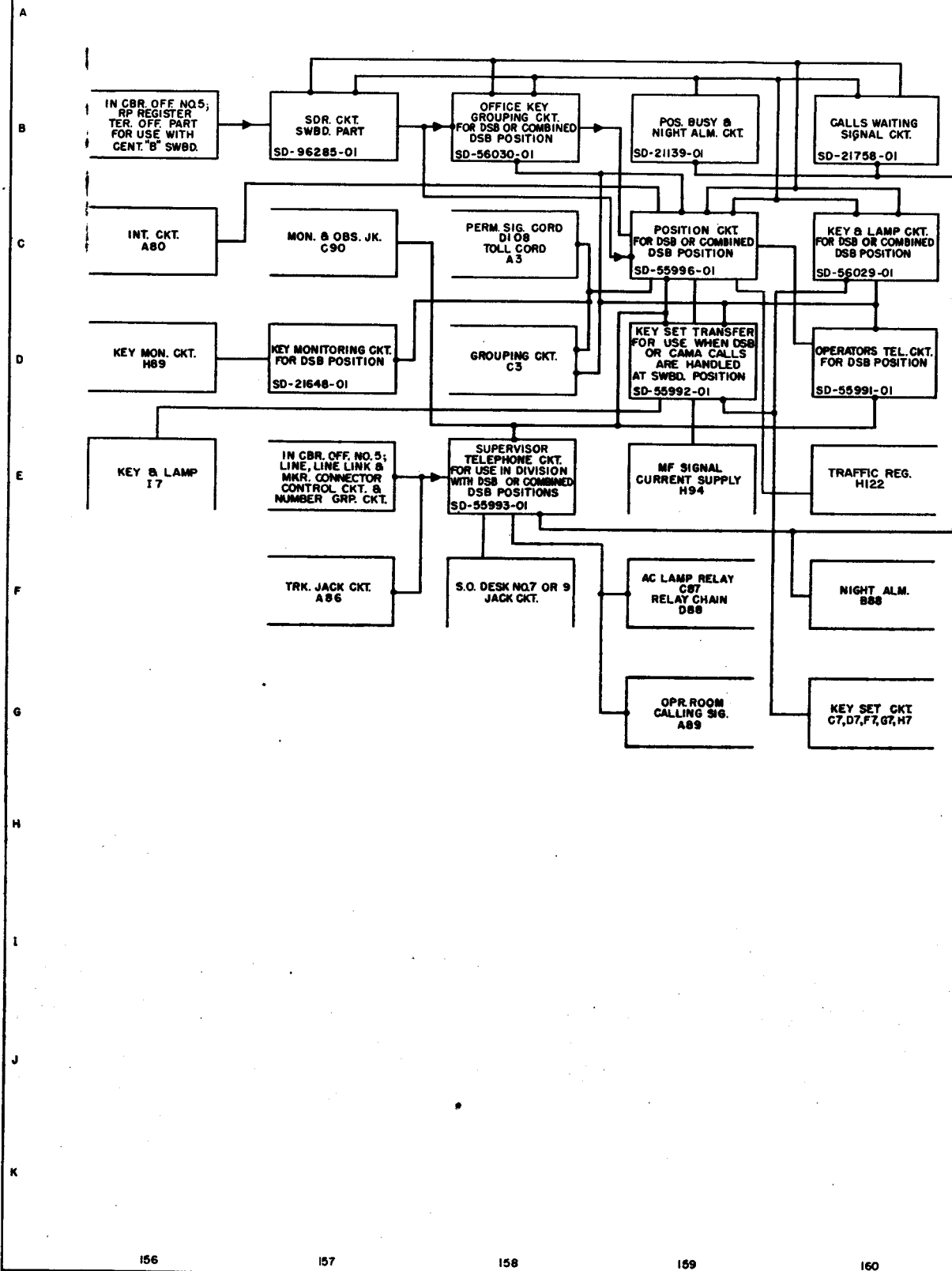
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ALSF TOLL SWITCHING TANDEM POSITION CKTS.

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CROSSBAR NO. 5 OFFICE DSB TRAFFIC

PAGE 33

