

NTP

179-4010-E-4

LIMITER AMPLIFIER

179-400E/F

Contents:

Frontplate Layout	179-4009-E-4
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Parts List	179-4031-E-4
Parts List	179-4031-F-4

1/19920525

NTP Elektronik A/S
Knapholm 7
DK-2730 Herlev, Denmark

Telephone: +45 44 53 11 88
Telefax: +45 44 53 11 70
Telex: 16378 ntp dk

Cable address: Electrolab
Postal account: 5 11 52 80
Reg. no.: 32426

NTP

179-4010-E-4

LIMITER AMPLIFIER

179-400E/F

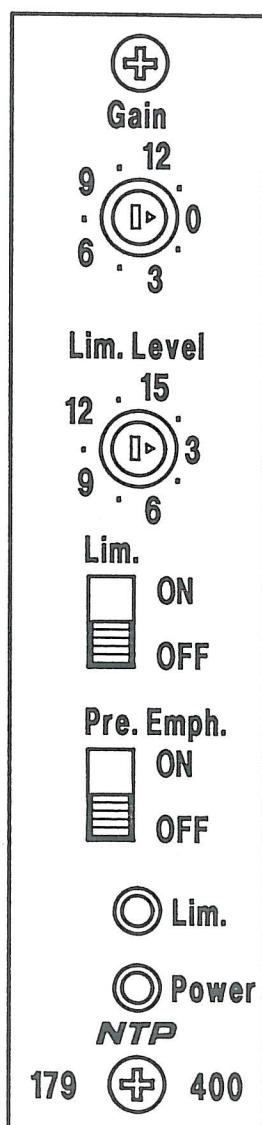
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Blank piece:	Material:	Treatment:	Page	of
Scale : 2:1				
Tolerance :				
Design : PLJ				
Layout : 21.5.90.tl				
Revised :				
Limiter Amplifier Frontplate Lay-out			179-400E	NTP
				179-4009-E-4



The use of a high quality VCA in this limiter has made possible the use of the forward regulation principle in the side chain. This in turn is the key to achieving extremely good static as well as dynamic distortion performance. The limiter may easily be tailored by the user to almost any application as limiter threshold, as well as gain is selectable on the front edge, while the programme dependant dual time constant of the recovery function may be programmed on the connector.

The compact design (EURO-bord), the balanced floating input and output, and the wide supply voltage range only add to the versatility of the design.

Pre-emphasis on threshold level (switch-

(fig. 7) able) : 50 us or off

Control voltage slope

(stereo linking voltage) : 1V/5dB Note 3

Meter output

± 1 mA/20 dB

Meter impedance

: < 5 kohms

Lim.led current

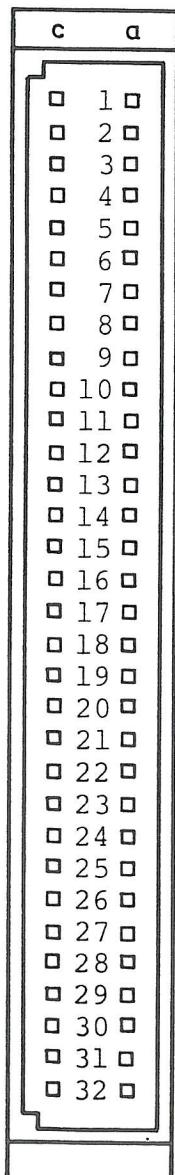
: approx. 10mA

Mechanical outlines

• 100 x 160 mm euroboard

Connector

64 pol. DIN pin conn.



$\begin{matrix} 0^\circ \\ 180^\circ \end{matrix} \}$ input

} input screen (-VCC)
C }
B } recovery time 2
A }

C } B } - recovery time 1

A)
-Vcc to recovery time switch
Cathode Lim.led
Anode
Lim. off

0° } 180° } output

Int.ref. (-Vcc + 9V) (Not to be used)

-1 compressor motor

+} compressor meter
Stereo control voltage (Ref. to pin no. 25)
+Vcc

-Vcc
Screen

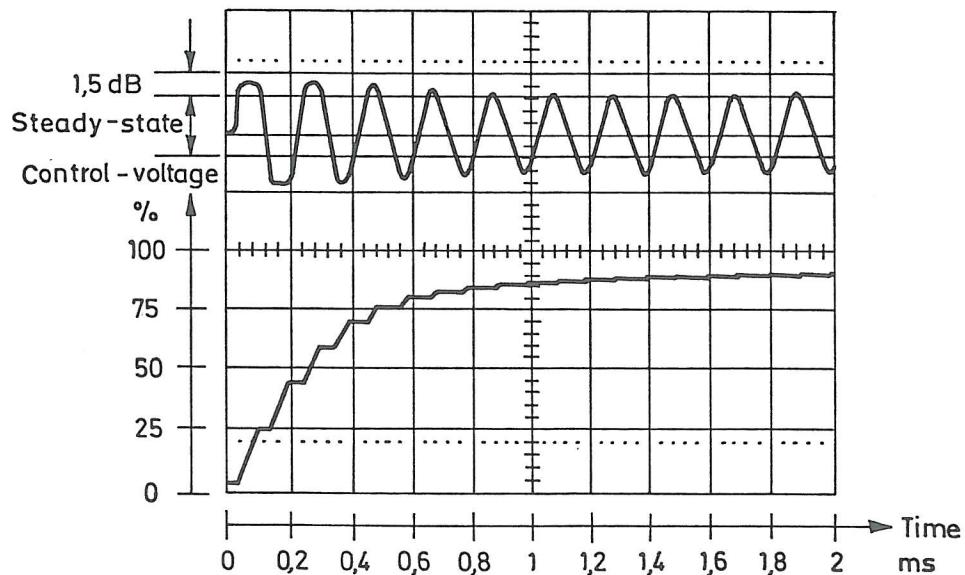
Row a and c connected in the A and E-version

Both rows in the B and F-versions connected

Note 1:

The attack time is the period of time it takes the control voltage to reach 90% of its steady-state value, measured with 5kHz tone-bursts. Peaks shorter than 1,5 ms will be limited by a full-wave smooth clipping circuit to a value approximately 1,5dB higher than output threshold level with steady sinusodial input signal. Fig. 1.

Fig. 1: Output level and control voltage with 5 kHz tone-burst and input amplitude 10 dB above threshold level.



Note 2.

The recovery times are external switchable and follow the code below:

Recovery time 1		C	B	A
Position				
0	fixed	1	1	1
1	fixed	1	1	0
2	100 ms	1	0	1
3	200 ms	1	0	0
4	400 ms	0	1	1
5	1 s	0	1	0
6	2 s	0	0	1
7	4 s	0	0	0

Recovery time 2		C	B	A
Position				
0	fixed	1	1	1
1	fixed	1	1	0
2	off	1	0	1
3	1 s	1	0	0
4	2 s	0	1	1
5	4 s	0	1	0
6	10 s	0	0	1
7	20 s	0	0	0

Logic levels:

1 = open or 15-32V, 0 = -Vcc (max. = -Vcc +3V)

Note 3.

The control voltage of two units may be linked together to obtain equal gain-reduction.

Fig. 2 Recovery vs time and settings of T_1 .

Gain reduction

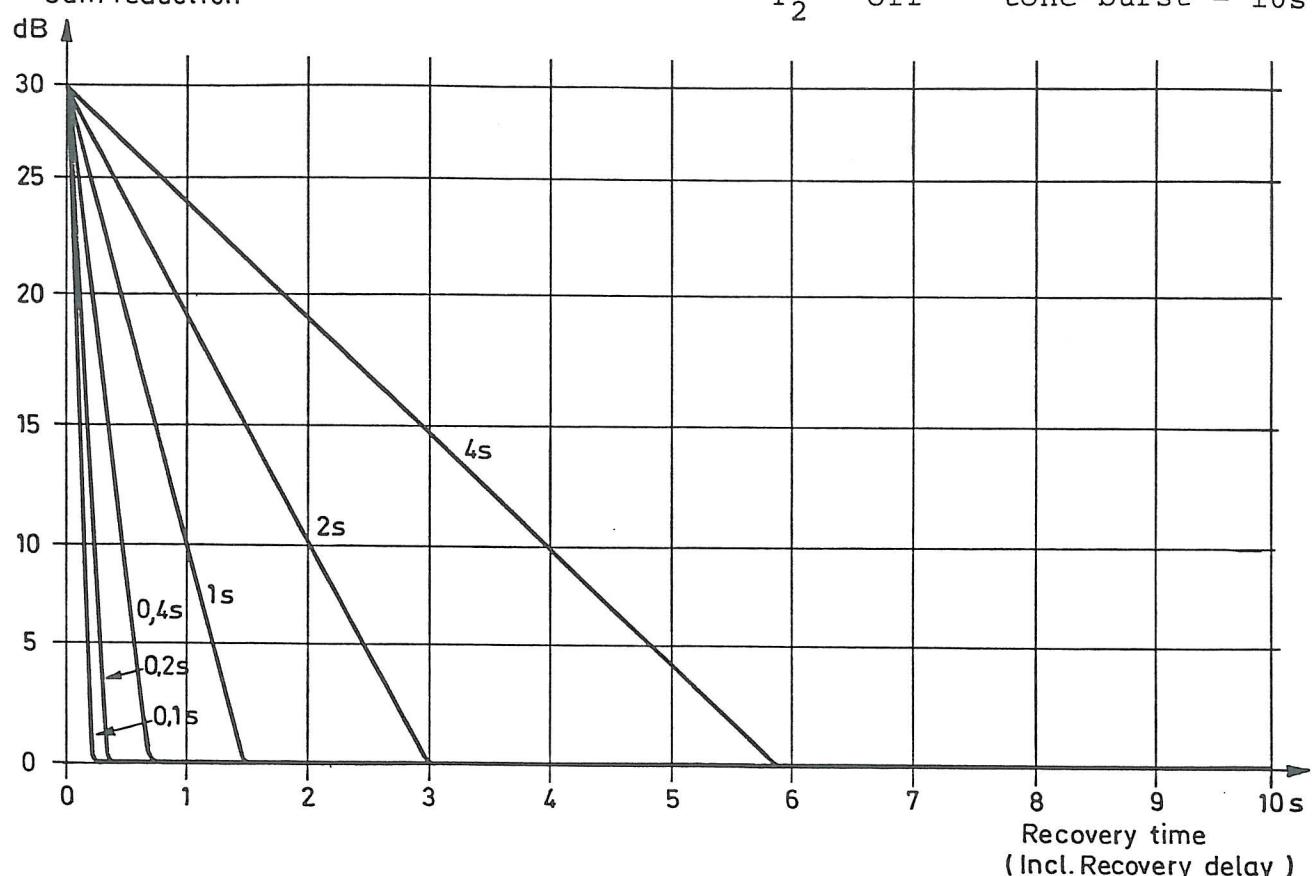


Fig. 3 Recovery vs time and settings of T_2 .

Gain reduction

$T_1 = 0,1s$ tone-burst = 10s

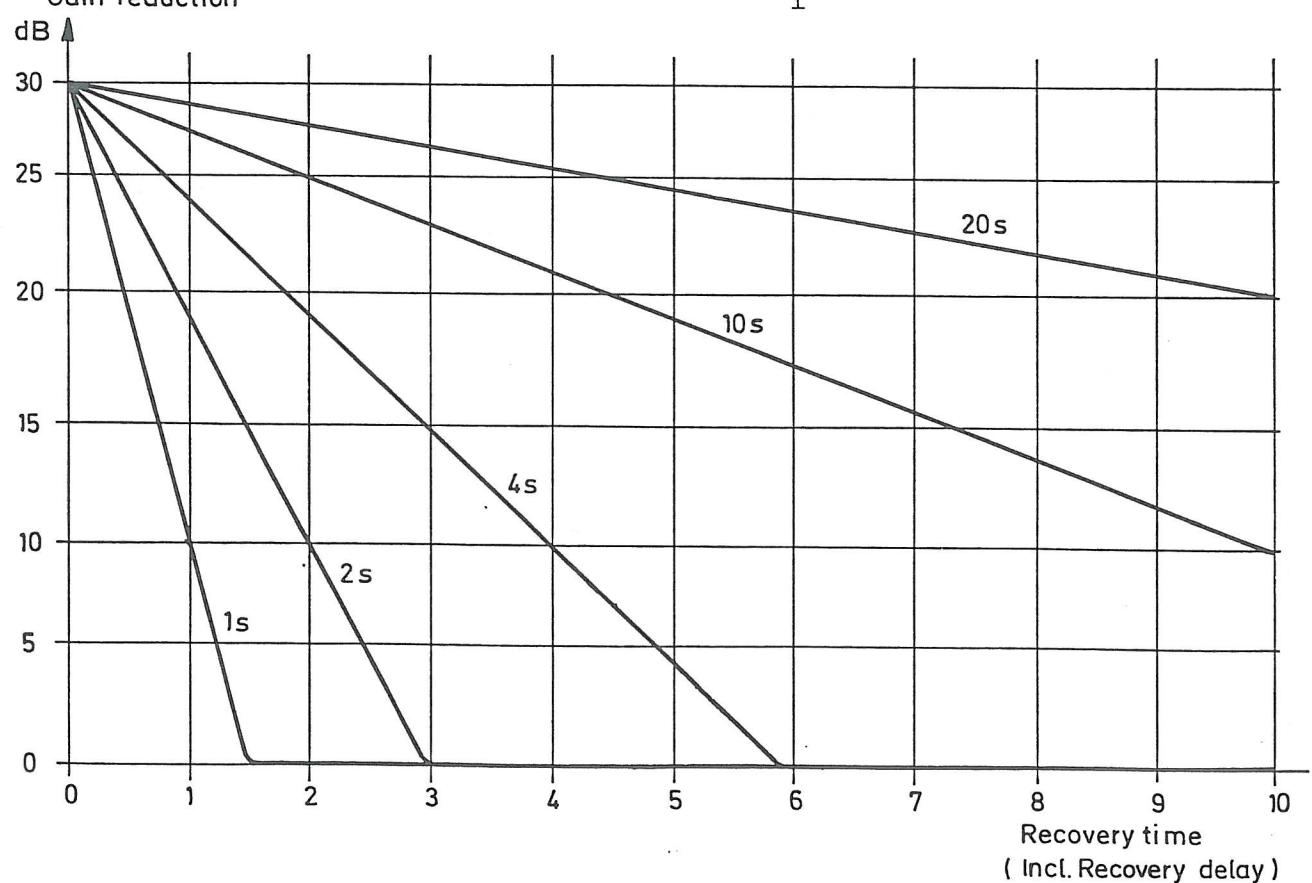


Fig. 4 Recovery vs time and tone-burst length.

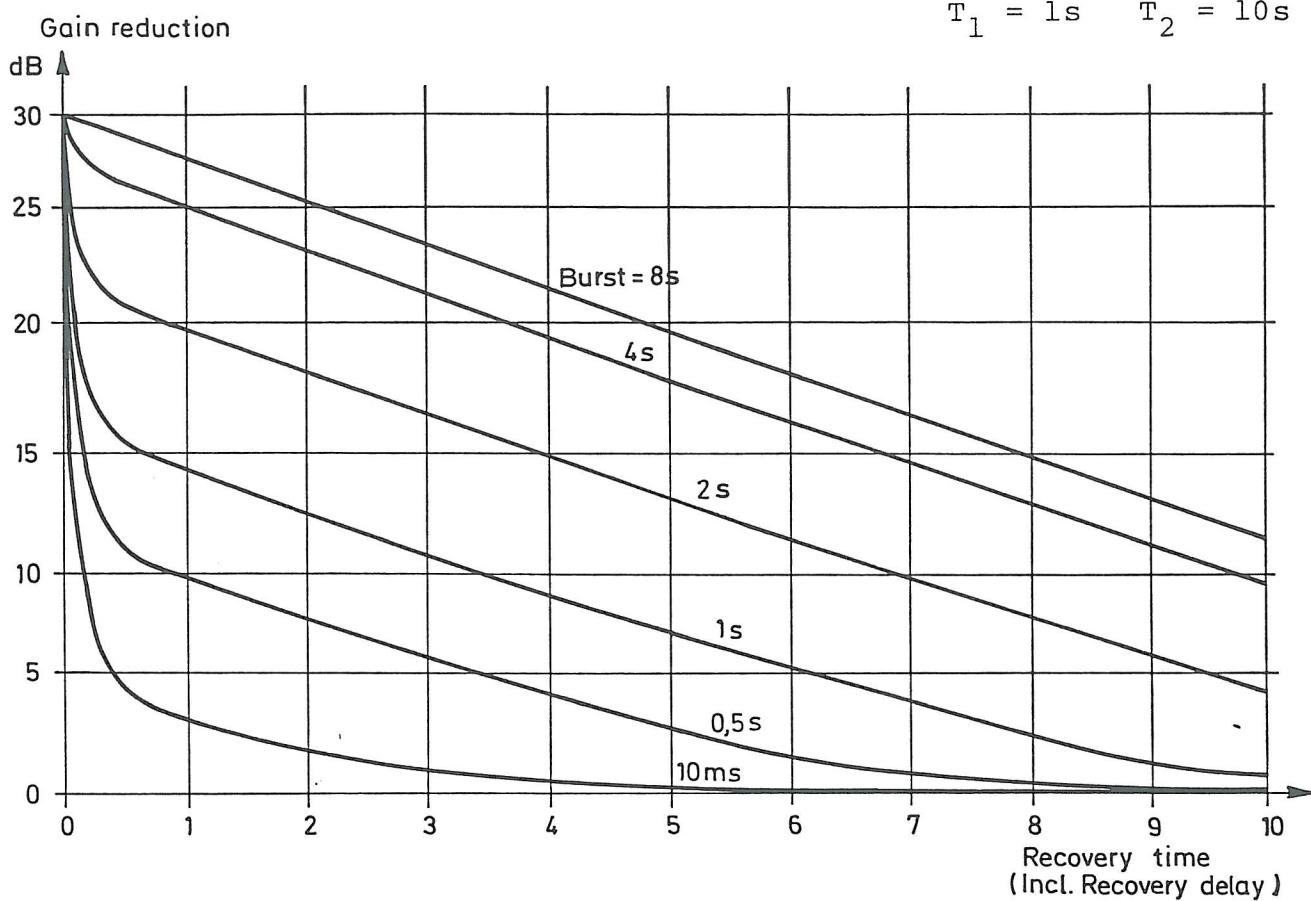


Fig. 5 Recovery vs time and tone-burst length.

