

AMPLIFIER BOARD
SA 900 B

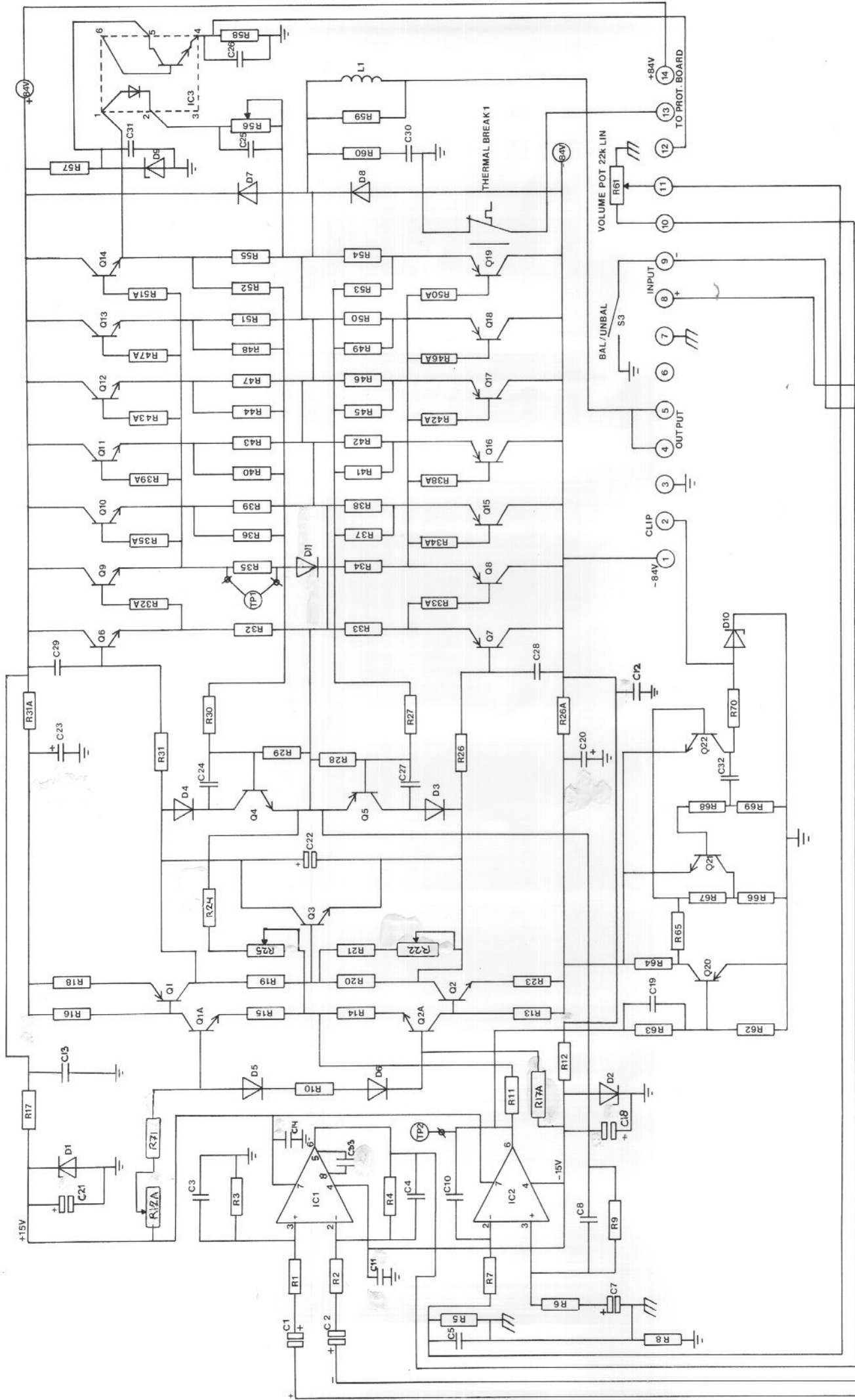
designer: H. Schouten
drawn: P.S. van Alphen