SWITCHBOARD NO. 3C OR 3CL
KEY SHEETBELL TELEPHONE LABORATORIES
INCORPORATED

25

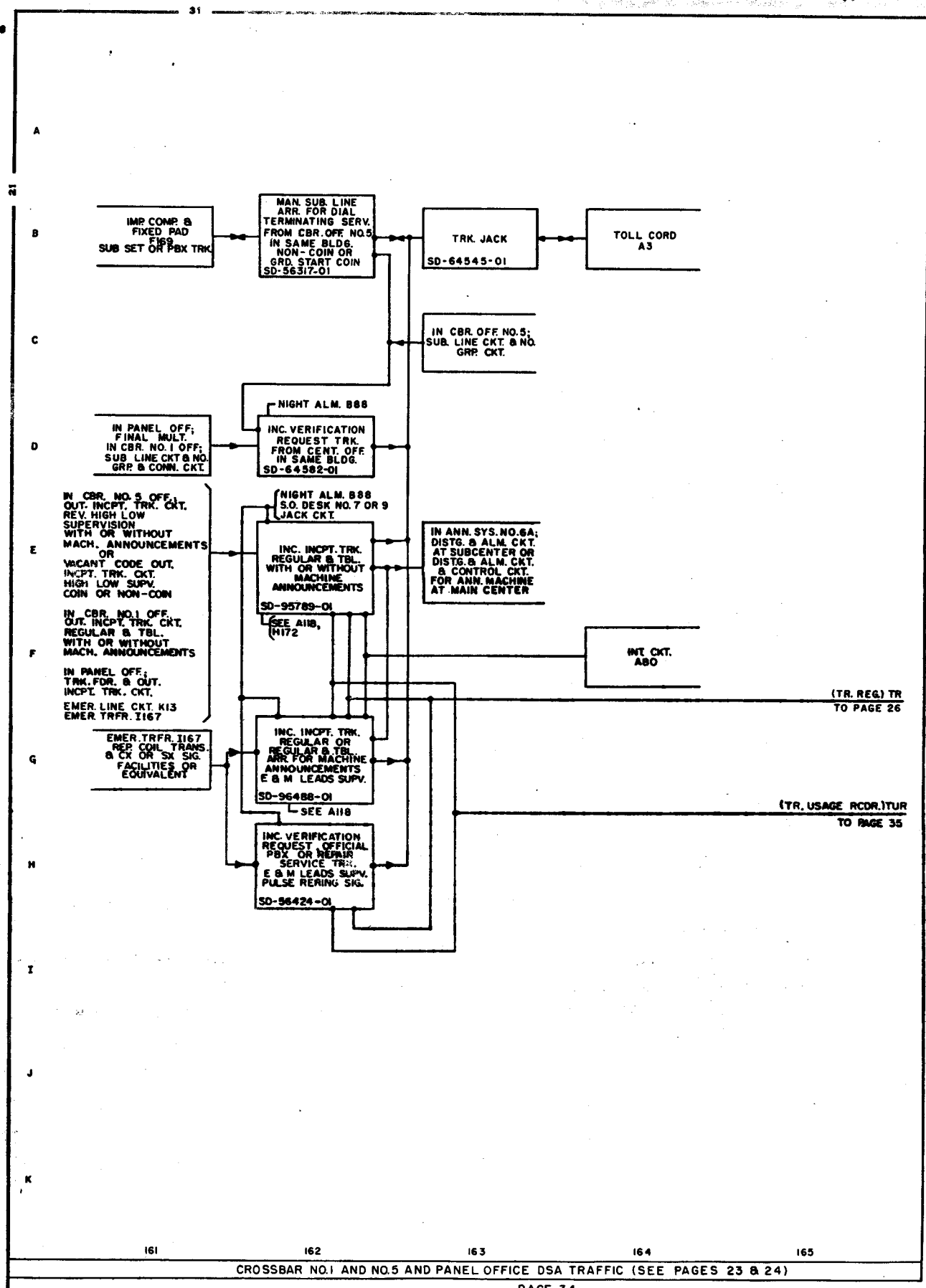
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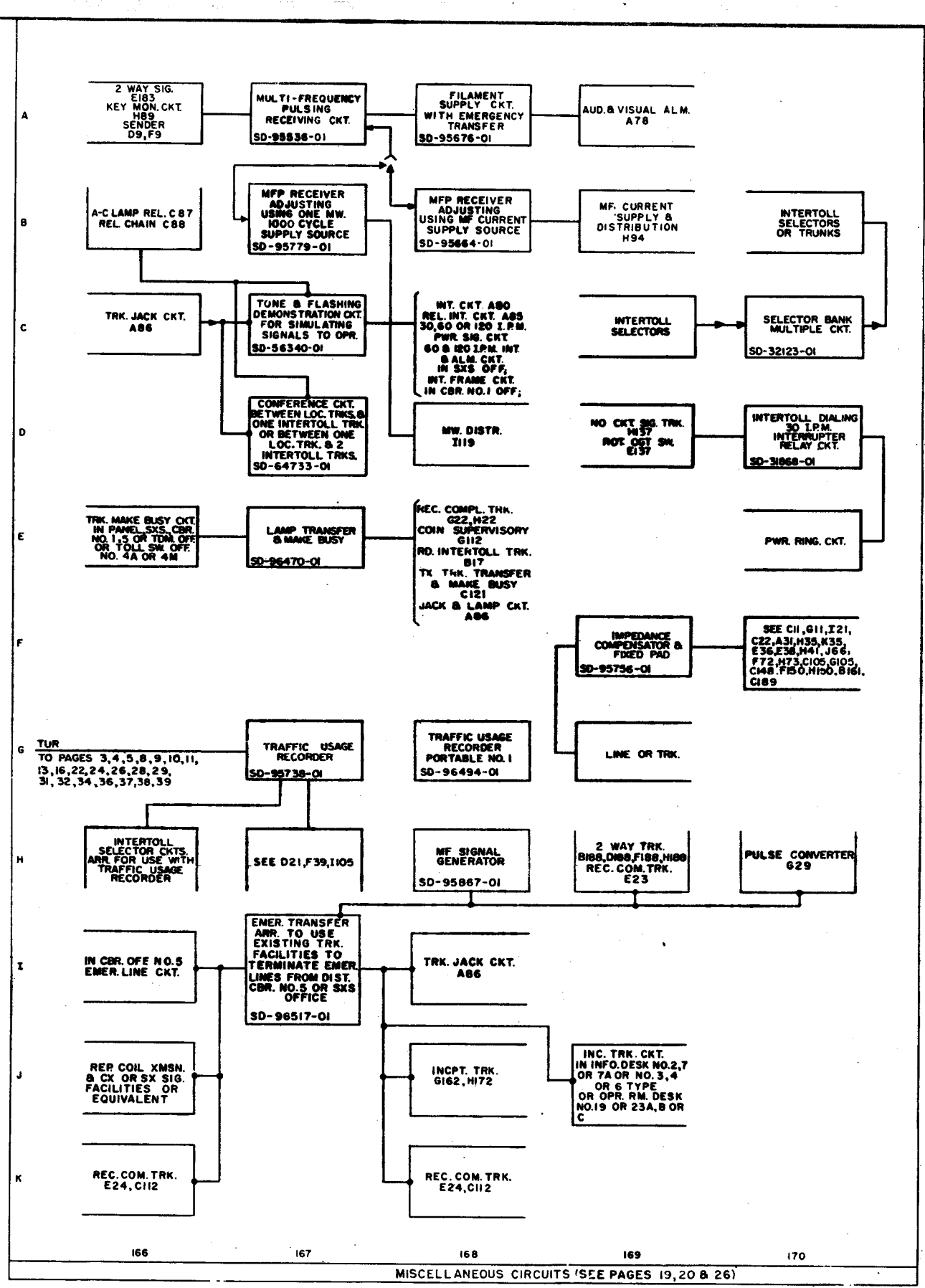
DRAWING
ISSUE
15
J.T.
4-3
P.D.

