

APPARATUS INDEX

DESIG	LOCATION		
	FS	APP FIG	EQPT
DIODES			
DLT	2C5	1	

KEYS			
ATND TRKO-2	2H6	1	
BT	1E8	1	
CO TRKO-9	3H5	1	
DLTRO,1	1F4	1	
JCTRO-5	3E1	1	
LINE 80-89	2D6	1	
LINK 02-09	2B4	1	
LINK 12-19	2B4	1	
PWR	1B1,1C0	1	
REGO,1	3D7	1	

DESIG	LOCATION		
	FS	APP FIG	EQPT
LAMPS			
ATND TRKO-2	2G9	1	
BT	1D8	1	
DLTRO,1	1F4	1	
JCTRO-5 ORIG	3C4	1	
JCTRO-5 TERM	3E2	1	
LINE 80-89	2D8	1	
LINK 02-09	2C4	1	
LINK 12-19	2C4	1	
PWR-48	1B1	1	
PWR-96	1D1	1	
REGO,1	3D6	1	
TRKO-9 BY	3H5	1	
TRKO-9 BY INC	3F2	1	

RESISTORS			
AO-2	2G9	1	
ATO-2	2G9	1	
B	1D9	1	
BT	1E8	1	
DO,1	1F4	1	
DAO,1	1G4	1	
JAO-5	3E2	1	
JBO-5	3C4	1	
JCO-5	3E2	1	
JDO-5	3C3	1	
L80-89	2D7	1	
LAB0-89	2D8	1	
LO2-09	2C4	1	
LI2-19	2C4	1	
LA	2B5	1	
P	1C1	1	
RO,1	3D6	1	
TA0-9	3G2	1	
TBC-9	3H4	1	
TC0-9	3F2	1	
TDO-9	3H5	1	

LEAD INDEX

DESIG	LOCATION	
	FS	CAD
ATT. TRUNK CKT.		
BDO-2	2F9	
TNO-2	2H7	

C.O. TRUNK CKT.		
IT0-9	3G5	
ITB0-9	3E3	
ITT0-9	3G6	

JUNCTOR CKT.		
OHMO-5	3B3	

DESIG	LOCATION	
	FS	CAD
LINE, LINK & MARKER CKT.		
HMO7	1C8	
L3 BAT	1B1	
LB80-89	2C7	
LD80-89	2C6	
S02-09	2B4	
S12-19	2B4	
THMO-5	3D1	

REGISTER CKT.		
MBO,1	3D7	
RHMO,1	3D6	

STA DIAL TR TRUNK CKT.		
HMO,E	1E5	
MBTO,E	1E4	

OPTION INDEX

APP OR WIRING	LOCATION

DRAWING ISSUE
 #1 BCM
 #2 PJS
 #3 RHP
 #4 TEF
 2D PJS
 RHP
 4A WR
 PJS
 LDU

HW.

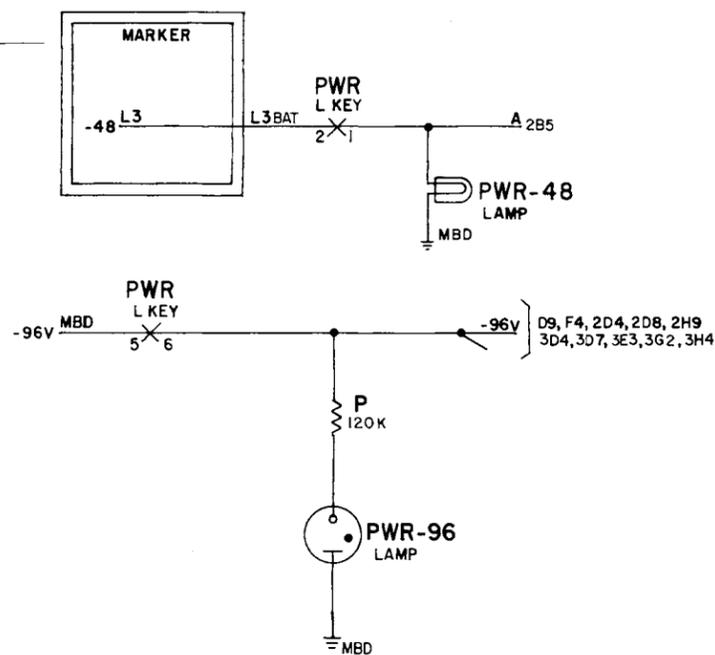
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MAKE BUSY & BUSY DISPLAY CIRCUIT ② SD-5E029-01-A2

