

**"MULTIGATE"**

**SERVICE  
MANUAL**

**DNR**

ELECTRONICA B.V.

produktie en ontwikkeling van  
geluidsmengpanelen en accessoires

Date: 26-01-1988

R & D department

PARTLIST : MULTIGATE

print index: A

PartNr	Coordinate	Value	Notes	ArtNr
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MULTIGATE (basisprint) \*\*\*\*\*

R1	a3	8 k 25	1%	0520
R2	a3	8 k 25	1%	0520
R3	b2	39 k 2	1%	0865
R4	b2	39 k 2	1%	0865
R5	a1	47 k 5	1%	0866
R6	a1	47 k 5	1%	0866
R7	a1	10 k 0	5%	0741
R8	a1	6 k 8	5%	0739
R9	a1	1 k 0	5%	0729
R10	b2	1 k 0	5%	0729
R11	b2	6 k 0	5%	0739
R12	b2	33 E	5%	0711
R13	b2	10 E	5%	0705
R14	b1	10 E	5%	0705
R15	c2	20 k 0	1%	0856
R16	b1	15 k 0	5%	0743
R17	c2	100 E	5%	0717
R18	c1	3 k 24	1%	0763
R19	c1	3 k 24	1%	0763
R20	c2	100 E	5%	0717
R21	e8	10 k 0	5%	0741
R22	e8	10 k 0	5%	0741
R23	c2	3 k 48	1%	0784
R24	c2	10 k 0	5%	0741
R25	c2	47 k 0	5%	0749
R26	c2	100 E	5%	0717
R27	e1	100 E	5%	0717
R28	c2	8 k 2	5%	0740
R29	b2	39 k 0	5%	0748
R30	b2	47 k 0	5%	0749
R31	a4	100 E	5%	0717
R32	a4	47 k 0	5%	0749
R33	f4	3 k 9	5%	0736
R34	f5	6 k 8	5%	0739
R35	f4	3 k 3	5%	0735
R36	g5	5 k 6	5%	0739
R37	e1	1 M 0	5%	0765
R38	g2	560 E	5%	0726
R39	g3	560 E	5%	0726
R40	g2	100 k	5%	0753
R41	f2	27 k 0	5%	0746
R42	g3	680 E	5%	0727
R43	f3	100 k	5%	0753
R44	f3	680 E	5%	0727

PartNr	Coordinate	Value	Notes	ArtNr
R45	f3	27 k 0	5%	0746
R46	f2	100 E	5%	0717
R47	f3	47 k 0	5%	0749
R48	g2	47 k 0	5%	0749
R49	g1	330 k	5%	0759
R50	g1	33 k 0	5%	0747
R51	g1	3 k 9	5%	0736
R52	g1	470 k	5%	0761
R53	f1	4 k 75	1%	0844
R54	f1	4 k 75	1%	0844
R55	g1	4 k 75	1%	0844
R56	f1	4 k 75	1%	0844
R57	f1	4 k 75	1%	0844
R58	f1	4 k 75	1%	0844
R59	e2	100 E	5%	0717
R60	e2	270 k	5%	0758
R61	f1	8 k 2	5%	0740
R62	f1	8 k 2	5%	0740
R63	f4	2 k 2	5%	0733
R64	f4	2 k 0	1%	0835
R65	f4	309 E	1%	0702
R66	f5	6 k 8	5%	0739
R67	f5	1 k 65	1%	0579
R68	f5	75 k 0	1%	0870
R69	f6	4 k 7	5%	0737
R70	f6	330 E	5%	0723
R71	f5	39 k 0	5%	0748
R72	e5	8 k 2	5%	0740
R73	e5	8 k 2	5%	0740
R74	e5	100 k	5%	0753
R75	d5	39 E	5%	0712
R76	e6	820 E	5%	0728
R77	e6	6 k 8	5%	0739
R78	e6	6 k 8	5%	0739
R79	e6	220 E	5%	0721
R80	e6	220 E	5%	0721
R81	e6	8 k 2	5%	0740
R82	d8	5 k 6	5%	0738
R83	g9	100 k	5%	0753
R84	g8	820 E	5%	0728
R85	g9	100 k	5%	0753
R86	g8	8 k 2	5%	0740
R87	g9	15 k 0	5%	0743
R88	g4	3 k 9	5%	0736
R89	e3	10 E	5%	0705
R90	f4	6 k 8	5%	0739
R91	e3	100 k	5%	0753
R92	e3	39 E	5%	0712
R93	e4	6 k 8	5%	0739
R94	e5	8 k 2	5%	0740
R95	f5	1 k 2	5%	0730
R96	e5	39 k 0	5%	0748
R97	e4	3 k 9	5%	0736
R98	g5	10 E	5%	0705
R99	e4	6 k 8	5%	0739
R100	g1	12 k 0	5%	0742
R101	e5	47 E	5%	0713
R102	e5	6 k 8	5%	0739
R103	f8	8 k 2	5%	0740
R104	f8	8 k 2	5%	0740
R105	f8	4 k 7	5%	0737
R106	f8	4 k 7	5%	0737
R107	g9	100 E	5%	0717

PartNr	Coordinate	Value	Notes	ArtNr
R108	f9	68 k 0	5%	0751
R109	f9	68 k 0	5%	0751
R111	d8	120 k	5%	0754
R112	e9	120 k	5%	0754
R113	d8	56 E	5%	0714
R114	e9	100 k	5%	0753
R115	e9	120 k	5%	0754
R116	e9	6 k 8	5%	0739
R117		2 k 2	5% (not used)	0733
R118	e4	8 k 2	5%	0740
R119	f5	1 k 2	5%	0730
R120	f6	27 k 0	5%	0746
R121	f5	1 k 5	5%	0731
R122	e7	15 k 0	5%	0743
R123	e7	1 k 2	5%	0730
R124	f8	6 k 8	5%	0739
R125	f8	220 E	5%	0721
R126	f8	220 E	5%	0721
R127	g8	8 k 2	5%	0740
R128	e7	3 k 9	5%	0736
R129	e7	10 E	5%	0705
R130	e8	820 E	5%	0728
R131	e8	6 k 8	5%	0739
R132	e8	120 k	5%	0754
R133	e7	6 k 8	5%	0739
R134	f7	6 k 8	5%	0739
R135	g7	270 E	5%	0722
R136	f7	8 k 2	5%	0740
R137	g7	3 k 9	5%	0736
R138	f7	8 k 2	5%	0740
R139	g8	100 k	5%	0753
R140	e7	1 k 5	5%	0731
R148	e4	39 k 0	5%	0748
R161	e3	8 k 2	5%	0740
R162	f3	100 k	5%	0753
R163	f2	1 k 5	5%	0731
R164	g6	9 k 2	5%	0740
R165	g5	6 k 8	5%	0739
R166	g5	820 E	5%	0728
R167	g7	6 k 8	5%	0739
R168	g8	8 k 2	5%	0740
R169	g7	6 k 8	5%	0739
R170	g7	820 E	5%	0728
R171	f6	8 k 2	5%	0740
R172	g6	6 k 8	5%	0739
R173	g6	8 k 2	5%	0740
R174	f6	1 k 5	5%	0731
R175	f6	100 k	5%	0753
R176	g6	3 k 9	5%	0736
R177	g6	15 k 0	5%	0743
R178	f5	100 k	5%	0753
R186		---	---	---
R187		---	---	---
R188	f3	1 k 5	5%	0731
R189	g7	1 k 5	5%	0731
R190	g6	100 k	5%	0753
R191	e8	10 k 0	5%	0741
R192	d3	8 k 2	5%	0740
R193	d3	100 k	5%	0753
R194	c2	22 k 0	5%	0745
R195	e2	100 k	5%	0753
R196	d3	1 k 0	5%	0729
R197	f3	3 k 3	5%	0735