15

SD-64800-N-17



CROSSBAR NO. 1 AND NO. 5 AND PANEL OFFICE DSA TRAFFIC (SEE PAGES 23 & 24)



MISCELLANEOUS CIRCUITS (SEE PAGES 19, 20 & 26)

SWITCHBOARD NO. 3C OR 3CL
KEY SHEET

BELL TELEPHONE LABORATORIES
INCORPORATED

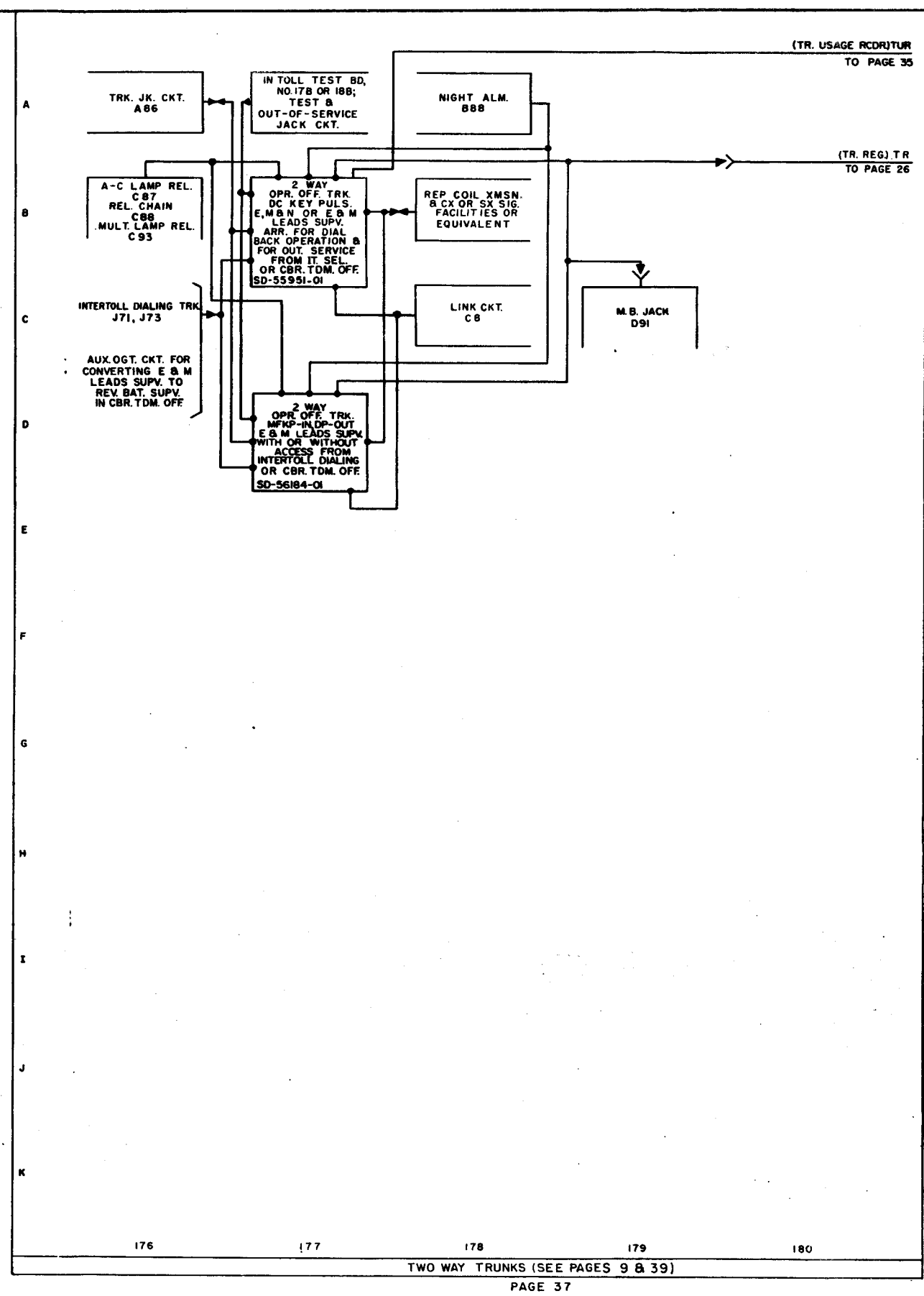
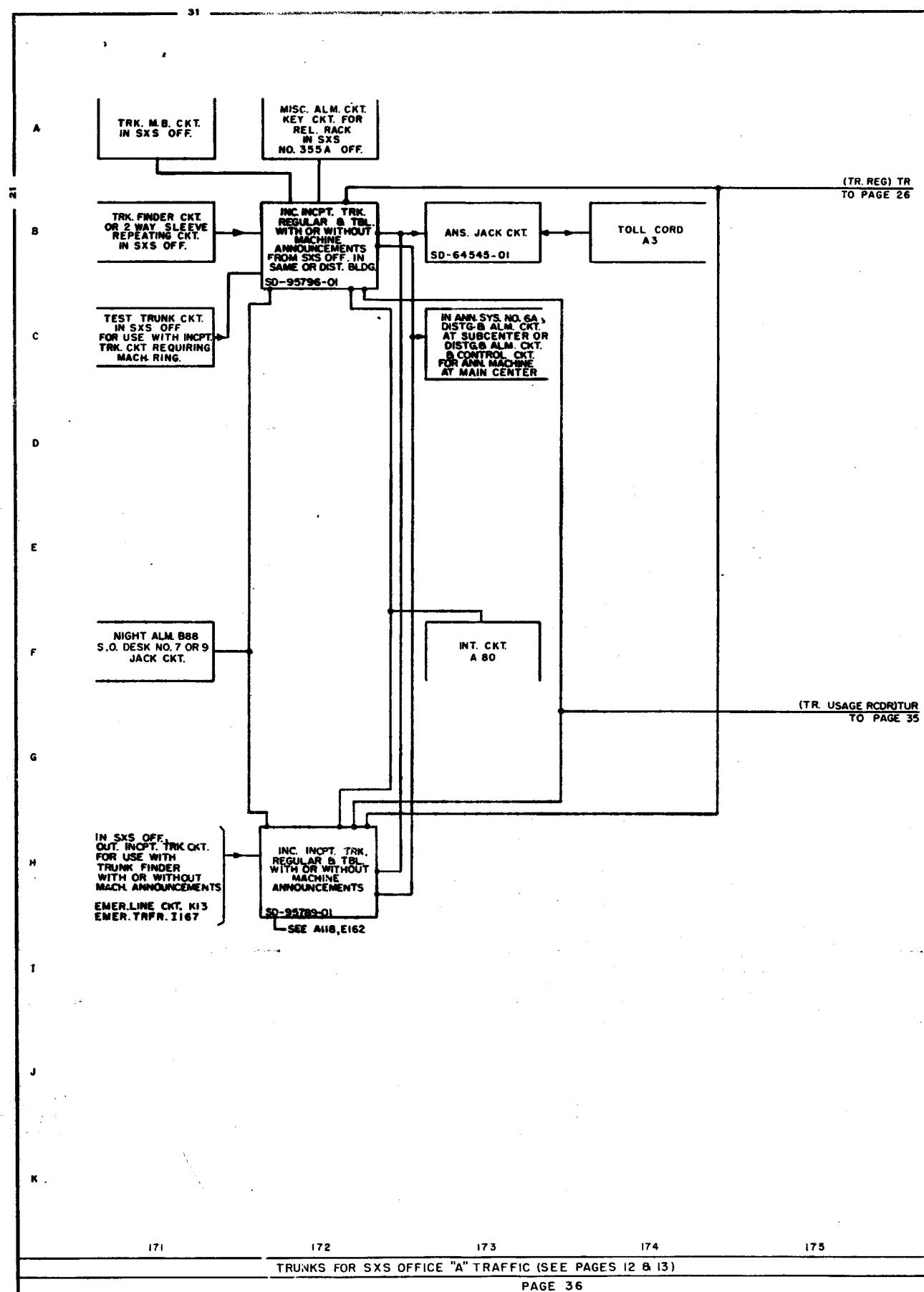
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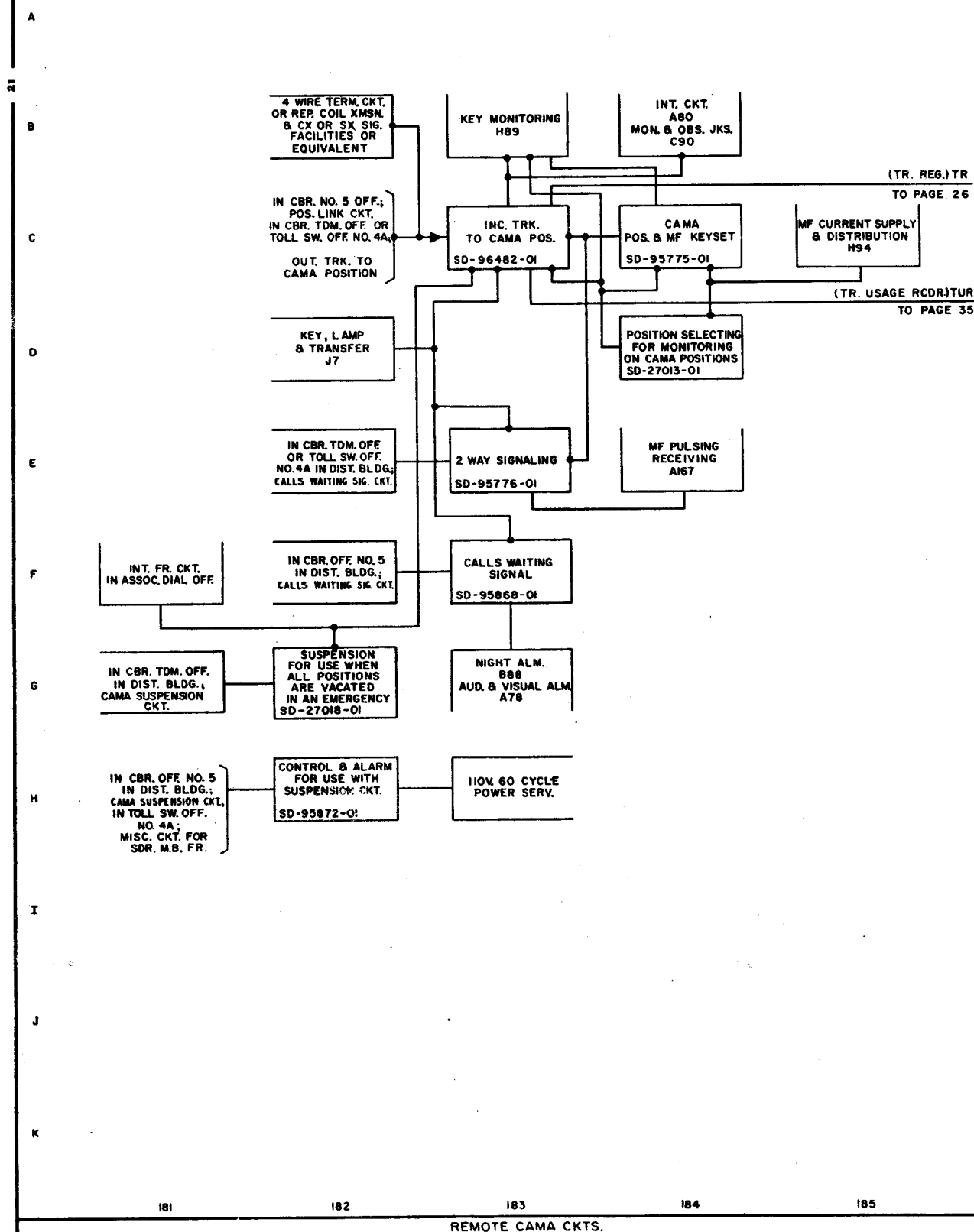
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DRAWING
ISSUE
15
J.T.
M.S.
P.D.

