

Solid State Logic

SL4000G Console Service Manual

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Solid State Logic

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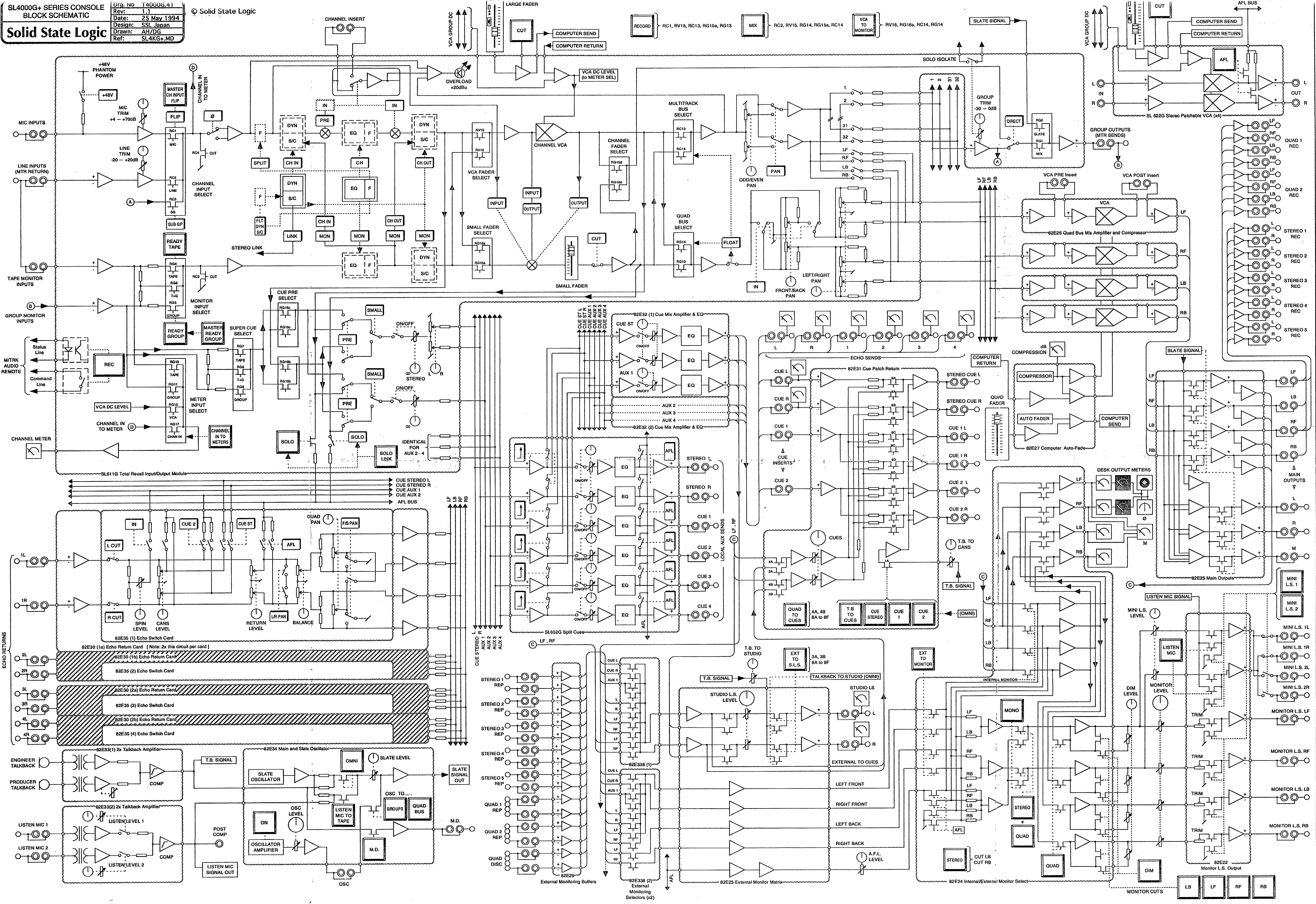
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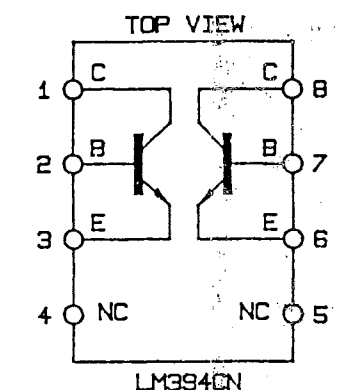
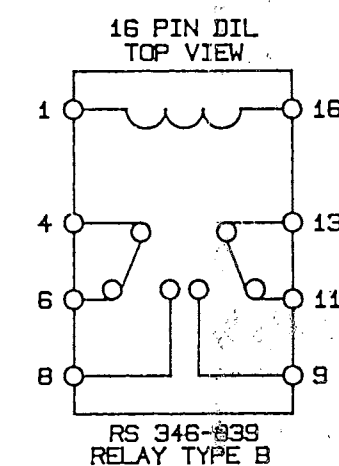
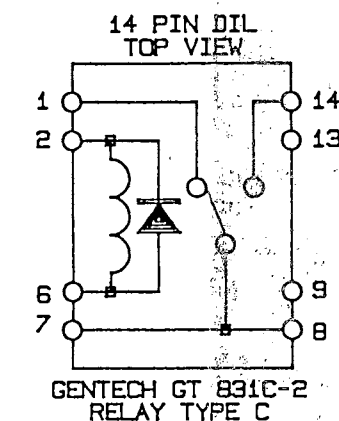
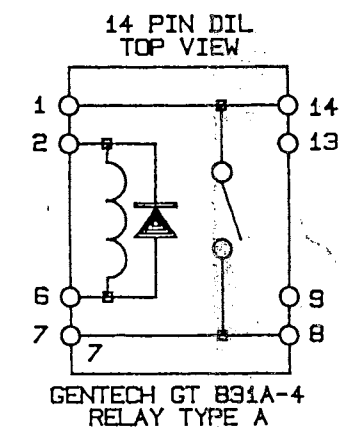
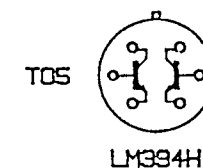
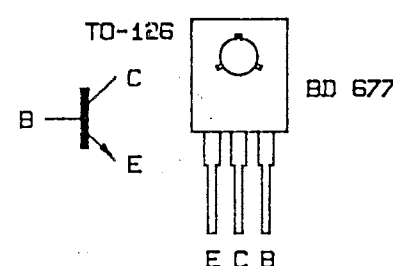
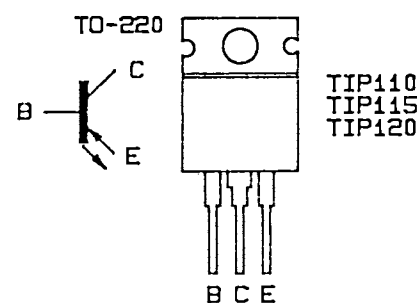
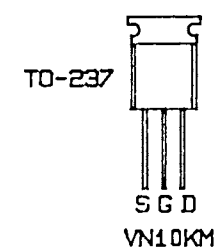
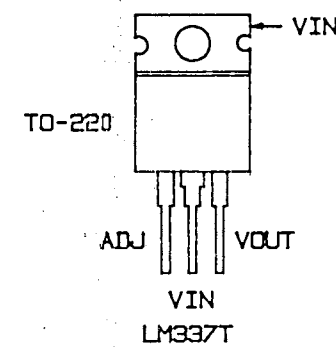
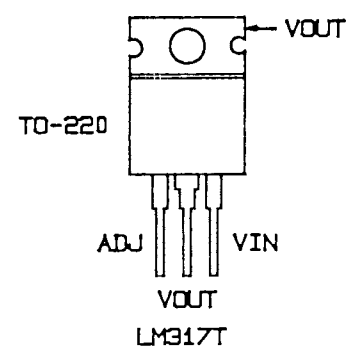
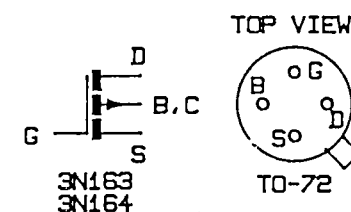
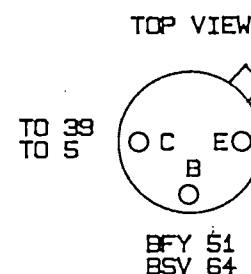
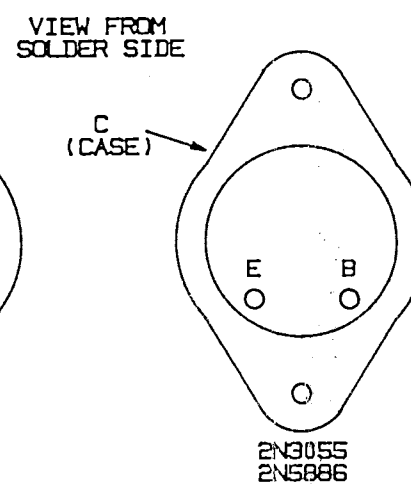
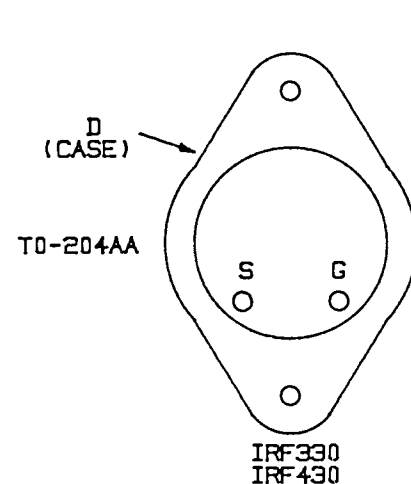
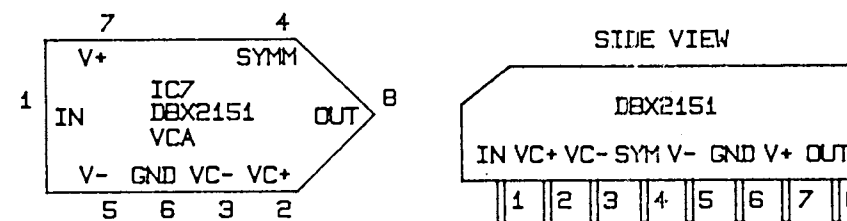
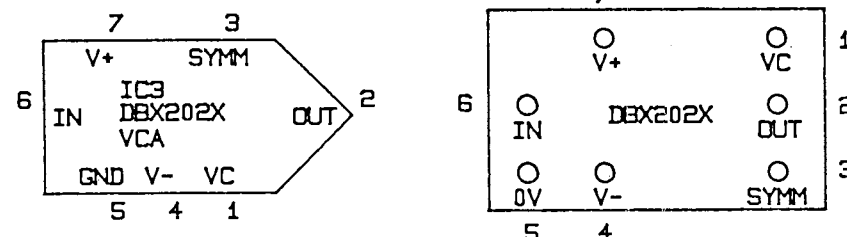
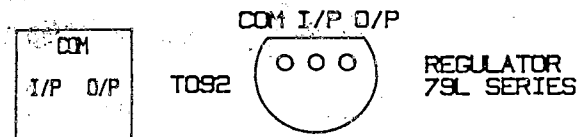
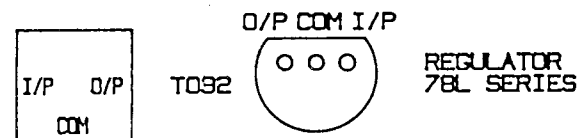
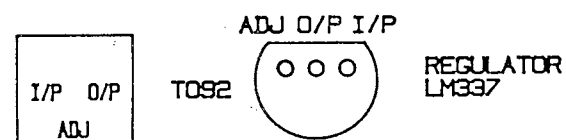
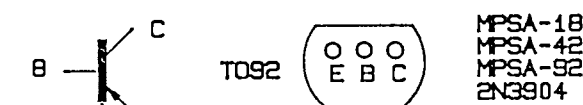
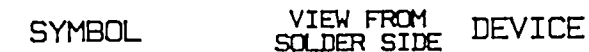
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SL4000G+ SERIES CONSOLE
BLOCK SCHEMATIC

Doc. No. T4000G.41
Rev. 1.1
Date: 25 May 1994
Design: SSL Japan
Drawn: AH/DG
Ref: SL4KG+.MD

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DRG. NO. 53500191

Solid State Logic

Please Note ...

1 *Maintenance*

All maintenance must be carried out by fully trained personnel.

2 *Non User Adjustments*

Adjustments or alterations to the equipment may affect the performance such that safety and/or international compliance standards may not be met. Any such adjustments must therefore only be carried out by fully trained personnel.

3 *Users*

This equipment is designed solely for use by engineers and operators competent and skilled in the use of professional audio equipment.

4 *Installation*

The installation must be carried out by competent personnel in accordance with the relevant installation instructions supplied by Solid State Logic.

5 *Environment*

This product is a class A product intended to form an integrated component part of a Professional Audio Recording, Mixing, Dubbing, Film, TV/Radio Broadcast or similar Studio wherein it will perform to specification providing that it is installed according to professional practice. Operation of this equipment outside such a controlled environment serves no practical purpose and such attempts may cause malperformance.

Solid State Logic

SL4000 G Console Service Manual

SECTION 1

SL 611G Input/Output Module

Card No	Qty	Module	Description
82E03	1	611G	Multiplexer (Total Recall Units only)
82E07	9	611G	Channel Routing Switch
82E08	1	611G	Dynamics Switch
82E10	1	611G	Dynamics Section
82E13	1	611G	VCA & Overload Indicator
82E16	1	611G	Dynamics LEDs
82E281	1	611G	Film Pan (optional)
82E291	1	611G	Mic/Line Input Amplifier
82E292	1	611G	Equaliser
82E293	1	611G	Logic
82E294	1	611G	Group Amplifiers
82E312	1	611G	Equaliser Switch
82E351	1	611G	Dual Line Input Amplifier (optional)
82E17	1	676E	VCA Fader Card

Rev	Date	Chkd	Details
Q	06 01 88	JEV	NEW DRG. ADDED.

Q	11 05 92	JEV	DRG MODIFIED - DOC CHANGE ONLY VARIOUS PART No.s UPDATED TO LATEST SPEC. DCR No.646.

PUSH BUTTON CAP - 8MM
330CN1X8
LED - 0.125 RED
41CEAA2X

LED - GREEN
41CEAA5X.
LED - YELLOW
41CEAA4X.

ROUTING PAN
12SHBLBK
10K+10K LIN 100K LIN INDENT

LINE GAIN CT/IND
12SHBLBK
10K+10K LIN 100K LIN

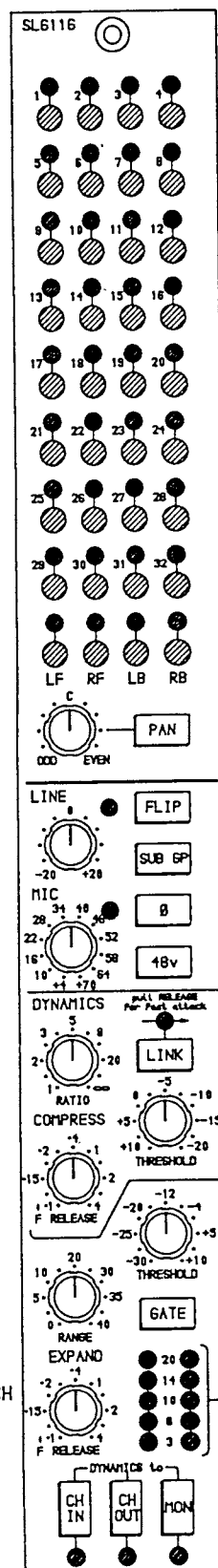
MIC GAIN ROTARY SWITCH
622295E1

COMPRESS RATIO
12SHBLBK
10K+10K LIN 100K LIN

COMPRESS RELEASE
PUSH PULL SWITCH
12RMELBP
250K LOG 100K LIN

EXPAND RANGE
12RJBLBX
22K LIN 100K LIN

EXPAND RELEASE PUSH PULL SWITCH
12RMELBP
250K LOG 100K LIN



ROUTING SWITCH CARD
622007E2

CHANNEL ROUTING
622007E1

CAP - 10MM
LINE BRIGHT AQUA
34610FF6

CAP - 10MM LINE GREY

CAP - 11MM
LINE RED MAGENTA
34211FF2

3 x CAPS - 10MM
LINE GREY 34B10FF8
COMPRESS THRESHOLD
12SHBLBK
10K+10K LIN 100K LIN

EXPAND THRESHOLD
12RJBLBX
22K LIN 100K LIN
3 x CAPS - 10MM
LINE BRIGHT GREEN
34510FF5

DYNAMIC LEDES
622016E1

DYNAMIC SWITCH CARD
622008E2

LF FILTER
12TKHLBQ
3x47K A LOG 100K LIN
+ SWITCH
2 x CAPS - 10MM
LINE GREY 34B10FF8

HF CUT + BOOST
12RJBLBD
22K LIN 100K LIN
2 x CAPS - 10MM
LINE RED MAGENTA
34210FF2
HMF CUT BOOST INDENT
12RJBLBD
22K LIN 100K LIN
3 x CAPS - 10MM
LINE BRIGHT GREEN
34510FF5
HMF Q
12SHBLBK
10K+10K LOG 100K LIN

LMF CUT + BOOST INDENT
12RJBLBD
22K LIN 100K LIN
3 x CAPS - 10MM
LINE BRIGHT AQUA
34610FF6
LMF Q
12SHBLBK
10K+10K LOG 100K LIN

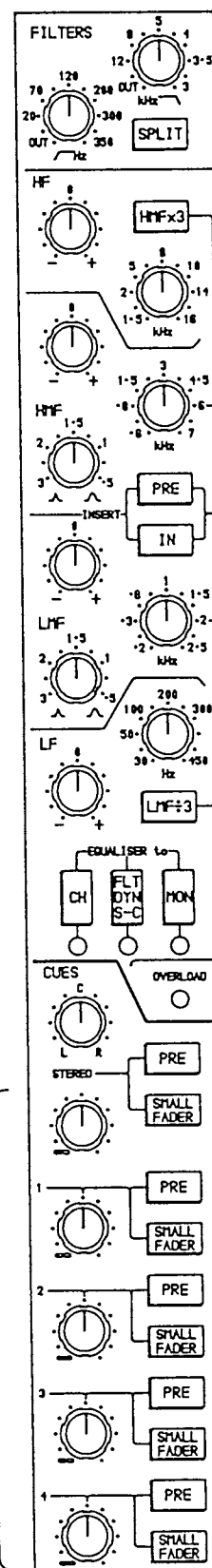
LF CUT + BOOST INDENT
12RJBLBD
22K LIN 100K LIN

STEREO CUES PAN
12SHBLBK
10K+10K LIN 100K LIN
INDENT
1 x CAP - 10MM
LINE BRIGHT AQUA
34610FF6

CUES LEVEL
PUSH PUSH SWITCH
12RMELBN
10K LOG 100K LIN

5 x CAPS - 10MM
LINE GREY 34B10FF8

CUES LEVEL
PUSH PUSH SWITCH
12RMELBN
10K LOG 100K LIN



HF FILTER
12SHBLBQ
10K+10K LIN 100K LIN
+ SWITCH

HF FREQUENCY
12TKHLBX
3x47K A LOG 100K LIN (G eq)
12SKHLBX
2x47K A LOG 100K LIN (E eq)

HMF FREQUENCY
12SKHLBX
47K + 47K A LOG 100K LIN

LMF FREQUENCY
12SKHLBX
47K + 47K A LOG 100K LIN

LF FREQUENCY
12SKHLBX
47K + 47K A LOG 100K LIN
2 x CAPS - 10MM
LINE BLACK 34B10FF0

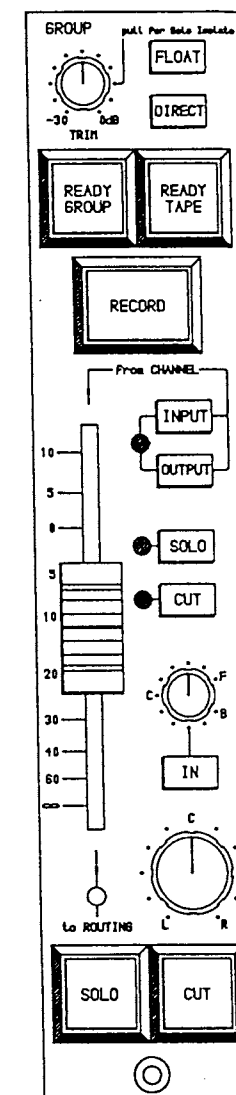
EQ SWITCH CARD
62212E1

GROUP TRIM
CLOCKWISE INDENT
12RJELBP
22K LOG 100K LIN
+ SWITCH
1 x CAP - 10MM
LINE RED MAGENTA
34210FF2
READY GROUP
SQ SP LATCH
330MK11C

RECORD
RECT SP MOM
330ND11C

SMALL FADER
FADER SLIDE 65MM
12XGEGBX
LOG + LIN
1 x FADER KNOB
12YZ4029

SOLO BUTTON
SQ SP LATCH
330MK11C



READY TAPE
SQ SP LATCH
330MK11C

FRONT/BACK PANEL
12SHBLBK
10K 10K LIN
100K LIN INDENT
KNOB - 10MM
34B103F8
CAP - 11MM
LINE BRIGHT AQUA
34611FF6
STEREO PAN AND INDENT
12UHBLBK
4 x 10K LIN + 100K LIN
KNOB - 15MM
34B15FF6
CAP - 15MM
LINE BRIGHT AQUA
34615FF6
CUT BUTTON
SQ SP LATCH
330MK11C

611G ENGRAVED HIGHLAND SCREENS :-

READY TAPE - 66E71101
READY GROUP - 66E71102
SOLO - 66E71103
CUT - 66E71104

RECORD SCREEN NUMBERED SETS - 66E711AA-AH

611G ENGRAVED ISOSTAT SCREENS - 66E71105

ALL OTHER KNOBS - 10MM 34B103F8

SIX11 SHT. 11

Title
FRONT PANEL SPARES -
611G.

Org. No.
T0611G.31

Solid State Logic

611G FET RELAY FUNCTIONS AND SIGNAL LOCATION

FET	Logic 82E293 pin no	Chan. 82E291 pin no	Group 82E294 pin no	VCA 82E13 pin no	Function
RC 1	29	25			Mic input to Channel input
RC 2	30	24			Line input to Channel input
RC 3	28	27			Subgroup to Channel input
RC 4	27	18			Channel input cut
RG 1	46		14		Group mix to Group output
RG 2	45		10		Slate signal bus to Group output
RG 3	33		40		Monitor Cut
RG 4	39		34		Monitor Tape
RG 5	38		35		Monitor Group
RG 6	37		36		Monitor Tape + Group
RG 7	36		37		Supercue from Tape
RG 8	35		43		Supercue from Group
RG 9	34		39		Supercue from Tape + Group
RG10	42		31		Meter to Tape
RG11	41		32		Meter to Group
RG12	41		33		Meter to VCA level
RG13	26		46		Small fader o/p to Quad Bus
RC13	-	36			VCA fader o/p to Multitrack routing
RG14	25		48		VCA fader o/p to Quad Bus
RC14	-	37			Small fader o/p to Multitrack routing
RG15	44		28		Monitor to Small fader
RV15	-			6	Channel to VCA
RG16	43		29		Channel to Small fader
RV16	-			12	Monitor to VCA

All relays are formed from n-channel J112 FET's. Truth Tables and explanations for the various functions can be found in the description of the 82E293 Channel Logic Board. The logic convention is shown below:

+18 is ON
-18 is OFF

611G LOWER BUS CARD EDGE CONNECTOR

No	Description	Connector	Pin No	Notes
1	Quad Bus LF			All mix signals are from 15K resistor packs.
2	0v			
3	Quad Bus LB			
4	0v			
5	Quad Bus RF			
6	0v			
7	Quad Bus RB			
8	0v			
9	Mix Amp i/p +	82E294	9	
10	Mix Amp i/p -	82E294	3	
11	Mix Bus 1			
12	0v			
13	Mix Bus 2			
14	0v			
15	Mix Bus 3			
16	0v			
17	Mix Bus 4			
18	0v			
19	Mix Bus 5			
20	0v			
21	Mix Bus 6			
22	0v			
23	Mix Bus 7			
24	0v			
25	Mix Bus 8			
26	0v			
27	Mix Bus 9			
28	0v			
29	Mix Bus 10			
30	0v			
31	Mix Bus 11			
32	0v			
33	Mix Bus 12			
34	0v			
35	Mix Bus 13			
36	0v			
37	Mix Bus 14			
38	0v			
39	Mix Bus 15			
40	Keyway			
41	Mix Bus 16			
42	0v			
43	Mix Bus 17			
44	0v			
45	Mix Bus 18			
46	0v			
47	Mix Bus 19			
48	0v			
49	Mix Bus 20			
50	0v			
51	Mix Bus 21			

611G LOWER BUS CARD EDGE CONNECTOR

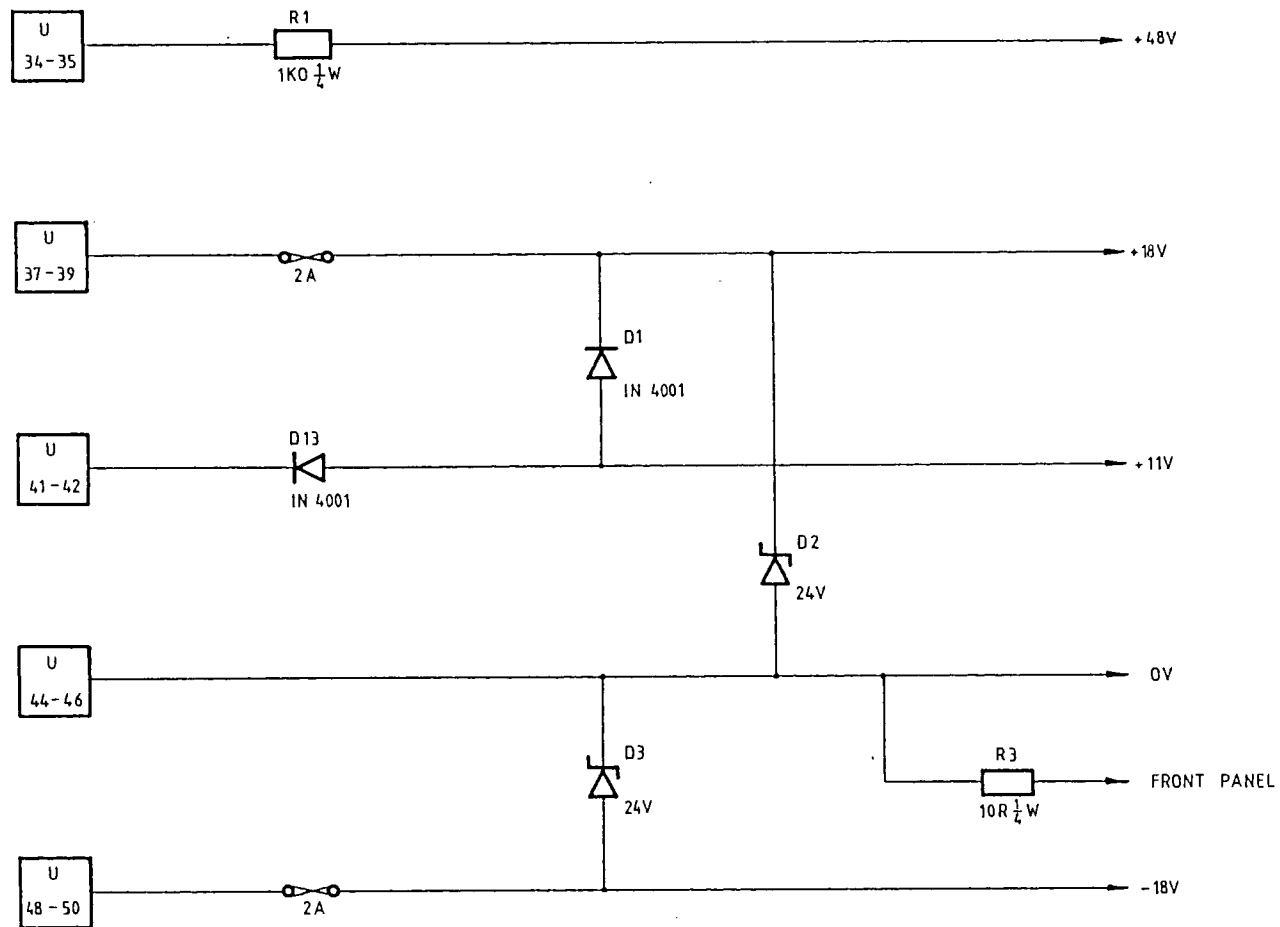
No	Description	Connector	Pin No	Notes
52	Ov			
53	Mix Bus 22			
54	Ov			
55	Mix Bus 23			
56	Ov			
57	Mix Bus 24			
58	Ov			
59	Mix Bus 25			
60	Ov			
61	Mix Bus 26			
62	Ov			
63	Mix Bus 27			
64	Ov			
65	Mix Bus 28			
66	Ov			
67	Mix Bus 29			
68	Ov			
69	Mix Bus 30			
70	Ov			
71	Mix Bus 31			
72	Ov			
73	Mix Bus 32			
74	+ 5v to VCA Fader	82E13	35	
75	Channel Fader Wiper	82E13	25	
76	VCA Thumbwheel Switch o/p	82E13	21	
77	Ov to VCA Fader	82E13	33	
78	Mix Ov			
79	Total Recall Bit 0 LBS	S21E	1	
80	Total Recall Bit 1	S21E	2	
81	Total Recall Bit 2	S21E	3	
82	Total Recall Bit 3	S21E	4	
83	Total Recall Bit 4	S21E	5	
84	Total Recall Bit 5	S21E	6	
85	Total Recall Bit 6 MSB	S21E	7	
86	Total Recall MPX Enable	S21E	8	
87	Total Recall Address Enable	S21E	9	
88	Total Recall Spare Bus	S21E	10	

611G UPPER BUS CARD EDGE CONNECTOR

No	Description	Connector	Pin No	Notes
1	Mic input -	82E291	7	Via RF filter on motherboard.
2	Mic input +	82E291	8	
3	0v			
4	Insert send -			On via R25. Insert Pre Switch.
5	Insert send +			
6	NP			
7	Insert return -	82E291	29	Via Insert In Switch.
8	Insert return +	82E291	32	
9	NC			
10	Line input +	82E291	57	
11	Line input -	82E291	55	
12	Group monitor input -	82E294	18	
13	Group output -	82E294	11	
14	Group output +	82E294	16	
15	Group monitor input +	82E294	19	
16	Tape monitor -	82E294	21	
17	Tape monitor +	82E294	22	
18	NP			
19	Meter output	82E294	30	
20	Meter VCA LED	82E293	21	
21	Meter Tape LED	82E293	20	
22	Meter Group LED	82E293	19	
23	Meter Record LED	82E293	18	
24	Record contact d Sense Common	82E293	5	
25	Record contact a Relay Contact	82E293	17	
26	Record contact b Relay Common	82E293	16	
27	Record contact c Sense input	82E293	15	
28	Computer send	82E13	17	or S21E p20. TR or S21E p16. only
29	Computer return	82E13	20	
30	NP			
31	Dynamics Link send			From Link Switch
32	Dynamics Link return	82E10	8	
33	NC			
34	+ 48v			
35	+ 48v			
36	NP			
37	+ 18v			
38	+ 18v			
39	+ 18v			
40	KEYWAY			
41	+ 11v			
42	+ 11v			
43	NC			
44	0v			
45	0v			
46	0v			
47	NC			
48	- 18v			
49	- 18v			
50	- 18v			
51	Spare Pad			

611G UPPER BUS CARD EDGE CONNECTOR

No	Description	Connector	Pin No	Notes
52	Master i/p flip (broadcast)	82E293	71	Via Motherboard Link
53	Spare to Logic Board	82E293	70	
54	Master Ready Group bus	82E293	53	
55	VCA trim	82E13	18	
56	Slate signal bus	82E294	12	
57	VCA to Monitor bus	82E293	11	
58	Slate control bus	82E293	10	
59	VCA Fader Solo Cut Bus	82E293	9	
60	Status Mix bus	82E293	8	
61	Small Fader Solo Cut Bus	82E293	7	
62	Machine Record bus	82E293	4	
63	Status Record bus	82E293	3	
64	Solo Disable bus	82E293	2	
65	VCA to Meter bus	82E293	1	
66	Spare to Pad			
67	Cue 4 Mix bus			
68	Cue 3 Mix bus			All mix buses fed from 15K resistor packs Mix Bus Ov
69	Ov			" " "
70	Cue 2 Mix bus			
71	Ov			" " "
72	Cue 1 Mix bus			
73	Ov			" " "
74	St Cue L Mix bus			
75	St Cue R Mix bus			
76	Ov			" " "
77	AFL Mix bus			



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Issue	Date	Ckd	Details
d	9-85	AM	REDRAWN <i>SM</i>
e	Feb86		DRG RENUMBERED WAS T0611-711 <i>SM</i>

Title 611 FUSING AND
PROTECTION.

Drg.No. T0611E-71

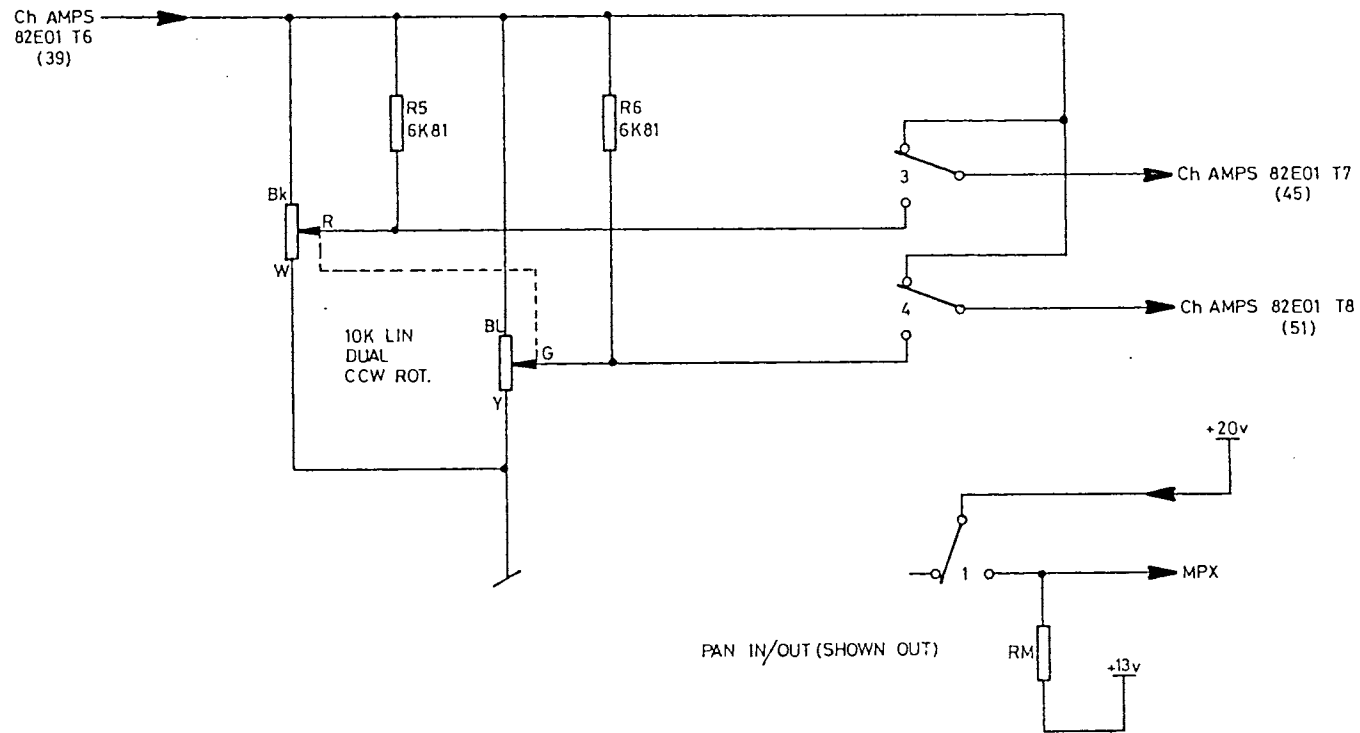
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T0611E-72

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Rev.	Issue	Chk'd	Details
0	a	2/86	RENUMBERED.
0	b	4/86 J.H.	REDRAWN



PAN IN/OUT (SHOWN OUT)

ALL COMPONENTS MOUNTED ON 611E MOTHER CARD.

Title
ROUTING PAN

Org.No. T0611E-72

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FOR SOLO ISOLATE FUNCTION:

SFA MADE
SFB OPEN
SFC OPEN
SFD MADE

MULTIPLEXER

CHANNEL INPUT

CHANNEL OUTPUT

SMALL FADER

SOLO CUT BUS
TO LOGICD4
1N4001

57

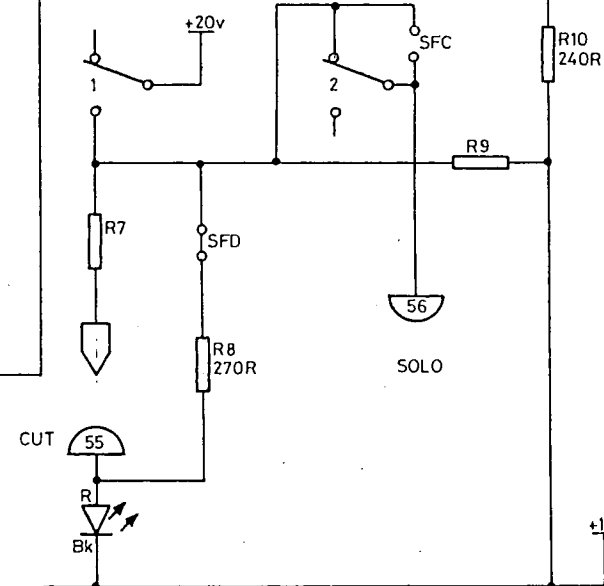
CUT 55

Bk

56

SOLO

+13v



82E14,24

VCA
POSTR27
100RR30
100RR29
100RR28
100RR33
10KR34
240RR32
10KR31
5K6R26
100R

R9

R10
240R

R7

R8
270RR27
100RR30
100RR29
100RR28
100RR33
10KR34
240RR32
10KR31
5K6R26
100R

R9

R10
240R

R7

R8
270RR27
100RR30
100RR29
100RR28
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Rev.	Issue	Chkd	Details
0	a	2/86	RENUMBERED.
0	b	4/86	REDRAWN.

Title SMALL FADER
611E-TV-TR MODULE

Org.No. TO611E-73

Sol State Logic

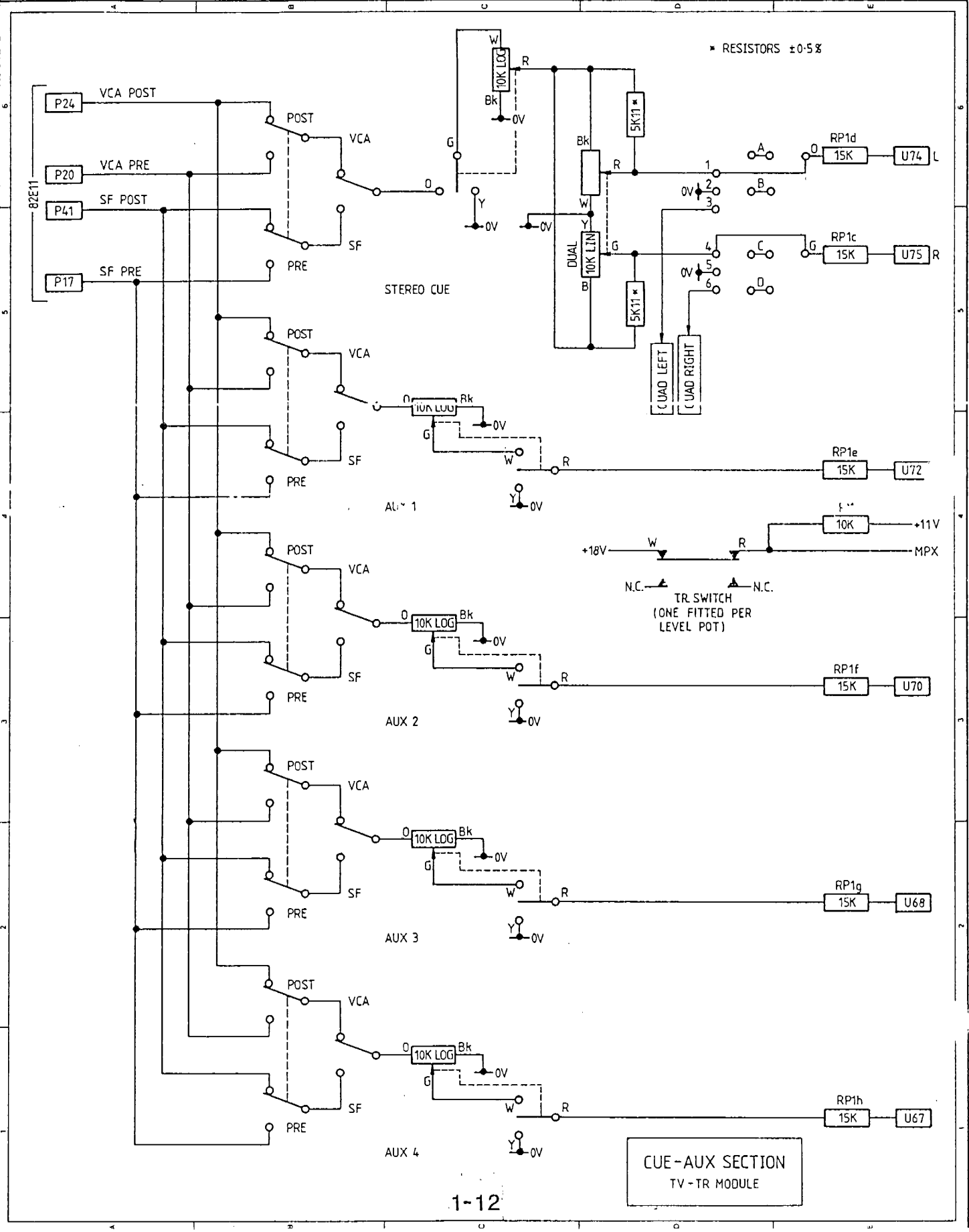
Stonesfield · Oxford · England

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Issue	Date	Chd'K	Details
f	08/85	A.H.M.	REDRAWN N.W.
g	0ct/86	B.T.C.	TR. SWITCH ADDED
h	Mar/87	D.G.	+11V WAS 13V E.L.

Title	CUE-AUX SECTION TV-TR MODULE
Dwg. No.	T0611E.75
Solis State Logic	
Stones, Oxford · England	

MY 131214 D

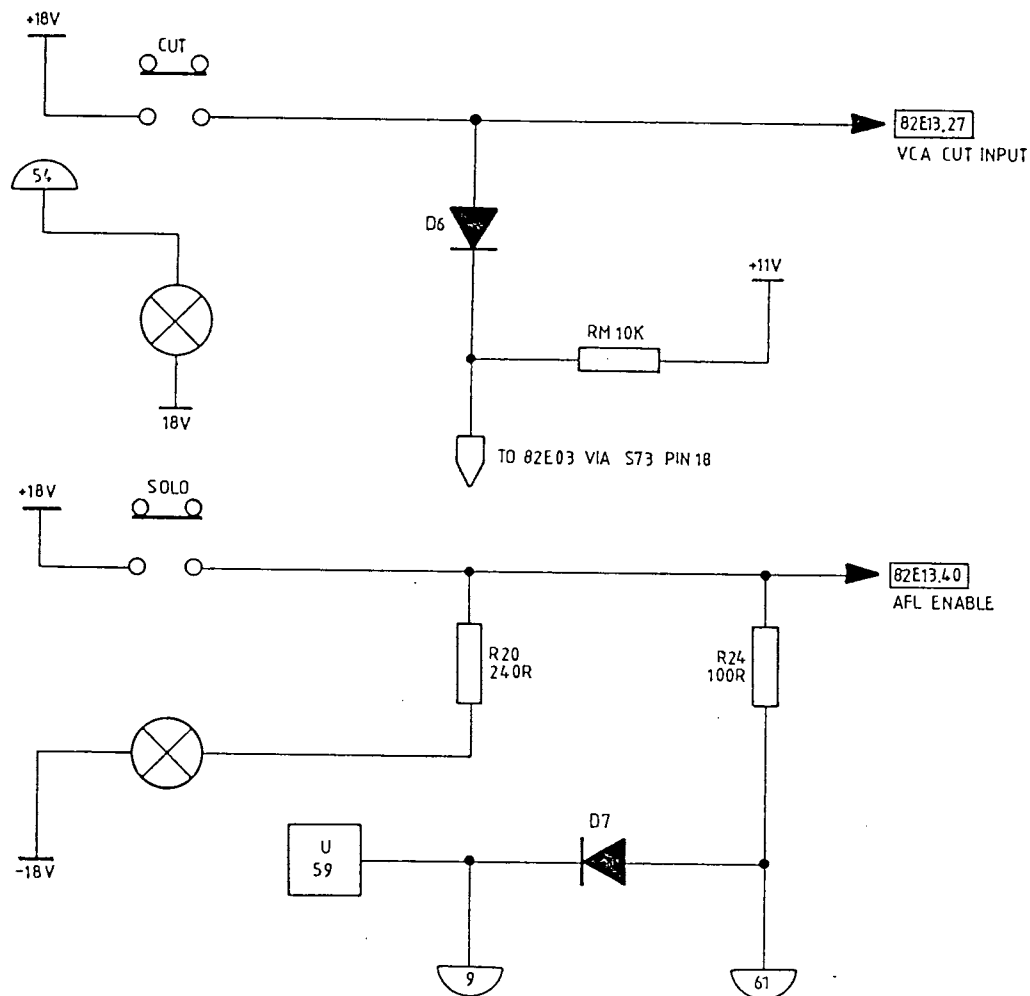




Rev.	Issue	Chk'd	Details
0	a	2/86	RENUMBERED
0	b	4/86 J.H.	REDRAWN <i>PS</i>

Solid State Logic
Stonesfield · Oxford · England

Rev.	Date	Details
2	7 Jan 88	REDRAWN. CHECKED BY DG. 8-1-88. E.L.



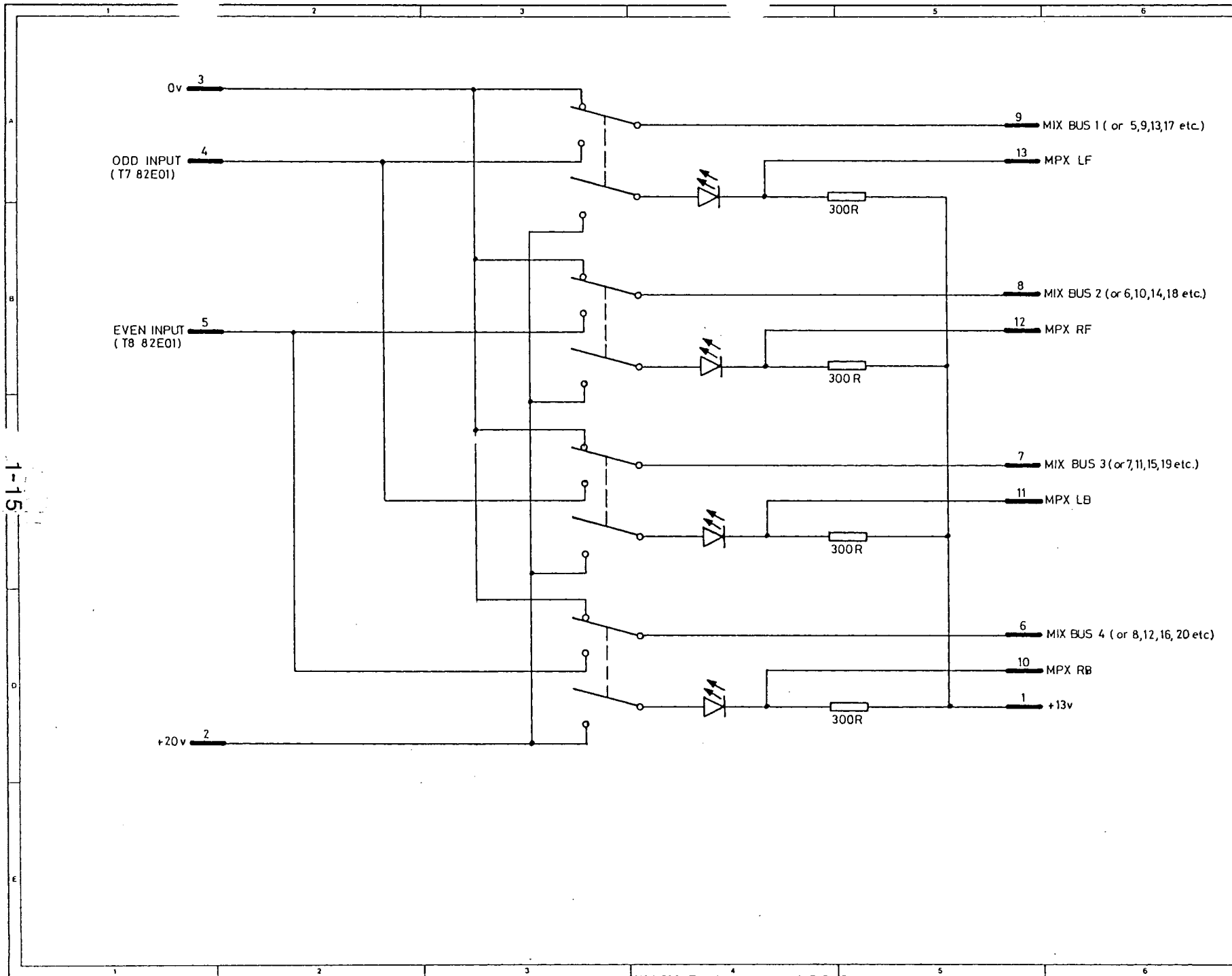
U 611 EDGE CONN. UPPER.

54 LOGIC PC EDGE CONN. 82E293.

Title
VCA SOLO & CUT SWITCHES

Drg.No. T0611E-77

So. State Logic
Stonesfield · Oxford · England



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Rev.	Issue	Chkd	Details
0	a	4/80	
0	b	J.H. 4/86	REDRAWN <i>l.s.</i>

Title CHANNEL ROUTING
SWITCH CARD

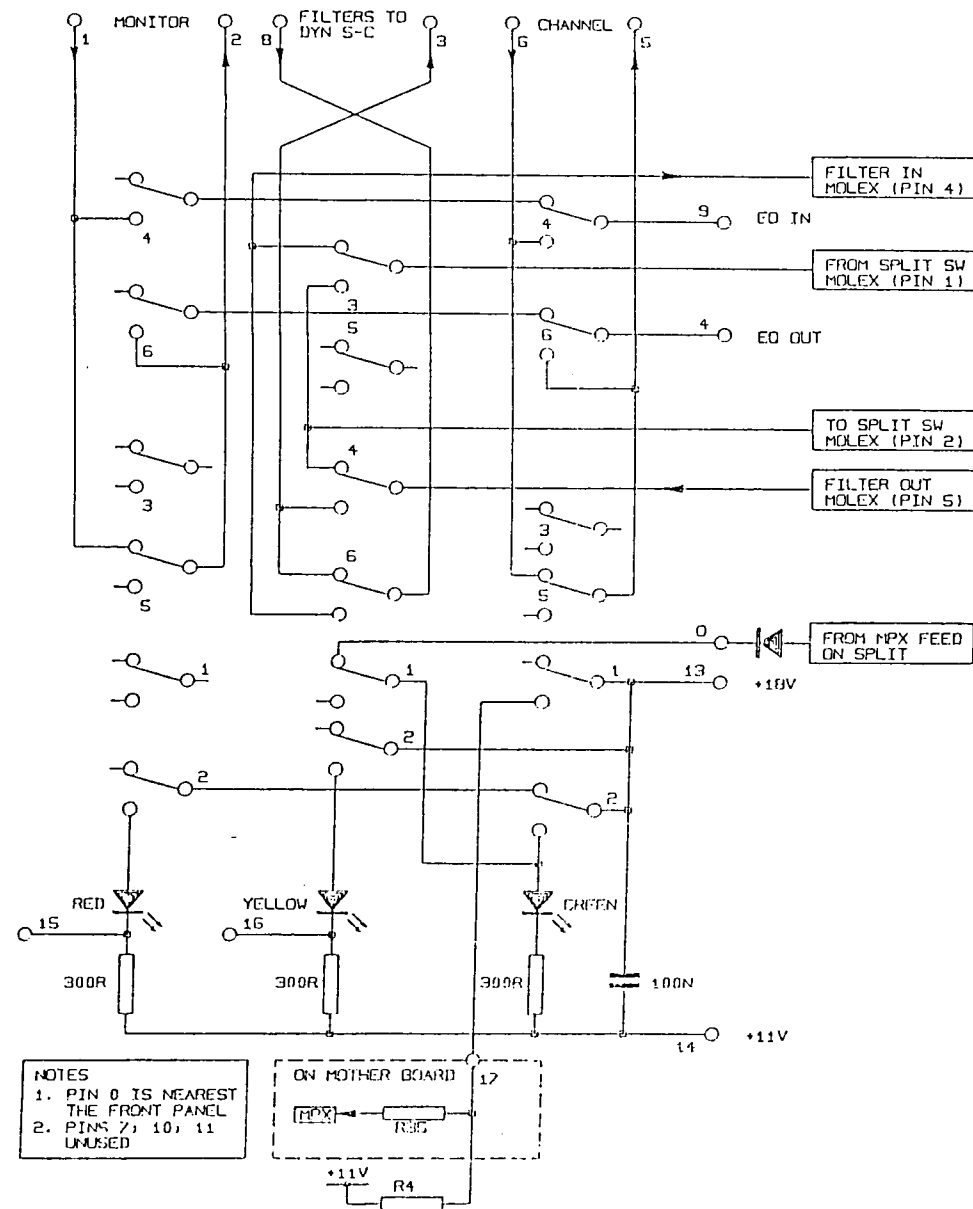
Drg.No. T82007-71

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1-15

1-17



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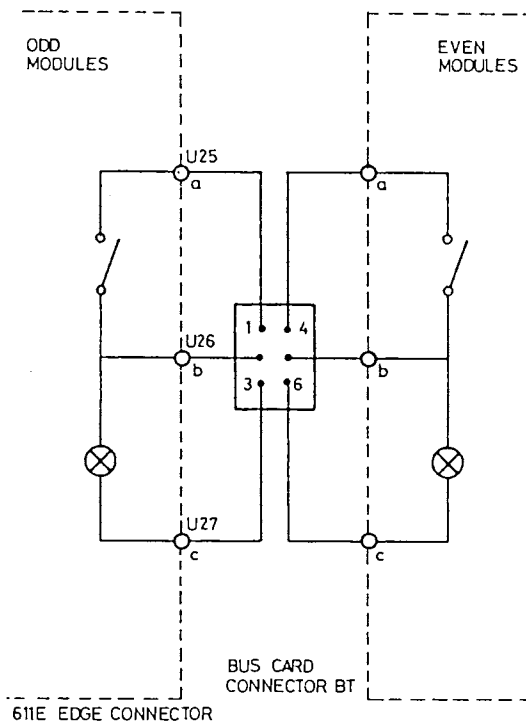
REV	ISSUE	DATE	DETAILS
0	A	UN 03 87	NEW CARD EL
0	B	4 JAN 88	CONN DELETED SWITCH 6 AAA STEFF

REF: T82312.70 A3

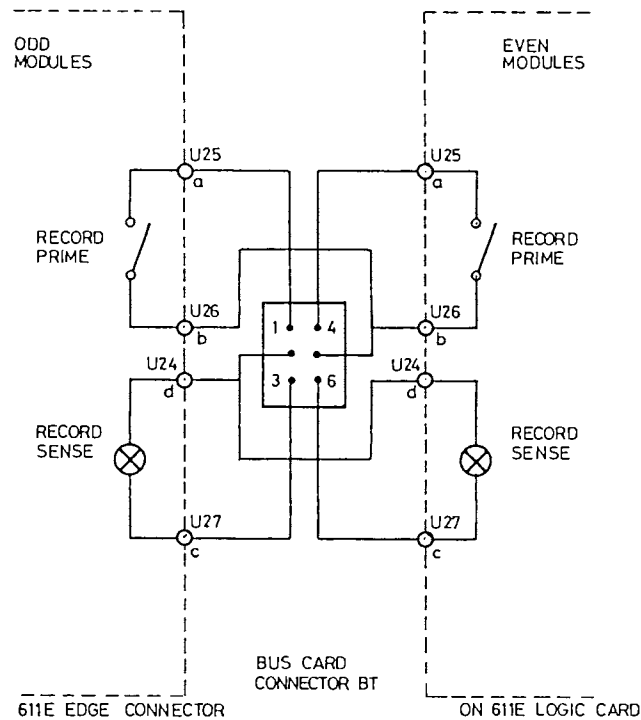
TITLE
EO SWITCH/FILTER
DYNAMIC SIDE CHAIN

DRG. NO. T82312.70

Solid State Logic



PRE Za MODULES PRE 7/8 LOGIC CARDS



Za MODULES WITH REV 7/8 LOGIC CARDS

SW 1 OFF SW 3
SW 2 SW 4

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Rev.	Issue	Chkd	Details
0	b	2/86	RENUMBERED
0	c	4/86 J.H.	REDRAWN <i>P.S.</i>

Title
TRACK REMOTE SWITCHING +
RECORD SENSING

Org.No. TO611E-79

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82E291 - CHANNEL AMPLIFIER EDGE CONNECTOR

From: 82E291

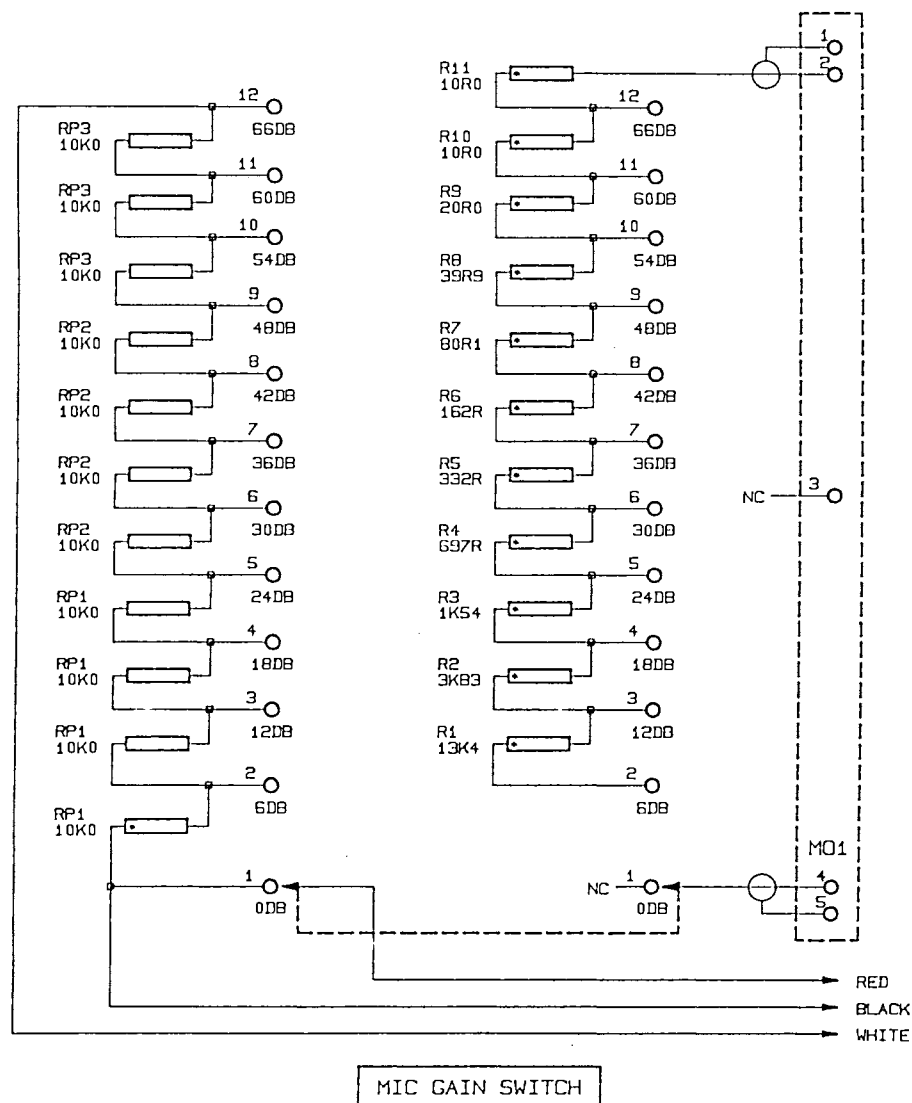
To: 611G/V/E Mother Board

No	Description	No	Description
1	NP	34	RC13 Input from VCA o/p (82E13 p24)
2	+48v	35	NP
3	NP	36	RC13 Control. VCA to routing
4	NP	37	RC14 Control. SF to routing
5	NP	38	NP
6	SW1 48V ON	39	IC 10 Output to routing pan pot
7	Mic Input -	40	Keyway
8	Mic Input +	41	RC14 Input from SF o/p (82E294 p47)
9	SW1 0v - 48v Switch	42	NP
10	NP	43	NP
11	NP	44	NP
12	0v	45	IC 11 Input. Odd Routing Buffer
13	0v	46	NP
14	-18v	47	NP
15	+18v	48	NP
16	IC 8 Input -) From Phase	49	IC11 Output to odd routing switches
17	IC 8 Input +) switch	50	NP
18	RC4 Control. Input Mute	51	IC 12 Input. Even Routing buffer
19	NP	52	Channel into Meters Send
20	NP	53	IC12 Output to even routing switch
21	NP	54	NP
22	NP	55	Line Input
23	Ch Input to phase reverse switch	56	NP
24	RC2 Control. Line i/p select	57	Line Input
25	RC1 Control. Mic i/p select	58	NP
26	RC3 Signal. Subgroup Input	59	
27	RC3 Control. Subgroup i/p select	60	
28	IC 8 Output to Split switch	61	
29	Insert Return - to T5	62	NP
30	NP		
31	IC9 Output to EQ switching (82E312)		
32	Insert Return + to T5		
33	NP		

T82E291.50

Dec 1987

1-19a



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REV	ISSUE	DATE	DETAILS
0	A	24 MAY 69	NEW DRAWING A.M. STEFF

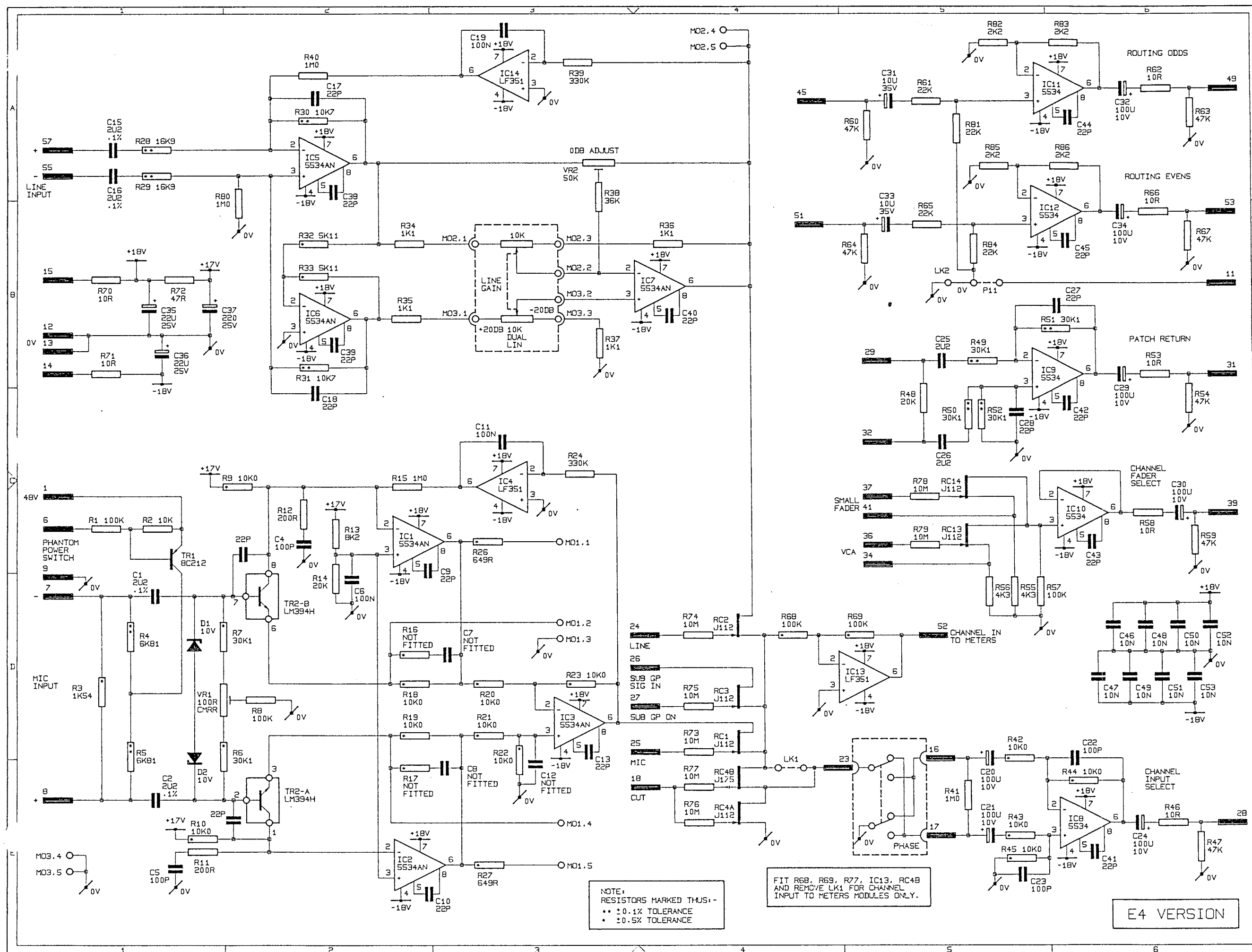
SHEET 1 OF 1

REF T82295.71 A3

TITLE
611
MIC GAIN SWITCH

DRG. NO.
T82295.71

Solid State Logic



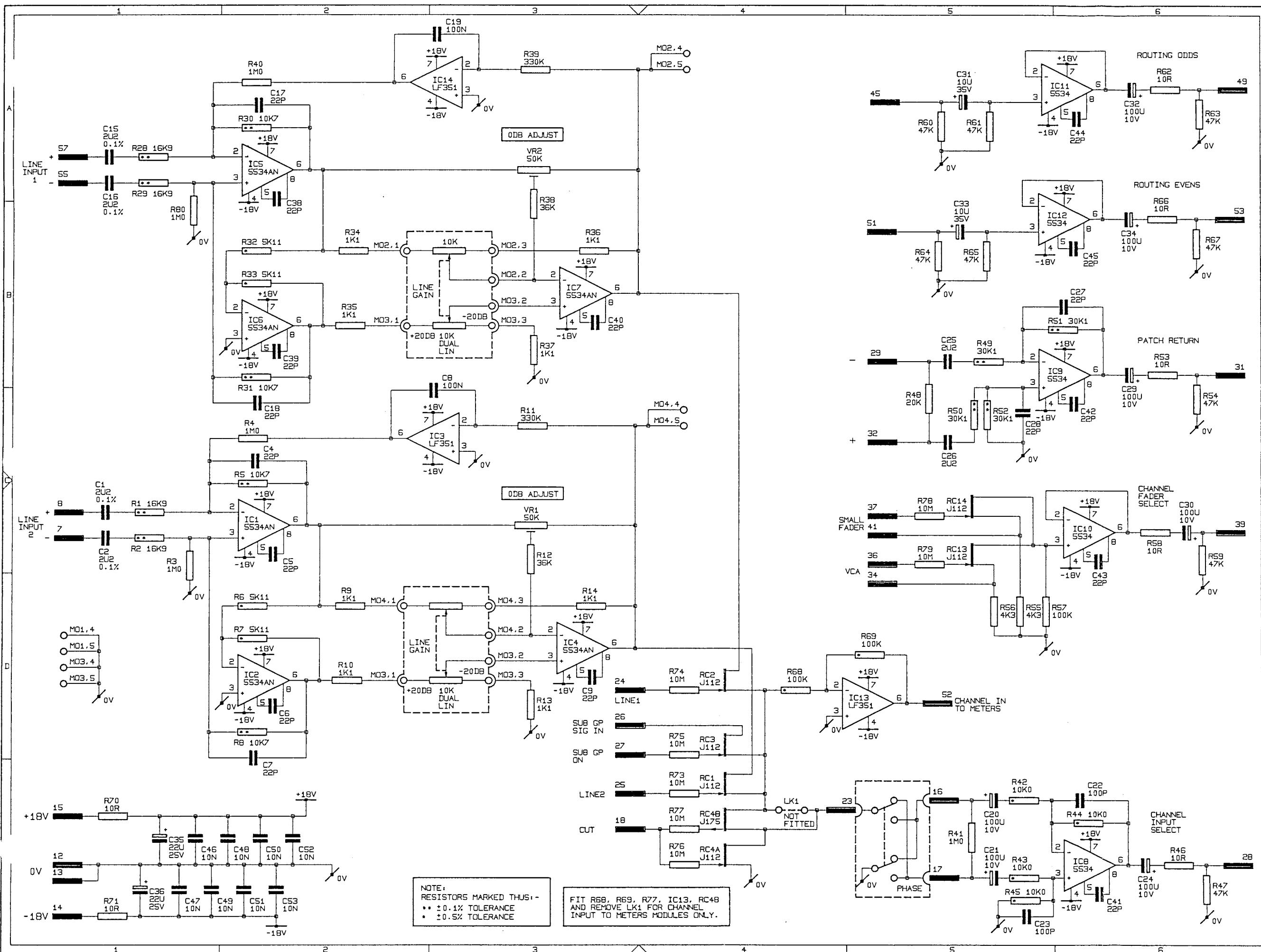
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REV	ISSUE	DATE	DETAILS
0	A	5 JULY 93	NEW DRAWING
SHEET 1 OF 1			
REF: T82291.71.4			
TITLE: 611E/V/G TRANSFORMERLESS CHANNEL AMPS			
DRG. NO. T82291.71.4			
Solid State Logic			

82E351 Channel Amplifier Card Edge Connector

From: 82E351

To: 611G/V/E Mother Board

Pin	Function	Pin	Function
1	NP	32	Insert Return +
2	NP	33	NP
3	NP	34	RC13 Input from VCA O/P (82E13 p24)
4	NP	35	NP
5	NP	36	RC13 Control. VCA to Routing
6	NP	37	RC14 Control. SF to Routing
7	Line 2 Input -	38	NP
8	Line 2 Input +	39	IC10 Output to Routing Pan Pot
9	NP	40	Keyway
10	NP	41	RC14 Input from SF O/P (82E294 p47)
11	NP	42	NP
12	0V	43	NP
13	0V	44	NP
14	-18V	45	IC11 Input. Odd Routing Buffer
15	+18V	46	NP
16	IC8 Input - from Phase Switch	47	NP
17	IC8 Input + from Phase Switch	48	NP
18	RC4 Control. Input Mute	49	IC11 Output to Odd Routing Switches
19	NP	50	NP
20	NP	51	IC12 Input. Even Routing Buffer
21	NP	52	Channel into Meters Send
22	NP	53	IC12 Output to Even Routing Switches
23	Ch. Input to Phase Reverse Switch	54	NP
24	RC2 Control. Line 1 Input Select	55	Line 1 Input -
25	RC1 Control. Line 2 Input Select	56	NP
26	RC3 Signal. Subgroup I/P	57	Line 1 Input +
27	RC3 Control. Subgroup I/P Select	58	NP
28	IC8 Output to Split Switch	59	NP
29	Insert Return -	60	NP
30	NP	61	NP
31	Output to EQ Switching (82E312)	62	NP



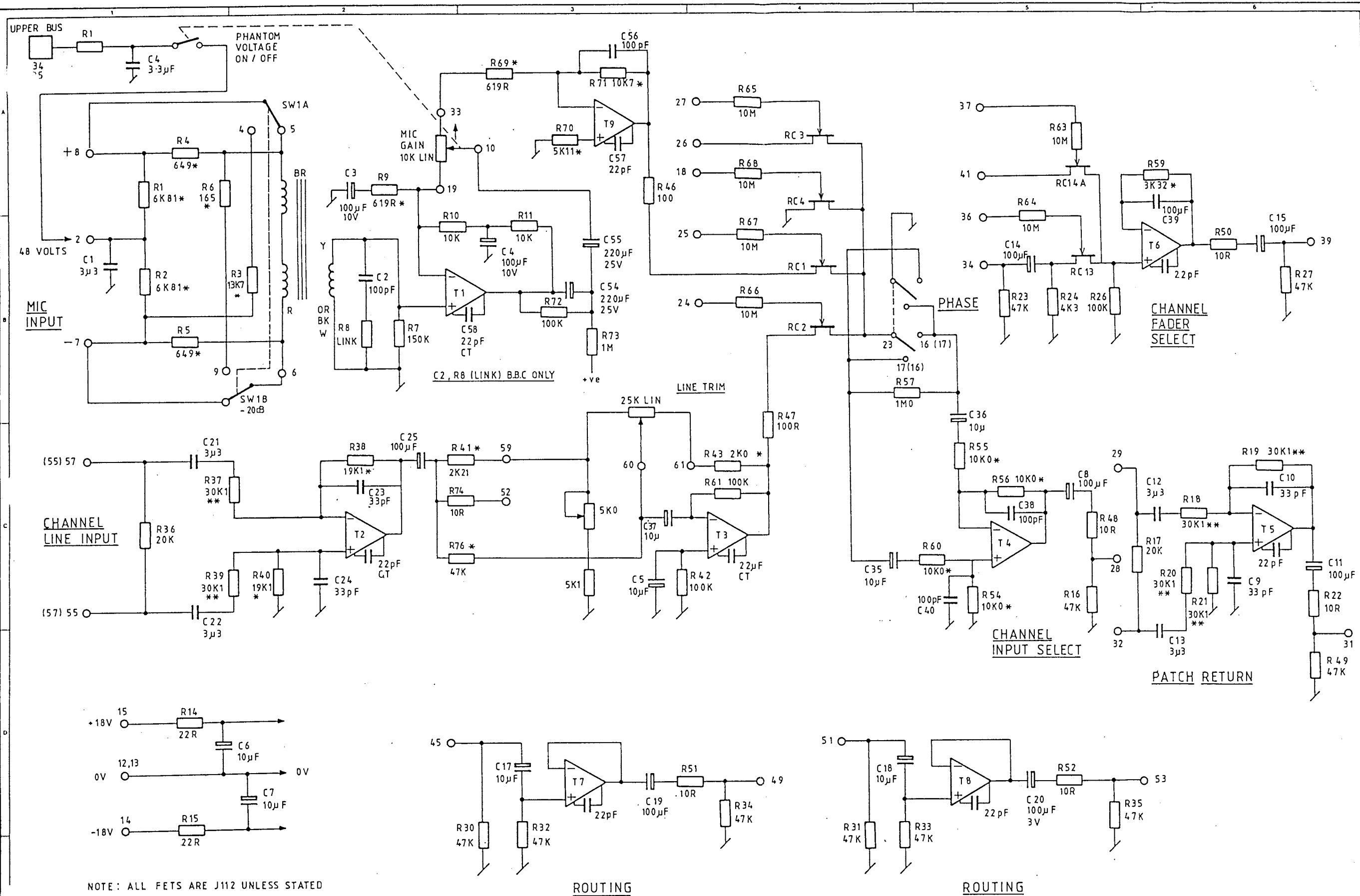
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REV	ISSUE	DATE	DETAILS	RP
0	A	7 AUG 90	NEW DRAWING	STEFF
0	B	12 OCT 90	R72 C37 REMOVED BC NAMES ADDED	MM
1	A	30 JAN 91	ECO 4K/701 R68 R69 WERE 5% NOW 0.5%	BC MM

SHEET 1 OF 1
 REF: T611J A2

TITLE 611E/V/G
 DUAL LINE INPUT AMP
 DRG. NO. T82351.71

Solid State Logic



NOTE: ALL FETS ARE J112 UNLESS STATED
 ** = .1% TOL
 * = .5% TOL
 T2-T9 5534N

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Rev.	Issue	Chkd	Details
15	a	1184	REDRAWN D.D
15	b	JH Jan86	R58,R62 & RC14B DELETED
15	c	DTG Feb86	RC15 AMD TO RC13
15	d	Apr86	RENUMBERED WAS T82001.71.NOW T82241.
16	a	DM May86	R74 10R ADDED
16	b	DTG June86	SW1A & 18 GANGED CON. AT 60.
16	c	May87	R59 & R63 CONNECTION REMOVED.
17	a	DM July 87	R38 & R40 WERE 30 NOW 19K1. R41 WAS 3K01 NOW 2K21. R1 WAS 2K21 NOW 2K0. R76 ADDED. ECO 290E
Title CHANNEL AMPLIFIER CARD			
Drg. No. T82241-71			
Solid State Logi 1-20c			

82E292 - PARAMETRIC EQUALISER AND FILTER EDGE CONNECTOR

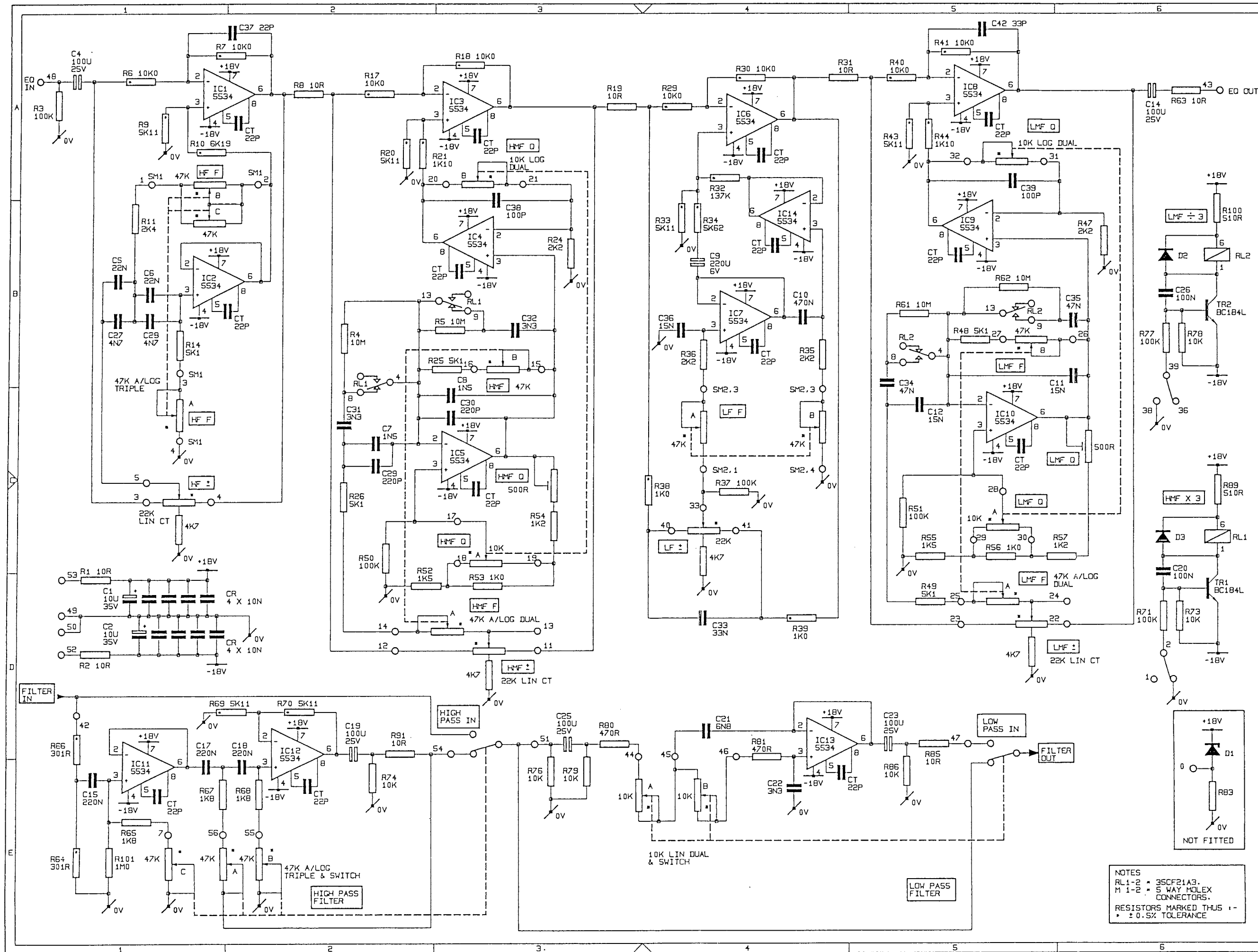
From: 82E292

To: 611G/V/E Mother Board

No	Description	No	Description
1	HMF x 3 Switch	34	NP
2	HMF x 3 Switch	35	NP
3	HF Gain pot ACW	36	NP
4	HF Gain pot CW	37	NP
5	HF Gain pot wiper	38	LMF divide by 3 Switch
6	NP	39	LMF divide by 3 Switch
7	NP	40	LF gain pot ACW
8	Keyway	41	LF gain pot CW
9	NP	42	Filter Input
10	NP	43	EQ Output
11	HMF Gain pot ACW	44	HF Filter pot ACW a
12	HMF Gain pot CW	45	HF Filter pot ACW b
13	HMF Gain pot wiper		HF Filter pot wiper a
	HMF Freq. pot CW a	46	HF Filter pot wiper b
14	HMF Freq. pot wiper a	47	Filter Output
15	HMF Freq. pot wiper b	48	EQ Input
16	HMF Freq. pot CW b	49	0v
17	HMF Q pot wiper a	50	0v
18	HMF Q pot CW a	51	NP
19	HMF Q pot ACW a	52	- 18v
20	HMF Q pot ACW b	53	+ 18v
21	HMF Q pot wiper b	54	LF Filter pot CW a
22	LMF gain pot ACW	55	LF Filter pot CW b
23	LMF gain pot CW	56	LF Filter pot wiper a
24	LMF gain pot wiper		
	LMF Freq. pot CW a		
25	LMF Freq. pot wiper a		
26	LMF Freq. pot wiper b		
27	LMF Freq. pot CW b		
28	LMF Q pot wiper a		
29	LMF Q pot CW a		
30	LMF Q pot ACW a		
31	LMF Q pot ACW b		
32	LMF Q pot wiper b		
33	LF gain pot wiper		

82E294.50

Dec 1987



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REV	ISSUE	DATE	DETAILS
0	A	BC 15 JUN 87	NEW DRAWING EL
0	B	BC 09 OCT 87	ALL IC'S (IC1-14) WERE T1-14. EL
0	C	AM 19 OCT 87	DRAWING RETITLED WAS '611E/V WIDE RANGE EQUALISER FILTERS'. EL
1	A	21 MAR 88	ECO 4K/337 C37 22P C38 C39 100P ADDED BC STEFF
1	B	DG 21 JUN 88	4K7 TO 0V ADDED TO HF & LF & 22K LIN POTS MM
2	A	24 MAY 89	ECO 4K/401 CANCELLED STEFF
2	B	24 MAY 89	CW AMENDED ON HF F STEFF
3	A	24 MAY 89	ECO 4K/404 C42 33P ADDED STEFF
3	B	20 FEB 90	D2 D3 POSITION BC AMENDED STEFF
4	A	20 FEB 90	ECO 4K/515 BC C20,26 WERE 0U47 STEFF
5	A	20 MAR 90	ECO 4K/537 BC NO CHANGE STEFF

SHEET 1 OF 1

REF: T82292.71 AC

TITLE 611E/V/G WIDE RANGE EQUALISER FILTERS

DRG. NO. T82292.71

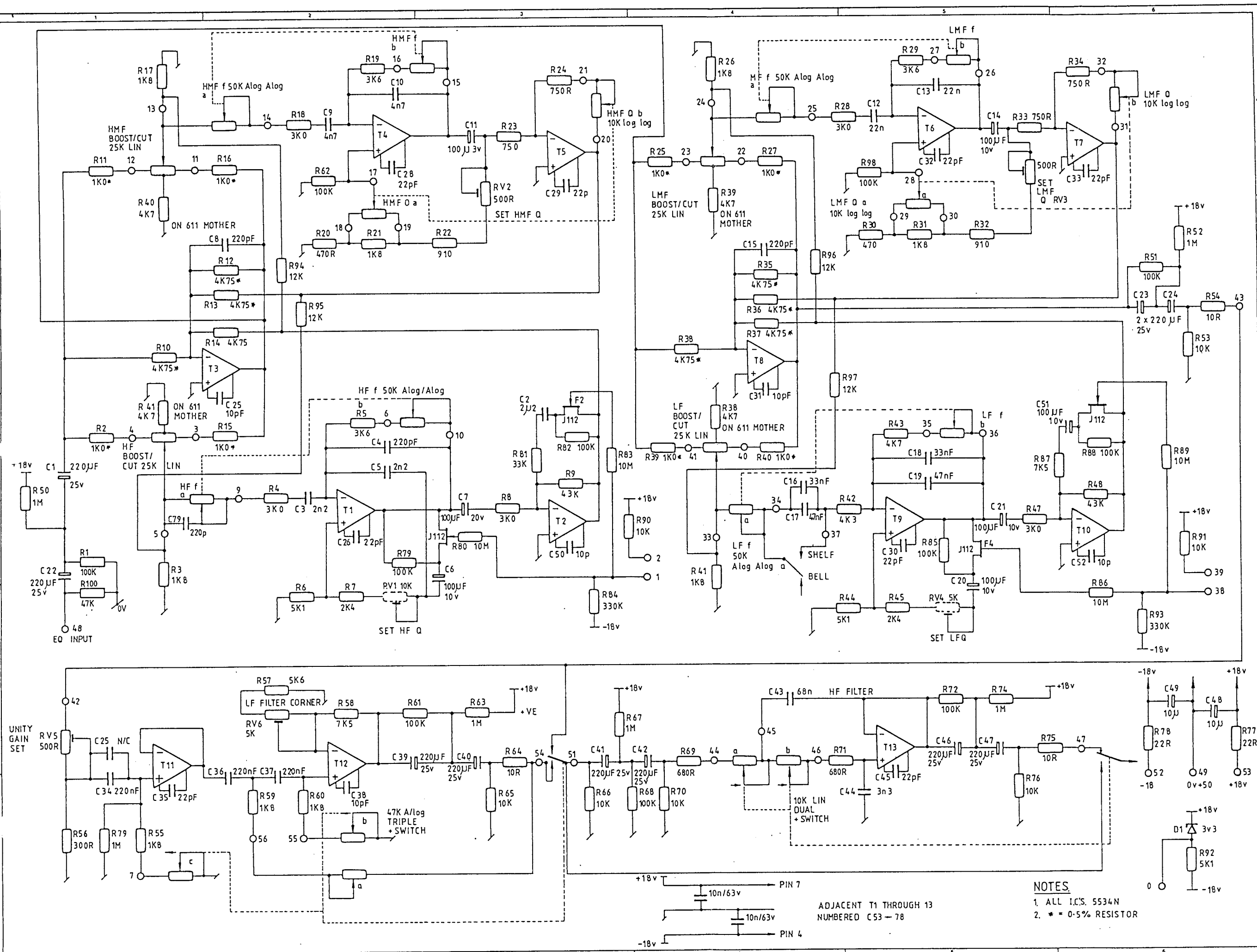
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82E242 - PARAMETRIC EQUALISER AND FILTER EDGE CONNECTOR

From: 82E242

To: 611G Mother Board

No	Description	No	Description
1	HF Shelf/Bell Switch	34	LF Freq. pot wiper a
2	HF Shelf/Bell Switch	—	LF Shelf/Bell Sw 4
3	HF Gain pot ACW	35	LF Freq. pot CW b
4	HF Gain pot CW	36	LF Freq pot wiper b
5	HF Gain pot wiper	37	LF Shelf/Bell Sw 4
—	HF Freq. pot CW a	38	LF Shelf/Bell Sw 3
6	HF Freq. pot CW b	39	LF Shelf/Bell Sw 3
7	Spare	40	LF gain pot ACW
8	Keyway	41	LF gain pot CW
9	HF Freq pot wiper a	42	Filter Input
10	HF Freq pot wiper b	43	EQ Output
11	HMF Gain pot ACW	44	HF Filter pot ACW a
12	HMF Gain pot CW	45	HF Filter pot ACW b
13	HMF Gain pot wiper	—	HF Filter pot wiper a
—	HMF Freq pot CW a	46	HF Filter pot wiper b
14	HMF Freq pot wiper a	47	Filter Output
15	HMF Freq pot wiper b	48	EQ Input
16	HMF Freq pot CW b	49	0v
17	HMF Q pot wiper a	50	0v
18	HMF Q pot CW a	51	Spare
19	HMF Q pot ACW a	52	- 18v
20	HMF Q pot ACW b	53	+ 18v
21	HMF Q pot wiper b	54	LF Filter pot CW a
22	LMF gain pot ACW	55	LF Filter pot CW b
23	LMF gain pot CW	56	LF Filter pot wiper a
24	LMF gain pot wiper		
—	LMF Freq pot CW a		
25	LMF Freq pot wiper a		
26	LMF Freq pot wiper b		
27	LMF Freq pot CW b		
28	LMF Q pot wiper a		
29	LMF Q pot CW a		
30	LMF Q pot ACW a		
31	LMF Q pot ACW b		
32	LMF Q pot wiper b		
33	LF gain pot wiper		
—	LF Freq pot CW a		



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Rev.	Issue	Chkd	Details
P	a		PROTOTYPE
1	a	3-85	REDRAWN V.B.
1	b	3-85	R7,9,45,48 CHANGED PINS 1 & 2 SWAPPED TR ON PIN 0 NOT 57
2	a	4-85	FILTER VALUES CHANGED
3	a	Nov85	R81 TO 7K5 WAS 5K6
4	a	Nov85	NO CHANGE
5	a	DM Nov85	R6:7-44-45-69-71-81-87 RV 1-4 AMENDED EC092
5	b	GG Jan86	CAPACITOR ADDED ADJ R3
6	a	GG Jan86	CAP NUMBERED C79
7	a	DM Feb86	NO CHANGE.
8	a	DM June86	R100 ADDED

NOTES

1. ALL I.C.S. 5534N
2. * = 0.5% RESISTOR

Title
EQUALISER FILTERS.

Org. No.
T82242-70

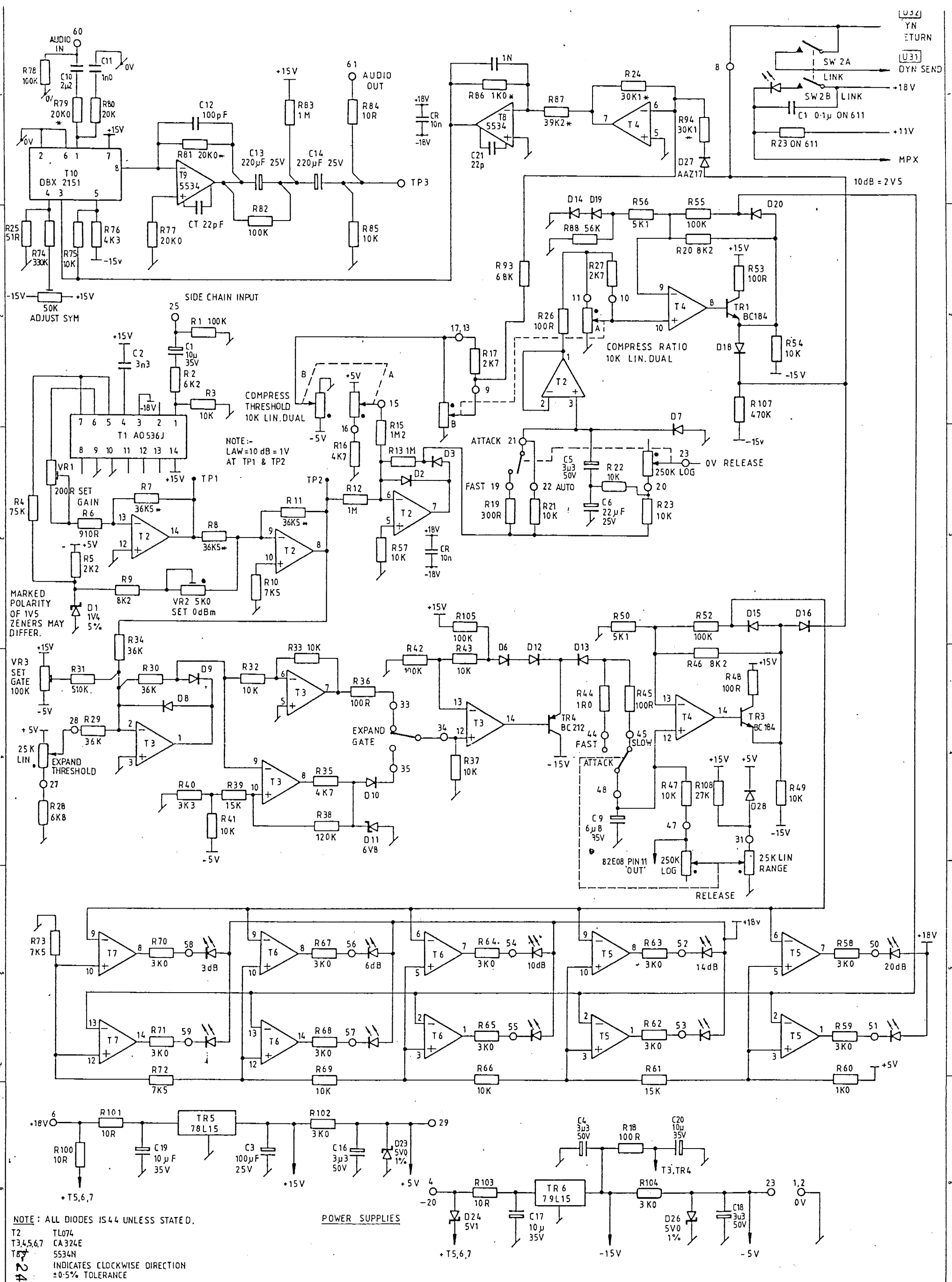
Solid State Logic
2 2B

82E10 - DYNAMICS SECTION EDGE CONNECTOR

From: Dynamics CF82E10

To: 611E/V Mother Board

No	Description	No	Description
1	Ov	34	Expand/Gate Switch pole
2	Ov	35	Expand/Gate Switch gate wiper
3	NP	36	NP
4	-18v	37	NP
5	NP	38	NP
6	+18v	39	NP
7	NP	40	NP
8	Dynamics Return Link	41	NP
9	Compress Ratio pot wiper b	42	NP
10	Compress Ratio pot wiper a	43	NP
11	Compress Ratio pot CW a	44	Expand fast attack switch pole
12	NP	45	Linked to 44 on motherboard
13	NP	46	Spare
14	NP	47	Expand Release pot ACW
15	Compress threshold pot wiper a	48	Expand fast attack switch wiper
16	Compress threshold pot CW a	49	NP
17	Compress threshold pot wiper b	50	Expand LED 20 dB
18	Compress ratio pot CW b	51	Compress LED 20dB
19	Spare	52	Expand LED 14dB
20	Compress fast attack switch pole	53	Compress LED 14dB
21	Compress release pot ACW	54	Expand LED 10dB
22	Compress fast attack switch wiper	55	Compress LED 10dB
23	Linked to 21 on motherboard	56	Expand LED 6dB
24	-5v	57	Compress LED 6dB
25	NP	58	Expand LED 3dB
26	Side chain input	59	Compress LED 3dB
27	Keyway	60	Audio Input
28	Expand threshold pot ACW	61	Audio Output
29	Expand threshold pot wiper		
30	+5v		
31	NP		
32	Expand range pot CW		
33	Nu		
	Expand/Gate SW		



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Rev	Issue	Chkd	Details
12	d		REORDERING TO 8. D. D.
12	b		GANGING TO AUTO & RELEASE SW. ADDED.
12	c		BC. R78.9.11.25.31.74.81. ADDED. T3 & C4. ADDED.
12	e		BC. 'AUTO' & 'SLOW' ADDED.
12	d		BC. VR3 POS & NEG VALUES AMENDED TO +5V & -5V.
12	f		BC. T10 PINS 12 & 8 AMENDED TO COMP. RATIO POT. C/W. DIR. ADDED. EXPAND GATE. CONTACTS AMENDED. VR3 PPOS TO +15V.
13	d		BC. ECO 4K/14.5. BC. D1 WAS TWS NOW 1W.
14	d		BC. ECO 4K/537. BC. NO CHANGE. STEFF.
15	d		BC. ECO 4K/580. BC. PCB REVISION 'V' W. STEFF.

611E/V

DYNAMICS SECTION

611E/V

T82010.71

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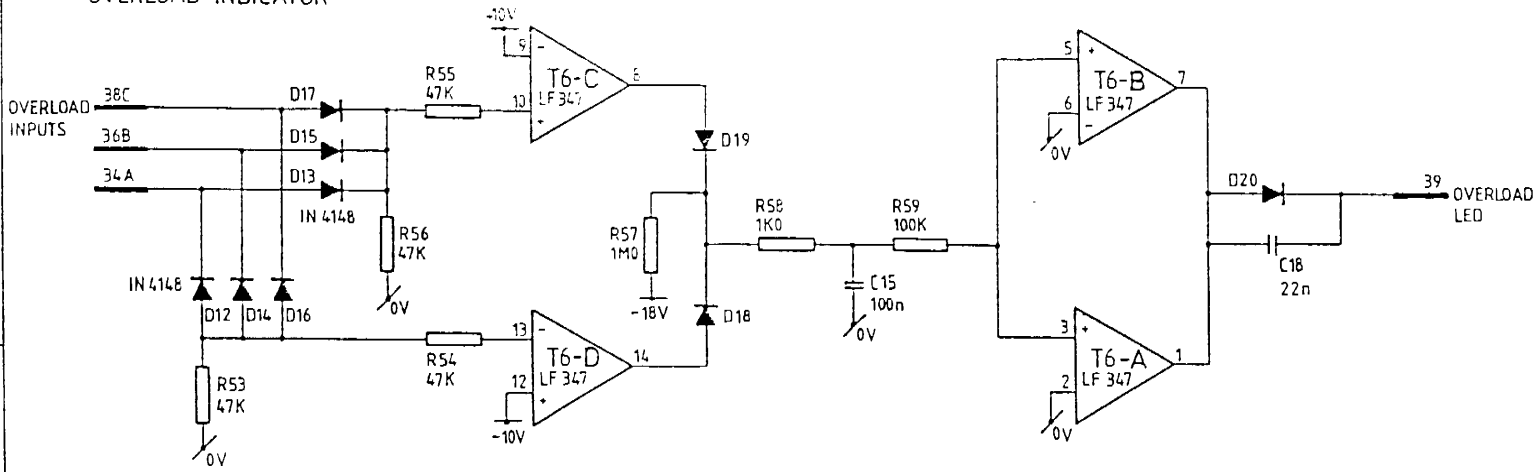
82E13 - CHANNEL VCA CARD EDGE CONNECTOR

From: 82E13

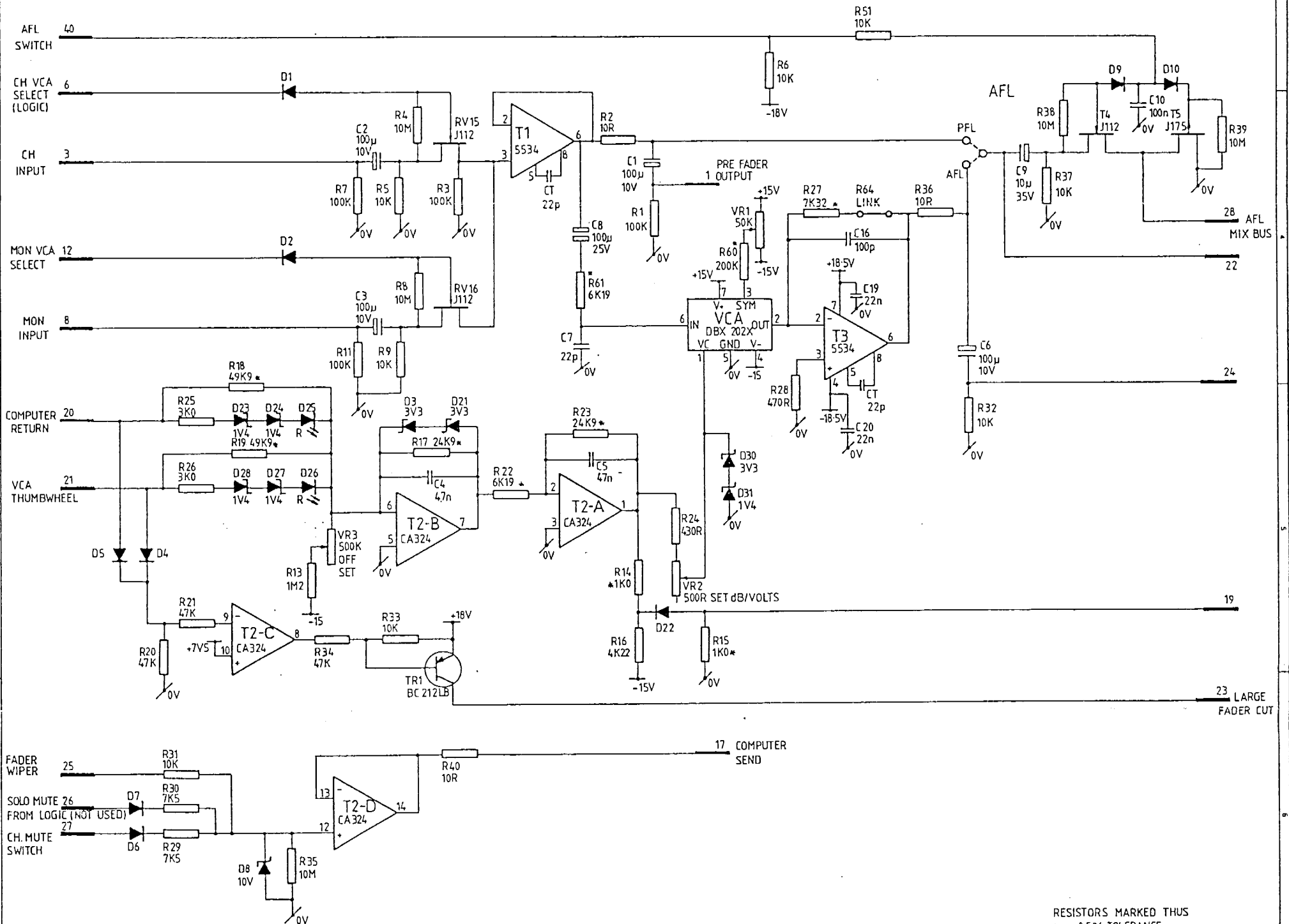
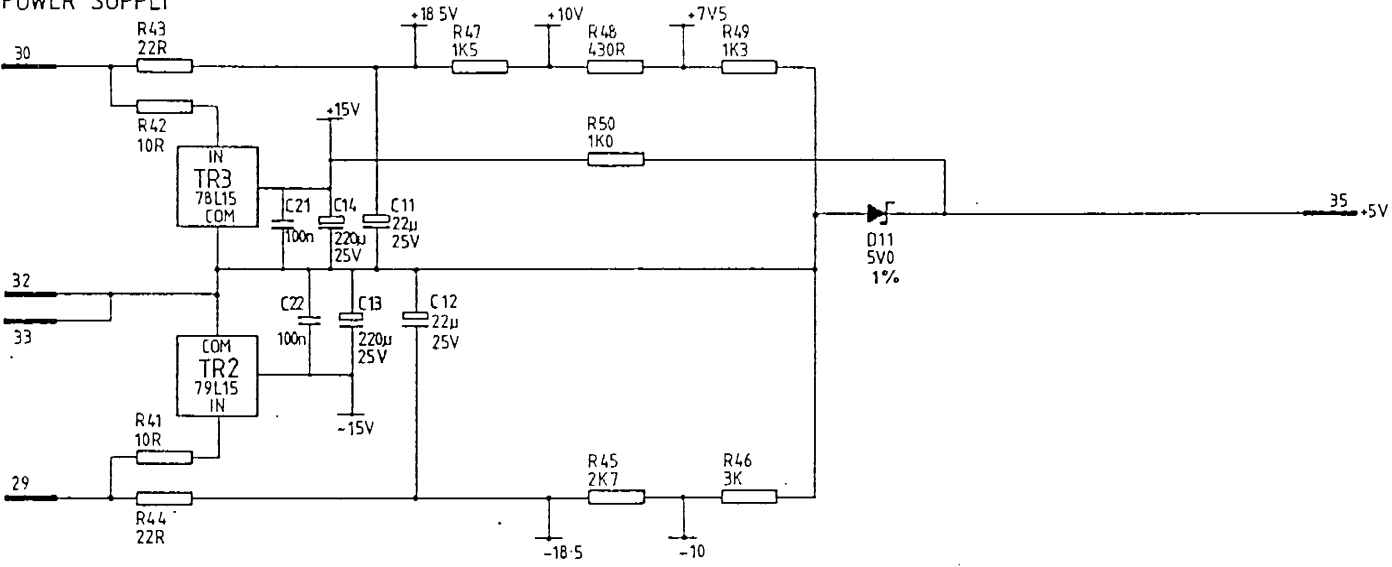
To: 611E/V Mother Card

No	Description	No	Description
1	Pre VCA o/p	34	Channel o/p overload sense i/p
2	NP	35	5v to channel fader
3	Channel signal i/p	36	Post EQ overload sense i/p
4	NP	37	NU
5	NP	38	Channel i/p overload sense i/p
6	RV15 Control. Channel to VCA	39	Overload LED drive signal
7	NP	40	AFL switch i/p
8	Monitor signal i/p	41	NP
9	NP	42	NP
10	NP	43	NP
11	NP	44	NP
12	RV16 Control. Monitor to VCA	45	
13	NP	46	
14	NP	47	
15	NP	48	
16	NP	49	
17	Computer Send	50	
18	VCA trim bus i/p. (Not Used)	51	
19	VCA to meter o/p	52	
20	Computer Return	53	
21	Fader VCA subgroup switch i/p	54	
22	AFL/PFL Link o/p (Not Used)	55	
23	VCA Cut signal	56	
24	Post VCA o/p	57	
25	Channel Fader wiper	58	
26	Solo Mute from logic. (Not Used)	59	
27	Channel Cut switch i/p	60	
28	AFL/PFL signal o/p	61	
29	-18v	62	
30	+18v	63	
31	Key way	64	
32	0v	65	
33	0v to channel fader	66	

OVERLOAD INDICATOR



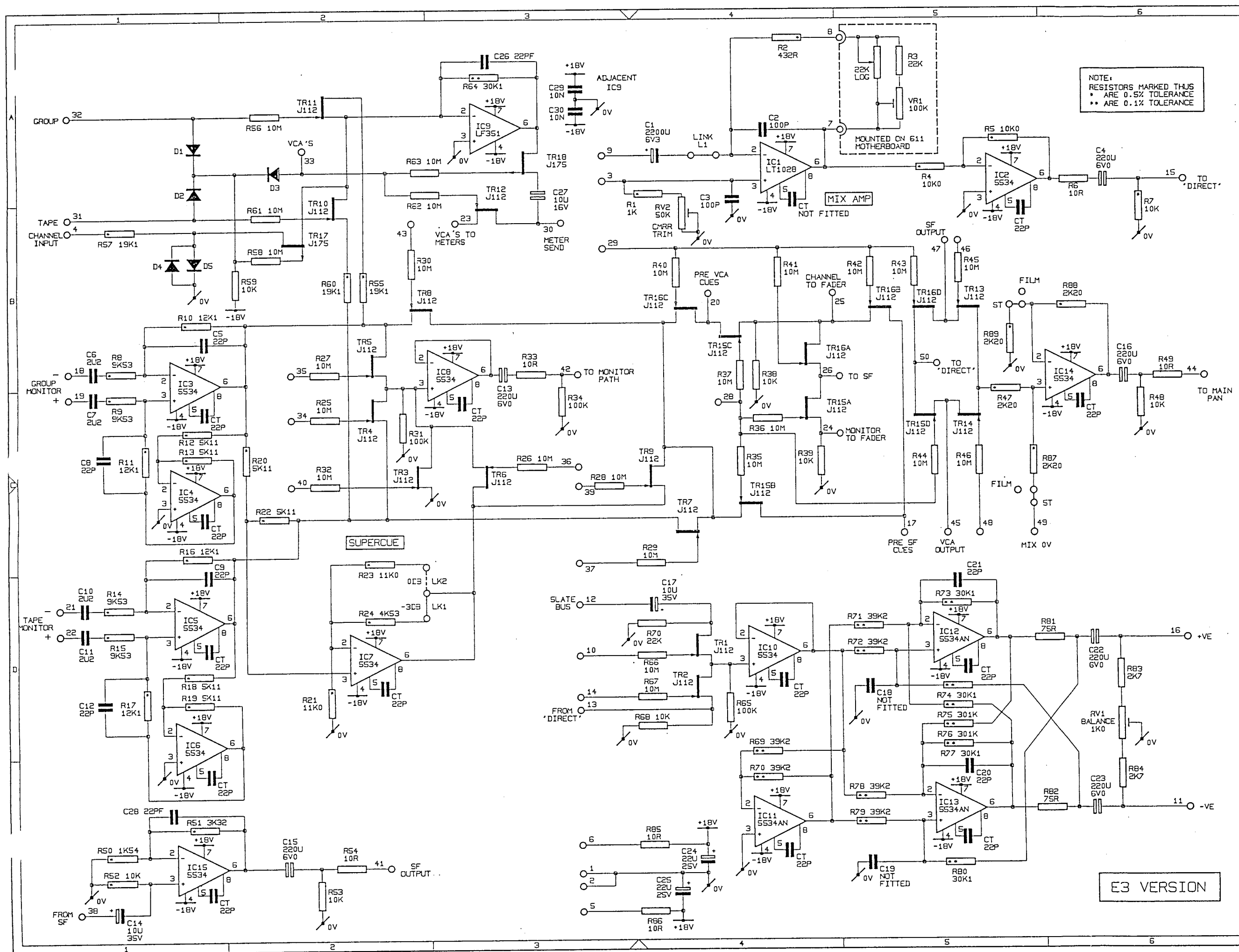
POWER SUPPLY



RESISTORS MARKED THUS
* ±0.5% TOLERANCE

82E294 - GROUP AMPLIFIER EDGE CONNECTOR			
From: 82E294			
To: 611G/V/E Mother Card			
No	Description	No	Description
1	0v	34	RG4 Control. Monitor Tape
2	0v	35	RG5 Control. Monitor Group
3	Group mix amp Input	36	RG6 Control. Monitor Tape + Group
4	Channel into Meters Input	37	RG7 Control. Supercue Tape
5	-18v	38	Small Fader buffer Input
6	+18v	39	RG9 Control. Supercue Tape + Group
7	Group trim pot ACW	40	RG3 Control. Monitor Mute
8	Group Trim Pot Wiper	41	Small Fader buffer Output
9	Group mix amp Input +	42	Monitor select buffer Output
10	RG1 Control. Slate to o/p amp	43	RG8 Control. Supercue Group
11	Group Output amp -	44	Quad Bus routing buffer Output
12	RG1 Input. Slate Signal	45	RG14 Signal from VCA o/p(82E13 p24)
13	RG2 Input. Direct switch Output	46	RG13 Control. Small Fader to QB
14	RG2 Control. Signal to o/p amp	47	RG13 Signal from SF CUT switch
15	Group mix amp o/p to Direct Switch	48	RG14 Control. VCA Fader to QB.
16	Group Output amp +	49	0v
17	Pre Small Fader output	50	Direct signal Output to direct sw.
18	Group Monitor Input -	51	
19	Group Monitor Input +	52	
20	Pre VCA fader Output	53	
21	Tape Monitor Input -	54	
22	Tape Monitor Input +	55	
23	VCA to meter signal (82E13 p19)	56	
24	Monitor signal Input	57	
25	Channel signal Input	58	
26	Mon/Chan signal Output to Small Fdr	59	
27	Keyway	60	
28	RG15 Control. Monitor to Small Fdr	61	
29	RG16 Control. Channel to Small Fdr	62	
30	Meter signal Output	63	
31	RG10 Control. Meter tape	64	
32	RG11 Control. Meter Group	65	
33	RG12 Control. Meter VCA level	66	

T82294.50



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REV	ISSUE	DATE	DETAILS	
0	A	12 FEB 92	NEW DRAWING	BC MM
SHEET 1 OF 1				
REF: T82294.71.3 A2				
E TITLE 611 GROUP AMPLIFIERS				
DRG. NO. T82294.71.3				
Solid State Logic				

LOGIC CARD RELAY AND LAMP DRIVER OUTPUT SIGNALS

Output Driver Function	Relay	Driver type	Edge Pin	TR	Rbase	R-18v	Rout	Cap	LED R
Ready Tape Lamp 1/2	-	C	51	6	RP1-3	-	R8	-	-
Ready Tape Lamp full	-	C	51	5	RP1-4	-	R7	-	-
Ready Group Lamp 1/2	-	C	52	8	RP1-1	-	R10	-	-
Ready Group lamp full	-	C	52	7	RP1-2	-	R9	-	-
Record Lamp 1/2	-	C	50	4	RP1-5	-	R6	-	RP5-7
Record Lamp full	-		50	3	RP1-6	-	R5	-	-
Record LED	-		18	4	RP1-5	-	-	-	-
Supercue T&G	RG 9	A	34	21	RP3-2	RP8-2	-	10	-
Supercue G	RG 8	A	35	20	RP3-3	RP8-3	-	9	-
Supercue T	RG 7	A	36	19	RP3-4	RP8-4	-	8	-
Monitor Selection T&G	RG 6	A	37	18	RP3-5	RP8-5	-	7	-
Monitor Selection G	RG 5	A	38	17	RP3-6	RP8-6	-	6	-
Monitor Selection T	RG 4	A	39	16	RP3-7	RP8-7	-	5	-
Monitor Cut	RG 3	A	33	22	RP3-1	RP8-1	-	11	-
Channel Cut	RC 4	A	27	26	RP4-5	RP9-4	-	17	-
Input Select Mic	RC 1	B	29	24	RP4-7	RP9-6	-	16	RP5-1
Input Select Line	RC 2	B	30	23	RP4-8	RP9-7	-	15	RP5-2
Input Select SubGroup	RC 3	A	28	25	RP4-6	RP9-5	-	12	-
Small fader Cut LED	-	D	55	1	RP1-8	-	R3	-	-
VCA fader Cut Lamp	-	E	54	2	RP1-7	-	R4	-	-
Meter Selection T	RG10	B-	42	13	RP2-1	RP7-3	-	-	RP5-5
Meter Selection G	RG11	B-	41	14	RP2-2	RP7-2	-	-	RP5-4
Meter Selection VCA	RG12	B-	40	15	RP2-3	RP7-1	-	-	RP5-3
Small Fader to Quad Bus	RG13	A-	26	27	RP4-4	RP9-3	-	13	-
VCA Fader to MT Routing	RC13								
VCA Fader to Quad Bus	RG14	B-	25	28	RP4-3	RP9-2	-	18	RP5-6
S. Fader to MT Routing									
Channel to VCA	RV15	A	44	11	RP2-5	RP7-5	-	3	-
Monitor to Small Fader	RG15								
Channel to Small Fader	RG16	A	43	12	RP2-4	RP7-4	-	4	-
Monitor to VCA Fader	RV16								
Group Output Slate	RG2	A	45	10	RP2-6	RP7-6	-	2	-
Group Output Mix	RG1	A	46	9	RP2-7	-	-	1	-
Record Relay	-	F	-	30	RP4-1	-	-	-	-

82E293 switch and link selection details

=====

Switches

	<u>On</u>	<u>Off</u>	<u>Normally</u>
SW1	3-wire tape remote (Contacts B+D linked)	4-wire tape remote	Off
SW2	Record readied in Ready Group or Tape + desk in Record status	Record readied in Ready Group or Tape	Off
SW3	Ready tally (Record lamp half bright) from machine contacts (C+D)	Ready tally from record switch	Off
SW4	Record tally (Record lamp full bright) from machine contacts (C+D)	Record tally from machine record bus	Off
SW5	Supercue on (pre-monitor cue send not cut by monitor cut)	Supercue off	On
SW6	Monitor listens to Tape monitor in Ready Tape	Monitor follows Record status in Ready Tape	Off
SW7	Record LED follows full bright lamp (track record)	Record LED follows half bright lamp (track readied)	Off
SW8	Sub-group in VCA to channel enables solo isolate	Solo isolate from switch only	Off

Links

		<u>Normally</u>
LK1	S1 pin 3 connected to master input cut defeat	Open
LK2	Edge pin 73 " " " " " "	Open
LK3	Edge pin 73 connected to channel in to meters	Fitted
LK4,5	Broadcast/input flip select	Input Flip
LK6	Inputs cut in channel cut (remove when used with 82E291 card fitted with channel in to meters option)	Open

82E293 SuperCue, Monitors & Meter Selection

SuperCue: This is the pre monitor fader signal feed to the Cue/Aux PRE switches.