PartNr      Coordinate      Value      Notes      ArtNr

R198	g4	3 k 3	5%	0735
R222	d1	3 k 3	5%	0735
R223	c2	33 k 0	5%	0747
R224	d1	100 k	5%	0753
R225	d5	15 k 0	5%	0743
R226	c2	15 k 0	5%	0743
R227	d2	100 k	5%	0753
R228	d1	15 k 0	5%	0743
R229	d1	6 k 8	5%	0739
R230	d1	220 E	5%	0721
R231	d1	100 k	5%	0753
R232	d1	100 k	5%	0753
R233	d2	3 k 3	5%	0735
R234	d2	22 k 0	5%	0745
R235	d2	15 k 0	5%	0743
R236	d2	8 k 2	5%	0740
R237	d2	8 k 2	5%	0740
R238	e2	68 k 0	5%	0751
R239	d3	68 k 0	5%	0751
R240	d3	100 k	5%	0753
R241	e2	15 k 0	5%	0743
R242	d1	15 k 0	5%	0743
R243	e2	100 k	5%	0753
R244	d1	100 k	5%	0753
R245		---	---	---
R246		---	---	---
R247		---	---	---
R248		---	---	---
R249		---	---	---
R250	e4	68 k 0	5%	0751
R251	e4	1 k 0	5%	0729
R262	d2	4 k 7	5%	0737

C1	a3	47 / 25	e lco	0287
C2	a3	47 / 25	e lco	0287
C3	b3	270 p	ker	0230
C4	a3	270 p	ker	0230
C5	a1	4 p 7	ker	0209
C6	a2	4 p 7	ker	0209
C7	a1	47 / 25	e lco	0287
C8	a1	47 p	ker	0221
C9	b3	47 p	ker	0221
C10	c3	47 / 25	e lco	0287
C11	b3	270 p	ker	0230
C12	b2	4 p 7	ker	0209
C13	a4	47 / 25	e lco	0287
C14	f4	47 / 25	e lco	0287
C15	f5	600 p	ker	0234
C16	g2	0.082 u	poly	0242
C17	g2	0.082 u	poly	0242
C18	f4	0.010 u	poly	0253
C19	g3	0.010 u	poly	0253
C20	f4	47 / 25	e lco	0287
C21	f2	47 / 25	e lco	0287
C22	g1	1.0 u	poly	0268

C23	g1	2 p 2	ker	0285
C24	f1	47 / 25	e lco	0287
C25	g1	100 p	ker	0225
C26	e2	0.022 u	poly	0256
C27	e1	1 / 25	e lco	0279
C28	f5	10 / 16	e lco	0284
C29	e6	0.68 u	poly	0267

PartNr	Coordinate	Value	Notes	ArtNr
C31	f4	4.7 u	poly	0271
C32	e5	100 / 25	elco	0292
C33	d7	100 / 25	elco	0292
C34	e9	22 / 25	elco	0285
C35	e7	0.01 u	poly	0253
C36	e7	0.33 u	poly	0265
C37	f5	0.033 u	poly	0257
C39		---	---	---
C40	b6	4700 / 40	elco	0299
C41	c6	4700 / 40	elco	0299
C42	b4	47 / 40	elco	0289
C43	c4	47 / 40	elco	0289
C44	b4	0.1 / 63	ker	0241
C45	c4	0.1 / 63	ker	0241
C46	d4	47 / 40	elco	0289
C47	d3	47 / 40	elco	0289
C48	d4	0.1 / 63	ker	0241
C49	c3	0.1 / 63	ker	0241
C50	e1	0.1 / 63	ker	0241
C51	f2	0.1 / 63	ker	0241
C55	e2	1.0 u	poly	0268
C56	d2	1.0 u	poly	0268
C57	f2	4 p 7	ker	0209
C58	f3	4 p 7	ker	0209
D1	g1	1n4148	signal diode	0342
D2	g1	1n4148	signal diode	0342
D3	e2	1n4148	signal diode	0342
D4	f4	5v6	zener diode	0351
D5	e5	18v0	zener diode	0350
D6	d9	18v0	zener diode	0350
D7	g9	18v0	zener diode	0350
D8	f4	18v0	zener diode	0350
D9	d4	8AV45	S&H	0329
D10	g0	1n4148	signal diode	0342
D11	d7	1n4148	signal diode	0342
D12		5v6	zener (not used)	0351
D13		LED	5x2 grn (not used)	0389
D14	e7	1n4148	signal diode	0342
D15		LED	5x2 grn (shift)	0389
D16	e0	1n4148	signal diode	0342
D17	f7	1n4148	signal diode	0342
D18	f7	18v0	zener diode	0350
D19		LED	5x2 red (att.de)	0390
D26	e3	18v0	zener diode	0350
D27		LED	5x2 red (thresh.)	0390
D28	e3	1n4148	signal diode	0342
D29	g6	1n4148	signal diode	0342
D30	g6	1n4148	signal diode	0342
D31		LED	5x2 red (attack)	0390
D32	f5	5v6	zener diode	0351
D33	g6	1n4148	signal diode	0342
D34	g6	1n4148	signal diode	0342
D35	g7	1n4148	signal diode	0342
D36		LED	5x2 red (release)	0390
D37	g6	1n4148	signal diode	0342
D38	f6	1n4148	signal diode	0342
D39		LED	5x2 red (hold)	0390
D41		LED	5x2 grn (monitor)	0389
D42		LED	5x2 grn (duck)	0389
D43	f6	1n4148	signal diode	0342
D44	d4	1n4003	power diode	0343

PartNr	Coordinate	Value	Notes	ArtNr
D46	c1	1n4148	signal diode	0342
D47	e3	1n4148	signal diode	0342
D48		LED (bicolor)	5x2 grn (master)	0419
D49		LED (see D48)	--- red (slave) ---	
D52	d3	1n4148	signal diode	0342
D53	d3	1n4148	signal diode	0342
D54	c2	18v0	zener diode	0350
D55	e1	1n4148	signal diode	0342
D56	e1	18v0	zener diode	0350
D57	d1	1n4148	signal diode	0342
D58	e1	18v0	zener diode	0350
B1	d3	B250C3300	bridge-rect.	0347
T1	e5	BC337	npn	0332
T2	d3	BC327	pnp	0333
T3	e5	BC327	pnp	0333
T4	e6	BC337	npn	0332
T5	g9	BC327	pnp	0333
T6	g9	BC327	pnp	0333
T7	g4	BC337	npn	0332
T8	g4	BD237	power-npn	0334
T9	e3	BC327	pnp	0333
T10	f3	BC327	pnp	0333
T11	g5	BC337	npn	0332
T12	g5	BD237	power-npn	0334
T13	d4	BC337	npn	0332
T14	d4	BD237	power-npn	0334
T15	d7	BC327	pnp	0333
T16	e8	BC337	npn	0332
T17	e8	BC337	npn	0332
T18	f5	BC327	pnp	0333
T19	g6	BC337	npn	0332
T20	e8	BC337	npn	0332
T21	e8	BC337	npn	0332
T22	g7	BC337	npn	0332
T23	g7	BC327	pnp	0333
T27	e4	BC337	npn	0332
T33	e2	BC337	npn	0332
T34	g5	BC327	pnp	0333
T35	g7	BC327	pnp	0333
T36	f6	BC327	pnp	0333
T37	g6	BC337	npn	0332
T38	g6	BC337	npn	0332
T39	f5	BC327	pnp	0333
T43	d3	BC337	npn	0332
T56	c2	BC337	npn	0332
T57	c1	2N5638	fet (switch)	0338
T59	e1	BC337	npn	0332
T59	e1	2N5638	fet (switch)	0338
T60	d1	2N5638	fet (switch)	0338
T61	e1	BC337	npn	0332
T62	e4	BC337	npn	0332
A 1/2	a1	NE 5532	lown	0307
B 1/2	b2	NE 5532	lown	0307
C 1/2	f2	NE 5532	lown	0307
D 1/2/3/4	g1	TL 074	bifet opamp	0305
E 1/2	f2	TL 072	bifet opamp	0304
F 1/2	e1	TL 072	bifet opamp	0304
G 1/2/3/4	e6	TL 074	bifet opamp	0305
H 1/2/3/4	d4	TL 074	bifet opamp	0305
I 1/2/3/4	e9	TL 074	bifet opamp	0305

