SHEET INDEX

CONTENTS	SHEET NO.	ISSUE 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																							
APPARATUS INDEX LEAD INDEX OPTION INDEX	A2	1	2																							
FS 1 STEERING AND CUT-THROUGH CKT	B1	1	2																							
FS 2 CONTROL & MONITOR CKT	B2	1	2																							
APP FIG. 1	C1	1	2																							
CIRCUIT NOTES EQUIPMENT NOTES INFORMATION NOTES	D1	1	2																							

CONTENTS	SHEET NO.	ISSUE 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	2																							
CAD 1-4	G1	1	2																							
CAD 5	G2	1	2																							

DWG ISSUE	CD ISSUE	DATE	DRAWN	APPD
1	1	8-6-79	[illegible]	[illegible] HO
2A	2A	8-7-79	[illegible]	[illegible] HO

SUPPORTING INFORMATION

CATEGORY	NO.
EQUIPMENT DWG	J99359AS
EQUIPMENT DESIGN REQTS	J99359 (801-408-153)

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.

IN19

COMMON SYSTEMS

SWITCHED MAINTENANCE ACCESS SYSTEM NO. 58

INTERFACE CIRCUIT

AT&TCQ STANDARD

DWG SIZE 6S

ISSUE 2A

BELL LABORATORIES | SD-99641-01- | A1 9 SHEETS

E-7598 (8-75) PRINTED IN U.S.A.

APPARATUS INDEX

RELAYS

DESIG	LOCATION FS	APP FIG	EQPT
6W	2A3	1	
CTT	1E9	1	
DF1	1E8	1	
DF2	1E6	1	
LT	2E3	1	
SEL	2E3	1	
SPAR	2G3	1	
SPAT	2G3	1	
SPBR	2F3	1	
SPBT	2F3	1	
SPC	2F1	1	

CAPACITORS

MA	2B6	1	
MB	2D6	1	

DIODES

6W	2A3	1	
CT	2E2	1	
CTT	1E9	1	
DF1	1E8	1	
DF2	1E6	1	
LT	2E3	1	
LTS	2F2	1	
SEL	2E3	1	
SP	2F2	1	
SPC	2F1	1	

TRANSFORMERS

MA	2B6	1	
MB	2D6	1	

LEAD INDEX

CONTROLLER & CONNECTOR CKT

DESIG	LOCATION FS	CAD
A( )	2D9	1C0,1D2
B( )	2D9	1C0,1D2
C( )	2D9	1C0,1D2
CC( )	2C1	1D2
D( )	2D9	1C0,1D2
E( )	2D9	1C0,1D2
F( )	2D9	1C0,1D2
G( )	2D9	1C0,1D2
H( )	2D9	1C0,1D2
HG( )	1F9	1C0,1D2
J( )	2D9	1D2
K( )	2D9	1D2
L( )	2D9	1D2
M( )	2D9	1D2
N( )	2C1	1C0,1D2
R( )	1F9	1C0,1D2
S( )A0-1	2C1	2E0
S( )A0-2	2C1	2E0
S( )A1-1	2C1	2E0
S( )A1-2	2C1	2E0
S( )B0-1	2C1	2E0
S( )B0-2	2C1	2E0
S( )B1-1	2C1	2E0
S( )B1-2	2C1	2E0
S( )C0-1	2C1	2E0
S( )C0-2	2C1	2E0
S( )C1-1	2C1	2E0
S( )C1-2	2C1	2E0

RTS 5A REMOTE TEST PORT

DESIG	LOCATION FS	CAD
CC( )	1E0	1D8
CM1( )		
CM2( )		
E( )		
ED( )		
EL( )		
ENAB( )		
F( )		
G( )		
H( )		
H OR H1( )		
MD( )		
ML( )		
N( )		
R( )		
R1( )		
RR( )		
SEL( )		
T( )		
T1( )		