DIL switch 5 on the card determines whether pre monitor fader sends are cut by monitor cut or not.

SW 5 ON SuperCue not cut by monitor cut (Normal state)
SW 5 OFF SuperCue cut by monitor cut

The feeds to the SuperCue, the monitor fader, and the meter, are from either the Tape monitor input, the Group monitor input, or from a mix of both. Which source feeds each of these depends on the setting of the 'Ready Tape' and 'Ready Group' switches, the desk master status, and whether the tape machine is dropped into record.

In addition, the source selection when 'Ready Tape' only is selected depends on the setting of DIL switch 6 on the card.

The tables below define these selections for the two settings of switch 6.

Switch 6 Off

	SuperCue Signal		Monitor Signal		Meter	Record or Mix Status
Dropped in?	No	Yes	No	Yes		
Ready G & T off	Tape	N/A	Tape	N/A	Tape	
Ready Tape	G + T	Group	Tape	Group	Tape	
Ready Group	Group	Group	Group	Group	Group	
Ready G & T	G + T	Group	G + T	Group	Group	
Replay Status	Tape	N/A	Tape	N/A	Tape	

contd

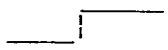
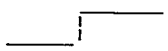
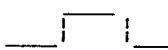
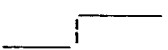
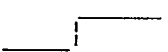
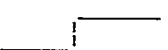
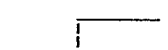
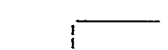
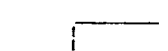
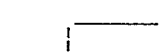
Switch 6 on

	SuperCue Signal		Monitor Signal		Meter	
Dropped in?	No	Yes	No	Yes		
Ready G & T off	Tape	N/A	Tape	N/A	Tape	Record or Mix Status
Ready Tape	Tape	Tape	Tape	Tape	Tape	
Ready Group	Group	Group	Group	Group	Group	
Ready G & T	G + T	Group	G + T	Group	Group	
Replay Status	Tape	N/A	Tape	N/A	Tape	

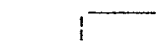
Master Status Bus Logic Inputs

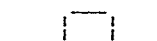
RECORD	Active high in Console Record Status.
	Active high in Console Mix Status.
MASTER READY GROUP	Option to switch all channels to RG on a master basis.
VCA TO MONITOR	Active high with VCA to MON AND (RECORD OR REPLAY)(NOT MIX) Status selected.
MACHINE RECORD BUS	Active high when Master Machine is in Transport Record or Drop in Rehearsal is operating.
MASTER INPUT FLIP	Active high when selected on 651. If configured for (BROADCAST) BROADCAST MODE by changing links on the 82E12s and the 82E21: RECORD AND BROADCAST = MIX AND MASTER INPUT FLIP
SLATE	Active high when OMNI or TONE TO GROUPS operated.
SOLO DISABLE BUS	Active high when AFL status is selected.
VCA FADER SOLO BUS	Active high when any channel VCA solo is operated.
SMALL FADER SOLO BUS	Active high when any Small fader solo is operated.
VCA TO METERS	Active high when function selected on 651.

Channel Status Logic Inputs

READY TAPE	
READY GROUP	
RECORD	
FLIP	
FLOAT	
SUBGROUP	
SMALL FADER SOLO	
SMALL FADER CUT	
VCA FADER SOLO	
VCA FADER CUT	

All active High.

 = Locking Switch Function.

 = Momentary Switch Function.

Channel Input Selection

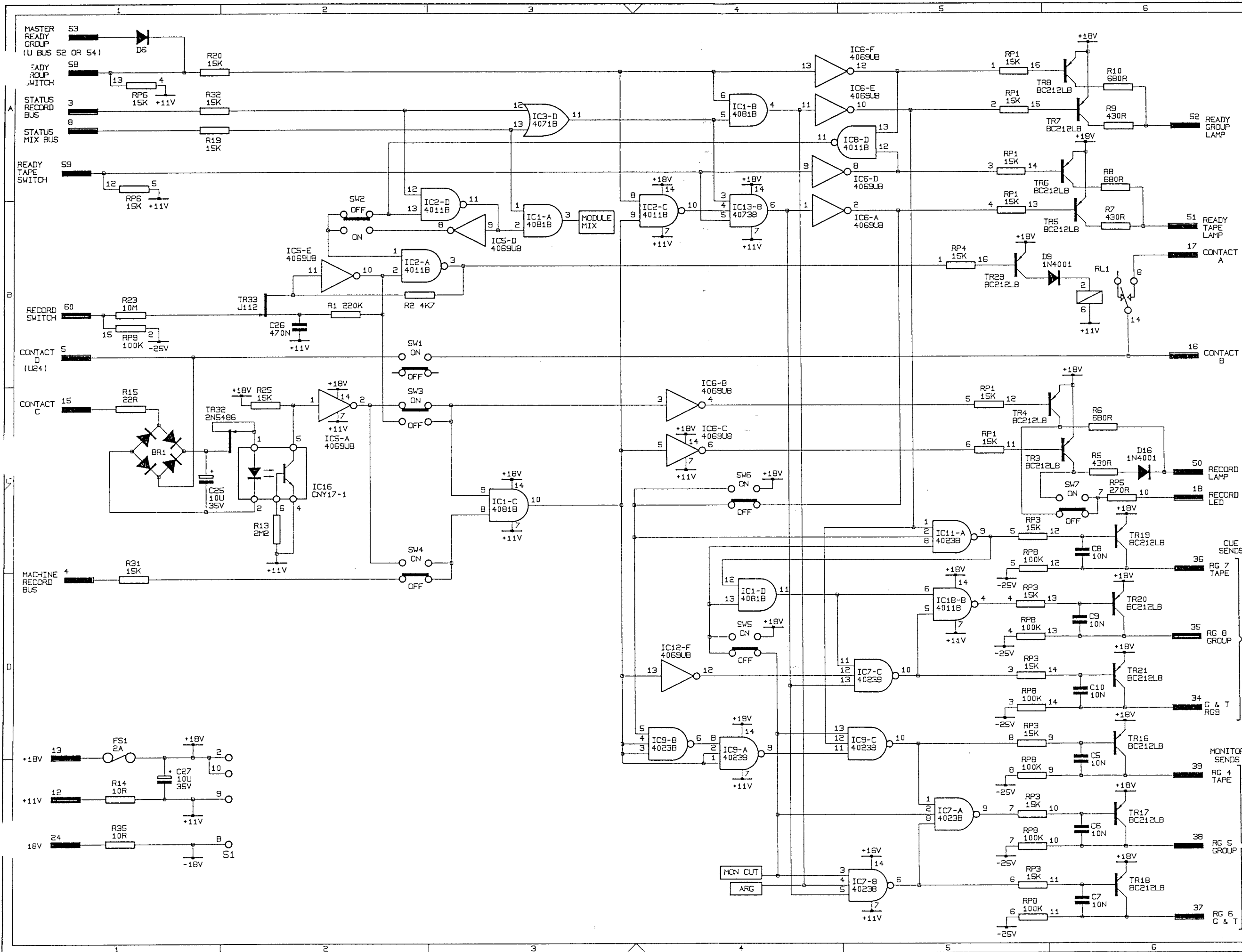
RC4 - Channel Input Cut FET. Takes priority over RC1, RC2 and RC3.
RC3 - Sub Group Input FET. Takes priority over RC1 and RC2.

RC2 - Line Input FET $\overline{1}$ _____ EXCLUSIVE OR function.
RC1 - Mic Input FET $\overline{1}$ _____

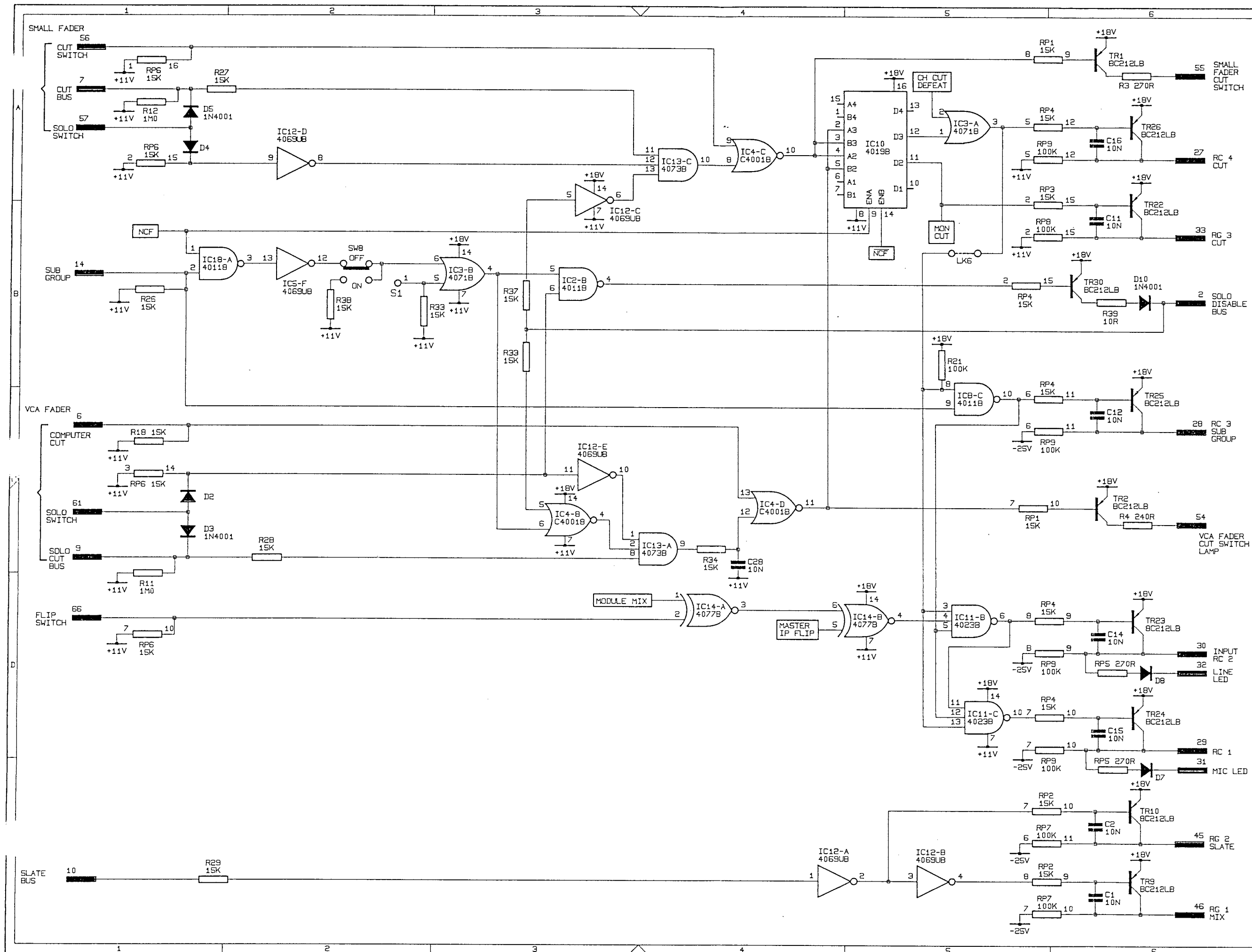
RC2 is active when MODULE MIX is high $\overline{1}$ _____ Except when the Flip
RC1 is active when MODULE MIX is low $\overline{1}$ _____ switch is operated.

82E293 - LOGIC CARD EDGE CONNECTOR			
From: 82E293			
To: 611G/V/E Mother Board			
No	Description	No	Description
1	VCAs to Meters Bus	37	RG6 Control o/p
2	Solo Disable Bus	38	RG5 Control o/p
3	Status Record Bus	39	RG4 Control o/p
4	Machine Record Bus	40	RG12 Control o/p
5	Record contact D. Sense common	41	RG11 Control o/p
6	VCA Fader Cut from 82E13 p23	42	RG10 Control o/p
7	Small Fader Solo Cut Bus	43	RG16, RV16 Control o/p
8	Status Mix Bus	44	RG15, RV15 Control o/p
9	VCA Fader Solo Cut Bus	45	RG2 Control o/p
10	Slate Control Bus	46	RG1 Control o/p
11	VCA to Monitor Bus	47	NP
12	+11v	48	NP
13	+18v	49	NP
14	Sub-Group switch input	50	Record Lamp
15	Record Contact C. Sense input	51	Ready Tape Lamp
16	Record Contact B. Relay Common	52	Ready Group Lamp
17	Record Contact A. Relay Contact	53	Master Ready Group Bus
18	Record LED	54	VCA Cut Lamp
19	Group LED	55	SF Cut LED
20	Tape LED	56	SF Cut Switch
21	VCA to Meter LED	57	SF Solo Switch
22	Key Way	58	Ready Group Switch
23	Solo Mute to Computer (Not Used)	59	Ready Tape Switch
24	-18v	60	Record Switch
25	RC14, RG14 Control o/p	61	VCA Solo Switch
26	RC13, RG13 Control o/p	62	Small Fader Routing LED
27	RC4 Control o/p	63	NP
28	RC3 Control o/p	64	NP
29	RC1 Control o/p	65	NP
30	RC2 Control o/p	66	Flip Switch
31	Mic LED	67	NP
32	Line LED	68	Float Switch
33	RG3 Control o/p	69	Float Switch
34	RG9 Control o/p	70	Spare to 611 Edge connector U53
35	RG8 Control o/p	71	Master input flip bus (broadcast)
36	RG7 Control o/p		

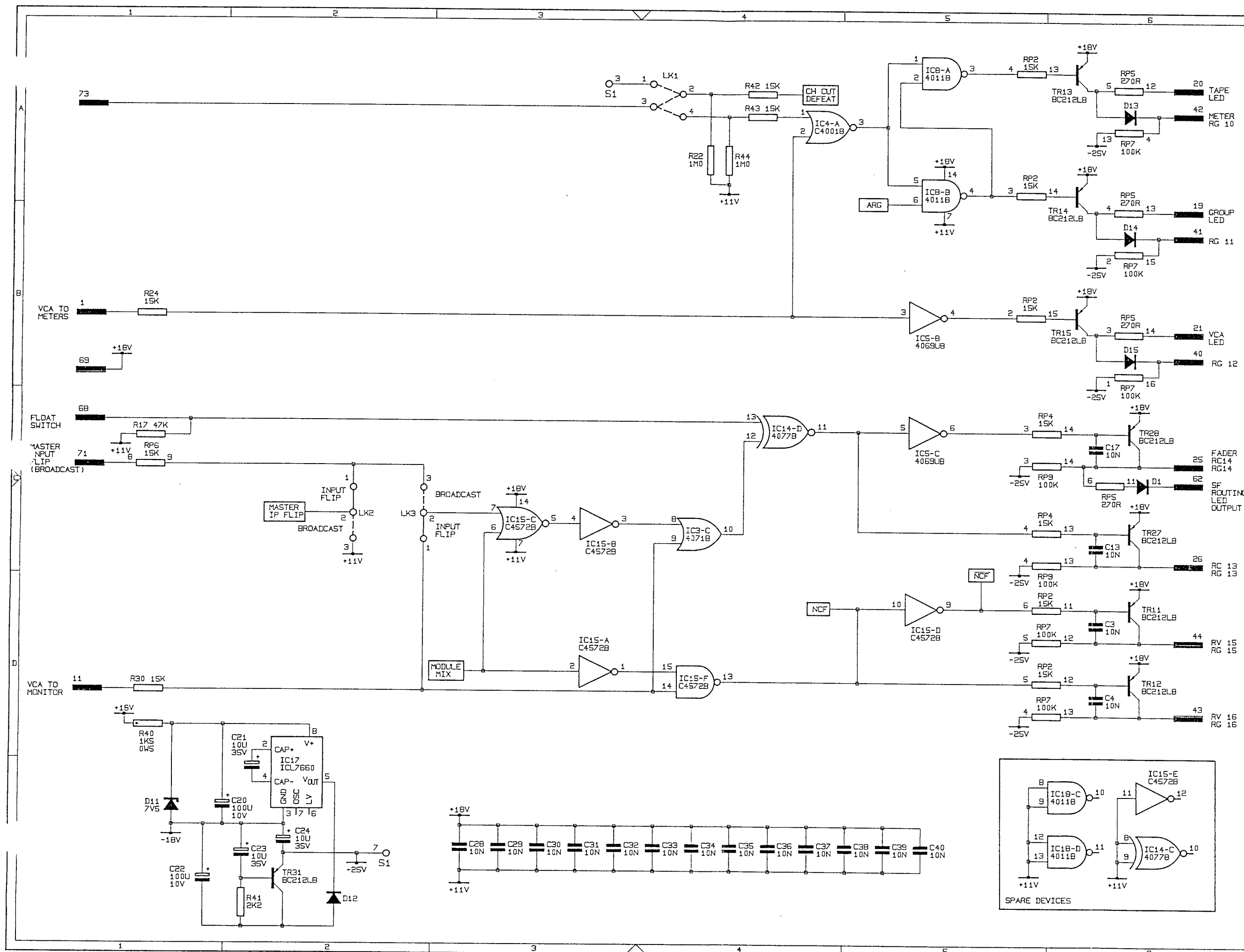
T82293.50
Dec 87



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REV	ISSUE	DATE	DETAILS
0	A	29 SEPT 87	NEW DRAWING STEFF
1	A		ECO 4K/317 INTRO PIGGY BACK RES PACK RP3-2 RP4-2 ADDED STEFF
2	A	18 MAR 88	ECO 4K/322 RP3-2 RP4-2 DELETED C1-C17 WERE 100N NOW 10N STEFF
3	A	18 MAR 88	ECO 4K/324 ECO 4K/336 D16 ADDED STEFF
3	B	16 JUN 88	SW2 OFF WAS TO AM IC2 PIN 12 NOW 13 SW2 ON WAS OFF SW2 OFF WAS ON MM
4	A	20 MAR 90	ECO 4K/537 NO CHANGE STEFF
5	A	25 NOV 91	ECO 4K/891 D9 D16 WERE 1S44 NOW 1N4001 MM
SHEET 1 OF 3			
REF: T82293.71 A2			
TITLE SL611 G SERIES LOGIC CARD			
DRG. NO. T82293.71			
Solid State Logic			



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REV	ISSUE	DATE	DETAILS	
0	A	19 OCT 87	NEW DRAWING	STEFF
1	A		ECO 4K/317 INTRO PIGGY BACK RES PACK RP3-2 RP4-2 ADDED	STEFF
2	A	21 MAR 88	ECO 4K/322 RP3-2 RP4-2 REMOVED. C1-17 WERE 100N NOW 10N	STEFF
3	A	21 MAR 88	ECO 4K/336 REVISION LEVEL UPDATED	BC STEFF
4	A	20 MAR 90	ECO 4K/537 NO CHANGE	BC STEFF
5	A	25 NOV 91	ECO 4K/891 D3 D5 D10 WERE 1544 NOW 1N4001 MM	BC
SHEET 2 OF 3				
REF: TB2293.72				
TITLE				
SL611 G SERIES LOGIC CARD				
DRG. NO. T82293.72				
Solid State Logic				

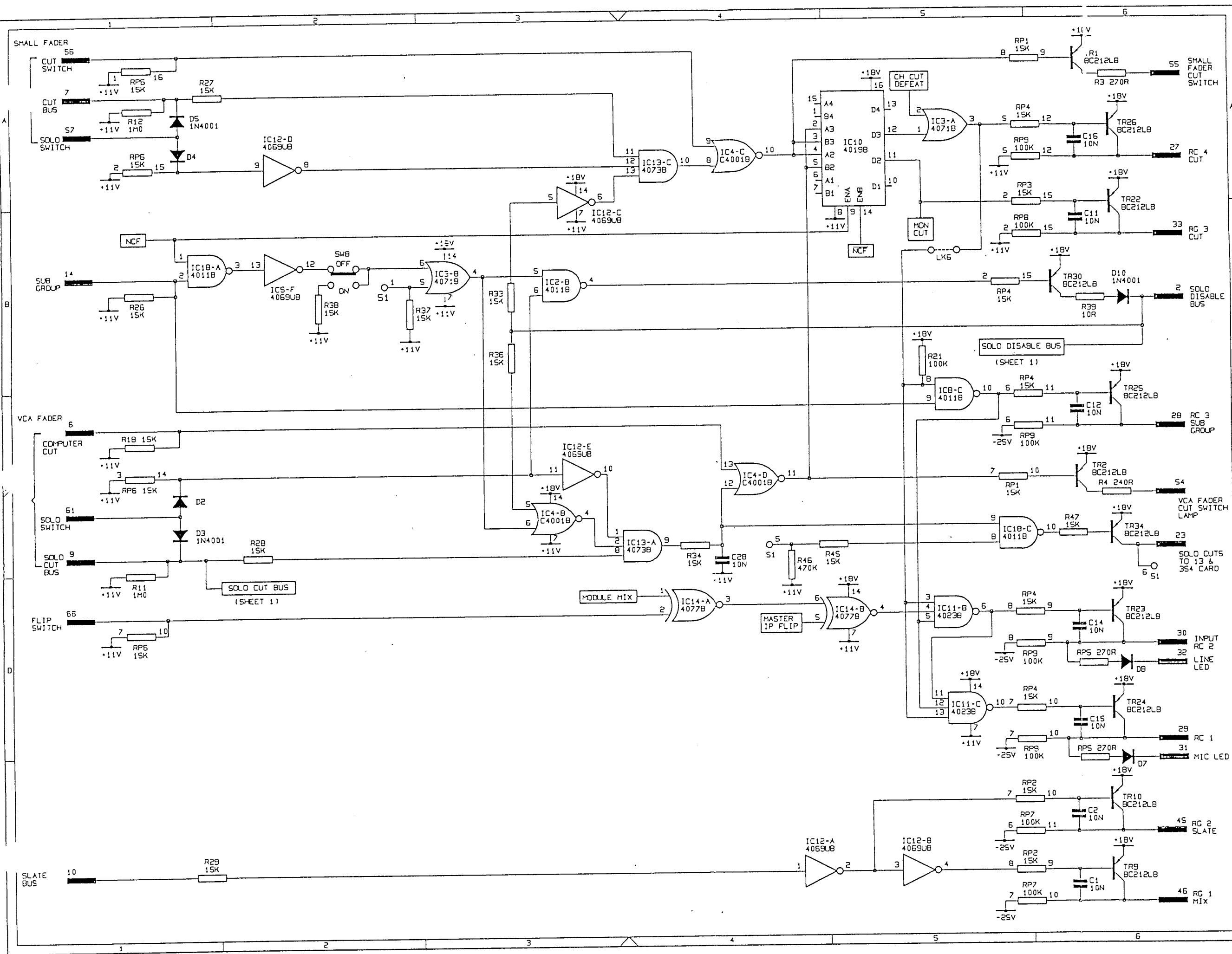


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REV	ISSUE	DATE	DETAILS
0	A	19 OCT 87	NEW DRAWING STEFF
1	A		ECO 4K/317 REVISION LEVEL UPDATED STEFF
2	A	21 MAR 88	ECO 4K/322 C1-C17 WERE 100N NOW 10N STEFF
3	A	21 MAR 88	ECO 4K/336 REVISION LEVEL UPDATED STEFF
4	A	20 MAR 90	ECO 4K/537 NO CHANGE BC STEFF
5	A	25 NOV 91	ECO 4K/891 NO CHANGE BC MM

SHEET 3 OF 3	
REF: T82293.73	A2

TITLE SL611
G SERIES
LOGIC CARD
DRG. NO. T82293.73
Solid State Logic



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REV	ISSUE	DATE	DETAILS	
0	A	22 APR 93	NEW DRAWING	MM
1	A	23 SEP 93	ECO 4K/1200 INTRODUCE EF PCB	MM
SHEET 2 OF 3				
REF: T611M A2				
TITLE SL611E LOGIC CARD G. (E3 VERSION)				
DRG. NO. T82293.72.3				
Solid State Logic				

The 82E03 AE Multiplex Card

Circuit Description:

The 82E03 Multiplex card is mounted piggy-back onto the 82E293 Logic card. The 82E03 has two sections; the analogue multiplexer for 119 outputs and a small section of logic to control the computer sends and returns.

The multiplex section comprises two levels of one out of eight multiplexers. The first level has two 4051 1 of 8 Multiplexers, the choice of which is the first bit of the address applied to the inhibit inputs, and bits 1,2 and 3 of the address bus. The second level Multiplexers accept all the inputs from the module and feed the first level, the choice being made by bits 4,5 and 6 of the address bus. The inhibit inputs of all the second level multiplexers are tied together and become a master inhibit.

The next stage after the multiplexer is a TL084 quad op-amp configured to remove the +11 volt offset, the dc variance of the +18 volt rail and reduce the level to a +5 volt maximum before feeding via a 4016B 1 of 4 data selector to the computer's Analogue input card, 82E41. (NB: This 4016B is powered between +5 volt and 0 volt, all other logic on this card is powered between +18 volt and +11 volt).

The normal mode of the console connects the computer send and return to the VCA card, 82E13. In the Total Recall mode the send and return to the VCA card are connected together, hence the fader is directly controlling the VCA, and the multiplex output is fed to the computer send and the Analogue input card, 82E41.

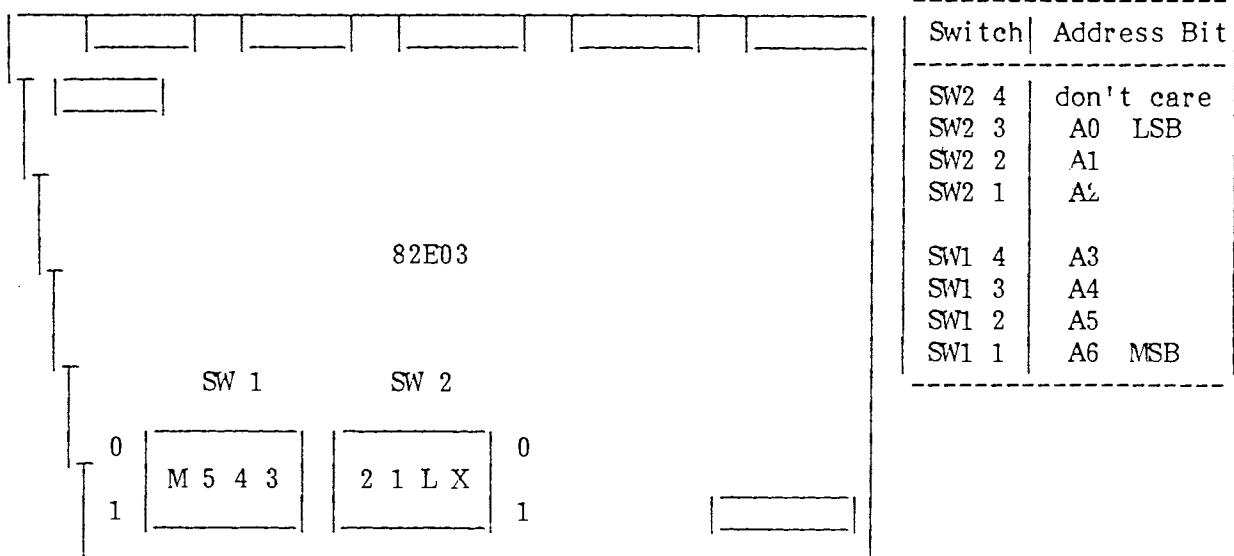
The storing of the Total Recall setup is accomplished in two different ways. In normal mode the Multiplexer Enable bus is taken high. If "quiet Total Recall" is selected on your program disk, the Address bus carries the address of the channel and an Address Enable pulse sets a D type latch to enable that channel's multiplexer feed to go to the computer. When finished the latch is reset in the same way as it was set. The latch cannot be set if the Mux Enable line is high, and if the latch is set and then the Mux Enable goes high the latch is cleared. The address decoding is an AND function with preset switches giving a true or inverse option for each bit of the address, thereby allowing any address number to be set.

The output of the latch or the Mux Enable drives the inhibit line of the multiplex block and the switching of the analogue gate to affect the routing of the analogue send and return. The logic levels are +18 volts and +11 volts; the driver stage, part of T24, is an op-amp to reduce these to +5 volts and 0 volts, it also inverts the signal.

Line 0 of the multiplexer is connected to +18 volts via a potential divider (the 200K to 0 volt and the on resistance of the gates and the series resistor). This is to enable the computer to measure the +18 volt rail with reference to the +11 volt power supply: all other dc variations are allowed for in the circuit of the TL084.

T82003.40
Dec 87

82E03 Channel Address Switches



611E/V Multiplex addresses

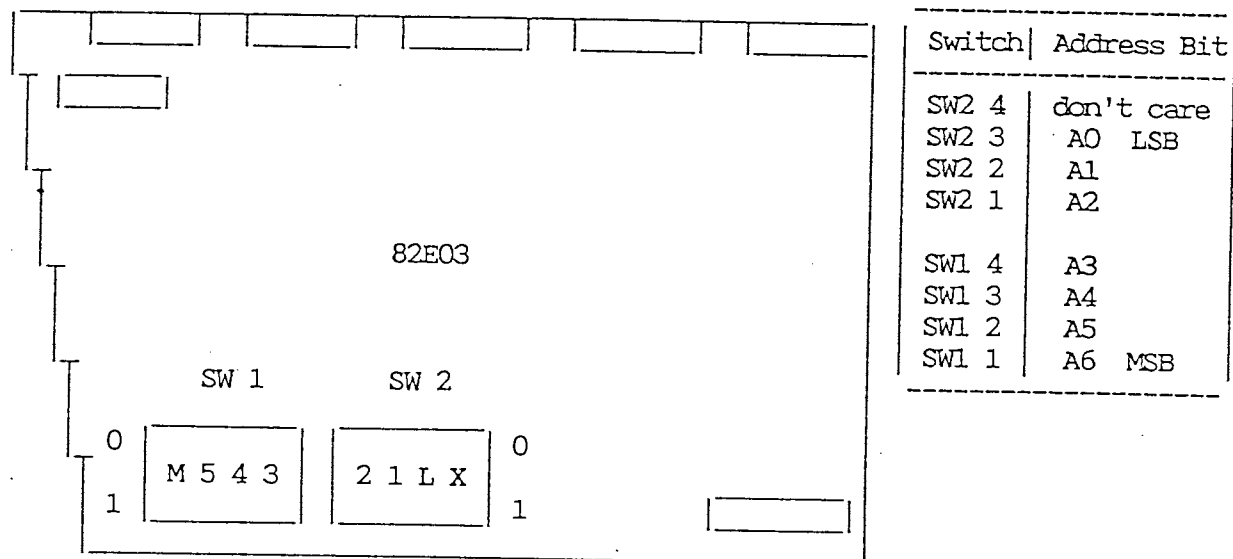
Channel number	SW 1 M 5 4 3	SW 2 2 1 L X	CA D bus
01	0 0 0 0	1 1 1 X	07
02	0 0 0 1	0 1 0 X	0A
03	0 0 0 0	1 1 0 X	06
04	0 0 0 1	0 1 1 X	0B
05	0 0 0 0	1 0 1 X	05
06	0 0 0 1	0 0 0 X	08
07	0 0 0 0	1 0 0 X	04
08	0 0 0 1	0 0 1 X	09
09	0 0 0 0	0 1 1 X	03
10	0 0 0 1	1 1 0 X	0E
11	0 0 0 0	0 0 1 X	01
12	0 0 0 1	1 1 1 X	0F
13	0 0 0 0	0 1 0 X	02
14	0 0 0 1	1 0 0 X	0C
15	0 0 0 0	0 0 0 X	00
16	0 0 0 1	1 0 1 X	0D
17	0 0 1 0	1 1 1 X	17
18	0 0 1 1	0 1 0 X	1A
19	0 0 1 0	1 1 0 X	16
20	0 0 1 1	0 1 1 X	1B
21	0 0 1 0	1 0 1 X	15
22	0 0 1 1	0 0 0 X	18
23	0 0 1 0	1 0 0 X	14
24	0 0 1 1	0 0 1 X	19
25	0 0 1 0	0 1 1 X	13
26	0 0 1 1	1 1 0 X	1E
27	0 0 1 0	0 0 1 X	11
28	0 0 1 1	1 1 1 X	1F
29	0 0 1 0	0 1 0 X	12
30	0 0 1 1	1 0 0 X	1C
31	0 0 1 0	0 0 0 X	10
32	0 0 1 1	1 0 1 X	1D

Channel number	SW 1 M 5 4 3	SW 2 2 1 L X	CA D bus
33	0 1 0 0	1 1 1 X	27
34	0 1 0 1	0 1 0 X	2A
35	0 1 0 0	1 1 0 X	26
36	0 1 0 1	0 1 1 X	2B
37	0 1 0 0	1 0 1 X	25
38	0 1 0 1	0 0 0 X	28
39	0 1 0 0	1 0 0 X	24
40	0 1 0 1	0 0 1 X	29
41	0 1 1 0	1 1 1 X	37
42	0 1 1 0	1 1 0 X	36
43	0 1 1 0	1 0 1 X	35
44	0 1 1 0	1 0 0 X	34
45	0 1 1 0	0 1 1 X	33
46	0 1 1 0	0 0 1 X	31
47	0 1 1 0	0 1 0 X	32
48	0 1 1 1	1 1 1 X	3F
49	0 1 1 1	1 1 0 X	3E
50	0 1 1 1	1 0 1 X	3D
51	0 1 1 1	1 0 0 X	3C
52	0 1 1 1	0 1 1 X	3B
53	0 1 1 1	0 1 0 X	3A
54	0 1 1 1	0 0 1 X	39
55	0 1 1 1	0 0 0 X	38
56	1 0 0 0	0 0 0 X	40
Spare 1	0 1 0 0	0 1 1 X	23
Spare 2	0 1 0 1	1 1 0 X	2E
Spare 3	0 1 0 0	0 0 1 X	21
Spare 4	0 1 0 1	1 1 1 X	2F
Spare 5	0 1 0 0	0 1 0 X	22
Spare 6	0 1 0 1	1 0 0 X	2C
Spare 7	0 1 0 0	0 0 0 X	20
Spare 8	0 1 0 1	1 0 1 X	2D

T82003.50
22 Aug 85

82E03 Channel Address Switches

611E/V Multiplex addresses for computers with double scanning I/O systems



Channel number	SW 1 M 5 4 3	SW 2 2 1 L X	CA D bus
01	0 0 0 0	1 1 1 X	07
02	0 0 0 1	0 1 0 X	0A
03	0 0 0 0	1 1 0 X	06
04	0 0 0 1	0 1 1 X	0B
05	0 0 0 0	1 0 1 X	05
06	0 0 0 1	0 0 0 X	08
07	0 0 0 0	1 0 0 X	04
08	0 0 0 1	0 0 1 X	09
09	0 0 0 0	0 1 1 X	03
10	0 0 0 1	1 1 0 X	0E
11	0 0 0 0	0 0 1 X	01
12	0 0 0 1	1 1 1 X	0F
13	0 0 0 0	0 1 0 X	02
14	0 0 0 1	1 0 0 X	0C
15	0 0 0 0	0 0 0 X	00
16	0 0 0 1	1 0 1 X	0D
17	0 0 1 0	1 1 1 X	17
18	0 0 1 1	0 1 0 X	1A
19	0 0 1 0	1 1 0 X	16
20	0 0 1 1	0 1 1 X	1B
21	0 0 1 0	1 0 1 X	15
22	0 0 1 1	0 0 0 X	18
23	0 0 1 0	1 0 0 X	14
24	0 0 1 1	0 0 1 X	19
25	0 0 1 0	0 1 1 X	13
26	0 0 1 1	1 1 0 X	1E
27	0 0 1 0	0 0 1 X	11
28	0 0 1 1	1 1 1 X	1F
29	0 0 1 0	0 1 0 X	12
30	0 0 1 1	1 0 0 X	1C
31	0 0 1 0	0 0 0 X	10
32	0 0 1 1	1 0 1 X	1D

Channel number	SW 1 M 5 4 3	SW 2 2 1 L X	CA D bus
33	0 1 0 0	1 1 1 X	27
34	0 1 0 1	0 1 0 X	2A
35	0 1 0 0	1 1 0 X	26
36	0 1 0 1	0 1 1 X	2B
37	0 1 0 0	1 0 1 X	25
38	0 1 0 1	0 0 0 X	28
39	0 1 0 0	1 0 0 X	24
40	0 1 0 1	0 0 1 X	29
41	0 1 0 0	0 1 1 X	23
42	0 1 0 1	1 1 0 X	2E
43	0 1 0 0	0 0 1 X	21
44	0 1 0 1	1 1 1 X	2F
45	0 1 0 0	0 1 0 X	22
46	0 1 0 1	1 0 0 X	2C
47	0 1 0 0	0 0 0 X	20
48	0 1 0 1	1 0 1 X	2D
49	0 0 0 0	1 1 1 X	07
50	0 0 0 1	0 1 0 X	0A
51	0 0 0 0	1 1 0 X	06
52	0 0 0 1	0 1 1 X	0B
53	0 0 0 0	1 0 1 X	05
54	0 0 0 1	0 0 0 X	08
55	0 0 0 0	1 0 0 X	04
56	0 0 0 1	0 0 1 X	09
57	0 0 0 0	0 1 1 X	03
58	0 0 0 1	1 1 0 X	0E
59	0 0 0 0	0 0 1 X	01
60	0 0 0 1	1 1 1 X	0F
61	0 0 0 0	0 1 0 X	02
62	0 0 0 1	1 0 0 X	0C
63	0 0 0 0	0 0 0 X	00
64	0 0 0 1	1 0 1 X	0D

611E/V Multiplex addresses for computers with double scanning I/O systems

Channel number	SW 1				SW 2				CA	
	M	5	4	3	2	1	L	X	D	bus
65	0	0	1	0	1	1	1	X	17	
66	0	0	1	1	0	1	0	X	1A	
67	0	0	1	0	1	1	0	X	16	
68	0	0	1	1	0	1	1	X	1B	
69	0	0	1	0	1	0	1	X	15	
70	0	0	1	1	0	0	0	X	18	
71	0	0	1	0	1	0	0	X	14	
72	0	0	1	1	0	0	1	X	19	
73	0	0	1	0	0	1	1	X	13	
74	0	0	1	1	1	1	0	X	1E	
75	0	0	1	0	0	0	1	X	11	
76	0	0	1	1	1	1	1	X	1F	
77	0	0	1	0	0	1	0	X	12	
78	0	0	1	1	1	0	0	X	1C	
79	0	0	1	0	0	0	0	X	10	
80	0	0	1	1	1	0	1	X	1D	
81	0	1	0	0	1	1	1	X	27	
82	0	1	0	1	0	1	0	X	2A	
83	0	1	0	0	1	1	0	X	26	
84	0	1	0	1	0	1	1	X	2B	
85	0	1	0	0	1	0	1	X	25	
86	0	1	0	1	0	0	0	X	28	
87	0	1	0	0	1	0	0	X	24	
88	0	1	0	1	0	0	1	X	29	

82E03 - 20 way Scotchflex Multiplexer Input Connector Details 611G

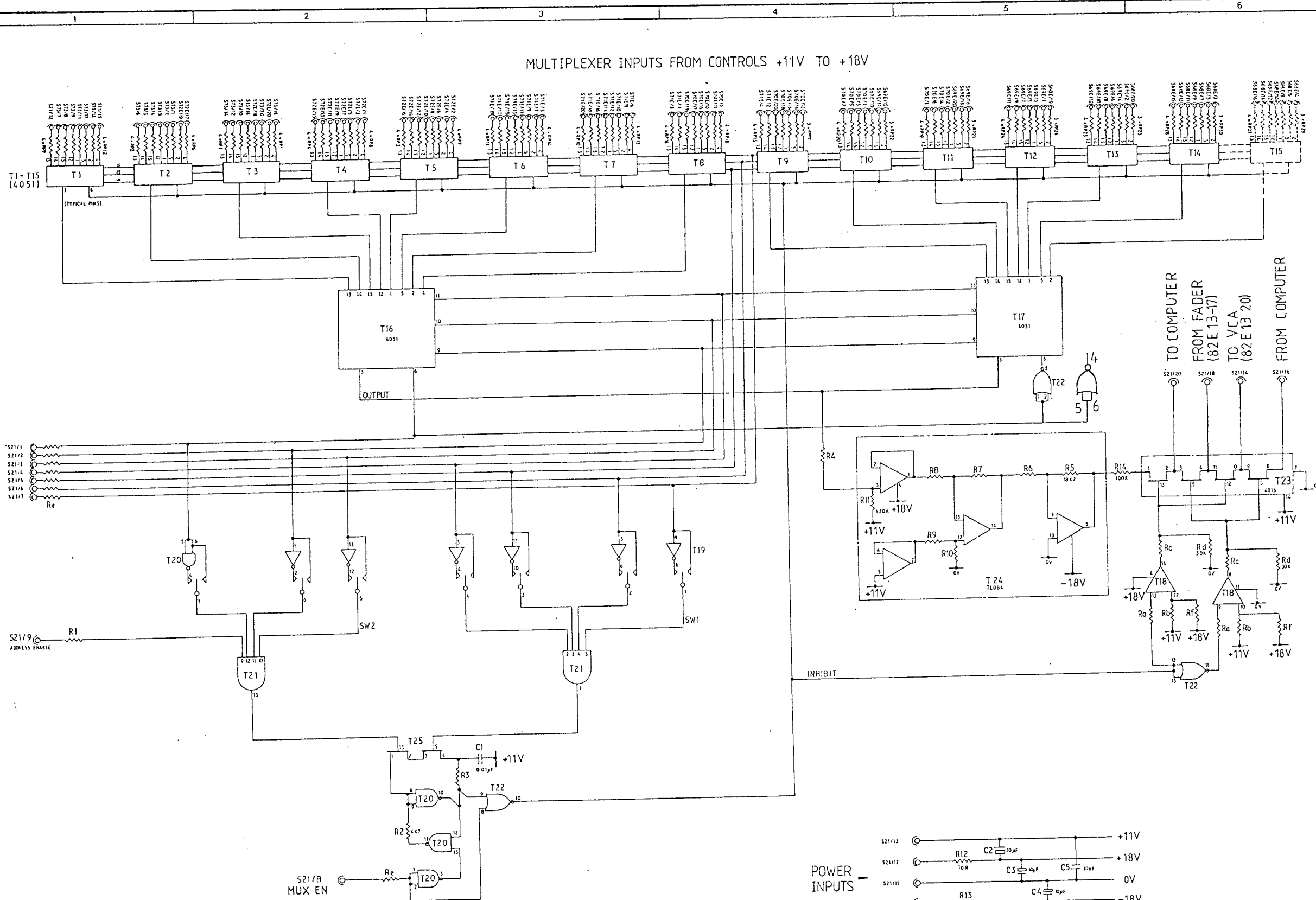
Port No	Address M54321L	Mux Code	Chip	Pin	Ribbon Pin	Front Panel Control
0	0000000	00	T1	13	na	(Internal resistor)
1	1110111	77	T15	4	S68, 2	Routing to Track 1
2	0110111	37	T15	2	S68, 4	Routing to Track 2
3	1010111	57	T15	5	S68, 6	Routing to Track 3
4	0010111	17	T15	1	S68, 8	Routing to Track 4
5	1100111	67	T15	12	S68,10	Routing to Track 5
6	0100111	27	T15	15	S68,12	Routing to Track 6
7	1000111	47	T15	14	S68,14	Routing to Track 7
8	0000111	07	T15	13	S68,16	Routing to Track 8
9	1110011	73	T13	4	S68,18	Routing to Track 9
10	0110011	33	T13	2	S68,20	Routing to Track 10
11	0111101	3D	T12	2	S68,19	Routing to Track 11
12	1111101	7D	T12	4	S68,17	Routing to Track 12
13	0001011	0B	T14	13	S68,15	Routing to Track 13
14	1001011	4B	T14	14	S68,13	Routing to Track 14
15	0101011	2B	T14	15	S68,11	Routing to Track 15
16	1101011	6B	T14	12	S68, 9	Routing to Track 16
17	1000011	43	T13	14	S69,10	Routing to Track 17
18	0000011	03	T13	13	S69,12	Routing to Track 18
19	1110101	75	T11	4	S69,14	Routing to Track 19
20	0110101	35	T11	2	S69,16	Routing to Track 20
21	1010101	55	T11	5	S69,18	Routing to Track 21
22	0010101	15	T11	1	S69,20	Routing to Track 22
23	0011001	19	T10	1	S69,19	Routing to Track 23
24	1011001	59	T10	5	S69,17	Routing to Track 24
25	0111001	39	T10	2	S69,15	Routing to Track 25
26	1111001	79	T10	4	S69,13	Routing to Track 26
27	0001101	0D	T12	13	S69,11	Routing to Track 27
28	1001101	4D	T12	14	S69, 9	Routing to Track 28
29	0101101	2D	T12	15	S69, 7	Routing to Track 29
30	1101101	6D	T12	12	S69, 5	Routing to Track 30
31	0011101	1D	T12	1	S69, 3	Routing to Track 31
32	1011101	5D	T12	5	S69, 1	Routing to Track 32
33	0100011	23	T13	15	S69, 8	Routing to Quad Bus LF
34	1100011	63	T13	12	S69, 6	Routing to Quad Bus RF
35	0010011	13	T13	1	S69, 4	Routing to Quad Bus LB
36	1010011	53	T13	5	S69, 2	Routing to Quad Bus RB
37	0010001	11	T9	1	S70,16	Routing Pan pot
38	0110001	31	T9	2	S70,12	Routing Pan Switch
39	0000101	05	T11	13	S70, 8	Input Flip Switch
40	1100001	61	T9	12	S70,18	Line Gain Trim pot
41	1010001	51	T9	5	S70,14	Sub-Group Switch
42	0100001	21	T9	15	S70,20	Phase Switch
43	0101110	2E	T8	15	S70,19	Mic Gain Trim pot
44	1111011	7B	T14	4	S68, 1	SPARE
45	1110001	71	T9	4	S70,10	Mic +48v
46	1011110	5E	T8	5	S70,13	Link Switch
47	1101110	6E	T8	12	S70,17	Compress Ratio pot
48	0011110	1E	T8	1	S70,15	Compress Threshold pot
49	0111110	3E	T8	2	S70,11	Compress Release pot
50	0001001	09	T10	13	S70, 7	Compress Attack Switch

82E03 - 20 way Scotchflex Multiplexer Input Connector Details 611G

Port No	Address M54321L	Mux Code	Chip	Pin	Ribbon Pin	Front Panel Control
51	1111110	7E	T8	4	S70, 9	Expand Threshold pot
52	1001001	49	T10	14	S70, 5	Expand Range pot
53	0101001	29	T10	15	S70, 3	Expand/Gate Switch
54	1101001	69	T10	12	S70, 1	Expand Release pot
55	1100101	65	T11	12	S70, 2	Expand Attack Switch
56	0111010	3A	T6	2	S71, 7	Dynamics to Channel Input
57	0001110	OE	T8	13	S71, 3	Dynamics to Channel Output
58	0000001	01	T9	13	S71, 4	Dynamics to Monitor
59	1110110	76	T7	4	S71, 6	HF Filter pot
60	0110110	36	T7	2	S71, 8	LF Filter pot
61	1000001	41	T9	14	S71, 2	Split Switch
62	1001110	4E	T8	14	S71, 1	HMFx3 Switch
63	1010110	56	T7	5	S71,10	HF +- pot
64	0010110	16	T7	1	S71,12	HF F pot
65	1100110	66	T7	12	S71,14	HMF +- pot
66	0100110	26	T7	15	S71,16	HMF F pot
67	0000110	06	T7	13	S71,20	HMF Q pot
68	1111010	7A	T6	4	S71, 5	Insert Pre Switch
69	1001010	4A	T6	14	S71,17	Insert In Switch
70	1011010	5A	T6	5	S71, 9	LMF +- pot
71	0011010	1A	T6	1	S71,11	LMF F pot
72	1101010	6A	T6	12	S71,13	LMF Q pot
73	0101010	2A	T6	15	S71,15	LF F pot
74	1000110	46	T7	14	S71,18	LF +- pot
75	0001010	0A	T6	13	S71,19	LMF+3 Switch
76	1111100	7C	T4	4	S72, 1	Equalizer to Channel Switch
77	1110010	72	T5	4	S72, 2	Filter to Dynamics Switch
78	0110010	32	T5	2	S72, 4	Equalizer to Monitor Switch
79	0100101	25	T11	15	S70, 4	EQ Type
80	1010010	52	T5	5	S72, 6	Stereo Cue Pan pot
81	0010010	12	T5	1	S72, 8	Stereo Cue Pre Switch
82	1100010	62	T5	12	S72,10	Stereo Cue Small Fader Switch
83	0100010	22	T5	15	S72,12	Stereo Cue Level pot
84	1000010	42	T5	14	S72,14	Stereo Cue Pull Switch
85	0000010	02	T5	13	S72,16	Cue 1 Pre Switch
86	0111000	38	T2	2	S72,19	Cue 1 Small Fader Switch
87	0010100	14	T3	1	S72,18	Cue 1 Level pot
88	0110100	34	T3	2	S72,20	Cue 1 Pull Switch
89	1111000	78	T2	4	S72,17	Cue 2 Pre Switch
90	0101100	2C	T4	15	S72,11	Cue 2 Small Fader Switch
91	0001100	0C	T4	13	S72,15	Cue 2 Level pot
92	1001100	4C	T4	14	S72,13	Cue 2 Pull Switch
93	1101100	6C	T4	12	S72, 9	Cue 3 Pre Switch
94	0111100	3C	T4	2	S72, 3	Cue 3 Small Fader Switch
95	0011100	1C	T4	1	S72, 7	Cue 3 Level pot
96	1011100	5C	T4	5	S72, 5	Cue 3 Pull Switch
97	1010000	50	T1	5	S73,17	Cue 4 Pre Switch
98	0010000	10	T1	1	S73,11	Cue 4 Small Fader Switch
99	1110000	70	T1	4	S73,15	Cue 4 Level pot
100	0110000	30	T1	2	S73,13	Cue 4 Pull Switch
101	1101000	68	T2	12	S73, 5	Group Line Trim pot

82E03 - 20 way Scotchflex Multiplexer Input Connector Details 611G

Port No	Address M54321L	Mux Code	Chip	Pin	Ribbon Pin	Front Panel Control
102	1100000	60	T1	12	S73, 9	Group Float Switch
103	1000000	40	T1	14	S73, 7	Group Direct Switch
104	1001000	48	T2	14	S73, 3	Ready Group Switch
105	1011000	58	T2	5	S73, 1	Ready Tape Switch
106	0101000	28	T2	15	S73, 4	Channel Input Switch
107	0001000	08	T2	13	S73, 6	Channel Output Switch
108	0100100	24	T3	15	S73,10	Small Fader Solo Switch
109	0100000	20	T1	15	S73, 8	Small Fader Cut Switch
110	0011000	18	T2	1	S73, 2	Small Fader Level
111	1000100	44	T3	14	S73,12	Front Back Pan pot
112	0000100	04	T3	13	S73,14	Front Back Pan Switch
113	1100100	64	T3	12	S73,16	Left Right Pan pot
114	1010100	54	T3	5	S73,20	VCA Fader Solo Isolate Switch
115	0011011	74	T3	4	S73,18	VCA Cut Switch
116	0111011	3B	T14	2	S68, 3	VCA Thumbwheel
117	1000101	45	T11	14	S70, 6	Channel Ident (1=Stereo)
118	0011011	1B	T14	1	S68, 7	Dual Line I/P ident
119	1011011	5B	T14	5	S68, 5	Spare
	1110100	-	-	-	S73,19	No Track



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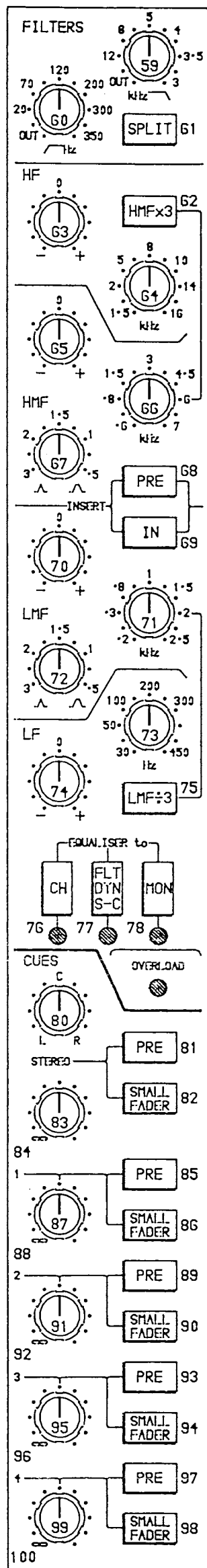
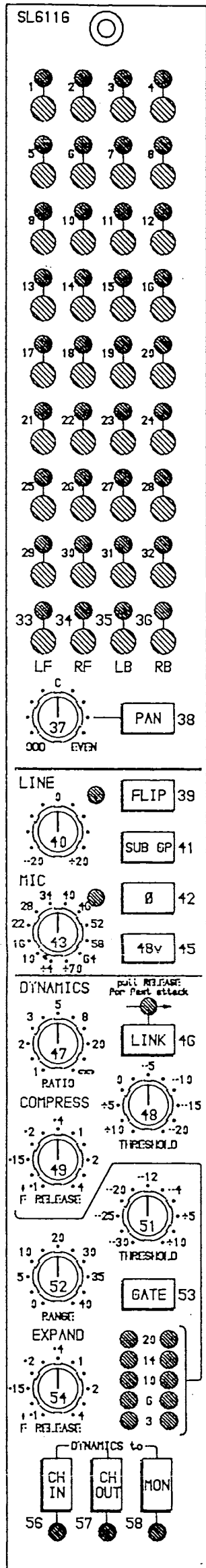
Rev.	Issue	Details
1	a	Orig issue
2	a	
3	a	Components re-analysed for ATE
4	a	ASSY REV No UPDATED FEB 86
4	b	T23 ADDED SEPT 86
4	c	VOLTAGES AMENDED DTG. 7 Jan 88

Title TOTAL RECALL
MULTIPLEXER

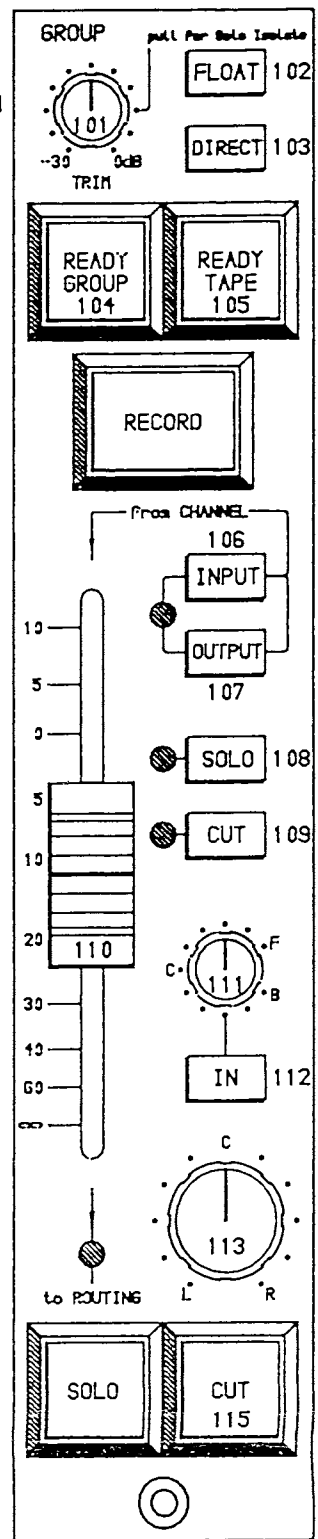
Drg.No. T82003-71

Solid State Logic

Stonesfield : Oxford : England



114 = SOLO ISOLATE SWITCH



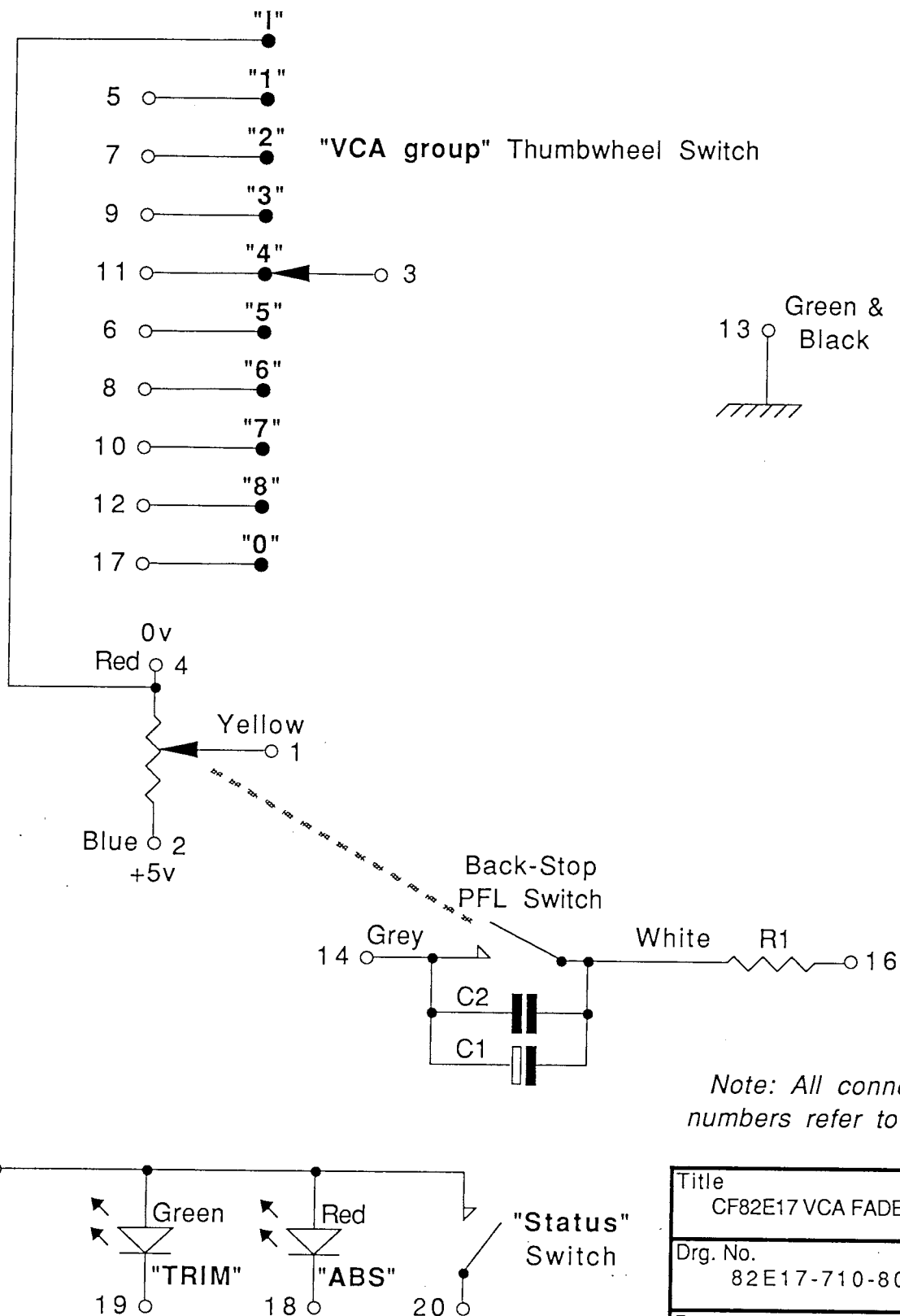
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Rev	Date	Chkd	Details
Q	12 01 88	JEV	NEW DRG. ADDED.

SIX11 SHT. 13	SL6116 TOTAL RECALL MULTIPLEXER OBJECT NOS.	Drq. No. T0611G.32

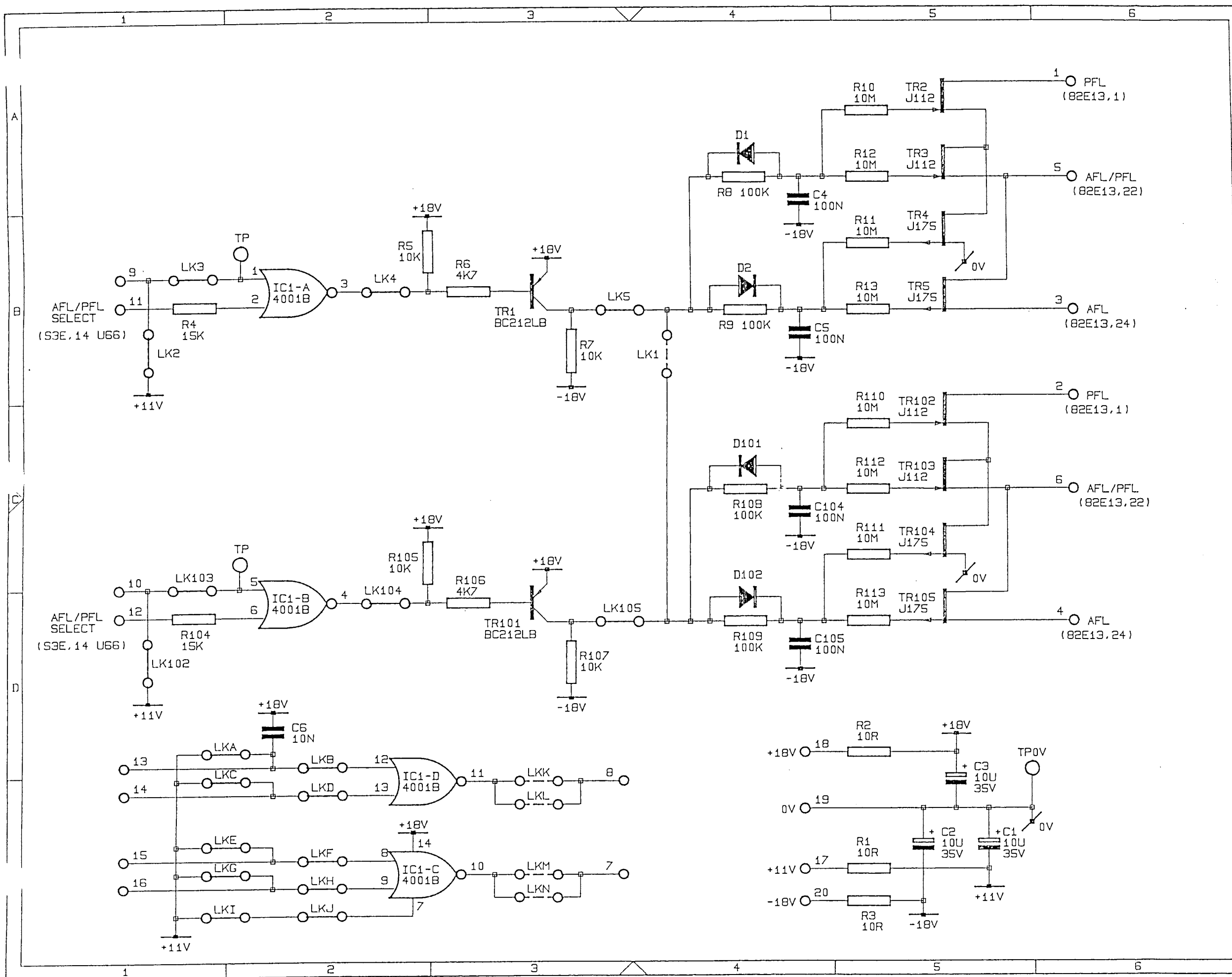
Solid State Logic

Each Fader



Note: All connector numbers refer to S11E

Title	CF82E17 VCA FADER CARD
Drg. No.	82E17-710-8002-1
Date	21 AUG 1989
Solid State Logic	



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REV	ISSUE	DATE	DETAILS
0	A	23 OCT 89	NEW DRAWING STEFF
1	A	23 OCT 89	ECO 4K/340 PIN 19 LINKED TO TP0V STEFF
SHEET 1 OF 1			
REF: T82313.71 A3			
TITLE 611E/V DUAL SWITCH CARD			
DRG.NO. T82313.71			
Solid State Logic			

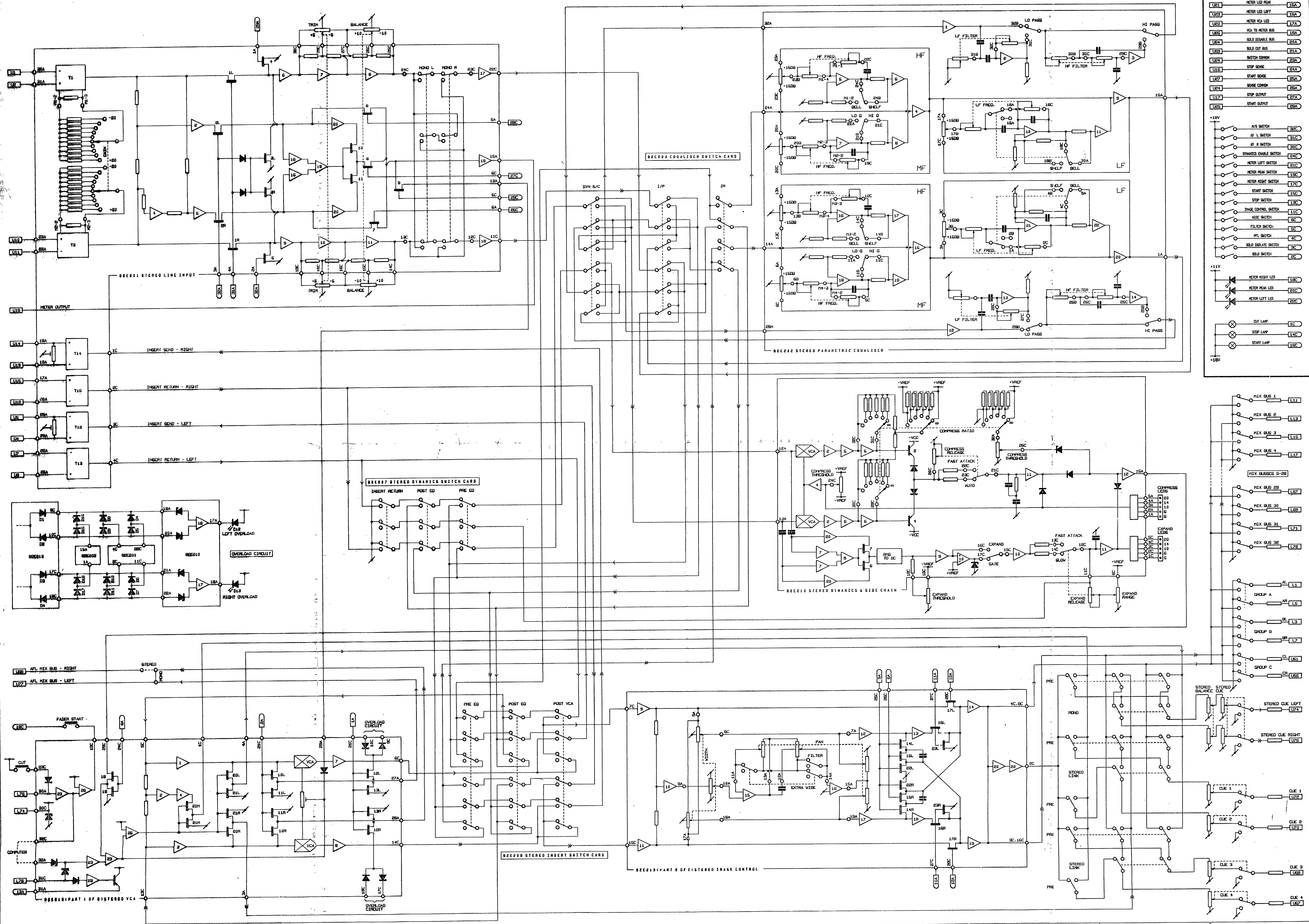
Solid State Logic

SL4000 G Console Service Manual

SECTION 2

SL 611S Stereo Input/Output Module

Card No	Qty	Module	Description
82E07	8	611S	Multitrack Group Routing Switch Card
82E201	1	611S	Stereo Line Inputs, Insert Sends and Returns
82E202	1	611S	Stereo Equaliser
82E203	1	611S	Equaliser Switch Card
82E204	1	611S	Line Input Switch Card
82E205	1	611S	Meter Switch Card
82E206	1	611S	Hex Bus Channel Routing
82E207	1	611S	Dynamics Switch Card
82E208	1	611S	Stereo Insert Switch Card
82E209	1	611S	Stereo Compressor Ratio Switch Card
82E210	1	611S	Stereo Dynamics
82E212	1	611S	Logic Card
82E213	1	611S	Stereo VCA and Image Control
82E305	1	611S	Stereo Meter Switch Card



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REV/ISSUE		DATE	DETAILS	
0	A	09/ 11/ 85	NEW DRAWING	SC 10X

SYMBOL	KEY TO SYMBOLS
	6115 UPPER EDGE CONNECTOR
	6115 LOWER EDGE CONNECTOR
	BREADBOARD LOGIC BOARD CONNECTOR
	DIALER BOARD EDGE CONNECTOR
	LEFT CHANNEL SIGNALS
	RIGHT CHANNEL SIGNALS
	0 VOLTS

REF: H5100LUP-00

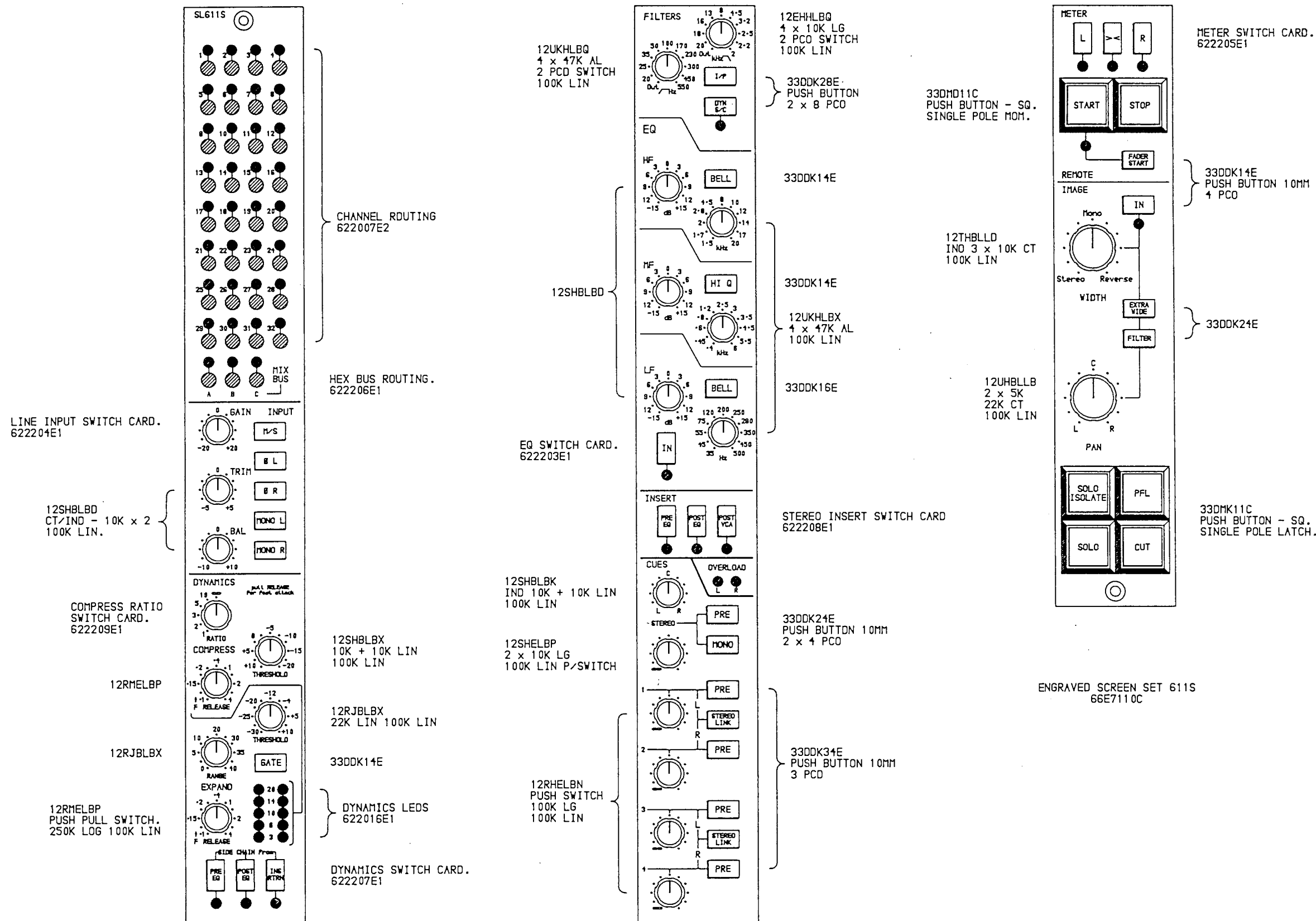
TITLE: 6115 STEREO SIGNAL ROUTING DIAGRAM

DRG. NO.: T0611S-42

Solid State Logic

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Rev	Date	Chkd	Details
A	21 01 86	JEV	NEW DRG. ADDED.



SIX11 SHT. 10

Title	FRONT PANEL SPARES.
Drg. No.	T0611S.31
Solid State Logic	

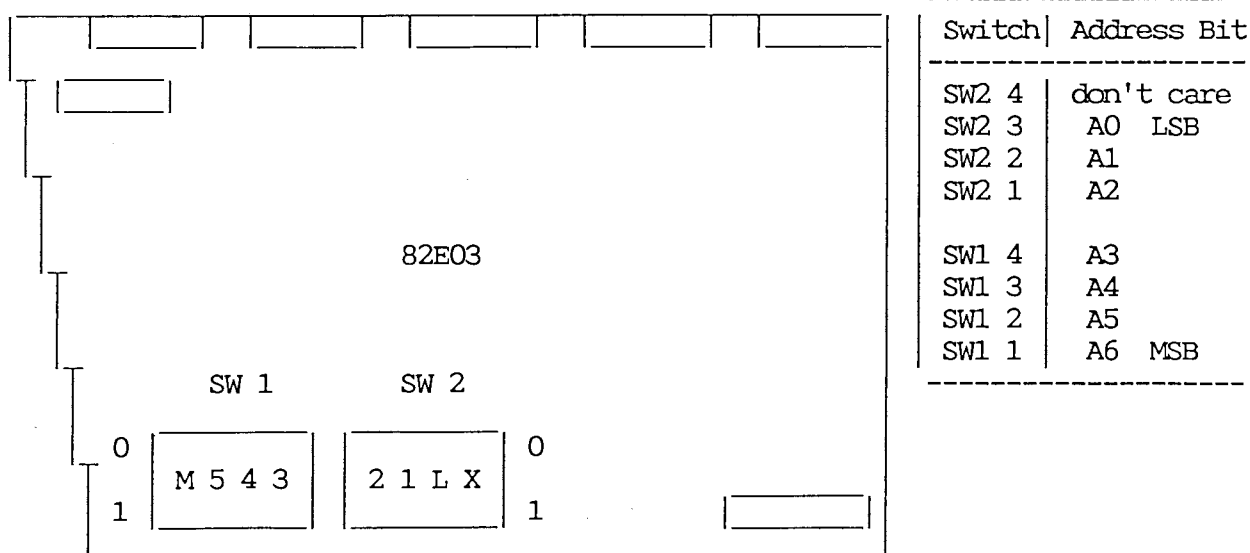
T611S Upper Bus Card Connections

No	Description	No	Description
1	Line input L -	39	+ 18v
2	Line input L +	40	KEYWAY
3	0v	41	+ 11v
4	Insert send L -	42	+ 11v
5	Insert send L +	43	NC
6	NP	44	0v
7	Insert return L -	45	0v
8	Insert return L +	46	0v
9	NC	47	NC
10	Line input R +	48	- 18v
11	Line input R -	49	- 18v
12	Insert return R -	50	- 18v
13	Insert send R -	51	CL Mix bus
14	Insert send R +	52	Not used
15	Insert return R +	53	Spare to 82E12 p70
16	Stop sense	54	Not used
17	Stop switch	55	CR Mix bus
18	NP	56	Not used
19	Meter output	57	Not used
20	Meter VCA LED	58	Not used
21	Meter Spare LED	59	VCA Fader Solo Cut Bus
22	Meter LED	60	Not used
23	Meter Left LED	61	Not used
24	Sense common	62	Not used
25	Start switch	63	Not used
26	Switch common	64	Solo Disable bus
27	Start sense	65	VCA to Meter bus
28	Computer send	66	AFL Mix bus R
29	Computer return	67	Cue 4 Mix bus
30	NP	68	Cue 3 Mix bus
31	Spare	69	0v
32	Spare	70	Cue 2 Mix bus
33	NC	71	0v
34	+ 48v	72	Cue 1 Mix bus
35	+ 48v	73	0v
36	NP	74	St Cue L Mix bus
37	+ 18v	75	St Cue R Mix bus
38	+ 18v	76	0v
		77	AFL Mix bus L

T0611S.50

19 May 82

82E03 Channel Address Switches



Address list for 611S

Channel number	SW 1 M 5 4 3	SW 2 2 1 L X	CA D bus
01	0 0 0 0	1 1 1 X	07
02	0 0 0 1	0 1 0 X	0A
03	0 0 0 0	1 1 0 X	06
04	0 0 0 1	0 1 1 X	0B
05	0 0 0 0	1 0 1 X	05
06	0 0 0 1	0 0 0 X	08
07	0 0 0 0	1 0 0 X	04
08	0 0 0 1	0 0 1 X	09
09	0 0 0 0	0 1 1 X	03
10	0 0 0 1	1 1 0 X	0E
11	0 0 0 0	0 0 1 X	01
12	0 0 0 1	1 1 1 X	0F
13	0 0 0 0	0 1 0 X	02
14	0 0 0 1	1 0 0 X	0C
15	0 0 0 0	0 0 0 X	00
16	0 0 0 1	1 0 1 X	0D
17	0 0 1 0	1 1 1 X	17
18	0 0 1 1	0 1 0 X	1A
19	0 0 1 0	1 1 0 X	16
20	0 0 1 1	0 1 1 X	1B
21	0 0 1 0	1 0 1 X	15
22	0 0 1 1	0 0 0 X	18
23	0 0 1 0	1 0 0 X	14
24	0 0 1 1	0 0 1 X	19
25	0 0 1 0	0 1 1 X	13
26	0 0 1 1	1 1 0 X	1E
27	0 0 1 0	0 0 1 X	11
28	0 0 1 1	1 1 1 X	1F
29	0 0 1 0	0 1 0 X	12
30	0 0 1 1	1 0 0 X	1C
31	0 0 1 0	0 0 0 X	10
32	0 0 1 1	1 0 1 X	1D
33	0 1 0 0	1 1 1 X	27
34	0 1 0 1	0 1 0 X	2A
35	0 1 0 0	1 1 0 X	26
36	0 1 0 1	0 1 1 X	2B
37	0 1 0 0	1 0 1 X	25
38	0 1 0 1	0 0 0 X	28
39	0 1 0 0	1 0 0 X	24
40	0 1 0 1	0 0 1 X	29
41	0 1 1 0	1 1 1 X	37
42	0 1 1 0	1 1 0 X	36
43	0 1 1 0	1 0 1 X	35
44	0 1 1 0	1 0 0 X	34
45	0 1 1 0	0 1 1 X	33
46	0 1 1 0	0 0 1 X	31
47	0 1 1 0	0 1 0 X	32
48	0 1 1 1	1 1 1 X	3F
49	0 1 1 1	1 1 0 X	3E
50	0 1 1 1	1 0 1 X	3D
51	0 1 1 1	1 0 0 X	3C
52	0 1 1 1	0 1 1 X	3B
53	0 1 1 1	0 1 0 X	3A
54	0 1 1 1	0 0 1 X	39
55	0 1 1 1	0 0 0 X	38
56	1 0 0 0	0 0 0 X	40
Spare 1	0 1 0 0	0 1 1 X	23
Spare 2	0 1 0 1	1 1 0 X	2E
Spare 3	0 1 0 0	0 0 1 X	21
Spare 4	0 1 0 1	1 1 1 X	2F
Spare 5	0 1 0 0	0 1 0 X	22
Spare 6	0 1 0 1	1 0 0 X	2C
Spare 7	0 1 0 0	0 0 0 X	20
Spare 8	0 1 0 1	1 0 1 X	2D

T82003.51
22 Aug 85

82E03 - 20 way Scotchflex Multiplexer Input Connector Details

Port No	Address M54321L	Mux Code	Chip	Pin	Ribbon Pin	Front Panel Control
0	0000000	00	T1	13	na	(Internal resistor)
1	1110111	77	T15	4	S68, 2	Routing to Track 1
2	0110111	37	T15	2	S68, 4	Routing to Track 2
3	1010111	57	T15	5	S68, 6	Routing to Track 3
4	0010111	17	T15	1	S68, 8	Routing to Track 4
5	1100111	67	T15	12	S68,10	Routing to Track 5
6	0100111	27	T15	15	S68,12	Routing to Track 6
7	1000111	47	T15	14	S68,14	Routing to Track 7
8	0000111	07	T15	13	S68,16	Routing to Track 8
9	1110011	73	T13	4	S68,18	Routing to Track 9
10	0110011	33	T13	2	S68,20	Routing to Track 10
11	0111101	3D	T12	2	S68,19	Routing to Track 11
12	1111101	7D	T12	4	S68,17	Routing to Track 12
13	0001011	0B	T14	13	S68,15	Routing to Track 13
14	1001011	4B	T14	14	S68,13	Routing to Track 14
15	0101011	2B	T14	15	S68,11	Routing to Track 15
16	1101011	6B	T14	12	S68, 9	Routing to Track 16
17	1000011	43	T13	14	S69,10	Routing to Track 17
18	0000011	03	T13	13	S69,12	Routing to Track 18
19	1110101	75	T11	4	S69,14	Routing to Track 19
20	0110101	35	T11	2	S69,16	Routing to Track 20
21	1010101	55	T11	5	S69,18	Routing to Track 21
22	0010101	15	T11	1	S69,20	Routing to Track 22
23	0011001	19	T10	1	S69,19	Routing to Track 23
24	1011001	59	T10	5	S69,17	Routing to Track 24
25	0111001	39	T10	2	S69,15	Routing to Track 25
26	1111001	79	T10	4	S69,13	Routing to Track 26
27	0001101	0D	T12	13	S69,11	Routing to Track 27
28	1001101	4D	T12	14	S69, 9	Routing to Track 28
29	0101101	2D	T12	15	S69, 7	Routing to Track 29
30	1101101	6D	T12	12	S69, 5	Routing to Track 30
31	0011101	1D	T12	1	S69, 3	Routing to Track 31
32	1011101	5D	T12	5	S69, 1	Routing to Track 32
33	0100011	23	T13	15	S69, 8	Routing to A Bus
34	1100011	63	T13	12	S69, 6	Routing to B Bus
35	0010011	13	T13	1	S69, 4	Routing to C Bus
36	1010011	53	T13	5	S69, 2	Not used
37	0010001	11	T9	1	S70,16	Line gain switch
38	0110001	31	T9	2	S70,12	M/S switch
39	0000101	05	T11	13	S70, 8	L phase switch
40	1100001	61	T9	12	S70,18	Line trim pot
41	1010001	51	T9	5	S70,14	R phase switch
42	0100001	21	T9	15	S70,20	Mono L switch
43	0101110	2E	T8	15	S70,19	Balance pot
44	1111011	7B	T14	4	S68, 1	Not used
45	1110001	71	T9	4	S70,10	Mono R switch
46	1011110	5E	T8	5	S70,13	Not used
47	1101110	6E	T8	12	S70,17	Compress Ratio switch
48	0011110	1E	T8	1	S70,15	Compress Threshold pot
49	0111110	3E	T8	2	S70,11	Compress Release pot
50	0001001	09	T10	13	S70, 7	Compress Release switch

82E03 - 20 way Scotchflex Multiplexer Input Connector Details

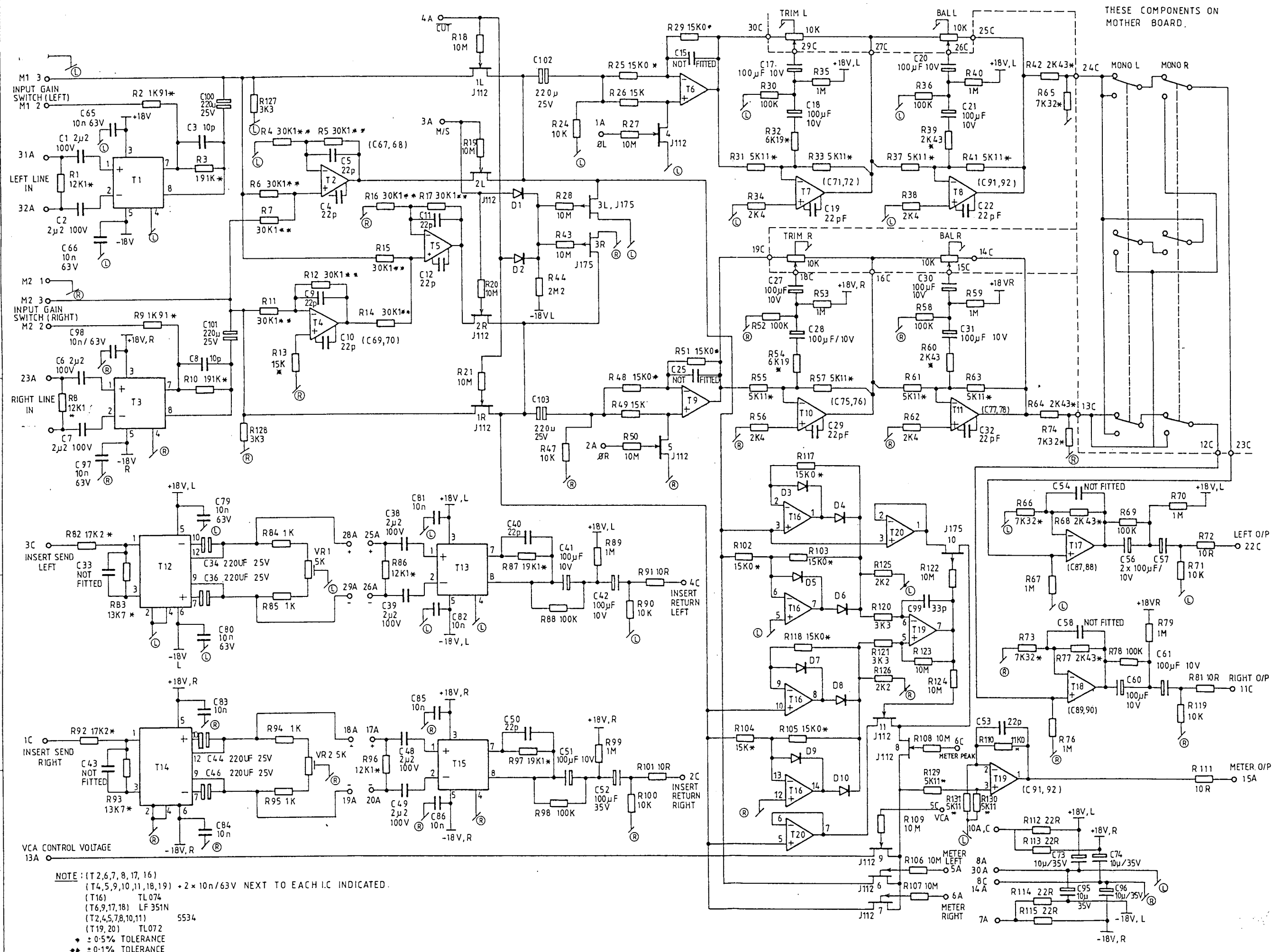
Port No	Address M54321L	Mux Code	Chip	Pin	Ribbon Pin	Front Panel Control
51	1111110	7E	T8	4	S70, 9	Expand Threshold pot
52	1001001	49	T10	14	S70, 5	Expand Range pot
53	0101001	29	T10	15	S70, 3	Expand/Gate switch
54	1101001	69	T10	12	S70, 1	Expand Release pot
55	1100101	65	T11	12	S70, 2	Expand Release switch
56	0111010	3A	T6	2	S71, 7	Side chain pre EQ
57	0001110	0E	T8	13	S71, 3	Side chain post EQ
58	0000001	01	T9	13	S71, 4	Side chain insert return
59	1110110	76	T7	4	S71, 6	HF Filter pot
60	0110110	36	T7	2	S71, 8	LF Filter pot
61	1000001	41	T9	14	S71, 2	Filter to I/P switch
62	1001110	4E	T8	14	S71, 1	HF Bell Switch
63	1010110	56	T7	5	S71, 10	HF +- pot
64	0010110	16	T7	1	S71, 12	HF F pot
65	1100110	66	T7	12	S71, 14	Not used
66	0100110	26	T7	15	S71, 16	Not used
67	0000110	06	T7	13	S71, 20	Not used
68	1111010	7A	T6	4	S71, 5	Filter to Dynamics S/C
69	1001010	4A	T6	14	S71, 17	EQ In switch
70	1011010	5A	T6	5	S71, 9	LMF +- pot
71	0011010	1A	T6	1	S71, 11	LMF F pot
72	1101010	6A	T6	12	S71, 13	LMF Q switch
73	0101010	2A	T6	15	S71, 15	LF F pot
74	1000110	46	T7	14	S71, 18	LF +- pot
75	0001010	0A	T6	13	S71, 19	LF Bell switch
76	1111100	7C	T4	4	S72, 1	Insert post VCA
77	1110010	72	T5	4	S72, 2	Insert post EQ
78	0110010	32	T5	2	S72, 4	Insert pre EQ
79	0100101	25	T11	15	S70, 4	EQ Type
80	1010010	52	T5	5	S72, 6	Stereo Cue Balance pot
81	0010010	12	T5	1	S72, 8	Stereo Cue Pre switch
82	1100010	62	T5	12	S72, 10	Stereo Cue Mono switch
83	0100010	22	T5	15	S72, 12	Stereo Cue Level pot
84	1000010	42	T5	14	S72, 14	Stereo Cue Pull switch
85	0000010	02	T5	13	S72, 16	Cue 1 Pre switch
86	0111000	38	T2	2	S72, 19	Cue 1 Stereo link switch
87	0010100	14	T3	1	S72, 18	Cue 1 Level pot
88	0110100	34	T3	2	S72, 20	Cue 1 Pull switch
89	1111000	78	T2	4	S72, 17	Cue 2 Pre switch
90	0101100	2C	T4	15	S72, 11	Not used
91	0001100	0C	T4	13	S72, 15	Cue 2 Level pot
92	1001100	4C	T4	14	S72, 13	Cue 2 Pull switch
93	1101100	6C	T4	12	S72, 9	Cue 3 Pre switch
94	0111100	3C	T4	2	S72, 3	Cue 3 Stereo link switch
95	0011100	1C	T4	1	S72, 7	Cue 3 Level pot
96	1011100	5C	T4	5	S72, 5	Cue 3 Pull switch
97	1010000	50	T1	5	S73, 17	Cue 4 Pre switch
98	0010000	10	T1	1	S73, 11	Cue 4 Not used
99	1110000	70	T1	4	S73, 15	Cue 4 Level pot
100	0110000	30	T1	2	S73, 13	Cue 4 Pull switch
101	1101000	68	T2	12	S73, 5	Meter L switch

82E03 - 20 way Scotchflex Multiplexer Input Connector Details

Port No	Address M54321L	Mux Code	Chip	Pin	Ribbon Pin	Front Panel Control
102	1100000	60	T1	12	S73, 9	Meter switch
103	1000000	40	T1	14	S73, 7	Meter R switch
104	1001000	48	T2	14	S73, 3	Start switch
105	1011000	58	T2	5	S73, 1	Stop switch
106	0101000	28	T2	15	S73, 4	Fader start switch
107	0001000	08	T2	13	S73, 6	Image control in switch
108	0100100	24	T3	15	S73, 10	Wide switch
109	0100000	20	T1	15	S73, 8	Filter switch
110	0011000	18	T2	1	S73, 2	Image width pot
111	1000100	44	T3	14	S73, 12	Image pan pot
112	0000100	04	T3	13	S73, 14	Solo isolate switch
113	1100100	64	T3	12	S73, 16	PFL switch
114	1010100	54	T3	5	S73, 20	VCA Fader Solo switch
115	0011011	74	T14	1	S73, 18	VCA Cut Switch
116	0111011	3B	T14	2	S68, 3	VCA Thumbwheel
117	1000101	45	T11	14	S70, 6	Channel Ident
	1110100	1B	T3	4	S73, 19	Not Used (No Track)

64 Way DIN 41612 Connector List	
From: 611S Mother board	
To: 82E201 Stereo line inputs, insert sends & returns.	
No Row A	No Row C
1 0L FET	1 Insert R send from Switchcard
2 0R FET	2 Insert R return to Switchcard
3 M/S FET	3 Insert L send from switchcard
4 A/B FET	4 Insert L return to Switchcard
5 Meter L FET	5 VCA to meter FET
6 Meter R FET	6 Meter peak FET
7 -18V	7 -18V
8 0V (L)	8 0V (R)
9 Not Used	9 Not Used
10 +18V	10 +18V
11 Not used(+48V in)	11 R output
12 Not used(+48V out)	12 R output buffer input
13 VCA control voltage	13 Mono R Switch send
14 0V (R)	14 R Balance control ACW
15 Meter output	15 R Balance control Wpr
16 0V (R)	16 R Balance control CW / Trim ACW
17 Insert R return +	17 Spare -
18 Insert R send +	18 R Trim control Wpr
19 Insert R send -	19 R Trim control CW
20 Insert R return -	20 Gain switch R
21 0V (M)	21 Gain switch R wiper
22 Line in R -	22 L output
23 Line in R +	23 L output buffer input
24 0V (L)	24 Mono L switch send
25 Insert return L +	25 L Balance control CW
26 Insert return L -	26 L Balance control Wpr
27 Insert L send from Switchcard	27 L Balance control ACW / Trim ACW
28 Insert send L +	28 Spare
29 Insert send L -	29 L Trim control Wpr
30 0V (L)	30 L Trim control CW
31 Line in L +	31 Gain switch L
32 Line in L -	32 Gain switch L wiper

T82201.50
29 Aug 84



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Rev	Issue	Chkd	Details
P	a	7-84	PROTOTYPE
1	a	7-84	R65 74 MOVED & CHANGED VALUE R67 R76 TO 1M
2	a	7-84	R117, 118 ADDED
2	b	7-84	METER PEAK CIRCUITRY CHANGED
2	c	1-85	MS AND 0 VALUES CHANGED
2	d	7-84	REDRAWN O.D.
3	a	4-85	R120, 121 CHANGED 2x2K2's ADDED
3	b	4-85	R44 NOW 2M2
4	a	7-85	R84, 85, 94, 95 VALUE NOW 1K. VR1, VR2 VALUE NOW 5K
4	b	BC Apr 86	ECON ADDRESSES ADDED NOTE AMENDED
4	c	DTIC June 86	MONO L & MONO R REVERSED
5	a	Dec 86	R22, 23, 45 & 46: C1314 23 & 24 DELETED R128 3K3 + R127 3K3 & C100, 101, 102 + 103 220 μ ADDED
6	a	May 87	T17 & 18 IC LIN AMP NOW IC LIN BIFET AMP REF: LF351N
7	a	May 87	R82, 83, 92 & 93 WERE 5K11. C34-7 & C44-7 WERE CAP ELECT. 220UF 25V.
7	b	Nov 87	LINK ADDED ADJ. C102 & ADJ. C103.
7	c	12 JULY 89	C16:26:55:59 DELETED. LINKS C35:37:45:47 DELETED. C5:11:33:40:43 50:53 VALUES ADDED
8	a	12 JULY 89	ECO 4K/409 R116 DELETED. R110 WAS 16K9 NOW 11K0. R129-131 5K11 ADDED. STEFF
8	b	24 OCT 89	* ADDED TO R13:39:54 60. STEFF
9	a	21 MAR 90	ECO 4K/492 BC INTRODUCTION OF L/N PCB STEFF
10	a	SEPT 90	ECO 4K/622 BC B.O.M. AMENDED STEFF

SHEET 1 OF 1

Title 82E201 STEREO LINE
 INPUTS INSERTS SENDS &
 RETURNS

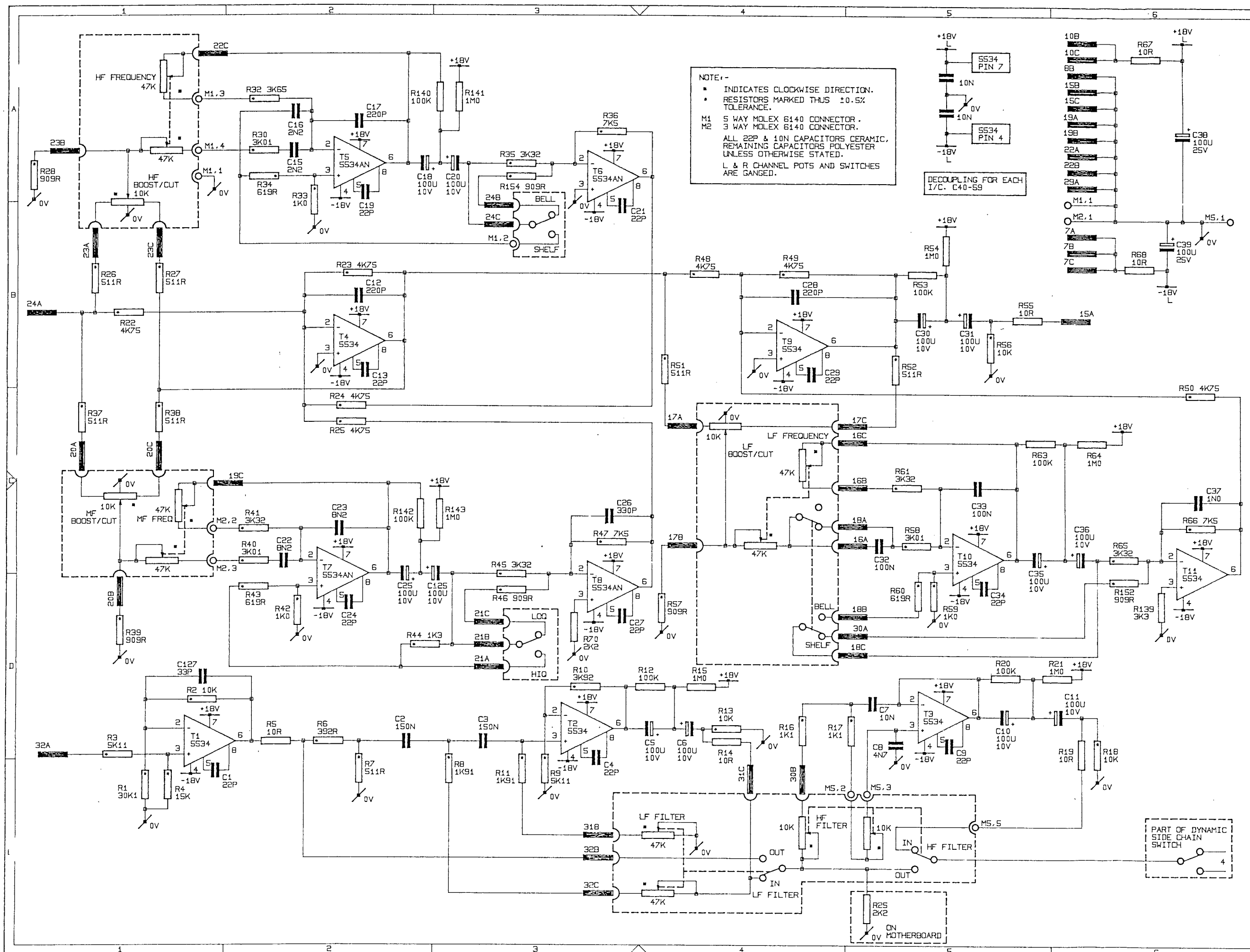
Org. No. T82201-70

Solid State Logic

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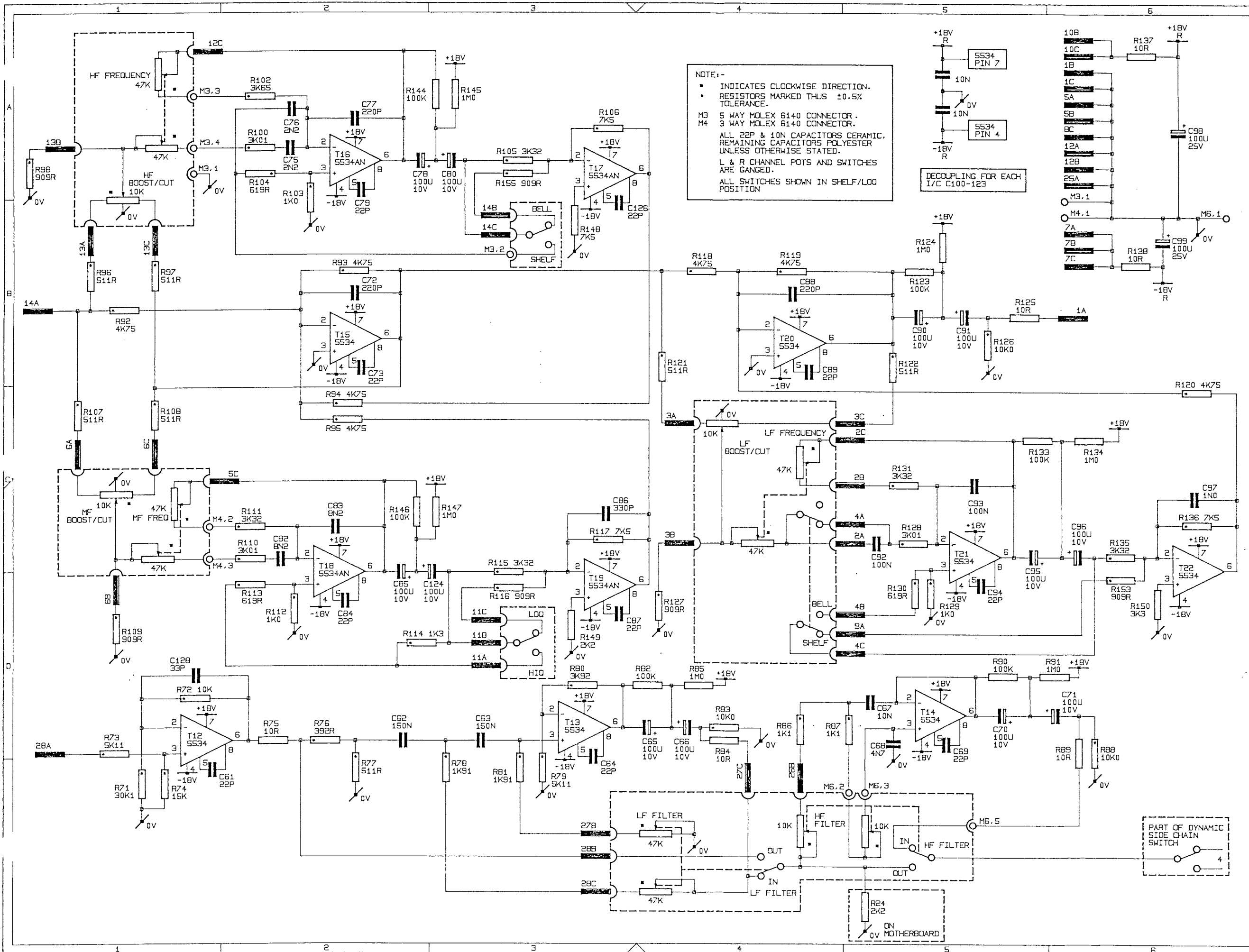
96 Way DIN 41612 Connector List					
From: 611S Mother board					
To: 82E202 Stereo Equaliser and filters					
No	Row A	No	Row B	No	Row C
1	R Eq output	1	0V (R)	1	0V (R)
2	R LF F (a) CW	2	R LF F (b) CW	2	R LF F (b) ACW + Wiper
3	R LF +/- CW	3	R LF +/- Wiper	3	R LF +/- ACW
4	R LF Shelf/Bell	4	R LF Shelf/Bell	4	R LF Shelf/Bell
5	0V (R)	5	0V (R)	5	R MF F (b) ACW + Wiper
6	R MF +/- CW	6	R MF +/- Wiper	6	R MF +/- ACW
7	Not used	7	-18V	7	-18V
8	Not used	8	0V (L)	8	0V (R)
9	Not Used	9	Not Used	9	R LF Shelf / Bell
10	Not used	10	+18V	10	+18V
11	R MF Hi Q	11	R MF HiQ	11	R MF HiQ
12	0V (R)	12	0V (R)	12	R HF F (b) ACW + Wiper
13	R HF +/- CW	13	R HF +/- Wiper	13	R HF +/- ACW
14	R Eq input	14	R HF Shelf/Bell	14	R HF Shelf/Bell
15	L Eq output	15	0V (L)	15	0V (L)
16	L LF F (a) CW	16	L LF F (b) CW	16	L LF F (b) ACW + Wiper
17	L LF F (a) CW	17	L LF +/- Wiper	17	L LF +/- ACW
18	L LF Shelf/Bell	18	L LF Shelf/Bell	18	L LF Shelf/Bell
19	0V (L)	19	0V (L)	19	L MF F (b) ACW + Wiper
20	L MF +/- CW	20	L MF +/- Wiper	20	L MF +/- ACW
21	L MF Hi Q	21	L MF Hi Q	21	L MF Hi Q
22	0V (L)	22	0V(L)	22	L HF F (b) ACW Wiper
23	L HF +/- CW	23	L HF +/- Wiper	23	L HF +/- ACW
24	L Eq input	24	L HF Shelf/Bell	24	L HF Shelf/Bell
25	0V (R)	25	R HF Filter output	25	R HF Filter F(b) ACW
26	Spare	26	R HF Filter (a) input	26	R HF Filter F(b)CW + Wpr
27	Spare	27	R LF Filter F(a) CW	27	R LF Filter output
28	R Filter buffer	28	R LF Filter input	28	R LF Filter F(b)ACW + Wpr
29	0V (L)	29	L HF Filter output	29	L HF Filter F(b) ACW
30	L LF Shelf / Bell	30	L HF Filter (a) input	30	L HF Filter F(b)CW + Wpr
31	Spare	31	L LF Filter F(a) CW	31	L LF Filter output
32	L Filter buffer	32	L LF Filter input	32	L LF Filter F(b)ACW + Wpr

T82202.50
04 Jan 85



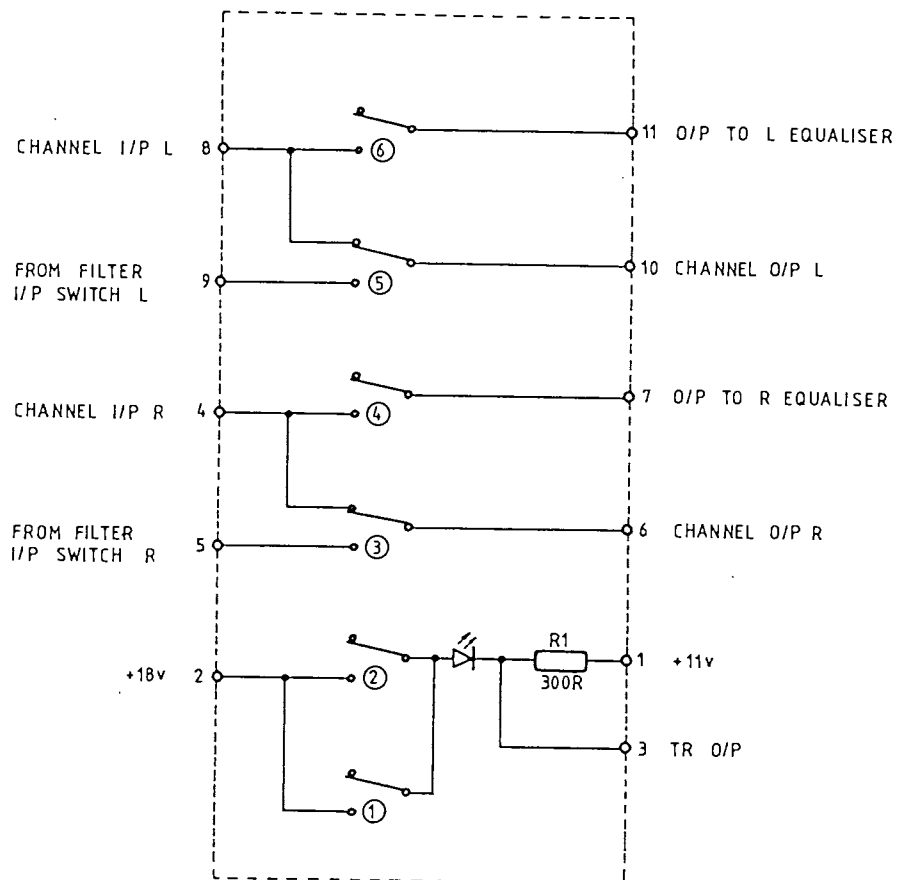
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REV	ISSUE	DATE	DETAILS
P	A		PROTOTYPE
1	A		HF, LF BELL Q INCREASED TO HF MF, F POTS TAKEN VIA MOLEX CON
2	A		R27, R39, R57 CHANGED
3	A		HF FILTER POTS TAKEN VIA MOLEX CONNECTORS. R86, R87 CHANGED TO 1K1
3	B		POT AND SWITCH NAMES ADDED SI
3	C	8C SEPT 86	REDRAWN SI
3	D	JUNE 87	POTS AND SWITCHES RE ARRANGED BC STEFF
4	A	23 MAR 88	ECO 4K/339 REVISION LEVEL UPDATED STEFF
4	B	12 JULY 89	ECON 18A NOW 18C TH STEFF
4	C	1 SEPT 89	ECO 4K/425 C127 33P ADDED STEFF
5	A	1 SEPT 89	ECO 4K/465 JKL REV BOARD INTRODUCED STEFF

SHEET 1 OF 2	
REF: T611SB	
A2	
TITLE	
STEREO PARAMETRIC EQUALISER/FILTERS L CHANNEL	
DRG. NO.	
T82202.70	
Solid State Logic	



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REV	ISSUE	DATE	DETAILS
P	A		PROTOTYPE
1	A		HF, LF BELL Q INCREASED TO HF MF, F POTS TAKEN VIA MOLEX CON
2	A		R98, 109-127 CHANGED
3	A		HF FILTER POTS TAKEN VIA MOLEX CONNECTORS. R96, R97 CHANGED TO 1K1
3	B		POT AND SWITCH NAMES ADDED
3	C	8C SEPT 86	REDRAWN
3	D	JUNE 87	POTS AND SWITCHES RE ARRANGED
4	A	23 MAR 88	ECO 4K/339 RESISTOR ADJ R105 NOW NUMBERED R155
4	B	12 JULY 89	C100 22P NOW C126
4	C	1 SEPT 89	ECO 4K/425 C128 33P

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NOTES.