PartNr	Coordinate	Value	Notes	ArtNr	
K 1	b1	TA 101	trans-array	0330	
L 1	e1	uA 79L12	pos.reg (100mA)	0325	
M 1	b3	uA 7918	pos.reg	0322	
N 1	c3	uA 7918	neg.reg	0323	
O 1/2/3/4	d1	TL 074	bifet opamp	0305	
VR1	b1	500 E	20 turn (min.)	0150	
VR2	b1	50 E	20 turn (min.)	0154	
VR3	c1	10 k	20 turn (min.)	0206	
P1	< low -filter >	g3	100kC st	12.5 mm stereo	0891
P2	< high-filter >	g3	100kC st	12.5 mm stereo	0891
P3	< threshold >	g2	470kA	12.5 mm mono	0869
P4	< hold >	g6	1MB	12.5 mm mono	0893
P5	< release >	g7	4M7B	12.5 mm mono	0881
P6	< att.delay >	g4	100kS	12.5 mm mono	0890
P7	< attack >	g5	22kS	12.5 mm mono	0896
P8	< range >	g8	10kA	12.5 mm mono	0897
SW1	< on >	f2	2 x 2 switch MBB	FOX	0403
SW2	< monitor >	g3	2 x 2 switch MBB	FOX	0403
SW3	< key >	g5	2 x 2 switch MBB	FOX	0403
SW4		f7			
SW5		f7			
SW6		f7			
SW7	< shift >	g7	2 x 6 switch BSM	FOX	0402
SW8		g7			
SW9		f7			
SW10		f8			
SW11	< duck >	g8	2 x 4 switch BSM	FOX	0401
SW12		g8			
SW13		g4			
SW14	< mstr link >	g4	2 x 2 switch BSM	FOX	0400
SW15		a7	115/230 V	print switch	0003
J1	< audio-in >	a2	break jack	CLIFF	0432
J2	< audio-out >	a4	break jack	CLIFF	0432
J3	< AC/DC key >	a5	break jack	CLIFF	0432
J4	< VCA-buss >	a6	break jack	CLIFF	0432
CL		e3	ic extender 14p	connector-left	0409
CR		e6	ic extender 14p	connector-right	0409
Tr1		c8	trafo 2x18V 15VA	torodial	0594
FS1	— fuse	a9	160mA slow	fuse	0693
	— holder			for FS1	0675

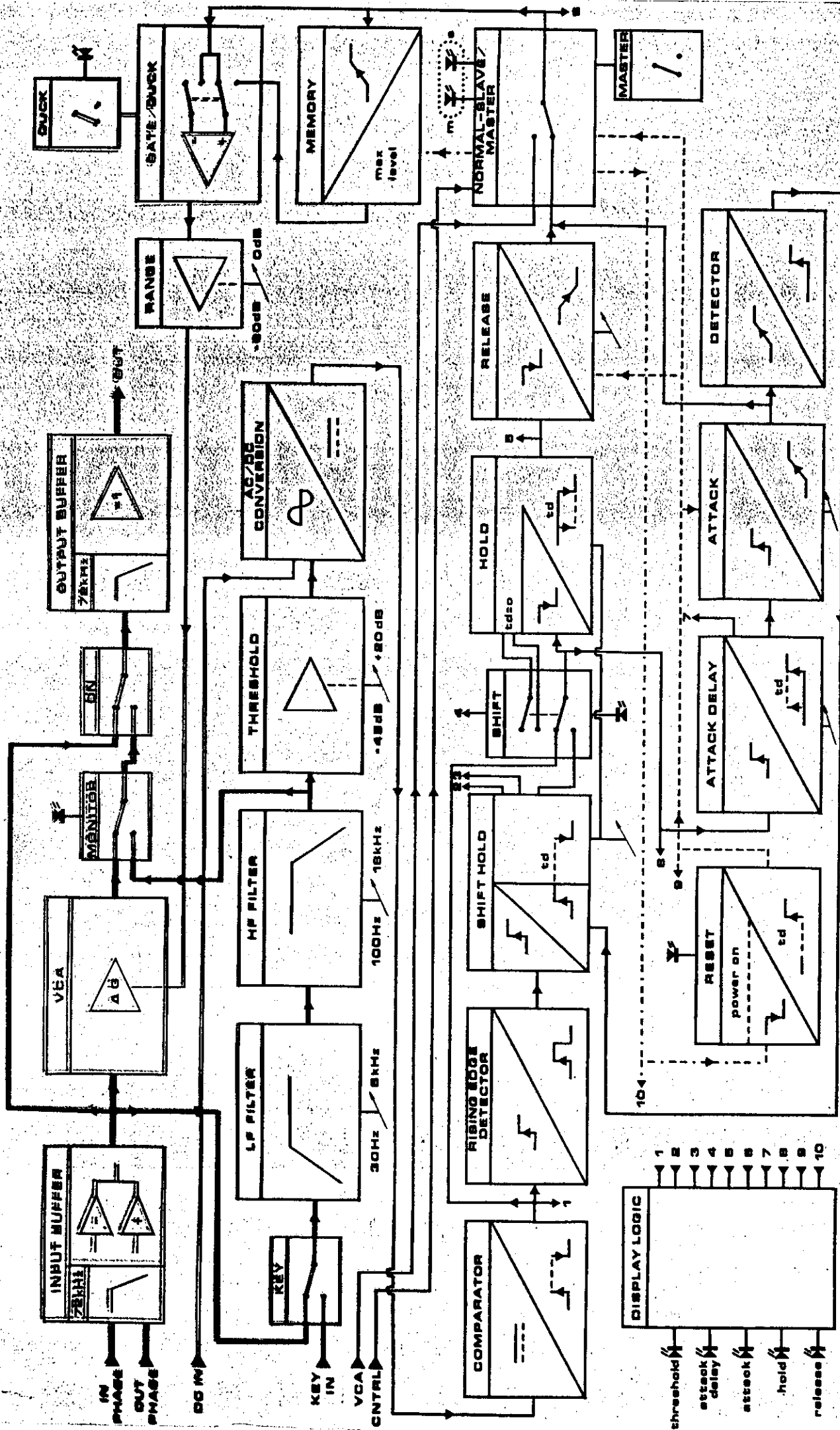
MULTIGATE (subprint) \*\*\*\*\*

R110		120 k	5%	0754
R141		27 k 0	5%	0746
R142		1 k 5	5%	0731
R143		8 k 2	5%	0740
R144		100 k	5%	0753
R145		15 k 0	5%	0743
R146		39 k 0	5%	0740
R147		3 k 9	5%	0736
R149		27 k 0	5%	0746
R150		6 k 8	5%	0739
R151		6 k 8	5%	0739
R152		100 k	5%	0753
R153		3 k 9	5%	0736
R154		8 k 2	5%	0740