SMAS NO. 5A LOCAL TEST PORTS AND DISTRIBUTION CKT

DESIG	LOCATION FS	CAD
CC( )	1E0	1D8
CM1( )	1A3,1E0	1D5,1D8
CM2( )	1A3,1E0	1D5,1D8
E( )	1E0	1D8
ED( )	1A3,1E0	1D5,1D8
EL( )	1A3,1E0	1D5,1D8
ENAB( )	1A3,1E0	1D5,1D8
F( )	1E0	1D8
G( )	1E0	1D8
H( )	1E0	1D8
H OR H1( )	1A3,1E0	1D5,1D8
MD( )	1A3,1E0	1D5,1D8
ML( )	1A3,1E0	1D5,1D8
N( )	1E0	1D8
R( )	1A3,1E0	1D5,1D8
R1( )	1A3,1E0	1D5,1D8
RR( )	1E0	1D8
SEL( )	1E0	1D8
T( )	1A3,1E0	1D5,1D8
T1( )	1A3,1E0	1D5,1D8

OPTION INDEX

APP OR WRG	RATED ON ISSUE	REF NOTES	LOCATION

INTERFACE CIRCUIT

DWG SIZE 6S | ISSUE 2A

BELL LABORATORIES | SD-99641-01- | A2

FS 1

STEERING AND CUT-THROUGH CKT

NOTES:

1. THE ( ) IN THE LEAD DESIGNATION WILL TAKE THE SAME NUMBER AS THE TEST PORT. eg LEAD T( ) CONNECTED TO TEST PORT 4 WILL BE DESIGNATED T(4).

TO SMAS NO. 5A LOCAL TEST PORTS AND DISTRIBUTION CKT (SD-1P106-01) (SEE NOTES 303,304 AND SHEETNOTE 1 ON SHEET B2)

T( ) T1( ) R( ) R1( ) NC NC NC NC E1( ) ED( ) ML( ) MD( ) ENAB( ) HORH1( ) NC NC NC CM1( ) CM2( )

P3

26,38 28,40 1,13 3,15 30,42 32,44 5,17 7,19 36,48 11,23 34,46 9,21

J3 J4

T( ) P4 26,38 — DF2 9 — TL
T1( ) 28,40 — DF2 8 — TD
R( ) 1,13 — DF2 7 — RL
R1( ) 3,15 — DF2 6 — RD
E( ) 4,16 — DF2 5 — T1L
F( ) 6,18 — DF2 4 — T1D
G( ) 29,41 — DF2 3 — R1L — 2DS
H( ) 31,43 — DF2 2 — R1D
EL( ) 30,42 — DF2 1 — EL
ED( ) 32,44 — DF1 11 — ED
ML( ) 5,17 — DF1 10 — ML
MD( ) 7,19 — DF1 9 — MD
N( ) 8,20 — DF1 8
ENAB( ) 36,48 — DF1 7
HORH1( ) 11,23 — DF1 6
RR( ) 33,45 — DF1 5
CC( ) 10,22 — DF1 4
SEL( ) 12,24 — DF1 3 — SEL
CM1( ) 34,46 — DF1 2 — CM1 — 2F1
CM12( ) 9,21 — DF1 — CM2

TO SMAS NO.5A LOCAL TEST PORTS AND DISTRIBUTION CIRCUIT (SD-1P106-01) OR RTS 5A REMOTE TEST PORT (SD-1P108-01) (SEE NOTE 1 AND 303)

