SHEET INDEX

CONTENTS	SHEET NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
SHEET INDEX SUPPORTING INFORMATION	A1	1	2	3	4	5	6	7	8	9	10	11	12	13												
APPARATUS INDEX	A2	1	2	2	2	5	6	6	6	9	9	11	12	13												
LEAD INDEX	A3	1	2	3	3	5	5	7	7	9	9	11	12	13												
OPTION INDEX	A4	-	-	-	-	-	-	7	9	9	10	11	12	13												
FS 1 CONTROLLER STEERING CIRCUIT	B1	1	2	3	3	5	5	7	7	7	7	11	12	13												
FS 2 DIGIT REGISTRATION AND CONTROL CIRCUIT	B2	1	2	2	2	5	6	6	6	6	6	6	12	13												
FS 3 MF TO 2/5 CONVERTER CIRCUIT	B3	1	2	3	3	5	6	6	6	9	9	9	9	9												
	B4	1	2	3	3	5	5	5	5	5	5	11	11	13												
FS 4 CONTROLLER CONNECTOR AND GROUP SELECT CIRCUIT	B5	1	2	2	2	5	5	5	5	9	9	9	12	13												
FS 5 SWITCH CONNECTOR AND CONTROL CIRCUIT - 0	B6	1	1	3	3	3	3	3	3	3	3	3	3	3												
	B7	1	1	3	3	3	3	3	3	3	3	3	3	3												
	B8	1	1	3	3	3	3	3	3	3	3	3	3	3												
	B9	1	1	1	1	1	1	1	1	9	9	9	9	9												
	B10	1	1	3	4	4	4	4	4	4	4	11	11	13												
	B11	1	1	3	3	3	3	3	3	9	9	11	11	13												
	B12	1	1	3	3	3	3	7	7	7	7	11	11	13												
FS 6 SWITCH CONNECTOR AND CONTROL CIRCUIT - 1	B13	1	1	3	3	3	3	3	3	9	9	9	9	9												
	B14	1	1	3	3	3	3	3	3	9	9	9	9	9												
	B15	1	1	3	3	3	3	3	3	3	3	3	12	13												
	B16	1	1	1	1	1	1	1	1	9	9	9	9	9												
	B17	1	1	1	1	1	1	1	1	9	9	9	12	13												
	B18	1	1	1	1	1	1	1	1	9	9	9	12	13												
	B19	1	1	1	1	1	1	7	7	7	7	7	12	13												
FS 7 CONNECTOR GROUP AND CONTROL CIRCUIT - 0	B20	1	2	2	2	2	2	2	2	2	2	2	12	13												
	B21	1	1	1	1	1	1	1	1	1	1	1	12	13												
	B22	1	1	1	1	1	1	1	1	1	1	1	12	13												
	B23	1	1	1	1	1	1	7	7	7	7	7	12	13												
FS 8 CONNECTOR GROUP AND CONTROL CIRCUIT - 1	B24	1	2	2	2	2	2	2	2	9	9	9	12	13												
	B25	1	1	1	1	1	1	1	1	1	1	1	12	13												
	B26	1	1	1	1	1	1	1	1	1	1	1	12	13												
	B27	1	1	1	1	1	1	7	7	7	7	7	12	13												
FS 9 TWO-2 WIRE OR ONE-4 WIRE OR 2 WIRE E & M FS10 ONE 6-WIRE FS11 NO TEST CONNECTOR ACCESS	B28	1	2	2	4	5	5	7	8	9	10	10	12	13												
FS12 MAINTENANCE TEST CONNECTION FOR 2-WIRE OR 4-WIRE OR 2-WIRE E & M FS13 MAINTENANCE TEST CONNECTION FOR 6-WIRE OR 4-WIRE E & M FS14 MAINTENANCE TEST CONNECTION 6-WIRE	B29								8	8	8	8	8	8												
FS15 PHANTOM GROUP	B30									9	9	9	9	9												
APP FIG. 1	C1	1	2	2	2	5	5	5	5	9	9	11	12	13												
	C2	1	1	1	1	5	5	5	5	5	5	5	5	5												
	C3	1	1	1	1	5	6	6	6	9	9	11	12	13												
APP FIG. 2	C4	1	1	1	1	5	5	5	5	9	9	9	9	9												
APP FIG. 3 APP FIG. 4 APP FIG. 5 APP FIG. 6	C5	1	2	2	2	2	2	2	2	9	9	9	9	9												
APP FIG. 7	C6									9	9	9	9	9												
CIRCUIT NOTES EQUIPMENT NOTES INFORMATION NOTES	D1	1	1	3	4	5	5	7	8	9	10	11	12	13												

CONTENTS	SHEET NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
CIRCUIT REQUIREMENTS TABLE	F1	1	1	3	3	5	5	5	5	9	9	11	12	13												
CIRCUIT REQUIREMENTS TABLE	F2	1	1	1	1	5	5	5	5	5	5	5	12	13												
CAD 1	G1	1	2	2	2	5	6	7	7	9	9	11	11	13												
	G2	1	1	1	1	1	1	7	7	9	9	11	11	13												
CAD 2	G3	1	1	3	3	3	3	7	7	9	9	11	12	13												
	G4	1	1	1	1	1	1	7	7	7	7	11	11	13												
	G5	1	1	1	1	1	1	7	7	7	7	11	11	13												
CAD 3	G6	1	1	3	3	3	3	7	7	9	9	11	12	13												
	G7	1	1	3	3	3	3	7	7	9	9	11	11	13												
	G8	1	1	1	1	1	1	7	7	7	7	11	11	13												
	G9	1	1	1	1	1	1	7	7	7	7	11	11	13												
CAD 4	G10	1	1	1	1	1	1	7	7	7	7	7	12	13												
CAD 4 / CAD 5	G11	1	1	1	1	1	1	7	7	7	7	7	12	13												
CAD 5	G12	1	1	1	1	1	1	7	7	7	7	7	12	13												
CAD 5 / CAD 6	G13	1	2	2	2	2	2	7	7	7	7	7	12	13												
CAD 7,8	G14	1	2	2	4	5	5	7	7	7	7	7	12	13												
CAD 9	G15	-	-	-	4	4	4	4	4	4	4	4	4	4												
CAD 10	G16	-	-	-	-	-	-	7	7	9	9	11	11	13												
	G17	-	-	-	-	-	-	7	7	9	9	11	11	13												
CAD 11	G18	-	-	-	-	-	-	7	7	9	9	11	12	13												
	G19	-	-	-	-	-	-	7	7	7	7	11	12	13												
	G20	-	-	-	-	-	-	7	7	9	9	11	12	13												
CAD 12	G21	-	-	-	-	-	-	7	7	9	9	11	12	13												
	G22	-	-	-	-	-	-	7	7	9	9	11	12	13												
	G23	-	-	-	-	-	-	7	7	7	7	11	12	13												
	G24	-	-	-	-	-	-	7	7	9	9	11	12	13												
CAD 13	G25	-	-	-	-	-	-	7	7	7	7	7	7	7												
	G26	-	-	-	-	-	-	7	7	7	7	7	7	7												
CAD 14	G27	-	-	-	-	-	-	7	7	7	7	11	11	13												
CAD 15	G28	-	-	-	-	-	-	7	7	7	7	7	7	7												
CAD 16	G29	-	-	-	-	-	-	-	-	9	10	10	10	10												
CAD 17	G30	-	-	-	-	-	-	-	-	9	10	10	10	10												
CAD 18	G31	-	-	-	-	-	-	-	-	9	10	11	11	13												
CAD 19	G32	-	-	-	-	-	-	-	-	9	9	9	12	13												
	G33	-	-	-	-	-	-	-	-	9	9	11	12	13												
	G34	-	-	-	-	-	-	-	-	9	10	10	10	10												
CAD 20,21	G35	-	-	-	-	-	-	-	-	9	9	9	9	9												

SHEET INDEX NOTES

1. WHEN CHANGES ARE MADE IN THIS DRAWING, ONLY THOSE SHEETS AFFECTED WILL BE REISSUED.
2. THIS SHEET INDEX WILL BE REISSUED AND BROUGHT UP TO DATE EACH TIME ANY SHEET OF THE DRAWING IS REISSUED, OR A NEW SHEET IS ADDED.
3. THE ISSUE NUMBER ASSIGNED TO A CHANGED OR NEW SHEET WILL BE THE SAME ISSUE NUMBER AS THAT OF THE SHEET INDEX.
4. SHEETS THAT ARE NOT CHANGED WILL RETAIN THEIR EXISTING ISSUE NUMBER.
5. THE LAST ISSUE NUMBER OF THE SHEET INDEX IS RECOGNIZED AS THE LATEST ISSUE NUMBER OF THE DRAWING AS A WHOLE.

SUPPORTING INFORMATION

CATEGORY	NO.
EQUIPMENT DRAWINGS	J99359A-( ) THRU J99359F-( ) J99359K-( ) J99359L-( ) J99359M-( ) J99359N-( ) J99359AJ-( ) J99359AK-( ) J99359AL-( ) J99359BA-( ) J99359BB-( ) J99359BC-( ) J99359BD-( ) J99359BE-( )
EQUIPMENT DESIGN REQ'T	J99359
KEYSHEET DRAWINGS	SD-99636-01 SD-1F007-01
CURRENT DRAIN DATA	SD-99636-02

DWG ISSUE	CD ISSUE	DATE ISSUED	[illegible]	APPD
1	1	4-26-73	DR	RW EGS GCB
2A	1 APP 1A	2-1-74		EGS GCB
3B	1 APP 2B	2-1-74		EGS GCB
4AR	1 APP 3AR	10-11-74		EGS
5AR	2AR	1-3-75		EGS
6A	2AR APP 1A	5-9-75	AK	EGS
7B	2AR APP 2B	4-[illegible]-76	ADC CAS	EGS
8AR	2AR APP 3AR	8-3-76		EGS
9B	2AR APP 4B	3-31-77	ADC	EGS
10AR	3AR	3-31-77	ADC	EGS
11B	3AR APP 1D	11-27-78	CDI	EGS
12B	3AR APP 2B	11-27-78	CDI	EGS
13A	3AR APP 3A	11-27-78	CDI	EGS

ISSUE 13A

SD-99560-01 IN99

COMMON SYSTEMS

SWITCHED MAINTENANCE ACCESS SYSTEM NO. 4A

CONTROLLER AND CONNECTOR CIRCUIT

(CONT) (SW CONN & CONT) (PH CONN GR) (PH PL CUT THRU) (CONN GP & CONT)(PH NT CONN ACC CUT THRU) (2)

AT&TCO STANDARD

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-99560-01-A1
76 SHEETS

APPARATUS INDEX

RELAYS

DESIG	LOCATION FS	APP FIG.	EQPT
BSY	1A9	1	
C---	28B2	4	
CS0	2B1	1	
CS1	2B1	1	
CT---	28B5	5	
DIG1	1B6	1	
DIG2	1C6	1	
DIG3	1C6	1	
DIG4	1D6	1	
DIG5	1E6	1	
DO1	1B1	1	
DO2	1C1	1	
DO3	1D1	1	
DO4	1D1	1	
DO5	1E1	1	
DR1	1B1	1	
DR2	1B1	1	
DR3	1C1	1	
DR4	1D1	1	
DR5	1E1	1	
DRC	3D0	1	
H0	2G0	1	
H1	2G1	1	
H2	2G2	1	
H3	2G3	1	
H4	2G4	1	
H5	2G5	1	
H6	2G6	1	
H7	2G7	1	
H8	2G8	1	
H9	2G9	1	
PH0-PH9	30(A-F)5	7	
S0	2E0	1	
S1	2E1	1	
S2	2E2	1	
S3	2E3	1	
S4	2E4	1	
S5	2E5	1	
S6	2E6	1	
S7	2E7	1	
S8	2E8	1	
S9	2E9	1	
TR0	4G0	1	
TR1	4G1	1	
TR2	4G2	1	
TR4	4G3	1	
TR7	4G4	1	
TRG	4G5	1	

RELAYS (CONT)

DESIG	LOCATION FS	APP FIG.	EQPT

DIODES

DESIG	LOCATION FS	APP FIG.	EQPT
D01-D05	1(B-E)8	1	
DR1-DR5	1(A-E)8	1	
DRC	3D0	1	
DRR	2G0	1	
GH0	20C0	3	
GH1	20C2	3	
GH2	20C2	3	
GH3	20C2	3	
GH4	20C2	3	
GH5	20C2	3	
GH6	20C2	3	
GH7	20C2	3	
GH8	20C2	3	
GH9	20C3	3	
GS0	20b0	3	
GS1	20b2	3	
GS2	20b2	3	
GS3	20b2	3	
GS4	20b2	3	
GS5	20b2	3	

DIODES (CONT)

DESIG	LOCATION FS	APP FIG.	EQPT
GS6	20b2	3	
GS7	20b2	3	
GS8	20b2	3	
GS9	20b3	3	
H0-H9	20B1-B3	3	
HA0	9G1	2	
HA1	9G5	2	
HA2	9G5	2	
HA3	9G5	2	
HA4	9G5	2	
HA5	9G5	2	
HA6	9G5	2	
HA7	9G5	2	
HA8	9G5	2	
HA9	9G8	2	
HOLD0	2D0	1	
HOLD1	2D1	1	
HOLD2	2D2	1	
HOLD3	2D3	1	
HOLD4	2D4	1	
HOLD5	2D5	1	
HOLD6	2D6	1	
HOLD7	2D7	1	
HOLD8	2D7	1	
HOLD 9	2D8	1	
PA0-PA9	13(A-H)7	2	
PB0-PB9	14(A-H)7	2	
PH0-PH9	30(A-F)5	7	
S0-S9	20A1-A3	3	
SA0	6H1	2	
SA1	6G1	2	
SA2	6G1	2	
SA3	6F1	2	
SA4	6E1	2	
SA5	6D1	2	
SA6	6C1	2	
SA7	6C1	2	
SA8	6B1	2	
SA9	6A1	2	
SB0	7H1	2	
SB1	7G1	2	
SB2	7G1	2	
SB3	7F1	2	
SB4	7E1	2	
SB5	7D1	2	
SB6	7C1	2	
SB7	7C1	2	
SB8	7B1	2	
SB9	7A1	2	
SC0	8H1	2	
SC1	8G1	2	
SC2	8G1	2	
SC3	8F1	2	
SC4	8E1	2	
SC5	8D1	2	
SC6	8C1	2	
SC7	8C1	2	
SC8	8B1	2	
SC9	8A1	2	
SEL0	2C0	1	
SEL1	2C1	1	
SEL2	2C2	1	
SEL3	2C3	1	
SEL4	2C4	1	
SEL5	2C5	1	
SEL6	2C5	1	
SEL7	2C6	1	
SEL8	2C7	1	
SEL9	2C8	1	

DIODES (CONT)

DESIG	LOCATION FS	APP FIG.	EQPT
TR0	4F0	1	
TR1	4F1	1	
TR2	4F2	1	
TR4	4F3	1	
TR7	4F4	1	
TRG	4F5	1	

DIODES (CONT)

DESIG	LOCATION FS	APP FIG.	EQPT

RESISTORS

SL1	28C8	6	
SL2	20C8	6	

SWITCHES

DESIG	LOCATION FS	APP FIG.	EQPT
CONT1	SEE APP FIG.	1	
SCA		2	
SCB		2	
SCC		2	
CGA		3	
CGB		3	
CGC		3	

SIGNALING RECEIVING CIRCUIT MULTIFREQUENCY PULSING

—	4B3	1	

ISSUE 13A

CONTROLLER AND CONNECTOR CIRCUIT

SD-99560-01-A2

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-99560-01-A2

LEAD INDEX

DESIG	LOCATION FS	LOCATION CAD
CONTINUITY CHECK CKT		
ST	1C9	16G3
ST1	1C9	16G3

DESIG	LOCATION FS	LOCATION CAD
FAR END CONTROL CKT		
BSY, BSYR	1B3	1B0,16B0
DRO-DR9	3B4	1C4,16B3
DROR-DR9R	3B4	1C4,16B3
DRC,DRCR	3B0	1C4,16A3
DRR,DRRR	2H0	1C4,16A3
FD,FDR	2H0	1D0,16B0
PO,POR	4D0	1C4,16F3
SG,SGR	3B4	1C4,16B3
SHG,SHGR	1B3	1C4,16A3
TRO,1,2,4,7	4D0	1B0,16B0
TROR,1R,2R,4R,7R	4D0	1B0,16B0
TRG,TRGR	4D0	1B0,16B0

DESIG	LOCATION FS	LOCATION CAD
LOCAL ACCESS TEST PORT		
R	4B0	1G4,16G3
T	4B0	1G4,16G3

DESIG	LOCATION FS	LOCATION CAD
LOCAL ACCESS TEST PORT PORT C		
AC	10D1, 17D9	3E2, 6E2, 18F2, 21F2
BO	10D1, 17D9	
CO	10D1, 17D9	
CCO	12D0	6G5,21G3
DO	10D1, 17D9	3E2, 6E2, 18F2, 21F2
EO	11D1, 18E9	
FO	11D1, 18E9	
GO	11D1, 18E9	
HO	11D1, 18E9	
HGO	10D1, 18E9	3G5,6G5 18G5,21G5
JO	12D0	7F2, 22G2
KO	12D0	
LO	12D0	
MO	12D0	
NO	11D1,	3G5,6G5, 18G5,21G5
RO	10D1, 17D9	3E2,6E2
SOAO-1	6H0	3E8, 6E8, 18D8, 21E8, 32D8
SOAO-2	6H0	
SOA1-1	13H0	
SOA1-2	13H0	
SOBO-1	7H0	
SOBO-2	7H0	
SOB1-1	14H0	

DESIG	LOCATION FS	LOCATION CAD
LOCAL ACCESS TEST PORT PORT 0 (CONT)		
SOB1-2	14H0	3E8,6E8, 18D8,21E8 32D8
SOC0-1	8H0	6E8, 21E8
SOC0-2	8H0	
SOC1-1	15H0	
SOC1-2	15H0	
PORT 1		
A1	10C1, 17D9	3E2, 6E2, 18F3, 21F2
B1	10C1, 17D9	
C1	10C1, 17D9	
CC1	12C0	6G5,21G5
D1	10C1, 17D9	3E2, 6D2, 18F2, 21F2
E1	11B1, 18E9	
F1	11B1, 18E9	
G1	11B1, 18E9	
H1	11B1, 18E9	
HG1	10C1, 17D9	3G5,6G5, 18G5,21G5
J1	12C0	7F2, 22G2
K1	12C0	
L1	12C0	
M1	12C0	
N1	11B1, 18E9	3G5,6G5, 18F5,21F5
R1	10C1, 17D9	3E2,6E2
S1A0-1	6H0	3E8, 6E8, 18D8, 21E8, 32D8
S1A0-2	6H0	
S1A1-1	13H0	
S1A1-2	13H0	
S1B0-1	7H0	
S1B0-2	7H0	
S1B1-1	14H0	
S1B1-2	14H0	
S1C0-1	8H0	6E8, 21E8
S1C0-2	8H0	
S1C1-1	15H0	
S1C1-2	15H0	

DESIG	LOCATION FS	LOCATION CAD
NO TEST INCOMING TRUNK CKT		
G,R,S,T	28B9	14B7, 35B3

DESIG	LOCATION FS	LOCATION CAD
PRIVATE LINE CKT		
SEE TABLE A AND TABLE B	28D3, 28D6	14(B,C, E,F)7, 15(B, E)1, 28(B-E)0 35(B,D)0

DESIG	LOCATION FS	LOCATION CAD
REMOTE ACCESS OR JACK ENDED TEST PORT PORT 2		
A2	10B1, 17A9	3D2, 6D2, 18D2, 21D2
B2	10B1, 17A9	
C2	10B1, 17A9	
CC2	12C0	6F5,21F5
D2	10B1, 17A9	3D2, 6D2, 18D2, 21D2
E2	11B1, 18A9	
F2	11B1, 18A9	
G2	11B1, 18A9	
H2	11B1, 18A9	
HG2	10B1, 17A9	3F5,6F5, 18F5,21F5
J2	12C0	7E2, 22F2
K2	12C0	
L2	12C0	
M2	12C0	
N2	11B1, 18A9	3F5,6F5 18F5,21F5
R2	10B1, 17A9	3D2,6D2
S2A0-1	6G0	3D8, 6D8, 18D8, 21D8, 32C8
S2A0-2	6G0	
S2A1-1	13G0	
S2A1-2	13G0	
S2B0-1	7G0	
S2B0-2	7G0	
S2B1-1	14G0	
S2B1-2	14G0	
S2C0-1	8G0	6D8, 21D8
S2C0-2	8G0	
S2C1-1	15G0	
S2C1-2	15G0	
PORT 3		
A3	10B1, 17A9	3C2, 6B2, 18C2, 21C2
B3	10B1, 17A9	
C3	10B1, 17A9	
CC3	12C0	6F5,21E5
D3	10B1, 17A9	3C2, 6B2, 18C2, 21C2
E3	11B1, 18A9	
F3	11B1, 18A9	
G3	11B1, 18A9	
H3	11B1, 18A9	
HG3	10B1, 17A9	3F5,6F5, 18E5,21E5
J3	12C0	7E2, 22F2
K3	12C0	
L3	12C0	
M3	12C0	

DESIG	LOCATION FS	LOCATION CAD
REMOTE ACCESS OR JACK ENDED TEST PORT PORT 3 (CONT)		
N3	11B1, 18A9	3E5,6E5, 18E5,21E5
R3	10B1, 17A9	3C2,6C2
S3A0-1	6F0	3D8, 6D8, 18C8, 21D8, 32C8
S3A0-2	6F0	
S3A1-1	13F0	
S3A1-2	13F0	
S3B0-1	7F0	
S3B0-2	7F0	
S3B1-1	14F0	
S3B1-2	14F0	
S3C0-1	8F0	6D8, 21D8
S3C0-2	8F0	
S3C1-1	15F0	
S3C1-2	15F0	
PORT 4		
A4	10B1, 17A9	3B2, 6B2, 18A2, 21A2
B4	10B1, 17A9	
C4	10B1, 17A9	
CC4	12C0	6G5,21E5
D4	10B1, 17A9	3B2, 6B2, 18A2, 21A2
E4	11B1, 18A9	
F4	11B1, 18A9	
G4	11B1, 18A9	
H4	11B1, 18A9	
HG4	10B1, 17A9	3E5,6E5, 18E5,21E5
J4	12C0	7D2, 22E2
K4	12C0	
L4	12C0	
M4	12C0	
N4	11B1, 18A9	3E5,6E5, 18E5,21E5 3B2,6B2
R4	10B1, 17A9	
S4A0-1	6E0	3C8, 6C8, 18C8, 21C8, 32C8
S4A0-2	6E0	
S4A1-1	13E0	
S4A1-2	13E0	
S4B0-1	7E0	
S4B0-2	7E0	
S4B1-1	14E0	
S4B1-2	14E0	
S4C0-1	8E0	6C8, 21C8
S4C0-2	8E0	
S4C1-1	15E0	
S4C1-2	15E0	

DESIG	LOCATION FS	LOCATION CAD
REMOTE ACCESS OR JACK ENDED TEST PORT PORT 5		
A5	10B1, 17A9	3F0, 6F0, 18G0, 21F0
B5	10B1, 17A9	
C5	10B1, 17A9	
CC5	12C1	6D5,21D5
D5	10B1, 17A9	3B8, 6B8, 18C8, 21D8, 32C8
E5	11B1, 18A9	3F0, 6F0, 18G0, 21F0
F5	11B1, 18A9	
G5	11B1, 18A9	
H5	11B1, 18A9	
HG5	10B1, 17A9	3D5,6D5, 18D5,21D5
J5	12C0	7D3, 22D2
K5	12C0	
L5	12C0	
M5	12C0	
N5	11B1, 18A9	3D5,6D5, 18D5,21D5
R5	10B1, 17A9	3F0,6F0
S5A0-1	6D0	3C8, 6C8, 18B8, 21C8, 32B8
S5A0-2	6E0	
S5A1-1	13D0	
S5A1-2	13E0	
S5B0-1	7D0	
S5B0-2	7E0	
S5B1-1	14D0	
S5B1-2	14E0	
S5C0-1	8D0	6C8, 21C8
S5C0-2	8E0	
S5C1-1	15E0	
S5C1-2	15E0	
PORT 6		
A6	10B1, 17A9	3E0, 6E0, 18E0, 21E0
B6	10B1, 17A9	
C6	10B1, 17A9	
CC6	12C0	6C5,21C5
D6	10B0, 17A9	3E0, 6E0, 18E0, 21E0
E6	11B1, 18A9	
F6	11B1, 18A9	
G6	11B1, 18A9	
H6	11B1, 18A9	
HG6	10B1, 17A9	3C5,6C5 18C5,21C5
J6	12C0	7C2, 22C2
K6	12C0	
L6	12C0	
M6	12C0	

DESIG	LOCATION FS	LOCATION CAD
REMOTE ACCESS OR JACK ENDED TEST PORT PORT 6 (CONT)		
N6	11B1, 18A9	3C5,6C5, 18C5,21C5
R6	10B1, 17A9	3E0,6E0
S6A0-1	6D0	3B8, 6B8, 18B8, 21B8, 32B8
S6A0-2	6D0	
S6A1-1	13D0	
S6A1-2	13D0	
S6B0-1	7D0	
S6B0-2	7D0	
S6B1-1	14D0	
S6B1-2	14D0	
S6C0-1	8D0	6B8, 21B8
S6C0-2	8D0	
S6C1-1	15D0	
S6C1-2	15D0	
PORT 7		
A7	10B1, 17A9	3D0, 6D0, 18D0, 21D0
B7	10B1, 17A9	
C7	10B1, 17A9	
CC7	12C0	6C5,21B5
D7	10B1, 17A9	3D0, 6D0, 18D0, 21D0
E7	11B1, 18A9	
F7	11B1, 18A9	
G7	11B1, 18A9	
H7	11B1, 18A9	
HG7	10B1, 17A9	3C5,6C5, 18B5,21B5
J7	12C0	7B2, 22C2
K7	12C0	
L7	12C0	
M7	12C1	
N7	11B1, 18A9	3C5,6C5, 18B5,21B5
R7	10B1, 17A9	3D0,6D0
S7A0-1	6C0	3B8, 6B8, 18B8, 21B8, 32B8
S7A0-2	6C0	
S7A1-1	13C0	
S7A1-2	13C0	
S7B0-1	7C0	
S7B0-2	7C0	
S7B1-1	14C0	
S7B1-2	14C0	
S7C0-1	8C0	6B8, 21B8
S7C0-2	8C0	
S7C1-1	15C0	
S7C1-2	15C0	

DESIG	LOCATION FS	LOCATION CAD
REMOTE ACCESS OR JACK ENDED TEST PORT PORT 8		
A8	10B1, 17A9	3C0,3D0 18C0
B8	10B1, 17A9	3C0,6B0, 18C0,21C0
C8	10B1, 17A9	3C0,6B0 18C0
CC8	12C1	6F5,21B5
D8	10B1, 17A9	3C0, 6B0, 18C0, 21C0
E8	11B1, 18A9	
F8	11B1, 18A9	
G8	11B1, 18A9	
H8	11B1, 18A9	
HG8	10B1, 17A9	3B5,6B5, 18B5,21B5
J8	12C1	7B2, 22B2
K8	12C1	
L8	12C1	
M8	12C1	
N8	11B1, 18A9	3B5,6B5, 18B5,21B5
R8	10B1, 17A9	3C0,6C0
S8A0-1	6B0	3A8, 6A8, 18A8, 21A8, 32A8
S8A0-2	6B0	
S8A1-1	13B0	
S8A1-2	13B0	
S8B0-1	7B0	
S8B0-2	7B0	
S8B1-1	14B0	
S8B1-2	14B0	
S8C0-1	8B0	6A8, 21A8
S8C0-2	8B0	
S8C1-1	15B0	
S8C1-2	15B0	
PORT 9		
A9	10A1, 17A9	3B0, 6B0, 18A0, 21A0
B9	10A1, 17A9	
C9	10A1, 17A9	
CC9	12B0	6A5,21A5
D9	10A1, 17A9	3A0, 6A0, 18A0, 21A0
E9	11A1, 18A9	
F9	11A1, 18A9	
G9	11A1, 18A9	
H9	11A1, 18A9	
HG9	10A1, 17A9	3A5,6A5 18A5,21A5
J9	12B0	7A2, 22A2
K9	12B0	
L9	12B0	
M9	12B0	

DESIG	LOCATION FS	LOCATION CAD
REMOTE ACCESS OR JACK ENDED TEST PORT PORT 9 (CONT)		
N9	11A1, 18A9	3A5,6A5, 18A5,21A5
R9	10B1, 17A9	3A0, 6A0,
S9A0-1	6A0	3A8, 6A8, 18A8, 21A8, 32A8
S9A0-2	6A0	
S9A1-1	13A0	
S9A1-2	13A0	
S9B0-1	7A0	
S9B0-2	7A0	
S9B1-1	14A0	
S9B1-2	14A0	
S9C0-1	8A0	6A8, 21A8
S9C0-2	8A0	
S9C1-1	15A0	
S9C1-2	15A0	

ISSUE 13A

CONTROLLER AND CONNECTOR CIRCUIT

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-99560-01-A3

SD-99560-01-A3

OPTION INDEX

APP OR MRG	RATED ON ISSUE	REF NOTES	LOC
Z	STD 1		APP FIG. 3
Y	STD 1		APP FIG. 3
X	STD 1		APP FIG. 2
W	STD 1		CAD 2,3,11,12
V	STD 1		APP FIG. 2
T	STD 1		10E4,10E6,10E9, 11E4,11E6,11E9, 14E4,14E6,14E9, 18E4,18E6,18E9
S	STD 7B		12E3,12F3,12E6, 12F6,12E9,12F9, 19E3,19F3,19E6, 19F6,19E9,19F9, 23F8,27F8
R	STD 7B		12F3,12F6,12F9, 23F8,27F8
Q	STD BAR	102,112	SHEET 29
N	STD BAR	102,112	SHEET 29
M	STD BAR	102,112	SHEET 29
K	STD 9B	104	16B(0,2,6),17A7, 17G9,17H(7-9),18A7, 18G9,18H(7-9), 28(B,C,D)0 CAD 1,10
J	STD 9B	101,102	APP FIG. 7, 3G4,16B(0,2,6),17A9, 17G9,17H(7-9),18A9, 18G9,18H(7-9), 28(B,C,E)0,30A4, CAD 1,2,3,10,11,12
H	STD 9B	102	APP FIG. 2
G	STD 10AR	102,104	28D1
F	STD 10AR	102.104	28D1

ISSUE 13A

CONTROLLER AND CONNECTOR CIRCUIT

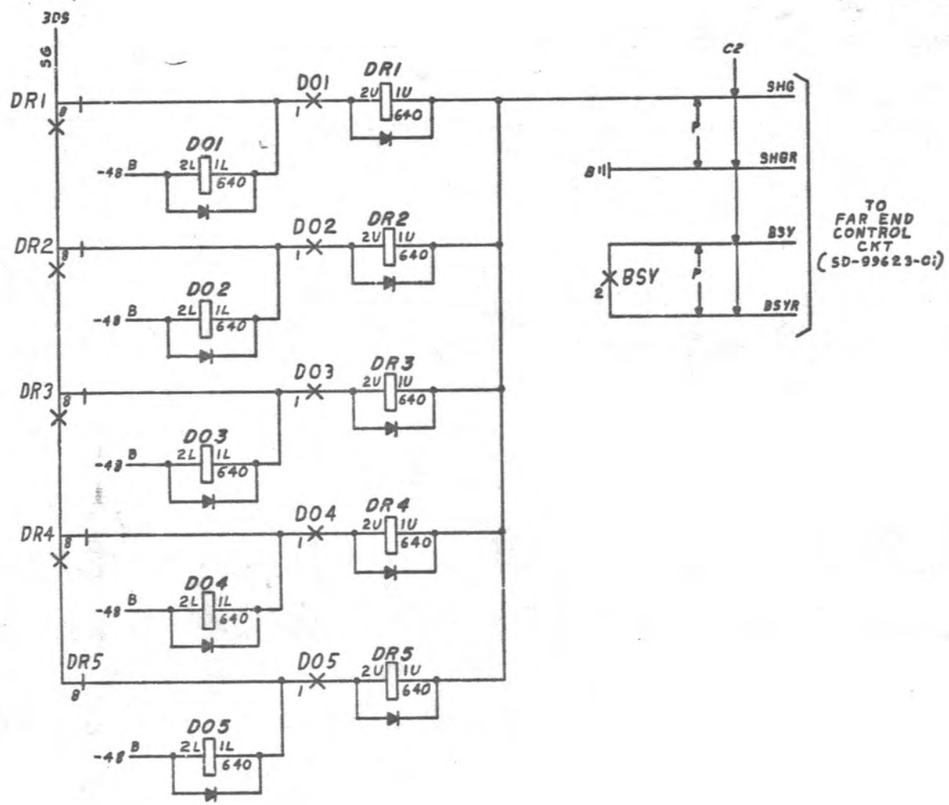
SD-99560-01-A4

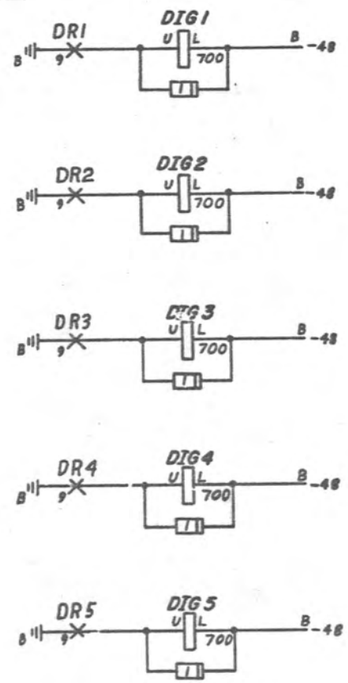
BELL TELEPHONE LABORATORIES INCORPORATED

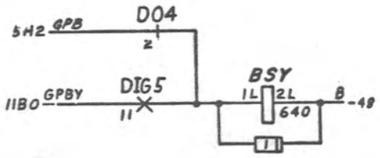
SIZE 6S

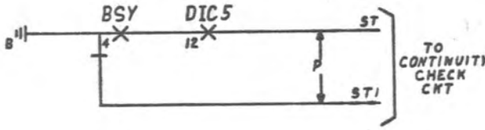
FS I

CONTROLLER STEERING CIRCUIT









18-10-09566-01S

SD-99560-01-BI

13A

CONTROLLER AND CONNECTOR CIRCUIT

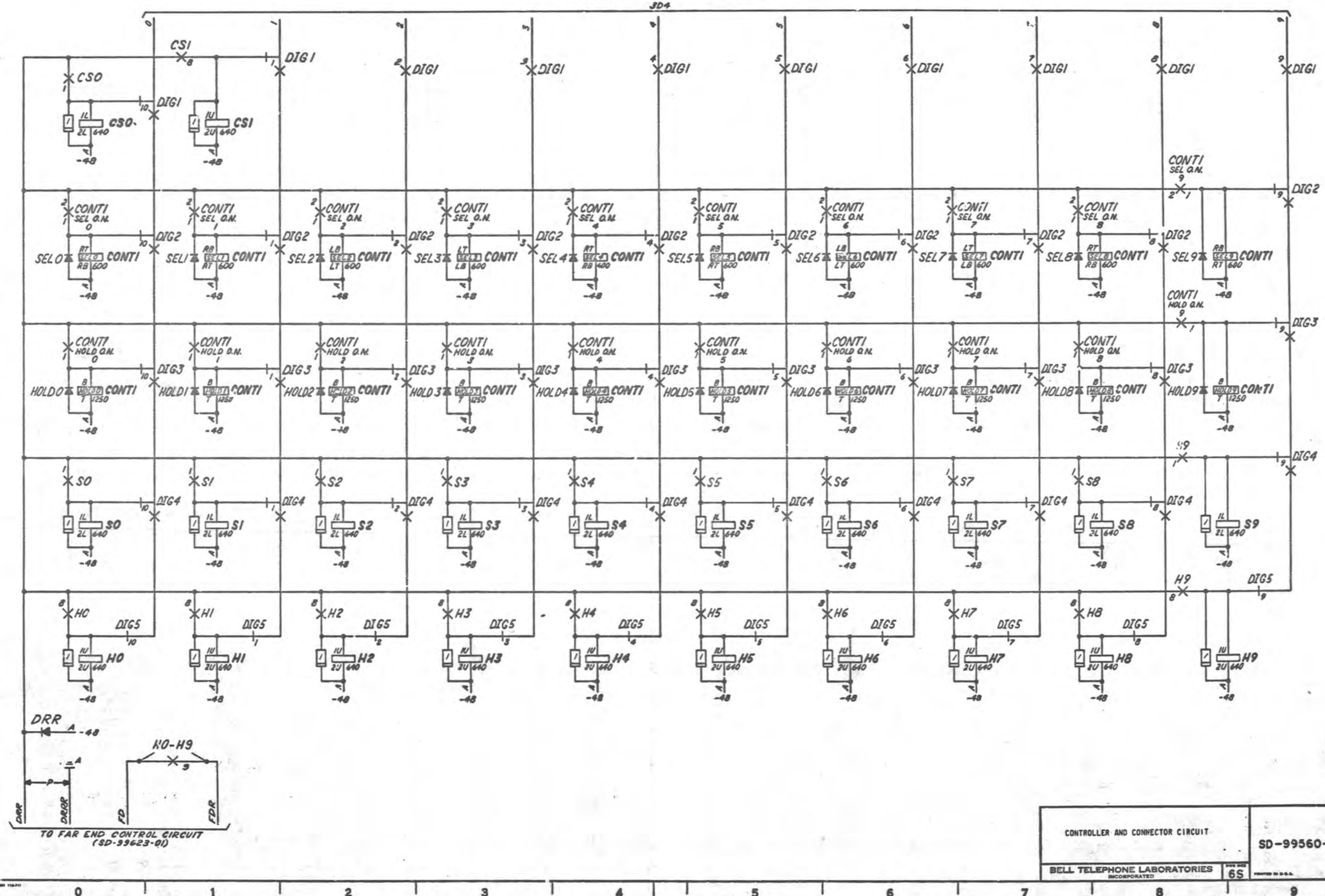
BELL TELEPHONE LABORATORIES INCORPORATED

65

FS 2

DIGIT REGISTRATION AND CONTROL CIRCUIT

3D4

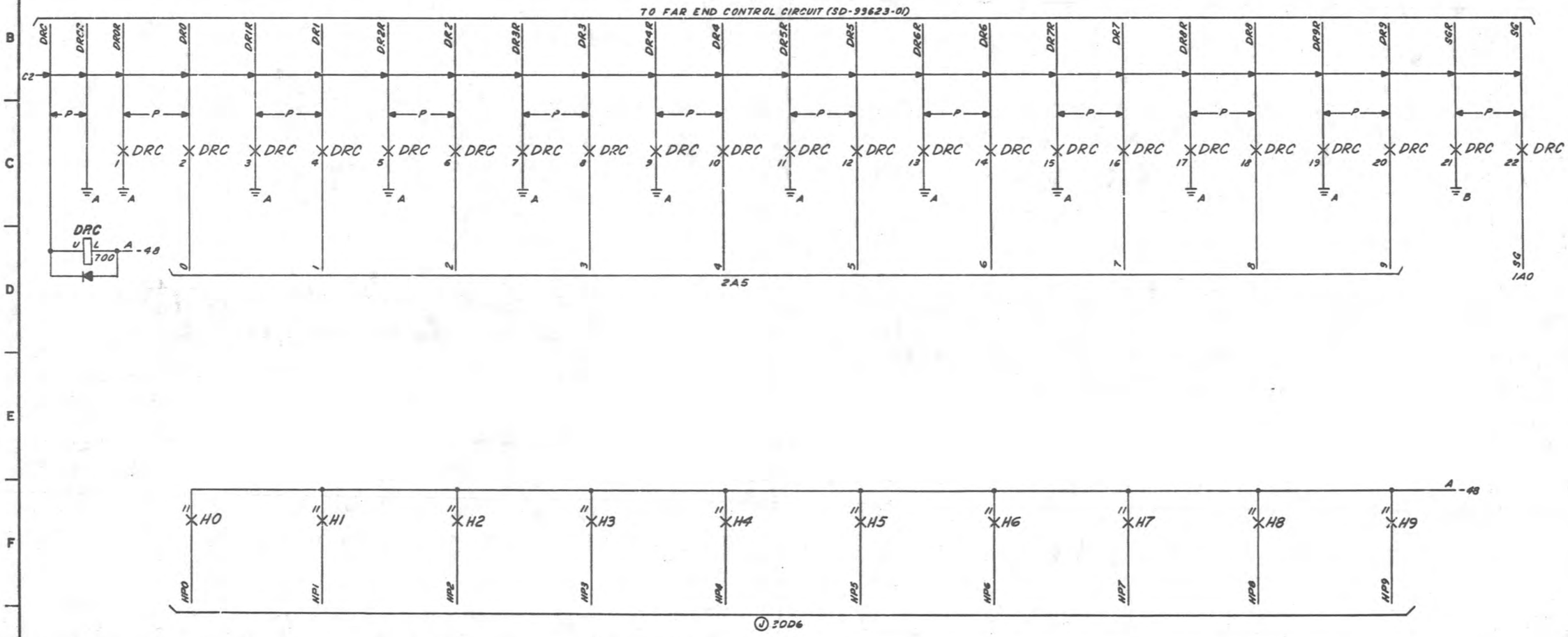


28-10-09566-03

CONTROLLER AND CONNECTOR CIRCUIT	SD-99560-01-B2
BELL TELEPHONE LABORATORIES INCORPORATED	6S

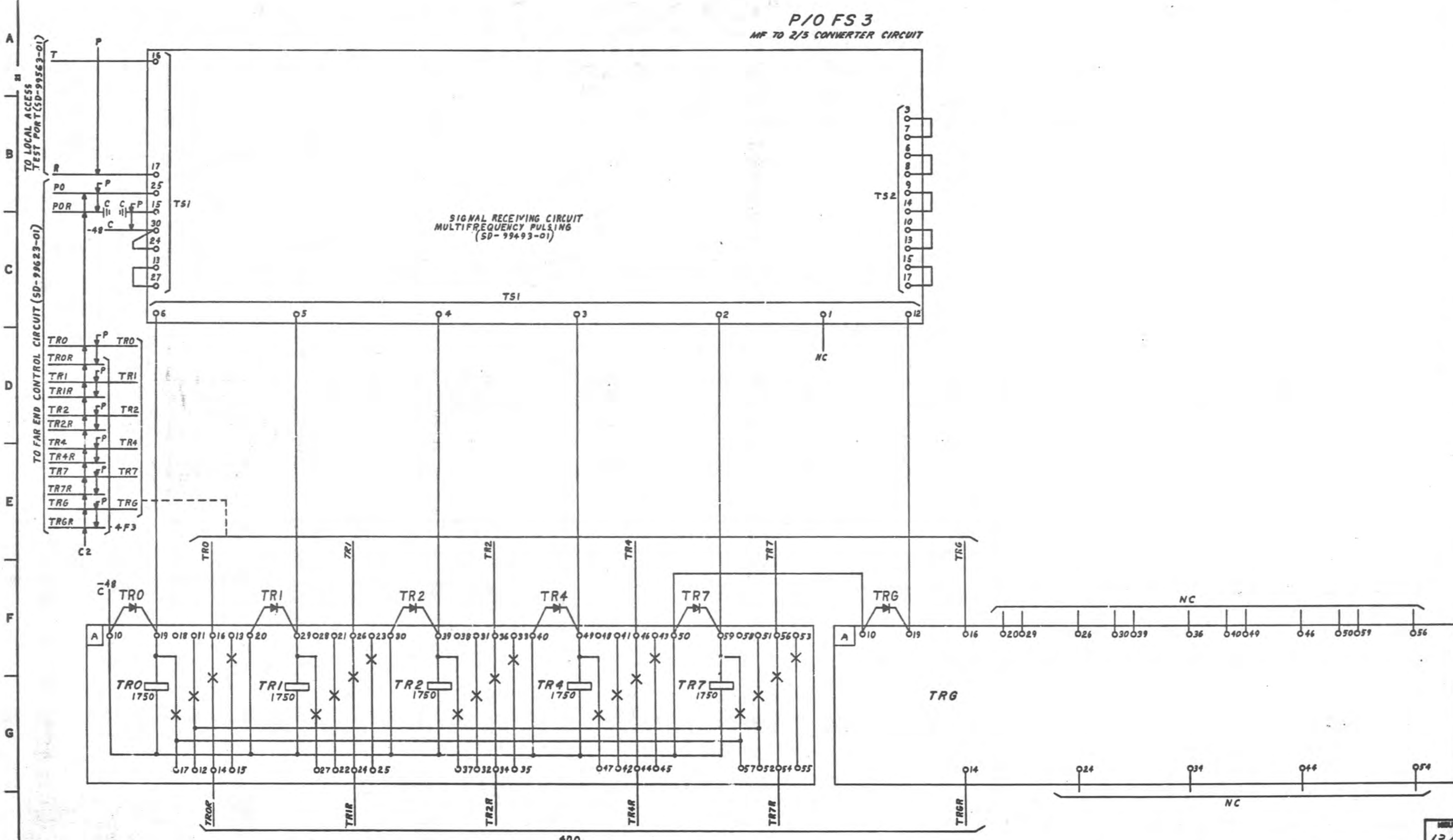
ISSUE 15A

PART OF FS 2
DIGIT REGISTRATION AND CONTROL CIRCUIT



CONTROLLER AND CONNECTOR CIRCUIT	SD-99560-01-B3
BELL TELEPHONE LABORATORIES INCORPORATED	SHEET 9B

SD-99560-01-B3



CONTROLLER AND CONNECTOR CIRCUIT

ISSUE 13A

SD-99560-01-B4

BELL TELEPHONE LABORATORIES INCORPORATED

6S

SD-99560-01-B4

FS 4
CONTROLLER CONNECTOR GROUP SELECT CIRCUIT

CONTI SW

V0

L9 ✳ — NO-99 — SEC0
NC
H1-99

L1-L8 ✳ — NC-(10,20,30,40 TO 80) — 1600
NC
H1-(10,20,30,40 TO 80)

L0 ✳ — NO-00
NC
H1-00

V1-V8

✳ — NO-(11-18) — SEC2
NC
H1-(11-18)

✳ — NO-(11-18, 21-28, 31-38, 41-48 TO 81-88) — 1602
NC
H1-(11-18, 21-28, 31-38, 41-48 TO 81-88)

✳ — NO-(01-08)
NC
H1-(01-08)

V9

✳ — NO-99 — SEC4
NC
H1-99

✳ — NO-(19,29,39,49 TO 89) — 1606
NC
H1-(19,29,39,49 TO 89)