PartNr	Value	Notes	PartNr
R156	39 k 0	5%	0748
R157	15 k 0	5%	0743
R158	39 k 0	5%	0748
R159	39 k 0	5%	0748
R160	8 k 2	5%	0740
R179	15 k 0	5%	0743
R180	8 k 2	5%	0740
R181	100 k	5%	0753
R182	8 k 2	5%	0740
R183	6 k 8	5%	0739
R184	8 k 2	5%	0740
R185	6 k 8	5%	0739
R199	3 k 9	5%	0736
R200	100 k	5%	0753
R201	15 k 0	5%	0743
R202	100 k	5%	0753
R203	33 k 0	5%	0747
R204	33 k 0	5%	0747
R205	100 E	5%	0717
R206	100 k	5%	0753
R207	6 k 8	5%	0739
R208	8 k 2	5%	0740
R209	330 k	5%	0759
R210	330 k	5%	0759
R211	8 k 2	5%	0740
R212	15 k 0	5%	0743
R213	33 k 0	5%	0747
R214	15 k 0	5%	0743
R215	15 k 0	5%	0743
R216	15 k 0	5%	0743
R217	8 k 2	5%	0740
R218	100 k	5%	0753
R219	15 k 0	5%	0743
R220	15 k 0	5%	0743
R221	6 k 8	5%	0739
R252	68 k 0	5%	0751
R253	120 k	5%	0754
R254	68 k 0	5%	0751
R255	15 k 0	5%	0743
R256	68 k 0	5%	0751
R257	8 k 2	5%	0740
R258	100 k	5%	0753
R259	33 k 0	5%	0747
R260	33 k 0	5%	0747
R261	100 E	5%	0717
C38	47 / 63	elco	0289
C52	1.0 u	poly	0268
C53	1.0 u	poly	0268
C54	47 / 63	elco	0289
D20	18v0	zenerdiode	0350
D21	1n4148	signal diode	0342
D22	5v6	zenerdiode	0351
D23	1n4148	signal diode	0342
D24	1n4148	signal diode	0342
D25	1n4148	signal diode	0342
D40	5v6	zenerdiode	0351
D50	18v0	zenerdiode	0350
D51	5v6	zenerdiode	0351
T24	BC327	pnp	0333
T25	BC327	pnp	0333

PartNr	Value	Notes	PartNr
T26	BC327	npn	0333
T28	BC327	npn	0333
T29	BC337	npn	0332
T30	BC337	npn	0332
T31	BC337	npn	0332
T32	BC327	npn	0333
T40	BC337	npn	0332
T41	BC327	npn	0333
T42	BC337	npn	0332
T44	BC337	npn	0332
T45	BC327	npn	0333
T46	BC337	npn	0332
T47	BC337	npn	0332
T48	BC337	npn	0332
T49	BC337	npn	0332
T50	BC337	npn	0332
T51	BC327	npn	0333
T52	BC337	npn	0332
T53	BC337	npn	0332
T54	BC337	npn	0332
T55	BC337	npn	0332
T63	BC337	npn	0332
T64	BC337	npn	0332
T65	BC337	npn	0332
T66	BC327	npn	0333
T67	BC337	npn	0332
T68	BC337	npn	0332



**©** RWJKADE 15b  
 1382 08 WEERP  
 PHONE 102840 18014  
 WIELECTRONICA BV

**TITLE:** BLOCKDIAGRAM MULTIGATE

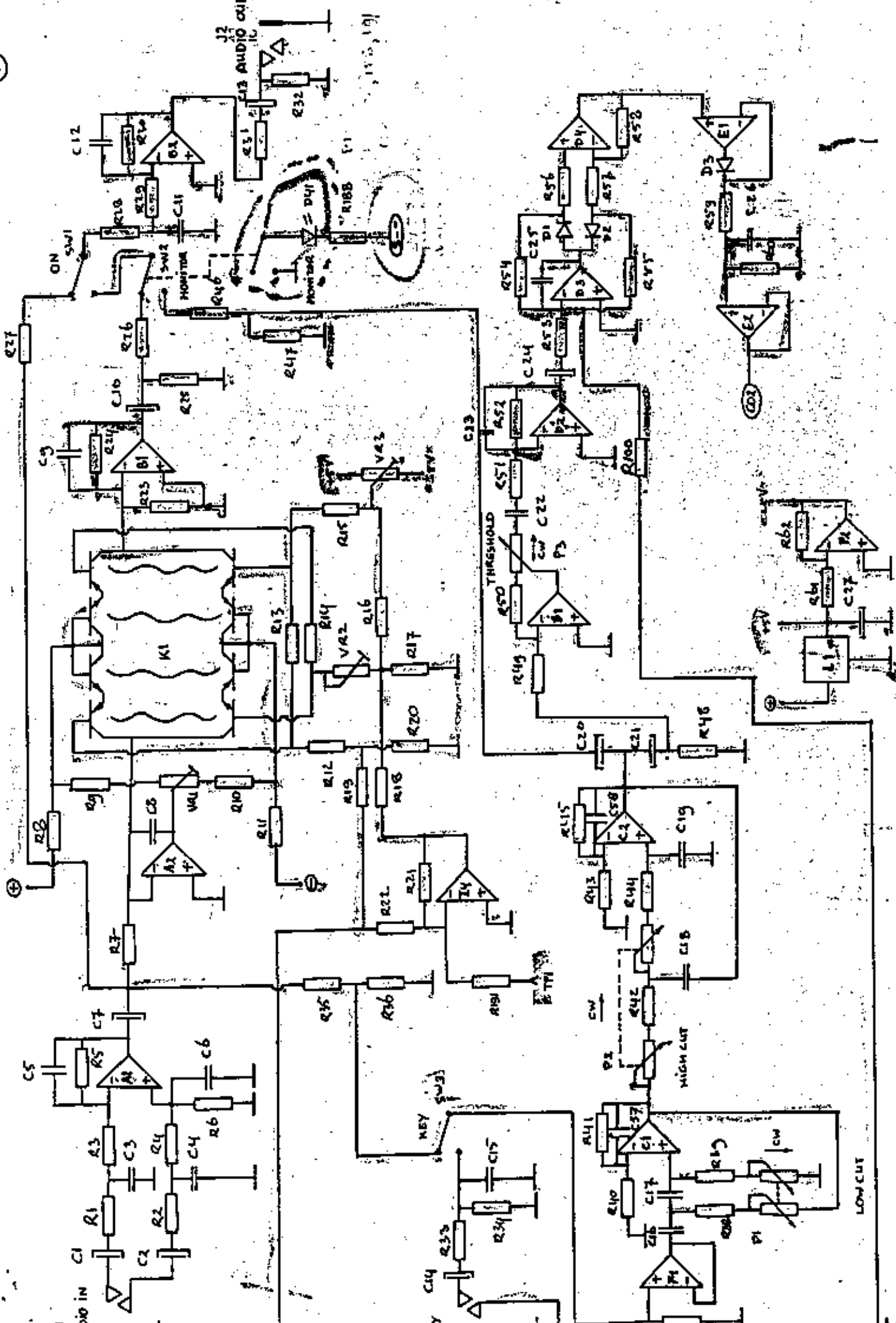
**P.C.B. INDEX:** DRAWN : A. Joosten  
 DATE : 14-02-'88