1. SWITCH SHOWN IN EQ OUT POSITION.
2. SWITCH ISOSTAT 6p C/O

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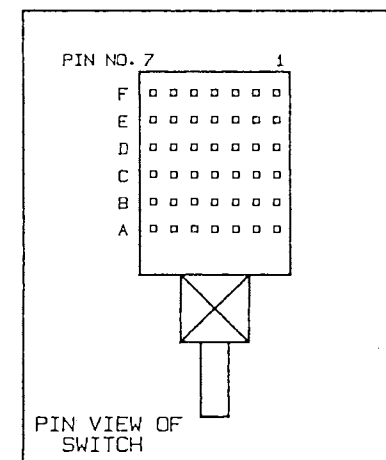
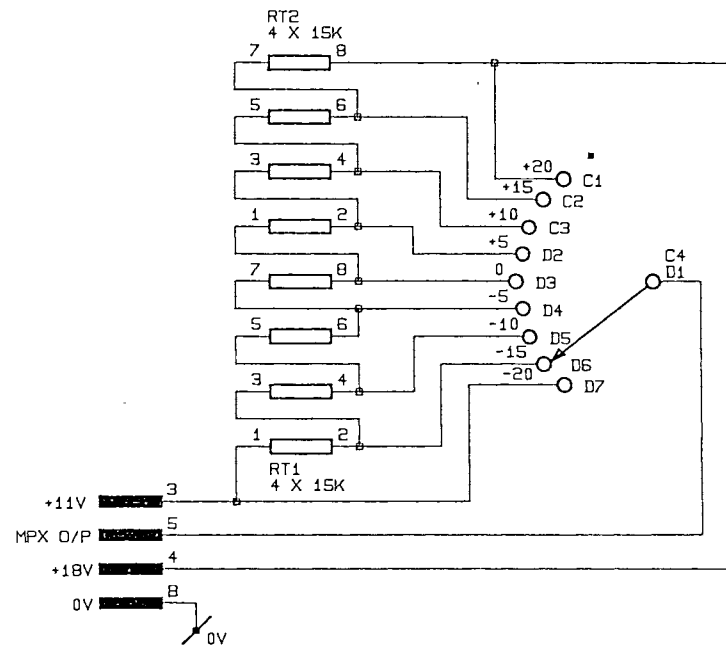
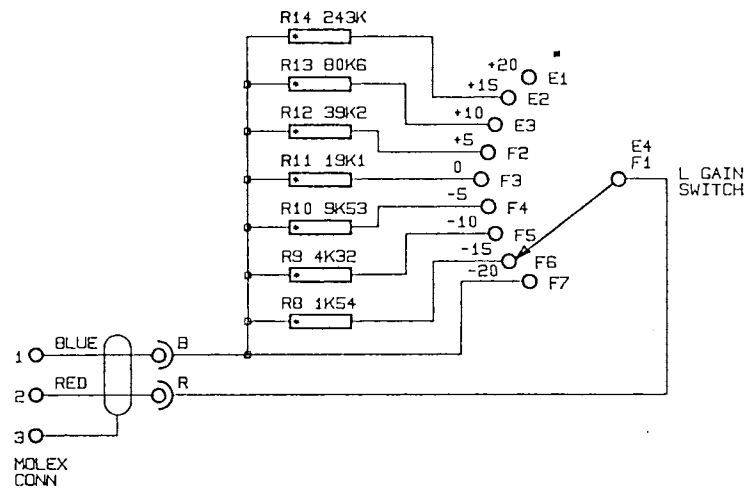
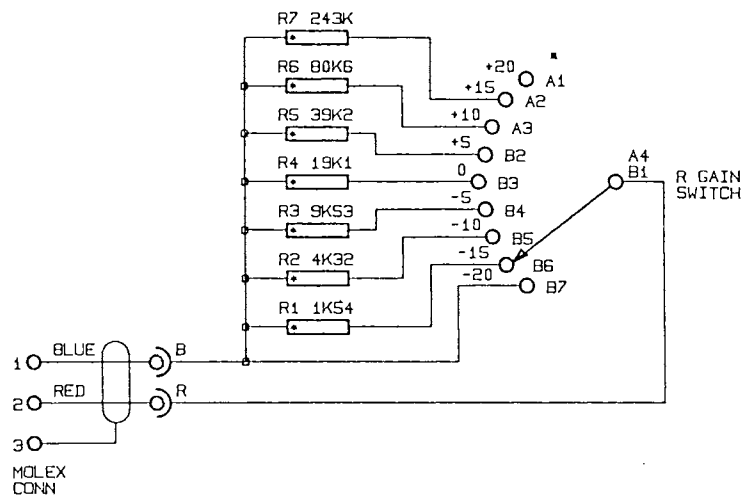
Rev.	Issue	Details
P	a	PROTOTYPE 8-84
0	a	REDRAWN 2-85 V.B.

Title
EQUALISER SWITCH CARD.

Drg.No. T82203-70

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REV	ISSUE	DATE	DETAILS
P	A	8/84	PROTOTYPE
1	A	1/85	GROUND PLANE ADDED. CONN. CHANGED
1	B	2/85	REDRAWN VB
1	C	25 SEPT 89	REDRAWN. DRG NO. WAS T82204.70 NOW T82204.71 BC STEFF
2	A	14 NOV 89	ECO 4K/47B PCB RELAIID STEFF
3	A	20 MAR 90	ECO 4K/490 BC VARELCO PIN SPACER CHANGED STEFF

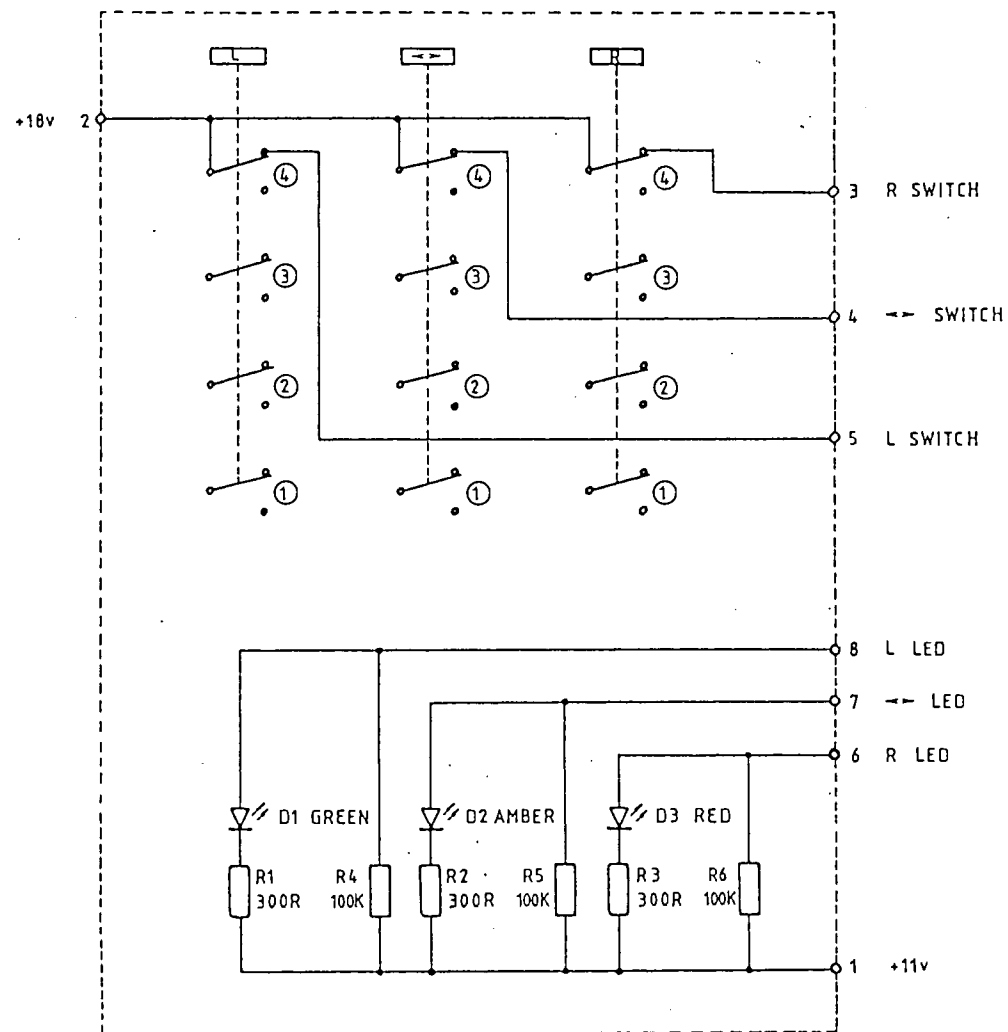
SHEET 1 OF 1

REF: T6115D A3

TITLE
6115
LINE INPUT SWITCH CARD

DRG. NO.
T82204.71

Sol StateLogic

NOTES.

1. SWITCH - 3 BANK 4 POLE
C/O ISOSTAT MOMENTARY

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Rev.	Issue	Details
P	a	PROTOTYPE 884
0	a	SWITCHES MADE N/C 9-84
0	b	REDRAWN 2-85 V.B.
1	a	DCM Aug 86 R4-6 100K ADDED

Title
METER SWITCH CARD

Drg.No. T8220570

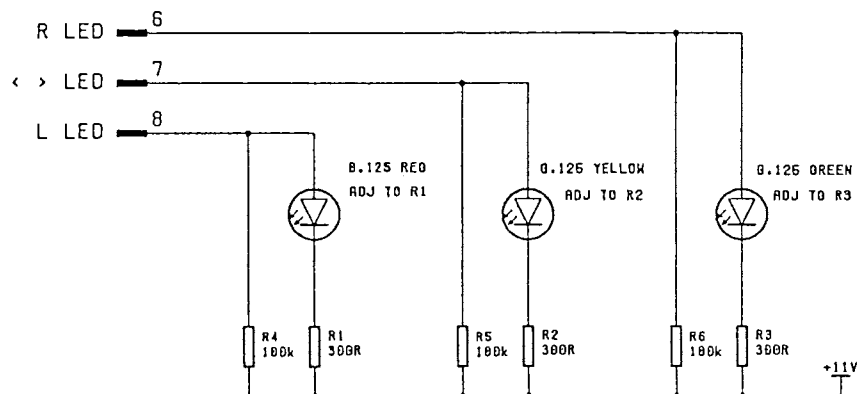
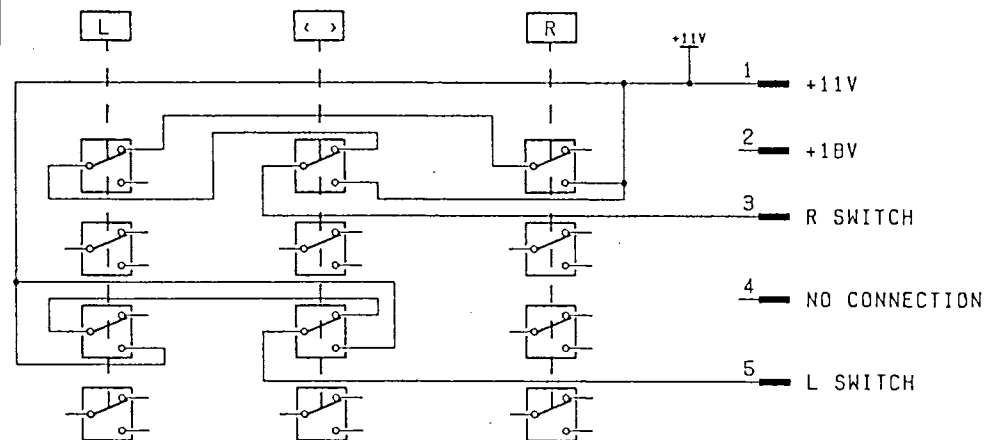
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REV	ISS	DATE	DETAILS
0	A	11 FEB 91	NEW DRAWING BC MM

SWITCH:-
PUSHBUTTON 10MM 3x4PC0 LK/RSD
SSL STOCK NO: 330DH34E



PCB ISSUE AB

USED ON SL611S A3

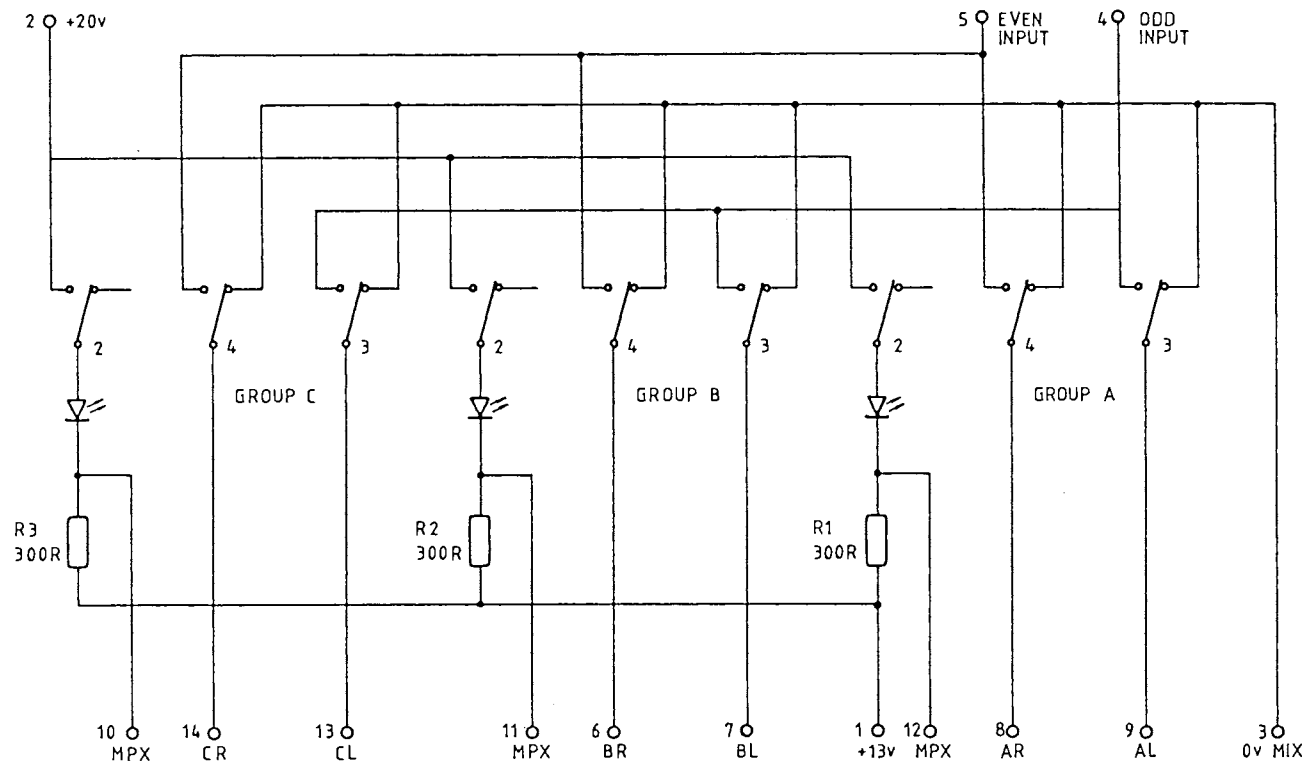
TITLE STEREO
METER SWITCH CARD

DRG.NO. T82305.71

SHEET 1 OF 1

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2-13b



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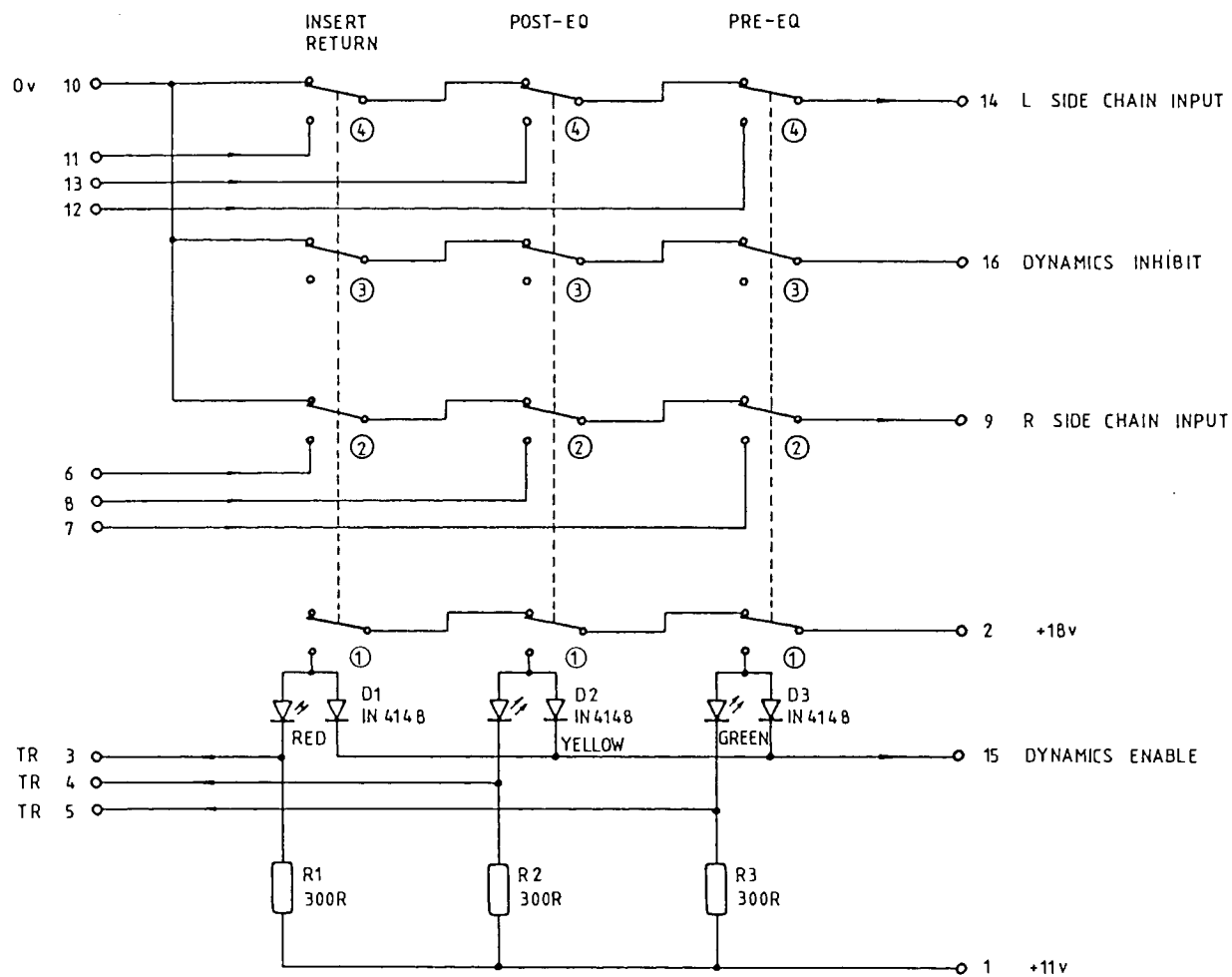
Rev.	Issue	Details
0	1	REDRAWN 2-85 VB.

Title
HEX BUS 611S
CHANNEL ROUTING

Drg.No.
T82206-70

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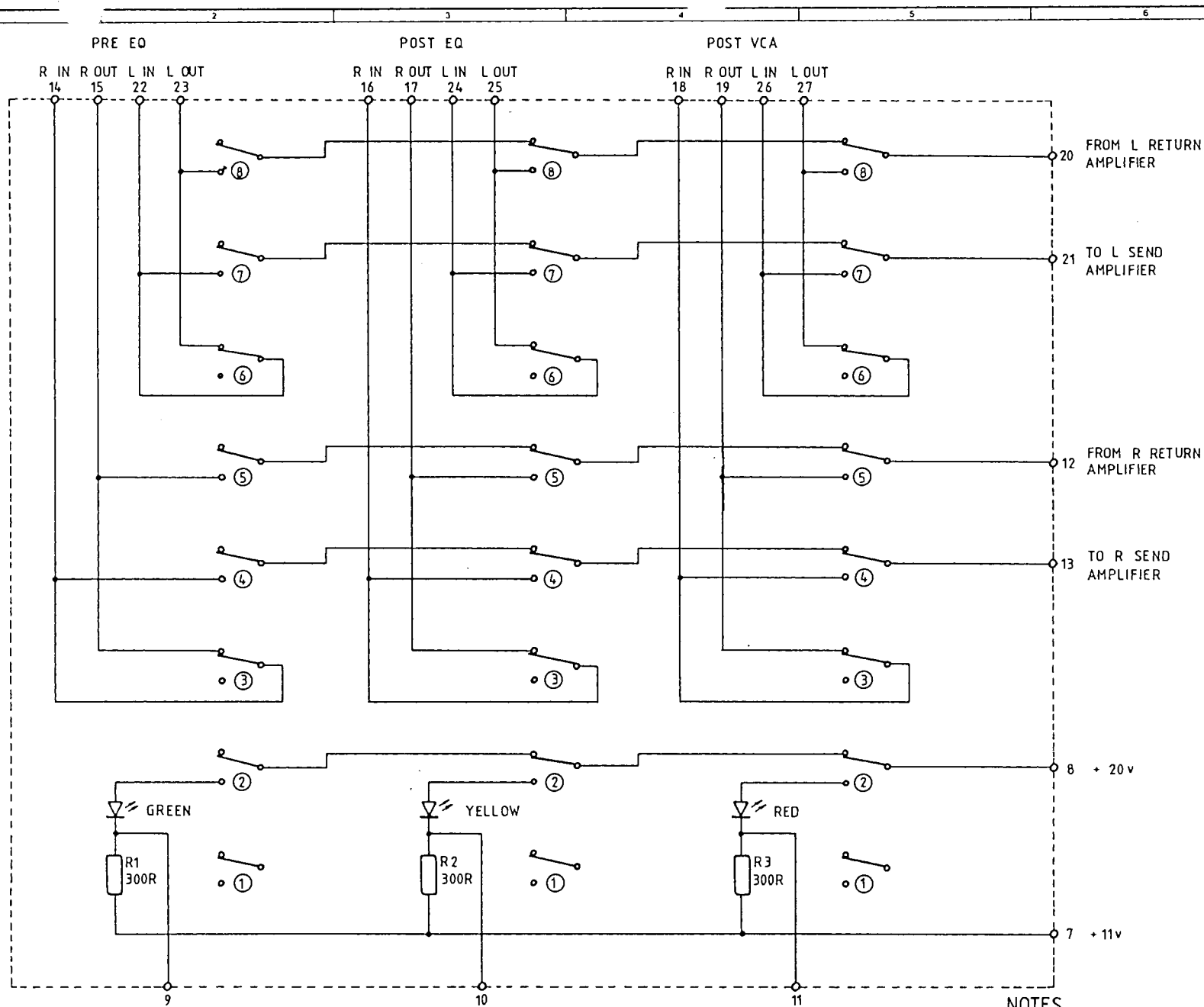
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Rev.	Issue	Details
P	a	PROTOTYPE 8-84
0	a	REDRAWN 2-85 V.B.
0	b	DRG. RENUMBERED 985 JT

Title	DYNAMICS SWITCH CARD
Drg. No.	T82207-71
Sol.	State Logic
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NOTES.
SWITCHES ISOSTAT 3 BANK
8 POLE C/O WITH LOCKOUT

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Rev.	Issue	Details
P	a	PROTOTYPE 8-84
0	a 185	CONNECTIONS CHANGED

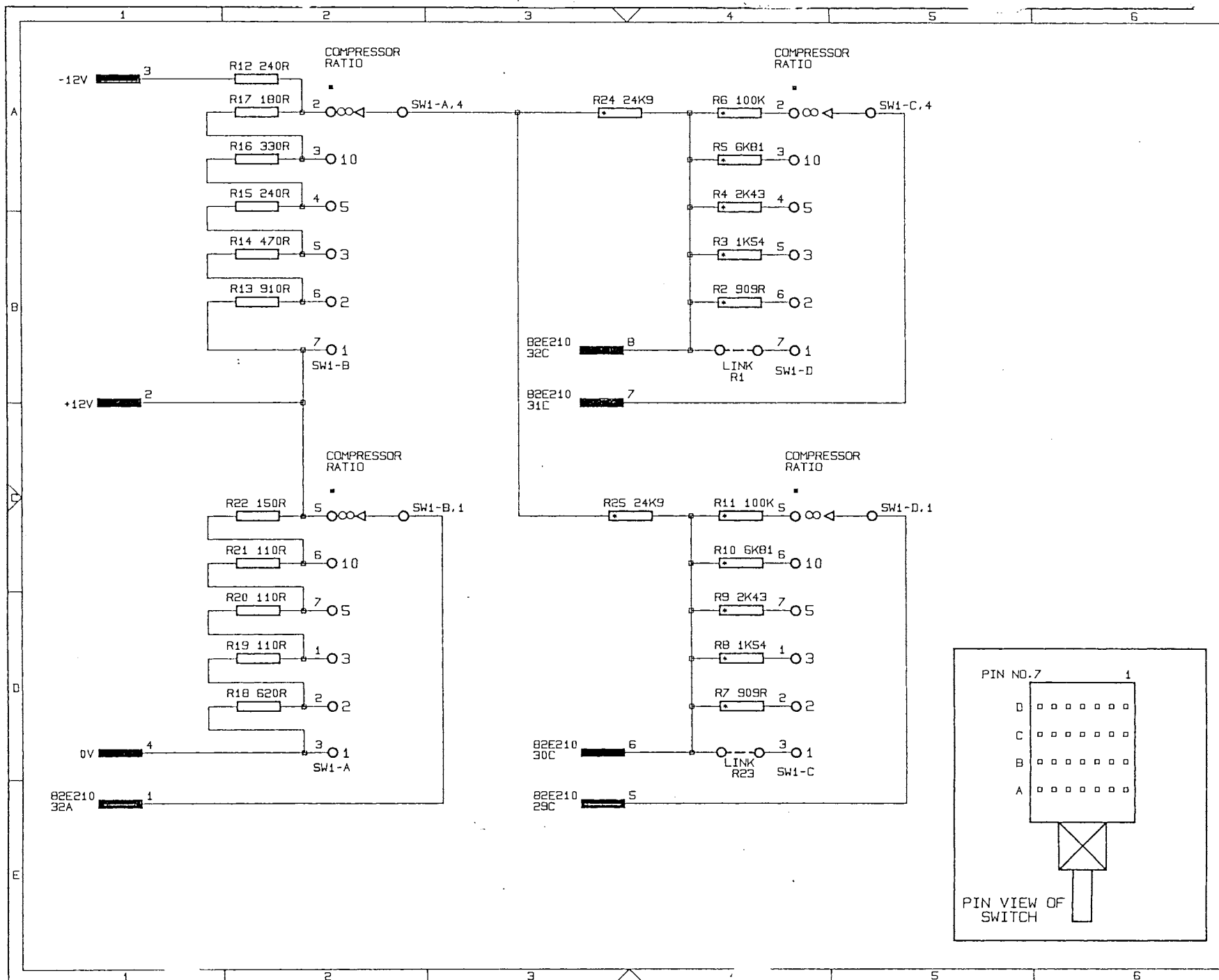
Title
STEREO INSERT
SWITCH CARD

Drg.No.
T82208-70

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REV	ISSUE	DATE	DETAILS
P	A	8/84	PROTOTYPE
1	A	1/85	R12 MOVED. ALL VALUES CHANGED
2	A	2/85	REDRAWN VB
3	A	7/85	R18-22 VALUES CHANGED
3	B	OCT 87	ECO 4K/58 R18-22 VALUES AMENDED STEFF
3	C	25 SEPT 89	REDRAWN. DRG NO. WAS T82209.70 NOW T82209.71 STEFF
4	A	14 NOV 89	ECO 4K/479 PCB RELAID STEFF
5	A	20 MAR 90	ECO 4K/490 BC VARELCO PIN SPACER CHANGED STEFF

SHEET 1 OF 1

REF: T611SE

A3

TITLE 6115
STEREO COMPRESSOR RATIO
SWITCH CARD

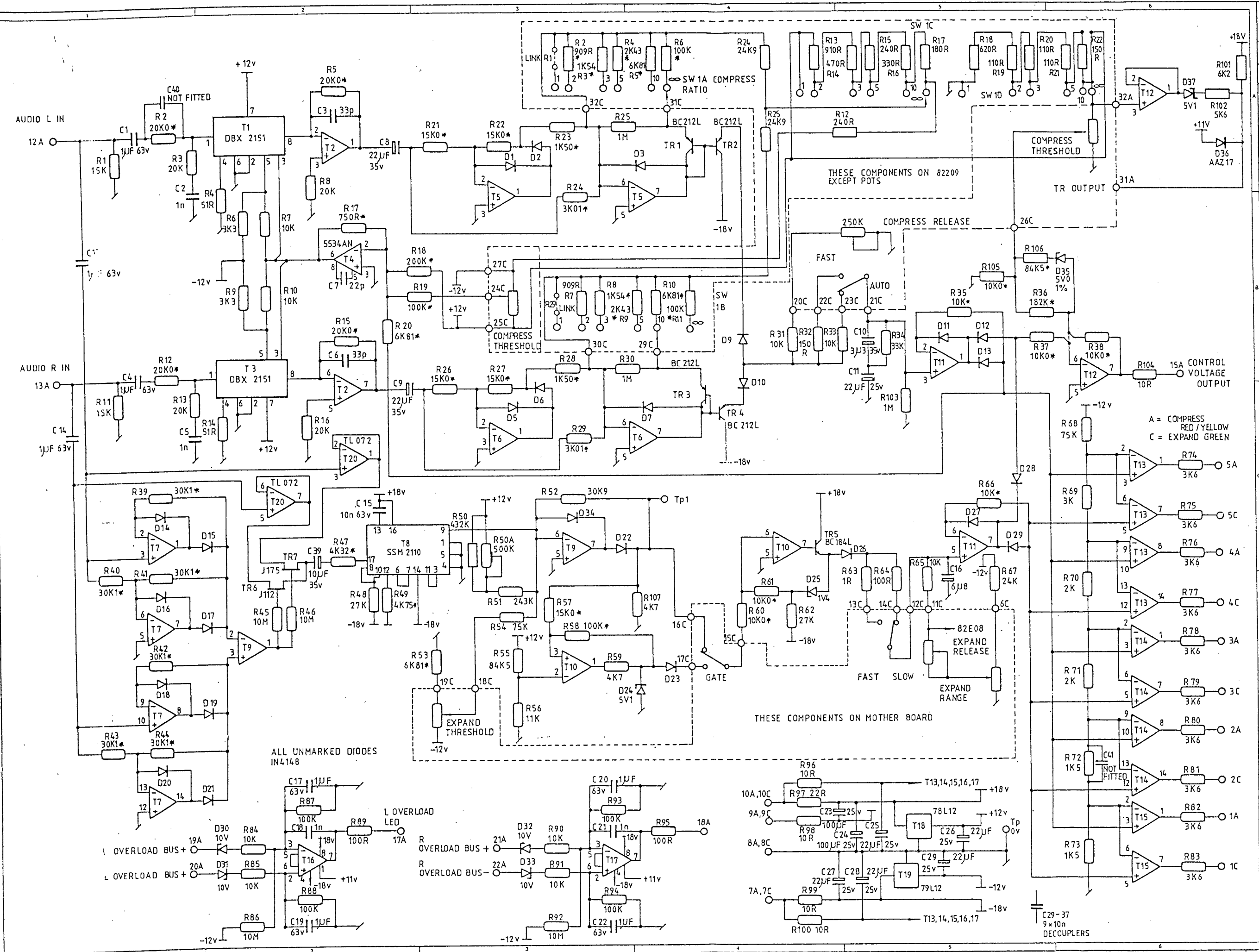
DRG. NO. T82209.71

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64 Way DIN 41612 Connector List			
From: 611S Mother board			
To: 82E210 Stereo dynamics side chain			
No	Row A	No	Row C
1	Compress LED 3dB	1	Expand LED 3dB
2	Compress LED 6dB	2	Expand LED 6dB
3	Compress LED 10dB	3	Expand LED 10dB
4	Compress LED 14dB	4	Expand LED 14dB
5	Compress LED 20dB	5	Expand LED 20dB
6	Not Used	6	Expand range CW
7	-18V	7	-18V
8	0V	8	0V
9	+11 V	9	+11V
10	+18V	10	+18V
11	Spare	11	Expand release
12	Audio L in	12	Attack switch common
13	Audio R in	13	Fast attack
14	Spare	14	Short attack
15	Output	15	Expand/gate switch common
16	Spare	16	Expand
17	Overload LED L	17	Gate
18	Overload LED R	18	Expand threshold
19	Overload bus L+	19	Expand threshold
20	Overload bus L-	20	Compress release
21	Overload bus R+	21	Attack sw common
22	Overload bus R-	22	Fast attack
23	Spare	23	Slow attack
24	Spare	24	Compress threshold wiper
25	Spare	25	Compress threshold -12V
26	Spare	26	Compress threshold (makeup)
27	Spare	27	Compress ratio (+12V)
28	Spare	28	Compress ratio (offset)
29	Spare	29	Compress ratio R
30	Spare	30	Compress ratio R
31	Spare	31	Compress ratio L
32	Spare	32	Compress ratio L

T82210.50

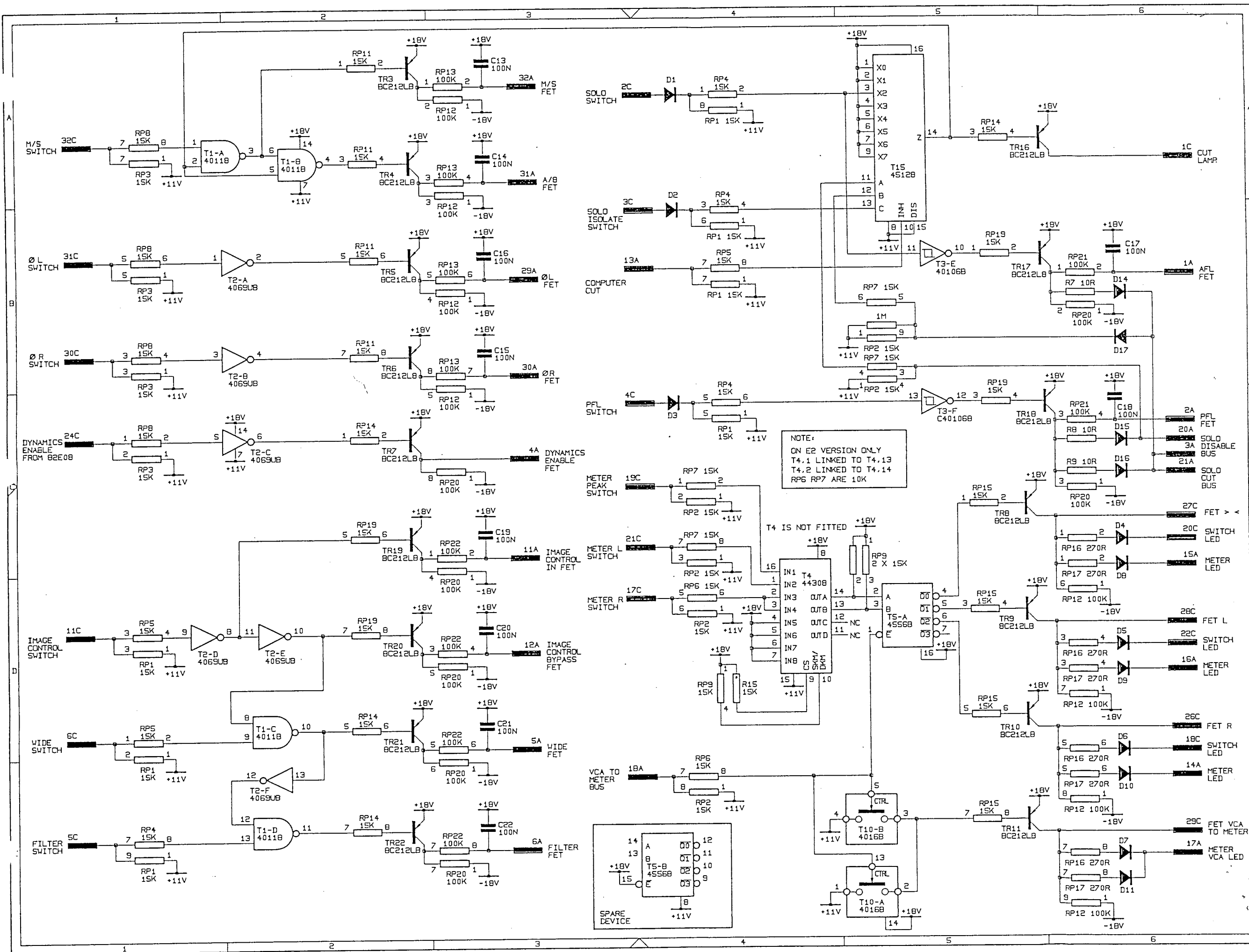
Rev.	Issue	Ch'd	Details
P	a	7-84	PROTOTYPE
1	a	1-85	R101, 102, 103 ADDED O/LOAD DETECTOR ALTERED
2	a	4-85	R50, 51 CHANGED
2	b	1-85	REDRAWN V.B.
3	a	1-85	R62, 67 CHANGED 4-85
3	b	7-85	CIRCUIT AS INTENDED R24, 29 MOVED THRESHOLD AND MAKE- UP CHANGED
4	a	7-85	R74 TO R83 VALUE NOW 3K6
5	a	7-85	R50, 50A, 51 VALUE'S CHANGED
6	a	8-85	D35 NOW 5V0 1% R105 NOW 10K0 0.5%
7	a	DM Nov85	T19 WAS 78L1 NOW 79L12
8	a	DCM Aug86	R101 6K2 WAS 10K R102 & D36 ADDED
8	b	IT July87	PN NOS ADDED TO T2, T4-6, T11-15 & T20. R1-25 NAMED. 'A' & 'C'. NOTE ADDED. NOTE ON COMPONENTS CHANGED. LINKS R1 & R29 ADDED.
8	c	BC Oct87	R18-22 VALUES ECO 58 AMENDED STEFF
8	d	12 JULY 89	C12 DELETED. D37: C40 C41 ADDED STEFF
9	a	12 JULY 89	ECO 4K/445 D25 WAS 1V5 NOW 1V4 STEFF
10	a	22 FEB 90	ECO 4K/520 BC PCB RELAI. STEFF



Title CF 82E210 STEREO
DYNAMICS SIDE CHAIN
Org.No. T82210-70
Solid State Logic

64 Way DIN 41612 Connector List	
From: 611S Mother Board	
To: 82E212	
No Row A	No Row C
1 AFL FET	1 Cut Lamp
2 PFL FET	2 Solo Switch
3 Solo Mute Bus	3 Solo Isolate Switch
4 Dynamics Enable FET	4 PFL Switch
5 Wide FET	5 Filter Switch
6 Filter FET	6 Wide Switch
7 18V	7 -18V
8 0 V	8 0V
9 +11V	9 +11V
10 +18V	10 +18V
11 Image Control in FET	11 Image Control Switch
12 Image Control bypass FET	12 Fader Start Switch
13 Computer Cut input	13 Stop Switch
14 Meter R LED	14 Stop Lamp
15 Meter Pk LED	15 Start Switch
16 Meter L LED	16 Start Lamp
17 Meter VCA LED	17 Meter R Switch
18 VCA to Meter bus	18 Meter R Switch LED
19 Spare	19 Meter Pk Switch
20 Solo Disable bus	20 Meter Pk Switch LED
21 Solo Cut bus	21 Meter L Switch
22 Spare	22 Meter L Switch LED
23 Sense Common	23 Spare
24 Stop Sense	24 Dynamics Enable
25 Start Sense	25 Spare
26 Switch Common	26 Meter R FET
27 Stop Switch	27 Meter Pk FET
28 Start Switch	28 Meter L FET
29 0L FET	29 Meter VCA FET
30 0R FET	30 0L Switch
31 A/B FET	31 0R Switch
32 M/S FET	32 M/S Switch

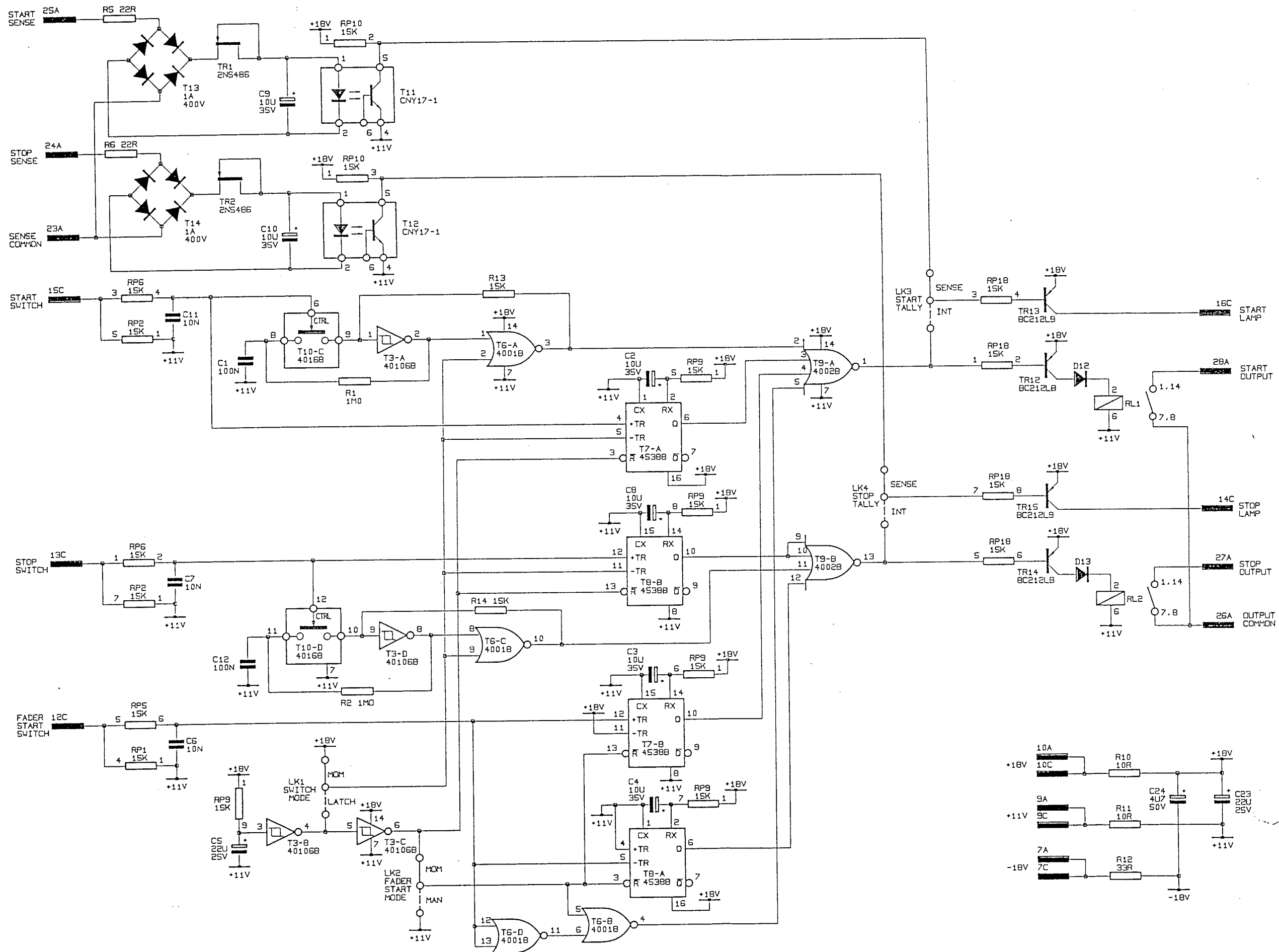
T82212.50
30 Aug 84



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REV	ISSUE	DATE	DETAILS
P	A	7.84	PROTOTYPE
1	A	12 84	REDRAWN VB
2	A	DEC 85	ECO 4K/93 DM R16 ADDED STEFF
2	B	1 MAR 89	REDRAWN BC AM STEFF
3	A	21 SEPT 89	ECO 4K/46B BC BOARD RELAIAD STEFF
4	A	23 MAR 93	ECO 4K/1107 1M RESISTOR ADDED BETWEEN RP7.5 AND +11V MM
SHEET 1 OF 2			
REF: T611G A2			
TITLE 6115 82E212 LOGIC			
DRG. NO. T82212.71			
Solid State Logic			

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REV	ISSUE	DATE	DETAILS
P	A	7.84	PROTOTYPE
1	A	12 84	REDRAWN VB
2	A	DEC 85	ECO 4K/93 DM
2	B	14 MAR 89	REDRAWN AM BC
2	C	22 AUG 89	R12 WAS 10R NOW 33R BC STEFF
3	A	21 SEPT 89	ECO 4K/468 BC
4	A	23 MAR 93	ECO 4K/1107 NO CHANGE MM



SHEET 2 OF 2

REF: T611H A2

TITLE 6115
82E212 LOGIC

DRG. NO. T82212.72

Solid State Logic

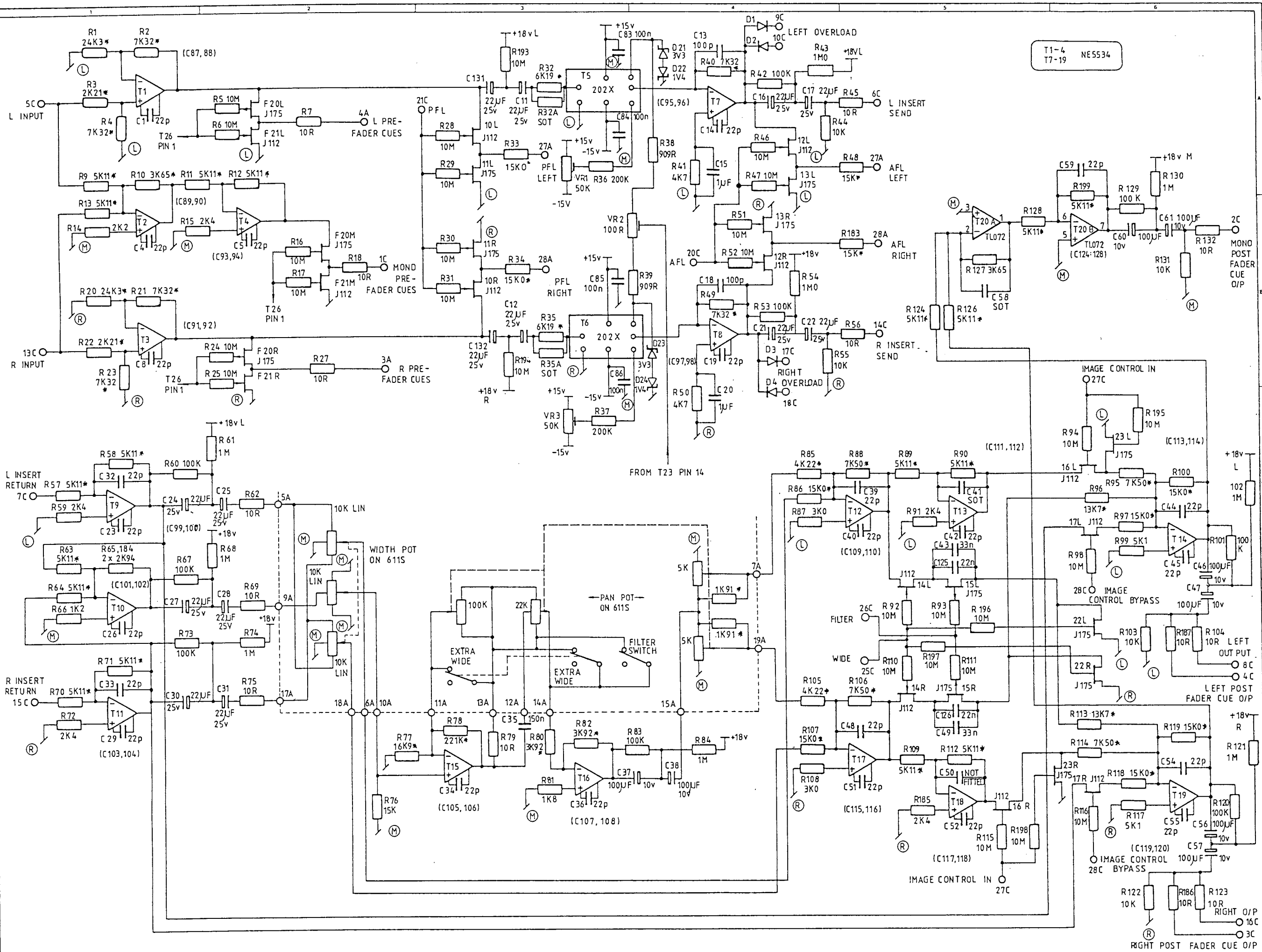
64 Way Eurocard Connector List

From:

To: 82E213 Stereo VCA and Image Control

No Row A	No Row C
1 Spare	1 Mono pre fader cues output
2 Spare	2 Mono post fader cues output
3 R pre fader cues output	3 R post fader cues output
4 L pre fader cues output	4 L post fader cues output
5 L output to image control	5 L input
6 Image control wiper L	6 L insert send to switchcard
7 L pan control wiper	7 L insert return from switchcard
8 OV (L)	8 L output
9 Mono output to Image control	9 L Overload output +
10 Image control wiper mono	10 L Overload output -
11 Wide makeup gain control	11 Spare
12 Filter compensation	12 OV (L)
13 Mono buffer output	13 R input
14 Mono Pan buffer input	14 R insert send to switchcard
15 Mono Pan buffer output	15 R insert return from switchcard
16 OV (R)	16 R output
17 R output to image control	17 R Overload output +
18 R image control wiper	18 R Overload output -
19 R Pan control wiper	19 Cues cut FET
20 OV (R)	20 AFL FET
21 +18V	21 PFL FET
22 +18V	22 Solo mute bus
23 Spare	23 Cut switch
24 OV (M)	24 Dynamics enable FET
25 -18V	25 Wide FET
26 -18V	26 Filter FET
27 AFL/PFL L output	27 Image control in FET
28 AFL/PFL R output	28 Image control bypass FET
29 VCA to meter output	29 Dynamics side chain
30 Fader wiper	30 +5V to fader
31 Cut output	31 VCA Thumbwheel
32 Computer return	32 Computer send

T82213.50



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Rev.	Issue	Chkd	Details
P	a	7-84	PROTOTYPE
1	a	8-84	PRE FADER CUES CUT ADDED
2	a	8-84	PRE FADER CUES CUT DRIVER ADDED
3	a	9-84	FADER START COMPARATOR ADDED
3	b	1-85	POST FADER MONO CUES AMENDED. SHORTING FETS ON IMAGE CONTROL ADDED.
4	a	1-85	REDRAWN V.B.
5	a	3-85	R65, 77, 85, 105, 184 CHANGED
6	a	4-85	R153, 155 CHANGED
7	a	4-85	FADER REJECTION IMPROVED 4-85
8	a	7-85	C65, 64 CHANGED TO 220p
9	a	JH Oct85	VALUES CHANGED R32, 35.
10	a	DM Jan86	ASSY REV No AMENDED
10	b	4/86	10K LINS GANGED, EXTRA WIDE SWITCHES GANGED.
10	c	DTIC Oct86	POST FADE & MONO CUE ADDED GANGING ADDED TO PAN POT.
10	d	BC Nov86	ECON. NAMES ADDED. 2x3K32 RESISTORS NOW 1K91
10	e	DG Jan87	ECON NAMES AMENDED
11	a	BC Sept87	2x3V3 & 2x1V5 ADDED TO 202X. ECO274
11	b	18 JULY 89	DIODE REFERENCES D21-24 ADDED STEFF
12	a	18 JULY 89	ECO 4K/426 TH R32-35 WERE 3K32 NOW 6K19. R40-49 WERE 4K53 NOW 7K32 STEFF
12	b	22 AUG 89	R132 NOW R131 BC J112 ADDED STEFF
13	a	26 Sept 89	ECO 4K/469 BOARD RELAID STEFF
14	a	17 Apr 90	ECO 4K/482 NO CHANGE BC STEFF
15	a	BC 9-90	ECO 4K/599 B.O.M AMENDED STEFF

SHEET 10F 2

Title
STEREO VCA AND IMAGE CONTROL (AUDIO)

Drg. No. T82213-70

Solid State Logic
2-24

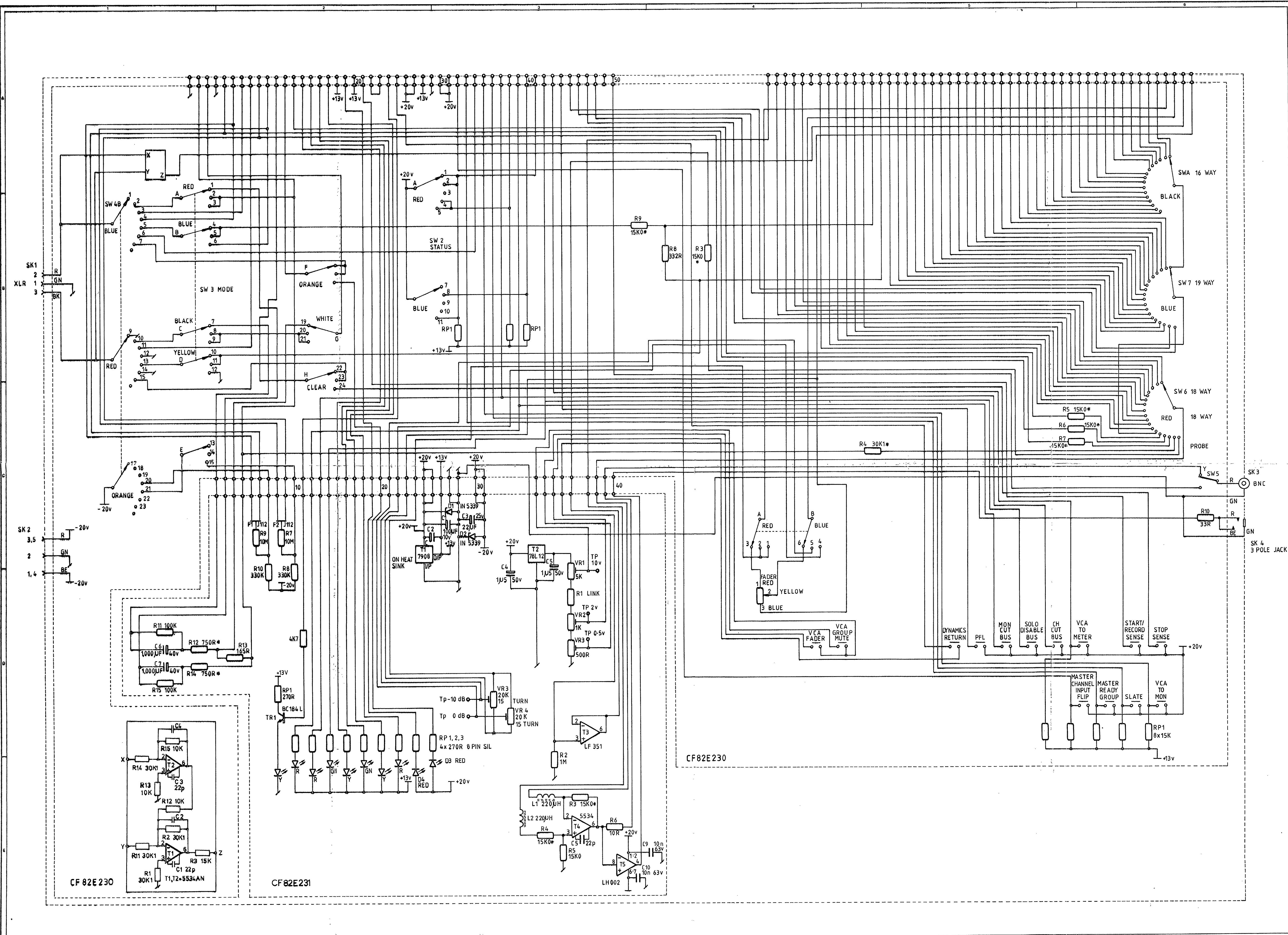
Solid State Logic

SL4000 G Console Service Manual

SECTION 3

SL 613E I/O Module Test Jig

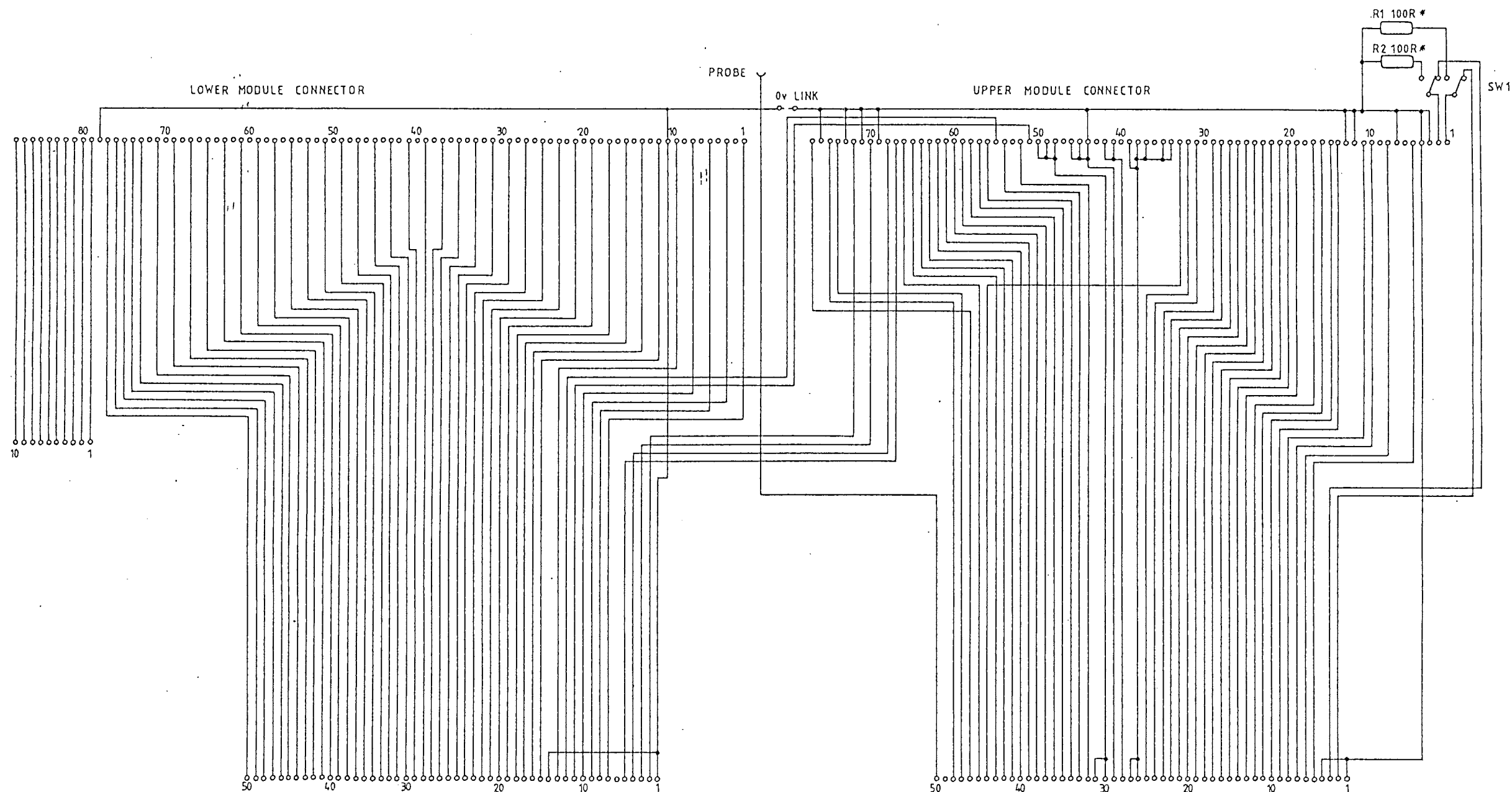
Card No	Qty	Module	Description
82E230	1	613E	SL611G/E/V Test Jig Switch Card
82E231	1	613E	SL611G/E/V Test Jig PS and Mix Amp
82E232	1	613E	SL611G/E/V Test Jig Edge Connector Card
82E365	1	613E	Jig Daughter Card to test 82E354 Card (Ultimation Systems only)



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Issue	Date	Chkd	Details
a	12.84		PROTOTYPE
b	1.85		DYNAMICS BUFFER ADDED. SW 6,7 REVISED
c	3.85		REDRAWN V.B.
d	3.85		CANS BUFFER ADDED SC REVISED
e	June 86	DM	R1,2 DELETED. 85501, SW E, RP1 & RES 4K7 ADDED
f	July 86	AM	PIN NOS. ADDED T5 CON. DEL SW4B - SK1 & E - 15.
g	Aug 86	MM	85501 NOW T1,T2 - SEE "XYZ" INSERT B.C.
Title TEST JIG			
Org. No. T0613E-71			
Solid State Logic			
MY 170555			

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Issue	Date	Chkd	Details
a	11.84		PROTOTYPE
b	3.85		REDRAWN V.B.
c	July 86		CON. ADDED 10 TO 78
d	July 86	DCH	LINK L78 TO 0V



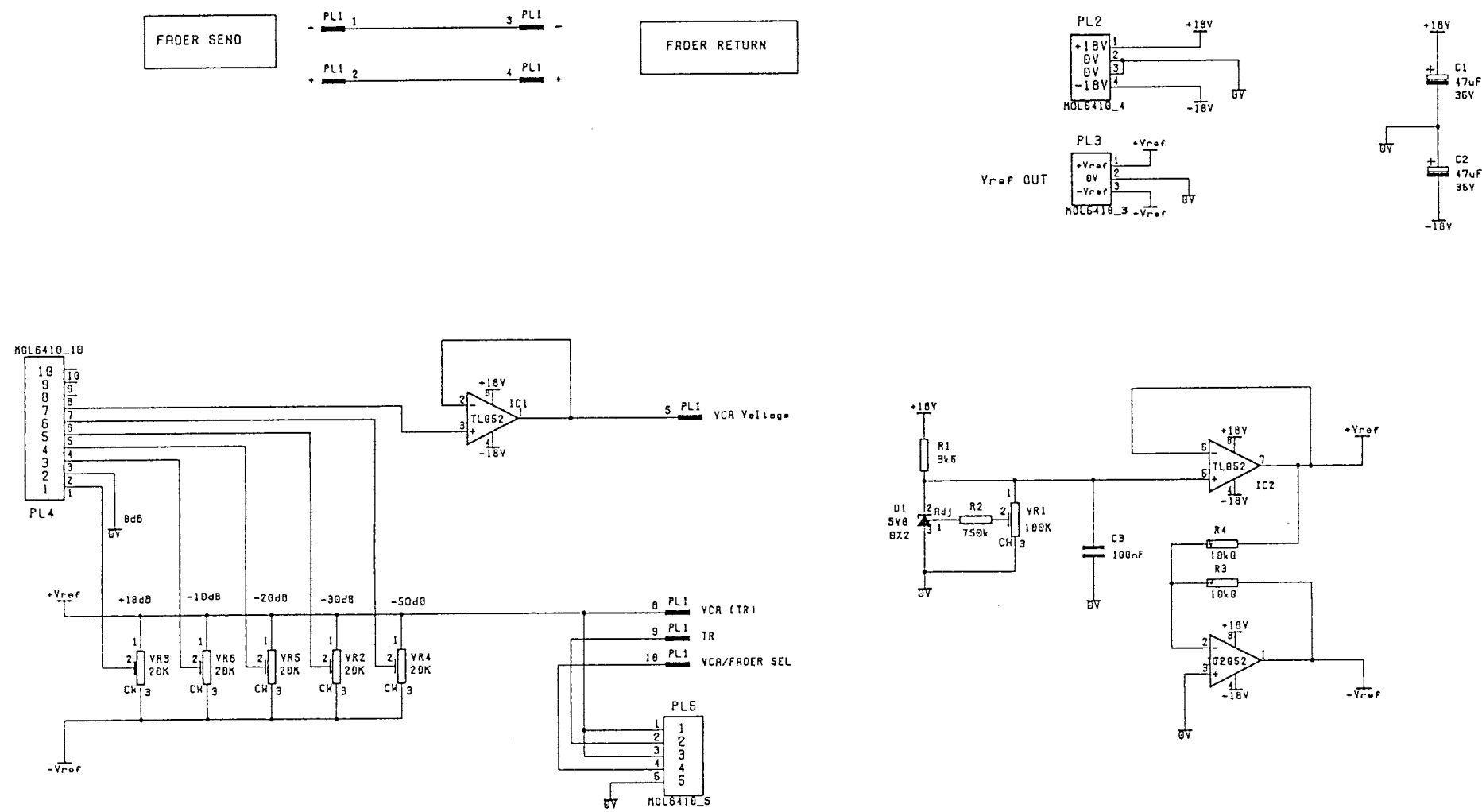
Title 613 TEST JIG
CONNECTOR

Drg. No. T82232-71

Solid State Logic
3-2

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REV	ISS	DATE	DETAILS
0	A	22 SEP 92	NEW DRAWING BC MM



PCB ISSUE AB

USED ON SL678 A2

TITLE
354 JIG DAUGHTER

ORG.NO.
T82365.71

SHEET 1 OF 1

Solid State Logic

Solid State Logic

SL4000 G Console Service Manual

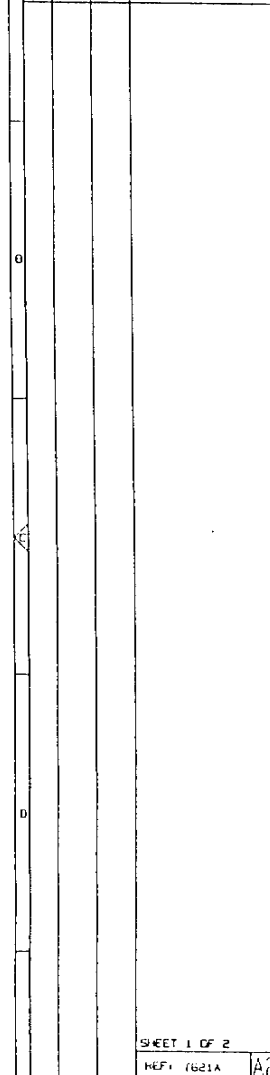
SECTION 4

SL 621E Producer's Panel

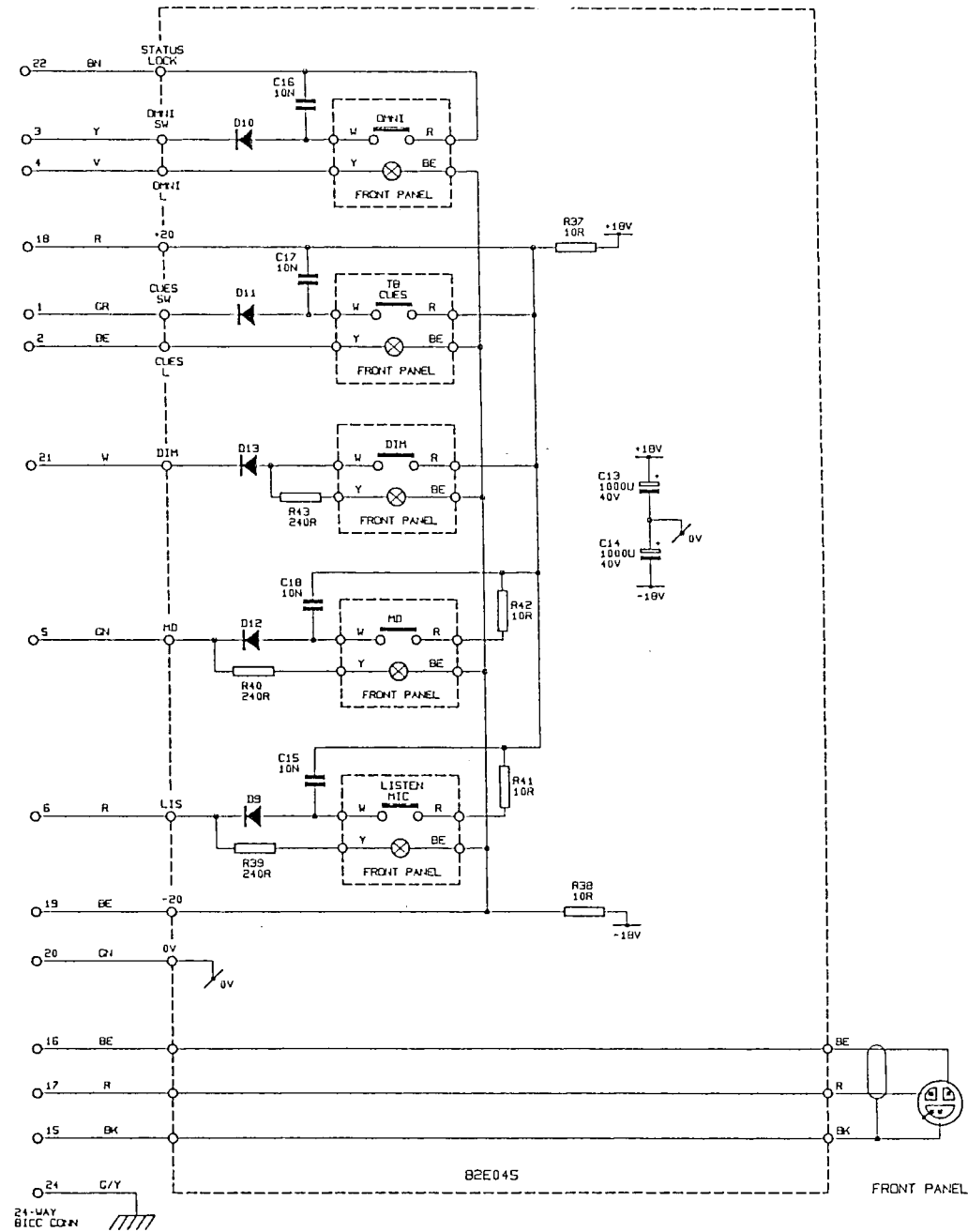
24way BICC Connector From: Producers Panel:- CF621 (Pins)
 To: Mainframe 651 MRAC M1 (Sockets)

BICC pin	Description	CF621 colour	Mainframe loom ref	CF651 MRAC M1
1	Cues Switch	Grey	X1 red	BJ
2	Cues Lamp	Blue	blk	BK
3	Omni Switch	Yellow	X2 red	BL
4	Omni Lamp	Violet	blk	BM
5	MD Switch	Green	X3 red	BN
6	Listen Switch	Red	blk	BP
7	Stereo Cans L	Orange	X4 red	BR
8	Stereo Cans R	Grey	blk	BS
9	Aux 1 Cans L	Blue	X5 red	BT
10	Aux 1 Cans R	Yellow	blk	BU
11	Aux 2 Cans L	Violet	X6 red	BV
12	Aux 2 Cans R	Green	blk	BW
13	LF Monitor	Red	X7 red	BX
14	RF Monitor	Orange	blk	BY
15	Prod Mic Screen	Grey	screen	CD
16	Prod Mic Signal	Blue	X9 red	CE
17	Prod Mic +1.5v	Yellow	blk	CF
18	+20v	Green	PWR RED	
19	-20v	Violet	PWR BLU	
20	0v	Red	PWR GRN	
21	Dim Switch		X8 red	BZ
22	Spare		blk	CA
23				
24	Chassis		X4 - X8 Screens	

621E57C 7904-2



E	TITLE	621
	PRODUCERS TALKBACK PANEL	
	(FIG. 73).	T0621E.71
	Solid State Logic	



COLOURS	
BK	BLACK
BN	BROWN
R	RED
O	ORANGE
Y	YELLOW
V	VIOLET
BE	BLUE
Q1	GREEN
CR	GREY
W	WHITE

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REV	ISSUE	DATE	DETAILS	BY
0	A	9 APR 80	REDRAWN	BC STEFF
1	A	26 JUNE 90	ECD 4K/597 B2E045 BOARD INTRODUCED	BC STEFF

SHEET 2 OF 2

REF: 1621B

TITLE 621
PRODUCERS TALKBACK PANEL

ORG. NO. T0621E.72

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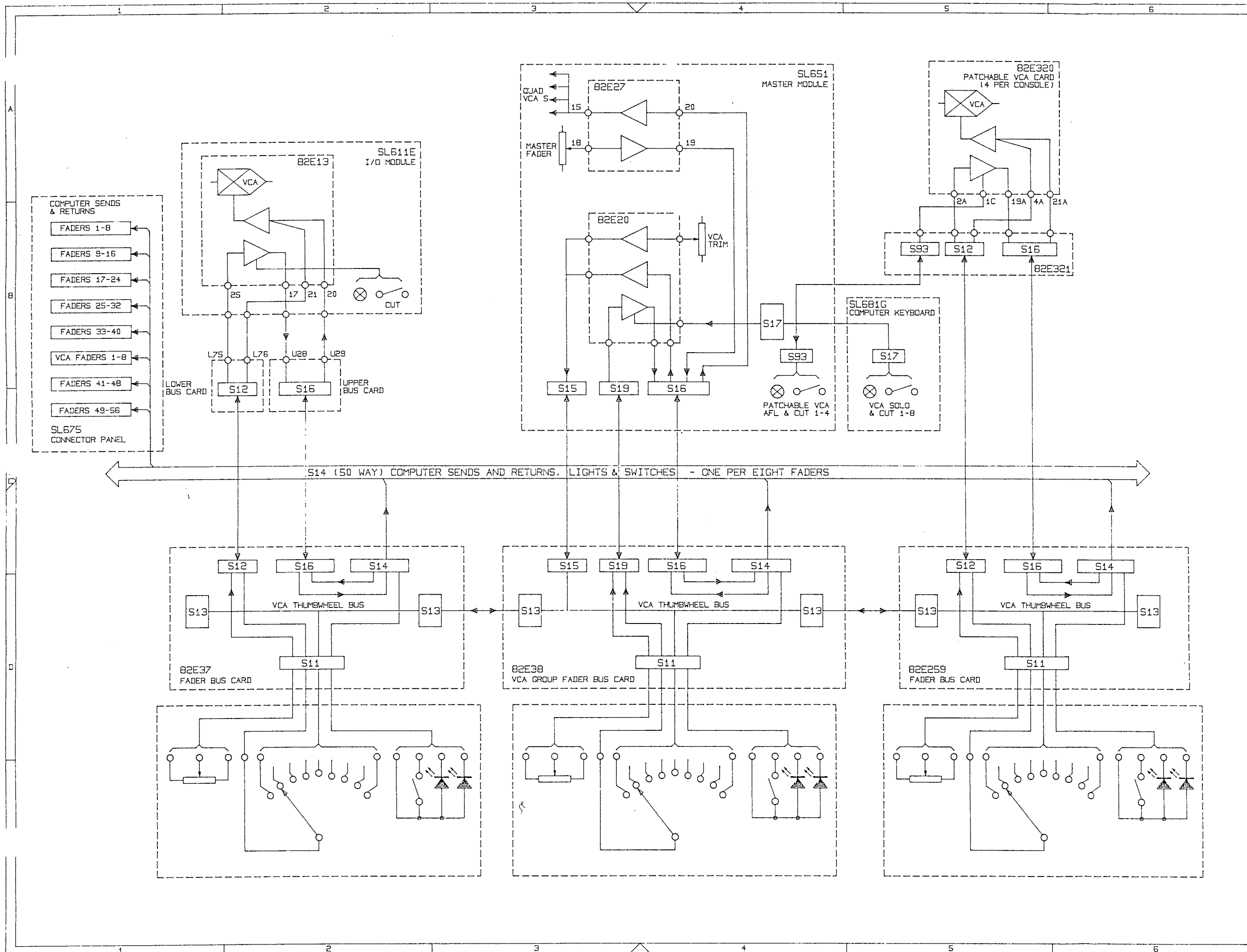
SL4000 G Console Service Manual

SECTION 5

SL 631E Mainframe, Internal Wiring & Connectors

Card No	Qty	Module	Description
82E266	*	631E	Upper Bus Card
82E245	*	631E	Lower Bus Card
82E37	*	631E	Channel Fader Bus Card
82E38	1	631E	VCA Grouper Fader Bus Card
82E370	-	631E	Audio Changeover Relays and Drivers
82E382	-	631E	Dual Balanced Buffer Card

* One per eight 611G Input/Output Modules



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REV	ISSUE	DATE	DETAILS
	A	24 FEB 88	NEW DRAWING DTG STEFF
SHEET 1 OF 1 REF: T675A			
TITLE 675G G SERIES CHANNEL FADER AND VCA GROUP SYSTEM SCHEMATIC			
DRG. NO. T0675G.41			
Solid State Logic			

Rev.	Date	Ch'k'd	Details

A.				

[illegible][illegible][illegible][illegible]

1.				
2.				

[illegible][illegible]

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	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466

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[illegible]

C.					

[illegible][illegible][illegible][illegible][illegible][illegible][illegible][illegible]

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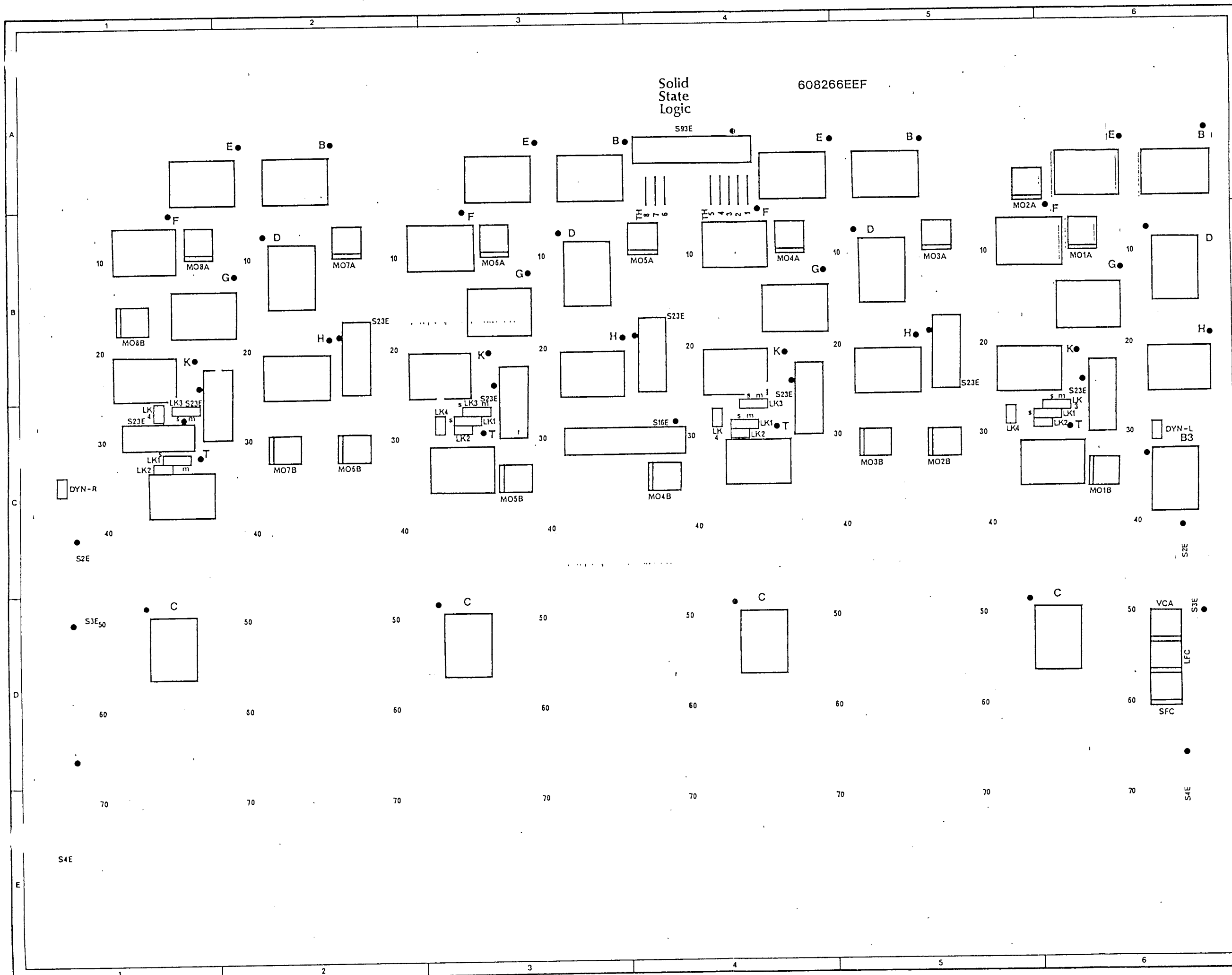
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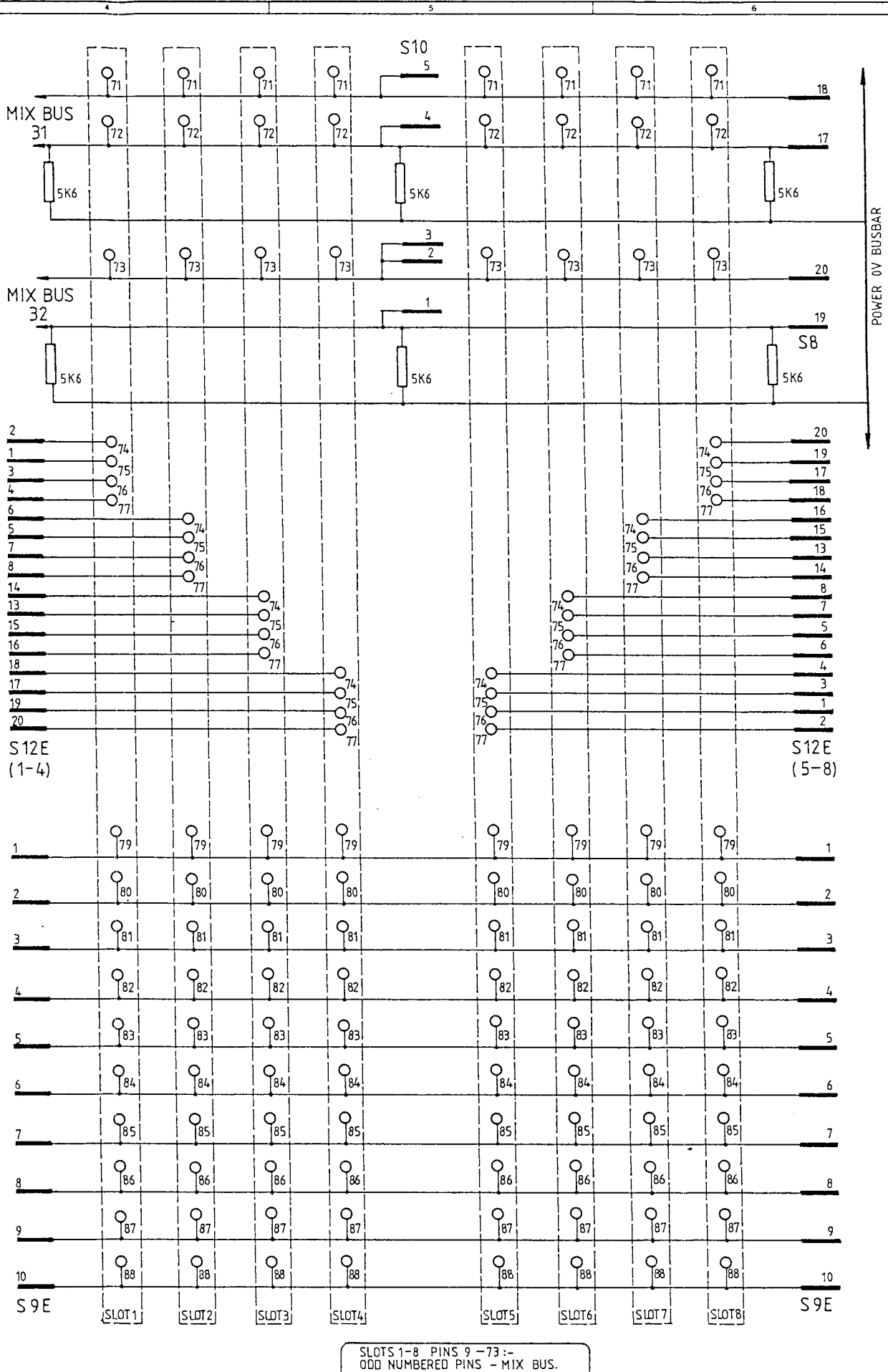
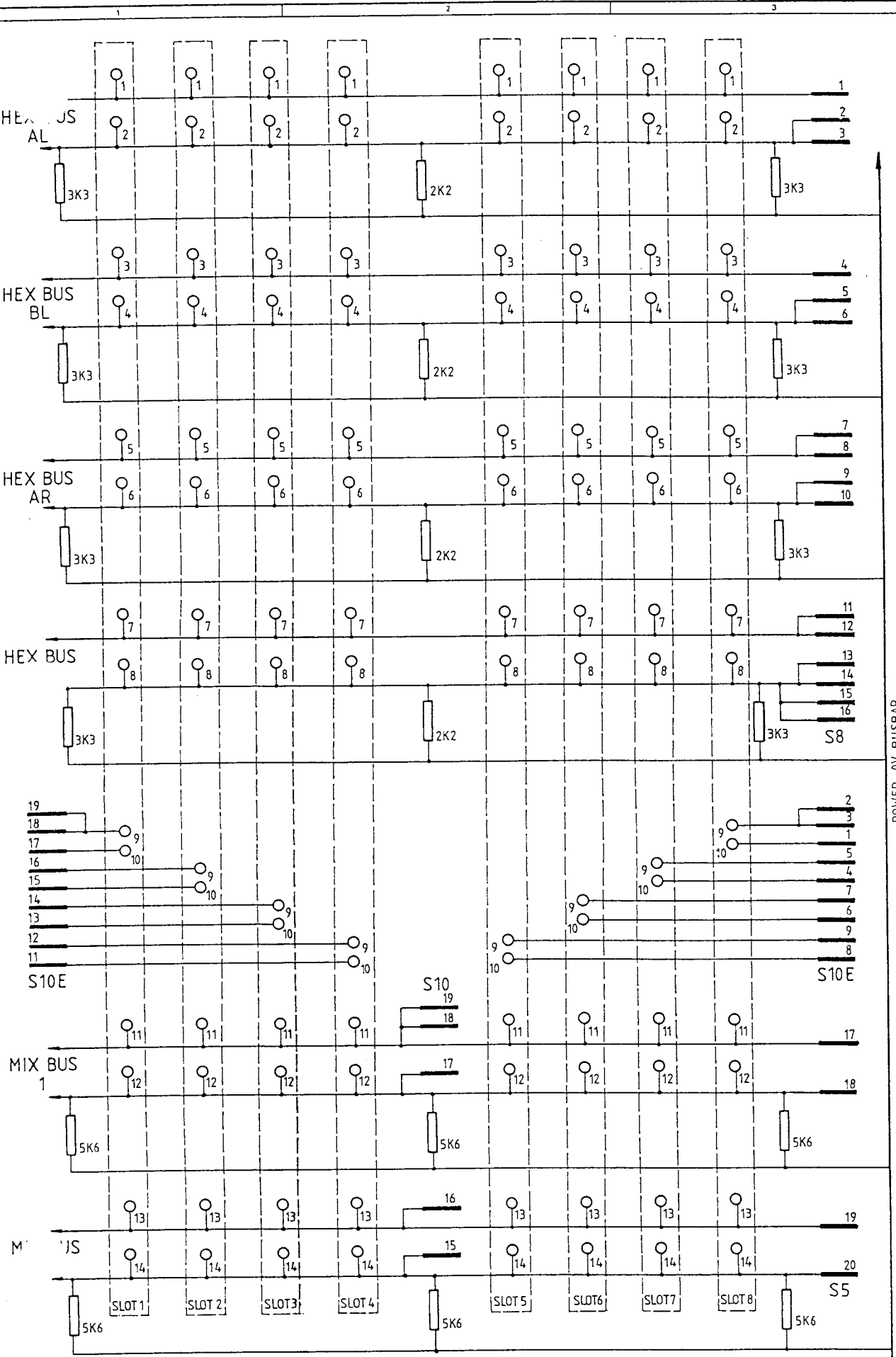
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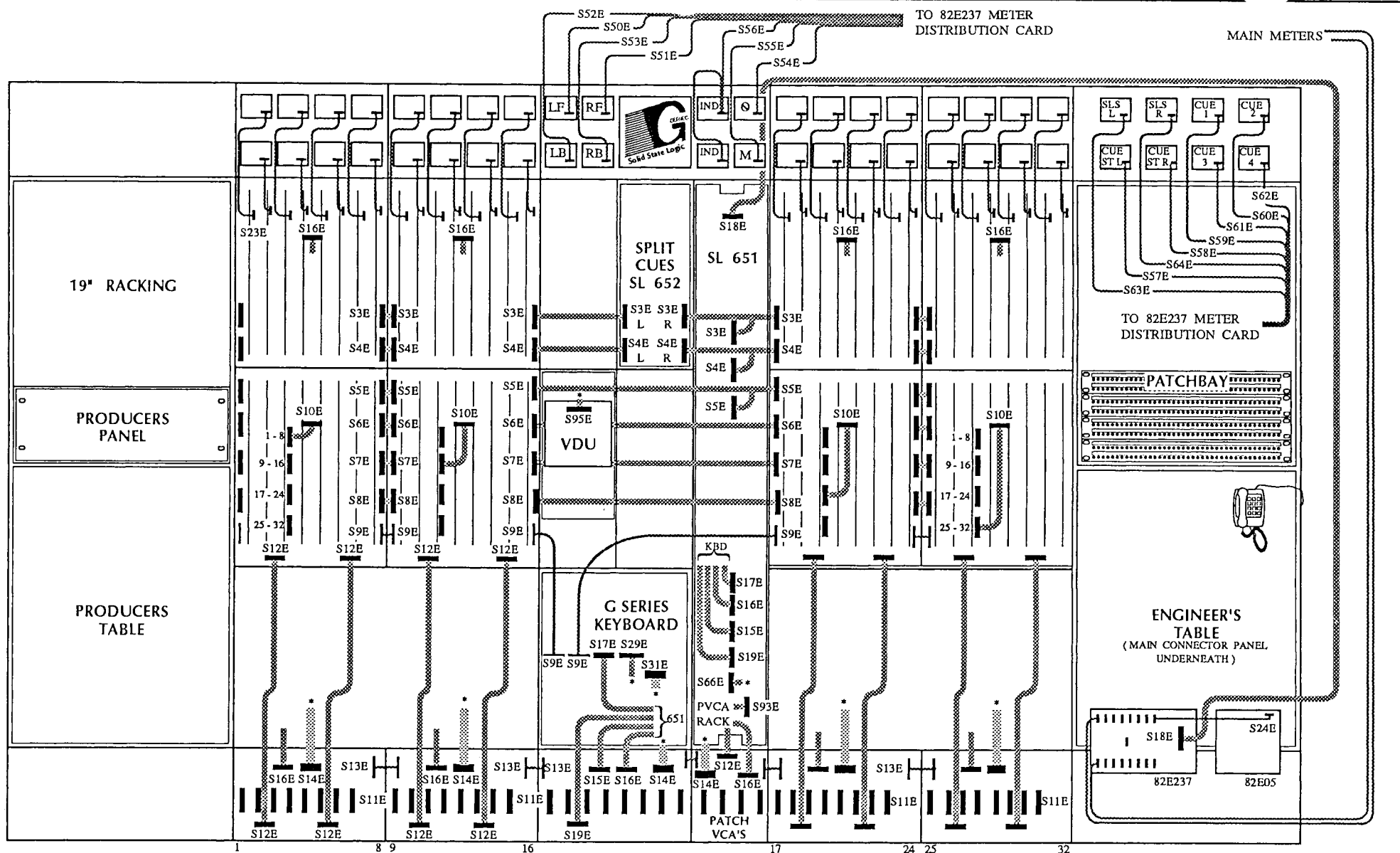


SLOTS 1-8 PINS 9-73 --
ODD NUMBERED PINS - MIX BUS.
EVEN NUMBERED PINS - MIX BUS 0V.
— RIBBON CABLE CONNECTOR.
○ LOWER BUS CARD
EDGE CONNECTOR.

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Rev.	Issue	Chkd	Details
1	□	AM	NEW DIAGRAM 1-86
2	□	20 MAR 90	ECO 4K/505 BC B.O.M AMENDED STEFF.

Title	LOWER BUS CARD Mk 2
Org.No.	T82245-71
	Solid State Logic 5-2a



NOTES:

- A) S118E BARGRAPH MOTHERCARD TO 651. THIS RIBBON IS ONLY IMPLEMENTED IN BARGRAPH CONSOLES.
 B) THE CENTRE SECTION METER LAYOUT HAS BEEN ALTERED IN ORDER TO SIMPLIFY DRAWING LAYOUT.