note: number: A4 1
date: 11-09-83

stage accompany

NO.	CAPACITORS	NO.	TRANSISTORS
C 1	10UF 35V TANTALUM	Q 1	MJE 350 PNP TRANSISTOR
C 2	10UF 35V TANTALUM	Q 2	MJE 340 NPN TRANSISTOR
C 3	68PF CERAMIC	Q 3	BD 235 NPN BIAS TRANSISTOR
C 4	68PF CERAMIC	Q 4	MPS A-43 NPN TRANSISTOR
C 5	220PF CERAMIC	Q 5	MPS A-93 PNP TRANSISTOR
C 6	33PF CERAMIC	Q 6	MJE 340 NPN TRANSISTOR
C 7	47UF ELECTROLYTIC	Q 7	MJE 350 PNP TRANSISTOR
C 8	33PF CERAMIC	Q 8	MJ 15004 PNP POWER TRANSISTOR
C 9	47PF CERAMIC	Q 9	MJ 15003 NPN POWER TRANSISTOR
C10	68PF CERAMIC	Q10	MJ 15003 NPN POWER TRANSISTOR
C11	100NF 250V	Q11	MJ 15003 NPN POWER TRANSISTOR
C12	100NF 250V	Q12	MJ 15003 NPN POWER TRANSISTOR
C13	100NF 250V	Q13	MJ 15003 NPN POWER TRANSISTOR
C14	100NF 250V	Q14	MJ 15003 NPN POWER TRANSISTOR
C15	120PF CERAMIC	Q15	MJ 15004 PNP POWER TRANSISTOR
C16	22UF 100V ELECTROLYTIC	Q16	MJ 15004 PNP POWER TRANSISTOR
C17	22UF 100V ELECTROLYTIC	Q17	MJ 15004 PNP POWER TRANSISTOR
C18	120PF CERAMIC	Q18	MJ 15004 PNP POWER TRANSISTOR
C19	15NF	Q19	MJ 15004 PNP POWER TRANSISTOR
C20	100NF 250V	Q20	MPS A-93 PNP TRANSISTOR
C21	120PF CERAMIC	Q21	MPS A-43 NPN TRANSISTOR
C22	100NF 32V CERAMIC	Q22	MPS A-43 NPN TRANSISTOR
C23	100NF 250V		
C24	47NF 250V		
C25	1NF CERAMIC		
C26	1NF CERAMIC		
C27	47NF 250V		
C28	1NF CERAMIC		
C29	1NF CERAMIC		
C30	100NF 250V		
C31	100NF 250V		
C32	470NF 100V		
NO.	DIODES	NO.	RESISTORS
D 1	10V ZENER DIODE	R 1	15K - 1%
D 2	10V ZENER DIODE	R 2	15K - 1%
D 3	1N4148	R 3	22K - 1%
D 4	1N4148	R 4	22K - 1%
D 5	1N4005	R 5	47K - 1%
D 6	1N4005	R 6	2K49 - 1%
D 7	1N4005	R 7	1KOHM - 1%
D 8	1N4005	R 8	1KOHM - 1%
D 9	16V ZENER DIODE	R 9	47K - 1%
D10	16V ZENER DIODE	R10	4K7 - 1%
		R11	300 OHMS 1%
		R12	3K9-2W
		R13	680 OHMS
		R14	15K
		R15	15K
		R16	680 OHMS
		R17	3K9-2W
		R18	100 OHMS
		R19	680 OHMS
		R20	360 OHMS - 1%
		R21	300 OHMS - 1%
		R22	100 OHMS POTMETER
		R23	180 OHMS
		R24	100 OHMS POTMETER
		R25	180 OHMS
		R26	100 OHMS
		R27	1K
		R28	47K - 1%
		R29	47K - 1%
		R30	1K
NO.	INTEGRATED CIRCUITS		
IC1	NE5534AN OP AMP.		
IC2	LM318P OP AMP.		
IC3	4N26 OPTO COUPLER.		
NO.	INDUCTORS		
L 1	0,5UH INDUCTOR.		

NO.	RESISTORS	NO.	SWITCHES
R31	100 OHMS	S 4	THERMAL SWITCH 85°C.
R32	100 OHMS		
R33	100 OHMS		
R34	2 OHMS 7 2W		
R35	2 OHMS 7 2W		
R36	10 OHMS		
R37	10 OHMS		
R38	.33 OHMS 5W		
R39	.33 OHMS 5W		
R40	10 OHMS		
R41	10 OHMS		
R42	.33 OHMS 5W		
R43	.33 OHMS 5W		
R44	10 OHMS		
R45	10 OHMS		
R46	.33 OHMS 5W		
R47	.33 OHMS 5W		
R48	10 OHMS		
R49	10 OHMS		
R50	.33 OHMS 5W		
R51	.33 OHMS 5W		
R52	10 OHMS		
R53	10 OHMS		
R54	.33 OHMS 5W		
R55	.33 OHMS 5W		
R56	1K		
R57	47K		
R58	100K		
R59	1 OHM 2W		
R60	33 OHMS 5W		
R62	12K		
R63	36K 1%		
R64	100K		
R65	100K		
R66	10K		
R67	47K		
R68	4K7		
R69	100K		
R70	2K2		