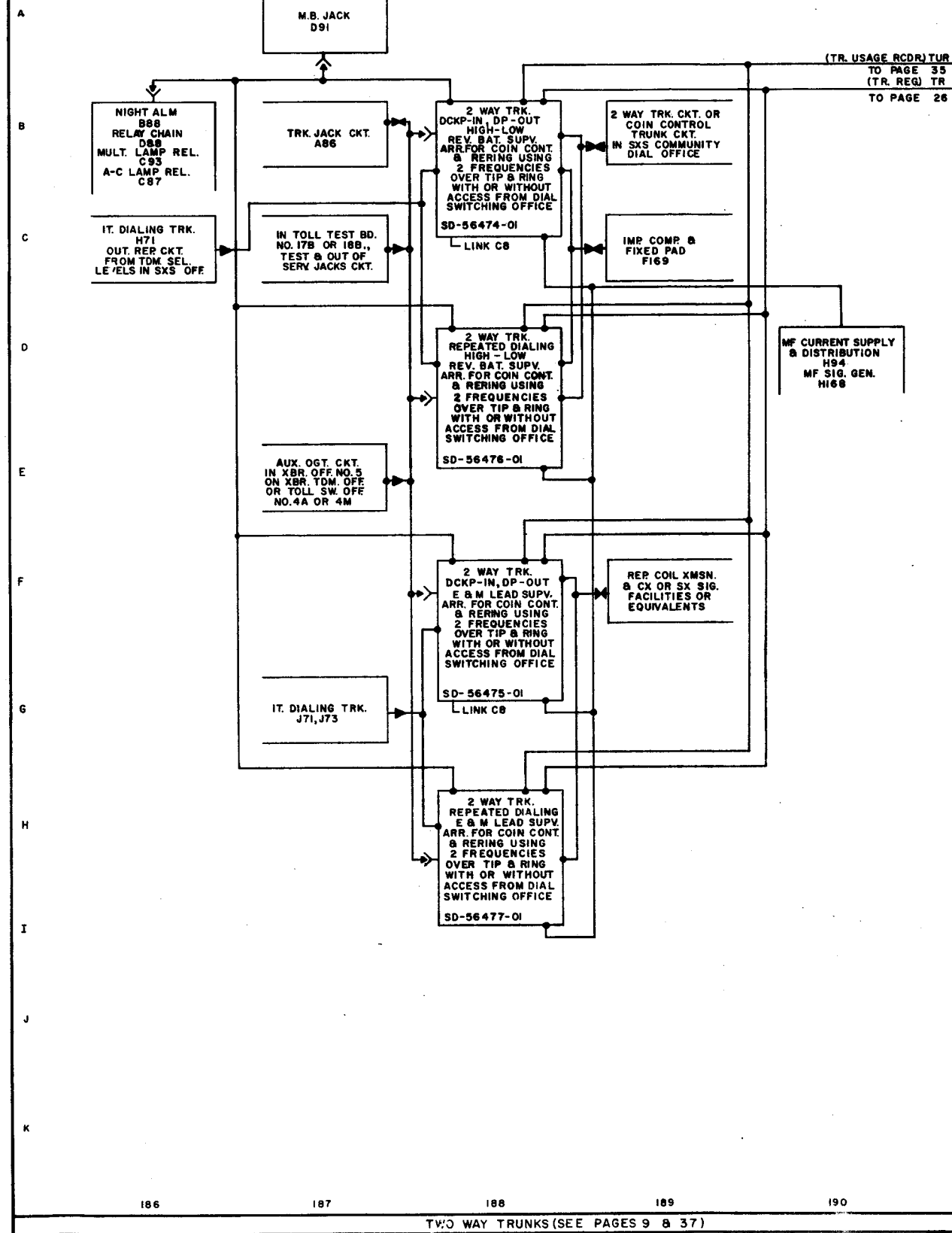
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REMOTE CMA CKTS.

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TWO WAY TRUNKS (SEE PAGES 9 & 37)

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SWITCHBOARD NO. 3C OR 30L
KEY SHEETBELL TELEPHONE LABORATORIES
INCORPORATED

2S

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15

TABLE 1

RECORDING AND RECORDING COMPLETING TRUNKS CONNECTING TO OTHER SYSTEMS													
TYPE OF TRUNK	CONNECTING SYSTEM	LOC. OF CKT. ON KEY SHEET	POLARITY OF TRUNK LEADS						KIND OF SUPV.	HAS COIN CONT.	HAS CLASS OF SERV. TONE	KIND OF RERING SIGNAL	SEE NOTE
			INC. LEADS	TRUNK NORMAL	TRUNK SEIZED	OPR. ANS.	OPR. OR SUB. DISC. (ON HOOK)	OPR. DISC.					
RECORDING COMPLETING TRUNKS FROM LOCAL OFFICES IN SAME BUILDING	STEP BY STEP	A24	T	GRD.	GRD.	BAT.	BAT.	GRD.	REV. BAT.	NO	NO	NONE	10
			R	BAT.	BAT.	GRD.	GRD.	BAT.					
		G22	T	GRD.	GRD.	GRD.	GRD.	GRD.	BRIDGED	NO	YES	20~ NONE EMG	
	CROSSBAR NO. 1	H22	T	GRD.	GRD.	BAT.	BAT.	GRD.	BRIDGED	YES	YES	20~	6
			R	BAT.	BAT.	GRD.	GRD.	BAT.					
		C24	T	BAT.	BAT.	GRD.	GRD.	BAT.	BRIDGED	NO	NO	20~ NONE EMG	1
	PANEL	F24	T	GRD.	GRD.	BAT.	BAT.	GRD.	BRIDGED	YES	NO	20~ NONE EMG	1,2,6
			R	BAT.	BAT.	GRD.	GRD.	BAT.					
		C24	T	BAT.	BAT.	GRD.	GRD.	BAT.	BRIDGED	NO	NO	20~ NONE EMG	1
	PANEL	F24	T	GRD.	GRD.	BAT.	BAT.	GRD.	BRIDGED	YES	NO	20~ NONE EMG	1,2,6
			R	BAT.	BAT.	GRD.	GRD.	BAT.					
		B22	T	GRD.	GRD.	BAT.	BAT.	GRD.	HIGH LOW REV. BAT.	YES	NO	20~ NONE	3,4,5,9
RECORDING COMPLETING TRUNKS FROM LOCAL OFFICES IN DISTANT BUILDINGS	STEP BY STEP												
		E24							CX OR SX	YES	NO	PULSE	4,5,8
	CROSSBAR NO. 1	B22	T	GRD.	GRD.	BAT.	BAT.	GRD.	HIGH LOW REV. BAT.	YES	NO	20~	5,9
			R	BAT.	BAT.	GRD.	GRD.	BAT.					
		I22	T	GRD.	GRD.	BAT.	BAT.	GRD.	HIGH LOW REV. BAT.	YES	NO	20~	5,9,11
	CROSSBAR NO. 5	C112	T	GRD.	GRD.	BAT.	BAT.	GRD.	REV. HIGH LOW	NO		REV. BAT.	
			R	BAT.	BAT.	GRD.	GRD.	BAT.					
		F112	T	GRD.	GRD.	BAT.	BAT.	GRD.	REV. HIGH LOW	YES		REV. BAT.	6
	PANEL	B22	T	GRD.	GRD.	BAT.	BAT.	GRD.	HIGH LOW REV. BAT.	YES	NO	20~	5,9
			R	BAT.	BAT.	GRD.	GRD.	BAT.					
		I22	T	GRD.	GRD.	BAT.	BAT.	GRD.	HIGH LOW REV. BAT.	YES	NO	20~	5,9,11
OPERATORS RECORDING COMPLETING TRK.	STEP BY STEP DSA SWBD.	I24	T	BAT.	BAT.	BAT.	BAT.	BAT.	BRIDGED	YES	NO	20~	5,7
			R	GRD.	GRD.	GRD.	GRD.	GRD.					
RECORDING TRK. FROM LOC. OFF.	STEP BY STEP TANDEM	C27	T	GRD.	GRD.	BAT.	BAT.	GRD.	REV. BAT.				
			R	BAT.	BAT.	GRD.	GRD.	BAT.					
RECORDING TRK. FROM LOC. OFF. IN DST. BLDG.	MANUAL TANDEM SWBD.	C27	T	GRD.	GRD.	BAT.	BAT.	GRD.	REV. BAT.				
			R	BAT.	BAT.	GRD.	GRD.	BAT.					
RECORDING TRK. FROM LOC. OFF. IN DST. BLDG.	DSA OR MANUAL SWBD.	A27	T	GRD.	GRD.	GRD.	GRD.	GRD.	HIGH LOW				
			R	BAT.	BAT.	GRD.	GRD.	BAT.					