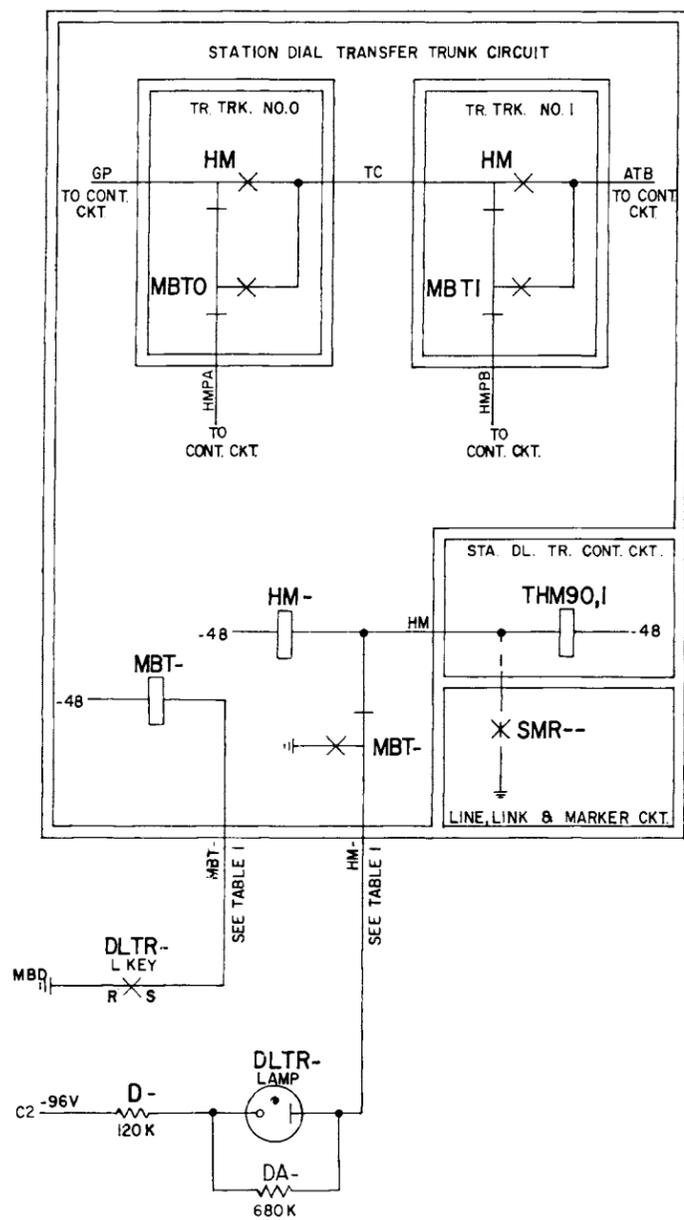
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DRAWING	30M
ISSUE	2/5
	RHP
	TEF
2D	PSS
	RHP
3A	WR
	PJS
	LDJ
4A	WR
	RUS
	LDJ

FS 1
POWER KEYS AND LAMPS



FS 2
STATION DIAL TRANSFER TRUNKS



FS 3
BUSY TONE TRUNK

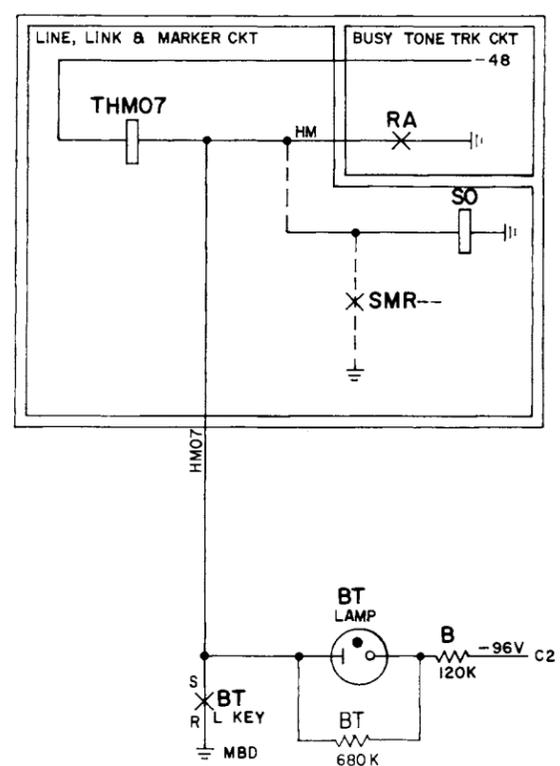


TABLE I

TRANSFER TRUNK	ASSOC. LEADS
0	HME MBTE
1	HMO MBTO

4

MAKE BUSY & BUSY DISPLAY CIRCUIT (2) SD-5E029-01-BI
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SD-5E029-01-BI

FS 4
LINKS

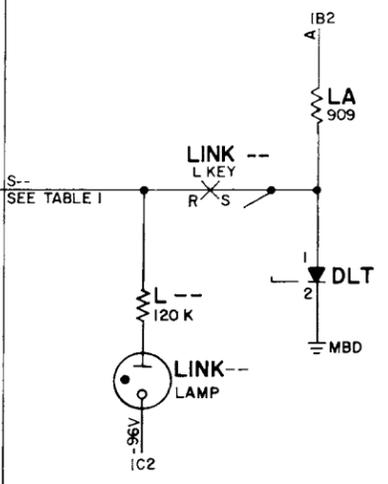
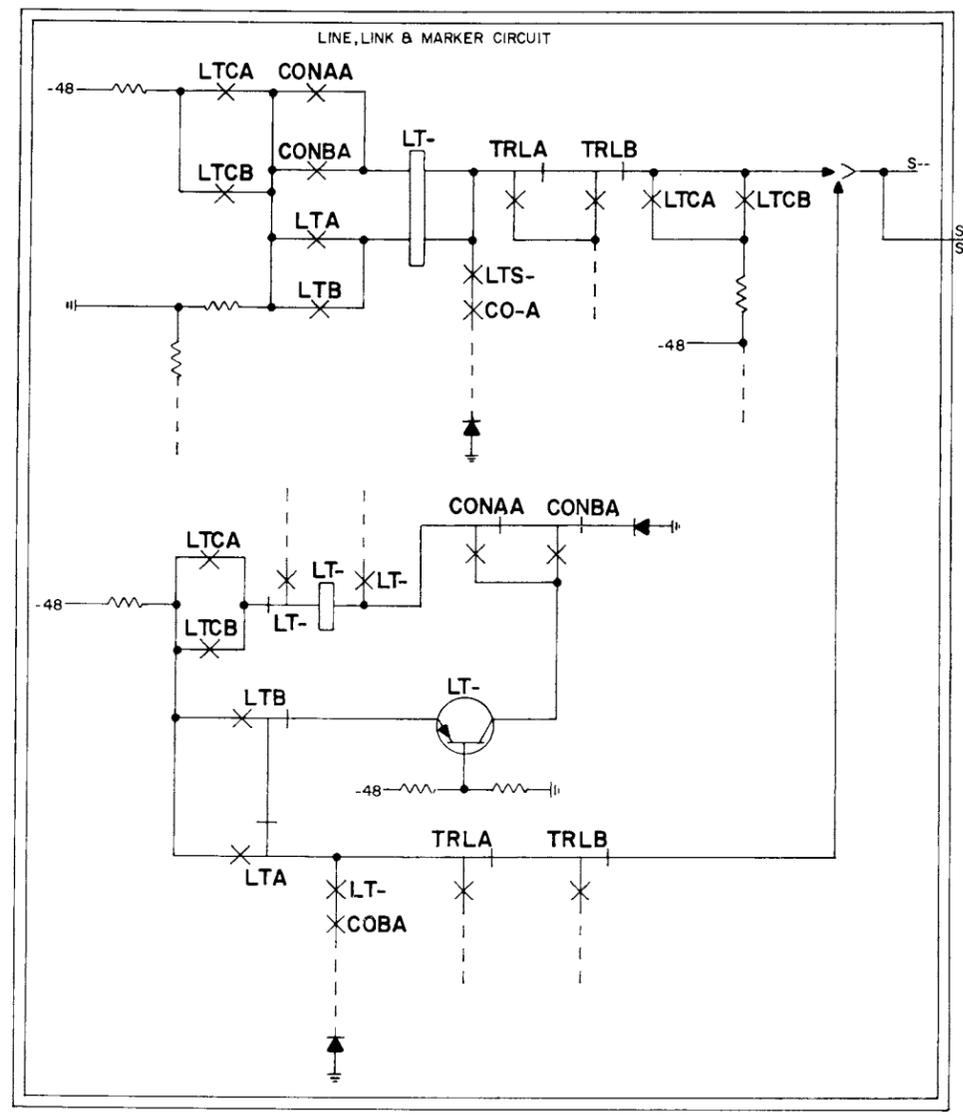