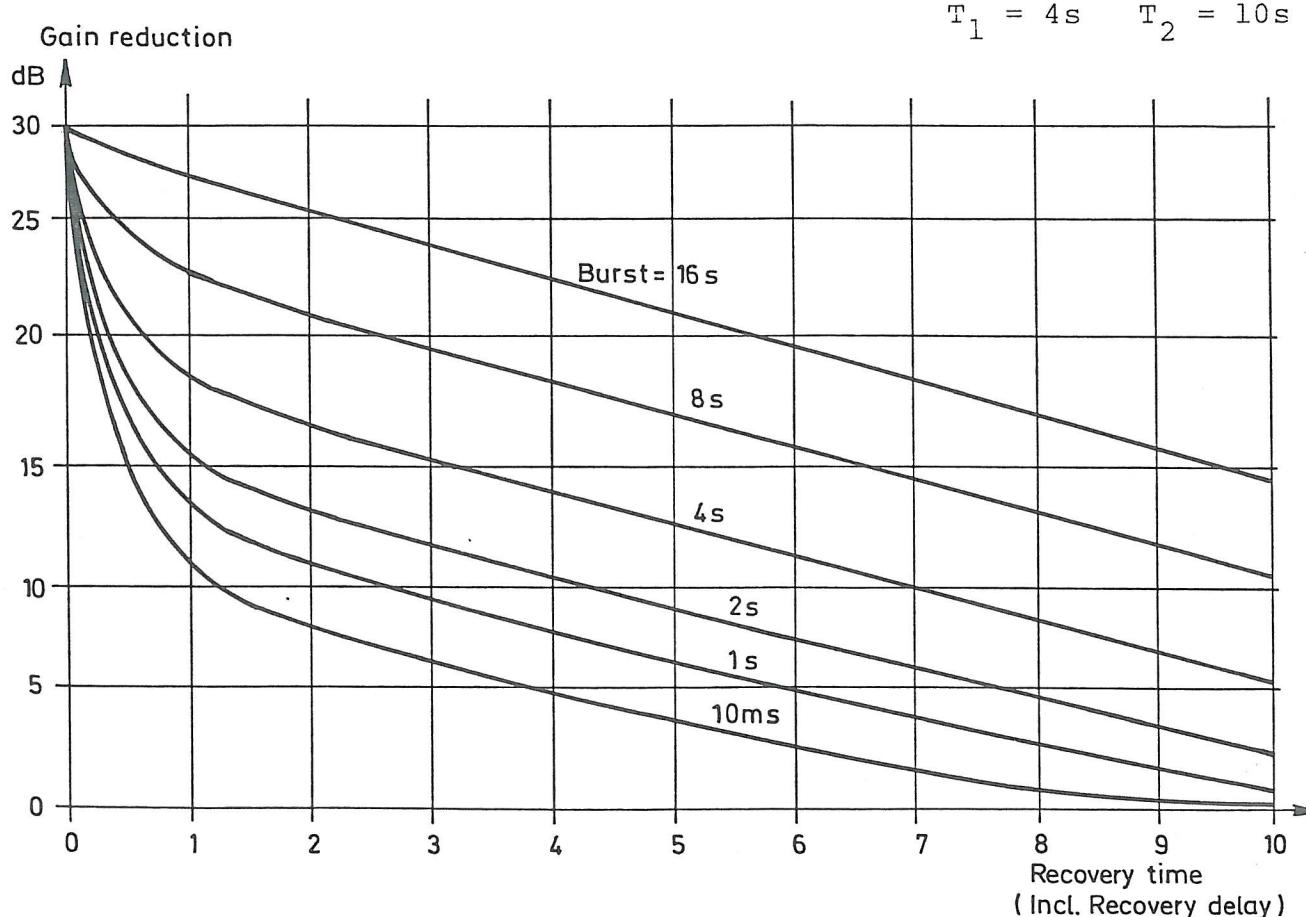
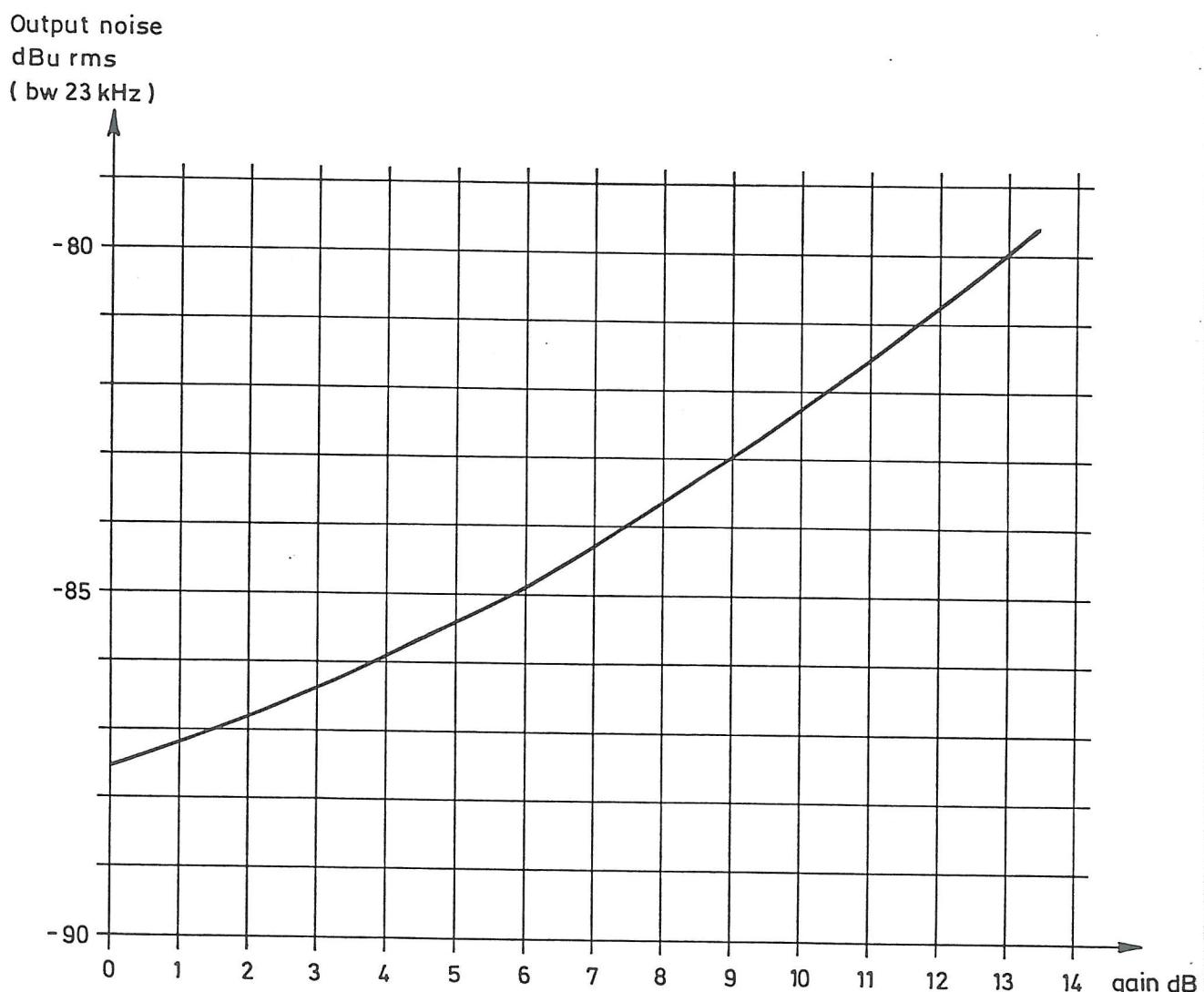


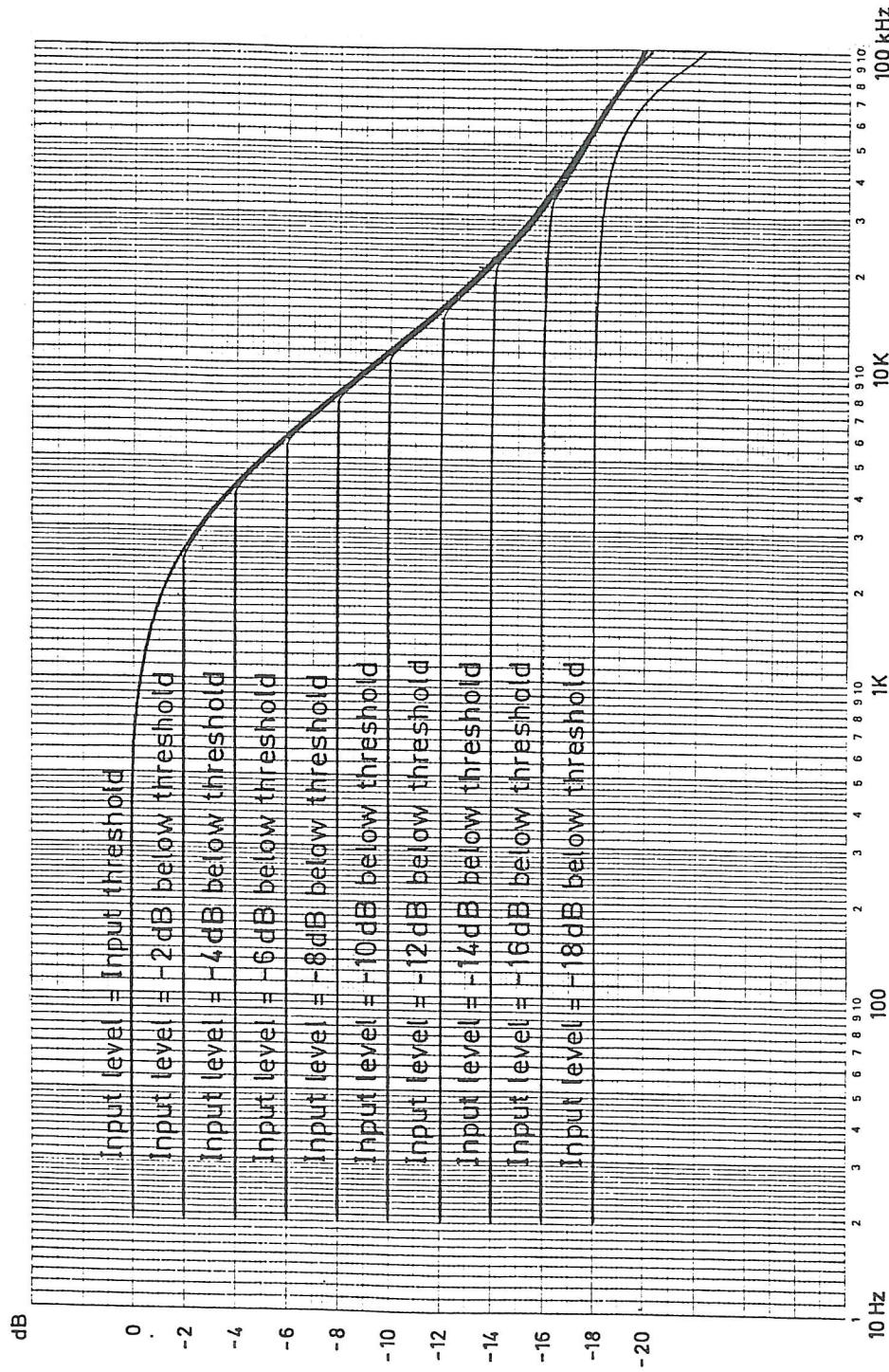
Fig. 6.



22.7.1986.

Fig. 7.

Output level (relativ to Ref. level)



LIMITER AMPLIFIER
179-400
TECHNICAL SPECIFICATIONS

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Threshold level with 50 μ s pre-emphasis us. frequency and input level