DF2 U L 500 — DF1 12 — DF2 12 — DF1 U L A 500 — 48

CTT U L A 700 — 48

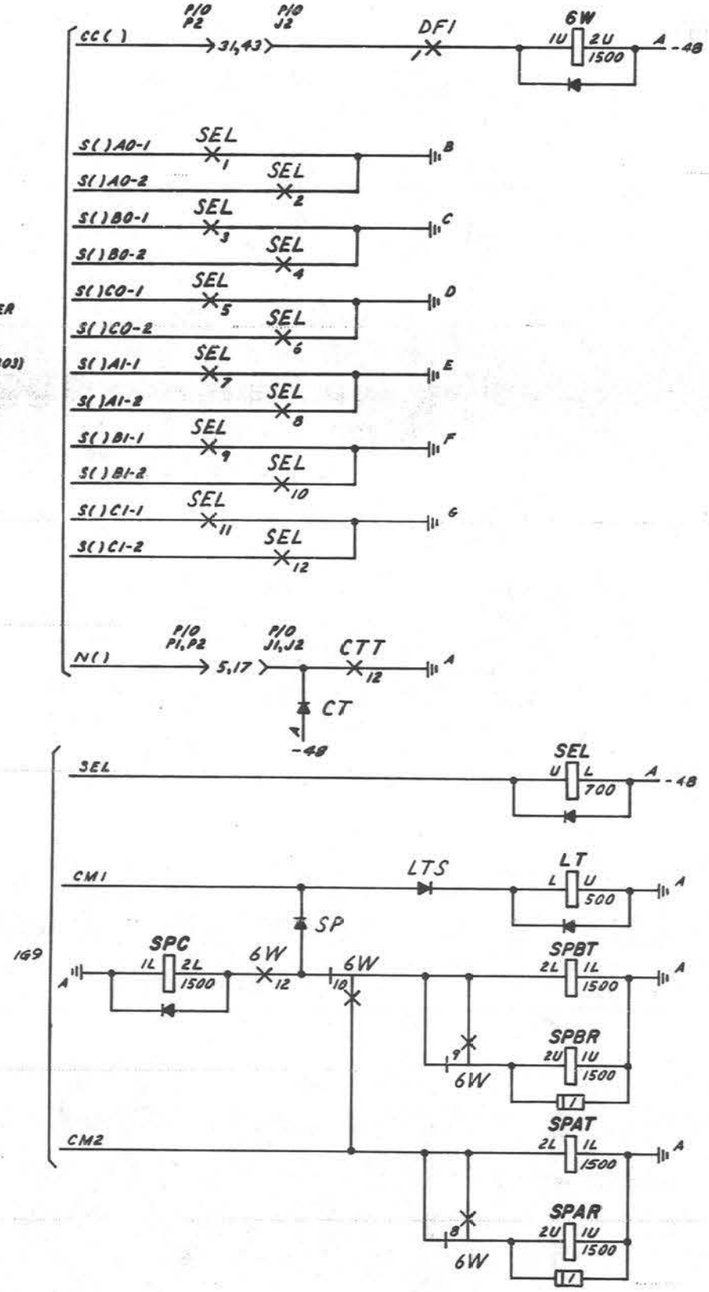
P/O J1,J2 — 18 — 42 — P/O P1,P2 HG( ) R( ) — TO CONTROLLER & CONNECTOR CIRCUIT (SD-99560-01)