NOTES:

1. THESE CKTS. MAY BE ARRANGED FOR NUMBER CHECKING IN A CBR. NO. 1 OFFICE AND FOR TOLL DIVERSION IN A PANEL OR CBR. NO. 1 OFFICE.
2. WHEN THE SUBSCRIBER HANGS UP AND THE OPERATOR DISCONNECTS, COIN COLLECT BATTERY IS AUTOMATICALLY CONNECTED TO THE LINE BEFORE THE CKT. RESTORES TO NORMAL.
3. WHEN COIN CONTROL IS PROVIDED RERING IS REQUIRED.
4. THE CONNECTING CKT. IN THE LOCAL OFFICE DETERMINES THE USE OF CLASS OF SERVICE TONE.
5. A SEPARATE SINGLE TRUNK CONDUCTOR IS REQUIRED FOR DISPOSAL OF COINS.
6. THE COIN CONTROL FEATURE OPERATES OVER THE TRK. CONDUCTORS.
7. THIS CKT. CONNECTS DIRECTLY TO AN OGT JACK CKT. AT THE SWITCHBOARD. AN OPR. RECORDING COMPLETING CORD CKT. MUST BE USED WITH THIS CKT. AT THE DSA SWITCHBOARD.
8. SUPERVISION AND RERING ARE CONTROLLED OVER THE CX OR SX SIGNALING CKT. WHICH CONNECTS TO A SIMILAR CX OR SX SIGNALING CKT. AT THE DISTANT LOCAL OFFICE.
9. A HIGH RES. BRIDGE IS CHANGED TO A LOW RES. BRIDGE WHEN OPR. ANS. AND TO A HIGH RES. BRIDGE WHEN OPR. DISCONNECTS.
10. THIS CKT. IS FOR USE WITH LOCAL SELECTORS WHICH ARE AVAILABLE TO OPERATOR OFFICE TRUNKS ARRANGED FOR 1 DIGIT TANDEM OPERATION.
11. OPTION FOR NUMBER CHECKING IS AVAILABLE WITH THIS CKT. FOR NON-COIN LINES.

TRK. CKTS., REC. AND REG. COMPL., CKT. DETAILS

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TABLE 2

OUTGOING AND TOLL SWITCHING TRUNKS CONNECTING TO OTHER SYSTEMS
DC K.P.-IN, D.P.-OUT OR R.P.-OUT

CONNECTING SYSTEM		LOC. OF CKT. ON KEY SHEET	POLARITY OF TRUNK LEADS						KIND OF SUPV.	KIND OF PULSING	HAS COIN CONTROL	KIND OF RINGING START SIGNAL	SEE NOTE	
			OUT-GOING LEADS	TRUNK NORMAL	TRUNK SEIZED	POLARITY TO CUT TRK. THRU TO "FT" & "FR" (SEE NOTE 8)	LINE SEIZURE SIGNAL	SUB. ANS. (OFF-HOOK)						SUB. DISC. (ON-HOOK)
STEP BY STEP	TOLL INTERMEDIATE SEL.	J34	T	GRD.	GRD.		SEE NOTE 6	GRD.	GRD.	BRIDGED	D.P.	YES	SEE NOTE 7	1
			R	BAT.	BAT.			BAT.	BAT.			NO		
	LOCAL OR A-B TOLL TRAIN	H34	T	GRD.	GRD.		NONE	BAT.	GRD.	REV. BAT.	D.P.	NO	NONE	
			R	BAT.	BAT.			GRD.	BAT.					
	LOOP DIALING TOLL TRAIN	H34	T	GRD.	GRD.		BAT.	DRY	BAT.	WET DRY	D.P.	YES	20~	2
			R	BAT.	BAT.		GRD.	DRY	GRD.			NO		
	LOOP DIALING TOLL TRAIN	H34	T	GRD.	GRD.		NONE	BAT.	GRD.	REV. BAT.	D.P.	YES	SX	2
			R	BAT.	BAT.			GRD.	BAT.			NO		
	REPEATED DIALING TOLL TRAIN	G104	T	GRD.	GRD.		BAT.	DRY	BAT.	WET DRY	D.P.	YES	20~	2,3
			R	BAT.	BAT.		GRD.	DRY	GRD.			NO		
	INC. TRK TO TOLL INC. SEL.	I147								CX OR SX	D.P.	YES	PULSE	2,3
												NO	NONE	
PANEL	LOCAL INC. SEL.	H 34	T	BAT.	BAT.		NONE	GRD.	BAT.	REV. BAT.	R.P.	NO	NONE	5
			R	GRD.	GRD.			BAT.	GRD.					
	LOCAL INC. SEL.	K 34	T	BAT.	BAT.		NONE	GRD.	BAT.	REV. BAT.	R.P.	NO	NONE	4,5
			R	GRD.	GRD.			BAT.	GRD.					
	TOLL INC. SEL.	H34	T	BAT.	BAT.		BAT.	DRY	BAT.	WET DRY	R.P.	YES	20~	2,5
			R	GRD.	GRD.		GRD.	DRY	GRD.			NO		
	TOLL INC. SEL.	K34	T	BAT.	BAT.		BAT.	DRY	BAT.	WET DRY	R.P.	YES	20~	2,4,5
			R	GRD.	GRD.		GRD.	DRY	GRD.			NO		
CROSSBAR NO. 1	LOCAL INC. TRK.	H34	T	BAT.	BAT.		NONE	GRD.	BAT.	REV. BAT.	R.P.	NO	NONE	5
			R	GRD.	GRD.			BAT.	GRD.					
	LOCAL INC. TRK.	K34	T	BAT.	BAT.		NONE	GRD.	BAT.	REV. BAT.	R.P.	NO	NONE	4,5
			R	GRD.	GRD.			BAT.	GRD.					
	LOCAL INC. TRK.	F147	T	BAT.	BAT.	GRD.	NONE	BAT.	GRD.	REV. BAT.	D.P.	YES	SX	2
			R	GRD.	GRD.	BAT.		GRD.	BAT.			NO		
	TOLL INC. TRK.	H34	T	BAT.	BAT.		NONE	GRD.	BAT.	REV. BAT.	R.P.	YES	20~	2,5
			R	GRD.	GRD.			BAT.	GRD.			NO		
	TOLL INC. TRK.	K34	T	BAT.	BAT.		NONE	GRD.	BAT.	REV. BAT.	R.P.	YES	20~	2,4,5
			R	GRD.	GRD.			BAT.	GRD.			NO		
	NO TEST INC. TRK.	A102	T	BAT.	BAT.		NONE	GRD.	GRD.	BRIDGED	R.P.	NO	NONE	
			R	GRD.	GRD.			BAT.	BAT.					
CROSSBAR NO. 5	LOCAL INC. TRK.	F147	T	BAT.	BAT.	GRD.	NONE	BAT.	GRD.	REV. BAT.	D.P.	NO	NONE	
			R	GRD.	GRD.	BAT.		GRD.	BAT.					
	LOCAL INC. TRK.	H34, K34	T	BAT.	BAT.		NONE	GRD.	BAT.	REV. BAT.	R.P.	NO	NONE	4,5
			R	GRD.	GRD.			BAT.	GRD.					
	TOLL INC. TRK.	F147	T	BAT.	BAT.	GRD.	NONE	BAT.	GRD.	REV. BAT.	D.P.	YES	SX	2
			R	GRD.	GRD.	BAT.		GRD.	BAT.			NO		
	TOLL INC. TRK.	H34, K34	T	BAT.	BAT.		NONE	GRD.	BAT.	REV. BAT.	R.P.	YES	SX	2,4,5
			R	GRD.	GRD.			BAT.	GRD.			NO		
CROSSBAR TANDEM	INC. TRK.	H34, K34	T	BAT.	BAT.		NONE	GRD.	BAT.	REV. BAT.	R.P.	NO	NONE	4,5,9
			R	GRD.	GRD.			BAT.	GRD.					
	INC. TRK.	F147	T	BAT.	BAT.	GRD.	NONE	BAT.	GRD.	REV. BAT.	D.P.	NO	NONE	9
			R	GRD.	GRD.	BAT.		GRD.	BAT.					
PANEL SENDER TANDEM	DISTRICT SEL.	K34	T	BAT.	BAT.		NONE	GRD.	BAT.	REV. BAT.	R.P.	NO	NONE	4,5,9
		R	GRD.	GRD.			BAT.	GRD.						
TOLL SW NO. 4 TYPE	INC. TRK.	F147	T	BAT.	BAT.	GRD.	NONE	BAT.	GRD.	REV. BAT.	D.P.	NO	NONE	9
		R	GRD.	GRD.	BAT.			GRD.	BAT.					