LIMITER AMPLIFIER

179-400

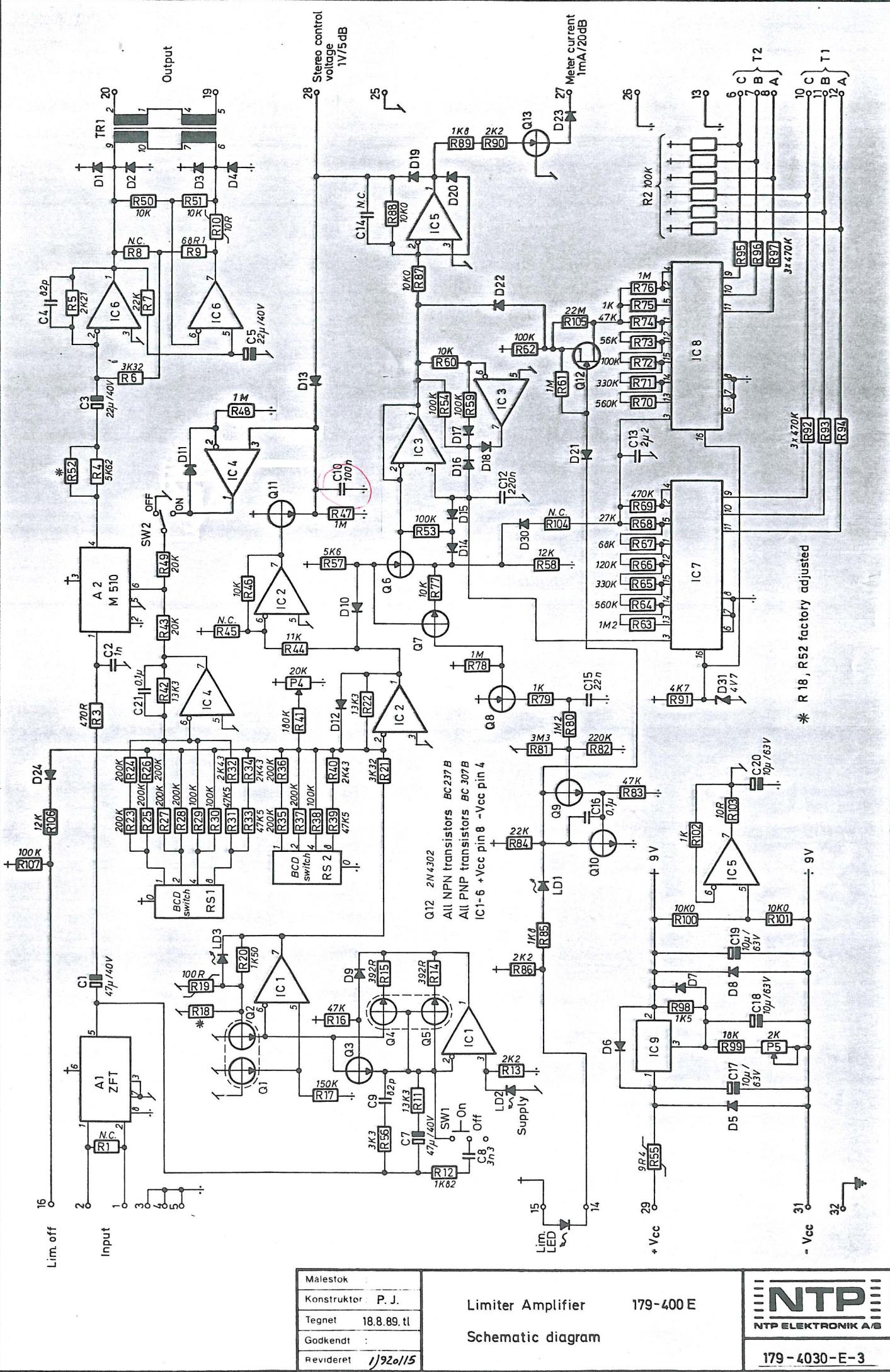
INSTRUCTION FOR ALIGNMENT

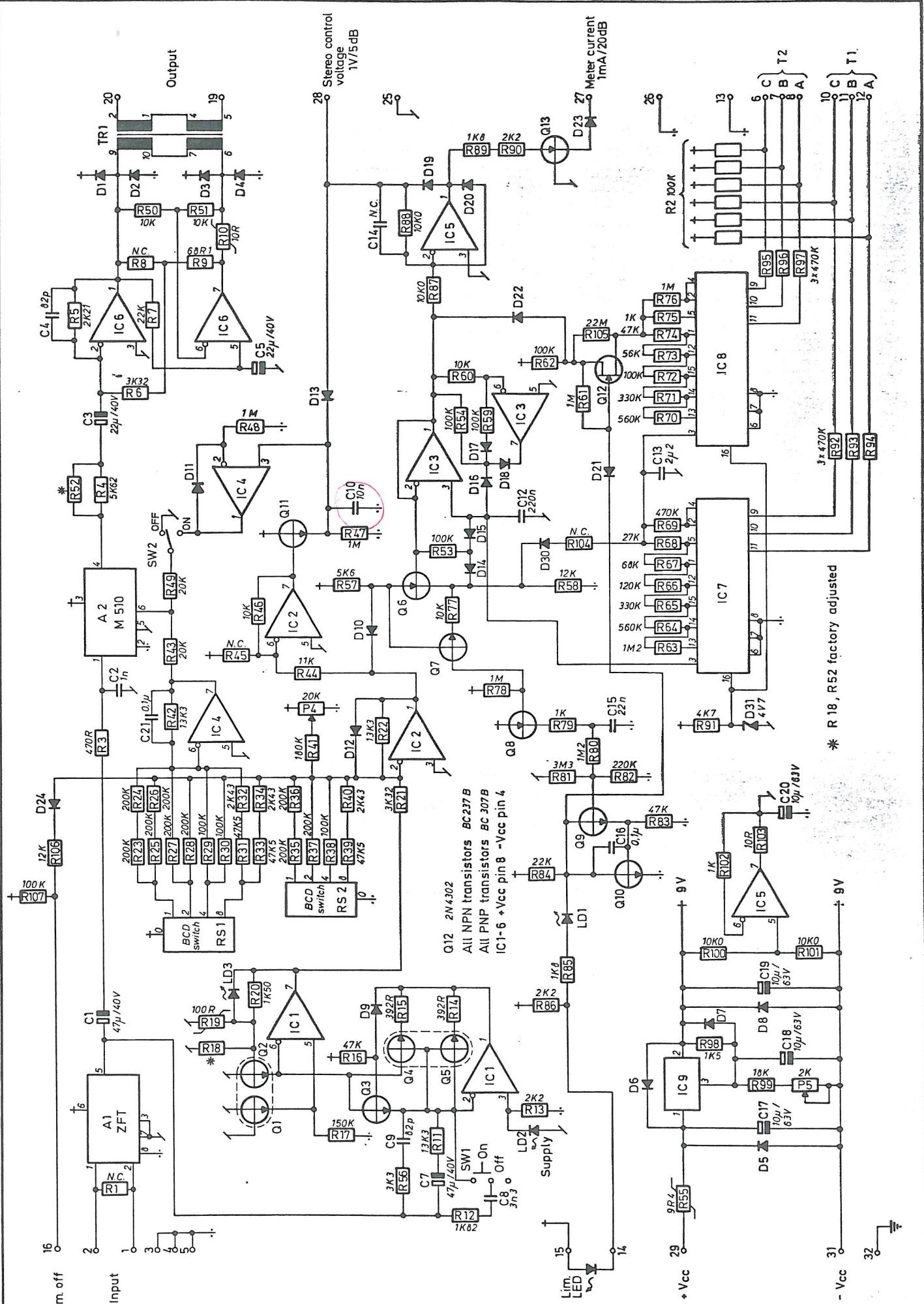
179-4022-A-4

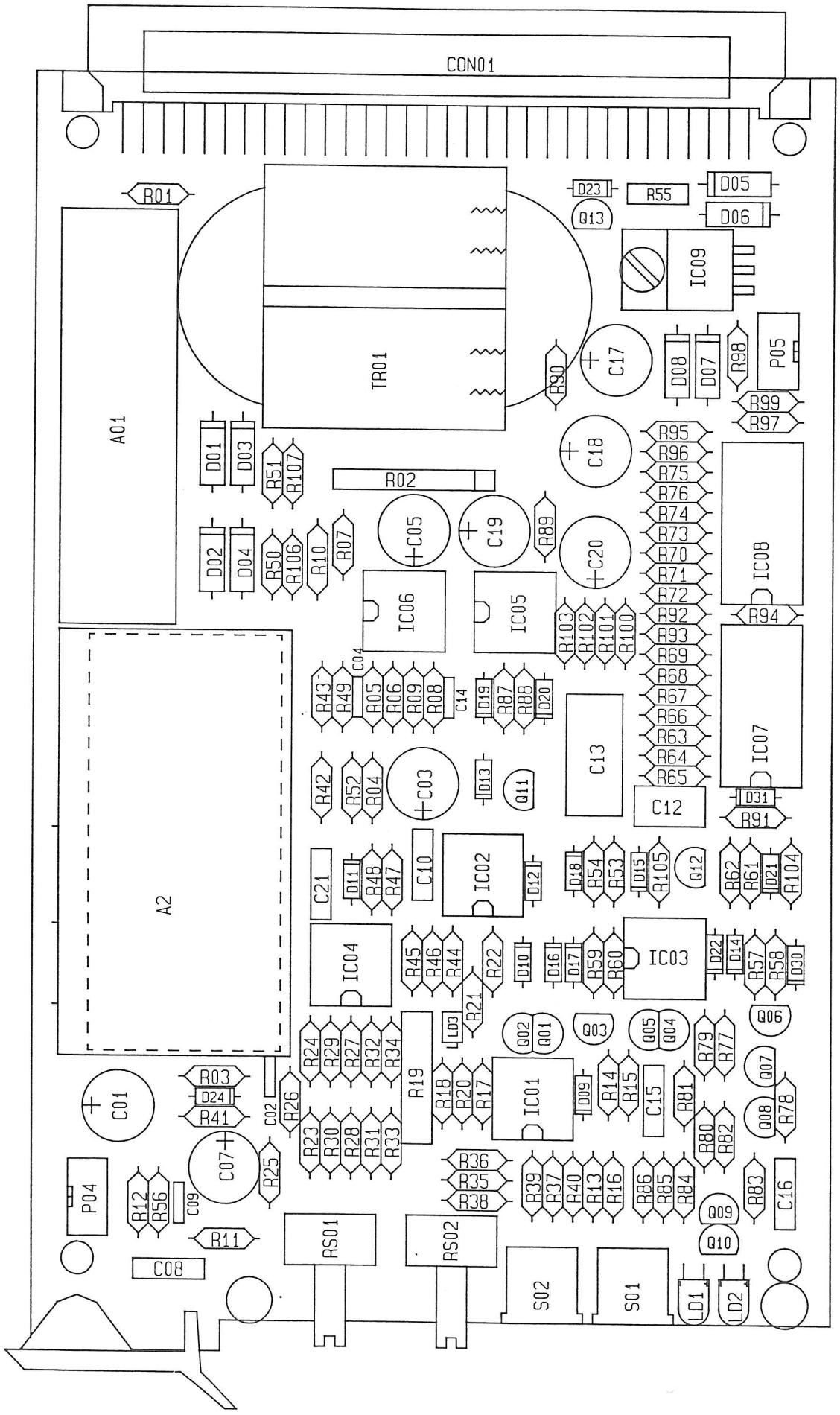
Normally the limiter amplifier will stay correctly adjusted, except when component has failed and has been replaced; then it may be necessary to make certain adjustments.

P₅ adjusts the supply voltage, 18V $\pm 0.1V$

P₄ adjusts the limiting threshold







Blank piece:	Material:	Treatment:	Page	of
Scale : 2:1	Limiter Amplifier PC Board	179-400E 179-4040E	NTP	
Tolerance :				
Design : HEN				
Layout : 22.5.90.t1	Component Lay-out			
Revised :				
			179-4041-E-3	

REF. NO	NTP-ID.	DESCRIPTION	QTY	MANUFACT/DRW. NO.	PART NO.
1	179-4040E	PC BOARD	1	CAD	179-4040E
2	179-4054E	FRONT PLATE	1	179-4054-E-4	179-4054.
3	179-4051	STAY FOR FRONTPLATE	2	179-4051-A-4	179-4051
4	179-4053	SCREEN PLATE	1	179-4053-A-4	179-4053
5	179-4055	ISOLATIONS PLATE	1	179-4055-A-4	179-4055
6	179-4056	SCREENPLATE	1	179-4056-A-4	179-4056
7	512-1151	SOLDERING POST	4	512-1151-A-4	512-1151
10	MMA-0030	NUT STEEL 3 MM	2	HFC 9832	DIN 934 3MG
11	MSB-2003	SCREW BIX 2 X 3	4	BIX	LKCS 2 X 3
12	MSB-3006	SCREW BIX 3 X 6	1	BIX	LKCS 3 X 6
13	MSC-2504	SCREW 2,5 X 4 CHJ	2	HFC 9033	2.5X4 CHJ
15	MTU-2504	SCREW CROSS HEAD 2.5 X 4 UHJ	2	HFC 9040	2.5 X 4 UHJX
16	MYA-0001	CARD EJECTOR	1	VERO	C12409/1 TOP
1990	MAB-0005	RIVET	2	B2.5X0.25X8.5	81-25085-7300
2000	KEM-6406	EUROCONNECTOR 64P ANGLE, MAL	1	ELCO 8257	8257 096 000
A 1	250-300J	ZFT-MODULE, 20K	1	250-3041-J-4	250-300J
A 2	250-520B	VCA MODULE	1	250-5241-B-4	250-520B
C 1	CFG-0847	CAP ELECTROLYTIC 47UF/40V	1	SIEMENS B41316	B41316 A7476 V
C 2	CCA-0410	CAP CERAMIC 1NF/63V	1	PH 2222	2222 629 02102
C 3	CFG-0822	CAP ELECTROLYTIC 22UF/40V	1	SIEMENS B41316	B41316 A7226 V
C 4	CCB-0282	CAP CERAMIC 82PF/100V	1	PH 2222	2222 632 58829
C 5	CFG-0822	CAP ELECTROLYTIC 22UF/40V	1	SIEMENS B41316	B41316 A7226 V
C 7	CFG-0847	CAP ELECTROLYTIC 47UF/40V	1	SIEMENS B41316	B41316 A7476 V
C 8	CKK-0433	CAP POLYESTER 3.3NF/400V	1	SIEMENS B32560	B32560 D6332 J
C 9	CCB-0282	CAP CERAMIC 82PF/100V	1	PH 2222	2222 632 58829
C 10	CKH-0647	CAP POLYESTER 470NF/100V	1	SIEMENS B32560	B32560 D1474 J
C 12	CKH-0622	CAP POLYESTER 220NF/100V	1	SIEMENS B32560	B32560 D1224 J
C 13	CKQ-0722	CAP POLYESTER 2.2UF/100V	1	SIEMENS B32562	B32562 D1225 J
C 15	CKI-0522	CAP POLYESTER 22NF/250V	1	SIEMENS B32560	B32560 D3223 J
C 16	CKH-0610	CAP POLYESTER 100NF/100V	1	SIEMENS B32560	B32560 D1104 J
C 17	CFH-0810	CAP ELECTROLYTIC 10UF/63V	1	SIEMENS B41316	B41316 A8106 V
C 18	CFH-0810	CAP ELECTROLYTIC 10UF/63V	1	SIEMENS B41316	B41316 A8106 V
C 19	CFH-0810	CAP ELECTROLYTIC 10UF/63V	1	SIEMENS B41316	B41316 A8106 V

NTP Parts List

as of date 25-5 1992.

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List No.: 179-403/-E-4

Multi 25.05.92 15: 2 PARTS LIST 179-400E

Side 2

NTP 179-400E LIM AMPL W BYPASS 64P CON

PARTS LIST

REF. NO	NTP-ID.	DESCRIPTION	QTY	MANUFACT/DRW.NO.	PART NO.
C 20	CFH-0810	CAP ELECTROLYTIC 10UUF/63V	1	SIEMENS B41316	B41316 A8106 V
C 21	CKH-0610	CAP POLYESTER 100NF/100V	1	SIEMENS B32560	B32560 D1104 J
D 1	QDS-4002	DIODE, SILICITUM	1	F-126	1N 4002
D 2	QDS-4002	DIODE, SILICITUM	1	F-126	1N 4002
D 3	QDS-4002	DIODE, SILICITUM	1	F-126	1N 4002
D 4	QDS-4002	DIODE, SILICITUM	1	F-126	1N 4002
D 5	QDS-4002	DIODE, SILICITUM	1	F-126	1N 4002
D 6	QDS-4002	DIODE, SILICITUM	1	F-126	1N 4002
D 7	QDS-4002	DIODE, SILICITUM	1	F-126	1N 4002
D 8	QDS-4002	DIODE, SILICITUM	1	F-126	1N 4002
D 9	QDS-4148	DIODE, SILICITUM	1	QDS-4148	1N 4148
D 10	QDS-4148	DIODE, SILICITUM	1	QDS-4148	1N 4148
D 11	QDS-4148	DIODE, SILICITUM	1	QDS-4148	1N 4148
D 12	QDS-4148	DIODE, SILICITUM	1	QDS-4148	1N 4148
D 13	QDS-4148	DIODE, SILICITUM	1	QDS-4148	1N 4148
D 14	QDS-4148	DIODE, SILICITUM	1	QDS-4148	1N 4148
D 15	QDS-4148	DIODE, SILICITUM	1	QDS-4148	1N 4148
D 16	QDS-4148	DIODE, SILICITUM	1	QDS-4148	1N 4148
D 17	QDS-4148	DIODE, SILICITUM	1	QDS-4148	1N 4148
D 18	QDS-4148	DIODE, SILICITUM	1	QDS-4148	1N 4148
D 19	QDS-4148	DIODE, SILICITUM	1	QDS-4148	1N 4148
D 20	QDS-4148	DIODE, SILICITUM	1	QDS-4148	1N 4148
D 21	QDS-4148	DIODE, SILICITUM	1	QDS-4148	1N 4148
D 22	QDS-4148	DIODE, SILICITUM	1	QDS-4148	1N 4148
D 23	QDS-4148	DIODE, SILICITUM	1	QDS-4148	1N 4148
D 24	QDS-4148	DIODE, SILICITUM	1	QDS-4148	1N 4148
D 31	QZD-0047	ZENERDIODE 4,7V	1	DO-35	ZPD 4,7
IC 1	ILA-412	OP-AMP	1	NAT. LF412	LF 412
IC 2	ILA-412	OP-AMP	1	NAT. LF412	LF 412
IC 3	ILA-353	OP-AMP	1	NAT. LF353	LF 353
IC 4	ILA-353	OP-AMP	1	NAT. LF353	LF 353
IC 5	ILA-353	OP-AMP	1	NAT. LF353	LF 353
IC 6	ILA-5532	OP-AMP	1	TEX. NE5532P	NE 5532P

NTP Parts List

as of date 25-5 1992.