✳ — NO-09
NC
H1-09

C0 C1 C2 C3 C4 C5

CS0 ✳ — CS1 ✳ — DIG3 — DR3 — B

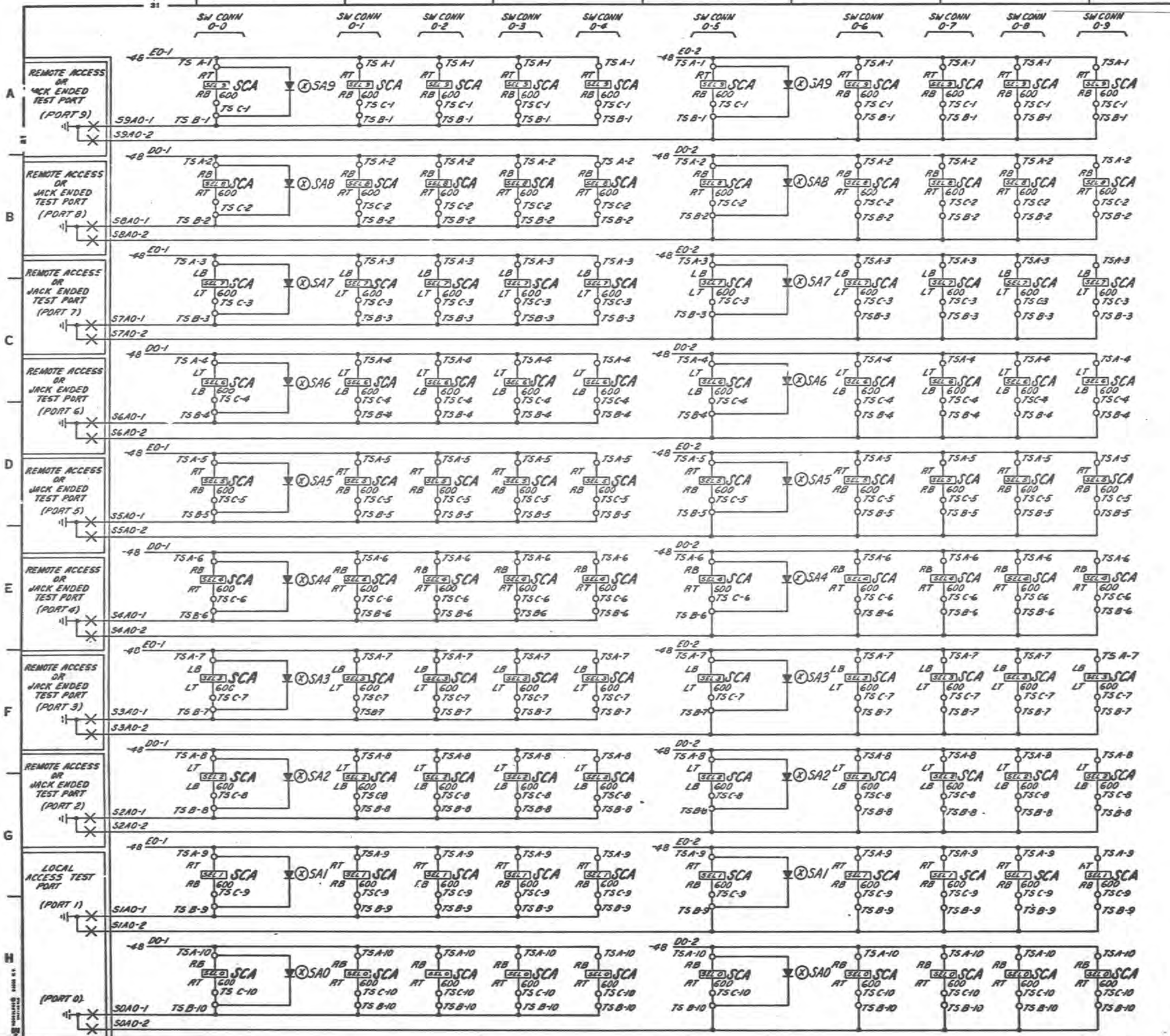
GND — 148

SD-99560-01-85

ISSUE	13A
CONTROLLER AND CONNECTOR CIRCUIT	SD-99560-01-85
BELL TELEPHONE LABORATORIES INCORPORATED	SIZE 6S

PART OF FS 5

SWITCH CONNECTOR AND CONTROL CIRCUIT - 0



SW CONN 0-0
SW CONN 0-1
SW CONN 0-2
SW CONN 0-3
SW CONN 0-4
SW CONN 0-5
SW CONN 0-6
SW CONN 0-7
SW CONN 0-8
SW CONN 0-9
REMOTE ACCESS OR JACK ENDED TEST PORT (PORT 9)
REMOTE ACCESS OR JACK ENDED TEST PORT (PORT 8)
REMOTE ACCESS OR JACK ENDED TEST PORT (PORT 7)
REMOTE ACCESS OR JACK ENDED TEST PORT (PORT 6)
REMOTE ACCESS OR JACK ENDED TEST PORT (PORT 5)
REMOTE ACCESS OR JACK ENDED TEST PORT (PORT 4)
REMOTE ACCESS OR JACK ENDED TEST PORT (PORT 3)
REMOTE ACCESS OR JACK ENDED TEST PORT (PORT 2)
LOCAL ACCESS TEST PORT (PORT 1)
(PORT 0)
SCA
600
SA9
SA8
SA7
SA6
SA5
SA4
SA3
SA2
SA1
SA0

CONTROLLER AND CONNECTOR CIRCUIT

SD-99560-01 B6

ISSUE 3B

BELL TELEPHONE LABORATORIES INCORPORATED

6S

SD-99560-01-B6

PART OF FS 5

SWITCH CONNECTOR AND CONTROL CIRCUIT-0

SW CONN 0-0 | SW CONN 0-1 | SW CONN 0-2 | SW CONN 0-3 | SW CONN 0-4 | SW CONN 0-5 | SW CONN 0-6 | SW CONN 0-7 | SW CONN 0-8 | SW CONN 0-9

A — REMOTE ACCESS OR JACK ENDED TEST PORT (PORT 9) — 59B0-1, 59B0-2 — EO-1 / EO-2 — SB9

B — REMOTE ACCESS OR JACK ENDED TEST PORT (PORT 8) — 58B0-1, 58B0-2 — DO-1 / DO-2 — SB8

C — REMOTE ACCESS OR JACK ENDED TEST PORT (PORT 7) — 57B0-1, 57B0-2 — EO-1 / EO-2 — SB7

D — REMOTE ACCESS OR JACK ENDED TEST PORT (PORT 6) — 56B0-1, 56B0-2 — DO-1 / DO-2 — SB6

E — REMOTE ACCESS OR JACK ENDED TEST PORT (PORT 5) — 55B0-1, 55B0-2 — EO-1 / EO-2 — SB5

F — REMOTE ACCESS OR JACK ENDED TEST PORT (PORT 4) — 54B0-1, 54B0-2 — DO-1 / DO-2 — SB4

G — REMOTE ACCESS OR JACK ENDED TEST PORT (PORT 3) — 53B0-1, 53B0-2 — EO-1 / EO-2 — SB3

H — REMOTE ACCESS OR JACK ENDED TEST PORT (PORT 2) — 52B0-1, 52B0-2 — DO-1 / DO-2 — SB2

LOCAL ACCESS TEST PORT (PORT 1) — 51B0-1, 51B0-2 — EO-1 / EO-2 — SB1

(PORT 0) — 50B0-1, 50B0-2 — DO-1 / DO-2 — SB0

SCB: -48 V; RT 600; RB 600; LT 600; LB 600; TS D-1 … TS D-10; TS E-1 … TS E-10; TS F-1 … TS F-10

SD-99560-01-87

ISSUE 3B

CONTROLLER AND CONNECTOR CIRCUIT

BELL TELEPHONE LABORATORIES INCORPORATED

DWG SIZE 6S

SD-99560-01-B7

PART OF FS 5
SWITCH CONNECTOR AND CONTROL CIRCUIT-0

SW CONN 0-0 | SW CONN 0-1 | SW CONN 0-2 | SW CONN 0-3 | SW CONN 0-4 | SW CONN 0-5 | SW CONN 0-6 | SW CONN 0-7 | SW CONN 0-8 | SW CONN 0-9

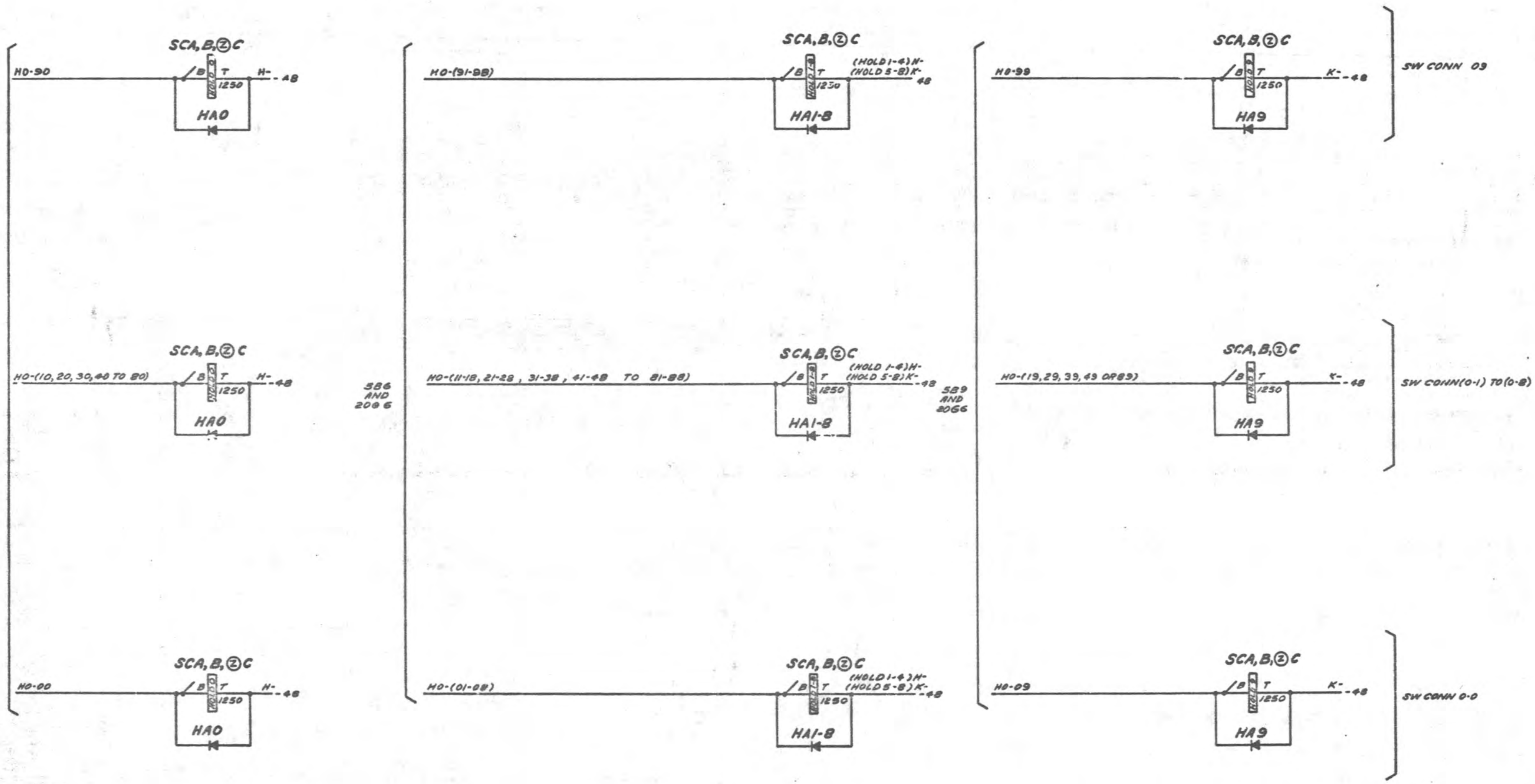
REMOTE ACCESS OR JACK ENDED TEST PORT (PORT 9) — S9CO-1, S9CO-2 — GO-1 / GO-2 — SC9
REMOTE ACCESS OR JACK ENDED TEST PORT (PORT 8) — S8CO-1, S8CO-2 — FO-1 / FO-2 — SC8
REMOTE ACCESS OR JACK ENDED TEST PORT (PORT 7) — S7CO-1, S7CO-2 — GO-1 / GO-2 — SC7
REMOTE ACCESS OR JACK ENDED TEST PORT (PORT 6) — S6CO-1, S6CO-2 — FO-1 / FO-2 — SC6
REMOTE ACCESS OR JACK ENDED TEST PORT (PORT 5) — S5CO-1, S5CO-2 — GO-1 / GO-2 — SC5
REMOTE ACCESS OR JACK ENDED TEST PORT (PORT 4) — S4CO-1, S4CO-2 — FO-1 / FO-2 — SC4
REMOTE ACCESS OR JACK ENDED TEST PORT (PORT 3) — S3CO-1, S3CO-2 — GO-1 / GO-2 — SC3
REMOTE ACCESS OR JACK ENDED TEST PORT (PORT 2) — S2CO-1, S2CO-2 — FO-1 / FO-2 — SC2
LOCAL ACCESS TEST PORT (PORT 1) — S1CO-1, S1CO-2 — GO-1 / GO-2 — SC1
(PORT 0) — S0CO-1, S0CO-2 — FO-1 / FO-2 — SC0

CONTROLLER AND CONNECTOR CIRCUIT	SD-99560-01-88
BELL TELEPHONE LABORATORIES INCORPORATED	SHEET 65

ISSUE 3B

SD-99560-01-88

PART OF FS 5
SWITCH CONNECTOR AND CONTROL CIRCUIT-0



ISSUE 9B

CONTROLLER AND CONNECTOR CIRCUIT

BELL TELEPHONE LABORATORIES INCORPORATED

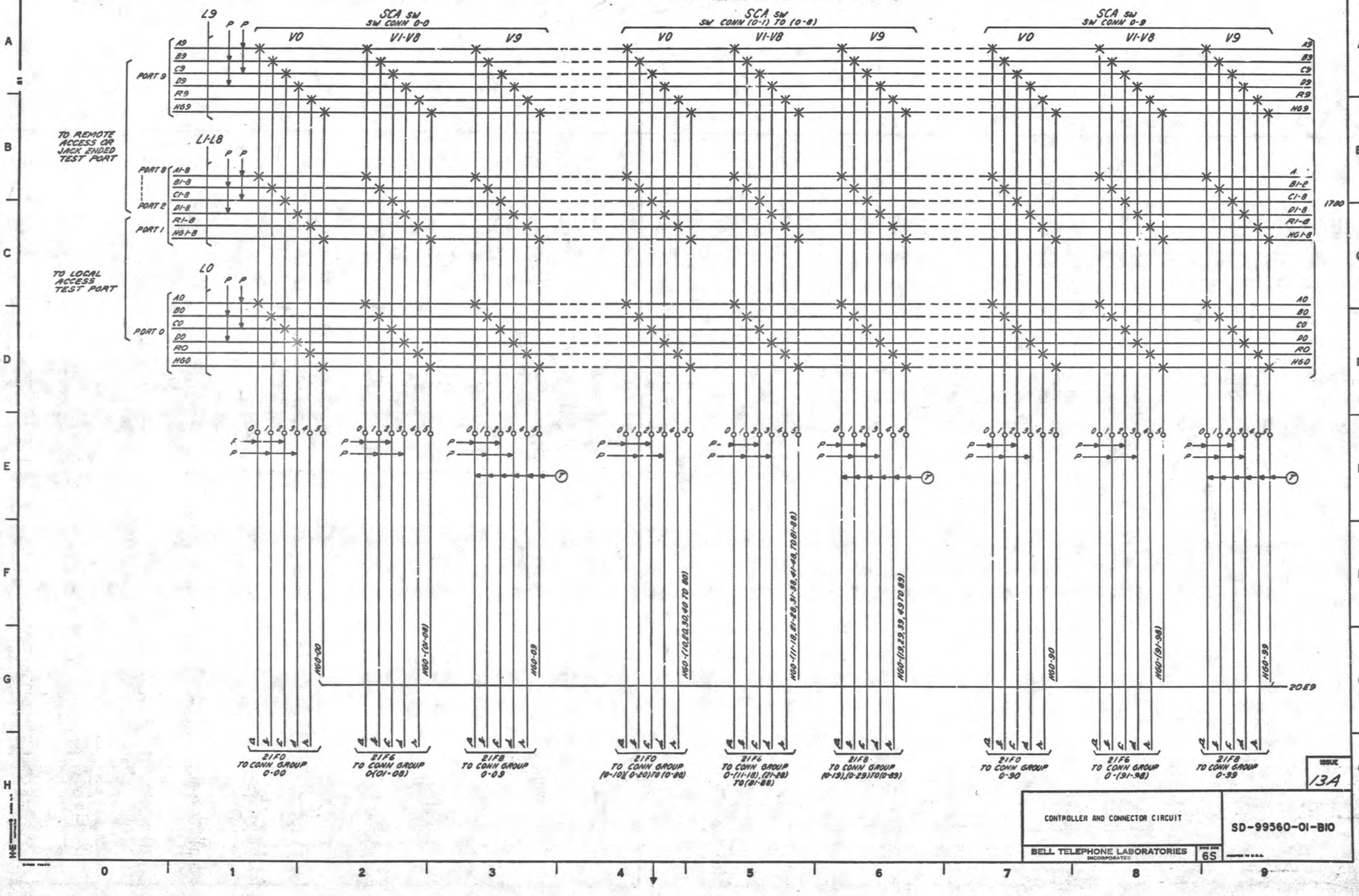
6S

SD-99560-01-B9

SD-99560-01-B9

PART OF FS 5

SWITCH CONNECTOR AND CONTROL CIRCUIT -0



PART OF FS 5

SWITCH, CONNECTOR AND CONTROL CIRCUIT - 0

SCB SW SW CONN 0-0

SCB SW SW CONN (0-1) TO (0-8)

SCB SW SW CONN 0-9

V0 V1-V8 V9

TO REMOTE ACCESS OR JACK ENDED TEST PORT

PORT 9

SW CONN 0-0

SCB SW SEL O.N. 9

GPBY 9 1882

GPBY 1886

L9

E9 F9 G9 H9 N9

L1-L8

PORT 8 PORT 2 PORT 1

SCB SW SEL O.N. 1-8

E1-8 F1-8 G1-8 H1-8 N1-8

GBPY 1-8 1879

L0

PORT 0

SCB SW SEL O.N. 0

E0 F0 G0 H0 N0

GPBY 0 1869

TO LOCAL ACCESS TEST PORT

E9 F9 G2 H9 N9 GPBY9

E1-8 F1-8 G1-8 H1-8 N1-8 GPBY1-8

1880

G0 F0 G0 H0 N0 GPBY0

P P P

0 1 2 3 4 5

BY0-00

BY0-(01-08)

BY0-09

BY0-(10,20,30,40,70 80)

BY0-(41-48,21-28,31-38,W-49, TO 81-88)

BY0-(10,29,39,49 TO 89)

BY0-90

BY0-(91-98)

BY0-99

2068

22F0 TO CONN GROUP C-00

22F6 TO CONN GROUP 0-(01-08)

22F8 TO CONN GROUP 0-09

22F0 TO CONN GROUP (0-10),(0-20) TO (0-80)

22F6 TO CONN GROUP 0-(11-18),(21-28) TO (81-88)

22F8 TO CONN GROUP (0-9),(0-29) TO (0-89)

22F0 TO CONN GROUP 0-90

22F6 TO CONN GROUP 0-(91-98)

22F8 TO CONN GROUP 0-99

ISSUE 13A

CONTROLLER AND CONNECTOR CIRCUIT

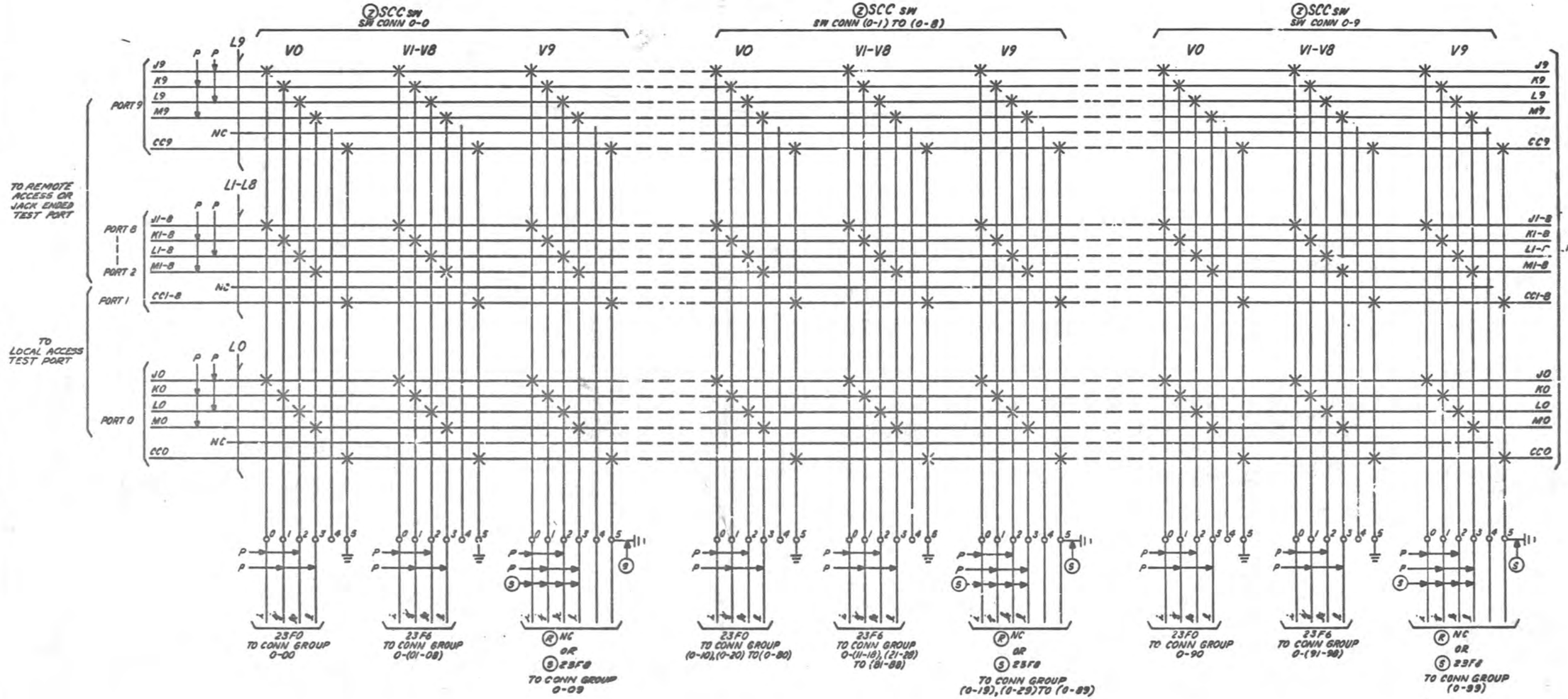
SD-99560-01-811

BELL TELEPHONE LABORATORIES INCORPORATED

6S

SD-99560-01-811

PART OF FS 5
SWITCH CONNECTOR AND CONTROL CIRCUIT-0



ISSUE 15,A	
CONTROLLER AND CONNECTOR CIRCUIT	SD-99560-01-B12
BELL TELEPHONE LABORATORIES INCORPORATED	SIZE 6S

218-10-99560-01-B12

PART OF FS 6
SWITCH CONNECTOR AND CONTROL CIRCUIT - 1

SW CONN 1-0 | SW CONN 1-1 | SW CONN 1-2 | SW CONN 1-3 | SW CONN 1-4 | SW CONN 1-5 | SW CONN 1-6 | SW CONN 1-7 | SW CONN 1-8 | SW CONN 1-9

A — REMOTE ACCESS OR JACK ENDED TEST PORT (PORT 9) — 59A1-1, 59A1-2 — E1-1 / E1-2 — SA9 — PA9

B — REMOTE ACCESS OR JACK ENDED TEST PORT (PORT 8) — 58A1-1, 58A1-2 — D1-1 / D1-2 — SA8 — PA8

C — REMOTE ACCESS OR JACK ENDED TEST PORT (PORT 7) — 57A1-1, 57A1-2 — E1-1 / E1-2 — SA7 — PA7

D — REMOTE ACCESS OR JACK ENDED TEST PORT (PORT 6) — 56A1-1, 56A1-2 — D1-1 / D1-2 — SA6 — PA6

E — REMOTE ACCESS OR JACK ENDED TEST PORT (PORT 5) — 55A1-1, 55A1-2 — E1-1 / E1-2 — SA5 — PA5

F — REMOTE ACCESS OR JACK ENDED TEST PORT (PORT 4) — 54A1-1, 54A1-2 — D1-1 / D1-2 — SA4 — PA4

G — REMOTE ACCESS OR JACK ENDED TEST PORT (PORT 3) — 53A1-1, 53A1-2 — E1-1 / E1-2 — SA3 — PA3

H — REMOTE ACCESS OR JACK ENDED TEST PORT (PORT 2) — 52A1-1, 52A1-2 — D1-1 / D1-2 — SA2 — PA2

LOCAL ACCESS TEST PORT (PORT 1) — 51A-1, 51A-2 — E1-1 / E1-2 — SA1 — PA1

(PORT 0) — 50A1-1, 50A1-2 — D1-1 / D1-2 — SA0 — PA0

SCA 600 — TS A-1 RT, TS B-1, TS C-1 — TSA-1, TSB-1

SD-99560-01-813

ISSUE	9B
CONTROLLER AND CONNECTOR CIRCUIT	SD-99560-01-813
BELL TELEPHONE LABORATORIES INCORPORATED	6S

PART OF FS 6

SWITCH CONNECTOR AND CONTROL CIRCUIT-1

SW CONN 1-0 | SW CONN 1-1 | SW CONN 1-2 | SW CONN 1-3 | SW CONN 1-4 | SW CONN 1-5 | SW CONN 1-6 | SW CONN 1-7 | SW CONN 1-8 | SW CONN 1-9

REMOTE ACCESS OR JACK ENDED TEST PORT (PORT 9) — S9 BI-1, S9 BI-2 — SCB 600 — TS D-1, TS F-1, TS E-1 — S89 — PB9

REMOTE ACCESS OR JACK ENDED TEST PORT (PORT 8) — S8 BI-1, S8 BI-2 — SCB 600 — TS D-2, TS F-2, TS E-2 — S88 — PB8

REMOTE ACCESS OR JACK ENDED TEST PORT (PORT 7) — S7 BI-1, S7 BI-2 — SCB 600 — TS D-3, TS F-3, TS E-3 — S87 — PB7

REMOTE ACCESS OR JACK ENDED TEST PORT (PORT 6) — S6 BI-1, S6 BI-2 — SCB 600 — TS D-4, TS F-4, TS E-4 — S86 — PB6

REMOTE ACCESS OR JACK ENDED TEST PORT (PORT 5) — S5 BI-1, S5 BI-2 — SCB 600 — TS D-5, TS F-5, TS E-5 — S85 — PB5

REMOTE ACCESS OR JACK ENDED TEST PORT (PORT 4) — S4 BI-1, S4 BI-2 — SCB 600 — TS D-6, TS F-6, TS E-6 — S84 — PB4

REMOTE ACCESS OR JACK ENDED TEST PORT (PORT 3) — S3 BI-1, S3 BI-2 — SCB 600 — TS D-7, TS F-7, TS E-7 — S83 — PB3

REMOTE ACCESS OR JACK ENDED TEST PORT (PORT 2) — S2 BI-1, S2 BI-2 — SCB 600 — TS D-8, TS F-8, TS E-8 — S82 — PB2

LOCAL ACCESS TEST PORT (PORT 1) — S1 BI-1, S1 BI-2 — SCB 600 — TS D-9, TS F-9, TS E-9 — S81 — PB1

(PORT 0) — S0 BI-1, S0 BI-2 — SCB 600 — TS D-10, TS F-10, TS E-10 — S80 — PB0

CONTROLLER AND CONNECTOR CIRCUIT

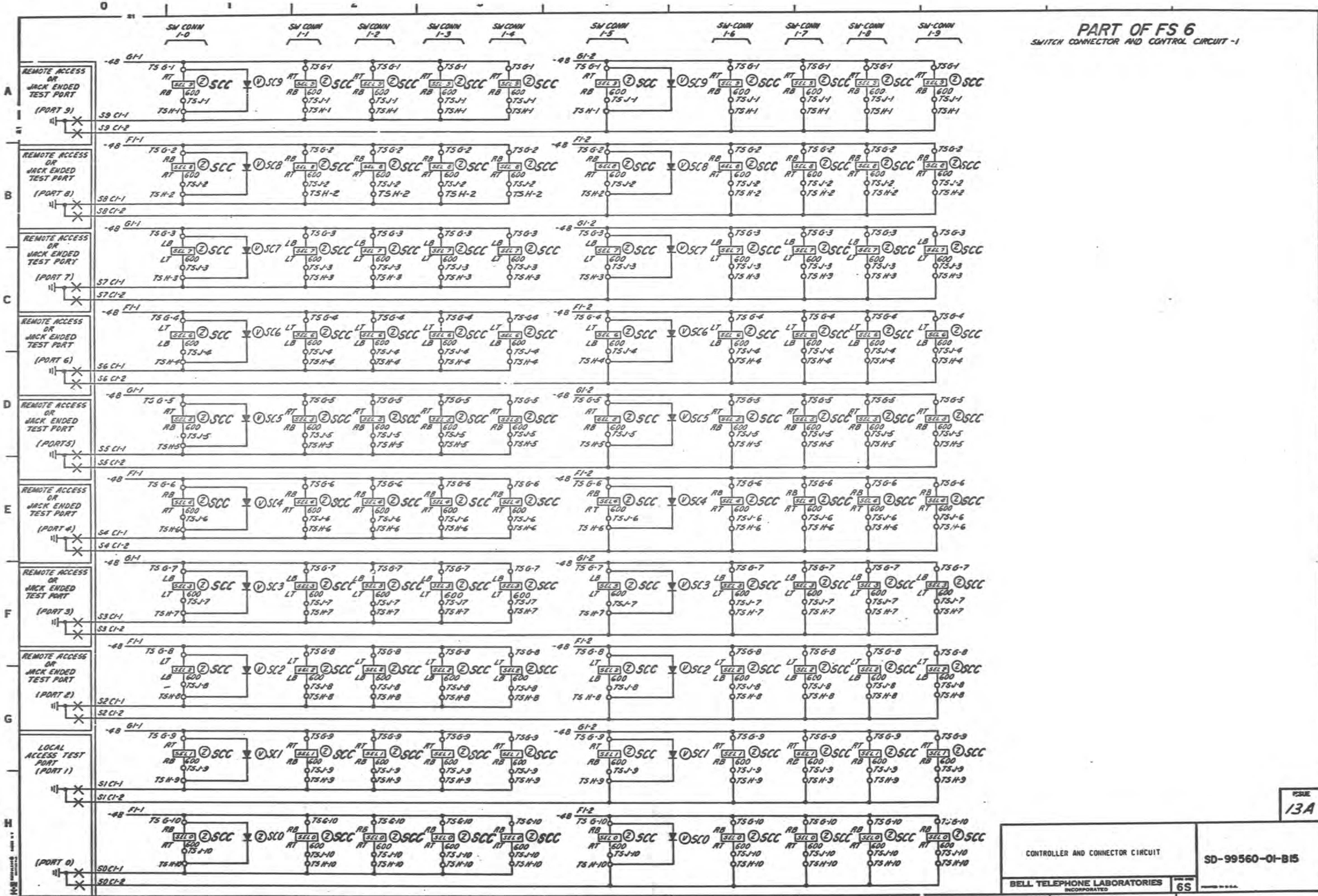
BELL TELEPHONE LABORATORIES INCORPORATED

SIZE 6S

SD-99560-01-BI4

ISSUE 9B

SD-99560-01-BI4



PART OF FS 6
SWITCH CONNECTOR AND CONTROL CIRCUIT -1
SW CONN 1-0
SW CONN 1-1
SW CONN 1-2
SW CONN 1-3
SW CONN 1-4
SW CONN 1-5
SW CONN 1-6
SW CONN 1-7
SW CONN 1-8
SW CONN 1-9
REMOTE ACCESS OR JACK ENDED TEST PORT (PORT 9)
REMOTE ACCESS OR JACK ENDED TEST PORT (PORT 8)
REMOTE ACCESS OR JACK ENDED TEST PORT (PORT 7)
REMOTE ACCESS OR JACK ENDED TEST PORT (PORT 6)
REMOTE ACCESS OR JACK ENDED TEST PORT (PORT 5)
REMOTE ACCESS OR JACK ENDED TEST PORT (PORT 4)
REMOTE ACCESS OR JACK ENDED TEST PORT (PORT 3)
REMOTE ACCESS OR JACK ENDED TEST PORT (PORT 2)
LOCAL ACCESS TEST PORT (PORT 1)
(PORT 0)
ISSUE 13A

CONTROLLER AND CONNECTOR CIRCUIT

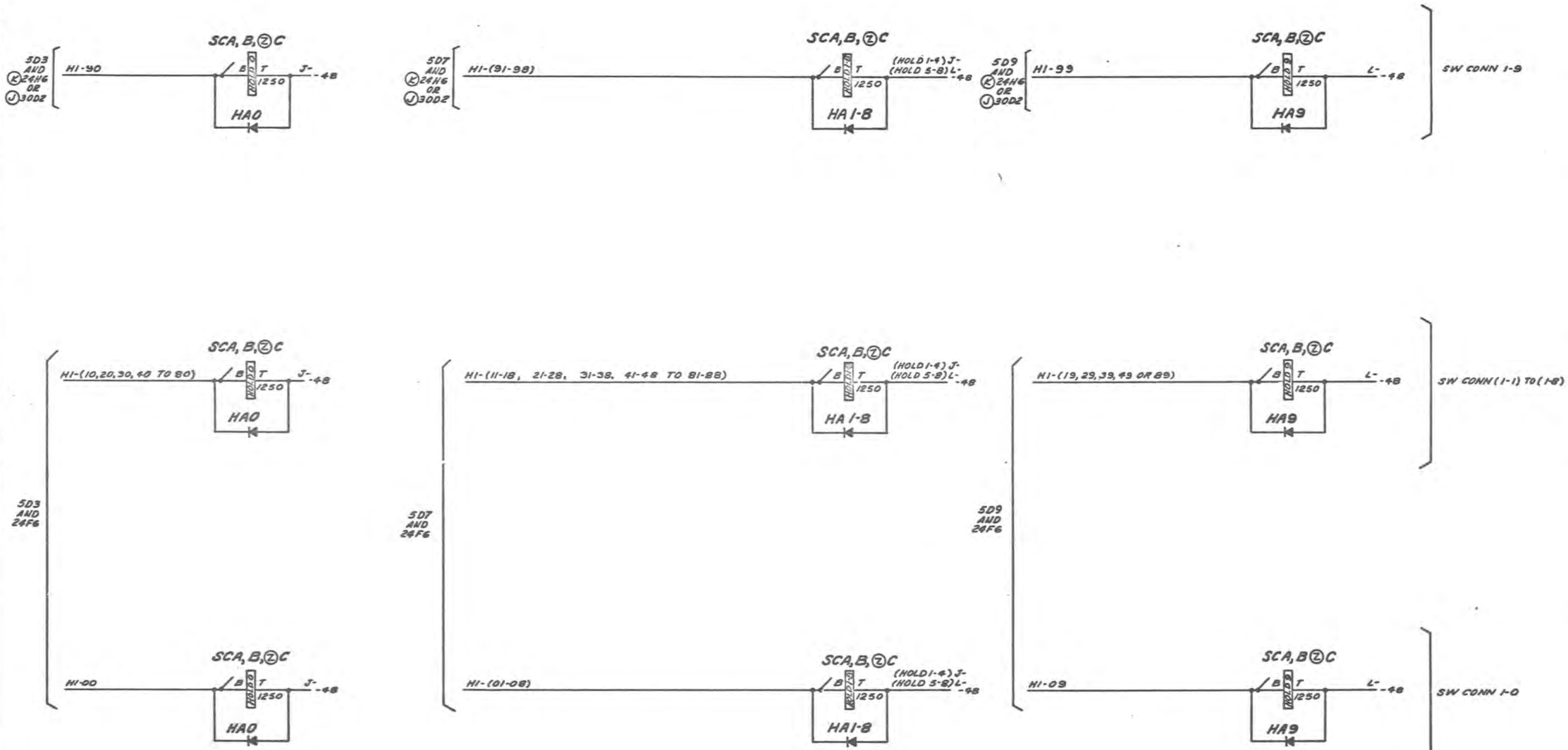
SD-99560-01-B15

BELL TELEPHONE LABORATORIES INCORPORATED

6S

SD-99560-01-B15

PART OF FS 6
SWITCH CONNECTOR AND CONTROL CIRCUIT-1



ISSUE 9B

CONTROLLER AND CONNECTOR CIRCUIT

BELL TELEPHONE LABORATORIES INCORPORATED

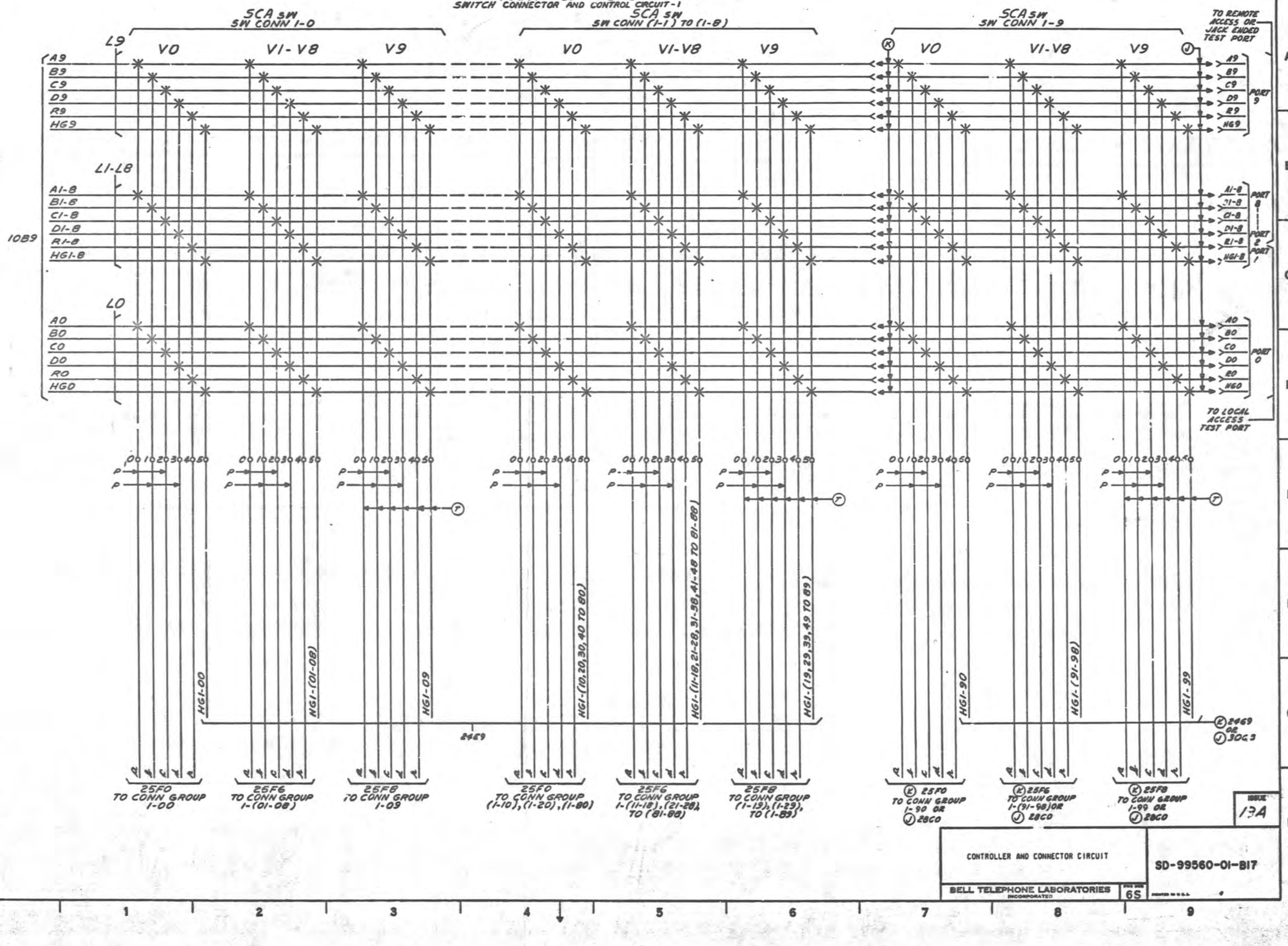
6S

SD-99560-01-816

SD-99560-01-816

PART OF FS 6

SWITCH CONNECTOR AND CONTROL CIRCUIT - 1

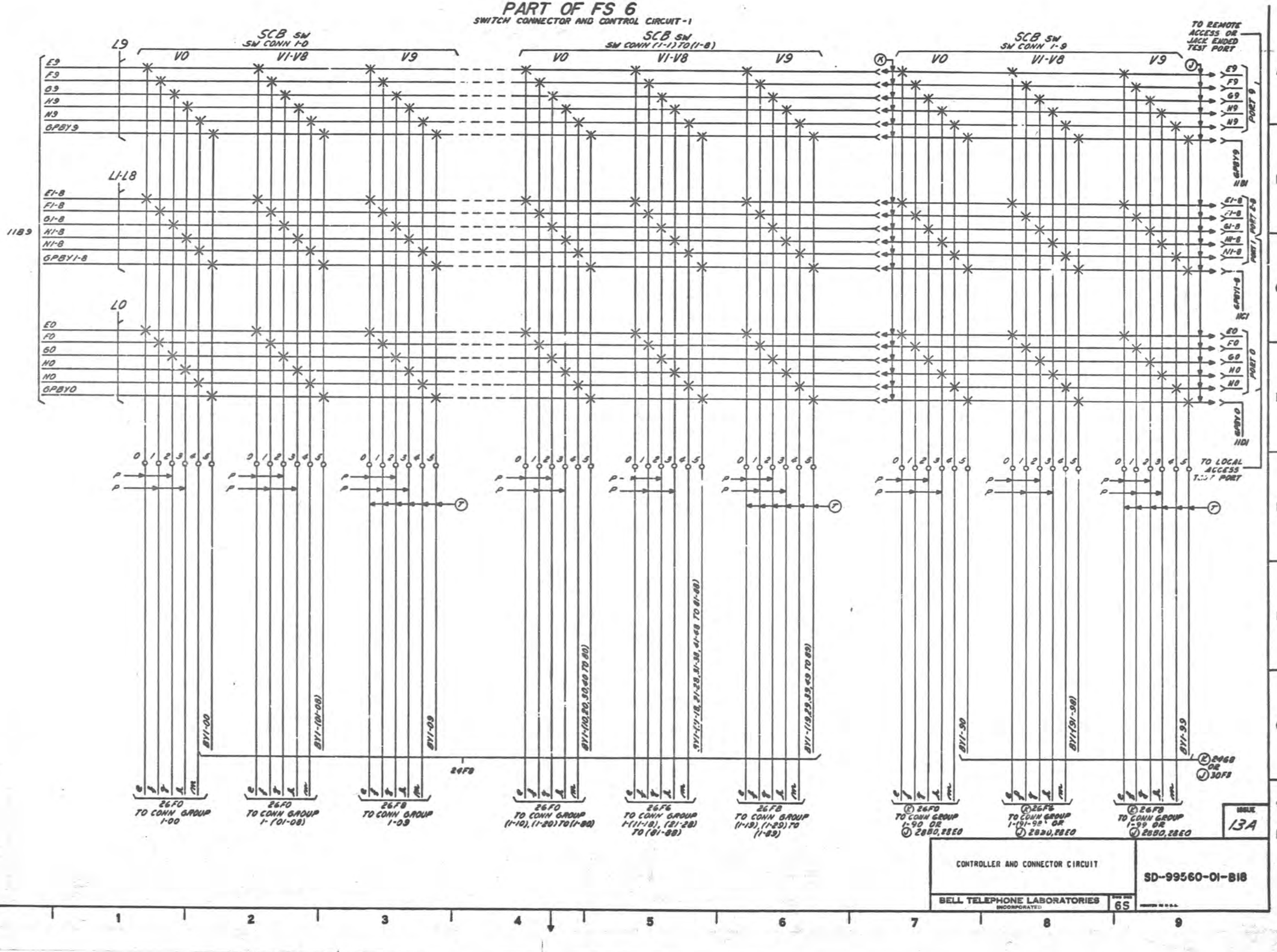


ISSUE	13A
CONTROLLER AND CONNECTOR CIRCUIT	SD-99560-01-817
BELL TELEPHONE LABORATORIES INCORPORATED	6S

SD-99560-01-817

PART OF FS 6

SWITCH CONNECTOR AND CONTROL CIRCUIT-1

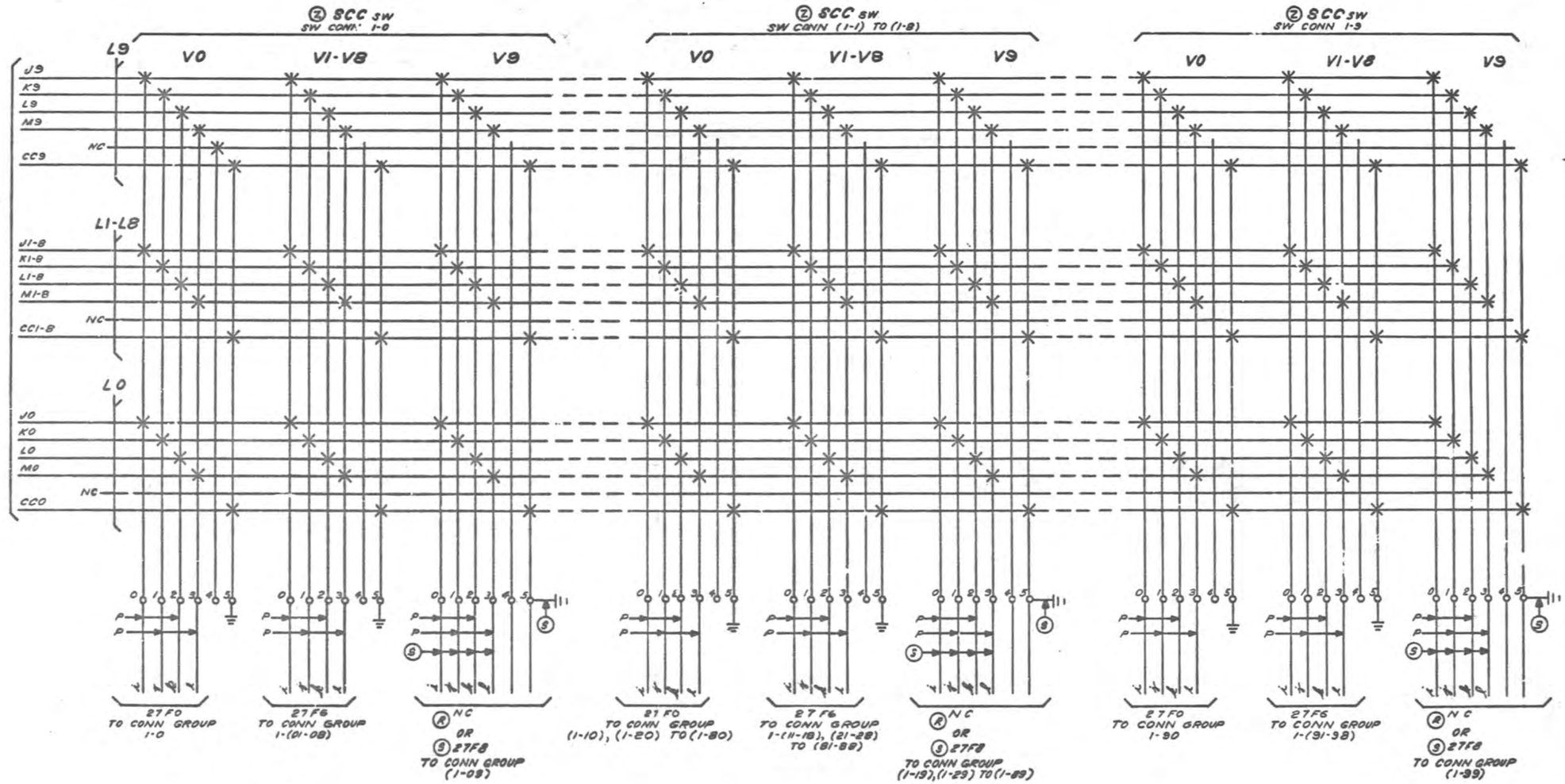


ISSUE	13A
CONTROLLER AND CONNECTOR CIRCUIT	SD-99560-01-818
BELL TELEPHONE LABORATORIES INCORPORATED	6S

SD-99560-01-818

PART OF FS 6

SWITCH CONNECTOR AND CONTROL CIRCUIT - I



ISSUE	NO
13A	

CONTROLLER AND CONNECTOR CIRCUIT	SD-99560-01-819
BELL TELEPHONE LABORATORIES INCORPORATED	SIZE 6S

SD-99560-01-819

PART OF FS 7
CONNECTOR GROUP AND CONTROL CIRCUIT-0

NOTES:

1. A AND B BECOME RT AND Rb FOR SEL 1 AND 5 RESPECTIVELY.
   A AND B BECOME Rb AND RT FOR SEL 4 AND 8 RESPECTIVELY
   A AND B BECOME LT AND Lb FOR SEL 2 AND 6 RESPECTIVELY.
   A AND B BECOME Lb AND LT FOR SEL 3 AND 7 RESPECTIVELY.
2. GSO - LEAD SUFFIXES CORRESPOND TO CONN GRP AS FOLLOWS:

   CONN GRP 0-10; GSO-10A AND GSO-10B
   CONN GRP 0-90; GSO-90A AND GSO-90B

-48 A

HO SO H1-8 S1-8 H9 S9

CGA,B,Ⓨ C — CONN GRP 0-00 — GSO — S0 — CGB SEL O.N. 0 NC — S1-S8 — CGB SEL O.N. 1-8 NC — S9 — CGB SEL O.N. 9 NC

CGA,B,Ⓨ C SEE NOTE 1 — GS1-8

GSO-00A GSO-00B SW CONN 0-0 SCA HOLD O.N 0

CGA SEL O.N. 0-9

CGA HOLD O.N 0 — CGA,B,Ⓨ C — GH0 — H0 — CGA HOLD O.N. 0

CGA HOLD O.N 1-8 — CGA,B,Ⓨ C — GH1-8 — H1-8 — CGA HOLD O.N. 1-8

CGA HOLD O.N 9 — CGA,B,Ⓨ C — GH9 — H9 — CGA HOLD O.N. 9

-48

CGB HOLD O.N. 0 — CGB HOLD O.N. 0

CGB HOLD O.N. 1-8 — CGB HOLD O.N. 1-8

CGB HOLD O.N. 9 — CGB HOLD O.N. 9

CONN GRP 0-(01-08)

GSO-01A GSO-08A GSO-01B GSO-08B SW CONN 0-0 SCA HOLD O.N 1-8

CONN GRP 0-09

GSO-09A GSO-09B SW CONN 0-0 SCA HOLD O.N 9

CONN GRP 0-(10,20,30,40 TO 80) — SEE NOTE 2 — SW CONN 0-(1,2,3,4 TO 8)

CONN GRP 0-(11-18,21-28,31-38,41-48 TO 81-88) — SW CONN 0-(1,2,3,4 TO 8)

CONN GRP 0-(19,29,39,49 TO 89) — SW CONN 0-(1,2,3,4 TO 8)

CONN GRP 0-90 — SEE NOTE 2 — SW CONN 0-9

CONN GRP 0-(91-98) — SW CONN 0-9

CONN GRP 0-99 — SW CONN 0-9

24 A)

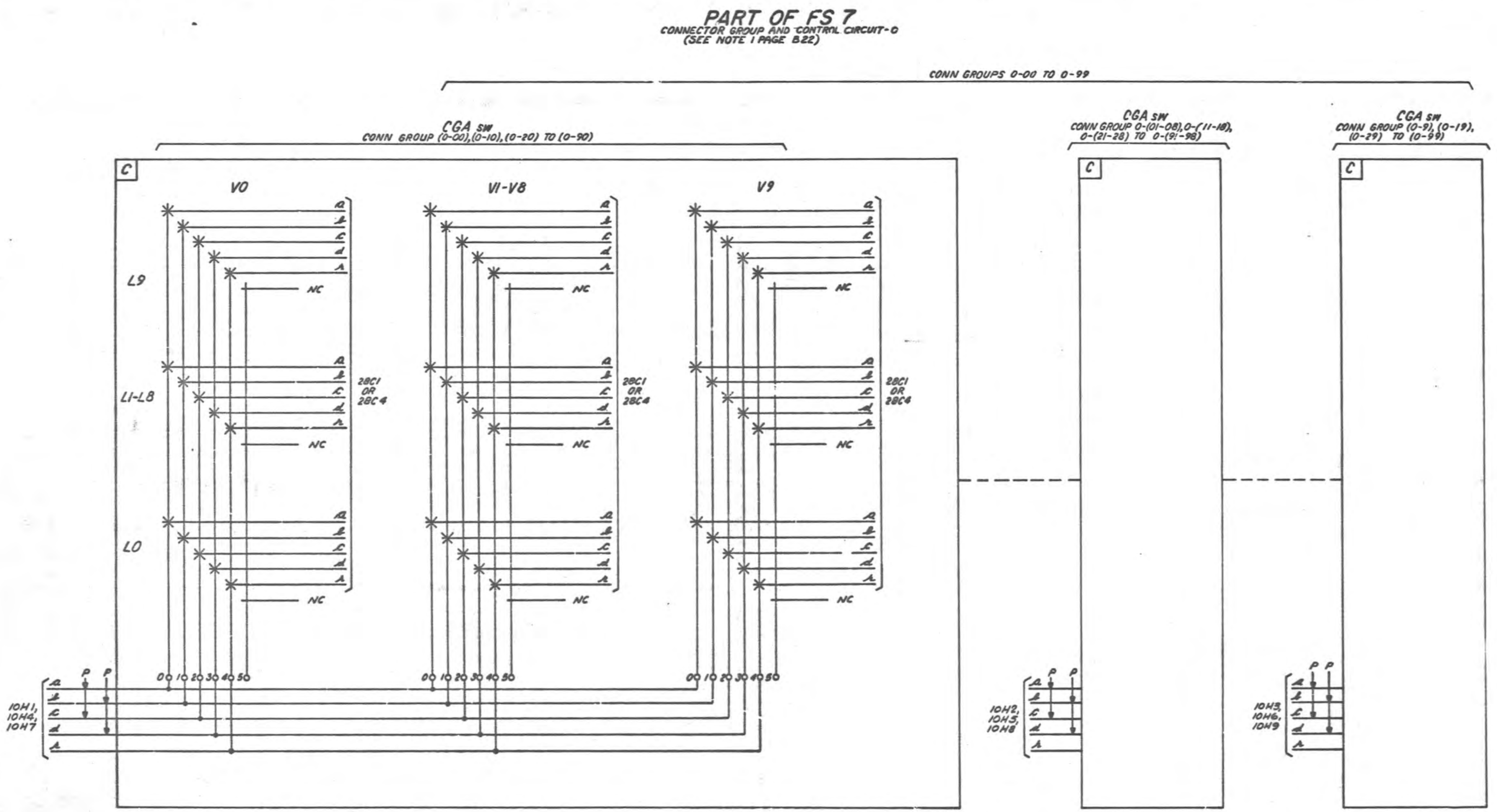
HGO-00
BYO-00
HO-00
HGO-(01-08)
BYO-(01-08)
HO-(01-08)
HGO-09
BYO-09
HO-09
HGO-(10,20,30,40 TO 80)
BYO-(10,20,30,40 TO 80)
HO-(10,20,30,40 TO 80)
HGO-(11-18,21-28,31-38,41-48 TO 81-88)
BYO-(11-18,21-28,31-38,41-48 TO 81-88)
HO-(11-18,21-28,31-38,41-48 TO 81-88)
HGO-(19,29,39,49 TO 89)
BYO-(19,29,39,49 TO 89)
HO-(19,29,39,49 TO 89)
HGO-90
BYO-90
HO-90
HGO-(91-98)
BYO-(91-98)
HO-(91-98)
HGO-99
BYO-99
HO-99

1099
1169
9D0, 9D2, AND 9D6

SD-99560-01-820

ISSUE 13A

CONTROLLER AND CONNECTOR CIRCUIT	SD-99560-01-820
BELL TELEPHONE LABORATORIES INCORPORATED	SIZE 6S



ISSUE 13A

CONTROLLER AND CONNECTOR CIRCUIT

SD-99560-01-B21

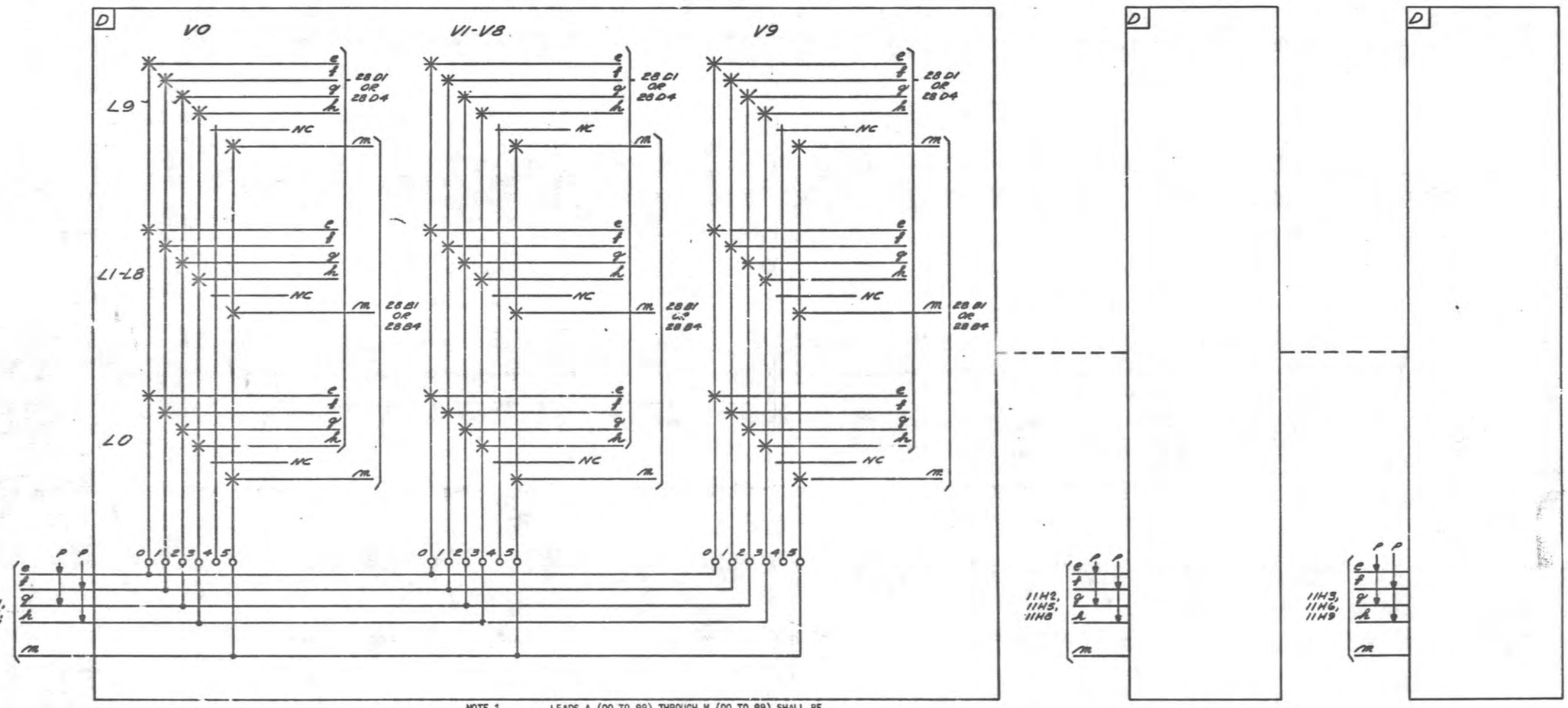
BELL TELEPHONE LABORATORIES INCORPORATED

6S

PART OF FS 7

CONNECTOR GROUP AND CONTROL CIRCUIT - 0 (SEE NOTE 1)

CONN GROUPS 0-00 TO 0-99



NOTE 1 LEADS A (00 TO 99) THROUGH M (00 TO 99) SHALL BE CONNECTED TO RELAY CC (00 TO 99) OR CT (00 TO 99) AS FOLLOWS:

CGA, CGB AND CGC VERTICAL AND LEVEL	V0	V1	V2	V3	V4	V5	V6	V7	V8	V9
L0	00	01	02	03	04	05	06	07	08	09
L1	10	11	12	13	14	15	16	17	18	19
L2	20	21	22	23	24	25	26	27	28	29
L3	30	31	32	33	34	35	36	37	38	39
L4	40	41	42	43	44	45	46	47	48	49
L5	50	51	52	53	54	55	56	57	58	59
L6	60	61	62	63	64	65	66	67	68	69
L7	70	71	72	73	74	75	76	77	78	79
L8	80	81	82	83	84	85	86	87	88	89
L9	90	91	92	93	94	95	96	97	98	99

LEADS A THROUGH M NUMERIC DESIGNATION AND CORRESPONDING CC OR CT RELAY DESIGNATION

ISSUE 13.1

CONTROLLER AND CONNECTOR CIRCUIT

BELL TELEPHONE LABORATORIES INCORPORATED

SYS CODE 6S

SD-99560-01-B22

SD-99560-01-B22

PART OF FS 7

CONNECTOR GROUP AND CONTROL CIRCUIT-0
(SEE NOTE 1 PAGE B22)

CONN GROUPS 0-00 TO 0-99

(7) CGC SW
CONN GROUP (0-00),(0-10),(0-20) TO (0-90)

(7) CGC SW
CONN GROUP 0-(01-08), 0-(11-18),
0-(21-28) TO 0-(91-98)

(7) CGC SW
CONN GROUP (0-9), (0-19),
(0-29) TO (0-99)

E

V0 V1-V8 V9

L9
L1-L8
L0

28C4

NC

0 1 2 3 4 5

12E1
12E4
12E7

12E2
12E5
12E8

(R) NC OR (S) 12F3
12F6
12F9

ISSUE
13A

CONTROLLER AND CONNECTOR CIRCUIT

SD-99560-01-823

BELL TELEPHONE LABORATORIES
INCORPORATED

6S

PART OF FS 8

CONNECTOR GROUP AND CONTROL CIRCUIT - 1

NOTES:

1. A AND B BECOME RT AND RB FOR SEL 1 AND 5 RESPECTIVELY.
   A AND B BECOME RB AND RT FOR SEL 4 AND 8 RESPECTIVELY.
   A AND B BECOME LT AND LB FOR SEL 2 AND 6 RESPECTIVELY.
   A AND B BECOME LB AND LT FOR SEL 3 AND 7 RESPECTIVELY.
2. GSI-LEAD SUFFIXES CORRESPOND TO CONN GRP AS FOLLOWS:
   CONN GRP 1-10; GSI-10A AND GSI-10B
   CONN GRP 1-90; GSI-90A AND GSI-90B

20HI

HO SO HI-8 SI-8 H9 S9

CGA, B, Y C — GS0 — S0 — CGB SEL O.N. NC 0

CGA, B, Y C — SEE NOTE 1 — GSI-8 — SI-S8 — CGB SEL O.N. NC 1-8

CGA, B, Y C — CONN GRP 1-00 — GS9 — S9 — CGB SEL O.N. NC 9

CGA SEL O.N. 0-9

GSI-00A, GSI-00B — SW CONN 1-0 — SCA HOLD O.N. 0

CGA HOLD O.N. 0 — CGA, B, Y C — GH0 — H0

CGA HOLD O.N. 1-8 — CGA, B, Y C — GHI-8 — HI-H8

CGA HOLD O.N. 9 — CGA, B, Y C — GH9 — H9

CGB HOLD O.N. 0 / CGB HOLD O.N. 1-8 / CGB HOLD O.N. 9

HG1-

BY1-00

HI-00

CONN GRP 1-(01-08)

GSI-01A, GSI-08A, GSI-01B, GSI-08B — SW CONN 1-0 — SCA HOLD O.N. 1-8

HG1-(01-08)

BY1-(01-08)

HI-(01-08)

CONN GRP 1-09

GSI-09A, GSI-09B — SW CONN 1-0 — SCA HOLD O.N. 9

1764

HG1-09

BY1-09

HI-09

A — SEE NOTE 2

CONN GRP 1- (10,20,30,40 TO 80)	SW CONN 1- (1,2,3,4 TO 8)
CONN GRP 1- (11-18,21-28,31-38,41-48 TO 81-88)	SW CONN 1- (1,2,3,4 TO 8)
CONN GRP 1- (19,29,39,49 TO 89)	SW CONN 1- (1,2,3,4 TO 8)

HG1 - (10,20,30,40 TO 80)

BY1 - (10,20,30,40 TO 80)

HI-(10,20,30,40 TO 80)

HG1-(11-18,21-28,31-38,41-48 TO 81-88)

BY1 - (11-18,21-28,31-38,41-48 TO 81-88)

HI-(11-18,21-28,31-38,41-48 TO 81-88)

HG1-(19,29,39,49 TO 89)

BY1-(19,29,39,49 TO 89) — 1864

HI-(19,29,39,49 TO 89) — 1660, 1662 & 1666

A — SEE NOTE 2

CONN GRP 1-90	SW CONN 1-9
CONN GRP 1-(91-98)	SW CONN 1-9
CONN GRP 1-99	SW CONN 1-9

HG1-90

BY1-90

HI-90

HG1-(91-98) — 1769

BY1-(91-98)

HI-(91-98)

HG1-99

BY1-99 — 1869

HI-99 — 1680, 1682 & 1686

HO SO HI-8 SI-8 H9 S9 NC

ISSUE 13A

CONTROLLER AND CONNECTOR CIRCUIT	SD-99560-01-B24
BELL TELEPHONE LABORATORIES INCORPORATED	SIZE 6S

PART OF FS 8

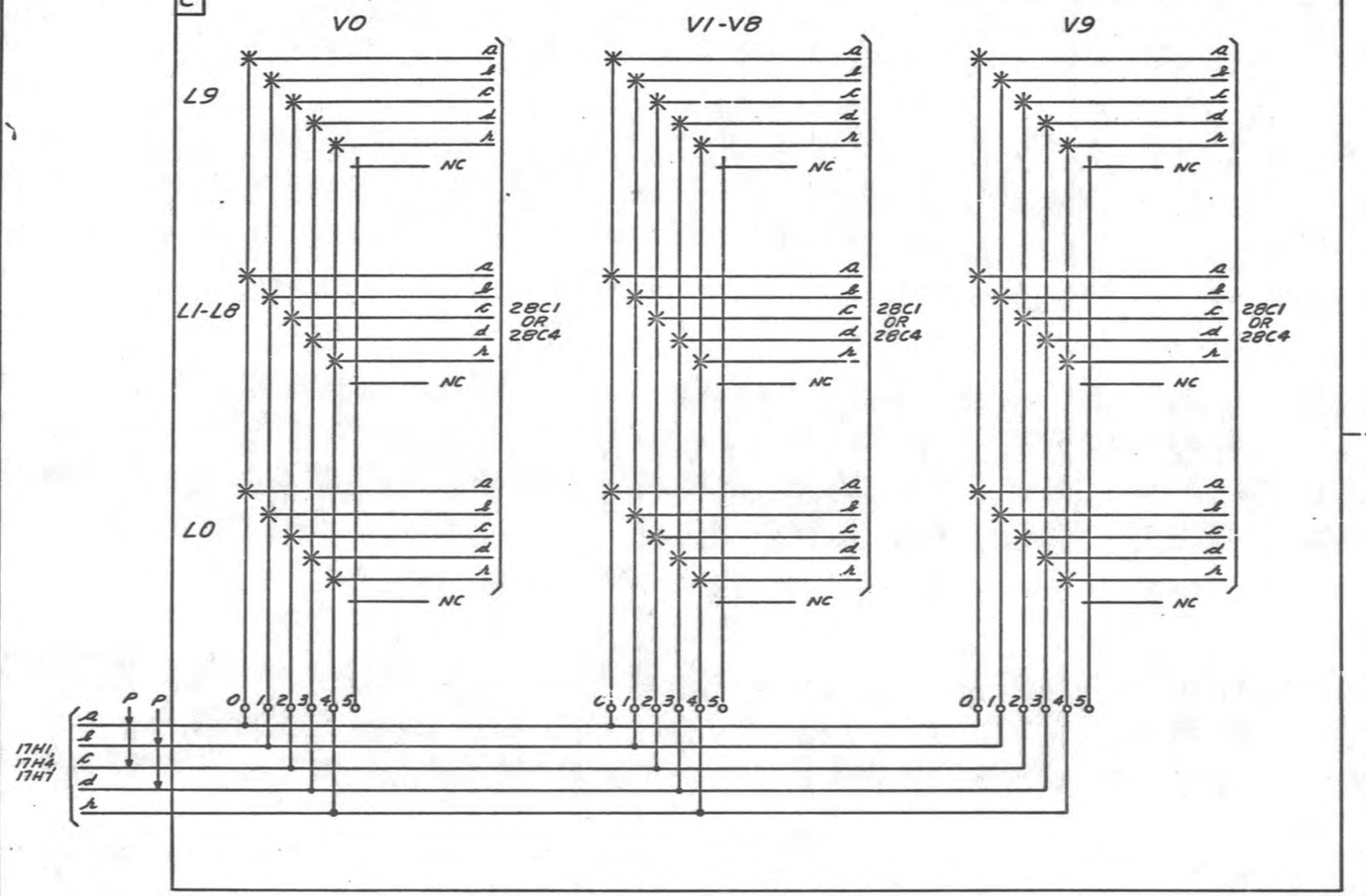
CONNECTOR GROUP AND CONTROL CIRCUIT-1
(SEE NOTE 1 PAGE B22)

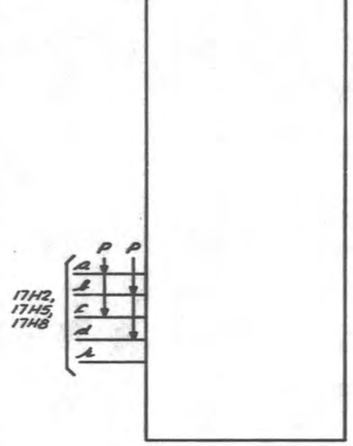
CONN GROUPS 1-00 TO 1-99

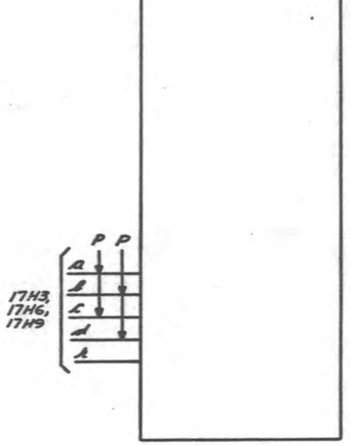
CGA SW
CONN GROUP (1-00), (1-10), (1-20) TO (1-90)

CGA SW
CONN GROUP 1-(01-08), 1-(11-18), 1-(21-28) TO 1-(91-98)

CGA SW
CONN GROUP (1-9), (1-19), (1-29) TO (1-99)







ISSUE 13A

CONTROLLER AND CONNECTOR CIRCUIT

BELL TELEPHONE LABORATORIES INCORPORATED

6S

SD-99560-01-B25

SD-99560-01-B25

PART OF FS 8

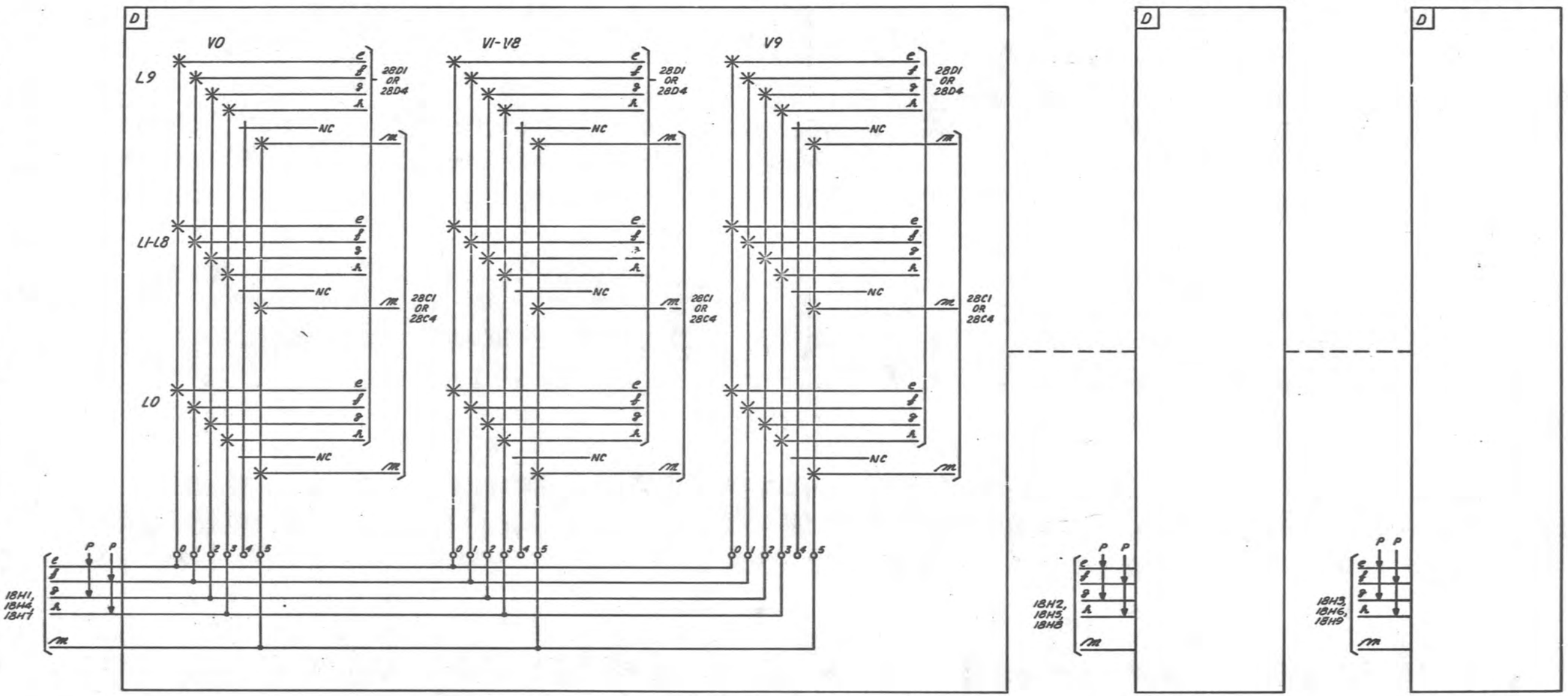
CONNECTOR GROUP AND CONTROL CIRCUIT -1
(SEE NOTE 1 PAGE 822)

CONN GROUPS 1-00 TO 1-99

CGB SW
CONN GROUP (1-00),(1-10),(1-20) TO (1-90)

CGB SW
CONN GROUP 1-101-08), 1-(11-18),
1-(21-28) TO 1-(91-98)

CGB SW
CONN GROUP (1-9),(1-19)
(1-29) TO (1-99)



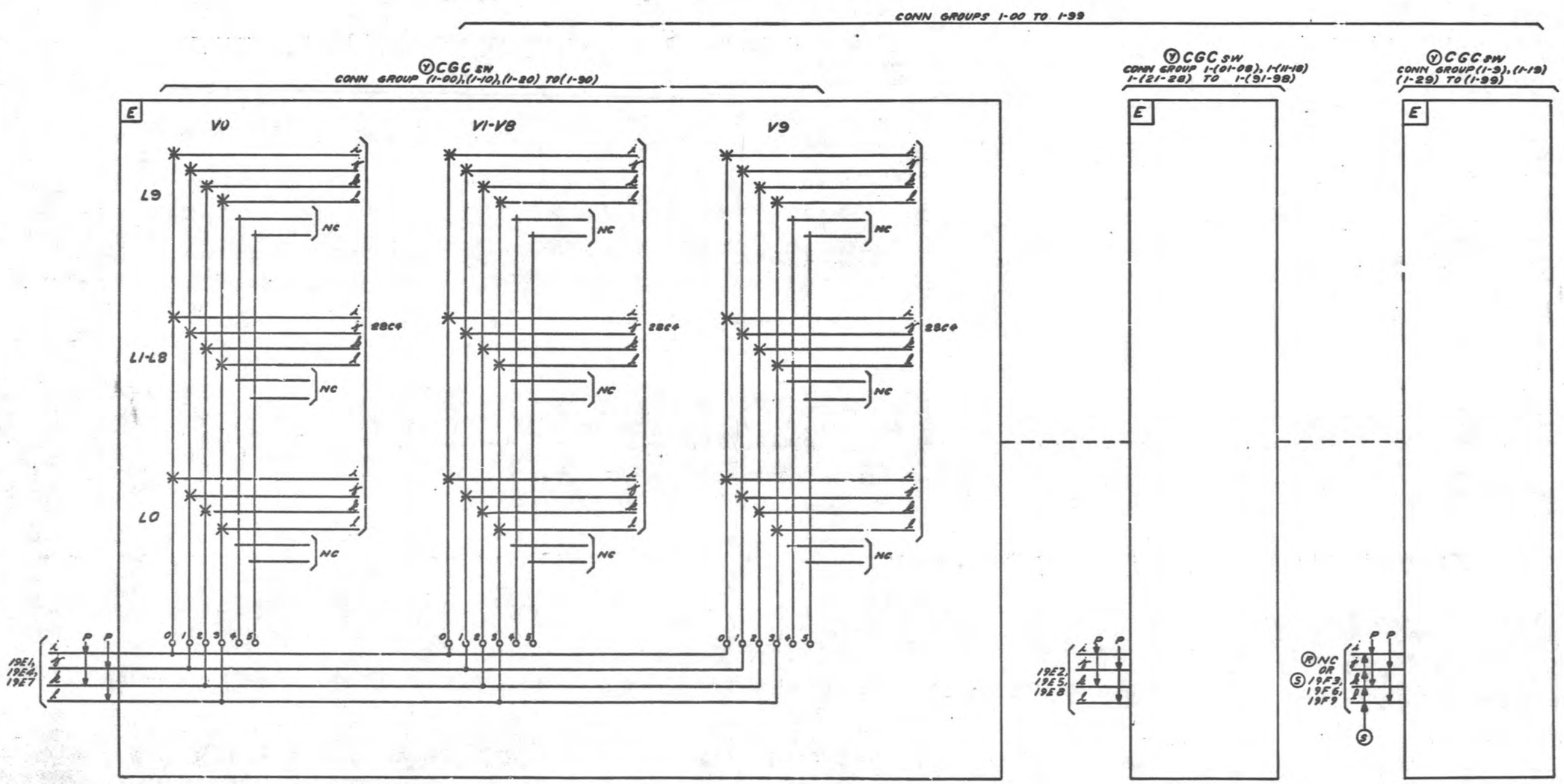
ISSUE 13A

CONTROLLER AND CONNECTOR CIRCUIT	SD-99560-01-826
BELL TELEPHONE LABORATORIES INCORPORATED	6S

SD-99560-01-826

PART OF FS 8

CONNECTOR GROUP AND CONTROL CIRCUIT-1
(SEE NOTE 1 PAGE B22)

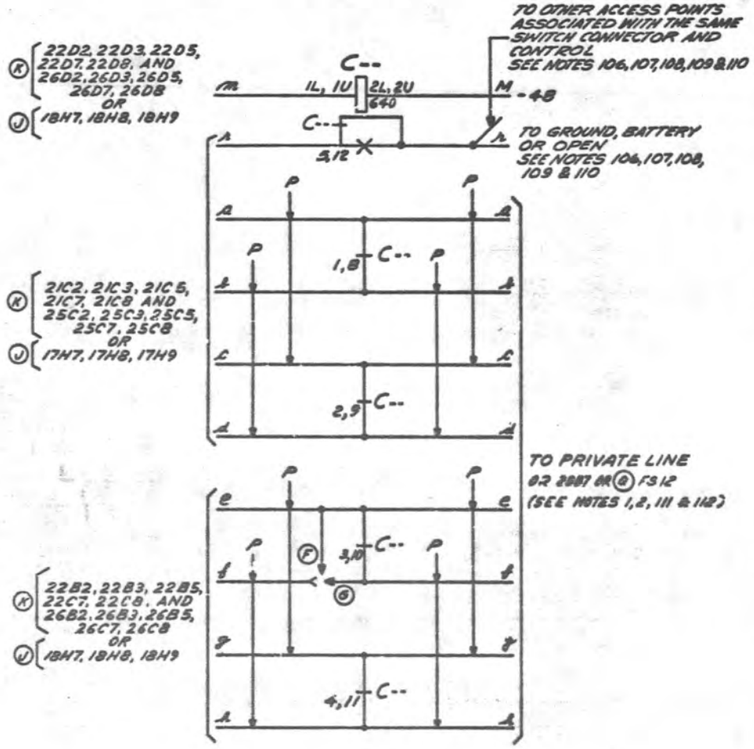


ISSUE 1.3A	
CONTROLLER AND CONNECTOR CIRCUIT	SD-99560-01 B27
BELL TELEPHONE LABORATORIES INCORPORATED	6S

SD-99560-01-827

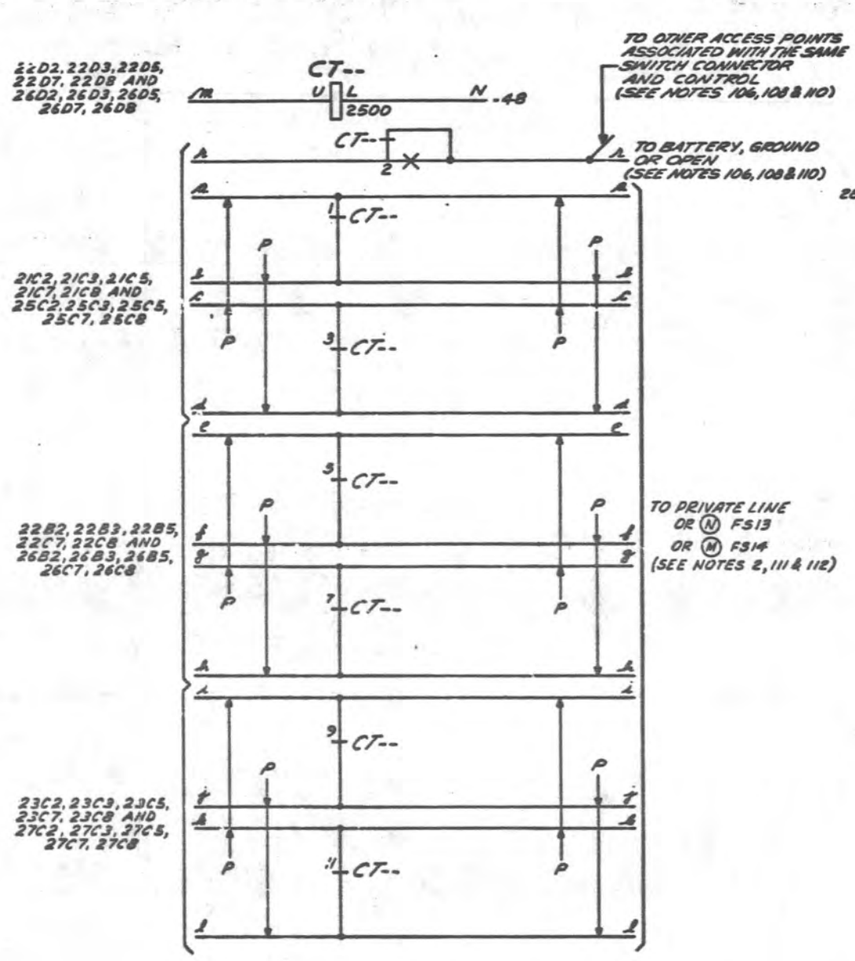
FS 9

TWO-2 WIRE OR ONE-4 WIRE OR ONE 2 WIRE E & M OR ONE NO TEST CONNECTOR SEE TABLE A



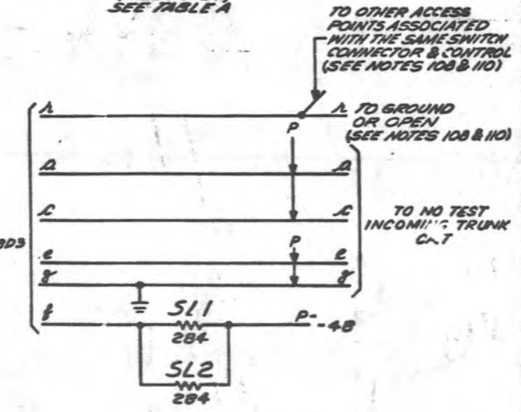
FS 10

ONE-6 WIRE SEE TABLE B



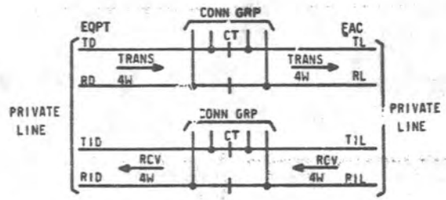
FS 11

NO TEST CONNECTOR ACCESS (SEE NOTE 1) SEE TABLE A



NOTES:

1. IN ALL CONNECTOR GROUPS, OTHER THAN PHANTOM, ONLY RELAY (COO) MAY BE USED FOR NO TEST ACCESS.
2. THE REFERENCE DIRECTION FOR CONNECTING TRANSMISSION PAIRS OF 4 WIRE AND 6 WIRE CIRCUITS IS INDICATED BELOW:



3. IN TABLE B UNDER 6-WIRE, A&B, THE A&B LEADS ARE TESTED ONLY ON A LOCAL BASIS.

TABLE A
LEAD DESIG

	DIST FR DESIG		TWO 2-WIRE		ONE 4-WIRE	ONE 2-WIRE PLUS E&M	NO TEST INCOMING TRUNK
	FAC	EQPT					
a	TA		TL	A CKT	TL	TL	T
b		TA	TD		TD	TD	
c	RA		RL		RL	RL	R
d		RA	RD		RD	RD	
e	TB		TL	B CKT	T1L	EL	S
f		TB	TD		T1D	ED	
g	RB		RL		R1L	ML	G
h		RB	RD		R1D	MD	
k		VA	VA		VA	VA	VA
n	SEE NOTES 106-110						

TABLE B
SEE NOTE 3
LEAD DESIG

	DIST FR DESIG		6-WIRE	
	FAC	EQPT	E&M	A&B
a	TA		TL	TL
b		TA	TD	TD
c	RA		RL	RL
d		RA	RD	RD
e	TB		T1L	T1L
f		TB	T1D	T1D
g	RB		R1L	R1L
h		RB	R1D	R1D
j	TC		EL	AL
k		TC	ED	AD
l	RC		ML	BL
m		RC	MD	BD
n		VA	VA	VA
p	SEE NOTES 106, 108 AND 110			

SD-99560-01-828

13A

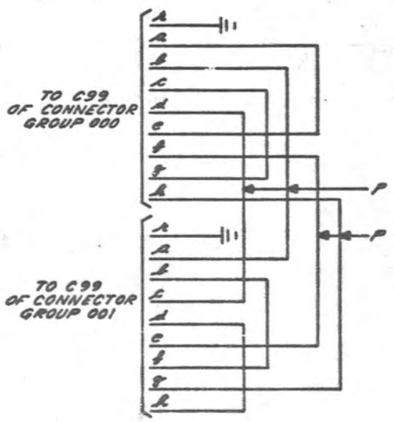
CONTROLLER AND CONNECTOR CIRCUIT

SD-99560-01-B28

BELL TELEPHONE LABORATORIES INCORPORATED 6S

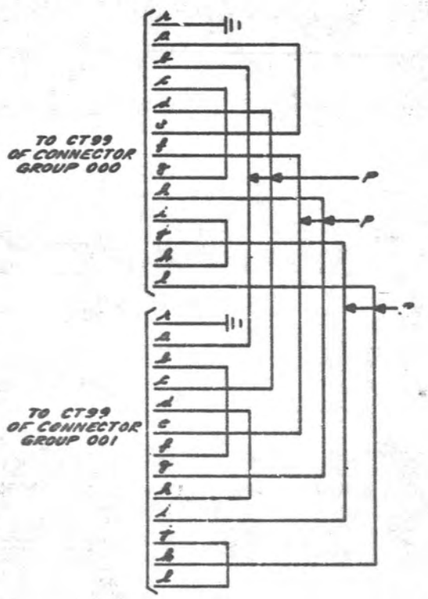
ⓐFS 12

MAINTENANCE TEST CONNECTION
FOR 2-WIRE OR 4-WIRE OR 2-WIRE E & M
(SEE TABLE A, SH B28, NOTES 102, 111 & 112)



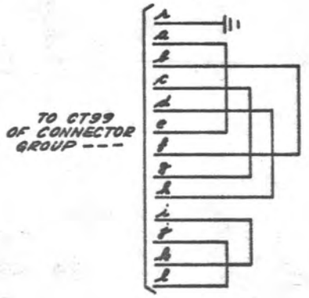
ⓃFS 13

MAINTENANCE TEST CONNECTION
FOR 6-WIRE OR 4-WIRE E & M
(SEE TABLE B, SH B28, NOTES 102, 111 & 112)



ⓂFS 14

MAINTENANCE TEST CONNECTION
6-WIRE
(SEE TABLE B, SH B28, NOTES 102, 111 & 112)



ISSUE 8AR

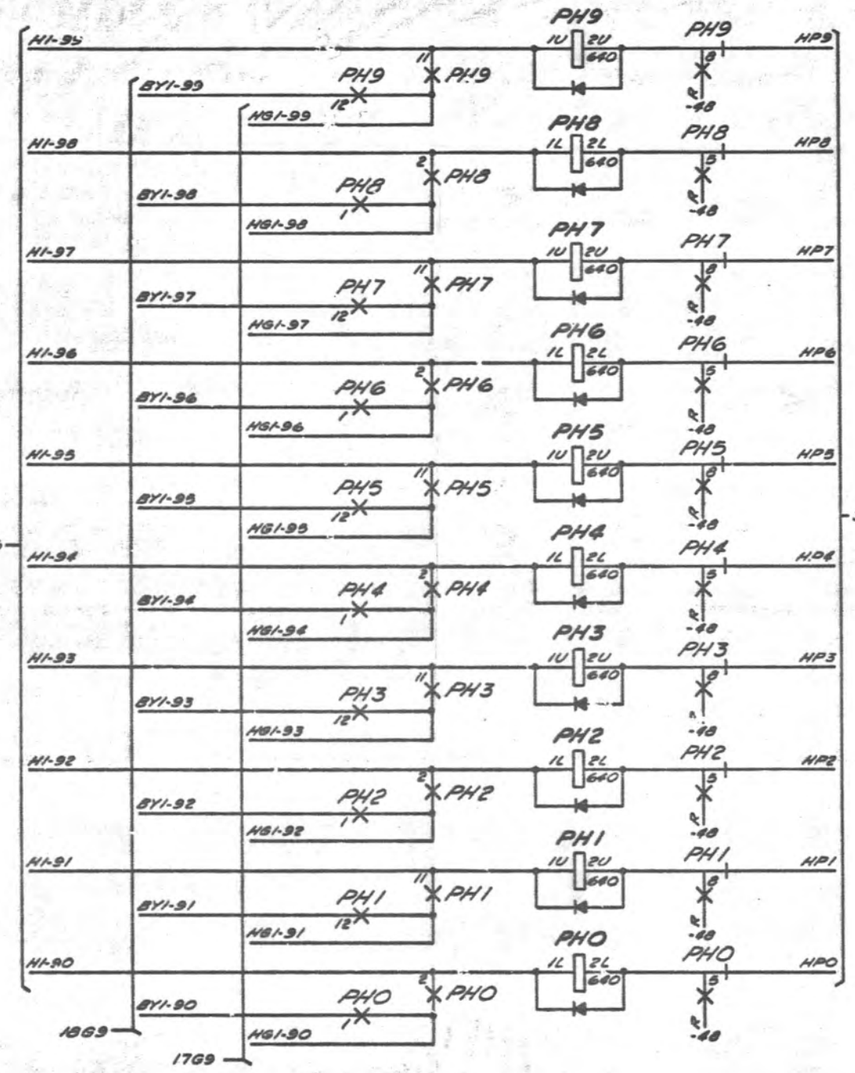
CONTROLLER AND CONNECTOR CIRCUIT

SD-99560-01-B29

BELL TELEPHONE LABORATORIES INCORPORATED

SHEET SIZE 6S

ⓓFS 15
PHANTOM GROUP



CONTROLLER AND CONNECTOR CIRCUIT		DWG SIZE 6S	ISSUE 9B
BELL LABORATORIES	SD-99560-01-		B30

PART OF APP FIG. I

RELAY

DESIG			BSY		SPARE				CS0		CS1						DIG1		DIG2		DIG3		DIG4		DESIG
CODE			AK30						AK44								AJ12		AJ12		AJ12		AJ12		CODE
OPTION																									OPTION
	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	
12					M						EBM						EBM		EBM		EBM		EBM		12
11					EBM						EBM						EBM		EBM		EBM	5H1	EBM		11
10					EBM						EBM						EBM	2B1	EBM	2C1	EBM	2D1	EBM	2E1	10
9					EMB						EBM	5H1					EBM	2A9	EBM	2B9	EBM	2D9	EBM	2E9	9
8					EMB						EBM	2A1					EBM	2A8	EBM	2C8	EBM	2D8	EBM	2E8	8
7																	EBM	2A7	EBM	2C7	EBM	2D7	EBM	2E7	7
6																	EBM	2A6	EBM	2C6	EBM	2D6	EBM	2E6	6
5			EMB						EBM								EBM	2A5	EBM	2C5	EBM	2D5	EBM	2E5	5
4			EMB	1C8					EBM								EBM	2A4	EBM	2C4	EBM	2D4	EBM	2E4	4
3			EBM						EBM								EBM	2A3	EBM	2C3	EBM	2D3	EBM	2E3	3
2			EBM	1C3					EBM	5H0							EBM	2A2	EBM	2C2	EBM	2D2	EBM	2E2	2
1			M						EBM	2A0							EBM	2A2	EBM	2C2	EBM	2D2	EBM	2E2	1
COIL				1A9						2B0		2B1						1B6		1B6		1C6		1D6	COIL