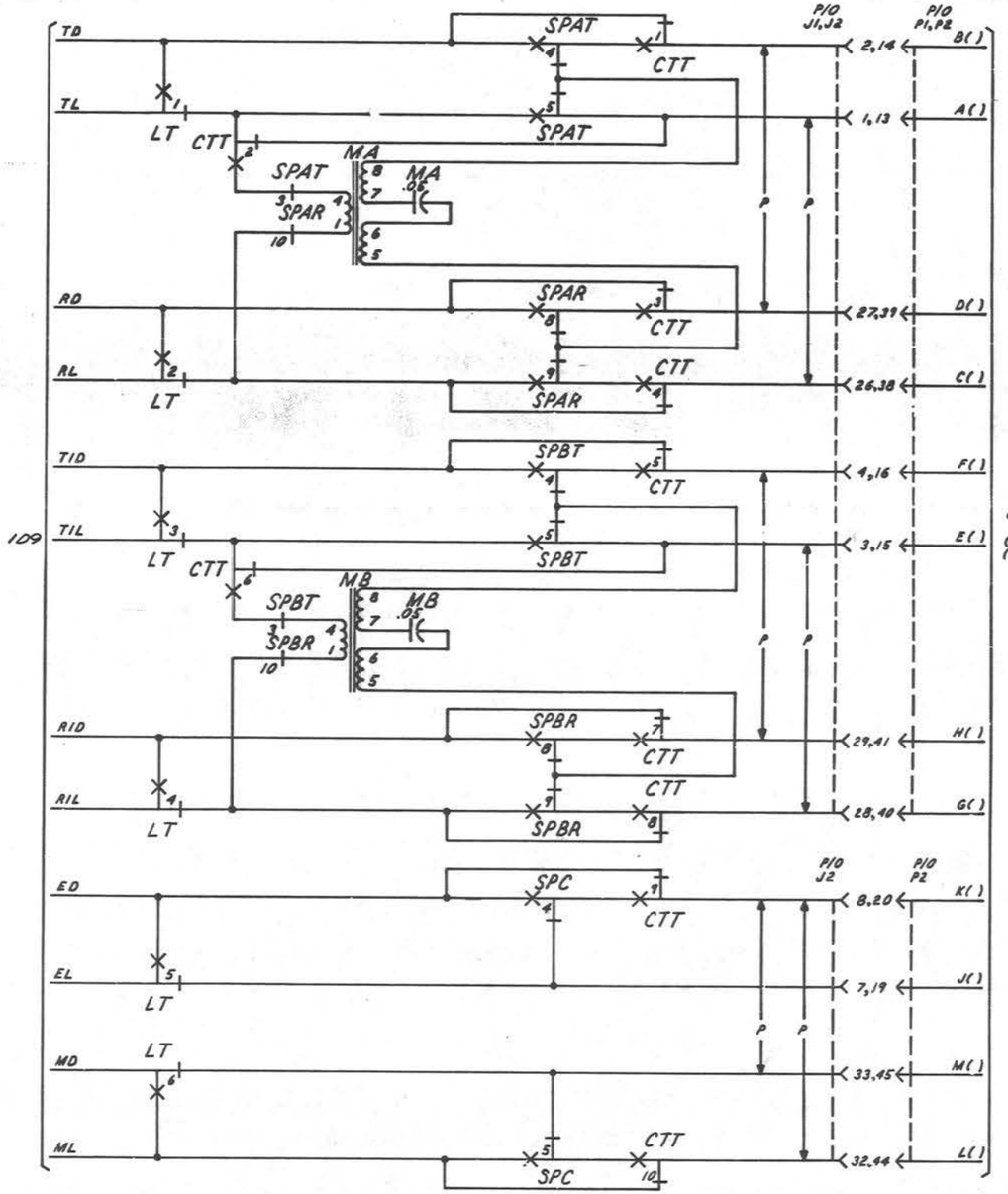
6W 11 A

NOTICE- NOT FOR USE OR DISCLOSURE OUTSIDE THE BELL SYSTEM EXCEPT UNDER WRITTEN AGREEMENT.		
INTERFACE CIRCUIT	DWG SIZE 6S	ISSUE 2A
BELL LABORATORIES	SD-99641-01	-B1

FS 2

CONTROL & MONITOR CIRCUIT





NOTES:

1. THE ( ) IN THE LEAD DESIGNATION WILL TAKE THE SAME NUMBER AS THE INTERFACE CIRCUIT. eg LEAD B( ) CONNECTED TO INTERFACE CIRCUIT 4 WILL BE DESIGNATION B(4).

INTERFACE CIRCUIT		DWG SIZE 6S	ISSUE 2A
BELL LABORATORIES	SD-99641-01-		B2

E-7421-0-2P6 (8-76) PRINTED IN U.S.A.