TABLE 1

LINK	ASSOC. S-LEAD
02	S02
12	S12
03	S03
13	S13
04	S04
14	S14
05	S05
15	S15
06	S06
16	S16
07	S07
17	S17
08	S08
18	S18
09	S09
19	S19

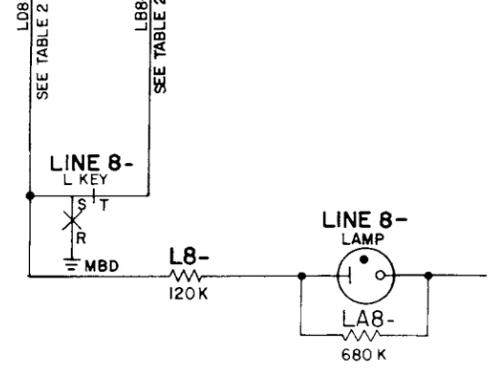
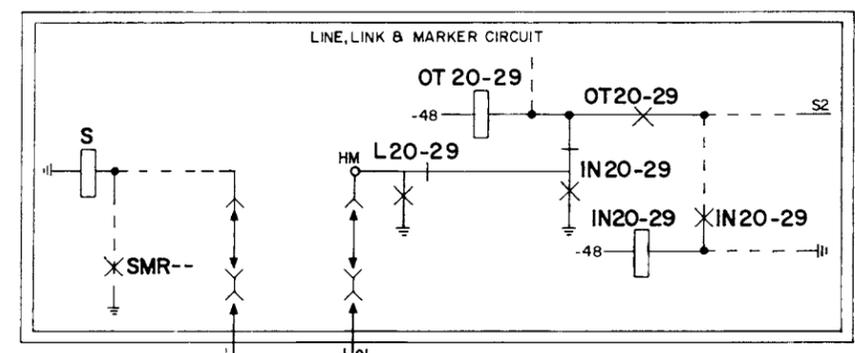
TABLE 2

LINE	ASSOC. LEADS
80	LB80 LD80
81	LB81 LD81
82	LB82 LD82
83	LB83 LD83
84	LB84 LD84
85	LB85 LD85
86	LB86 LD86
87	LB87 LD87
88	LB88 LD88
89	LB89 LD89

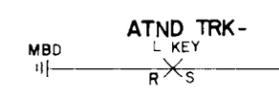
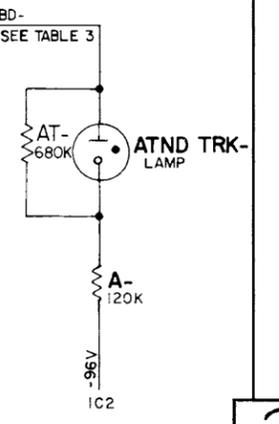
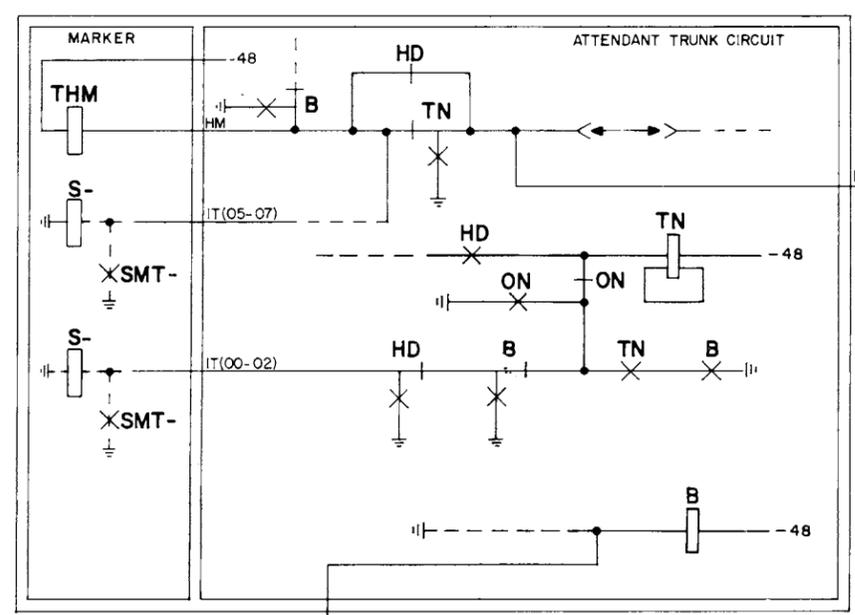
TABLE 3