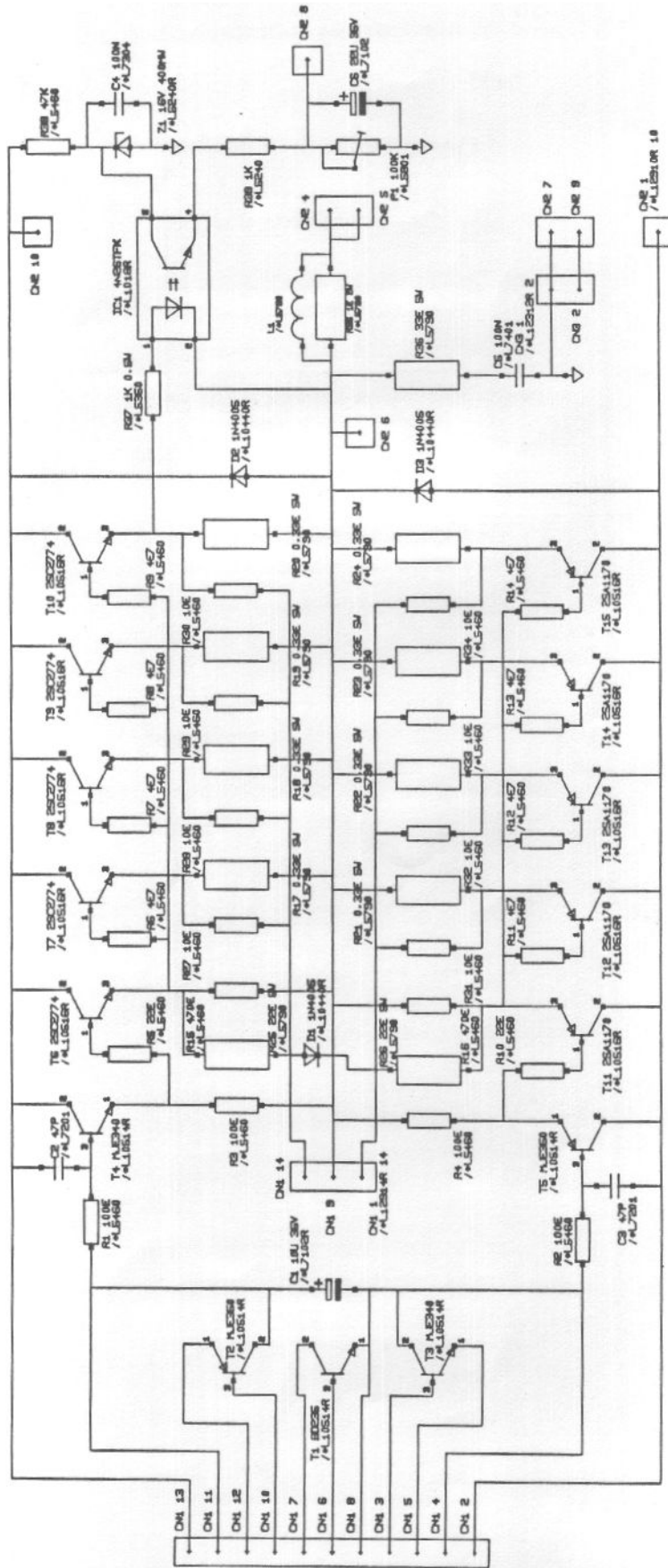
Valid from serial nr 840918302

a: Adjust VR3 for symmetrically output clipping
 b: Adjust VR1 for 0.560V across R35 (TP1)
 c: Adjust VR2 and check that pin 6 of IC2 is clipping at the same time as the output at 8.2.