RELAY

DESIG	DIG5				D01		DR1		D02		DR2		D03		DR3		D04		DR4		D05		DR5		DESIG
CODE	AJ12				AK44				AK44				AK44				AK44				AK44				CODE
OPTION																									OPTION
	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	
12	EBM	1C8					EBM				EBM				EBM				EBM				EBM		12
11	EBM	1B9					EBM				EBM				EBM	5H1			EBM				EBM		11
10	EBM	2F0					EBM				EBM				EDM				EBM				EBM		10
9	EBM	2F9					EBM	1B5			EBM	1B5			EBM	1C5			EBM	1D5			EBM	1E5	9
8	EBM	2F8					EBM	1B0			EBM	1C0			EBM	1C0			EBM	1D0			EBM	1E0	8
7	EBM	2F7																							7
6	EBM	2F6																							6
5	EBM	2F5			EBM				EBM				EBM				EBM				EBM				5
4	EBM	2F4			EBM				EBM				EBM				EBM				EBM				4
3	EBM	2F3			EBM				EBM				EBM				EBM				EBM				3
2	EBM	2F2			EBM				EBM				EBM				EBM	1A8			EBM				2
1	EBM	2F1			EBM	1B1			EBM	1B1			EBM	1C1			EBM	1D1			EBM	1E1			1
COIL		1E6				1B1		1B1		1C1		1B1		1D1		1C1		1D1		1D1		1E1		1E1	COIL

RELAY

DESIG							H0		S0		H1		S1		H2		S2		H3		S3		DESIG
CODE							AK44				AK44				AK44				AK44				CODE
OPTION																							OPTION
	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	
12							EBM	20A0			EBM	2LA1			EBM	20A1			EBM	20A1			12
11							EBM	3F0			EBM	3F1			EBM	3F2			EBM	3F3			11
10							EBM				EBM				EBM				EBM				10
9							EBM				EBM				EBM				EBM				9
8							EBM	2F0			EBM	2F1			EBM	2F2			EBM	2F3			8
7																							7
6																							6
5									EBM	20A0			EBM	20A1			EBM	20A1			EBM	20A1	5
4									EBM				EBM				EBM				EBM		4
3									EBM				EBM				EBM				EBM		3
2									EBM				EBM				EBM				EBM		2
1									EBM	2E0			EBM	2E1			EBM	2E2			EBM	2E3	1
COIL								2G0		2E0		2G1		2E1		2G2		2E2		2G3		2E3	COIL

RELAY

DESIG	H4		S4		H5		S5		H6		S6		H7		S7		H8		S8		H9		S9		DESIG
CODE	AK44				AK44				AK44				AK44				AK44				AK44				CODE
OPTION																									OPTION
	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	
12	EBM	20A1			EBM	20A1			EBM	20A1			EBM	20A1			EBM	20A1			EBM	20A2			12
11	EBM	3F4			EBM	3F5			EBM	3F6			EBM	3F6			EBM	3F7			EBM	3F8			11
10	EBM				EBM				EBM				EBM				EBM				EBM				10
9	EBM				EBM				EBM				EBM				EBM				EBM				9
8	EBM	2F4			EBM	2F5			EBM	2F6			EBM	2F7			EBM	2F8			EBM	2F8			8
7																									7
6																									6
5			EBM	20A1			EBM	20A1			EBM	20A1			EBM	20A1			EBM	20A1			EBM	20A3	5
4			EBM				EBM				EBM				EBM				EBM				EBM		4
3			EBM				EBM				EBM				EBM				EBM				EBM		3
2			EBM				EBM				EBM				EBM				EBM				EBM		2
1			EBM	2E4			EBM	2E5			EBM	2E6			EBM	2E7			EBM	2E7			EBM	2E8	1
COIL		2G4		2E4		2G5		2E5		2G6		2E6		2G7		2E7		2G8		2F		2G9		2E9	COIL

RELAY

DESIG																									DESIG
CODE																									CODE
OPTION																									OPTION
	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	
12																									12
11																									11
10																									10
9																									9
8																									8
7																									7
6																									6
5																									5
4																									4
3																									3
2																									2
1																									1
COIL																									COIL

DRAWING ISSUE

ISSUE 13A

CONTROLLER AND CONNECTOR ASSIGNMENT

BELL TELEPHONE LABORATORIES INCORPORATED

SD-99560-01-CI

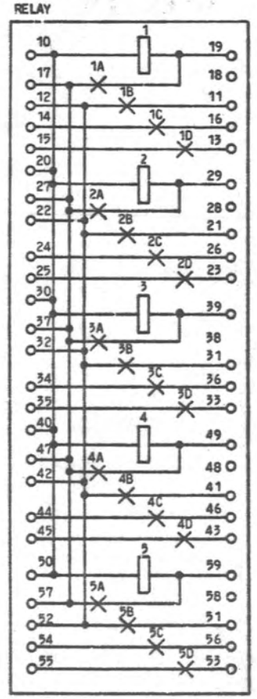
SD-99560-01-CI

PART OF APP FIG. 1

RELAY

DESIG	DRC	
CODE	AJ202	
OPTION		
	CONT ARR	LOC
24	M	
23	M	
22	M	3C9
21	M	3C9
20	M	3C8
19	M	3C8
18	M	3C7
17	M	3C7
16	M	3C6
15	M	3C6
14	M	3C6
13	M	3C5
12	M	3C5
11	M	3C4
10	M	3C4
9	M	3C4
8	M	3C3
7	M	3C3
6	M	3C2
5	M	3C2
4	M	3C1
3	M	3C1
2	M	3C0
1	M	3C0
COIL		3C0

RELAY



DESIG		TR					TRG				
		0	1	2	4	7					
CODE		3188						3188			
OPTION											
COIL	PCB	1	2	3	4	5	1	2	3	4	5
	LOC	4G0	4G1	4G2	4G3	4G4	4G6				
CONT POS	A LOC										
	B LOC										
	C LOC	4G0	4G1	4G2	4G3	4G4	4G6				
	D LOC										

SD-99560-01-C2

CONTROLLER AND CONNECTOR CIRCUIT	SD-99560-01-C2
BELL TELEPHONE LABORATORIES INCORPORATED	SIZE 6S

5AR

PART OF APP. FIG. I

DIODE

DESIG	LOC	CODE
DO1-DO5	1B1-1E1	446K 533F
DR1-DR5	1B1-1E1	
DRG	3D0	
DRR	2G0	
HOLD0-HOLD9	2D0-2D8	
SEL0-SEL9	2C0-2C8	
TR(0,1,2,4,7)	4G0-4G4	
TRG	4G6	

NETWORK

DESIG	LOC	CODE
BSY	1A9	185A
CS0	2B0	
CS1	2B1	
DIG1	1B6	
DIG2	1C6	
DIG3	1C6	
DIG4	1D6	
DIG5	1E6	
H0-H9	2G0-2G9	
S0-S9	2E0-2E9	

SWITCH

DESIG	CODE
CONT1	CA1

SEL MAG	LOCATION		HOLD MAG		HOLD O.N. CONTACTS									
2; RB OR LT; RT OR LB	COIL	SEL O.N. CONT	B T		3; 1									
9	2C9	2B8												
8	2C8	2C8	DESIG		0	1	2	3	4	5	6	7	8	9
7	2C7	2C7	COIL		2D0	2D1	2D2	2D3	2D4	2D5	2D6	2D7	2D8	2D9
6	2C6	2C6	CONT	1	2D0	2D1	2D2	2D3	2D4	2D5	2D6	2D7	2D8	2D9
5	2C5	2C5	NO.	3										
4	2C4	2C4	WIRE	5	5G0									5G7
3	2C3	2C3		4	5G0									5G7
2	2C2	2C2		3	5G0				5G3					5G7
1	2C1	2C1		2	5G0									5G7
0	2C0	2C0		1	5G0									5G7
				0	5G0									5G7

SIGNALING RECEIVING CIRCUIT MULTIFREQUENCY PULSING

DESIG	LOC	CODE
—	4B3	ED-2C109-( ),G1 SHELF ASSEMBLY E/W J99337A-( ) L2, PLUG IN UNITS CONSISTING OF:

[1] J99337AA-( ),L1 POWER SUPPLY AND INPUT TRANSF UNIT
[1] J99337AB-( ),L1 VARIOLOSSER AND AGC AMPL UNIT
[1] J99337AC-( ),L1 SP-KP LOGIC UNIT
[2] J99337AD-( ),L1 CHANNEL DETECTOR UNIT
[1] J99337A?-( ),L1 CHANNEL RELAYS UNIT
[1] 1016A FILTER
[1] 1016B FILTER

ISSUE 13A

CONTROLLER AND CONNECTOR CIRCUIT

SD-99560-01-C3

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-99560-01-C3

APP. FIG. 2

DIODE OPTION	DESIG	LOC	CODE
	HA0	9G1	
	[8] HA1-HA8	9G5	
	HA9	9G8	
H	[10] PA0-PA9	13A7-13H7	~~946E~~ 533F
H	[10] PB0-PB9	14A7-14H7	
X	[10] SA0-SA9	6A1-6H1	
X	[10] SB0-SB9	7A1-7H1	
V	[10] SC0-SC9	8A1-8H1	

SWITCH DESIG SCA — CODE CA1

SEL MAG (1 RB OR LT, 2 RT OR LB)	LOCATION COIL	LOCATION SEL O.N. CONT	HOLD MAG (b T)	HOLD O.N. CONTACTS (3, 1)
9	6A1			
8	6B1			
7	6C1			
6	6C1			
5	6D1			
4	6E1			
3	6F1			
2	6G1			
1	6G1			
0	6H1			

DESIG	0	1	2	3	4	5	6	7	8	9
COIL	9G1	9G5	9G5	9G5	9G5	9G5	9G5	9G5	9G5	9G8
CONT NO. 1	20B4	20D4	20D4	20D4	20D4	20D4	20F4	20D4	20D4	20E4
CONT NO. 3										
WIRE 5	10E2									10E3
WIRE 4	10E2									10E3
WIRE 3	10E1									10E3
WIRE 2	10E1	10E2								10E3
WIRE 1	10E1									10E3
WIRE 0	10E1									10E3

SWITCH DESIG SCb — CODE CA1

SEL MAG (1 RB OR LT, 2 RT OR LB)	LOCATION COIL	LOCATION SEL O.N. CONT	HOLD MAG (b T)	HOLD O.N. CONTACTS (3, 1)
9	7A1	11B0		
8	7B1	11C0		
7	7C1	11C0		
6	7C1	11C0		
5	7D1	11C0		
4	7E1	11C0		
3	7F1	11C0		
2	7G1	11C0		
1	7G1	11C0		
0	7H1	11D0		

DESIG	0	1	2	3	4	5	6	7	8	9
COIL	9G1	9G5	9G5	9G5	9G5	9G5	9G5	9G5	9G5	9G8
CONT NO. 1										
CONT NO. 3										
WIRE 5	11E2									11E3
WIRE 4	11F2									11E3
WIRE 3	11E1									11E3
WIRE 2	11E1	11E2								11E3
WIRE 1	11E1									11E3
WIRE 0	11E1									11E3

(2) SWITCH DESIG SCC — CODE CA1

SEL MAG (1 RB OR LT, 2 RT OR LB)	LOCATION COIL	LOCATION SEL O.N. CONT	HOLD MAG (b T)	HOLD O.N. CONTACTS (3, 1)
9	8A1			
8	8B1			
7	8C1			
6	8C1			
5	8D1			
4	8E1			
3	8F1			
2	8G1			
1	8G1			
0	8H1			

DESIG	0	1	2	3	4	5	6	7	8	9
COIL	9G1	9G5	9G5	9G5	9G5	9G5	9G5	9G5	9G5	9G8
CONT NO. 1										
CONT NO. 3										
WIRE 5	12E2									
WIRE 4	12E2									12E3
WIRE 3	12E1									12E3
WIRE 2	12E1	12E2								12E3
WIRE 1	12E1									12E3
WIRE 0	12E1									12E3

SD-99560-01-C4

ISSUE 9E

CONTROLLER AND CONNECTOR CIRCUIT

SD-99560-01-C4

BELL TELEPHONE LABORATORIES INCORPORATED

SIZE 6S

APP. FIG. 3

DIODE

DESIG	LOC	CODE
GH0	20C0	
[8] GH1-GH8	20C2	
GH9	20C3	
GS0	20B0	
[8] GS1-GS8	20B2	1966E 533F
GS9	20B3	
H0	20B1	
[8] H1-H8	20B2	
H9	20B3	
S0	20A1	
[8] S1-S8	20A2	
S9	20A3	

SWITCH

DESIG: CGA CODE: CA1

SEL MAG (1 RB OR LT, RT OR LB, 2)	LOCATION COIL	LOCATION SEL O.N. CONT	HOLD MAG (B, T)	HOLD O.N. CONTACTS (3, 1)
9	20A3	20B0		
C	20A2	20B0		
7	20A2	20B0		
6	20A2	20B0		
5	20A2	20D0		
4	20A2	20B0		
3	20A2	20B0		
2	20A2	20B0		
1	20A2	20B0		
0	20A0	20B0		

DESIG		0	1	2	3	4	5	6	7	8	9
COIL		20B0	20B2	20B2	20B2	20B2	20B2	20B2	20B2	20B2	20B3
CONT NO.	1	20B1	20B2	20B2	20B2	20B2	20B2	20B2	20B2	20B2	20B3
	3	20B0	20B1	20B1	20B1	20B1	20B1	20B1	20B1	20B1	20B3
WIRE	5	21F1	21F3								21F4
	4	21F1									21F4
	3	21F1									21F4
	2	21F1	21F2								21F4
	1	21F1									21F4
	0	21F1									21F4

SWITCH

DESIG: CGB CODE: CA1

SEL MAG (1 RB OR LT, RT OR LB, 2)	LOCATION COIL	LOCATION SEL O.N. CONT	HOLD MAG (B, T)	HOLD O.N. CONTACTS (3, 1)
9	20A3	20B3		
8	20A2	20B2		
7	20A2	20B2		
6	20A2	20B2		
5	20A2	20B2		
4	20A2	20B2		
3	20A2	20B2		
2	20A2	20B2		
1	20A2	20B2		
0	20A0	20B1		

DESIG		0	1	2	3	4	5	6	7	8	9
COIL		20B0	20B2	20B2	20B2	20B2	20B2	20B2	20B2	20B2	20B3
CONT NO.	1	20C1	20C2	20C2	20C2	20C2	20C2	20C2	20C2	20C2	20C3
	3	20C1	20C2	20C2	20C2	20C2	20C2	20C2	20C2	20C2	20C3
WIRE	5	22F1	22F3								22F4
	4	22F1									22F4
	3	22F1									22F4
	2	22F1	22F2								22F4
	1	22F1									22F4
	0	22F1									22F4

SWITCH

DESIG: Ⓨ CGC CODE: CA1

SEL MAG (1 RB OR LT, RT OR LB, 2)	LOCATION COIL	LOCATION SEL O.N. CONT	HOLD MAG (B, T)	HOLD O.N. CONTACTS (3, 1)
9	20A3			
8	20A2			
7	20A2			
6	20A2			
5	20A2			
4	20A2			
3	20A2			
2	20A2			
1	20A2			
0	20A0			

DESIG		0	1	2	3	4	5	6	7	8	9
COIL		20B0	20B2	20B2	20B2	20B2	20B2	20B2	20B2	20B2	20B3
CONT NO.	1										
	3										
WIRE	5	23F1	23F3								23F4
	4	23F1									23F4
	3	23F1									23F4
	2	23F1	23F2								23F4
	1	23F1									23F4
	0	23F1									23F4

APP. FIG. 4

RELAY

DESIG	C - -
CODE	AK44
OPTION	

	CONT ARR	LOC	CONT ARR	LOC
12	EBM	28C2		
11	EBM	28E2		
10	EBM	28D2		
9	EBM	28C2		
8	EBM	28C2		
7				
6				
5			EBM	28C2
4			EBM	28C2
3			EBM	28C2
2			EBM	28C2
1			EBM	28C2
COIL		28B2		28C2

APP. FIG. 5

RELAY

DESIG	CT - -
CODE	AJ5
OPTION	

	CONT ARR	LOC
12	EBM	
11	EBM	28F5
10	EBM	
9	EBM	28E5
8	EBM	
7	EBM	28D5
6	EBM	
5	EBM	28D5
4	EBM	
3	EBM	28C5
2	EBM	28C5
1	EBM	28B5
COIL		28B5

APP. FIG. 6

RESISTOR

DESIG	LOC	CODE
SL1	28C8	18BF
SL2	28C8	18BF

ISSUE 9E

CONTROLLER AND CONNECTOR CIRCUIT

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-99560-01-C5

SD-99560-01-C5

APP FIG.7

RELAY

DESIG	PH0		PH1		PH2		PH3		PH4		PH5		PH6		PH7		PH8		PH9	
CODE	AK30				AK30				AK30				AK30				AK30			
OPTION																				
	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC
12			M	30F4			M	30E4			N	30D4			M	30B4			M	30A4
11			EBM	30F4			EBM	30E4			EBM	30C4			EBM	30B4			EBM	30A4
10			EBM				EBM				EBM				EBM				EBM	
9			EMB				EMB				EMB				EMB				EMB	
P			EMB	30F5			EMB	30D5			EMB	30C5			EMB	30B5			EMB	30A5
7																				
6																				
5	EMB	30F5			EMB	30E5			EMB	30D5			EMB	30C5			EMB	30B5		
4	EMB				EMB				EMB				EMB				EMB			
3	EBM				EBM				EBM				EBM				EBM			
2	EBM	30F4			EBM	30E4			EBM	30D4			EBM	30C4			EBM	30B4		
1	M	30F4			M	30E4			M	30D4			M	30C4			M	30B4		
COIL		30F5		30F5		30E5		30D5		30D5		30C5		30C5		30B5		30B5		30A5

DIODE

DESIG	LOC	CODE
[10] PH0-PH9	30(A-F)5	533F

CONTROLLER AND CONNECTOR CIRCUIT		DWG SIZE A5	ISSUE 9B
BELL LABORATORIES	SD-99560-01-		C6

CIRCUIT NOTES:

101.

DESIG	FUSE AMP	POTENTIAL	ONE PER
D-	1 1/3	-48 SIG	5 FIG 2
E-	1 1/3	-48 SIG	5 FIG 2
F-	1 1/3	-48 SIG	5 FIG 2 (Z) OPTION
G-	1 1/3	-48 SIG	5 FIG 2 (Z) OPTION
A	1 1/3	-48 SIG	CKT
B	1 1/3	-48 SIG	CKT
C	1 1/3	-48 SIG	CKT
H-	1 1/3	-48 SIG	1 FIG 2 (Z) OPTION
J-	1 1/3	-48 SIG	1 FIG 2 (Z) OPTION
K-	1 1/3	-48 SIG	1 FIG 2 (Z) OPTION
L-	1 1/3	-48 SIG	1 FIG 2 (Z) OPTION
M-	1 1/3	-48 SIG	MAX 9 FIG 3 AND 250 FIG 4
N-	1 1/3	-48 SIG	MAX 3 FIG 3 (Y) OPTION AND 900 FIG 5
P-	1 1/3	-48 SIG	MAX 5 FIG 6
R	1 1/3	-48 SIG	FIG 7 (J) OPTION
A		GRD	CKT
B		GRD	CKT
C		GRD	CKT
		RR GRD OR GRD	FIG 3 & 50 FIG 4
		RR GRD OR GRD	FIG 2 (Z) OPTION
		RR GRD OR GRD	FIG 3 (Y) OPTION AND 100 FIG 5

BATTERY SYMBOL	VOLTAGE RANGE
-48	-45V TO -50V

102.

FEATURE OR OPTION			PROVIDE APP FIG	PROVIDE APP OR WRG	PROVIDE QUANTITY
CONTROLLER			1		1 PER CKT
SW CONN AND CONTROL	2 WIRE 2 WIRE E&M 4 WIRE		2	T	1 PER 1000 4 WIRE OR 2 WIRE E & M OR 2000 2 WIRE OR COMB OF 4 WIRE, 2 WIRE E & M AND 2W ACCESS POINTS
	6 WIRE	11'-6" FRAME ARRANGEMENT		R,Z	1 PER 900 6 WIRE ACCESS POINTS
		7' FRAME ARRANGEMENT		S,T, Z	1 PER 1000 6-WIRE ACCESS POINTS
				W	1 PER 20 FIG. 2
				X	1 PER 5 FIG. 2
				V	1 PER 5 FIG. 2 AND (Z) OPTION
CONN GRP AND CONTROL	2 WIRE 2 WIRE E&M 4 WIRE		3		1 PER 100 4 WIRE OR 100 2 WIRE E & M OR 200 2 WIRE OR COMB OF 4 WIRE, 2 WIRE E & M AND 2 WIRE ACCESS POINTS
	PRIVATE LINE		4	G	50 PER FIG. 3 (SEE NOTE 1 SH B2B)
	NO TEST		6	F	
	6 WIRE		3	Y	1 PER 100 6 WIRE ACCESS POINTS
			5		100 PER FIG.3 (Y) OPTION

CIRCUIT NOTES: (CONT)

102. (CONT)

FEATURE OR OPTION		PROVIDE APP FIG	PROVIDE APP OR WRG	PROVIDE QUANTITY
MAINTENANCE TEST CONNECTION (SEE NOTES 104, 111 & 112)	2W, 4W, 2W E&M		Q	AS REQUIRED
	4W E&M OR 6W		N	
	6W		M	
PHANTOM GROUP (SW CONN 1-9 ONLY)		2,7	J,H	1 PER CKT
	NO TEST	6,6	F,J	MAX 10 NO TEST AND/OR PRIVATE LINE PER CKT
	PRIVATE LINE	4	J,G	
SPECIAL CIRCUIT UNEQUIPPED ACCESS POINT EQUIPPED ACCESS POINT (SEE NOTES 106, 107, 108, 109 AND 110)	2WA AND 2WB			AS REQUIRED
	2W E & M OR 4W			
	6W			

103.

NETWORK VALUES		
NETWORK NO.	RESISTANCE IN OHMS	CAPACITANCE IN UF
1	470	0.11

CIRCUIT NOTES: (CONT)

104.

RECORD OF APP FIGURES, WIRING AND APPARATUS CHANGES							
CHANGED ON ISS	IF JOB RECORDS DO NOT SPECIFY	THIS OPTION WAS FURN	SEE NOTE	USE IN CIRCUIT STD	USE IN CIRCUIT A&M	USE IN CIRCUIT MD	
7B	R OR S	R		R,S			
8AR	Q OR N OR M	-	112	Q,M, N			
9B	H OR J OR K	K		H,J, K			
10AR	F OR G	G		F,G			

105. THE LENGTH OF CABLE BETWEEN THE LOCAL ACCESS TEST PORT AND FARTHEST SWITCH CONNECTOR - CONNECTOR GROUP CONTROL FRAME AND/OR PHANTOM GROUP SHALL NOT EXCEED 225 FEET OF 22 GAUGE CABLE. TO KEEP THE TRANSMISSION LOSS IN TEST PATH BELOW 0.2dB. THE LENGTH OF CABLE VIA APP FIG. 2 TO APP FIG. 1 OF THE JACK ENDED TEST PORT AND FARTHEST SWITCH CONNECTOR-CONNECTOR GROUP CONTROL FRAME. SHALL NOT EXCEED 225 FEET OF 22 GAUGE CABLE.

106. IF THE PRIVATE LINE ASSIGNED TO THIS ACCESS POINT IS DEEMED TO BE A SPECIAL CIRCUIT AND A CLASS MARK IS REQUIRED, -48 VOLT BATTERY MUST BE PROVIDED ON THIS LEAD VIA A 11C RESISTANCE LAMP (SD-90232-01 TYPICAL) OR A 15A RESISTANCE LAMP AND A 1-1/3 AMP FUSE.

107. IF EITHER THE 2WA OR THE 2WB ACCESS IS ASSIGNED AS A SPECIAL CIRCUIT BOTH CIRCUITS ARE CONSIDERED TO BE SPECIAL CIRCUITS.

108. IF NO CIRCUIT IS ASSIGNED TO THIS ACCESS POINT, THE LEAD SHALL BE LEFT OPEN.

109. IF EITHER THE 2WA OR 2WB ACCESS POINT, OR BOTH, ARE ASSIGNED, THE ENTIRE ACCESS SHALL BE CONSIDERED EQUIPPED AND THIS LEAD IS TO BE GROUNDED.

110. THIS LEAD SHALL BE GROUNDED ON ALL EQUIPPED ACCESS POINTS EXCEPT SPECIAL CIRCUITS.

111. WHEN ASSIGNING TEST ACCESS POINTS, SMAS NUMBERS 00099 AND 00199 ARE USED FOR MAINTENANCE PURPOSES. IF TEST ACCESS POINTS 00099 AND 00199 ARE NOT LOCATED IN A 6-WIRE CONNECTOR GROUP ACCESS POINT 99 IN THE FIRST 6-WIRE CONNECTOR GROUP PROVIDED IS TO BE USED FOR MAINTENANCE PURPOSES.

112. OPTION Q, OPTION N AND OPTION M ARE PROVIDED FOR DEDICATED MAINTENANCE ACCESS POINT TEST CONNECTIONS. IF THE FIRST TWO CONNECTOR GROUPS 0-00 AND 0-01 ARE 2-WIRE, 2-WIRE E & M OR 4-WIRE CONNECTOR GROUPS, OPTION Q IS PROVIDED AND OPTION M SHALL BE PROVIDED IN THE FIRST 6-WIRE CONNECTOR GROUP OR IF THE FIRST TWO CONNECTOR GROUPS 0-00 AND 0-01 ARE 6-WIRE OR 4-WIRE E & M OPTION N SHALL BE PROVIDED.

EQUIPMENT NOTES:

201. WHERE DISTRIBUTING FRAME CONGESTION IS ANTICIPATED, THE FACILITY SIDE OF CAD 8 MAY BE TERMINATED ON FOUR POINT RATHER THAN EIGHT POINT BLOCKS.

202. IN ORDER TO MAINTAIN CONNECTOR GROUP INTEGRITY, IT IS SUGGESTED THAT TWENTY OR FIFTY ROW TERMINAL STRIPS BE PROVIDED AT THE DISTRIBUTING FRAME.

203. FOR THE SEVEN FOOT FRAME ARRANGEMENT, THE FOLLOWING CABLING ARRANGEMENTS SHALL BE PROVIDED:

A. LEADS H0, S0, H1, S1 ETC THRU H9, S9 TO THE FIRST CAD 11 OR 14 FROM THE CONTROLLER UNIT (J99559F-( )) CAD 10 SHALL BE IN 755A SHIELDED CABLE OR EQUIVALENT AND SHALL HAVE THE SHIELD GROUNDED TO TERMINAL 11 OF TERMINAL STRIP "C" ON THE CONTROLLER UNIT (J99559F-( ))

B. LEADS H0-00, H0-01 ETC. THRU H0-99 AND H1-00, H1-01 ETC. THRU H1-99 FROM THE CONTROLLER UNIT (J99559F-( )) TO TERMINAL STRIPS AA-C AND AA-D AT THE TOP OF THE FRAME J99559BA-( ) SHALL BE IN ABMM-100 SHIELDED CABLE OR EQUIVALENT AND SHALL HAVE THE SHIELD GROUNDED TO TERMINAL 21 OF TERMINAL STRIP "C" ON THE CONTROLLER UNIT J99559F-( ). SHIELD GROUNDING SHALL BE PER ED-97[illegible]-10.

C. ALL CABLING TO THE LEFT BAY (FACING FRONT) CONTAINING THE LOCAL ACCESS TEST PORT AND JACK ENDED TEST PORTS SHALL BE RUN TO THE LEFT (FACING FRONT) OF THE SEPARATOR LOCATED ON THE REAR NEAR THE TOP OF THE MIDDLE UPRIGHT.

INFORMATION NOTES:

301. UNLESS OTHERWISE SPECIFIED, RESISTANCE VALUES ARE IN OHMS, CAPACITANCE VALUES ARE IN MICROFARADS. VALUES PRECEDED BY + (PLUS) OF - (MINUS) ARE IN VOLTS.

302. PRIOR TO ISSUE 7B ONLY 11'-6" FRAME ARRANGEMENT WAS PROVIDED.

SD-99560-01-01

ISSUE 13A

CONTROLLER AND CONNECTOR CIRCUIT

SD-99560-01-01

BELL TELEPHONE LABORATORIES INCORPORATED

6S

CIRCUIT REQUIREMENTS

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPT	APPARATUS FIG.	MECH REQT BSP FIG.	MECH REQT CONT PRES	MECH REQT ARM. TRVL.	CIRCUIT PREPARATION BLOCK OR INSULATE	TEST CLIP DATA CONN BAT.	TEST CLIP DATA CONN GRD	TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQT TEST WDG	TEST FOR	AFTER SOAK MA	TEST MA	READJ MA	REMARKS
MAGNETS																	
HOLD CGA (0-9)	CA1 SW		3				30.N.(CGAO-9) 10.N.(CGAO-9)	T/MAG TST	B/MAG TST		1,2	-	0		20	19	
SEL CGA (0-9)								SEE NOTE 4 MAG TST	SEE NOTE 3 MAG TST		1		0		52.5	50	
HOLD CGB (0-9)	CA1 SW		3				30.N.(CGAO-9) 10.N.(CGAO-9)	T/MAG TST	B/MAG TST		1,2		0				
SEL CGB (0-9)								SEE NOTE 4 MAG TST	SEE NOTE 3 MAG TST		1		0				
HOLD CGC (0-9)	CA1 SW	Y	3				30.N.(CGAO-9) 10.N.(CGAO-9)	T/MAG TST	B/MAG TST		1,2		0				
SEL CGC (0-9)								SEE NOTE 4 MAG TST	SEE NOTE 3 MAG TST		1		0				
HOLD CONT1 (0-9)	CA1 SW		1				1(HOLD 0 TO HOLD 9)		B(HOLD 0 TO HOLD 9)		2		0		20	19	
SEL CONT1 (0-9)							12(SEL 0 TO SEL 9)		SEE NOTE 3		2		0		52.5	50	
HOLD SCA (0-9)	CA1 SW		2								5				20	19	
SEL SCA (0-9)											6				52.5	50	
HOLD SCB (0-9)	CA1 SW		2								5				-	-	
SEL SCB (0-9)											6				52.5	50	
HOLD SCC (0-9)	CA1 SW	Z	2								5				-	-	
SEL SCC (0-9)											6				52.5	50	
RELAYS																	
BSY	1/2AK30		1	202			2(DO4)	1L(BSY)	GRD				0		23.1	22	MTD WITH (SPARE)
C-- ODD	1/2AK44		4	222				1U REL TST	GRD				0		27.5	26	MTD WITH C-- EVEN
C-- EVEN	1/2AK44		4	222				1L REL TST	GRD				0		27.5	26	MTD WITH C-- ODD
CS0	1/2AK44		1	222			1(CS0)	1L(CS0)	GRD				0		27.5	26	MTD WITH (CS1)
CS1	1/2AK44		1	222			1(CS1)	1U(CS1)	GRD				0		27.5	26	MTD WITH (CS0)
CT--	AJ5		5	220				U REL TST	GRD				0				
DIG1	AJ12		1	220				U(DIG1)	GRD				0		43	40.5	
DIG2	AJ12		1	220				U(DIG2)	GRD				0		43	40.5	
DIG3	AJ12		1	220				U(DIG3)	GRD				0		43	40.5	
DIG4	AJ12		1	220				U(DIG4)	GRD				0		43	40.5	
DIG5	AJ12		1	220			5(TH)	U(DIG5)	GRD				0		43	40.5	
DO1	1/2AK44		1	222			(DR1)8,1(DO1)	1L(DO1)	GRD				0		27.5	26	MTD WITH (DR1)
DO2	1/2AK44		1	222			(DR2)8,1(DO2)	1L(DO2)	GRD				0		27.5	26	MTD WITH (DR2)
DO3	1/2AK44		1	222			(DR3)8,1(DO3)	1L(DO3)	GRD				0		27.5	26	MTD WITH (DR3)
DO4	1/2AK44		1	222			(DR4)8,1(DO4)	1L(DO4)	GRD				0		27.5	26	MTD WITH (DR4)

CIRCUIT REQUIREMENTS

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPT	APPARATUS FIG.	MECH REQT BSP FIG.	MECH REQT CONT PRES	MECH REQT ARM. TRVL.	CIRCUIT PREPARATION BLOCK OR INSULATE	TEST CLIP DATA CONN BAT.	TEST CLIP DATA CONN GRD	TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQT TEST WDG	TEST FOR	AFTER SOAK MA	TEST MA	READJ MA	REMARKS
DO5	1/2AK44		1	222			(DR5)8,1(DO5)		1L(DO5)	GRD			0		27.5	26	MTD WITH (DR5)
DR1	1/2AK44		1	222				2U(DR1)	1U(DR1)	GRD			0		27.5	26	MTD WITH (DO1)
DR2	1/2AK44		1	222				2U(DR2)	1U(DR2)	GRD			0		27.5	26	MTD WITH (DO2)
DR3	1/2AK44		1	222				2U(DR3)	1U(DR3)	GRD			0		27.5	26	MTD WITH (DO3)
DR4	1/2AK44		1	222				2U(DR4)	1U(DR4)	GRD			0		27.5	26	MTD WITH (DO4)
DR5	1/2AK44		1	222				2U(DR5)	1U(DR5)	GRD			0		27.5	26	MTD WITH (DO5)
DRC	AJ202		1	500					U(DRC)	B/G			0		43	40.5	
H0	1/2AK44		1	222			(DIG5)0,8(H0)		1U(H0)	GRD			0		27.5	26	MTD WITH (S0)
H1	1/2AK44		1	222			(DIG5)0,8(H1)		1U(H1)	GRD			0		27.5	26	MTD WITH (S1)
H2	1/2AK44		1	222			(DIG5)0,8(H2)		1U(H2)	GRD			0		27.5	26	MTD WITH (S2)
H3	1/2AK44		1	222			(DIG5)0,8(H3)		1U(H3)	GRD			0		27.5	26	MTD WITH (S3)
H4	1/2AK44		1	222			(DIG5)0,8(H4)		1U(H4)	GRD			0		27.5	26	MTD WITH (S4)
H5	1/2AK44		1	222			(DIG5)0,8(H5)		1U(H5)	GRD			0		27.5	26	MTD WITH (S5)
H6	1/2AK44		1	222			(DIG5)0,8(H6)		1U(H6)	GRD			0		27.5	26	MTD WITH (S6)
H7	1/2AK44		1	222			(DIG5)0,8(H7)		1U(H7)	GRD			0		27.5	26	MTD WITH (S7)
H8	1/2AK44		1	222			(DIG5)0,8(H7)		1U(H8)	GRD			0		27.5	26	MTD WITH (S8)
H9	1/2AK44		1	222			(DIG5)0,8(H9)		1U(H9)	GRD			0		27.5	26	MTD WITH (S9)
MFC	AJ5		1	220					U/REL TST	GRD			0		13.3	12.6	
PH0	1/2AK30	J	7	202			5(PH0)	2L(PH0)	1L(PH0)	BAT.			0		23.1	22	MTD WITH (PH1)
PH1	1/2AK30	J	7	202			8(PH1)	2U(PH1)	1U(PH1)	BAT.			0		23.1	22	MTD WITH (PH0)
PH2	1/2AK30	J	7	202			5(PH2)	2L(PH2)	1L(PH2)	BAT.			0		23.1	22	MTD WITH (PH3)
PH3	1/2AK30	J	7	202			8(PH3)	2U(PH3)	1U(PH3)	BAT.			0		23.1	22	MTD WITH (PH2)
PH4	1/2AK30	J	7	202			5(PH4)	2L(PH4)	1L(PH4)	BAT.			0		23.1	22	MTD WITH (PH5)
PH5	1/2AK30	J	7	202			8(PH5)	2U(PH5)	1U(PH5)	BAT.			0		23.1	22	MTD WITH (PH4)
PH6	1/2AK30	J	7	202			5(PH6)	2L(PH6)	1L(PH6)	BAT.			0		23.1	22	MTD WITH (PH7)
PH7	1/2AK30	J	7	202			8(PH7)	2U(PH7)	1U(PH7)	BAT.			0		23.1	22	MTD WITH (PH6)
PH8	1/2AK30	J	7	202			5(PH8)	2L(PH8)	1L(PH8)	BAT.			0		23.1	22	MTD WITH (PH9)
PH9	1/2AK30	J	7	202			8(PH9)	2U(PH9)	1U(PH9)	BAT.			0		23.1	22	MTD WITH (PH8)
S0	1/2AK44		1	222			(DIG4)0,1(S0)		1L(S0)	GRD			0		27.5	26	MTD WITH (H0)
S1	1/2AK44		1	222			(DIG4)0,1(S0)		1L(S1)	GRD			0		27.5	26	MTD WITH (H1)
S2	1/2AK44		1	222			(DIG4)0,1(S0)		1L(S2)	GRD			0		27.5	26	MTD WITH (H2)
S3	1/2AK44		1	222			(DIG4)0,1(S0)		1L(S3)	GRD			0		27.5	26	MTD WITH (H3)
S4	1/2AK44		1	222			(DIG4)0,1(S0)		1L(S4)	GRD			0		27.5	26	MTD WITH (H4)
S5	1/2AK44		1	222			(DIG4)0,1(S0)		1L(S5)	GRD			0		27.5	26	MTD WITH (H5)
S6	1/2AK44		1	222			(DIG4)0,1(S0)		1L(S6)	GRD			0		27.5	26	MTD WITH (H6)
S7	1/2AK44		1	222			(DIG4)0,1(S0)		1L(S7)	GRD			0		27.5	26	MTD WITH (H7)

TEST NOTE:

1. FOR CGA,CGB AND Ⓨ CGC MULTIPLY CURRENT READING IN TABLE UNDER CGA BY THE NUMBER OF MAGNETS IN PARALLEL TO OBTAIN COMBINATION READINGS.
2. EACH MAGNET IS TESTED INDIVIDUALLY AND ONLY THE O.N. CONTACT ASSOCIATED WITH THAT MAGNET NEED BE INSULATED.
3.

	0	1	2	3	4	5	6	7	8	9
CONN GRD	RT	RB	LB	LT	RT	RB	LB	LT	RT	RB

4.

	0	1	2	3	4	5	6	7	8	9
CONN BAT	RB	RT	LT	LB	RB	RT	LT	LB	RB	RT

5. FOR SCA, SCB AND Ⓩ SCC MULTIPLY CURRENT INDICATED IN TABLE UNDER SCA BY THE NUMBER OF MAGNETS IN PARALLEL TO OBTAIN COMBINATION READINGS.
6. OPEN STRAPS ON ASSOCIATED TERMINALS TO ISOLATE SELECT MAGNETS.