NOTES:

1. THE DISPOSAL OF COINS IS CONTROLLED OVER THE TIP AND RING OF THE TRK. CKT.
2. A SEPARATE SINGLE TRK. CONDUCTOR IS REQUIRED FOR DISPOSAL OF COINS.
3. THIS CKT. MAY ALSO CONNECT TO COMBINED LOOP DIALING & REPEATED DIALING TOLL TRAIN.
4. THIS TRK. CKT. CONNECTS TO "KEY PULSING" A SWBD. LINK & CONTROLLER CKT. AND "A" SWBD. SENDER CKT. SHOWN ON CROSSBAR NO. 1 KEYSHEET.
5. THE TOLL REVERTIVE PULSE SENDER IS RELEASED BY A MOMENTARY REVERSAL OF THE POLARITY ON THE TIP & RING FROM THE DIAL OFFICE AFTER PULSING IS COMPLETED.
6. WHEN THE LINE IS SEIZED THE CONNECTION BETWEEN THE "C" AND "S" LEADS IN THE CONNECTOR IS OPENED CAUSING THE RELEASE OF A REL. IN THE TRK. CKT.
7. WHEN THE OPR. RINGS OR RERINGS WITH SUB. RECEIVER ON-HOOK, THEN DURING THE RELEASE TIME OF A SLOW RELEASE REL. IN THE TRK. CKT. THE "C" LEAD IS OPENED, PERMITTING THE TRIPPING REL. IN THE CONNECTOR TO RELEASE AND CONNECT MACHINE RINGING TO THE CALLED LINE.
8. WHERE NO POLARITY IS SHOWN IN THIS COLUMN THE "FT" & "FR" LEADS ARE CUT THRU WHEN THE SENDER IS ATTACHED.
9. THE TRK. CKTS. ARE ARRANGED FOR 20 CYC. OR SX RERING.

TRK. CKTS., OUT. & TOLL SW., CKT. DETAILS

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SWITCHBOARD NO. 30 OR 3CL
KEY SHEETBELL TELEPHONE LABORATORIES
INCORPORATED

ES

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DRAWING
ISSUE
15
J.T.
M.S.
P.D.

15

TABLE 3 (CONTINUED ON NEXT PAGE)

OUTGOING AND TOLL SWITCHING TRUNKS CONNECTING TO OTHER SYSTEMS MF K.P., REPEATED DIALING OR STRAIGHTFORWARD														
CONNECTING SYSTEM	LOC. OF CKT. ON KEY SHEET	POLARITY OF TRUNK LEADS						KIND OF SUPV.	KIND OF PULSING	HAS COIN CONTROL	KIND OF RINGING START SIGNAL	SEE NOTE		
		OUT-GOING LEADS	TRUNK NORMAL	TRUNK SEIZED	START DIAL OR PULSING LAMP (SEE NOTE 10)	LINE SEIZURE SIGNAL	SUB. ANS. (OFF-HOOK)							
STEP BY STEP	TOLL INTERMEDIATE SELECTOR	A34	T	GRD.	GRD.	NONE	SEE NOTE 8	GRD.	GRD.	BRIDGED	D.P.	NO	SEE NOTE 9	
	TOLL INTERMEDIATE SELECTOR	B34	T	GRD.	GRD.	NONE	SEE NOTE 8	GRD.	GRD.	BRIDGED	D.P.	YES	SEE NOTE 9	1
	LOCAL OR AB TOLL TRAIN	C147	T	GRD.	GRD.	NONE	NONE	BAT.	GRD.	REV. BAT.	D.P.	NO	NONE	
	LOOP DIALING TOLL TRAIN	C147	T	GRD.	GRD.	NONE	NONE	BAT.	GRD.	REV. BAT.	D.P.	YES	SX	2
	LOOP DIALING TOLL TRAIN	C147	R	BAT.	BAT.	NONE	BAT.	GRD.	BAT.	WET DRY	D.P.	YES	20~	2
	INC. TRK. TO TOLL INC. SEL.	E147								CX OR SX	D.P.	YES	PULSE	2,3,6
	REPEATED DIALING TOLL TRAIN	E32	T	GRD.	GRD.	NONE	BAT.	GRD.	GRD.	WET DRY	D.P.	YES	20~	2
	"B" SWBD.	D32	T	GRD.	GRD.	NONE	BAT.	GRD.	GRD.	WET DRY	NONE	YES	20~	2
CROSSBAR NO. 1	TOLL INC. TRK.	E104	T	BAT.	BAT.	GRD.	NONE	BAT.	GRD.	REV. BAT.	MF	YES	20~	2
	LOCAL INC. TRK.	G42, E104	T	BAT.	BAT.	GRD.	NONE	BAT.	GRD.	REV. BAT.	MF	NO	NONE	7
	TOLL INC. TRK.	C147	T	BAT.	BAT.	GRD.	NONE	BAT.	GRD.	REV. BAT.	D.P.	YES	20~	2
	LOCAL INC. TRK.	C147	T	BAT.	BAT.	GRD.	NONE	BAT.	GRD.	REV. BAT.	D.P.	NO	NONE	
	"B" SWBD.	E104	T	BAT.	BAT.	GRD.	NONE	BAT.	GRD.	REV. BAT.	NONE	YES	20~	2
CROSSBAR NO. 5	TOLL INC. TRK.	E104	T	BAT.	BAT.	GRD.	NONE	BAT.	GRD.	REV. BAT.	MF	YES	SX	2
	TOLL INC. TRK.	C147	T	BAT.	BAT.	GRD.	NONE	BAT.	GRD.	REV. BAT.	D.P.	YES	SX	2
	LOCAL INC. TRK.	C147	T	BAT.	BAT.	GRD.	NONE	BAT.	GRD.	REV. BAT.	D.P.	NO	NONE	
	TOLL INC. TRK.	E104, G42	T	BAT.	BAT.	GRD.	NONE	BAT.	GRD.	REV. BAT.	MF	NO	NONE	7
	"B" SWBD.	E104	T	GRD.	GRD.	NONE	GRD.	BAT.	GRD.	REV. BAT.	NONE	YES	SX	2
PANEL	"B" SWBD.	E104	T	GRD.	GRD.	NONE	GRD.	BAT.	GRD.	WET DRY	NONE	YES	20~	2
CROSSBAR TANDEM	INC. TRK.	C147	T	BAT.	BAT.	GRD.	NONE	BAT.	GRD.	REV. BAT.	D.P.	NO	NONE	11
	INC. TRK.	E104, G42	T	BAT.	BAT.	GRD.	NONE	BAT.	GRD.	REV. BAT.	MF	NO	NONE	7,11
MANUAL OFFICE	TOLL SW. TRK.	A32	T	GRD.	GRD.	NONE	GRD.	GRD.	GRD.	WET DRY	NONE	NO	20~	12

TRK. CKTS., OUT. & TOLL SW., CKT. DETAILS (SEE NEXT PAGE FOR NOTES)

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TABLE 3 (CONTINUED FROM PRECEDING PAGE)

OUTGOING AND TOLL SWITCHING TRUNKS CONNECTING TO OTHER SYSTEMS MF K.P., REPEATED DIALING OR STRAIGHTFORWARD														
CONNECTING SYSTEM	LOC. OF CKT. ON KEY SHEET	POLARITY OF TRUNK LEADS						KIND OF SUPV.	KIND OF PULSING	HAS COIN CONTROL	KIND OF RINGING START SIGNAL	SEE NOTE		
		OUT-GOING LEADS	TRUNK NORMAL	TRUNK SEIZED	START DIAL OR PULSING LAMP (SEE NOTE 10)	LINE SEIZURE SIGNAL	SUB. ANS. (OFF-HOOK)							
TOLL SWITCHING NO. 4 TYPE	INC. TDM. TRK.	E104	T	BAT.	BAT.	GRD.	NONE	BAT.	GRD.	REV. BAT.	MF	NO	NONE	4
	INC. TDM. TRK.	C147	T	BAT.	BAT.	GRD.	NONE	BAT.	GRD.	REV. BAT.	D.P.	NO	NONE	4
TOLL TDM. SWBD. NO. 18 OR 38	INC. TOLL TDM. TRK.	E104	T	GRD.	GRD.	BAT.	NONE	GRD.	BAT.	REV. BAT.	MF	NO	NONE	14, 17
DSA SWBD.	CALL WIRELESS TOLL SW. CORD	A32	T	GRD.	GRD.	NONE	GRD.	GRD.	GRD.	WET DRY	NONE	NO	NONE	15
	CALL WIRELESS TOLL SW. CORD	H32	T	GRD.	GRD.	NONE	GRD.	GRD.	GRD.	HIGH LOW	NONE	NO	NONE	15
TOLL TDM. SWBD. NO. 18 OR 38	INC. TOLL TDM. TRK.	H42	T	GRD.	GRD.	NONE	NONE	GRD.	GRD.	HIGH LOW	NONE	NO	NONE	14
TOLL TDM. SWBD. NO. 38	INC. TOLL TDM. TRK.	H42	T	GRD.	GRD.	NONE	NONE	GRD.	GRD.	HIGH LOW	MF OR NONE	NO	NONE	5, 16
TOLL TDM. SWBD. NO. 1 OR 3	AUX. INC. TRK.	H42	T	GRD.	GRD.	NONE	NONE	GRD.	GRD.	HIGH LOW	NONE	NO	NONE	14