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List No.: 179-4031-E-4

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PARTS LIST 179-400E

Side 3

NTP 179-400E LIM AMPL W BYPASS 64P CON

PARTS LIST

REF. NO	NTP-ID.	DESCRIPTION	QTY	PARTS LIST	MANUFACT/DRW.NO.	PART NO.
IC	7	ICA-4051	1	RCA CD4051BE	RCA CD4051BE	
IC	8	ICA-4051	1	RCA CD4051BE	RCA CD4051BE	
IC	9	ILR-317T	1	TEX TO-220	LM 317T	
LD	1	OES-0106	1	SPENDINGS REGULATOR	Q62703-573	
LD	2	OES-0108	1	LED RED 1x1	SIEMENS CQV 11	
LD	3	OES-0116	1	LED GREEN 1x1	SIEMENS CQV 15	Q62703 Q586
P	4	RFD-5200	1	TRIMPOtentiomETER 20K	SIEMENS LD 471	Q62703-Q102
P	5	RFD-4200	1	TRIMPOtentiomETER 2K	BOURNS 3386	3386H-1-203
Q	3	QBN-0237	1	TRANSISTOR, NPN	BOURNS 3386	3386H-1-202
Q	6	QBP-0307	1	TRANSISTOR, PNP	TO-92	BC237 B
Q	7	QBN-0237	1	TRANSISTOR, NPN	TO-92	BC307
Q	8	QBP-0307	1	TRANSISTOR, PNP	TO-92	BC237 B
Q	9	QBN-0237	1	TRANSISTOR, NPN	TO-92	BC237 B
Q	10	QBN-0237	1	TRANSISTOR, NPN	TO-92	BC237 B
Q	11	QBN-0237	1	TRANSISTOR, NPN	TO-92	BC237 B
Q	12	QFN-4302	1	FET	QFN-4302	2N 4302
Q	13	QBP-0307	1	TRANSISTOR, PNP	TO-92	BC307
Q	14	QBM-0237-2	1	TRANSISTORPAIR, NPN	TO 92	BC 237 PAR
Q	1/2	QBM-0237-2	1	RESISTOR NETWORK 100K 2%	SIL 8PIN REK	4308R 101 104
R	2	RAB-6100	1	RESISTOR CARBON 470R 0.66W 5	MBB 0207	MBB 0207 470R
R	3	RCA-3470	1	RESISTOR METAL 5K62 0.4W 1%	PHILLIPS MR25	2322 151 55622
R	4	RMA-4562	1	RESISTOR METAL 2K21 0.4W 1%	PHILLIPS MR25	2322 151 52212
R	5	RMA-4221	1	RESISTOR METAL 3K32 0.4W 1%	PHILLIPS MR25	2322 151 53322
R	6	RMA-4332	1	RESISTOR CARBON 22K 0.66W 5%	MBB 0207	MBB 0207 22K
R	7	RCA-5220	1	RESISTOR METAL 68R1 0.4W 1%	PHILLIPS MR25	2322 151 56819
R	9	RMA-2681	1	RESISTOR PTC 10R 0.13W 2%	PTC GT-55	LP 1/8 10R
R	10	RTA-2100	1	RESISTOR METAL 13K3 0.4W 1%	PHILLIPS MR25	2322 151 51333
R	11	RMA-5133	1	RESISTOR METAL 1K82 0.4W 1%	PHILLIPS MR25	2322 151 51822
R	12	RMA-4182	1	RESISTOR CARBON 2K2 0.66W 5%	MBB 0207	MBB 0207 2K2
R	13	RCA-4220	1	RESISTOR METAL 392R 0.4W 1%	PHILLIPS MR25	2322 151 53921
R	14	RMA-3392	1	RESISTOR METAL 392R 0.4W 1%	PHILLIPS MR25	2322 151 53921
R	15	RMA-3392	1	RESISTOR CARBON 47K 0.66W 5%	MBB 0207	MBB 0207 47K
R	16	RCA-5470	1			

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NTP 179-400E LIM AMPL W BYPASS 64P CON

PARTS LIST 179-400E

Side 4

REF. NO.	NTP-ID.	DESCRIPTION	QTY	PARTS LIST
R 17	RMA-6150	RESISTOR METAL 150K 0.4W 1%	1	PHILIPS MR25
R 19	RWB-3100	RESISTOR WIRE-WOUND 100R 1W	1	VITROHM 253-9
R 20	RMA-4150	RESISTOR METAL 1K5 0.4W 1%	1	PHILIPS MR25
R 21	RMA-4332	RESISTOR METAL 3K32 0.4W 1%	1	PHILIPS MR25
R 22	RMA-5133	RESISTOR METAL 13K3 0.4W 1%	1	PHILIPS MR25
R 23	RMA-6200	RESISTOR METAL 200K 0.4W 1%	1	PHILIPS MR25
R 24	RMA-6200	RESISTOR METAL 200K 0.4W 1%	1	PHILIPS MR25
R 25	RMA-6200	RESISTOR METAL 200K 0.4W 1%	1	PHILIPS MR25
R 26	RMA-6200	RESISTOR METAL 200K 0.4W 1%	1	PHILIPS MR25
R 27	RMA-6200	RESISTOR METAL 200K 0.4W 1%	1	PHILIPS MR25
R 28	RMA-6200	RESISTOR METAL 200K 0.4W 1%	1	PHILIPS MR25
R 29	RMA-6100	RESISTOR METAL 100K 0.4W 1%	1	PHILIPS MR25
R 30	RMA-6100	RESISTOR METAL 100K 0.4W 1%	1	PHILIPS MR25
R 31	RMA-5475	RESISTOR METAL 47K5 0.4W 1%	1	PHILIPS MR25
R 32	RMA-4243	RESISTOR METAL 2K43 0.4W 1%	1	PHILIPS MR25
R 33	RMA-5475	RESISTOR METAL 47K5 0.4W 1%	1	PHILIPS MR25
R 34	RMA-4243	RESISTOR METAL 2K43 0.4W 1%	1	PHILIPS MR25
R 35	RMA-6200	RESISTOR METAL 200K 0.4W 1%	1	PHILIPS MR25
R 36	RMA-6200	RESISTOR METAL 200K 0.4W 1%	1	PHILIPS MR25
R 37	RMA-6200	RESISTOR METAL 200K 0.4W 1%	1	PHILIPS MR25
R 38	RMA-6100	RESISTOR METAL 100K 0.4W 1%	1	PHILIPS MR25
R 39	RMA-5475	RESISTOR METAL 47K5 0.4W 1%	1	PHILIPS MR25
R 40	RMA-4243	RESISTOR METAL 2K43 0.4W 1%	1	PHILIPS MR25
R 41	RCA-6180	RESISTOR CARBON 180K 0.66W 5	1	MBB 0207
R 42	RMA-5133	RESISTOR METAL 13K3 0.4W 1%	1	PHILIPS MR25
R 43	RMA-5200	RESISTOR METAL 20K 0.4W 1%	1	PHILIPS MR25
R 44	RMA-5110	RESISTOR METAL 11K 0.4W 1%	1	PHILIPS MR25
R 46	RMA-5100	RESISTOR METAL 10K 0.4W 1%	1	PHILIPS MR25
R 47	RCA-7100	RESISTOR CARBON 1M 0.66W 5%	1	MBB 0207
R 48	RCA-7100	RESISTOR CARBON 1M 0.66W 5%	1	MBB 0207
R 49	RMA-5200	RESISTOR METAL 20K 0.4W 1%	1	PHILIPS MR25
R 50	RMA-5100	RESISTOR METAL 10K 0.4W 1%	1	PHILIPS MR25
R 51	RMA-5100	RESISTOR METAL 10K 0.4W 1%	1	PHILIPS MR25

NTP Parts List

as of date 25-5 1992.

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List No.: 179-4031-E-4

REF. NO.	NTP-ID.	DESCRIPTION	QTY	PARTS LIST	MANUFACT/DRW.NO.	PART NO.
R 53	RCA-6100	RESISTOR CARBON 100K 0.66W 5%	1	MBB 0207	MBB 0207 100K	
R 54	RCA-6100	RESISTOR CARBON 100K 0.66W 5%	1	MBB 0207	MBB 0207 100K	
R 55	RTC-1940	RESISTOR PTC 9R4	1	PTC Q63100	P2390 C970	
R 56	RCA-4330	RESISTOR CARBON 3K3 0.66W 5%	1	MBB 0207	MBB 0207 3K3	
R 57	RCA-4560	RESISTOR CARBON 5K6 0.66W 5%	1	MBB 0207	MBB 0207 5K6	
R 58	RCA-5120	RESISTOR CARBON 12K 0.66W 5%	1	MBB 0207	MBB 0207 12K	
R 59	RCA-6100	RESISTOR CARBON 100K 0.66W 5%	1	MBB 0207	MBB 0207 100K	
R 60	RCA-5100	RESISTOR CARBON 10K 0.66W 5%	1	MBB 0207	MBB 0207 10K	
R 61	RCA-7100	RESISTOR CARBON 1M 0.66W 5%	1	MBB 0207	MBB 0207 1M	
R 62	RCA-6100	RESISTOR CARBON 100K 0.66W 5%	1	MBB 0207	MBB 0207 100K	
R 63	RCA-7120	RESISTOR CARBON 1M2 0.66W 5%	1	MBB 0207	MBB 0207 1M2	
R 64	RCA-6560	RESISTOR CARBON 560K 0.66W 5%	1	MBB 0207	MBB 0207 560K	
R 65	RCA-6330	RESISTOR CARBON 330K 0.66W 5%	1	MBB 0207	MBB 0207 330K	
R 66	RCA-6120	RESISTOR CARBON 120K 0.66W 5%	1	MBB 0207	MBB 0207 120K	
R 67	RCA-5680	RESISTOR CARBON 68K 0.66W 5%	1	MBB 0207	MBB 0207 68K	
R 68	RCA-5270	RESISTOR CARBON 27K 0.66W 5%	1	MBB 0207	MBB 0207 27K	
R 69	RCA-6470	RESISTOR CARBON 470K 0.66W 5%	1	MBB 0207	MBB 0207 470K	
R 70	RCA-6560	RESISTOR CARBON 560K 0.66W 5%	1	MBB 0207	MBB 0207 560K	
R 71	RCA-6330	RESISTOR CARBON 330K 0.66W 5%	1	MBB 0207	MBB 0207 330K	
R 72	RCA-6100	RESISTOR CARBON 100K 0.66W 5%	1	MBB 0207	MBB 0207 100K	
R 73	RCA-5560	RESISTOR CARBON 56K 0.66W 5%	1	MBB 0207	MBB 0207 56K	
R 74	RCA-5470	RESISTOR CARBON 47K 0.66W 5%	1	MBB 0207	MBB 0207 47K	
R 75	RCA-4100	RESISTOR CARBON 1K 0.66W 5%	1	MBB 0207	MBB 0207 1K	
R 76	RCA-7100	RESISTOR CARBON 1M 0.66W 5%	1	MBB 0207	MBB 0207 1M	
R 77	RCA-5100	RESISTOR CARBON 10K 0.66W 5%	1	MBB 0207	MBB 0207 10K	
R 78	RCA-7100	RESISTOR CARBON 1M 0.66W 5%	1	MBB 0207	MBB 0207 1M	
R 79	RCA-4100	RESISTOR CARBON 1K 0.66W 5%	1	MBB 0207	MBB 0207 1K	
R 80	RCA-7120	RESISTOR CARBON 1M2 0.66W 5%	1	MBB 0207	MBB 0207 1M2	
R 81	RCA-7330	RESISTOR CARBON 3M3 0.66W 5%	1	MBB 0207	MBB 0207 3M3	
R 82	RCA-6220	RESISTOR CARBON 220K 0.66W 5%	1	MBB 0207	MBB 0207 220K	
R 83	RCA-5470	RESISTOR CARBON 47K 0.66W 5%	1	MBB 0207	MBB 0207 47K	
R 84	RCA-5220	RESISTOR CARBON 22K 0.66W 5%	1	MBB 0207	MBB 0207 22K	
R 85	RCA-4180	RESISTOR CARBON 1K8 0.66W 5%	1	MBB 0207	MBB 0207 1K8	

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LIM AMPL W BYPASS 64P CON

PARTS LIST

REF. NO	NTP-ID.	DESCRIPTION	QTY	PARTS LIST	MANUFACT/DRW.NO.	PART NO.
R 86	RCA-4220	RESISTOR CARBON 2K2 0.66W 5%	1	MBB 0207	2K2	
R 87	RMA-5100	RESISTOR METAL 10K 0.4W 1%	1	PHILLIPS MR25	2322 151	51003
R 88	RMA-5100	RESISTOR METAL 10K 0.4W 1%	1	PHILLIPS MR25	2322 151	51003
R 89	RCA-4180	RESISTOR CARBON 1K8 0.66W 5%	1	MBB 0207	1K8	
R 90	RCA-4220	RESISTOR CARBON 2K2 0.66W 5%	1	MBB 0207	2K2	
R 91	RCA-4470	RESISTOR CARBON 4K7 0.66W 5%	1	MBB 0207	4K7	
R 92	RCA-6470	RESISTOR CARBON 470K 0.66W 5	1	MBB 0207	470K	
R 93	RCA-6470	RESISTOR CARBON 470K 0.66W 5	1	MBB 0207	470K	
R 94	RCA-6470	RESISTOR CARBON 470K 0.66W 5	1	MBB 0207	470K	
R 95	RCA-6470	RESISTOR CARBON 470K 0.66W 5	1	MBB 0207	470K	
R 96	RCA-6470	RESISTOR CARBON 470K 0.66W 5	1	MBB 0207	470K	
R 97	RCA-6470	RESISTOR CARBON 470K 0.66W 5	1	MBB 0207	470K	
R 98	RCA-4150	RESISTOR CARBON 1K5 0.66W 5%	1	MBB 0207	1K5	
R 99	RCA-5180	RESISTOR CARBON 18K 0.66W 5%	1	MBB 0207	18K	
R 100	RMA-5100	RESISTOR METAL 10K 0.4W 1%	1	PHILLIPS MR25	2322 151	51003
R 101	RMA-5100	RESISTOR METAL 10K 0.4W 1%	1	PHILLIPS MR25	2322 151	51003
R 102	RCA-4100	RESISTOR CARBON 1K 0.66W 5%	1	MBB 0207	1K	
R 103	RCA-2100	RESISTOR CARBON 10R 0.66W 5%	1	MBB 0207	10R	
R 105	RXA-8220	RESISTOR HIGHVOLT 22M 0.25W	1	PHILLIPS VR25	2322 241	13226
R 106	RCA-5120	RESISTOR CARBON 12K 0.66W 5%	1	MBB 0207	12K	
R 107	RCA-6100	RESISTOR CARBON 100K 0.66W 5	1	MBB 0207	100K	
RS 1	SRB-0004	ROTARY SWITCH 9 POS YELLOW	1	HOPP & S.	422	020
RS 2	SRB-0004	ROTARY SWITCH 9 POS YELLOW	1	HOPP & S.	422	020
S 1	SSE-0112	SLIDE SWITCH SPDT	1	ALCO TSS	11	DG RA
S 2	SSE-0112	SLIDE SWITCH SPDT	1	ALCO TSS	11	DG RA
TR 1	LTL-0008	OUTPUTTRANSFORMER	1.2	LL LUNDAHL	5011	LL 5011

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PARTS LIST 179-40Y

Side 1

NTP 179-40Y LIM AMPLIF W BYPASS BAS NO CON

PARTS LIST

REF. NO	NTP-ID.	DESCRIPTION	QTY	MANUFACT/DRW.NO.	PART NO.	
1	179-4040E	PC BOARD	1	CAD	179-4040E	
2	179-4054E	FRONT PLATE	1	179-4054-E-4	179-4054.	
3	179-4051	STAY FOR FRONTPLATE	2	179-4051-A-4	179-4051	
4	179-4053	SCREEN PLATE	1	179-4053-A-4	179-4053	
5	179-4055	ISOLATIONS PLATE	1	179-4055-A-4	179-4055	
6	179-4056	SCREENPLATE	1	179-4056-A-4	179-4056	
7	512-1151	SOLDERING POST	4	512-1151-A-4	512-1151	
10	MMA-0030	NUT STEEL 3 MM	2	HFC 9832	DIN 934 3MG	
11	MSB-2003	SCREW BIX 2 X 3	4	BIX	LKCS 2 X 3	
12	MSB-3006	SCREW BIX 3 X 6	1	BIX	LKCS 3 X 6	
13	MSC-2504	SCREW 2,5 X 4 CHJ	2	HFC 9033	2.5X4 CHJ	
15	MTU-2504	SCREW CROSS HEAD 2.5 X 4 UHJ	2	HFC 9040	2.5 X 4 UHJX	
16	NYA-0001	CARD EJECTOR	1	VERO	C12409/1 TOP	
A	1	ZFT-MODULE, 20K	1	250-3041-J-4	250-300J	
A	2	VCA MODULE	1	250-5241-B-4	250-520B	
C	1	CFG-0847	CAP ELECTROLYTIC 47UF/40V	1	SIEMENS B41316	B41316 A7476 V
C	2	CCA-0410	CAP CERAMIC 1NF/63V	1	PH 2222 629	2222 629 02102
C	3	CFG-0822	CAP ELECTROLYTIC 22UF/40V	1	SIEMENS B41316	B41316 A7226 V
C	4	CCB-0282	CAP CERAMIC 82PF/100V	1	PH 2222 632	2222 632 58829
C	5	CFG-0822	CAP ELECTROLYTIC 22UF/40V	1	SIEMENS B41316	B41316 A7226 V
C	7	CFG-0847	CAP ELECTROLYTIC 47UF/40V	1	SIEMENS B41316	B41316 A7476 V
C	8	CRR-0433	CAP POLYESTER 3.3NF/400V	1	SIEMENS B32560	B32560 D6332 J
C	9	CCB-0282	CAP CERAMIC 82PF/100V	1	PH 2222 632	2222 632 58829
C	10	CKH-0647	CAP POLYESTER 470NF/100V	1	SIEMENS B32560	B32560 D1474 J
C	12	CKH-0622	CAP POLYESTER 220NF/100V	1	SIEMENS B32560	B32560 D1224 J
C	13	CKQ-0722	CAP POLYESTER 2.2UF/100V	1	SIEMENS B32562	B32562 D1225 J
C	15	CKI-0522	CAP POLYESTER 22NF/250V	1	SIEMENS B32560	B32560 D3223 J
C	16	CKH-0610	CAP POLYESTER 100NF/100V	1	SIEMENS B32560	B32560 D1104 J
C	17	CFH-0810	CAP ELECTROLYTIC 10UF/63V	1	SIEMENS B41316	B41316 A8106 V
C	18	CFH-0810	CAP ELECTROLYTIC 10UF/63V	1	SIEMENS B41316	B41316 A8106 V
C	19	CFH-0810	CAP ELECTROLYTIC 10UF/63V	1	SIEMENS B41316	B41316 A8106 V
C	20	CFH-0810	CAP ELECTROLYTIC 10UF/63V	1	SIEMENS B41316	B41316 A8106 V
C	21	CKH-0610	CAP POLYESTER 100NF/100V	1	SIEMENS B32560	B32560 D1104 J