ISSUE 13.1

CONTROLLER AND CONNECTOR CIRCUIT

SD-99560-01-F1

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-99560-01-F1

CIRCUIT REQUIREMENTS

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPT	APPARATUS FIG.		MECH REQT BSP FIG.	MECH REQT CONT PRES	MECH REQT ARML TRVL.	CIRCUIT PREPARATION BLOCK OR INSULATE	CIRCUIT PREPARATION TEST CLIP DATA CONN BAT.	CIRCUIT PREPARATION TEST CLIP DATA CONN GRD	TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQT TEST WDG	DIRECT CURRENT FLOW REQT TEST FOR	DIRECT CURRENT FLOW REQT AFTER SOAK MA	DIRECT CURRENT FLOW REQT TEST MA	DIRECT CURRENT FLOW REQT READJ MA	REMARKS
S8	1/2AK44		1		222			(DIG4)0,1(S8)		1L(S8)	GRD			0		27.5	26	MTD WITH (H8)
S9	1/2AK44		1		222			(DIG4)0,1(S9)		1L(S9)	GRD			0		27.5	26	MTD WITH (H9)
TR (0,1 2,4,7)	318B		1															
TRG	318B		1															

SD-99560-01-F2

CIRCUIT REQUIREMENTS

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPT	APPARATUS FIG.		MECH REQT BSP FIG.	MECH REQT CONT PRES	MECH REQT ARML TRVL.	CIRCUIT PREPARATION BLOCK OR INSULATE	CIRCUIT PREPARATION TEST CLIP DATA CONN BAT.	CIRCUIT PREPARATION TEST CLIP DATA CONN GRD	TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQT TEST WDG	DIRECT CURRENT FLOW REQT TEST FOR	DIRECT CURRENT FLOW REQT AFTER SOAK MA	DIRECT CURRENT FLOW REQT TEST MA	DIRECT CURRENT FLOW REQT READJ MA	REMARKS

DRAWING ISSUE

ISSUE 13A

CONTROLLER AND CONNECTOR CKT

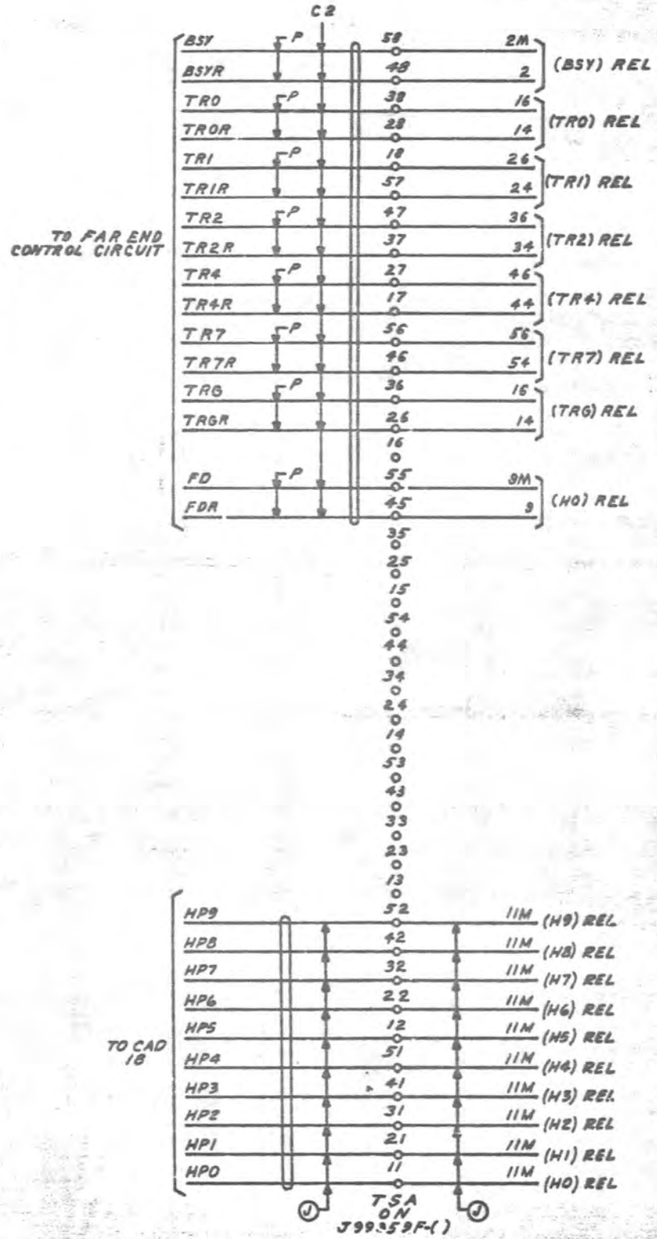
SD-99560-01-F2

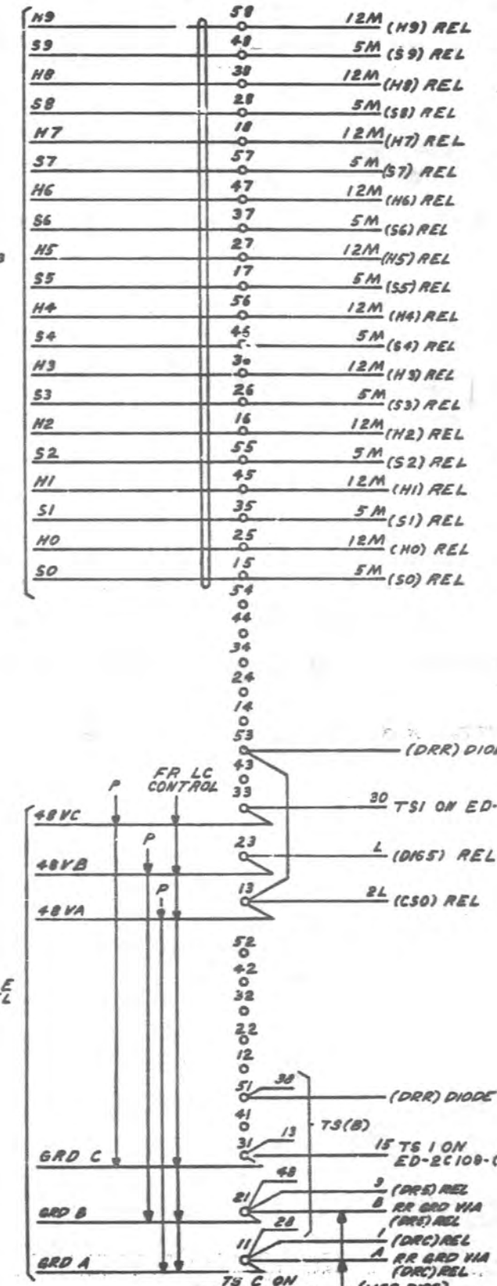
BELL TELEPHONE LABORATORIES INCORPORATED

6S

CAD 1

(FOR APP FIG. 1)
(FOR 11'6" FRAME ARRANGEMENT)





13A

CONTROLLER AND CONNECTOR CIRCUIT

BELL TELEPHONE LABORATORIES INCORPORATED

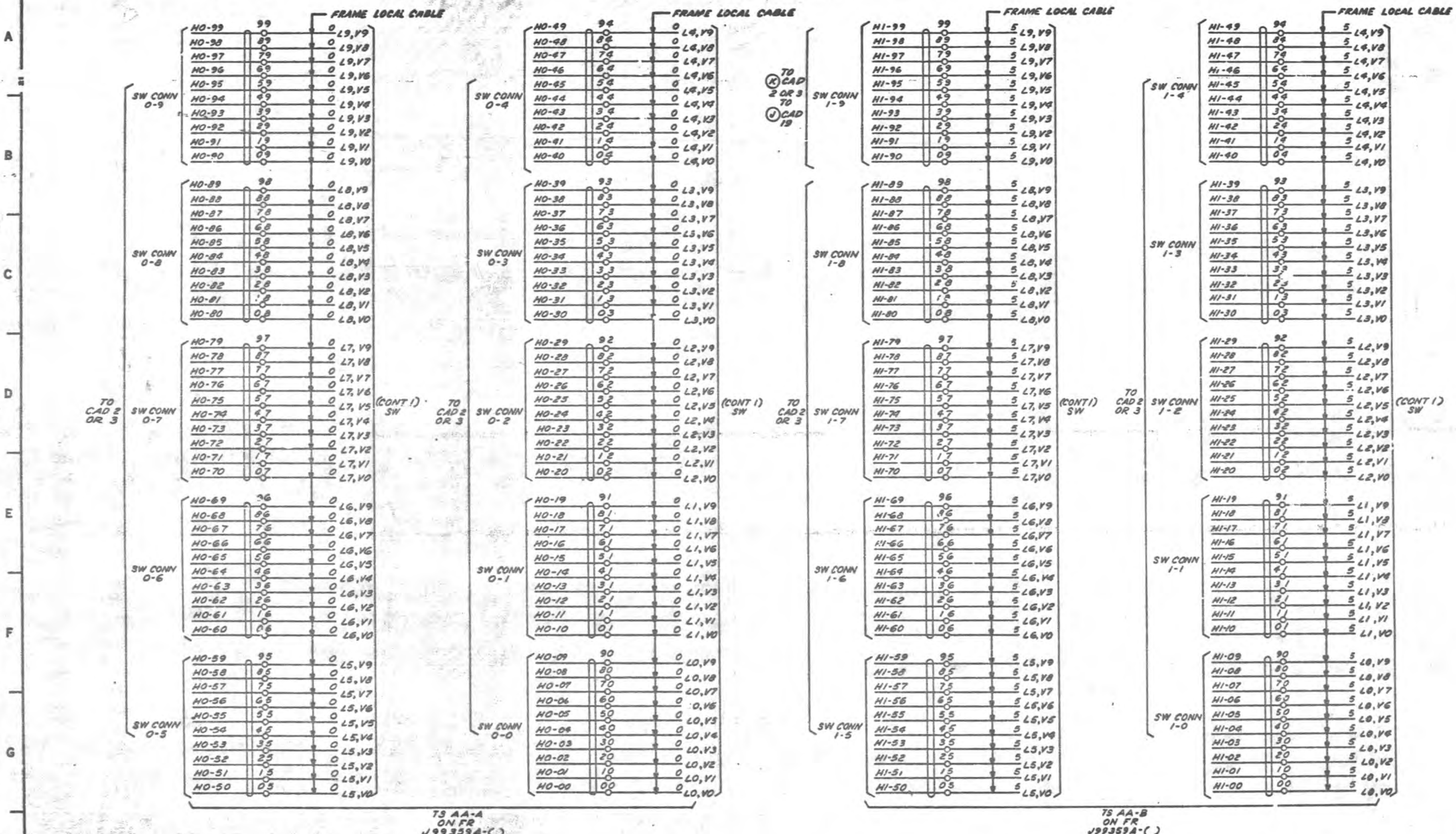
6S

SD-99560-01-GI

SD-99560-01-GI

PART OF CAD I

(FOR APP FIG.1)
(FOR 11'6" FRAME ARRANGEMENT)



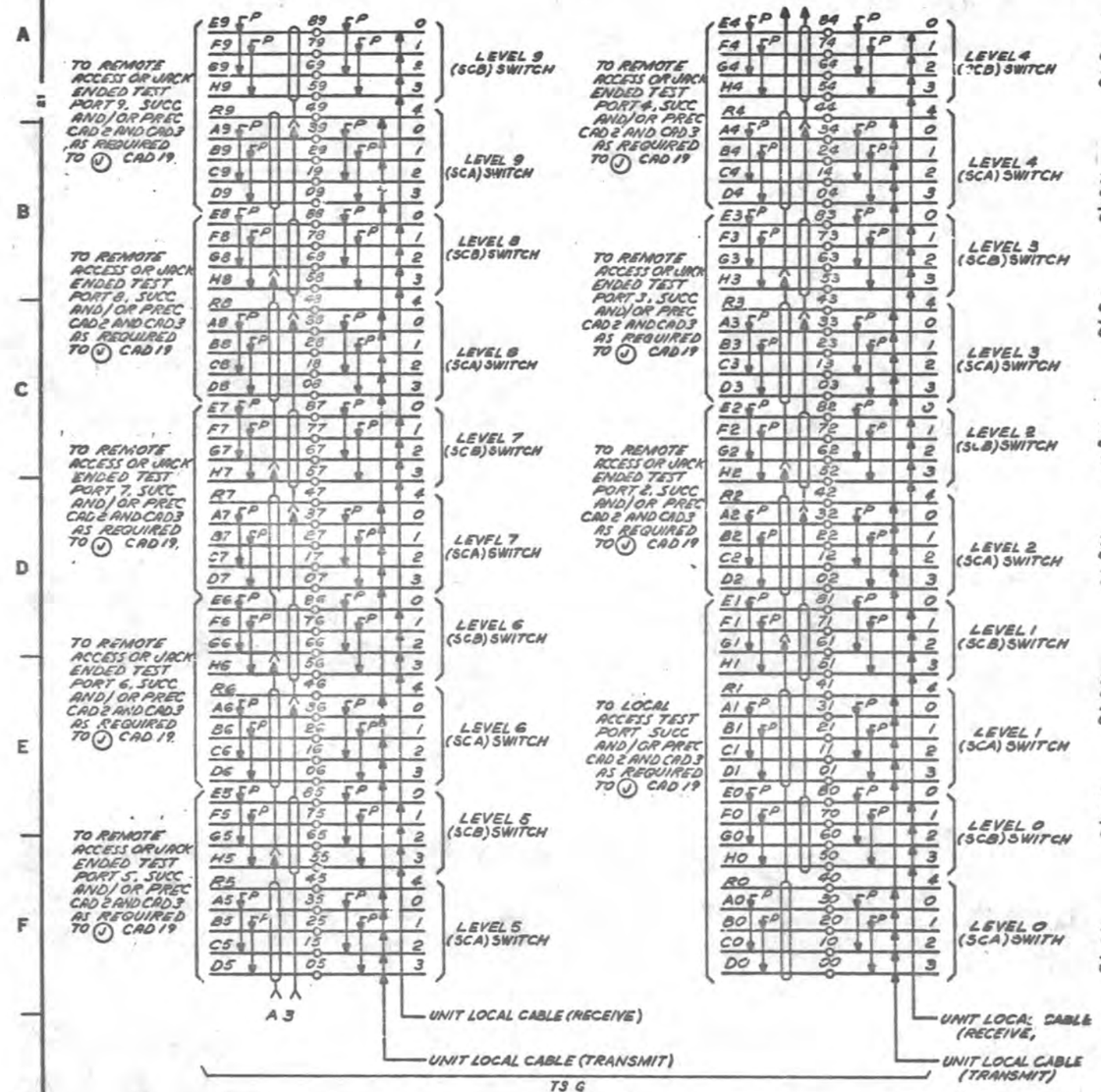
CONTROLLER AND CONNECTOR CIRCUIT	SD-99560-01-G2
BELL TELEPHONE LABORATORIES INCORPORATED	6S

ISSUE 13A

SD-99560-01-G2

PART OF CAD 2

(FOR APP FIG. 2)
(FOR 11'6" FRAME ARRANGEMENT)



NOTES:

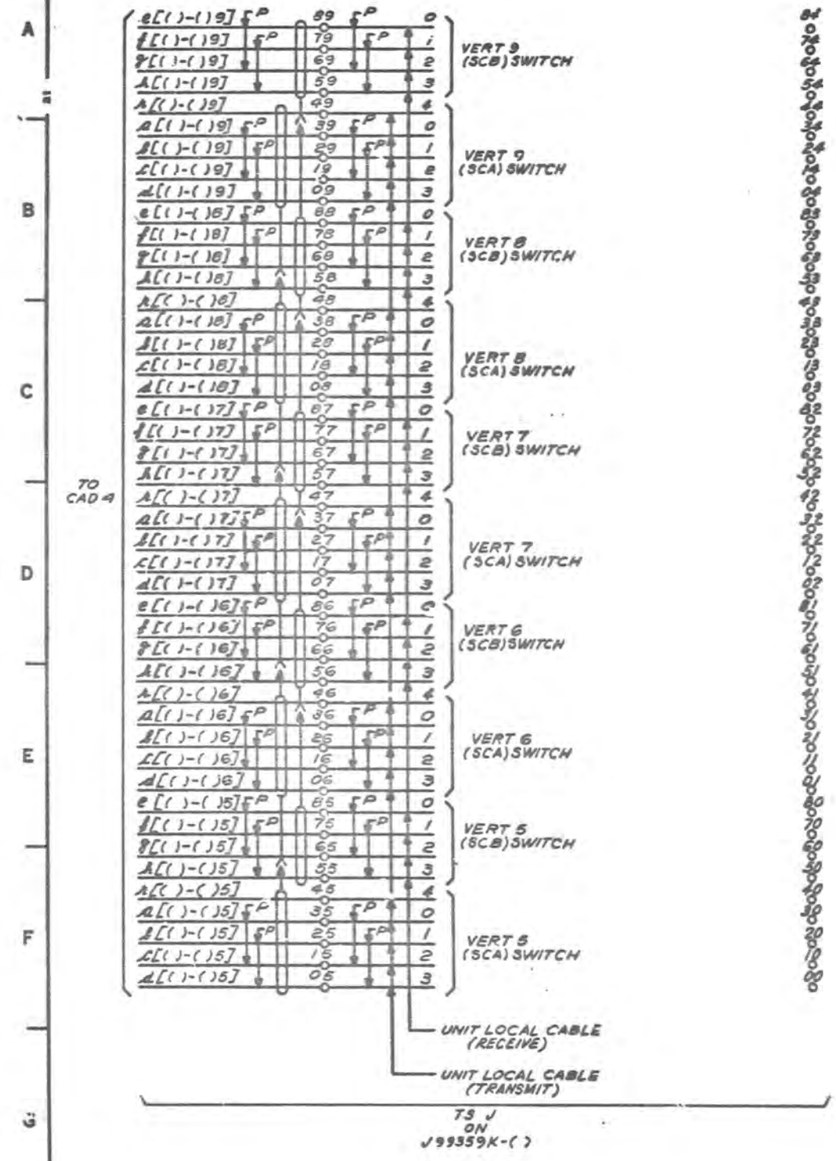
1. LEADS A,B,C,D,E,F,G,H,GP BY, HG AND N LEADS TO REMOTE, JACK ENDED AND LOCAL ACCESS PORTS SHALL BE RUN FROM THE FIRST CAD 2 OR 3 ONLY.

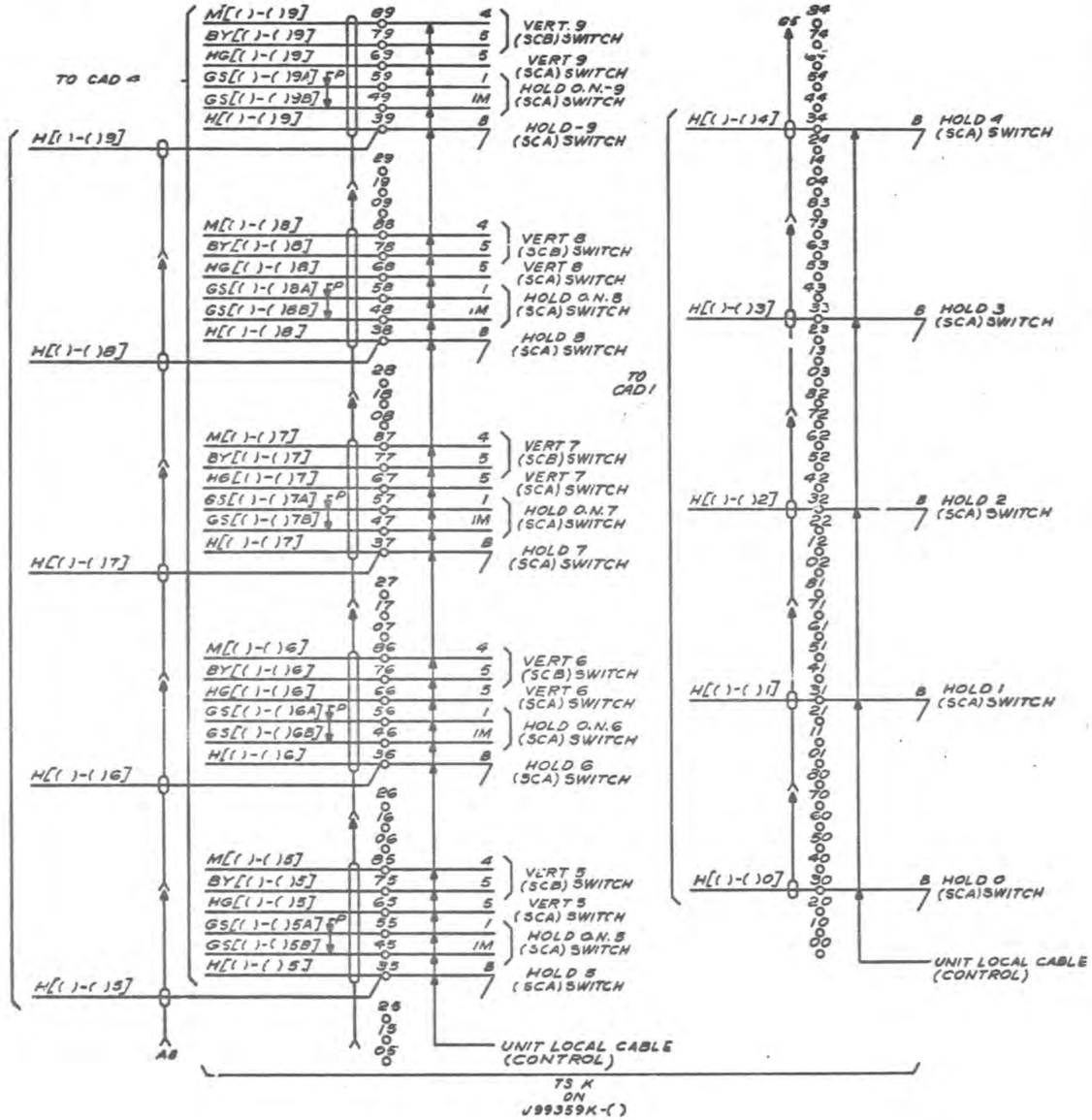
2. LEADS S( )A0-1 AND S( )B0-1 TO REMOTE, JACK ENDED AND LOCAL ACCESS PORTS SHALL BE RUN FROM THE FIRST CAD 2 OR CAD 3 ONLY
   LEADS S( )A0-2 AND S( )B0-2 TO REMOTE, JACK ENDED AND LOCAL ACCESS PORTS SHALL BE RUN FROM THE SIXTH CAD 2 OR 3 ONLY.
   LEADS S( )A1-1 AND S( )B1-1 TO REMOTE, JACK ENDED AND LOCAL ACCESS PORTS SHALL BE RUN FROM THE ELEVENTH CAD 2 OR 3 ONLY.
   LEADS S( )A1-2 AND S( )B1-2 TO REMOTE, JACK ENDED AND LOCAL ACCESS PORTS SHALL BE RUN FROM THE SIXTEENTH CAD 2 OR 3 ONLY.

ISSUE	CONTROLLER AND CONNECTOR CIRCUIT	SD-99560-01-03
13A	BELL TELEPHONE LABORATORIES INCORPORATED	6S

SD-99560-01-03

PART OF CAD 2
(FOR APP FIG. 2)
(FOR 11'6" FRAME ARRANGEMENT)



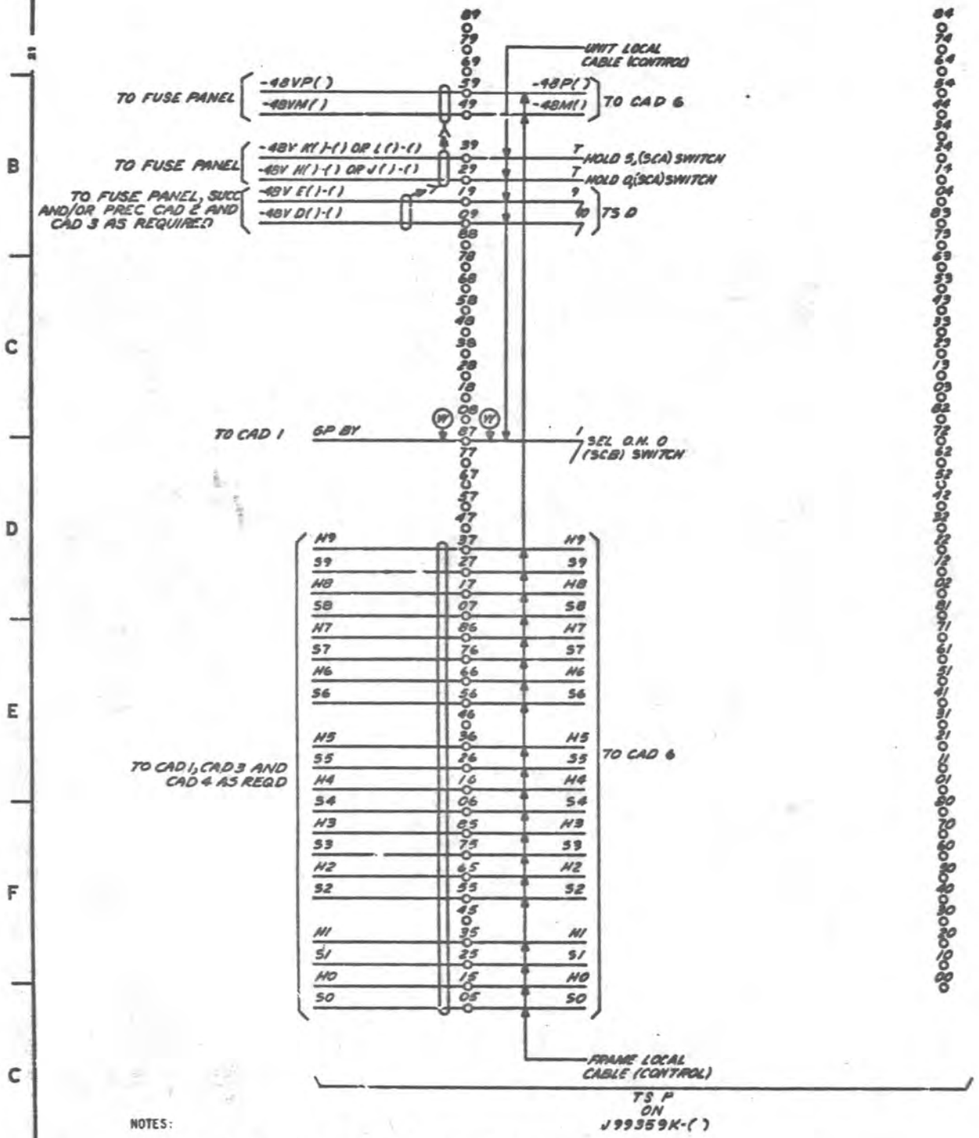


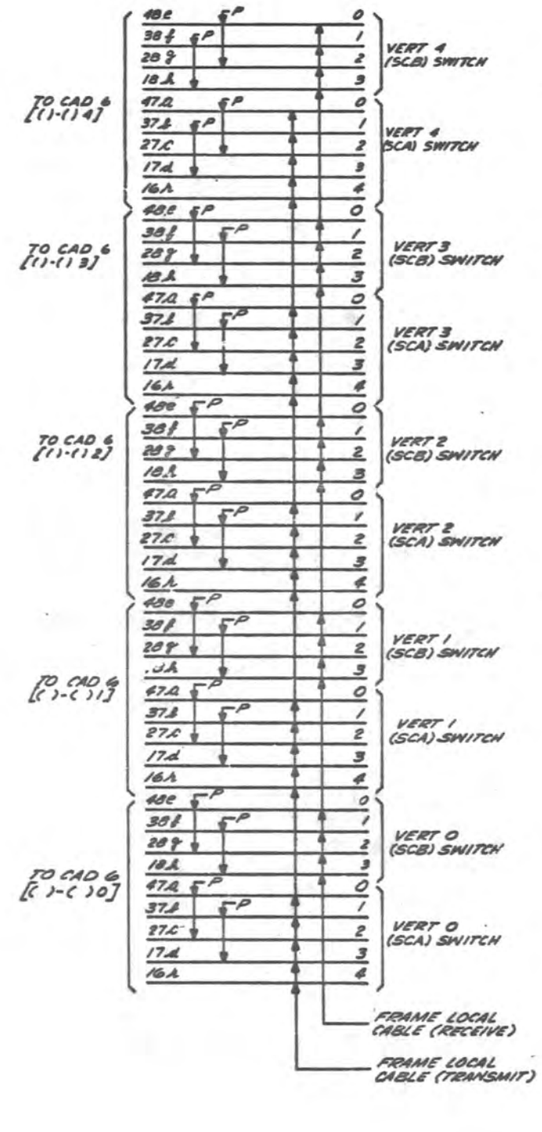
ISSUE 13A

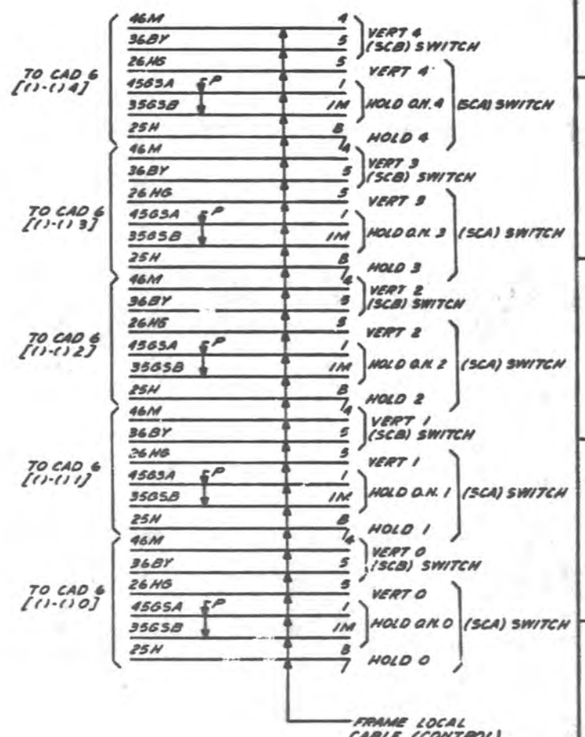
CONTROLLER AND CONNECTOR CIRCUIT	SD-99560-01-64
BELL TELEPHONE LABORATORIES INCORPORATED	SIZE 6S

SD-99560-01-64

PART OF CAD 2
(FOR APP FIG. 2)
(FOR 11'6" FRAME ARRANGEMENT)







NOTES:

1. LEADS H0,S0 TO H9,S9 AND GPBY TO CAD 1 SHALL BE RUN FROM FIRST CAD 2 OR 3 ONLY.
2. LEADS H0,S0 TO H9,S9 AND -48M( ) AND -48P( ) FROM CAD 2 TO CAD 6 SHALL BE RUN VIA ALL CAD 6 ON FRAME AND SHALL BE LOOPED AT ALL UNEQUIPPED LOCATIONS.

PAGE 13A

CONTROLLER AND CONNECTOR CIRCUIT

SD-99560-01-65

BELL TELEPHONE LABORATORIES INCORPORATED

DATA SYSTEM 6S

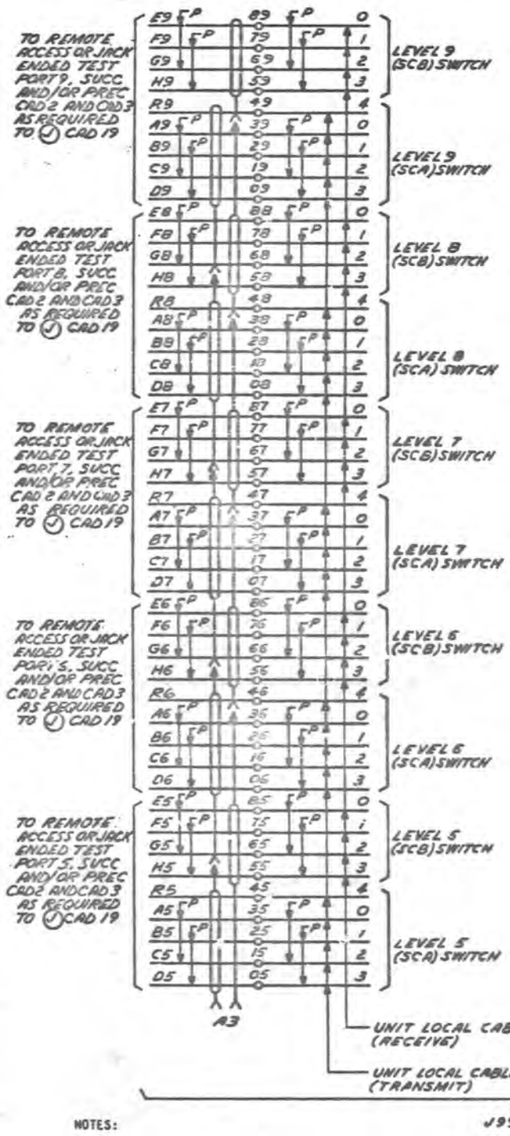
SD-99560-01-65

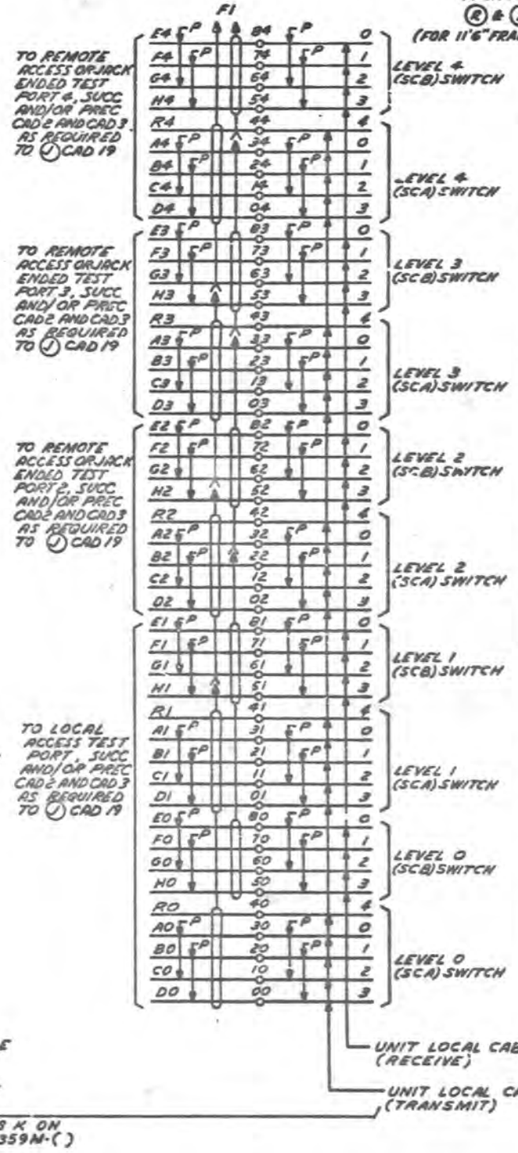
PART OF CAD 3

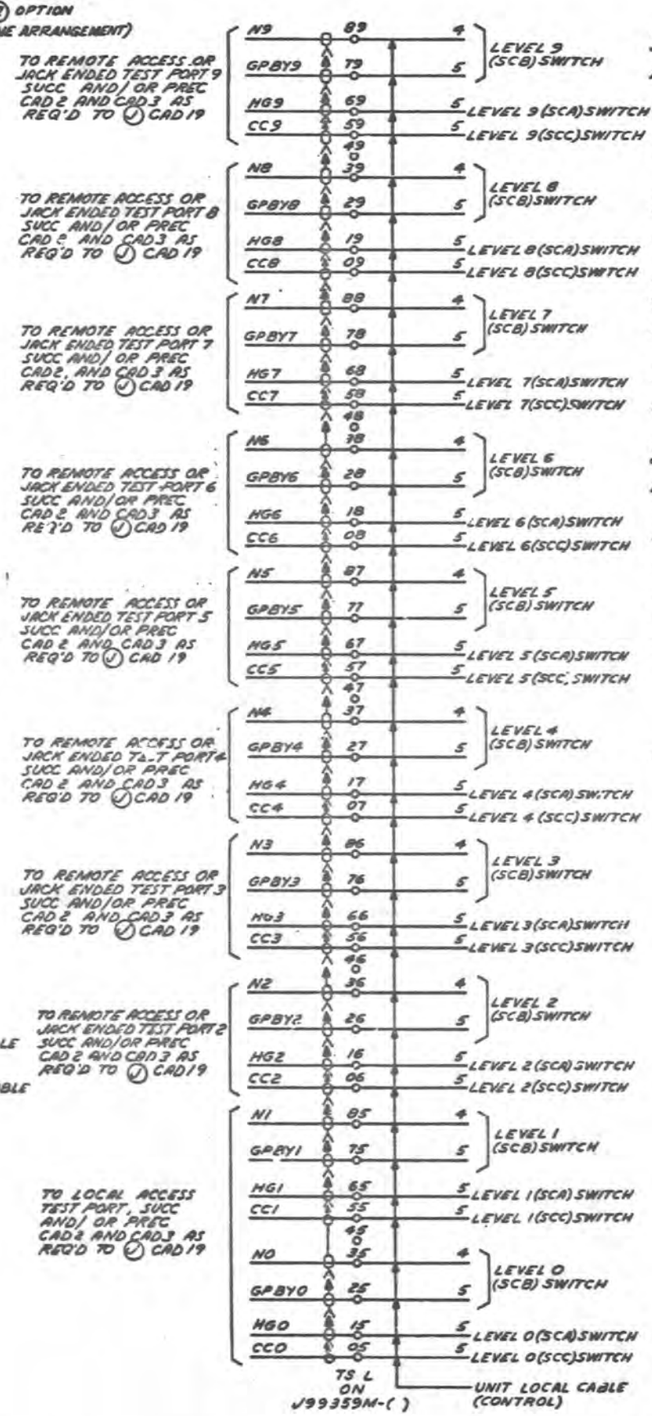
(FOR APP FIG.)

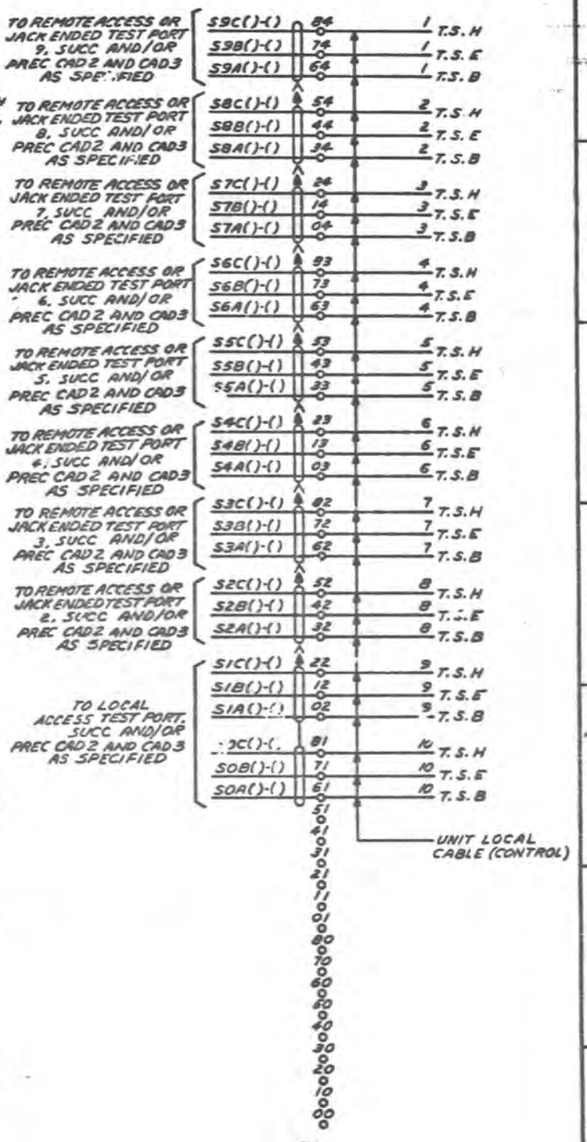
Ⓡ & ② OPTION

(FOR 11"6" FRAME ARRANGEMENT)









NOTES:

1. LEADS A,B,C,D,E,F,G,H,GPBY,HG, AND H TO REMOTE, JACK ENDED AND LOCAL ACCESS PORTS SHALL BE RUN FROM FIRST CAD 2 OR 3 ONLY. LEADS CC,J,K,L AND M TO REMOTE, JACK ENDED AND LOCAL ACCESS PORTS SHALL BE RUN FROM FIRST CAD 3 ONLY.
2. LEADS S( )A0-1 AND S( )B0-1 TO REMOTE, JACK ENDED AND LOCAL ACCESS PORTS SHALL BE RUN FROM THE FIRST CAD 2 OR CAD 3 ONLY. LEADS S( )A0-2 AND S( )B0-2 TO REMOTE, JACK ENDED AND LOCAL ACCESS PORTS SHALL BE RUN FROM THE SIXTH CAD 2 OR CAD 3 ONLY. LEADS S( )A1-1 AND S( )B1-1 TO REMOTE, JACK ENDED AND LOCAL ACCESS PORTS SHALL BE RUN FROM THE ELEVENTH CAD 2 OR CAD 3 ONLY. LEADS S( )A1-2 AND S( )B1-2 TO REMOTE, JACK ENDED AND LOCAL ACCESS PORTS SHALL BE RUN FROM THE SIXTEENTH CAD 2 OR CAD 3 ONLY. LEADS S( )C0-1, S( )C0-2, S( )C1-1 AND S( )C1-2 TO REMOTE, JACK ENDED AND LOCAL ACCESS PORTS SHALL BE RUN FROM FIRST, SIXTH, ELEVENTH AND SIXTEENTH CAD 3 ONLY RESPECTIVELY.

99-10-99560-03

ISSUE 13A

CONTROLLER AND CONNECTOR CIRCUIT

BELL TELEPHONE LABORATORIES INCORPORATED

6S

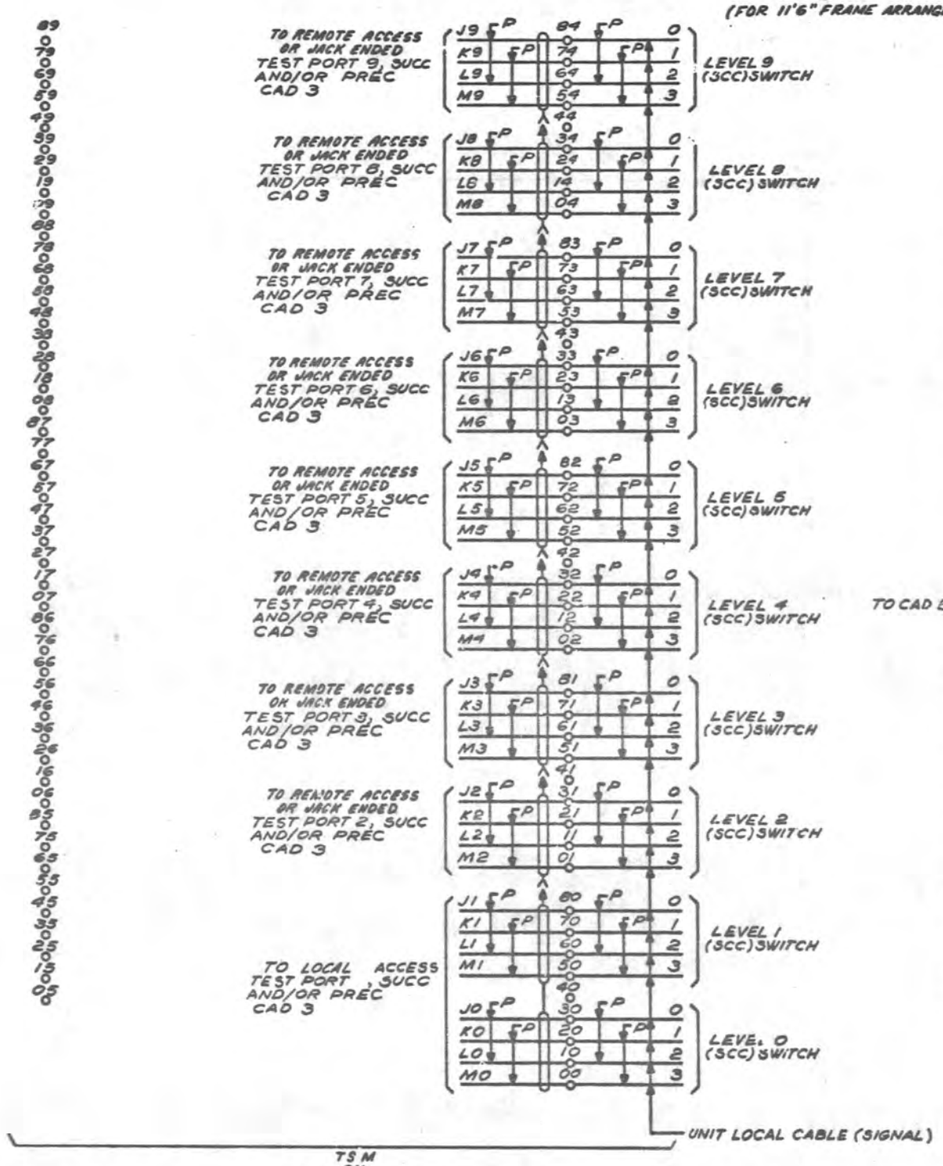
SD-99560-01-66

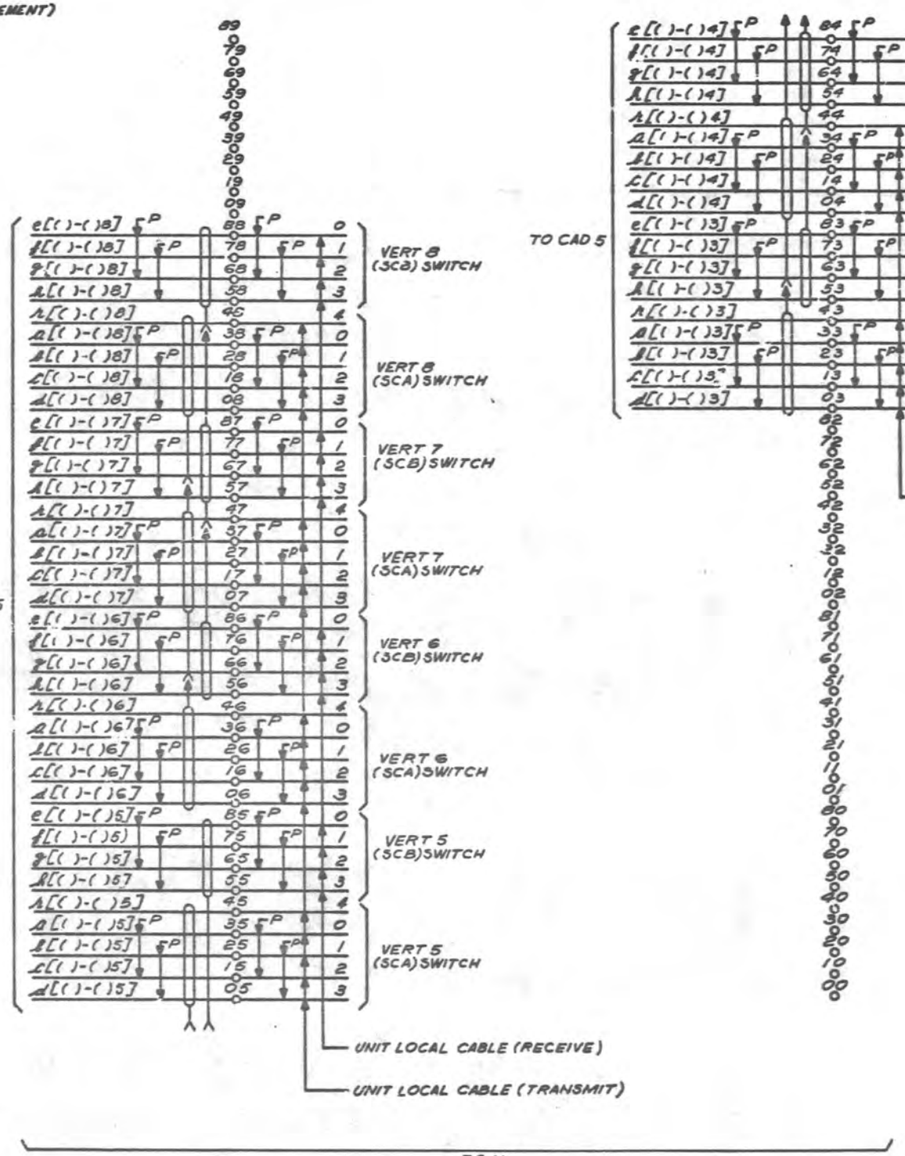
PART OF CAD 3

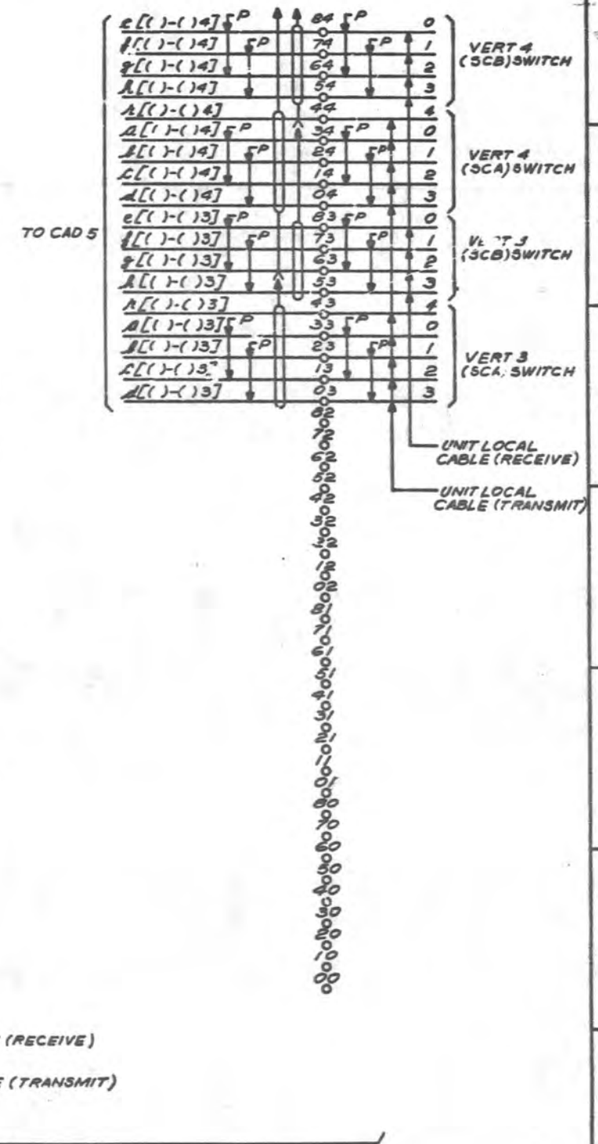
(FOR APP FIG. 2)

(R) & (Z) OPTION

(FOR 11'6" FRAME ARRANGEMENT)







ISSUE 13A

CONTROLLER AND CONNECTOR CIRCUIT	SD-99360-01-67
BELL TELEPHONE LABORATORIES INCORPORATED	6S

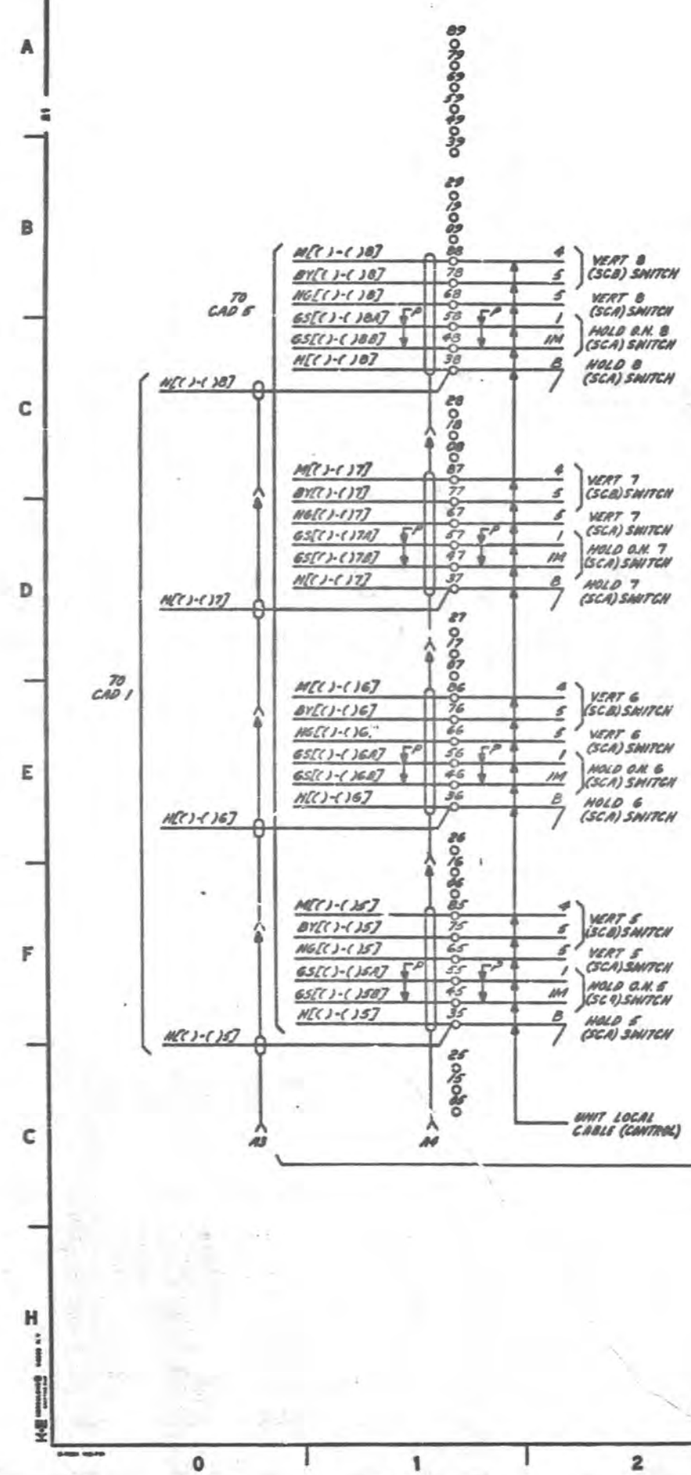
SD-99360-01-67

PART OF CAD 3

(FOR APP FIG. 2)