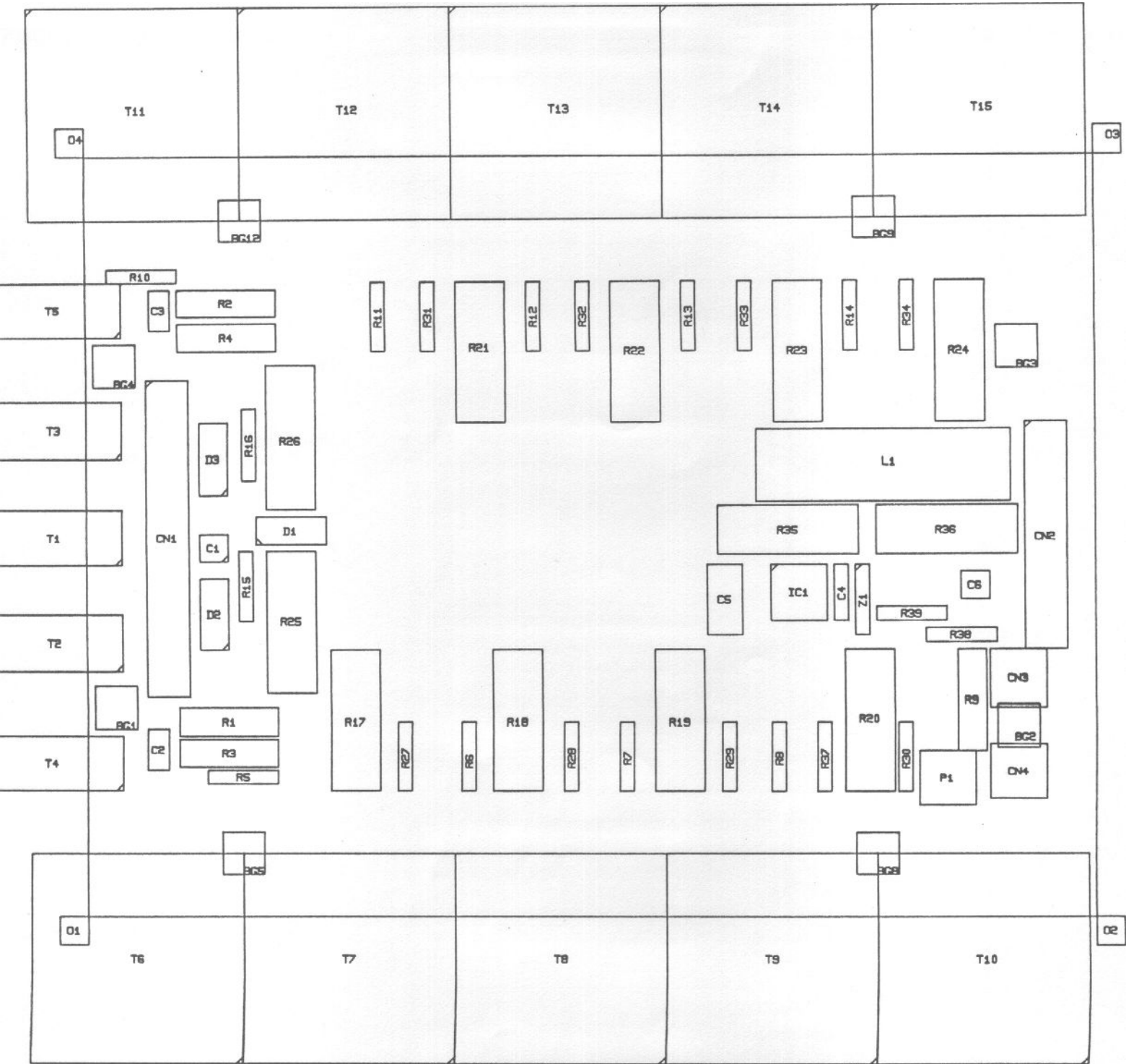
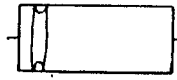
CAPACITORS		TRANSISTORS	
NO.		NO.	
C 1	10UF 35V TANTALUM	Q 1A	MPSA 43 NPN
C 2	10UF 35V TANTALUM	Q 2A	MPSA 93 PNP
C 3	33PF CERAMIC	Q 3	BD 235 NPNBIAS
C 4	33PF CERAMIC	Q 4	MPSA 43 NPN
C 5	220PF CERAMIC	Q 5	MPSA 93 PNP
C 7	1000UF 16V ELECTROLYTIC	Q 6	MJE 340 NPN
C 8	120PF CERAMIC	Q 7	MJE 350 PNP
C10	33PF CERAMIC	Q 8	25A 1494 PNP
C11	100NF 250V	Q 9	25C 3858 NPN
C12	100NF 250V	Q10	25C 3858 NPN
C13	100NF 250V	Q11	25C 3858 NPN
C14	100NF 250V	Q12	25C 3858 NPN
C18	22UF 100V ELECTROLYTIC	Q13	25C 3858 NPN
C19	120PF CERAMIC	Q14	25C 3858 NPN
C20	10UF 35V	Q15	25A 1494 PNP
C21	22UF 100V ELECTROLYTIC	Q16	25A 1494 PNP
C22	10U 16V TANTALUM	Q17	25A 1494 PNP
C23	10UF 35V	Q18	25A 1494 PNP
C24	47NF 250V	Q19	25A 1494 PNP
C25	15NF 400V	Q20	MPSA 93 PNP
C26	680NF 100V	Q21	MPSA 43NPN
C27	47NF 250V	Q22	MPSA 43NPN