NOTES:

- THE DISPOSAL OF COINS IS CONTROLLED OVER THE TIP AND RING OF THE TRUNK CIRCUIT.
- A SEPARATE SINGLE TRUNK CONDUCTOR IS REQUIRED FOR DISPOSAL OF COINS.
- PULSING, SUPERVISION AND RERING ARE CONTROLLED OVER THE CX OR SX SIGNALING CKT. WHICH CONNECTS TO A SIMILAR CX OR SX SIGNALING CKT. AT THE DISTANT LOCAL OFFICE.
- SIMPLEX RERING IS USED.
- THIS TRK. IS USED STRAIGHTFORWARD TO A 38 TOLL TANDEM SWBD. AND MF PULSING TO A CROSSBAR TANDEM OR TOLL SWITCHING SYSTEM NO. 4 OR 4A OR STRAIGHTFORWARD ONLY.
- TRK. SEIZURE INCLUDES THE OPERATION OF THE DIAL KEY.
- THE TRK. CKT. SHOWN IN BLOCK G42 IS FOR USE WHEN REPEATED SX SUPV. IS REQUIRED AT THE TOLL SWBD.
- WHEN THE LINE IS SEIZED THE CONNECTION BETWEEN THE "C" & "S" LEADS IN THE CONNECTOR IS OPENED CAUSING THE RELEASE OF A REL. IN THE TRK. CKT.
- WHEN THE OPR. RINGS OR RERINGS WITH SUB. REC. ON-HOOK, THEN DURING THE RELEASE TIME OF A SLOW RELEASE REL. IN THE TRK. CKT. THE "C" LEAD IS OPENED PERMITTING THE TRIPPING REL. IN THE CONNECTOR TO RELEASE AND CONNECT MACHINE RINGING TO THE CALLED LINE.
- "NONE" IN THIS COLUMN INDICATES A START PULSING SIGNAL REQUIRES NO CHANGE IN POLARITY OF OUTGOING LEADS.
- THE TRK. CKTS. SHOWN IN BLOCKS E104 & C147 ARE ARRANGED FOR 20 CYC. OR SX RERING.
- THE DISPOSAL OF COINS IS CONTROLLED BY THE COIN CONTROL KEY OF THE TOLL SW. TRK. CKT. IN THE MANUAL OFFICE.
- 20 CYCLE RERING IS USED.
- RINGING IS UNDER MANUAL CONTROL OF RINGING KEY IN DSA CORD CKT.
- REVERSE BAT. RERING IS USED.
- THIS TRK. IS USED STRAIGHTFORWARD TO A TOLL TANDEM SWBD. AND MF PULSING TO A CROSSBAR TANDEM OR TOLL SW. OFF. NO. 4 OR 4A.

TRK. CKTS., OUT. AND TOLL SW., CKT. DETAILS (CONT. FROM PAGE 48)

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SWITCHBOARD NO. 3C OR 3CL
KEY SHEETBELL TELEPHONE LABORATORIES
INCORPORATED

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TABLE 4

SENDER CIRCUITS - MF K.P.-IN, D.P.-OUT & DC K.P.-IN, D.P.-OUT																
LOCATION OF CKT. ON KEY SHEET	TYPE OF SENDER	TYPE OF TERMINATING OFFICE	TRAIN	SENDER LEADS	SUPV.	POLARITY REQUIRED BY SENDER						RING. START SIG.	SEE NOTE			
						SENDER STARTS PULSING	SENDER STOPS PULSING	SENDER RESUMES PULSING	PULSING COMPLETED							
									SENDER SENDS RING. SIG.	SENDER RINGS AND CUTS THRU	SENDER CUTS THRU					
														LINE IDLE	LINE BUSY	
									(SEE NOTE 1)	(SEE NOTE 1)						
E9	DC K.P.-IN D.P.-OUT (SEE NOTES 6 & 7)	STEP BY STEP	LOOP DIALING TOLL	FT	WET DRY	TRK. CLOSURE				REV. T & R	REV. T & R		20~ OR NONE	3		
				FR	REV. BAT.	TRK. CLOSURE				IMMED.	IMMED.		SX OR NONE	3		
				FT	WET DRY	TRK. CLOSURE				REV. T & R		AFTER 1 SEC.	20~ OR NONE	3		
				FR	REV. BAT.	TRK. CLOSURE							NONE	2,3		
			CROSSBAR NO. 1	FT	REV. BAT.	TRK. CLOSURE								NONE	4	
				FR	REV. BAT.	TRK. CLOSURE								NONE	4	
				CROSSBAR NO. 5	FT	REV. BAT.	TRK. CLOSURE				IMMED.	IMMED.		SX OR NONE	4	
					FR	REV. BAT.	TRK. CLOSURE							NONE	4	
		CROSSBAR TANDEM	FT	REV. BAT.	TRK. CLOSURE								NONE	4		
			FR	REV. BAT.	TRK. CLOSURE								NONE	4		
		LINK TYPE CDO.	FT	REV. BAT.	TRK. CLOSURE								NONE	2,3,4		
			FR	REV. BAT.	TRK. CLOSURE								NONE	2,3,4		
		D9	MF K.P.-IN D.P.-OUT (SEE NOTES 6 & 7)	STEP BY STEP	LOOP DIALING TOLL	FT	WET DRY	GRD.				REV. T & R	REV. T & R		20~ OR NONE	5
						FR	REV. BAT.	BAT.							SX OR NONE	5
FT	REV. BAT.					GRD.				IMMED.	IMMED.		SX OR NONE	5		
FR	REV. BAT.					BAT.							NONE	2,3,5		
CROSSBAR NO. 5	FT				REV. BAT.	GRD.								SX OR NONE	5	
	FR				REV. BAT.	BAT.								NONE	5	
	CROSSBAR TANDEM				FT	REV. BAT.	GRD.							NONE	5	
					FR	REV. BAT.	BAT.							NONE	5	
LINK TYPE CDO.	FT			REV. BAT.	GRD.	BAT.	GRD.						NONE	5		
	FR			REV. BAT.	BAT.	GRD.	BAT.						NONE	5		

NOTES:

- THIS COLUMN APPLIES ONLY WHEN SENDER IS ARRANGED TO SEND RINGING SIGNAL UNDER CONTROL OF POSITION.
- WHEN SENDERS ARE ARRANGED FOR STOP-GO, THEY STOP PULSING ON REVERSAL AND RESUME PULSING ON SECOND REVERSAL.
- WHEN SENDERS ARE NOT ARRANGED FOR STOP-GO, THEY CUT THRU AND RELEASE ON REVERSAL OF TIP AND RING.
- WHEN SENDER IS TO BE USED WITH A CROSSBAR TANDEM, CROSSBAR NO. 1 OR NO. 5 OR LINK TYPE CDO. OFFICE, THE ASSOCIATED TRUNK MUST BE ARRANGED TO ABSORB DELAY DIAL PRIOR TO GIVING CLOSURE OF FUNDAMENTAL TIP & RING. FOR DELAY DIAL OPERATION THE SENDER REVERSES THE NORMAL TRUNK POLARITY WHEN READY TO RECEIVE PULSING.
- SENDER WILL RING ONLY IF OPERATOR ACTUATES RINGING KEY.
- THIS SENDER TRANSMITS 10 P.P.S. WITH INTERDIGITAL TIMING OF 0.4, 0.6 OR 0.8 SEC. MINIMUM OR 20 P.P.S. WITH INTERDIGITAL TIMING OF 0.3 OR 0.4 SEC. MINIMUM.