**NOTES:**  
 - - - - - audio path  
 - - - - - audio control line  
 - - - - - reset control line  
 - - - - - master/slave control line

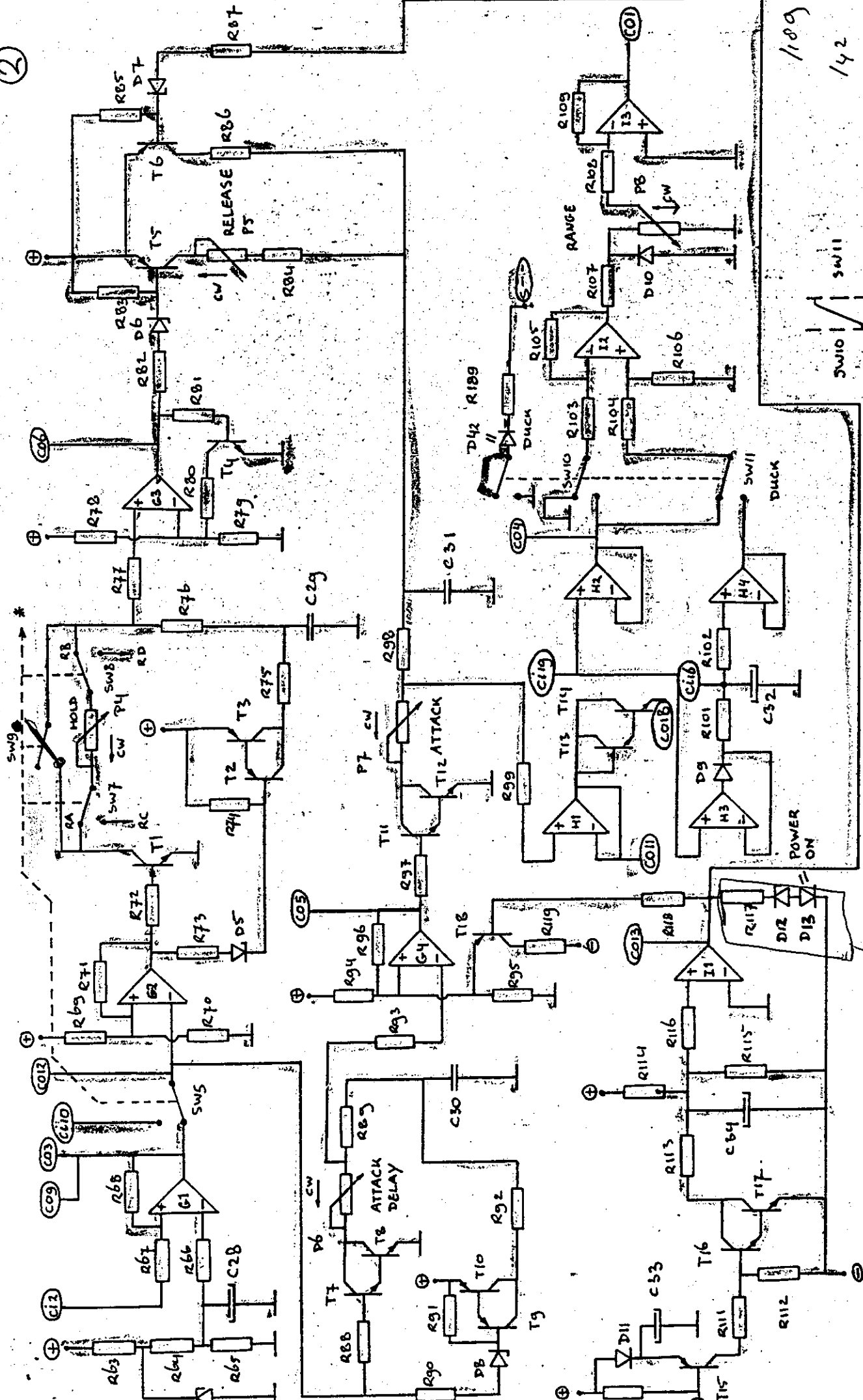
**SHEET:** OF **1** **©** 1988 **CHECKED:**

**td** = time delay

1



(2)



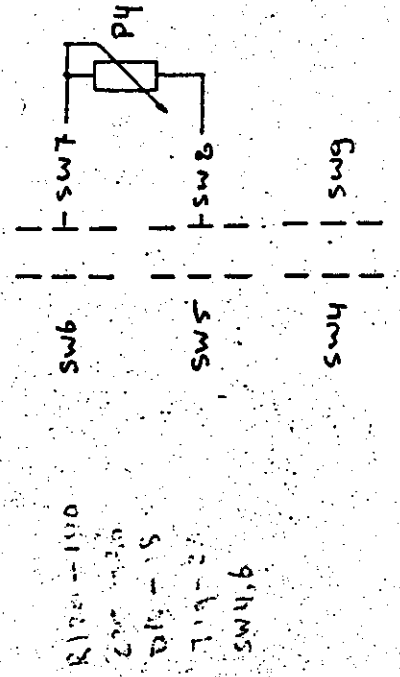
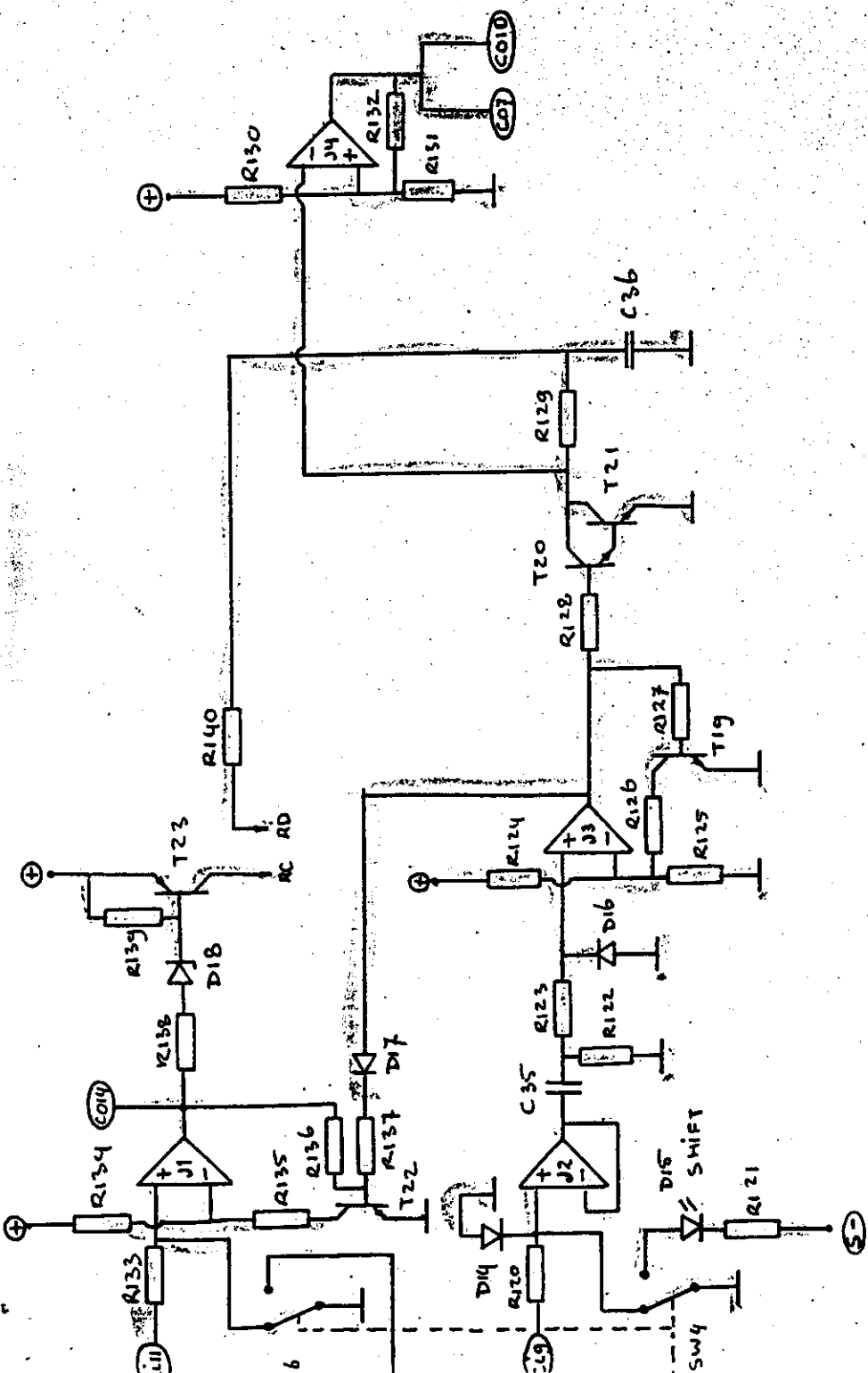
1109