C28	47PF CERAMIC		
C29	47PF CERAMIC		
C30	100NF 250V		
C31	100NF 250V		
C32	470NF 100V		
C33	33PF CERAMIC		
DIODES		RESISTORS	
NO.		NO.	
D 1	15V ZENER DIODE	R 1	15KO- 1%
D 2	15V ZENER DIODE	R 2	15KO- 1%
D 1	1N4148	R 3	14KO- 1%
D 4	1N4148	R 4	14KO- 1%
D 5	1N4148	R 5	22KI- 1%
D 6	1N4148	R 6	200E - 1%
D 7	1N4005	R 7	1KO - 1%
D 8	1N4005	R 8	JEO - 1%
D 9	16V ZENER DIODE	R 9	6K2 - 1%
D10	16V ZENER DIODE	R10	511E- 1%
D11	1N4005	R11	2K1 - 1%
INTEGRATED CIRCUITS		R12	3K9 - 2W
NO.		R12A	5K POTMETER
IC1	NE5534N OP AMP.	R13	100E- 1%
IC2	TL071CP OP AMP.	R14	15KO-1%
IC3	4N26 OPTO COUPLER.	R15	15KO-1%
INDUCTOR		R16	100E -1%
NO.		R17	3KG -2W
L 1	0,5UH INDUCTOR	R18	681E -1%
		R19	365E -1%
		R20	68IE -1%
		R21	150E -1%
		R22	100E POTMETER
		R23	681E -1%
		R25	25K POTMETER
		R26	100E -1%
		R26A	100E
		R27	100E -1%
		R28	100E -1%
		R29	100E -1%
		R30	100E -1%