ATTENDANT TRUNK	ASSOC. LEAD
0	BD0 TN0
1	BD1 TN1
2	BD2 TN2

FS 5
UNIVERSAL LINES
ASSIGNED TO TWO-WAY TIE TRUNKS

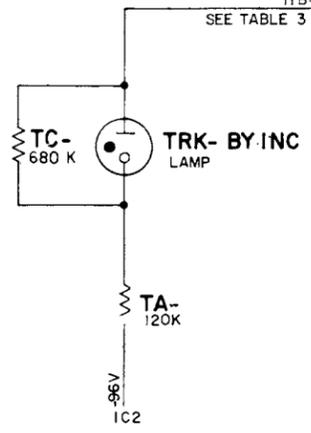
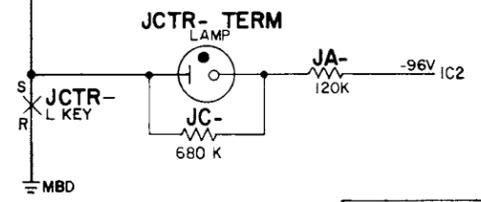
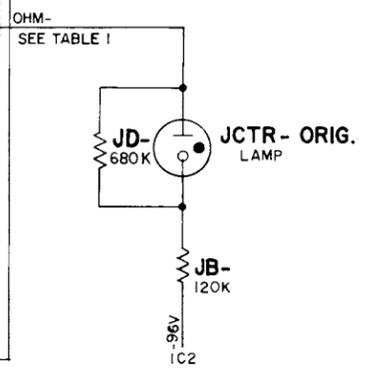
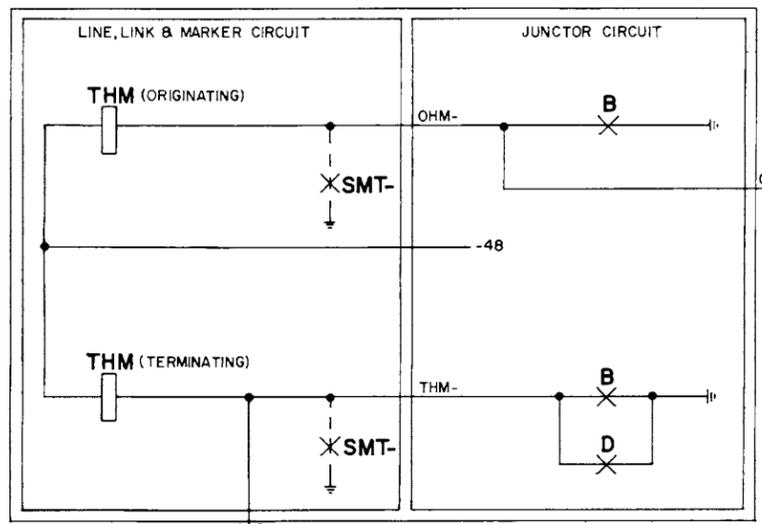


FS 6
ATTENDANT TRUNKS



MAKE BUSY & BUSY DISPLAY CIRCUIT
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 SD-5E029-01-B2
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FS 7
 JUNCTORS