APP FIG.I

RELAY	MTD/W(SPC)																				MTD/W (6W)		
DESIG	6W		CTT		DF1		DF2		LT				SEL		SPAR		SPAT		SPBR		SPBT		SPC		DESIG
CODE	1/2AK47		AJ12		AJ81		AJ81		AJ81				AJ12		AK47				AK47				1/2AK47		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	2F2	EBM	2D2	EBM	1E7	EBM	1E7	EBM				EBM	2D2	M				M						12
11	EBM	1F6	EBM		EBM	1E3	EBM		EBM				EBM	2D1	EBM				EBM						11
10	EBM	2F2	EBM	2G7	EBM	1E4	EBM		EBM				EBM	2C2	EBM	2B6			EBM	2D6					10
9	EMB	2G3	EBM	2F7	EBM	1E4	EBM	1C1	EBM				EBM	2C1	EMB	2C7			EMB	2E7					9
8	EMB	2H3	EBM	2E7	EBM	1E4	EBM	1C1	EBM				EBM	2C2	EMB	2B7			EMB	2E7					8
7			EBM	2E7	EBM	1F4	EBM	1C2	EBM				EBM	2C1											7
6			EBM	2D5	EBM	1F5	EBM	1C2	EBM	2G5			EBM	2C2											6
5			EBM	2C7	EBM	1F5	EBM	1C2	EBM	2F5			EBM	2B1			EMB	2B7			EMB	2D7	EMB	2G7	5
4			EBM	2C7	EBM	1G5	EBM	1D2	EBM	2E5			EBM	2B2			EMB	2A7			EMB	2C7	EMB	2F7	4
3			EBM	2C7	EBM	1G5	EBM	1D3	EBM	2D5			EBM	2B1			EBM	2B6			EBM	2D6	EBM		3
2			EBM	2B5	EBM	1G6	EBM	1D3	EBM	2C5			EBM	2B2			EBM				EBM		EBM		2
1			EBM	2A7	EBM	2A2	EBM	1D3	EBM	2B5			EBM	2B1			M				M		M		1
COIL		2A3		1E9		1E8		1E6		2E3				2E3		2G3		2G3		2F3		2F3		2F1	COIL

NETWORK

DESIG	LOC	CODE
SPAR	2G3	185A
SPBR	2F3	185A

TRANSFORMER

DESIG	LOC	CODE
MA	2B6	2536AE
MB	2D6	2536AE

CAPACITOR

DESIG	LOC	CODE
MA	2B6	KS-20400 L2, 0.05
MB	2D6	KS-20480 L2, 0.05

DIODE

DESIG	LOC	CODE
6W	2A3	533A
CT	2E2	533F
CTT	1E9	533A
DF1	1E8	533A
DF2	1E6	533A
LT	2E3	533A
LTS	2F2	533F
SEL	2E3	533A
SP	2F2	533F
SPC	2F1	533A

INTERFACE CIRCUIT

DWG SIZE 6S | ISSUE 2A

BELL LABORATORIES | SD-99641-01- | CI

CIRCUIT NOTES:

101.

DESIG	FUSE AMP	POTENTIAL	ONE PER
A	1-1/3	-48	CKT
A		GRD	CKT
B		GRD	CKT
C		GRD	CKT
D		GRD	CKT
E		GRD	CKT
F		GRD	CKT
G		GRD	CKT

BATTERY SYMBOL: -48

VOLTAGE RANGE: -45V-50V

102.

FEATURE OR OPTION	PROVIDE APP FIG.	PROVIDE APP OR WRG	PROVIDE QUANTITY
INTERFACE CIRCUIT	1		ONE PER TEST PORT (MAX 20)

CIRCUIT NOTES: (CONT)

103.

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

104]

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

EQUIPMENT NOTES:

201. CONNECTORIZED CABLES SHALL BE OF THE A25C TYPE OR EQUIVALENT TO MATE WITH CORRESPONDING CONNECTORS ON J99359AS-1 AND OTHER EQUIPMENTS. LENGTH SHALL BE SPECIFIED BY THE JOB SPECIFICATION.

INFORMATION NOTES:

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

302. INTERFACE CIRCUITS WILL BE NUMBERED CONSECUTIVELY FROM 0 TO 19.

303. FOR ASSIGNING CONNECTIONS FROM INTERFACE CIRCUITS TO TEST PORTS (SD-1P106-01 OR SD-1P108-01) AND THE CONTROLLER AND CONNECTOR CIRCUIT (SD-99560-01) INTERFACE CIRCUIT 0 IS CONNECTED TO TEST PORT 1 AND LEVEL 0 OF SWITCH CONNECTOR 0-0, INTERFACE CIRCUIT 1 IS CONNECTED TO TEST PORT 2 AND LEVEL 1 OF SWITCH CONNECTOR 0-0 - - - INTERFACE CIRCUIT 9 IS CONNECTED TO TEST PORT 10 AND LEVEL 9 OF SWITCH CONNECTOR 0-0, INTERFACE CIRCUIT 10 IS CONNECTED TO TEST PORT 11 AND LEVEL 0 OF SWITCH CONNECTOR 0-0A, - - - INTERFACE CIRCUIT 19 IS CONNECTED TO TEST PORT 20 AND LEVEL 9 OF SWITCH CONTROL 0-0A.