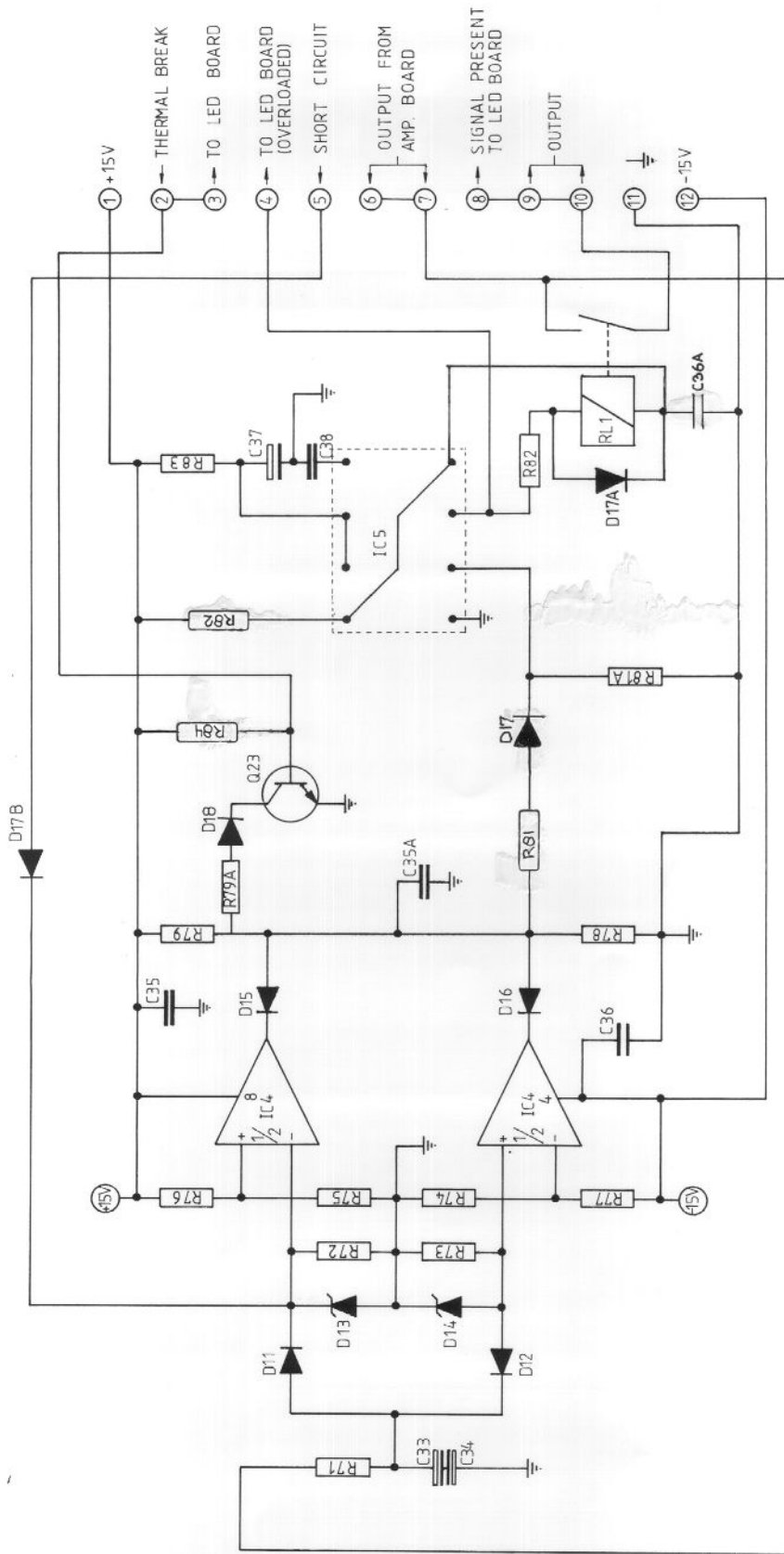
NO.	RESISTORS	NO.	SWITCHES
R31	100E	S 4	THERMAL SWITCH 85° C.
R31A	100E		
R32	100E		
R32A	22E		
R33	100E		
R33A	22E		
R34	22E 2W		
R34A	4,7E		
R35	22E 2W		
R35A	4,7E		
R36	10E		
R37	10E		
R38	0,33E 5W		
R38A	4,7E		
R39	0,33E 5W		
R39A	4,7E		
R40	10E		
R41	10E		
R42	0,33e 5W		
R42A	4,7E		
R43	0,33E 5W		
R43A	4,7E		
R44	10E		
R45	10E		
R46	0,33E 5W		
R46A	4,7E		
R47	0,33E 5W		
R47A	4,7E		
R48	10E		
R49	10E		
R50	0,33E 5W		
R50A	4,7E		
R51	0,33E 5W		
R51A	4,7E		
R52	10E		
R53	10E		
R54	0,33e 5W		
R55	0,33E 5W		
R56	2K5 POTMETER		
R57	47K		
R58	100K		
R59	1E 2W		
R60	33E 5W		
R62	1K0 -1%		
R63	19KI -1%		
R64	100K -1%		
R65	100K -1%		
R66	10K0 -1%		
R67	47K5 -1%		
R68	4K75 -1%		
R69	100K -1%		
R70	3 kg-2W		
R71	2K15 -1%		