FS 8
 DIAL PULSE REGISTERS

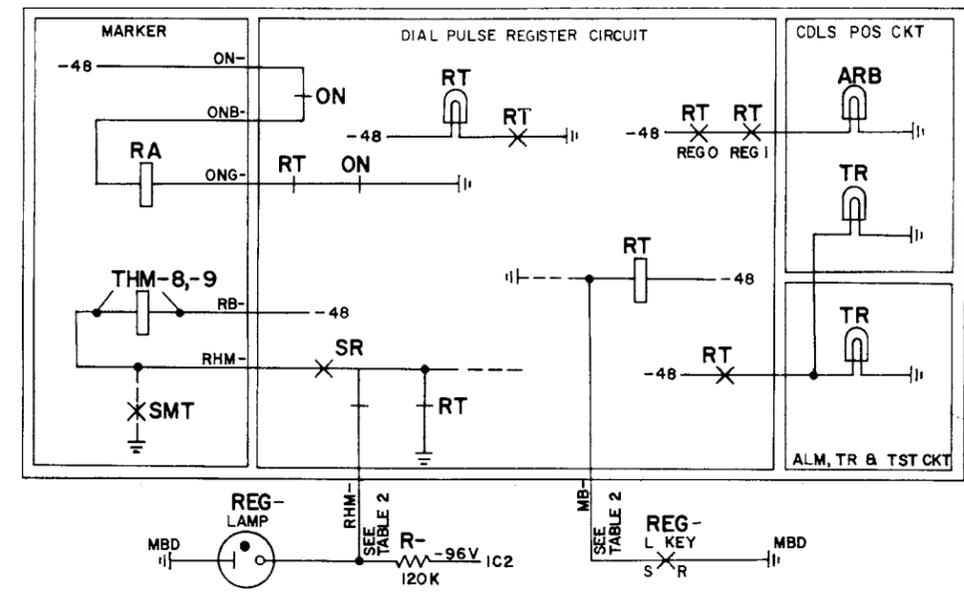


TABLE 1

JUNCTOR	ASSOC LEADS
0	OHM0 THM0
1	OHM1 THM1
2	OHM2 THM2
3	OHM3 THM3
4	OHM4 THM4
5	OHM5 THM5

TABLE 2

REGISTER	ASSOC LEADS
0	MBO RHMO
1	MBI RHMI

FS 9
 CENTRAL OFFICE TRUNKS

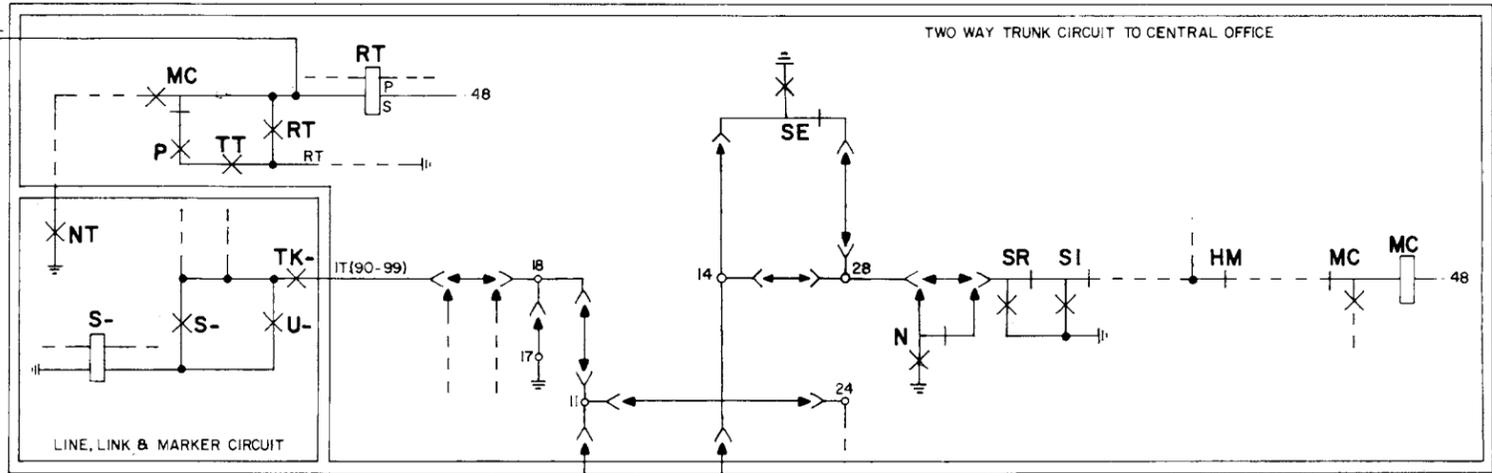
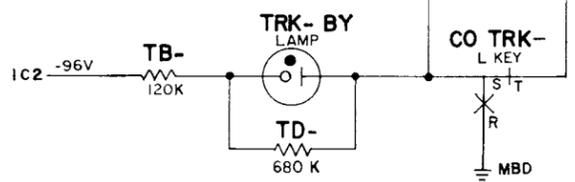


TABLE 3

C.O. TRUNK	ASSOC LEADS
0	IT0 ITB0 ITT0
1	IT1 ITB1 ITT1
2	IT2 ITB2 ITT2
3	IT3 ITB3 ITT3
4	IT4 ITB4 ITT4
5	IT5 ITB5 ITT5
6	IT6 ITB6 ITT6
7	IT7 ITB7 ITT7
8	IT8 ITB8 ITT8
9	IT9 ITB9 ITT9



MAKE BUSY & BUSY DISPLAY CIRCUIT ② SD-5E029-01-B3
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SD-5E029-01-B3

APP. FIG. 1

DIODES DESIG	LOC	CODE
DLT	2C5	425AC

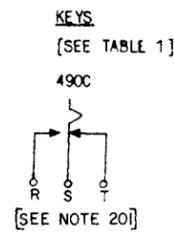
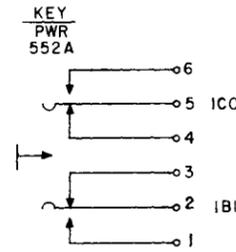


TABLE 1

KEYS DESIG	LOC	CODE
[3] ATND TRKO-2	2H6	490C
BT	1E8	490C
[10] CO TRKO-9	3H5	490C
[2] DLTR0,1	1F4	490C
[6] JCTRO-5	3E1	490C
[10] LINE 80-89	2D6	490C
[16] [LINK 02-09] [LINK 12-19]	2B4	490C
[2] REGO,1	3D7	490C



LAMPS DESIG	LOC	CODE
[3] ATND TRKO-2	2G9	G.E. NE-3 OR EQUIV.
BT	1D8	G.E. NE-3 OR EQUIV.
[2] DLTR0,1	1F4	G.E. NE-3 OR EQUIV.
[6] JCTRO-5 ORIG	3C4	G.E. NE-3 OR EQUIV.
[6] JCTRO-5 TERM	3E2	G.E. NE-3 OR EQUIV.
[10] LINE 80-89	2D8	G.E. NE-3 OR EQUIV.
[16] [LINK 02-09] [LINK 12-19]	2C4	G.E. NE-3 OR EQUIV.
PWR-48	1B1	MI
PWR-96	1D1	G.E. NE-3 OR EQUIV.
[2] REGO,1	3D6	G.E. NE-3 OR EQUIV.
[10] TRKO-9 BY	3H5	G.E. NE-3 OR EQUIV.
[10] TRKO-9 BY INC	3F2	G.E. NE-3 OR EQUIV.