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PARTS LIST

Side 2

NTP 179-40Y LIM AMPLIF W BYPASS BAS NO CON PARTS LIST 179-40Y

REF. NO	NTP-ID.	DESCRIPTION	QTY	MANUFACT/DRW.NO.	PART NO.
D 1	QDS-4002	DIODE, SILICUM	1	F-126	1N 4002
D 2	QDS-4002	DIODE, SILICUM	1	F-126	1N 4002
D 3	QDS-4002	DIODE, SILICUM	1	F-126	1N 4002
D 4	QDS-4002	DIODE, SILICUM	1	F-126	1N 4002
D 5	QDS-4002	DIODE, SILICUM	1	F-126	1N 4002
D 6	QDS-4002	DIODE, SILICUM	1	F-126	1N 4002
D 7	QDS-4002	DIODE, SILICUM	1	F-126	1N 4002
D 8	QDS-4002	DIODE, SILICUM	1	F-126	1N 4002
D 9	QDS-4148	DIODE, SILICUM	1	QDS-4148	1N 4148
D 10	QDS-4148	DIODE, SILICUM	1	QDS-4148	1N 4148
D 11	QDS-4148	DIODE, SILICUM	1	QDS-4148	1N 4148
D 12	QDS-4148	DIODE, SILICUM	1	QDS-4148	1N 4148
D 13	QDS-4148	DIODE, SILICUM	1	QDS-4148	1N 4148
D 14	QDS-4148	DIODE, SILICUM	1	QDS-4148	1N 4148
D 15	QDS-4148	DIODE, SILICUM	1	QDS-4148	1N 4148
D 16	QDS-4148	DIODE, SILICUM	1	QDS-4148	1N 4148
D 17	QDS-4148	DIODE, SILICUM	1	QDS-4148	1N 4148
D 18	QDS-4148	DIODE, SILICUM	1	QDS-4148	1N 4148
D 19	QDS-4148	DIODE, SILICUM	1	QDS-4148	1N 4148
D 20	QDS-4148	DIODE, SILICUM	1	QDS-4148	1N 4148
D 21	QDS-4148	DIODE, SILICUM	1	QDS-4148	1N 4148
D 22	QDS-4148	DIODE, SILICUM	1	QDS-4148	1N 4148
D 23	QDS-4148	DIODE, SILICUM	1	QDS-4148	1N 4148
D 24	QDS-4148	DIODE, SILICUM	1	QDS-4148	1N 4148
D 31	QZD-0047	ZENERDIODE 4,7V	1	DO-35	ZPD 4,7
IC 1	ILA-412	OP-AMP	1	NAT. LF412	LF 412
IC 2	ILA-412	OP-AMP	1	NAT. LF412	LF 412
IC 3	ILA-353	OP-AMP	1	NAT. LF353	LF 353
IC 4	ILA-353	OP-AMP	1	NAT. LF353	LF 353
IC 5	ILA-353	OP-AMP	1	NAT. LF353	LF 353
IC 6	ILA-5532	OP-AMP	1	TEX. NE5532P	NE 5532P
IC 7	ICA-4051	8-CHANNEL ANALOG MULTIPLEX.	1	RCA CD4051BE	RCA CD4051BE
IC 8	ICA-4051	8-CHANNEL ANALOG MULTIPLEX.	1	RCA CD4051BE	RCA CD4051BE

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PARTS LIST 179-40Y

Side 3

NTP 179-40Y LIM AMPLIF W BYPASS BAS NO CON

REF. NO	NTP-ID.	DESCRIPTION	QTY	PARTS LIST 179-40Y	PARTS LIST	179-40Y	PARTS LIST	179-40Y	PART NO.
IC 9	ILR-317T	SPENDING REGULATOR	1	TEX. TO-220	LM 317T				
LD 1	OES-0106	LED RED 1x1	1	SIEMENS CQV 11	Q62703-573				
LD 2	OES-0108	LED GREEN 1x1	1	SIEMENS CQV 15	Q62703 Q586				
LD 3	OES-0116	LED GREEN 1x1	1	SIEMENS LD 471	Q62703-Q102				
P 4	RFD-5200	TRIMPOTENTIOMETER 20K	1	BOURNS 3386	3386H-1-203				
P 5	RFD-4200	TRIMPOTENTIOMETER 2K	1	BOURNS 3386	3386H-1-202				
Q 3	QBN-0237	TRANSISTOR, NPN	1	TO-92	BC237 B				
Q 6	QBP-0307	TRANSISTOR, PNP	1	TO-92	BC307				
Q 7	QBN-0237	TRANSISTOR, NPN	1	TO-92	BC237 B				
Q 8	QBP-0307	TRANSISTOR, PNP	1	TO-92	BC307				
Q 9	QBN-0237	TRANSISTOR, NPN	1	TO-92	BC237 B				
Q 10	QBN-0237	TRANSISTOR, NPN	1	TO-92	BC237 B				
Q 11	QBN-0237	TRANSISTOR, NPN	1	TO-92	BC237 B				
Q 12	QFN-4302	FET	1	QFN-4302	2N 4302				
Q 13	QBP-0307	TRANSISTOR, PNP	1	TO-92	BC307				
Q 1/2	QBM-0237-2	TRANSISTORPAIR, NPN	1	TO 92	BC 237 PAR				
Q 4/5	QBM-0237-2	TRANSISTORPAIR, NPN	1	TO 92	BC 237 PAR				
R 2	RAB-6100	RESISTOR NETWORK 100K 2%	1	SIL 8PIN REK	4308R 101 104				
R 3	RCA-3470	RESISTOR CARBON 470R 0.66W 5	1	MBB 0207	MBB 0207 470R				
R 4	RMA-4562	RESISTOR METAL 5K62 0.4W 1%	1	PHILLIPS MR25	2322 151 55622				
R 5	RMA-4221	RESISTOR METAL 2K21 0.4W 1%	1	PHILLIPS MR25	2322 151 52212				
R 6	RMA-4332	RESISTOR METAL 3K32 0.4W 1%	1	PHILLIPS MR25	2322 151 53322				
R 7	RCA-5220	RESISTOR CARBON 22K 0.66W 5%	1	MBB 0207	MBB 0207 22K				
R 9	RMA-2681	RESISTOR METAL 68R1 0.4W 1%	1	PHILLIPS MR25	2322 151 56819				
R 10	RTA-2100	RESISTOR PTC 10R 0.13W 2%	1	PTC GT-55	LP 1/8 10R				
R 11	RMA-5133	RESISTOR METAL 13K3 0.4W 1%	1	PHILLIPS MR25	2322 151 51333				
R 12	RMA-4182	RESISTOR METAL 1K82 0.4W 1%	1	PHILLIPS MR25	2322 151 51822				
R 13	RCA-4220	RESISTOR CARBON 2K2 0.66W 5%	1	MBB 0207	MBB 0207 2K2				
R 14	RMA-3392	RESISTOR METAL 392R 0.4W 1%	1	PHILLIPS MR25	2322 151 53921				
R 15	RMA-3392	RESISTOR METAL 392R 0.4W 1%	1	PHILLIPS MR25	2322 151 53921				
R 16	RCA-5470	RESISTOR CARBON 47K 0.66W 5%	1	MBB 0207	MBB 0207 47K				
R 17	RMA-6150	RESISTOR METAL 150K 0.4W 1%	1	PHILLIPS MR25	2322 151 51504				
R 19	RWB-3100	RESISTOR WIRE-WOUND 100R 1W	1	VITROHM 253-9	253-9 100R				

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NTP 179-40Y PARTS LIST 179-40Y

Side 4

NTP 179-40Y LIM AMPLIF W BYPASS BAS NO CON

PARTS LIST

REF. NO	NTP-ID.	DESCRIPTION	QTY	MANUFACT/DRW.NO.	PART NO.
R 20	RMA-4150	RESISTOR METAL 1K5 0.4W 1%	1	PHILIPS MR25	2322 151 51502
R 21	RMA-4332	RESISTOR METAL 3K32 0.4W 1%	1	PHILIPS MR25	2322 151 53322
R 22	RMA-5133	RESISTOR METAL 13K3 0.4W 1%	1	PHILIPS MR25	2322 151 51333
R 23	RMA-6200	RESISTOR METAL 200K 0.4W 1%	1	PHILIPS MR25	2322 151 52004
R 24	RMA-6200	RESISTOR METAL 200K 0.4W 1%	1	PHILIPS MR25	2322 151 52004
R 25	RMA-6200	RESISTOR METAL 200K 0.4W 1%	1	PHILIPS MR25	2322 151 52004
R 26	RMA-6200	RESISTOR METAL 200K 0.4W 1%	1	PHILIPS MR25	2322 151 52004
R 27	RMA-6200	RESISTOR METAL 200K 0.4W 1%	1	PHILIPS MR25	2322 151 52004
R 28	RMA-6200	RESISTOR METAL 200K 0.4W 1%	1	PHILIPS MR25	2322 151 52004
R 29	RMA-6100	RESISTOR METAL 100K 0.4W 1%	1	PHILIPS MR25	2322 151 51004
R 30	RMA-6100	RESISTOR METAL 100K 0.4W 1%	1	PHILIPS MR25	2322 151 51004
R 31	RMA-5475	RESISTOR METAL 47K5 0.4W 1%	1	PHILIPS MR25	2322 151 54753
R 32	RMA-4243	RESISTOR METAL 2K43 0.4W 1%	1	PHILIPS MR25	2322 151 52432
R 33	RMA-5475	RESISTOR METAL 47K5 0.4W 1%	1	PHILIPS MR25	2322 151 54753
R 34	RMA-4243	RESISTOR METAL 2K43 0.4W 1%	1	PHILIPS MR25	2322 151 52432
R 35	RMA-6200	RESISTOR METAL 200K 0.4W 1%	1	PHILIPS MR25	2322 151 52004
R 36	RMA-6200	RESISTOR METAL 200K 0.4W 1%	1	PHILIPS MR25	2322 151 52004
R 37	RMA-6200	RESISTOR METAL 200K 0.4W 1%	1	PHILIPS MR25	2322 151 52004
R 38	RMA-6100	RESISTOR METAL 100K 0.4W 1%	1	PHILIPS MR25	2322 151 51004
R 39	RMA-5475	RESISTOR METAL 47K5 0.4W 1%	1	PHILIPS MR25	2322 151 54753
R 40	RMA-4243	RESISTOR METAL 2K43 0.4W 1%	1	PHILIPS MR25	2322 151 52432
R 41	RCA-6180	RESISTOR CARBON 180K 0.66W 5	1	MBB 0207	MBB 180K
R 42	RMA-5133	RESISTOR METAL 13K3 0.4W 1%	1	PHILIPS MR25	2322 151 51333
R 43	RMA-5200	RESISTOR METAL 20K 0.4W 1%	1	PHILIPS MR25	2322 151 52003
R 44	RMA-5110	RESISTOR METAL 11K 0.4W 1%	1	PHILIPS MR25	2322 151 51103
R 45	RMA-5100	RESISTOR METAL 10K 0.4W 1%	1	PHILIPS MR25	2322 151 51003
R 46	RCA-7100	RESISTOR CARBON 1M 0.66W 5%	1	MBB 0207	MBB 0207 1M
R 47	RCA-7100	RESISTOR CARBON 1M 0.66W 5%	1	MBB 0207	MBB 0207 1M
R 48	RCA-7100	RESISTOR METAL 20K 0.4W 1%	1	PHILIPS MR25	2322 151 52003
R 49	RMA-5200	RESISTOR METAL 10K 0.4W 1%	1	PHILIPS MR25	2322 151 51003
R 50	RMA-5100	RESISTOR METAL 10K 0.4W 1%	1	PHILIPS MR25	2322 151 51003
R 51	RMA-5100	RESISTOR CARBON 100K 0.66W 5	1	PHILIPS MR25	2322 151 51003
R 52	RCA-6100	RESISTOR CARBON 100K 0.66W 5	1	MBB 0207	MBB 0207 100K
R 53	RCA-6100	RESISTOR CARBON 100K 0.66W 5	1	MBB 0207	MBB 0207 100K

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NTP 179-40Y PARTS LIST 179-40Y

Side 5

NTP 179-40Y LIM AMPLIF W BYPASS BAS NO CON

REF.NO	NTP-ID.	DESCRIPTION	QTY	MANUFACT/DRW.NO.	PART NO.
R 55	RTC-1940	RESISTOR PTC 9R4	1	PTC Q63100	P2390 C970
R 56	RCA-4330	RESISTOR CARBON 3K3 0.66W 5%	1	MBB 0207	MBB 0207 3K3
R 57	RCA-4560	RESISTOR CARBON 5K6 0.66W 5%	1	MBB 0207	MBB 0207 5K6
R 58	RCA-5120	RESISTOR CARBON 12K 0.66W 5%	1	MBB 0207	MBB 0207 12K
R 59	RCA-6100	RESISTOR CARBON 100K 0.66W 5%	1	MBB 0207	MBB 0207 100K
R 60	RCA-5100	RESISTOR CARBON 10K 0.66W 5%	1	MBB 0207	MBB 0207 10K
R 61	RCA-7100	RESISTOR CARBON 1M 0.66W 5%	1	MBB 0207	MBB 0207 1M
R 62	RCA-6100	RESISTOR CARBON 100K 0.66W 5%	1	MBB 0207	MBB 0207 100K
R 63	RCA-7120	RESISTOR CARBON 1M2 0.66W 5%	1	MBB 0207	MBB 0207 1M2
R 64	RCA-6560	RESISTOR CARBON 560K 0.66W 5%	1	MBB 0207	MBB 0207 560K
R 65	RCA-6330	RESISTOR CARBON 330K 0.66W 5%	1	MBB 0207	MBB 0207 330K
R 66	RCA-6120	RESISTOR CARBON 120K 0.66W 5%	1	MBB 0207	MBB 0207 120K
R 67	RCA-5680	RESISTOR CARBON 68K 0.66W 5%	1	MBB 0207	MBB 0207 68K
R 68	RCA-5270	RESISTOR CARBON 27K 0.66W 5%	1	MBB 0207	MBB 0207 27K
R 69	RCA-6470	RESISTOR CARBON 470K 0.66W 5%	1	MBB 0207	MBB 0207 470K
R 70	RCA-6560	RESISTOR CARBON 560K 0.66W 5%	1	MBB 0207	MBB 0207 560K
R 71	RCA-6330	RESISTOR CARBON 330K 0.66W 5%	1	MBB 0207	MBB 0207 330K
R 72	RCA-6100	RESISTOR CARBON 100K 0.66W 5%	1	MBB 0207	MBB 0207 100K
R 73	RCA-5560	RESISTOR CARBON 56K 0.66W 5%	1	MBB 0207	MBB 0207 56K
R 74	RCA-5470	RESISTOR CARBON 47K 0.66W 5%	1	MBB 0207	MBB 0207 47K
R 75	RCA-4100	RESISTOR CARBON 1K 0.66W 5%	1	MBB 0207	MBB 0207 1K
R 76	RCA-7100	RESISTOR CARBON 1M 0.66W 5%	1	MBB 0207	MBB 0207 1M
R 77	RCA-5100	RESISTOR CARBON 10K 0.66W 5%	1	MBB 0207	MBB 0207 10K
R 78	RCA-7100	RESISTOR CARBON 1M 0.66W 5%	1	MBB 0207	MBB 0207 1M
R 79	RCA-4100	RESISTOR CARBON 1K 0.66W 5%	1	MBB 0207	MBB 0207 1K
R 80	RCA-7120	RESISTOR CARBON 1M2 0.66W 5%	1	MBB 0207	MBB 0207 1M2
R 81	RCA-7330	RESISTOR CARBON 3M3 0.66W 5%	1	MBB 0207	MBB 0207 3M3
R 82	RCA-6220	RESISTOR CARBON 220K 0.66W 5%	1	MBB 0207	MBB 0207 220K
R 83	RCA-5470	RESISTOR CARBON 47K 0.66W 5%	1	MBB 0207	MBB 0207 47K
R 84	RCA-5220	RESISTOR CARBON 22K 0.66W 5%	1	MBB 0207	MBB 0207 22K
R 85	RCA-4180	RESISTOR CARBON 1K8 0.66W 5%	1	MBB 0207	MBB 0207 1K8
R 86	RCA-4220	RESISTOR CARBON 2K2 0.66W 5%	1	MBB 0207	MBB 0207 2K2
R 87	RMA-5100	RESISTOR METAL 10K 0.4W 1%	1	PHILLIPS MR25	2322 151 51003