(R) & (Z) OPTION

(FOR 11'6" FRAME ARRANGEMENT)



CONTROLLER AND CONNECTOR CIRCUIT	SD-99560-01-68
BELL TELEPHONE LABORATORIES INCORPORATED	SIZE 6S

ISSUE 13A

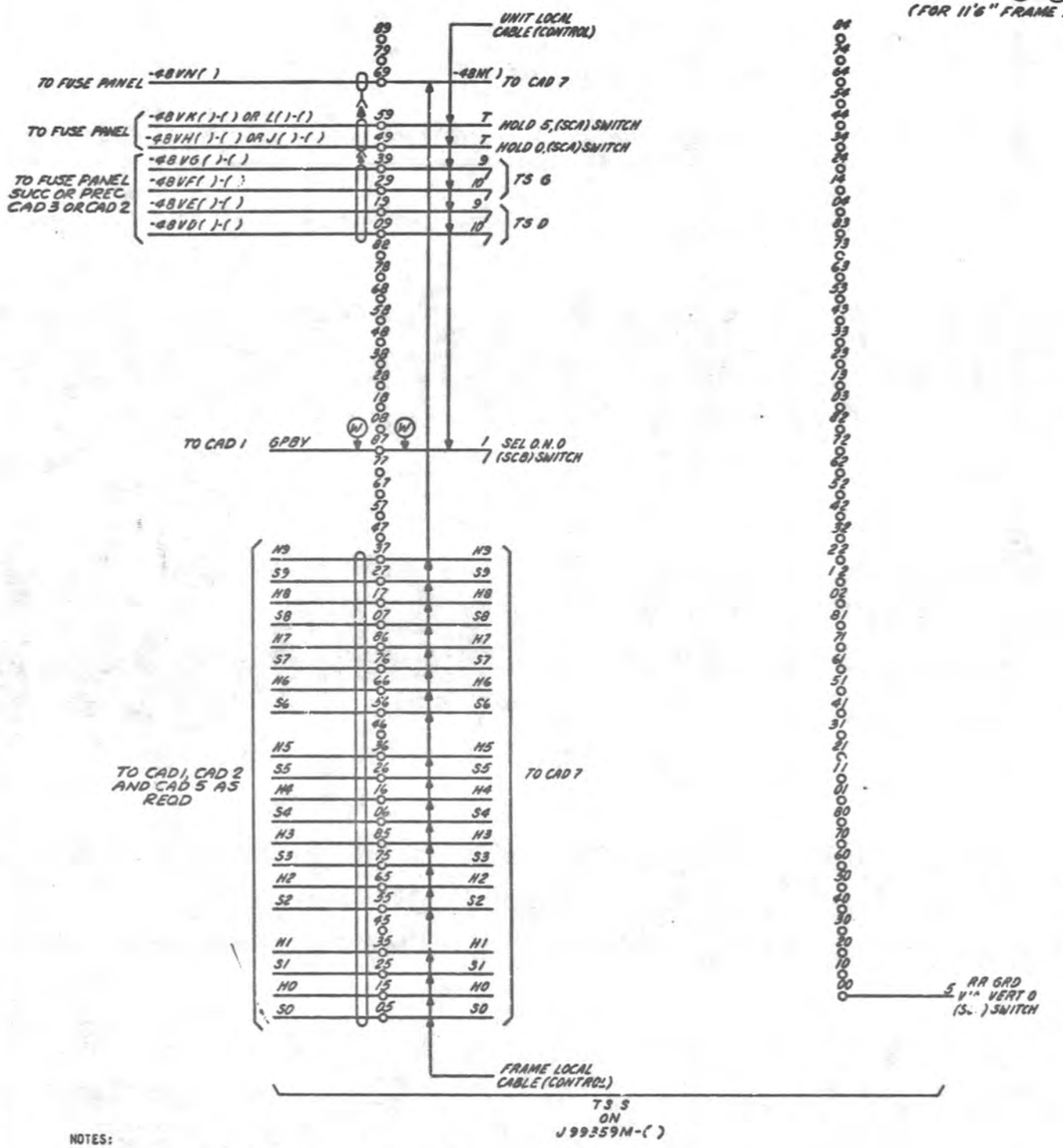
SD-99560-01-68

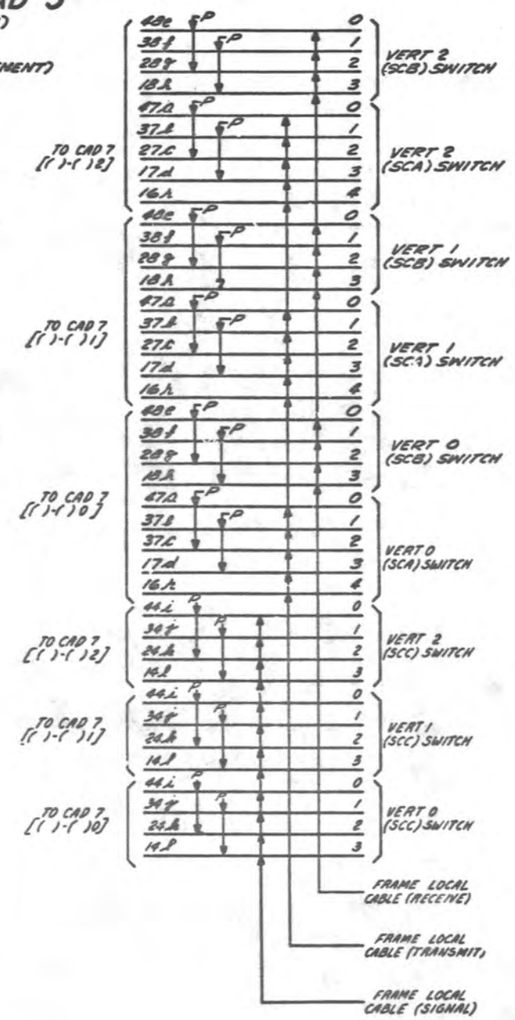
PART OF CAD 3

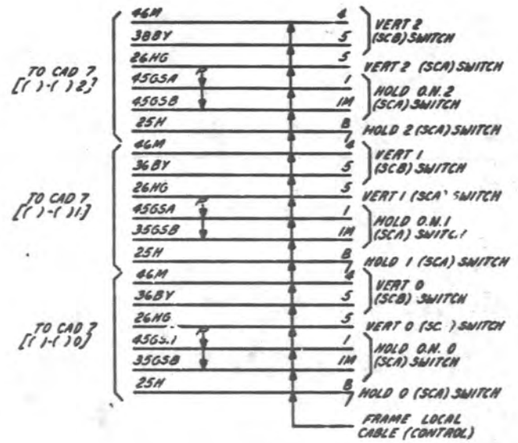
(FOR APP FIG. 2)

Ⓡ & Ⓩ OPTION

(FOR 11'6" FRAME ARRANGEMENT)







NOTES:

1. LEADS HO,SO TO H9,S9 AND GP BY TO CAD1 SHALL BE RUN FROM FIRST CAD 2 OR 3 ONLY.
2. LEADS HO,SO TO H9,S9 AND -48N( ) FROM CAD 3 TO CAD 7 SHALL BE RUN VIA ALL CAD 7 ON FRAME AND SHALL BE LOOPED AT ALL UNEQUIPPED POSITIONS.

ISSUE 13A

CONTROLLER AND CONNECTOR CIRCUIT

SD-99560-01-69

BELL TELEPHONE LABORATORIES INCORPORATED

SIZE 6S

SD-99560-01-69

PART OF CAD 4
(FOR APP FIG 2,3,4 AND 6)
(FOR 11'6" FRAME ARRANGEMENT)

TO CAD 2

TO CAD 6,[( )-( )19]
TO CAD 6,[( )-( )18]
TO CAD 6,[( )-( )17]
TO CAD 6,[( )-( )16]
TO CAD 6,[( )-( )15]

FRAME LOCAL CABLE(RECEIVE)
FRAME LOCAL CABLE(TRASMIT)

TS AAIE
AT TOP OF FRAME
J99359C-( )

TO CAD 2

TO CAD 6, [( )-( )19]
TO CAD 6, [( )-( )18]
TO CAD 6, [( )-( )17]
TO CAD 6, [( )-( )16]
TO CAD 6, [( )-( )15]

FRAME LOCAL CABLE(CONTROL)

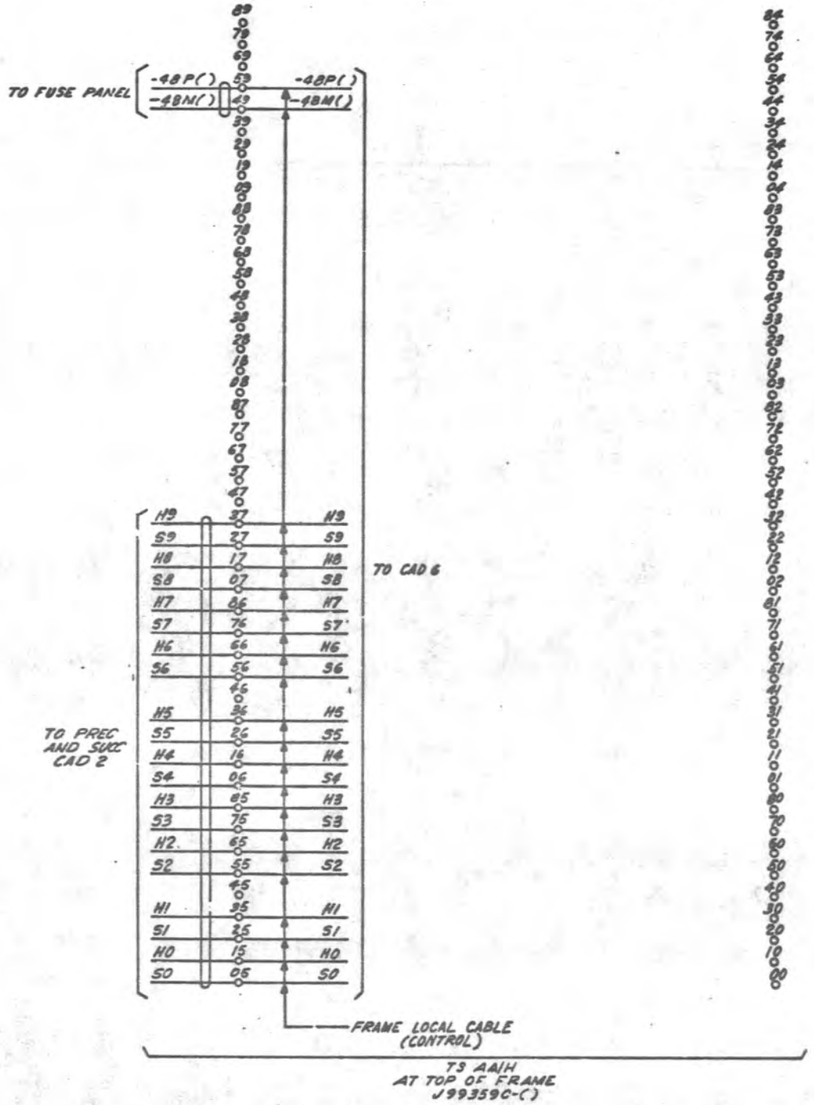
TS AAIG
AT TOP OF FRAME
J99359C-( )

SD-99560-01-610

CONTROLLER AND CONNECTOR CIRCUIT		SD-99560-01-610
BELL TELEPHONE LABORATORIES INCORPORATED	SHEET 6S	ISSUE 13A

PART OF CAD 4

(FOR APP FIG.2,3,4 AND 6)
(FOR 11'6" FRAME ARRANGEMENT)

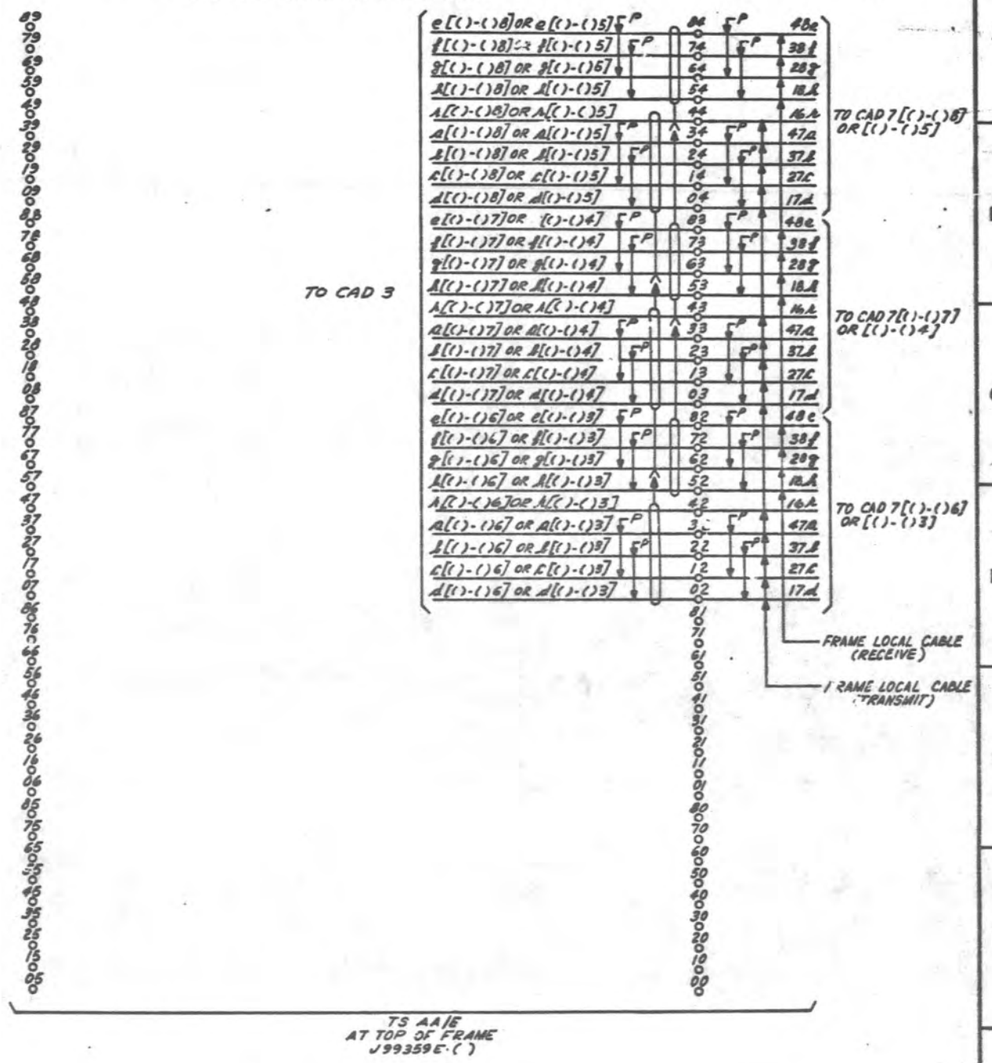


NOTES:

1. LEADS H0,S0 TO H9,S9 AND -48M( ) AND -48P( ) FROM CAD 1 TO CAD 6 SHALL BE RUN VIA ALL CAD 6 ON FRAME AND SHALL BE LOOPED AT ALL UNEQUIPPED LOCATIONS.

PART OF CAD 5

(FOR APP FIG. 2 (Z) OPTION, 3 (Y) OPTION AND APP FIG 5)
(FOR 11'6" FRAME ARRANGEMENT)



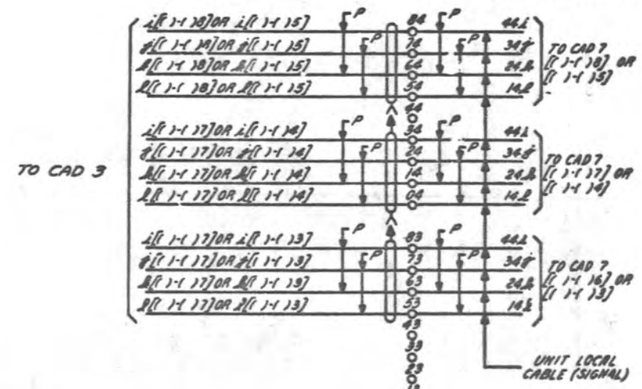
CONTROLLER AND CONNECTOR CIRCUIT	SD-99560-01-G11
BELL TELEPHONE LABORATORIES INCORPORATED	6S

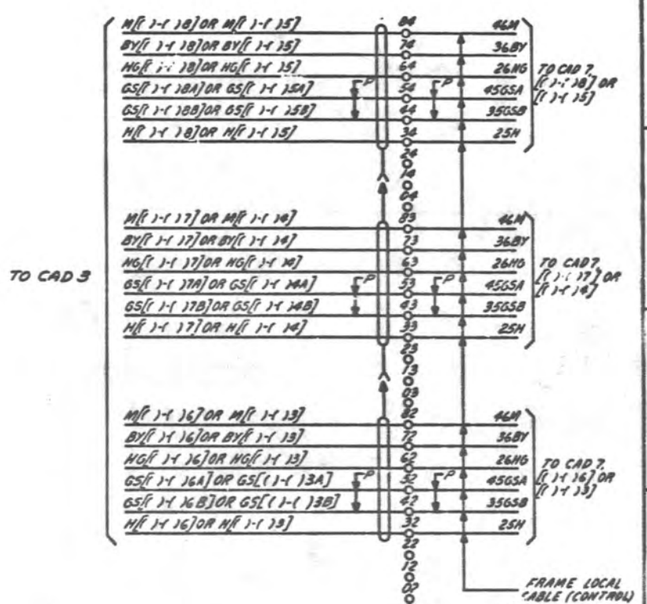
ISSUE 13A

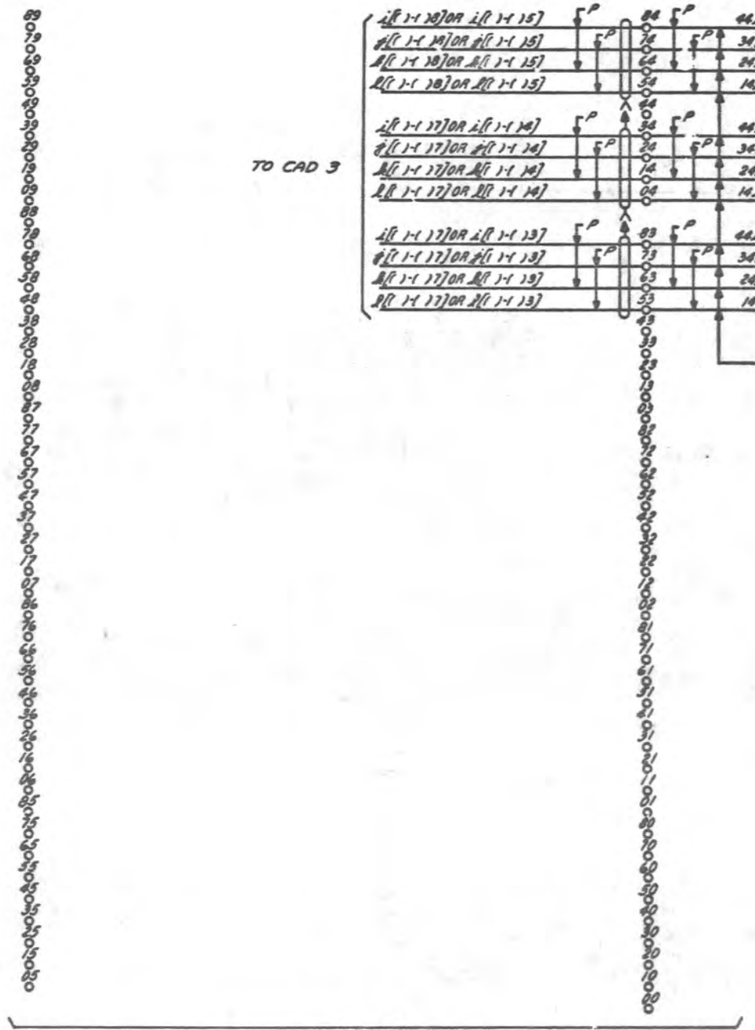
SD-99560-01-G11

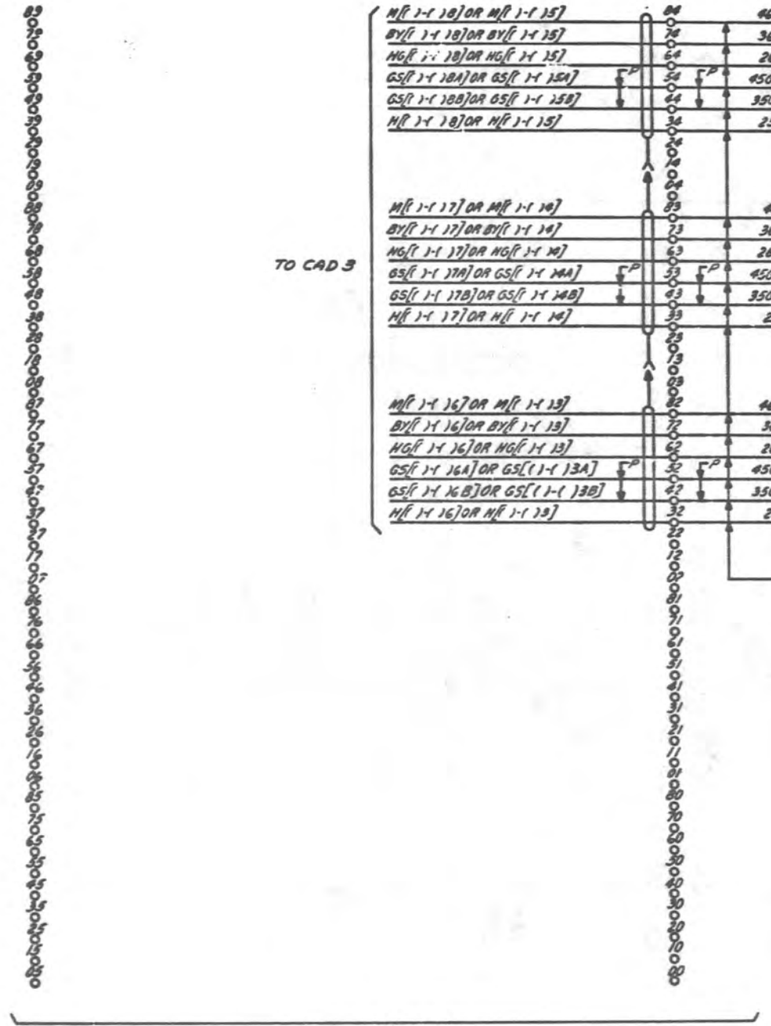
PART OF CAD 5

(FOR APP FIG. 2 (F) OPTION, 3 (Y) OPTION AND APP FIG. 5)
(FOR 11'6" FRAME ARRANGEMENT)









ISSUE 13A

CONTROLLER AND CONNECTOR CIRCUIT

SD-99560-01-GI2

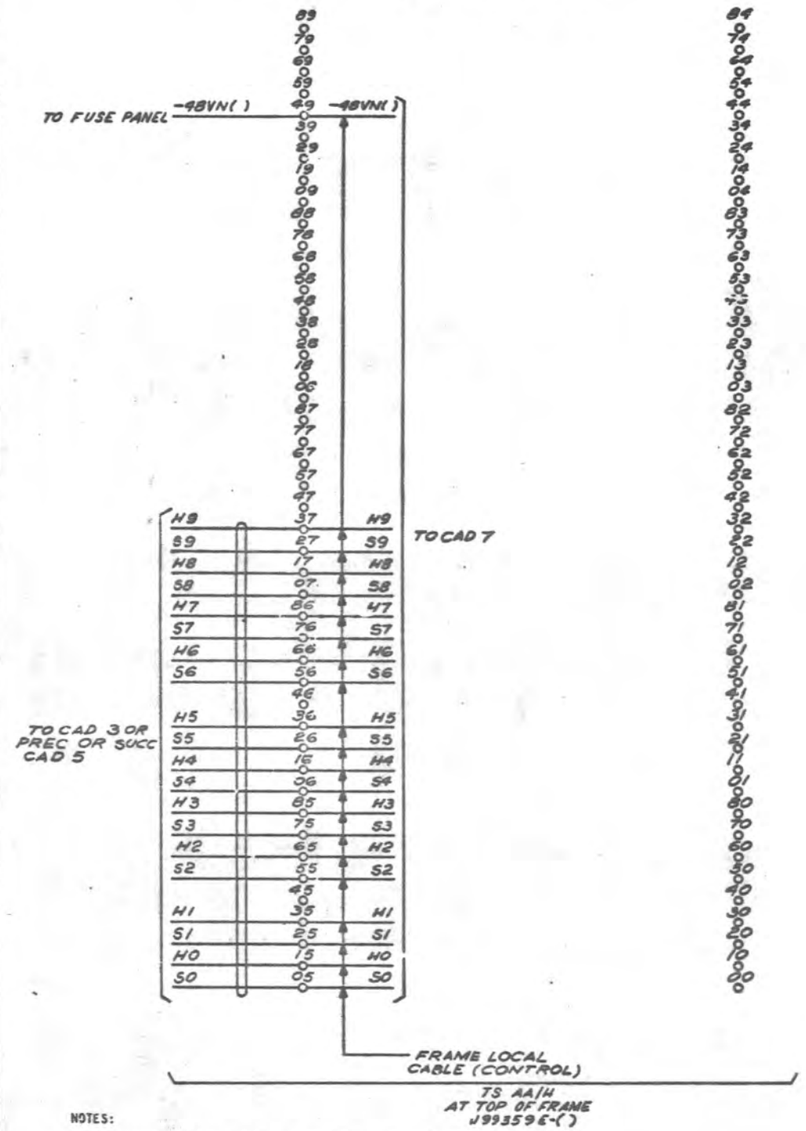
BELL TELEPHONE LABORATORIES INCORPORATED

6S

SD-99560-01-GI2

PART OF CAD 5

(FOR APP FIG. 2 (Z) OPTION, 3 (Y) OPTION AND APP FIG. 5)
(FOR 11'6" FRAME ARRANGEMENT)



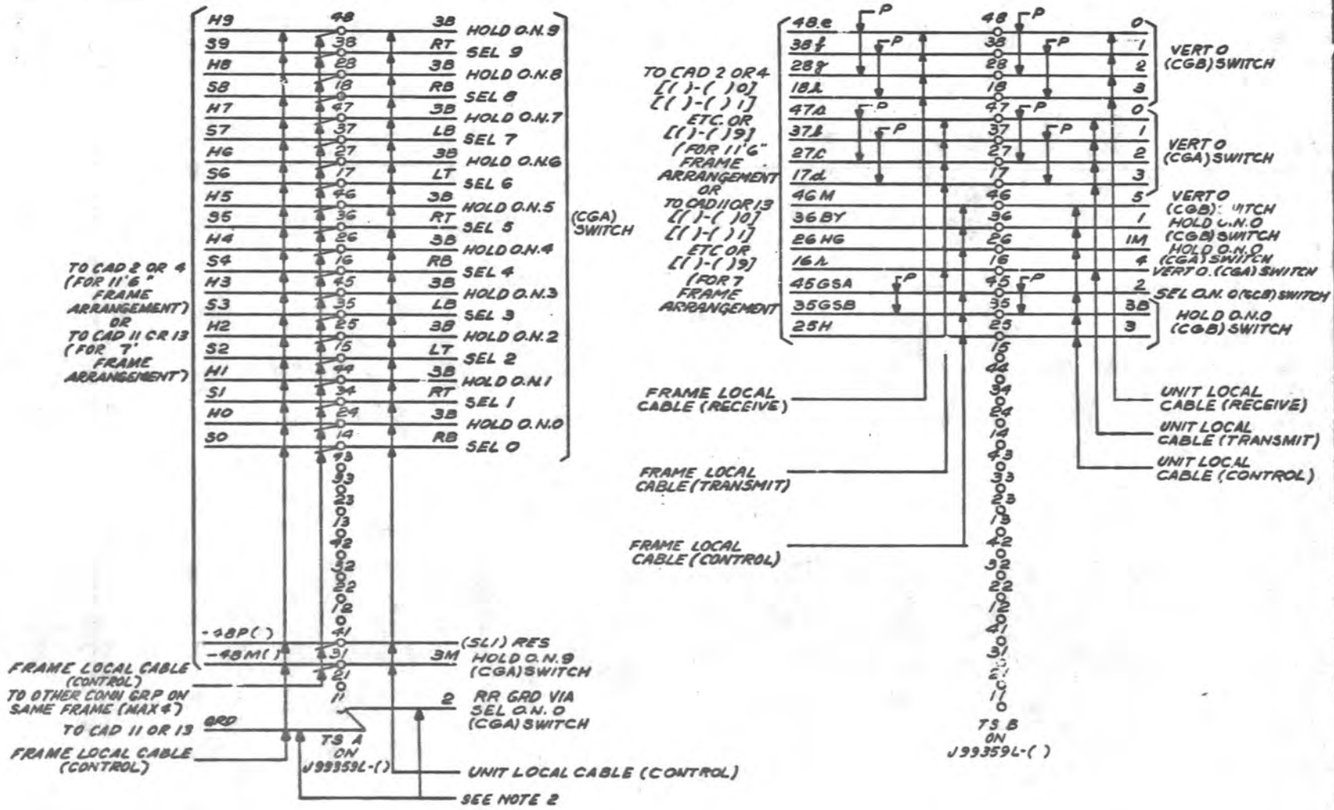
NOTES:

1. LEADS H0,S0 TO H9,S9 AND -48N( ) FROM CAD 5 TO CAD 7 SHALL BE RUN VIA ALL CAD 7 ON FRAME AND SHALL BE LOOPED AT ALL UNEQUIPPED LOCATIONS.

2. FOR 7' FRAME ARRANGEMENT, THE SHOP OR INSTALLER SHALL CUT AND INSULATE THE LEAD THAT NORMALLY CONNECTS TO THE NO.6 FRAME GROUND LEAD AT ITS LAST APPEARANCE ON THE UNIT AND PROVIDE GROUND VIA CAD 11 OR 13.

CAD 6

(FOR APP FIG. 3,4 AND 6)
(FOR 11'6" & 7' FRAME ARRANGEMENT)



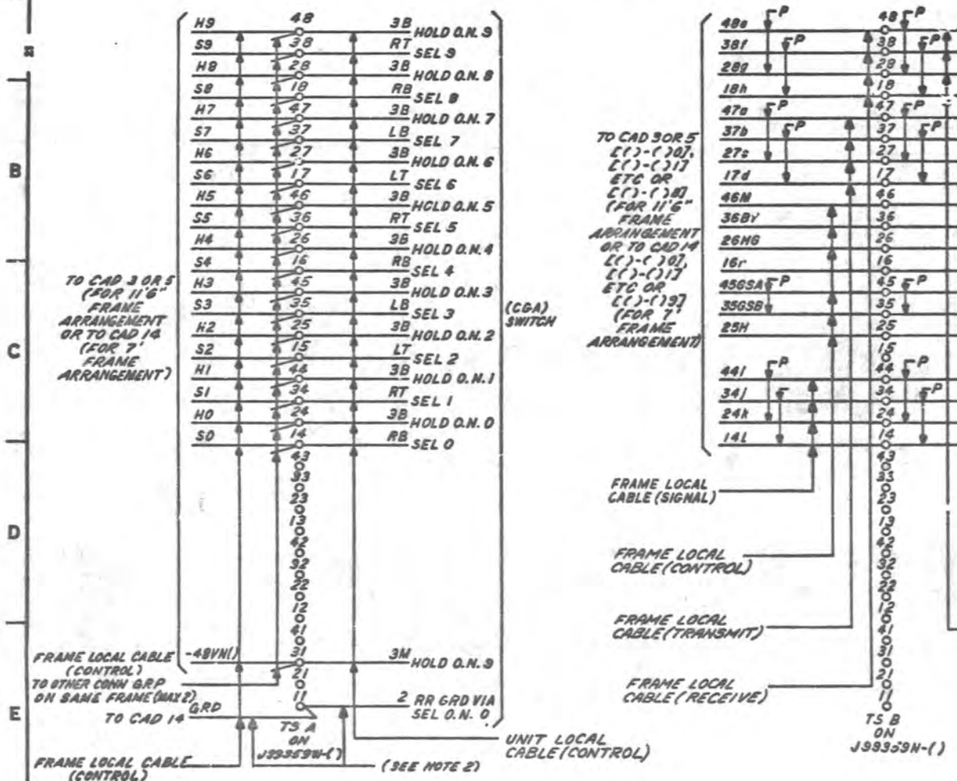
ISSUE 13A

CONTROLLER AND CONNECTOR CIRCUIT	SD-99560-01-613
BELL TELEPHONE LABORATORIES INCORPORATED	6S

SD-99560-01-613

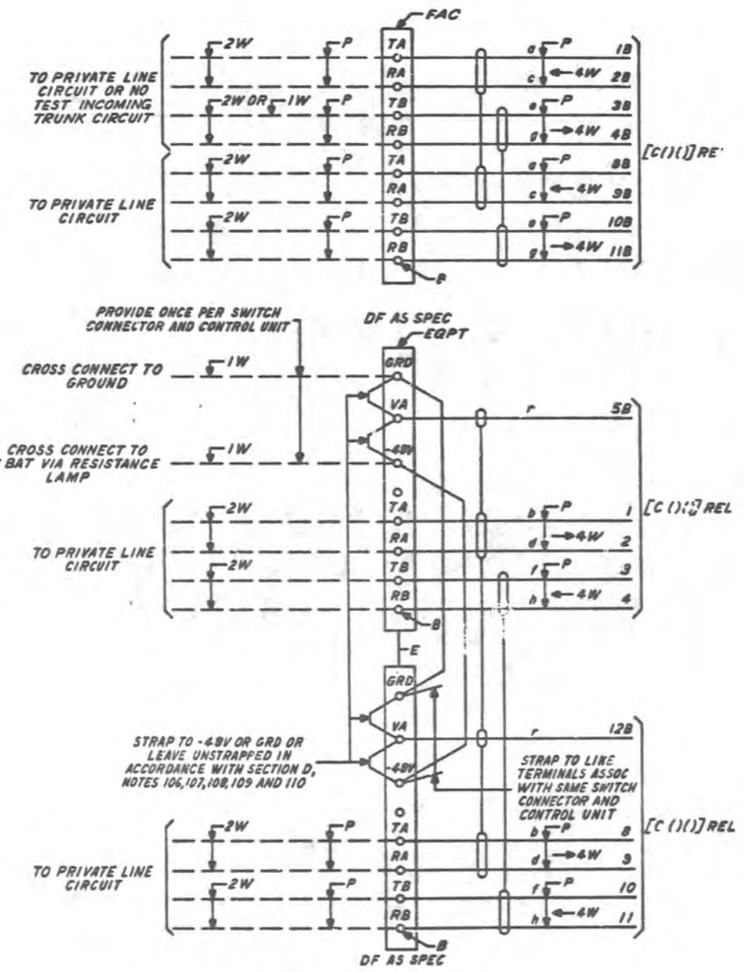
CAD 7

(FOR APP FIG. 3 (V) OPTION AND APP FIG. 5)
(FOR 11'6" AND 7' FRAME ARRANGEMENT)



CAD 8

(FOR APP FIG. 4 & 6)
SEE TABLE A & NOTE 1 & 2, SHEET B28
(SEE SHEET NOTE 1)



NOTES:

1. FRONT OF TERMINAL STRIP SHALL BE STAMPED WITH CONNECTOR GROUP AND CONTROL NUMBER AS WELL AS OTHER STAMPING NORMALLY PROVIDED.
2. FOR 7' FRAME ARRANGEMENT, THE SHOP OR INSTALLER SHALL CUT AND INSULATE THE LEAD THAT NORMALLY CONNECTS TO THE NO. 6 FRAME GROUND LEAD AT ITS LAST APPEARANCE ON THE UNIT AND PROVIDE GROUND VIA CAD 14.

ISSUE 13A

CONTROLLER AND CONNECTOR CIRCUIT

BELL TELEPHONE LABORATORIES INCORPORATED

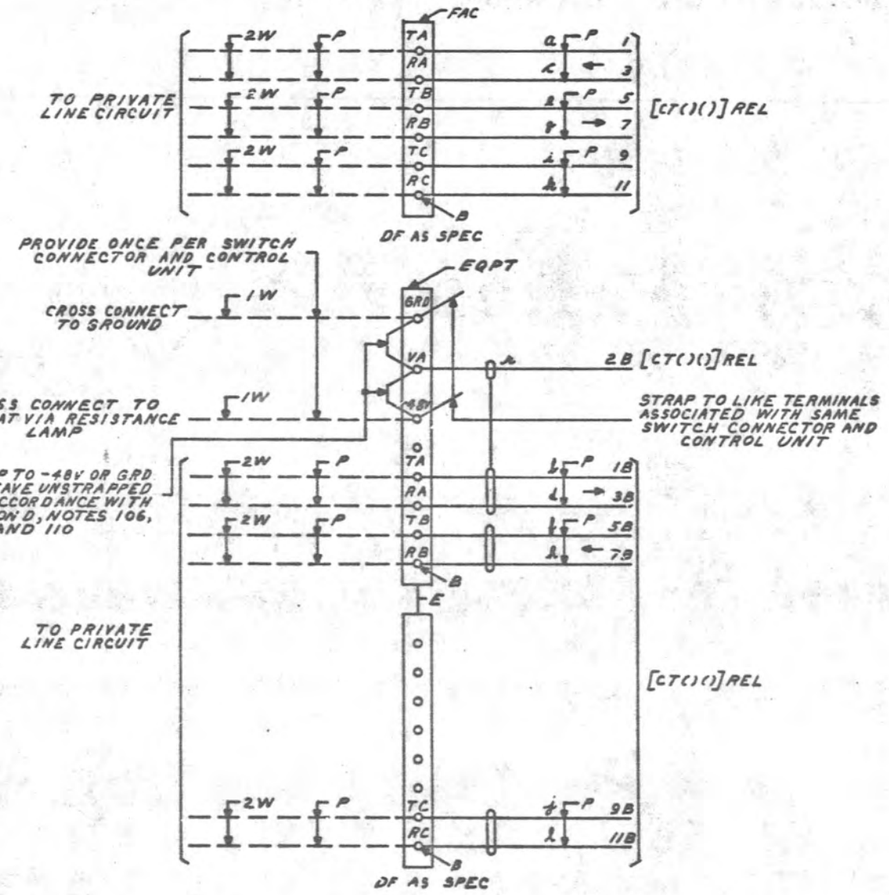
6S

SD-99560-01-G14

SD-99560-01-G14

CAD 9

(FOR APP FIG. 5)
SEE TABLE B AND NOTE 2 SHEET B28
(SEE SHEET NOTE 1)



NOTES:

1. FRONT OF TERMINAL STRIP SHALL BE STAMPED WITH CONNECTOR GROUP AND CONTROL NUMBER AS WELL AS OTHER STAMPING NORMALLY PROVIDED.