KBD : TO KEYBOARD
 * : TO CONNECTOR PANEL
 PVCA RACK : TO 82E321 CARD IN THE PATCHABLE VCA RACK
 651 : TO 651
 MAIN METERS : TO MAIN METERS

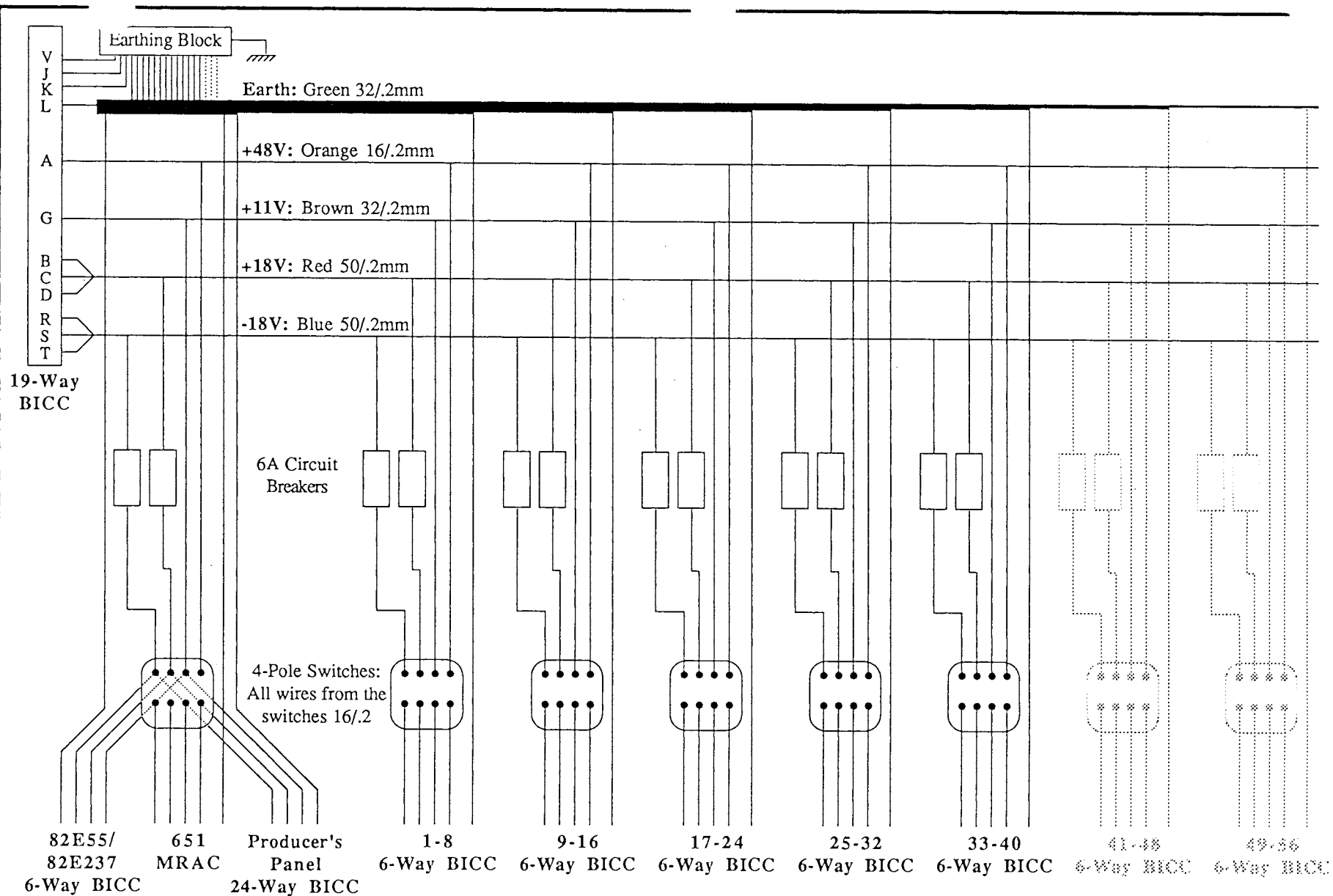
Solid State Logic

TITLE: FRAME WIRING RIBBONS LAYOUT		
CONSOLE: 4000 G SERIES	DRAWN BY: APTH	
SHEET: TO631G.51	REVISION: 1.0	DATE: 25/9/90

No.	Way	Function
S3E	20	STATUS BUSSES ; CUE MIX BUS
S4E	20	CUE MIX BUS ; AFL BUS
S5E	20	QUAD MIX BUS ; MIX BUS 1-2
S6E	20	MIX BUS 3-12
S7E	20	MIX BUS 13-22
S8E	20	MIX BUS 23-32
S9E	10	TR MULTIPLEX BUS
S10E	20	MIX AMP INPUTS FROM MIX BUSES
S11E	20	FADER TO FADER BUS CARD
S12E	20	FADER BUSCARD TO LOWER BUSCARD
S13E	10	VCA BUS LINKS
S14E	50	8 FADERS TO COMPUTER & MASTER FADERS
S15E	20	VCA BUSES MASTER FADER ; LIGHTS AND SWITCHES TO 651
S16E	20	8 FADER SENDS AND RETURNS LINK FROM FADER BUS - UPPER BUS OR 651 VCA SENDS AND RETURNS TO 82E20
S17E	20	VCA CUTS 5 - 8 ; MULTITRACK SENSE FROM KEYBOARD TO 651
S18E	20	651 TO METER DISTRIBUTION
S19E	20	VCA FADER AND THUMBWHEELS TO 651 82E20
S23E	10	611'S TO PENTHOUSE METERS
S24E	10	PHASEMETER CARD (82E05) TO 82E37 METER DISTRIBUTION CARD
S29E	20	KEYBOARD TO TAPE MACHINE VIA MAIN CONNECTOR PANEL
S31E	50	KEYBOARD TO MAIN CONNECTOR PANEL
S50E	10	QUAD BUS LEFT FRONT METER
S51E	10	QUAD BUS RIGHT FRONT METER
S52E	10	QUAD BUS LEFT BACK METER
S53E	10	QUAD BUS RIGHT BACK METER
S54E	10	82E37 METER DISTRIBUTION CARD TO PHASEMETER
S55E	10	MONO METER
S56E	10	WARNING LAMPS (MONITOR DIM, MONITOR SOLO, LISTEN MIC AND STUDIO LOUDSPEAKER LAMPS)
S57E	10	STEREO CUE LEFT METER
S58E	10	STEREO CUE RIGHT METER
S59E	10	CUE 1 METER
S60E	10	CUE 2 METER
S61E	10	CUE 3 METER
S62E	10	CUE 4 METER
S63E	10	STUDIO LOUDSPEAKER LEFT METER
S64E	10	STUDIO LOUDSPEAKER RIGHT METER
S66E	20	BARGRAPH SWITCHES AND BARGRAPH MOTHER CARD
S93E	20	SOLOS AND CUTS FROM VCA GROUPS
S95E	20	VIDEO SWITCHER CONTROLS
S118E	20	BARGRAPH MOTHERCARD TO 651 (BARGRAPH CONSOLES ONLY)

Solid State Logic

TITLE: FRAME WIRING RIBBONS LAYOUT	
CONSOLE: 4000 G SERIES	DRAWN BY: APTII
SHEET: T0631G.51 (cont)	REVISION: DATE: 25/9/90



TITLE: WIRING LOOM FOR
POWER DISTRIBUTION

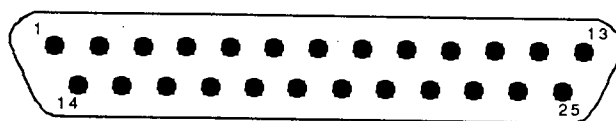
Drg. No. 675E-711-7910-0
18 MAY 1990

Solid State Logic

Tape Machine Interconnections

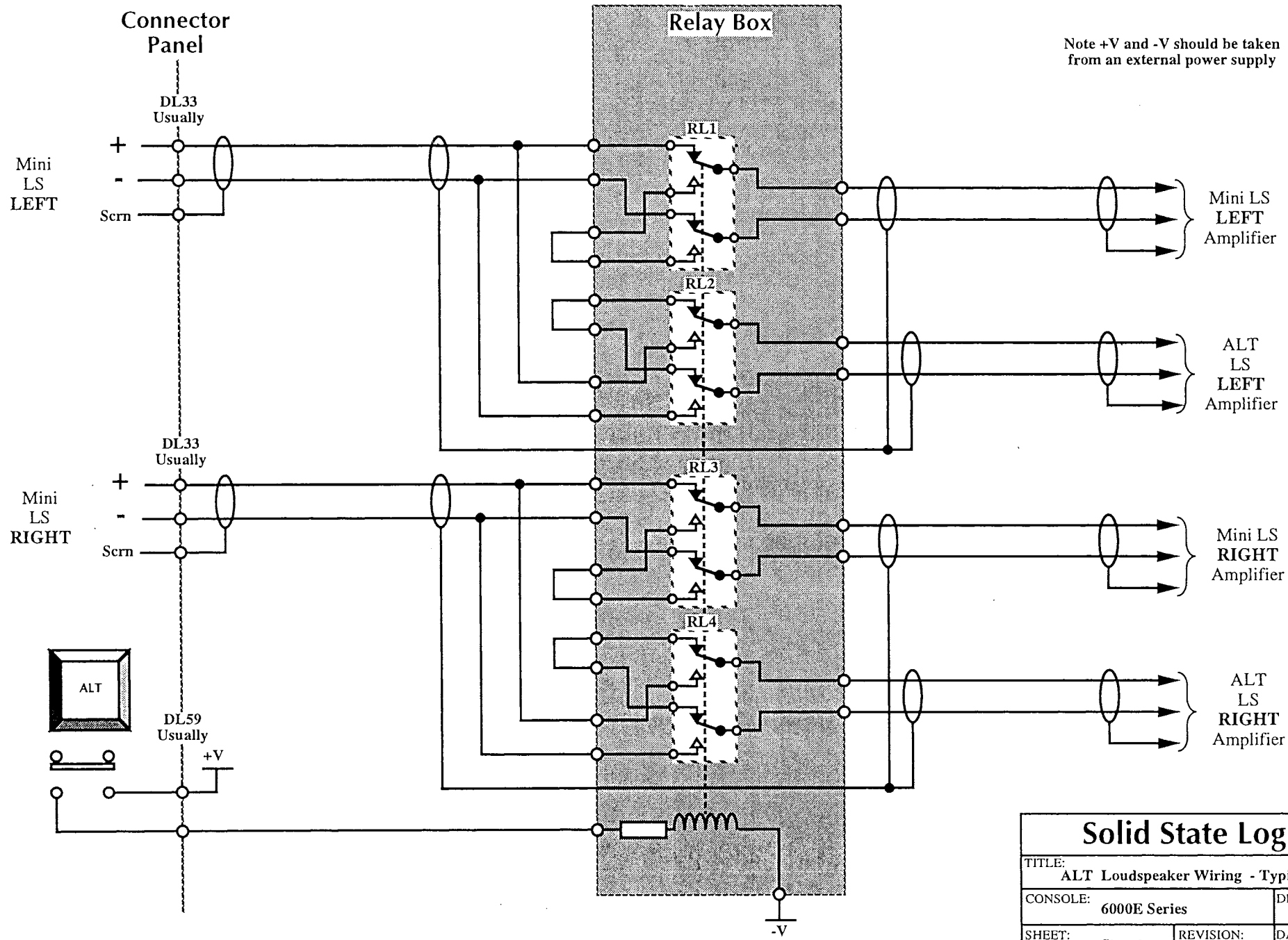
Function	S29E Machine to 'Multitrack' Connector D25 Solder	S29E 'Multitrack' Connector to Keyboard D25 IDC	S31E Keyboard Cable to Computer	S30E From Tape I/F Card in Computer
Sync/Repro	1	1	N/A	N/A
Sync/Repro	14	2	N/A	N/A
Lamp Common	2	3	N/A	N/A
Switch Common	15	4	21, 25, 33, 34, 37, 38	3, 4, 7, 8, 15, 19
RW Switch	3	5	27	13
RW Lamp	16	6	N/A	N/A
FF Switch	4	7	35	5
FF Lamp	17	8	N/A	N/A
Stop Switch	5	9	36	6
Stop Lamp	18	10	N/A	N/A
Play Switch	6	11	40	2
Play Lamp	19	12	N/A	N/A
Edit Switch	7	13	23	17
Edit Lamp	20	14	N/A	N/A
Rec Switch	8	15	39	1
Rec Lamp	21	16	N/A	N/A
Tach Ref	9	17	30	10
Tach	22	18	32	12
Dir. Ref	10	19	29	9
Direction	23	20	31	11

SOLDER	1	3	5	7	9	11	13
IDC	1	5	9	13	17	21	25
FUNCTION	SYNC/REP	REW SWITCH	STOP SWITCH	EDIT SWITCH	TACH REF		
SOLDER	2	4	6	8	10	12	
IDC	2	7	11	15	19	23	
FUNCTION	LAMP COMMON	FF SWITCH	PLAY SWITCH	REC SWITCH	DIR REF		



SOLDER	14	16	18	20	22	24	
IDC	2	6	10	14	18	22	
FUNCTION	SYNC/REP	REW LAMP	STOP LAMP	EDIT LAMP	TACH		
SOLDER	15	17	19	21	23	25	
IDC	4	8	12	16	20	24	
FUNCTION	SWITCH COMMON	FF LAMP	PLAY LAMP	REC LAMP	DIRECTION		

5-6



Solid State Logic		
TITLE: ALT Loudspeaker Wiring - Typical Schematic		
CONSOLE: 6000E Series	DRAWN BY: APTH	
SHEET: Sketch	REVISION: 1.0	DATE: 14/3/95

SL675E MAIN CONNECTOR PANEL

4000 Series Console

Cannon DL Connector Summary

connector number	patchrow ref	description	remarks
DL01	A1--A24	Microphone Lines 1-24	
DL02	A25-A56	Microphone Lines 25-56	
DL11	CJ1--24	Multitrack Returns 1-24	
DL12	CJ25-56	Multitrack Returns 25-56	
DL21	H1--H24	Multitrack Sends 1-24	
DL22	H25-H56	Multitrack Sends 25-56	
DL31	MN 17-24	Quad tape 1 & 2 Quad Disc	
DL32	MN 25-34	Stereo tape 1,2,3,4 & 5	
DL33	M 35-48	Echo sends & returns: Mon Amp:Mini Amps:Red Light	
DL41		Multitrack remotes 1-24	
DL42		Multitrack Remotes 25-56	
DL51	R7--R24	User option patchrow	
DL52	R25-R56	User option patchrow	
DL53	S1--S6	Local Aux Sends 1-4, L,R	
	S7--S24	User option patchrow	
DL54	S25-S56	User option patchrow	
DL55	T1--T24	User option patchrow	
DL56	T25-T56	User option patchrow	
DL57	U1--U24	User option patchrow	
DL58	U25-U56	User option patchrow	

Console Connector Summary

The majority of connectors used in G Series consoles are of six types:

- Printed circuit edge connectors: 0.1" pitch, single or double-sided (prefix E)
- Ribbon cable connectors: 0.05" pitch, 10-50 ways (prefix S)
- Cannon DL 96 way connectors (prefix DL)
- MRAC 104 way connectors (prefix M)
- BICC connectors (prefix B)
- Optional Amphenol-Tuchel 30 way connectors (prefix T)

Miscellaneous Connectors

Connector No	Type	Unit	Description
M1	MRAC 104-A	SL 651	Master Module SL651 (upper)
M2	MRAC 104-D	SL 651	Master Module SL651 (lower)
B1	BICC 24 way square	SL 621	Producer's Panel wiring
B2	BICC 19 way round	SL 675	Power Input x 2
B3	BICC 6 way square	SL 631	Internal Power Distribution
B4	BICC 6 way square	SL 631	Audio from Modules to Patch
B5	BICC 12 way square	SL 674	Power to Bargraph Mothercard
B6	BICC 8 way round	SL 631	Power to 5" TV monitor
B7			
B8			
B9	BICC 19 way	SL 661	Power supply
BT	BICC 6 way square	SL 631	Multitrack remotes to SL 675
G1	0BA bolt	SL 675	Console 0V to Computer 0V

SL 621 - Producer's Panel

SL 631 - Console Mainframe

SL 661 - Console Power Supply

SL 674 - Bargraph Meter System

SL 675 - Main Connector Panel

PIN	DESCRIPTION	LOOM	COLOUR	DESTINATION
A	Echo Return 1 L+	M41	Red	Patch M41 tip
B	Echo Return 1 L-	M41	Blk	Patch M41 Ring
C	Echo Return 1 R+	M42	Red	Patch M42 tip
D	Echo Return 1 R-	M42	Blk	Patch M42 Ring
E	Echo Return 2 L+	M43	Red	Patch M43 tip
F	Echo Return 2 L-	M43	Blk	Patch M43 Ring
H	Echo Return 2 R+	M44	Red	Patch M44 tip
J	Echo Return 2 R-	M44	Blk	Patch M44 Ring
K	Echo Return 3 L+	M45	Red	Patch M45 tip
L	Echo Return 3 L-	M45	Blk	Patch M45 Ring
M	Echo Return 3 R+	M46	Red	Patch M46 tip
N	Echo Return 3 R-	M46	Blk	Patch M46 Ring
P	Echo Return 4 L+	M47	Red	Patch M47 tip
R	Echo Return 4 L-	M47	Blk	Patch M47 Ring
S	Echo Return 4 R+	M48	Red	Patch M48 tip
T	Echo Return 4 R-	M48	Blk	Patch M48 Ring
U	Stereo 1 Rep L+	P25	Red	Patch P25 tip
V	Stereo 1 Rep L-	P25	Blk	Patch P25 Ring
W	Stereo 1 Rep R+	P26	Red	Patch P26 tip
X	Stereo 1 Rep R-	P26	Blk	Patch P26 Ring
Y	Stereo 2 Rep L+	P27	Red	Patch P27 tip
Z	Stereo 2 Rep L-	P27	Blk	Patch P27 Ring
a	Stereo 2 Rep R+	P28	Red	Patch P28 tip
b	Stereo 2 Rep R-	P28	Blk	Patch P28 Ring
c	Stereo 3 Rep L+	P29	Red	Patch P29 tip
d	Stereo 3 Rep L-	P29	Blk	Patch P29 Ring

PIN	DESCRIPTION	LOOM	COLOUR	DESTINATION
f	Stereo 3 Rep R+	P30	Red	Patch P30 tip
g	Stereo 3 Rep R-	P30	Blk	Patch P30 Ring
h	Stereo 4 Rep L+	P31	Red	Patch P31 tip
i	Stereo 4 Rep L-	P31	Blk	Patch P31 Ring
j	Stereo 4 Rep R+	P32	Red	Patch P32 tip
k	Stereo 4 Rep R-	P32	Blk	Patch P32 Ring
m	Stereo 5 Rep L+	P33	Red	Patch P33 tip
n	Stereo 5 Rep L-	P33	Blk	Patch P33 Ring
p	Stereo 5 Rep R+	P34	Red	Patch P34 tip
q	Stereo 5 Rep R-	P34	Blk	Patch P34 Ring
r	Disc in LB+	P35	Red	Patch P35 tip
s	Disc in LB-	P35	Blk	Patch P35 Ring
t	Disc In LF+	P36	Red	Patch P36 tip
u	Disc In LF-	P36	Blk	Patch P36 Ring
v	Disc In RF+	P37	Red	Patch P37 tip
w	Disc In RF-	P37	Blk	Patch P37 Ring
x	Disc In RB+	P38	Red	Patch P38 tip
y	Disc In RB-	P38	Blk	Patch P38 Ring
z	Quad 1 Rep LB+	P17	Red	Patch P17 tip
AA	Quad 1 Rep LB-	P17	Blk	Patch P17 Ring
AB	Quad 1 Rep LF+	P18	Red	Patch P18 tip
AC	Quad 1 Rep LF-	P18	Blk	Patch P18 Ring
AD	Quad 1 Rep RF+	P19	Red	Patch P19 tip
AE	Quad 1 Rep RF-	P19	Blk	Patch P19 Ring
AF	Quad 1 Rep RB+	P20	Red	Patch P20 tip
AH	Quad 1 Rep RB-	P20	Blk	Patch P20 Ring
AJ	Quad 2 Rep LB+	P21	Red	Patch P21 tip
AK	Quad 2 Rep LB-	P21	Blk	Patch P21 Ring

PIN	DESCRIPTION	LOOM	COLOUR	DESTINATION
AL	Quad 2 Rep LF+	P22	Red	Patch P22 tip
AM	Quad 2 Rep LF-	P22	Blk	Patch P22 Ring
AN	Quad 2 Rep RF+	P23	Red	Patch P23 tip
AP	Quad 2 Rep RF-	P23	Blk	Patch P23 Ring
AR	Quad 2 Rep RB+	P24	Red	Patch P24 tip
AS	Quad 2 Rep RB-	P24	Blk	Patch P24 Ring
AT	Mini LS L Out+	L39	Red	Patch L39 tip
AU	Mini LS L Out -	L39	Blk	Patch L39 Ring (Connected to OV via 10R in 651)
AV	Mini LS R Out+	L40	Red	Patch L40 tip
AW	Mini LS R Out -	L40	Blk	Patch L40 Ring (Connected to OV via 10R in 651)
AX	Spare to DL	SP2 01	Red	Left free at DL
AY	Spare to DL	SP2 01	Blk	Left free at DL
AZ	Alternate LS Contact	Z2	Red	DL33 P8
BA	Alternate LS Contact	Z2	Blk	DL33 N8
BB	MD Out+	L51	Red	Patch L51 tip
BC	MD Out-	L51	Blk	Patch L51 Ring
BD	+48v	PWR	Org	675 Connector Pnl Sw
BE	+13v	PWR	Brn	675 Connector Pnl Sw
BF	+20v	PWR	Red	675 Connector Pnl Sw
BH	-20v	PWR	Blu	675 Connector Pnl Sw
BJ	Cues Switch	X1	Red	621 Prod Panel P1
BK	Cues Lamp	X1	Blk	621 Prod Panel P2
BL	Omni Switch	X2	Red	621 Prod Panel P3
BM	Omni Lamp	X2	Blk	621 Prod Panel P4

PIN	DESCRIPTION	LOOM	COLOUR	DESTINATION
BN	MD Switch	X3	Red	621 Prod Panel P 5
BP	Listen Switch	X3	Blk	621 Prod Panel P 6
BR	Stereo Cans L Monitor +	X4	Red	621 Prod Panel P 7
BS	Stereo Cans R Monitor +	X4	Blk	621 Prod Panel P 8
BT	Aux 1 Cans L Monitor +	X5	Red	621 Prod Panel P 9
BU	Aux 1 Cans R Monitor +	X5	Blk	621 Prod Panel P10
BV	Aux 2 Cans L Monitor +	X6	Red	621 Prod Panel P11
BW	Aux 2 Cans R Monitor +	X6	Blk	621 Prod Panel P12
BX	Left Signal Monitor +	X7	Red	621 Prod Panel P13
BY	Right Signal Monitor +	X7	Blk	621 Prod Panel P14
BZ	Dim Switch	X8	Red	621 Prod Panel P21
CA	Status Lock +20V	X8	Blk	621 Prod Panel P22
CB	Spare to DL	SP2 02	Red	Left free at DL
CC	Spare to DL	SP2 02	Blk	Left free at DL
CD	Prod Mic Blue (Screen)	X9	Scrn	621 Prod Panel P15
CE	Prod Mic Green (Signal)	X9	Red	621 Prod Panel P16
CF	Prod Mic Red (+1.5v)	X9	Blk	621 Prod Panel P17
CH	NP			
CJ	Listen Mic 1+	L49	Red	Patch L49 Tip
CK	Listen Mic 1-	L49	Blk	Patch L49 Ring
CL	Listen Mic 2+	L50	Red	Patch L50 Tip
CM	Listen Mic 2-	L50	Blk	Patch L50 Ring
CN	Red Light	Z1	Red	DL33 P4
CP	Red Light	Z1	Blk	DL33 N4
CR	0v	PWR	Grn	675 Connector Pnl
CS	Chassis	-	Grn/Yellow	Chassis

Note - Z1,Z2 screens wired to 7/0.2 mm Green going to 0V block

PIN	DESCRIPTION	LOOM	COLOUR	DESTINATION
A	LB Pre VCA Send +	L1	Red	Patch L1 tip
B	LB Pre VCA Send -	L1	Blk	Patch L1 Ring
C	LF Pre VCA Send +	L2	Red	Patch L2 tip
D	LF Pre VCA Send -	L2	Blk	Patch L2 Ring
E	RF Pre VCA Send +	L3	Red	Patch L3 tip
F	RF Pre VCA Send -	L3	Blk	Patch L3 Ring
H	RB Pre VCA Send +	L4	Red	Patch L4 tip
J	RB Pre VCA Send -	L4	Blk	Patch L4 Ring
K	LB Pre VCA Ret +	M1	Red	Patch M1 tip
L	LB Pre VCA Ret -	M1	Blk	Patch M1 Ring
M	LF Pre VCA Ret +	M2	Red	Patch M2 tip
N	LF Pre VCA Ret -	M2	Blk	Patch M2 Ring
P	RF Pre VCA Ret +	M3	Red	Patch M3 tip
R	RF Pre VCA Ret -	M3	Blk	Patch M3 Ring
S	RB Pre VCA Ret +	M4	Red	Patch M4 tip
T	RB Pre VCA Ret -	M4	Blk	Patch M4 Ring
U	LB Post VCA Send +	L5	Red	Patch L5 tip
V	LB Post VCA Send -	L5	Blk	Patch L5 Ring
W	LF Post VCA Send +	L6	Red	Patch L6 tip
X	LF Post VCA Send -	L6	Blk	Patch L6 Ring
Y	RF Post VCA Send +	L7	Red	Patch L7 tip
Z	RF Post VCA Send -	L7	Blk	Patch L7 Ring
a	RB Post VCA Send +	L8	Red	Patch L8 tip
b	RB Post VCA Send -	L8	Blk	Patch L8 Ring
c	LB Post VCA Ret +	M5	Red	Patch M5 tip
d	LB Post VCA Ret -	M5	Blk	Patch M5 Ring
f	LF Post VCA Ret +	M6	Red	Patch M6 tip
g	LF Post VCA Ret -	M6	Blk	Patch M6 Ring

PIN	DESCRIPTION	LOOM	COLOUR	DESTINATION
h	RF Post VCA Ret +	M7	Red	Patch M7 tip
i	RF Post VCA Ret -	M7	Blk	Patch M7 Ring
j	RB Post VCA Ret +	M8	Red	Patch M8 tip
k	RB Post VCA Ret -	M8	Blk	Patch M8 Ring
m	LB Main Out +	L9	Red	Patch L9 tip
n	LB Main Out -	L9	Blk	Patch L9 Ring
p	LF Main Out +	L10	Red	Patch L10 tip
q	LF Main Out -	L10	Blk	Patch L10 Ring
r	RF Main Out +	L11	Red	Patch L11 tip
s	RF Main Out -	L11	Blk	Patch L11 Ring
t	RB Main Out +	L12	Red	Patch L12 tip
u	RB Main Out -	L12	Blk	Patch L12 Ring
v	Left Main Out +	L13	Red	Patch L13 tip
w	Left Main Out -	L13	Blk	Patch L13 Ring
x	Right Main Out +	L14	Red	Patch L14 tip
y	Right Main Out -	L14	Blk	Patch L14 Ring
z	Mono Main Out +	L15	Red	Patch L15 tip
AA	Mono Main Out -	L15	Blk	Patch L15 Ring
AB	Can Insert Send L +	N5	Red	Patch N5 tip
AC	Can Insert Send L -	N5	Blk	Patch N5 Ring
AD	Can Insert Send R +	N6	Red	Patch N6 tip
AE	Can Insert Send R -	N6	Blk	Patch N6 Ring
AF	Echo Send 1 +	N1	Red	Patch N1 tip
AH	Echo Send 1 -	N1	Blk	Patch N1 Ring
AJ	Echo Send 2 +	N2	Red	Patch N2 tip
AK	Echo Send 2 -	N2	Blk	Patch N2 Ring
AL	Echo Send 3 +	N3	Red	Patch N3 tip
AM	Echo Send 3 -	N3	Blk	Patch N3 Ring

PIN	DESCRIPTION	LOOM	COLOUR	DESTINATION
AN	Echo Send 4 +	N4	Red	Patch N4 tip
AP	Echo Send 4 -	N4	Blk	Patch N4 Ring
AR	Can Insert Ret L +	P5	Red	Patch P5 tip
AS	Can Insert Ret L -	P5	Blk	Patch P5 Ring
AT	Can Insert Ret R +	P6	Red	Patch P6 tip
AU	Can Insert Ret R -	P6	Blk	Patch P6 Ring
AV	Can Insert Ret 1 +	P7	Red	Patch P7 tip
AW	Can Insert Ret 1 -	P7	Blk	Patch P7 Ring
AX	Can Insert Ret 2 +	P8	Red	Patch P8 tip
AY	Can Insert Ret 2 -	P8	Blk	Patch P8 Ring
AZ	Can Output L +	N9	Red	Patch N9 tip
BA	Can Output L -	N9	Blk	Patch N9 Ring
BB	Can Output R +	N10	Red	Patch N10 tip
BC	Can Output R -	N10	Blk	Patch N10 Ring
BD	Can Out 1L +	N11	Red	Patch N11 tip
BE	Can Out 1L -	N11	Blk	Patch N11 Ring
BF	Can Out 1R +	N12	Red	Patch N12 tip
BH	Can Out 1R -	N12	Blk	Patch N12 Ring
BJ	Can Out 2L +	N13	Red	Patch N13 tip
BK	Can Out 2L -	N13	Blk	Patch N13 Ring
BL	Can Out 2R +	N14	Red	Patch N14 tip
BM	Can Out 2R -	N14	Blk	Patch N14 Ring
BN	SLS L +	N39	Red	Patch N39 tip
BP	SLS L -	N39	Blk	Patch N39 Ring
BR	SLS R +	N40	Red	Patch N40 tip
BS	SLS R -	N40	Blk	Patch N40 Ring
BT	Mon LS LB +	L35	Red	Patch L35 tip
BU	Mon LS LB -	L35	Blk	Patch L35 Ring

PIN	DESCRIPTION	LOOM	COLOUR	DESTINATION
BV	Mon LS LF +	L36	Red	Patch L36 tip
BW	Mon LS LF -	L36	Blk	Patch L36 Ring
BX	Mon LS RF +	L37	Red	Patch L37 tip
BY	Mon LS RF -	L37	Blk	Patch L37 Ring
BZ	Mon LS RB +	L38	Red	Patch L38 tip
CA	Mon LS RB -	L38	Blk	Patch L38 Ring
CB	Osc Send +	L16	Red	Patch L16 tip
CC	Osc Send -	L16	Blk	Patch L16 Ring
CD	Osc Return +	M16	Red	Patch M16 tip
CE	Osc Return -	M16	Blk	Patch M16 Ring
CF	Spare to DL	SP1 01	Red	Left free at DL
CH	Spare to DL	SP1 01	Blk	Left free at DL
CJ	Spare to DL	SP1 02	Red	Left free at DL
CK	Spare to DL	SP1 02	Blk	Left free at DL
CL	Spare to DL	SP1 03	Red	Left free at DL
CM	Spare to DL	SP1 03	Blk	Left free at DL
CN	Spare to DL	SP1 04	Red	Left free at DL
CP	Spare to DL	SP1 04	Blk	Left free at DL
CR	0v	Pwr	Grn	675 Connector
CS	Chassis		Grn/Yellow	Chassis

Ref	Ways	Description	Cards & Modules	
S3E	20	Master signal & status busses:Cue 3 & 4 Mix busses	82E18	651
S4E	20	Cue Mix busses: St L, St R, 1, 2 : AFL : Dyn Link	82E18	651
S5E	20	Quad Mix busses : Mix busses 1 & 2	82E18	651
S6E	20	Mix busses 3, 4, 5, 6, 7, 8, 9, 10, 11, 12	82E19	
S7E	20	Mix busses 13, 14, 15, 16, 17, 18, 19, 20, 21, 22	82E19	
S8E	20	Mix busses 23, 24, 25, 26, 27, 28, 29, 30, 31, 32	82E19	
S9E	10	Digital TMC busses 0 - 7	82E19	681
S10E	20	611E mix amp input selectors	82E19	
S11E	20	Fader to Fader bus cards	82E37	82E38
S12E	20	Fader bus card to Lower bus card (4 faders ea)	82E37	82E19
S13E	10	VCA Fader bus links	82E37	82E38
S14E	50	8 x Fader send & returns, LED's & Switches	82E37	82E38
S15E	20	VCA busses to 651 : Master Fader LED & Switch	82E38	651
S16E	20	8 x Computer send & returns to lower bus & 651	82E37/8	82E19
S17E	20	Link from Keyboard to Master Module	651	681
S18E	20	Master Module to Pentho. Distrib. (metering & LEDs)	82E55	651
S19E	20	VCA Fader wipers & thumbwheels to Master Module	82E38	651
S20E	10	651E Power Indicator LED's	651E	
S21E	20	611E Mother card to MPX 82E03	611E	82E03
S23E	10	Penthouse meters to Upper bus card or Dist panel	82E06	82E18
S24E	10	Phasemeter to Meter Distribution Card	82E05	82E55
S25E	50	LED's & Sw Daughters to Computr Interface Dist.	82E40	82E47
S28E	20	Tape Remote Switches	82E70	
S29E	20	Tape Remotes & Senses from Keyboard to Main Panel	675E	681
S30E	20	Tape Remotes & Senses from Computer to Keybrd S31	82E43	82E48
S31E	40	Tape Remotes & Senses : Keyboard Interface	82E43	82E48
S32E	10	External Keyboard switches to Command Keyboard	82E48	
S33E	20	Link from Command Keyboard to Alpha-Numeric Keybd	82E48	82E49
S34E	34	VDU interface card to VDU Daughter card	82E44	
S35E	34	Link from LED Mother card to Daughter card	82E47	82E53
S36E	50	Analogue Output card 1 to 48 & Master Fader	82E42	
S37E	20	Analogue Output card 49 to 56	82E42	
S38E	20	Aux Dig. Out: Rem. Cont. of Master Transp. Select	82E42	SL696
S39E	50	Analogue Input card 1 to 48 & Master Fader	82E41	
S40E	20	Analogue Input card 49 to 56	82E41	
S41E	20	Analogue Input card, aux digital inputs 0 to 15	82E41	
S42E	10	Analogue Input Card link for 66 fader up	82E41	
S43E	10	Analogue Output Card link for 66 up	82E42	
S50E	10	Penthouse distribution to LF meter	82E06	82E55
S51E	10	Penthouse distribution to RF meter	82E06	82E55
S52E	10	Penthouse distribution to LB meter	82E06	82E55
S53E	10	Penthouse distribution to RB meter	82E06	82E55
S54E	10	Penthouse distribution to Phase meter	82E05	82E55
S55E	10	Penthouse distribution to Mono or Difference Meter	82E06	82E55
S56E	10	Penthouse distribution to Monitor LED's	82E55	
S57E	10	Penthouse distribution to St Cue L Meter	82E06	82E55
S58E	10	Penthouse distribution to St Cue R Meter	82E06	82E55
S59E	10	Penthouse distribution to Cue 1 Meter	82E06	82E55

Ref	Ways	Description	Cards & Modules assoc	
S60E	10	Penthouse distribution to Cue 2 Meter	82E06	82E55
S61E	10	Penthouse distribution to Cue 3 Meter	82E06	82E55
S62E	10	Penthouse distribution to Cue 4 Meter	82E06	82E55
S63E	10	Penthouse distribution to SLS L Meter	82E06	82E55
S64E	10	Penthouse distribution to SLS R Meter	82E06	82E55
S65E	40	Bargraph Mothercard to 16 Meters	82E58	82E
S66E	20	Bargraph Switch Card to Mothercard	82E58	82E60
S67E	10	Supercue Card to 611E-TR Mothercard	82E91	611ETV
S68E	20	611E- TR - Multiplexer	82E03	611E
S69E	20	611E- TR - Multiplexer	82E03	611E
S70E	20	611E- TR - Multiplexer	82E03	611E
S71E	20	611E- TR - Multiplexer	82E03	611E
S72E	20	611E- TR - Multiplexer	82E03	611E
S73E	20	611E- TR - Multiplexer	82E03	611E
S74E	50	SL612 Test Jig Upper bus	612E	
S75E	50	SL612 Test Jig Lower bus	612E	
S76E	50	Research Machines Bus	82E89	82E90
S77E	20	C.A./R.M. Communication Link	82E90	
S78E	26	R.M. Keyboard Port	82E89	
S79E	34	R.M. V.D.U./C.P.U. Link	82E89	
S80E	26	R.M. H.R.G. Link	82E90	
S81E	20	Total Recall Bus Data Sends	82E90	681E
S82E	14	R.M. V.D.U./H.R.G. Link	82E90	
S83E	20	Total Recall Link	681E	
S84E	10	Total Recall Link	82E89	82E90
S85E	40	C.A. Floppy Controller Cable	691E	
S86E	50	Shugart Floppy Drive	694E	
S87E	10	Output for Phasescope	82E55	
S88E	26	Z8 Parallel Connector	82E78	82E131
S89E	34	Events System Control Cable	82E100	82E130
S90E	26	Event 1-8 Relay Closures	82E100	675E
S91E	20	Real Time System Control Cable	82E107	82E127
S92E	20	Remote Command Keyboard to Keyboard Encoder	82E102	82E103
S93E	10	Floppy Disk Front Panel Cable	82E113	82E114
S95E	20	V.D.C. Control Cable	82E111	685E
S96E	25	Printer Cable	82E119	693E
S97E	20	VCA Fader Back Contacts	82E37	82E38
S98E	50	C.A. Operators Console Cable	691E	
S99E	50	Remote Keyboard Station Cable	691E	684E
S100E			82E113	82E114
S101E	10	Power Supply Mother to Led Mounting (F/P)	82E99/115	82E87
S102E	26	Z8 RS232 Connector	82E131	
S103E	25	651E User Option	651E	675E
S104E	25	6Tr/3Tr Monitor Panel to 651E	688V	651E
S105E	20	688 4Tr Remotes	688V	675E
S106E	20	688 8Tr Remotes	688V	675E
S107E	10	6Tr/3Tr Mon Panel to 672E Penthouse AL	688V	672E

SL4000E/6000V Consoles Ribbon Connector Summary

Ref	Ways	Description	Cards & Modules Assoc		
S108E	10	6Tr/3Tr Mon Panel to 672E Penthouse AR	688V	672E	
S109E	10	6Tr/3Tr Mon Panel to 672E Penthouse BL	688V	672E	
S110E	10	6Tr/3Tr Mon Panel to 672E Penthouse BR	688V	672E	
S111E	10	6Tr/3Tr Mon Panel to 672E Penthouse CL	688V	672E	
S112E	10	6Tr/3Tr Mon Panel to 672E Penthouse CR	688V	672E	
S113E	9	SMPTE Reader/Generator	675E	691E	82E46
S114E	25	Master Transport SMPTE	675E	696E	82E144
S115E	9	Synchroniser Serial I/F 1	675E	696E	82E129
S116E	9	Synchroniser Serial I/F 2	675E	696E	82E129
S117E	50	Synchroniser Status	696E	82E147	82E145
S118E	64	683 Control Voltage Bus	683E		
S119E	20	683 Status Lights & Switches	1 683E	82E173	82E169
S120E	20	683 Fader Card Cable	683E	82E168	82E164
S121E	50	683 Connector Cable 1	683E		
S122E	50	683 Connector Cable 2	683E		
S123E	64	683 Signal Distribution Bus	683E		
S124E	DL	683 Signal & Power Umbilical	683E		
S125E	10	Mix Bus C Left & Right	651E	82E184	
S126E	25	611S Remotes 1-4	631E	82E211	675E
S127E	25	611S Remotes 5-8	631E	82E211	675E
S130E	10	688V Group A lamps and switches			
S131E	10	688V Group B lamps and switches			
S132E	10	688V Group C lamps and switches			
S133E	20	688V AL patch sends and returns			
S134E	20	688V AR patch sends and returns			
S135E	20	688V AM patch sends and returns			
S136E	20	688V BL patch sends and returns			
S137E	20	688V BR patch sends and returns			
S138E	20	688V BM patch sends and returns			
S139E	20	688V CL patch sends and returns			
S140E	20	688V CR patch sends and returns			
S141E	20	688V CM patch sends and returns			
S142E	26	688V Master lamps and switches			
S143E	26	688V Master lamps and switches			
S144E	20	688V group faders			
S145E	20	688V Mix Busses			
S146E	25	688V Spare Switches			
S147E	26	Highland Switch Cable	631E	82E260	82E261
S148E	37	Timecode Reader Cable	696E	675E	
S149E	37	Timecode Generator Cable	696E	675E	
S150E	50	Synchroniser Link Cable	696E		

S3E 20 way Ribbon Connector pinout		
82E18 Upper Bus Card Link pre/post GH rev 651 Master Module Connectors		
No	Description (Prior to GH Rev)	(GH and Above Rev) *Hex Bus units only
1	Slate signal bus	Slate Signal Bus
2	VCA Trim Bus	*Hex Bus C Right
3	VCA to Mon Bus	VCA to Mon Bus
4	Slate Control bus	Slate Control bus
5	Ch solo cut bus	CH Solo Cut Bus
6	Ch solo cut bus	Spare *Hex Bus C Left
7	Status Mix bus	Status Mix Bus
8	Status Mis bus	Master I/P Flip
9	Mon solo cut bus	Mon Solo Cut Bus
10	Mon solo cut bus	Channel into Meters
11	Machine Record bus	M/C Record Bus
12	Machine Record bus	Master Ready Group
13	Status Record bus	Status Record Bus
14	Status Record Bus	Status Record Bus
15	Solo Disable	Solo Disable
16	VCA to Meters bus	VCA to Meters
17	Ov	Ov
18	Cue 3 Mix bus	Cue 3 Mix Bus
19	Cue 4 Mix bus	Cue 4 Mix Bus
20	Ov	Ov

S4E 20 way Ribbon Connector	
82E18 Upper Bus Card Link 651 Master Module Connectors	
No	Description
1	Dynamics Link
2	Ov
3	Cue 2 Mix bus
4	Cue 2 Mix bus
5	Ov
6	Ov
7	Cue 1 Mix bus
8	Cue 1 Mix bus
9	Ov
10	Ov
11	St Cue L Mix bus
12	St Cue L Mix bus
13	St Cue R Mix bus
14	St Cue R Mix bus
15	Ov
16	Ov
17	AFL Mix Bus
18	AFL Mix bus
19	Ov
20	Peak Hold bus (Ov when not required)

S5E 20 way Ribbon Connector pinout		
82E18 Lower Bus Card Link 651 Master Module Connections		
No	Description	
1	Quad Bus LF	*Hex Bus A Left
2	Ov	
3	Ov	
4	Quad Bus LB	*Hex Bus B Left
5	Ov	
6	Ov	
7	Quad Bus RF	*Hex Bus A Right
8	Quad Bus RF	*Hex Bus A Right
9	Ov	
10	Ov	
11	Quad Bus RB	*Hex Bus B Right
12	Quad Bus RB	*Hex Bus B Right
13	Ov	
14	Ov	
15	Ov	
16	Ov	
17	Mix Bus 1	
18	Ov	
19	Mix Bus 2	
20	Ov	

S6E 20 way Ribbon Connector pinout	
82E19 Lower Bus Card Link	
No	Description
1	Ov
2	Mix Bus 3
3	Ov
4	Mix Bus 4
5	Ov
6	Mix Bus 5
7	Ov
8	Mix Bus 6
9	Ov
10	Mix Bus 7
11	Ov
12	Mix Bus 8
13	Ov
14	Mix Bus 9
15	Ov
16	Mix Bus 10
17	Ov
18	Mix Bus 11
19	Ov
20	Mix Bus 12

S7E 20 way Ribbon Connector pinout	
82E19 Lower Bus Card Link	
No	Description
1	Ov
2	Mix Bus 13
3	Ov
4	Mix Bus 14
5	Ov
6	Mix Bus 15
7	Ov
8	Mix Bus 16
9	Ov
10	Mix Bus 17
11	Ov
12	Mix Bus 18
13	Ov
14	Mix Bus 19
15	Ov
16	Mix Bus 20
17	Ov
18	Mix Bus 21
19	Ov
20	Mix Bus 22

S8E 20 way Ribbon Connector pinout	
82E19 Lower Bus Card Link	
No	Description
1	Ov
2	Mix Bus 23
3	Ov
4	Mix Bus 24
5	Ov
6	Mix Bus 25
7	Ov
8	Mix Bus 26
9	Ov
10	Mix Bus 27
11	Ov
12	Mix Bus 28
13	Ov
14	Mix Bus 29
15	Ov
16	Mix Bus 30
17	Ov
18	Mix Bus 31
19	Ov
20	Mix Bus 32

S9E 10 way Ribbon Connector pinout	
82E19 Lower Bus Card Link 681 Keyboard Connection	
No	Description
1	Total Recall Bit 0 LSB
2	Total Recall Bit 1
3	Total Recall Bit 2
4	Total Recall Bit 3
5	Total Recall Bit 4
6	Total Recall Bit 5
7	Total Recall Bit 6 MSB
8	Total Recall MPX Enable
9	Total Recall Address Enable
10	Total Recall Spare Bus

S10E 20 way Ribbon Connector pinout	
82E19 Lower Bus Card Mix Amp Selector	
No	Description
1	Ov
2	Mix Bus 8 (16,24,32) Mix Amp inputs
3	Mix Bus 8 (16,24,32) Mix Amp inputs
4	Ov
5	Mix Bus 7 (15,23,31) Mix Amp inputs
6	Ov
7	Mix Bus 6 (14,22,30) Mix Amp inputs
8	Ov
9	Mix Bus 5 (13,21,29) Mix Amp inputs
10	Ov
11	Ov
12	Mix Bus 4 (12,20,28) Mix Amp inputs
13	Ov
14	Mix Bus 3 (11,19,27) Mix Amp inputs
15	Ov
16	Mix Bus 2 (10,18,26) Mix Amp inputs
17	Ov
18	Mix Bus 1 (9,17,25) Mix Amp inputs
19	Mix Bus 1 (9,17,25) Mix Amp inputs
20	Ov

T0631E.52
29 Jul 80

S11E 20 way Ribbon Connector pinout		S12E 20 way Ribbon Connector pinout	
Studio Fader 82E17 Fader Bus Card 82E37 VCA Fader Bus Card 82E38 EA		from Fader Bus Card 82E37 to Lower Bus Card 82E19 (2 per 8 611E Modules)	
No	Description	No	Description
1	Fader Wiper	1	Fader 1 Wiper
2	Fader +5v	2	Fader 1 +5v
3	VCA Thumbwheel pole	3	Fader 1 Thumbwheel
4	Fader 0v	4	Fader 1 0v
5	VCA Bus 1 (VCA 1 Computer Return)	5	Fader 2 Wiper
6	VCA Bus 5 (VCA 2 Computer Return)	6	Fader 2 +5v
7	VCA Bus 2 (VCA 3 Computer Return)	7	Fader 2 Thumbwheel
8	VCA Bus 6 (VCA 4 Computer Return)	8	Fader 2 0v
9	VCA Bus 3 (VCA 5 Computer Return)	9	Not used
10	VCA Bus 7 (VCA 6 Computer Return)	10	Not used
11	VCA Bus 4 (VCA 7 Computer Return)	11	Not used
12	VCA Bus 8 (VCA 8 Computer Return)	12	Not used
13	Chassis	13	Fader 3 Wiper
14	Spare Pad	14	Fader 3 +5v
15	LED & Switch Common	15	Fader 3 Thumbwheel
16	Spare Pad	16	Fader 3 0v
17	VCA Bus 0	17	Fader 4 Wiper
18	Absolute LED	18	Fader 4 +5v
19	Trim LED	19	Fader 4 Thumbwheel
20	Status Switch	20	Fader 4 0v

Note:- Fader 1 is equivalent to Faders 1,5, 9,13,17,21,25,29,33,37,41,45
Fader 2 is equivalent to Faders 2,6,10,14,18,22,26,30,34,38,42,46
Fader 3 is equivalent to Faders 3,7,11,15,19,23,27,31,35,39,43,47
Fader 4 is equivalent to Faders 4,8,12,16,20,24,28,32,36,40,44,48

() Connections to S11E on VCA Fader Bus Card, Revision Level 02.

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S13E 10 way Ribbon Connector pinout

Fader Bus Card 82E37

VCA Bus Card link 82E38

No | Description

1	VCA Bus 1
2	VCA Bus 5
3	VCA Bus 2
4	VCA Bus 6
5	VCA Bus 3
6	VCA Bus 7
7	VCA Bus 4
8	VCA Bus 8
9	VCA Bus 9
10	NC

S15E 20 way Ribbon Connector pinout

VCA Fader Bus Card 82E38

Master Module 651

No | Description

1	VCA Bus 1
2	VCA Bus 5
3	VCA Bus 2
4	VCA Bus 6
5	VCA Bus 3
6	VCA Bus 7
7	VCA Bus 4
8	VCA Bus 8
9	VCA Bus 0 (Channels)
10	NC
11	VCA Bus 0 (Groups)
12	NC
13	NC
14	NC
15	Master Fader common
16	NC
17	Master Fader switch
18	NC
19	Master Fader Trim LED
20	Master Fader Abs LED

S14E 50 way Ribbon Connector pinout

Fader Bus Card 82E37

VCA Fader Bus Card 82E38

Main Connector Panel SL675

No | Description

1	LED & Switch Common
2	Fader 8 Switch
3	Fader 8 Trim LED
4	Fader 8 Abs LED
5	Fader 7 Switch
6	Fader 7 Trim LED
7	Fader 7 Abs LED
8	Fader 6 Switch
9	Fader 6 Trim LED
10	Fader 6 Abs LED
11	Fader 5 Switch
12	Fader 5 Trim LED
13	Fader 5 Abs LED
14	Fader 4 Switch
15	Fader 4 Trim LED
16	Fader 4 Abs LED
17	Fader 3 Switch
18	Fader 3 Trim LED
19	Fader 3 Abs LED
20	Fader 2 Switch
21	Fader 2 Trim LED
22	Fader 2 Abs LED
23	Fader 1 Switch
24	Fader 1 Trim LED
25	Fader 1 Abs LED
26	LED & Switch Common
27	Master Fader Common (82E38)
28	Master Fader Switch (82E38)
29	Master Fader Trim LED (82E38)
30	Master Fader Abs LED (82E38)
31	Fader 1 Computer Return
32	Fader 2 Computer Return
33	Fader 3 Computer Return
34	Fader 4 Computer Return
35	Fader 5 Computer Return
36	Fader 6 Computer Return
37	Fader 7 Computer Return
38	Fader 8 Computer Return
39	Master Fader Computer Return (82E38)
40	0v
41	Fader 1 Computer Send
42	Fader 2 Computer Send
43	Fader 3 Computer Send
44	Fader 4 Computer Send
45	Fader 5 Computer Send
46	Fader 6 Computer Send
47	Fader 7 Computer Send
48	Fader 8 Computer Send
49	Master Fader Computer Send (82E38)
50	0v

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Effective from Serial No.4510

S16E 20 way Ribbon Connector pinout	
VCA Fader Bus Card 82E38 Fader Bus Card 82E37-Master Module 651 Upper Bus Card 82E18	
No	Description
1	Fader 1 Computer return
2	Fader 2 Computer return
3	Fader 3 Computer return
4	Fader 4 Computer return
5	Fader 5 Computer return
6	Fader 6 Computer return
7	Fader 7 Computer return
8	Fader 8 Computer return
9	Master Fader Return (82E38)
10	Ov
11	Fader 1 Computer send
12	Fader 2 Computer send
13	Fader 3 Computer send
14	Fader 4 Computer send
15	Fader 5 Computer send
16	Fader 6 Computer send
17	Fader 7 Computer send
18	Fader 8 Computer send
19	Master Fader send (82E38)
20	Ov

S17E 20 way Ribbon Connector pinout	
651 Master Module 681 Keyboard	
No	Description
1	Multitrack Common Sense
2	Multitrack Record Sense
3	Multitrack Sync Contact
4	Multitrack Sync Contact
5	+20V Solo Enable
6	VCA 1 Cut Switch
7	VCA 5 Cut Switch
8	VCA 2 Cut Switch
9	VCA 6 Cut Switch
10	VCA 3 Cut Switch
11	VCA 7 Cut Switch
12	VCA 4 Cut Switch
13	VCA 8 Cut Switch
14	VCA Solo Cut Bus
15	+20v
16	Rehearse Command
17	-20v
18	-20v
19	Multitrack Play Sense
20	Rehearse Command

S18E 20 way Ribbon Connector pinout	
651 Master Module 82E237 Penthouse Distribution Panel 82E58 Bargraph Master Mothercard	
No	Description
1	LB Meter 0°
2	LF Meter 0°
3	RF Meter 0°
4	RB Meter 0°
5	Solo LED
6	Listen LED
7	Dim LED
8	SLS LED
9	Cut LED
10	VCAs to Meters
11	St Cue L Meter 0
12	St Cue R Meter 0
13	Cue 1 Meter 0
14	Cue 2 Meter 0
15	Cue 3 Meter 0
16	Cue 4 Meter 0
17	SLS L Meter 0
18	SLS R Meter 0
19	Spare (Broadcast)
20	Peak hold bus (82E66 cards)

S19E 20 way Ribbon Connector pinout	
651 Master Module 82E38 VCA Fader Bus Card	
No	Description
1	+5v
2	+5v
3	Ov
4	Ov
5	VCA Fader 1 Thumbwheel
6	VCA Fader 1 Wiper
7	VCA Fader 2 Thumbwheel
8	VCA Fader 2 Wiper
9	VCA Fader 3 Thumbwheel
10	VCA Fader 3 Wiper
11	VCA Fader 4 Thumbwheel
12	VCA Fader 4 Wiper
13	VCA Fader 5 Thumbwheel
14	VCA Fader 5 Wiper
15	VCA Fader 6 Thumbwheel
16	VCA Fader 6 Wiper
17	VCA Fader 7 Thumbwheel
18	VCA Fader 7 Wiper
19	VCA Fader 8 Thumbwheel
20	VCA Fader 8 Wiper

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S20E 20 way Ribbon Connector pinout	
651 Power Indicator Connector	
No	Description
1	+13 Volt led anode
2	+48 Volt led anode
3	+48 Volt led cathode
4	+13 Volt led cathode
5	Not used
6	+20 Volt led anode
7	+20 Volt led cathode
8	-20 Volt led anode
9	-20 Volt led cathode
10	Not used

S23E 10 way Ribbon Connector pinout	
82E06 Vu Meter 82E18 Upper Bus Card 82E55 Penthouse Dist. Card	
No	Description
1	spare
2	+13v
3	Meter 0?
4	VCA LED +
5	+20v
6	RECORD LED +
7	0v
8	GROUP LED +
9	-20v
10	TAPE LED +

S24E 10 way Ribbon Connector pinout	
8205 Phasemeter Card 82E55 Meter Distribution Card	
No	Description
1	Output to Phasemeter
2	Output to Phasemeter
3	0v
4	0v
5	+20v
6	-20v
7	Input 1 0
8	0v
9	Input 2 0
10	0v

S21E 20 way Ribbon Connector pinout	
611E Mothercard 82E03 Multiplex Card	
No	Description
1	Total Recall Bit 0 LSB
2	Total Recall Bit 1
3	Total Recall Bit 2
4	Total Recall Bit 3
5	Total Recall Bit 4
6	Total Recall Bit 5
7	Total Recall Bit 6 MSB
8	Total Recall MPX Enable
9	Total Recall Address Enable
10	Total Recall Spare bus
11	0V
12	+20V
13	+13V
14	Computer Return to VCA 82E14 P20
15	Spare
16	Computer Return from 611E U29
17	Spare
18	Computer Send from VCA 82E14 P17
19	-20V
20	Computer Send to 611E U28

S25E 50 way Ribbon Connector

Formerly S14/S15/S20

LED's & Switches Daughter CF82E53

Computer Interface Distribution CF8240

No	Description	PC 1	PC 2	PC 3	PC 4
1	Common + 5V				
2	Fader Switch	16	32	vca 8	56
3	Fader Trim LED	16	32	vca 8	56
4	Fader Abs LED	16	32	vca 8	55
5	Fader Switch	15	31	vca 7	55
6	Fader Trim LED	15	31	vca 7	55
7	Fader Abs LED	15	31	vca 7	54
8	Fader Switch	14	30	vca 6	54
9	Fader Trim LED	14	30	vca 6	54
10	Fader Abs LED	14	30	vca 6	53
11	Fader Switch	13	29	vca 5	53
12	Fader Trim LED	13	29	vca 5	53
13	Fader Abs LED	13	29	vca 5	52
14	Fader Switch	12	28	vca 4	52
15	Fader Trim LED	12	28	vca 4	52
16	Fader Abs LED	12	28	vca 4	51
17	Fader Switch	11	27	vca 3	51
18	Fader Trim LED	11	27	vca 3	51
19	Fader Abs LED	11	27	vca 3	50
20	Fader Switch	10	26	vca 2	50
21	Fader Trim LED	10	26	vca 2	50
22	Fader Abs LED	10	26	vca 2	49
23	Fader Switch	9	25	vca 1	49
24	Fader Trim LED	9	25	vca 1	49
25	Fader Abs LED	9	25	vca 1	49
26	Fader Switch	8	24	40	48
27	Fader Trim LED	8	24	40	48
28	Fader Abs LED	8	24	40	48
29	Fader Switch	7	23	39	47
30	Fader Trim LED	7	23	39	47
31	Fader Abs LED	7	23	39	47
32	Fader Switch	6	22	38	46
33	Fader Trim LED	6	22	38	46
34	Fader Abs LED	6	22	38	46
35	Fader Switch	5	21	37	45
36	Fader Trim LED	5	21	37	45
37	Fader Abs LED	5	21	37	45
38	Fader Switch	4	20	36	44
39	Fader Trim LED	4	20	36	44
40	Fader Abs LED	4	20	36	44
41	Fader Switch	3	19	35	43
42	Fader Trim LED	3	19	35	43
43	Fader Abs LED	3	19	35	43
44	Fader Switch	2	18	34	42
45	Fader Trim LED	2	18	34	42
46	Fader Abs LED	2	18	34	42
47	Fader Switch	1	17	33	41
48	Fader Trim LED	1	17	33	41
49	Fader Abs LED	1	17	33	41
50	Common + 5V				

S28E 20 way Ribbon Connector

Tape Remote 82E70

No	Description
1	Varispeed Switch
2	Varispeed Switch
3	Lamps Common
4	Switches Common
5	Rewind Switch
6	Rewind Lamp
7	Fast Forward Switch
8	Fast Forward Lamp
9	Stop Switch
10	Stop Lamp
11	Play Switch
12	Play Lamp
13	Echo Switch
14	Echo Lamp
15	Record Switch
16	Record Lamp
17	Varispeed Lamp
18	Varispeed CW
19	Varispeed W
20	Varispeed ACW

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30 Sep 81

Effective from Serial No. 4066		
S29E 20 way Ribbon Connector pinout		
Keyboard SL681 Multitrack Machine D Connector on Main Connector Panel 675		
No	Description	
1	Sync-Replay Changeover Contacts	
2	Sync-Replay Changeover Contacts	
3	Lamps Common	
4	Switches Common	
5	Rewind Switch	
6	Rewind Lamps	
7	Fast Forward Switch	
8	Fast Forward Lamp	
9	Stop Switch	
10	Stop Lamp	
11	Play Switch	
12	Play Lamp	
13	Edit Switch	
14	Edit Lamp	
15	Record Switch	
16	Record Lamp	
17	Tach Pulses	
18	Tach Pulses	
19	Direction Sense	
20	Direction Sense	

S30 20 way Ribbon Connector pinout
from Tape Machine Interface CF8243
to Keyboard VDU Interface CF8244

No | Description Contact B=Common

1	Record Contact A	D2
2	Play Contact A	D1
3	Record Contact B	D2
4	Play Contact B	D1
5	FForward Contact A	D3
6	Stop Contact A	D0
7	FForward Contact B	D3
8	Stop Contact B	D0
9	Direction Sense A	
10	Pulse A	
11	Direction Sense B	
12	Pulse B	
13	Rewind Contact A	D4
14	+ 20v	
15	Rewind Contact B	D4
16	+ 13v	
17	Edit Contact A	D5
18	Rehearse Command	
19	Edit Contact B	D5
20	Rehearse Common	

S31E 50 way Ribbon Connector pinout

Distribution Card CF8240

Keyboard + VDU Interface CF8244

No | Description

1	+12v
2	Bleep tone
3	-12v
4	0v
5	Pulse
6	0v
7	Data B1
8	0v
9	Data B2
10	0v
11	Data B3
12	0v
13	Data B4
14	0v
15	Data B5
16	0v
17	Data B6
18	0v
19	Data B7
20	0v
21	Edit Common
22	Rehearse Common
23	Edit
24	Rehearse Command
25	FR Common
26	Spare
27	FR
28	Spare
29	Direction Sense Common
30	Idler Pulse Common
31	Direction Sense
32	Idler Pulse
33	FF Common
34	Stop Common
35	FF
36	Stop
37	Record Common
38	Play Common
39	Record
40	Play
41	Total Recall Bit 0 LSB
42	Total Recall Bit 1
43	Total Recall Bit 2
44	Total Recall Bit 3
45	Total Recall Bit 4
46	Total Recall Bit 5
47	Total Recall Bit 6 MSB
48	Total Recall MPX Enable
49	Total Recall Address Enable
50	+5V

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S32E 10 way Ribbon Connector pinout	
681 Status Switches 82E69	
681 Remote & VCA Switches 82E68	
No	Description
1	Rehearse Common
2	+ 20v
3	Rehearse Command
4	- 20v
5	Tape Enable Switch p3
6	Tape Enable Switch p3
7	Tape Enable Switch p4
8	Record Enable Switch p4
9	Record Enable Switch p3
10	Record Enable Switch p3

S33E 20 way Ribbon Connector pinout	
681 Command Keyboard 82E48	
681 Alpha-Numeric Keyboard 8249	
No	Description
1	Y 8
2	Y 9
3	Y 6
4	Y 7
5	Y 4
6	Y 5
7	Y 3
8	Y 3
9	Y 2
10	Y 2
11	Y 1
12	Y 1
13	Y 10
14	Y 10
15	X 1
16	X 1
17	X 2
18	X 3
19	X 4
20	X 5

S33E 20 way Ribbon Connector pinout	
681E Command Keyboard 82E48	
681E Alpha-Numeric Keyboard 8249	
No	Description
1	Y 9
2	Y 8
3	Y 7
4	Y 6
5	Y 5
6	Y 4
7	Y 0
8	Y 0
9	Y 1
10	Y 1
11	Y 2
12	Y 2
13	Y 3
14	Y 3
15	X 8
16	X 8
17	X 7
18	X 6
19	X 5
20	X 4

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26 Apr 82

S34	34 way Ribbon Connector pinout
FROM: RESEARCH MACHINES VDU BOARD	
TO: KEYBOARD - VDU INTERFACE CF8244	

S35	34 way Ribbon Connector pinout
FROM: 16 LED's & Switches CF8253	
TO: Fader LED & Sw Interface CF8247	

No	Description
1	-12v
2	+12v
3	-5v
4	0v
5	Line blank (modified from page mode)
6	Enable NMI (not used)
7	+5v
8	(NMI) (not used)
9	Clock 8 MHz
10	(3WR) (not used)
11	(3RO) (not used)
12	(IO Select) low to access IO Ports
13	(RD)
14	(VDU Select) low access VDU Memory
15	(WR)
16	(D 0)
17	(D 1)
18	(D 2)
19	(D 3)
20	(D 4)
21	(D 5)
22	(D 6)
23	(D 7)
24	(A 0)
25	(A 1)
26	(A 2)
27	(A 3)
28	(A 4)
29	(A 5)
30	(A 6)
31	(A 7)
32	(A 8)
33	(A 9)
34	(A 10)

No	Description
1	Switch
2	Green LED
3	Not used
4	Red LED
5	:4x (from Decoder)
6	:4x (from Decoder)
7	0v
8	0v
9	0v
10	0v
11	5v
12	5v
13	5v
14	5v
15	(OUT)
16	(OUT)
17	(IN)
18	(IN)
19	D Bus 0
20	D Bus 1
21	D Bus 2
22	D Bus 3
23	D Bus 4
24	D Bus 5
25	D Bus 6
26	D Bus 7
27	D Bus 8
28	D Bus 9
29	D Bus 10
30	D Bus 11
31	D Bus 12
32	D Bus 13
33	D Bus 14
34	D Bus 15

T0631E.5A
06 May 80

S36E 50 way Ribbon Connector pinout

Analogue Output CF8242
Distribution Card CF8240

No	Description

1	I/O Module 1
2	I/O Module 2
3	I/O Module 3
4	I/O Module 4
5	I/O Module 5
6	I/O Module 6
7	I/O Module 7
8	I/O Module 8
9	I/O Module 9
10	I/O Module 10
11	I/O Module 11
12	I/O Module 12
13	I/O Module 13
14	I/O Module 14
15	I/O Module 15
16	I/O Module 16
17	I/O Module 17
18	I/O Module 18
19	I/O Module 19
20	I/O Module 20
21	I/O Module 21
22	I/O Module 22
23	I/O Module 23
24	I/O Module 24
25	I/O Module 25
26	I/O Module 26
27	I/O Module 27
28	I/O Module 28
29	I/O Module 29
30	I/O Module 30
31	I/O Module 31
32	I/O Module 32
33	I/O Module 33
34	I/O Module 34
35	I/O Module 35
36	I/O Module 36
37	I/O Module 37
38	I/O Module 38
39	I/O Module 39
40	I/O Module 40
41	VCA 1
42	VCA 2
43	VCA 3
44	VCA 4
45	VCA 5
46	VCA 6
47	VCA 7
48	VCA 8
49	Master Fader
50	Analogue Ov

S37E 20 way Ribbon Connector pinout

Analogue Output CF8242
Distribution Card CF8240

No	Description

1	I/O Module 41
2	I/O Module 42
3	I/O Module 43
4	I/O Module 44
5	I/O Module 45
6	I/O Module 46
7	I/O Module 47
8	I/O Module 48
9	I/O Module 49
10	I/O Module 50
11	I/O Module 51
12	I/O Module 52
13	I/O Module 53
14	I/O Module 54
15	I/O Module 55
16	I/O Module 56
17	NU
18	NU
19	Analogue Ov
20	Analogue Ov

S38E 20 way Ribbon Connector pinout -Aux Digital Output CF82E42

25 way Ribbon Connector pinout
-Master Transport Select SL696

No	Description

1	D0 Transport A Select
2	D1 Transport B Select
3	D2 Transport C Select
4	D3 Aux Digital Output
5	D4 Aux Digital Output
6	D5 Aux Digital Output
7	D6 Aux Digital Output
8	D7 Aux Digital Output
9	D8 Aux Digital Output
10	D9 Aux Digital Output
11	D10 Aux Digital Output
12	D11 Aux Digital Output
13	D12 Aux Digital Output
14	D13 Aux Digital Output
15	D14 Aux Digital Output
16	D15 Aux Digital Output
17	Computer +5v
18	Computer +5v
19	Computer Ov
20	Computer Ov
21	Transport A Tally
22	Transport B Tally
23	Transport C Tally
24	Tally Common +22V
25	Tally Common +22V

S39E 20 way Ribbon Connector pinout

Analogue Input CF8241

Distribution Card CF8240

No | Description

1	I/O Module 1
2	I/O Module 2
3	I/O Module 3
4	I/O Module 4
5	I/O Module 5
6	I/O Module 6
7	I/O Module 7
8	I/O Module 8
9	I/O Module 9
10	I/O Module 10
11	I/O Module 11
12	I/O Module 12
13	I/O Module 13
14	I/O Module 14
15	I/O Module 15
16	I/O Module 16
17	I/O Module 17
18	I/O Module 18
19	I/O Module 19
20	I/O Module 20
21	I/O Module 21
22	I/O Module 22
23	I/O Module 23
24	I/O Module 24
25	I/O Module 25
26	I/O Module 26
27	I/O Module 27
28	I/O Module 28
29	I/O Module 29
30	I/O Module 30
31	I/O Module 31
32	I/O Module 32
33	I/O Module 33
34	I/O Module 34
35	I/O Module 35
36	I/O Module 36
37	I/O Module 37
38	I/O Module 38
39	I/O Module 39
40	I/O Module 40
41	VCA 1
42	VCA 2
43	VCA 3
44	VCA 4
45	VCA 5
46	VCA 6
47	VCA 7
48	VCA 8
49	Master Fader
50	Analogue Ground

T0631E.5C

6 May 80

S40E 20 way Ribbon Connector pinout

Analogue Input CF8241

Distribution Card CF8240

No | Description

1	I/O Module 41
2	I/O Module 42
3	I/O Module 43
4	I/O Module 44
5	I/O Module 45
6	I/O Module 46
7	I/O Module 47
8	I/O Module 48
9	I/O Module 49
10	I/O Module 50
11	I/O Module 51
12	I/O Module 52
13	I/O Module 53
14	I/O Module 54
15	I/O Module 55
16	I/O Module 56
17	NV
18	NV
19	Analogue Ground
20	Analogue Ground

S41E 20 way Ribbon Connector pinout

Analogue Input CF8241

Distribution Card CF8240

No | Description

1	Aux Digital input a
2	Aux Digital input 1
3	Aux Digital input 2
4	Aux Digital input 3
5	Aux Digital input 4
6	Aux Digital input 5
7	Aux Digital input 6
8	Aux Digital input 7
9	Aux Digital input 8
10	Aux Digital input 9
11	Aux Digital input 10
12	Aux Digital input 11
13	Aux Digital input 12
14	Aux Digital input 13
15	Aux Digital input 14
16	Aux Digital input 15
17	5v
18	5v
19	0v
20	0v

S50E	Quad Bus LF	10 Way Ribbon
S51E	Quad Bus RF	10 Way Ribbon
S52E	Quad Bus LB	10 Way Ribbon
S53E	Quad Bus RB	10 Way Ribbon
S55E	Mono	10 Way Ribbon
S57E	Stereo Cue L	10 Way Ribbon
S58E	Stereo Cue R	10 Way Ribbon
S59E	Cue 1	10 Way Ribbon
S60E	Cue 2	10 Way Ribbon
S61E	Cue 3	10 Way Ribbon
S62E	Cue 4	10 Way Ribbon
S63E	Studio LS L	10 Way Ribbon
S64E	Studio LS R	10 Way Ribbon

82E55 Meter Distribution Card

82E06 Vu Meter Card

No	Description

1	(DR) PFL on S55E
2	+13v
3	Signal, Meter 0 , see table above
4	Spare bus
5	+20v
6	Spare bus
7	0v
8	Spare bus
9	-20v
10	Spare bus

Special 10 Way Connector for NTP Meters

LF & RF cables to NTP stabiliser
Console Serial No. 4027 (Canary-Japan)

No	Description

1	LB signal	(RB signal)
2	+13v	
3	LF signal	(RF signal)
4	Spare bus	
5	+20v	
6	Spare bus	
7	0v	
8	Spare bus	
9	-20v	
10	Spare bus	

S54E 10 way Ribbon Connector pinout

82E55 Meter Distribution Card

82E05 Phasemeter

No	Description

1	Spare
2	Spare
3	Meter +
4	Spare bus
5	+20v
6	Spare bus
7	Meter -
8	Spare bus
9	-20v
10	Spare bus

S56E 10 way Ribbon Connector pinout

82E55 Meter Distribution Card

82E62 Warning Lights Mother Card

No	Description

1	Spare
2	+13v
3	Spare
4	Monitor Dim Lamp
5	+20v
6	Monitor Solo
8	Listen Mic Lamp
9	-20v
10	Studio LS Lamp

T0631E.5D

15 Feb 82

S65E 40 way Ribbon Connector pinout

82E57 Bargraph Meter Logic Card
82E58 Bargraph Master Mothercard

No | Description

1	0 Volts
2	+20 Volts
3	0 Volts
4	-20 Volts
5	Display Store R
6	+13 Volts
7	Display Store L
8	Display Signal L
9	Display Signal R
10	Anode Enable R
11	Anode Enable L
12	Store Enable
13	Clear
14	MSB Digital Ramp
15	6
16	5
17	4
18	3
19	2
20	1
21	LSB
22	Spectra Signal Bus
23	Spectra Relay
24	Channel Relay
25	PPM Ballistics
26	VU Ballistics
27	Analog Ramp
28	PPM Scale
29	Spectra Markers
30	VU Scale
31	Spare
32	Spare
33	+263 Volts
34	+263 Volts
35	Cathode 1 H.T.
36	Cathode 0 H.T.
37	Reset Cathode
38	Cathode 3 H.T.
39	Cathode 2 H.T.
40	Cathode 4 H.T.

nb This connector up to 263volts DC on many of the pins therefore please turn off before connecting or disconnecting and take care please

S66E 20 way Ribbon Connector pinout

82E58 Bargraph Master Mothercard
651 Master Module

No | Description

1	VCA switch
2	VCA lamp
3	PPM switch
4	PPM lamp
5	VU switch
6	VU lamp
7	+20volts
8	-20volts
9	Spectra Rear switch
10	Spectra Rear lamp
11	Spectra on Solo switch
12	Spectra on Solo lamp
13	Spectra switch
14	Spectra lamp
15	Clear Peak switch
16	Clear Peak lamp
17	Display Peak switch
18	Display Peak lamp
19	Store Peak switch
20	Store Peak lamp

T0631E.5E
16 Feb 82

S68 20 way Ribbon Connector pinout

Total Recall Connections from
Controls (611E) to CF82E03

No | Description

1	Not Used
2	Routing to Track 1
3	Not Used
4	Routing to Track 2
5	Not Used
6	Routing to Track 3
7	Not Used
8	Routing to Track 4
9	Routing to Track 16
10	Routing to Track 5
11	Routing to Track 15
12	Routing to Track 6
13	Routing to Track 14
14	Routing to Track 7
15	Routing to Track 13
16	Routing to Track 8
17	Routing to Track 12
18	Routing to Track 9
19	Routing to Track 11
20	Routing to Track 10

T0631E.5F

23 Jul 80

S69 20 way Ribbon Connector pinout

Total Recall Connections from
Controls (611E) to CF82E03

No | Description

1	Routing to Track 32
2	Routing to Quad Bus RB
3	Routing to Track 31
4	Routing to Quad Bus LB
5	Routing to Track 30
6	Routing to Quad Bus RF
7	Routing to Track 29
8	Routing to Quad Bus LF
9	Routing to Track 28
10	Routing to Track 17
11	Routing to Track 27
12	Routing to Track 18
13	Routing to Track 26
14	Routing to Track 19
15	Routing to Track 25
16	Routing to Track 20
17	Routing to Track 24
18	Routing to Track 21
19	Routing to Track 23
20	Routing to Track 22

S70	20 way Ribbon Connector pinout
Total Recall Connections From The Front Panel to CF82E03	

S71	20 way Ribbon Connector pinout
Total Recall Connections From The Front Panel to CF82E03	

No	Description
1	Expand Release pot
2	Expand Release switch
3	Expand/Gate switch
4	E132 EQ(611E-b/c and 611V A/B up)
5	Expand Range pot
6	Not Used
7	Compress Release switch
8	Input Flip switch
9	Expand Threshold Pot
10	Mic -20dB pad switch
11	Compress Release pot
12	Routing Pan switch
13	Link switch
14	Sub-Group switch
15	Compress Threshold pot
16	Routing Pan pot
17	Compress Ratio pot
18	Line Gain Trim pot
19	Mic Gain Trim pot
20	Phase 0 switch

No	Description
1	HF Bell switch
2	Split switch
3	Dynamics to Channel Output
4	Dynamics to Monitor
5	Insert Pre switch
6	HF Filter pot
7	Dynamics to Channel Input
8	LF Filter pot
9	LMF +- pot
10	HF +- pot
11	LMF + pot
12	HF + pot
13	LMF Q pot
14	HMF +- pot
15	LF + pot
16	HMF + pot
17	Insert In switch (RM)
18	LF +- pot
19	LF Bell switch (RM)
20	HMF Q pot

T0631E.5G
08 Oct 82

S72	20 way Ribbon Connector pinout
Total Recall Connections From 611E Front Panel to CF82E03	

S73	20 way Ribbon Connector pinout
Total Recall Connections From 611E Front Panel to CF82E03	

No	Description
1	Equalizer to Channel switch
2	Equalizer to Dynamics switch
3	Cue 3 Small Fader switch RM
4	Equalizer to Monitor switch
5	Cue 3 Pull switch RM
6	Stereo Cue Pan pot
7	Cue 3 Level pot
8	Stereo Cue Pre switch RM
9	Cue 3 Pre switch RM
10	Stereo Cue Small Fader switch RM
11	Cue 2 Small Fader switch RM
12	Stereo Cue Level pot
13	Cue 2 Pull switch RM
14	Stereo Cue Pull switch RM
15	Cue 2 Level pot
16	Cue 1 Pre switch RM
17	Cue 2 Pre switch RM
18	Cue 1 Level pot
19	Cue 1 Small Fader switch AM
20	Cue 1 Pull switch RM

No	Description
1	VCA Fader Solo switch RM
2	Not Used
3	VCA Fader Cut switch RM
4	Cue 4 Pre switch RM
5	Left Right Pan pot
6	Cue 4 Level pot
7	Front Back Pan switch RM
8	Cue 4 Pull switch RM
9	Front Back Pan pot
10	Cue 4 Small Fader switch RM
11	Small Fader Solo switch
12	Group Float switch RM
13	Small Fader Cut switch
14	Group Direct switch RM
15	Dynamics to Channel Output
16	Group Line Trim pot
17	Dynamics to Channel Input
18	Ready Group switch
19	Small Fader Level
20	Ready Tape switch

T0631E.5H
23 Jul 80

S74E 50 Way Ribbon Connector Pinout

SL612 Test Jig Upper Bus Connector

No|Description

1	Noise Test Pole A	
2	Noise Test Pole B	
3	0V (Mic 0V)	
4	Insert send o?	(U5)
5	Line input 0?	(U10)
6	Group Output/Moniter 0?	(U14/U15)
7	Tape Moniter 0?	(U17)
8	Meter O/P	(U19)
9	Tape LED	(U21) Via Diode
10	Group LED	(U22) Via Diode
11	Record LED	(U23) Via Diode
12	Record Contact b	(U26)
13	Record Contact a	(U25)
14	Dynamics Link Send	(U31)
15	Dynamics Link Ret	(U32)
16	+ 48V	(U34/U35)
17	+ 20V	(U37)
18	+ 20V	(U38)
19	+ 20V	(U39)
20	+ 13V	(U41)
21	+ 13V	(U42)
22	0V	(U44)
23	0V	(U45)
24	0V	(U46)
25	- 20V	(U48)
26	- 20V	(U49)
27	- 20V	(U50)
28	- 20 lamps	(U52)
29	- 20 lamps	(U53)
30	VCA Trim Bus	(U55)
31	Slate Sig Bus	(U56)
32	VCA to Mon Bus	(U57)
33	Slate Control Bus	(U58)
34	Chan Sote Cut Bus	(U59)
35	Status Mic Bus	(U60)
36	Mon Solo Cut Bus	(U61)
37	M/C Rec Bus	(U62)
38	Status Rec Bus	(U63)
39	Not Used	
40	VCA to Meter Bus	(U65)
41	Cue 4 Mix Bus	(U67)
42	Cue 3 Mix Bus	(U68)
43	Cue 2 Mix Bus	(U70)
44	Cue 1 Mix Bus	(U72)
45	St L Mix Bus	(U74)
46	St R Mix Bus	(U75)
47	AFL Mix Bus	(U77)
48	0V	(U76)
49	0V	(U76)
50	Probe Socket	

U4 linked to U7

U5 linked to U8

U11 linked to U3

U11 linked to U12 to U13 to U16

U14 linked to U15

U14 U15 linked to U12 U13 via 600R
U1 to U2 via 200R

U1 to Noise Sw A via 1K

U2 to Noise Sw B via 1K

U28 linked to U29

U64 Solo Disable to 13V via 10K

T0631E.5J

30 Jul 80

S75E 50 way Ribbon Connector pinout

SL612 Test Jig Lower Bus

L5 to L9 via 15K

L9 to L10 via 392K

No	Description
1	Quad Bus LF (L 1)
2	Quad Bus LB (L 3)
3	Quad Bus RF (L 5)
4	Quad Bus RB (L 7)
5	Mix Amp O?
6	NC
7	Mix Bus 1 (L11)
8	Mix Bus 2 (L13)
9	Mix Bus 3 (L15)
10	Mix Bus 4 (L17)
11	Mix Bus 5 (L19)
12	Mix Bus 6 (L21)
13	Mix Bus 7 (L23)
14	Mix Bus 8 (L25)
15	Mix Bus 9 (L27)
16	Mix Bus 10 (L29)
17	Mix Bus 11 (L31)
18	Mix Bus 12 (L33)
19	Mix Bus 13 (L35)
20	Mix Bus 14 (L37)
21	Mix Bus 15 (L39)
22	Mix Bus 16 (L41)
23	Mix Bus 17 (L43)
24	Mix Bus 18 (L45)
25	Mix Bus 19 (L47)
26	Mix Bus 20 (L49)
27	Mix Bus 21 (L51)
28	Mix Bus 22 (L53)
29	Mix Bus 23 (L55)
30	Mix Bus 24 (L57)
31	Mix Bus 25 (L59)
32	Mix Bus 26 (L61)
33	Mix Bus 27 (L63)
34	Mix Bus 28 (L65)
35	Mix Bus 29 (L67)
36	Mix Bus 30 (L69)
37	Mix Bus 31 (L71)
38	Mix Bus 32 (L73)
39	Fader 5V (L74)
40	Fader Wiper (L75)
41	VCA Thumbwheel (L76)
42	Fader 0V (L77)
43	Not Used
44	Not Used
45	Not Used
46	Not Used
47	Not Used
48	Not Used
49	Not Used
50	Not Used

T0631E.5K

30 Jul 80

S76E 50 way Ribbon Connector pinout

Research Machines Bus

No | Description

1	Reset	
2	Not Used	
3	Data Bus 0	(DB0)
4	Data Bus 1	(DB1)
5	Data Bus 2	(DB2)
6	Data Bus 3	(DB3)
7	Data Bus 4	(DB4)
8	Data Bus 5	(DB5)
9	Data Bus 6	(DB6)
10	Data Bus 7	(DB7)
11	Address Bus 0	(AB0)
12	Address Bus 1	(AB1)
13	Address Bus 2	(AB2)
14	Address Bus 3	(AB3)
15	Address Bus 4	(AB4)
16	Address Bus 5	(AB5)
17	Address Bus 6	(AB6)
18	Address Bus 7	(AB7)
19	Address Bus 8	(AB8)
20	Address Bus 9	(AB9)
21	Address Bus 10	(AB10)
22	Address Bus 11	(AB11)
23	Address Bus 12	(AB12)
24	Address Bus 13	(AB13)
25	Address Bus 14	(AB14)
26	Address Bus 15	(AB15)
27	Busrq	
28	Wait	
29	Busak	
30	Int	
31	Nmi	
32	Halt	
33	Iorq	
34	Wr	
35	Rd	
36	Mreq	
37	Rfsh	
38	Ml	
39	0V	
40	Not used	
41	+5V	
42	+5V	
43	+5V	
44	+12V	
45	+5V	
46	-12V	
47	Not used	
48	0V	
49	0V	
50	0V	

S77E 20 way Ribbon Connector pinout

CA to RM Communication Port

No | Description

1	CA to RM Data Bus 0	(DB0)
2	CA to RM Data Bus 1	(DB1)
3	CA to RM Data Bus 2	(DB2)
4	CA to RM Data Bus 3	(DB3)
5	CA to RM Data Bus 4	(DB4)
6	CA to RM Data Bus 5	(DB5)
7	CA to RM Data Bus 6	(DB6)
8	CA to RM Data Bus 7	(DB7)
9	CA to RM Data Bus 0	(DB0)
10	CA to RM Data Bus 1	(DB1)
11	CA to RM Data Bus 2	(DB2)
12	CA to RM Data Bus 3	(DB3)
13	CA to RM Data Bus 4	(DB4)
14	CA to RM Data Bus 5	(DB5)
15	CA to RM Data Bus 6	(DB6)
16	CA to RM Data Bus 7	(DB7)
17	+5V	
18	-12V	
19	+12V	
20	0V	

S78E 26 way Ribbon Connector pinout

82E89 Research Machines Keyboard Port

No | Description

1	Keyboard Data Bus 0	(DB0)
2	Keyboard Data Bus 1	(DB1)
3	Keyboard Data Bus 2	(DB2)
4	Keyboard Data Bus 3	(DB3)
5	Keyboard Data Bus 4	(DB4)
6	Keyboard Data Bus 5	(DB5)
7	Keyboard Data Bus 6	(DB6)
8	Keyboard Data Bus 7	(DB7)
9	Keyboard Strobe	
10	0V	
11	-12V	
12	+5	
13	0V	
14	Not Used	
15	Reset CA to RM Latch	
16	Reset RM to CA Latch	
17	Not Used	
18	Reset Switch	
19	Not used	
20	Not Used	
21	Not Used	
22	Not Used	
23	Not Used	
24	Not Used	
25	Test RM to CA Latch	
26	Test CA to RM Latch	

T0631E.5L
19 Aug 80

S79E 34 way Ribbon Connector pinout

Research Machines C.P.U./V.D.U. Link

No|Description

1	-12V
2	+12V
3	-5V
4	0V
5	Line blank
6	Enable NM1
7	+5V
8	(NM1)
9	Clock 8 MHz
10	(3WR)
11	(3RO)
12	(IO Select)
13	(RD)
14	(VDU Select)
15	(WR)
16	(D 0)
17	(D 1)
18	(D 2)
19	(D 3)
20	(D 4)
21	(D 5)
22	(D 6)
23	(D 7)
24	(A 0)
25	(A 1)
26	(A 2)
27	(A 3)
28	(A 4)
29	(A 5)
30	(A 6)
31	(A 7)
32	(A 8)
33	(A 9)
34	(A 10)

S82E 14 way Ribbon Connector pinout

Research Machines V.D.U./H.R.G. Link

No|Description | VDU Test Skt

1	Not Used	Re	Not Used
2	Line Blanking	Ye	Pin 11
3	Frame Reset	Be	Pin 5
4	Video Grey	Gy	Pin 4
5	Video White	Be	Pin 3
6	Not Used	Re	Not Used
7	Not Used	Ye	Not Used
8	0V	Or	Pin 1
9	0V	Br	Pin 1
10	0V	Wh	Pin 1
11	0V	Vi	Pin 1
12	0V	Gn	Pin 1
13	0V	Or	Pin 1
14	0V	Br	Pin 1

S80E 26 way Ribbon Connector pinout

82E90 Research Machines H.R.G. Link

No|Description

1	0V
2	Red Bit 1 (RB1)
3	Blue Bit 1 (BB1)
4	0V
5	Green Bit 1 (GB1)
6	Red Bit 2 (RB2)
7	0V
8	Blue Bit 2 (BB2)
9	Green Bit 2 (GB2)
10	0V
11	Red Bit 3 (RB3)
12	Green Bit 3 (GB3)
13	0V
14	Not Used
15	0V
16	Sync (SYNC)
17	0V
18	Video 1 (V1)
19	0V
20	Video 2 (V2)
21	Not Used
22	+12V
23	+5V
24	Not Used
25	Not Used
26	-12V

S81E 20 way Ribbon Connector pinout

82E90 T.M.C. Bus

No|Description

1	Total Recall Bit 0 LSB
2	Total Recall Bit 1
3	Total Recall Bit 2
4	Total Recall Bit 3
5	Total Recall Bit 4
6	Total Recall Bit 5
7	Total Recall Bit 6 MSB
8	Total Recall MPX Enable
9	Total Recall Address Enable
10	+5V
11	0V
12	Not Used
13	Not Used
14	Not Used
15	Not Used
16	Not Used
17	MPX Address Enable
18	MPX Address Enable
19	MPX +5V
20	MPX +5V

T0631E.5M
29 Jul 80

S83E	20 way Ribbon Connector pinout	S85E	40 way Ribbon Connector pinout
SL681E	Total Recall Bus Link	SL694E	C.A. Floppy Controller Cable

No	Description
1	Total Recall Bit 0 LSB
2	Total Recall Bit 1
3	Total Recall Bit 2
4	Total Recall Bit 3
5	Total Recall Bit 4
6	Total Recall Bit 5
7	Total Recall Bit 6 MSB
8	Total Recall MPX Enable
9	Total Recall Address Enable
10	+ 5V from S31E
11	Not Used
12	Not Used
13	Not Used
14	Not Used
15	Not Used
16	Not Used
17	+13V
18	+13V
19	+20V
20	+20V

S84E	10 way Ribbon Connector pinout
82E89-82E90	Link

No	Description
1	Not Used
2	Blank video
3	Not Used
4	Blank Video
5	Not Used
6	Not Used
7	Not Used
8	Out AF
9	Not Used
10	Out Af

No	Description
1	Head Load Return
2	Head Load
3	Direction Return
4	Direction
5	Low Current Return
6	Low Current
7	Step Return
8	Step
9	Unit 0 Return
10	Unit 0
11	Unit 1 Return
12	Unit 1
13	Unit 2 Return
14	Unit 2
15	Unit 3 Return
16	Unit 3
17	Not Used
18	Not Used
19	Side Select Return
20	Side Select
21	Read Data Return
22	Read Data
23	Write Protect Return
24	Write Protect
25	Track 00 Return
26	Track 00
27	Index Return
28	Index
29	Two Sided Return
30	Two Sided
31	Ready Return
32	Ready
33	Not Used
34	Not Used
35	Write Enable Return
36	Write Enable
37	Write Data Return
38	Write Data
39	Not Used
40	Not Used

T0631E.5N
20 Apr 82

S86E 50 way Ribbon Connector pinout

SL694E Shugart Floppy Drive Connector

S87E 10 way Ribbon Connector pinout

Output for Phasescope -Danmarks Radio

No Description

1	Not Used
2	Not Used
3	Not Used
4	Not Used
5	Not Used
6	Not Used
7	Not Used
8	Not Used
9	Two Sided Return
10	Two Sided
11	Disc Change Return
12	Disc Change
13	Side Select Return
14	Side Select
15	In Use Return
16	In Use
17	Head Load Return
18	Head Load
19	Index Return
20	Index
21	Ready Return
22	Ready
23	Sector Return
24	Sector
25	Unit 1 Return
26	Unit 1
27	Unit 2 Return
28	Unit 2
29	Unit 3 Return
30	Unit 3
31	Unit 4 Return
32	Unit 4
33	Direction Return
34	Direction
35	Step Return
36	Step
37	Write Data Return
38	Write Data
39	Write Gate Return
40	Write Gate
41	Track 00 Return
42	Track 00
43	Write Protect Return
44	Write Protect
45	Read Data Return
46	Read Data
47	Sep Data Return
48	Sep Data
49	Sep Clock Return
50	Sep Clock

No Description

1	0v
2	0v
3	Left Signal
4	Left Signal
5	0v
6	0v
7	Right Signal
8	Right Signal
9	0v
10	0v

T0631E.5P
20 Apr 82

S88E 26 Way Ribbon Connector	
CF82E131 Parallel Connector	
No	Description
1	D.B.0.
2	D.B.1
3	D.B.2
4	D.B.3
5	D.B.4
6	D.B.5
7	D.B.6
8	D.B.7
9	Z8 TO CA FLAG
10	Z8 SERIAL OUTPUT
11	N.U.
12	N.U.
13	CA TO Z8 FLAG
14	Z8 SERIAL INPUT
15	Z8 INTERRUPT
16	N.U.
17	-12 VOLTS
18	-12 VOLTS
19	+12 VOLTS
20	+12 VOLTS
21	0 VOLTS
22	0 VOLTS
23	+5 VOLTS
24	+5 VOLTS
25	SYSTEM RESET
26	DO NOT USE

T0631E.5Q
 T82078.51
 30 June 83

S89E 34 way Ribbon Connector	
Event Timer Card CF82E78 Event Timer Computer	
No	Description
1	Event 1 Switch
2	Event 1,2 Switch Common
3	Event 2 Switch
4	Event 3 Switch
5	Event 3,4 Switch Common
6	Event 4 Switch
7	Event 5 Switch
8	Event 5,6 Switch Common
9	Event 6 Switch
10	Event 7 Switch
11	Event 7,8 Switch Common
12	Event 8 Switch
13	Event 1 Relay
14	Event 1,2 Relay Common
15	Event 2 Relay
16	Event 3 Relay
17	Event 3,4 Relay Common
18	Event 4 Relay
19	Event 5 Relay
20	Event 5,6 Relay Common
21	Event 6 Relay
22	Event 7 Relay
23	Event 7,8 Relay Common
24	Event 8 Relay
25	Not Used
26	Not Used
27	Not Used
28	Not Used
29	Event Enable Switch
30	Event Status Common
31	Event Override Switch
32	Event Enable Lamp
33	Event Status Common
34	Event Override Common

S90E 26 way Ribbon Connector	
Event Timer Computer Console Distribution Panel 675E	
No	Description
1	Event 1 Switch
2	Event 1,2 Switch Common
3	Event 2 Switch
4	Event 1 Lamp
5	Event 1,2 Lamp Common
6	Event 2 Lamp
7	Event 3 Switch
8	Event 3,4 Switch Common
9	Event 4 Switch
10	Event 3 Lamp
11	Event 3,4 Lamp Common
12	Event 4 Lamp
13	Event 5 Switch
14	Event 5,6 Switch Common
15	Event 6 Switch
16	Event 5 Lamp
17	Event 5,6 Lamp Common
18	Event 6 Lamp
19	Event 7 Switch
20	Event 7,8 Switch Common
21	Event 8 Switch
22	Event 7 Lamp
23	Event 7,8 Lamp Common
24	Event 8 Lamp
25	Not Used
26	Not Used

T0631E.5R
10 Mar 82

S91E 20 way Ribbon Connector	
Event Timer Control Mother 82E100	
Event Timer Control Daughter 82E101	
No	Description
1	Data Bit 0
2	Data Bit 1
3	Data Bit 2
4	Data Bit 3
5	Data Bit 4
6	Data Bit 5
7	Data Bit 6
8	Data Bit 7
9	Not Used
10	Not Used
11	Not Used
12	CA Input Data Strobe
13	CA Input Acknowledge
14	Not Used
15	CA Output Data Read
16	CA Output Buffer Full
17	-12 Volts
18	+12 Volts
19	Ground
20	+5 Volts

S92E 20 way Ribbon Connector	
Remote Command Keyboard 82E103	
Keyboard Encoder 82E1028	
No	Description
1	X0
2	X0
3	X1
4	X1
5	X2
6	X2
7	X3
8	X3
9	Y9
10	Y9
11	Y8
12	Y8
13	Y6
14	Y7
15	Y4
16	Y5
17	Y1
18	Y0
19	Y3
20	Y2

S93E 10 way Ribbon Connector	
82E113 Floppy Disk Front Panel	
82E114 Floppy Disk Rear Panel	
No	Description
1	Left Unit "R"
2	Right Unit "R"
3	+24 Volt Return
4	+24 Volts
5	+5 Volt Return
6	+5 Volt Return
7	Run Lamp II
8	Run Lamp I
9	System Reset
10	Not Used

T0631E.5S
16 MAY 86

S95E 50 way Ribbon Connector		
C.A. Computer Rack J1 SL 698E Operators Panel		
No	Description	
1	+5 Volts	+5V
2	Not Used	
3	+5 Volts	+5V
4	Not Used	
5	+5 Volts	+5V
6	Reset	RST
7	+5 Volts	+5V
8	Not Used	
9	Not Used	
10	Not Used	
11	Not Used	
12	Not Used	
13	Not Used	
14	Not Used	
15	Not Used	
16	Not Used	
17	Not Used	
18	Not Used	
19	Not Used	
20	Not Used	
21	Not Used	
22	Not Used	
23	Not Used	
24	Not Used	
25	Not Used	
26	Not Used	
27	Not Used	
28	Not Used	
29	Not Used	
30	Not Used	
31	Not Used	
32	Not Used	
33	Autoload	AL
34	Not Used	
35	Not Used	
36	Not Used	
37	Not Used	
38	Not Used	
39	Sense Switch	SSW
40	Not Used	
41	0 Volts	GND
42	Not Used	
43	0 Volts	GND
44	Not Used	
45	0 Volts	GND
46	Not Used	
47	0 Volts	GND
48	Not Used	
49	0 Volts	GND
50	Not Used	

S97E 50 way Ribbon Connector	
SL 691E Computer Rack SL 684E Remote Keyboard Station	
No	Description
1	+12v
2	Bleep tone
3	-12v
4	0v
5	Pulse
6	0v
7	Data B1
8	0v
9	Data B2
10	0v
11	Data B3
12	0v
13	Data B4
14	0v
15	Data B5
16	0v
17	Data B6
18	0v
19	Data B7
20	0v
21	Not Used
22	Not Used
23	Lamps Common
24	Switches Common
25	Rewind Switch
26	Rewind Lamps
27	Fast Forward Switch
28	Fast Forward Lamp
29	Stop Switch
30	Stop Lamp
31	Play Switch
32	Play Lamp
33	Edit Switch
34	Edit Lamp
35	Record Switch
36	Record Lamp
37	Pulse
38	Pulse
39	Not Used
40	Not Used
41	Not Used
42	Not Used
43	Not Used
44	Not Used
45	Not Used
46	Not Used
47	Not Used
48	Not Used
49	Not Used
50	Not Used

T631E 53.8
19 Feb 82

S95E 20 way Ribbon Connector	
Video Switcher Cable Computer to Console Connector Panel	
No	Description
1	Switch 4 Led
2	Led Common
3	Switch 3 Led
4	Switch Common
5	Switch 2 Led
6	Switch 4
7	Switch 1 Led
8	Not Used
9	SSL Led
10	Not Used
11	Not Used
12	Not Used
13	Not Used
14	Switch 3
15	Not Used
16	Switch 2
17	Not Used
18	Switch 1
19	Not Used
20	SSL Switch

S96E 25 way Ribbon Connector	
82E119 Printer Interface Card SL 693E Printer	
No	Description
1	Not used
2	Data Bit 0
3	Not used
4	Data Bit 6
5	Data strobe
6	Not used
7	Online
8	Not used
9	Not used
10	Fault
11	Not used
12	Busy
13	Ground
14	Not used
15	Not used
16	Not used
17	Data Bit 5
18	Acknowledge
19	Data Bit 4
20	Enabled
21	Data Bit 9
22	Paper out
23	Data Bit 2
24	Not used
25	Data Bit 1

Note The connector to the Printer Interface Card, CF82E119, is a 26 way socket connector pin 26 has no connection.

Note The cable is numbered using the ribbon cable numbering system and this do not match the connector used internally in the Paper Tiger.

S98E 50 way Ribbon Connector

C.A. Computer Rack J1
SL 698E Operators Panel

No|Description

1	+5 Volts	+5V
2	Clock	
3	+5 Volts	+5V
4	Interrupt Address Request	
5	+5 Volts	+5V
6	Reset	RST
7	+5 Volts	+5V
8	Pulse	
9	Address Buss 5	
10	Input / Output Clock	
11	Address Buss 6	
12	Address Buss 3	
13	Address Buss 7	
14	Address Buss 4	
15	Address Buss 0	
16	Output	
17	Address Buss 1	
18	Service	
19	Address Buss 2	
20	Data Buss 14	
21	Console Interrupt	
22	Data Buss 13	
23	Input	
24	Data Buss 12	
25	Execute	
26	Data Buss 11	
27	Data Buss 15	
28	Data Buss 10	
29	Overflow	
30	Data Buss 9	
31	Start	
32	Data Buss 8	
33	Autoload	
34	Data Buss 7	
35	Byte Mode	
36	Data Buss 6	
37	Instruction Fetch	
38	Data Buss 5	
39	Sense Switch	
40	Data Buss 4	
41	0 Volts	
42	Data Buss 3	
43	0 Volts	
44	Memory Start	
45	0 Volts	
46	Data Buss 1	
47	0 Volts	
48	Data Buss 0	
49	0 Volts	
50	Data Buss 2	

T0631E.5W
18 May 82

S98E 50 way Ribbon Connector		
C.A. Computer Rack J1 SL 698E Operators Panel		
No	Description	
1	+5 Volts	+5V
2	Clock	
3	+5 Volts	+5V
4	Interrupt Address Request	
5	+5 Volts	+5V
6	Reset	RST
7	+5 Volts	+5V
8	Pulse	
9	Address Buss 5	
10	Input / Output Clock	
11	Address Buss 6	
12	Address Buss 3	
13	Address Buss 7	
14	Address Buss 4	
15	Address Buss 0	
16	Output	
17	Address Buss 1	
18	Service	
19	Address Buss 2	
20	Data Buss 14	
21	Console Interrupt	
22	Data Buss 13	
23	Input	
24	Data Buss 12	
25	Execute	
26	Data Buss 11	
27	Data Buss 15	
28	Data Buss 10	
29	Overflow	
30	Data Buss 9	
31	Start	
32	Data Buss 8	
33	Autoload	
34	Data Buss 7	
35	Byte Mode	
36	Data Buss 6	
37	Instruction Fetch	
38	Data Buss 5	
39	Sense Switch	
40	Data Buss 4	
41	0 Volts	
42	Data Buss 3	
43	0 Volts	
44	Memory Start	
45	0 Volts	
46	Data Buss 1	
47	0 Volts	
48	Data Buss 0	
49	0 Volts	
50	Data Buss 2	

S99E 50 way Ribbon Connector		
SL 691E Computer Rack SL 684E Remote Keyboard Station		
No	Description	
1	+12v	
2	Bleep tone	
3	-12v	
4	0v	
5	Pulse	
6	0v	
7	Data B1	
8	0v	
9	Data B2	
10	0v	
11	Data B3	
12	0v	
13	Data B4	
14	0v	
15	Data B5	
16	0v	
17	Data B6	
18	0v	
19	Data B7	
20	0v	
21	Not Used	
22	Not Used	
23	Lamps Common	
24	Switches Common	
25	Rewind Switch	
26	Rewind Lamps	
27	Fast Forward Switch	
28	Fast Forward Lamp	
29	Stop Switch	
30	Stop Lamp	
31	Play Switch	
32	Play Lamp	
33	Edit Switch	
34	Edit Lamp	
35	Record Switch	
36	Record Lamp	
37	Pulse	
38	Pulse	
39	Spare	
40	Remote Keyboard Disable	
41	Remote Keyboard Disable	
42	Multitrack Transport Disable	
43	Multitrack Transport Disable	
44	Not Used	
45	Not Used	
46	Not Used	
47	+18V	
48	+18V	
49	-18V	
50	-18V	

T631E 53.8
18 May 82

S101E 10 Way Ribbon Connector pinout	
Power Supply Mother CF82E99	
Power Supply LED Mounting CF82E87	
No	Description
1	-20V Cathode
2	-20V Anode via R
3	+250V Cathode
4	+20V Cathode
5	+250V Anode
6	+20V Anode via R
7	+48V Anode via R
8	+7V Cathode
9	+48V Cathode
10	+7V Anode via R

S102E 26 Way Ribbon Connector	
CF82E131 RS 232 Connector	
No	Description
1	N.U.
2	N.U.
3	Received Data
4	N.U.
5	Transmit Data
6	N.U.
7	N.U.
8	N.U.
9	Clear to Send
10	N.U.
11	Data Set Ready
12	N.U.
13	0 Volts
14	Data Terminal Ready
15	Line Signal Defect
16	N.U.
17	N.U.
18	N.U.
19	N.U.
20	N.U.
21	N.U.
22	N.U.
23	N.U.
24	N.U.
25	N.U.
26	Do Not Use

T631E (54.1)
4 Mar 83

S103E	S104E 25 way Ribbon Connector pinout
User Options Connector on Main Connector Panel 675E	SL688E 6Tr/3Tr monitor panel to SL651V Master module
No Description	No Description
1	1 Monitor L to 82E24-25
2	2 OV
3	3 Monitor-R to 22E24-28
4	4 OV
5	5 +12V from 82E27-34
6	6 -12V from 82E27-33
7	7 A VCA trim 82E26-15 positions 1 & 3
8	8 B VCA trim 82E26-15 positions 2 & 4
9	9 C VCA trim 82E26-41 positions 2 & 4
10	10 Solo cut bus
11	11 A cut input
12	12 B cut input
13	13 C cut input
14	14 Machine Record Bus
15	15 Spare mix amp output
16	16 Spare
17	17 Spare
18	18 Spare
19	19 Spare
20	20 Spare
	21 Spare
	23 Spare
	24 Spare
	25 Spare

S105E 20 way Ribbon Connector pinout
SL688E 6Tr/3Tr monitor panel to SL675E Main connector panel (25W D type). (for 8 track machine)
No Description
1 AL record relay contact a
2 AL record relay contact b
3 AR record relay contact a
4 AR record relay contact b
5 BL record relay contact a
6 BL record relay contact b
7 BR record relay contact a
8 BR record relay contact b
9 CL record relay contact a
10 CL record relay contact b
11 CR record relay contact a
12 CR record relay contact b
13 Track 7 a)
14 Track 7 b) Spares on 688E
15 Track 8 a) mother card
16 Track 8 b)
17 6 track SYNC switch p3
18 6 track SYNC switch p4
19 6 track SYNC lamp a contact
20 6 track SYNC lamp b contact

T0631E.50
26 Jul 83

S106E 20 way Ribbon Connector pinout		S107E 10 way Ribbon Connector AL	
SL688E 6Tr/3Tr monitor panel to		S108E 10 way Ribbon Connector AR	
SL675E main connector panel (25w D type)(for 4 track machine)		S109E 10 way Ribbon Connector BL	
		S110E 10 way Ribbon Connector BR	
		S111E 10 way Ribbon Connector CL	
		S112E 10 way Ribbon Connector CR	
		SL688E 6Tr/3Tr monitor panel to	
		SL672E Penthouse	
No	Description	No	Description
1	A Mono record relay contact a	1	Spare
2	A Mono record relay contact b	2	+ 13V
3	B Mono record relay contact a	3	Signal to meter 0
4	B Mono record relay contact b	4	Monitor Dim Lamp
5	C Mono record relay contact a	5	+ 18V
6	C Mono record relay contact b	6	Monitor Solo Lamp
7	Track 4 a) spares on 688E	7	OV
8	Track 4 b) mothercard	8	Listen Mic Lamp
9	Spare	9	- 20V
10	Spare	10	Studio LS Lamp
11	Spare		
12	Spare		
13	Spare		
14	Spare		
15	Spare		
16	Spare		
17	3 track SYNC switch p3		
18	3 track SYNC switch p4		
19	3 track SYNC lamp a contact		
20	3 track SYNC lamp b contact		

T0631E.50
26 July 83

S113E 9 Way Hard Wire D Pinout	
-SL675 Connector Panel -CF82E46 SMPTE Reader/Gen Card	
No	Description
1	Spare
2	Spare
3	SMPTE + To Reader
4	0V.
5	SMPTE + To Generator
6	Spare
7	0V.
8	SMPTE - To Reader
9	SMPTE - To Generator

S115E 9 Way "D" connector pinout	
-SL697E Z8 Computer -CF82E129 Synchroniser I/F	
No	Description
1	Frame Ground
2	Rx A
3	Tx B
4	Tx C
5	Spare
6	Rx C
7	Rx B
8	Tx A
9	Frame Ground

S114E 20 Way Ribbon Pinout - CF82E144		
25 Way Hard Wire D Pinout -SL696 Mstr Transp. Sel. -SL675 Connector Panel		
H.W.	Ribn	Description
1	1	Master SMPTE Common
2	3	Master SMPTE - to Reader
3	5	Spare
4	7	"C" SMPTE +
5	9	"C" Transport Common
6	11	"B" Transport Common
7	13	"B" SMPTE -
8	15	Spare
9	17	"A" SMPTE +
10	19	"A" Transport Common
11	21	Spare
12	23	Spare
13	25	Spare
14	2	Master SMPTE + to Reader
15	4	Master SMPTE Common
16	6	"C" Transport Common
17	8	"C" SMPTE -
18	10	Spare
19	12	"B" SMPTE +
20	14	"B" Transport Common
21	16	"A" Transport Common
22	18	"A" SMPTE -
23	20	Spare
24	22	Spare
25	24	Spare

B1 - 24 way BICC Connector pinout
From: Producers Panel: CF621 (pins)
To: Mainframe 651 MRAC M1 (sockets)

No	Description	CF621 colour	Mainframe loom ref	CF651 MRAC M1
1	Cues Switch	Grey	X1 red	BJ
2	Cues Lamp	Blue	X1 blk	BK
3	Omni Switch	Yellow	X2 red	BL
4	Omni Lamp	Violet	X2 blk	BM
5	MD Switch	Green	X3 red	BN
6	Listen Switch	Red	X3 blk	BP
7	Stereo Cans L	Orange	X4 red	BR
8	Stereo Cans R	Grey	X4 blk	BS
9	Aux 1 Cans L	Blue	X5 red	BT
10	Aux 1 Cans R	Yellow	X5 blk	BU
11	Aux 2 Cans L	Violet	X6 red	BV
12	Aux 2 Cans R	Green	X6 blk	BW
13	LF Monitor	Red	X7 red	BX
14	RF Monitor	Orange	X7 blk	BY
15	Prod Mic Screen	Screen	screen	CD
16	Prod Mic Signal	Blue	X9 red	CE
17	Prod Mic +1.5v	Red	X9 blk	CF
18	+20v	Red	PWR RED	
19	-20v	Blue	PWR BLU	
20	0v	Green	PWR GRN	
21	Dim Switch	White	X8 red	BZ
22	Omni +20V	Brown	X8 blk	CA
23				
24	Chassis	Black	X4 - X8 Screens	

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17 May 85

B2 19 way BICC Connector pinout			
Power Supply Cable Connections to BICC Metalok Bantam Connector B2			
No	Description	Cable Size	Colour
A	+48v 1A	16/0.2	Orange
B	+20v 15A	50/0.25	Red
C	+20v 15A	50/0.25	Red
D	+20v 15A	50/0.25	Red
E	+20v 5A	50/0.25	White
F	Not Used		
G	+13v 5A	50/0.25	Brown
H	Not Used		
J	0v 15A	50/0.25	Yellow
K	0v 15A	50/0.25	Yellow
L	0v 1A	16/0.2	Black
M	+263v 1A BG	16/0.2	Yellow
N	+13v 1A BG	16/0.2	Violet
P	Not Used		
R	-20v 15A	50/0.25	Blue
S	-20v 15A	50/0.25	Blue
T	-20v 15A	50/0.25	Blue
U	Not Used		
V	Chassis	50/0.25	Grn/Yellow

B5 12 way BICC Connector pinout			
Power Dist to Bargraph Master Card			
No	Description	Cable Size	Colour
1	Not Used		
2	Not Used		
3	Not Used		
4	+263V	32/0.2	Yellow
5	-20v 1A BG	32/0.2	Blue
6	HT (Common)	32/0.2	Violet
7	0V	32/0.2	Green
8	+20V	32/0.2	Red
9	+13V	32/0.2	Brown
10	Not Used		
11	Not Used		
12	Not Used		

BT 6 way BICC Connector pinout	
Multitrack Remotes 3 wire 4 per 8 - 611E Modules	
No	Description
1	Record Contact a odd nos
2	Record Contact b odd nos
3	Record Contact c odd nos
4	Record Contact a even nos
5	Record Contact b even nos
6	Record Contact c even nos

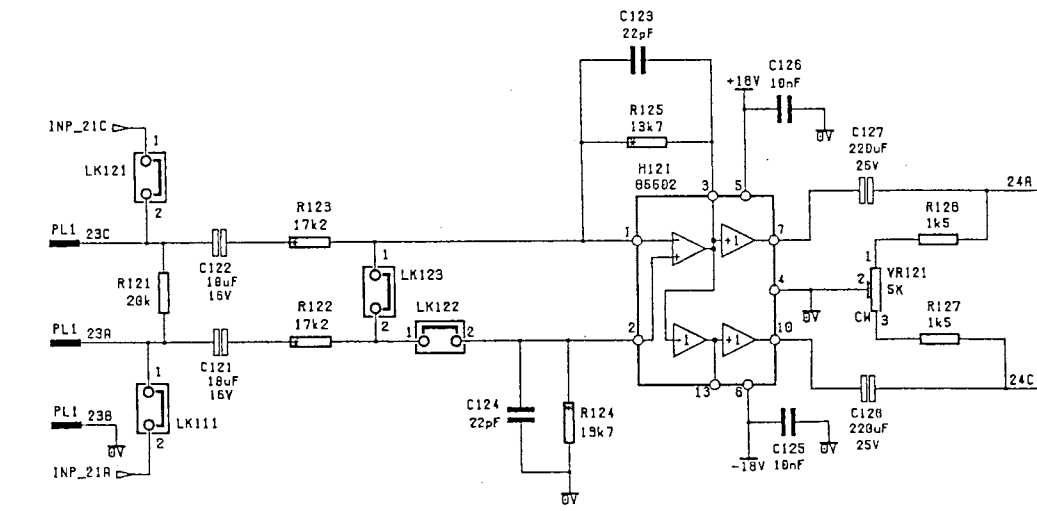
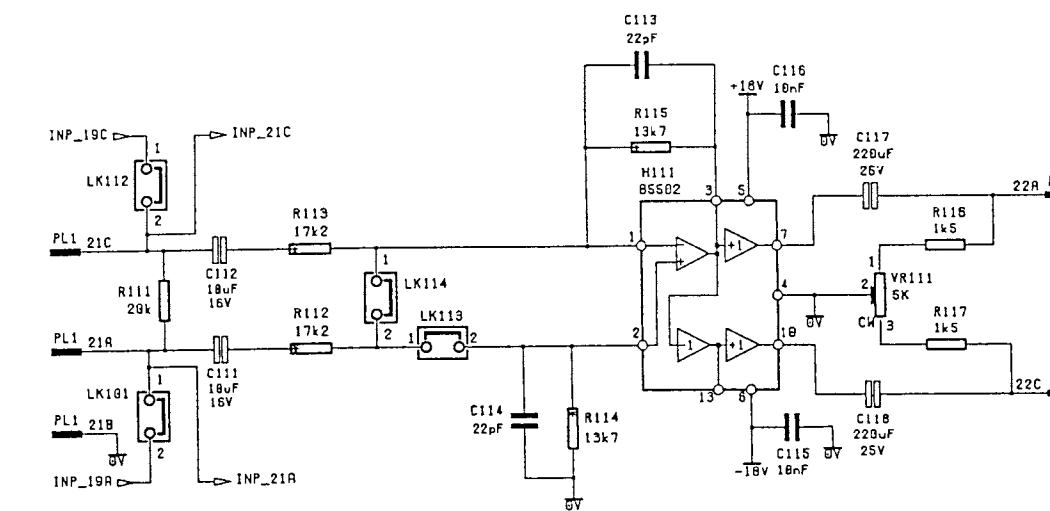
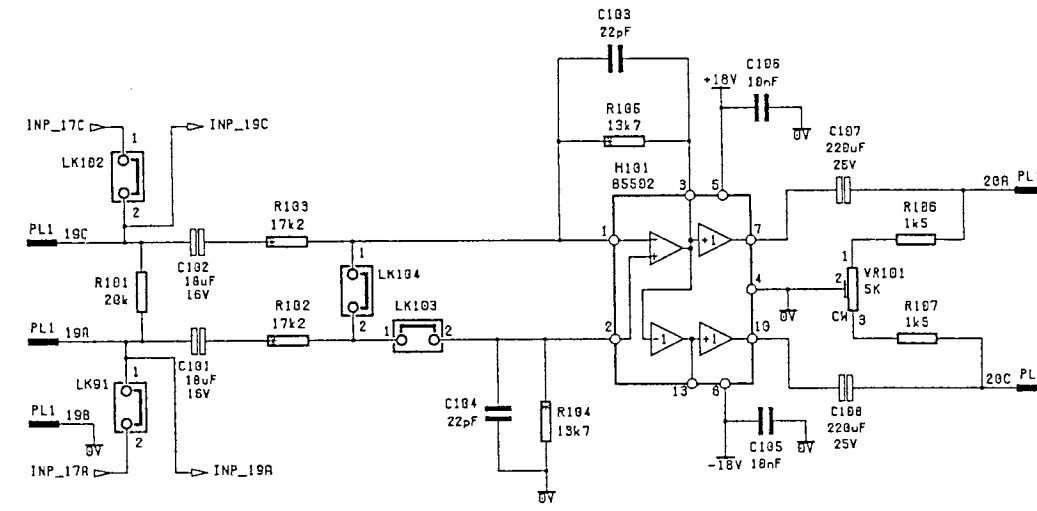
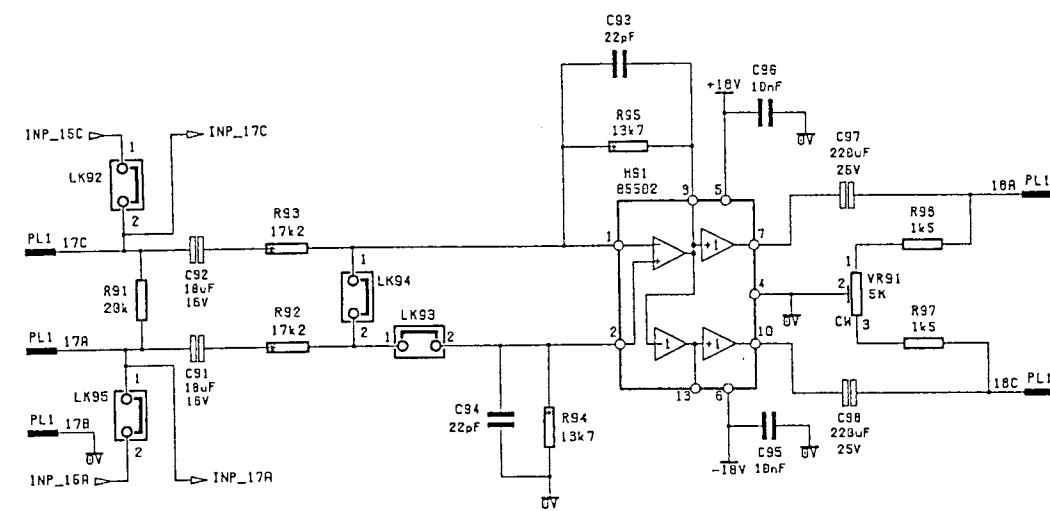
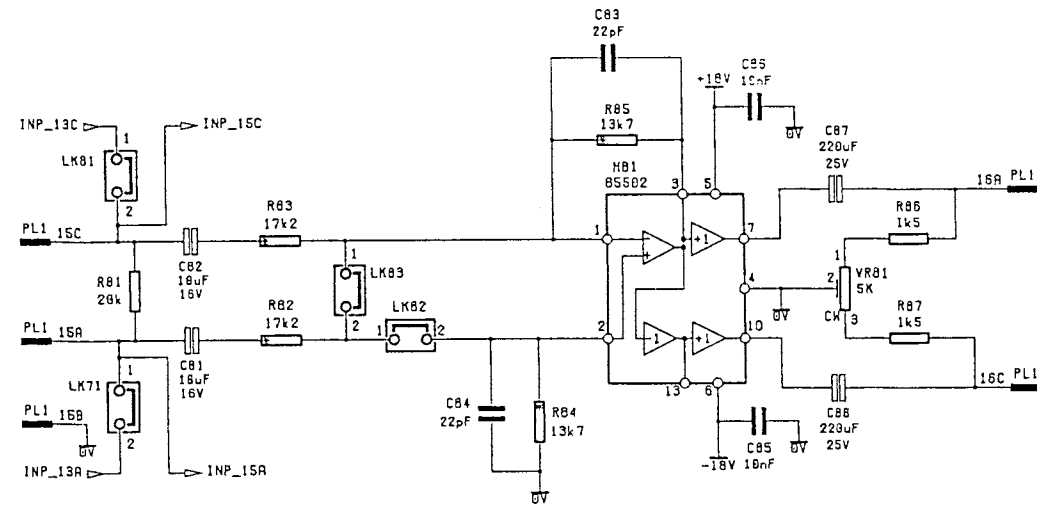
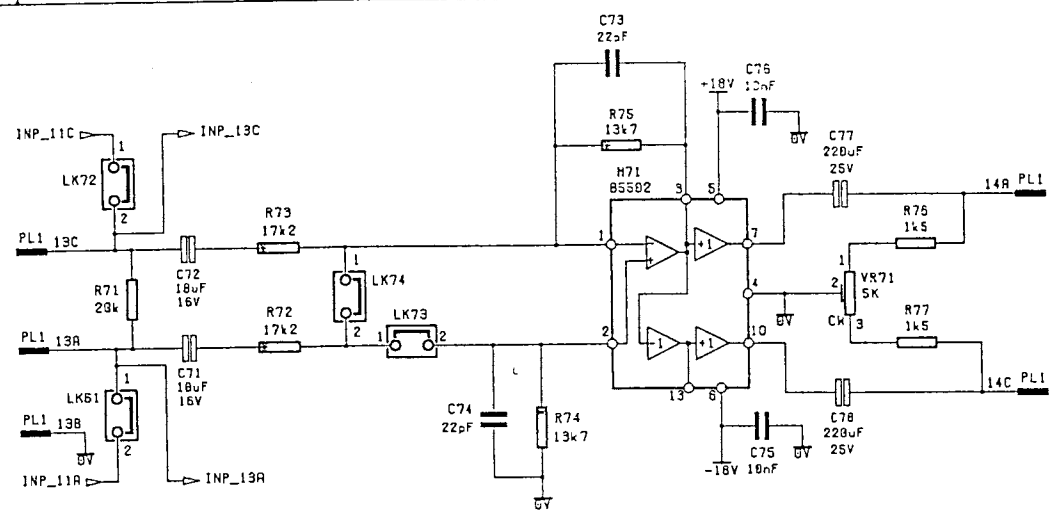
B3 6 way BICC Connector pinout			
Bus Card Power 1 per 8 - 611E Modules 82E18 Upper Bus Card			
No	Description	Cable Size	Colour
1	+20v	16/0.2	Red
2	0v	32/0.2	Green
3	-20v	16/0.2	Blue
4	-20v lamps		
5	+13v	16/0.2	Brown
6	48v	16/0.2	Orange

B4 6 way BICC Connector pinout		
Bus Card Signals 28 per 8 - 611E Modules:-		
B4 B	Mic Input	
B4 D	Line Input	
B4 E	Insert Send	
B4 F	Insert Return	
B4 G	Group Out	
B4 H	Group Monitor	
B4 K	Tape Monitor	
No	Description	Colour
1	0° odd nos	Red
2	screen	Wire
3	180° odd nos	Black
4	0° even nos	Red
5	screen	Wire
6	180° even nos	Black

BT 6 way BICC Connector pinout	
Multitrack Remts 4 Wire 4 per 8 - 611E Modules	
No	Description
1	Record Contact a odd nos (a)
2	Record Contact common (b)
3	Record Sense c odd nos (c)
4	Record Contact a even nos (a)
5	Record Sense Common (d)
6	Record Sense c even nos (c)

S126E,127E Stereo Module Remote Connector			
26 Way Ribbon Cable to 25 Way D Connector			
No	Description	Module	Bicc Pin No.
1	Start Switch	1	BT1 1
2	Switch Common	1	BT1 2
3	Stop Switch	1	BK1 1
4	Start Sense	1	BT1 3
5	Sense Common	1	BT1 5
6	Stop Sense	1	BK1 3
7	Start Switch	2	BT1 4
8	Switch Common	2	BT1 2
9	Stop Switch	2	BK1 4
10	Start Sense	2	BT1 6
11	Sense Common	2	BT1 5
12	Stop Sense	2	BK1 6
13	Start Switch	3	BT2 1
14	Switch Common	3	BT2 2
15	Stop Switch	3	BK2 1
16	Start Sense	3	BT2 3
17	Sense Common	3	BT3 5
18	Stop Sense	3	BK2 3
19	Start Switch	4	BT2 4
20	Switch Common	4	BT2 2
21	Stop Switch	4	BK2 4
22	Start Sense	4	BT2 6
23	Sense Common	4	BT2 5
24	Stop Sense	4	BK2 6
25	0V		
26	Not Used		

T0631V.5A
12 Dec 84



- PL1 2B
- PL1 4B
- PL1 6B
- PL1 8B
- PL1 10B
- PL1 12B
- PL1 14B
- PL1 16B
- PL1 18B
- PL1 20B
- PL1 22B
- PL1 24B

E2 VERSION

THE FOLLOWING CHANGE TO BE MADE

PL1 - 96 WY VT (SSL STOCK NO 32JR96AU)

INTRODUCED BY ECO 4K/1059 TO EASE

INSTALLATION INSIDE BULGE BACK PANEL

ON E1 & E3 BUILDS PL1 IS

96 WY RT (SSL STOCK NO 32JC96BU)

E3 VERSION

PROVIDES A BUFFER GAIN OF 0dB

BY MAKING THE FOLLOWING CHANGES

R72,73,82,83,92,93,102,103,112,113,122,123 - 27K4

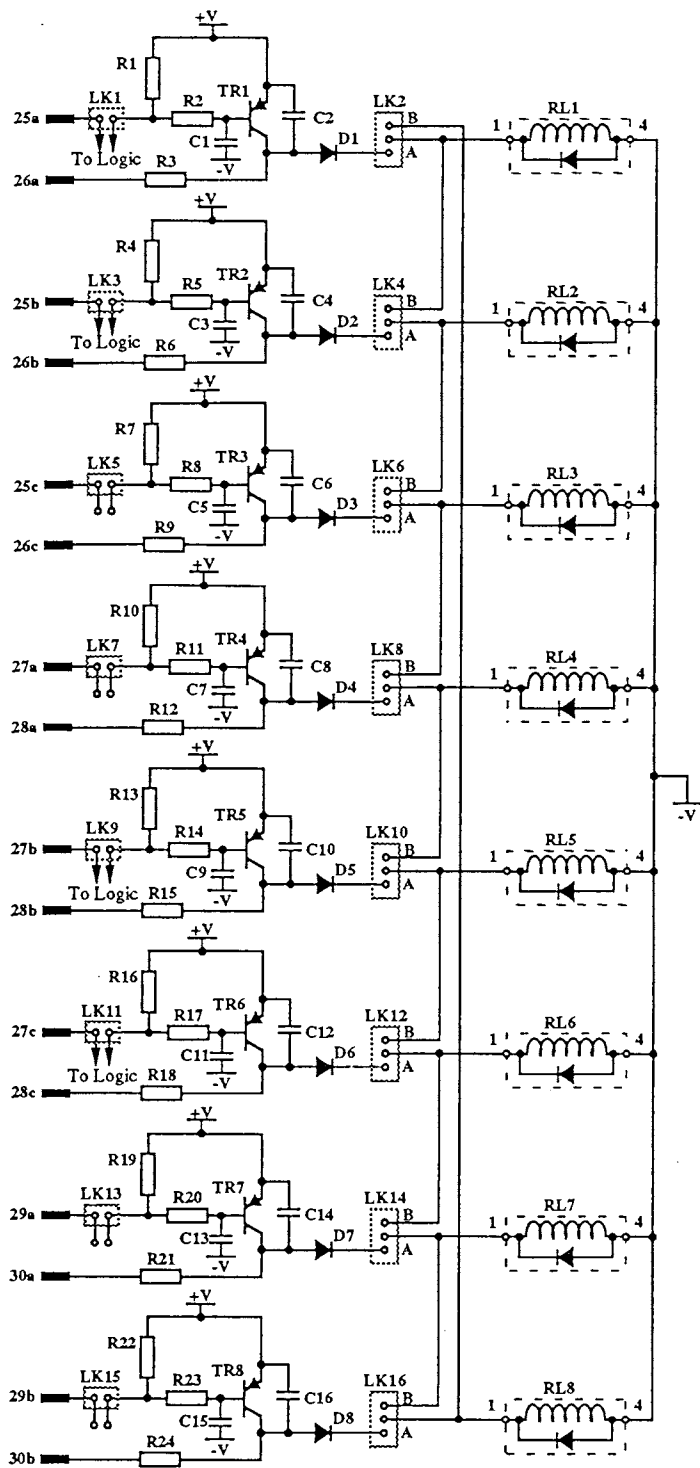
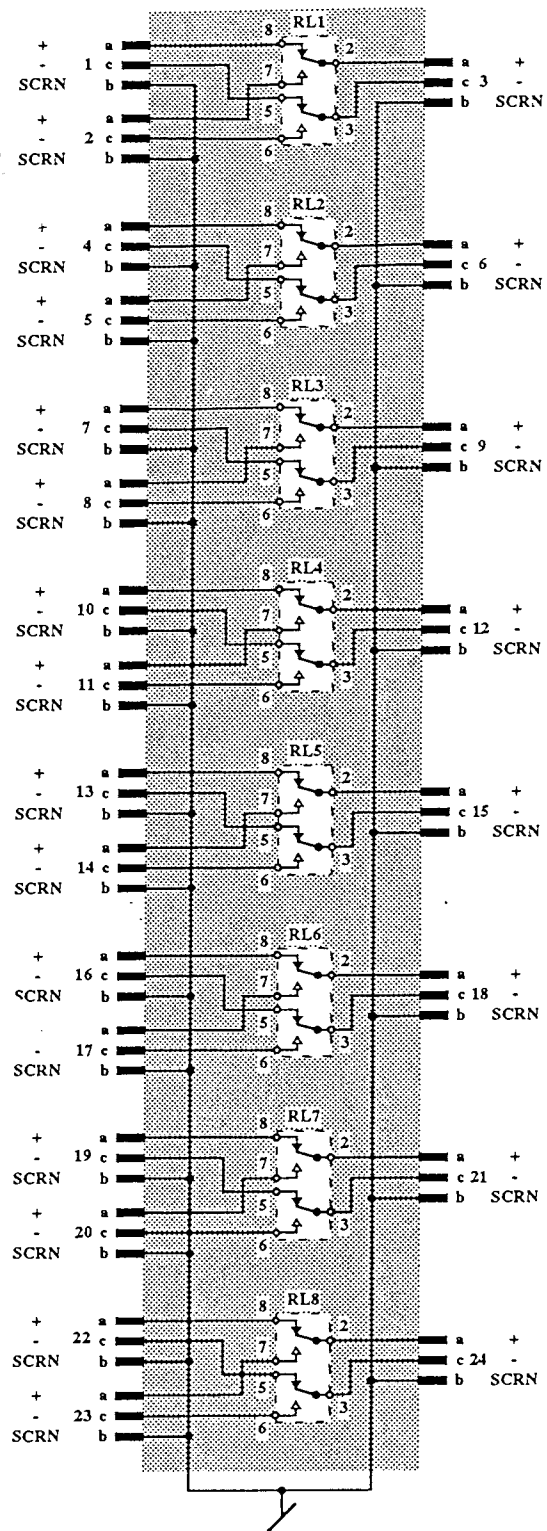
INTRODUCED BY ECO 4K/1195 FOR USE IN G+ CONSOLES

TO BUFFER THE MAIN OUTPUT DISTRIBUTION

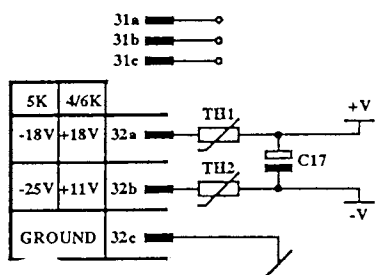
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PERMISSION OF SOLID STATE LOGIC.