RESISTORS DESIG	LOC	CODE
[3] AO-2	2G9	KS-13490, L1, 120K
[3] ATO-2	2G9	KS-13490, L1, 680K
B	1D9	KS-13490, L1, 120K
BT	1E8	KS-13490, L1, 680K
[2] DAO,1	1G4	KS-13490, L1, 680K
[2] DO,1	1F4	KS-13490, L1, 120K
[6] JAO-5	3E2	KS-13490, L1, 120K
[6] JBO-5	3C4	KS-13490, L1, 120K
[6] JCO-5	3E2	KS-13490, L1, 680K
[6] JDO-5	3C3	KS-13490, L1, 680K
[10] L80-89	2D7	KS-13490, L1, 120K
[10] LA80-89	2D8	KS-13490, L1, 680K
[16] [L02-09] [L12-19]	2C4	KS-13490, L1, 120K
LA	2B5	KS-14603, L1A, 909
P	1C1	KS-13490, L1, 120K
[2] RO,1	3D6	KS-13490, L1, 120K
[10] TAO-9	3G2	KS-13490, L1, 120K
[10] TBO-9	3H4	KS-13490, L1, 120K
[10] TCO-9	3F2	KS-13490, L1, 680K
[10] TDO-9	3H5	KS-13490, L1, 680K

DRAWING ISSUE	BCM PJS RHP	HW.
2D	TEF PJS RHP	
3A	WR RUS LDJ	
4A	WR RUS LDJ	

4

MAKE BUSY & BUSY DISPLAY CIRCUIT	②	SD-5E029-01-C1
BELL TELEPHONE LABORATORIES INCORPORATED	DWG SIZE 6S	PRINTED IN U.S.A.

CIRCUIT NOTES:

DESIG.	FUSE AMP	POTENTIAL	ONE PER
MBD	.180	-96V	PBX
MBD		GROUND	PBX
BATTERY SYMBOL		VOLTAGE RANGE	
-48V		45-52 V	
-96V		93-108V	

104. RECORD OF APP FIG., WIRING, AND APPARATUS CHANGES.

CHANGED ON ISSUE	IF JOB RECORDS DO NOT SPECIFY	THIS OPTION WAS FURN.	SEE NOTE	USE IN CIRCUIT		
				STD	A & M	MD

EQUIPMENT NOTES:
 201. THE NORMAL POSITION (OFF POSITION) OF 490C KEYS FOR THIS APPLICATION IS AS SHOWN IN APP. FIG.1 WITH THE PLUNGER PUSHED IN.

102.