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Side 6

PARTS LIST

179-40Y

NTP 179-40Y LTM AMPLIF W BYPASS BAS NO CON

PARTS LIST

REF. NO	NTP-ID.	DESCRIPTION	QTY	MANUFACT/DRW.NO.	PART NO.
R 88	RMA-5100	RESISTOR METAL 10K 0.4W 1%	1	PHILLIPS MR25	2322 151 51003
R 89	RCA-4180	RESISTOR CARBON 1K8 0.66W 5%	1	MBB 0207	MBB 0207 1K8
R 90	RCA-4220	RESISTOR CARBON 2K2 0.66W 5%	1	MBB 0207	MBB 0207 2K2
R 91	RCA-4470	RESISTOR CARBON 4K7 0.66W 5%	1	MBB 0207	MBB 0207 4K7
R 92	RCA-6470	RESISTOR CARBON 470K 0.66W 5	1	MBB 0207	MBB 0207 470K
R 93	RCA-6470	RESISTOR CARBON 470K 0.66W 5	1	MBB 0207	MBB 0207 470K
R 94	RCA-6470	RESISTOR CARBON 470K 0.66W 5	1	MBB 0207	MBB 0207 470K
R 95	RCA-6470	RESISTOR CARBON 470K 0.66W 5	1	MBB 0207	MBB 0207 470K
R 96	RCA-6470	RESISTOR CARBON 470K 0.66W 5	1	MBB 0207	MBB 0207 470K
R 97	RCA-6470	RESISTOR CARBON 470K 0.66W 5	1	MBB 0207	MBB 0207 470K
R 98	RCA-4150	RESISTOR CARBON 1K5 0.66W 5%	1	MBB 0207	MBB 0207 1K5
R 99	RCA-5180	RESISTOR CARBON 18K 0.66W 5%	1	MBB 0207	MBB 0207 18K
R 100	RMA-5100	RESISTOR METAL 10K 0.4W 1%	1	PHILLIPS MR25	2322 151 51003
R 101	RMA-5100	RESISTOR METAL 10K 0.4W 1%	1	PHILLIPS MR25	2322 151 51003
R 102	RCA-4100	RESISTOR CARBON 1K 0.66W 5%	1	MBB 0207	MBB 0207 1K
R 103	RCA-2100	RESISTOR CARBON 10R 0.66W 5%	1	MBB 0207	MBB 0207 10R
R 105	RXA-8220	RESISTOR HIGHVOLT 22M 0.25W	1	PHILLIPS VR25	2322 241 13226
R 106	RCA-5120	RESISTOR CARBON 12K 0.66W 5%	1	MBB 0207	MBB 0207 12K
R 107	RCA-6100	RESISTOR CARBON 100K 0.66W 5	1	MBB 0207	MBB 0207 100K
RS 1	SRB-0004	ROTARY SWITCH 9 POS YELLOW	1	HOPT & S. 422	020
RS 2	SRB-0004	ROTARY SWITCH 9 POS YELLOW	1	HOPT & S. 422	020
S 1	SSE-0112	SLIDE SWITCH SPDT	1	ALCO TSS	11 DG RA
S 2	SSE-0112	SLIDE SWITCH SPDT	1	ALCO TSS	11 DG RA
TR 1	LTL-0008	OUTPUTTRANSFORMER	1.2	1 LUNDAHL 5011	LL 5011

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PARTS LIST 179-40Y

REF. NO	NTP-ID.	DESCRIPTION	QTY	PARTS LIST	1/3-40Y	PARTS LIST	1/3-40Y	PARTS LIST	1/3-40Y
1	179-4040E	PC BOARD	1	CAD	179-4040E	179-4040E	179-4040E	179-4040E	179-4040E
2	179-4054E	FRONT PLATE	1	179-4054-E-4	179-4054-E-4	179-4054-E-4	179-4054-E-4	179-4054-E-4	179-4054-E-4
3	179-4051	STAY FOR FRONTPLATE	2	179-4051-A-4	179-4051-A-4	179-4051-A-4	179-4051-A-4	179-4051-A-4	179-4051-A-4
4	179-4053	SCREEN PLATE	1	179-4053-A-4	179-4053-A-4	179-4053-A-4	179-4053-A-4	179-4053-A-4	179-4053-A-4
5	179-4055	ISOLATIONS PLATE	1	179-4055-A-4	179-4055-A-4	179-4055-A-4	179-4055-A-4	179-4055-A-4	179-4055-A-4
6	179-4056	SCREENPLATE	1	179-4056-A-4	179-4056-A-4	179-4056-A-4	179-4056-A-4	179-4056-A-4	179-4056-A-4
7	512-1151	SOLDERING POST	4	512-1151-A-4	512-1151-A-4	512-1151-A-4	512-1151-A-4	512-1151-A-4	512-1151-A-4
10	NMA-0030	NUT STEEL 3 MM	2	HFC 9832	DIN 934 3MG				
11	MSB-2003	SCREW BIX 2 X 3	4	BIX	LKCS 2 X 3				
12	MSB-3006	SCREW BIX 3 X 6	1	BIX	LKCS 3 X 6				
13	MSC-2504	SCREW 2,5 X 4 CHJ	2	HFC 9033	2.5X4 CHJ				
15	MTU-2504	SCREW CROSS HEAD 2.5 X 4 UHJ	2	HFC 9040	2.5 X 4 UHJX				
16	MYA-0001	CARD EJECTOR	1	VERO	C12409/1 TOP				
A	1	ZFT-MODULE, 20K	1	250-3041-J-4	250-300J	250-300J	250-300J	250-300J	250-300J
A	2	VCA MODULE	1	250-5241-B-4	250-520B	250-520B	250-520B	250-520B	250-520B
C	1	CFG-0847	1	SIEMENS B41316	B41316 A7476 V				
C	2	CCA-0410	1	PH 2222	629	2222 629	2222 629	2222 629	2222 629
C	3	CFG-0822	1	SIEMENS B41316	B41316 A7226 V				
C	4	CCB-0282	1	PH 2222	632	2222 632	2222 632	2222 632	2222 632
C	5	CFG-0822	1	SIEMENS B41316	B41316 A7226 V				
C	7	CFG-0847	1	SIEMENS B41316	B41316 A7476 V				
C	8	CKK-0433	1	SIEMENS B32560	B32560 D6332 J				
C	9	CCB-0282	1	PH 2222	632	2222 632	2222 632	2222 632	2222 632
C	10	CKK-0510	1	SIEMENS B32560	B32560 D6103 J				
C	12	CKH-0622	1	SIEMENS B32560	B32560 D1224 J				
C	13	CKQ-0722	1	SIEMENS B32562	B32562 D1225 J				
C	15	CKI-0522	1	SIEMENS B32560	B32560 D3223 J				
C	16	CKH-0610	1	SIEMENS B32560	B32560 D1104 J				
C	17	CFH-0810	1	SIEMENS B41316	B41316 A8106 V				
C	18	CFH-0810	1	SIEMENS B41316	B41316 A8106 V				
C	19	CFH-0810	1	SIEMENS B41316	B41316 A8106 V				
C	20	CFH-0810	1	SIEMENS B41316	B41316 A8106 V				
C	21	CKH-0610	1	SIEMENS B32560	B32560 D1104 J				
D	1	QDS-4002	1	F-126	IN 4002				
D	2	QDS-4002	1	F-126	IN 4002				
D	3	QDS-4002	1	F-126	IN 4002				
D	4	QDS-4002	1	F-126	IN 4002				

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NTP 179-40Y LIM AMPLIF W BYPASS BAS NO CON

PARTS LIST 179-40Y

REF.NO	NTP-ID.	DESCRIPTION	QTY	MANUFACT/DRW.NO. PART NO.
D 5	QDS-4002	DIODE, SILICITUM	1	F-126
D 6	QDS-4002	DIODE, SILICITUM	1	F-126
D 7	QDS-4002	DIODE, SILICITUM	1	F-126
D 8	QDS-4002	DIODE, SILICITUM	1	F-126
D 9	QDS-4148	DIODE, SILICITUM	1	QDS-4148
D 10	QDS-4148	DIODE, SILICITUM	1	QDS-4148
D 11	QDS-4148	DIODE, SILICITUM	1	QDS-4148
D 12	QDS-4148	DIODE, SILICITUM	1	QDS-4148
D 13	QDS-4148	DIODE, SILICITUM	1	QDS-4148
D 14	QDS-4148	DIODE, SILICITUM	1	QDS-4148
D 15	QDS-4148	DIODE, SILICITUM	1	QDS-4148
D 16	QDS-4148	DIODE, SILICITUM	1	QDS-4148
D 17	QDS-4148	DIODE, SILICITUM	1	QDS-4148
D 18	QDS-4148	DIODE, SILICITUM	1	QDS-4148
D 19	QDS-4148	DIODE, SILICITUM	1	QDS-4148
D 20	QDS-4148	DIODE, SILICITUM	1	QDS-4148
D 21	QDS-4148	DIODE, SILICITUM	1	QDS-4148
D 22	QDS-4148	DIODE, SILICITUM	1	QDS-4148
D 23	QDS-4148	DIODE, SILICITUM	1	QDS-4148
D 24	QDS-4148	DIODE, SILICITUM	1	QDS-4148
D 31	QZD-0047	ZENERDIODE 4,7V	1	DO-35
IC 1	ILA-412	OP-AMP	1	NAT. LF412
IC 2	ILA-412	OP-AMP	1	NAT. LF412
IC 3	ILA-353	OP-AMP	1	NAT. LF353
IC 4	ILA-353	OP-AMP	1	NAT. LF353
IC 5	ILA-353	OP-AMP	1	NAT. LF353
IC 6	ILA-5532	OP-AMP	1	TEX. NE5532P
IC 7	ICA-4051	8-CHANNEL ANALOG MULTIPLEX.	1	RCA CD4051BE
IC 8	ILR-317T	SPENDINGS REGULATOR	1	RCA CD4051BE
LD 1	OES-0106	LED RED 1x1	1	SIEMENS CQV 11
LD 2	OES-0108	LED GREEN 1x1	1	SIEMENS CQV 15
LD 3	OES-0116	LED GREEN 1x1	1	SIEMENS LD 471
P 4	RFD-5200	TRIMPOTENTIOMETER 20K	1	BOURNS 3386
P 5	RFD-4200	TRIMPOTENTIOMETER 2K	1	BOURNS 3386
Q 3	QBN-0237	TRANSISTOR, NPN	1	TO-92
Q 6	QB-P-0307	TRANSISTOR, PNP	1	BC237 B BC307

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PARTS LIST 175-40Y

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NTP 179-40Y LIM AMPLIF W BYPASS BAS NO CON

PARTS LIST

REF. NO	NTP-ID.	DESCRIPTION	QTY	MANUFACT/DRW.NO.	PART NO.
Q 7	QBN-0237	TRANSISTOR, NPN	1	TO-92	BC237 B
Q 8	QBP-0307	TRANSISTOR, PNP	1	TO-92	BC307
Q 9	QBN-0237	TRANSISTOR, NPN	1	TO-92	BC237 B
Q 10	QBN-0237	TRANSISTOR, NPN	1	TO-92	BC237 B
Q 11	QBN-0237	TRANSISTOR, NPN	1	TO-92	BC237 B
Q 12	QFN-4302	FET	1	QFN-4302	2N 4302
Q 13	QBP-0307	TRANSISTOR, PNP	1	TO-92	BC307
Q 1/2	QBM-0237-2	TRANSISTORPAIR, NPN	1	TO 92	BC 237 PAR
Q 4/5	QBM-0237-2	TRANSISTORPAIR, NPN	1	TO 92	BC 237 PAR
R 2	RAB-6100	RESISTOR NETWORK 100K 2%	1	SIL 8PIN RÆK	4308R 101 104
R 3	RCA-3470	RESISTOR CARBON 470R 0.66W 5	1	MBB 0207	MBB 0207 470R
R 4	RMA-4562	RESISTOR METAL 5K62 0.4W 1%	1	PHILIPS MR25	2322 151 55622
R 5	RMA-4221	RESISTOR METAL 2K21 0.4W 1%	1	PHILIPS MR25	2322 151 52212
R 6	RMA-4332	RESISTOR METAL 3K32 0.4W 1%	1	PHILIPS MR25	2322 151 53322
R 7	RCA-5220	RESISTOR CARBON 22K 0.66W 5%	1	MBB 0207	MBB 0207 22K
R 9	RMA-2681	RESISTOR METAL 68R1 0.4W 1%	1	PHILIPS MR25	2322 151 56819
R 10	RTA-2100	RESISTOR PTC 10R 0.13W 2%	1	PTC GT-55	LP 1/8 10R
R 11	RMA-5133	RESISTOR METAL 13K3 0.4W 1%	1	PHILIPS MR25	2322 151 51333
R 12	RMA-4182	RESISTOR METAL 1K82 0.4W 1%	1	PHILIPS MR25	2322 151 51822
R 13	RCA-4220	RESISTOR CARBON 2K2 0.66W 5%	1	MBB 0207	MBB 0207 2K2
R 14	RMA-3392	RESISTOR METAL 392R 0.4W 1%	1	PHILIPS MR25	2322 151 53921
R 15	RMA-3392	RESISTOR METAL 392R 0.4W 1%	1	PHILIPS MR25	2322 151 53921
R 16	RCA-5470	RESISTOR CARBON 47K 0.66W 5%	1	MBB 0207	MBB 0207 47K
R 17	RMA-6150	RESISTOR METAL 150K 0.4W 1%	1	PHILIPS MR25	2322 151 51504
R 19	RWB-3100	RESISTOR WIRE-WOUND 100R 1W	1	VITROHM 253-9	253-9 100R
R 20	RMA-4150	RESISTOR METAL 1K5 0.4W 1%	1	PHILIPS MR25	2322 151 51502
R 21	RMA-4332	RESISTOR METAL 3K32 0.4W 1%	1	PHILIPS MR25	2322 151 53322
R 22	RMA-5133	RESISTOR METAL 13K3 0.4W 1%	1	PHILIPS MR25	2322 151 51333
R 23	RMA-6200	RESISTOR METAL 200K 0.4W 1%	1	PHILIPS MR25	2322 151 52004
R 24	RMA-6200	RESISTOR METAL 200K 0.4W 1%	1	PHILIPS MR25	2322 151 52004
R 25	RMA-6200	RESISTOR METAL 200K 0.4W 1%	1	PHILIPS MR25	2322 151 52004
R 26	RMA-6200	RESISTOR METAL 200K 0.4W 1%	1	PHILIPS MR25	2322 151 52004
R 27	RMA-6200	RESISTOR METAL 200K 0.4W 1%	1	PHILIPS MR25	2322 151 52004
R 28	RMA-6200	RESISTOR METAL 200K 0.4W 1%	1	PHILIPS MR25	2322 151 52004
R 29	RMA-6100	RESISTOR METAL 100K 0.4W 1%	1	PHILIPS MR25	2322 151 51004
R 30	RMA-6100	RESISTOR METAL 100K 0.4W 1%	1	PHILIPS MR25	2322 151 51004
R 31	RMA-5475	RESISTOR METAL 47K 0.4W 1%	1	PHILIPS MR25	2322 151 54753