REV	ISS	DATE	DETAILS
0	A	31 JUL 92	NEW DRAWING BC MM
1	A	21 SEP 92	ECO 4K/1019 NO CHANGE MM
1	B	28 APR 93	DETAIL ADDED FOR E2 AND E3 BUILDS MM

			PCB ISSUE AB
USED ON	631	A2	
TITLE			
12x BAL BUFFER +4dB			
DRG.NO.			
T82382.72			
SHEET 2 OF 2			
Solid State Logic			



Note : For Logic Circuit details see T82370E2.72 & T82370E2.73

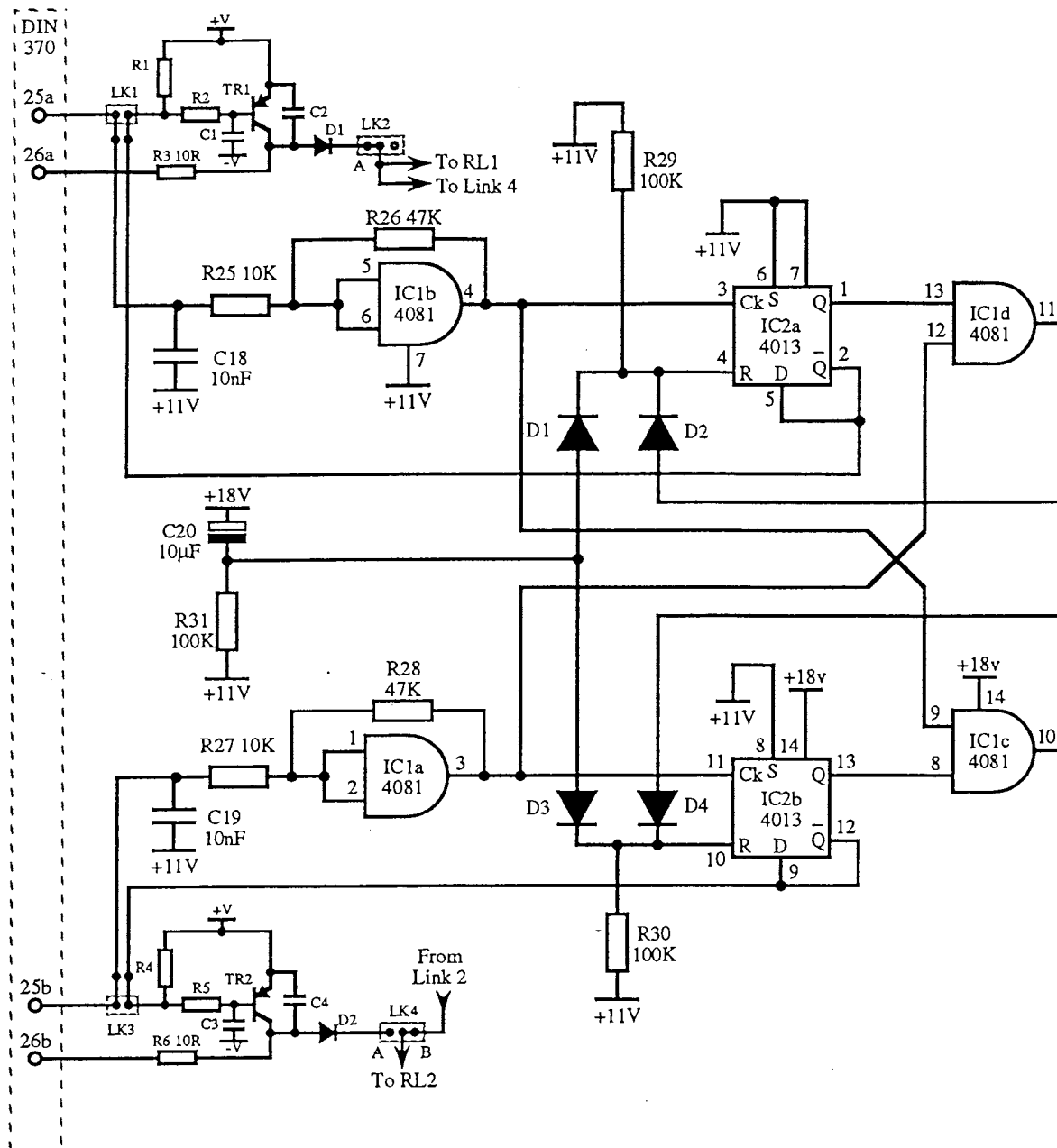


RL1-8 - (HAMLIN HE822C5033)
 R1,4,7,10,13,16,19,22 - 0.25W 5% 100K
 R2,5,8,11,14,17,20,23 - 0.25W 5% 4K7
 R3,6,9,12,15,18,21,24 - NOT FITTED
 C1 - C16 - NOT FITTED (0.1 INCH PITCH)
 C17 - 22uF 25V
 TH1 & TH2 - 2R2
 TR1 - TR8 - BFR80

Solid State Logic

TITLE: 8 x Audio Changeover Relays & Drivers		
SHEET: T82370E2.71	DRAWN BY: DM	
ISSUE: 1.0	REVISION: 1.0	DATE: 18/4/94

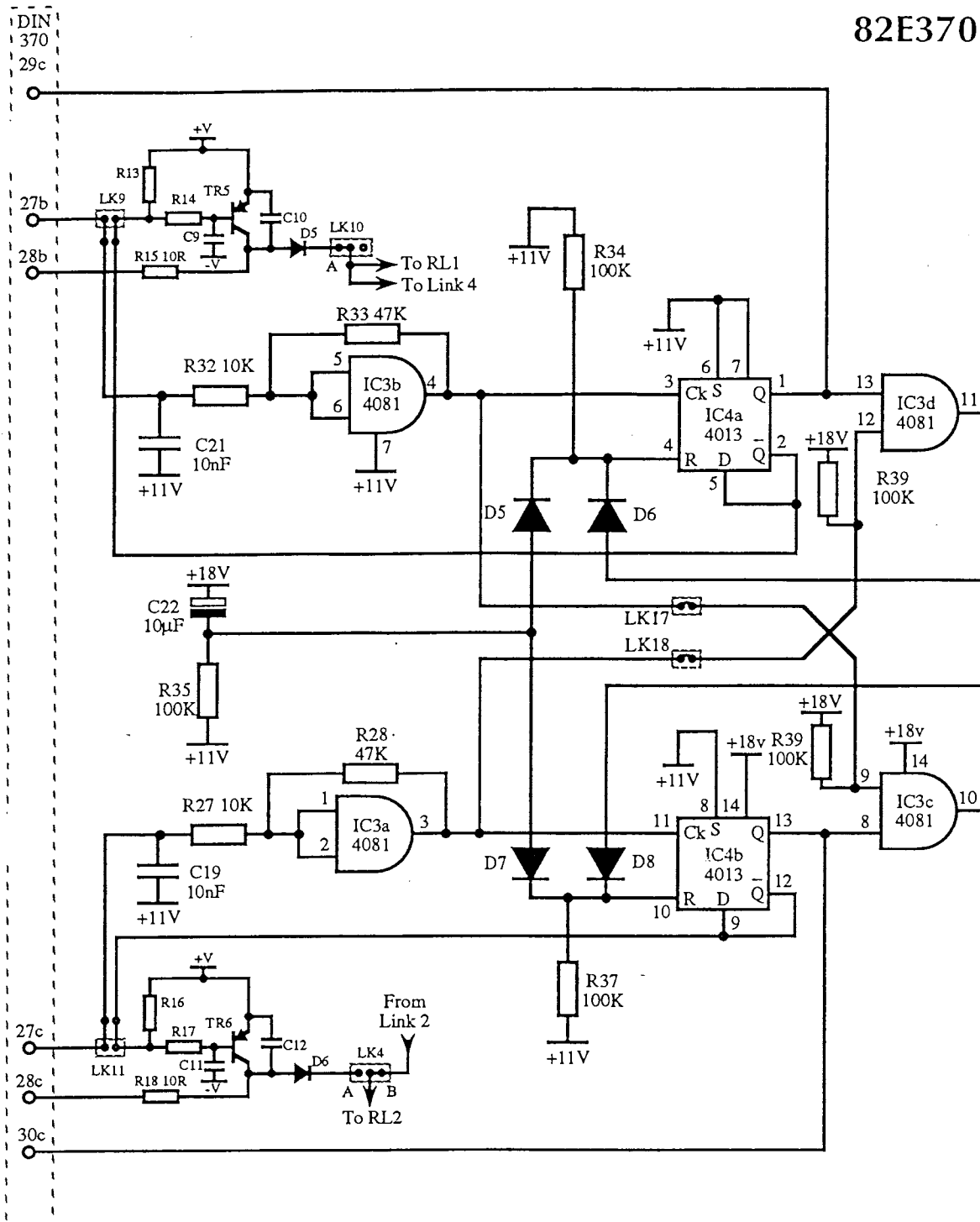
82E370E2 Card



Solid State Logic

TITLE: 370 Card Logic		
SHEET: T82370E2.72	DRAWN BY: DM	
ISSUE: 1.0	REVISION: 1.0	DATE: 18/8/94

82E370E2 Card



Solid State Logic

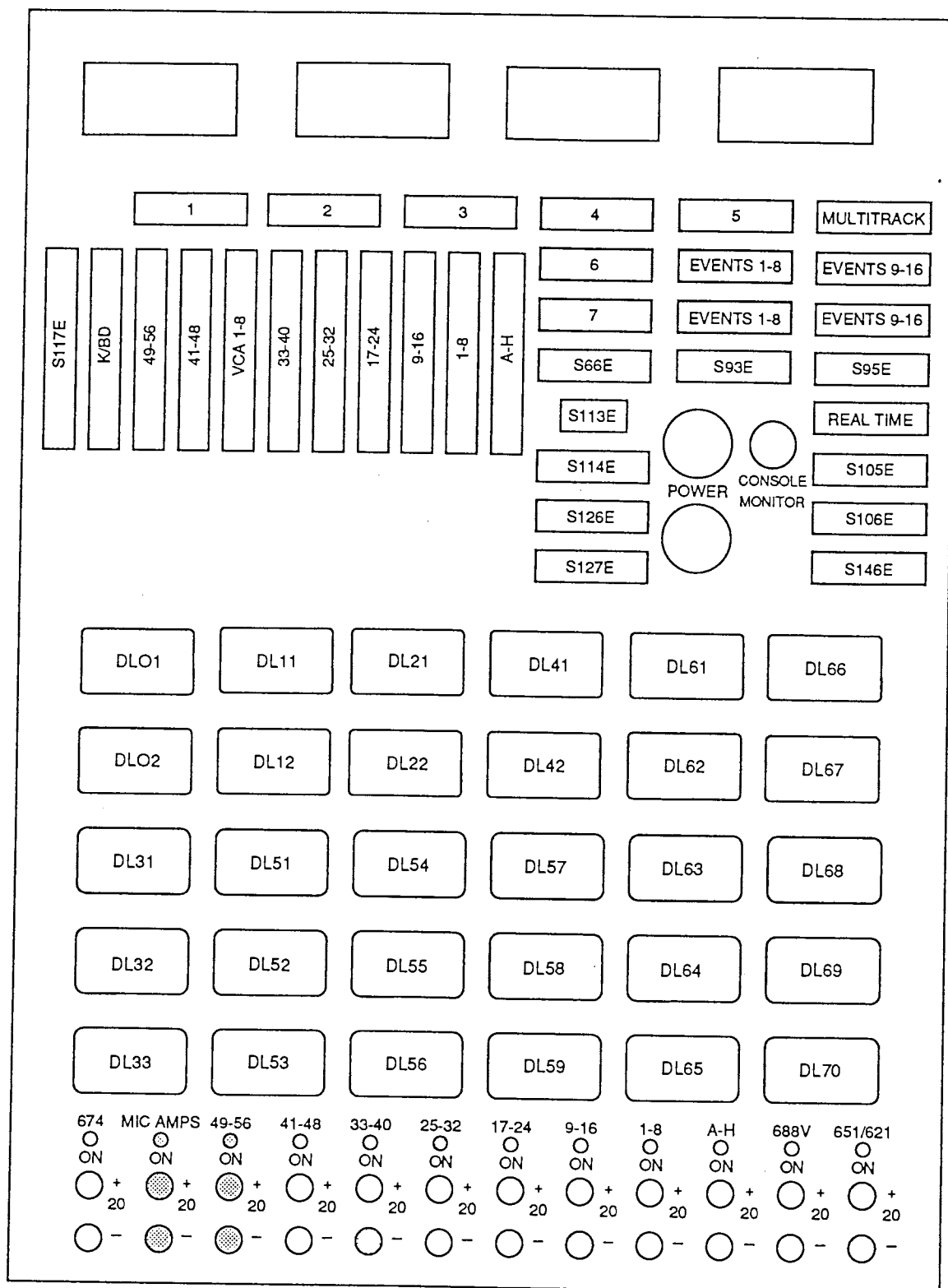
TITLE: 370 Card Logic		
SHEET: T82370E2.73	DRAWN BY: DM	
ISSUE: 1.0	REVISION: 1.0	DATE: 18/8/94

Solid State Logic

SL4000 G Console Service Manual

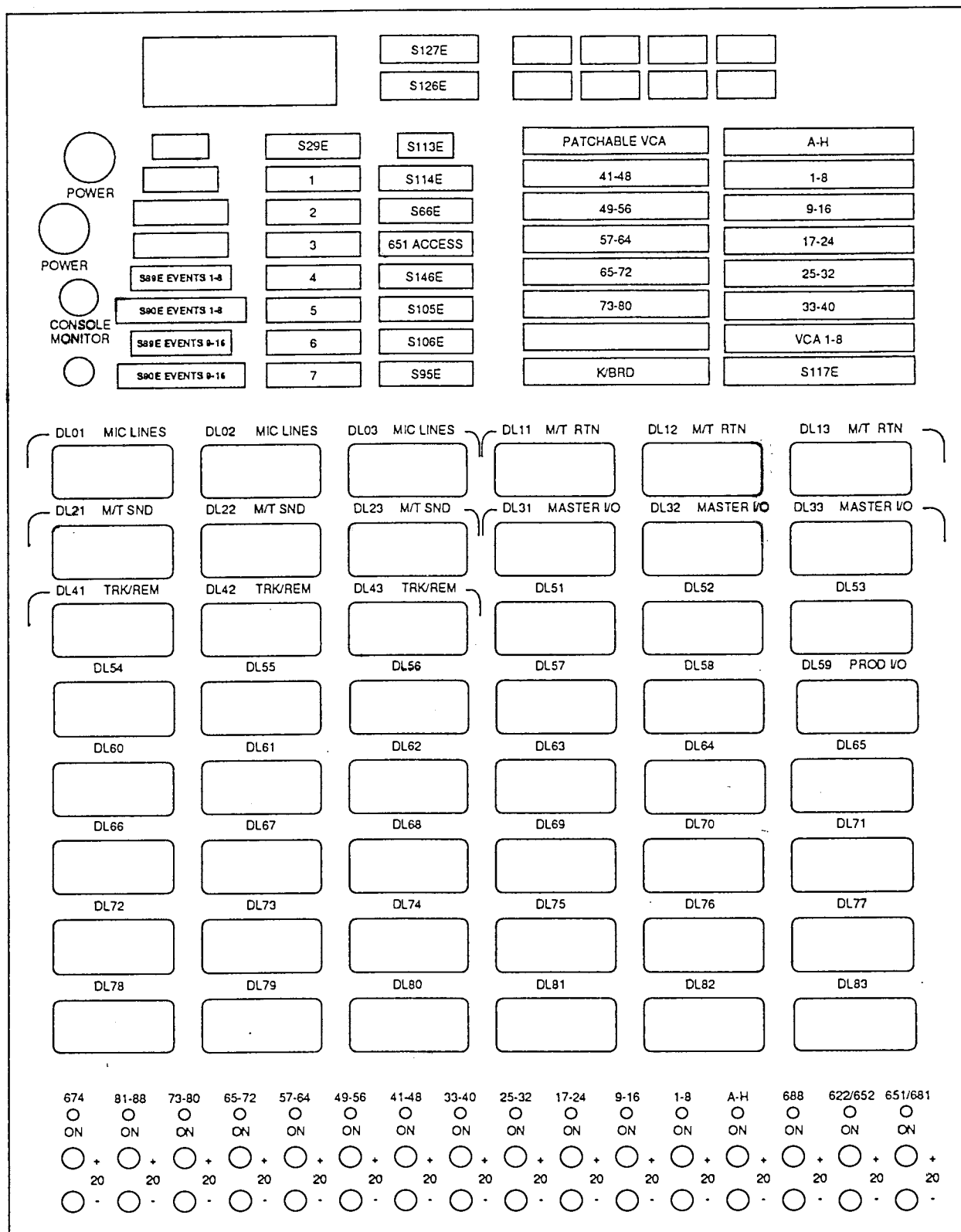
SECTION 6

SL 675E Main Connector Panel and Interfacing DL Connections



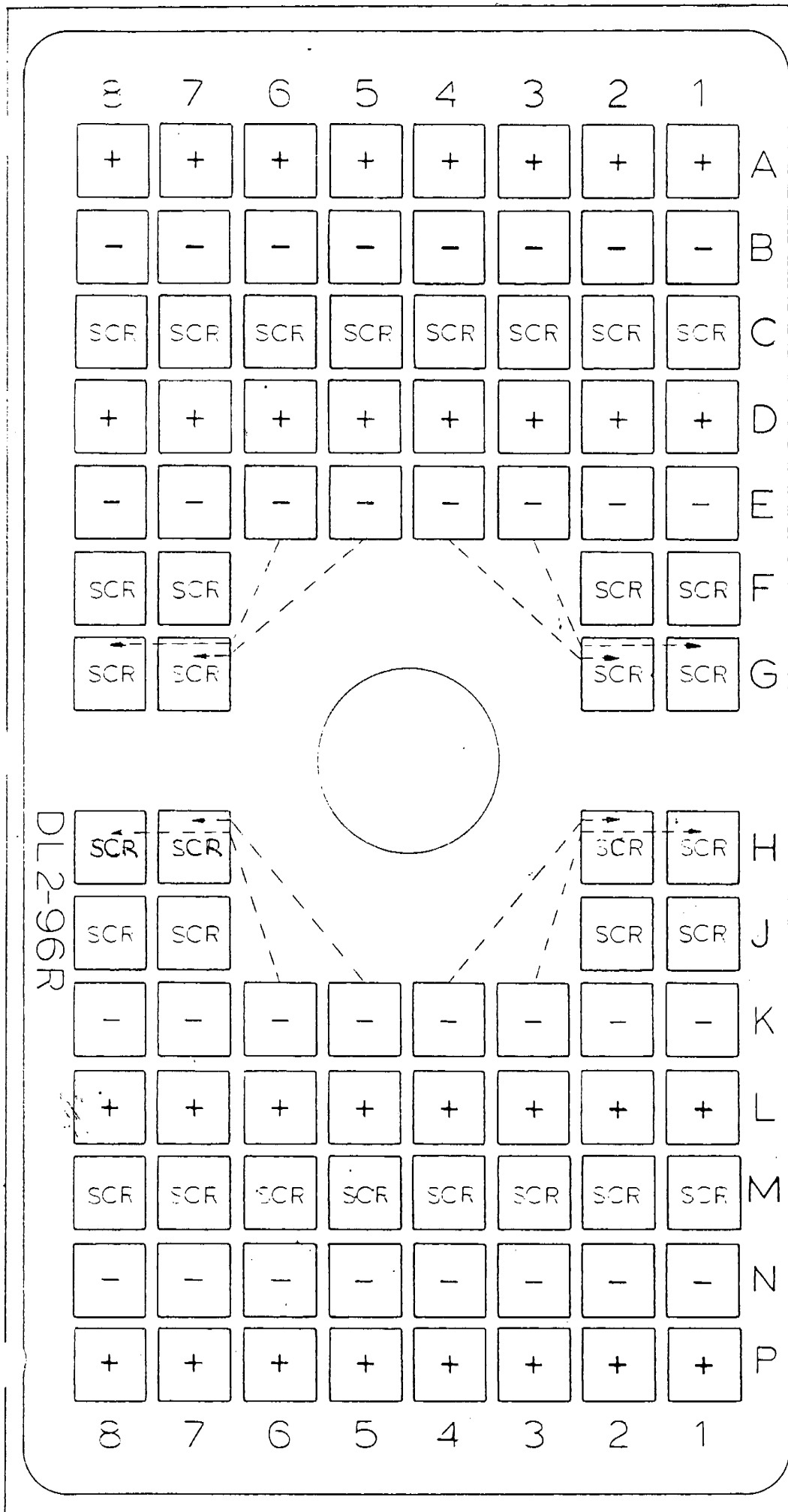
Note: MKI panels are supplied on consoles fitted with 48 channels or less.

Solid State Logic		
TITLE: CONNECTOR PANEL MKI		
SHEET: 53775021	REVISION: X	DRAWN BY: SH
		DATE: 20/8/90



Note: MKII panels are supplied on consoles fitted with 56 channels or more.

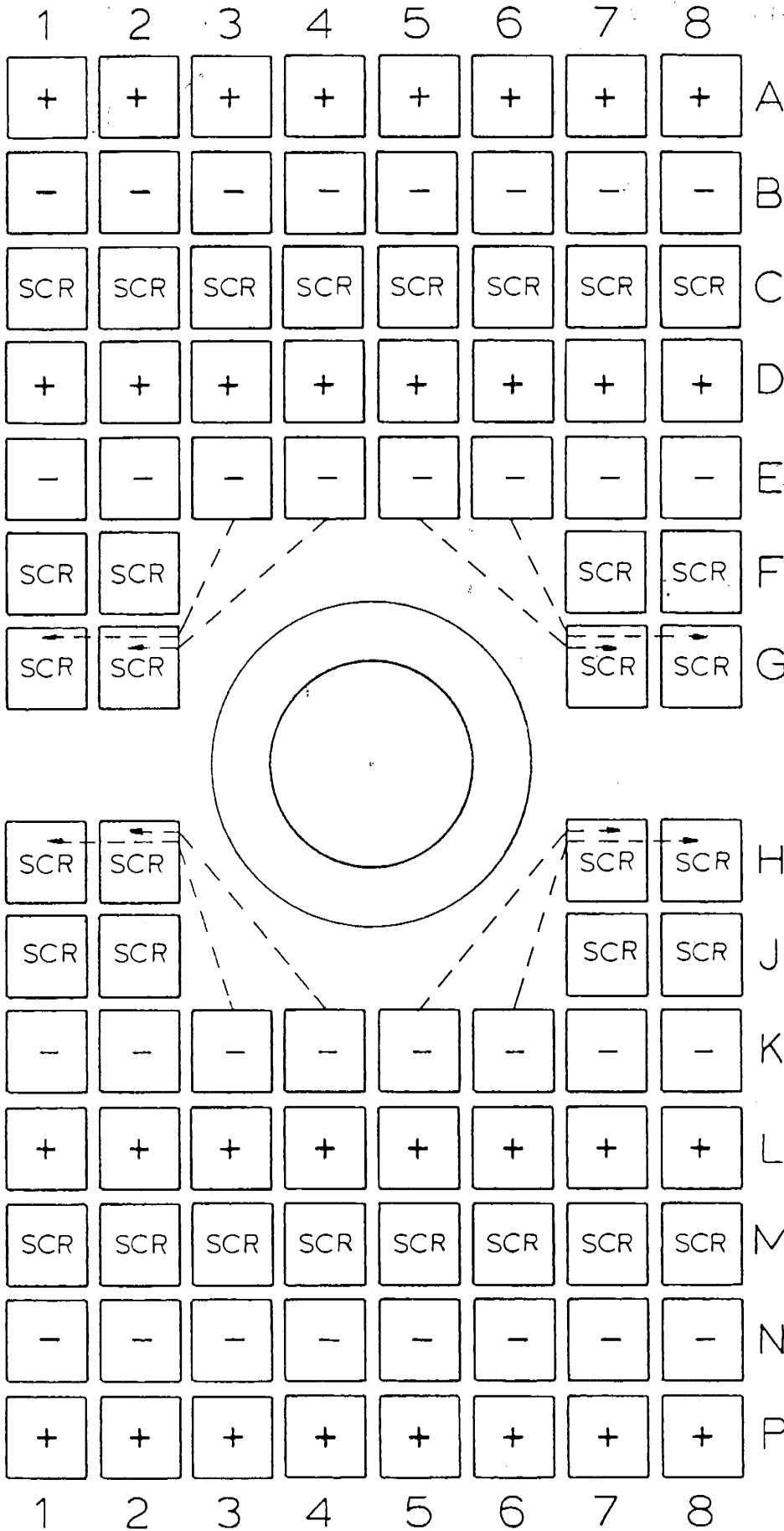
Solid State Logic		
TITLE: CONNECTOR PANEL MKII		
SHEET: 53775361	REVISION: C	DRAWN BY: SH
		DATE: 20/8/90



Solid State Logic Stonesfield · Oxford · England		CHASSIS SOCKET CONNECTOR VIEWED FROM WIRING SIDE.		REV.
CONTRACT NO.		DATE	DWG. NO.	REV.
APPROVALS	13-12-79	13-12-79	675E-214-7912-0	
DRAWN J. EVINS.	13-12-79	13-12-79		
CHECKED				
ISSUED				
FSCM NO.		SIZE	SCALE	SHEET 1 OF 1
		A4	-	

CONNECTOR NO

DL2-96P



CONTRACT NO.

Solid State Logic
Stonesfield · Oxford · England

FREE PLUG CONNECTOR
VIEWED FROM WIRING SIDE.

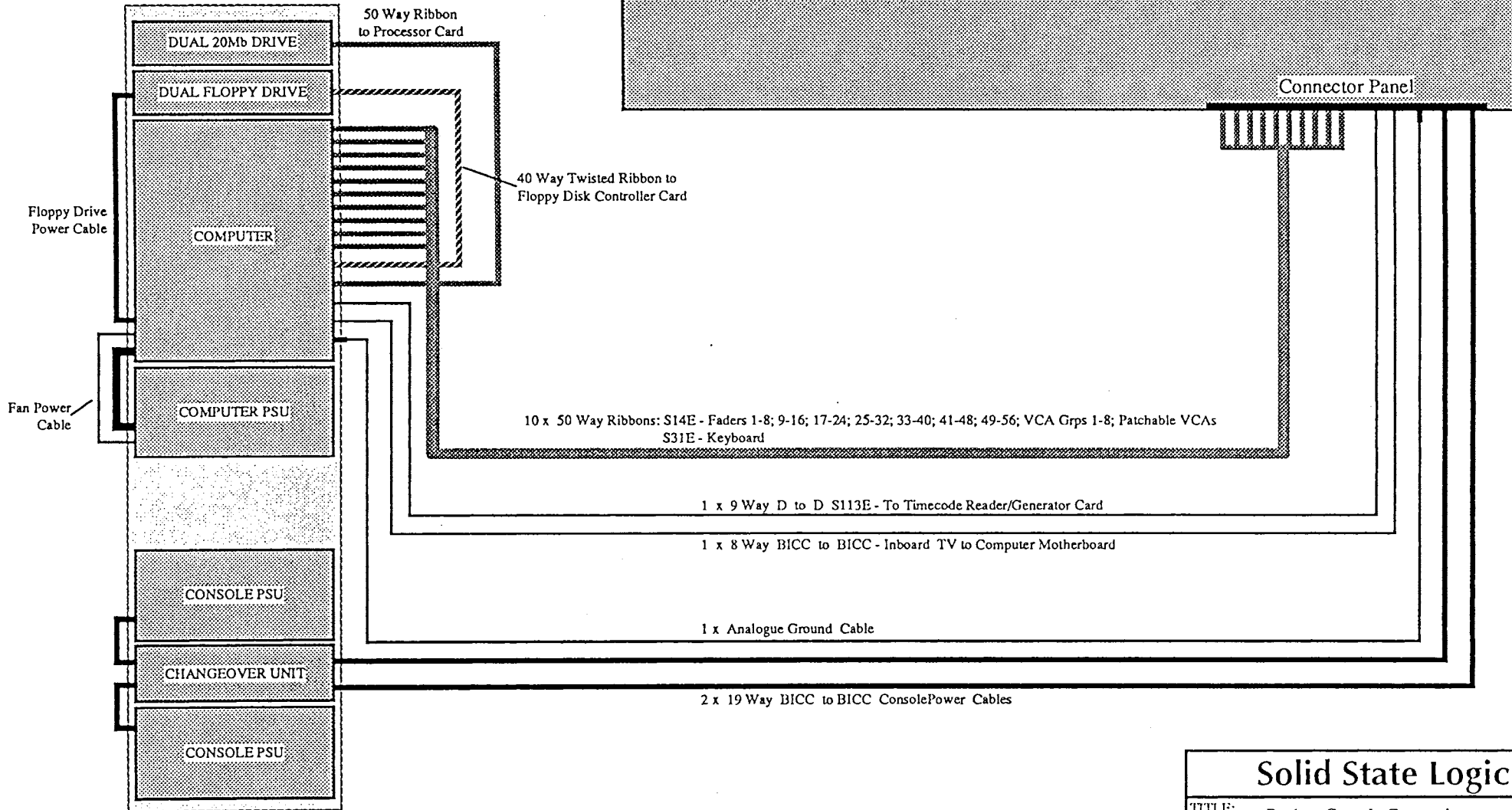
APPROVALS	DATE
DRAWN J. EVINS.	13-12-79
CHECKED	13-12-79
ISSUED	13-12-79

SIZE	FSCM NO.	DWG. NO.	REV.
A4		675E-213-79	1-0

SCALE -- SHEET 1 of 1

CONNECTOR NO

39U Rack



Solid State Logic

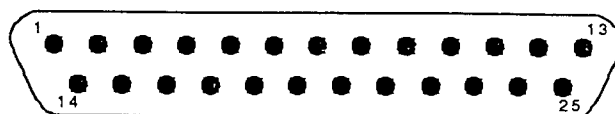
TITLE: Rack to Console Connections		
CONSOLE: 4000G Series - 56 Channels	DRAWN BY: APTII/DG	
SHEET: 1 of 1	REVISION: 1.0	DATE: 13/1/93

Tape Machine Interconnections

480 REMOTE

Function	S29E Machine to 'Multitrack' Connector D25 Solder	S29E 'Multitrack' Connector to Keyboard D25 IDC	S31E Keyboard Cable to Computer	S30E From Tape I/F Card in Computer
Sync/Repro	1	1	N/A	N/A
Sync/Repro	14	2	N/A	N/A
Lamp Common	2	3	N/A	N/A
Switch Common	15	4	21, 25, 33, 34, 37, 38	3, 4, 7, 8, 15, 19
RW Switch	3	5	27	13
RW Lamp	16	6	N/A	N/A
FF Switch	4	7	35	5
FF Lamp	17	8	N/A	N/A
Stop Switch	5	9	36	6
Stop Lamp	18	10	N/A	N/A
Play Switch	6	11	40	2
Play Lamp	19	12	N/A	N/A
Edit Switch	7	13	23	17
Edit Lamp	20	14	N/A	N/A
Rec Switch	8	15	39	1
Rec Lamp	21	16	N/A	N/A
Tach Ref	9	17	30	10
Tach	22	18	32	12
Dir. Ref	10	19	29	9
Direction	23	20	31	11

SOLDER	1	3	5	7	9	11	13
IDC	1	5	9	13	17	21	25
FUNCTION	SYNC/REP	REW SWITCH	STOP SWITCH	EDIT SWITCH	TACH REF		
SOLDER	2	4	6	8	10	12	
IDC	2	7	11	15	19	23	
FUNCTION	LAMP COMMON	FF SWITCH	PLAY SWITCH	REC SWITCH	DIR REF		



SOLDER	14	16	18	20	22	24	
IDC	2	6	10	14	18	22	
FUNCTION	SYNC/REP	REW LAMP	STOP LAMP	EDIT LAMP	TACH		
SOLDER	15	17	19	21	23	25	
IDC	4	8	12	16	20	24	
FUNCTION	SWITCH COMMON	FF LAMP	PLAY LAMP	REC LAMP	DIRECTION		

Solid State Logic

SL4000 G Console Service Manual

SECTION 7

SL 641G Patch Panels

At

B

Rev	Date	Chkd	Details

	87		
b	07 09 87	JEv	DRG. MODIFIED - LOCAL AUX SENDS ROW R WAS CONSOLE LHS ECHO SENDS.

E	Title
	CL 40426 BATSUBRAY

Solid State Logic



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Rev	Date	Chkd	Details
a	05 08 87	JEV	NEW DRG. ADDED.
b	07 09 87	JEV	DRG. MODIFIED - LOCAL AUX SENDS ROW R WAS CONSOLE LHS ECHO SENDS.
REF. :- T641 SHT 14			
Title			
SL4056G PATCHBAY.			
Drg. No. T0641G.32			
Solid State Logic			

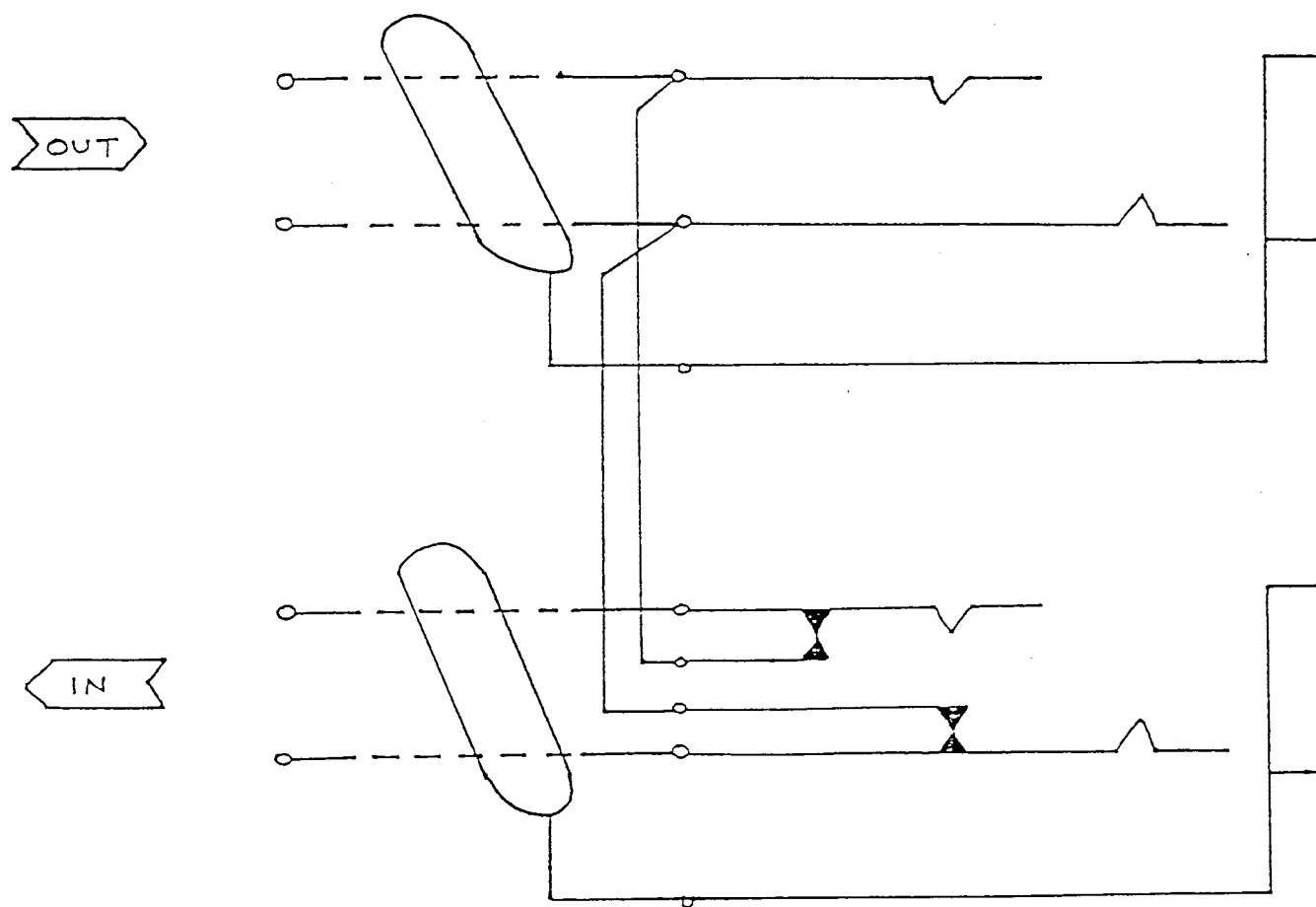
SL641E PATCH POINTS

Wiring details showing half-normalling.

Plain 3 wire sockets without switch are used for all outputs (upper rows) and isolated inputs.

Switched 3 wire sockets are used for inputs (lower rows) unless inputs are isolated (ie. not normalled).

The body of each jack is connected directly to desk chassis.



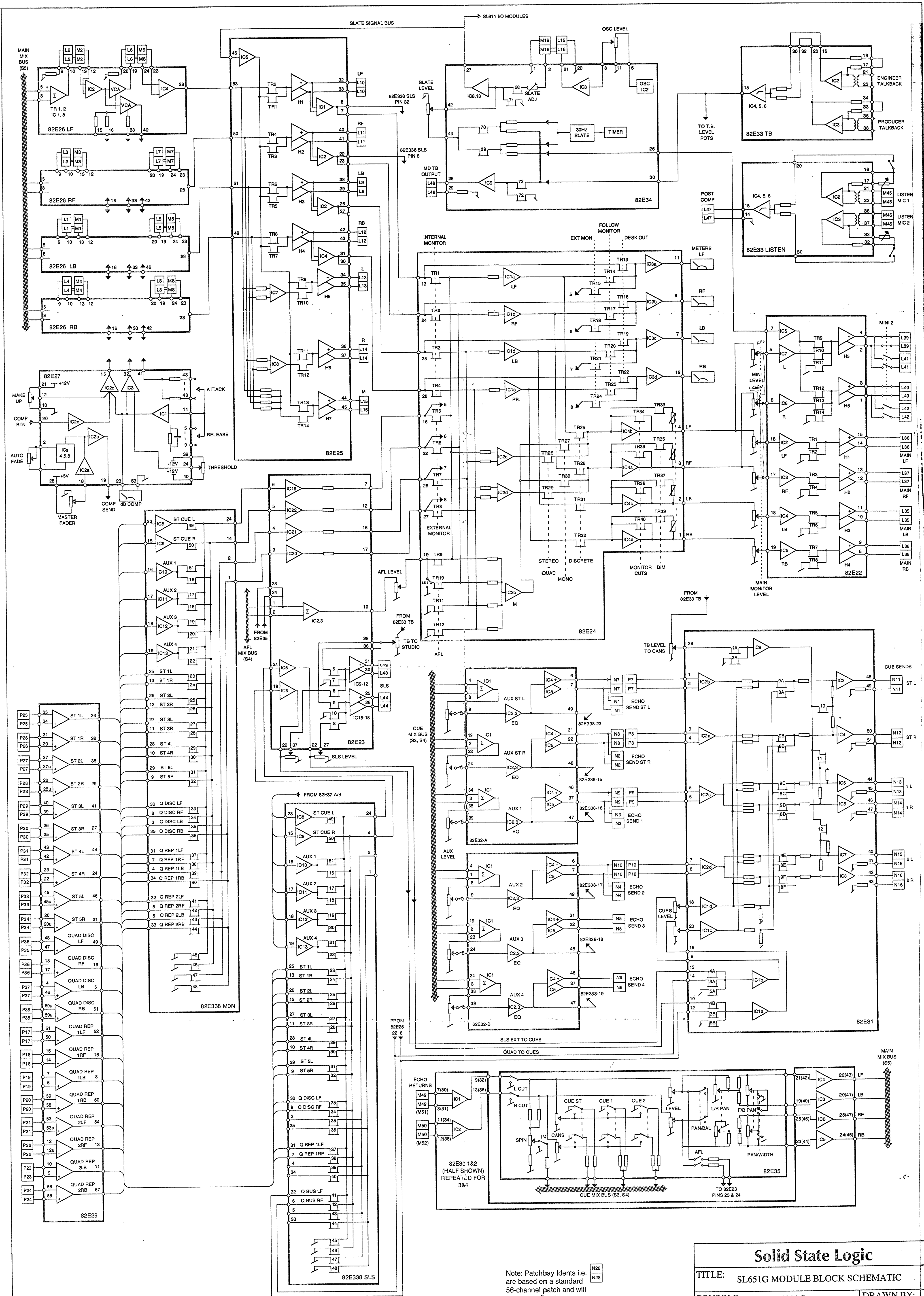
Solid State Logic

SL4000 G Console Service Manual

SECTION 8

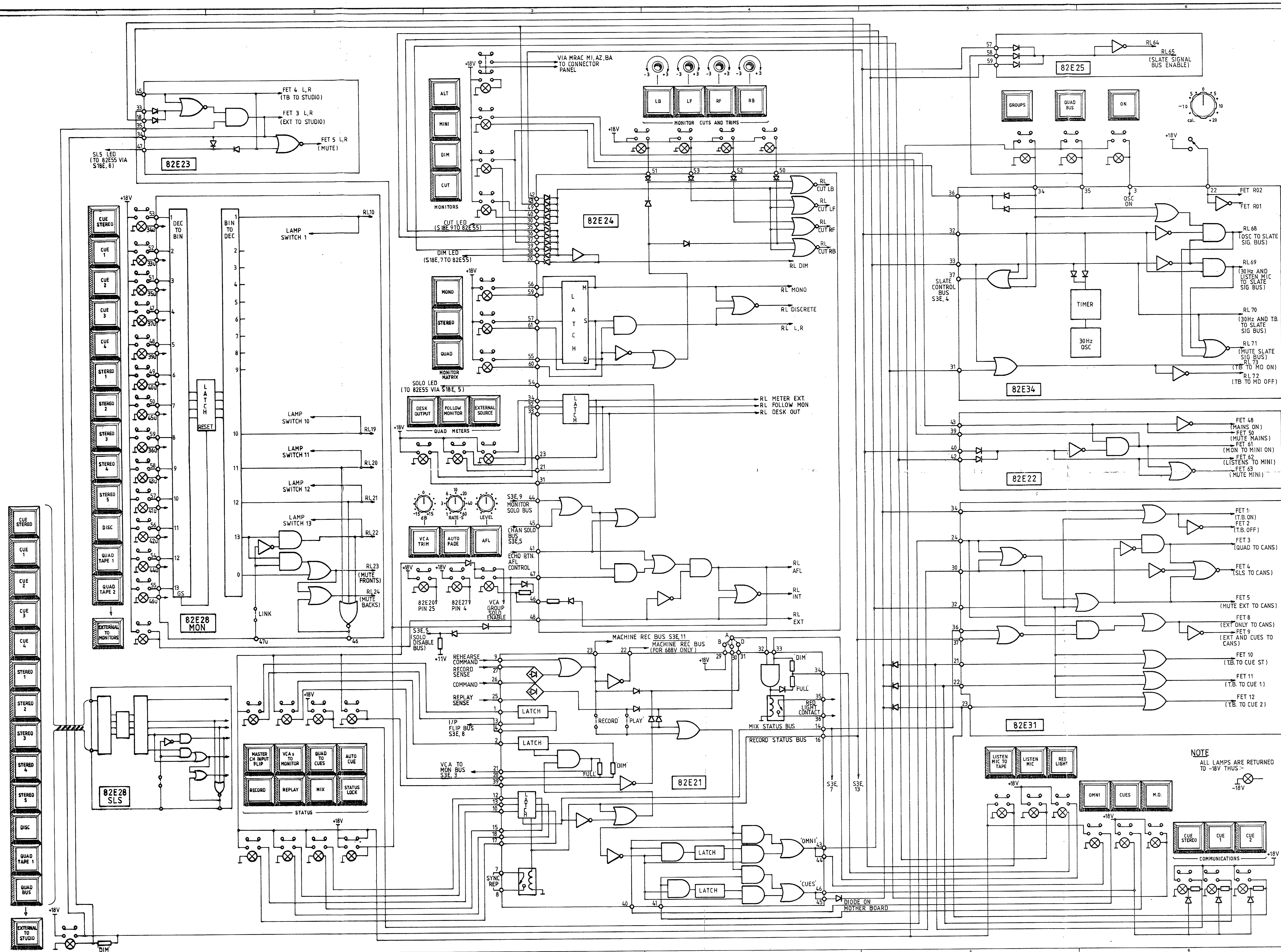
SL 651G Master Module SL 652G Split Cues Module

Card No	Qty	Module	Description
82E20	1	651G	VCA Groupers & Cuts : VCA trim
82E21	1	651G	Master Status : Red Light ; Autocue
82E22	1	651G	Monitor Outputs : Mini LS Outputs
82E23	1	651G	Ext Monitoring Matrix : AFL Amp : SLS
82E24	1	651G	Internal-External-Cut Monitor Relays
82E25	1	651G	Main QB Outputs
82E26	4	651G	QB Mix Amp, Patch, Compress Side Chain
82E27	1	651G	Compressor Master : Quad Fader
82E29	1	651G	External Monitoring Buffers
82E30	2	651G	2 Stereo Echo Returns
82E31	1	651G	Cue Patch Returns : Headphone Outputs
82E32	2	651G	3 Cue Mixing Amps and EQ
82E33	2	651G	2 Talkback/Listen Amps & Compressors
82E34	1	651G	Main & Slate Oscillators : MD Output
82E35	4	651G	Echo Switch Card
82E148	-	-	Dual Buffer/Switch Card (Optional)
82E274	1	651G	Film Monitor Matrix (Replaces 82E24 on SL4000 Film Consoles)
82E338	2	651G	External Monitoring Selectors
82E32	2	652G	3 Cue Mix Amps and EQ
82E308	1	652G	Split Cues Buscard
82E307	1	652G	Split Cues AFL and Buffers



Note: Patchbay Idents i.e. are based on a standard 56-channel patch and will vary according to system specification

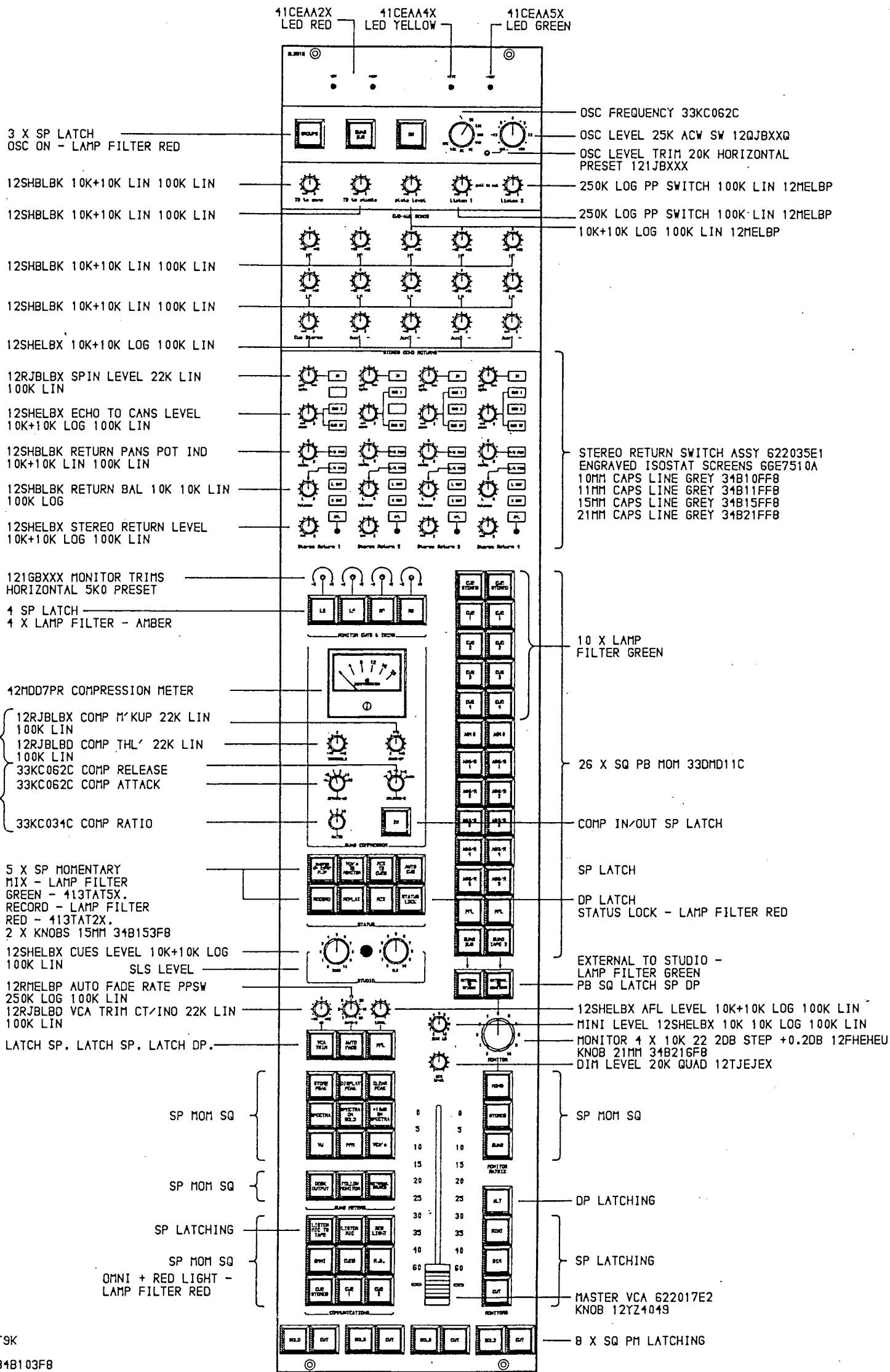
Solid State Logic		
TITLE: SL651G MODULE BLOCK SCHEMATIC		
CONSOLE: SL4000G+	DRAWN BY: GC/DG	
SHEET: T4KG651.41	REVISION: 1.1	DATE: 8/1/95



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Issue	Date	Chkd	Details
a	9-85	P.L.	NEW DRAWING
b	Jan86	DTC	82E23 FET Nos AMENDED
c	Feb86		DRG. RENUMBERED WAS TRAINING 15.

Title
651E SYSTEM LOGIC
Drg. No. T0651E-42
Solid State Logic



ALL LAMPS T5.5 36V 41CPAT9K

ALL UNMARKED KNOBS 10MM 34B103F8

SWITCHES :-

SP MOM - 33DMD11C
SP LATCH - 33DHK11C
DP LATCH - 33DHK12C

LAMP FILTERS :-

RED - 413TAT2X
AMBER - 413TAT3X
YELLOW - 413TAT4X
GREEN - 413TAT5X

CUTS - LAMP FILTER AMBER
413TAT3X

ENGRAVED SCREENS
HIGHLAND 66E75103

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Rev Date Chkd Details

b 29 01 JEV REORAIN &
UP-DATED.

c 27 02 G6 TEXT ADDED EL

SIX51 SHT. 5

FRONT PANEL SPARES -
651E.

Drg. No. 10651E.30

Solid State Logic

SL651 CUE AND SPIN MIXING RESISTORS TO FOLDBACK

E R CARD	R1	R2	R3	R4	R5	R6	R7
1	Cue St L	Cue St R	-	-	Aux 2	Aux 2	Aux 1
2	Cue St L	Cue St R	Aux 1	Aux 1	-	-	Aux 2
3	Cue St L	Cue St R	Aux 1	Aux 1	Aux 2	Aux 2	Aux 3
4	Cue St L	Cue St R	Aux 1	Aux 1	Aux 2	Aux 2	Aux 4
WIRE COLOUR	Red	Blue	White	White	Black	Black	Orange

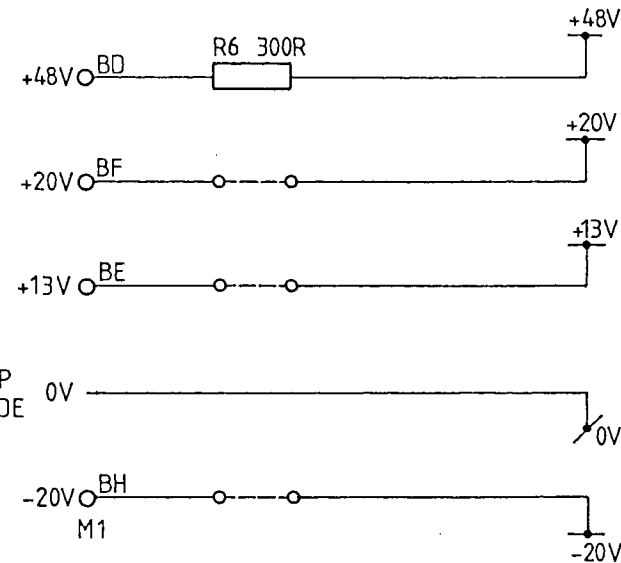
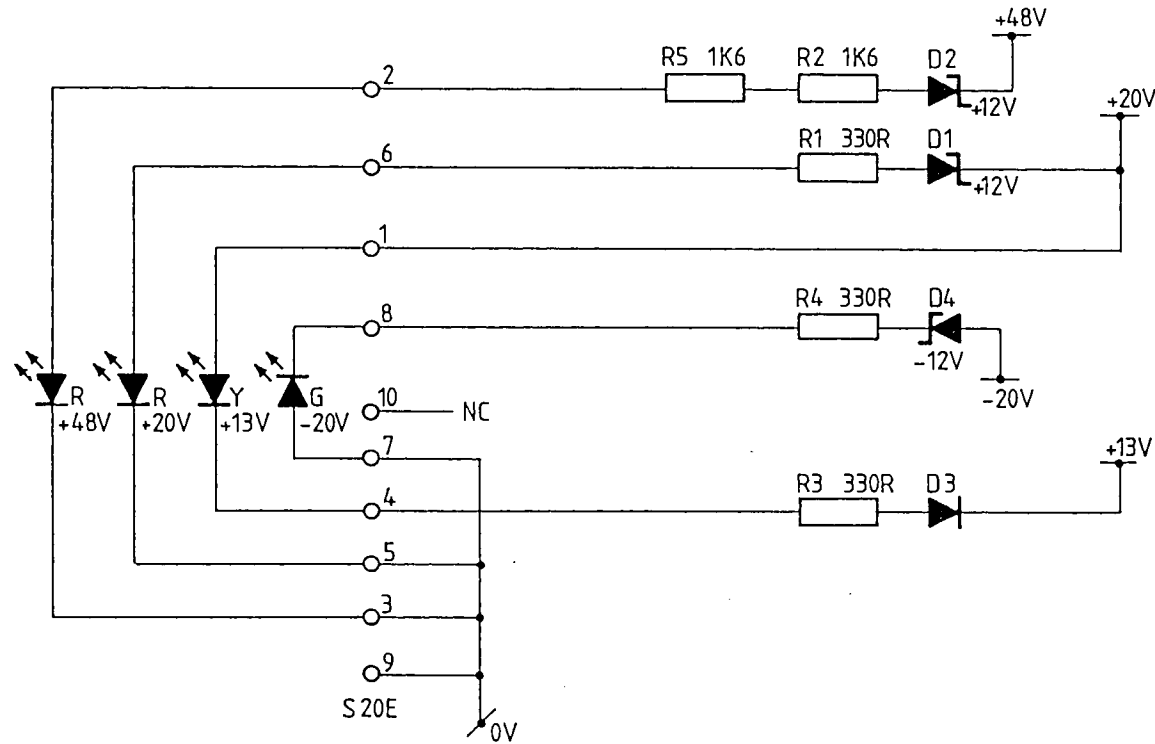
RESISTOR DETAILS

		JIG HOLE
St L	4 x 15K	E
St R	4 x 15K	F
Aux 1	6 x 15K 1 x 15K	G
Aux 2	6 x 15K 1 x 15K	D
Aux 3	1 x 15K	C
Aux 4	1 x 15K	B

29.4.78

651E-430-7804-1

T0651E-72



R RED
Y YELLOW
G GREEN

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Issue	Date	Ckd	Details
1	Feb 86	AHM	REDRAWN. DRAWING RENUMBERED. WAS T0651E-03

Title
POWER RAIL INDICATORS
FUSING AND PROTECTION

Drg.No. T0651E-72

So State Logic

CI.200

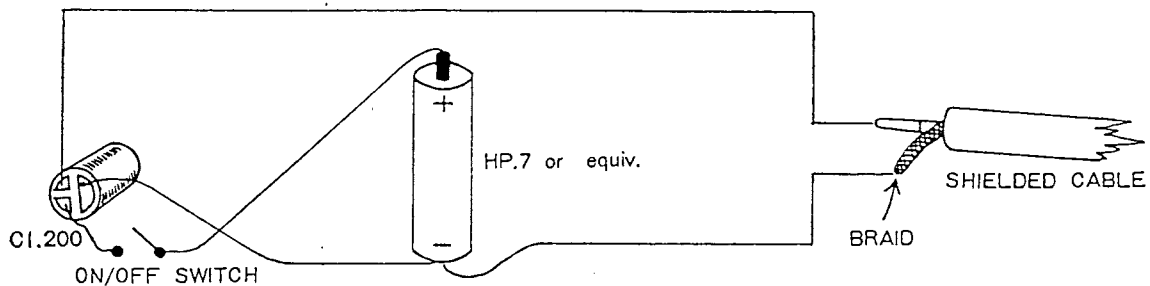
FET CAPACITOR MICROPHONE CAPSULE

This EAGLE CI.200 FET CAPACITOR Microphone Capsule is an electret type microphone which does not require high voltage for polarization. An FET amplifier is built-in for obtaining an output equivalent to a high class dynamic microphone while retaining the characteristics of a capacitor microphone. External influence by magnetic and electro-static noise is minimized since no magnets or coils are used. The small size of this microphone capsule and the low power supply needed for its operation makes this microphone a very versatile unit.

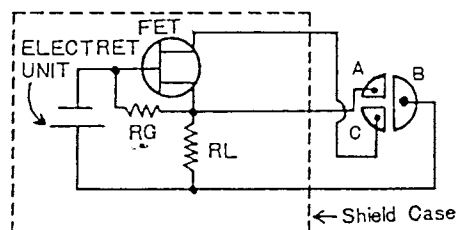
ELECTRICAL SPECIFICATIONS

Output Impedance : 500 ohms $\pm$ 30% at 1 KHz.
 Directivity : Omni-Directional
 Sensitivity : -65 dB. $\pm$ 3 dB. (0 dB = 1V/ μ bar @ 1,000 Hz.)
 Power Supply : 1.5V DC. Ever Ready HP.7 or equivalent.
 Current Consumption : Less than 400 μ A
 S/N Ratio : 40 dB or more
 Residual Noise : 34 dB SL or less (0 dB : 2×10^{-4} μ bar 1 KHz.)
 Frequency Response : : 50 -8,000 Hz.

WIRING DIAGRAM



CIRCUIT DIAGRAM

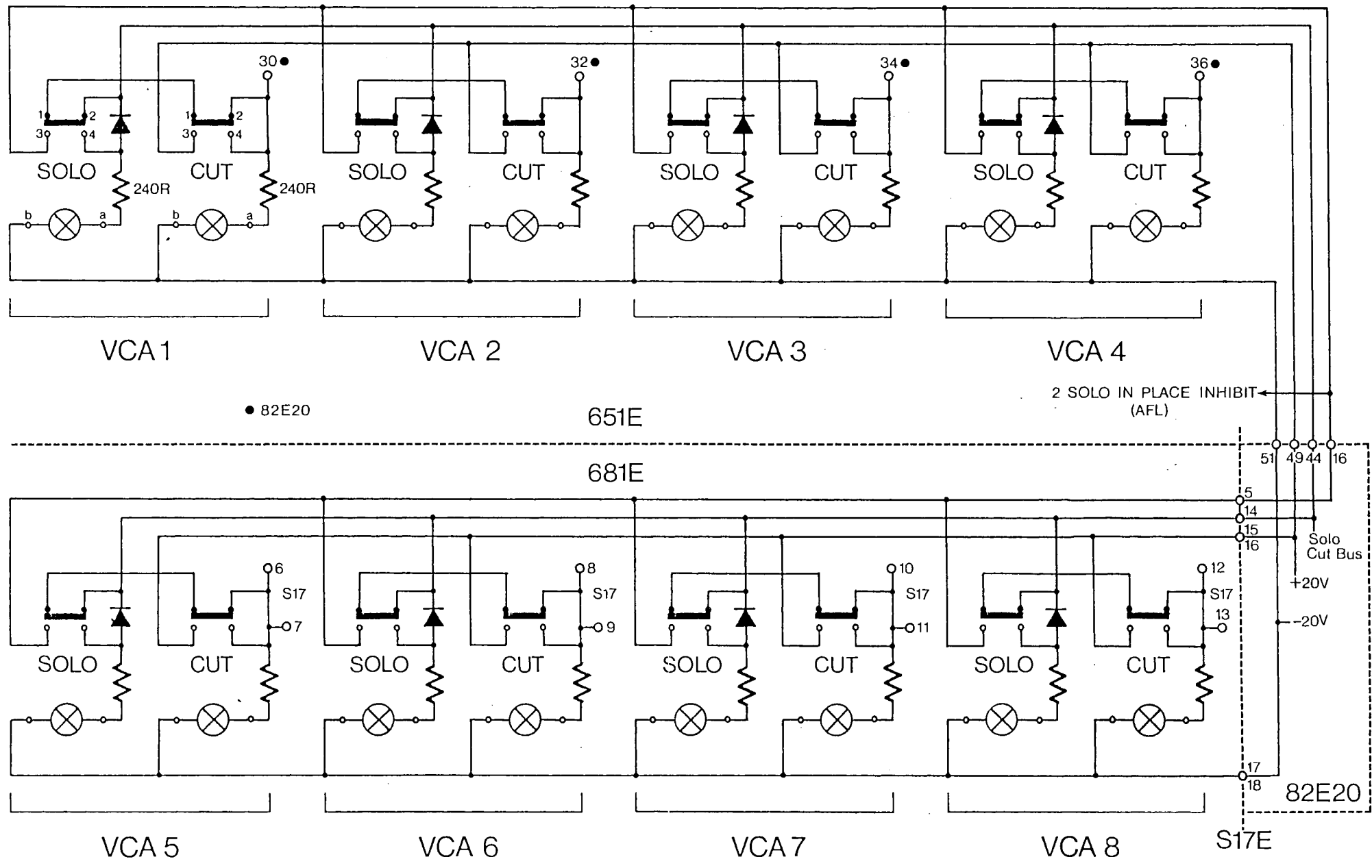


A : Output
 B : Earth $\ominus$
 C : Power Supply $\oplus$

R_L 4 Kohm or less
 R_G 200 Megohm
 FET.....2SK-30R or equivalent

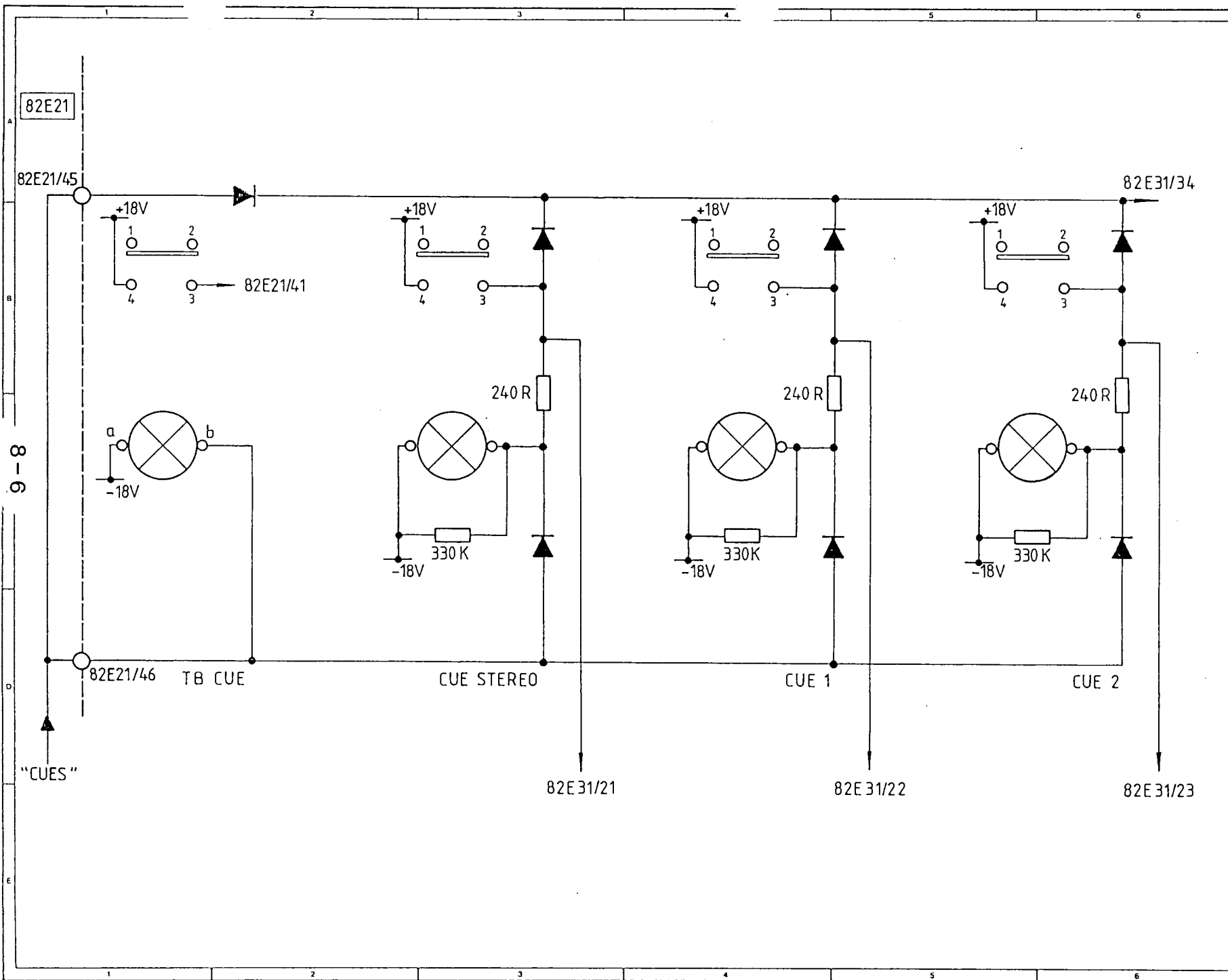
CAUTION: Special caution must be taken when soldering to capsule.
 Remove AC cable from main while soldering iron is hot and complete soldering within 10 seconds to prevent damage to FET.

8-5



651E-710-8007-0

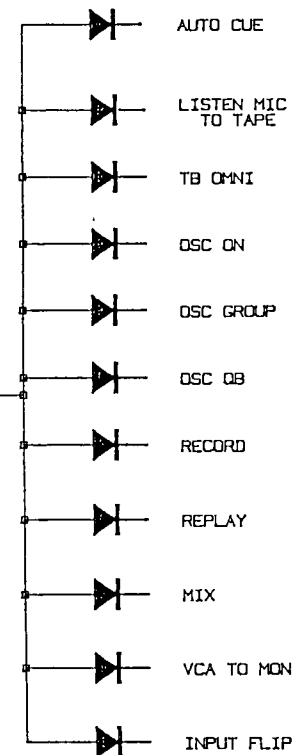
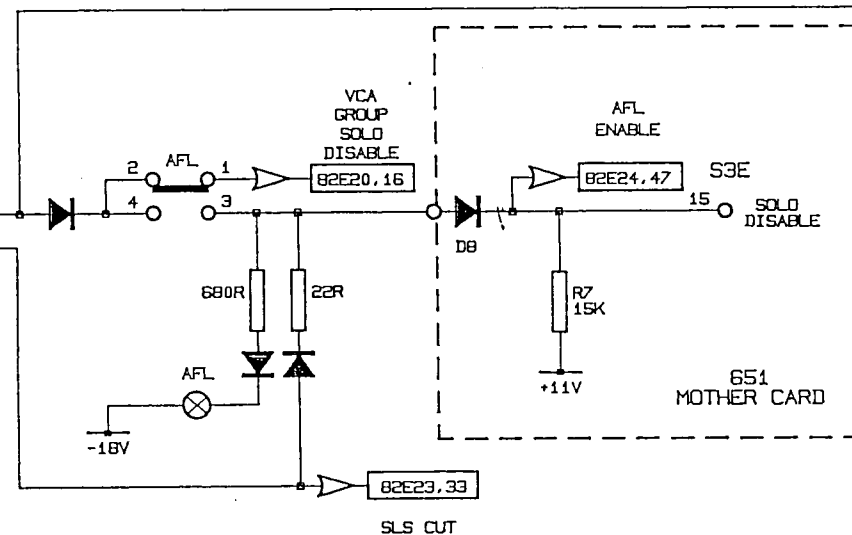
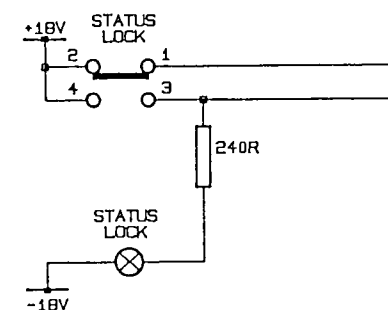
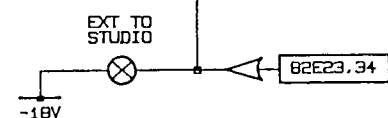
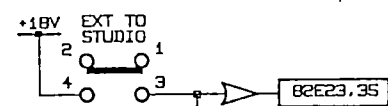
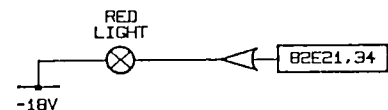
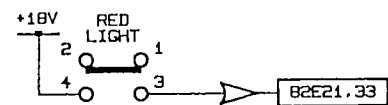
DO NOT SCALE DRAWING		IF IN DOUBT ASK		MATERIAL:-		LIMITS UNLESS STATED:		SOLID STATE LOGIC	
				FINISH:-		S		FIELD OXFORD ENGLAND	
THIS DRAWING BELONGS TO SOLID STATE LOGIC AND IS		THIS DRAWING BELONGS TO SOLID STATE LOGIC AND IS		UP		S		JUP	
ISSUED FOR THE PURPOSE OF THE PROJECT AND IS NOT TO BE		ISSUED FOR THE PURPOSE OF THE PROJECT AND IS NOT TO BE		L		S		SOLC/CUTS	
REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS		REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS		10		10		10	



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Issue	Date	Details
a	2.84	REDRAWN V.B.
b	Nov85	'CUES' ADDED <i>W. ST.</i>

Title
ADDITIONAL CUES SWITCHING.
Drg.No. T0651-71
Solid State Logic
Stonesfield · Oxford · England



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REV	ISSUE	DATE	DETAILS
A	A	FEB 84	NEW DRAWING VB
	B	4 MAY 88	REDRAWN STEFF
	C	23 JUN 88	EXT TO STUDIO WAS SLS MR MM

SHEET 1 OF 1

REF: T651B

A

TITLE	651E/V
E	SAFETY LOCK STATUS INHIBIT SWITCHES

DRG. NO. T0651E.73

Solic State Logic

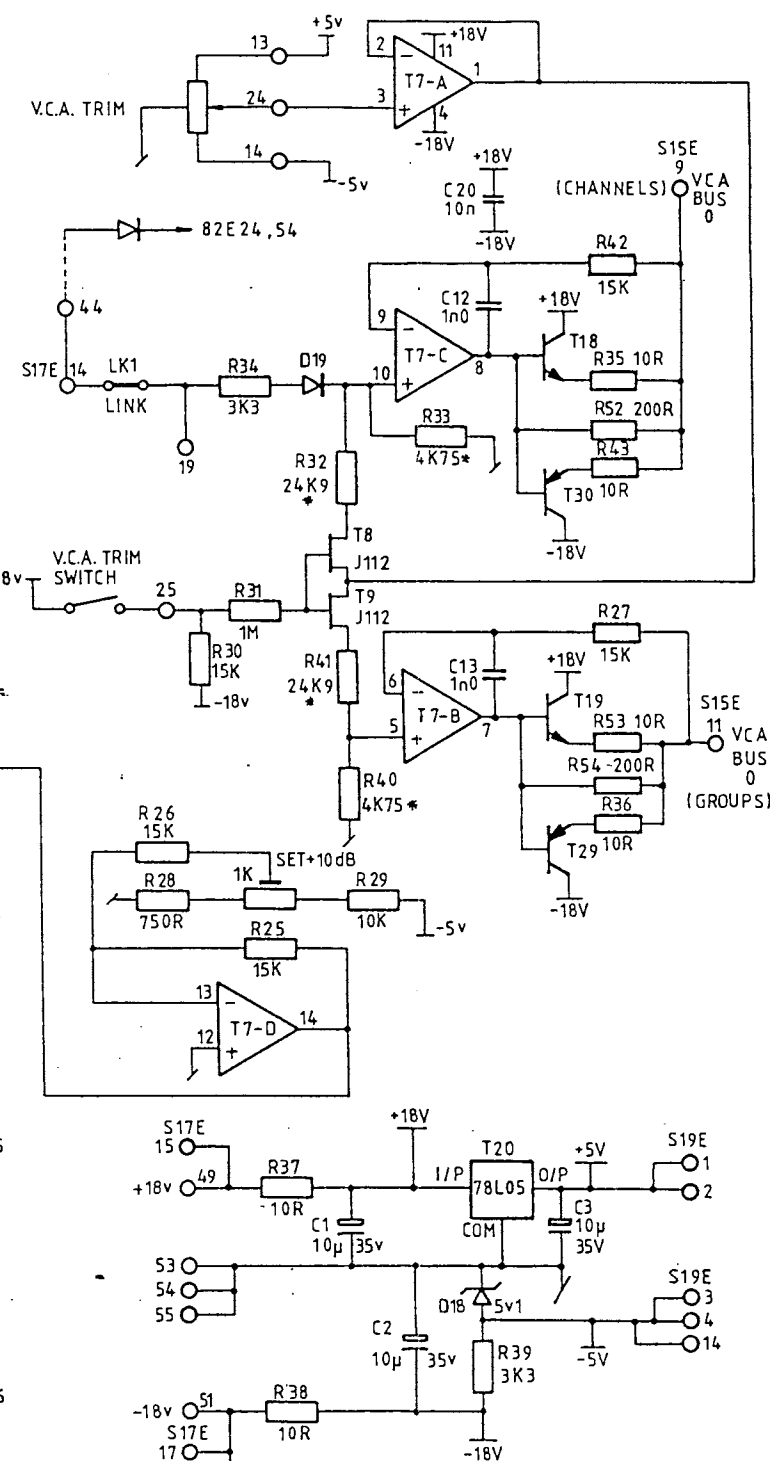
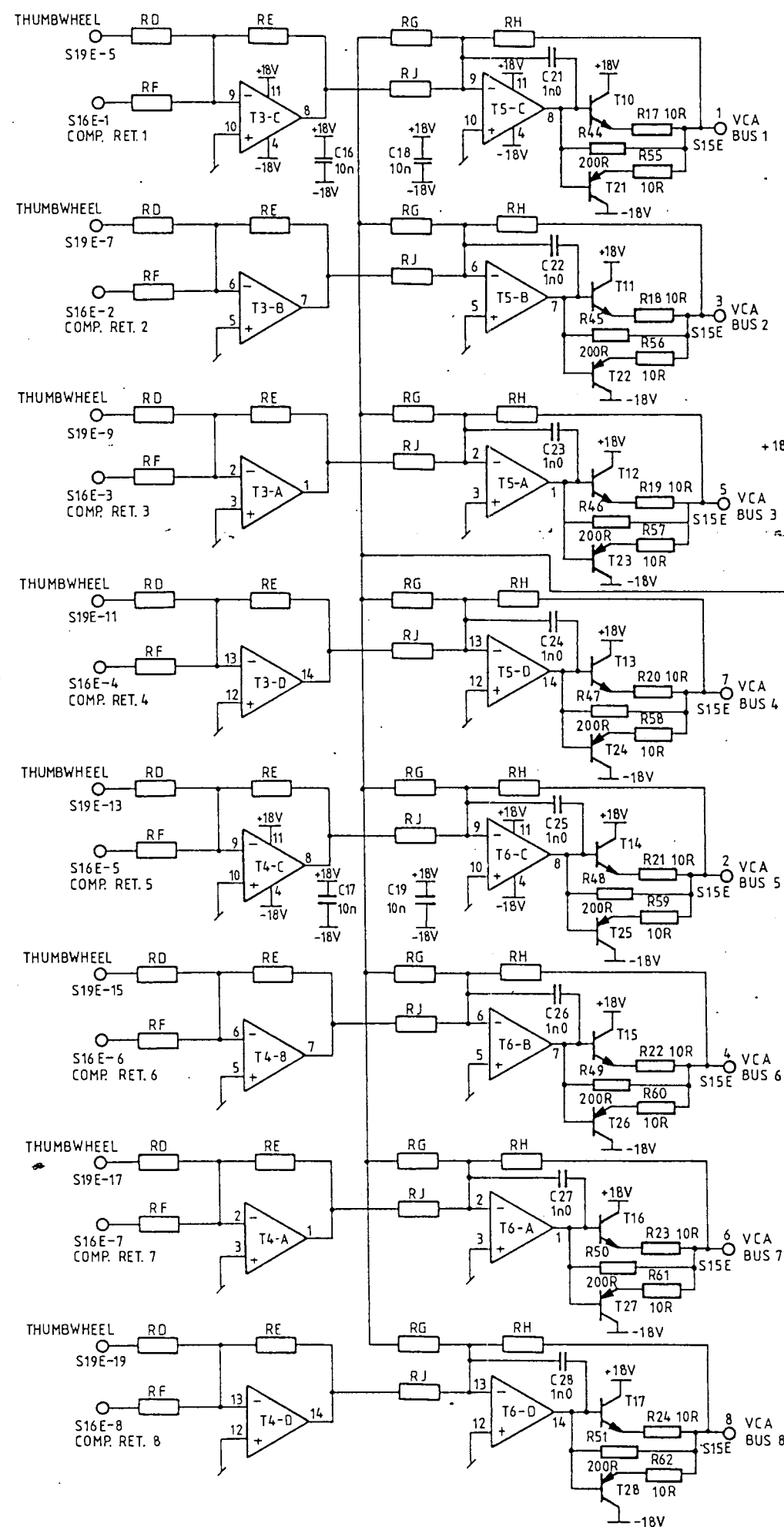
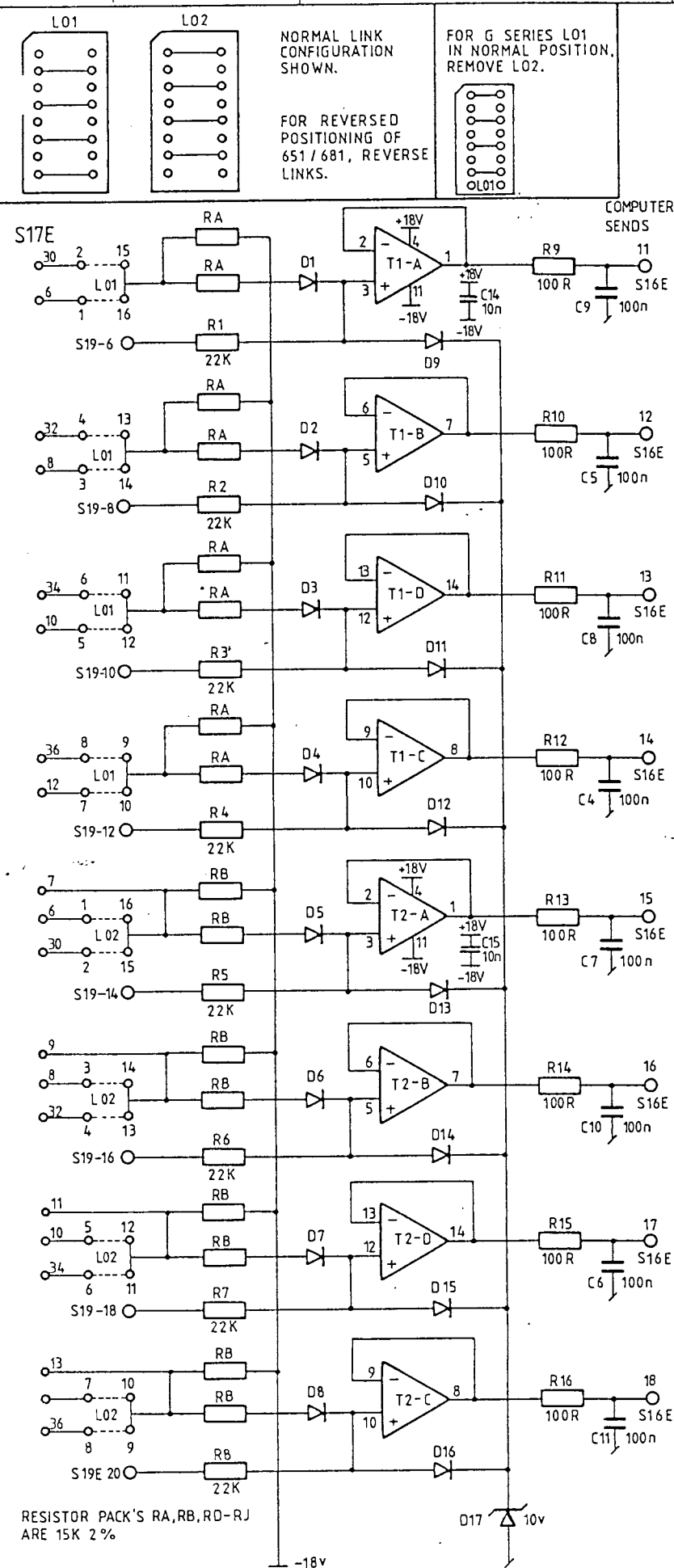
T82E20 55 Way Module Connector

VCA Faders + Mutes CF82E20

Master Module SL651E

No	Description	No	Description
1	NP	34	VCA 3 cut switch
2	NP	35	NP
3	NP	36	VCA 4 cut switch
4	Master Fader Trim LED (Not used)	37	NP
5	Master Fader Abs LED (Not used)	38	Multitrack sense common,(S17E p1)
6	NP	39	NP
7	NP	40	Multitrack record sense,(S17E p2)
8	Master Fader Sw (Not used)	41	Multitrack Sync Contact,(S17E p3)
9	Master Fader Common (Not used)	42	Multitrack Sync Contact,(S17E p4)
10	NP	43	NP
11	NP	44	VCA Solo Cut Bus from 681
12	NP	45	NP
13	+5v (VCA Trim Pot ACW)	46	NP
14	-5v (VCA Trim Pot CW)	47	As 21
15	NP	48	NU
16	+18v Solo enable(from AFL),S17E p5	49	+18v
17	Multitrack replay sense,S17E p19	50	NU
18	NP	51	-18v
19	Linked to p44	52	NU
20	NP	53	Ov
21	Dropin rehearse common,S17E p20	54	Ov
22	Dropin Rehearse command,S17E p16	55	Ov
23	NP		
24	VCA Trim Pot Wiper		
25	VCA Trim switch		
26	Keyway		
27	VCA Trim Bus (not used)		
28	Master Fader Computer Send		
29	Master Fader Computer Return		
30	VCA 1 cut switch		
31	NP		
32	VCA 2 cut switch		
33	NP		

T82020.50



S15E,15 —○—○ 9 MASTER FADER COMMON
S15E,17 —○—○ 8 MASTER FADER SWITCH
S15E,19 —○—○ 4 MASTER FADER TRIM
S15E,20 —○—○ 5 MASTER FADER

S16E,9 —○—○ 29 MASTER FADER COMP RETURN
S16E,19 —○—○ 28 MASTER FADER COMP SEND

S17E,1 —○—○ 38 MULTITRACK SENSE COMMON
S17E,2 —○—○ 40 MULTITRACK RECORD SENSE
S17E,3 —○—○ 41 SYNC RELAY CONTACT
S17E,4 —○—○ 42 SYNC RELAY CONTACT
S17E,5 —○—○ 16 VCA SOLO DISABLE
S17E,16 —○—○ 22 DROP IN REHEARSE COMMAND
S17E,19 —○—○ 17 MULTITRACK PLAY SENSE
S17E,20 —○—○ 21 DROP IN REHEARSE COMMON

T1-T4 ARE CA324'S
T5-T7 ARE LF347BN
T10-T19 ARE BFR39'S
T21-T30 ARE BFR80'S
X = 0.5% TOLERANCE

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Rev.	Date	Chkd	Details	
9	a	7-85	REDRAWN	V.B.
9	b	7-85	THIS DRG. SUPERSEDES DRG. SAME N ^o . DATED 2.84	
9	c	9-85	IN '60' COMPONENT REF. T20 ADDED.	N.W.
9	d	G G 1-87	VCA BUS 5-8 NOW S15.	EL
10	a		ECO 63	
11	a		ECO 286	
12	a		ECO 318	
13	a	BC 11-88	ECO 379	A.J.D.
14	a	18 July 90	ECO 4K/393 TS:6-7 WERE TLO74 NOW LF347	BC STEF

E	Title	V.C.A. FADERS AND MUTES, V.C.A. TRIM

Drg. No. T82020-71

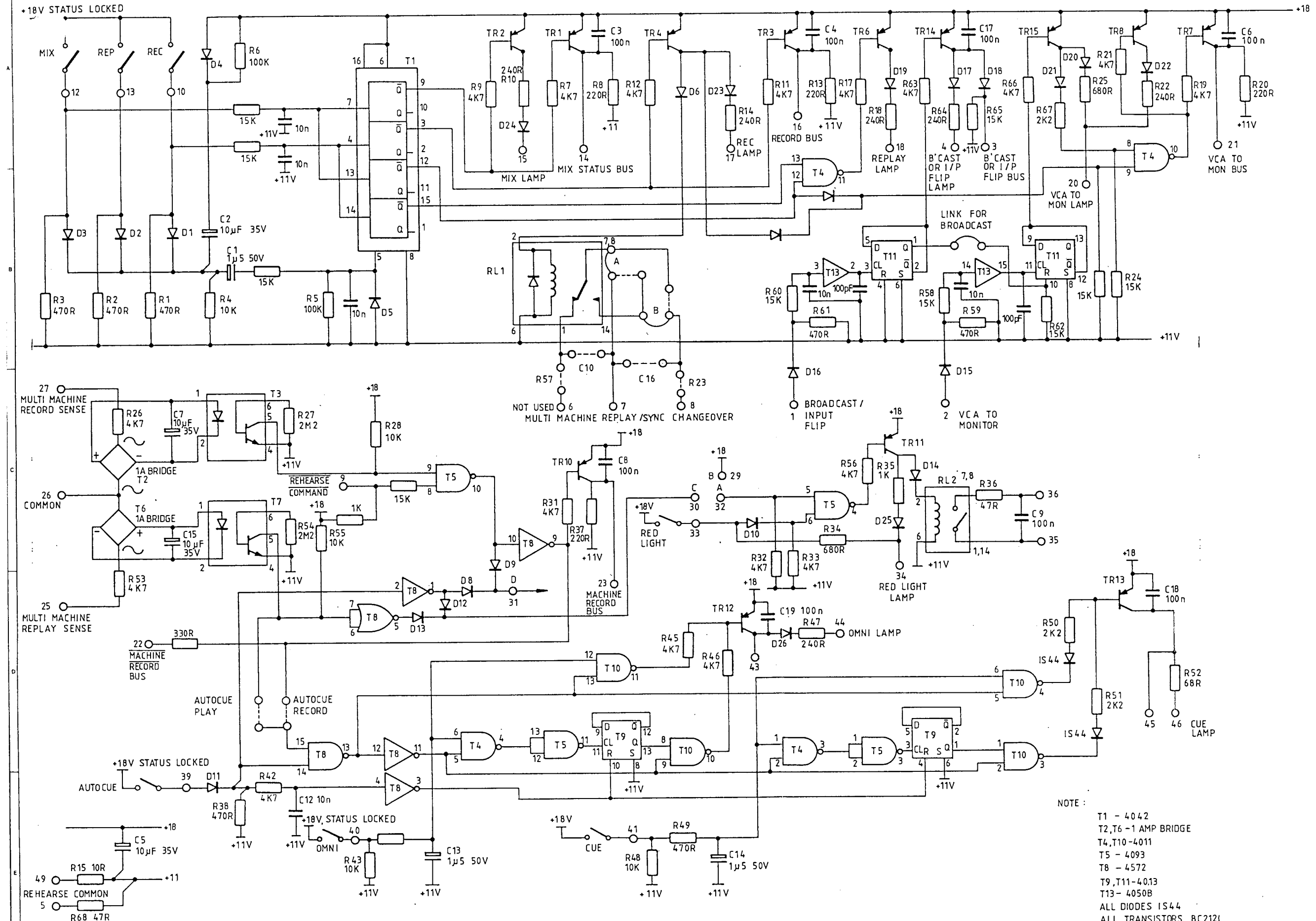
Solid State Logic

Effective from Serial No. 4066

CF82E21 55 way Module Connector			
From: Master Status, Aux 4 Flip, Red Light, Machine Record Bus Autocue, CF82E21			
To: Mother Card SI651E			
No	Description	No	Description
1	Broadcast or 1F Flip Switch	30	C
2	VCA to Mon Switch	31	D
3	Broadcast Buss	32	A
4	Broadcast or 1P Flip Lamp	33	Red Light Sw
5	Rehearse Common	34	Red Light Lamp
6	Multi Machine Sync Relay (REPLAY)	35	Red Light Relay Contacts
7	Multi Machine Sync Relay (COMMON)	36	Red Light Relay Contacts
8	Multi Machine Sync Relay SYNC	37	NU
9	Rehearse Command	38	NU
10	Record Status Sw	39	Autocue Sw
11	Spare	40	Omni Sw
12	Mix Status Sw	41	Cue Sw
13	Replay Status Sw	42	NU
14	Mix Status Bus	43	Omni Inputs on 8223, 8225, +8234 +8224
15	Mix Status Lamp	44	Omni Lamp
16	Record Status Bus	45	Cue Input On CF8222 + CF8321
17	Record Status Lamp	46	Cue Lamp
18	Record Status Lamp	47	NU
19	Slate Signal Bus	48	NU
20	VCA to Mon Lamp	49	+13v
21	VCA to Mon Bus	50	NU
22	Spare	51	+20v
23	Machine Record Bus	52	-20v
24	Listen Mic to Tape	53	0v
25	Multi Machine Replay Sense	54	0v
26	Multi Machine Sense Common	55	0v
27	Multi Machine Record Sense		
28	Keyway		
29	B		

26 Apr 82

Rev	Issue	Chkd	Details
5	a	RC	REDRAWN 5-84 D.D
5	b	PL 10-85	DRG. AMENDED
6	a	DM Nov85	R59,61 WAS 15K NOW 470R



NOTE :
T1 - 4042
T2,T6 - 1 AMP BRIDGE
T4,T10 - 4011
T5 - 4093
T8 - 4572
T9,T11 - 4013
T13 - 4050B
ALL DIODES IS44
ALL TRANSISTORS BC212L
T3,T7 - 4N25

Title MASTER STATUS:
RED LIGHT VCA TO MON:
AUTOCUE MACHINE REC BUS

Drq. No. T82021-71

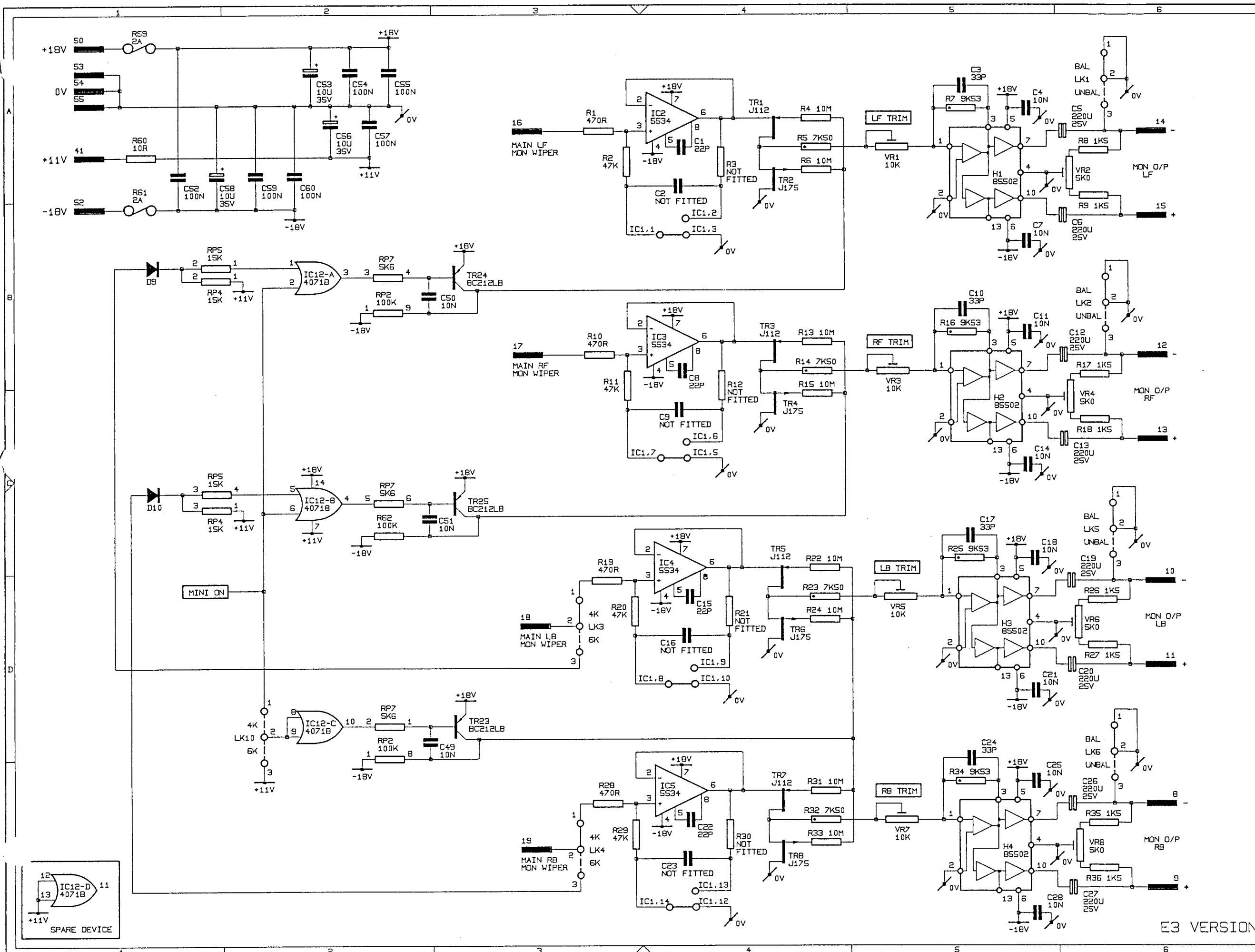
Solid State Logic
8-11

55 Way Modulo Connector

From: Monitor Full - Dim - Mute Relays and Outputs
 Mini Relays and Outputs CF82E22
 To: Mother Card SL651E
 CONNECTOR NO: T82E22

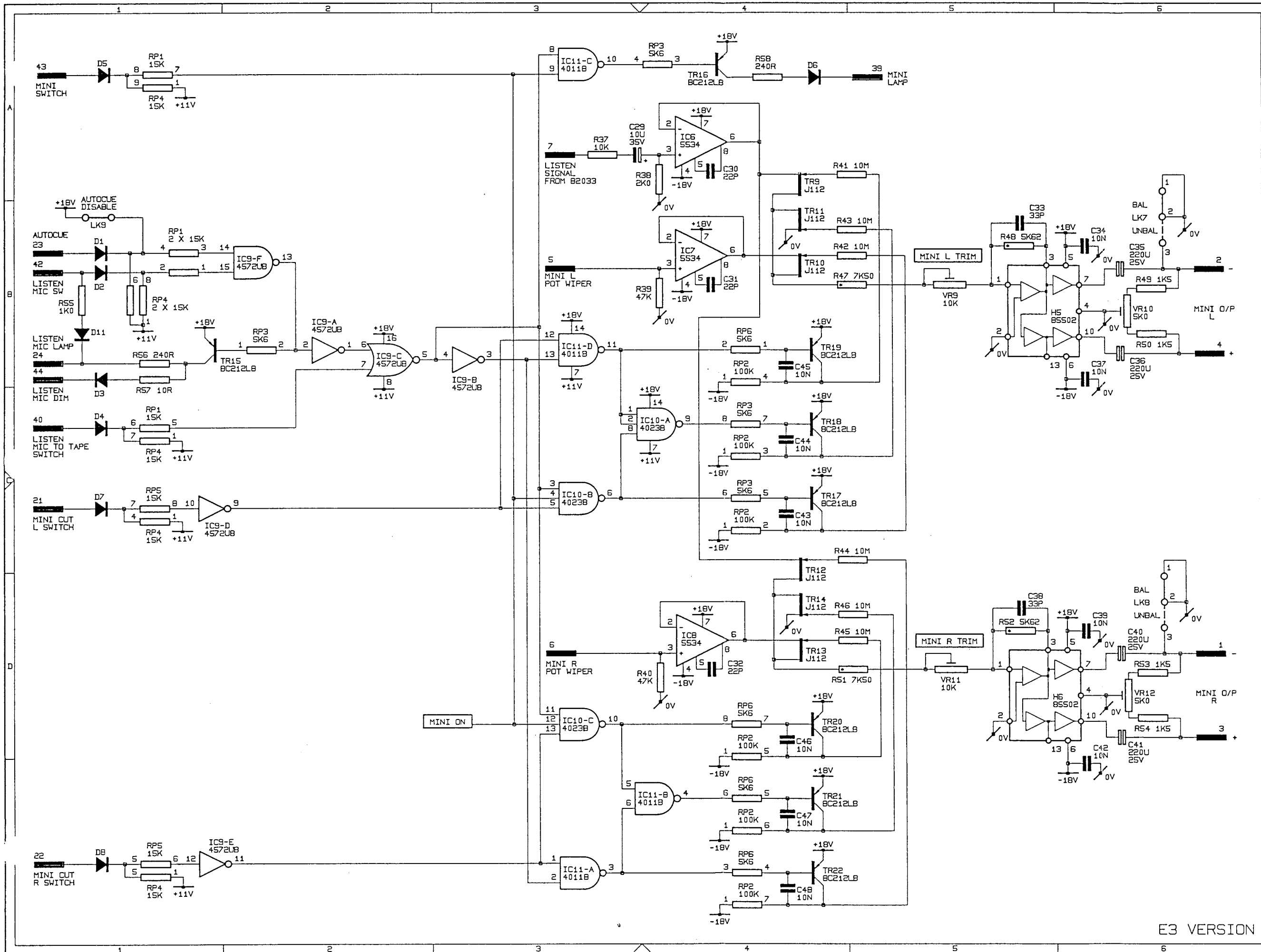
No	Description	No	Description
1	NP	34	NP
2	NP	35	NP
3	Mini LS output to Amp R	36	NP
4	Mini LS output to Amp L	37	NP
5	Mini LS volume pot wiper L	38	NP
6	Mini LS volume pot wiper R	39	Mini lamp
7	Listen signal from listen 82E33	40	Listen mic to tape switch
8	Monitor output RB-	41	+11v
9	Monitor output RB+	42	Listen mic switch
10	Monitor output LB-	43	Mini switch
11	Monitor output LB+	44	Dim switch(not used)
12	Monitor output RF-	45	Penthouse Dim Led(not used)
13	Monitor output RF+	46	Cues input(not used)
14	Monitor output LF-	47	MD Switch (not used)
15	Monitor output LF+	48	NP
16	CR Level pot LF wiper	49	NP
17	CR Level pot RF wiper	50	+18v
18	CR Level pot LB wiper	51	NP
19	CR Level pot RB wiper	52	-18v
20	Keyway	53	0v
21	Spare	54	0v
22	Spare	55	0v
23	NP		
24	NP		
25	NP		
26	NP		
27	NP		
28	NP		
29	NP		
30	NP		
31	NP		
32	NP		
33	NP		

T82022.50
 14 Feb 83



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REV	ISSUE	DATE	DETAILS	
0	A	25 JULY 90	NEW DRAWING	BC STEFF
0	B	13 NOV 90	STOCK NUMBER 8256D022 ADDED	BC MM
SHEET 1 OF 2				
STOCK NO 8256D022				
REF: T651E A2				
E TITLE 651G MONITOR OUTPUTS G SERIES				
DRG. NO. T82022.71.3				
Solid State Logic				

E3 VERSION



E3 VERSION

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REV	ISSUE	DATE	DETAILS
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0	B	13 NOV 90	STOCK NUMBER 825SD022 ADDED MM

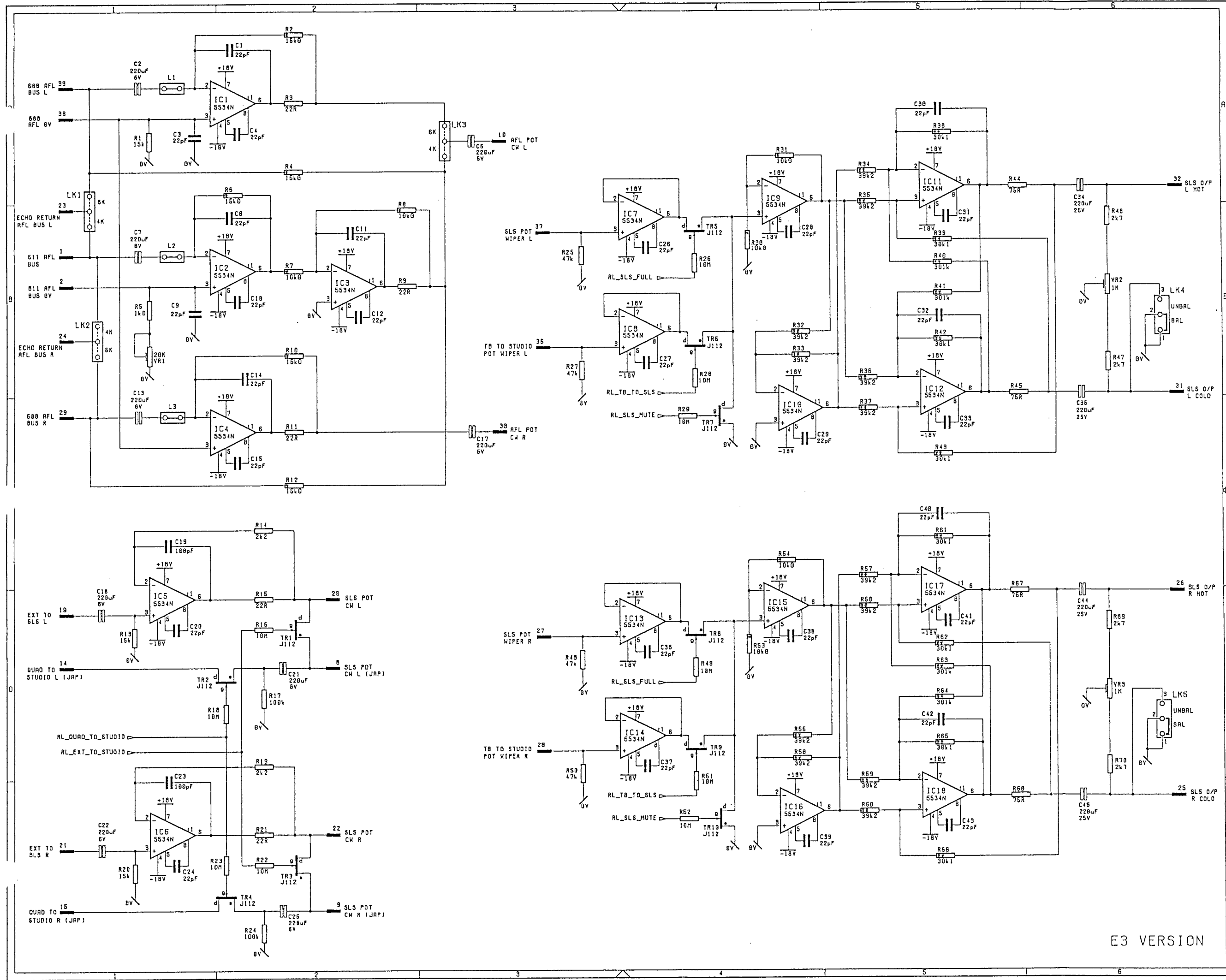
SHEET 2 OF 2
STOCK NO 825SD022
REF: T651F A2