FEATURE OR OPTION	PROVIDE		QUANTITY
	APP FIG.	APP OR WIR.	
MAKE BUSY AND BUSY DISPLAY CKT	1		1 PER PBX

103. NETWORK VALUES

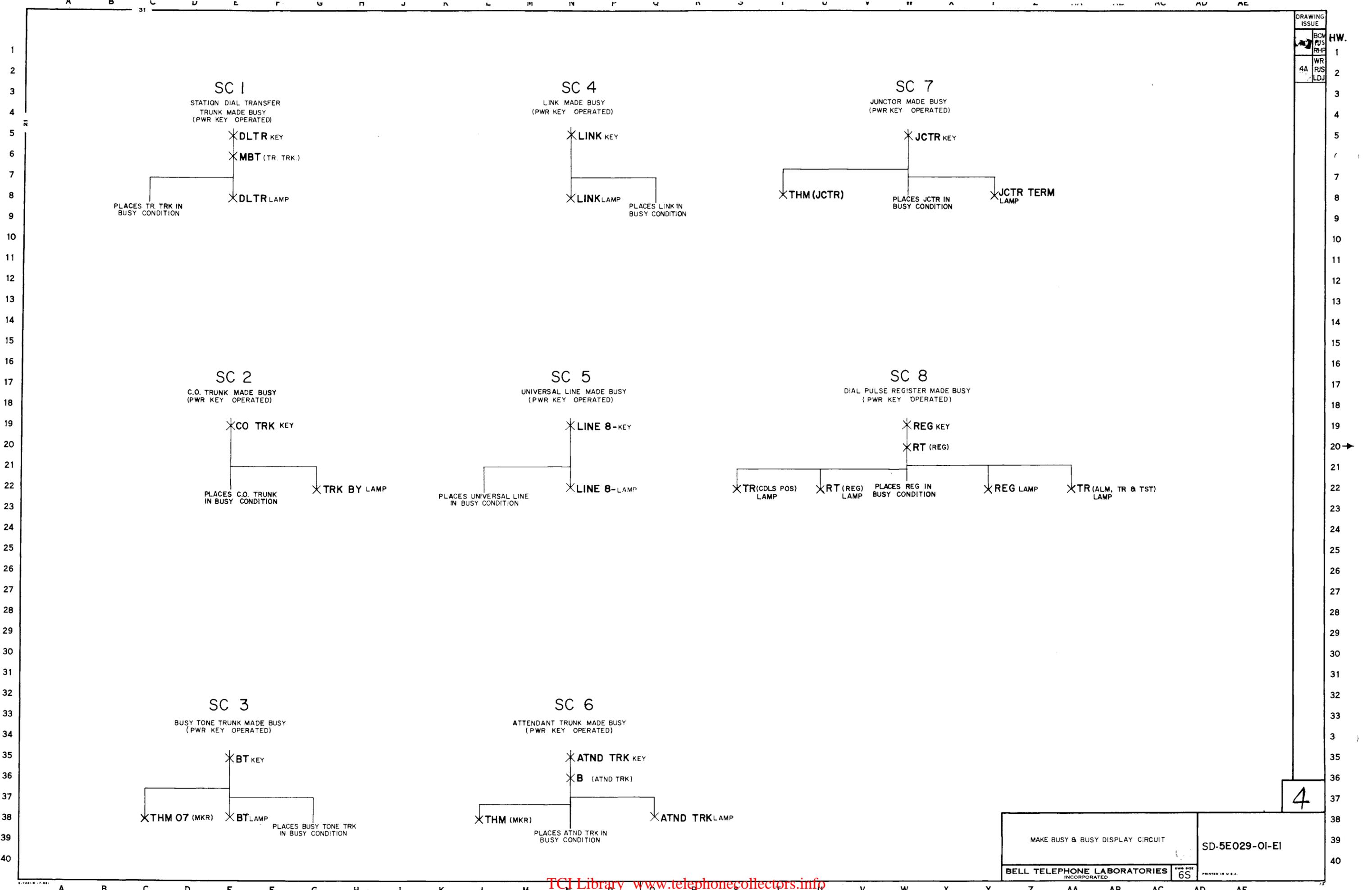
NETWORKS		RESISTANCE IN OHMS	CAPACITANCE IN UF
NO	CODE		

DRAWING ISSUE
 1 BCM PJS RHP
 3 A WR PJS LDJ

3

MAKE BUSY & BUSY DISPLAY CIRCUIT	②	SD-5E029-01-D1
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SD-5E029-01-D1



DRAWING ISSUE
 BCM P33 RHF
 4A WRS LDU

HW.
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4

MAKE BUSY & BUSY DISPLAY CIRCUIT
 SD-5E029-01-E1
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CAD I (A & M ONLY)

DRAWING ISSUE
1 PMC
20 P/S
RHP
TEF
20 P/S
RHP
3A WR
RUS
LDJ
4A WR
RUS
LDJ

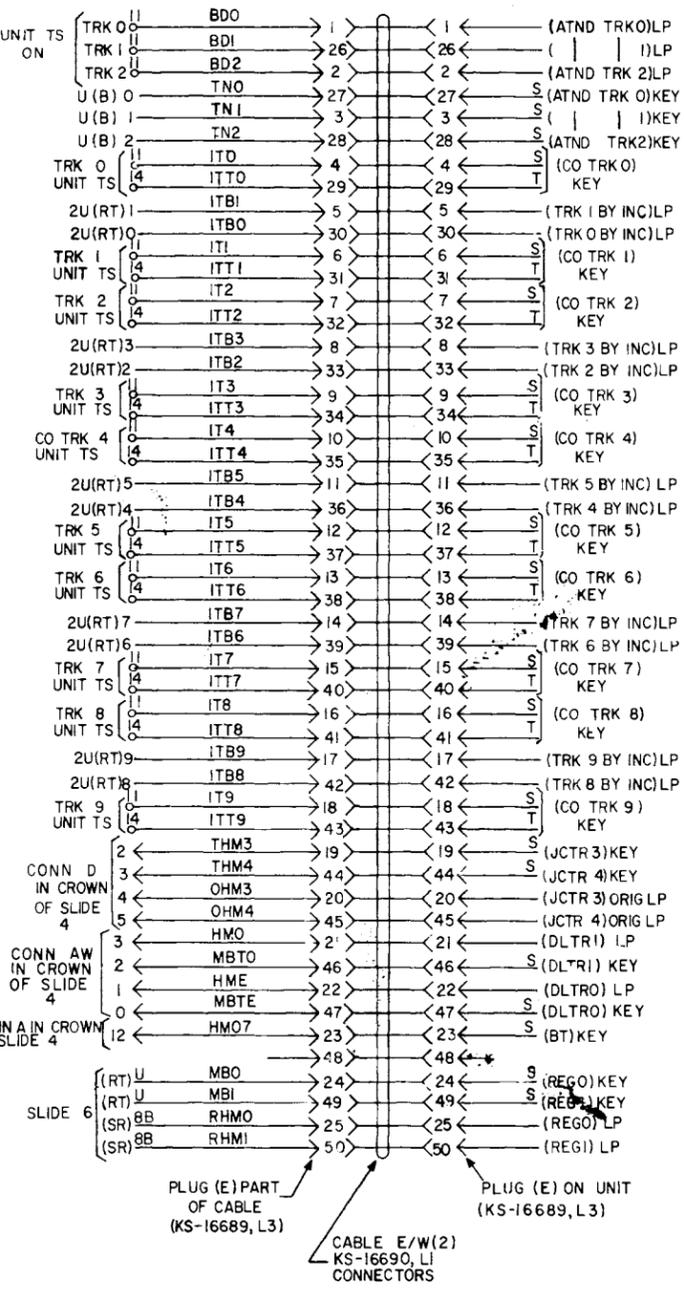
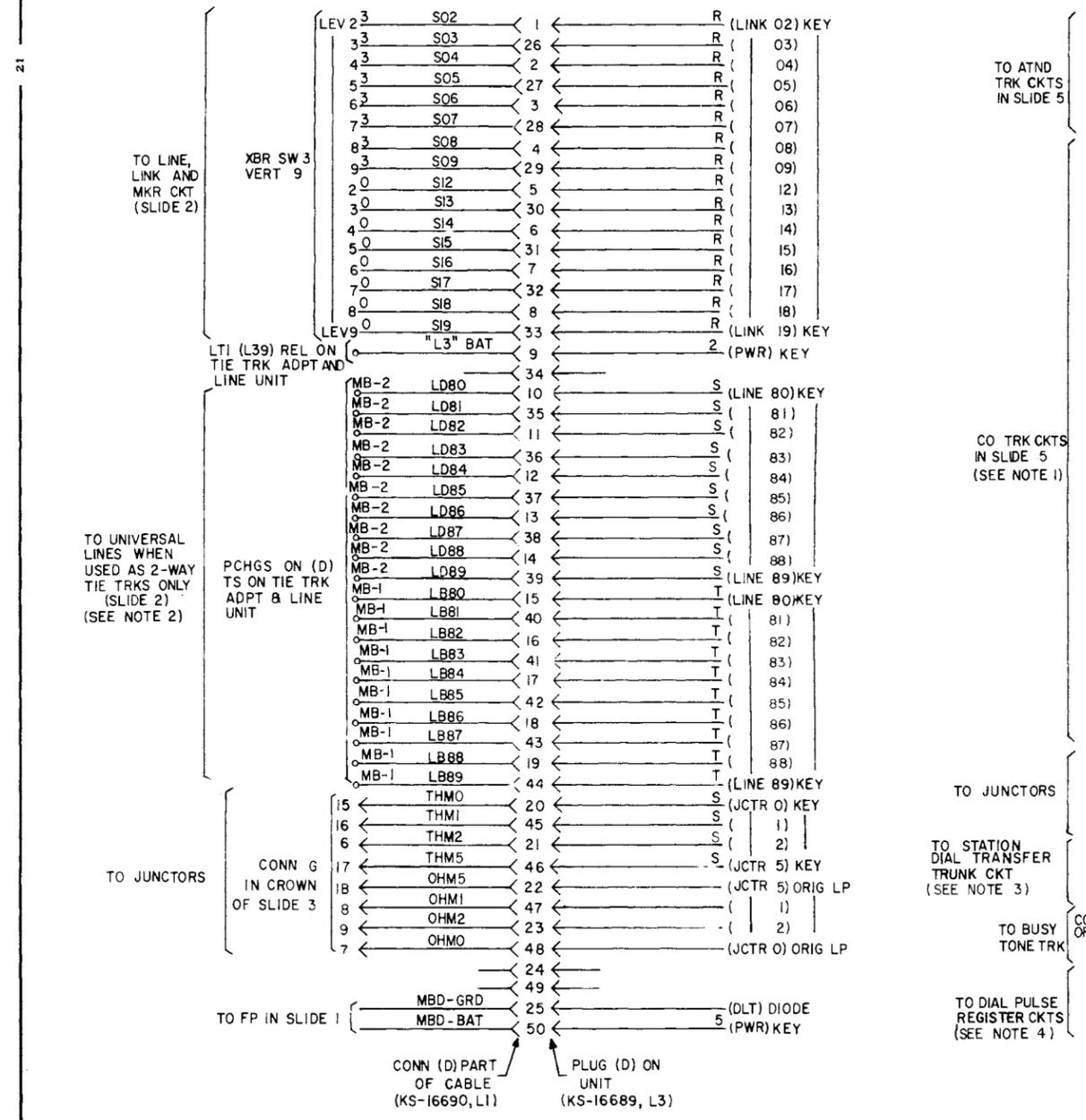
HW.