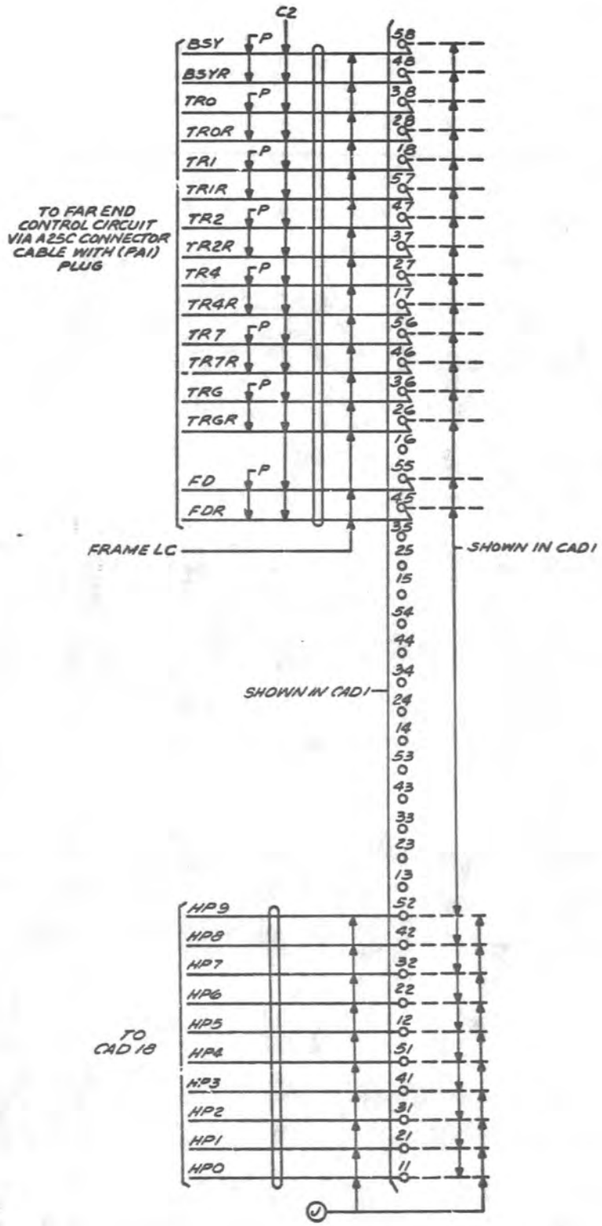
SD-99560-01-615

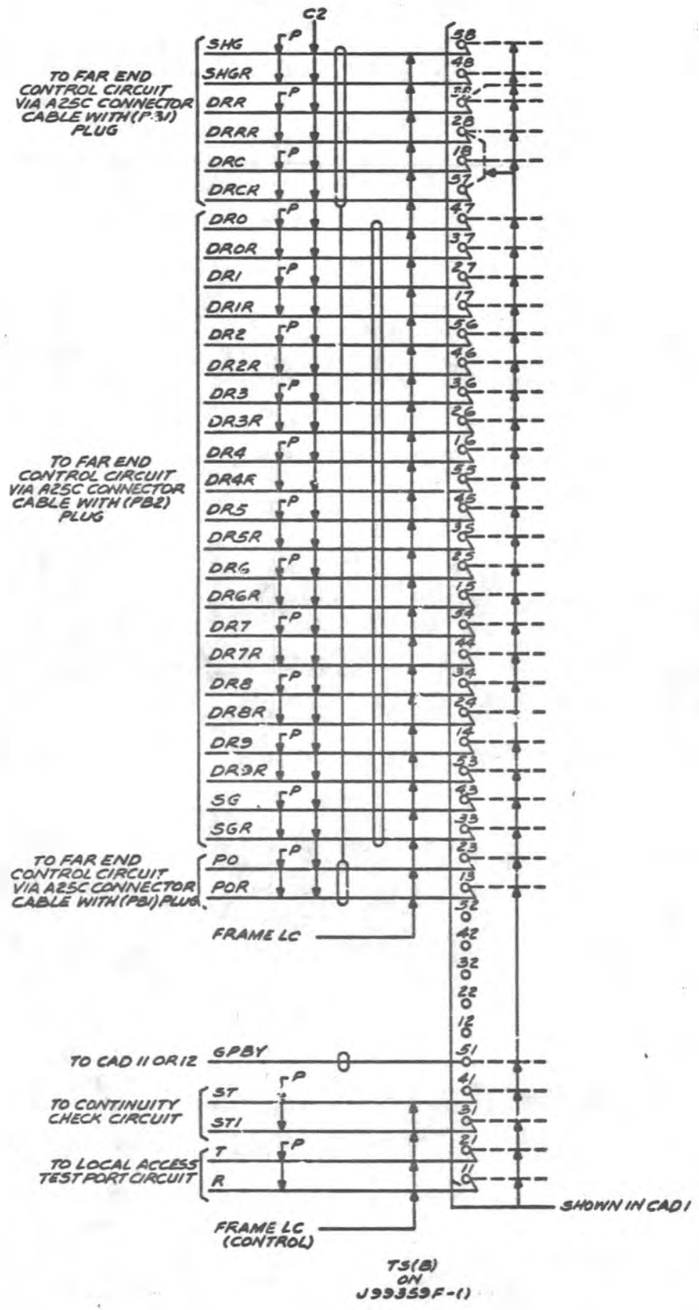
ISSUE 4AK

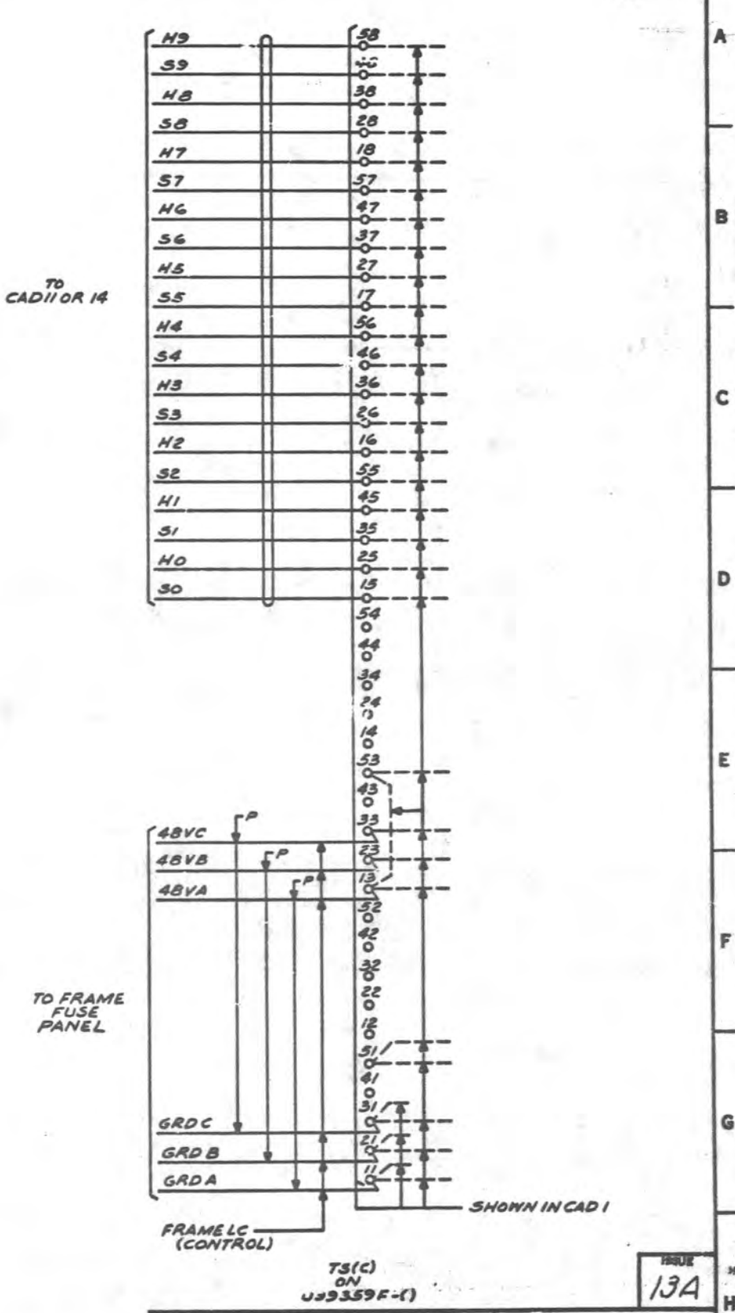
CONTROLLER AND CONNECTOR CIRCUIT	SD-99560-01-G15
BELL TELEPHONE LABORATORIES INCORPORATED	6S

PART OF CAD 10

(FOR APP FIG. 1)
(FOR 7' FRAME ARRANGEMENT)



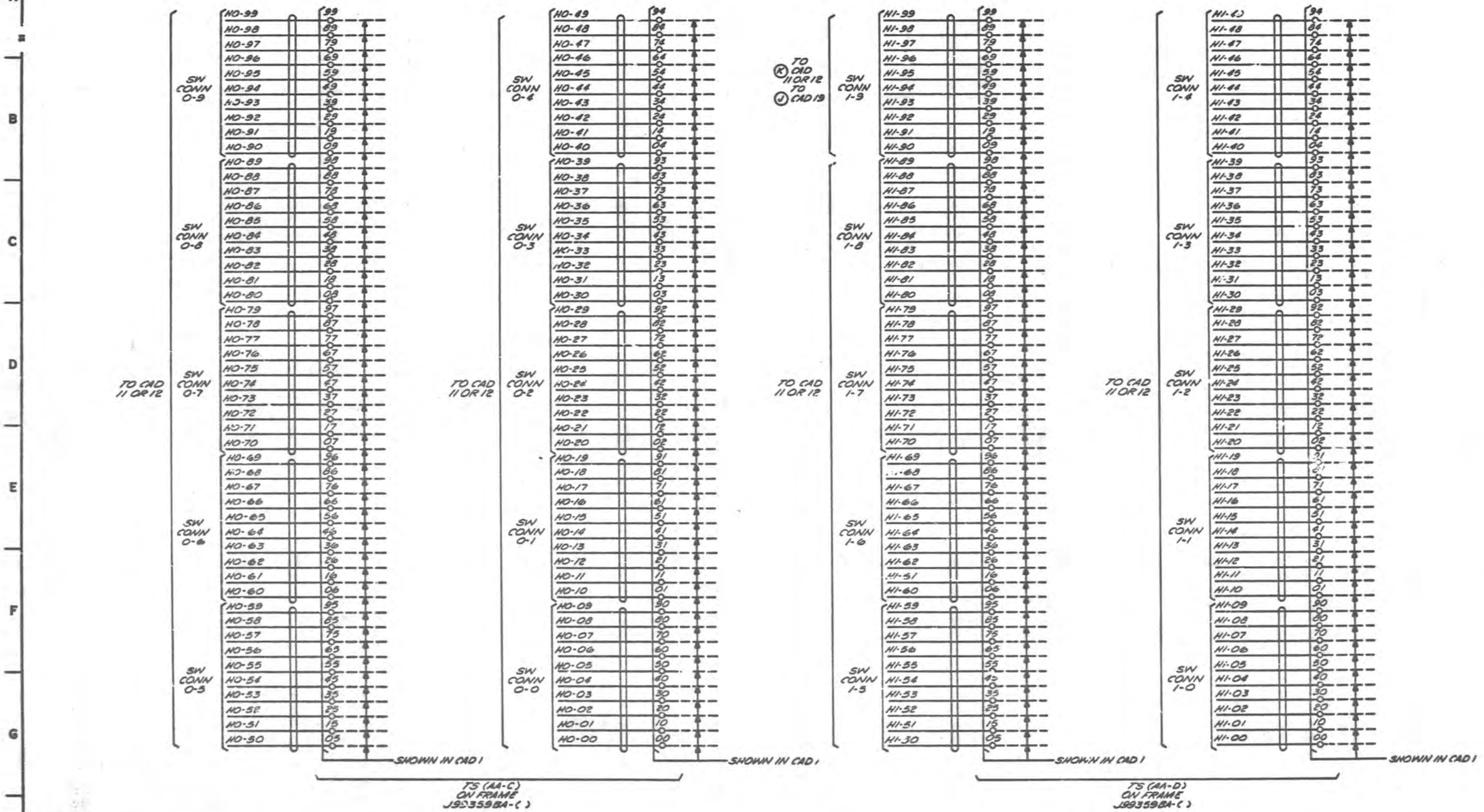




ISSUE 134

CONTROLLER AND CONNECTOR CIRCUIT	SD-99560-01-G16
BELL TELEPHONE LABORATORIES INCORPORATED	SHEET 65

PART OF CAD 10
(FOR APP FIG. 1)
(FOR 7' FRAME ARRANGEMENT)



ISSUE 13A

CONTROLLER AND CONNECTOR CIRCUIT	SD-99560-01-GI7
BELL TELEPHONE LABORATORIES INCORPORATED	SIZE 6S

PART OF CAD 11

(FOR APP FIG 2)
(FOR 7' FRAME ARRANGEMENT)

TO REMOTE ACCESS OR JACK ENDED TEST PORT 9, SUCC AND/OR PREC CAD 11 AND CAD 12 AS REQUIRED TO (J) CAD 19

TO REMOTE ACCESS OR JACK ENDED TEST PORT 8, SUCC AND/OR PREC CAD 11 AND CAD 12 AS REQUIRED TO (J) CAD 19

TO REMOTE ACCESS OR JACK ENDED TEST PORT 7, SUCC AND/OR PREC CAD 11 AND CAD 12 AS REQUIRED TO (J) CAD 19

TO REMOTE ACCESS OR JACK ENDED TEST PORT 6, SUCC AND/OR PREC CAD 11 AND CAD 12 AS REQUIRED TO (J) CAD 19

TO REMOTE ACCESS OR JACK ENDED TEST PORT 5, SUCC AND/OR PREC CAD 11 AND CAD 12 AS REQUIRED TO (J) CAD 19

SHOWN IN CAD 2

TO REMOTE ACCESS OR JACK ENDED TEST PORT 4, SUCC AND/OR PREC CAD 11 AND CAD 12 AS REQUIRED TO (J) CAD 19

TO REMOTE ACCESS OR JACK ENDED TEST PORT 3, SUCC AND/OR PREC CAD 11 AND CAD 12 AS REQUIRED TO (J) CAD 19

TO REMOTE ACCESS OR JACK ENDED TEST PORT 2, SUCC AND/OR PREC CAD 11 AND CAD 12 AS REQUIRED TO (J) CAD 19

TO LOCAL ACCESS TEST PORT, SUCC AND/OR PREC CAD 11 AND CAD 12 AS REQUIRED TO (J) CAD 19

SHOWN IN CAD 2

TO REMOTE ACCESS OR JACK ENDED TEST PORT 9, SUCC AND/OR PREC CAD 11 AND CAD 12 AS REQUIRED TO (J) CAD 19

TO REMOTE ACCESS OR JACK ENDED TEST PORT 8, SUCC AND/OR PREC CAD 11 AND CAD 12 AS REQUIRED TO (J) CAD 19

TO REMOTE ACCESS OR JACK ENDED TEST PORT 7, SUCC AND/OR PREC CAD 11 AND CAD 12 AS REQUIRED TO (J) CAD 19

TO REMOTE ACCESS OR JACK ENDED TEST PORT 6, SUCC AND/OR PREC CAD 11 AND CAD 12 AS REQUIRED TO (J) CAD 19

TO REMOTE ACCESS OR JACK ENDED TEST PORT 5, SUCC AND/OR PREC CAD 11 AND CAD 12 AS REQUIRED TO (J) CAD 19

TO REMOTE ACCESS OR JACK ENDED TEST PORT 4, SUCC AND/OR PREC CAD 11 AND CAD 12 AS REQUIRED TO (J) CAD 19

TO REMOTE ACCESS OR JACK ENDED TEST PORT 3, SUCC AND/OR PREC CAD 11 AND CAD 12 AS REQUIRED TO (J) CAD 19

TO REMOTE ACCESS OR JACK ENDED TEST PORT 2, SUCC AND/OR PREC CAD 11 AND CAD 12 AS REQUIRED TO (J) CAD 19

TO LOCAL ACCESS TEST PORT, SUCC AND/OR PREC CAD 11 AND CAD 12 AS REQUIRED TO (J) CAD 19

SHOWN IN CAD 2

TO LOCAL ACCESS TEST PORT, SUCC AND/OR PREC CAD 11 AND CAD 12 AS REQUIRED TO (J) CAD 19

TS (G) ON J99359K-( ) (SEE NOTE 1)

FRAME LOCAL CABLE (TRANSMIT) WHEN ON SAME FRAME OR BAY

FRAME LOCAL CABLE (RECEIVE) WHEN ON SAME FRAME OR BAY

TS (H) ON J99359K-( ) (SEE NOTE 2)

FRAME LOCAL CABLE (CONTROL) WHEN ON SAME FRAME OR BAY

NOTES:

1. LEADS A, B, C, D, E, F, G, H, GPBY, HG, AND N LEADS TO REMOTE, JACK ENDED AND LOCAL ACCESS PORT SHALL BE RUN FROM THE FIRST CAD 11 OR 12 ONLY.

NOTES: (CONT)

2. LEADS S( )A0-1 AND S( )B0-1 TO REMOTE, JACK ENDED AND LOCAL ACCESS PORTS SHALL BE RUN FROM THE FIRST CAD 11 OR 12 ONLY. LEADS S( )A0-2 AND S( )B0-2 TO REMOTE, JACK ENDED AND LOCAL ACCESS PORTS SHALL BE RUN FROM THE SIXTH CAD 11 OR CAD 12 ONLY. LEADS S( )A1-1 AND S( )B1-1 TO REMOTE, JACK ENDED AND LOCAL ACCESS PORT SHALL BE RUN FROM THE ELEVENTH

NOTES: (CONT)

2. CAD 11 OR CAD 12 ONLY. LEADS S( )A1-2 AND S( )B1-2 TO REMOTE, JACK ENDED AND LOCAL ACCESS PORTS SHALL BE RUN FROM THE SIXTEENTH CAD 11 OR CAD 12 ONLY.

ISSUE 1.RA

CONTROLLER AND CONNECTOR CIRCUIT

SD-99560-01-GI8

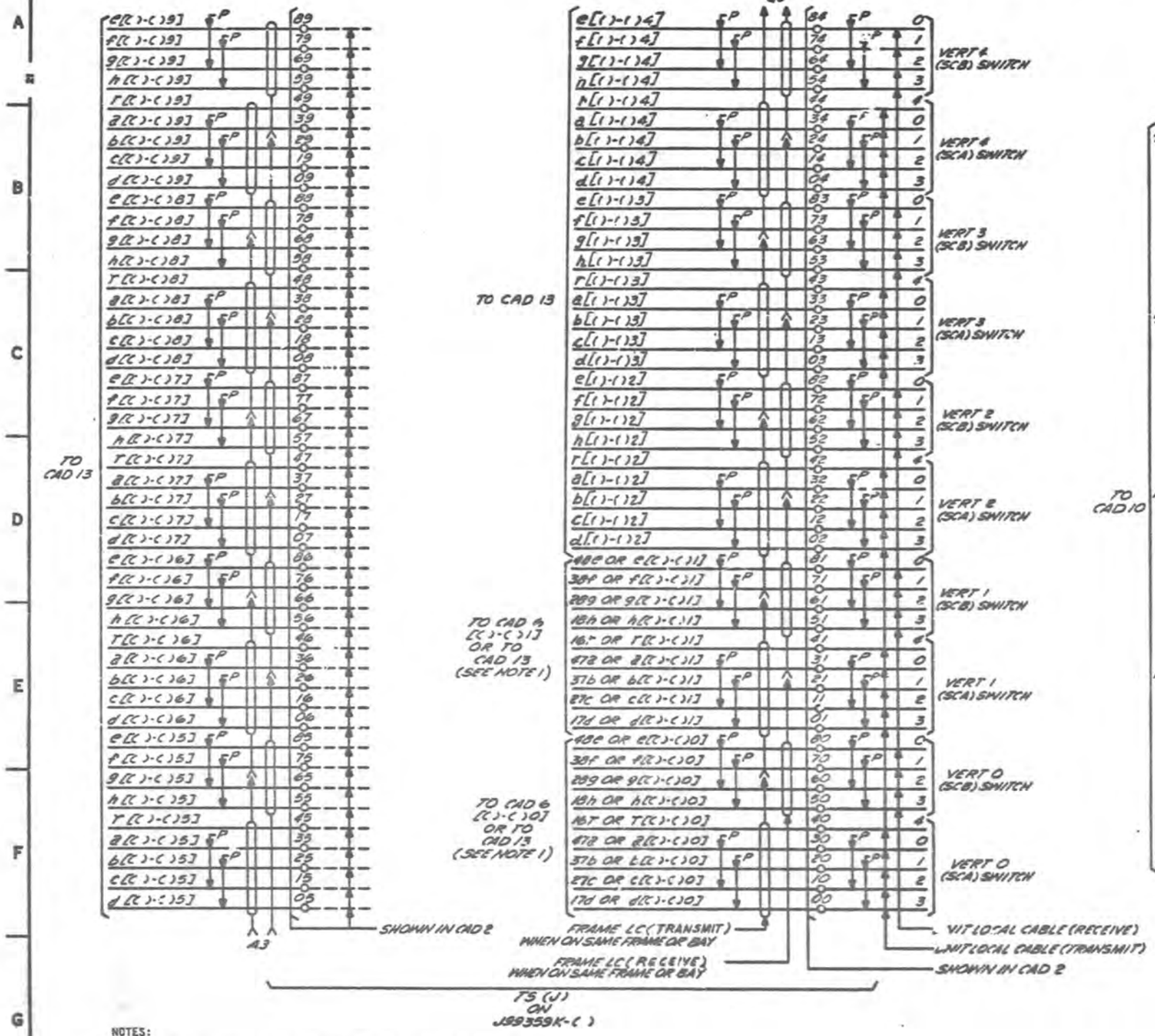
BELL TELEPHONE LABORATORIES INCORPORATED

SIZE 6S

PRINTED IN U.S.A.

PART OF CAD 11

(FOR APP FIG. 2)
(FOR 7' FRAME ARRANGEMENT)



NOTES:

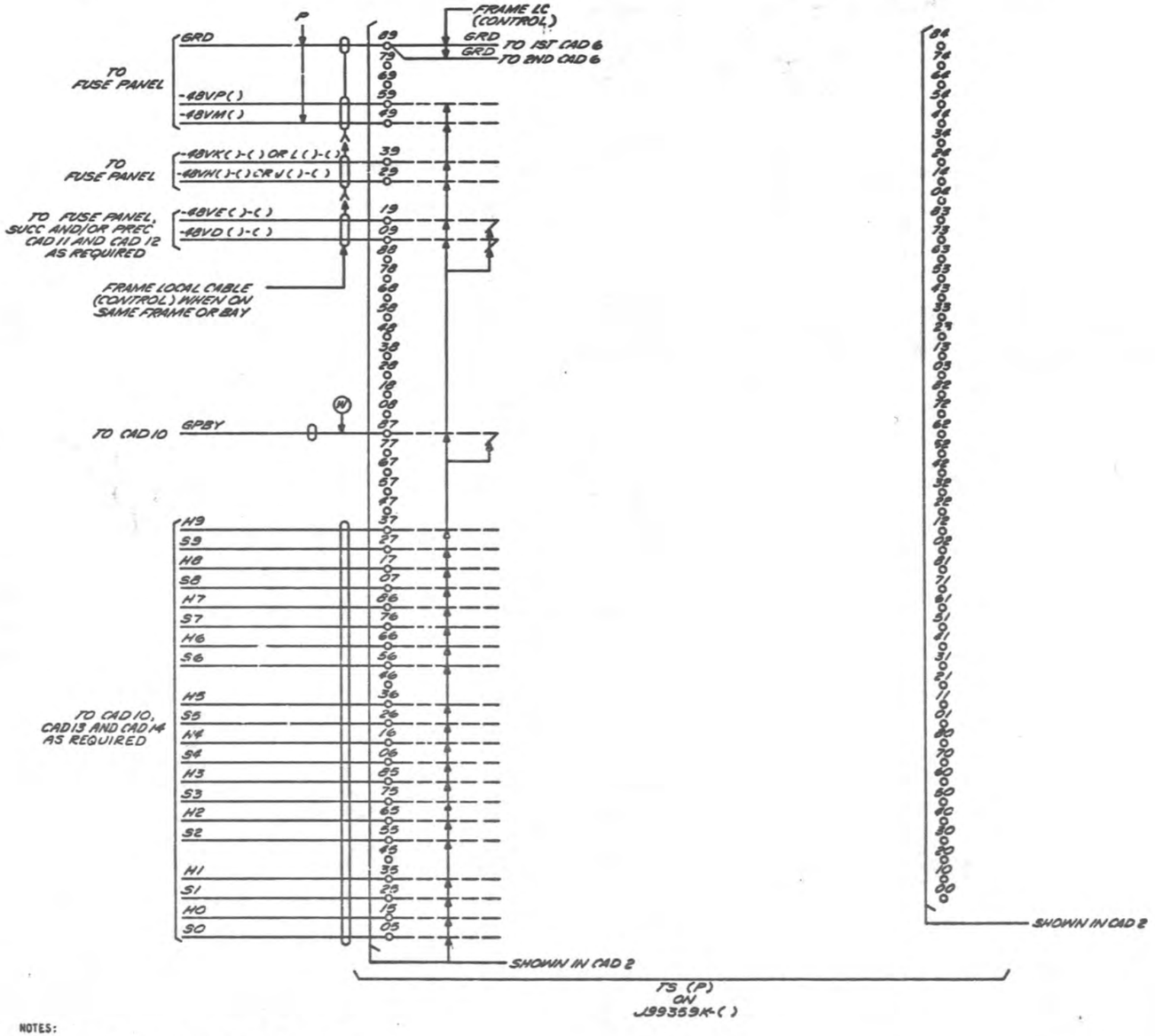
1. FIRST DESIGNATION 48e, 38f, ETC. APPLY WHEN CAD 6 IS IN THE SAME FRAME OR BAY, SECOND DESIGNATION e[( )-( )1], f[( )-( )1] ETC. APPLY WHEN CAD 6 IS NOT IN THE SAME FRAME OR BAY.

2. FIRST DESIGNATION 46M, 36BY ETC. APPLY WHEN CAD 6 IS IN THE SAME FRAME OR BAY, SECOND DESIGNATION M[( )-( )1], BY[( )-( )1] ETC. APPLY WHEN CAD 6 IS NOT IN THE SAME FRAME OR BAY.

ISSUE 13A

CONTROLLER AND CONNECTOR CIRCUIT	SD-99560-01-G19
BELL TELEPHONE LABORATORIES INCORPORATED	6S

PART OF CAD 11
(FOR APP FIG. 2)
(FOR 7' FRAME ARRANGEMENT)



NOTES:

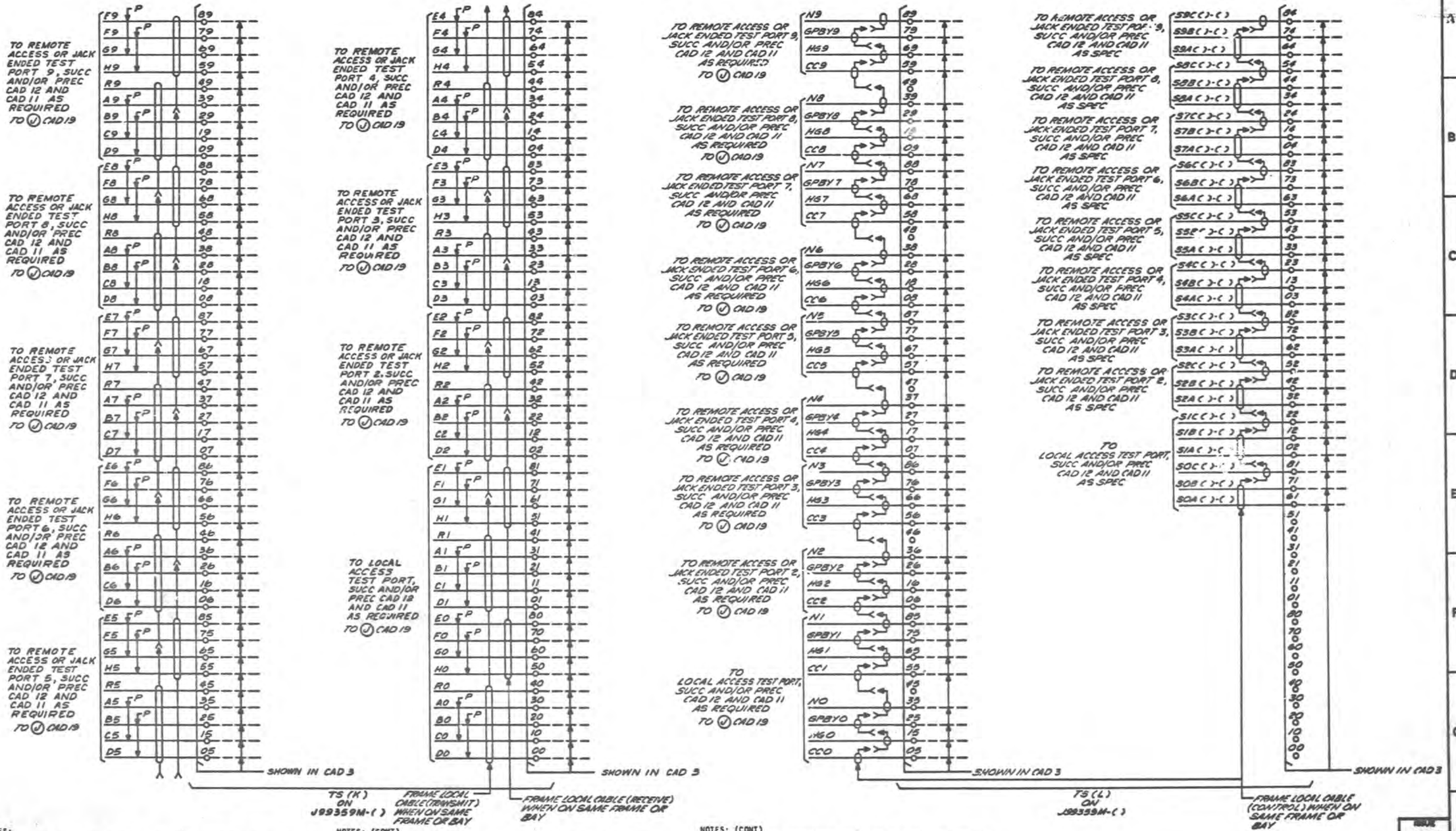
1. LEADS H0, S0, THRU H9, S9, AND GPBY TO CAD 10 SHALL BE RUN FROM THE FIRST CAD 11 OR CAD 14 ONLY.

ISSUE 1.7A

CONTROLLER AND CONNECTOR CIRCUIT	SD-99560-01-620
BELL TELEPHONE LABORATORIES INCORPORATED	SIZE 6S

PART OF CAD 12

(FOR APP FIG. 2, "S", "T", AND "Z" OPTION)
(FOR "7" FRAME ARRANGEMENT)



NOTES:

1. LEADS A, B, C, D, E, F, G, H, GPBY, HG, AND N TO REMOTE, JACK ENDED AND LOCAL ACCESS PORTS SHALL BE RUN FROM THE FIRST CAD 11 OR 12 ONLY. LEADS CC, J, K, L AND M TO REMOTE, JACK ENDED AND LOCAL ACCESS PORTS SHALL BE RUN FROM THE FIRST CAD 12 ONLY.

NOTES: (CONT)

2. LEADS S( )A0-1 AND S( )B0-1 TO REMOTE, ACK ENDED AND LOCAL ACCESS PORTS SHALL BE RUN FROM THE FIRST CAD 11 OR CAD 12 ONLY. LEADS S( )A0-2 AND S( )B0-2 TO REMOTE, JACK ENDED AND LOCAL ACCESS PORTS SHALL BE RUN FROM THE SIXTH CAD 11 OR 12 ONLY. LEADS S( )A1-1 AND S( )B1-1 TO REMOTE, JACK ENDED AND LOCAL ACCESS PORTS SHALL BE RUN FROM THE ELEVENTH CAD 11 OR CAD 12 ONLY. LEADS S( )A1-2 AND S( )B1-2 TO

NOTES: (CONT)

2. REMOTE, JACK ENDED LOCAL ACCESS PORTS SHALL BE RUN FROM THE SIXTEENTH CAD 11 OR CAD 12 ONLY. LEADS S( )C0-1, S( )C0-2, S( )C1-1 AND S( )C1-2 TO REMOTE, JACK ENDED AND LOCAL ACCESS PORTS SHALL BE RUN FROM THE FIRST SIXTH, ELEVENTH AND SIXTEENTH CAD 12 ONLY RESPECTIVELY.

ISSUE 13A

CONTROLLER AND CONNECTOR CIRCUIT	SD-99560-01-G21
BELL TELEPHONE LABORATORIES INCORPORATED	SIZE 6S

PART OF CAD 12
(FOR APP FIG 2 "S" "T" AND "Z" OPTION)
(FOR 7' FRAME ARRANGEMENT)

TO REMOTE ACCESS OR JACK ENDED TEST PORT 9, SUCC AND/OR PREC CAD 12

TO REMOTE ACCESS OR JACK ENDED TEST PORT 8, SUCC AND/OR PREC CAD 12

TO REMOTE ACCESS OR JACK ENDED TEST PORT 7, SUCC AND/OR PREC CAD 12

TO REMOTE ACCESS OR JACK ENDED TEST PORT 6, SUCC AND/OR PREC CAD 12

TO REMOTE ACCESS OR JACK ENDED TEST PORT 5, SUCC AND/OR PREC CAD 12

TO REMOTE ACCESS OR JACK ENDED TEST PORT 4, SUCC AND/OR PREC CAD 12

TO REMOTE ACCESS OR JACK ENDED TEST PORT 3, SUCC AND/OR PREC CAD 12

TO REMOTE ACCESS OR JACK ENDED TEST PORT 2, SUCC AND/OR PREC CAD 12

TO LOCAL ACCESS TEST PORT SUCC AND/OR PREC CAD 12

SHOWN IN CAD 3

FRAME LOCAL CABLE (SIGNAL) WHEN ON SAME FRAME OR BAY

TS(M) ON J99359M-()

TO CAD 14

VERT 9 (SCB) SWITCH

VERT 9 (SCA) SWITCH

UNIT LOCAL CABLE (RECEIVE)

UNIT LOCAL CABLE (TRANSMIT)

SHOWN IN CAD 3

TS(N) ON J99359M-()

TO CAD 14

SHOWN IN CAD 3

VERT 2 (SCB) SWITCH

VERT 2 (SCA) SWITCH

VERT 1 (SCB) SWITCH

VERT 1 (SCA) SWITCH

VERT 0 (SCB) SWITCH

VERT 0 (SCA) SWITCH

UNIT LOCAL CABLE (RECEIVE)

UNIT LOCAL CABLE (TRANSMIT)

ISSUE 134

CONTROLLER AND CONNECTOR CIRCUIT

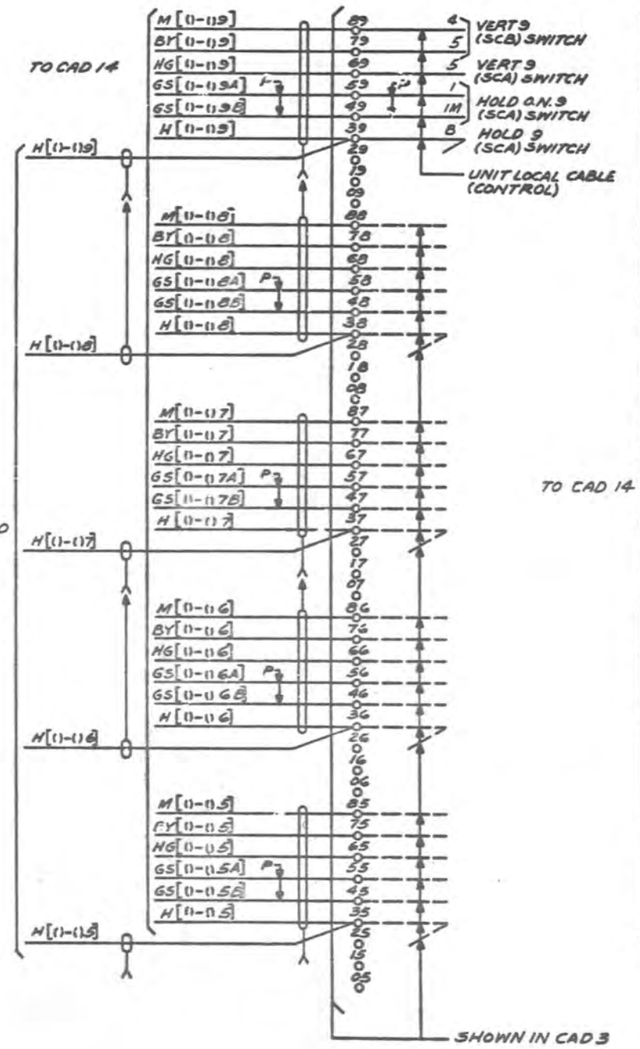
SD-99560-01-G22

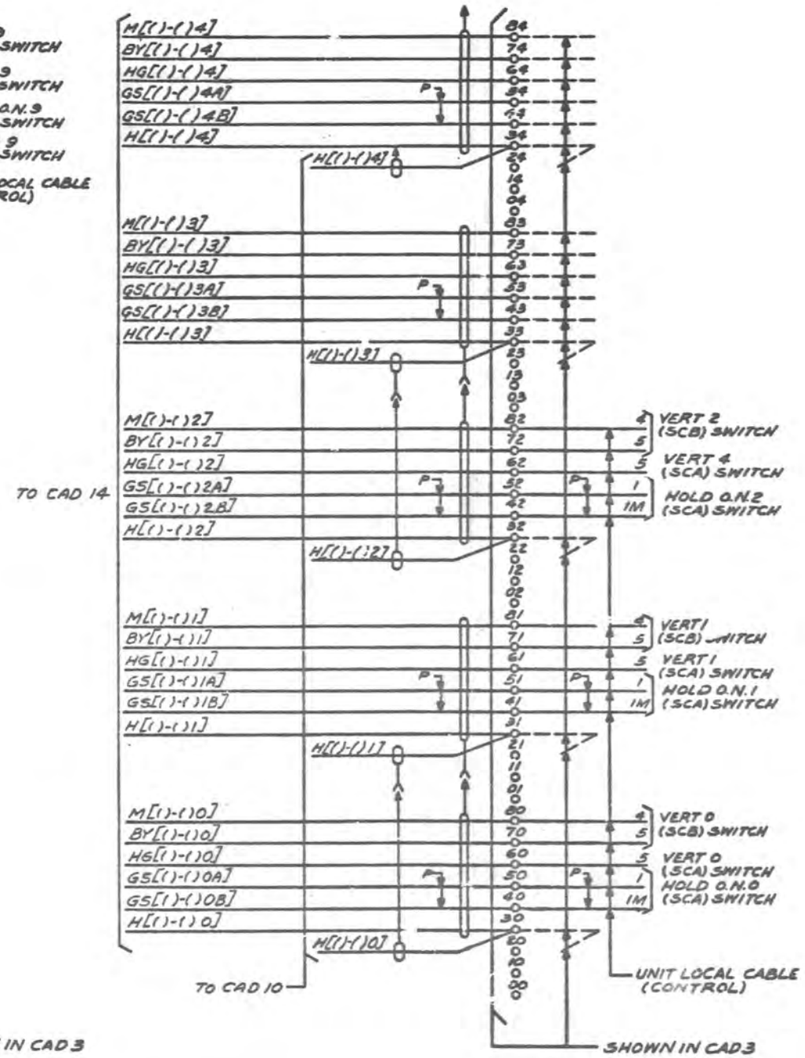
BELL TELEPHONE LABORATORIES INCORPORATED

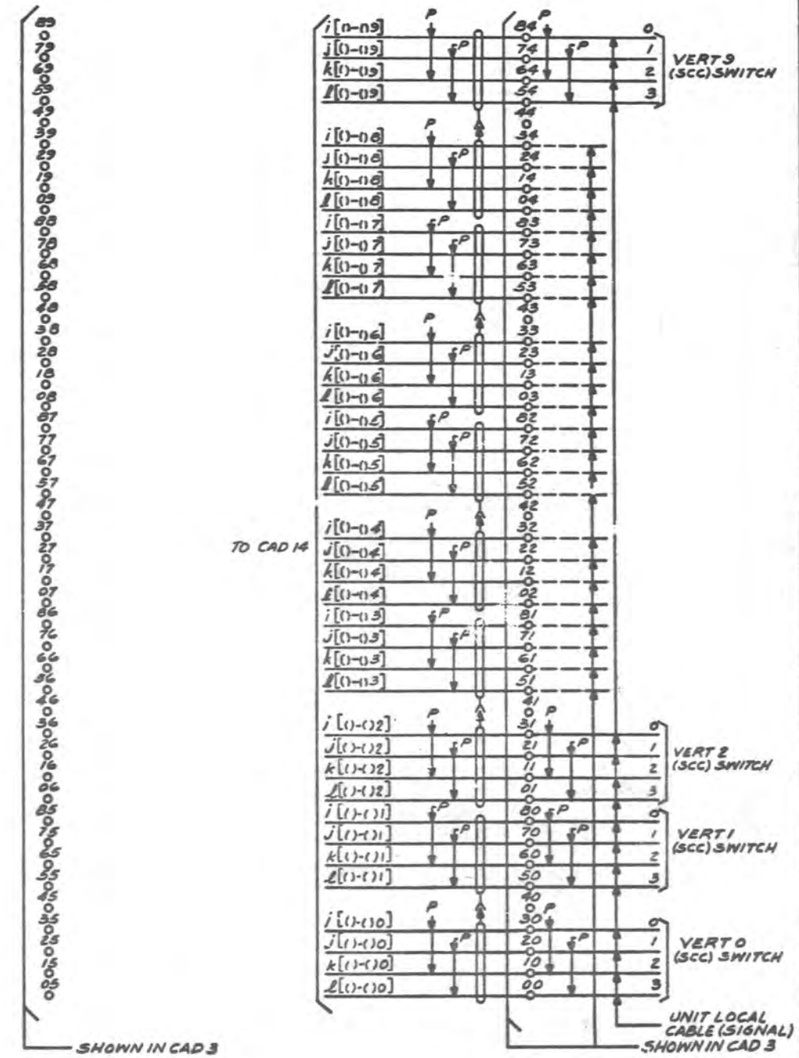
6S

PART OF CAD 12

(FOR APP FIG. 2, "S" "T" & "Z" OPTION)
(FOR 7' FRAME ARRANGEMENT)







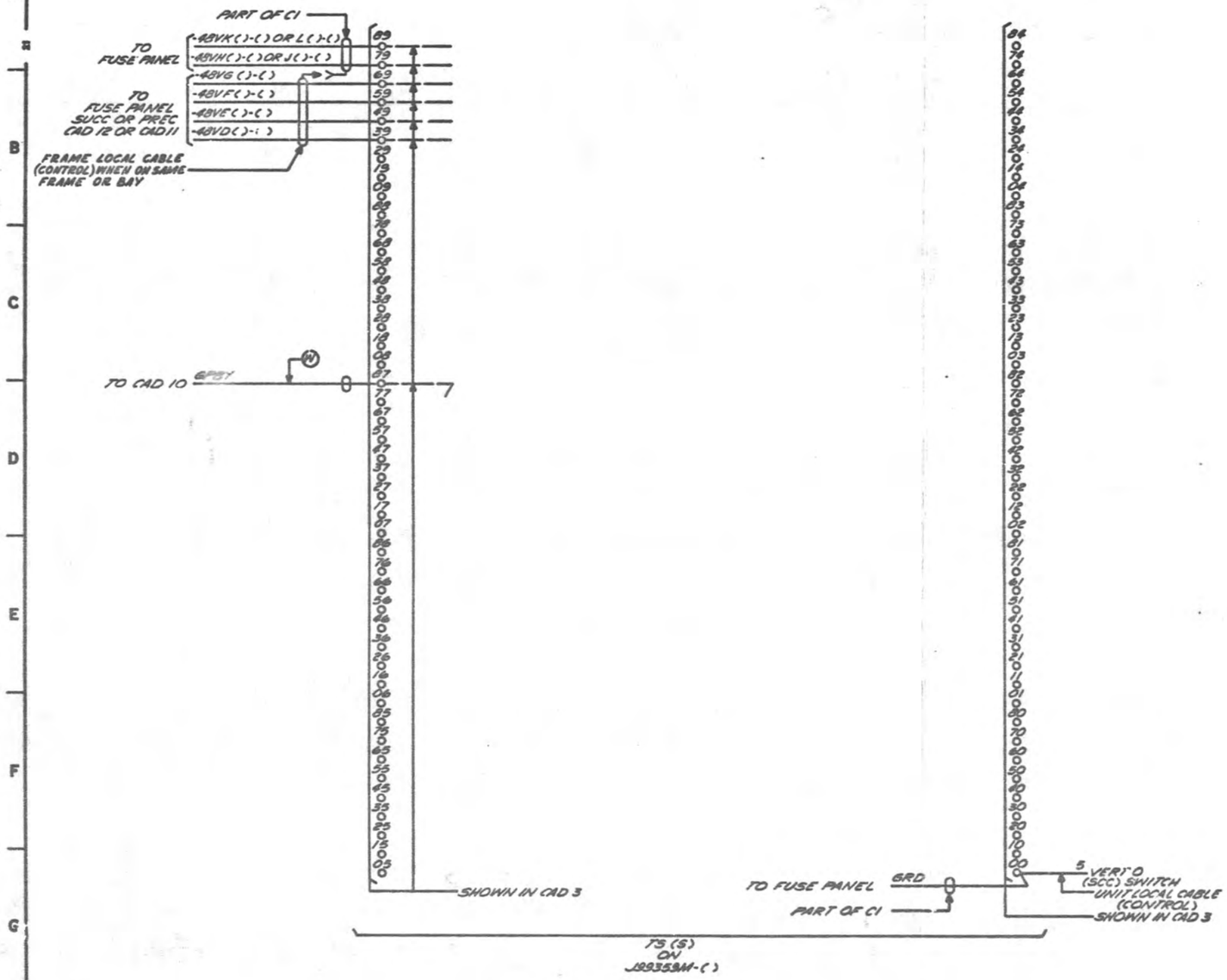
TS(P) ON J99359M-()

TS(Q) ON J99359M-()

ISSUE 13 A1	
CONTROLLER AND CONNECTOR CIRCUIT	SD-99560-01-G23
BELL TELEPHONE LABORATORIES INCORPORATED	6S

PART OF CAD 12

(FOR APP FIG. 2, "S", "T" AND "Z" OPTION)
(FOR 7' FRAME ARRANGEMENT)

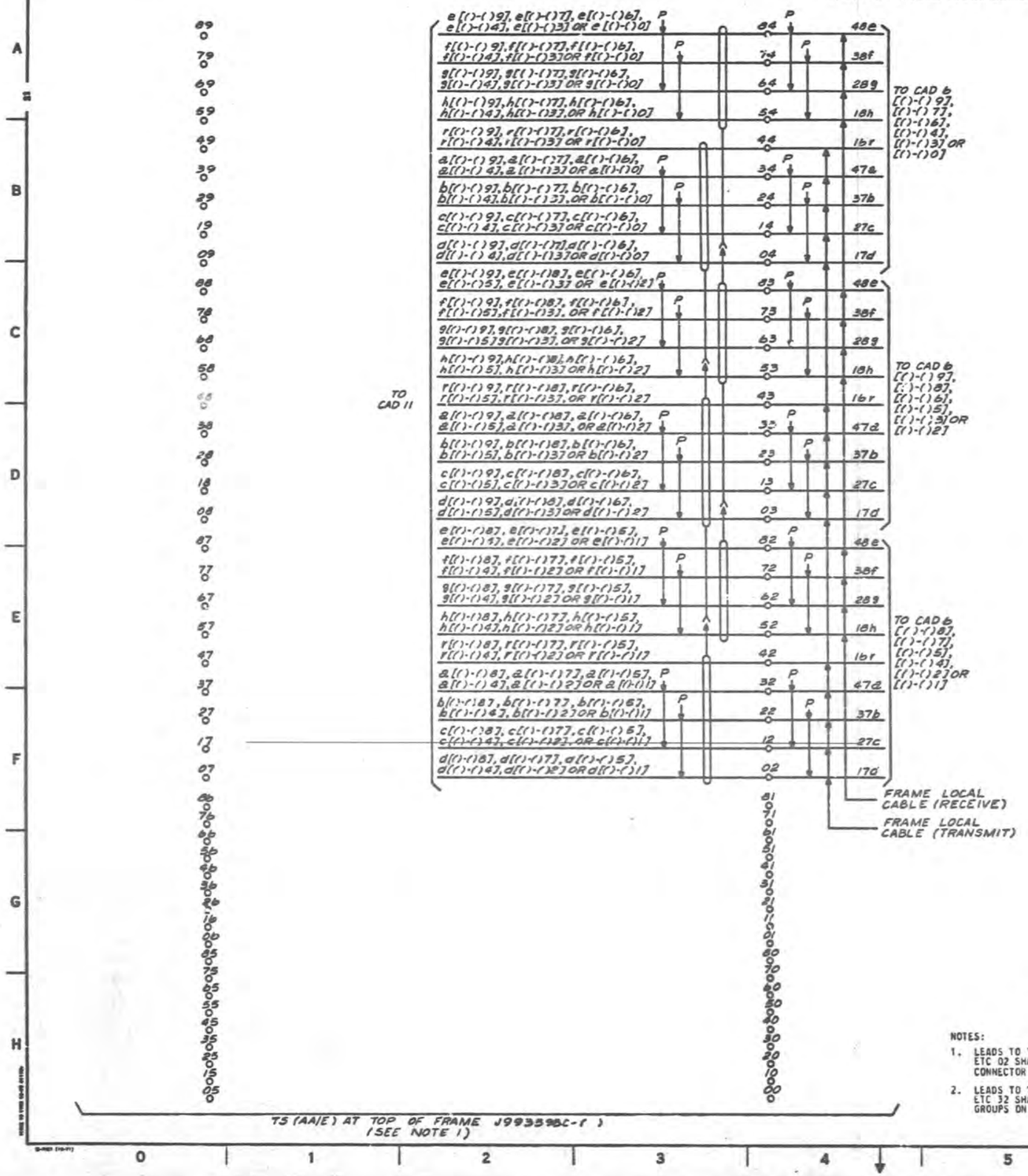


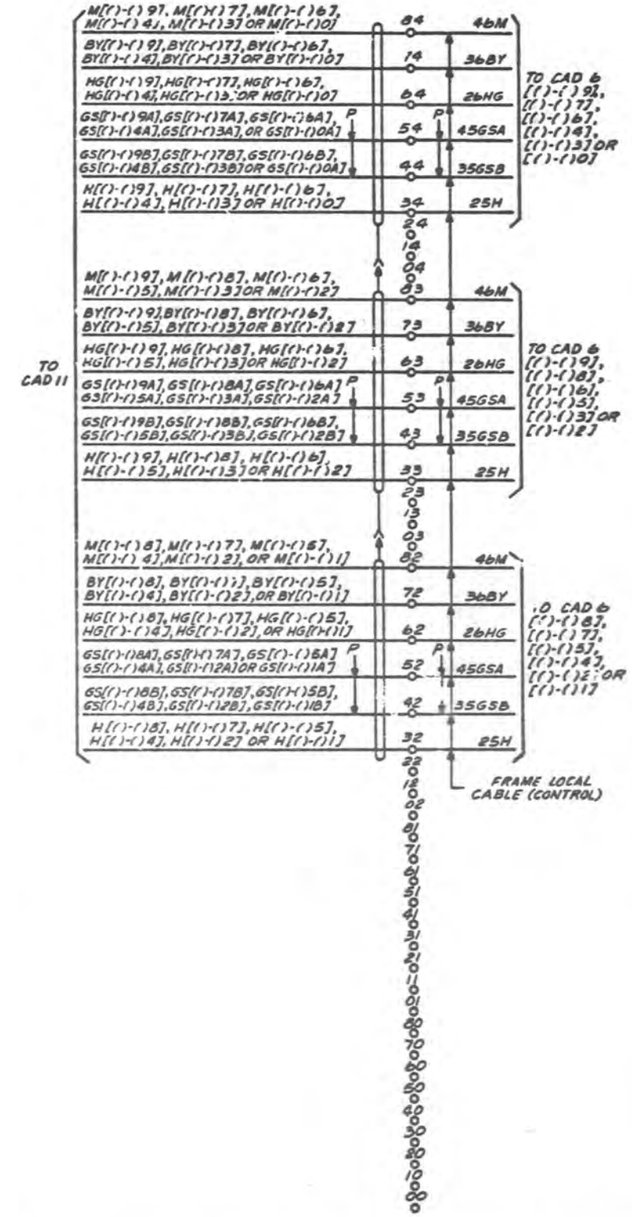
CONTROLLER AND CONNECTOR CIRCUIT	SD-99560-01-G24
BELL TELEPHONE LABORATORIES INCORPORATED	65

13A

PART OF CAD 13

(FOR APP FIG. 2, 3, 4 AND 6)
(FOR 7' FRAME ARRANGEMENT)





NOTES:

1. LEADS TO TERMINALS 84,74 ETC 04, 83, 73, ETC 03, AND 82, 72, ETC 02 SHALL BE CONNECTED TO THE TOP, MIDDLE, AND LOWER CONNECTOR GROUPS ON THE FRAME RESPECTIVELY.
2. LEADS TO TERMINALS 84, 74, ETC 34, 83, 73, ETC 33, AND 82, 72, ETC 32 SHALL BE CONNECTED TO THE TOP, MIDDLE, AND LOWER CONNECTOR GROUPS ON THE FRAME RESPECTIVELY.