- PULSES SHALL BE 10 P.P.S. WHEN PULSING INTO A CX CONVERTER WHICH CONVERTS LOOP PULSING TO CX OR EQUIVALENT TYPE OF PULSING.
- PULSES INTO STEP BY STEP SWITCHES SHALL BE 10 P.P.S. AND THE INTERDIGITAL TIMING SHALL BE 0.6 SEC. BETWEEN DIGITS FOR TRUNK SELECTION AND A MIN. OF 0.4 SEC. FOR THE DIGITS PULSED INTO THE CONNECTOR.
- THE INTERDIGITAL TIMING SHALL BE 0.8 SEC. AT 10 P.P.S. BETWEEN DIGITS FOR TRUNK SELECTION THRU A TANDEM SELECTOR IN A C.D.O. TO A LINK TYPE C.D.O. WHEN THE TANDEM SELECTOR IN THE C.D.O. IS NOT ARRANGED FOR STOP-GO SIGNAL.
- THE INTERDIGITAL TIMING SHALL BE 0.8 SEC. AT 10 P.P.S. BETWEEN DIGITS FOR TRUNK SELECTION WHEN STOP-GO SIGNAL IS REQUIRED FOR MORE THAN 2 OF 4 CLASSES WITH TWO OF THE CLASSES USING NORMAL INTERDIGITAL TIMING OF 0.6 SEC. BETWEEN DIGITS.
- PULSES INTO SENDERS SUCH AS CROSSBAR TANDEM SENDERS SHALL BE 20 P.P.S. WITH INTERDIGITAL TIMING OF 0.3 SEC. BETWEEN DIGITS OR 10 P.P.S. WITH INTERDIGITAL TIMING OF 0.4 SEC. BETWEEN DIGITS.
- THE INTERDIGITAL TIMING SHALL BE 0.4 SEC. AT 20 P.P.S. BETWEEN DIGITS FOR PULSING INTO SENDERS WHEN STOP-GO SIGNAL IS REQUIRED FOR MORE THAN 2 OF 4 CLASSES WITH 2 OF THE CLASSES USING NORMAL INTERDIGITAL TIMING OF 0.3 SEC. BETWEEN DIGITS.

SENDER CIRCUITS, CIRCUIT DETAILS

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TABLE 5

SENDER CIRCUIT - DC K.P.-IN, R.P.-OUT								
LOCATION OF CKT. ON KEY SHEET	TYPE OF SENDER	TYPE OF TERMINATING OFFICE	SENDER LEADS	SUPV.	POLARITY REQUIRED BY SENDER		RING. START SIG.	SEE NOTE
					SENDER STARTS PULSING	SENDER SENDS RING. SIG.		
C9	DC K.P.-IN R.P.-OUT	PANEL	FT	WET DRY	BAT.	BAT.	20~ OR NONE	1
			FR		GRD.	GRD.	NONE	1
			FT	REV. BAT.	BAT.		NONE	1
			FR		GRD.		NONE	1
			FT	REV. BAT.	BAT.	BAT.	20~ OR NONE	2
			FR		GRD.	GRD.	NONE	2
		CROSSBAR NO. 1	FT	REV. BAT.	BAT.	BAT.	20~ OR NONE	
			FR		GRD.	GRD.	NONE	
			FT	REV. BAT.	BAT.		NONE	
			FR		GRD.		NONE	

NOTES:

- EITHER BAT. CUT-OFF OR GRD. CUT-OFF INCOMINGS.
- SOME GRD. CUT-OFF INCOMINGS.

SENDER CIRCUIT, CIRCUIT DETAILS

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SWITCHBOARD NO. 3C OR 3CL
KEY SHEET

BELL TELEPHONE LABORATORIES
INCORPORATED

2S

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GENERAL

THE TABLES ON PAGES 40 TO 45 SHOW THE PRINCIPAL OPERATING FEATURES OF TRUNK AND SENDER CIRCUITS OF A NO. 3C OR 3CL SWITCHBOARD FROM THE POINT OF VIEW OF INTER-OFFICE OPERATION AND ARE INTENDED PRIMARILY TO FACILITATE THE SELECTION OF OPTIONS IN THE CONNECTING CIRCUITS IN OTHER OFFICES.

FOR EXAMPLE, ASSUME THAT A CROSSBAR TANDEM OFFICE IS TO COMPLETE CALLS FROM A NO. 3CL SWITCHBOARD USING MF PULSING AND THAT IT IS NECESSARY TO RERING THE TX OPERATOR ON CALLS COMPLETED TO TX POSITIONS THROUGH THE CROSSBAR TANDEM OFFICE. ASSUME THAT SD-25887-01 INCOMING TRUNK CIRCUIT ARRANGED FOR REVERSE BATTERY SUPERVISION AND 20 CYCLE OR SIMPLEX RERING FROM ORIGINATING END IS SELECTED FROM THE CIRCUIT IN THE CROSSBAR TANDEM OFFICE. REFERENCE TO THE FEATURE AND OPTION TABLE ON SD-25887-01 SHOWS THAT IT IS NECESSARY TO SELECT CERTAIN OPTIONS FOR THIS CIRCUIT TO WORK WITH THE NO. 3CL SWITCHBOARD.

TABLE 3 SHOWS THE TYPES OF SIGNALS THAT THE NO. 3CL SWITCHBOARD RECEIVES AND THE OPTIONS REQUIRED IN THE CONNECTING INCOMING TRUNK CIRCUIT AT THE CROSSBAR TANDEM OFFICE TO FUNCTION WITH THE NO. 3CL SWITCHBOARD.

REFERRING TO TABLE 3, IT IS SHOWN THAT THE OUTGOING TRUNK CIRCUIT ARRANGED FOR MF PULSING, REVERSE BATTERY SUPERVISION AND 20 CYCLE OR SIMPLEX RERING IN BLOCK E104 (SD-55879-01) WILL FUNCTION WITH THE INCOMING TRUNK CIRCUIT SD-25887-01. IF SD-55879-01 IS USED, THIS OUTGOING TRUNK:

1. REQUIRES A DELAY DIAL START PULSING SIGNAL.
2. TRANSMITS 20 CYCLE OR SIMPLEX RERING FOR RERING THE TX OPERATOR.
3. REQUIRES NO COIN CONTROL AS DISPOSAL OF COINS IS NOT USED ON CALLS COMPLETED THRU THE CROSSBAR TANDEM OFFICE.
4. CONTROLS THE CROSSBAR TANDEM OFFICE END BY TRUNK POLARITY AS FOLLOWS:
 - a. BATTERY ON TIP, GROUND ON RING - TRUNK NORMAL.
 - b. BATTERY ON TIP, GROUND ON RING - TRUNK SEIZED.
 - c. GROUND ON TIP, BATTERY ON RING - START PULSING SIGNAL (DELAY DIAL).
 - d. BATTERY ON TIP, GROUND ON RING - CALLED PARTY ANSWERS (OFF-HOOK)
 - e. GROUND ON TIP, BATTERY ON RING - CALLED PARTY DISCONNECTS (ON-HOOK).

THE FOLLOWING OPTIONS WILL THEN BE REQUIRED ON THE INCOMING TRUNK CIRCUIT SD-25887-01 IN THE CROSSBAR TANDEM OFFICE.

1. FIGURE B FOR MF PULSING SINCE IT IS ASSUMED THAT RERING OF THE TX OPERATOR IS REQUIRED ON CALLS COMPLETED TO TX POSITIONS THRU THE CROSSBAR TANDEM OFFICE AS SHOWN IN THE FEATURE OR OPTION TABLE.
2. FEATURE F AND OPTIONS ZG AND ZL IF 20 CYCLE RERING IS USED FOR THE INCOMING RERING SIGNAL AS SHOWN IN THE FEATURE OR OPTION TABLE.
3. FIGURE E AND OPTION ZF AND ZL IF SIMPLEX RERING IS USED FOR THE INCOMING RERING SIGNAL AS SHOWN IN THE FEATURE OR OPTION TABLE.
4. OPTIONS S, W AND X FOR TRUNK SUPERVISION AND MF PULSING WITH DELAY DIAL START PULSING SIGNAL SINCE THE TRUNK POLARITY SHOWN IN THE FEATURE OR OPTION TABLE MATCHES THE TRUNK POLARITY OF THE NO. 3CL SWITCHBOARD OUTGOING TRUNK CIRCUIT AS SHOWN IN THE FEATURE OR OPTION TABLE.
5. OPTIONS J AND N AS RESISTANCE COMPENSATION IS NOT REQUIRED WHEN THIS CIRCUIT IS USED WITH A NO. 3CL SWITCHBOARD AS SHOWN IN THE FEATURE OR OPTION TABLE AND INFORMATION NOTES 302 AND 303.