304. FOR ASSIGNING CONNECTIONS FROM INTERFACE CIRCUITS TO THE LOCAL TEST PORT AND DISTRIBUTION CIRCUIT (SD-1P106-01) INTERFACE CIRCUIT 0 IS CONNECTED TO THE STAGE ONE DISTRIBUTION NETWORK MODULE 0 VERTICAL 0, INTERFACE CIRCUIT 1 IS CONNECTED TO THE STAGE ONE DISTRIBUTION NETWORK MODULE 0 VERTICAL 1, - - - INTERFACE CIRCUIT 9 IS CONNECTED TO THE STAGE ONE DISTRIBUTION NETWORK MODULE 0 VERTICAL 9, INTERFACE CIRCUIT 10 IS CONNECTED TO THE STAGE ONE DISTRIBUTION NETWORK MODULE 1 VERTICAL 0, - - - INTERFACE CIRCUIT 19 IS CONNECTED TO THE STAGE ONE DISTRIBUTION NETWORK MODULE 1 VERTICAL 9.

INTERFACE CIRCUIT		DWG SIZE 6S	ISSUE 2A
BELL LABORATORIES	SD-99641-01-		DI

CIRCUIT REQUIREMENTS

APPARATUS					MECH REQT			CIRCUIT PREPARATION			TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQT					REMARKS
DESIG	CODE	OPT	FIG.		BSP FIG.	CONT PRES	ARM. TRVL	BLOCK OR INSULATE	TEST CLIP DATA				TEST WDG	TEST FOR	AFTER SOAK MA	TEST MA	READJ MA	
									CONN BAT.	CONN GRD								
RELAY																		
6W	1/2AK47				202					1U(6W)	GRD	1		0		13.2	12.5	MTD WITH (SPC)
CTT	AJ12				220					U(CTT)	GRD			0		43	40.5	
DF1	AJ81				220					U(DF1)	GRD			0		24.5	23	
DF2	AJ81				220				L(DF2)	U(DF2)	B/G			0		24.5	23	
LT	AJ81				220				L(LT)		BAT.			0		24.5	23	
SEL	AJ12				220					U(SEL)	GRD			0		43	40.5	
SPAR	1/2AK47				202			8(6W)	2U(SPAR)		BAT.	1		0		13.2	12.5	MTD WITH (SPAT)
SPAT	1/2AK47				202			8(6W)	2L(SPAT)		BAT.	1		0		13.2	12.5	MTD WITH (SPAR)
SPBR	1/2AK47				202			9(6W)	2L(SPBR)		BAT.	1		0		13.2	12.5	MTD WITH (SPBT)
SPBT	1/2AK47				202			9(6W)	2L(SPBT)		BAT.	1		0		13.2	12.5	MTD WITH (SPBR)
SPC	1/2AK47				202				2L(SPC)		BAT.	1		0		13.2	12.5	MTD WITH (6W)

TEST NOTES:

1. ARMATURE BACK TENSION MINIMUM 20 GRAMS READJUST: 15 GRAM TEST.

DRAWING ISSUE

ISSUE 2A

INTERFACE CIRCUIT

SD-99641-01-FI

BELL TELEPHONE LABORATORIES INCORPORATED

SIZE 6S

SD-

CAD 1
(FOR APP FIG. 1)

TO CONTROLLER AND CONNECTOR CKT (SD-99560-01) (SEE NOTE 303) (4 WIRE)

A( ) P
C( )
B( ) P
D( )
E( ) P
G( )
F( ) P
H( )
N( )
R( )
HG( )