E TITLE 651G
MONITOR OUTPUTS
G SERIES
DRG. NO. T82022.72.3

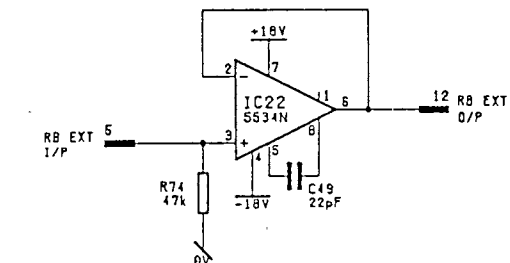
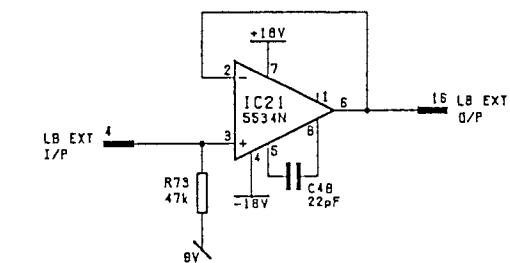
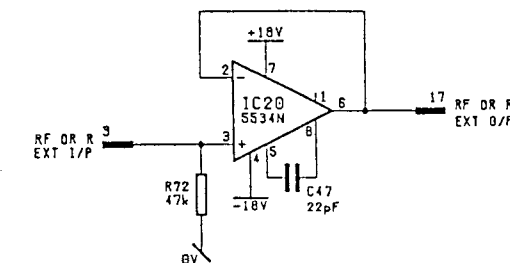
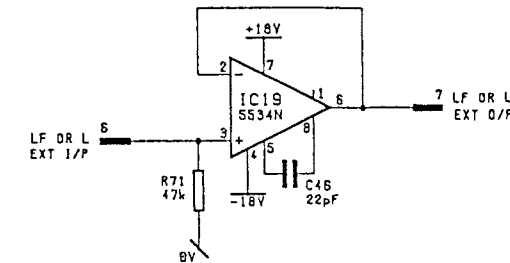
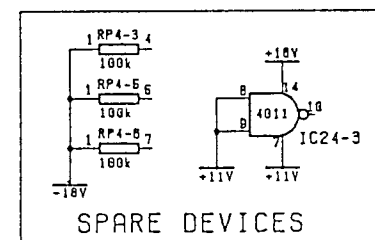
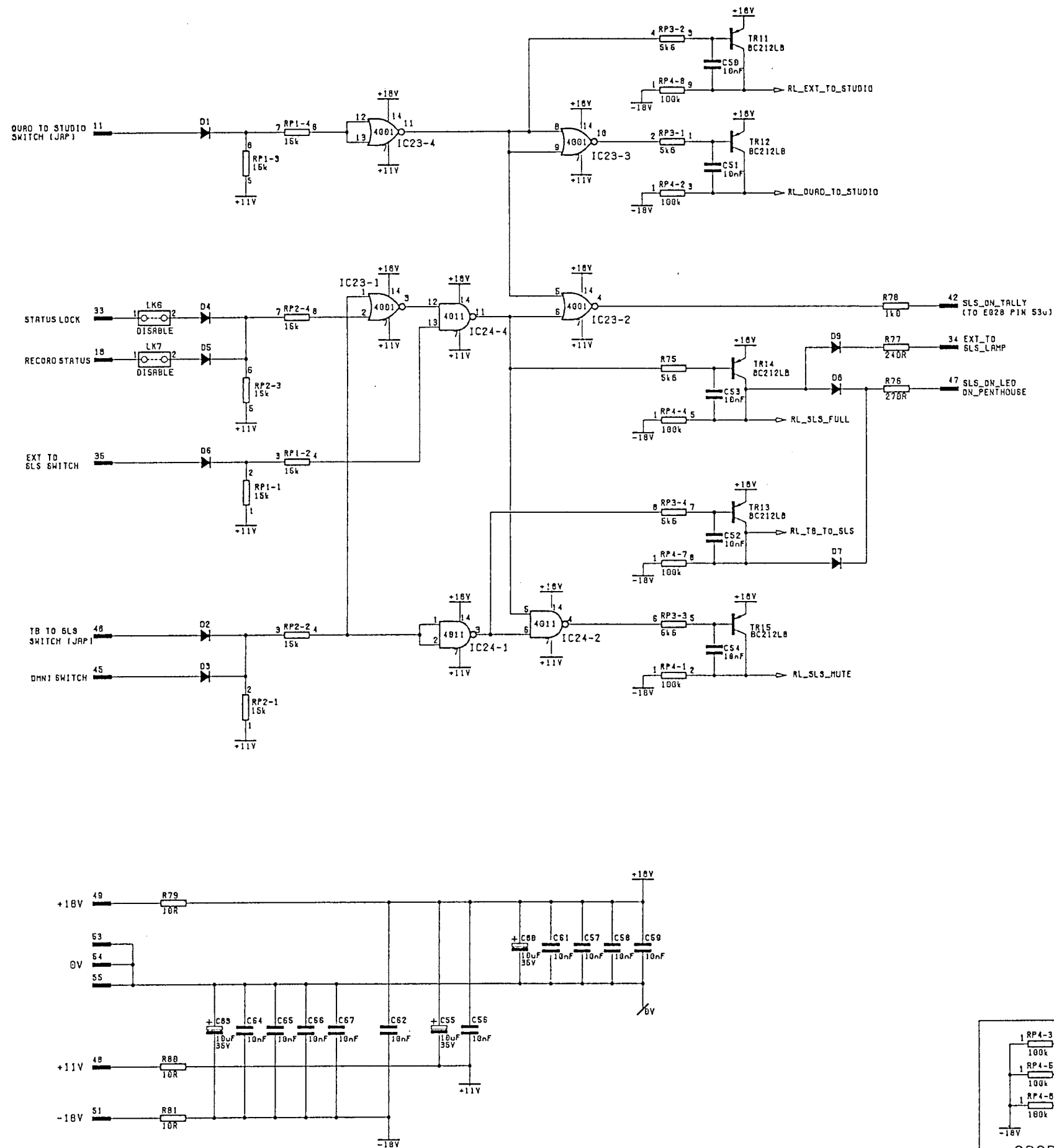
Solid State Logic

T82E23 55 Way Modulo Connector			
From: EXTERNAL MON BUFFERS & MATRIX. AFL MIX AMP. SLS BUFFERS & OUTPUT AMPS. CF82E23 To: MASTER MODULE SL651E			
No	Description	No	Description
1	611 AFL Mix Bus	29	688V AFL Mix Bus R
2	611 AFL Mix Bus Ov	30	AFL Level pot CW (R)
3	Ext Mon Buffer Input RB	31	SLS Output L-
4	Ext Mon Buffer Input LB	32	SLS Output L+
5	Ext Mon Buffer Input RF (R)	33	Status Lock Bus
6	Ext Mon Buffer Input LF (L)	34	Ext to SLS Switch Lamp
7	Ext Mon Buffer Output LF (L)	35	Ext to SLS Switch
8	Quad/Ext to SLS pot CW (L) (Japan)	36	TB to Studio L
9	Quad/Ext to SLS pot CW (R) (Japan)	37	SLS Level pot Wiper L
10	AFL Level pot CW (L)	38	688V AFL Mix Bus Ov
11	Quad to Studio Switch (Japan)	39	688V AFL Mix Bus L
12	Ext Mon Buffer Output RF (R)	40	No pin
13	Keyway	41	No pin
14	Quad to Studio L (Japan)	42	No pin
15	Quad to Studio R (Japan)	43	No pin
16	Ext Mon Buffer Output LB	44	No pin
17	Ext Mon Buffer Output RB	45	Omni Switch (from 82E21, 43)
18	Record Status Bus	46	611 AFL Enable
19	Ext to SLS L	47	SLS On Indicator (via 82E237)
20	SLS Level pot CW L	48	+11v
21	Ext to SLS R	49	+18v
22	SLS Level pot CW R	50	No pin
23	Echo Return AFL L	51	-18v
24	Echo Return AFL R	52	No pin
25	SLS Output R-	53	0v
26	SLS Output R+	54	0v
27	SLS Level pot Wiper R	55	0v
28	TB to Studio R		

T82023.51
9 June 87



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REV		ISS	DATE	DETAILS	
0	A	6 AUG 90	NEW DRAWING		BC STEFF
1	A	16 OCT 92	ECD 4K/975 C9 WAS 100PF NDW 22PF		MM
PCB ISSUE PR					
USED ON		651G		A2	
TITLE SLS & AFL					
DRG.NO. T82023.71.3					
SHEET 1 OF 2					
Solid State Logic					



E3 VERSION

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REV	ISS	DATE	DETAILS
0	A	3 AUG 50	NEW DRAWING BC STEFF
1	A	16 OCT 52	ECO 4K/975 NO CHANGE MM

PCB ISSUE PR

USED ON 651G A2

TITLE
SLS & AFL

ORG. NO.
T82023.72.3

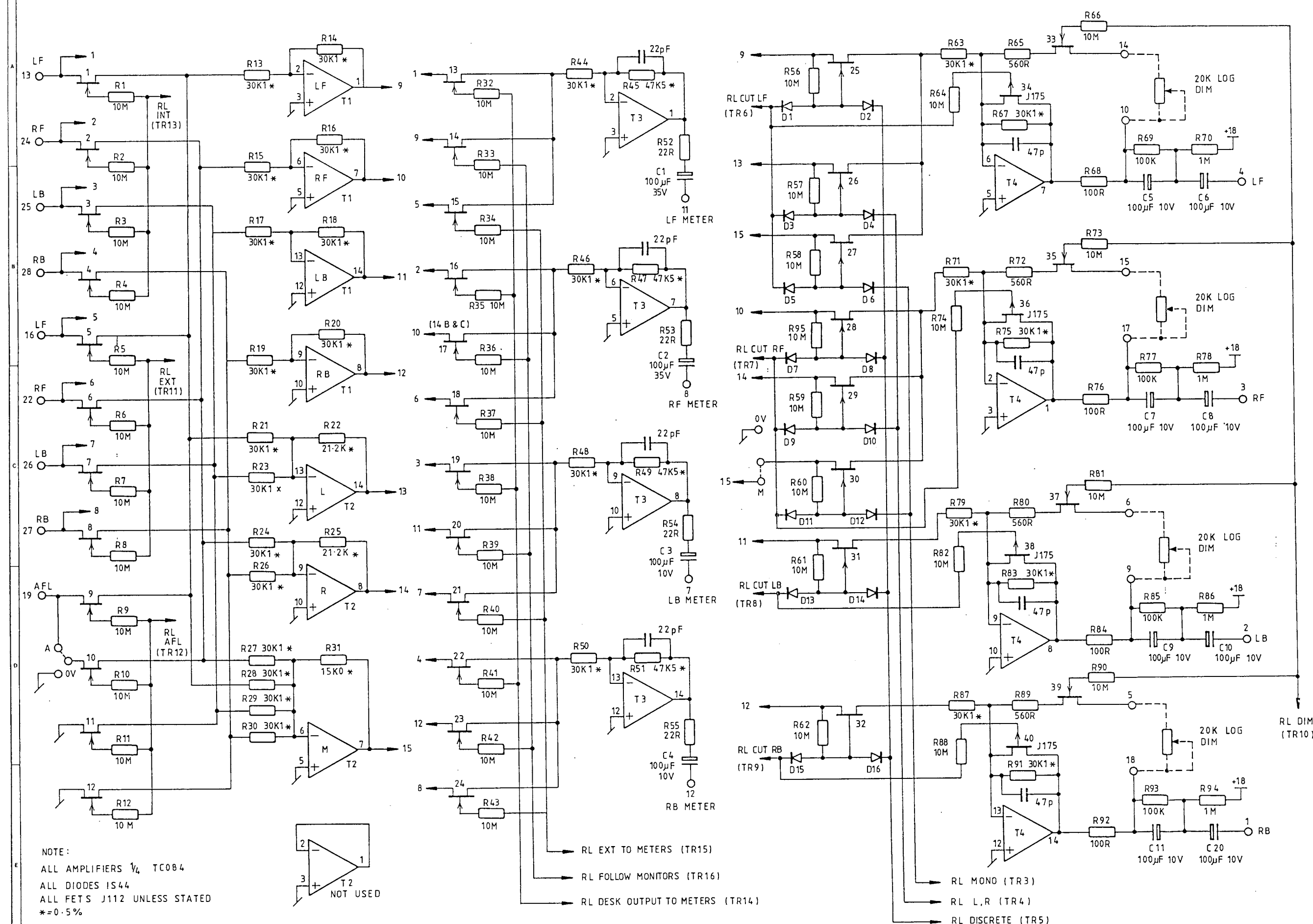
SHEET 2 OF 2

Solid State Logic

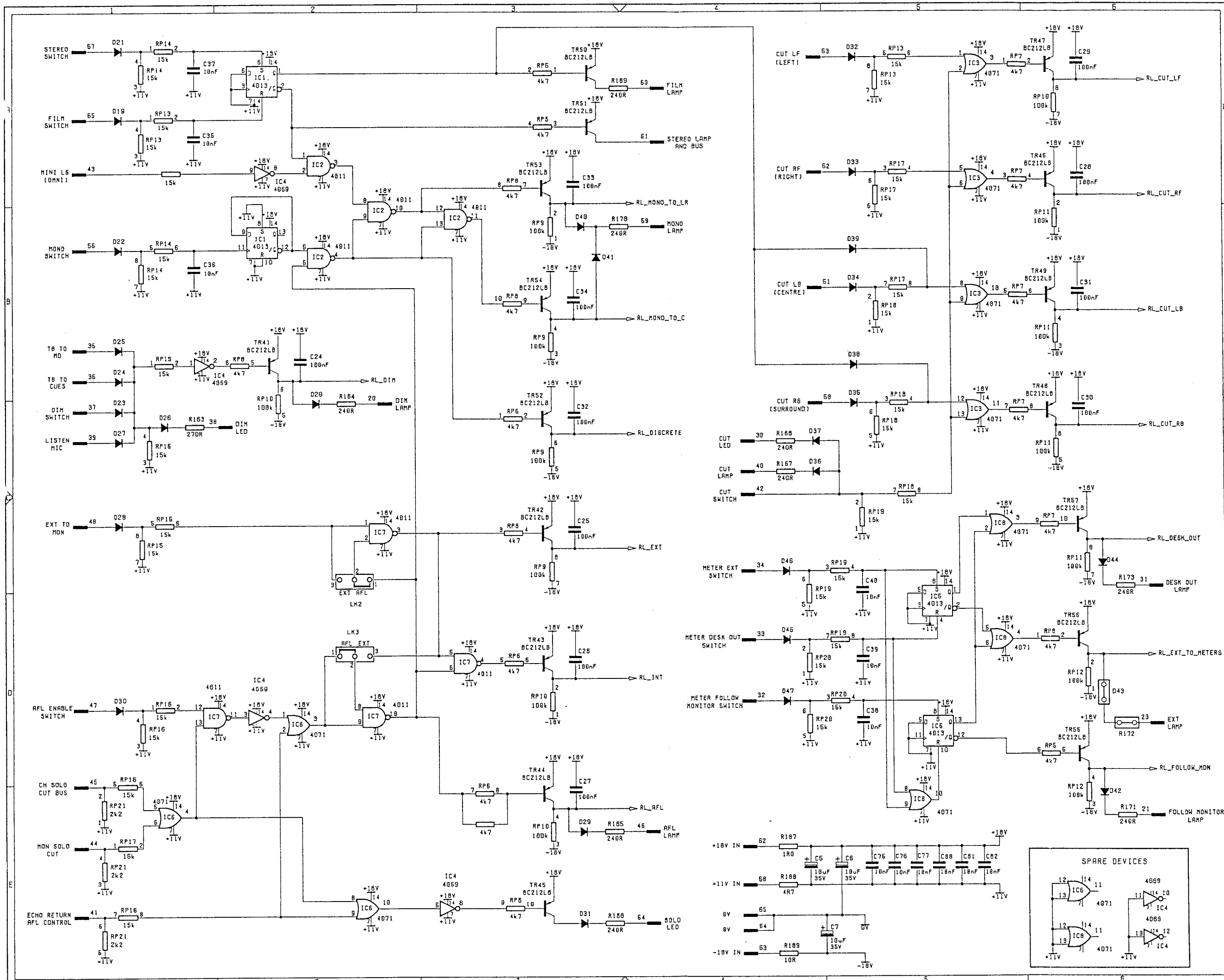
T82E24 65 way Module Connector	
From: 82E24 Int/Ext Monitoring Select Relays. Mon Mutes. Meter Buffers	
To: SL 651E Master Module	
No Description	No Description
1 CR Level Pot RB CW	34 Meters from Ext.source switch
2 CR Level Pot LB CW	35 Talk to MD input
3 CR Level Pot RF CW	36 Talk to cues input
4 CR Level Pot LF CW	37 Dim Switch
5 RB Dim Pot	38 Dim Penthouse LED
6 LB Dim Pot	39 Listen Mic Input
7 LB Meter O/P	40 Cut Lamp
8 RF Meter O/P	41 Echo Return AFL's
9 LB Dim Pot	42 Listen Mic to Tape Input
10 LF Dim Pot	43 Omni Input
11 LF Meter O/P	44 SF Solo cut bus
12 RB Meter O/P	45 VCA Solo cut bus
13 LF Internal I/P , 82E25 p7	46 AFL Lamp
14 LF Dim Pot	47 AFL Enable switch
15 RF Dim Pot	48 Externals to monitors switch
16 LF External I/P , 82E23 p7	49 Monitor Cut Switch
17 RF Dim Pot	50 RB Monitor mute switch
18 RB Dim Pot	51 LB Monitor mute switch
19 AFL I/P , AFL level pot wiper	52 RF Monitor mute switch
20 Dim Lamp	53 LF Monitor mute switch
21 Meters follow monitors lamp	54 Solo LED
22 RF External I/P , 82E23 p12	55 Quad Switch
23 Meters from ext. source lamp	56 Mono Switch
24 RF Internal I/P , 82E25 p23	57 Stereo Switch
25 LB Internal I/P , 82E25 p26	58 +11v
26 LB External I/P , 82E23 p16	59 Mono Lamp
27 RB External I/P , 82E23 p17	60 Quad Lamp
28 RB Internal I/P , 82E25 p31	61 Stereo Lamp
29 Keyway	62 +18v
30 Penthouse Mute LED	63 -18v
31 Meters from desk out Lamp	64 0v
32 Meters follow monitor switch	65 0v
33 Meters from desk out switch	66

T82024.50
Aug. 1985

Rev.	Issue	Chkd	Details
5	a	RL	REDRAWN 5-84 DD



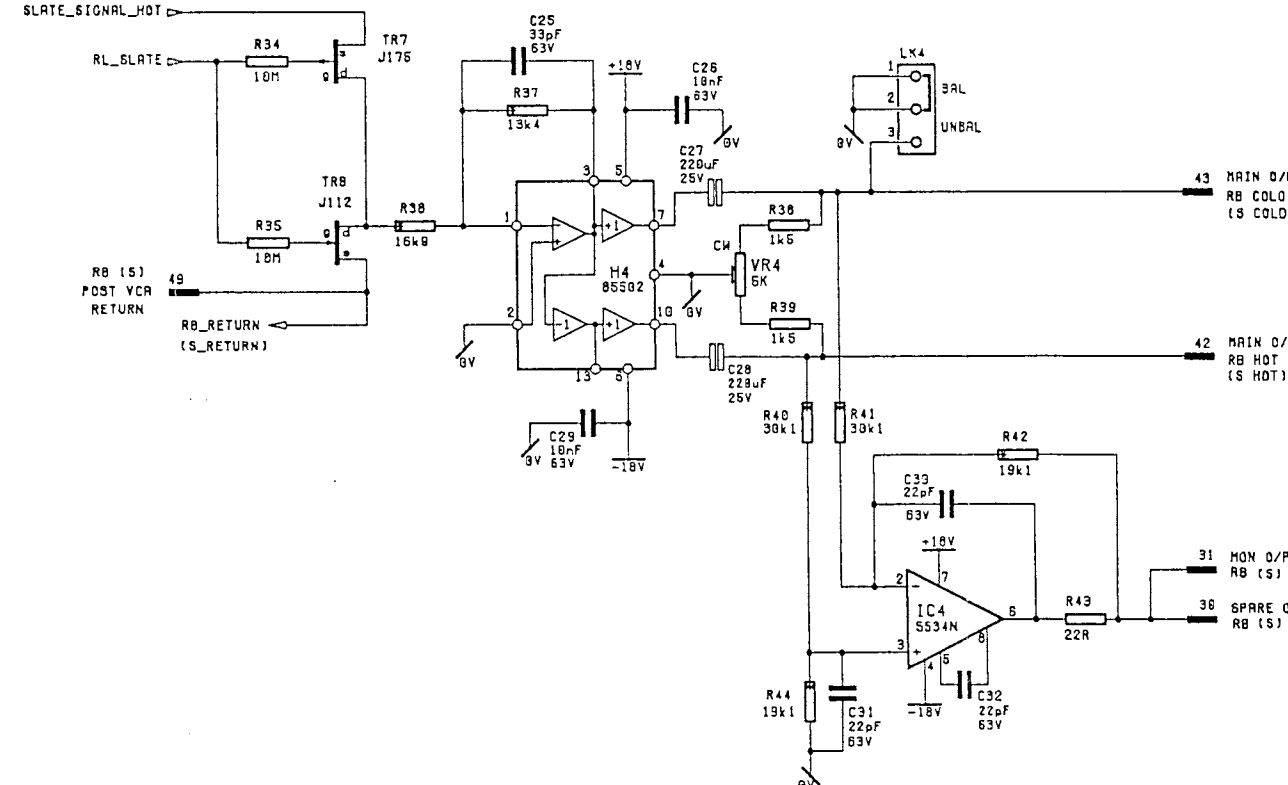
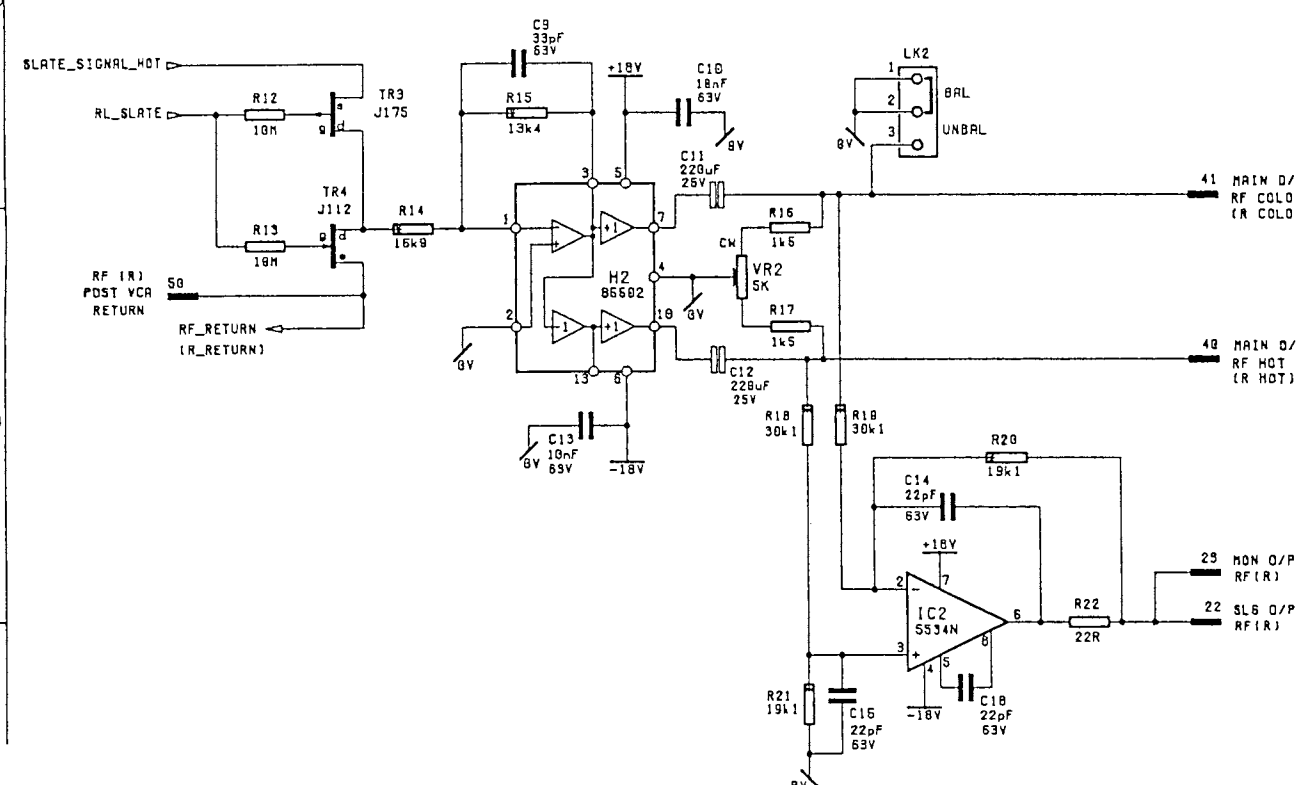
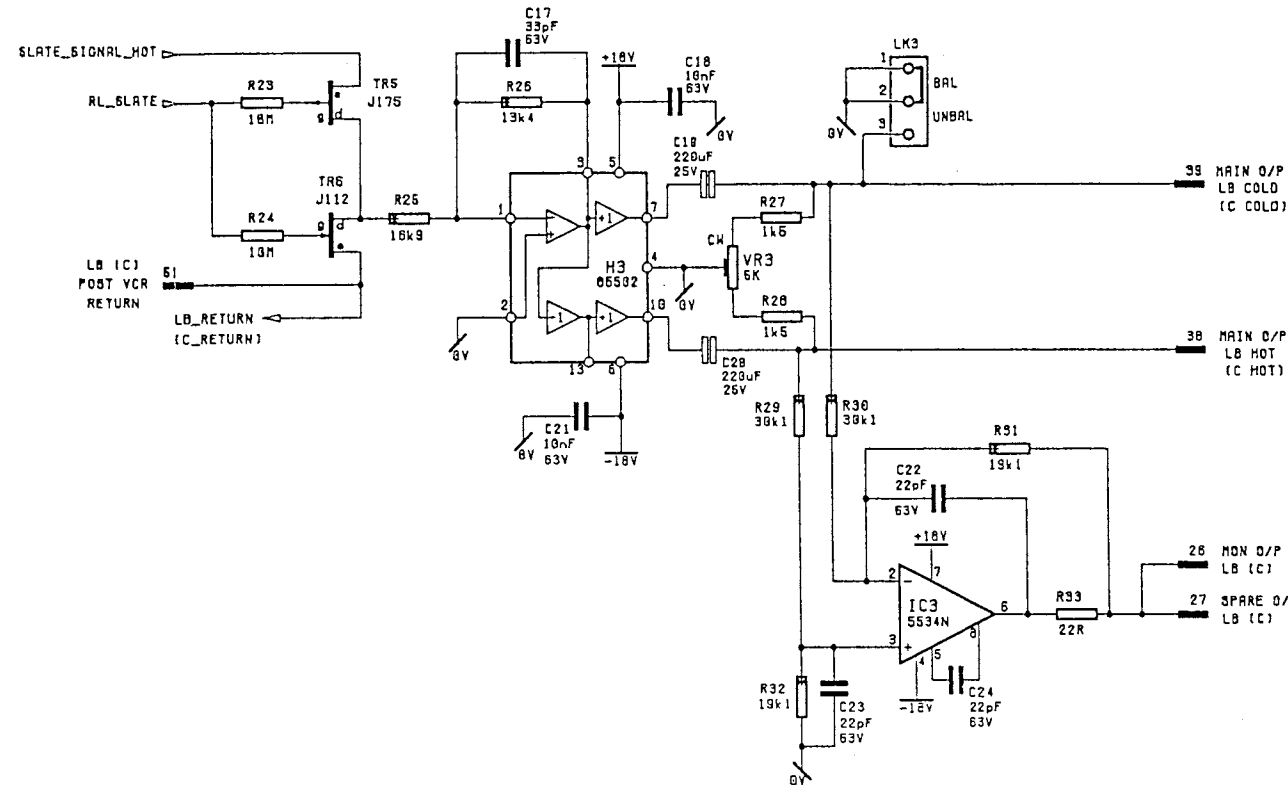
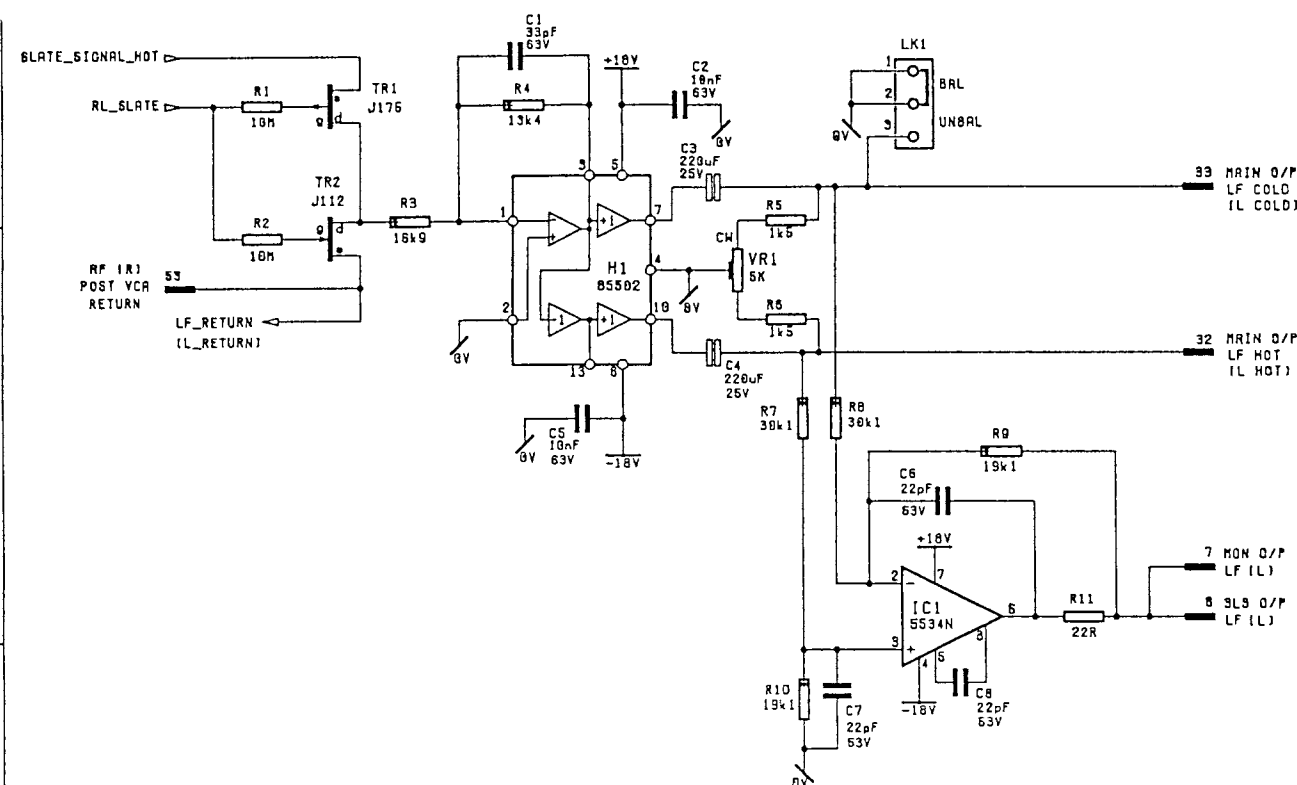
Title	ANALOGUE
Drg. No.	T82024-72
	Solid State Logic



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REV	ISS	DATE	DETAILS	
0	A	21 OCT 91	NEW DRAWING	BC
1	A	28 NOV 91	ECO 4K/890 R172 WAS 240R D43 WAS DIODE NOW BOTH LINKS	MM
2	A	23 SEP 92	ECO 4K/961 NO CHANGE	MM
3	A	23 SEP 92	ECO 4K/1033 R187 WAS 4R7 NOW 1R (FUSIBLE)	MM
4	A	23 SEP 92	ECO 4K/1039 4K7 ADDED ACROSS RP6 PINS 7 & 8 MM	MM
PCB ISSUE EFGH				
USED ON SL651G A2				
TITLE FILM MONITOR MATRIX				
DRG.NO. T82274.72				
SHEET 2 OF 2				
Solid State Logic				

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REV	ISS	DATE	DETAILS
0	A	25 JULY 90	NEW DRAWING BC STEFF
0	B	18 NOV 90	STOCK NUMBER 82560025 ADDED MM
1	A	26 SEP 91	ECO 4K/746 PCB WAS HJ NOW LM MM
1	B	26 FEB 92	FILM BUS TEXT ADDED MM



FILM BUS TEXT IN BRACKETS
L - LEFT R - RIGHT
C - CENTRE S - SURROUND

E3 VERSION

Stk No 82560025
PCB ISSUE LM

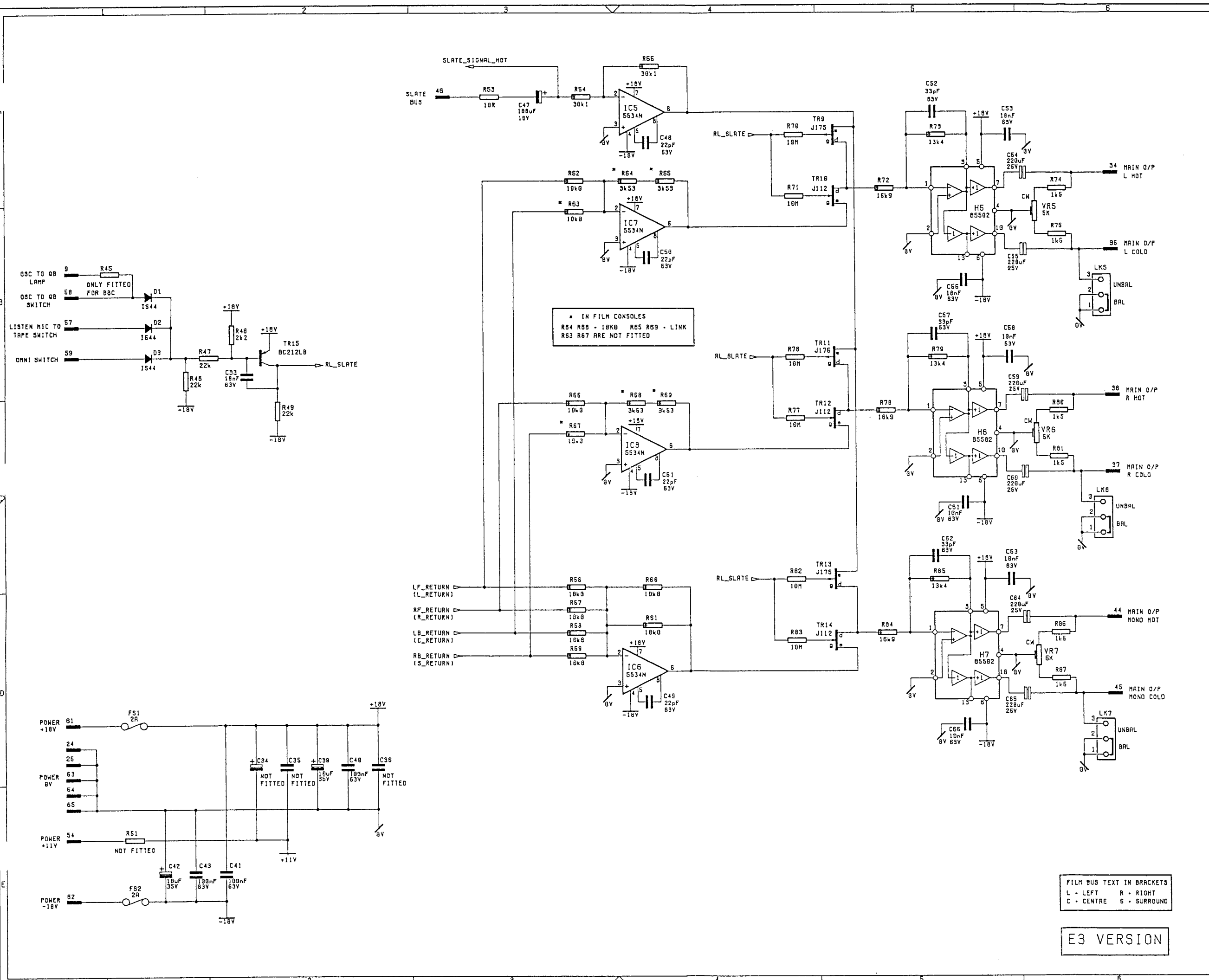
USED ON SL651G A2

TITLE MAIN QUAD BUS O/Ps
(MAIN FILM BUS O/Ps)

DRG.NO. T82025.71.3

SHEET 1 OF 2

Solid State Logic



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REV	ISS	DATE	DETAILS	
0	A	25 JUL 90	NEW DRAWING	BC STEFF
0	B	16 NOV 90	STOCK NUMBER 82S6D025 ADDED	BC MM
1	A	26 SEP 91	ECO 4K/746 PCB WAS HJ NOW LM	BC MM
1	B	26 FEB 92	FILM BUS TABLE AND TEXT ADDED	MM
Stk No 82S6D025				
PCB ISSUE LM				
USED ON SL651G A2				
TITLE MAIN QUAD BUS O/Ps (MAIN FILM BUS O/Ps)				
ORG.NO. T82025.72.3				
SHEET 2 OF 2				
Solid State Logic				
8 - 23				

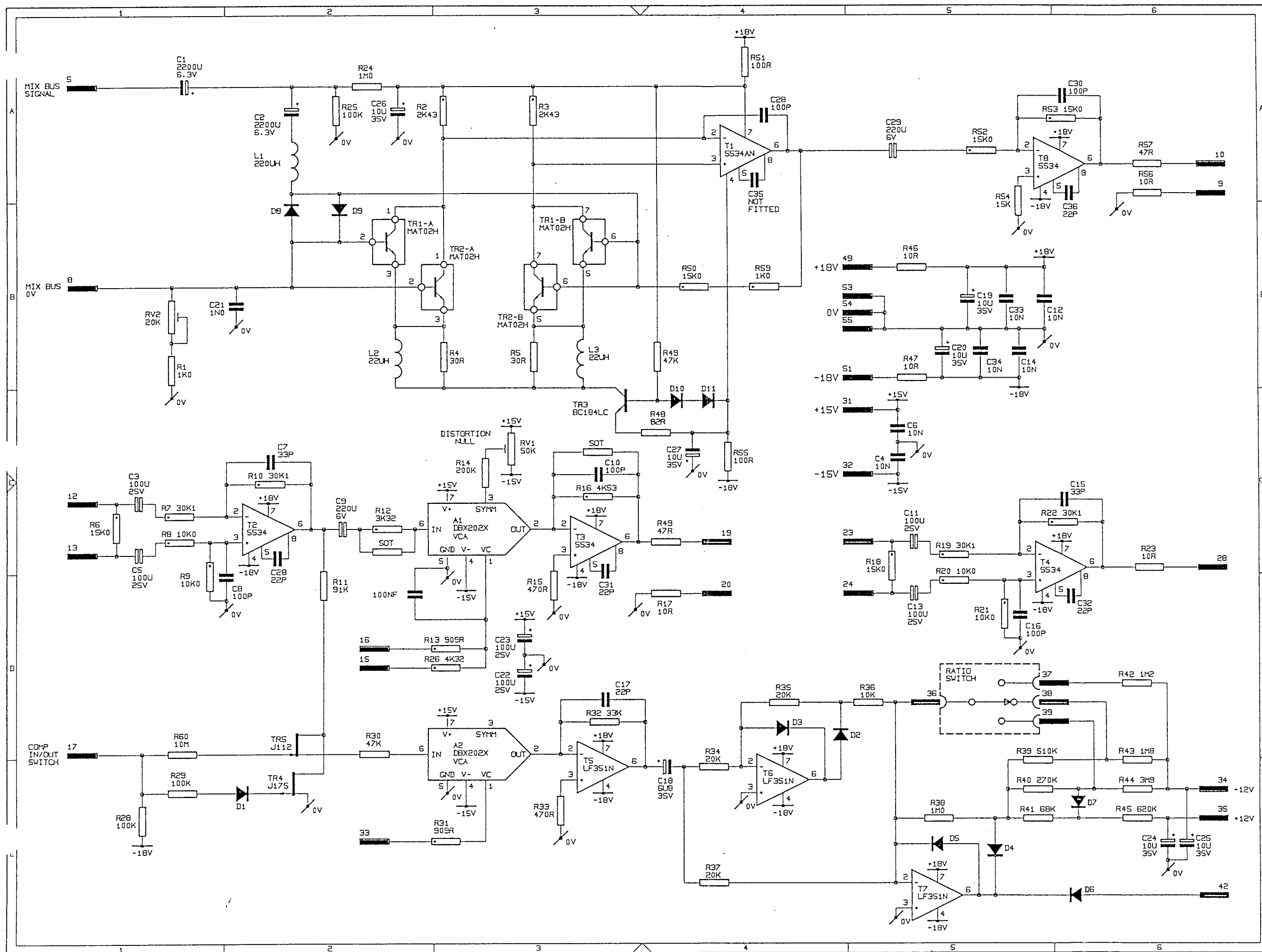
82E26 55 Way Module Connector			

From:	QB Mix Amps, Patch Returns,		
	Compressor Side Chain 82E26		
To:	Master Module SL651E		

No	Description	No	Description

1	Spare	34	-12v
2	Spare	35	+12v
3	Spare	36	Ratio Sw Pole
4	Spare	37	Ratio Sw 10
5	Mix Amp O	38	Ratio Sw 4
6	Spare	39	Ratio Sw 2
7	Not Used	40	+ 13v
8	Mix Amp 180	41	Spare
9	Pre Comp Send 180	42	D
10	Pre Comp Send 0	43	Spare
11	Not Used	44	Spare
12	Pre Comp Return 180	45	Spare
13	Pre Comp Return 0	46	Spare
14	Not Used	47	Spare
15	VCA Trim	48	Spare
16	VCA Control Input	49	+20vB)
17	A (Quad Compressor In/Out Switch)	50	Not Used
18	Not Used	51	-20vB)
19	Post Comp Send 0	52	Not Used
20	Post Comp Send 180	53	Ov(LF)
21	Not Used	54	Ov
22	Keyway	55	Ov
23	Post Comp Return 180	56	
24	Post Comp Return 0	57	
25	Spare	58	
26	Not Used	59	
27	Spare	60	
28	Output	61	
29	Spare	62	
30	Spare	63	
31	+ 15v	64	
32	- 15v	65	
33	C		

T82E26 51.0 Rev 8
26 Nov 82



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REV	ISSUE	DATE	DETAILS
0	A	13 AUG 90	NEW DRAWING BC STEFF
0	B	13 NOV 90	STOCK NUMBER 8256D026 ADDED MM
1	A	31 JAN 91	ECO 4K/698 BC C10 C30 WERE 22P NOW 100P MM
2	A	4 SEP 91	ECO 4K/628 BC R11 WAS 47K NOW 91K MM
3	A	29 NOV 91	ECO 4K/692 BC L1 WAS 220UH NOW LINK MM
4	A	3 MAR 92	ECO 4K/913 BC C1 C2 WERE 470UH NOW 220UH MM
5	A	3 MAR 92	ECO 4K/921 BC L1 WAS LINK NOW 220UH MM
6	A	21 SEP 92	ECO 4K/989 100NF CAPACITOR ADDED AT A1 MM
STOCK NO 8256D026			
REF: T6S1G A2			
TITLE 6S1G QUAD BUS MIX AMPS + COMPRESSOR			
DRG. NO. T82026.71.3			
Solid State Logic			

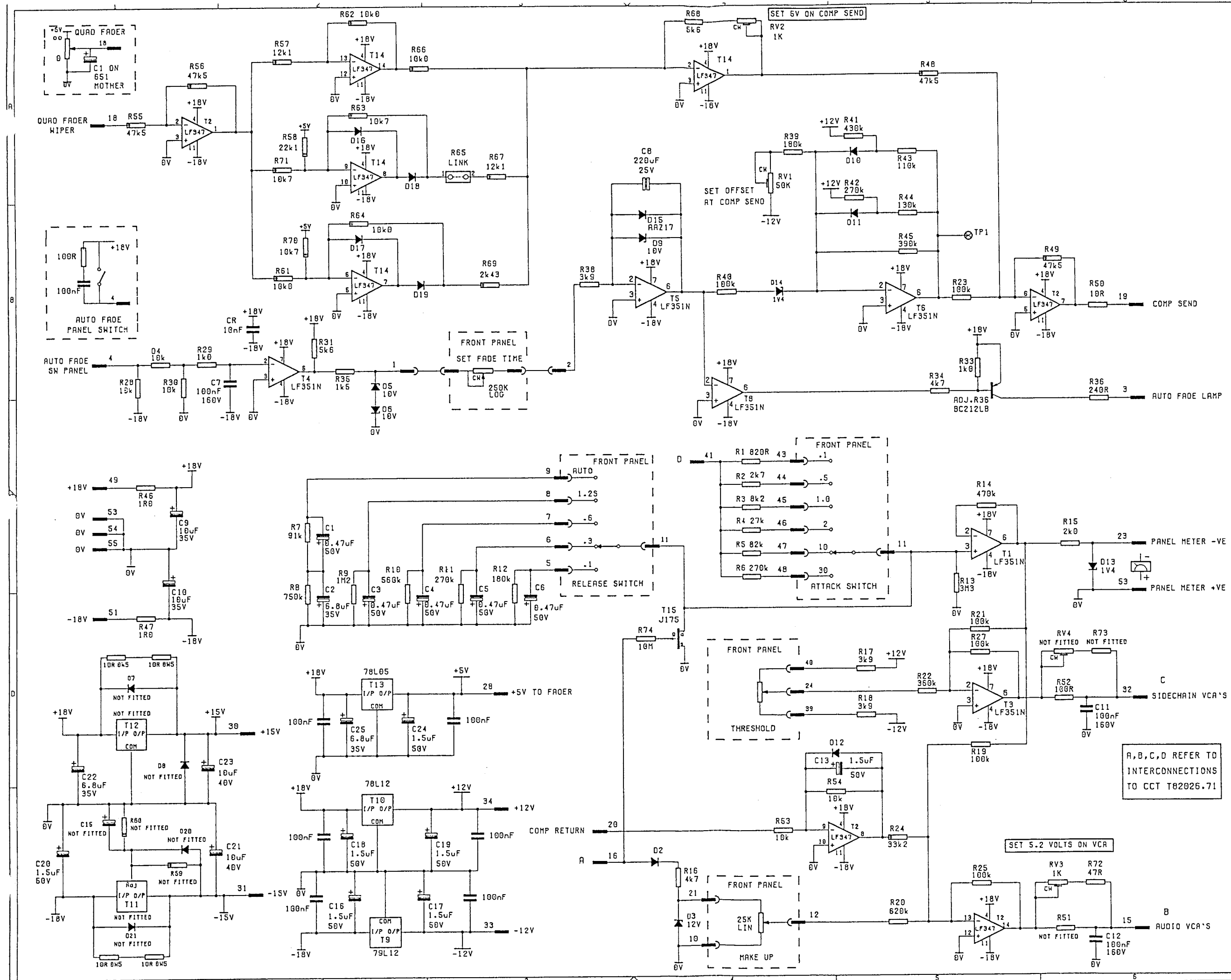
T82E27 55 Way Modulo Connector

From: Compressor Time Constants, Auto Fade
Quad Fader
To: Master Module SL651E

No	Description	No	Description
1	Set Fade ACW	29	Not Used
2	Set Fade Wiper	30	+15v
3	Auto Fade Lamp	31	-15v Sw Pole
4	Auto Fade Sw	32	C
5	.1)	33	-12v
6	.3)	34	+12v
7	.6) Release Times	35	Spare
8	1.2)	36	Spare
9	Auto)	37	Spare
10	Make Up ACW	38	Keyway
11	Release and Attack Poles	39	Threshold ACW
12	Make Up Wiper	40	Threshold CW
13	Spare	41	D
14	Spare	42	Spare
15	B	43	.1
16	A	44	.3
17	Spare	45	1
18	Master Fader Wiper	46	3
19	Master Fader Computer Send	47	10t Used
20	Master Fader Computer Return	48	30
21	Make Up CW	49	+20v
22	Spare	50	Not Used
23	Meter Output	51	-20v
24	Threshold Wiper	52	Not Used
25	Spare	53	0v
26	Not Used	54	0v
27	Not Used	55	0v
28	+5v to Quad Fader		

T82E27-510-7910-0

REV	ISS	DATE	DETAILS	
0	A	11 OCT 90	NEW DRAWING	BC
0	B	6 NOV 90	STOCK NUMBER 82S60027 ADDED	MM
1	A	9 APR 91	ECO 4K/745 T2 WAS CA324 ADDED	BC
2	A	3 JUN 91	ECO 4K/778 R48,49,55,56 WERE 47K NOW 47K5. T15 J175 AND R74 10M ADDED. INTRODUCE NP VERSION PCB. MM	MM
3	A	28 FEB 92	ECO 4K/933 T12 NOW NOT FITTED R59 WAS 909R, R60 WAS 5K53, C15 WAS 100UF NOW NOT FITTED. C21 C23 WAS 1U5 NOW 100UF. 100NF CAPACITORS AND 10R RESISTORS ADDED. MM	MM
4	A	26 OCT 92	ECO 4K/1035 CB WAS 14P722FW (ELECTROLYTIC) NOW 14N722FY (BIPOLAR)	MM



Stk No 82S60027	PCB ISSUE NP
USED ON SL651G	A2
TITLE COMPRESSOR	
QUAD FADER/AUTO FADER	
DRG. NO. T82027.71.3	
SHEET 1 OF 1	
Solid State Logic	

65 Way PCB Edge Connector

From: **82E338 External Monitoring Selectors**

To: **SL 651 Master Module**

Note: **These connections on component side of board**

1	Not Used	34	Stereo Cues Lamp
2	Not Used	35	Aux 2 Lamp
3	Not Used	36	Stereo 3 Lamp
4	Not Used	37	Aux 3 Lamp
5	Not Used	38	Keyway
6	Not Used	39	Aux 4 Lamp
7	Not Used	40	Stereo 1 Lamp
8	Not Used	41	Stereo 5 Lamp
9	Not Used	42	Quad Disc Lamp
10	Not Used	43	Stereo 4 Lamp
11	Not Used	44	Quad 1 Lamp
12	Not Used	45	Stereo 2 Lamp
13	Not Used	46	Quad 2 Lamp <i>or</i> QB to SLS Lamp
14	Not Used	47	Spare
15	Not Used	48	Not Used
16	Not Used	49	Not Used
17	Not Used	50	Not Used
18	Not Used	51	Not Used
19	Not Used	52	Not Used
20	Not Used	53	Enable from EXTERNAL TO MONITORS/SLS switch
21	Not Used	54	Not Used
22	Not Used	55	Not Used
23	Not Used	56	Not Used
24	Not Used	57	Not Used
25	Not Used	58	Not Used
26	Not Used	59	Not Used
27	Not Used	60	+11v
28	Not Used	61	Not Used
29	Not Used	62	Not Used
30	Not Used	63	Not Used
31	Not Used	64	Not Used
32	Not Used	65	Not Used
33	Aux 1 Lamp		

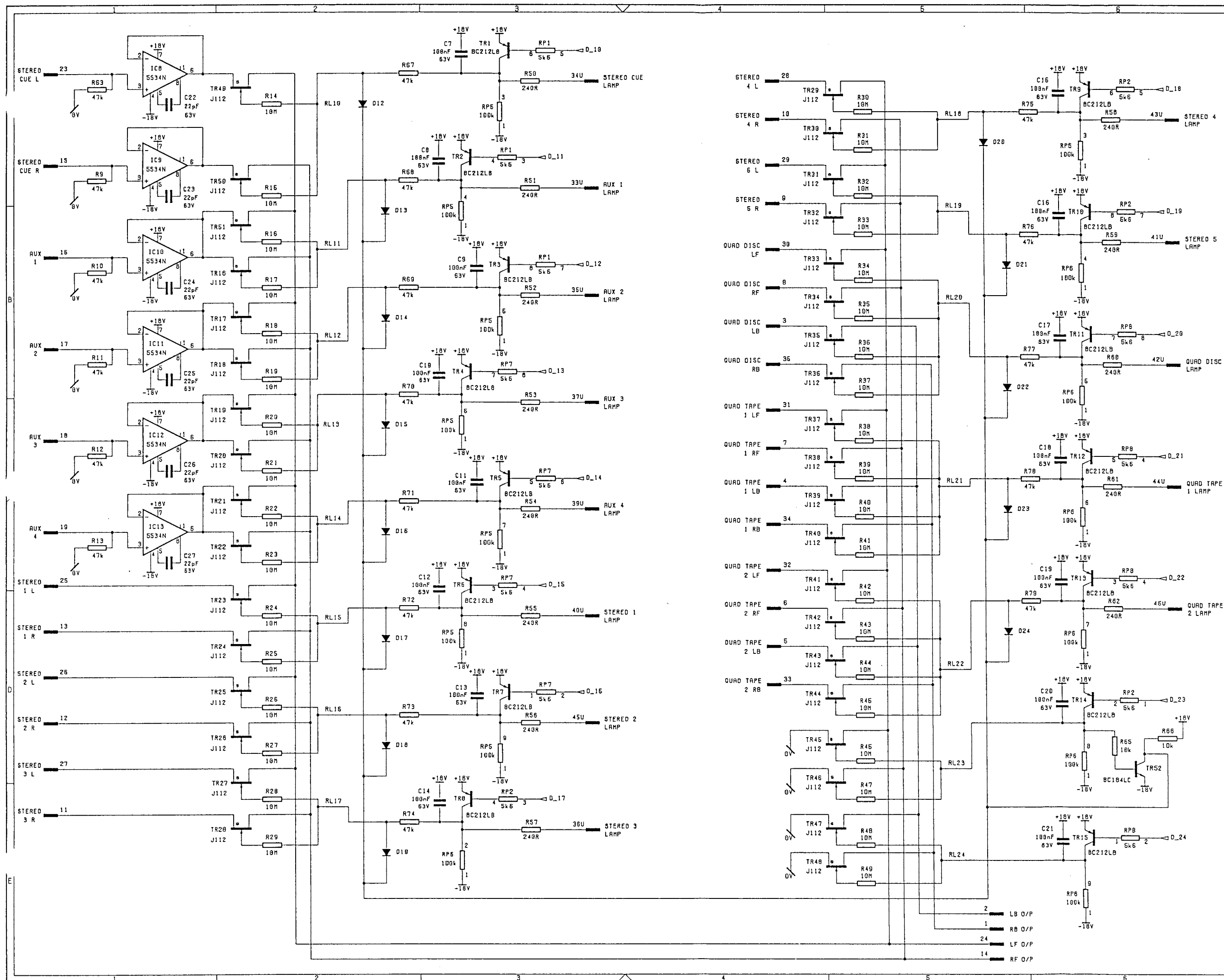
65 Way PCB Edge Connector

From: **82E338 External Monitoring Selectors**

To: **SL 651 Master Module**

Note: **These connections on reverse side of board**

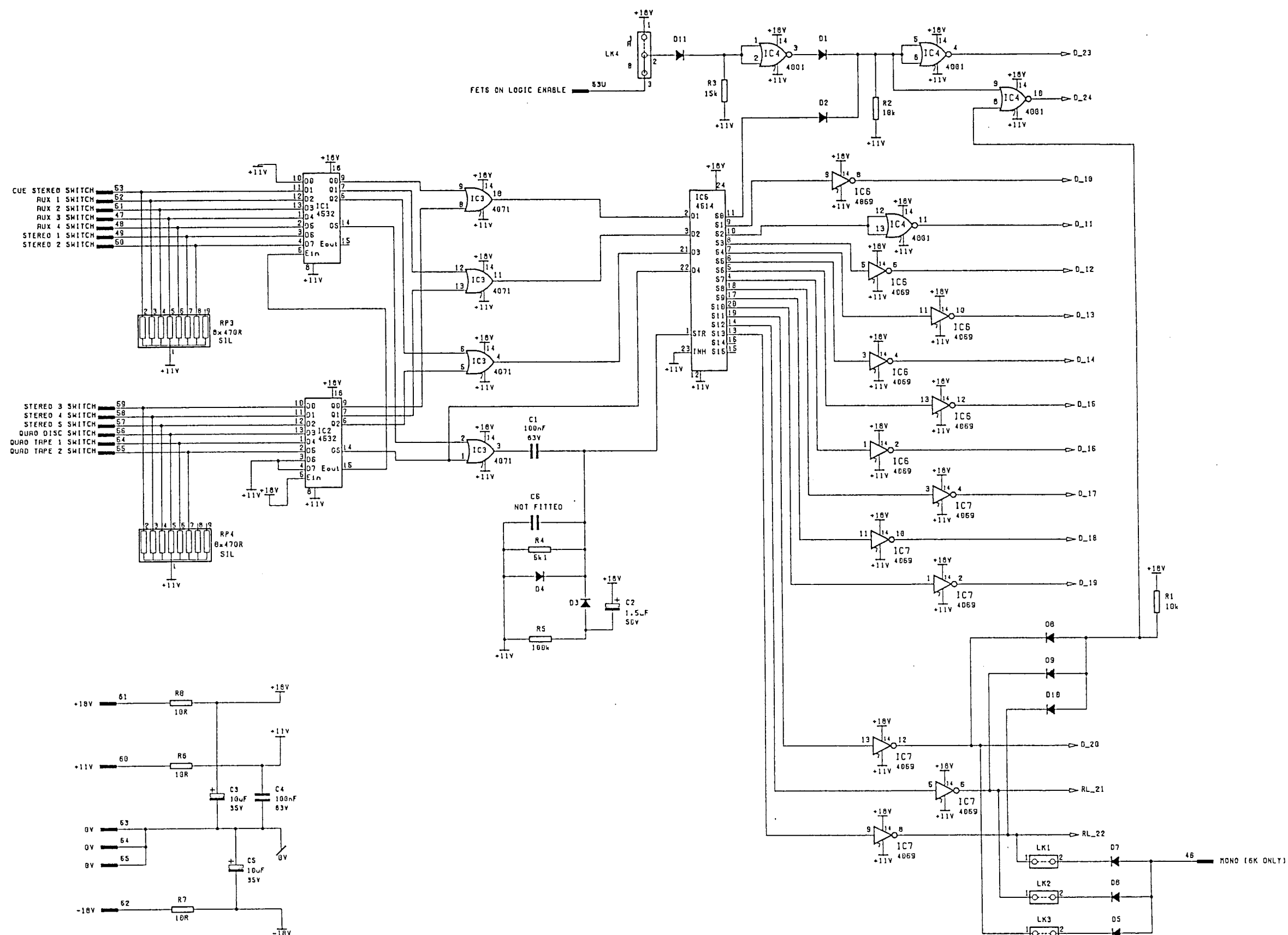
1	RB Output	34	Quad 1 RB Input
2	LB Output	35	Quad Disc RB Input
3	Quad Disc LB Input	36	Spare
4	Quad 1 LB Input	37	Spare
5	Quad 2 LB Input	38	Keyway
6	Quad 2 RF Input	39	Not Used
7	Quad 1 RF Input	40	Not Used
8	Quad Disc RF Input	41	Not Used
9	Stereo 5 R Input	42	Not Used
10	Stereo 4 R Input	43	Not Used
11	Stereo 3 R Input	44	Spare
12	Stereo 2 R Input	45	Spare
13	Stereo 1 R Input	46	SL 4000 To 82E25 +Ve for QUAD SL 6000 To 82E154 -Ve for MONO
14	RF Output	47	Aux 3 Switch
15	Stereo Cue R Input	48	Aux 4 Switch
16	Aux 1 Input	49	Stereo 1 Switch
17	Aux 2 Input	50	Stereo 2 Switch
18	Aux 3 Input	51	Aux 2 Switch
19	Aux 4 Input	52	Aux 1 Switch
20	Not Used	53	Stereo Cues Switch
21	Not Used	54	Quad 1 Switch
22	Not Used	55	Quad 2 Switch <i>or</i> QB to SLS Switch
23	Stereo Cue L Input	56	Quad Disc Switch
24	LF Output	57	Stereo 5 Switch
25	Stereo 1 L Input	58	Stereo 4 Switch
26	Stereo 2 L Input	59	Stereo 3 Switch
27	Stereo 3 L Input	60	+11v
28	Stereo 4 L Input	61	+18v
29	Stereo 5 L Input	62	-18v
30	Quad Disc LF Input	63	0v
31	Quad 1 LF Input	64	0v
32	Quad 2 LF Input	65	0v
33	Quad 2 RB Input		



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REV	ISS	DATE	DETAILS	
0	A	24 APR 89	NEW DRAWING	STEFF
1	A	8 OCT 90	ECO 4K/484 NO CHANGE	MM
2	A	8 NOV 91	ECO 4K/665 NO CHANGE	MM
3	A	8 NOV 91	ECO 4K/885 NO CHANGE	MM
PCB ISSUE CD				
USED ON		SL651G	A2	
TITLE				
EXT MON SELECTORS				
DRG.NO.				
T82338.71				
SHEET 1 OF 2				
Solid State Logic				

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REV	ISS	DATE	DETAILS
0	A	24 APR 89	NEW DRAWING STEFF
1	A	8 OCT 90	ECO 4K/484 R4 WAS 10K MM
2	A	8 NOV 91	ECO 4K/665 LK4 WAS A NOW B MM
3	A	8 NOV 91	ECO 4K/885 C6 WAS 10NF NOW NOT FITTED MM



PCB ISSUE CD

USED ON SL651G A2

TITLE
EXT MON SELECTORS

ORG.NO. T82338.72
SHEET 2 OF 2

Solid State Logic

T82E29 65 Way Modulo Connector			
From: External Monitoring Buffers			
To: Master Module T651E			
No	Description	No	Description
1	Spare	34	ST1L Input +
2	Spare	35	ST1L Input -
3	Spare	36	ST1L Output
4	Quad Disc LB Input -	37	ST2L Input -
5	Quad Disc LB Output	38	ST2L Output
6	Quad M/c 1 LB Input +	39	ST3L Input +
7	Quad M/c 1 LB Input -	40	ST3L Input -
8	Quad M/c 1 LB Output	41	ST3L Output
9	Quad M/c 2 LB Input +	42	ST4L Input +
10	Quad M/c 2 LB Input -	43	ST4L Input -
11	Quad M/c 2 LB Output	44	ST4L Output
12	Quad M/c 2 RF Input -	45	ST5L Input -
13	Quad M/c 2 RF Output	46	ST5L Output
14	Quad M/c 1 RF Input +	47	Quad Disc LF Input +
15	Quad M/c 1 RF Input -	48	Quad Disc LF Input -
16	Quad M/c 1 RF Output	49	Quad Disc LF Output
17	Quad Disc RF Input +	50	Quad M/c 1 LF Input +
18	Quad Disc RF Input -	51	Quad M/c 1 LF Input -
19	Quad Disc RF Output	52	Quad M/c 1 LF Output
20	ST5R Input -	53	Quad M/c 2 LF Input -
21	ST5R Output	54	Quad M/c 2 LF Output
22	ST4R Input +	55	Quad M/c 2 RB Input +
23	ST4R Input -	56	Quad M/c 2 RB Input -
24	ST4R Output	57	Quad M/c 2 RB Output
25	ST3R Input +	58	Quad M/c 1 RB Input +
26	ST3R Input -	59	Quad M/c 1 RB Input -
27	ST3R Output	60	Quad M/c 1 RB Output
28	ST2R Input -	61	Quad Disc RB Output
29	ST2R Output	62	Not Used
30	ST1R Input +	63	-20v
31	ST1R Input -	64	Ov
32	ST1R Output	65	Ov
33	Keyway		

T82E29.50

24 Nov 77

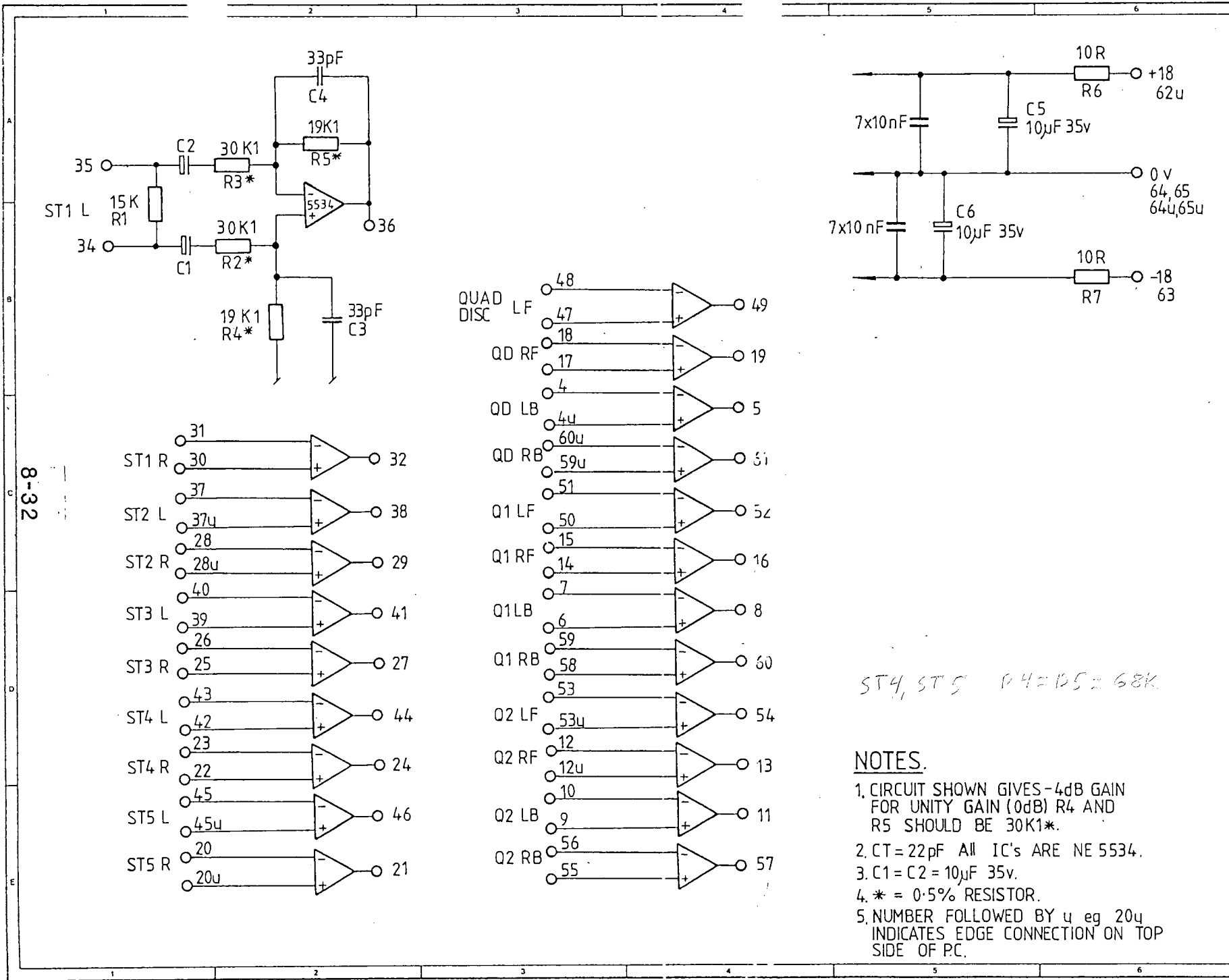
65WAY MODULO CONNECTOR FROM: EXTERNAL MONITORING BUFFERS CF82E29
TO: MASTER MODULE SL651E

CONNECTOR NO: E82E29-B

COMPONENT SIDE

1	Not Used	34	Not Used
2	Not Used	35	Not Used
3	Not Used	36	Not Used
4	Quad Disc Input+ LB	37	ST2L Input+
5	Not Used	38	Not Used
6	Not Used	39	Not Used
7	Not Used	40	Not Used
8	Not Used	41	Not Used
9	Not Used	42	Spare
10	Not Used	43	Spare
11	Not Used	44	Not Used
12	Quad M/c 2 RF Input+	45	ST5L Input+
13	Not Used	46	Not Used
14	Not Used	47	Spare
15	Not Used	48	Not Used
16	Not Used	49	Not Used
17	Not Used	50	Not Used
18	Not Used	51	Not Used
19	Not Used	52	Not Used
20	ST5R Input+	53	Quad M/c 2LF Input+
21	Not Used	54	Not Used
22	Not Used	55	Not Used
23	Not Used	56	Not Used
24	Not Used	57	Not Used
25	Not Used	58	Not Used
26	Not Used	59	Quad Disc RB Input+
27	Not Used	60	Quad Disc RB Input-
28	ST2R Input+	61	Not Used
29	Not Used	62	+20v
30	Not Used	63	Not Used
31	Not Used	64	Ov
32	Not Used	65	Ov
33	Keyway		

82E29-510-7910-0



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Rev.	Issue	Details
4	a	REDRAWN 1-84 V.B.
5	a ^{2nd}	0V PLANES LINKED - CD a
Title CF 82B29		
EXTERNAL MONITORING BUFFERS		
Org.No. T82029.71		
Solid State Logic		
Stonesfield · Oxford · England		

CF82E30 55 MODULE CONNECTOR

From: 2 x ECHO STEREO RETURN

To: MASTER MODULE SL651E

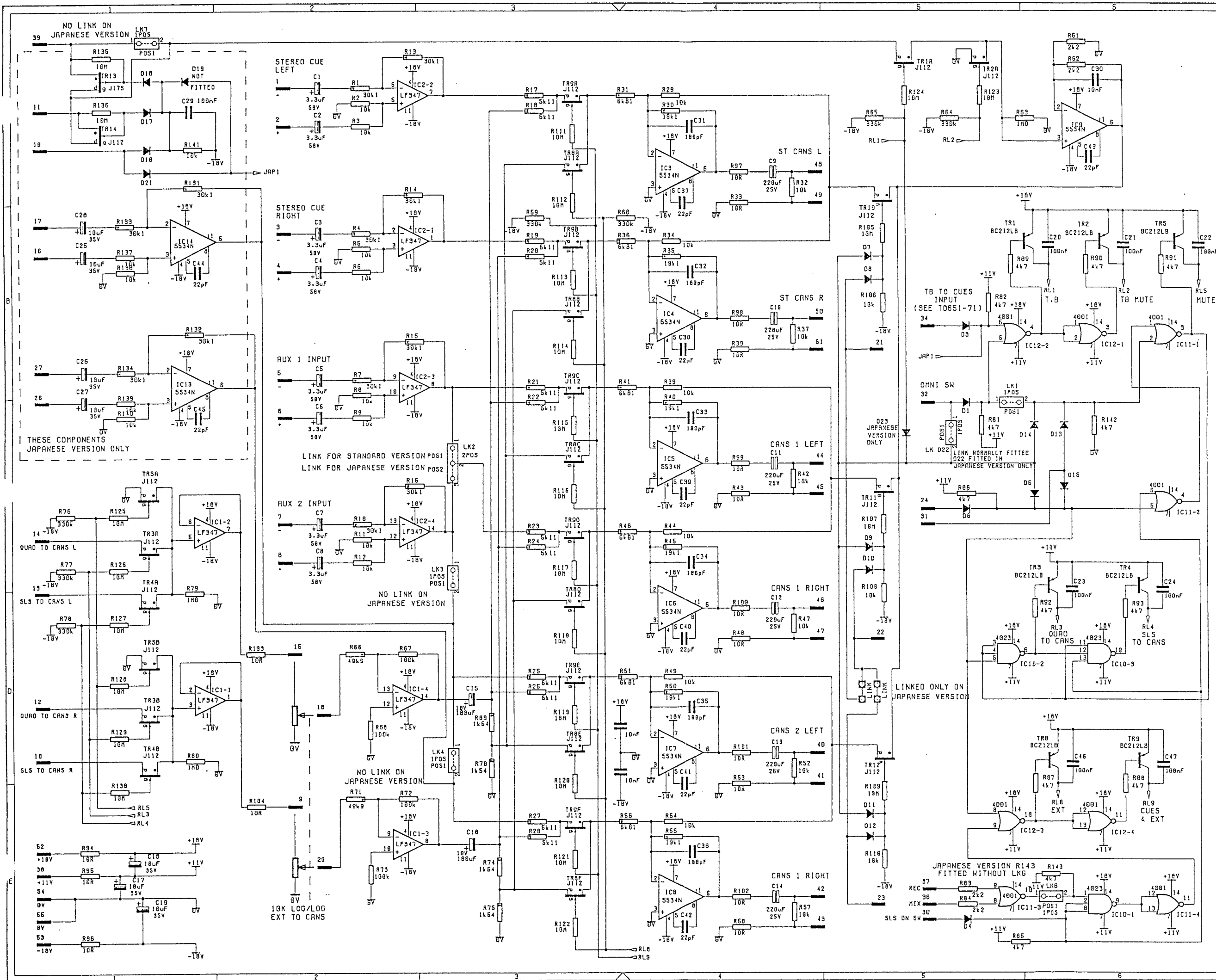
No	Description	No	Description
1	Spare	27	Spare
2	Spare	28	NU
3	Spare	29	NU
4	Spare	30	Echo Return 2
5	Spare		(Echo Return 4) L Input -
6	Spare	31	Echo Return 2
7	Echo Return 1		(Echo Return 4) L Input +
	(Echo Return 3) L Input -)	32	Echo Return 2
8	Echo Return 1		(Echo Return 4) L Output
	(Echo Return 3) L Input +)	33	Spare
9	Echo Return 1	34	Echo Return 2
	(Echo Return 3) L Output) Stereo		(Echo Return 4) R Input -
10	Keyway) Echo	35	Echo Return 2
11	Echo Return 1 Return		(Echo Return 4) R Input +
	(Echo Return 3) R Input -) From	36	Echo Return 2
12	Echo Return 1 Patch		(Echo Return 4) R Output
	(Echo Return 3) R Input +)	37	OV for Screen
13	Echo Return 1	38	OV for Ics
	(Echo Return 3) R Output)	39	Spare
14	OV Screen	40	Echo Return 2 LB
15	OV For QB Ics E81(3) To 82E325		(Echo Return 4 LB) Input
16	Spare	41	Echo Return 2 LB
17	Spare		(Echo Return 4 LB) Output
18	Spare	42	Echo Return 2 LF
19	Echo Return 1 LB		(Echo Return 4 LF) Input
	(Echo Return 3 LB) Input)	43	Echo Return 2 LF
20	Echo Return 1 LB		(Echo Return 4 LF) Output
	(Echo Return 3 LB) Output)	44	Echo Return 2 RB
21	Echo Return 1 LF From		(Echo Return 4 RB) Input
	(Echo Return 3 LF) Input) Echo	45	Echo Return 2 RB
22	Echo Return 1 LF Switch		(Echo Return 4 RB) Output
	(Echo Return 3 LF) Output) Unit	46	Echo Return 2 RF
23	Echo Return 1 RB CF8235		(Echo Return 4 RF) Input
	(Echo Return 3 RB) Input)	47	Echo Return 2 RF
24	Echo Return 1 RB		(Echo Return 4 RF) Output
	(Echo Return 3 RB) Output)	48	NU
25	Echo Return 1 RF	49	NU
	(Echo Return 3 RF) Input)	50	NU
26	Echo Return 1 RF	51	+18V
	(Echo Return 3 RF) Output)	52	-18V
		53	OV
		54	OV
		55	OV

T82E30 50.1

9 Mar 83

55 Way Modulo Connector		Connector No T82E31	
From: Cues 1-4 Patch Returns. Matrix. External QB & TB Inputs			
To: Master Module SL651E			
No	Description	No	Description
1	St Cans L Input-	34	Cue Input
2	St Cans L Input +	35	NU
3	St Cans R Input -	36	Status Mix Bus
4	St Cans R Input +	37	Status Record Bus
5	Aux 1 Input -	38	+13V
6	Aux 1 Input +	39	TB to Cans Wiper
7	Aux 2 Input -	40	Aux 2 L Out +
8	Aux 2 Input +	41	Aux 2 L Out -
9	QB/Ext to Cans Pot R CW	42	Aux 2 R Out +
10	SLS to Cans R	43	Aux 2 R Out -
11	Spare	44	Aux 1 Cans L Out +
12	Quad to Cans R	45	Aux 1 Cans L Out -
13	SLS to Cans L	46	Aux 1 Cans R Out +
14	Quad to Cans L	47	Aux 1 Cans R Out -
15	QB/EXT to Cans Pot L CW	48	St Cans L Out +
16	Spare	49	St Cans L Out -
17	Spare	50	St Cans R Out +
18	QB/Ext to Cans Pot L Wiper	51	St Cans R Out -
19	Spare	52	+20V
20	QB/EXT to Cans Pot R Wiper	53	-20V
21	Spare	54	Ov
22	Spare	55	Ov
23	Spare	56	
24	Quad to CAns Sw	57	
25	NU	58	
26	Aux 4 Input -	59	
27	Aux 4 Input +	60	
28	NU	61	
29	Keyway	62	
30	SLS On Sw	63	
31	NU	64	
32	Omni Input	65	
33	NU	66	

T82031.50
18 Jul 83



REV				DATE	DETAILS
8	B	FEB	90		JAPANESE MODS INCORPORATED KPS
9	A	JUN	90		ECO 4K/579 PCB REVISION EF INTRODUCED STEFF
10	A	NOV	90		ECO 4K/598 NO CHANGE MM
11	A	4 NOV	91		ECO 4K/760 2 10NF CAPACITORS ADDED AT IC7 MM
12	A	14 APR	93		ECO 4K/1130 MM C9-14 WERE 10UF 50V NOW 220UF 25V

USED ON	651G	A2
TITLE	PATCH RETURN	
DRG. NO.	T82031.71	
SHEET	1 OF 1	

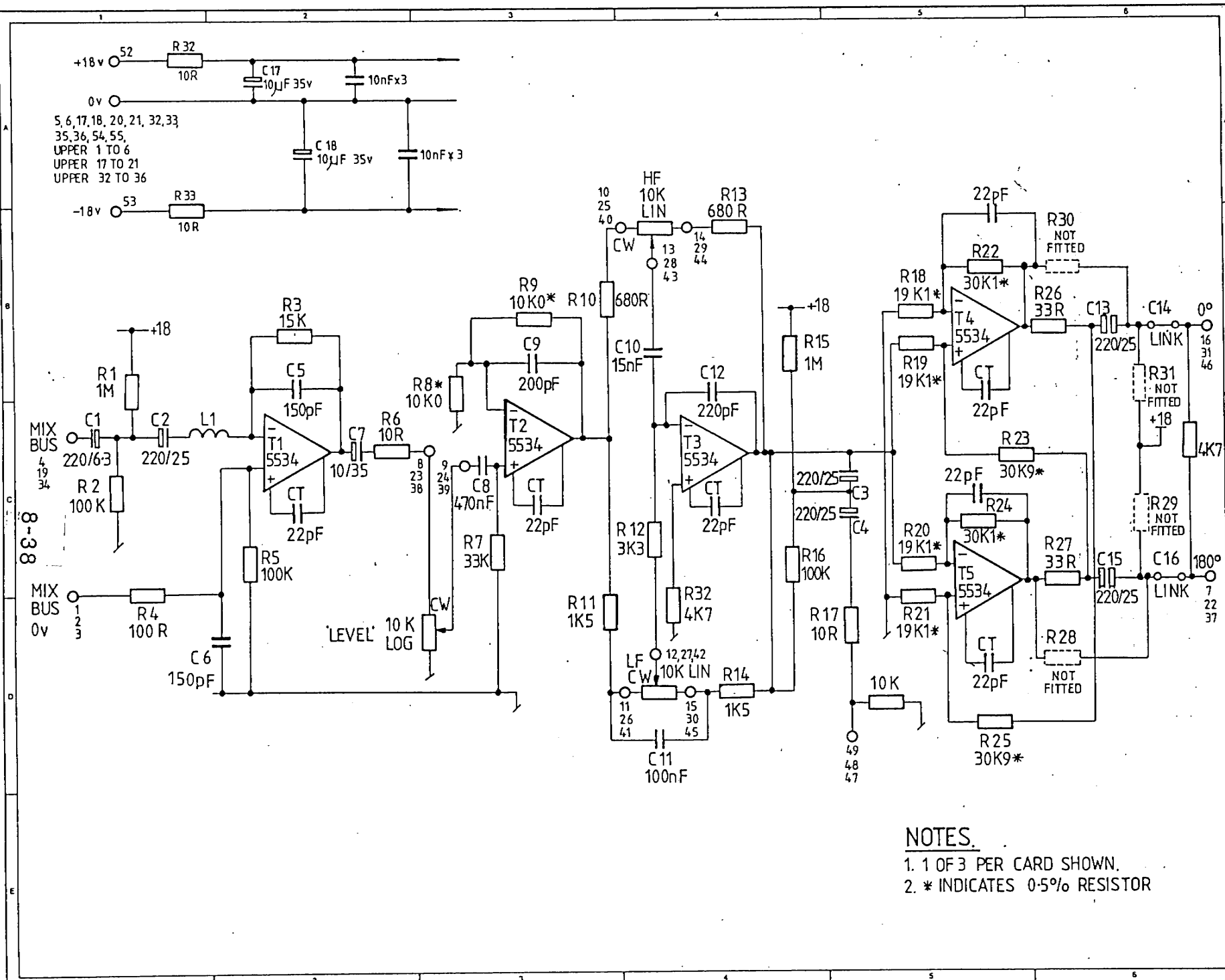
Solid State Logic

82E32 55 way Modulo Connector pinout

From: 3 Cue Mixing Amps & EQ. CF82E32
To: Master Module SL651E

No	Description	No	Description
1	0v Mixing S4	31	ST Cue R (Aux 3) output 0?
2	0v Mixing S4	32	0v
3	0v Mixing S4	33	0v
4	ST Cue L (Aux 2) Mixing Bus	34	Aux 1 (Aux 4) Mixing Bus
5	0v	35	0v
6	0v	36	0v
7	ST Cue L (Aux 2) Output 180?	37	Aux 1 (Aux 4) Output 180?
8	ST Cue L (Aux 2) Gain CW	38	Aux 1 (Aux 4) Gain CW
9	ST Cue L (Aux 2) Gain Wiper	39	Aux 1 (Aux 4) Gain Wiper
10	ST Cue L (Aux 2) HF CW	40	Aux 1 (Aux 4) HF CW
11	ST Cue L (Aux 2) LF CW	41	Aux 1 (Aux 4) LF CW
12	ST Cue L (Aux 2) LF Wiper	42	Aux 1 (Aux 4) LF Wiper
13	ST Cue L (Aux 2) HF Wiper	43	Aux 1 (Aux 4) HF Wiper
14	ST Cue L (Aux 2) HF ACW	44	Aux 1 (Aux 4) HF ACW
15	ST Cue L (Aux 2) LF ACW	45	Aux 1 (Aux 4) LF ACW
16	ST Cue L (Aux 2) Output 0?	46	Aux 1 (Aux 4) Output 0?
17	0v	47	Aux 1 (Aux 4) Cues to M + Ext Mon
18	0v	48	ST Cue R (Aux 3) Cues to M + Ext Mon
19	ST Cue R (Aux 3) Mixing Bus	49	ST Cue L (Aux 2) Cues to M + Ext Mon
20	0v	50	Keyway
21	0v	51	NU
22	ST Cue R (Aux 3) Output 180?	52	+20v
23	ST Cue R (Aux 3) Gain CW	53	-20v
24	ST Cue R (Aux 3) Gain Wiper	54	0v
25	ST Cue R (Aux 3) HF CW	55	0v
26	ST Cue R (Aux 3) LF CW		
27	ST Cue R (Aux 3) LF Wiper		
28	ST Cue R (Aux 3) HF Wiper		
29	ST Cue R (Aux 3) HF ACW		
30	ST Cue R (Aux 3) LF ACW		

T82032.50
22 Dec 81



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Rev.	Issue	Ckd	Details	
6	a	1-84	REDRAWN	V.B.
8	a	DM Feb86	R26-27 WAS 75R NOW 33R	ST
8	b	JTC June86	'LEVEL' ADDED	ST
9	a	DM May87	C13-16 WERE CAP. ELECT. 220UF 25V R28-31 DELETED.	CL
10	a	MM NOV 90	ECO 4K/677 C6 WAS 4N7	

Title		82E32
		3 CUE MIX BUS +EQ
Drg.No.		T 82032-71
So		State Logic

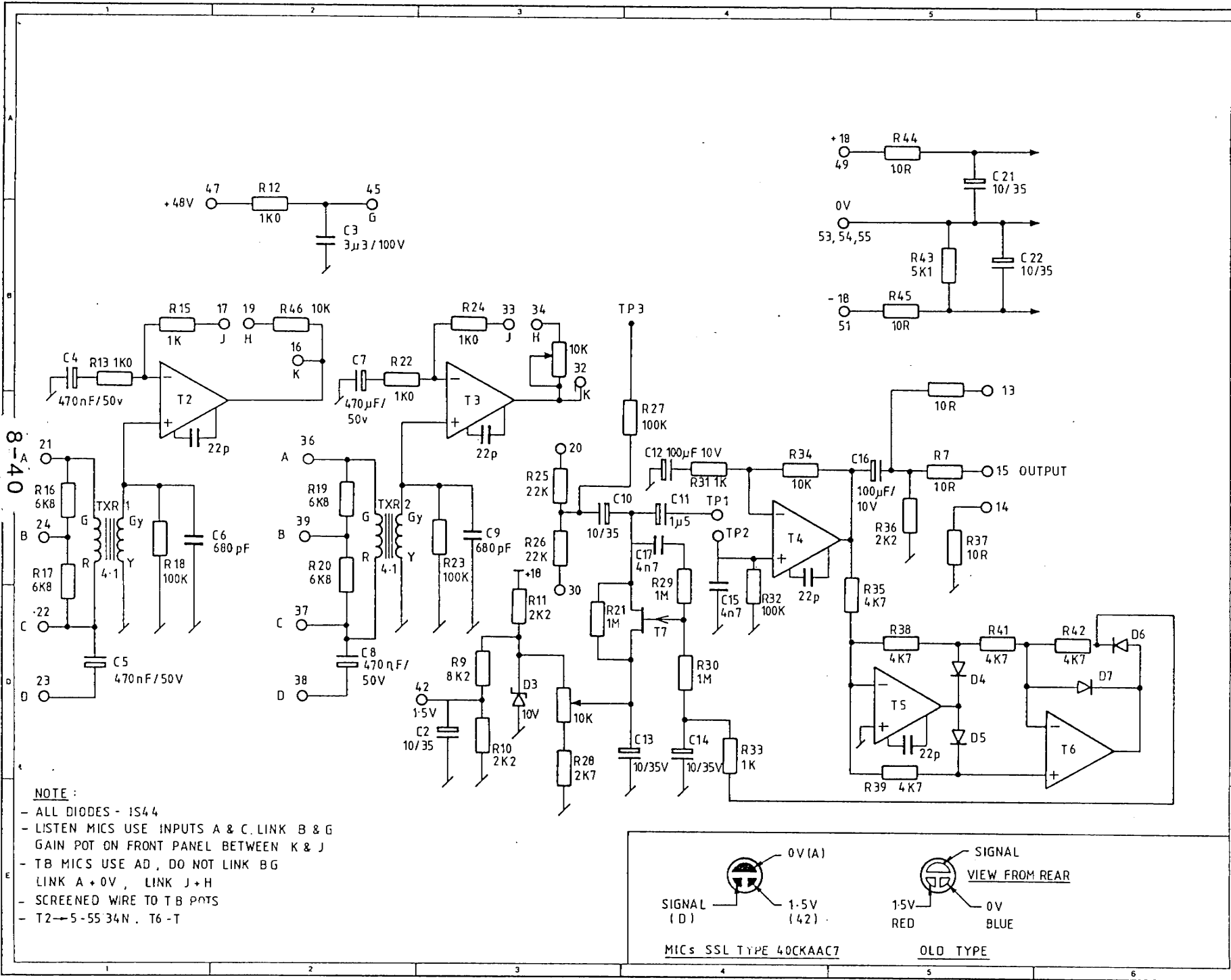
NOTES

- 1 OF 3 PER CARD SHOWN.
- * INDICATES 0.5% RESISTOR

T82E33.50 55 Way Modulo Connector

From: 2 x TB AMPLIFIERS AND COMPRESSOR
STEREO CANS
To: MASTER MODULE SL651E

No	Description	No	Description
1	Spare	29	Spare
2	Spare	30	Spare
3	Spare	31	Keyway
4	Spare	32	K (T3)
5	Spare	33	J (T3)
6	Spare	34	H
7	Spare	35	Not Used
8	Spare	36	A) TXR 2
9	Spare	37	C)
10	Spare	38	D)
11	Spare	39	B)
12	Spare	40	Spare
13	Spare	41	Not Used
14	TB Amps + Compressor Output-	42	1.5V
15	TB Amps + Compressor Output+	43	Not Used
16	K (T2)	44	Spare
17	J (T2)	45	G (+48V)
18	Not Used	46	Not Used
19	H	47	+48V
20	Spare	48	Not Used
21	A) TXR 1	49	+20V
22	C)	50	Not Used
23	D)	51	-20V
24	B)	52	Not Used
25	Spare	53	OV
26	Not Used	54	OV
27	Not Used	55	OV
28	Not Used		



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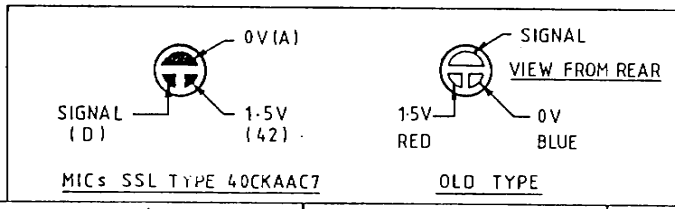
Rev.	Issue	Details
6	a	REDRAWN 4/84 O.D

Title CF82B33 TALKBACK (LISTEN) AMPLIFIERS AND COMPRESSOR

Drg.No. T82033-71

Sol. State Logic

Stonesfield · Oxford · England



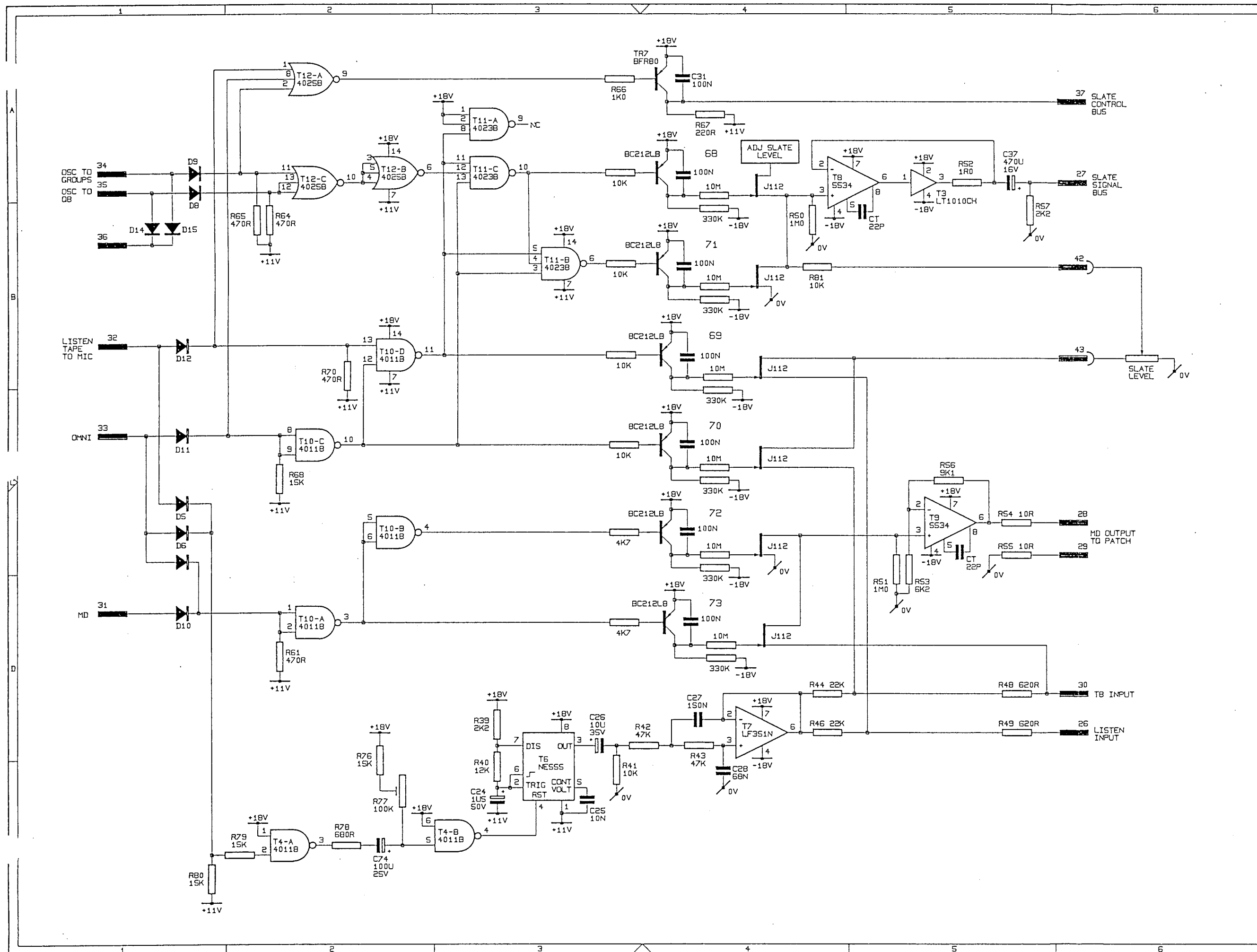
82E34

55 Way Connector

From: Oscillator and Slate Oscillator
To: Master Module SL651

No	Description	No	Description
1	Oscillator (from patch) 180	29	MD Output - (to patch)
2	Oscillator (from patch) 0	30	TB Amp + Compressor Output
3	Oscillator On Switch	31	Talk to MD input
4	Oscillator Frequency Switch Pole	32	Listen Mic to Tape Input
5	Vari Pot CW + Cal Pot CW	33	Omni Input
6	Spare	34	Oscillator to Groups Switch
7	Spare	35	Oscillator to QB Switch
8	Vari Pot Wiper	36	Oscillator Dim Button (82E22)
9	Cal Pot Wiper	37	Multi Slate Control Bus
10	Cal Pot ACW	38	Not Used
11	Vari Pot ACW	39	Not Used
12	50 Hz. Oscillator Frequency Sw.	40	Not Used
13	100 Hz. Oscillator Frequency Sw.	41	Not Used
14	220 Hz. Oscillator Frequency Sw.	42	Facility for Spare
15	440 Hz. Oscillator Frequency Sw.	43	Facility for Spare
16	1 KHz. Oscillator Frequency Sw.	44	Facility for Spare
17	3 KHz. Oscillator Frequency Sw.	45	TB Enable from 611s (SL8000GB)
18	10 Hz. Oscillator Frequency Sw.	46	Facility for Spare
19	15 Hz. Oscillator Frequency Sw.	47	Facility for Spare
20	Oscillator Output - (to patch)	48	Facility for Spare
21	Oscillator Output + (to patch)	49	+ 13v
22	Cal Switch	50	Not Used
23	Not Used	51	+ 20v
24	Not Used	52	- 20v
25	Keyway	53	Ov
26	Listen Amp + Compressor Output	54	Ov
27	Signal Slate Bus	55	Ov
28	MD Output + (to patch)		

T82E34.50
29 Jun 1993



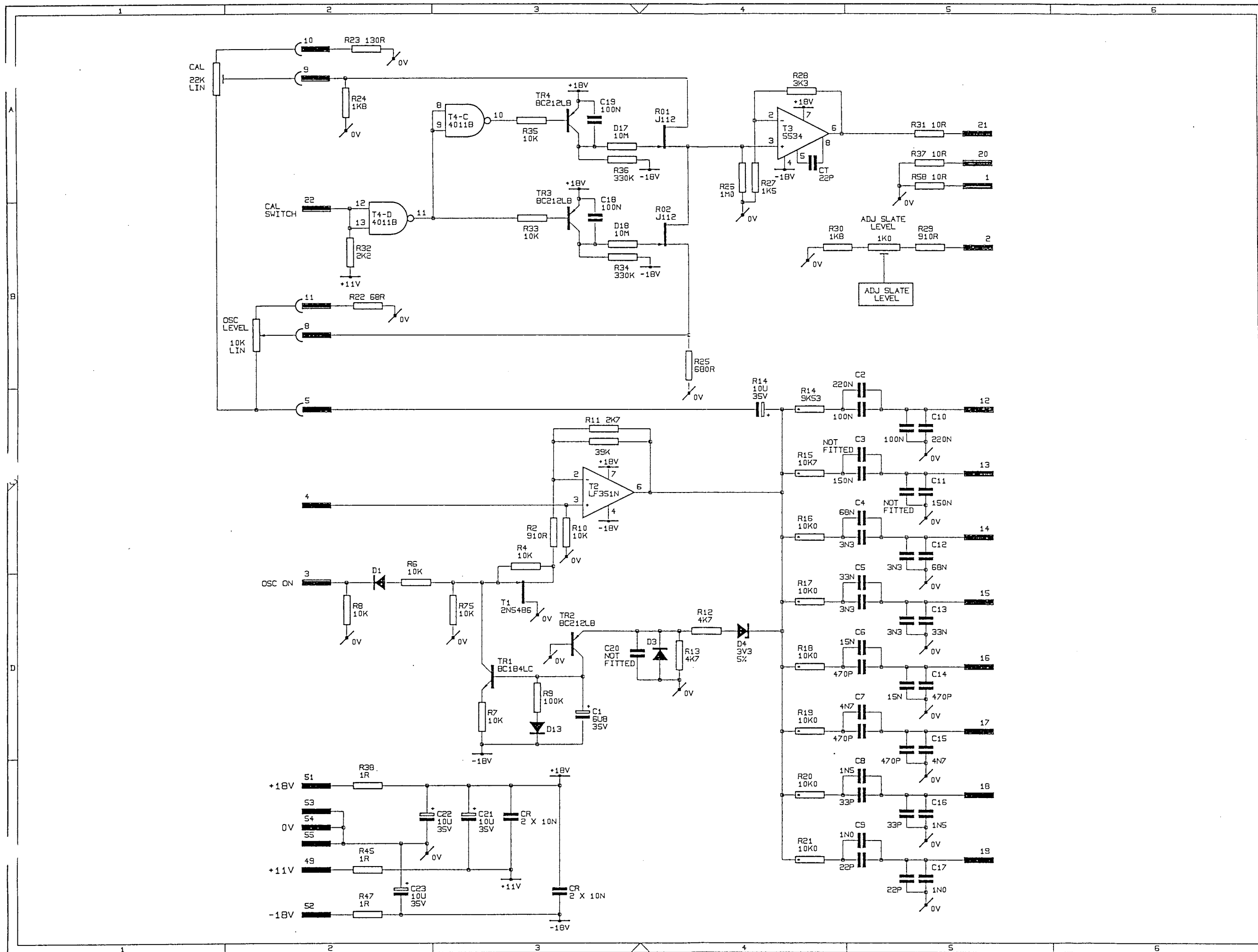
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REV	ISSUE	DATE	DETAILS
5	A	4/84	REV UPDATE
6	A	7/85	REV UPDATE
7	A	7/85	REV UPDATE
7	B	JAN 86	STATUS LOCK DELETED DTG STEFF
8	A	19 MAR 88	ECO 4K/323 BC C36 470U 16V DELETED, T13 LH0002CH ADDED STEFF
9	A	24 JULY 90	ECO 4K/447 BC T13 WAS LH0002CH NOW LT1010CH STEFF
10	A	22 MAR 93	ECO 4K/1072 NO CHANGE MM

SHEET 1 OF 2
REF: T651C

E TITLE 651E/V
MAIN + SLATE OSCILLATOR
MD SEND
DRG. NO. T82034.71

Solid State Logic



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REV	ISSUE	DATE	DETAILS
5	A	4/84	REV UPDATED
6	A	7/85	R22 VALUE NOW 68R R25 VALUE NOW 680R
7	A	7/85	R23 VALUE NOW 130R
7	B	OCT 86	R2 DELETED. RES 240R ADDED STEFF
8	A	19 MAR 90	ECO 4K/323 BC NO CHANGE STEFF
9	A	24 JULY 90	ECO 4K/447 BC NO CHANGE STEFF
10	A	22 MAR 93	ECO 4K/1072 R38 R45 R47 WERE 10R NOW 1R MM

SHEET 2 OF 2

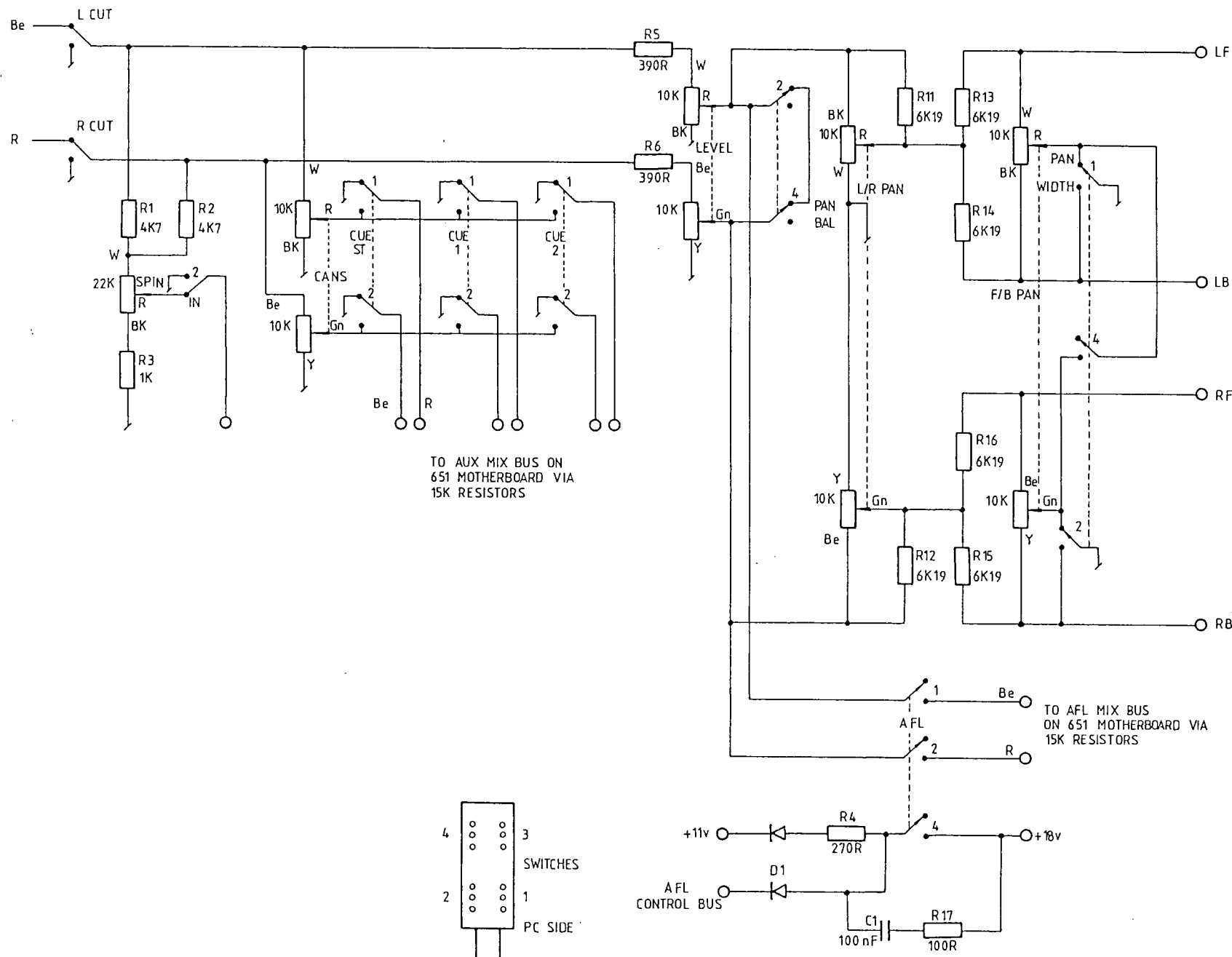
REF: T651D

A2

TITLE 651E/V
MAIN + SLATE OSCILLATOR
MD SEND

DRG. NO. T82034.72

Solid State Logic



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Rev.	Issue	Details
2	a	REDRAWN 3-84 V.B.
2	b	NOTES ADDED 4-86 K.S.

Title
STEREO RETURN
SWITCH CARD

Drg. No. T82035-71

Solid State Logic

Stonesfield · Oxford · England

SL652 Split Cues Panel - General Description

The SL652 split cues panel provides an increased number of cue and effects sends available from the SL611 channel module, by enabling any of the cue mix busses to be 'split' between the left and right hand sides of the console. For instance a bus may be split to allow one effects device to be accessed from modules on the left hand side of the centre section (via the SL652 panel) whilst another device is accessed from modules to the right of the centre section (via the SL651). Meanwhile, the other busses could be used as cue sends by not splitting them.

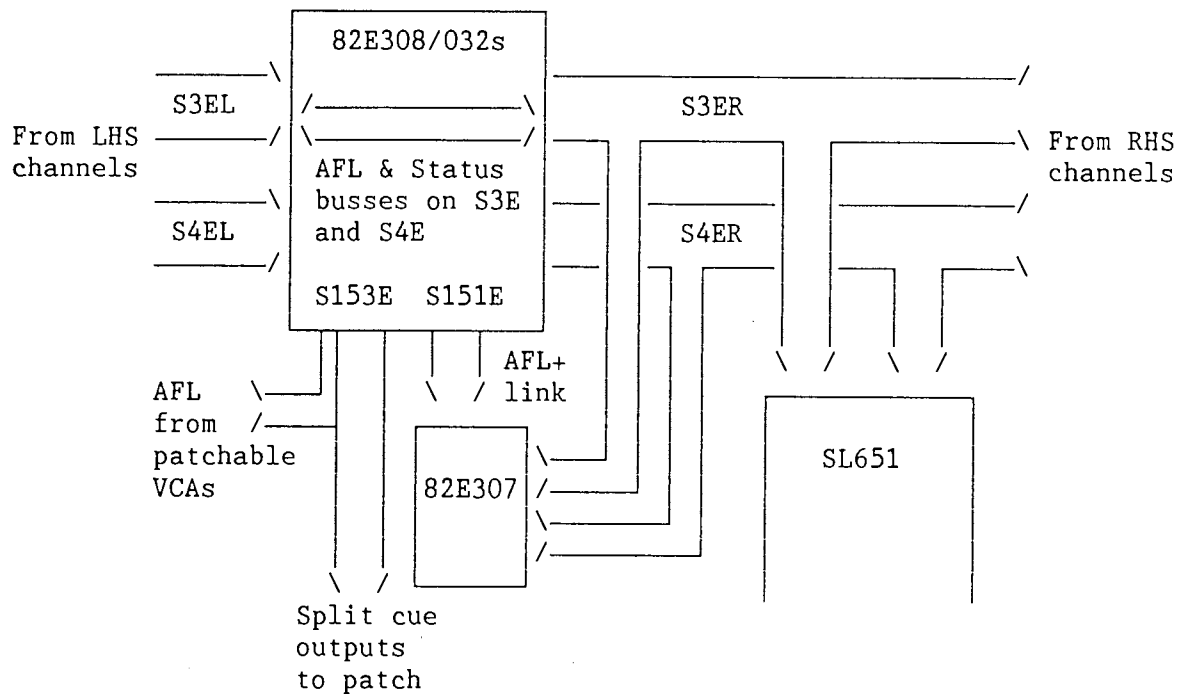
The sends from the left hand side of the console only appear as 'split cues' outputs on the patchbay, and these outputs are available whether or not the 'split' button is pressed. When the 'split' buttons are out then the 'echo send' and 'cue insert' points on the patch perform as standard, ie they are fed from all channels. When a 'split' button on the 652 panel is pressed then only the modules to the right of the centre section feed that 'echo send' or 'cue insert' point, the modules to the left feeding the 'split' output as above. Note that if the stereo cue bus, or bus 1 or 2, is split then the left hand side modules will not feed the cue sends on that bus, nor will they appear on the 'Ext to Mon' or 'Ext to Studio' selectors.

The split outputs have the same controls as the main cue sends, ie gain, HF eq, and LF eq. In addition each output has an 'AFL' switch, operating this switch puts the console into AFL and feeds a post gain and eq signal to the AFL bus.

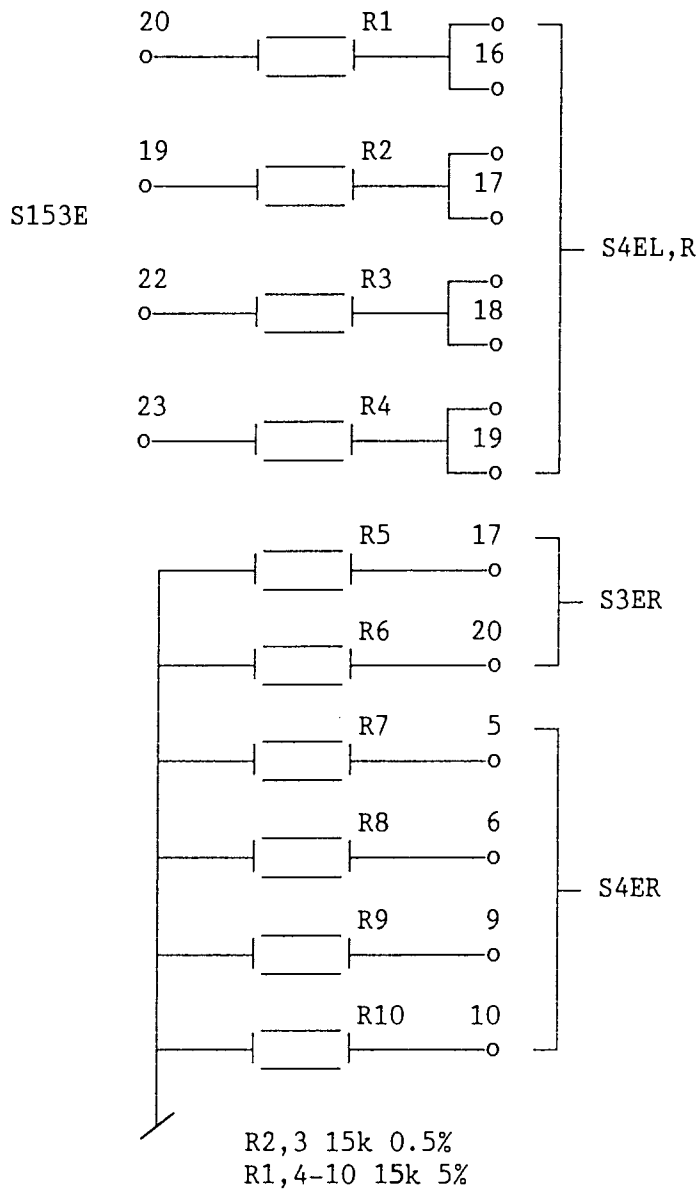
The split cues circuitry is contained in an assembly mounted on the rear of the split cues control panel. It consists of a buscard (82E308) into which are plugged two 82E32 cue mix amp/eq cards, identical to those fitted to the SL651. Each card is used for three cue busses, ie one for Stereo (L & R) and 1, and one for 2,3, & 4. The balanced outputs from these cards (post eq and gain) are sent to the patch via S153E. The outputs from the cue mix amplifiers on each channel (pre gain control) are connected to buffers on the 82E307 card, which is mounted on the front panel. When the split buttons are released this signal is mixed onto the cue busses on the right hand side of the console. The 82E307 card also contains the circuitry for the AFL switching.