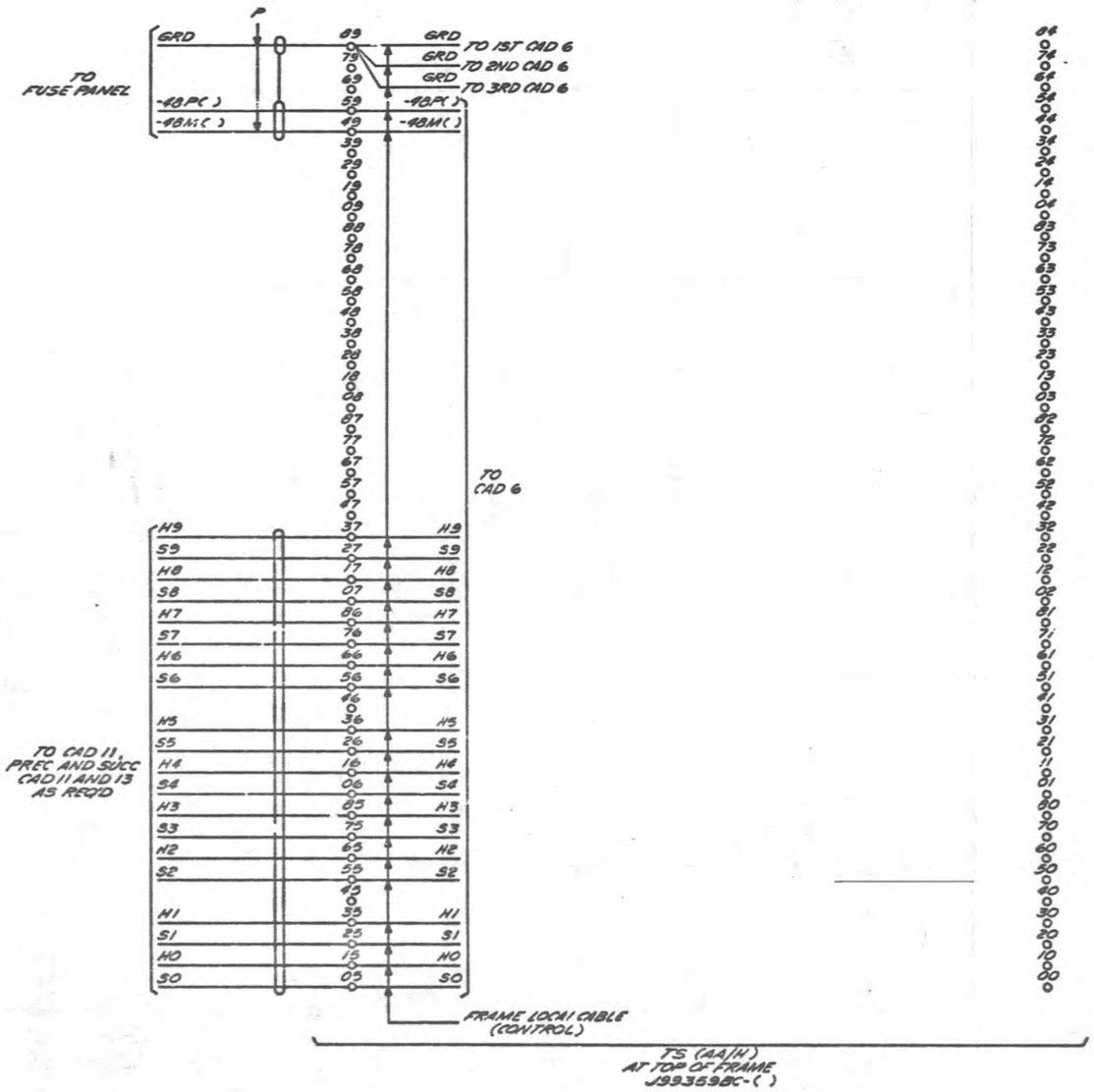
ISSUE 7B

CONTROLLER AND CONNECTOR CIRCUIT	SD-99560-01-G25
BELL TELEPHONE LABORATORIES INCORPORATED	SIZE 6S

PRINTED IN U.S.A.

PART OF CAD 13

(FOR APP FIG. 2,3,4 AND 6)
(FOR 7' FRAME ARRANGEMENT)



NOTES:

1. LEADS H0, S0, THRU H9, S9, AND -48M( ) AND -48P( ) FROM CAD 13 TO CAD 6 SHALL BE RUN VIA ALL CAD 6 ON FRAME AND SHALL BE LOOPED AT ALL UNEQUIPPED LOCATIONS.

ISSUE	7B
CONTROLLER AND CONNECTOR CIRCUIT	SD-99560-01-G26
BELL TELEPHONE LABORATORIES INCORPORATED	SIZE 6S

CAD 14

(FOR APP FIG. 2, Z OPTION, 3 Y OPTION, AND APP FIG. 5)
(FOR 7' FRAME ARRANGEMENT)

TO CAD 12

M[ ]-( )0], M[ ]-( )1], M[ ]-( )5], M[ ]-( )3] OR M[ ]-( )1] — 59 — 46M
BY[ ]-( )0], BY[ ]-( )1], BY[ ]-( )5], BY[ ]-( )3] OR BY[ ]-( )1] — 49 — 36BY
H6[ ]-( )0], H6[ ]-( )1], H6[ ]-( )5], H6[ ]-( )3] OR H6[ ]-( )1] — 39 — 26H6
6S[ ]-( )0A], 6S[ ]-( )1A], 6S[ ]-( )5A], 6S[ ]-( )3A] OR 6S[ ]-( )M] (P) — 29 (P) — 46S4
6S[ ]-( )0B], 6S[ ]-( )1B], 6S[ ]-( )5B], 6S[ ]-( )3B] OR 6S[ ]-( )1B] — 19 — 36S8
H[ ]-( )0], H[ ]-( )1], H[ ]-( )5], H[ ]-( )3] OR H[ ]-( )1] — 09 — 25H

TO CAD 7 [ ]-( )0], [ ]-( )1], [ ]-( )5], [ ]-( )3] OR [ ]-( )1]

M[ ]-( )0], M[ ]-( )6], M[ ]-( )4], M[ ]-( )2] OR M[ ]-( )0] — 58 — 46L
BY[ ]-( )0], BY[ ]-( )6], BY[ ]-( )4], BY[ ]-( )2] OR BY[ ]-( )0] — 48 — 36BY
H6[ ]-( )0], H6[ ]-( )6], H6[ ]-( )4], H6[ ]-( )2] OR H6[ ]-( )0] — 38 — 26H6
6S[ ]-( )0A], 6S[ ]-( )6A], 6S[ ]-( )4A], 6S[ ]-( )2A] OR 6S[ ]-( )0A] (P) — 28 (P) — 46S4
6S[ ]-( )0B], 6S[ ]-( )6B], 6S[ ]-( )4B], 6S[ ]-( )2B] OR 6S[ ]-( )0B] — 18 — 36S8
H[ ]-( )0], H[ ]-( )6], H[ ]-( )4], H[ ]-( )2] OR H[ ]-( )0] — 08 — 25H

TO CAD 7 [ ]-( )0], [ ]-( )6], [ ]-( )4], [ ]-( )2] OR [ ]-( )0]

57 47 37 27 17 07 56 46 36 26 16 06 55 45 35 25 15 05

-48N-( ) (P) — 54 — -48N-( ) TO CAD 7
TO FUSE PANEL
GRD — 04 — GRD TO 1ST CAD 7, TO 2ND CAD 7

53 43 33 23

H9 — 13 — H9
S9 — 03 — S9
H8 — 52 — H8
S8 — 42 — S8
H7 — 32 — H7
S7 — 22 — S7
H6 — 12 — H6
S6 — 02 — S6
H5 — 51 — H5
S5 — 41 — S5
H4 — 31 — H4 TO CAD 7
S4 — 21 — S4
H3 — 11 — H3
S3 — 01 — S3
H2 — 50 — H2
S2 — 40 — S2
H1 — 30 — H1
S1 — 20 — S1
H0 — 10 — H0
S0 — 00 — S0

TO CAD 10 OR 11 OR PREC AND SUCC CAD 14 AS REQUIRED

FRAME LOCAL CABLE (CONTROL)

TS (AA/H) AT TOP OF FRAME J99359BE-( ) (SEE NOTE 1)

TO CAD 12

e[ ]-( )0], e[ ]-( )1], e[ ]-( )5], e[ ]-( )3] OR e[ ]-( )1] (P) — 59 (P) — 48e
f[ ]-( )0], f[ ]-( )1], f[ ]-( )5], f[ ]-( )3] OR f[ ]-( )1] — 49 — 38f
g[ ]-( )0], g[ ]-( )1], g[ ]-( )5], g[ ]-( )3] OR g[ ]-( )1] — 39 — 28g
h[ ]-( )0], h[ ]-( )1], h[ ]-( )5], h[ ]-( )3] OR h[ ]-( )1] — 29 — 18h

FRAME LOCAL CABLE (RECEIVE)

TO CAD 7 [ ]-( )0], [ ]-( )1], [ ]-( )5], [ ]-( )3] OR [ ]-( )1]

19 09

r[ ]-( )0], r[ ]-( )1], r[ ]-( )5], r[ ]-( )3] OR r[ ]-( )1] — 58 — 16r
s[ ]-( )0], s[ ]-( )1], s[ ]-( )5], s[ ]-( )3] OR s[ ]-( )1] (P) — 48 (P) — 47s
t[ ]-( )0], t[ ]-( )1], t[ ]-( )5], t[ ]-( )3] OR t[ ]-( )1] (P) — 38 (P) — 37t
u[ ]-( )0], u[ ]-( )1], u[ ]-( )5], u[ ]-( )3] OR u[ ]-( )1] — 28 — 27u
v[ ]-( )0], v[ ]-( )1], v[ ]-( )5], v[ ]-( )3] OR v[ ]-( )1] — 18 — 17v

08 57 47 37 27 17 07

e[ ]-( )0], e[ ]-( )6], e[ ]-( )4], e[ ]-( )2] OR e[ ]-( )0] (P) — 57 (P) — 48e
f[ ]-( )0], f[ ]-( )6], f[ ]-( )4], f[ ]-( )2] OR f[ ]-( )0] (P) — 47 (P) — 38f
g[ ]-( )0], g[ ]-( )6], g[ ]-( )4], g[ ]-( )2] OR g[ ]-( )0] — 37 — 28g
h[ ]-( )0], h[ ]-( )6], h[ ]-( )4], h[ ]-( )2] OR h[ ]-( )0] — 27 — 18h

TO CAD 7 [ ]-( )0], [ ]-( )6], [ ]-( )4], [ ]-( )2] OR [ ]-( )0]

r[ ]-( )0], r[ ]-( )6], r[ ]-( )4], r[ ]-( )2] OR r[ ]-( )0] — 56 — 16r
s[ ]-( )0], s[ ]-( )6], s[ ]-( )4], s[ ]-( )2] OR s[ ]-( )0] (P) — 46 (P) — 47s
t[ ]-( )0], t[ ]-( )6], t[ ]-( )4], t[ ]-( )2] OR t[ ]-( )0] (P) — 36 (P) — 37t
u[ ]-( )0], u[ ]-( )6], u[ ]-( )4], u[ ]-( )2] OR u[ ]-( )0] — 26 — 27u
v[ ]-( )0], v[ ]-( )6], v[ ]-( )4], v[ ]-( )2] OR v[ ]-( )0] — 16 — 17v

06 55 45 35 25 15 05

i[ ]-( )0], i[ ]-( )1], i[ ]-( )5], i[ ]-( )3] OR i[ ]-( )1] (P) — 55 (P) — 44i
j[ ]-( )0], j[ ]-( )1], j[ ]-( )5], j[ ]-( )3] OR j[ ]-( )1] — 45 — 34j
k[ ]-( )0], k[ ]-( )1], k[ ]-( )5], k[ ]-( )3] OR k[ ]-( )1] — 35 — 24k
l[ ]-( )0], l[ ]-( )1], l[ ]-( )5], l[ ]-( )3] OR l[ ]-( )1] — 25 — 14l

FRAME LOCAL CABLE (TRANSMIT)

TO CAD 7 [ ]-( )0], [ ]-( )1], [ ]-( )5], [ ]-( )3] OR [ ]-( )1]

i[ ]-( )0], i[ ]-( )6], i[ ]-( )4], i[ ]-( )2] OR i[ ]-( )0] (P) — 54 (P) — 44i
j[ ]-( )0], j[ ]-( )6], j[ ]-( )4], j[ ]-( )2] OR j[ ]-( )0] (P) — 44 (P) — 34j
k[ ]-( )0], k[ ]-( )6], k[ ]-( )4], k[ ]-( )2] OR k[ ]-( )0] — 34 — 24k
l[ ]-( )0], l[ ]-( )6], l[ ]-( )4], l[ ]-( )2] OR l[ ]-( )0] — 24 — 14l

TO CAD 7 [ ]-( )0], [ ]-( )6], [ ]-( )4], [ ]-( )2] OR [ ]-( )0]

FRAME LOCAL CABLE (SIGNAL)

TS (AA/G) AT TOP OF FRAME J99359BE-( )

NOTES:

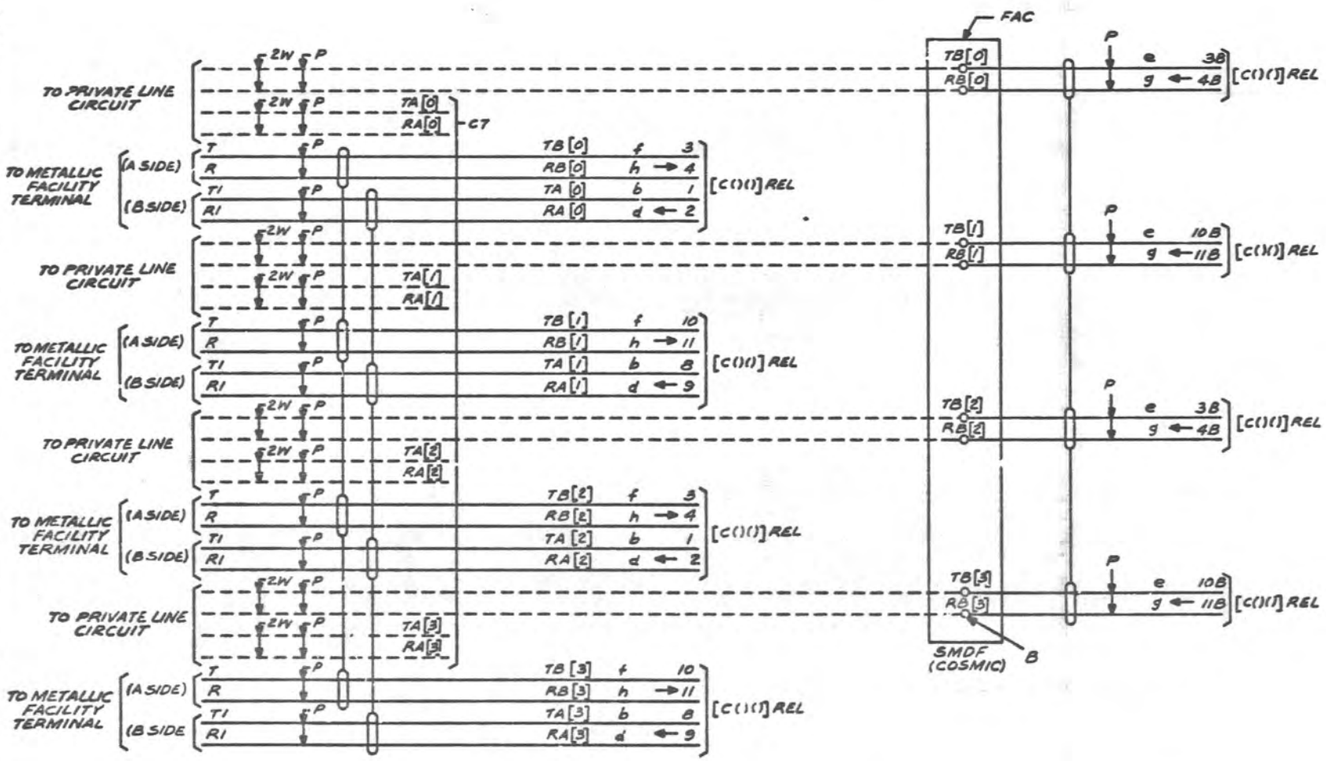
1. LEADS H0, S0, THRU H9, S9, AND -48N( ) FROM CAD 14 TO CAD 7 SHALL BE RUN VIA ALL CAD 7 ON FRAME AND SHALL BE LOOPED AT ALL UNEQUIPPED LOCATIONS.

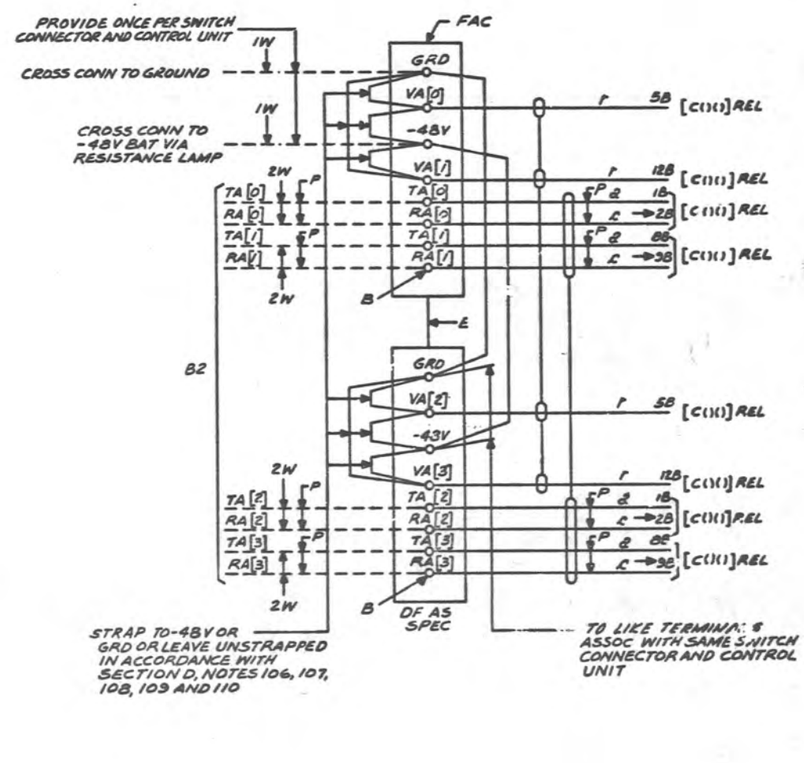
ISSUE 13A

CONTROLLER AND CONNECTOR CIRCUIT	SD-99560-01-G27
BELL TELEPHONE LABORATORIES INCORPORATED	6S

CAD 15

(FOR 2-WIRE MFT NOT EQUIPPED WITH MAINTENANCE CONNECTORS DIRECT CONNECTION ONLY).
(SEE SHEET NOTES 1,2 & 3)





NOTES:

1. RELAY C00 IS FOR NO TEST OPERATION ONLY AND SHALL NOT BE USED IN THIS APPLICATION.
2. FRONT OF TERMINAL STRIP SHALL BE STAMPED WITH CONNECTOR GROUP AND CONTROL NUMBER AS WELL AS OTHER STAMPING NORMALLY PROVIDED.
3. NUMBERS IN [ ] IS FOR CORRELATION OF LEADS BETWEEN C RELAY, PRIVATE LINE CIRCUIT AND METALLIC FACILITY TERMINAL A AND B SIDE AND SHALL NOT BE STAMPED.

ISSUE 7B

CONTROLLER AND CONNECTOR CIRCUIT

SD-99560-01-028

BELL TELEPHONE LABORATORIES INCORPORATED

6S

CAD 16

(FOR APP FIG. 4 AND "G" AND "J" OPTION) SEE NOTE 1

TO CAD 19

TO CAD 20

(CO-) REL 1ST CKT OR 7TH CKT

(CO-) REL 2ND CKT OR 8TH CKT

(CO-) REL 3RD CKT OR 9TH CKT

P/O (CO-) REL 4TH CKT OR 10TH CKT

P/O (CO-) REL 4TH CKT OR 10TH CKT

(CO-) REL 5TH CKT

(CO-) REL 6TH CKT

LW (RECEIVE)

LW (TRANSMIT)

LW (CONTROL)

UNIT L.C. (CONTROL)

UNIT L.C. (TRANSMIT)

UNIT L.C. (RECEIVE)

TS (A) ON J99359AK-( )

TS (B) ON J99359AK-( )

-48VM

TO FUSE PANEL OR TO SUCC OR PREC CAD 16 OR 17

(CO-) REL

NOTES:

1. THE DASH IN THE LEADS FOR CAD 20 AND RELAY DESIGNATIONS, AND THE PARENTHESIS IN THE LEADS FOR CAD 19 SHALL CORRESPOND TO THE VERTICAL ASSIGNED IN THE SWITCH CONNECTOR AND CONTROLLER.

CONTROLLER AND CONNECTOR CIRCUIT		DWG SIZE 6S	ISSUE 10AR
BELL LABORATORIES	SD- 99560 -01-		G29

CAD 17

(FOR APP FISS. 4, 6 AND "F" AND "J" OPTION)
SEE NOTE 1

TO FUSE PANEL, OR TO SUCC OR PREC CAD 16 OR 17 — -48V M — 33 — 2L — (CO-) REL
TO FUSE PANEL, OR TO SUCCOR PREC CAD 17 — -48V P2 — 23 — (PSLI-) RES CKTS 6 THRU 10
TO FUSE PANEL — -48V P1 — 13 — (PSLI-) RES CKTS 1 THRU 5
TO FUSE PANEL, OR TO SUCC OR PREC CAD 17 — GRD P2 — 21 — 4B — (CO-) REL CKTS 6 THRU 10
TO FUSE PANEL — GRD P1 — 11 — 4B — (CO-) REL CKTS 1 THRU 5

TS (A) ON J99359AL-( )

UNIT L.C. (CONTROL)

TO CAD 21

TO CAD 19

g1-9( )	56	P 38	
g1-9( )	48		48
f1-9( )	38		
A1-9( )	28		4
K1-9( )	18	P	5
a1-9( )	57	P 18	(CO-) REL 1ST CKT OR 7TH CKT
c1-9( )	47		28
b1-9( )	37	P	1
d1-9( )	27		2
K-	17	P	58
M1-9( )	56		1L
g1-9( )	46	P 108	
g1-9( )	36		118
f1-9( )	26		
A1-9( )	16		11
K1-9( )	55	P	12
a1-9( )	45	P 88	(CO-) REL 2ND CKT OR 8TH CKT
c1-9( )	35		98
b1-9( )	25	P 8	
d1-9( )	15		9
K-	54	P	128
M1-9( )	44		1U
g1-9( )	34	P 38	
g1-9( )	24		48
f1-9( )	14		
A1-9( )	53		4
K1-9( )	43	P	5
a1-9( )	33	P 18	(CO-) REL 3RD CKT OR 9TH CKT
c1-9( )	23		28
b1-9( )	13	P	1
d1-9( )	52		2
K-	42	P	58
M1-9( )	32		1L
g1-9( )	22	P 108	
g1-9( )	12		118
f1-9( )	51		P/O (CO-) REL 4TH CKT OR 10TH CKT
A1-9( )	41		11

LW (RECEIVE)
LW (TRANSMIT)
LW (CONTROL)

TS (B) ON J99359AL-( )

UNIT L.C. (CONTROL)
UNIT L.C. (TRANSMIT)
UNIT L.C. (RECEIVE)

TO CAD 19

K1-9( )	58		12
a1-9( )	48	P	88
c1-9( )	38		98
b1-9( )	28	P 8	
d1-9( )	18		9
K-	57	P	128
M1-9( )	47		1U
g1-9( )	37	P 38	
g1-9( )	27		48
f1-9( )	17		
A1-9( )	56		4
K1-9( )	46	P	5
a1-9( )	36	P 18	(CO-) REL 5TH CKT
c1-9( )	26		28
b1-9( )	16	P	1
d1-9( )	55		2
K-	45	P	58
M1-9( )	35		1L
g1-9( )	25	P 108	
g1-9( )	15		118
f1-9( )	54		
A1-9( )	45		11
K1-9( )	34	P	12
a1-9( )	24	P 88	(CO-) REL 6TH CKT
c1-9( )	14		98
b1-9( )	53	P 8	
d1-9( )	43		9
K-	33	P	128
M1-9( )	23		1U

P/O (CO-) REL 4TH CKT OR 10TH CKT

LW (RECEIVE)
LW (TRANSMIT)
LW (CONTROL)

TS (C) ON J99359AL-( )

UNIT L.C. (CONTROL)
UNIT L.C. (TRANSMIT)
UNIT L.C. (RECEIVE)

NOTES:

1. THE DASH IN THE LEADS FOR CAD 21 AND COMPONENT DESIGNATIONS, AND THE PARENTHESIS IN THE LEADS FOR CAD 19 SHALL CORRESPOND TO THE VERTICAL ASSIGNED IN THE SWITCH CONNECTOR AND CONTROLLER.

CONTROLLER AND CONNECTOR CIRCUIT		DWG SIZE 6S	ISSUE 10AR
BELL LABORATORIES	SD-99560-01-		G30

CAD 18

(FOR APP FIG. 7 AND "J" OPTION)

TO CAD 1 OR 10

HP9	58	88	(PH9) REL
HP8	48	58	(PH8) REL
HP7	38	88	(PH7) REL
HP6	28	58	(PH6) REL
HP5	18	88	(PH5) REL
HP4	57	58	(PH4) REL
HP3	47	88	(PH3) REL
HP2	37	58	(PH2) REL
HP1	27	88	(PH1) REL
HP0	17	58	(PH0) REL

TO CAD 19

HI-99	56	11	(PH9) REL
HI-98	46	2	(PH8) REL
HI-97	36	11	(PH7) REL
HI-96	26	2	(PH6) REL
HI-95	16	11	(PH5) REL
HI-94	55	2	(PH4) REL
HI-93	45	11	(PH3) REL
HI-92	35	2	(PH2) REL
HI-91	25	11	(PH1) REL
HI-90	15	2	(PH0) REL

LW — 54, 44, 34, 24, 14, 53, 43, 33, 23, 13, 52, 42, 32, 22, 12, 51, 41, 31, 21, 11

TO FUSE PANEL -48V.R — 41 — 6M (PH9) REL

TS(A) ON J99359AJ-( )

TO CAD 19

BYI-99	56	12	(PH9) REL
BYI-98	46	1	(PH8) REL
BYI-97	36	12	(PH7) REL
BYI-96	26	1	(PH6) REL
BYI-95	16	12	(PH5) REL
BYI-94	57	1	(PH4) REL
BYI-93	47	12	(PH3) REL
BYI-92	37	1	(PH2) REL
BYI-91	27	12	(PH1) REL
BYI-90	17	1	(PH0) REL
MGI-99	56	12M	(PH9) REL
MGI-98	46	1M	(PH8) REL
MGI-97	36	12M	(PH7) REL
MGI-96	26	1M	(PH6) REL
MGI-95	16	12M	(PH5) REL
MGI-94	55	1M	(PH4) REL
MGI-93	45	12M	(PH3) REL
MGI-92	35	1M	(PH2) REL
MGI-91	25	12M	(PH1) REL
MGI-90	15	1M	(PH0) REL

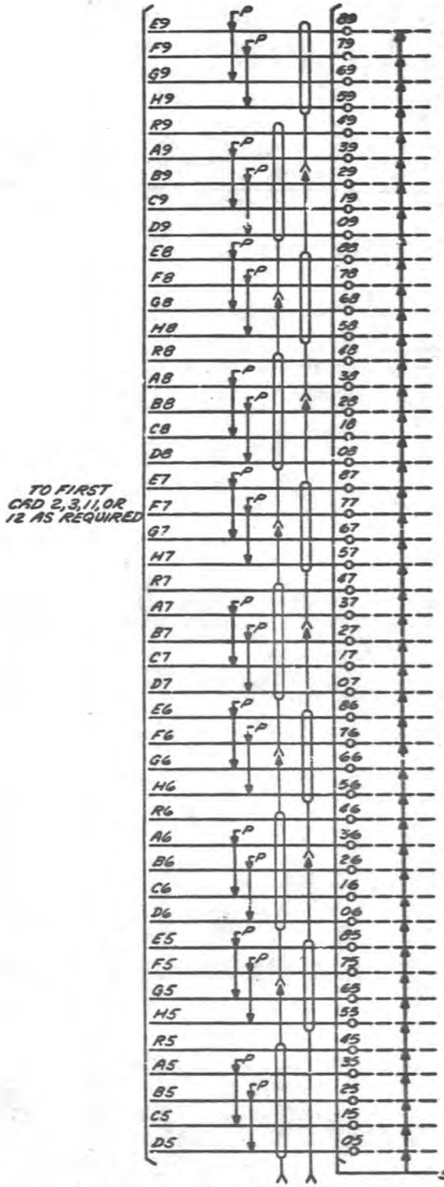
LW — 54, 44, 34, 24, 14, 53, 43, 33, 23, 13, 52, 42, 32, 22, 12, 51, 41, 31, 21, 11

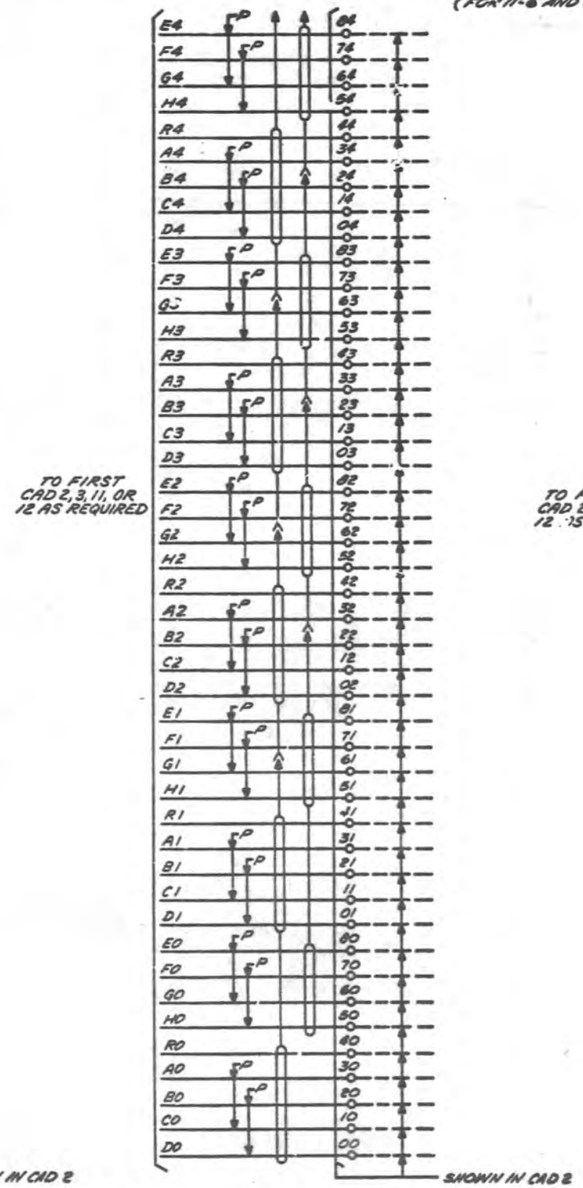
TS(B) ON J99359AJ-( )

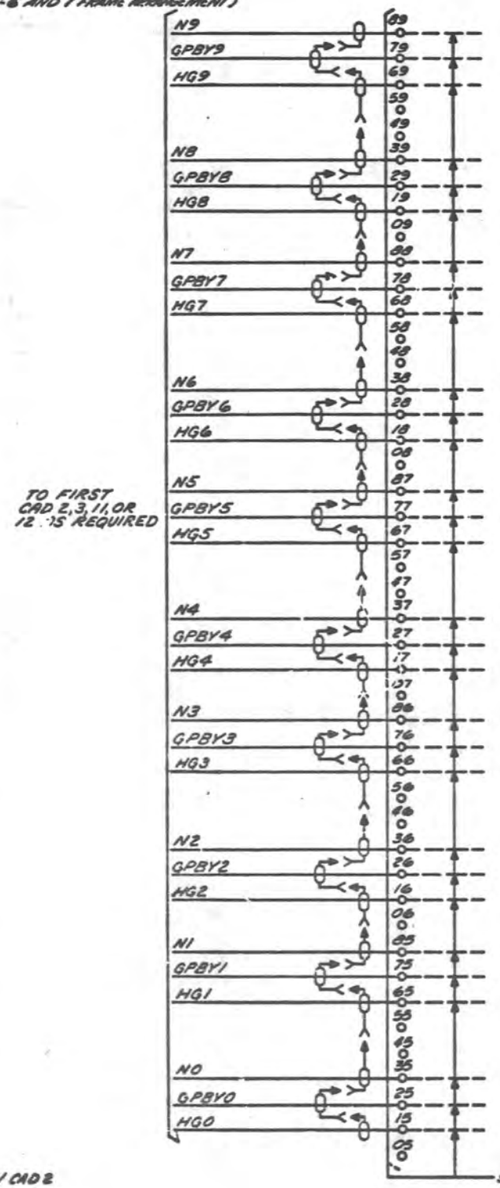
CONTROLLER AND CONNECTOR CIRCUIT	DWG SIZE 6S	ISSUE 13A
BELL LABORATORIES	SD-99560-01-	031

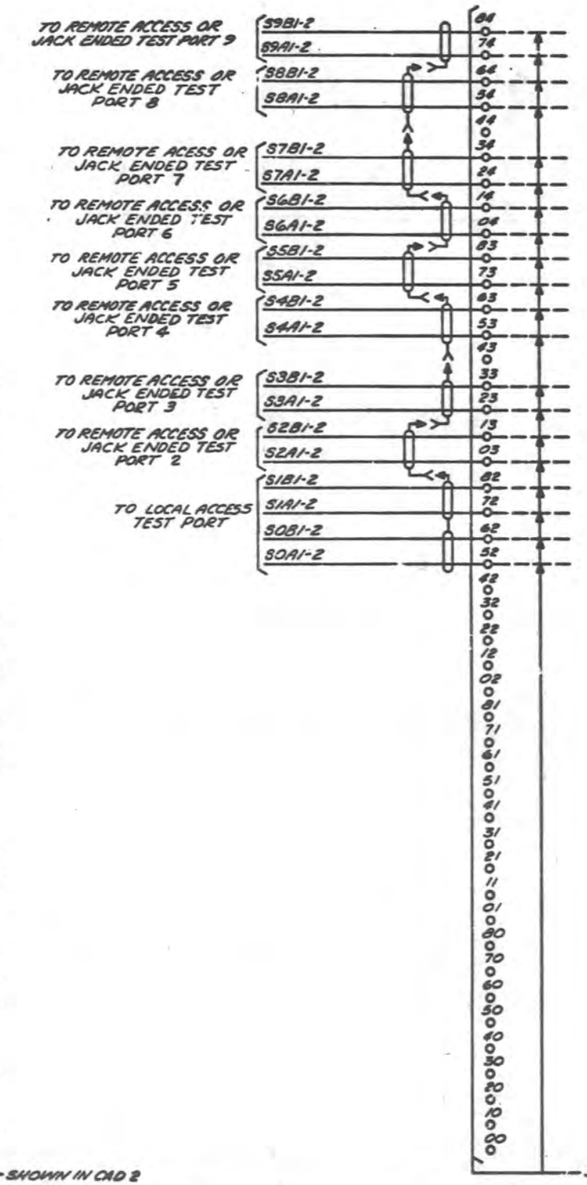
PART OF CAD 19

(FOR APP. FIG. 2 AND 'J' OPTION)
(FOR 11'-6" AND 7' FRAME ARRANGEMENT)









NOTES:

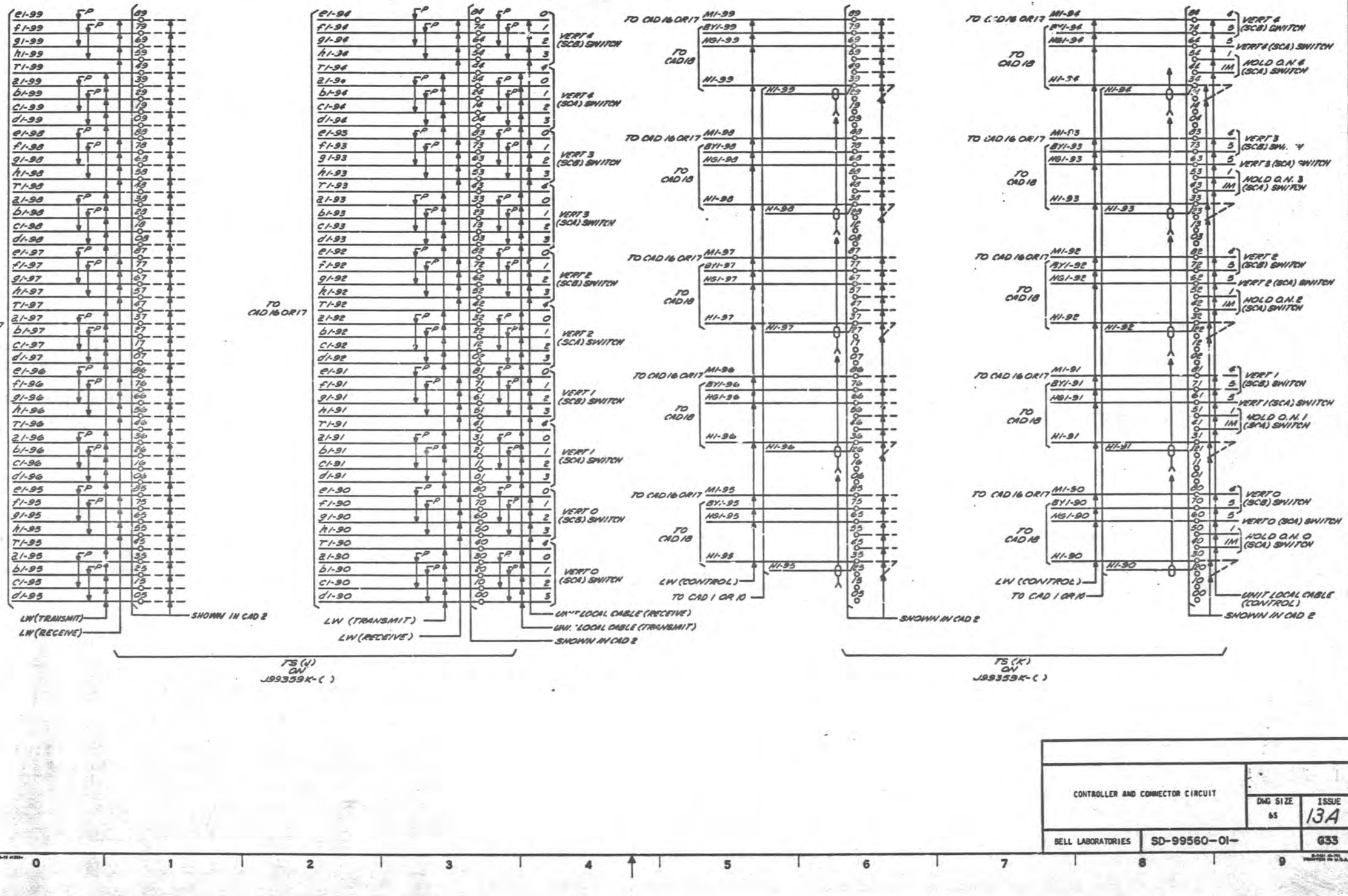
1. THIS UNIT IS MOUNTED ON A MISCELLANEOUS RELAY RACK AND REPLACES SWITCH CONNECTOR AND CONTROL UNIT 1-9 WHEN PHANTOM GROUP OPERATION IS REQUIRED.

CONTROLLER AND CONNECTOR CIRCUIT	DWG SIZE 65	ISSUE 13A
BELL LABORATORIES	SD-99560-01-	G32

PART OF CAD 19

(FOR APP. FIG. 2 AND "J" OPTION)

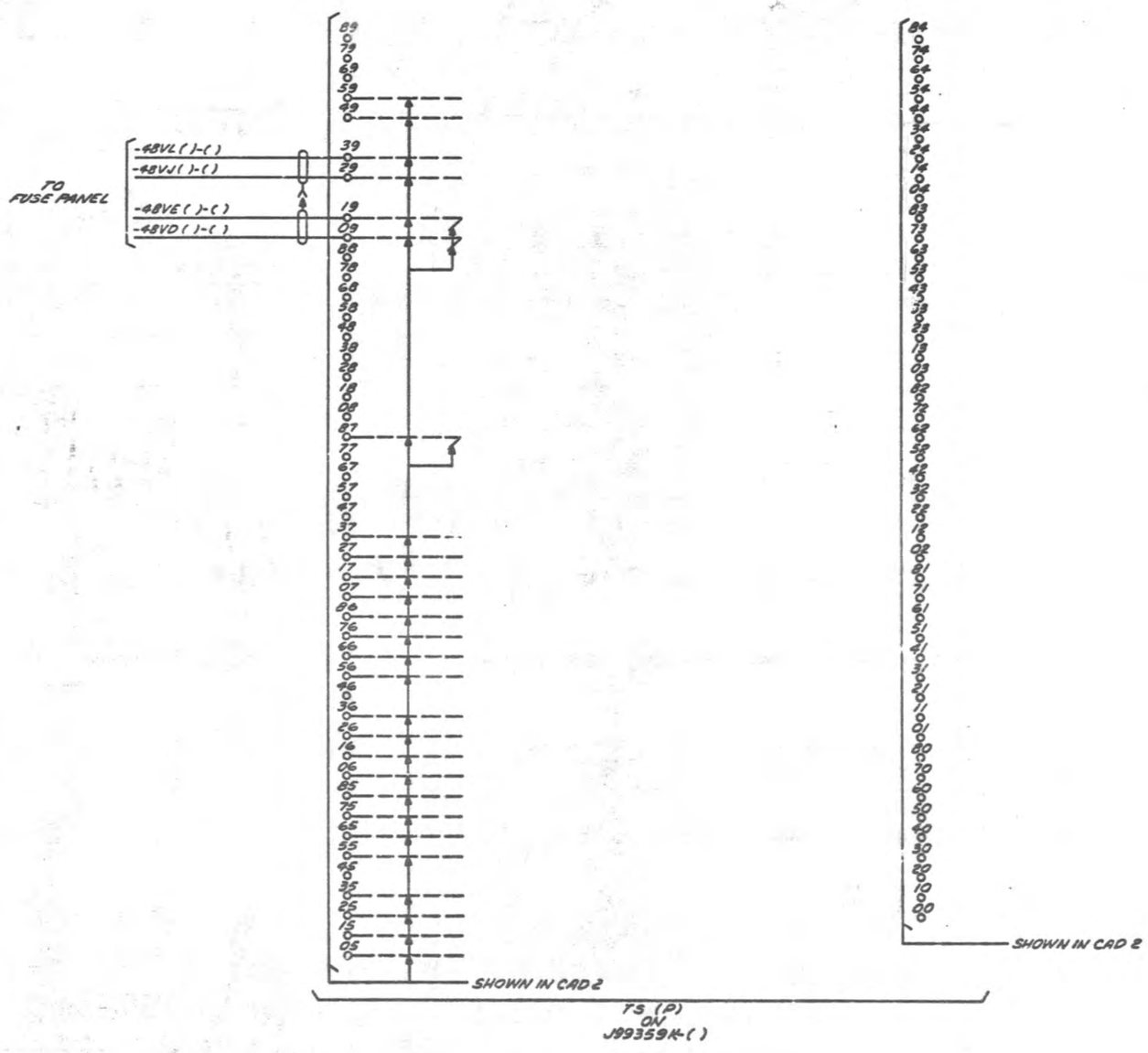
(FOR 11'-6" AND 7' FRAME ARRANGEMENT)



CONTROLLER AND CONNECTOR CIRCUIT		DWG SIZE: 65	ISSUE: 13A
BELL LABORATORIES	SD-99560-01-		633

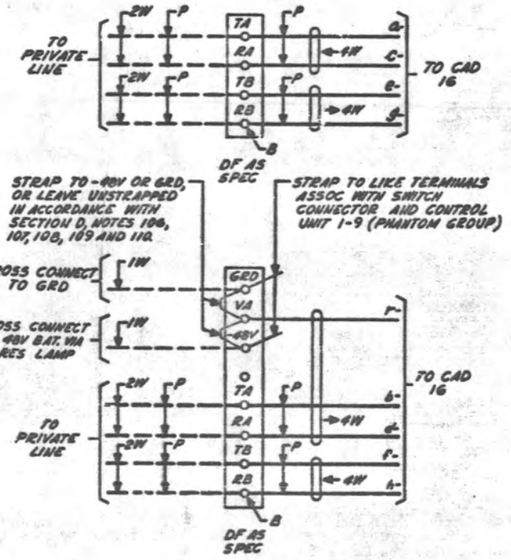
PART OF CAD 19

(FOR APP FIG. 2 AND "J" OPTION)
(FOR 11'6" AND 7' FRAME ARRANGEMENT)

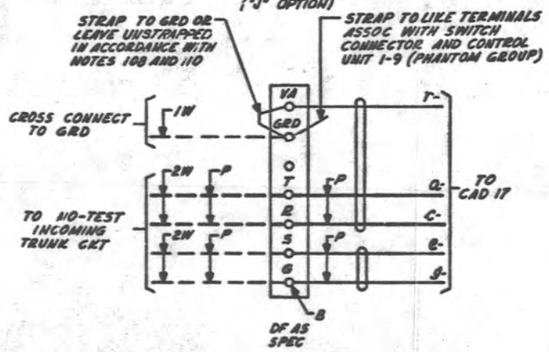


CONTROLLER AND CONNECTOR CIRCUIT			
		DWG SIZE 6S	ISSUE 10AR
BELL LABORATORIES	SD-99560-01-		G34

CAD 20
("J" OPTION)



CAD 21
("J" OPTION)



NOTES:

1. FRONT OF TERMINAL STRIP SHALL BE STAMPED WITH CONNECTOR GROUP AND CONTROL NUMBER AS WELL AS OTHER STAMPINGS NORMALLY PROVIDED.

CONTROLLER AND CONNECTOR CIRCUIT		DWG SIZE 6S	ISSUE 9B
BELL LABORATORIES	SD-99560-01-		G35