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NTP 179-40Y LIM AMPLIF W BYPASS BAS NO CON PARTS LIST 179-40Y

REF.NO	NTP-ID.	DESCRIPTION	QTY	MANUFACT/DRW.NO.	PART NO.
R 32	RMA-4243	RESISTOR METAL 2K43 0.4W 1%	1	PHILLIPS MR25	2322 151 52432
R 33	RMA-5475	RESISTOR METAL 47K5 0.4W 1%	1	PHILLIPS MR25	2322 151 54753
R 34	RMA-4243	RESISTOR METAL 2K43 0.4W 1%	1	PHILLIPS MR25	2322 151 52432
R 35	RMA-6200	RESISTOR METAL 200K 0.4W 1%	1	PHILLIPS MR25	2322 151 52004
R 36	RMA-6200	RESISTOR METAL 200K 0.4W 1%	1	PHILLIPS MR25	2322 151 52004
R 37	RMA-6200	RESISTOR METAL 200K 0.4W 1%	1	PHILLIPS MR25	2322 151 52004
R 38	RMA-6100	RESISTOR METAL 100K 0.4W 1%	1	PHILLIPS MR25	2322 151 51004
R 39	RMA-5475	RESISTOR METAL 47K5 0.4W 1%	1	PHILLIPS MR25	2322 151 54753
R 40	RMA-4243	RESISTOR METAL 2K43 0.4W 1%	1	PHILLIPS MR25	2322 151 52432
R 41	RCA-6180	RESISTOR CARBON 180K 0.66W 5	1	MBB 0207	MBB 180K
R 42	RMA-5133	RESISTOR METAL 13K3 0.4W 1%	1	PHILLIPS MR25	2322 151 51333
R 43	RMA-5200	RESISTOR METAL 20K 0.4W 1%	1	PHILLIPS MR25	2322 151 52003
R 44	RMA-5110	RESISTOR METAL 11K 0.4W 1%	1	PHILLIPS MR25	2322 151 51103
R 46	RMA-5100	RESISTOR METAL 10K 0.4W 1%	1	PHILLIPS MR25	2322 151 51003
R 47	RCA-7100	RESISTOR CARBON 1M 0.66W 5%	1	MBB 0207	MBB 0207 1M
R 48	RCA-7100	RESISTOR CARBON 1M 0.66W 5%	1	MBB 0207	MBB 0207 1M
R 49	RMA-5200	RESISTOR METAL 20K 0.4W 1%	1	PHILLIPS MR25	2322 151 52003
R 50	RMA-5100	RESISTOR METAL 10K 0.4W 1%	1	PHILLIPS MR25	2322 151 51003
R 51	RMA-5100	RESISTOR METAL 10K 0.4W 1%	1	PHILLIPS MR25	2322 151 51003
R 53	RCA-6100	RESISTOR CARBON 100K 0.66W 5	1	MBB 0207	MBB 0207 100K
R 54	RCA-6100	RESISTOR CARBON 100K 0.66W 5	1	MBB 0207	MBB 0207 100K
R 55	RTC-1940	RESISTOR PTC 9R4	1	PTC Q63100	P2390 C970
R 56	RCA-4330	RESISTOR CARBON 3K3 0.66W 5%	1	MBB 0207	MBB 0207 3K3
R 57	RCA-4560	RESISTOR CARBON 5K6 0.66W 5%	1	MBB 0207	MBB 0207 5K6
R 58	RCA-5120	RESISTOR CARBON 12K 0.66W 5%	1	MBB 0207	MBB 0207 12K
R 59	RCA-6100	RESISTOR CARBON 100K 0.66W 5	1	MBB 0207	MBB 0207 100K
R 60	RCA-5100	RESISTOR CARBON 10K 0.66W 5%	1	MBB 0207	MBB 0207 10K
R 61	RCA-7100	RESISTOR CARBON 1M 0.66W 5%	1	MBB 0207	MBB 0207 1M
R 62	RCA-6100	RESISTOR CARBON 100K 0.66W 5	1	MBB 0207	MBB 0207 100K
R 63	RCA-7120	RESISTOR CARBON 1M2 0.66W 5%	1	MBB 0207	MBB 0207 1M2
R 64	RCA-6560	RESISTOR CARBON 560K 0.66W 5	1	MBB 0207	MBB 0207 560K
R 65	RCA-6330	RESISTOR CARBON 330K 0.66W 5	1	MBB 0207	MBB 0207 330K
R 66	RCA-6120	RESISTOR CARBON 120K 0.66W 5	1	MBB 0207	MBB 0207 120K
R 67	RCA-5680	RESISTOR CARBON 68K 0.66W 5%	1	MBB 0207	MBB 0207 68K
R 68	RCA-5270	RESISTOR CARBON 27K 0.66W 5%	1	MBB 0207	MBB 0207 27K
R 69	RCA-6470	RESISTOR CARBON 470K 0.66W 5	1	MBB 0207	MBB 0207 470K
R 70	RCA-6560	RESISTOR CARBON 560K 0.66W 5	1	MBB 0207	MBB 0207 560K

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NTP 179-40Y LIM AMPLIF W BYPASS BAS NO CON PARTS LIST 179-40Y PARTS LIST

REF. NO.	NTP-ID.	DESCRIPTION	QTY	MANUFACT/DRW. NO.	PART NO.
R 71	RCA-6330	RESISTOR CARBON 330K 0.66W 5%	1	MBB 0207	330K
R 72	RCA-6100	RESISTOR CARBON 100K 0.66W 5%	1	MBB 0207	100K
R 73	RCA-5560	RESISTOR CARBON 56K 0.66W 5%	1	MBB 0207	56K
R 74	RCA-5470	RESISTOR CARBON 47K 0.66W 5%	1	MBB 0207	47K
R 75	RCA-4100	RESISTOR CARBON 1K 0.66W 5%	1	MBB 0207	1K
R 76	RCA-7100	RESISTOR CARBON 1M 0.66W 5%	1	MBB 0207	1M
R 77	RCA-5100	RESISTOR CARBON 10K 0.66W 5%	1	MBB 0207	10K
R 78	RCA-7100	RESISTOR CARBON 1M 0.66W 5%	1	MBB 0207	1M
R 79	RCA-4100	RESISTOR CARBON 1K 0.66W 5%	1	MBB 0207	1K
R 80	RCA-7120	RESISTOR CARBON 1M2 0.66W 5%	1	MBB 0207	1M2
R 81	RCA-7330	RESISTOR CARBON 3M3 0.66W 5%	1	MBB 0207	3M3
R 82	RCA-6220	RESISTOR CARBON 220K 0.66W 5%	1	MBB 0207	220K
R 83	RCA-5470	RESISTOR CARBON 47K 0.66W 5%	1	MBB 0207	47K
R 84	RCA-5220	RESISTOR CARBON 22K 0.66W 5%	1	MBB 0207	22K
R 85	RCA-4180	RESISTOR CARBON 1K8 0.66W 5%	1	MBB 0207	1K8
R 86	RCA-4220	RESISTOR CARBON 2K2 0.66W 5%	1	MBB 0207	2K2
R 87	RMA-5100	RESISTOR METAL 10K 0.4W 1%	1	PHILLIPS MR25	2322 151 51003
R 88	RMA-5100	RESISTOR METAL 10K 0.4W 1%	1	PHILLIPS MR25	2322 151 51003
R 89	RCA-4180	RESISTOR CARBON 1K8 0.66W 5%	1	MBB 0207	1K8
R 90	RCA-4220	RESISTOR CARBON 2K2 0.66W 5%	1	MBB 0207	2K2
R 91	RCA-4470	RESISTOR CARBON 4K7 0.66W 5%	1	MBB 0207	4K7
R 92	RCA-6470	RESISTOR CARBON 470K 0.66W 5%	1	MBB 0207	470K
R 93	RCA-6470	RESISTOR CARBON 470K 0.66W 5%	1	MBB 0207	470K
R 94	RCA-6470	RESISTOR CARBON 470K 0.66W 5%	1	MBB 0207	470K
R 95	RCA-6470	RESISTOR CARBON 470K 0.66W 5%	1	MBB 0207	470K
R 96	RCA-6470	RESISTOR CARBON 470K 0.66W 5%	1	MBB 0207	470K
R 97	RCA-6470	RESISTOR CARBON 470K 0.66W 5%	1	MBB 0207	470K
R 98	RCA-4150	RESISTOR CARBON 1K5 0.66W 5%	1	MBB 0207	1K5
R 99	RCA-5180	RESISTOR CARBON 18K 0.66W 5%	1	MBB 0207	18K
R 100	RMA-5100	RESISTOR METAL 10K 0.4W 1%	1	PHILLIPS MR25	2322 151 51003
R 101	RMA-5100	RESISTOR METAL 10K 0.4W 1%	1	PHILLIPS MR25	2322 151 51003
R 102	RCA-4100	RESISTOR CARBON 1K 0.66W 5%	1	MBB 0207	1K
R 103	RCA-2100	RESISTOR CARBON 10R 0.66W 5%	1	MBB 0207	10R
R 105	RXA-8220	RESISTOR HIGHVOLT 2.2M 0.25W	1	PHILLIPS VR25	2322 241 13226
R 106	RCA-5120	RESISTOR CARBON 12K 0.66W 5%	1	MBB 0207	12K
R 107	RCA-6100	RESISTOR CARBON 100K 0.66W 5%	1	MBB 0207	100K
RS 1	SRB-0004	ROTARY SWITCH 9 POS YELLOW	1	HOPT & S.	422

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List No.: 179-4031-E-4

Multi 22.03.91 11:16

PARTS LIST

172-40Y

NTP 179-40Y LTM AMPLIF W BYPASS BAS NO CON

PARTS LIST

REF. NO	NTP-ID.	DESCRIPTION	QTY	MANUFACT/DRW.NO.	PART NO.
RS	2	SRB-0004 ROTARY SWITCH 9 POS YELLOW	1	HOPT & S.	422 020
S	1	SSE-0112 SLIDE SWITCH SPDT	1	ALCO TSS	11 DG RA
S	2	SSE-0112 SLIDE SWITCH SPDT	1	ALCO TSS	11 DG RA
TR	1	LTL-0008 OUTPUTTRANSFORMER	1.2	LUNDAHL 5011	LL 5011

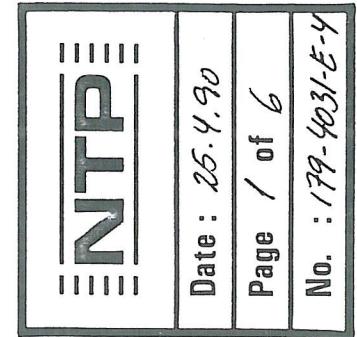
NTP Parts List

as of date 22-3 199 /.

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List No.: 179-4031-E-Y

REF.NO	NTP-ID.	DESCRIPTION	QTY	MANUFACT/DRW.NO.	PART NO.
1	179-4040E	PC BOARD	1	CAD	179-4040E
2	179-4054E	FRONT PLATE	1	179-4054-E-4	179-4054.
3	179-4051	STAY FOR FRONTPLATE	2	179-4051-A-4	179-4051
4	179-4053	SCREEN PLATE	1	179-4053-A-4	179-4053
5	179-4055	ISOLATIONS PLATE	1	179-4055-A-4	179-4055
6	179-4056	SCREENPLATE	1	179-4056-A-4	179-4056
7	512-1151	SOLDERING POST	4	512-1151-A-4	512-1151
9	MMA-0025	NUT STEEL 2.5 MM	2	HFC-9032	6 KT
10	MMA-0030	NUT STEEL 3 MM	2	HFC 9832	DIN 934 3MG
11	MSB-2003	SCREW BIX 2 X 3	4	BIX	LKCS 2 X 3
12	MSB-3006	SCREW BIX 3 X 6	1	BIX	LKCS 3 X 6
13	MSC-2504	SCREW 2,5 X 4 CHJ	2	HFC 9033	2.5X4 CHJ
14	MSC-2510	SCREW 2,5 X 10 CHJZ	2	HFC 9033	2.5 X 10 CHJ
15	MTU-2504	SCREW CROSS HEAD 2.5 X 4 UHJ	2	HFC 9040	2.5 X 4 UHJX
16	MYA-0001	CARD EJECTOR	1	VERO	C12409/1 TOP
A 1	250-300J	ZFT-MODULE, 20K	1	250-3041-J-4	250-300J
A 2	250-520B	VCA MODULE	1	250-5241-B-4	250-520B
C 1	CFG-0847	CAP ELECTROLYTIC 47UF/40V	1	SIEMENS B41316	B41316 A7476 V
C 2	CCA-0410	CAP CERAMIC 1NF/63V	1	PH 2222 629	2222 629 02102
C 3	CFG-0822	CAP ELECTROLYTIC 22UF/40V	1	SIEMENS B41316	B41316 A7226 V
C 4	CCB-0282	CAP CERAMIC 82PF/100V	1	PH 2222 632	2222 632 58829
C 5	CFG-0822	CAP ELECTROLYTIC 22UF/40V	1	SIEMENS B41316	B41316 A7226 V
C 7	CFG-0847	CAP ELECTROLYTIC 47UF/40V	1	SIEMENS B41316	B41316 A7476 V
C 8	CKK-0433	CAP POLYESTER 3.3NF/400V	1	SIEMENS B32560	B32560 D6332 J
C 9	CCB-0282	CAP CERAMIC 82PF/100V	1	PH 2222 632	2222 632 58829
C 10	CKK-0510	CAP POLYESTER 10NF/400V	1	SIEMENS B32560	B32560 D6103 J
C 12	CKH-0622	CAP POLYESTER 220NF/100V	1	SIEMENS B32560	B32560 D1224 J
C 13	CKQ-0722	CAP POLYESTER 2.2UF/100V	1	SIEMENS B32562	B32562 D1225 J
C 15	CKI-0522	CAP POLYESTER 22NF/250V	1	SIEMENS B32560	B32560 D3223 J
C 16	CKH-0610	CAP POLYESTER 100NF/100V	1	SIEMENS B32560	B32560 D1104 J
C 17	CFH-0810	CAP ELECTROLYTIC 10UF/63V	1	SIEMENS B41316	B41316 A8106 V
C 18	CFH-0810	CAP ELECTROLYTIC 10UF/63V	1	SIEMENS B41316	B41316 A8106 V
C 19	CFH-0810	CAP ELECTROLYTIC 10UF/63V	1	SIEMENS B41316	B41316 A8106 V



Date : 26.4.90

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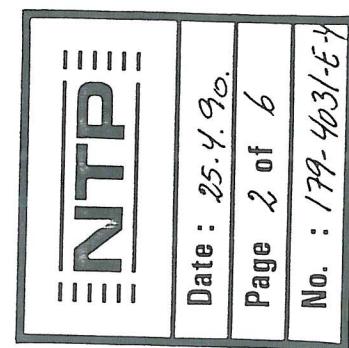
No. : 179-4031-E-4

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PARTS LIST 179-40Y

REF.NO	NTP-ID.	DESCRIPTION	QTY	PARTS LIST
C 20	CFH-0810	CAP ELECTROLYTIC 10UF/63V	1	SIEMENS B41316 A8106 V
C 21	CKH-0610	CAP POLYESTER 100NF/100V	1	SIEMENS B32560 B32560 D1104 J
D 1	QDS-4002	DIODE, SILICON	1	F-126
D 2	QDS-4002	DIODE, SILICON	1	F-126
D 3	QDS-4002	DIODE, SILICON	1	F-126
D 4	QDS-4002	DIODE, SILICON	1	F-126
D 5	QDS-4002	DIODE, SILICON	1	F-126
D 6	QDS-4002	DIODE, SILICON	1	F-126
D 7	QDS-4002	DIODE, SILICON	1	F-126
D 8	QDS-4002	DIODE, SILICON	1	F-126
D 9	QDS-4148	DIODE, SILICON	1	QDS-4148
D 10	QDS-4148	DIODE, SILICON	1	QDS-4148
D 11	QDS-4148	DIODE, SILICON	1	QDS-4148
D 12	QDS-4148	DIODE, SILICON	1	QDS-4148
D 13	QDS-4148	DIODE, SILICON	1	QDS-4148
D 14	QDS-4148	DIODE, SILICON	1	QDS-4148
D 15	QDS-4148	DIODE, SILICON	1	QDS-4148
D 16	QDS-4148	DIODE, SILICON	1	QDS-4148
D 17	QDS-4148	DIODE, SILICON	1	QDS-4148
D 18	QDS-4148	DIODE, SILICON	1	QDS-4148
D 19	QDS-4148	DIODE, SILICON	1	QDS-4148
D 20	QDS-4148	DIODE, SILICON	1	QDS-4148
D 21	QDS-4148	DIODE, SILICON	1	QDS-4148
D 22	QDS-4148	DIODE, SILICON	1	QDS-4148
D 23	QDS-4148	DIODE, SILICON	1	QDS-4148
D 24	QDS-4148	DIODE, SILICON	1	QDS-4148
D 31	QZD-0047	ZENERDIODE 4,7V	1	DO-35 ZPD 4,7
IC 1	ILA-412	OP-AMP	1	NAT. LF412 LF 412
IC 2	ILA-412	OP-AMP	1	NAT. LF412 LF 412
IC 3	ILA-353	OP-AMP	1	NAT. LF353 LF 353
IC 4	ILA-353	OP-AMP	1	NAT. LF353 LF 353
IC 5	ILA-353	OP-AMP	1	NAT. LF353 LF 353
IC 6	ILA-5532	OP-AMP	1	TEX. NE5532P NE 5532P



Date : 25.4.90.