For connection of the panel into the SL4000G console the ribbon connectors S3E and S4E are split at the centre section, and fed as left and right hand side connectors into the SL652 assembly. If these assembly is to be removed for any reason then the left and right hand side connectors may be plugged together, the console will then function normally (with, of course, the exception of the split cues!).

SL652 Split Cues Panel - Simplified Block Diagram



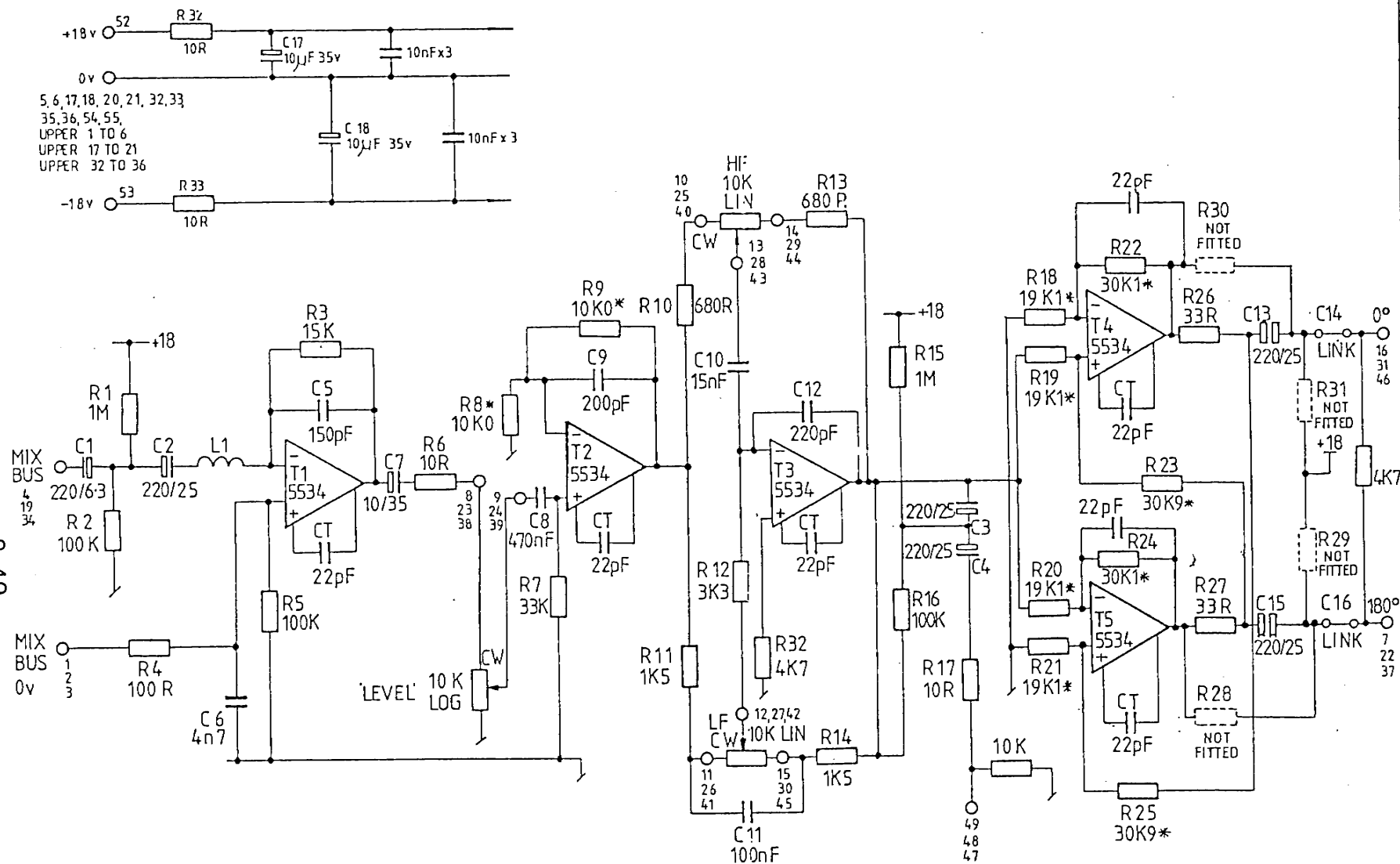
SL652 Split Cues Panel – Additional connections on 82E308



82E308 Split Cues Mothercard		
82E32 Cues Left, Right and One		55-way Modulo
No	Description	From/To
1	OV Power	S152E pins 5,6
2	OV Power	" " 5,6
3	OV Power	" " 5,6
4	Cue Stereo Left Mix Bus Hot	S4E Left pins 11,12
5	" " " " " Cold	" " pin 9
6	" " " " " Cold	" " " 9
7	" " " Output Cold	S153E pin 2
8	" " " Gain CW	S151E pin 1
9	" " " Gain Wiper	Pad Front Panel Control
10	" " " HF CW	" " " "
11	" " " LF CW	" " " "
12	" " " LF Wiper	" " " "
13	" " " HF Wiper	" " " "
14	" " " HF ACW	" " " "
15	" " " LF ACW	" " " "
16	" " " Output Hot	S153E pin 1
17	OV Power	S152E pins 5,6 & S153E pin 3
18	OV Power	" " 5,6 & " " 3
19	Cue Stereo Right Mix Bus Hot	S4E Left pins 13,14
20	" " " " " Cold	" " pin 10
21	" " " " " "	" " " 10
22	" " " Output Cold	S153E pin 5
23	" " " Gain CW	S151E pin 3
24	" " " Gain Wiper	Pad Front Panel Control
25	" " " HF CW	" " " "
26	" " " LF CW	" " " "
27	" " " LF Wiper	" " " "
28	" " " HF Wiper	" " " "
29	" " " HF ACW	" " " "
30	" " " LF ACW	" " " "
31	" " " Output Hot	S153E pin 4
32	OV Power	S152E pin 5,6 & S153E pin 6
33	OV Power	" " 5,6 & " " 6
34	Cue 1 Mix Bus Hot	S4E Left pins 7,8
35	" 1 " " Cold	" " pin 6
36	" 1 " " Cold	" " pin 6
37	" 1 Output Cold	S153E pin 8
38	" 1 Gain CW	S151E pin 5
39	" 1 Gain Wiper	Pad Front Panel Control
40	" 1 HF CW	" " " "
41	" 1 LF CW	" " " "
42	" 1 LF Wiper	" " " "
43	" 1 HF Wiper	" " " "
44	" 1 HF ACW	" " " "
45	" 1 LF ACW	" " " "
46	" 1 Output Hot	S153E pin 7
47	" 1 AFL	S151E pin 6
48	Cue Stereo Right AFL	" " 4
49	" " Left AFL	" " 2
50	Keyway	N/C
51	NU	N/C
52	+18V Power	S152E pins 1,2
53	-18V Power	" " 7,8
54	OV Power	" " 5,6 & S153E pin 9
55	OV Power	" " 5,6 & " " 9

82E308 Split Cues Mothercard		
82E32 Cues 2, 3 and 4		55-way Modulo
No	Description	From/To
1	OV Power	S152E pins 5,6
2	OV Power	" " 5,6
3	OV Power	" " 5,6
4	Cue 2 Mix Bus Hot	S4E Left pins 3,4
5	" 2 " " Cold	" " pin 5
6	" 2 " " Cold	" " " 5
7	" 2 Output Cold	S153E pin 11
8	" 2 Gain CW	S151E pin 7
9	" 2 Gain Wiper	Pad Front Panel Control
10	" 2 HF CW	" " " "
11	" 2 LF CW	" " " "
12	" 2 LF Wiper	" " " "
13	" 2 HF Wiper	" " " "
14	" 2 HF ACW	" " " "
15	" 2 LF ACW	" " " "
16	" 2 Output Hot	S153E pin 10
17	OV Power	S152E pins 5,6 & S153E pin 12
18	OV Power	" " 5,6 & " " 12
19	Cue 3 Mix Bus Hot	S3E Left pin 18
20	" 3 " " Cold	" " " 17
21	" 3 " " "	" " " 17
22	" 3 Output Cold	S153E pin 14
23	" 3 Gain CW	S151E pin 9
24	" 3 Gain Wiper	Pad Front Panel Control
25	" 3 HF CW	" " " "
26	" 3 LF CW	" " " "
27	" 3 LF Wiper	" " " "
28	" 3 HF Wiper	" " " "
29	" 3 HF ACW	" " " "
30	" 3 LF ACW	" " " "
31	" 3 Output Hot	S153E pin 13
32	OV Power	S152E pin 5,6 & S153E pin 15
33	OV Power	" " 5,6 & " " 15
34	Cue 4 Mix Bus Hot	S3E Left pin 19
35	" 4 " " Cold	" " " 20
36	" 4 " " Cold	" " " 20
37	" 4 Output Cold	S153E pin 17
38	" 4 Gain CW	S151E pin 11
39	" 4 Gain Wiper	Pad Front Panel Control
40	" 4 HF CW	" " " "
41	" 4 LF CW	" " " "
42	" 4 LF Wiper	" " " "
43	" 4 HF Wiper	" " " "
44	" 4 HF ACW	" " " "
45	" 4 LF ACW	" " " "
46	" 4 Output Hot	S153E pin 16
47	" 4 AFL	S151E pin 12
48	" 3 AFL	" " 10
49	" 2 AFL	" " 8
50	Keyway	N/C
51	NU	N/C
52	+18V Power	S152E pins 1,2
53	-18V Power	" " 7,8
54	OV Power	" " 5,6 & S153E pin 18
55	OV Power	" " 5,6 & " " 18

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NOTES.

1. 1 OF 3 PER CARD SHOWN.
2. * INDICATES 0.5% RESISTOR

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Rev.	Issue	Ckd	Details
6	a	1-84	REDRAWN V.B.
8	a	DM Feb86	R26-27 WAS 75R NOW 33R
8	b	DM June86	'LEVEL' ADDED
9	a	DM May87	C13-16 WERE CAP. ELECT'S 220UF 25V R28-31 DELETED.

Title 82E32

3 CUE MIX BUS +EQ

Drg. No. T 82032.71

Solid State Logic

82E308 Split Cues Mothercard		
S151E 26-way Ribbon Connector		
No	Description	From/To
1	Cue Stereo Left Gain C/W	82E32 L,R,1 pin 8
2	Cue Stereo Left AFL	" L,R,1 " 49
3	Cue Stereo Right Gain C/W	" L,R,1 " 23
4	Cue Stereo Right AFL	" L,R,1 " 48
5	Cue 1 Gain C/W	" L,R,1 " 38
6	Cue 1 AFL	" L,R,1 " 47
7	Cue 2 Gain C/W	82E32 2,3,4 pin 8
8	Cue 2 AFL	" 2,3,4 " 49
9	Cue 3 Gain C/W	" 2,3,4 " 23
10	Cue 3 AFL	" 2,3,4 " 48
11	Cue 4 Gain C/W	" 2,3,4 " 38
12	Cue 4 AFL	" 2,3,4 " 47
13	Spare	N/C
14	Spare	N/C
15	Spare	N/C
16	Spare	N/C
17	Spare	N/C
18	Spare	N/C
19	+18V Power	S152E pin 1,2
20	+18V Power	" " 1,2
21	+11V Power	" " 3,4
22	+11V Power	" " 3,4
23	0V	" " 5,6
24	0V	" " 5,6
25	-18V Power	" " 7,8
26	-18V Power	" " 7,8

82E308 Split Cues Mothercard		
S152E Power 10-way Ribbon Connector		
No	Description	From/To
1	+18V Power	S151E pins 19,20 82E32 cards pin 52
2	" "	" " 19,20 " " " 52
3	+11V Power	" " 21,22
4	" "	" " 21,22
5	0V	" " 23,24 82E32 cards pins 54,55
6	0V	" " 23,24 " " " 54,55
7	-18V Power	" " 25,26 " " pin 53
8	" "	" " 25,26 " " " 53
9		
10		

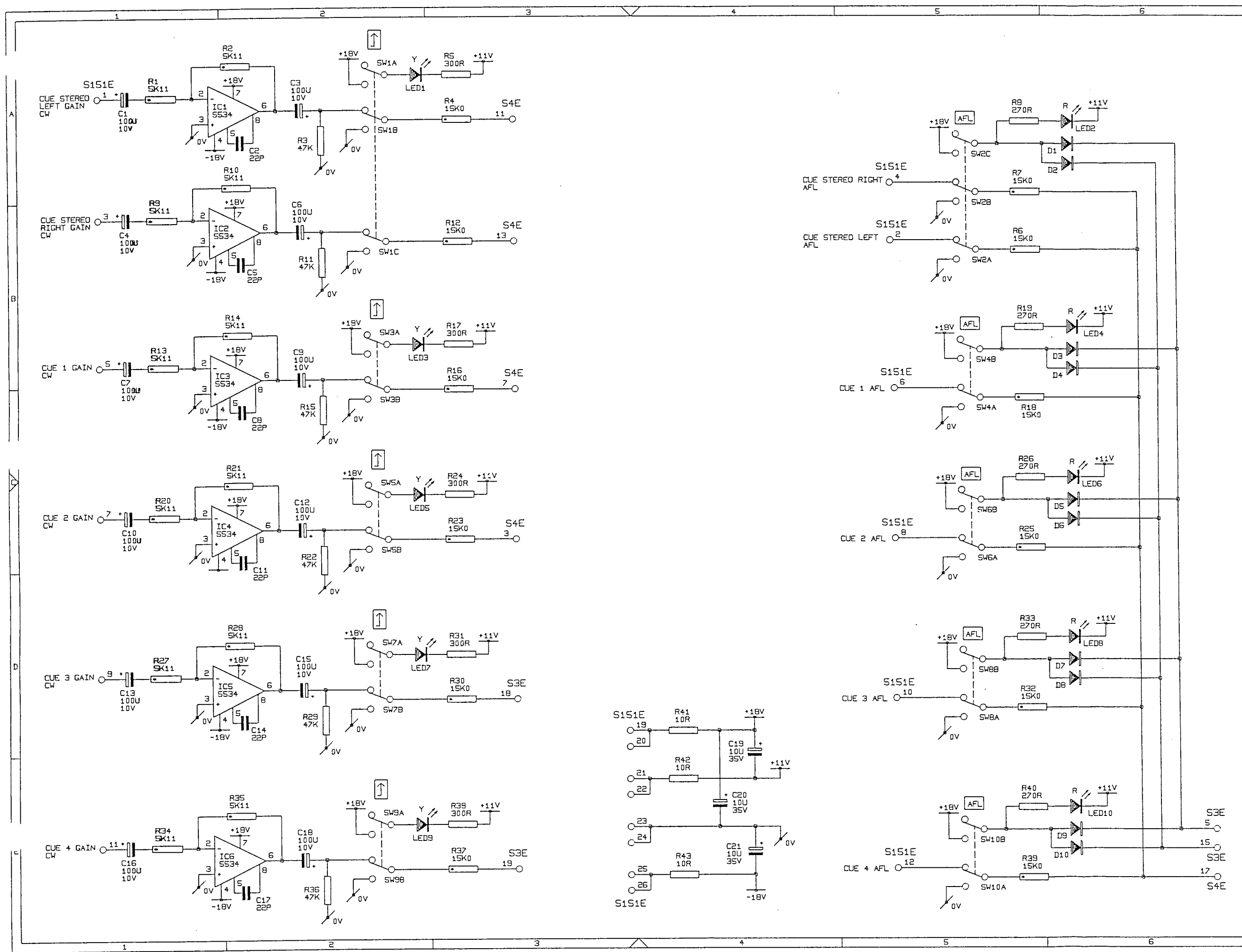
82E308 Split Cues Mothercard		
S153E Split Cues Output 26 way ribbon		
No	Description	From/To
1	Cue Stereo Left Output Hot	82E32 L,R,1 pin 16
2	Cue Stereo Left Output Cold	" L,R,1 " 7
3	0v	" L,R,1 pins 17,18
4	Cue Stereo Right Output Hot	82E32 L,R,1 pin 31
5	Cue Stereo Right Output Cold	" L,R,1 " 22
6	0v	" L,R,1 pins 32,33
7	Cue 1 Output Hot	82E32 L,R,1 pin 46
8	Cue 1 Output Cold	" L,R,1 " 37
9	0v	" L,R,1 pins 54,55
10	Cue 2 Output Hot	82E32 2,3,4 pin 16
11	Cue 2 Output Cold	" 2,3,4 " 7
12	0v	" 2,3,4 pins 17,18
13	Cue 3 Output Hot	82E32 2,3,4 pin 31
14	Cue 3 Output Cold	" 2,3,4 " 22
15	0v	" 2,3,4 pins 32,33
16	Cue 4 Output Hot	82E32 2,3,4 pin 46
17	Cue 4 Output Cold	" 2,3,4 " 37
18	0v	" 2,3,4 pins 54,55
19	Patchable VCA AFL Left Hot	Via R2 to S4E pin 17
20	Patchable VCA AFL Left Cold	Via R1 to S4E pin 16
21	0v	S152E pins 5,6
22	Patchable VCA AFL Right Hot	Via R3 to S4E pin 18
23	Patchable VCA AFL Right Cold	Via R4 to S4E pin 19
24	0v	S152E pins 5,6
25	Spare	N/C
26	N/U	N/C

82E308 Split Cues Mothercard		
S3E Right 20-way Ribbon Connector		
No	Description	From/To
1	Slate Signal Bus	S3E Left pin 1
2	Spare	" " " 2
3	VCA to Mon Bus	" " " 3
4	Slate Control Bus	" " " 4
5	Channel Solo Cut Bus	" " " 5
6	Spare	" " " 6
7	Status Mix Bus	" " " 7
8	Master Input Flip Bus	" " " 8
9	Monitor Solo Cut Bus	" " " 9
10	Spare	" " " 10
11	Machine Record Bus	" " " 11
12	Master Ready Group Bus	" " " 12
13	Status Record Bus	" " " 13
14	Spare	" " " 14
15	Solo Disable Bus	" " " 15
16	VCA to Meters Bus	" " " 16
17	Cue 3 Mix Bus Cold	via R5 to 0V
18	Cue 3 Mix Bus Hot	N/C
19	Cue 4 Mix Bus Hot	N/C
20	Cue 4 Mix Bus Cold	via R6 to 0V

82E308 Split Cues Mothercard		
S4E Right 20-way Ribbon Connector		
No	Description	From/To
1	Dynamics Link	S4E Left pin 1
2	OV	" " " 2
3	Cue 2 Mix Bus Hot	N/C
4	Cue 2 Mix Bus Hot	N/C
5	Cue 2 Mix Bus Cold	via R7 to OV
6	Cue 1 Mix Bus Cold	via R8 to OV
7	Cue 1 Mix Bus Hot	N/C
8	Cue 1 Mix Bus Hot	N/C
9	Cue Stereo Left Mix Bus Cold	via R9 to OV
10	Cue Stereo Right Mix Bus Cold	via R10 to OV
11	Cue Stereo Left Mix Bus Hot	N/C
12	Cue Stereo Left Mix Bus Hot	N/C
13	Cue Stereo Right Mix Bus Hot	N/C
14	Cue Stereo Right Mix Bus Hot	N/C
15	AFL Mix Bus Cold	S4E Left pin 15
16	AFL Mix Bus Cold	R1 and S4E Left pin 16
17	AFL Mix Bus Hot	R2 and S4E Left pin 17
18	AFL Mix Bus Hot	R3 and S4E Left pin 18
19	AFL Mix Bus Cold	R4 and S4E Left pin 19
20	Peak Hold Bus	S4E Left pin 20

82E308 Split Cues Mothercard		
S3E Left 20-way Ribbon Connector		
No	Description	From/To
1	Slate Signal Bus	S3E Right pin 1
2	Spare	" " " 2
3	VCA to Mon Bus	" " " 3
4	Slate Control Bus	" " " 4
5	Channel Solo Cut Bus	" " " 5
6	Spare	" " " 6
7	Status Mix Bus	" " " 7
8	Master Input Flip Bus	" " " 8
9	Monitor Solo Cut Bus	" " " 9
10	Spare	" " " 10
11	Machine Record Bus	" " " 11
12	Master Ready Group Bus	" " " 12
13	Status Record Bus	" " " 13
14	Spare	" " " 14
15	Solo Disable Bus	" " " 15
16	VCA to Meters Bus	" " " 16
17	Cue 3 Mix Bus Cold	82E32 2,3,4 pins 20,21
18	Cue 3 Mix Bus Hot	" 2,3,4 pin 19
19	Cue 4 Mix Bus Hot	" 2,3,4 pin 34
20	Cue 4 Mix Bus Cold	" 2,3,4 pins 35,36

82E308 Split Cues Mothercard		
S4E Left 20-way Ribbon Connector		
No	Description	From/To
1	Dynamics Link	S4E Right pin 1
2	OV	" " " 2
3	Cue 2 Mix Bus Hot	82E32 2,3,4 pin 4
4	Cue 2 Mix Bus Hot	" 2,3,4 " 4
5	Cue 2 Mix Bus Cold	" 2,3,4 pins 5,6
6	Cue 1 Mix Bus Cold	82E32 L,R,1 pins 35,36
7	Cue 1 Mix Bus Hot	" L,R,1 pin 34
8	Cue 1 Mix Bus Hot	" L,R,1 " 34
9	Cue Stereo Left Mix Bus Cold	" L,R,1 pins 5,6
10	Cue Stereo Right Mix Bus Cold	" L,R,1 " 20,21
11	Cue Stereo Left Mix Bus Hot	" L,R,1 pin 4
12	Cue Stereo Left Mix Bus Hot	" L,R,1 " 4
13	Cue Stereo Right Mix Bus Hot	" L,R,1 " 19
14	Cue Stereo Right Mix Bus Hot	" L,R,1 " 19
15	AFL Mix Bus Cold	S4E Right pin 15
16	AFL Mix Bus Cold	R1 and S4E Right pin 16
17	AFL Mix Bus Hot	R2 and S4E Right pin 17
18	AFL Mix Bus Hot	R3 and S4E Right pin 18
19	AFL Mix Bus Cold	R4 and S4E Right pin 19
20	Peak Hold Bus	S4E Right pin 20



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REV	ISSUE	DATE	DETAILS
0	A	11 DEC 87	NEW DRAWING AM STEFF

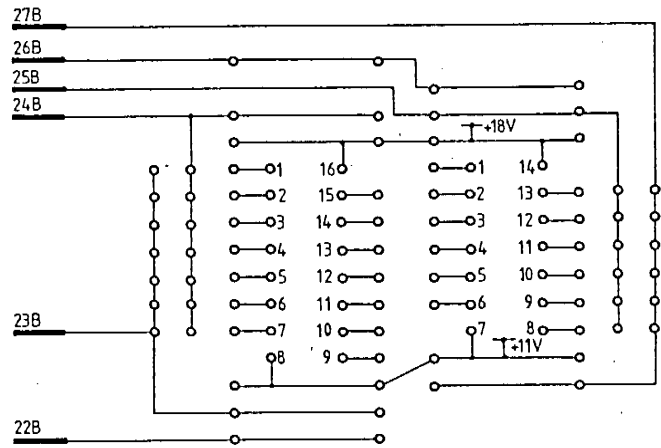
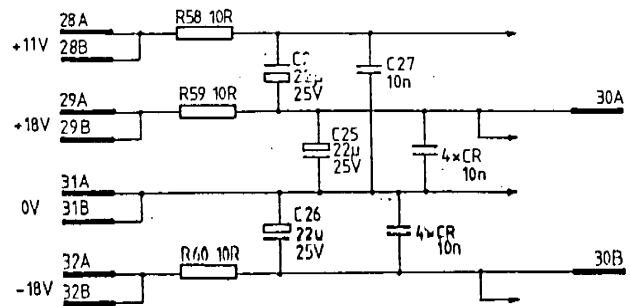
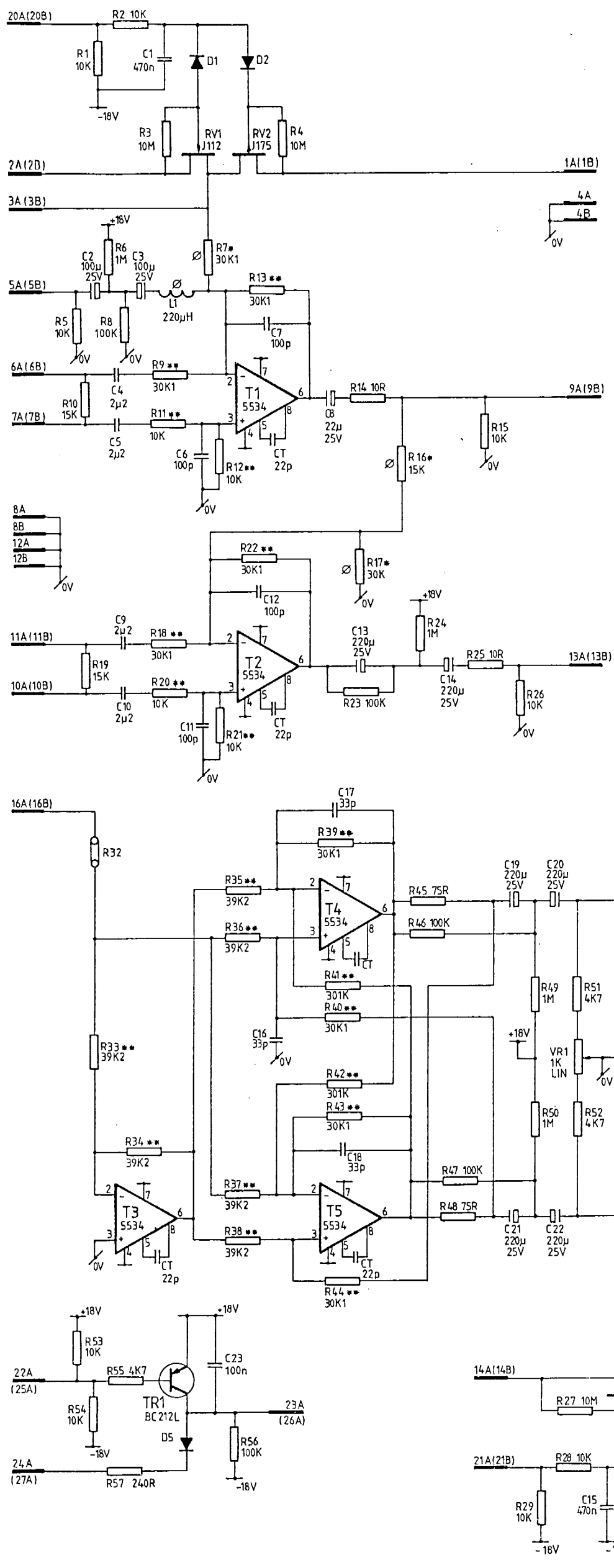
SHEET 1 OF 1
REF: T82307.71

A2

TITLE
SPLIT CUE SWITCH BUFFER

DRG. NO.
T82307.71

Solid State Logic
8-57



82E148 'BREADBOARD' AREA

COMPONENTS MARKED $\emptyset$ NOT FITTED AS STANDARD.
CIRCUITRY WITHIN BROKEN LINE, TWICE PER CARD. SECOND CHANNEL COMPONENT NUMBERS PREFIXED 100.
(EG R30 - R130.)
RESISTORS MARKED THUS :-
* = $\pm 0.5\%$ TOLERANCE
** = $\pm 0.1\%$ TOLERANCE
EDGE CONNECTOR = 64 WAY A,B DIN 41612

Solid State Logic 8-58	Title 82E148 DUAL BUFFER/ SWITCHING CARD	Dwg. No. T82148-71	Rev. Issue	Chkd	Details	1	d	PL	REDRAWN AND R11,12,20,21,32 AMENDED	Nov85
						1	b	JH	R31 TO LINK, R37 WAS 270R, NOW 240R. NOTE COMP MARKED $\emptyset$	Apr86
						1	c	PN	ECON. 23A & 23B AMENDED TO 23A	Nov86
						1			4 20B	EL

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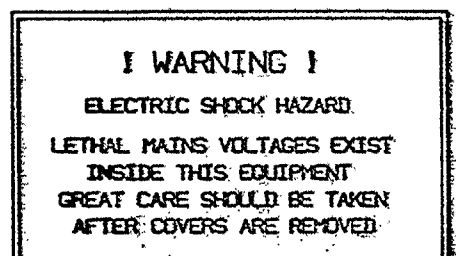
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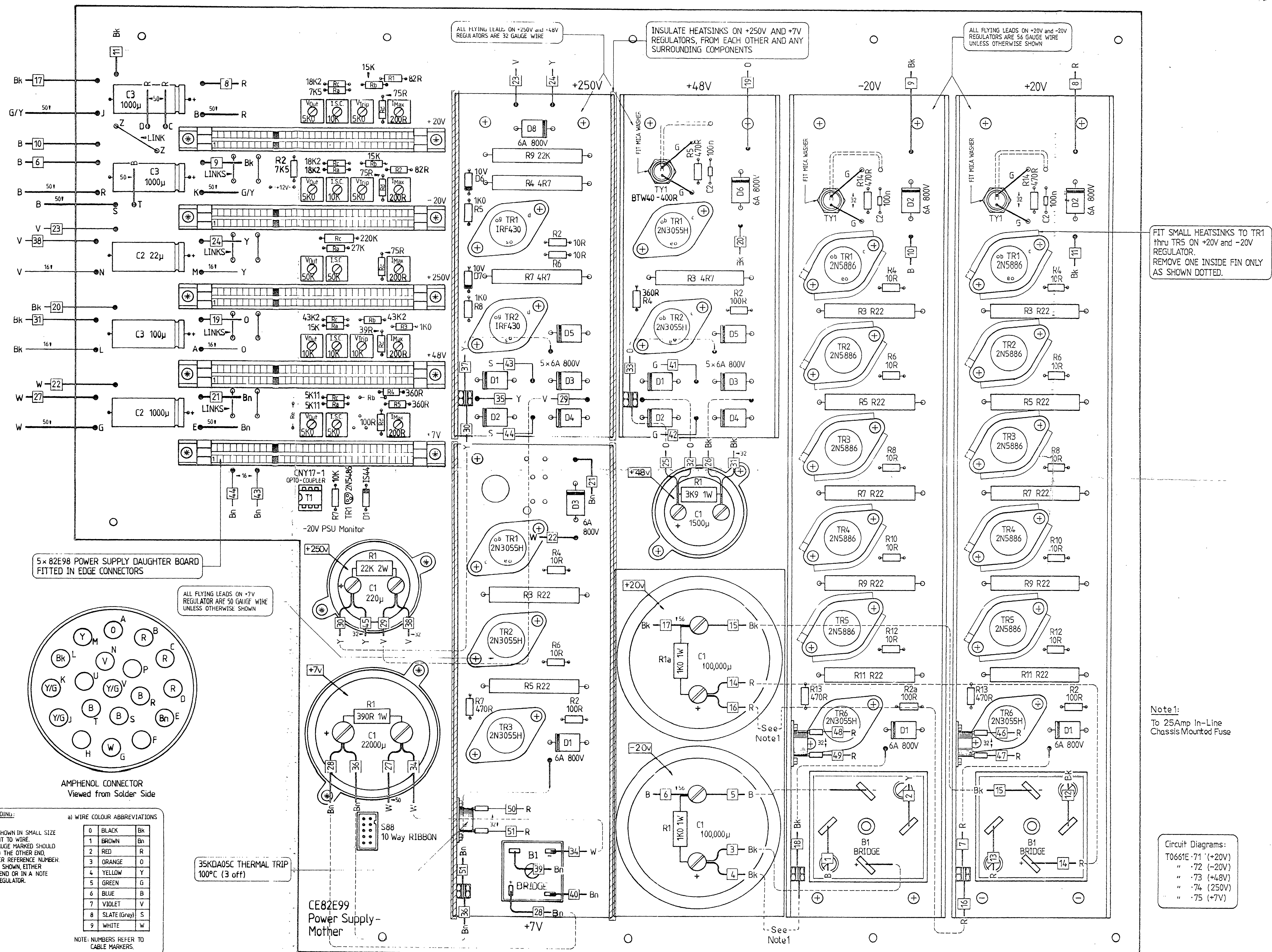
SL4000 G Console Service Manual

SECTION 9

SL 661E Power Supply and Leads

Card No	Qty	Module	Description
82E97	1	661E	Front Panel LED Card
82E98	1	661E	Regulator Card
82E99	1	661E	Mother Board
82E300	1	631E	PSU Delay Unit (mounted in console)
82E331	1	661E	Trip/Driver





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Issue	Date	Chkd	Details
d	01/86	MR	DRAWING UPDATED N.W. ORG RENUMBERED 661E-16 
e	Mar 86		Bn & W REVERSED ON AMPHENOL CONN.
f	July 86	DCM	RES PRE HORIZ. x 5 WAS. 100R NOW 200R. 
g	July 87	DM	WIRE NOS 21, 28 & 36 CHANGED FROM BROWN TO WHITE. WIRE NOS 22, 27 & 34 CHANGED. FROM WHITE TO BROWN.
h	20 Apr 90		R12 WERE 360R NOW 82R- 2-48R WERE 180R NOW 15K 3X1TY WERE BT9191 NOW CS23-04038&BTW40 STEFF
j	4 JUNE 90	BC	DRAWING AMENDED TO AGREE WITH SAMPLE STEFF
k	5 Feb 93	BC	Rq WAS 15K NOW 18K2 R2 REFERENCE (7KS)- RESERVOIR CAPACITOR RAIL VOLTAGES ADDED
l	29 July 94	MM	CORRECTIONS AS ON DCR1149, NOTE 1 ADDED 4K/1132
m	8 Aug 94		WIRE COLOR CODE AT IDENT 22 ADJACENT TR1 WAS 'Bn' NOW 'W'
n	31 AUG 94	MM	47V SUPPLY-DIODE D2- REMOVED 4K1138/4

Rev	Date	Chkd	82099
1	Apr-90	BC	ECO 4K/178
2	Apr-90	BC	ECO 4K/149
3	Apr-90	BC	ECO 4K/506
4	Apr-90	BC	ECO 4K/534
5	Apr-90	BC	ECO 4K/542
5b	June 90	BC	DIAGRAM AMENDED TO AGREE WITH SAMPLE

Note 1:
To 25Amp In-Line
Chassis Mounted Fuse

Circuit Diagrams:
T0661E · 71 (+20V)
" · 72 (-20V)
" · 73 (+48V)
" · 74 (250V)
" · 75 (+7V)

Title	82E99 POWER SUPPLY MOTHER ASSEMBLY DIAGRAM

Drg. No. T0661E-41.

Solid State Logic

SL661G Power Supply

Electrical Specification

Input Voltage Range:

Selected by links: 100/110/120/200/210/220/240 Volts, 50/60 Hz.

Output Voltages:

+18 to +22 Volts	25 Amps	+44 to +50 Volts	0.5 Amps
-18 to -22 Volts	25 Amps	+215 to +265 Volts	0.5 Amps
+5 to +10 Volts	7 Amps		

Mechanical Specification

Dimensions:

Height:	120 mm.	Weight:	27 Kg.
Width:	430mm.	Width (incl. rack fixings):	483 mm.
Depth:	467 mm.	Depth (incl. connectors):	567 mm.

Cooling:

Two 5-inch fans provide forced air cooling of the heatsinks. Airflow is from the right to the left of the unit.

Output Specification

	7 Volt Supply	48 Volt Supply	250 Volt Supply	+20 Volt Supply	-20 Volt Supply
Off Load	15V	77V	375V	32V	32V
VC _{res}	1V	±2V	±5V	±0.5V	±0.5V
On Load (I _{max})	12V	65 V	310V	28V	28V
VC _{res}	±1V	±2V	±5V	±0.5V	±0.5V
Ripple on O/P at I _{max}	< 10mV	< 10mV	< 50mV	< 10mV	< 10mV
Voltage Range	5 - 10	44 - 50	215 - 265	18 - 22	18 - 22
Normally Set	6.5V	48V	250V	18.5V	18.5V
Max. Current (Set)	7A	0.5A	0.55A	25A	25A
Over Voltage Threshold (Set)	12V (Fixed)	52V	-	22.5V	-22.5V
Max. Short Cct. Current (Set)	2A	0.015A	0.015A	5A	5A

Electrical Description

Before applying power to the unit, ensure that it has been correctly configured to the available voltage supply, as shown in the Input Voltage Selection Table below.

The -20V regulator tracks the +20V regulator, the +18.5V and -18.5V supplies being connected in series at the 661G output. The supply is thermally protected by circuit breakers operating at 100°C and mounted on the main transformer and on the +20V, -20V, and +7V regulator heatsinks.

Power is fed to the main transformer via a Current Trip, mounted on the front panel, and via Relay A which is energised via an auxiliary transformer. The secondary of this transformer feeds a rectifier, D1, on the 82E331 Trip/Driver Card. The output of D1 drives Relay A directly, and also drives Relay B via a delay circuit based around TR1 and associated components.

Four thermal circuit breakers, mounted on the main transformer and on the +20V, -20V, and +7V regulator heatsinks respectively, are connected in series with the feed to Relay A de-energise this relay under excess temperature conditions, thus disconnecting the power feed to the main transformer.

Inrush current to the main transformer is limited by a 1 Ohm 50W resistor which is shorted out by contacts 4 and 6 of Relay B after a time delay generated by circuitry on the 82E331 Trip/Driver Card.

All regulators are current limited, and all except the 250V supply have overvoltage devices fitted. The 250V supply has a separate front panel on/off switch in the rectifier circuit.

Input Voltage Selection

The table below lists the link configuration requirements for the Main and Auxiliary Transformers and the Input Power Feed (wire 52) for each of the input voltage options.

Input Voltage	Main Transformer Links			Auxiliary Transformer Links		Connect Wire 52 to:
100 Volts	3 to 5	4 to 8	5 to 9	20 to 22	21 to 23	Terminal 20
110 Volts	3 to 6	4 to 8	6 to 10	20 to 22	21 to 23	Terminal 20
120 Volts	3 to 7	4 to 8	7 to 11	20 to 22	21 to 23	Terminal 20
200 Volts	5 to 8	3 to 9		21 to 22		Terminal 20
210 Volts	5 to 8	3 to 10		21 to 22		Terminal 20
220 Volts	6 to 8	3 to 10		21 to 22		Terminal 20
230 Volts	7 to 8	3 to 10		21 to 22		Terminal 19
240 Volts	7 to 8	3 to 11		21 to 22		Terminal 19

Setting Up

The power supply should be set up as follows:

1. Raise the 651 Master Unit to expose the PC mother board.
2. Connect a known accurate Digital Voltmeter between the 0V and +18V rack buses. Locate the +20V supply in the main power supply rack and carefully adjust the voltage preset on the supply to give $+18.5V \pm 0.1V$ on the 651 power bus. Locate the power rail buses running down the lower edge of the mother board. These are identified by the notation on the silk screen towards the front of the module.
3. Transfer the DVM to the 0V and -18V buses. Locate the -20V supply in the rack and carefully adjust the voltage preset on the supply to give $-18.5V \pm 0.1V$ on the 651 power rails.
4. Transfer the DVM to the +13V and +18V buses. Locate the 7V power supply in the rack and adjust the preset to give a reading on the DVM of $6.5V \pm 0.5V$.
5. The 48V supply is preset at the factory and will not require further adjustment.
6. The 250V supply (when fitted) is also preset at the factory and will not require further adjustment.

SL4000/6000 Console Rail Voltages

The console requires either four or five power sources.

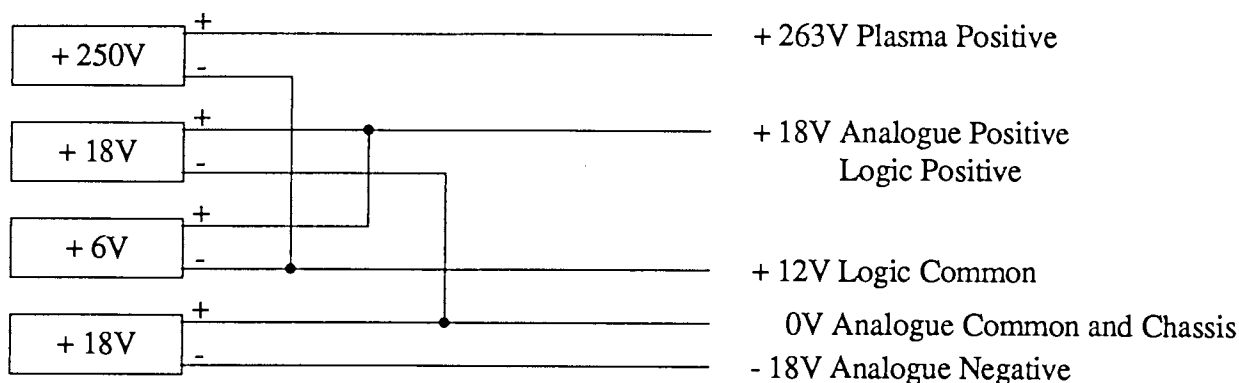
Analogue (Audio) integrated circuits and incandescent filament lamps are fed by +18.5V d.c. (see above). A 40 input channel console will consume typically 20A on these rails.

Logic and LEDs are fed from a single 6.5V rail (see above). The positive line of this supply is connected to the +18.5V supply rail (also see above). Thus the negative line of the 6.5V supply is at +12V (i.e. 18.5V *minus* 6.5V) with respect to the console 0V (signal ground and chassis). A 40 input channel console will consume between 2A and 6A depending upon the number of LEDs that are lit.

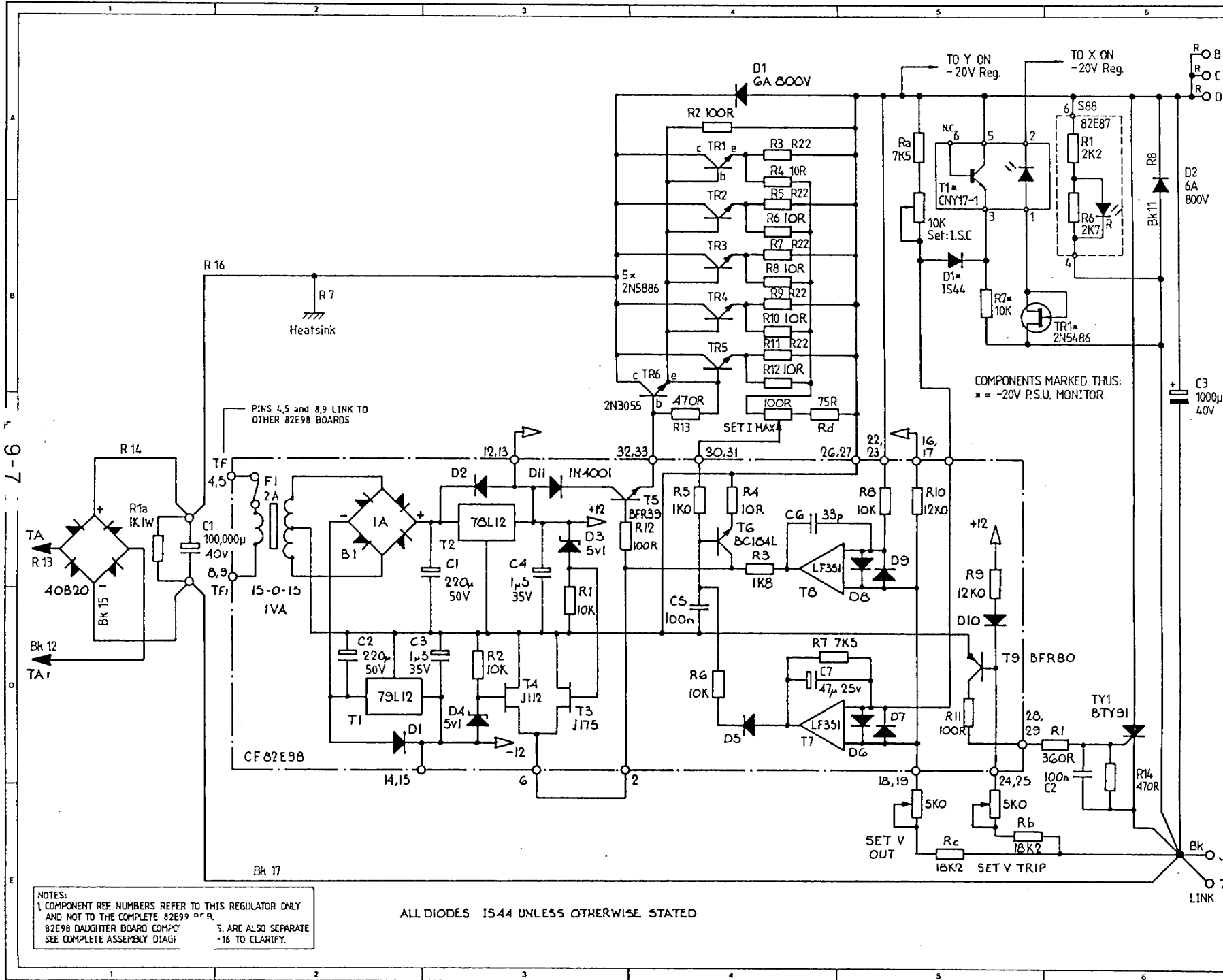
A 48V 0.5A supply is used to provide phantom power for microphone inputs.

Finally, consoles fitted with Plasma Bargraph metering use a 263V 0.5A d.c. supply for the displays. The negative line of this supply is connected to the negative of the 6.5V logic supply.

The interconnection of the various power sources is shown in symbolic form in the diagram below.



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NOTES:
1. COMPONENT REF. NUMBERS REFER TO THIS REGULATOR ONLY AND NOT TO THE COMPLETE 82E99 OR 82E98 DAUGHTER BOARD COMPLY SEE COMPLETE ASSEMBLY DIAG.
2. ARE ALSO SEPARATE -16 TO CLARIFY.

ALL DIODES 1S44 UNLESS OTHERWISE STATED

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Rev.	Issue	Ckd	Details
5	a		REDRAWN 4-84
5	b		R3, C5, VALUES CHANGED 7-85
5	c	01/86	COMPONENT REFS. ADDED -20V P.S.U. MONITOR ADDED N.W.

Title 20 VOLT POS. REGULATOR

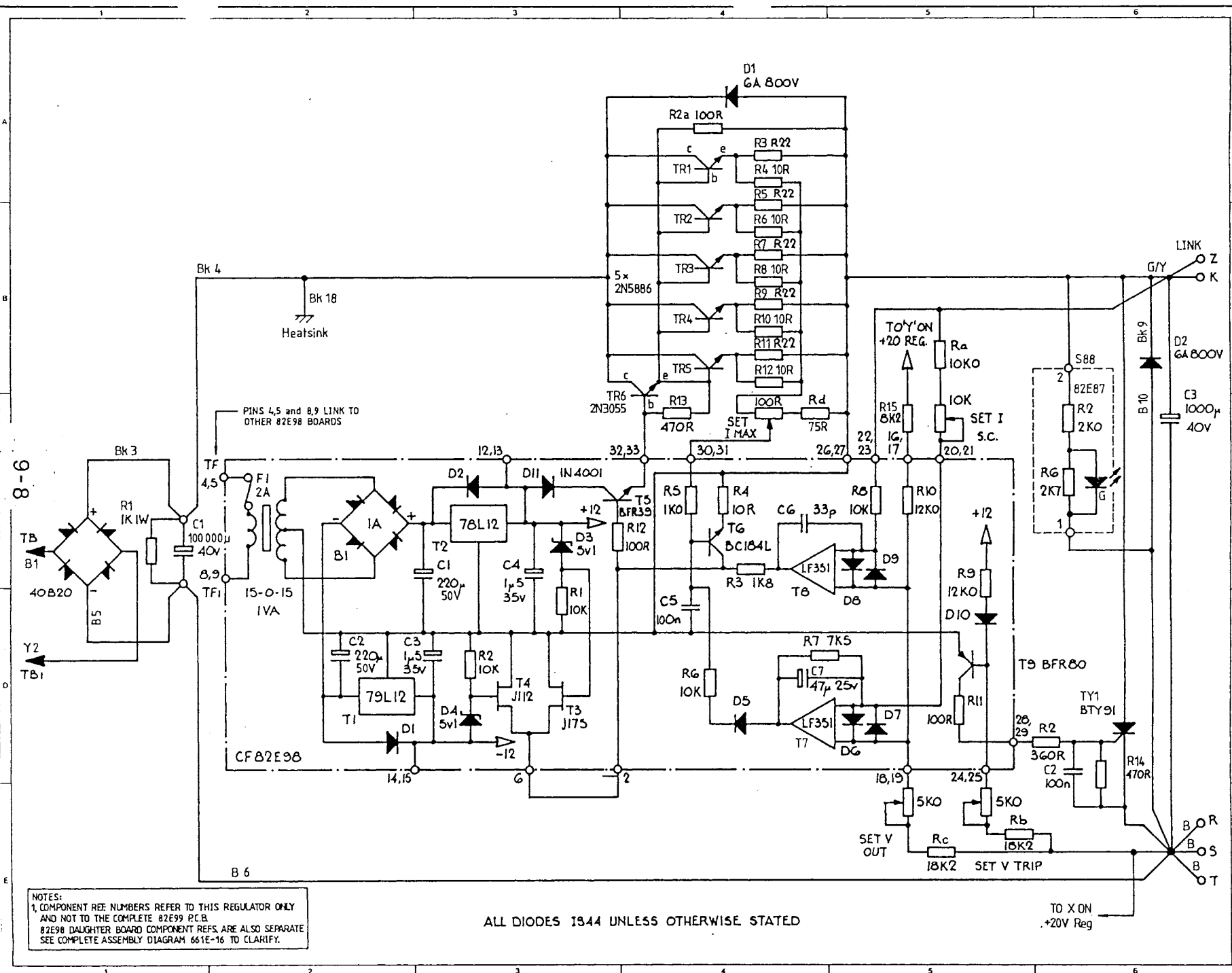
Drg. No. T0661E-71

So State Logic

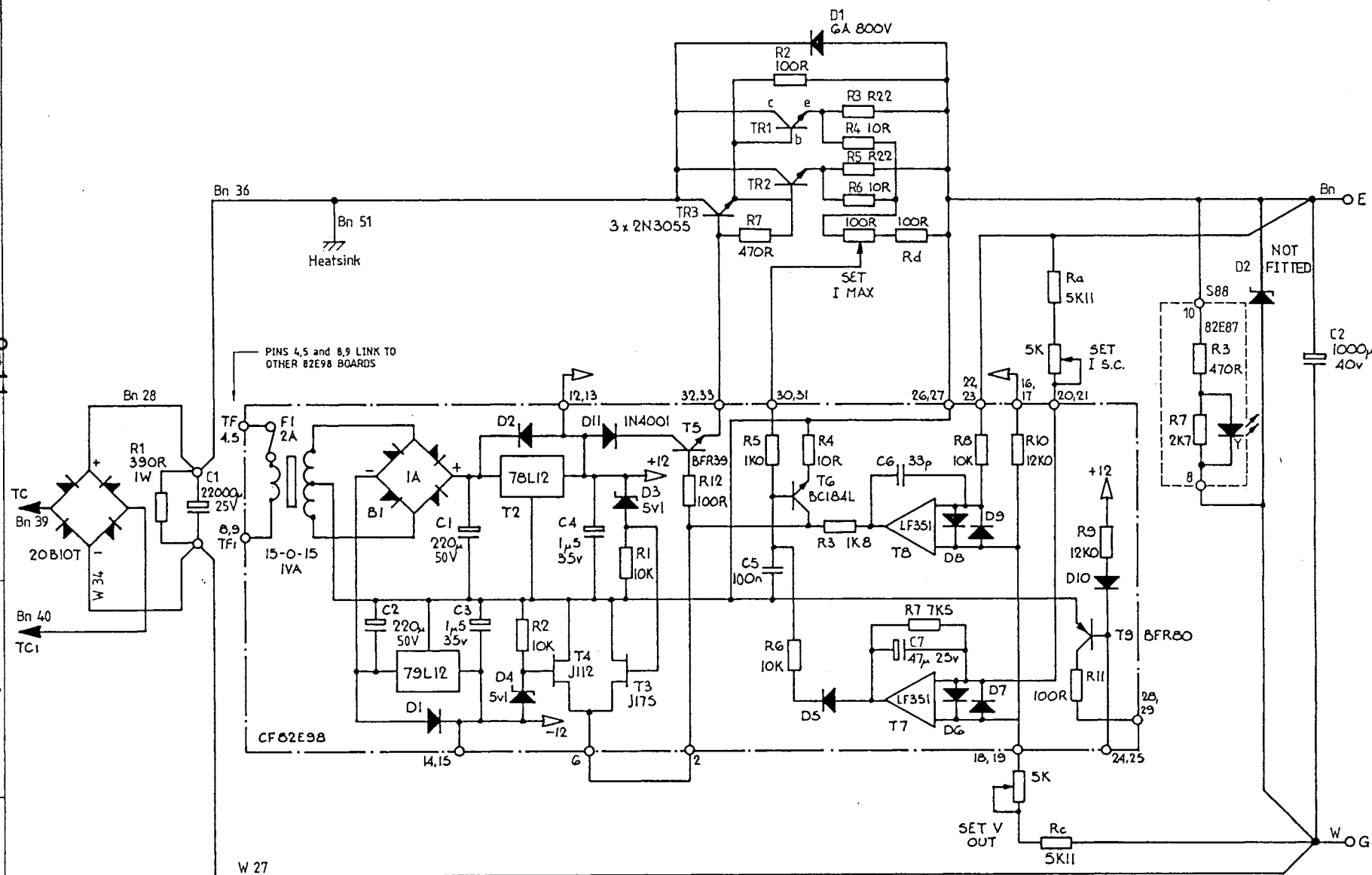
Stonesfield · Oxford · England

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Rev.	Issue	Ckd	Details
5	a		REDRAWN 4-84
5	b		R3, C5 VALUES CHANGED 7-85
5	c		COMPONENT REFS. ADDED 1-86



Title	20VOLT NEG. REGULATOR
Drg.No	T0661E-72
Solid State Logic	
Stonesfield · Oxford · England	



NOTES:
1. COMPONENT REF. NUMBERS REFER TO THIS REGULATOR ONLY AND NOT TO THE COMPLETE 82E98 DAUGHTER BOARD COMPO. ARE ALSO SEPARATE SEE COMPLETE ASSEMBLY DIAGRAM. -16 TO CLARIFY.

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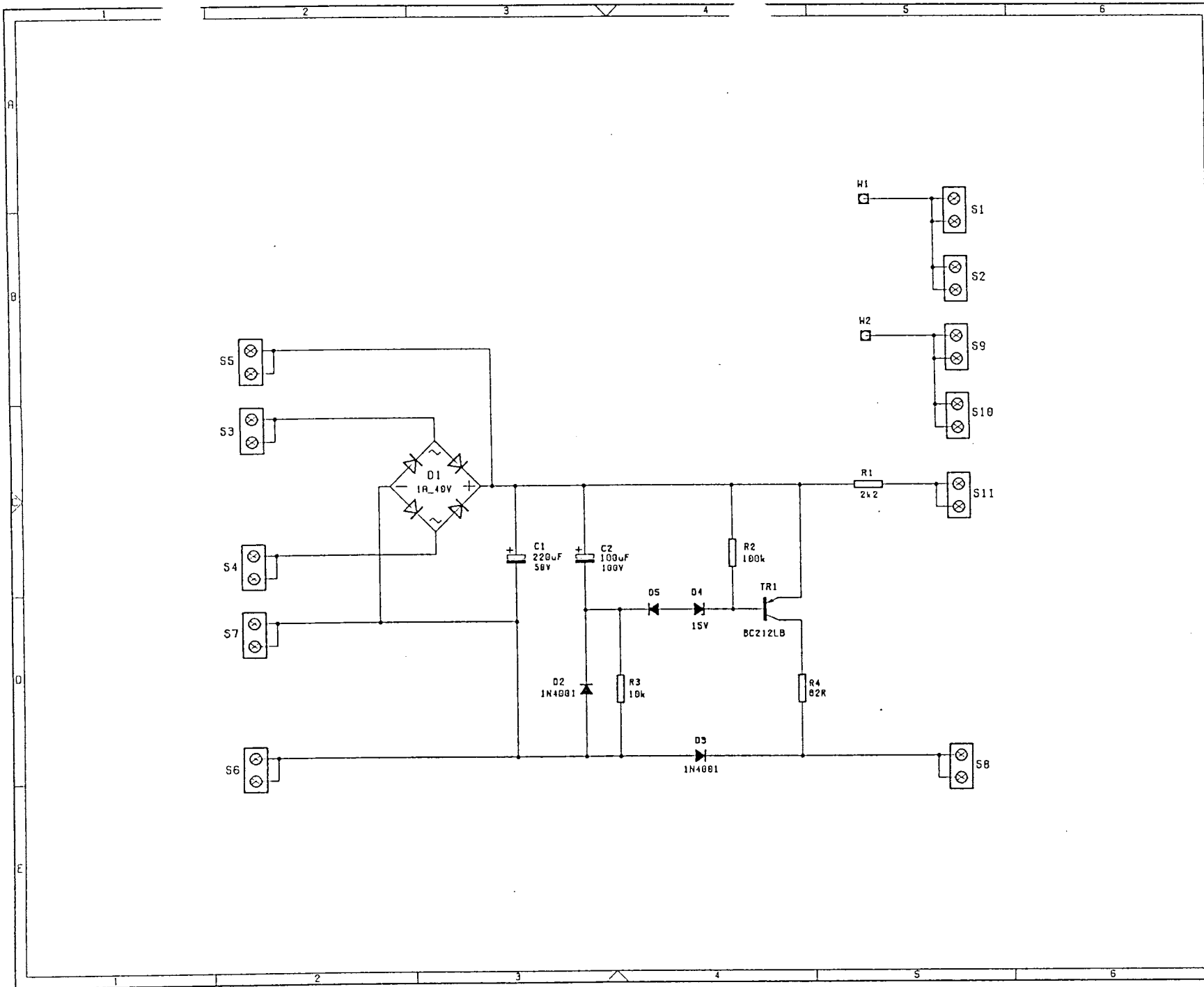
Rev.	Date	Ckd	Details
5	a		REDRAWN 4-84
5	b		R3, C5 VALUES CHANGED
5	c		COMPONENT REFS. ADDED
5	d		DIODE D2 REMOVED

Title
7 VOLT REGULATOR

Drg. No. T0661E-75

Solid State Logic

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REV	ISS	DATE	DETAILS				
0	A	18 JULY 90	NEW DRAWING BC STEFF				
PCB ISSUE A							
USED ON		SL661	A3				
TITLE TRIP/DRIVER							
ORG.NO. T82331.71							
SHEET 1 OF 1							
Solid State Logic							

Connector Information

S101E: Power Supply Mother CF82E99
Power Supply LED Mounting CF82E87
 10-way Ribbon Connector

1	- 20V Cathode
2	- 20V Anode via R
3	+ 250V Cathode
4	+ 20V Cathode
5	+ 250V Anode
6	+ 20V Anode via R
7	+ 48V Anode via R
8	+ 7V Cathode
9	+ 48V Cathode
10	+ 7V Anode via R

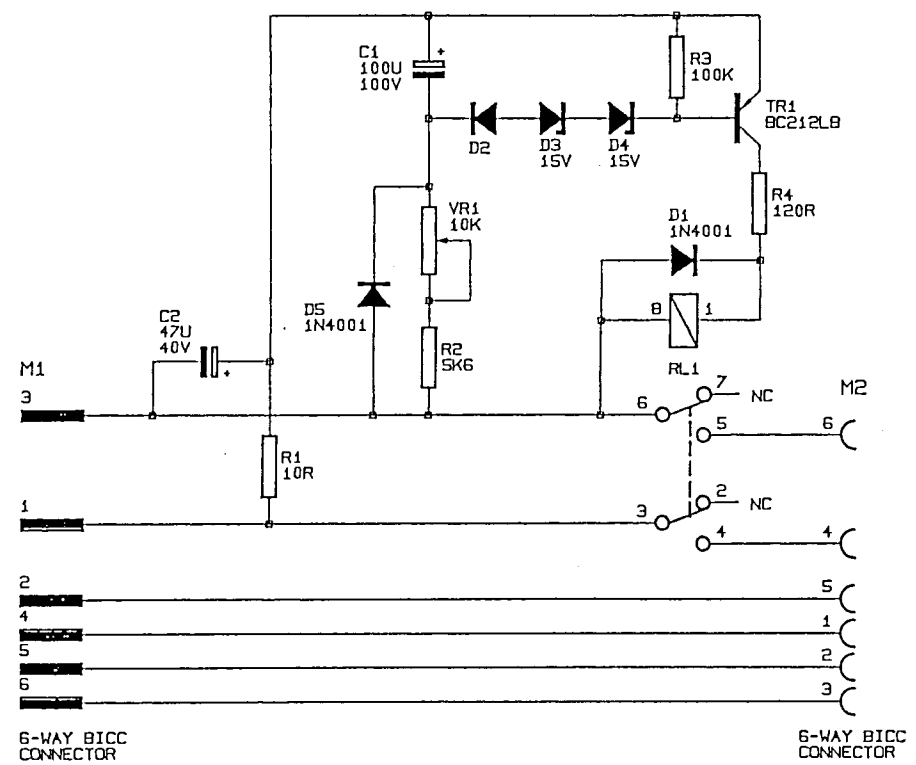
CF82E98 Regulator for Power Supply
 33-way Edge Connector

1	Spare	18	Set V Out
2	Spare	19	Set V Out
3	Spare	20	Set I Short Circuit
4	220V - TF'	21	Set I Short Circuit
5	220V -	22	+ve Sense
6	Spare	23	+ve Sense
7	Spare	24	Set V trip
8	220V - TF'	25	Set V trip
9	220V -	26	Set I max
10	Spare	27	Set I max
11	Keyway	28	SCR Gate
12	+ 12V	29	SCR Gate
13	+ 12V	30	Set I max
14	- 12V	31	Set I max
15	- 12V	32	Drive
16		33	Drive
17			

661G BICC Socket Pin Connections
19-way BICC Connector

Pin		Designation	Wire Colour
A		48V +ve	Orange
B	Positive	20V +ve	Red
C	Positive	20V +ve	Red
D	Positive	20V +ve	Red
E		7V +ve	White
G		7V -ve	Brown
J	Positive	20V -ve	Yellow
K	Negative	20V +ve	Yellow
L		48V -ve	Black
M		250V+ve	Yellow
N		250V -ve	Mauve
R	Negative	20V -ve	Blue
S	Negative	20V -ve	Blue
T	Negative	20V -ve	Blue
Z		0V (20V Common)	
V	Chassis		

9-14



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REV	ISSUE	DATE	DETAILS
0	A	22 FEB 90	NEW DRAWING BC STEFF

SHEET 1 OF 1

REF: T631C

A3

TITLE

SL631
POWER SUPPLY DELAY UNIT

DRG. NO.

T82300.71

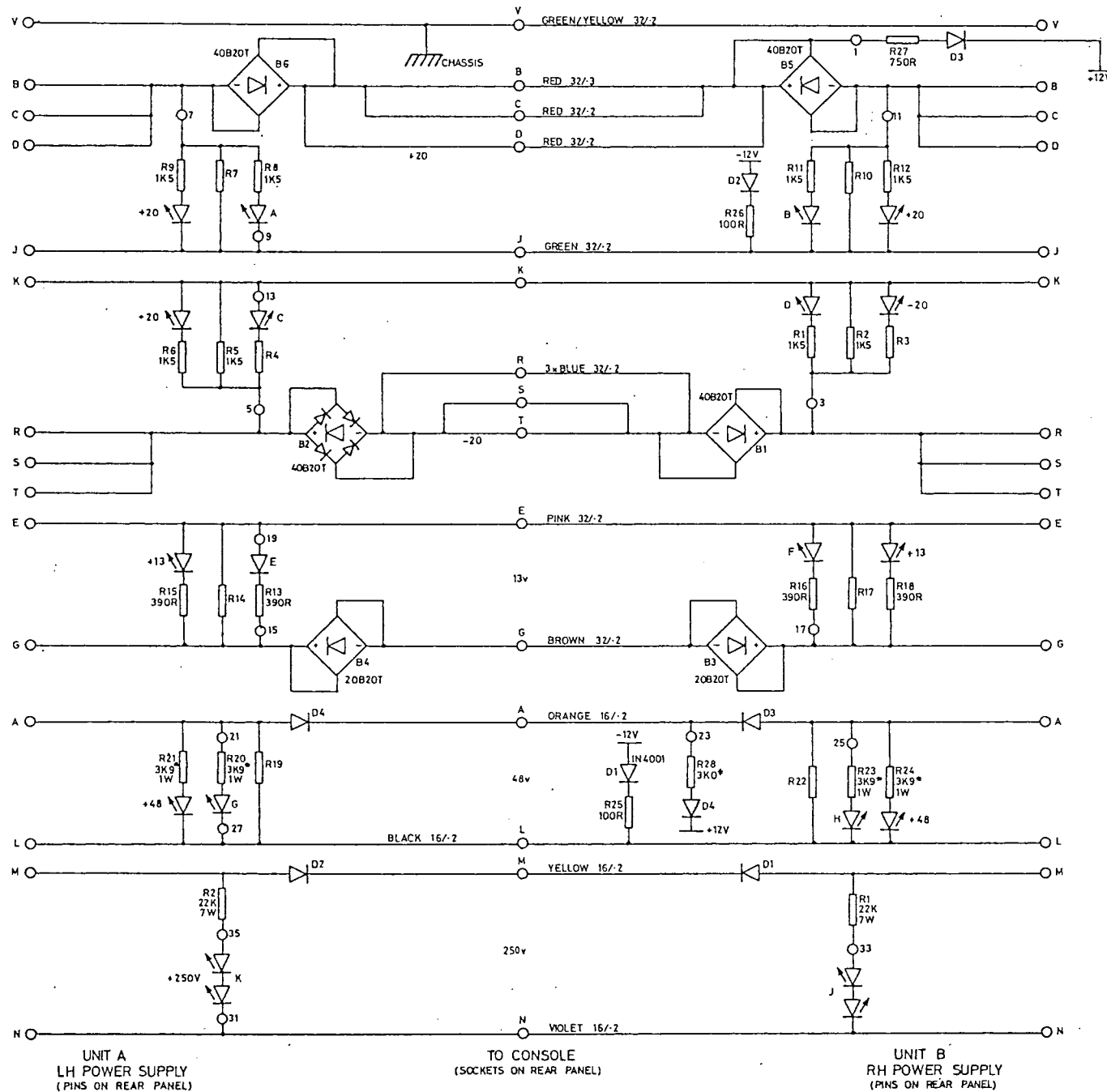
Sc[®] State Logic

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SL4000 G Console Service Manual

SECTION 10

SL 663E Power Supply Changeover Unit

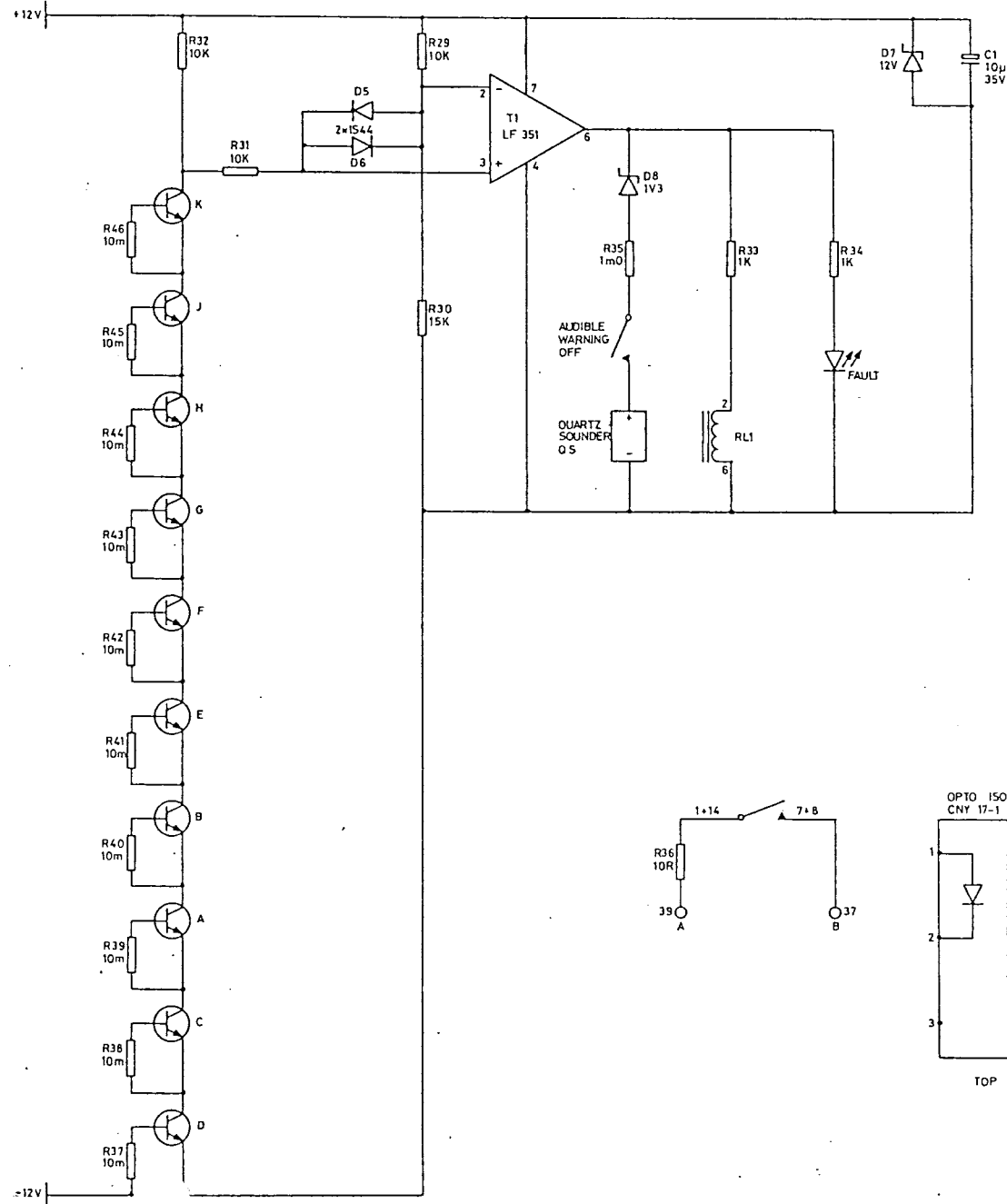


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Rev.	Issue	Chkd	Details
a	8/80		PLASMA C/O ADDED
b	9/80		BLEED RESISTORS ADDED
c	10/80		PC VERSION
d	4/86		REDRAWN WITHOUT CHANGE
e	June 86		250V ADDED.

Title
**POWER SUPPLY CHANGEOVER
UNIT-HIGH CURRENT WIRING**
Org. No.
T0663E-71

Solid State Logic



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Rev.	Issue	Chkd	Details
A	8/80		PLASMA C/O ADDED
B	9/80		2x1544 T1 ADDED
C	10/80		PC VERSION
D	4/85		REDRAWN WITHOUT CHANGE

Title
POWER SUPPLY CHANGEOVER
UNIT-CONTROL CIRCUIT
Org.No. T066E-72

Solid State Logic

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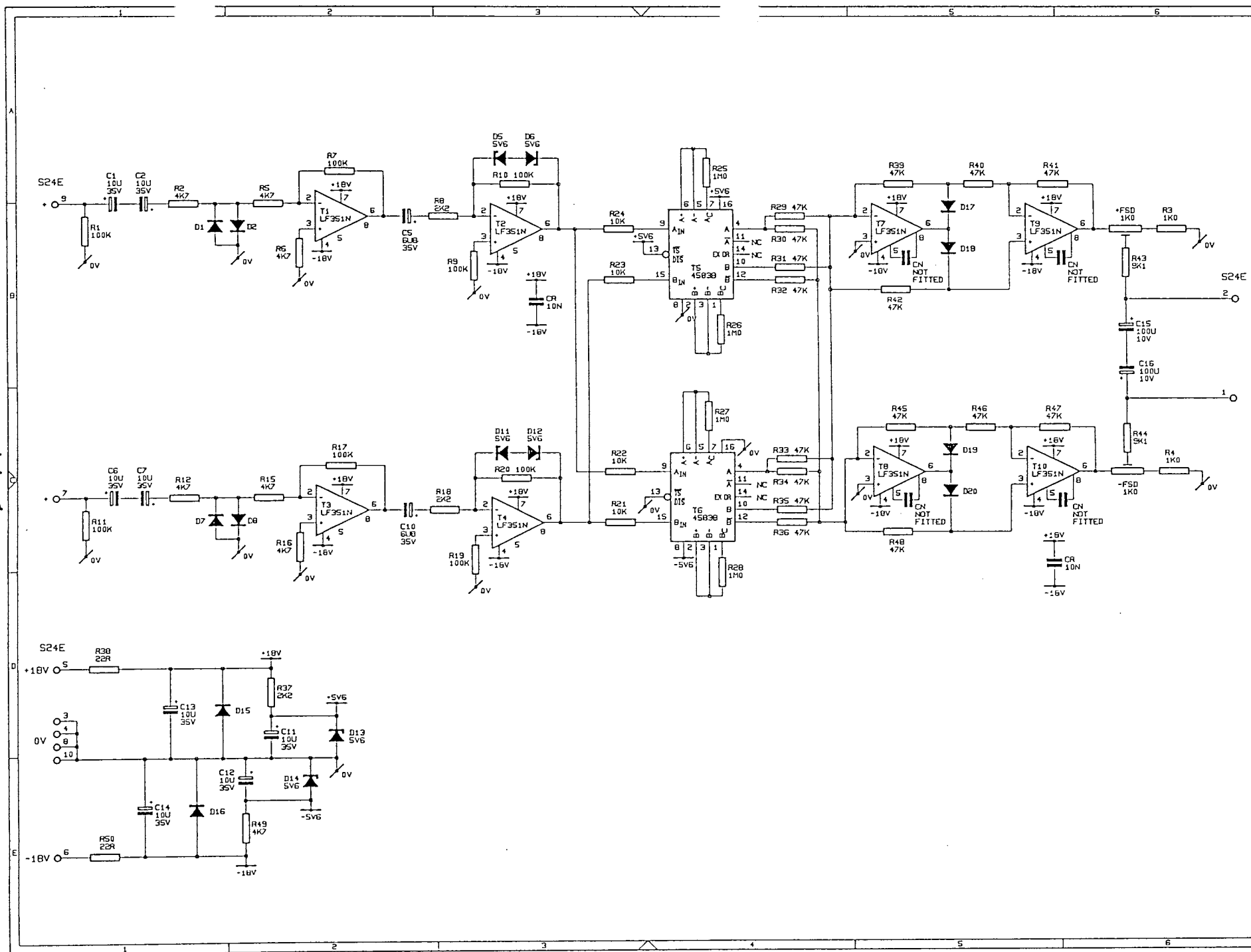
SL4000 G Console Service Manual

SECTION 11

SL 672E Analogue Meters (VU, VU-Peak, PPM)

Card No	Qty	Module	Description
82E05	1	672E	Phase Meter
82E66	*	672E	VU-Peak Meter Card
82E94	2	672E	Penthouse warning lights
82E252	*	672E	PPM Meter Card
82E315	*	672E	VU Meter Card
82E237	1	672E	Buffered Meter Distribution Card

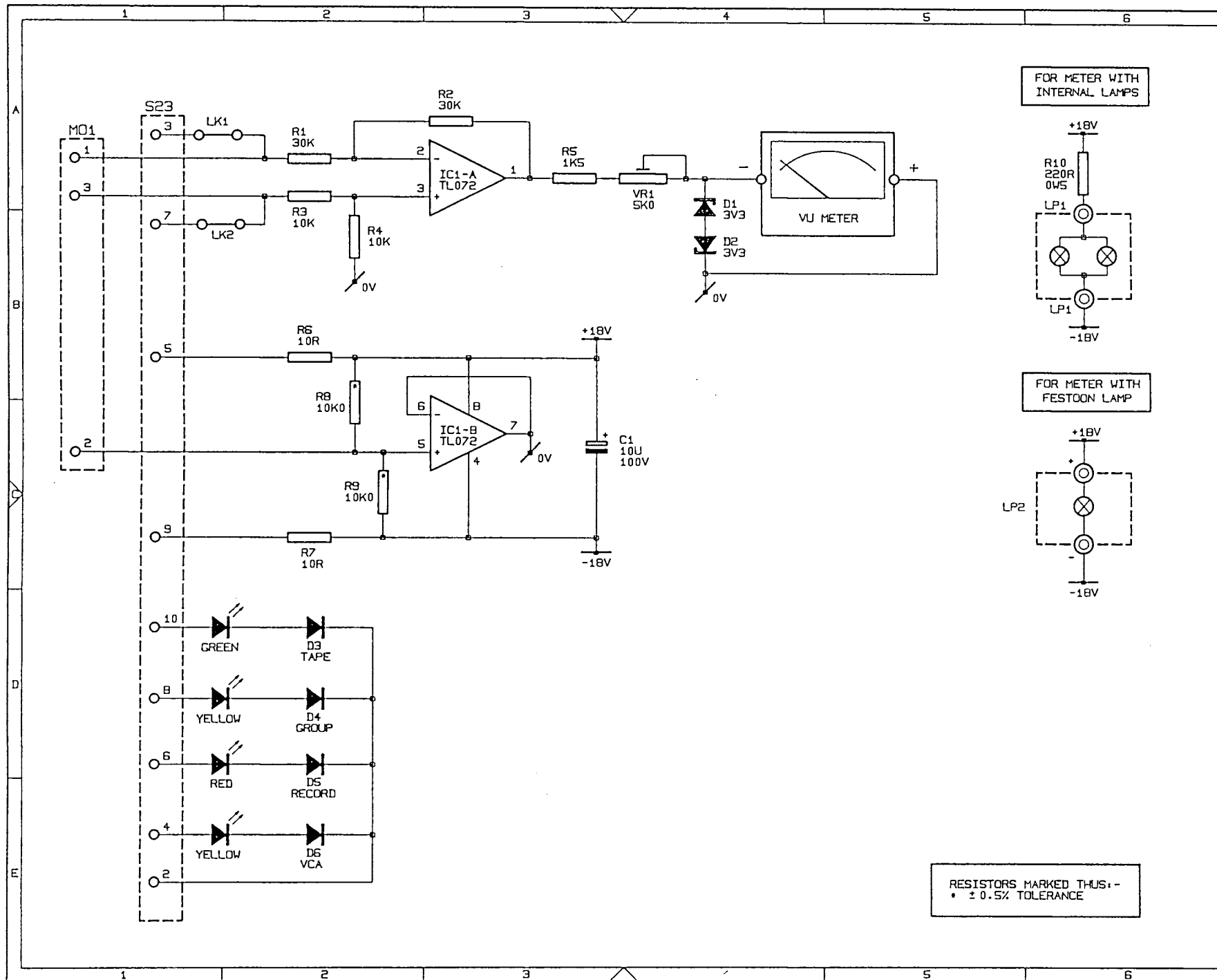
* Mainframe Size + 13



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REV	ISSUE	DATE	DETAILS	
3	A	5/84	REDRAWN	VB
4	A	16 MAY 90	ECO 4K/135 NO CHANGE	BC STEFF
5	A	16 MAY 90	ECO 4K/155 C17-20 4X 22P REMOVED	BC STEFF
6	A	16 MAY 90	ECO 4K/135 ISSUE REV EF BOARD INTRODUCED	BC STEFF
6	B	31 OCT 91	CIRCUIT ERROR CORRECTED TO LEFT OF T8	AM MM

SHEET 1 OF 1	
REF: T672E	A2
TITLE 672 PHASE METER CARD	
DRG. NO. T82005.71	
Solid State Logic	

11-2



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REV	ISSUE	DATE	DETAILS
0	A	09 NOV 87	NEW DRAWING AM EL
0	B	15 DEC 87	* ADDED TO R8 R9 BC STEFF
1	A	20 MAR 90	ECO 4K/346 BC ECO 4K/347 R10 WAS LINK NOW 220R. STEFF
1	B	20 MAR 90	ECO 4K/365 NO CHANGE STEFF
2	A	20 MAR 90	ECO 4K/525 BC WIRE LINKS REPLACED STEFF
3	A	20 JULY 90	ECO 4K/554 BC PCB REV CD INTRODUCED STEFF
3	B	23 JAN 91	CLARIFICATION OF LAMP CIRCUITS AM M1

SHEET 1 OF 1

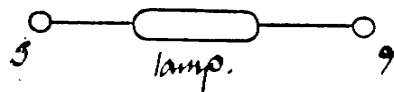
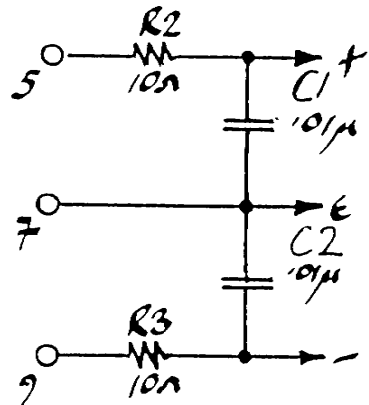
REF: T672A

A3

TITLE
SL672E/V/G & SL515
BUFFERED INPUT VU METER

DRG. NO.
T82315.71

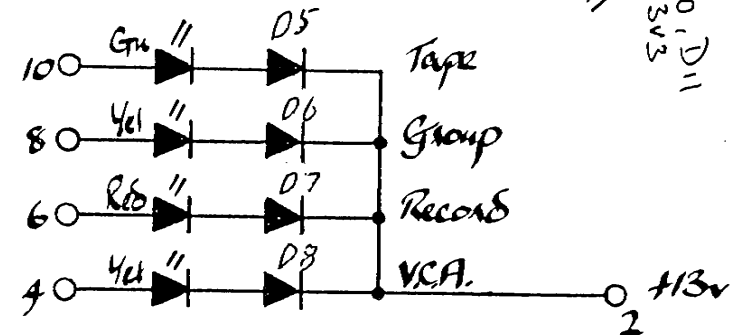
Solid State Logic



- 1) R5 ~ R11 ~ 8 way 15k resistor pack, R9 being 2x 15k in parallel.

- 2) all diodes 1344

- 4) pin numbers refer to Ribbon connector S23E

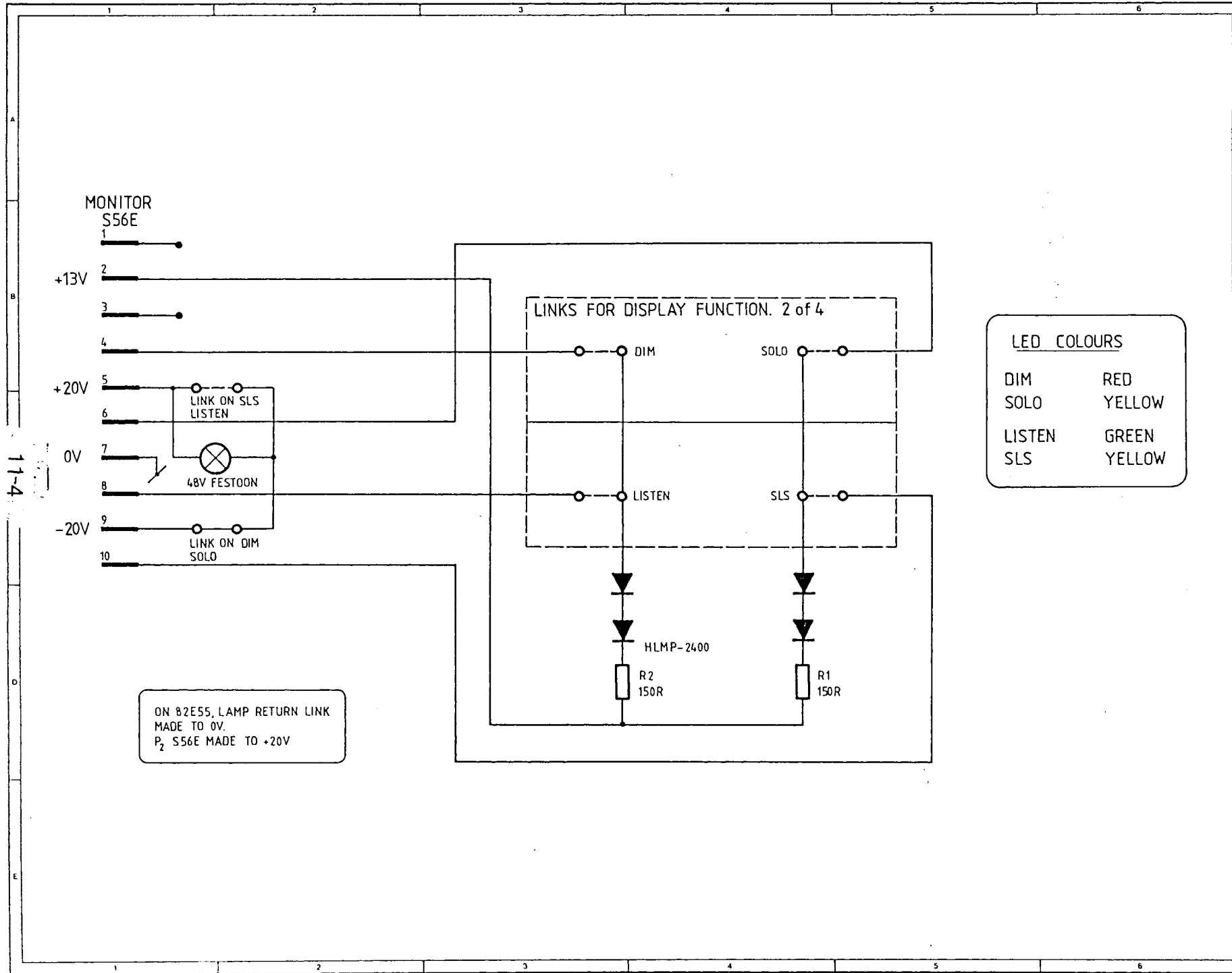


Circuit for VU with Peak mode
82E66

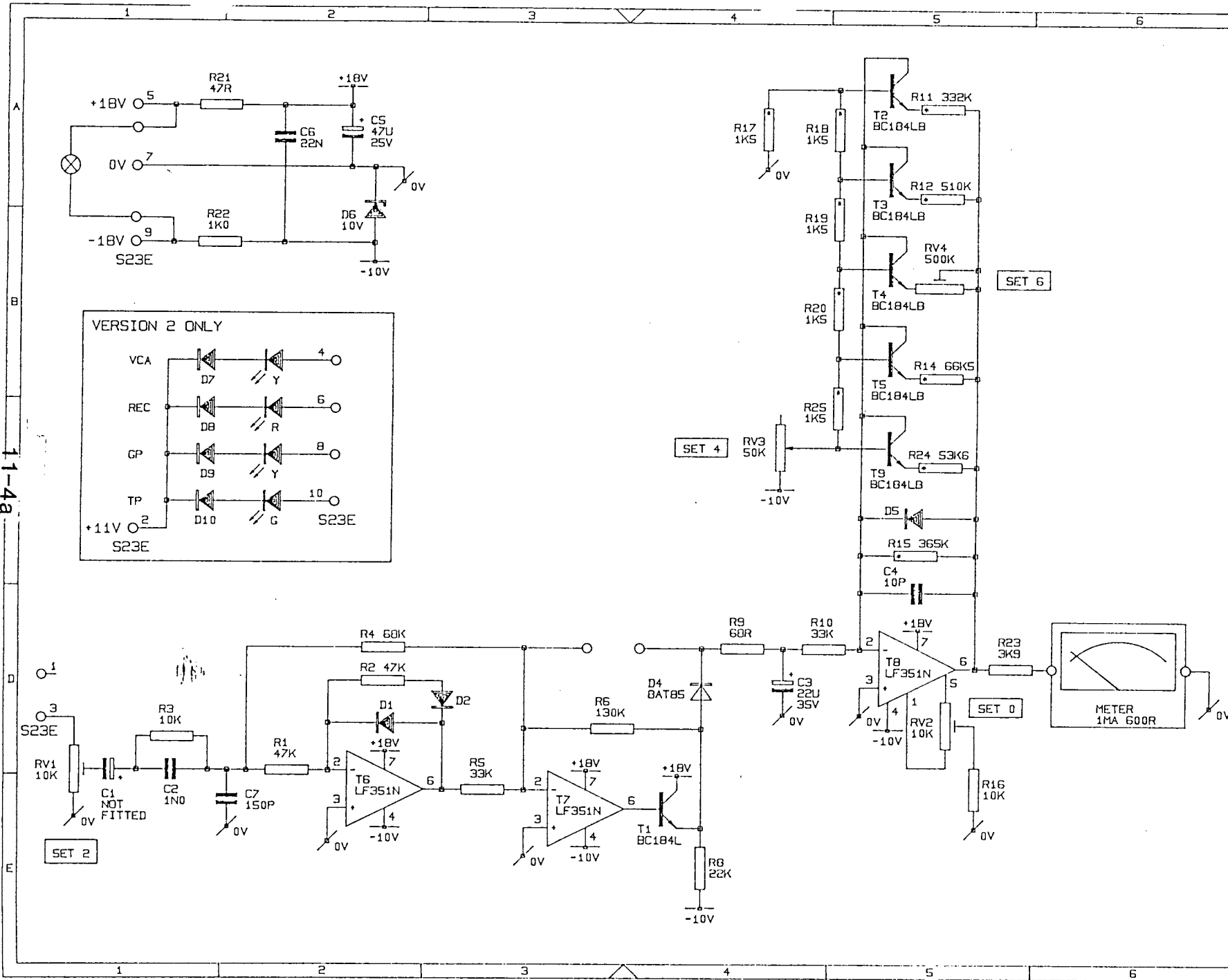
R15 18k2 + 12Ω_{Bm} = 0V_u Stl.
39k + 8Ω_{Bm} = 0V_u
100k + 4Ω_{Bm} = 0V_u

$$82 \in 66-710.2$$

10 August '80



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Rev.	Issue	Ckd	Details
0	a	J.H. Dec85	REDRAWN LED COLOURS AMENDED
0	b	DM Feb86	LINK INSERTED 'DIM SOLO LAMP AMENDED FROM 24V. ECO 112
Title PENTHOUSE WARNING LIGHTS. LED			
Drg.No. T82094-71			
Soli State Logic			
Stonesfield · Oxford · England			



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REV	ISSUE	DATE	DETAILS
3	A	22 JAN 88	NEW DRAWING AM STEFF

SHEET 1 OF 1	
REF: T672B	A3

TITLE	672E BROADCAST PEAK PROGRAM METER
DRG. NO.	T82252.71

Solid State Logic

11-4a

Solid State Logic

SL4000 G Console Service Manual

SECTION 12

SL 674E Bargraph Meter System

Card No	Qty	Module	Description
82E57	*	674E	Bargraph Meter, Logic Card
82E58	1	674E	Bargraph master Motherboard
82E59	*	674E	Bargraph Scale Card BBC
82E60	1	674E	Bargraph Switch Connection Card
82E72	*	674E	Bargraph Meter Analogue Card
82E73	1	674E	Bargraph Ramp Generator Card
82E74	1	674E	Bargraph Switch & Lamp Logic Card
82E75	1	674E	Bargraph Driver Card
82E76	*	674E	Bargraph meter Filler Card Only
82E77	2	674E	Bargraph Master Cover Card Only
82E83	*	674E	Bargraph Scale Card for N10 Scale
82E84	2	674E	Bargraph Filters (not a pcb)

* Mainframe Size + 13

THE BARGRAPH SYSTEM

System Description:

The Bargraph system utilizes the 201 element bargraph manufactured by Burroughs. The system is in two parts; the Meter assembly, the System Master cards.

The Meter assembly consists of three cards, the first carries the bargraph and the scale illumination, then one each for the analog and the logic circuits.

The System Master cards, three and a mother card consist of a Ramp Generator card which provides all the timing and transfer functions and the analog bus driving circuits, the Switch and Lamp Logic card derives the control lines from the switches, and the HT card has all high voltage driver circuits for the cathodes and the power supply for these drivers. The mother card is covered both back and front with plain boards for safety reasons: there are high voltages in the system.

System Details:

The Burroughs bargraphs are a 201 segment plasma discharge device with the cathodes arranged in a five phase sequence, which must be preceded with a reset cathode. The Reset cathode and the anode-turn on start the discharge (at the bottom of the bar) and then the discharge is passed from one cathode to the next, until the anode is turned off. The cathode off bias voltage is 72volts, the anode off bias is 100volts. To start the discharge the cathode is taken to 0volts and the anode is taken to 250volts which then drops to the maintaining voltage of about 150volts. (NB. In the SSL system the 0volts for the bargraphs is tied to the +13volts of the console.)

The brightness of any given segment is dependant upon the time spent discharging using that cathode, and the current through the discharge. The SSL system achieves a bright-up by dividing the timebase by four. The point in the ramp being preselectable though normally +4dBm or 0VU for the VU scale and 0dBm for the PPM scale. The bargraphs need to be scanned at approximately a rate of 70Hz to avoid flicker.

Any bargraph system running on a plasma discharge principle is likely to use high voltages. This device from Burroughs requires 250volts, and the voltage of the supply for the SSL implementation is 263volts and with a supply requirement of 1amp. So please take great care when servicing with the HT supplies running.

There follows a detailed description of the circuit functions and implementations for each of the cards in the system. Please also refer to the overall timing diagram and the various sectional timing diagrams.

T674E (explan-sys) 30.1
20 March 81 rjs

The Bargraph System.

Circuit Description and Explanation:

The Meter Analog Card, 82E72:

This card is mounted on the left side of the meter assembly and contains all the analog circuitry to process two signals with either VU or PPM ballistics and with or without filtering. One circuit is used for each bar (there are two bars per channel).

Signal Input:

The main signal input stage is a differential op-amp stage with a two pole filter which falls at 12dB/octave and is -0.5dB at 20kHz. This then feeds the fet selector.

Spectra Input:

The Spectra Signal Bus feeds directly into a two stage Wien bridge filter with a $Q = 40$ and an overall gain at $W? = +10\text{dB}$ (the nominal level of the Spectra Signal Bus is -10dB). The capacitors for the filter are mounted on the pcb direct, there are two sets per filter, and the associated resistors and the links to select which set of capacitors are on a 14 pin dil header. The dil header also selects by links either the filter output or the channel signal or earth as the signal to be fed to the fet selector. The main channels see Spectra filters when in the Spectra mode but the Quad and Cue/Aux meters see thier own signals and the spare channels see earth when in the Spectra mode.

The Rectifier:

The first stage of the rectifier is fed from the fet selector via a gain adjust, marked "Bright Up". Also summed into this point is an DC offset adjust marked "Offset". The output of this stage and the input are fed to the next stage which is a mixing amp and is seperate for the two ballistic sections.

VU:

The VU mix amp has a gain of 2.94 and completes the rectification. There follows a two pole filter stage to give the correct time constant of 300mS and with a 1.5% overshoot on the rise function. The charging of the filter stage is limited by a zener network to simulate the end stop of a mechanical meter.

T674E (explan-E72) 30.2
20 March 81 rjs

The Bargraph System.

Circuit Description and Explanation: continued,

The Meter Analog Card, 82E72: continued,

PPM:

The mixing is done by another rectifier stage also with a gain of 2.94 and with a 200kohm feedback resistor. The output of this is fed via a charging resistor to the capacitor, a 3u3F, the resultant is a rise time constant of 1mS and a decay time constant of 2.8S for 90% to 10% of FSD. There is a zener limit on the charge voltage of the capacitor to prevent overloading the analog transmission gate that follows.

Comparators:

The outputs of the two ballistic stages are selected by a 4016 transmission gate (powered from +13volts and 0volts) and fed to the inverting input of the first comparator. The other input sees the analog ramp after a one pole filter. The output of this is then compared with the +13volt rail and then the output limited to swing between +13volts and +20volts by a diode tie down. This is then fed to the meter Logic card, 82E57.

T674E (explan-E72) 30.3

20 March 81 rjs

The Bargraph System.

Circuit Description and Explanation: continued,

The Meter Logic Card, 82E57:

This card is mounted on the right side of the meter assembly and contains the store peak and logic and driving stages for the two bars.

Selector:

The anode switch signals come from the analog card and go to a 4085 which is a dual two by two AND OR INVERT gate. The other input to this gate on both sides is the output of the digital comparator, (the stored value in the same format as the anode switch signal). The control lines into this AND OR INVERT gate are the Display Signal and Display Store functions. The outputs are then inverted and fed via an AND gate with the Anode Enable lines.

HT:

This then feeds the two HT anode driver stages, each with two transistors, the first transistor just switches the voltage on the base of the second between about 220volts and 261volts, sufficient to turn the second transistor on and off. The second transistor turns the 261volts on to the bar through the 22kohm anode current limit resistor. The 1Mohm and 680kohm resistors are to maintain an anode off voltage of, about 100volts and thence prevent spurious traces of discharge when the bar is supposed to be off.

Store:

The store consists of two cascaded four bit D type latches and two cascaded four bit comparitors and a NAND function controlling the clock inputs of the latches. The operation of this section is explained by a detailed timing diagram, page number:

Cathodes:

The diode and resistor on each cathode driver are to prevent any shorts on the meter disrupting the bus drive for the other meters.

Scales:

There are three scale drivers on this card for VU, PPM and the Spectra markers. The balast resistors are on this card for the VU and the Spectra markers, the resistors for the PPM are on the Scale Card, 82E59 or 82E83, as they change with the type of PPM scale.

T674E (explan-E57) 30.4
20 March 81 rjs

The Bargraph System.

Circuit Description and Explanation: continued,

The Ramp Generator Card, 82E73:

This card contains the logic circuitry to generate all the timing functions required, all the analog circuitry for generating the ramps and the Spectra Bus circuits.

The overall timing diagram for the system will make the following explanations easier to follow, page number: .

The Logic Circuits:

The logic section is based upon a crystal and three sets of counters, the first associated with the crystal, the second with the DAC - the output of which is the basis for the analog ramp and the third with the cathodes.

The System Counter:

The crystal is 1M8432Hz and feeds two 4040 counters in cascade: the System Counter. This counter is cleared by the Master Clear pulse. The main Enable and Inhibit functions are derived from this counter by decoding particular count values and setting or resetting 4043 RS NOR latches.

Functions from the System Counter:

Anode Enable:

Set by a count of 120 and reset by the Master Clear. The Anode Enable is to allow the anodes to be turned on before the end of the reset cathode and to ensure that they are turned off at the end of the 200th cathode.

Store Enable/Reset Cathode:

These two are the inverse of each other. The RS NOR latch actually generates the Store Enable function. This is set by a count of 128 and reset by the Master Clear.

DAC Clock Enable:

Set by a count of 96 in the PPM mode and by a count of 128 in all modes (a second set on the latch is ignored), cleared by a count of 16 after the next Master Clear. The earlier start point is due to the required shape of the logarithmic conversion for the PPM analog ramp.

DAC Counter Clear:

The count of 16 referred to above which clears the DAC Clock Enable latch and the DAC Counter.

"96":

The count of 96 is a pulse of 16 clock periods long and is used for internal systems checking on the Switch and Lamp Logic card.

T674E (explan-E73) 30.5
20 March 81 rjs

The Bargraph System.

Circuit Description and Explanation: continued,

The Ramp Generator Card, 82E73: continued,

The DAC Counter:

This is another 4040 counter and is cleared by the DAC Counter Clear. The clock input comes from the System Counter at either 115k2Hz or 28k8Hz, being selected by the state of the Bright-Up RS NOR latch and being enabled by the DAC Clock Enable latch. The 115k2Hz is the normal frequency and the 28k8Hz is for increasing the time spent on each cathode for the section of the scale that is Brighted-Up. The DAC Clock and the first nine outputs of the DAC Counter are fed to the DAC, an AD561J. The analog output is the beginning of the analog ramp. The eight most significant bits of the DAC inputs are also fed via inverters and G drivers to the ribbonflex meter bus as the Digital Ramp.

Functions from the DAC Counter:

There are three counts detected from the DAC Counter by 4048 programmable eight input expandable gates. In all cases the gates are used as eight input AND gates with an Expand input which is active low: this gives the four control inputs; ka, kb, kc, kd = 1001.

Master Clear:

This is to detect a count of 800 in VU and a count of 832 in PPM and must be only one clock period long.
The main inputs detect count of 512 AND 256 AND NOT 128, 16, 8, 4, AND two inputs fed by EX OR gates.
The Expand input is fed by 2 OR 1, being active low this is detecting NOT 2 AND NOT 1.
This gives detection of a count value of 768, excluding the EX OR gates.
Detecting 786 AND 32 AND NOT 64 gives a count of 800.
Detecting 786 AND 64 AND NOT 32 gives a count of 832.
The 32 and 64 lines are fed to this gate through EX OR gates the other inputs being control inputs and are fed from the hi if VU and hi if PPM functions.
The two different count values are to compensate for the different starting counts for the DAC Counter compared with the System Counter.
An EX OR gate with one input used as a control input has an inverting transfer function if the control input is hi and a noninverting transfer function if the control input is lo.

Bright-Up:

This is another RS NOR latch, the output of which selects which frequency is fed to the DAC Counter from the System Counter. The latch is set at the count equivalent to the segment at which the bright-up starts from and reset by the count of 16 of the System Counter that clears the DAC Counter. There are separate 4048 gates for the two scales, selection of the gate used is by the hi if VU and hi if PPM functions applied to the Expand inputs (the Expand inputs are active low). The eight inputs are link selectable to be the true or the inverse of the eight most significant bits of the DAC input.

The Bargraph System.

Circuit Description and Explanation: continued,

The Ramp Generator Card, 82E73: continued,

The Cathode Counter:

The 4017 Johnson counter is used to generate the five phase cathode functions. This counter is cleared by the Reset Cathode or by its own count "5" output. The clock input is from the second least significant bit of the DAC inputs and is enabled by the Store Enable.

Outputs from the Cathode Counter:

Reset Cathode:

This is the inverse of the Store Enable.

. "0":

This is the "0" output from the Cathode Counter but it is inhibited by the Reset Cathode.

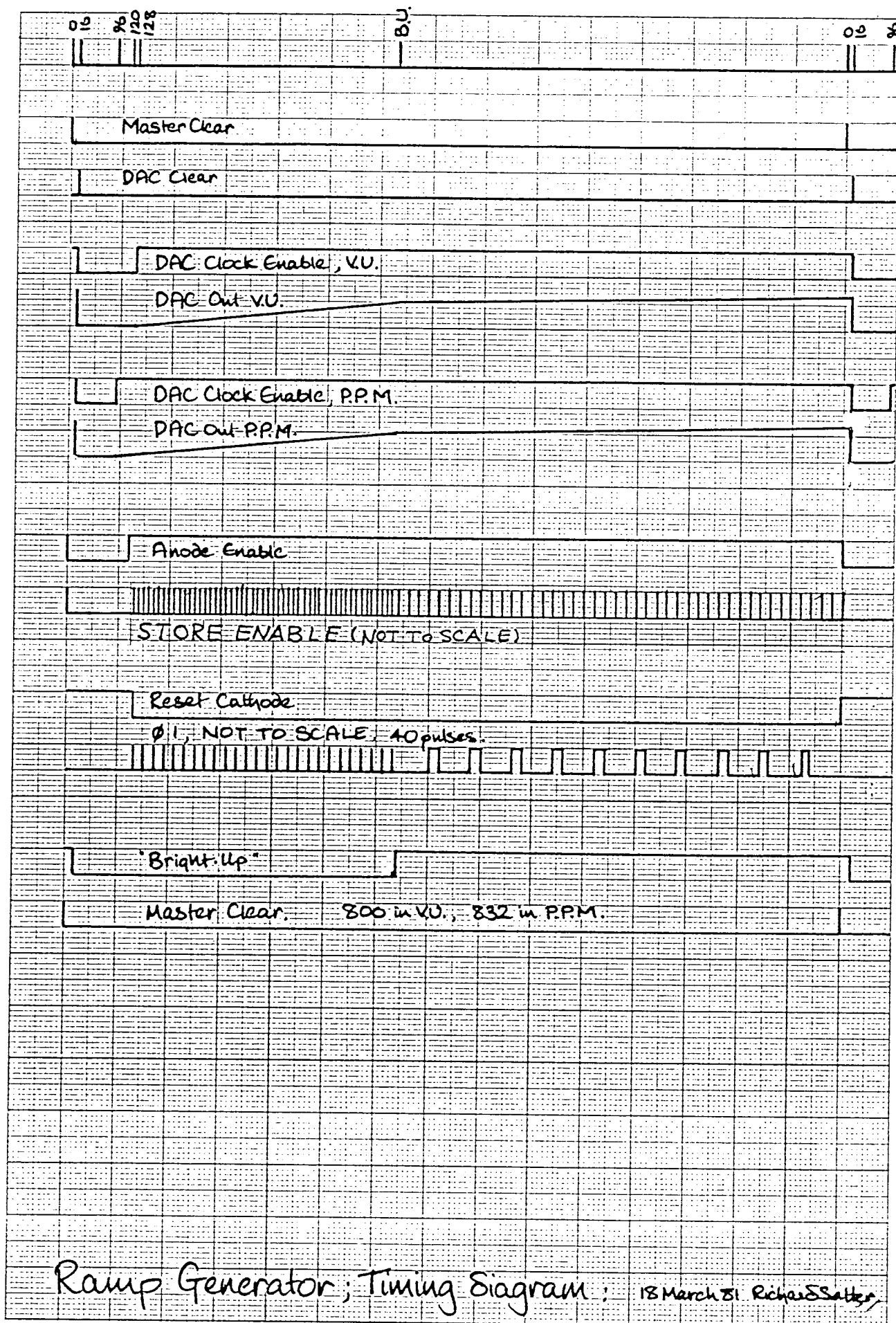
. "1" through . "4":

These outputs come straight out.

All these six outputs are then fed to the HT Card, 82E75, via 4050 noninverting buffers.

T674E (explan-E73) 30.7

20 March 81 . rjs



Ramp Generator; Timing Diagram: 18 March 81 Richard Satter

The Bargraph System.

Circuit Description and Explanation: continued,

The Ramp Generator Card, 82E73: continued,

The Analog Circuits:

The analog section starts with the analog output of the AD561J which is a triangular ramp with a knee where the timebase is divided by 4 for the bright-up section, it starts at +13volts and is rising +ve.

The first op-amp is part of the DAC function, being the current summing point. The second op-amp is fed from the first into the non inverting input and has +13volt fed into the inverting input. The output of this stage is a ramp rising +ve and starting at 0volts.

VU Ramp:

The VU stage follows with a gain adjust marked "VU Bright-Up" into an inverting input. Also summed into this point is a DC offset marked "VU Offset". The feedback loop of this stage has two diodes in series with the 15kohm resistor and in parallel with the diodes there is a 50kohm pot marked "VU Knee". The output of this stage is a linear ramp, -ve going, starting at 0volts, and including all the master adjustments that apply to the VU Ramp.

The two diodes in the feedback loop are to generate a slight knee at the bottom of the VU Ramp. This is to match the non linearity of the bottom end of a standard mechanical VU meter caused by the rectifying diodes.

PPM Ramp:

If the input port of a VCA is a non zero voltage, then the transfer function from the control port to the output port is logarithmic. The ramp from the second stage is fed to an inverting input, the non inverting input is fed with an offset equal to the maximum voltage of the ramp. There is an adjustment on this offset marked "PPM Bright-Up". This leaves an output ramp which is -ve going and with a start point of | max voltage of the ramp |. This in turn is fed through a range setting resistor to the control port of a VCA, the dbx202C. The input port of the VCA is fed with 5.1volts through 15kohm. The 5.1volt also feeds the offset input of the previous op-amp. The output port of the VCA is fed to the inverting input of an op-amp and also summed at this point is an DC offset which is marked "PPM Offset". The output of this op-amp is a logarithmic ramp +ve going and starting at 0volts. Then follows a inverter stage.

Ramp Selector:

The two ramps are then fed via fet switches to the last stage and thence to the bus.

T674E (explan-E73) 30.8

20 March 81 rjs

The Bargraph System.

Circuit Description and Explanation: continued,

The Ramp Generator Card, 82E73: continued,

The Analog Circuits:

Spectra Bus Driver:

This is a two stage circuit, the first op-amp is a differential input (from the normal point on the patch bay) the second op-amp is an inverting stage with a normal feedback resistor of 43k2ohm and a second feedback resistor of 20kohm switched with a fet. This gives a normal gain of unity and a loss of 10dB when the fet is on. The trim marked "Spectra trim" gives 1dB of trim each way. The normal state of this stage is for a loss of 10dB and only reverting to a gain of unity when the +10dB mode and also a Spectra function selected. The Spectra Signal Bus has a nominal level of -10dB, this allows for headroom when the +10dB mode is selected on the Spectra functions.

Power:

The bipolar 20volt decoupling is as per usual. The bipolar 15volt is for powering the offset pots, the VCA, and the 5.1volt reference. The +20volt for the logic circuits is decoupled seperately through an inductor.

T674E (explan-E73) 30.9
20 March 81 rjs

The Bargraph System.

Circuit Description and Explanation: continued,

The Ramp Generator Card, 82E73: continued,

The Analog Circuits:

Alignment Procedure:

Assuming an aligned meter or else a meter with its "Bright-up" and "offset" pots in thier mechanical centers and that the normal levels for the markings are being used.

VU:

Audio in of +4dBm, adjust "VU Bright-Up" for the last dim segment to be lit and the first brighted-up segment not to be lit.

Audio in of -16dBm, adjust "VU Offset" for the -20 scale mark.

Audio in of -6dBm, adjust "VU Knee" for the -10 scale mark.

Repeat these three steps until all correct, the controls are interactive.

PPM:

Audio in of 0dBm, adjust "PPM Bright-Up" for the last dim segment to be lit and the first brighted-up segment not to be lit.

Audio in of -40dBm, adjust "PPM Offset" for the -40 scale mark, or for two or three segments to be lit.

Repeat these two steps until all correct, the controls are slightly interactive.

Spectra:

With the meter in one of the Channel meter bus sockets and the system switched to Spectra and in VU:

Audio in of +4dBm, and at the frequency of that meter adjust "Spectra trim" for the 0 scale mark.

T674E (explan-E73) 31.1

20 March 81 rjs

The Bargraph System.

Circuit Description and Explanation: continued,

The Switch and Lamp Logic Card, 82E74:

This card contains the logic circuitry to implement the switch logic and generate the resulting control functions for the system.