1 26 2 27 3 28 4 29 5 30 6 31 7 32 8 33 9 34 10 35 11 36 12 37

TO CAD 2 CKT 1

13 38 14 39 15 40 16 41 17 42 18 43 19 44 20 45 21 46 22 47 23 48 24 49 25 50

TO CAD 2 CKT 2

PLUG ON CONN CABLE (SEE NOTE 201)

(J1) CONN ON UNIT J99359AS-1

CAD 2
(FOR APP FIG. 1)

TO CONTROLLER AND CONNECTOR CKT (SD-99560-01) (SEE NOTE 303) (4 WIRE)

TO CAD 1

1	28	
26	4	
2	1	
27	3	
3	6B	(CTT) REL
28	8	
4	5	
29	7	
5	12M	
30	6M	
6	7M	(DF1) REL
31	1	
7	5B	(LT) REL
32	10	
8	9	(CTT) REL
33	6B	(LT) REL

CKT 1

TO CAD 1

13	28	
38	4	
14	1	
39	3	
15	6B	(CTT) REL
40	8	
16	5	
41	7	
17	12M	
42	6M	
18	7M	(DF1) REL
43	1	
13	5B	(LT) REL
44	10	
20	9	(CTT) REL
45	6B	(LT) REL

CKT 2

PLUG ON CONN CABLE (SEE NOTE 201)

(J2) CONN ON UNIT J99359AS-1

CAD 3
(FOR APP FIG. 1)

TO SMAS NO. 5A LOCAL TEST PORTS AND DISTRIBUTION CKT (SD-1P106-01) (SEE NOTE 304)

R( ) P
T( )
RI( ) P
TI( )
ML( ) P
EL( )
MD( ) P
ED( )
CM2( )
CMI( )
HOR HI( )
ENAB( )

1 26 2 27 3 28 4 29 5 30 6 31 7 32 8 33 9 34 10 35 11 36 12 37

7B	9B	
6B	8B	(DF2) REL
10B	1B	
9B	11B	
2B	3B	(DF1) REL
7B	8B	

CKT 1

13 38 14 39 15 40 16 41 17 42 18 43 19 44 20 45 21 46 22 47 23 48 24 49 25 50

7B	9B	
6B	8B	(DF2) REL
10B	1B	
9B	11B	
2B	3B	(DF1) REL
7B	8B	

CKT 2

PLUG ON CONN CABLE (SEE NOTE 201)

(J3) CONN ON UNIT J99359AS-1

CAD 4
(FOR APP FIG. 1)

TO REMOTE TEST PORT (SD-1P108-01) OF TO LOCAL TEST PORTS AND DISTRIBUTION CKT (SD-1P106-01) (SEE NOTE 304)

R( ) P
T( )
RI( ) P
TI( )
E( )
G( )
ML( )
EL( )
F( )
H( )
MD( )
ED( )
N( )
RR( )
CM2( )
CMI( )
CC( )
HOR HI( )
ENAB (A)
SEL( )

1 26 2 27 3 28 4 29 5 30 6 31 7 32 8 33 9 34 10 35 11 36 12 37

7	9	
6	8	(DF2) REL
5	3	
10		(DF1) REL
1		
4		(DF2) REL
2		
9		(DF1) REL
11		
12		(DF2) REL
6		
2		
3		
5		(DF1) REL
7		
8		
4		

CKT 1

13 38 14 39 15 40 16 41 17 42 18 43 19 44 20 45 21 46 22 47 23 48 24 49 25 50

7	9	
6	8	(DF2) REL
5	3	
10		(DF1) REL
1		
4		(DF2) REL
2		
9		(DF1) REL
11		
12		(DF2) REL
6		
2		
3		
5		(DF1) REL
7		
8		
4		

CKT 2

PLUG ON CONN CABLE (SEE NOTE 201)