142



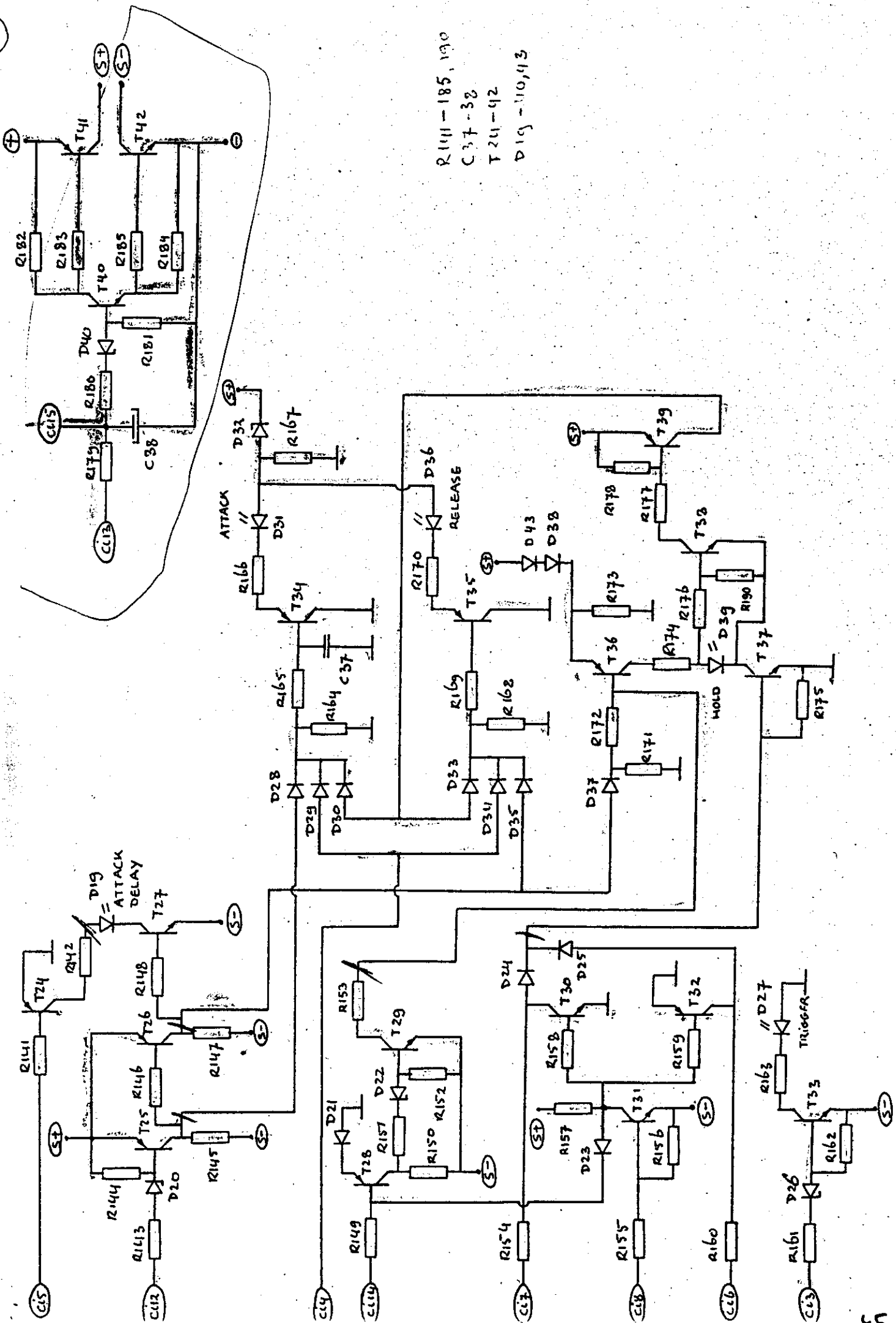
Printed copy

3



4

R 111 - 185, 190  
C 37 - 38  
T 24 - 42  
D 19 - 110, 113

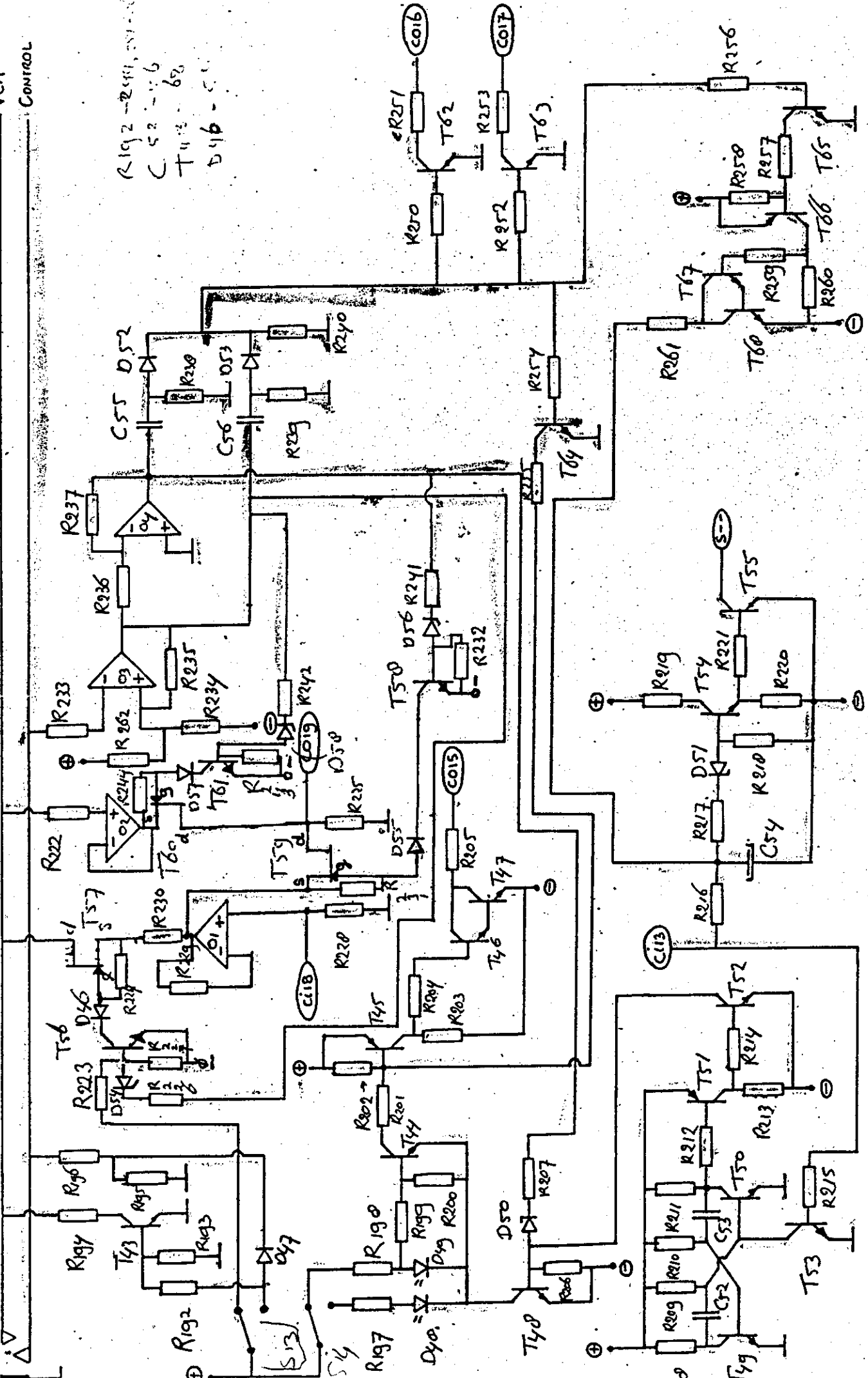


5

3

VCA CONTROL

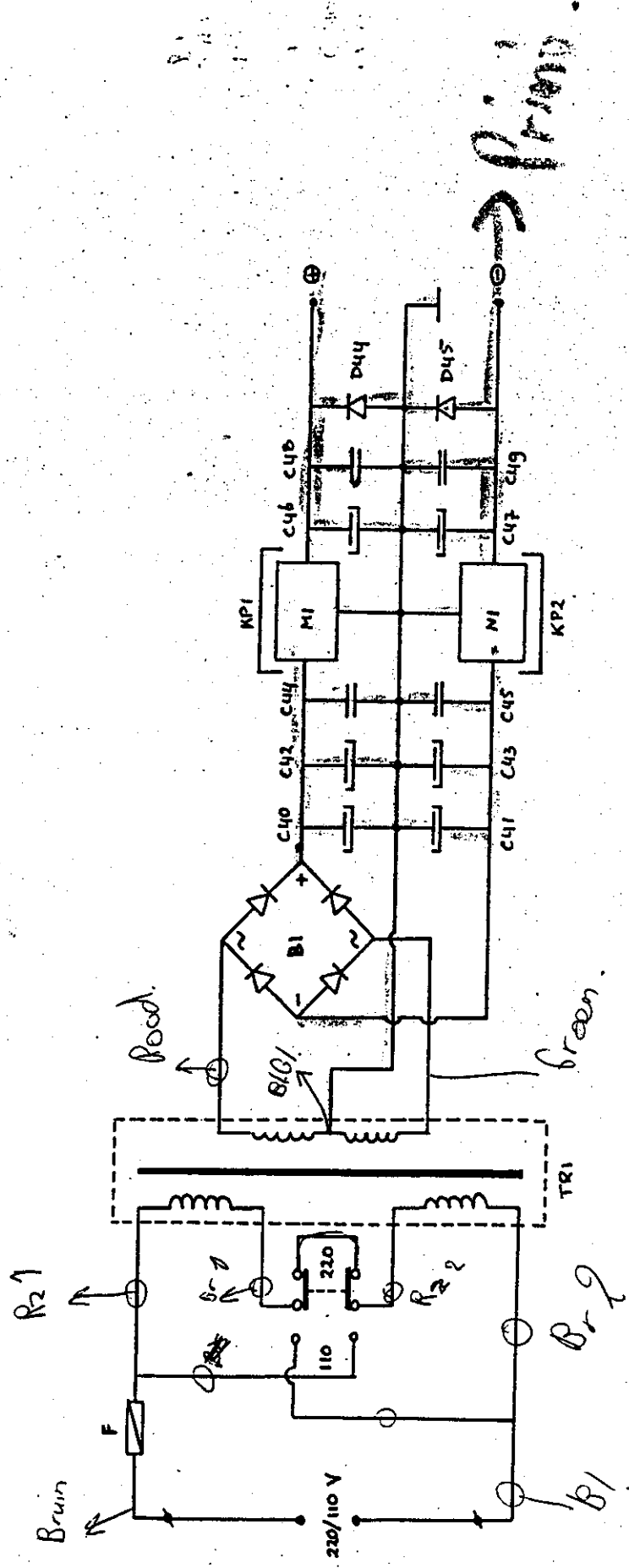
R192 - 2.4k, 5%  
C52 - .1u6  
T413 - 65  
D416 - 5.1



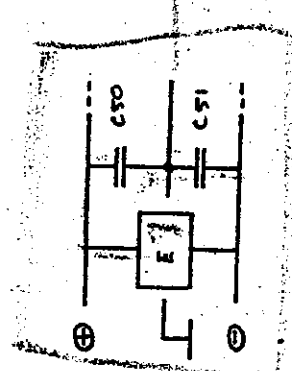
64-0



6



Prima



# PRODUCT SAFETY

This product is manufactured with the highest standards and is double checked in our quality control department for reliability in the "HIGH VOLTAGE" section.

## CAUTION

Never remove any panels, or open this equipment. No user servicable parts inside.

Equipment power supply must be grounded at all times.

Only use this product as described, in user manual or brochure. Do not operate this equipment in high humidity or expose it to water or other liquids.

Check the AC power supply cable to assure secure contact. Have your equipment checked yearly by a qualified dealer service center.

Hazardous electrical shock can be avoided by carefully following the above rules.

## EXTRA CAUTION FOR LIVE SOUND

Ground all equipment using the ground pin in the AC power supply cable. Never remove this pin.

Ground loops should be eliminated only by use of isolation transformers for all inputs and outputs.

Replace any blown fuse with the same type and rating only after equipment has been disconnected from AC power. If problem persists, return equipment to qualified service technician

## PLEASE READ THE FOLLOWING INFORMATION VERY CAREFULLY.

Especially in sound equipment on stage the following information is essential to know.

An electrical shock is caused by voltage and current, actually it is the current that causes the shock.

In practise the higher the voltage the higher the current will be and the higher the shock.

But there is another thing to consider and it is resistance. When the resistance in Ohms is high between two poles, the current will be low and vice versa.

All three of these; voltage, current, and resistance are important in determining the effect of an electrical shock.

*However, the severity of a shock primarily determined by the amount of current flowing through a person.*

A person can feel a shock because the muscles in a body respond to electrical current and because the heart is a muscle it can affect, when the current is high enough. Current can also be fatal when it

causes the chest muscles to contract and stop breathing. At what potential is current dangerous.

Well the first feeling of current is a tingle at 0.001 Amp of current. The current between 0.1 Amp and 0.2 Amp is fatal.