The Switch Logic:

There are three levels of priority for the switches; the VU and PPM switches have the high priority, followed by the VCA to Meters, Spectra, Store Peak, Display Peak, and a Solo led when the Spectra on Solo mode has been selected. Then there are two background switches; the +10dB on Spectra and the Spectra on Solo mode.

VU and PPM:

The scale line is the output of a 4043 RS NOR latch whose set input is the VU switch and the reset input is the PPM switch. The scale line is high for VU and low for PPM. This then after an AND gate feeds a chain of OR gates and INVERTORS to generate the various VU and PPM outputs. The driver stages are all invertors, either op-amps or single transistor stages, so some of the logic for decoding outputs from the function lines is active low, some is active high, and some a mixture.

Scale Storage:

There is a second section to the scale line generation that can be selected or not by a link marked "Scale follow" with two options being "Selector" or "Store".

The "Selector" option simply has the scale line always determined from the first RS NOR latch already described, so the scale always follows the VU and the PPM switches.

The "Store" option has the scale determined by the VU and PPM switches in every instance except when Displaying the Store or Storing on an already partly filled store. This means that the Displayed Store value is always viewed with the correct scale, even if the system was running with the other scale at the point that Display Peak was selected.

Likewise if there is a current value in the store and the Store Peak is selected again to summate into the stored value then the system will switch to the scale used when the first stored value was entered. This prevents any contradictions between the stored value and the scales.

The Scale Storage is implemented as follows: A second RS NOR latch is fed from the main scale RS NOR latch direct to the set input and inverted to the reset input both via AND gates as inhibitors. The inhibit inputs are fed from a third RS NOR latch which is set by the high if Storing function and is reset by the Clear Store function. The output of the second RS NOR latch is therefore the same as the main scale RS NOR latch until the Store Peak is selected, where the second RS NOR latch is inhibited until the Store is Cleared. The output of the Second RS NOR latch is used as the scale line in place of the main RS NOR latch output whenever the Store Peak or Display Peak functions are selected.

T674E (explan-E74) 31.2

20 March 81 rjs

The Bargraph System.

Circuit Description and Explanation: continued,

The Switch and Lamp Logic Card, 82E74: continued,

The Background Switches:

+10dB:

This function is to add 10dB of gain to the signal when in a Spectra mode. The switch when selected lights dimly and no function is immediately implemented. When a Spectra function is selected and the +10dB has previously been activated then the lamp becomes bright and the Spectra Bus Drivers have 10dB of gain applied. The circuit is a JK flip flop with the J and K inputs held high and the set and reset inputs held low and the switch feeding the clock input, so this latch behaves as a toggle type. The output feeds the relay driver via an AND gate with the hi if any Spectra line.

Spectra on Solo:

This again is set and implements nothing until a Solo is selected and then it behaves as though it were a second level priority function. If the Spectra on Solo is selected then it is referred to as "Spectra on Solo", if a Solo has been activated as well then it is referred to as an "Actual Spectra on Solo", in the discussions that follow. The circuit for the Spectra on solo latch are the same as those of the +10dB section.

The Second Level Switches:

These switches are VCA to Meters, Spectra, Store Peak, Display Peak and Actual Spectra on Solo. All have the switch feeding the clock input of a JK flip flop whose J and K inputs are held high and whose set input is held low; resulting in a toggle type latch with an asynchronous reset.

VCA to Meters:

This is reset by VU, PPM, Spectra, Store Peak, Display Peak or Actual Spectra on Solo.

Spectra:

This is reset by VCA, Store Peak, Display Peak or Actual Spectra on Solo.

Store Peak:

This is reset by VU, PPM, VCA, Spectra or Actual Spectra on Solo.

Display Peak:

This is reset by VU, PPM, VCA, Spectra or Actual Spectra on Solo.

Actual Spectra on Solo:

This is reset by VCA, Spectra, Store Peak or Display Peak. The Spectra on Solo mode is only reset by the above list if they are selected while the system is in the Actual Spectra on Solo.

T674E (explan-E74) 31.3
20 March 81 rjs

The Bargraph System.

Circuit Description and Explanation: continued,

The Switch and Lamp Logic Card, 82E74: continued,

The Second Level Switches: continued,

These reset functions are all the switch inputs OR gated together to the reset inputs of the JK flip flops with two exceptions, the AND gate in the feed to the reset input of the Spectra on Solo flip flop and the Actual Spectra on Solo reset line in a pulse generated from the rising edge of the output of the AND gate whose inputs are the output of the Spectra on Solo flip flop and the Solo led line.

The Output Functions:

For the most part the output functions that are the inputs to the driver stages are all simple logic decoding from the outputs of the various latches and flip flops. Again as with the VU and PPM outputs the preceeding logic is a mixture of active high and active low, all the output drivers have inverting functions. For the obscure output functions the following might simplify:

Functions for driving Scale Illumination:

These are the VU Scale QB, VU Scale Ch, PPM Scale and Spectra Markers. These buses drive a second driver on each meter card. This second driver is also inverting and therefore the outputs from the Switch and Lamp Logic card onto the buses are the inverse of the function (these are active low at the bus). Excepting these four all the outputs to the buses are active high.

Display Outputs:

There are four of these outputs, Display Signal and Display Store for both Left and Right bars. These are a derivation of the scale lines (low if VU and low if PPM) and are in one case inverted.

There is an option as to the display when in both Store Peak and Display Peak simultaneously, selected by a link marked "Mode in Store and Display".

The "Single" option gives a single bar lit showing the continuously updated peak on the bar next to the scale that is being used (on the right bar for VU and the left for PPM).

The "Dual" option gives two bars lit, the first shows the real time signal on the bar next to the scale being used (on the right bar for VU and the left for PPM) on the other bar the continuously updated peak is shown.

This requires an inverse function on the scale lines which is accomplished by the pair of EX OR gates through which the scale lines are fed prior to the display latch output logic.

An EX OR gate with one input used as a control input has an inverting transfer function if the control input is hi and a noninverting transfer function if the control input is lo.

T674E (explan-E74) 31.4

20 March 81 rjs

The Bargraph System.

Circuit Description and Explanation: continued,

The Switch and Lamp Logic Card, 82E74: continued,

The Output Functions: continued,

Anode Enable Outputs:

These outputs are the combination of two controlling functions, the Anode Inhibition (to ensure anode turn on and turn off limits) and bar selection (which of the two to be lit). This block is all active low logic. The OR gates summate the Anode Inhibit to the outputs. The AND gates are for the bar selection; lo if VU and lo if PPM are the prime inputs which can be overridden by lo if any Spectra and lo if Dual mode AND Store Peak AND Display Peak. There is no input for the lo if any Spectra for the Quad Bus and Cue/Aux meter feeds as these meters show their own signal in the Spectra mode. The Dual mode input to these gates also has a switch in the feed marked "Callibration". This position lights all the bars regardless of the selected scale and is for testing and alignment purposes. The "Normal" position returns the feed to the Dual mode.

The Inputs:

The inputs from the switches have a noise filter consisting of two 15kohm resistors and a 10nF capacitor. The inputs from logic lines have a series 15kohm resistor.

The Output Drivers:

"A":

This is a bifet op-amp used as a comparator with one input from the logic and the other from a potential divider between the two logic rails, the output is through a 10ohm resistor. The output is either +20volts or -20volts.

"M":

This is also a bifet op-amp as a comparator with one input from the logic and the other from a potential divider between the two logic rails, the output is through a 15kohm to 30kohm divider to 0volts. This is powered from +20volts and 0volts. The output is either +13volts or 0volts.

"C":

This is a dual intensity lamp driver using two transistors. The output either floats or is through a resistor to the +20volt rail.

"E":

A single intensity version of the above.

"G":

A driver switching the output to +20volts or being tied by a 1kohm resistor to the +13volt rail, for driving logic busses.

Power:

Power decoupling is as standard except that an inductor is used on the +20volt rail as per the Ramp Card.

The Bargraph System

Circuit Description and Explanation: continued:

The HT Card, 82E75:

This card contains the 83 volt regulator circuit and the bargraph five phase cathode driver circuits. It mounts on the left of the mother card below the H.T. switch.

83 Volt Regulator:

The regulator serves two purposes. It provides the voltage to power the op-amps in the cathode drivers and also provides a fixed voltage rail to which the bargraph cathodes are returned during the off portion of the five phase scanning sequence.

263 Volts enters the H.T. card on pins 39 and 40. It is fed to reference zener D6 through current limiting resistors R10, R11. The zener reference is applied to the complimentary Darlington output stage consisting of Tr4, Tr5, R9, R13, R14, R15. The stage is configured to source or sink current depending on the dynamic requirements of the system. C2 provides a low impedance for suppressing the cathode switching transients. D7 provides over-voltage protection and R16 over-current protection. Reverse voltage protection diodes are incorporated within the output devices.

Cathode Drivers:

The H.T. card contains six identical driver circuits for the five cathode lines and the reset cathode. As the drivers are identical only one will be described.

The logic level cathode drive is fed to the H.T. card from the 82E73 Ramp Generator card. This is applied to the drive section via isolation resistor R5. This feeds the inverting input of high voltage op-amp T1. The circuit is configured as an inverting comparator with a current boosting V-FET output stage and overall feedback for slew rate limiting. R7, R8, C1 form a decoupled 16.5 Volt rail. This is halfway between the logic levels of 13 and 20 volts and acts as the comparator's reference via R4. The op-amp inverts the logic signals and as its output swings nearly 70 volts, provides the voltage needed to turn the bargraph cathodes on and off. The current required to supply a console's worth of meters is provided by power transistors Tr1, Tr3. R1, R2 limit the op-amp output current. R3 is the feedback resistor. With feedback the output voltage is slew rate limited to about 4 volts/usec. This prevents H.T. switching spikes from appearing on the power rails. D1, D3 provide over voltage protection for the V-FET transistors. D5 protects the earlier logic stages from high voltage transients and R6 is the output fuse.

T674E (explan-E75)31.6
12 June 85 vc

82E58 Bargraph Mother Card

Connector Pinout

S65E 40 Way Ribbon (c/w 82E57)	
No	Description
1	0 Volts
2	+20 Volts
3	0 Volts
4	-20 Volts
5	Display Store R
6	+13 Volts
7	Display Store L
8	Display Signal L
9	Display Signal R
10	Anode Enable R
11	Anode Enable L
12	Store Enable
13	Clear
14	MSB Digital Ramp
15	6
16	5
17	4
18	3
19	2
20	1
21	LSB
22	Spectra Signal Bus
23	Spectra Relay
24	Channel Relay
25	PPM Ballistics
26	VU Ballistics
27	Analog Ramp
28	PPM Scale
29	Spectra Markers
30	VU Scale
31	spare
32	spare
33	+263 Volts
34	+263 Volts
35	Cathode 1 H.T.
36	Cathode 0 H.T.
37	Reset Cathode
38	Cathode 3 H.T.
39	Cathode 2 H.T.
40	Cathode 4 H.T.

S66E 20 Way Ribbon (c/w 651 Switches)	
No	Description
1	VCA Switch
2	VCA Lamp
3	PPM Switch
4	PPM Lamp
5	VU Switch
6	VU Lamp
7	+20 Volts
8	-20 Volts
9	+10 dB Switch
10	+10 dB Lamp
11	SPECTRA ON SOLO Switch
12	SPECTRA ON SOLO Lamp
13	SPECTRA Switch
14	SPECTRA Lamp
15	CLEAR PEAK Switch
16	CLEAR PEAK Lamp
17	DISPLAY PEAK Switch
18	DISPLAY PEAK Lamp
19	STORE PEAK Switch
20	STORE PEAK Lamp

S118E 20 Way Ribbon (c/w 651)	
No	Description
1	RF 1800
2	LF 00
3	RF 00
4	LF 1800
5	SOLO LED
6	
7	
8	
9	
10	VCA TO METERS Bus
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	

82E58 Bargraph Mother Card	Connector Pinout

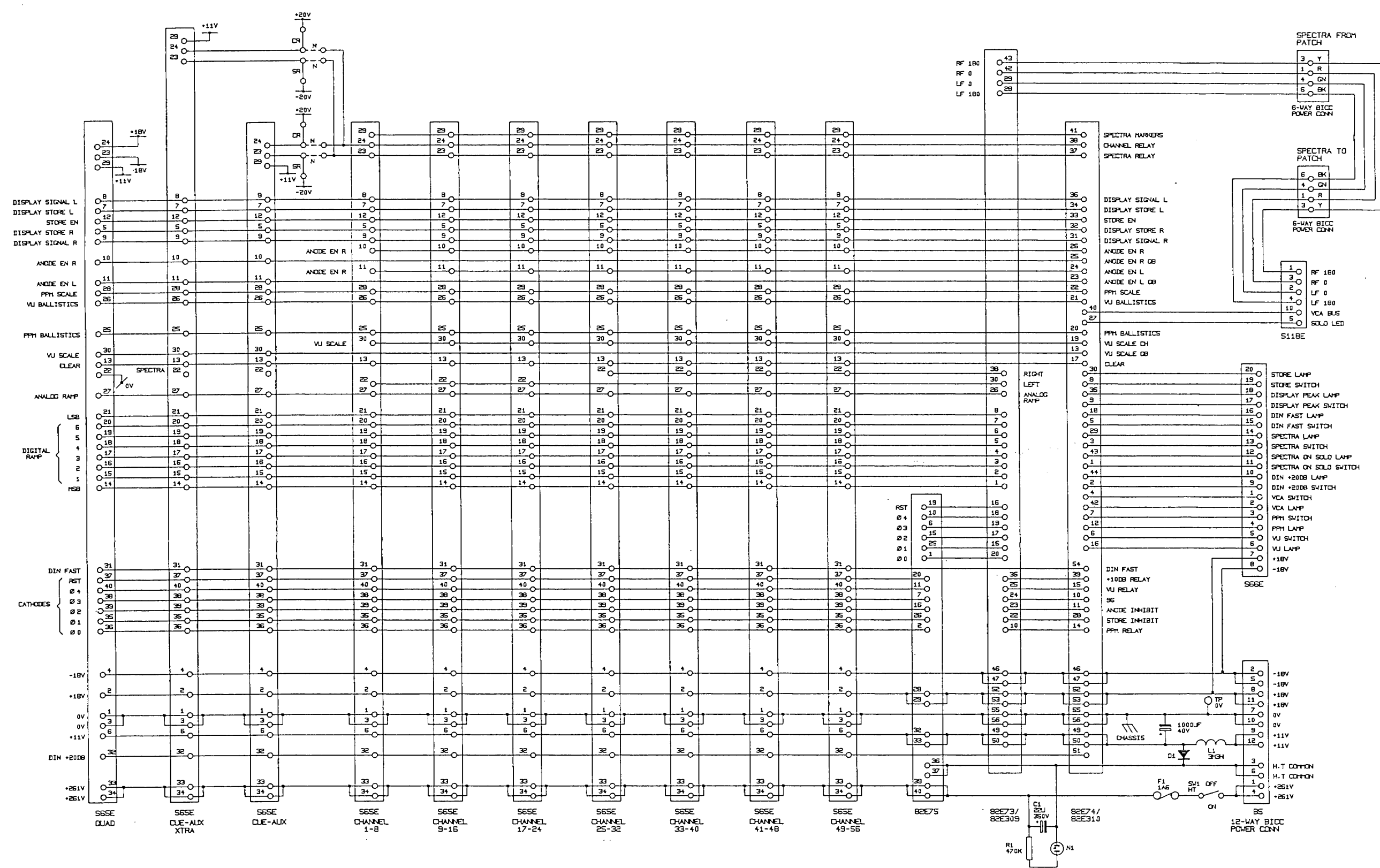
B5 12 Way BICC Power Connector Pinout	
No	Description
1	+263 Volts
2	-20 Volts
3	H.T. Common
4	+263 Volts (yellow)
5	-20 Volts (blue)
6	H.T. Common (violet)
7	0 Volts (green)
8	+20 Volts (red)
9	+13 Volts (brown)
10	0 Volts
11	+20 Volts
12	+13 Volts

B4 6 Way BICC Spectra To/From Patch	
No	Description
1	RF 00 (red)
2	
3	RF 1800 (grn)
4	LF 00 (yel)
5	
6	LF 1800 (blk)

T82E58 (edge) 50.2
23 September 31 vc

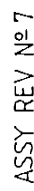
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REV	ISSUE	DATE	DETAILS
5	A	21 MAR 90	NEW DRAWING STEFF
6	A	4 APR 90	ECO 4K/308 INDUCTOR FITTED BC STEFF
7	A	4 APR 90	ECO 4K/494 TRI RATED CABLE ADDED STEFF
8	A	16 MAY 90	ECO 4K/572 NO CHANGE BC STEFF
8	B	27 JUNE 90	SEGE PINS 1-6 SIGNAL NAMES AMENDED STEFF
9	A	1 AUG 90	ECO 4K/600 D1 MOVED FROM CONN SIDE OF L1 TO BOARD SIDE STEFF
10	A	6 MAY 93	ECO 4K/1125 1000UF CAPACITOR AND CHASSIS LINK ADDED PM



16 March 81
Richard Salter

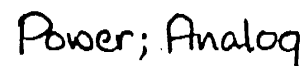
16 March 81
Richard Salter



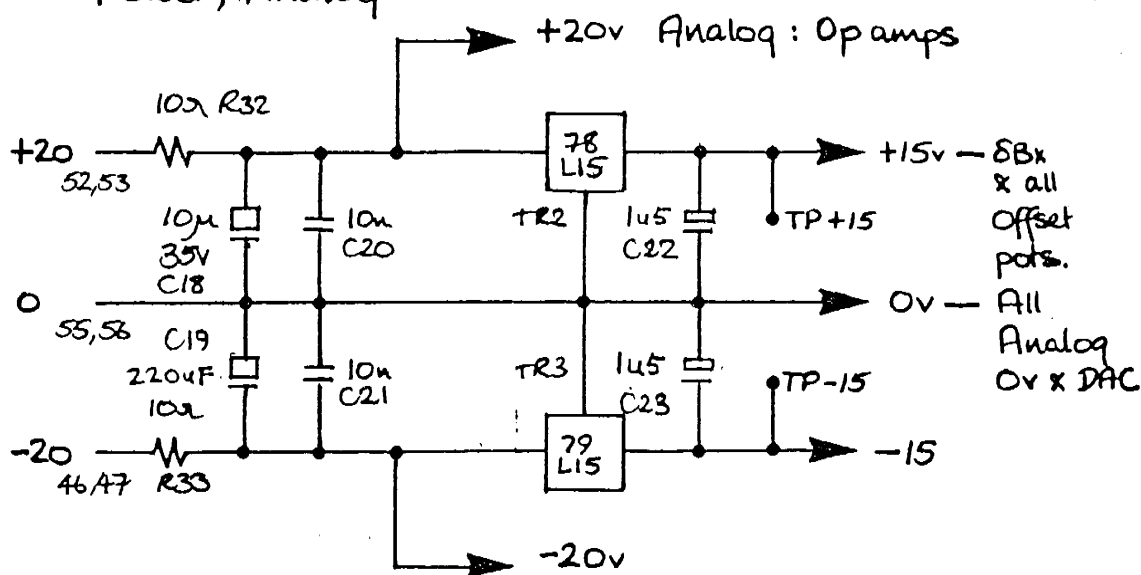
SOLID STATE LOGIC
STONESFIELD OXFORD ENGLAND

NAME:-	Ramp Analog
MODEL:-	12-22

MY 112548 R



+20v Analog : Op amps



Notes;

Res; 50K x 1K, multiturn, Ramp section
10K, single, Spectra
Op-Amps; Bifet, Quads, except where
marked.

NOT USED: T4 4069 - $\frac{1}{6}$
T6 4071 - $\frac{2}{4}$
T8 4082 - $\frac{1}{2}$
T9 4081 - $\frac{1}{4}$
T16 4071 - $\frac{1}{4}$

ALL R's $\frac{1}{4}$ W, 5% EXCEPT
• INDICATES 0.5%

08SEP82	6	R 12 R19 CHANGED TO 180K
08SEP81	5	N DRIVERS ADDED
DATE	REV	MODIFICATION

82E73 Bargraph Ramp Generator Card

Edge Connector Pinout

No	Description
1	MSB Digital Ramp
2	6
3	5
4	4
5	3
6	2
7	1
8	LSB
9	spare
10	PPM Relay
15	Cathode 1 Drive
16	Reset Cathode Drive
17	Cathode 2 Drive
18	Cathode 4 Drive
19	Cathode 3 Drive
20	Cathode 0 Drive
21	spare
22	Store Inhibit
23	Anode Inhibit
24	"96"
25	VU Relay
26	Analog Ramp
27	spare
28	LF 180?
29	LF 0?
30	Spectra Signal Bus L Out
31	spare
32	Keyway
35	+10 dB Relay
38	Spectra Signal Bus R Out
42	RF 0?
43	RF 180?
46	-20 Volts
47	-20 Volts
49	+13 Volts
50	+13 Volts
52	+20 Volts
53	+20 Volts
55	0 Volts
56	0 Volts

T82073.50

11 May 81

APPLICABLE TO
Bargraph Ramp Card
REV. 4

LINE-UP PROCEDURE

1. Scope "Master Clear" test point (2V/div., 1mSec./div.). Check for 4V positive going pulse. Trigger scope from this point.

2. Scope right-hand end of R6 (AC coupled, 0.5V/div.). Select PPM. Check for $3 \pm 0.1V$ P-P ramp. If not within these limits trim R6.

Steps 3-6 establish initial settings for the Master Offset and Master Bright-Up controls. These may be trimmed for best overall accuracy.

3. Scope Analog Ramp Out at lower end of R30 (DC coupled, 0.1V/div., 1.0mSec./div.). Adjust "PPM Offset" for 200 millivolts at the bottom of the ramp.

4. Set PPM Bright-Up to occur at "0". (Scope 0.5V/div., 0.5mSec/div.) Adjust the "PPM Bright-Up" pot to make the break-point of the ramp 3.0V. This adjustment assumes a "0" reference of 0.775 V.

5. Set "VU Knee" control fully CCW.

6. Select VU. (Scope 0.1V/div.) Adjust "VU Offset" for 350 millivolts at the bottom of the ramp.

7. Set VU Bright-Up to occur at "0". (Scope 1V/Div., 0.1mSec./div.) Adjust the "Bright-Up" pot for a 4.2V P-P ramp. This adjustment assumes a "0" reference of 1.228V. For other reference levels, trim R28 and adjust ramp amplitude accordingly. (I.E. For a 0.775 reference, R28 becomes 33k2 ohms and the VU ramp is 2.6V P-P).

8. Adjustment of "VU Knee" is made with a bargraph meter. Once the Bright-Up and Offset adjustments are made, check for an accurate indication at -10 VU. If necessary adjust "VU Knee". There is some interaction among the VU controls so recheck the Bright-Up and -20 VU points and readjust for best overall scale accuracy.

9. Select SPECTRA and +10 dB TO SPECTRA. Adjust left and right "Spectra Trim" controls for unity gain through the Spectra Driver circuit.

FINISH -

11 May	6:00 AM	4 PPA	5641

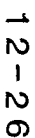
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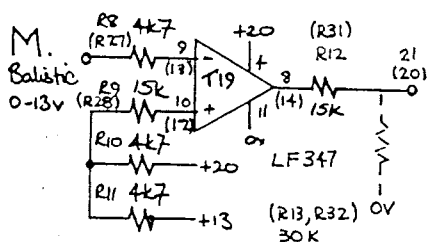
wood -

RAMP GEN. CF82E79
BRITE UP HEADERS -712-01

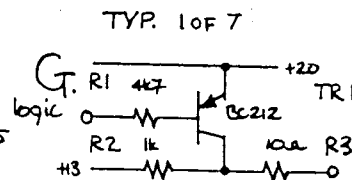
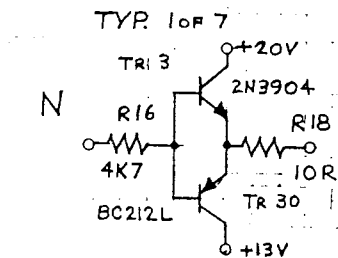
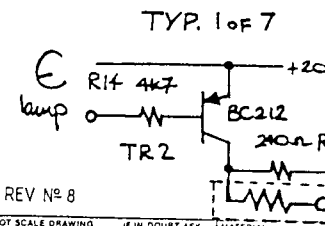
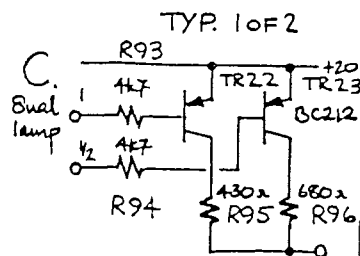
५३:

MODIFICATION





READ ONLY W/
CF82E72 REV 7 & BELOW



9-82 18 R13, R32 DELETED
6-82 7 N DRIVERS ADDED

DATE	REV	MODIFICATION
26 OCT 81		R42 45, 49, 51, 10R
12-81	6	T82 84-90-3

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MATERIAL -		LIMITS UNLESS STATED -		SOLID STATE LOGIC	
		1.05 ± 1 Ver 1.05 ± 1 0.010 1.05 ± 1 0.01 ± 0.008		STONESTIELD OXFORD ENGLAND	
FINISH -		ANGLES ± 0.008		TITLE -	
		DIM.		CF82E74	
				BARGRAPH SW.	
				+LAMP LOGIC	
DAN	CHAD	APPA	SCALE	DRAWING NO -	
				710-8	

82E74 Bargraph Switches and Lamp Logic

Edge Connector Pinout

No	Description
1	"SPECTRA ON SOLO" Switch
2	"+10 dB" Switch
3	"SPECTRA" Switch
4	"VCA" Switch
5	"CLEAR" Switch
6	"VU" Switch
7	"PPM" Switch
8	"STORE" Switch
9	"DISPLAY" Switch
10	"96"
11	Anode Inhibit
12	PPM Switch Lamp
13	VU scale Quad Bus and Cue/Aux
14	PPM Relay
15	VU Relay
16	VU Switch Lamp
17	CLEAR Bus
18	CLEAR Switch Lamp
19	VU Scale (Channel)
20	PPM Ballistics
21	VU Ballistics
22	PPM Scale
23	Anode Enable L QB & Cues
24	Anode Enable L Channel
25	Anode Enable R QB & Cues
26	Anode Enable R Channel
27	SOLO LED
28	Store Inhibit
29	SPECTRA Switch Lamp
30	STORE Switch Lamp
31	Display Signal R
32	Display Store R
33	Store Enable
34	Display Store L
35	DISPLAY PEAK Switch Lamp
36	Display Signal L
37	Spectra Relay
38	Channel Relay
39	+10 dB Relay
40	VCA Bus
41	Spectra Markers
42	VCA Switch Lamp
43	SPECTRA ON SOLO Switch Lamp
44	+10 dB Switch Lamp
45	Keyway
46	-20 Volts
47	-20 Volts
48	
49	+13 Volts
50	+13 Volts

No	Description
51	
52	+20 Volts
53	+20 Volts
54	
55	0 Volts
56	0 Volts

APPLICABLE TO
Bargraph Switches and Lamps
Logic Card

UNIT 674

MODULE CF82E74 Rev. 4 and above

DIL SWITCH FUNCTIONS

All Switches **Up** (?) for Normal Operation

Spare

Scale Follow Option

Peak Display Option

Normal/ Calibrate

Auto-Follow mode-
Ex.: If a PPM peak
is stored, pushing
DISPLAY PEAK
will automatically
select PPM.

In STORE and
DISPLAY, both bars
lit with stored
peaks on one and
normal metering
on the other.

In PPM or VU
only selected bar
is lit.

?
4

?
3

?
2

?
1

No Auto-Follow-
stored value is
displayed without
regard to scale
selection.

In STORE and
DISPLAY, only
stored peaks are
displayed.

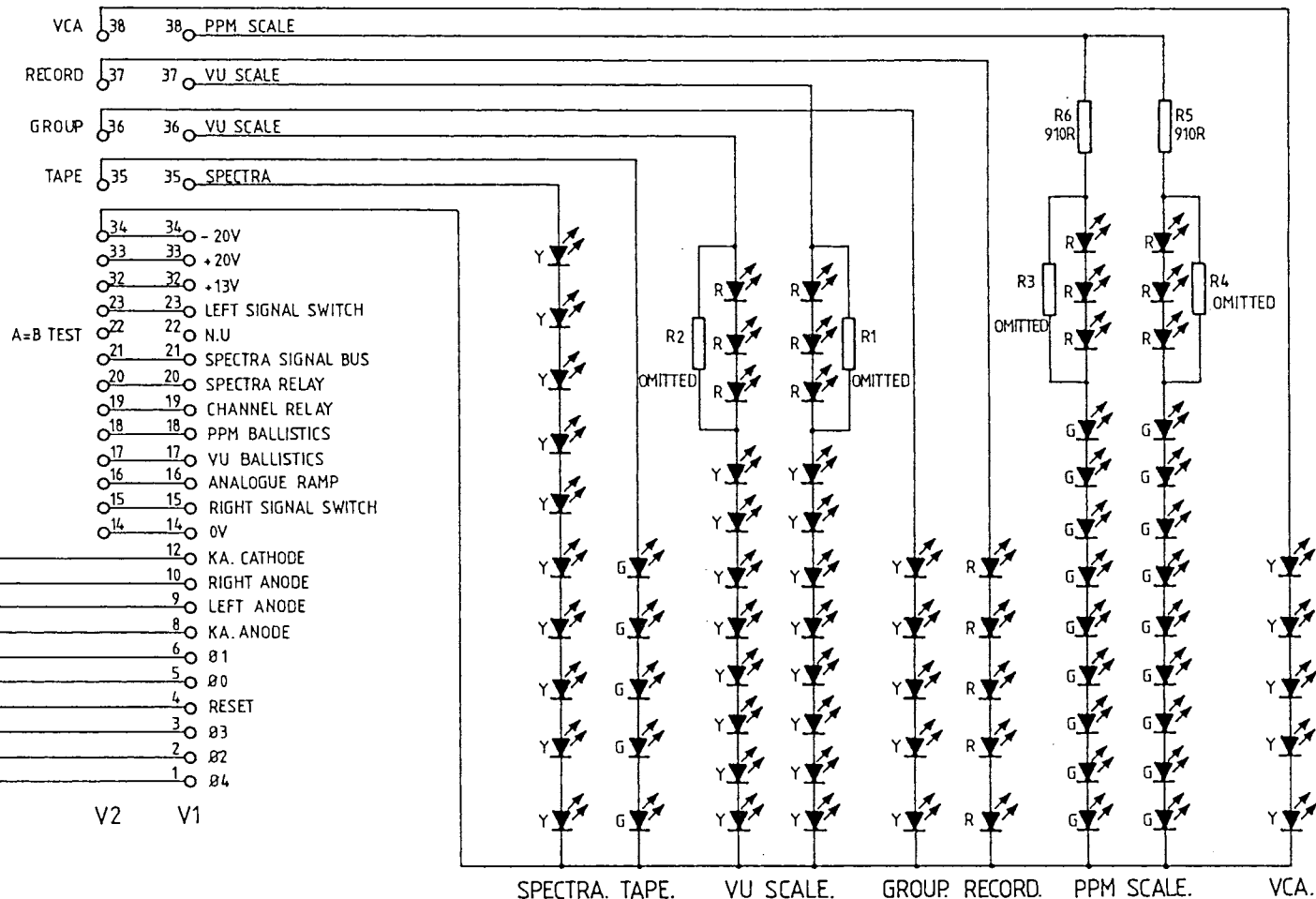
Both bars always
lit for ease of
line-up.

82E75 Bargraph H.T. Card

Edge Connector Pinout

N.B. This edge connector carries up to 263 Volts DC. Please take suitable safety precautions.

No	Description
1	Cathode 0 Logic
2	Cathode 0 H.T.
3	
4	
5	
6	Cathode 3 Logic
7	Cathode 3 H.T.
8	
9	spare
10	Cathode 4 Logic
11	Cathode 4 H.T.
12	
13	
14	
15	Cathode 2 Logic
16	Cathode 2 H.T.
17	
18	spare
19	Reset Logic
20	Reset Cathode H.T.
21	
22	
23	
24	
25	Cathode 1 Logic
26	Cathode 1 H.T.
27	
28	+20 Volts
29	+20 Volts
30	
31	Keyway
32	+13 Volts
33	+13 Volts
34	
35	
36	H.T. Common
37	H.T. Common
38	
39	+263 Volts H.T.
40	+263 Volts H.T.



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Rev.	Issue	Ckd	Details
7	a	11-82	R5 & 6 CHANGED
8	a	2-83	R5 & 6 CHANGED
8	b	AM APR86	REDRAWN

Title VC BARGRAPH SCALE CARD.

Drg.No. T 82059-71

So! State Logic
 Stonesfield · Oxford · England

V1 38 Way Varelco Pinout

82E57 Bargraph Logic Card
82E59 Bargraph Scale Card
82E83 Bargraph Scale Card

V2 38 Way Varelco Pinout

82E72 Bargraph Analog Card
82E59 Bargraph Scale Card
82E83 Bargraph Scale Card

No | Description

1	Cathode 4, Bargraph pin 9
2	Cathode 2, Bargraph pin 8
3	Cathode 3, Bargraph pin 7
4	Reset Cathode, Bargraph pin 4
5	Cathode 0, Bargraph pin 3
6	Cathode 1, Bargraph pin 2
7	not used
8	Keep Alive Anode, Bargraph pin 5
9	Left Anode, Bargraph pin 1
10	Right Anode, Bargraph pin 10
11	not used
12	Keep Alive Cathode, Bargraph pin 6
13	not used
14	0 Volts
15	Right Signal Switch
16	Analog Ramp
17	VU Ballistics
18	PPM Ballistics
19	Channel Relay
20	Spectra Relay
21	Spectra Signal Bus
22	A=B Test Point
23	Left Signal Switch
24	--
25	
26	
27	- not used
28	
29	
30	
31	-
32	+13 Volts
33	+20 Volts
34	-20 Volts
35	Spectra Markers
36	VU Scale
37	VU Scale
38	PPM Scale

No | Description

1	-
2	
3	
4	
5	
6	
7	- not used
8	
9	
10	
11	
12	
13	-
14	0 Volts
15	Right Signal Switch
16	Analog Ramp
17	VU Ballistics
18	PPM Ballistics
19	Channel Relay
20	Spectra Relay
21	Spectra Signal Bus
22	not used
23	Left Signal Switch
24	-
25	
26	
27	- not used
28	
29	
30	
31	-
32	+13 Volts
33	+20 Volts
34	-20 Volts
35	"TAPE" LED
36	"GROUP" LED
37	"RECORD" LED
38	"VCA" LED

T82059.50
15 May 81

V1 38 Way Varelco Pinout

82E57 Bargraph Logic Card
82E59 Bargraph Scale Card
82E83 Bargraph Scale Card

No | Description

1	Cathode 4, Bargraph pin 9
2	Cathode 2, Bargraph pin 8
3	Cathode 3, Bargraph pin 7
4	Reset Cathode, Bargraph pin 4
5	Cathode 0, Bargraph pin 3
6	Cathode 1, Bargraph pin 2
7	not used
8	Keep Alive Anode, Bargraph pin 5
9	Left Anode, Bargraph pin 1
10	Right Anode, Bargraph pin 10
11	not used
12	Keep Alive Cathode, Bargraph pin 6
13	not used
14	0 Volts
15	Right Signal Switch
16	Analog Ramp
17	VU Ballistics
18	PPM Ballistics
19	Channel Relay
20	Spectra Relay
21	Spectra Signal Bus
22	A=B Test Point
23	Left Signal Switch
24	--
25	
26	
27	- not used
28	
29	
30	
31	-
32	+13 Volts
33	+20 Volts
34	-20 Volts
35	Spectra Markers
36	VU Scale
37	VU Scale
38	PPM Scale

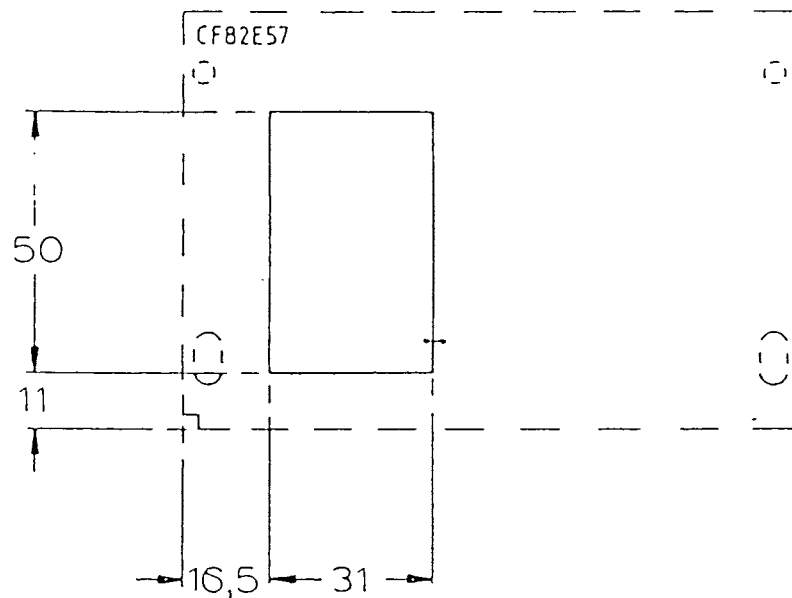
S65E 40 Way Ribbon

82E57 Bargraph Logic Card
82E58 Bargraph Mother Card

No | Description

1	0 Volts
2	+20 Volts
3	0 Volts
4	-20 Volts
5	Display Store R
6	+13 Volts
7	Display Store L
8	Display Signal L
9	Display Signal R
10	Anode Enable R
11	Anode Enable L
12	Store Enable
13	Clear
14	MSB Digital Ramp
15	6
16	5
17	4
18	3
19	2
20	1
21	LSB
22	Spectra Signal Bus
23	Spectra Relay
24	Channel Relay
25	PPM Ballistics
26	VU Ballistics
27	Analog Ramp
28	PPM Scale
29	Spectra Markers
30	VU Scale
31	spare
32	spare
33	+263 Volts
34	+263 Volts
35	Cathode 1 H.T.
36	Cathode 0 H.T.
37	Reset Cathode
38	Cathode 3 H.T.
39	Cathode 2 H.T.
40	Cathode 4 H.T.

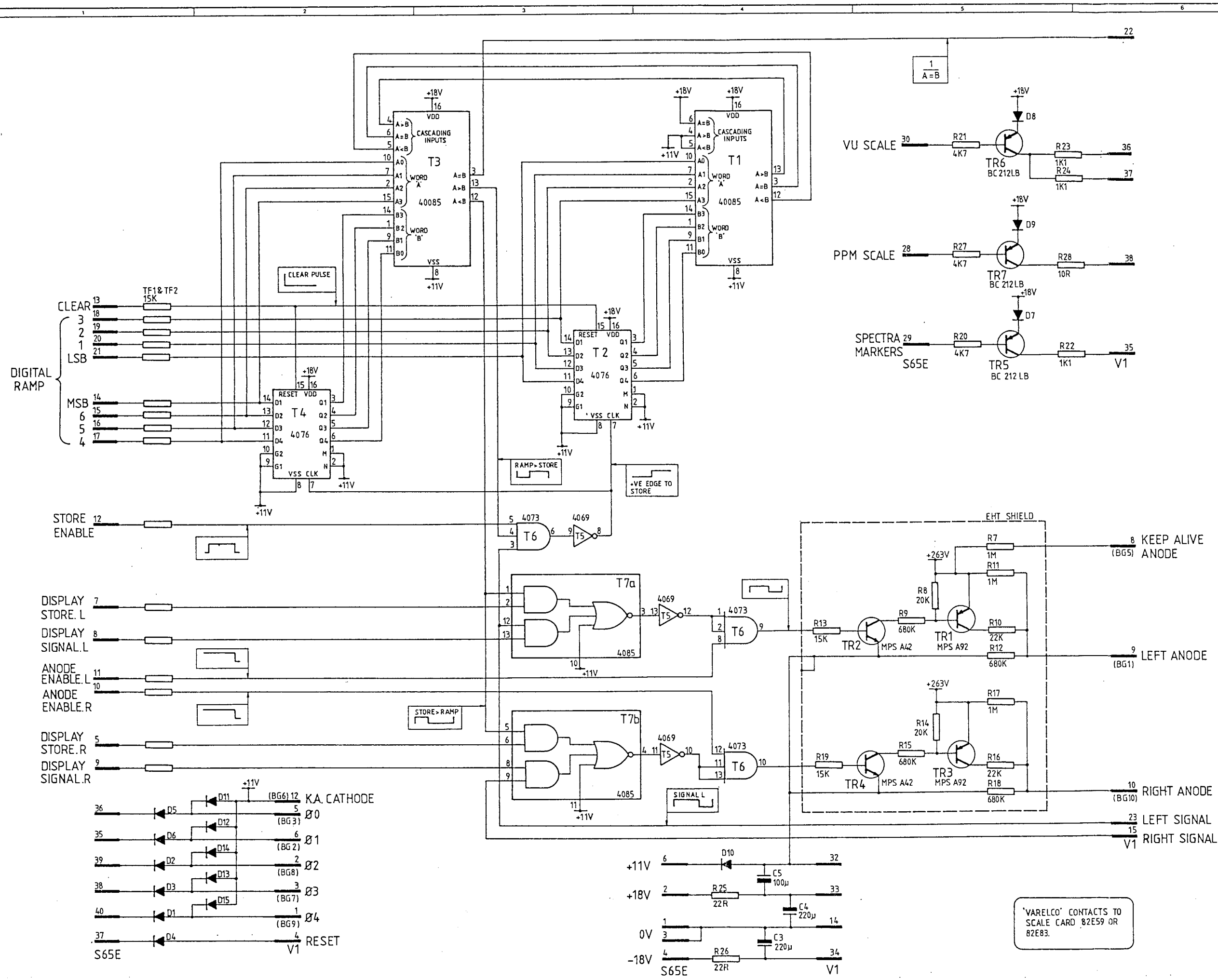
T82057.50
12 June 81



ALL DIMENSIONS ARE IN MILLIMETRES.

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
-	A	NEW DRG. ADDED.	3-7-81	J. EVINS.

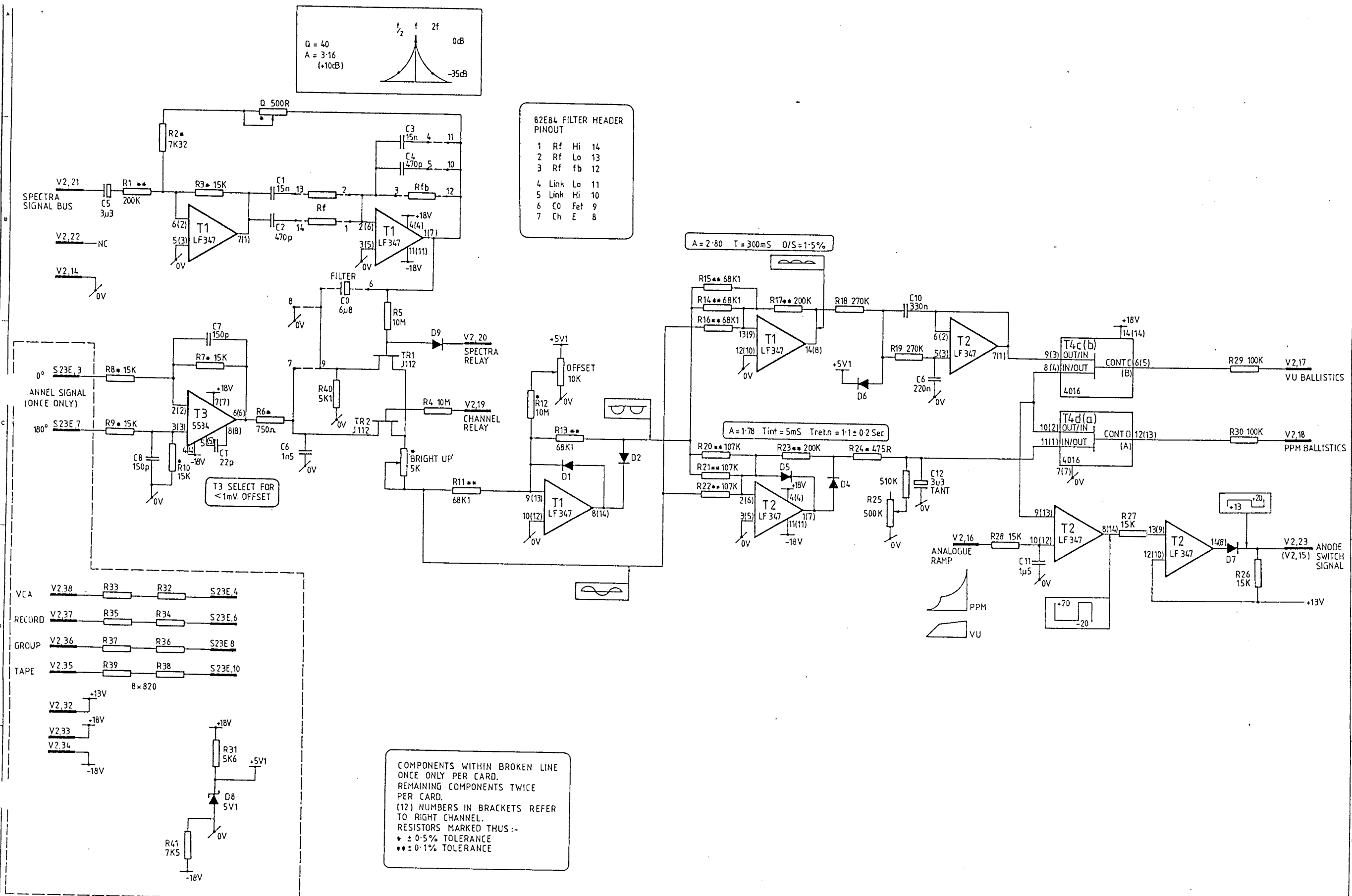
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONS DECIMALS ANGLES ± .XX ± ± ± .XXX ± ±	CONTRACT NO.	Solid State Logic Stonesfield · Oxford · England		
MATERIAL 1/16" P.C.B. BOARD. FINISH CLAD WITH SOLDER RESIST. DO NOT SCALE DRAWING	APPROVALS	DATE	DRG. SHOWING SIZE & POSITION OF 82E57 H.T. SCREEN.	
	DRAWN J. EVINS.	3-7-81		
	CHECKED J. EVINS.	3-7-81		
	ISSUED <i>[Signature]</i>	3-7-81	SIZE A3	FSCM NO.
			DWG. NO. 82E57	REV.
			SCALE 1:1	SHEET 1 OF 1



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Rev.	Issue	Chkd	Details
4	a	681	JK.
5	a	12-81	R8-9-14-15 CHANGED.
6	a	2-82	C1,C2 DELETED.
7	a	11-82	R22-23-24 CHANGED.
8	a	2-83	R22-23-24 CHANGED.
9	a	4-84	DIODES D11-16 ADDED.
10	a	10-85	DIODES DELETED.
11	a	11-85	D8-10 ADDED. C3-5 AMENDED.
11	b	DM Feb 86	D8-10 RENUMBERED TO D13-15.
11	c	AM Mar 86	REDRAWN
11	d	AM June 86	POWER TO ICs
Title BARGRAPH METER LOGIC CARD			
Drg. No. T82057-71			
Solid State Logic 12-36			

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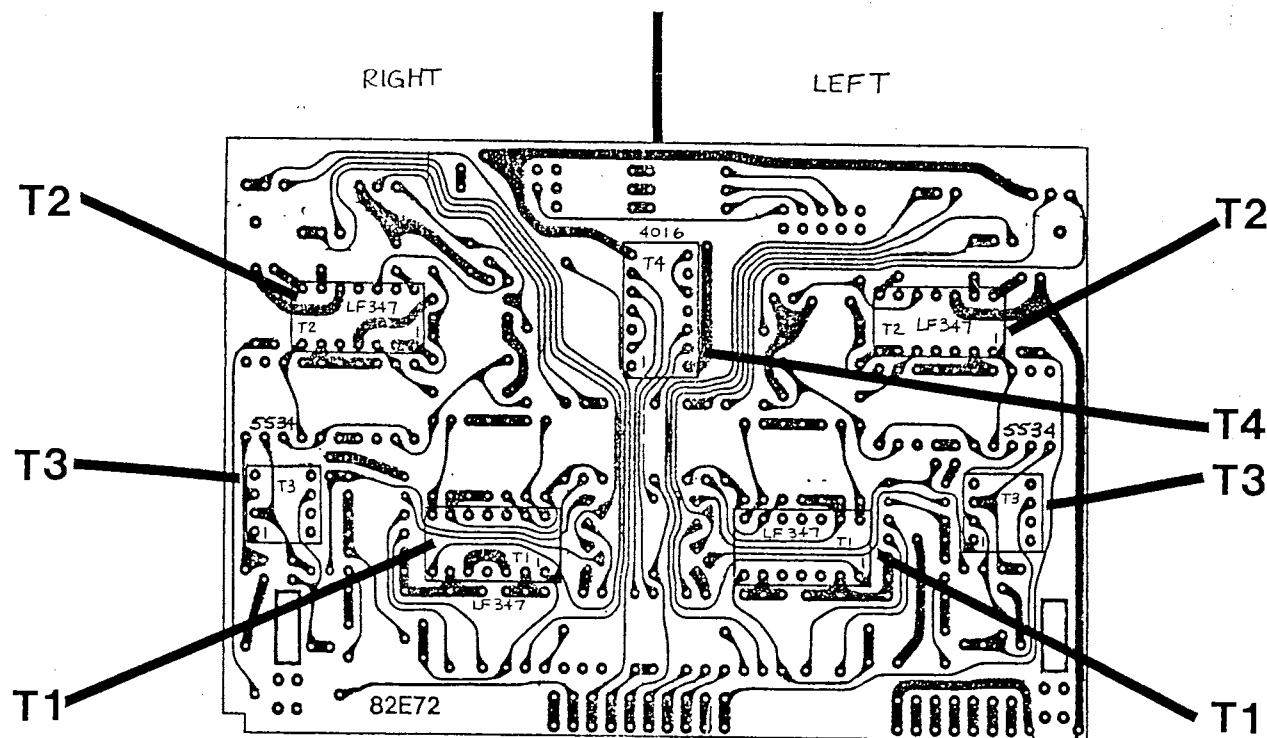
Rev.	Issue	Chkd	Details
9	a	AM	REDRAWN Dec 85
10	c	3 NOV 89	R25 1MΩ REMOVED 510K RES + 500K PRES FITTED STE



Title BARGRAPH ANALOGUE
CARD. 82E72

Drg. No. T82072-71

Solid State Logic
12-38



BARGRAPH ANALOG CARD (REV.5)

TRACK SIDE VIEW

7-81	5	
6-81	4	JK
DATE	REV	MODIFICATION

DO NOT SCALE DRAWING		IF IN DOUBT ASK		MATERIAL:-		LIMITS UNLESS STATED		SOLID STATE LOGIC STONESFIELD OXFORD ENGLAND	
		FINISH:-		DIMS		1:100 ± 0.1 1:200 ± 0.2 1:500 ± 0.5 1:1000 ± 1.0 1:2000 ± 2.0 1:5000 ± 5.0 1:10000 ± 10.0 ANGLES ± 1°		TITLE - CF82E72	
THIS DRAWING BELONGS TO SOLID STATE LOGIC AND IS MADE ON CONDITION THAT IT IS NOT COPIED, REPRODUCED OR CIRCLED IN WHOLE OR IN PART OR IN ANY PART WITHOUT THE CONSENT IN WRITING OF SOLID STATE LOGIC		DRAV		CHKD		APPR		SCALE	
V.C.								MODEL - 82E72 - 601	

82E72 Bargraph Analog Card

S23E 20 Way Ribbon Pinout

No	Description
1	
2	
3	Channel Signal 0°
4	"VCA" LED
5	
6	"RECORD" LED
7	Channel Signal 180°
8	"GROUP" LED
9	
10	"TAPE" LED
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	

T82E72 (edgecon) 50.1
15 May 81 vc

V2 38 Way Varelco Pinout

No	Description
1	-
2	
3	
4	
5	
6	
7	- not used
8	
9	
10	
11	
12	
13	-
14	0 Volts
15	Right Signal Switch
16	Analog Ramp
17	VU Ballistics
18	PPM Ballistics
19	Channel Relay
20	Spectra Relay
21	Spectra Signal Bus
22	not used
23	Left Signal Switch
24	-
25	
26	
27	- not used
28	
29	
30	
31	-
32	+13 Volts
33	+20 Volts
34	-20 Volts
35	"TAPE" LED
36	"GROUP" LED
37	"RECORD" LED
38	"VCA" LED

Component values for Spectra-View filters for rev. level 5

LOW FREQUENCIES			HIGH FREQUENCIES		
Freq	Rfohms	Cffarads C1,C3	Freq	Rfohms	Cffarads C2,C4
25Hz	422k	15n0	800Hz	422k	470p
31½Hz	340k	15n0	1kHz	340k	470p
40Hz	267k	15n0	1k25Hz	274k	470p
50Hz	210k	15n0	1k6Hz	210k	470p
63Hz	169k	15n0	2k0Hz	169k	470p
80Hz	133k	15n0	2k5Hz	137k	470p
100Hz	107k	15n0	3k15Hz	107k	470p
125Hz	84k5	15n0	4k0Hz	84k5	470p
160Hz	66k5	15n0	5k0Hz	68k1	470p
200Hz	53k6	15n0	6k3Hz	53k6	470p
250Hz	42k2	15n0	8k0Hz	42k2	470p
315Hz	34k0	15n0	10k0Hz	34k0	470p
400Hz	26k7	15n0	12k5Hz	27k4	470p
500Hz	21k0	15n0	16k0Hz	21k0	470p
630Hz	16k9	15n0	20k0Hz	16k9	470p

All resistors are ½W, 0.5%. C₀ is a 6u8F/35V tant. These components along with the required links are fitted to 14 pin DIL headers which mount on the 82E72 Analog card.

C1-4 are film type. 15n0 values are Wima MKS or equal, 470p values are Wima FKC or equal. C1&C3 are selected to match each other within 1%, C2&C4 are selected to match each other within 1%. The matched pairs of C1-4 are fitted on the 82E72 Analog card. The caps with values within 2% of nominal are marked and fitted to the cards used in the channels with Spectra-View.

Header Pinout top side view

1----	14	Rf (High Frequencies)
2----	13	Rf (Low Frequencies)
3----	12	Rf (all Frequencies); Link for EARTH or CHANNEL SIGNAL
4----	11	Link (Low Frequencies)
5----	12	Link (High Frequencies)
6-+[]-	9	SPECTRA-VIEW: C ₀ 6u8F/35V tant.
7	8	EARTH: Link 8&9, 3 & 12
		CHANNEL SIGNAL: Link 7&9, 3&12 (when required)

A complete set of filters includes:

60 Spectra filters -- two headers for each frequency value.

N Earth headers -- N= (number of channels minus 30) times 2. Earth headers are required for all channel meters which do not have Spectra headers.

Channel Signal Headers -- not normally required

Solid State Logic

SL4000 G Console Service Manual

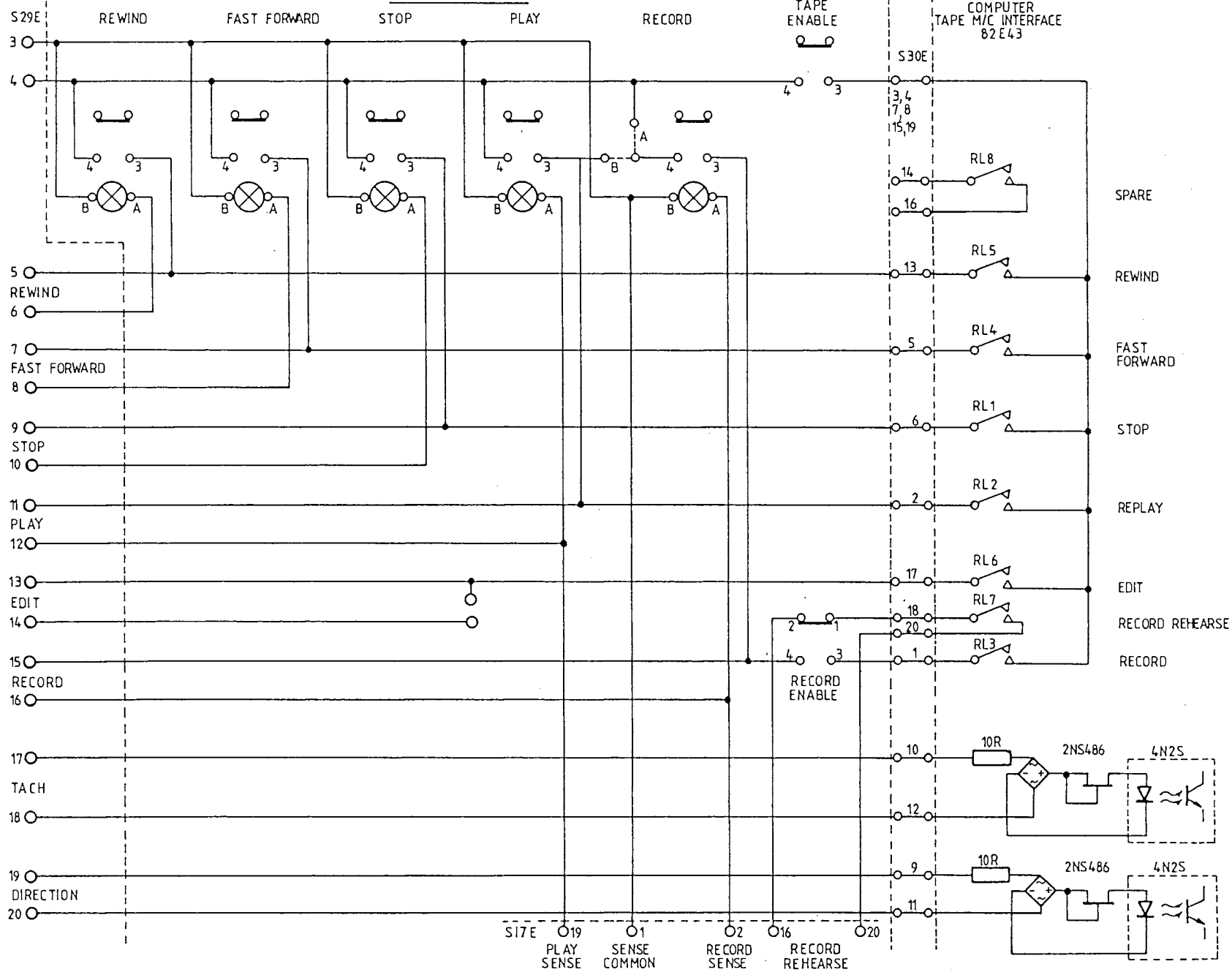
SECTION 13

SL 682E Tape Remotes

Card No	Qty	Module	Description
82E70		681E	Tape Machine Remotes (optional)
82E239		681E	Tape Machine Remotes (optional)

13-1

681 KEYBOARD



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Rev.	Date	Details
1	8.84	NEW DRG. VB.

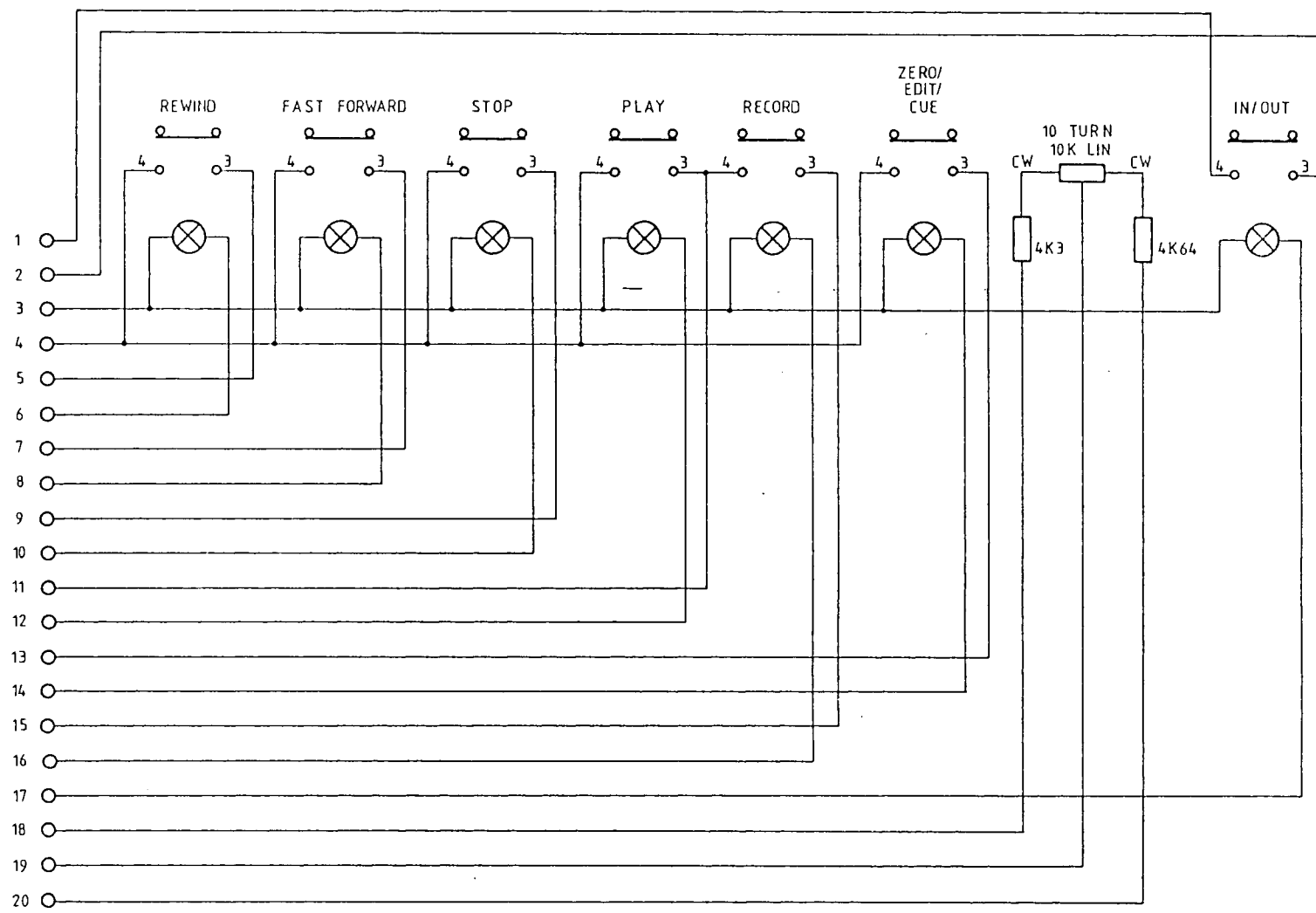
Title
SSL TRANSPORT REMOTES -
SCHEMATIC.

Drg.No. T0681E-70

Solid State Logic

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Rev.	Issue	Details
1	a.	DRAWN 7.85 V.B.
1	b.	THIS DRG. SUPERCEDES DRG. SAME N° DATED 9.84

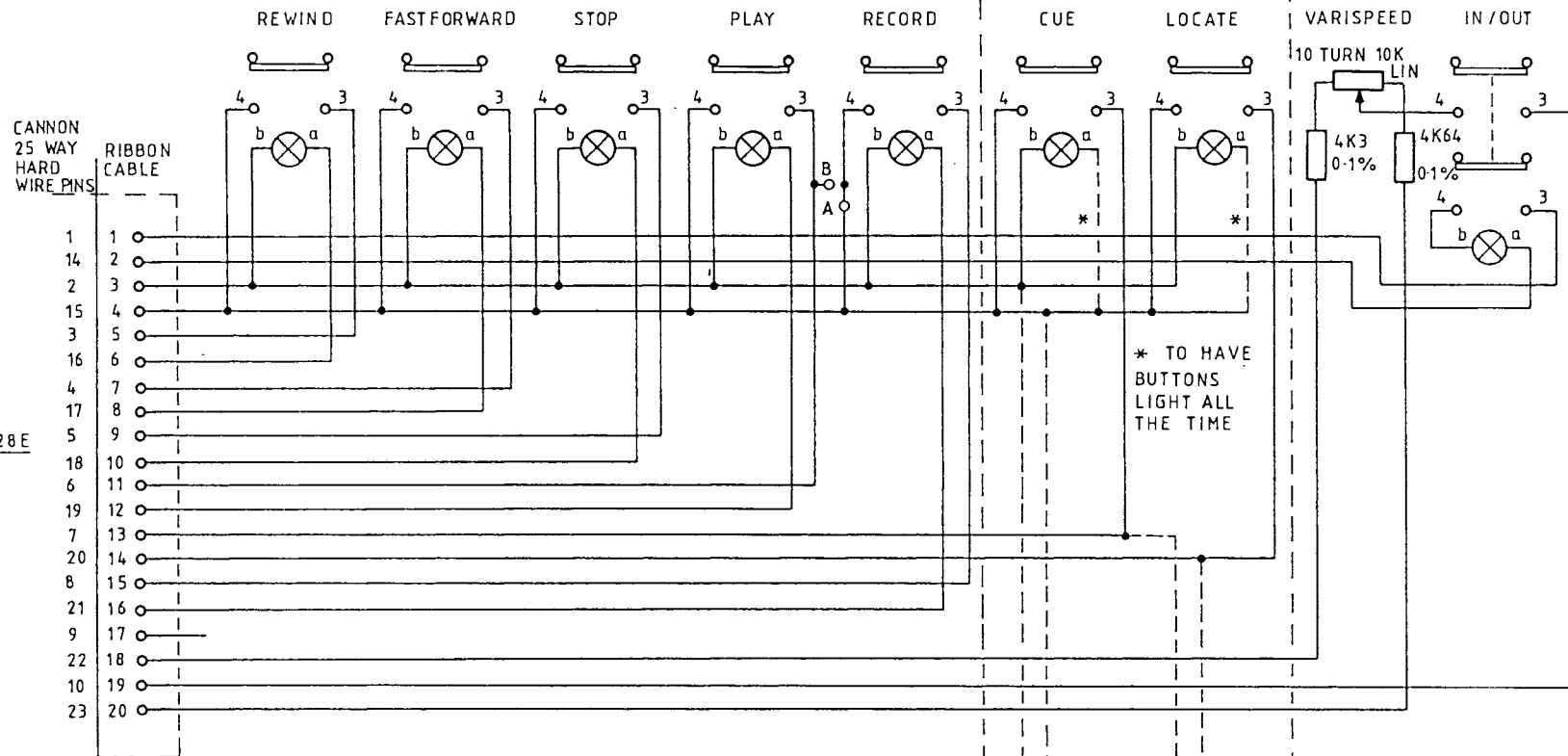


Title		2 TRACK REMOTE SWITCHES
Org.No.		T82070-71
Sol		State Logic
Stonesfield · Oxford · England		

682 TAPE REMOTES

THIS SECTION 5 BUTTON REMOTE

7 BUTTON REMOTE



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Rev.	Issue	Details
1	a	NEW DRG 9/84 CJ/DD
1	b	TITLE WAS:- 2 TRACK REMOTE SWITCHES. DRG. NO WAS T82070-71.785

Title
TAPE TRANSPORT REMOTE
SWITCHING CARD.

Drg.No. T82239-71

Solid State Logic

Stonesfield · Oxford · England

Solid State Logic

SL4000 G Console Service Manual

SECTION 14

SL 622G Patchable VCAs

Card No	Qty	Module	Description
82E320	4	622G	VCA Audio and Control Card
82E321	1	622G	AFL Mix Amps and Interface Card

SL 615E Dual Mic Amps

82E135	615E	Dual Mic Amp Card (optional)
82E146	615E	Dual Mic Amp Meter (optional)

Custom Modifications

82E148	631E	Dual Buffer/Switch Card (optional)
82E282	631E	Dual Balanced Buffer Card (optional)
82E330	631E	Balanced Input Buffer Card (optional)

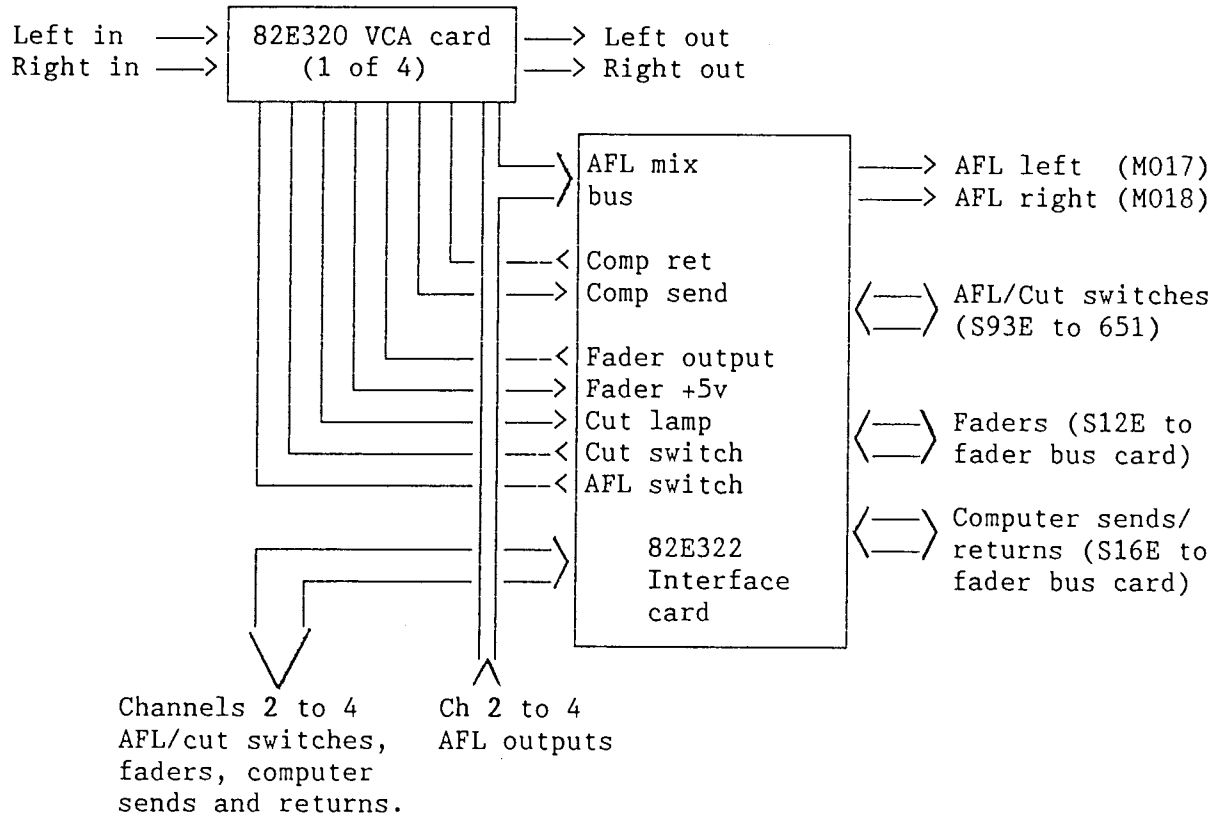
SL622 Patchable VCA's - General Description

The SL622 Patchable VCA rack contains four automated stereo faders with balanced audio inputs and outputs. The audio connections appear on the patchbay to allow insertion into any signal path. The faders are mounted below the SL651 master module, and operate as other SSL automated faders in that they may be selected to any of the VCA group busses as well as integrating with the SSL Studio Computer system. Each fader has associated 'AFL' and 'CUT' switches. 'AFL' puts the console into AFL and sends a mono signal to the AFL mix bus from the selected channel. Alternatively a PFL signal can be sent, this option is selected using links on the VCA circuit cards. 'CUT' cuts the channel and sends a 'cut' signal to the automation system, the 'CUT' lamp is driven from the computer return.

All the associated circuitry is contained in a eurocard rack mounted below the computer keyboard. In this rack are four identical cards, each of which contains the audio and VCA control electronics for one stereo channel. A fifth card contains the AFL mix amplifiers for the unit, along with ribbon connectors for the fader connections, computer sends and returns, and AFL and CUT switches. All five cards plug into a bus card which is also fitted with sixteen Molex connectors for the audio connections to the patch, plus two connectors carrying a stereo AFL output. The AFL signals are normally sent at line level to the SL652 Split Cues panel, where they are mixed to mono onto the AFL bus.

The patch connections appear as two rows of eight jacks. The inputs to the rack appear on the upper row, the outputs appearing on the lower row. These connections are usually immediately below the 'Echo Return' inputs.

SL622 Patchable VCAs - Interconnections



64 DIN 41612 Connector List			
From: 82E322 Patchable Stereo VCAs Mother board			
To: 82E320 Patchable Stereo VCA card			
No	Row A	No	Row C
1	0V	1	Cut Switch
2	Fader wiper	2	Cut Lamp
3	Fader +5V	3	AFL Switch
4	Fader Thumbwheel	4	
5	Fader 0V (M)	5	
6	0V (from buscard)	6	
7	VCA Left input (+)	7	
8	VCA Left input (-)	8	
9	0V (from buscard)	9	
10	VCA Right input (+)	10	
11	VCA Right input (-)	11	
12	0V (from buscard)	12	
13	VCA Left output (+)	13	
14	VCA Left output (-)	14	
15	0V (from buscard)	15	+18V
16	VCA Right output (+)	16	+18V
17	VCA Right output (-)	17	0V L
18	0V (from buscard)	18	0V M
19	VCA Computer send	19	0V R
20	0V (from buscard)	20	-18V
21	VCA Computer return	21	-18V
22	0V (from buscard)	22	
23		23	
24		24	
25		25	AFL Mix Bus L
26		26	0V
27		27	AFL Mix Bus R
28		28	0V
29		29	
30		30	
31		31	
32		32	

PATCHABLE VCAs: EUROCARD PINOUTS
23.Dec.1987

82E320 Patchable VCA card - Trim pot locations

o	← VR1 Distortion Trim Left
o	← VR2 Output Balance Left
o	← VR3 Fader Offset
o	← VR4 Fader Law
o	← VR5 Channel Balance
o	← VR101 Distortion Trim Right
o	← VR102 Output Balance Right

<u>64 DIN 41612 Connector List</u>			
From: 82E322 Patchable Stereo VCAs Mother board			
To: 82E321 Ribbon Interface card			
No	Row A	No	Row C
1	Fader 1 Computer Return	1	Cut Switch 1
2	Fader 2 Computer Return	2	Cut Lamp 1
3	Fader 3 Computer Return	3	AFL Switch 1
4	Fader 4 Computer Return	4	Cut Switch 2
5	OV	5	Cut Lamp 2
6	Fader 1 Computer Send	6	AFL Switch 2
7	Fader 2 Computer Send	7	Cut Switch 3
8	Fader 3 Computer Send	8	Cut Lamp 3
9	Fader 4 Computer Send	9	AFL Switch 3
10	OV	10	Cut Switch 4
11	Fader 1 Wiper	11	Cut Lamp 4
12	Fader 1 +5V	12	AFL Switch 4
13	Fader 1 Thumbwheel	13	
14	Fader 1 OV (M)	14	
15	Fader 2 Wiper	15	+18V
16	Fader 2 +5V	16	+18V
17	Fader 2 Thumbwheel	17	OV L
18	Fader 2 OV (M)	18	OV M
19	Fader 3 Wiper	19	OV R
20	Fader 3 +5V	20	-18V
21	Fader 3 Thumbwheel	21	-18V
22	Fader 3 OV (M)	22	
23	Fader 4 Wiper	23	
24	Fader 4 +5V	24	
25	Fader 4 Thumbwheel	25	AFL Mix Bus L
26	Fader 4 OV (M)	26	OV
27		27	AFL Mix Bus R
28		28	OV
29		29	AFL Mix Bus O/P L
30		30	OV
31		31	AFL Mix Bus O/P R
32		32	OV

S12E	64 DIN 41612 CONNECTOR	CIRCUIT
1	11A	Fader 1 Wiper
2	12A	Fader 1 +5V
3	13A	Fader 1 Thumbwheel
4	14A	Fader 1 0V
5	15A	Fader 2 Wiper
6	16A	Fader 2 +5V
7	17A	Fader 2 Thumbwheel
8	18A	Fader 2 0V
9		Not used
10		Not used
11		Not used
12		Not used
13	19A	Fader 3 Wiper
14	20A	Fader 3 +5V
15	21A	Fader 3 Thumbwheel
16	22A	Fader 3 0V
17	23A	Fader 4 Wiper
18	24A	Fader 4 +5V
19	25A	Fader 4 Thumbwheel
20	26A	Fader 4 0V

S16E	64 DIN 41612 CONNECTOR	CIRCUIT
1	1A	Fader 1 Computer Return
2	2A	Fader 2 Computer Return
3	3A	Fader 3 Computer Return
4	4A	Fader 4 Computer Return
5		Not used
6		Not used
7		Not used
8		Not used
9		Not used
10	5A	0V
11	6A	Fader 1 Computer Send
12	7A	Fader 2 Computer Send
13	8A	Fader 3 Computer Send
14	9A	Fader 4 Computer Send
15		Not used
16		Not used
17		Not used
18		Not used
19		Not used
20	10A	0V

S93E	64 DIN 41612 CONNECTOR	CIRCUIT
1	1C	Cut Switch 1
2	2C	Cut Lamp 1
3	3C	AFL Switch 1
4	4C	Cut Switch 2
5	5C	Cut Lamp 2
6	6C	AFL Switch 2
7	7C	Cut Switch 3
8	8C	Cut Lamp 3
9	9C	AFL Switch 3
10	10C	Cut Switch 4
11	11C	Cut Lamp 4
12	12C	AFL Switch 4
13		
14		
15		
16		
17		
18		
19		
20		

MOLEX 01			
CONNECTED FROM		CONNECTED TO	CIRCUIT
PIN 1		DIN 01C PIN 7A	I/P (+) 1L
PIN 2		0 Volts	SCREEN
PIN 3		DIN 01C PIN 8A	I/P (-) 1L

MOLEX 02			
CONNECTED FROM		CONNECTED TO	CIRCUIT
PIN 1		DIN 01C PIN 10A	I/P (+) 1R
PIN 2		0 Volts	SCREEN
PIN 3		DIN 01C PIN 11A	I/P (-) 1R

MOLEX 03			
CONNECTED FROM		CONNECTED TO	CIRCUIT
PIN 1		DIN 01C PIN 13A	O/P (+) 1L
PIN 2		0 Volts	SCREEN
PIN 3		DIN 01C PIN 14A	O/P (-) 1L

MOLEX 04			
CONNECTED FROM		CONNECTED TO	CIRCUIT
PIN 1		DIN 01C PIN 16A	O/P (+) 1R
PIN 2		0 Volts	SCREEN
PIN 3		DIN 01C PIN 17A	O/P (-) 1R

PATCHABLE VCAs: MOLEX CONNECTOR LIST
- 23.Dec.1987 -

MOLEX 05			
CONNECTED FROM		CONNECTED TO	CIRCUIT
PIN 1		DIN 02C PIN 7A	I/P (+) 2L
PIN 2		0 Volts	SCREEN
PIN 3		DIN 02C PIN 8A	I/P (-) 2L

MOLEX 06			
CONNECTED FROM		CONNECTED TO	CIRCUIT
PIN 1		DIN 02C PIN 10A	I/P (+) 2R
PIN 2		0 Volts	SCREEN
PIN 3		DIN 02C PIN 11A	I/P (-) 2R

MOLEX 07			
CONNECTED FROM		CONNECTED TO	CIRCUIT
PIN 1		DIN 02C PIN 13A	O/P (+) 2L
PIN 2		0 Volts	SCREEN
PIN 3		DIN 02C PIN 14A	O/P (-) 2L

MOLEX 08			
CONNECTED FROM		CONNECTED TO	CIRCUIT
PIN 1		DIN 02C PIN 16A	O/P (+) 2R
PIN 2		0 Volts	SCREEN
PIN 3		DIN 02C PIN 17A	O/P (-) 2R

PATCHABLE VCAs: MOLEX CONNECTOR LIST
- 23.Dec.1987 -

MOLEX 09			
CONNECTED FROM		CONNECTED TO	CIRCUIT
PIN 1		DIN 03C PIN 7A	I/P (+) 3L
PIN 2		0 Volts	SCREEN
PIN 3		DIN 03C PIN 8A	I/P (-) 3L

MOLEX 10			
CONNECTED FROM		CONNECTED TO	CIRCUIT
PIN 1		DIN 03C PIN 10A	I/P (+) 3R
PIN 2		0 Volts	SCREEN
PIN 3		DIN 03C PIN 11A	I/P (-) 3R

MOLEX 11			
CONNECTED FROM		CONNECTED TO	CIRCUIT
PIN 1		DIN 03C PIN 13A	O/P (+) 3L
PIN 2		0 Volts	SCREEN
PIN 3		DIN 03C PIN 14A	O/P (-) 3L

MOLEX 12			
CONNECTED FROM		CONNECTED TO	CIRCUIT
PIN 1		DIN 03C PIN 16A	O/P (+) 3R
PIN 2		0 Volts	SCREEN
PIN 3		DIN 03C PIN 17A	O/P (-) 3R

PATCHABLE VCAs: MOLEX CONNECTOR LIST
- 23.Dec.1987 -

MOLEX 13			
CONNECTED FROM		CONNECTED TO	CIRCUIT
PIN 1 PIN 2 PIN 3		DIN 04C PIN 7A 0 Volts DIN 04C PIN 8A	I/P (+) 4L SCREEN I/P (-) 4L

MOLEX 14			
CONNECTED FROM		CONNECTED TO	CIRCUIT
PIN 1		DIN 04C PIN 10A	I/P (+) 4R
PIN 2		0 Volts	SCREEN
PIN 3		DIN 04C PIN 11A	I/P (-) 4R

MOLEX 15			
CONNECTED FROM		CONNECTED TO	CIRCUIT
PIN 1 PIN 2 PIN 3		DIN 04C PIN 13A 0 Volts DIN 04C PIN 14A	O/P (+) 4L SCREEN O/P (-) 4L

MOLEX 16			
CONNECTED FROM		CONNECTED TO	CIRCUIT
PIN 1		DIN 04C PIN 16A	O/P (+) 4R
PIN 2		0 Volts	SCREEN
PIN 3		DIN 04C PIN 17A	O/P (-) 4R

PATCHABLE VCAs: MOLEX CONNECTOR LIST
- 23.Dec.1987 -

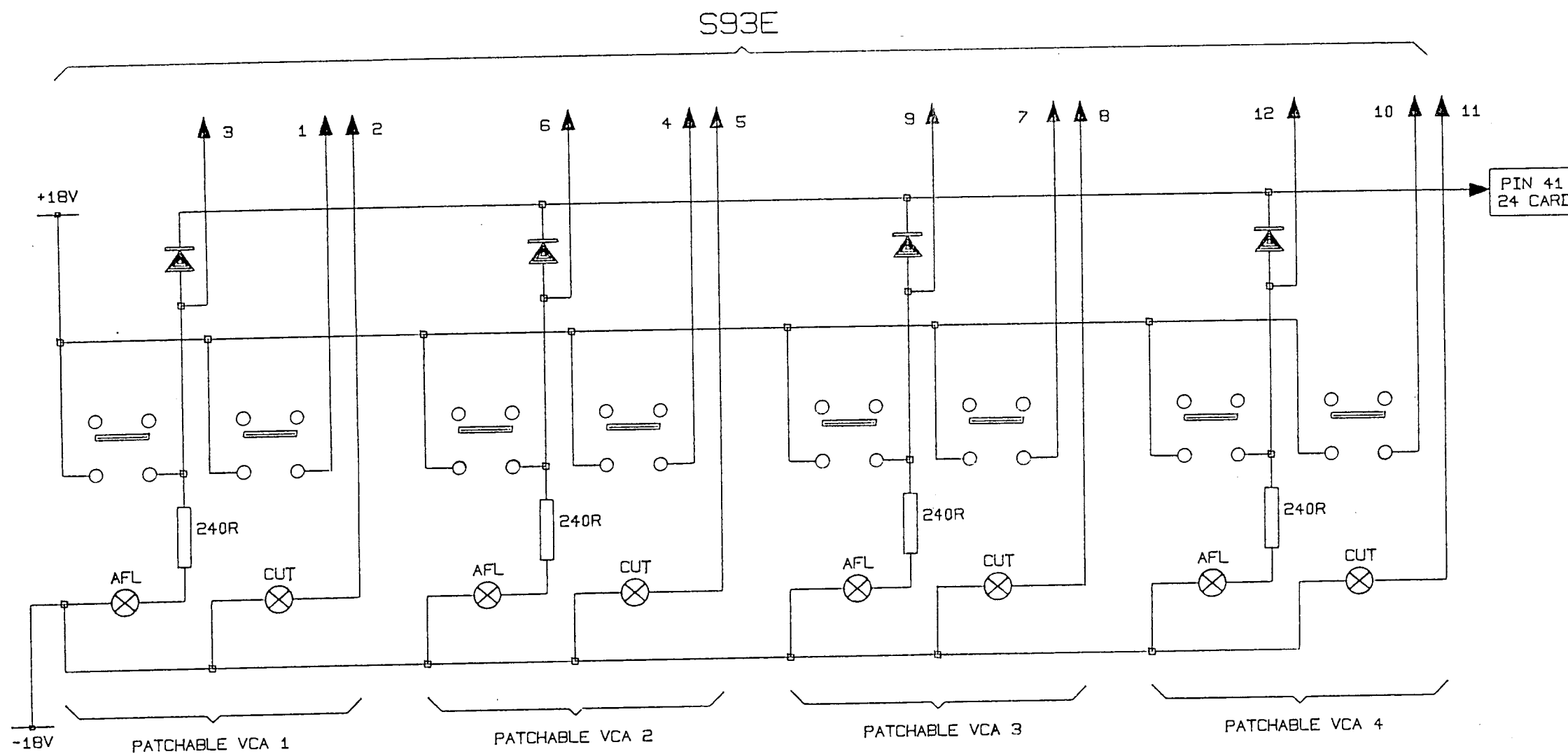
MOLEX 17		
CONNECTED FROM	CONNECTED TO	CIRCUIT
PIN 1	DIN 05C PIN 29C	AFL O/P (+) L
PIN 2	0 Volts	SCREEN
PIN 3	DIN 05C PIN 30C	AFL O/P (0V) L

MOLEX 18		
CONNECTED FROM	CONNECTED TO	CIRCUIT
PIN 1	DIN 05C PIN 31C	AFL O/P (+) R
PIN 2	0 Volts	SCREEN
PIN 3	DIN 05C PIN 32C	AFL O/P (0V) R

PATCHABLE VCAs: MOLEX CONNECTOR LIST
- 23.Dec.1987 -

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REV	ISSUE	DATE	DETAILS
A	0	18 AUG 87	NEW DRAWING DN EL



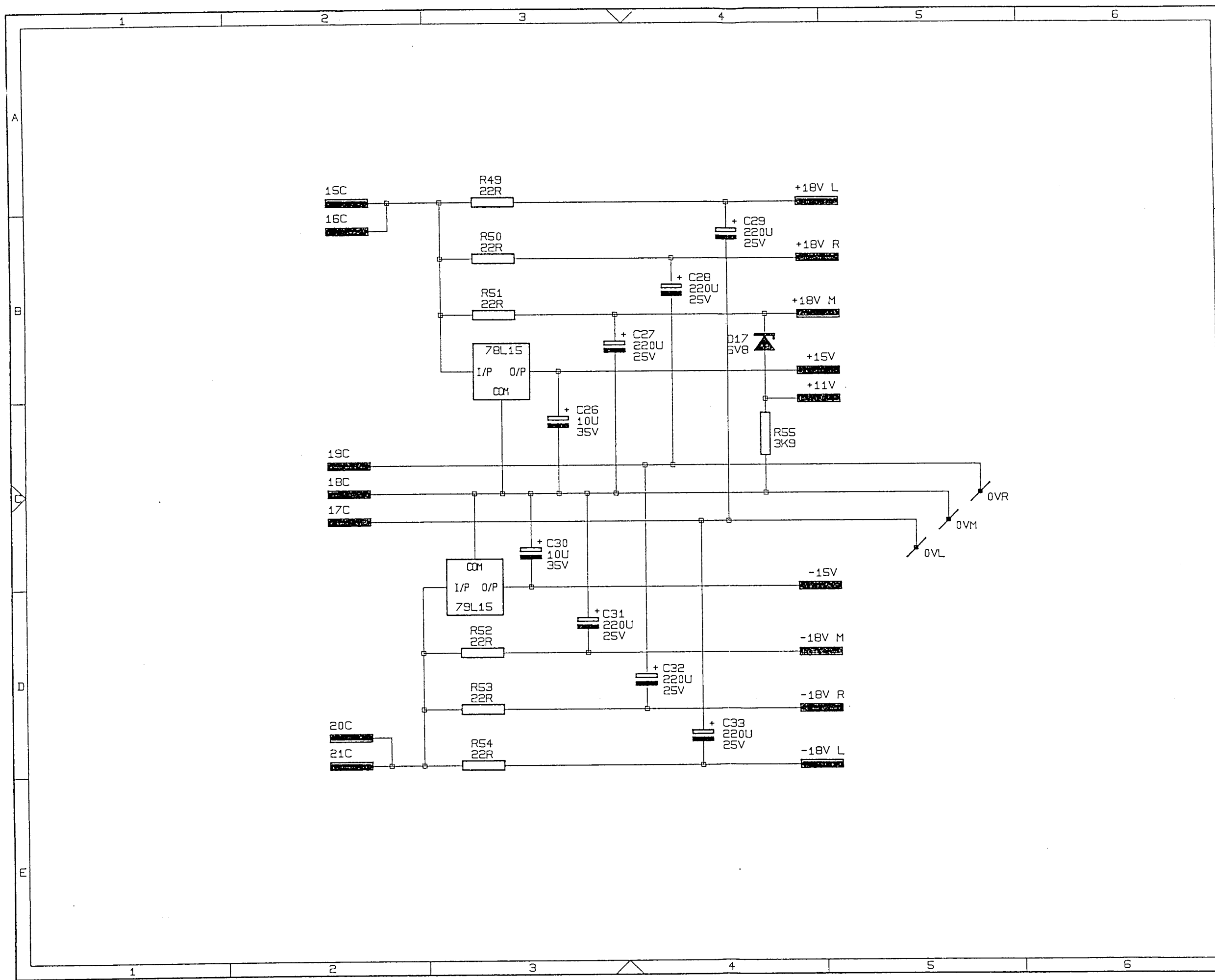
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A3

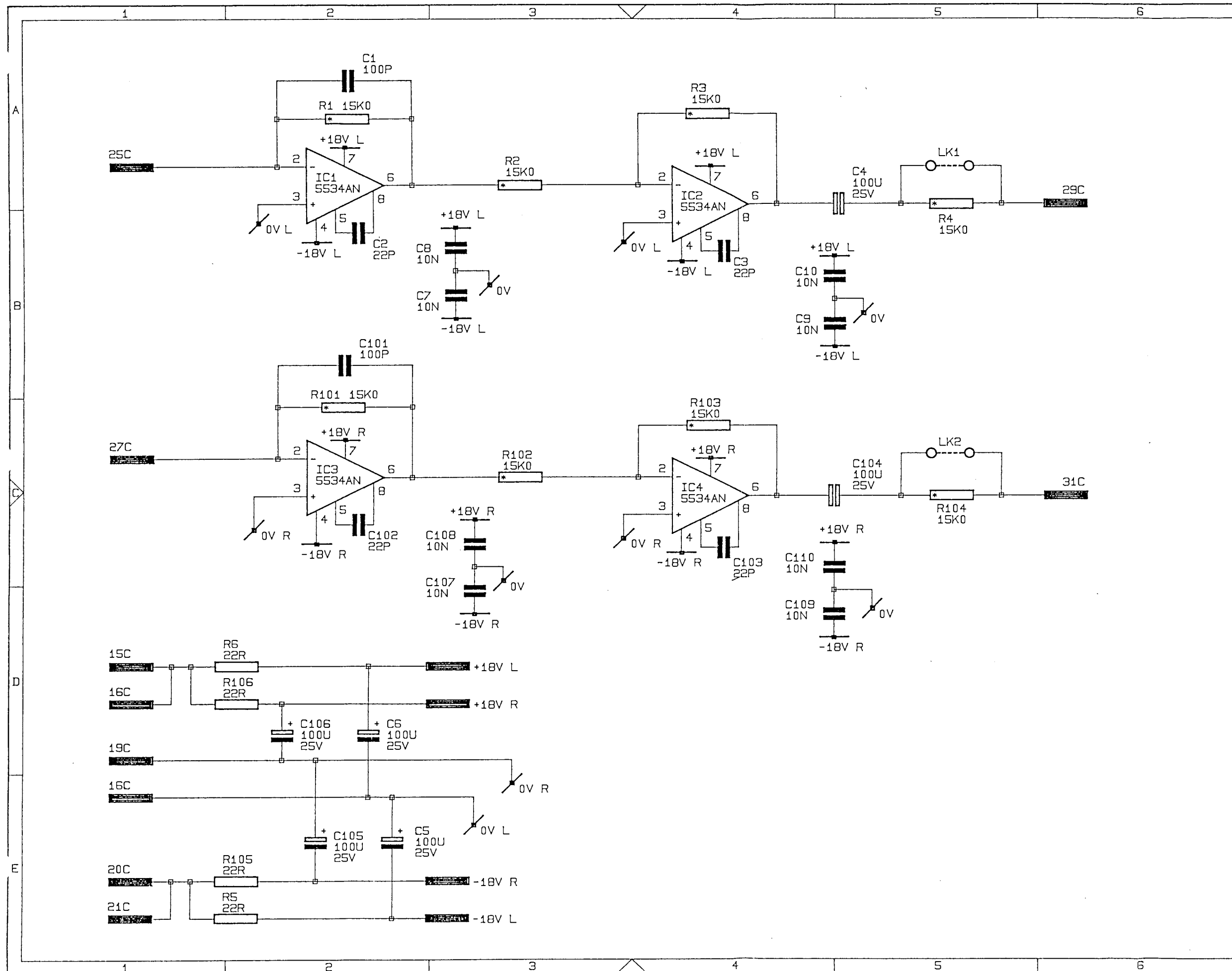
TITLE
PATCHABLE VCA'S
AFL AND CUT SWITCHES

DRG. NO. T0651G.51

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REV	ISSUE	DATE	DETAILS
0	A	21 SEP 87 D.N.	NEW DRAWING R.S.
0	B	13 OCT 87 D.N.	MOVED D17 & R55 FROM 18C/-18V M TO +18V M/18C. R.S.
0	C	23 NOV 87 D.N.	C27-29, C31-33 WERE 100U NOW 220U. R55 WAS 1K NOW 3K9. R.S.
0	D	10 DEC 87	35V ADDED TO C26 C30 25V ADDED TO C27-29 C31-33 STEFF
0	E	21 APR 93	CIRCUIT CORRECTION 0VL WAS 16C NOW 17C MM
1	A	21 APR 93	ECO 4K/439 NO CHANGE MM
SHT 2 OF 2			
REF: T6S1GD A3			
TITLE SL651G G-SERIES STEREO PATCHABLE VCA'S			
DRG. NO. T82320.72			
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REV	ISSUE	DATE	DETAILS
0	A	23 NOV 87 D.N.	NEW DRAWING R.S.
0	B	10 DEC 87	5534 NOW 5534AN 25V ADDED TO C5 C6 C105 C106 STEFF
1	A	18 MAR 88 R.	C1 C101 WERE 100N NOW 100P ECO4K/32G STEFF

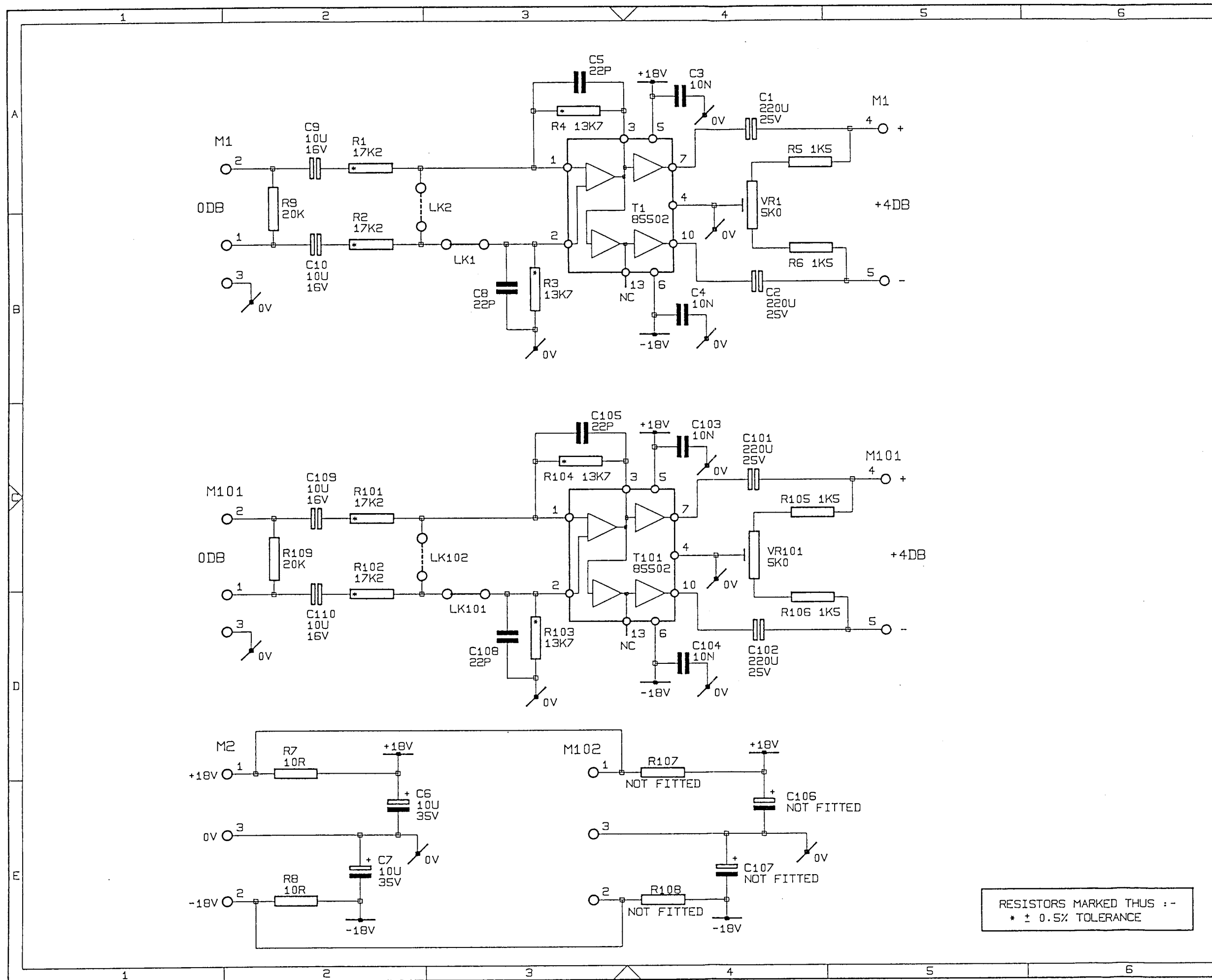
SHEET 1 OF 1

REF: T622A A3

TITLE SL622G
G-SERIES STEREO
PATCHABLE VCAS
AFL MIX AMP

DRG. NO. T82321.71

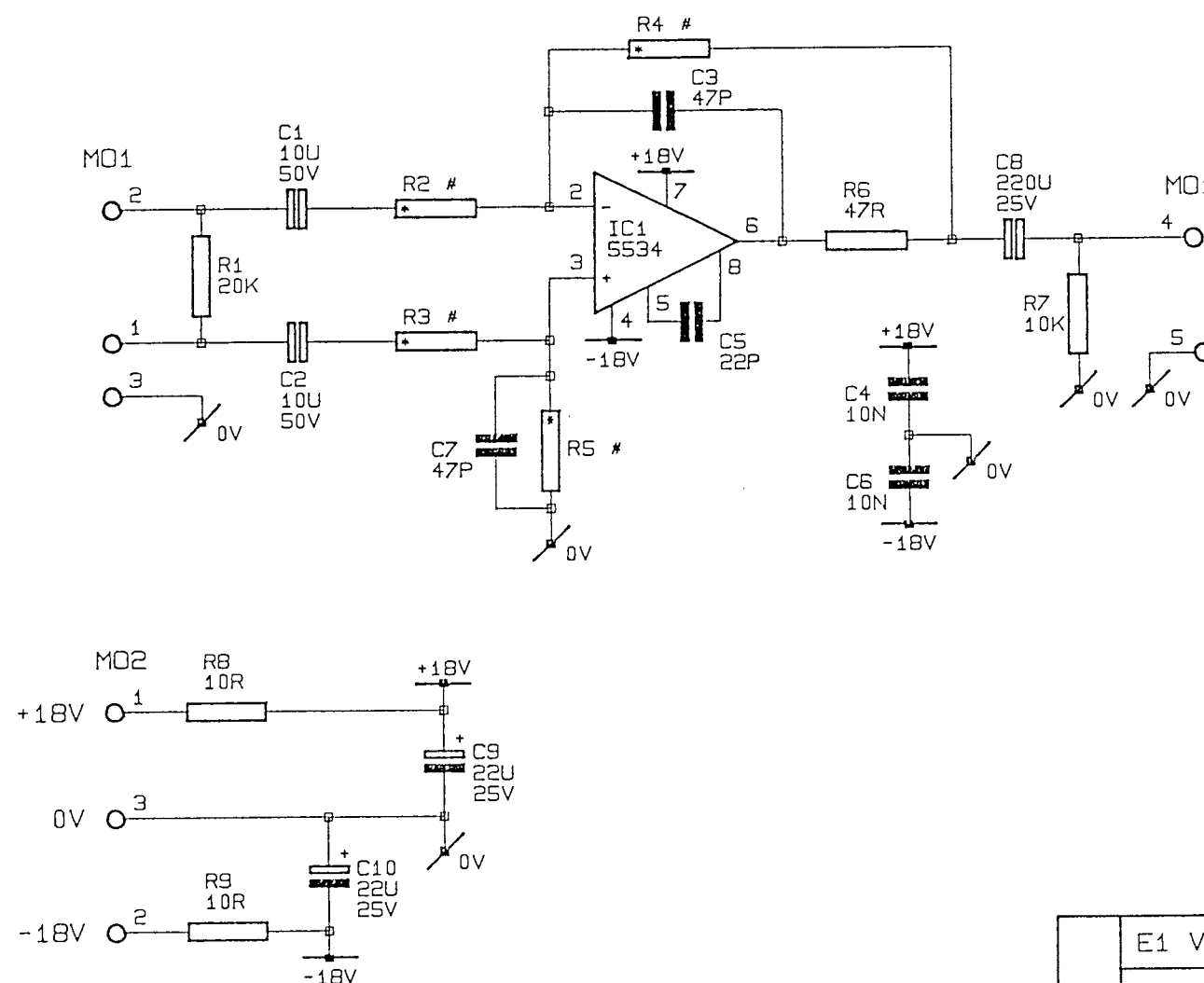
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REV	ISSUE	DATE	DETAILS
	A	1 MAR 88	NEW DRAWING AD BC STEFF
1	A	2 NOV 92	ECO 4K/960 MM C5 C8 C105 C108 WERE 47 NOW 22P C106-7 WERE 10U NOW NOT FITTED R107-8 WERE 10R NOW NOT FITTED M2,1 LINKED TO M102,1 & M2,2 LINKD TO M102,2
SHEET 1 OF 1			
REF: T631A A3			
TITLE 631E/V DUAL BALANCED BUFFER CARD			
DRG.NO. T82282:71			
Solid State Logic			

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REV	ISSUE	DATE	DETAILS
0	A	20 FEB 90	NEW DRAWING RP STEFF
0	B	5 MAR 90	C1:2 WERE 100U 16V NOW 10U 50V. R2-4 WERE 8K2 & 13K0 NOW 19K1 & 30K1



	E1 VERSION	E2 VERSION
	+4DB	-4DB
R2	19K1	30K1
R3	19K1	30K1
R4	30K1	19K1
R5	30K1	19K1

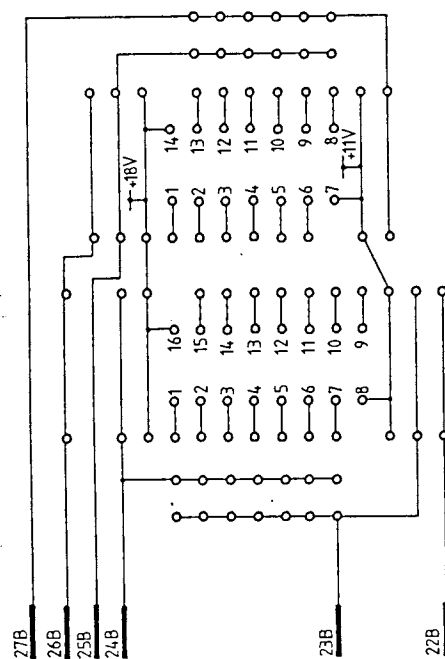
SHEET 1 OF 1

REF: T631B A3

TITLE 631
BALANCED INPUT BUFFER

DRG. NO. T82330.71

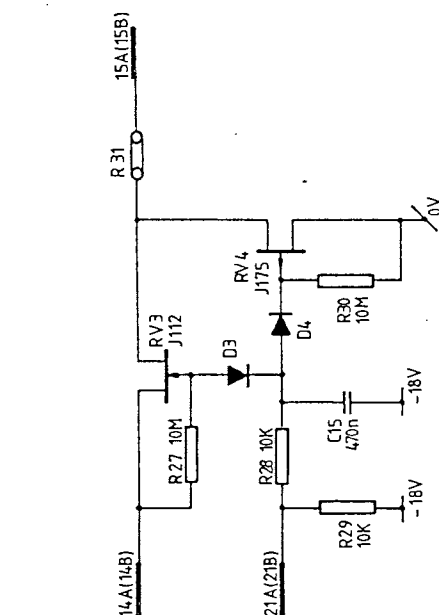
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COMPONENTS MARKED $\emptyset$ NOT FITTED AS STANDARD.
CIRCUITRY WITHIN BROKEN LINE TWICE PER CARD. SECOND CHANNEL COMPONENT NUMBERS PREFIXED 100.
(EG R30 - R130.)

RESISTORS, MARKED THUS :-
* = $\pm 0.5\%$ TOLERANCE
*** = $\pm 0.1\%$ TOLERANCE

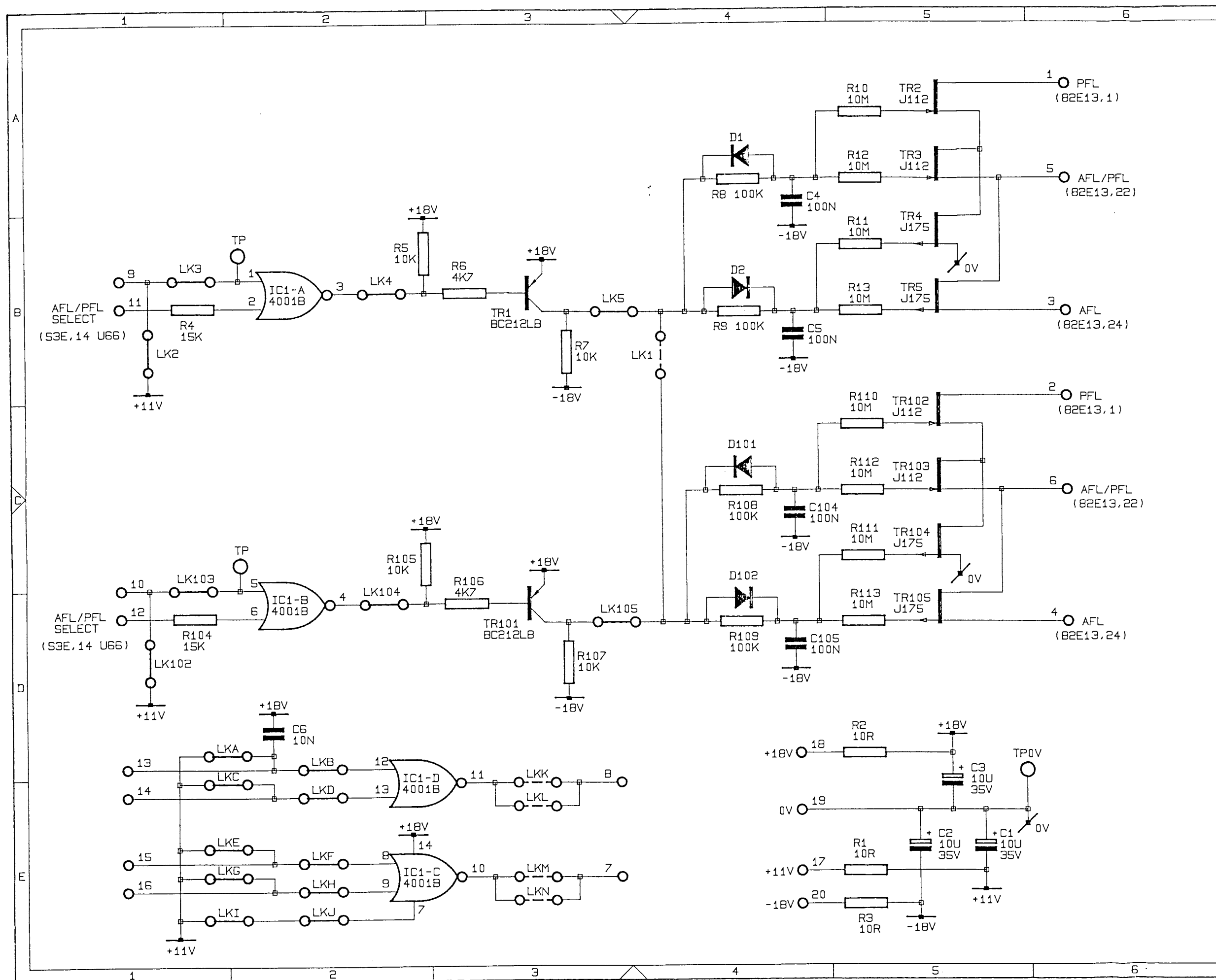
EDGE CONNECTOR = 64WAY A.B DIN 46142



Rev.	Issue	Chkd	Details
1	a	PL Nov85	REDRAWN AND R11,12, 20, 21, 32 AMENDED
1	b	JH Apr86	R31 TO LINK. R57 WAS 270R. NOW 240R. NOTE COMP MARKED ☒ ADDED.
1	c	PN Nov 86	E.CON. 23A & 23B AMENDED TO 28A & 28B

Drg. No. T82148-71

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REV	ISSUE	DATE	DETAILS
0	A	23 OCT 89	NEW DRAWING STEFF
1	A	23 OCT 89	ECO 4K/340 PIN 19 LINKED TO TP0V STEFF

SHEET 1 OF 1

REF. T82313.71

TITLE
611E/V
DUAL SWITCH CARD

DRG. NO.
T82313.71

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Rev.	Issue	Chkd	Details
4	a	BC Feb 86	REDRAWN
4	b	Feb .92	Circuit around SW3 corrected MM

Title	DUAL MIC AMPS
Drg. No.	T82135-71
Solid State Logic	
14 - 21	