(J4) CONN ON UNIT J99359AS-1

INTERFACE CIRCUIT

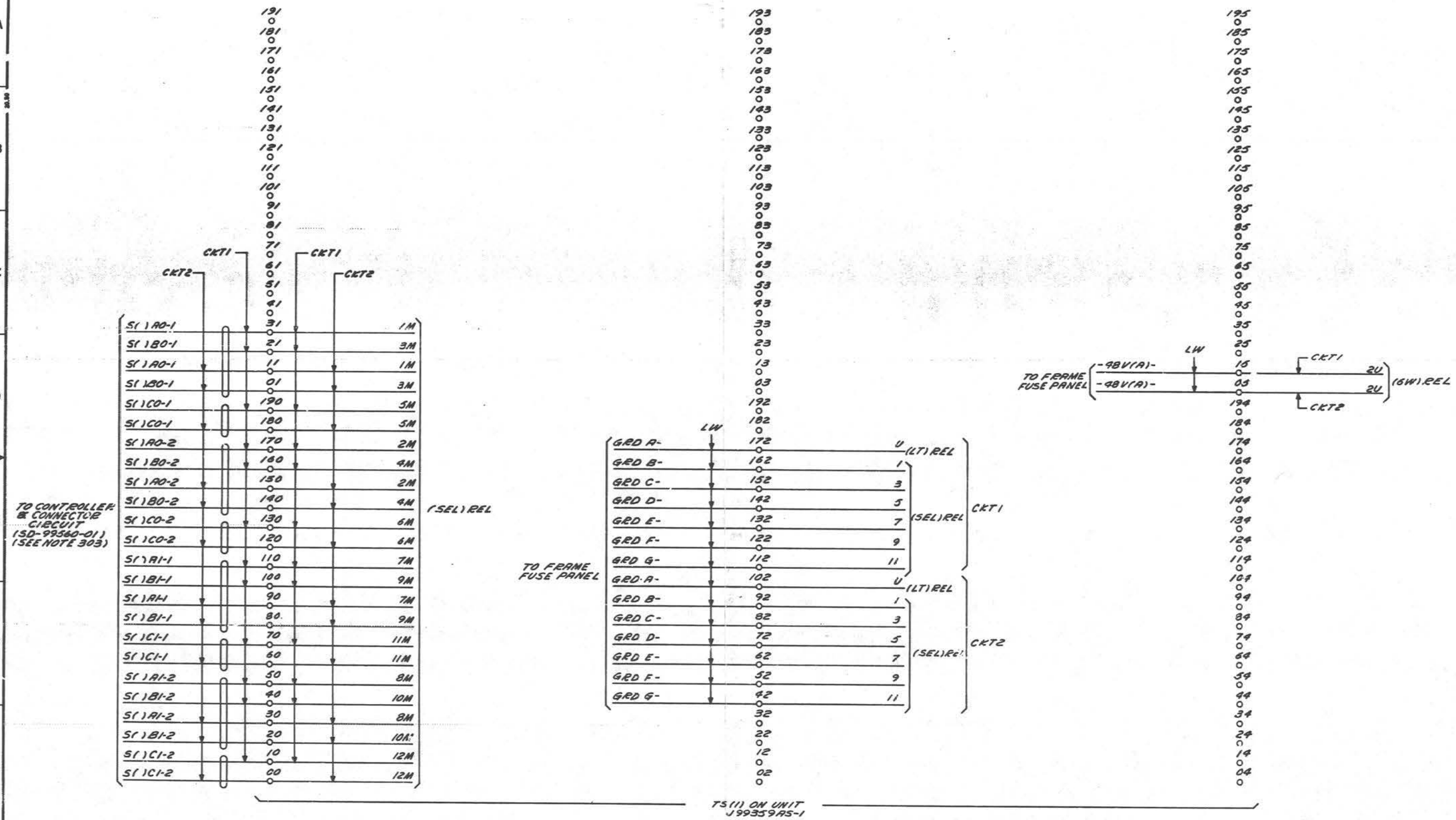
DWG SIZE 6S

ISSUE 2A

BELL LABORATORIES | SD-99641-01- | GI

E-7401-0-296 (11-78) PRINTED IN U.S.A.

CAD 5
(FOR APP FIG.1)



INTERFACE CIRCUIT	DWG SIZE 6S	ISSUE 2A
BELL LABORATORIES	SD-99641-01-	G2

E-7433-D-2PS (11-78) PRINTED IN U.S.A.