860828 RV



860828 RK





note:	SA 500/500	number:	2
PROTECTION BOARD		designer:	H. Schouten
drawn:		P.S. van Alphen	
		date: 13-04-84	

NO.	CAPACITORS
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C33	10UF 35V ELECTROLYTIC
C34	10UF 35V ELECTROLYTIC
C35	100NF 100V
C35A	100NF 100V
C36	100NF 100V
C36A	100NF 100V
C37	47UF 25V ELECTROLYTIC
C38	100NF 100V MKT

NO.	DIODES
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D11	1N4005
D12	1N4005
D13	10V ZENER DIODE
D14	10V ZENER DIODE
D15	1N4005
D16	1N4005
D17	1N4005
D17A	1N4005
D17B	1N4005
D18	1N4005

NO.	INTEGRATED CIRCUITS
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Ic4	TL 072
Ic5	NE 555

NO.	TRANSISTORS
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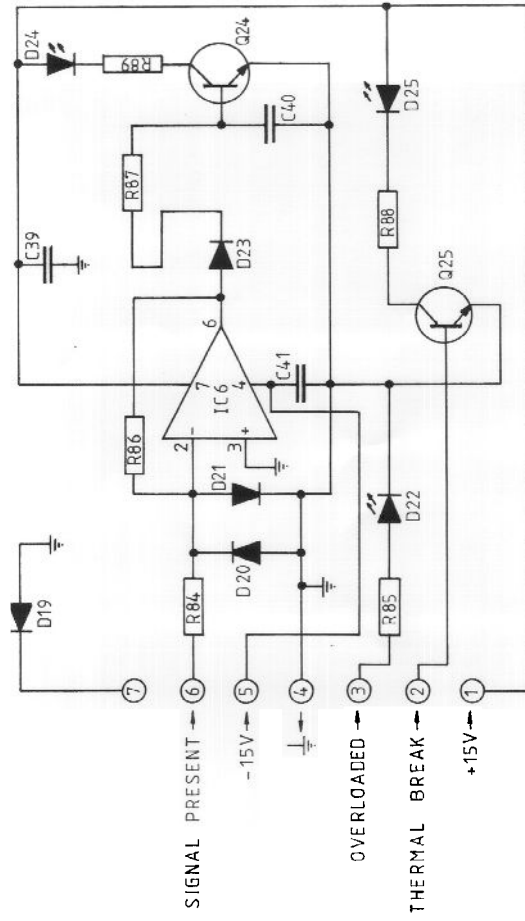
Q23	BC 547 B
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NO.	RESISTORS
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R71	182K 1%
R72	100K 1%
R73	100K 1%
R74	22KI 1%
R75	22KI 1%
R76	100K 1%
R77	100K 1%
R78	100K 1%
R79	47K5 1%
R79A	22KI 1%
R81	47K5 1%
R81A	100K 1%
R82	100E 1%
R83	62KO 1%
R84	4K75 1%

NO.	RELAYS
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RL1	RAPA 011.51-22-001
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SA 900 B / 500B/K LED BOARD	note: A ₄	number: 3
designer: H. Schouten	date: 14-04-84	
drawn: P. van Alpen		

CAPACITORS

C39 - 100 nF 100 V. MkT
C40 - 100 nF 100 V. MkT
C41 - 100 nF 100 V. MkT

DIODES

D 19 - Led 5x5 mm. RED
D 20 - 1N 4148
D 21 - 1N 4148
D 22 - Led 5x5 mm. RED
D 23 - 1N 4148
D 24 - Led 5x5 mm. GREEN
D 25 - Led 5x5 mm. RED

INTEGRATED CIRCUITS

IC6 - TL 081

RESISTORS

R 84 - 10 KO	1%
R 85 - 470E	1%
R 86 - 47K5	1%
R 87 - 10 KO	1%
R 88 - 470E	1%
R 89 - 470E	1%

TRANSISTORS

Q 24 - BC 517
Q 25 - BC 182/BC 547

NO. CAPACITORS

C43	01UF 630V
C43A	100NF 250V
C45	220UF 25V ELECTROLYTIC
C46	220UF 25V ELECTROLYTIC
C47	10000UF 100V ELECTROLYTIC
C48	10000UF 100V ELECTROLYTIC
C49	100NF 100V MKT
C50	100NF 100V MKT

NO. DIODES

D26	DIODE RECTIFIER KBPC 25-06
D27	DIODE RECTIFIER B80 C1500
D26A	LED 3 MM. RED
D28	IN4005
D29	IN4005

NO. INTEGRATED CIRCUITS

REG 1	7815
REG 2	7915

NO. FUSES

F1	FUSE 6,3A SLOW BLOW 5x20 MM.
F2	FUSE 1 A SLOW BLOW 5x20 MM.
F3	FUSE 1 A SLOW BLOW 5x20 MM.

NO. RESISTORS

R90	1K5 9W 5%
R91	8K2 9W 5% / 4K7 5W (SA500)
R92	681E 1%

NO. SWITCHES

S1	= POWER SWITCH C&K
S2	= GROUND LIFT SWITCH C&K 7101
S3	THERMAL SWITCH 55°C.

NO. TRANSFORMER

T1	= TOROIDAL TRANSFORMER 500 VA T.B.S.
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