Imagine that your home fuses of 20 Amp can handle 200 times more current than is necessary to kill. How does resistance affect the shock a person feels. A typical resistance between one hand to the other in "dry" condition could well over 100,000 Ohm.

*If you are playing on stage your body is perspiring extensively and your body resistance is lowered by more than 50%. This is a situation in which current can easily flow.*

Current will flow when there is a difference in ground potential between equipment on stage and in the P.A. system. Please do check if there is any potential between the housing of the mikes and the guitarsynth amps, which will be linked by your body on stage. Imagine, a guitar in your hand and your lips close to the mike! A ground potential difference of above 10 volts is not unusual, in improperly wired buildings it can possibly be as high as 240 volts.

Although removing the ground wire sometimes cures a system hum, it will create a very hazardous situation for the performing musician.

*Always earth all your equipment by the grounding pin in your mains plug.*

*Hum loops should be only cured by propr wiring and isolation input/output transformers.*

Replace fuses always with the same type and rating after the equipment has been turned off and unplugged.

If the fuse blows again you have an equipment failure, do not use it again and return it to your dealer for repair.

And last but not least be carefull not to touch a person being shocked as you, yourself could also be shocked.

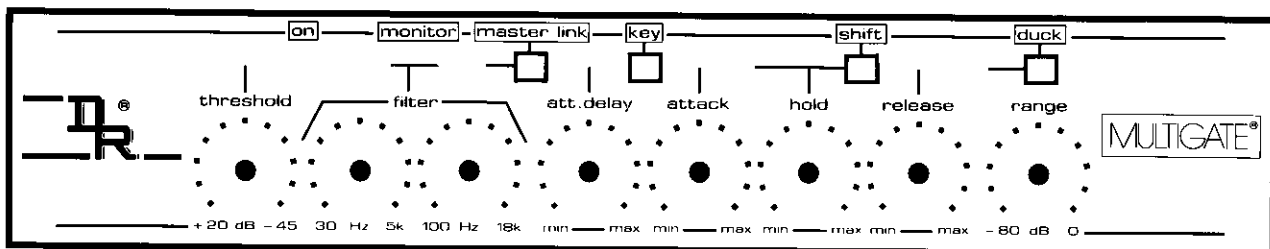
Once removed from the shock, have someone send for medical help immediately

*Always keep the above mentioned information in mind when using electrically powered equipment.*

D&R ELECTRONICA B.V. WEESP



# GATE-SHEET



= on  
 = off

MULTIGATE-nr. : \_\_\_\_\_

ARTIST : \_\_\_\_\_

TITLE : \_\_\_\_\_

REEL : \_\_\_\_\_

TRACK : \_\_\_\_\_

SOURCE : \_\_\_\_\_

MODE :  normal  
 master  
 slave

slave-number(s) : \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

TRIGGER:  audio  
 key  
 dc  
 slave

key-source : \_\_\_\_\_  
 dc -source : \_\_\_\_\_  
 masternumber: \_\_\_\_\_

SHIFT :  on  
 off

DUCK :  on  
 off

EFFECT : \_\_\_\_\_

STUDIO : \_\_\_\_\_

ENGINEER: \_\_\_\_\_

DATE : \_\_\_\_\_





manufacturer of: recording - broadcast - p.a. - mixingdesks - signal processors

**MULTIGATE features:**

- fast noise gate and duck function
- "SHIFT" mode enables you to modify signals without affecting their original nature and quality.  
A few examples:
  - shorten instrument sounds
  - creates reverse sounds
  - accentuate an instrument out of a complex sound
- selective frequency gating/ducking through build in low- and high-pass filters
- trigger intervals can be extremely short
- a "high noise-immunity" dc-input is implemented for triggering the gate by dc-signals from midi-interfaces, drum computers and synthesizers
- external audio-signals are able to trigger the gate, independent of its own audio signal path
- monitor function for monitoring trigger signal (monitors filter output from audio- or key input)
- adjustable setting for:
  - attack delay
  - attack
  - hold (release delay)
  - release
- stereo link mode with master/slave sequence.  
All slaves will be adjusted automatically to the master to ensure perfect tracking at all times  
one master can handle up to 25 slaves
- crossfade utility by use of two multigates and the stereo link mode
- fade in/out by use of an external oscillator
- detailed led-indication  
green led's : control functions  
red led's : signal envelope
- automatic internal adjustment of control voltages (at power up and during the inactive times of the gate) to ensure maximum performance

ELECTRONICA B.V.

produktie en ontwikkeling van  
geluidsmengpanelen en accessoires

Date: 22-07-1986

R & D department

SPEC'S : MULTIGATE

print index: a

SPECIFICATIONS :

Audio:  
Input/Output : level (max) : +22dB  
input-impedance : 20 k ohm  
output-impedance : 100 ohm  
CMRR (Input) (1% resistors) : 70dB (100Hz - 10kHz)

THD (VCA-trimmed) :  
THD at 0dB gated at a freq. of 100 Hz: below noise  
1kHz: below noise  
10kHz: below noise  
THD at +10dB gated at a freq. of 100 Hz: 0,005%  
1kHz: 0,004%  
10kHz: 0,007%

Noise (A-weighted):  
gate open : -88dB  
gate closed : -102dB  
filteroutput : -97dB  
bypass-mode : -100dB

Frequency-response (audio-path) : 1 Hz = -1dB  
72kHz = -3dB

Key :  
Input (AC) : level (max) : +22dB  
input-impedance : 10 k ohm  
Input (DC) : level (max) : +25V or -25V  
input-impedance : 12 k ohm  
threshold-off Vin is between : +1,0 V and -1,0 V  
threshold-on Vin is between : +2,9 V and +25 V or  
-2,9 V and -25 V

Frequency response (key-filter) : 30Hz - 5kHz (highpass)  
100Hz - 18kHz (lowpass)

Slope : 12dB/oct  
(The AC-key input frequency-response is -3dB at 67kHz)

Threshold-sensitivity : -45dB - +20dB  
Trigger-rate (trigger-interval) by threshold at 0dB:  
Audio-in level varies from +2dB to -10dB : 5 msec  
Audio-in level varies from +2dB to -70dB : 15msec

Controls : Attack-delay : 3 usec. - 110 msec.  
Attack : 4 usec. - 500 msec.  
Hold (release-delay) normal : 6 msec. - 2,8 sec.  
shift : 2 msec. - 600 msec.  
Release (0-20dB) : 1 msec. - 9 sec.  
(0-80dB) : 6 msec. - 50 sec.  
Range : 0 dB - -80dB

ELECTRONICA B.V.

produktie en ontwikkeling van  
geluidsmengpanelen en accessoires

Date: 14-05-1986

R & D department

CONNECTOR AANSLUITINGEN VAN CR en CL:

CONNECTOR CL:

CONNECTOR CR:

1	-	V-	1	-	T15 (basis)
2	-	CI 13	2	-	S--
3	-	T37 (basis)	3	-	aarde
4	-	T36 (basis)	4	-	CI 7
5	-	LED (anode, att. delay)	5	-	CI 9
6	-	R148->T26 (collector)	6	-	n.c.
7	-	S-	7	-	CI 6
8	-	D28 (anode)	8	-	CI 14
9	-	S+	9	-	CI 5
10	-	D53/D52	10	-	CI 12
11	-	C 55	11	-	n.c.
12	-	D48/D49	12	-	n.c.
13	-	R198	13	-	V+
14	-	V+	14	-	CI 13