SHEET NOTES:

1. CHANGE STRAPS AT THE CO TRK TS AS SHOWN IN CAD 6 OF SD-65746-01, ISS 36. CHANGE CONNECTIONS TO THE CO TRK TS AS SHOWN IN THE FOLLOWING TABLE:

TRK NO	DISCONNECT LEAD	RECONNECT LEAD	COLOR	RMKS *
ALL	14 CO TRK TS	28 CO TRK TS		
0	18 CO TRK TS	14 CO TRK TS	BL	0(AG5)
1	18 CO TRK TS	14 CO TRK TS	O	1(AG5)
2	18 CO TRK TS	14 CO TRK TS	G	2(AG5)
5	18 CO TRK TS	14 CO TRK TS	R	
6	18 CO TRK TS	14 CO TRK TS	BK	
7	18 CO TRK TS	14 CO TRK TS	R-G	
3	17 (A) CONN (ON TRK PTCH UNIT)	14 CO TRK TS	BR	
4	** 17 (A) CONN (ON TRK PTCH UNIT)	14 CO TRK TS	S	#
8	17 (A) CONN (ON TRK PTCH UNIT)	14 CO TRK TS	R-BL-W	
9	17 (A) CONN (ON TRK PTCH UNIT)	14 CO TRK TS	R-G-W	

- * CROWN CONN TERMINATION, SHOWN ONLY WHEN NEEDED FOR IDENTIFICATION
 - ** TWO LEADS TERMINATED, ONLY ONE IS MOVED AS SHOWN.
 - # DISCONNECT LEADS WHEN CO TRK UNIT IS MOVED.
- WHEN CONNECTION TO UNIVERSAL LINE CKTS IS REQUIRED, INSTALLER SHALL REMOVE CONNECTION BETWEEN TERMINAL HM OF (LINE) TS & TERMINAL HM-2 OF (D) TS. PROVIDE CONNECTIONS BETWEEN TERMINAL HM OF (LINE) TS & MB-1 OF (D) TS, AND STRAP BETWEEN TERMINALS MB-2 & HM-2 OF (D) TS FOR THOSE LINES USED AS TIE TRKS ONLY, PER INSTRUCTIONS FROM TEL CO ENGINEER.
 - WHEN THE PBX IS ARRANGED FOR STATION DIAL TRANSFER FEATURE AND CONNECTION FROM MAKE BUSY AND BUSY DISPLAY CIRCUIT IS DESIRED, CONNECT SPARE LEADS IN (BB) PLUG ASSEMBLY PER H-912 - , PLUG 3 TERMINALS 16, 41, 17, & 42 TO KS-16344, L2 PLUG TERMINALS 0, 1, 2 & 3 RESPECTIVELY. KS-16344, L2 MUST BE PROVIDED AND LOCATED IN POSITION AW4. SFE SD-66909-01 ISSUE 3 AND SD-66921-01 ISSUE 6 FOR ADDITIONAL CHANGES.
 - DIAL PULSE REGISTER CIRCUIT MUST BE CHANGED PER SD-65742-01, ISSUE 27D.



SD-5E029-01-G1

MAKE BUSY & BUSY DISPLAY CIRCUIT	SD-5E029-01-G1
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