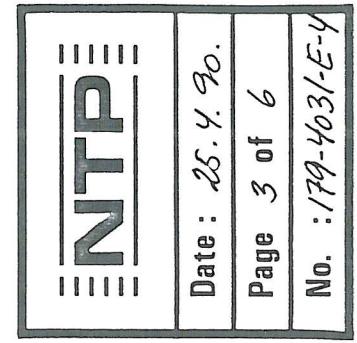
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No. : 179-4031-E-4

NTP 179-40Y LIM AMPLIF W BYPASS BAS NO CON

PARTS LIST 179-40Y

REF.NO	NTP-ID.	DESCRIPTION	QTY	PARTS LIST	MANUFACT/DRW.NO. PART NO.
IC 7	ICA-4051	8-CHANNEL ANALOG MULTIPLEX.	1	RCA CD4051BE	RCA CD4051BE
IC 8	ICA-4051	8-CHANNEL ANALOG MULTIPLEX.	1	RCA CD4051BE	RCA CD4051BE
IC 9	ILR-317T	SPENDINGS REGULATOR	1	TEX. TO-220	LM 317T
LD 1	OES-0106	LED RED 1x1	1	SIEMENS CQV 11	Q62703-573
LD 2	OES-0108	LED GREEN 1x1	1	SIEMENS CQV 15	Q62703 Q586
LD 3	OES-0116	LED GREEN 1x1	1	SIEMENS LD 471	Q62703-Q102
P 4	RFD-5200	TRIMPOTENTIOMETER 20K	1	BOURNS 3386	3386H-1-203
P 5	RFD-4200	TRIMPOTENTIOMETER 2K	1	BOURNS 3386	3386H-1-202
Q 3	QBN-0237	TRANSISTOR, NPN	1	TO-92	BC237 B
Q 6	QBP-0307	TRANSISTOR, PNP	1	TO-92	BC307
Q 7	QBN-0237	TRANSISTOR, NPN	1	TO-92	BC237 B
Q 8	QBP-0307	TRANSISTOR, PNP	1	TO-92	BC307
Q 9	QBN-0237	TRANSISTOR, NPN	1	TO-92	BC237 B
Q 10	QBN-0237	TRANSISTOR, NPN	1	TO-92	BC237 B
Q 11	QBN-0237	TRANSISTOR, NPN	1	TO-92	BC237 B
Q 12	QFN-4302	FET	1	QFN-4302	2N 4302
Q 13	QBP-0307	TRANSISTOR, PNP	1	TO-92	BC307
Q 1/2	QBM-0237-2	TRANSISTORPAIR, NPN	1	TO 92	BC 237 PAR
Q 4/5	QBM-0237-2	TRANSISTORPAIR, NPN	1	TO 92	BC 237 PAR
R 2	RAB-6100	RESISTOR NETWORK 100K 2%	1	SIL 8PIN REK	4308R 101 104
R 3	RCA-3470	RESISTOR CARBON 470R 0.66W 5	1	MBB 0207	MBB 0207 470R
R 4	RMA-4562	RESISTOR METAL 5K62 0.4W 1%	1	PHILLIPS MR25	2322 151 55622
R 5	RMA-4221	RESISTOR METAL 2K21 0.4W 1%	1	PHILLIPS MR25	2322 151 52212
R 6	RMA-4332	RESISTOR METAL 3K32 0.4W 1%	1	PHILLIPS MR25	2322 151 53322
R 7	RCA-5220	RESISTOR CARBON 22K 0.66W 5%	1	MBB 0207	MBB 0207 22K
R 9	RMA-2681	RESISTOR METAL 68R1 0.4W 1%	1	PHILLIPS MR25	2322 151 56819
R 10	RTA-2100	RESISTOR PTC 10R 0.13W 2%	1	PTC GT-55	LP 1/8 10R
R 11	RMA-5133	RESISTOR METAL 13K3 0.4W 1%	1	PHILLIPS MR25	2322 151 51333
R 12	RMA-4182	RESISTOR METAL 1K82 0.4W 1%	1	PHILLIPS MR25	2322 151 51822
R 13	RCA-4220	RESISTOR CARBON 2K2 0.66W 5%	1	MBB 0207	MBB 0207 2K2
R 14	RMA-3392	RESISTOR METAL 392R 0.4W 1%	1	PHILLIPS MR25	2322 151 53921
R 15	RMA-3392	RESISTOR METAL 392R 0.4W 1%	1	PHILLIPS MR25	2322 151 53921
R 16	RCA-5470	RESISTOR CARBON 47K 0.66W 5%	1	MBB 0207	MBB 0207 47K



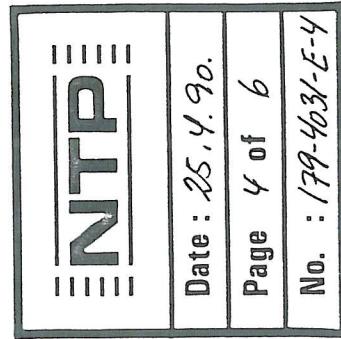
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No. : 179-4031-E-4

REF. NO NTP-ID. DESCRIPTION QTY MANUFACT/DRW.NO. PART NO.

REF. NO	NTP-ID.	DESCRIPTION	QTY	MANUFACT/DRW.NO.	PART NO.
R 17	RMA-6150	RESISTOR METAL 150K 0.4W 1%	1	PHILIPS MR25	2322 151 51504
R 19	RWB-3100	RESISTOR WIRE-WOUND 100R 1W	1	VITROHM 253-9	253-9 100R
R 20	RMA-41150	RESISTOR METAL 1K5 0.4W 1%	1	PHILIPS MR25	2322 151 51502
R 21	RMA-4332	RESISTOR METAL 3K32 0.4W 1%	1	PHILIPS MR25	2322 151 53322
R 22	RMA-5133	RESISTOR METAL 13K3 0.4W 1%	1	PHILIPS MR25	2322 151 51333
R 23	RMA-6200	RESISTOR METAL 200K 0.4W 1%	1	PHILIPS MR25	2322 151 52004
R 24	RMA-6200	RESISTOR METAL 200K 0.4W 1%	1	PHILIPS MR25	2322 151 52004
R 25	RMA-6200	RESISTOR METAL 200K 0.4W 1%	1	PHILIPS MR25	2322 151 52004
R 26	RMA-6200	RESISTOR METAL 200K 0.4W 1%	1	PHILIPS MR25	2322 151 52004
R 27	RMA-6200	RESISTOR METAL 200K 0.4W 1%	1	PHILIPS MR25	2322 151 52004
R 28	RMA-6200	RESISTOR METAL 200K 0.4W 1%	1	PHILIPS MR25	2322 151 52004
R 29	RMA-6100	RESISTOR METAL 100K 0.4W 1%	1	PHILIPS MR25	2322 151 51004
R 30	RMA-6100	RESISTOR METAL 100K 0.4W 1%	1	PHILIPS MR25	2322 151 51004
R 31	RMA-5475	RESISTOR METAL 47K5 0.4W 1%	1	PHILIPS MR25	2322 151 54753
R 32	RMA-4243	RESISTOR METAL 2K43 0.4W 1%	1	PHILIPS MR25	2322 151 52432
R 33	RMA-5475	RESISTOR METAL 47K5 0.4W 1%	1	PHILIPS MR25	2322 151 54753
R 34	RMA-4243	RESISTOR METAL 2K43 0.4W 1%	1	PHILIPS MR25	2322 151 52432
R 35	RMA-6200	RESISTOR METAL 200K 0.4W 1%	1	PHILIPS MR25	2322 151 52004
R 36	RMA-6200	RESISTOR METAL 200K 0.4W 1%	1	PHILIPS MR25	2322 151 52004
R 37	RMA-6200	RESISTOR METAL 200K 0.4W 1%	1	PHILIPS MR25	2322 151 52004
R 38	RMA-6100	RESISTOR METAL 100K 0.4W 1%	1	PHILIPS MR25	2322 151 51004
R 39	RMA-5475	RESISTOR METAL 47K5 0.4W 1%	1	PHILIPS MR25	2322 151 54753
R 40	RMA-4243	RESISTOR METAL 2K43 0.4W 1%	1	PHILIPS MR25	2322 151 52432
R 41	RCA-6180	RESISTOR CARBON 180K 0.66W 5	1	MBB 0207	MBB 180K
R 42	RMA-5133	RESISTOR METAL 13K3 0.4W 1%	1	PHILIPS MR25	2322 151 51333
R 43	RMA-5200	RESISTOR METAL 20K 0.4W 1%	1	PHILIPS MR25	2322 151 52003
R 44	RMA-5110	RESISTOR METAL 11K 0.4W 1%	1	PHILIPS MR25	2322 151 51103
R 46	RMA-5100	RESISTOR METAL 10K 0.4W 1%	1	PHILIPS MR25	2322 151 51003
R 47	RCA-7100	RESISTOR CARBON 1M 0.66W 5%	1	MBB 0207	MBB 0207 1M
R 48	RCA-7100	RESISTOR CARBON 1M 0.66W 5%	1	MBB 0207	MBB 0207 1M
R 49	RMA-5200	RESISTOR METAL 20K 0.4W 1%	1	PHILIPS MR25	2322 151 52003
R 50	RMA-5100	RESISTOR METAL 10K 0.4W 1%	1	PHILIPS MR25	2322 151 51003
R 51	RMA-5100	RESISTOR METAL 10K 0.4W 1%	1	PHILIPS MR25	2322 151 51003

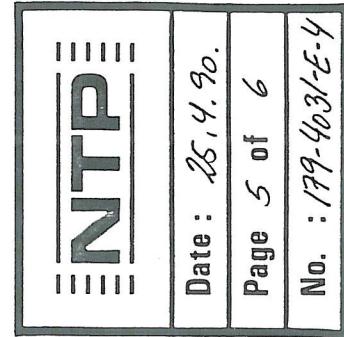


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No. : 179-4031-E4

REF. NO	NTP-ID.	DESCRIPTION	QTY	MANUFACT/DRW. NO.	PART NO.
R 53	RCA-6100	RESISTOR CARBON 100K 0.66W 5%	1	MBB 0207	MBB 0207 100K
R 54	RCA-6100	RESISTOR CARBON 100K 0.66W 5%	1	MBB 0207	MBB 0207 100K
R 55	RTC-1940	RESISTOR PTC 9R4	1	PTC Q63100	P2390 C970
R 56	RCA-4330	RESISTOR CARBON 3K3 0.66W 5%	1	MBB 0207	MBB 0207 3K3
R 57	RCA-4560	RESISTOR CARBON 5K6 0.66W 5%	1	MBB 0207	MBB 0207 5K6
R 58	RCA-5120	RESISTOR CARBON 12K 0.66W 5%	1	MBB 0207	MBB 0207 12K
R 59	RCA-6100	RESISTOR CARBON 100K 0.66W 5%	1	MBB 0207	MBB 0207 100K
R 60	RCA-5100	RESISTOR CARBON 10K 0.66W 5%	1	MBB 0207	MBB 0207 10K
R 61	RCA-7100	RESISTOR CARBON 1M 0.66W 5%	1	MBB 0207	MBB 0207 1M
R 62	RCA-6100	RESISTOR CARBON 100K 0.66W 5%	1	MBB 0207	MBB 0207 100K
R 63	RCA-7120	RESISTOR CARBON 1M2 0.66W 5%	1	MBB 0207	MBB 0207 1M2
R 64	RCA-6560	RESISTOR CARBON 560K 0.66W 5%	1	MBB 0207	MBB 0207 560K
R 65	RCA-6330	RESISTOR CARBON 330K 0.66W 5%	1	MBB 0207	MBB 0207 330K
R 66	RCA-6120	RESISTOR CARBON 120K 0.66W 5%	1	MBB 0207	MBB 0207 120K
R 67	RCA-5680	RESISTOR CARBON 68K 0.66W 5%	1	MBB 0207	MBB 0207 68K
R 68	RCA-5270	RESISTOR CARBON 27K 0.66W 5%	1	MBB 0207	MBB 0207 27K
R 69	RCA-6470	RESISTOR CARBON 470K 0.66W 5%	1	MBB 0207	MBB 0207 470K
R 70	RCA-6560	RESISTOR CARBON 560K 0.66W 5%	1	MBB 0207	MBB 0207 560K
R 71	RCA-6330	RESISTOR CARBON 330K 0.66W 5%	1	MBB 0207	MBB 0207 330K
R 72	RCA-6100	RESISTOR CARBON 100K 0.66W 5%	1	MBB 0207	MBB 0207 100K
R 73	RCA-5560	RESISTOR CARBON 56K 0.66W 5%	1	MBB 0207	MBB 0207 56K
R 74	RCA-5470	RESISTOR CARBON 47K 0.66W 5%	1	MBB 0207	MBB 0207 47K
R 75	RCA-4100	RESISTOR CARBON 1K 0.66W 5%	1	MBB 0207	MBB 0207 1K
R 76	RCA-7100	RESISTOR CARBON 1M 0.66W 5%	1	MBB 0207	MBB 0207 1M
R 77	RCA-5100	RESISTOR CARBON 10K 0.66W 5%	1	MBB 0207	MBB 0207 10K
R 78	RCA-7100	RESISTOR CARBON 1M 0.66W 5%	1	MBB 0207	MBB 0207 1M
R 79	RCA-4100	RESISTOR CARBON 1K 0.66W 5%	1	MBB 0207	MBB 0207 1K
R 80	RCA-7120	RESISTOR CARBON 1M2 0.66W 5%	1	MBB 0207	MBB 0207 1M2
R 81	RCA-7330	RESISTOR CARBON 3M3 0.66W 5%	1	MBB 0207	MBB 0207 3M3
R 82	RCA-6220	RESISTOR CARBON 220K 0.66W 5%	1	MBB 0207	MBB 0207 220K
R 83	RCA-5470	RESISTOR CARBON 47K 0.66W 5%	1	MBB 0207	MBB 0207 47K
R 84	RCA-5220	RESISTOR CARBON 22K 0.66W 5%	1	MBB 0207	MBB 0207 22K
R 85	RCA-4180	RESISTOR CARBON 1K8 0.66W 5%	1	MBB 0207	MBB 0207 1K8

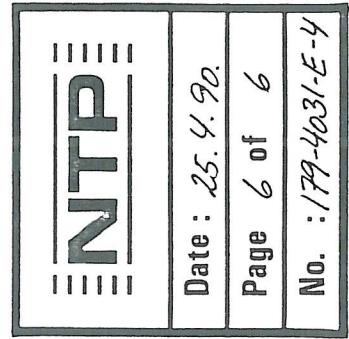


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No. : 179-403/-E-4

REF.NO	NTP-ID.	DESCRIPTION	QTY	MANUFACT/DRW.NO.	PART NO.
R 86	RCA-4220	RESISTOR CARBON 2K2 0.66W 5%	1	MBB 0207	MBB 0207 2K2
R 87	RMA-5100	RESISTOR METAL 10K 0.4W 1%	1	PHILLIPS MR25	2322 151 51003
R 88	RMA-5100	RESISTOR METAL 10K 0.4W 1%	1	PHILLIPS MR25	2322 151 51003
R 89	RCA-4180	RESISTOR CARBON 1K8 0.66W 5%	1	MBB 0207	MBB 0207 1K8
R 90	RCA-4220	RESISTOR CARBON 2K2 0.66W 5%	1	MBB 0207	MBB 0207 2K2
R 91	RCA-4470	RESISTOR CARBON 4K7 0.66W 5%	1	MBB 0207	MBB 0207 4K7
R 92	RCA-6470	RESISTOR CARBON 470K 0.66W 5	1	MBB 0207	MBB 0207 470K
R 93	RCA-6470	RESISTOR CARBON 470K 0.66W 5	1	MBB 0207	MBB 0207 470K
R 94	RCA-6470	RESISTOR CARBON 470K 0.66W 5	1	MBB 0207	MBB 0207 470K
R 95	RCA-6470	RESISTOR CARBON 470K 0.66W 5	1	MBB 0207	MBB 0207 470K
R 96	RCA-6470	RESISTOR CARBON 470K 0.66W 5	1	MBB 0207	MBB 0207 470K
R 97	RCA-6470	RESISTOR CARBON 470K 0.66W 5	1	MBB 0207	MBB 0207 470K
R 98	RCA-4150	RESISTOR CARBON 1K5 0.66W 5%	1	MBB 0207	MBB 0207 1K5
R 99	RCA-5180	RESISTOR CARBON 18K 0.66W 5%	1	MBB 0207	MBB 0207 18K
R 100	RMA-5100	RESISTOR METAL 10K 0.4W 1%	1	PHILLIPS MR25	2322 151 51003
R 101	RMA-5100	RESISTOR METAL 10K 0.4W 1%	1	PHILLIPS MR25	2322 151 51003
R 102	RCA-4100	RESISTOR CARBON 1K 0.66W 5%	1	MBB 0207	MBB 0207 1K
R 103	RCA-2100	RESISTOR CARBON 10R 0.66W 5%	1	MBB 0207	MBB 0207 10R
R 105	RXA-8220	RESISTOR HIGHVOLT 22M 0.25W	1	PHILLIPS VR25	2322 241 13226
R 106	RCA-5120	RESISTOR CARBON 12K 0.66W 5%	1	MBB 0207	MBB 0207 12K
R 107	RCA-6100	RESISTOR CARBON 100K 0.66W 5	1	MBB 0207	MBB 0207 100K
RS 1	SRB-0004	ROTARY SWITCH 9 POS YELLOW	1	HOPP & S. 422	020
RS 2	SRB-0004	ROTARY SWITCH 9 POS YELLOW	1	HOPP & S. 422	020
S 1	SSE-0112	SLIDE SWITCH SPDT	1	ALCO TSS	11 DG RA
S 2	SSE-0112	SLIDE SWITCH SPDT	1	ALCO TSS	11 DG RA
TR 1	LTL-0008	OUTPUTTRANSFORMER	1.2	LUNDAHL 5011	LL 5011



Multi 25.05.92 15: 5 PARTS LIST 1/9-400F

Side 1

NTP 179-400F LIMITER AMPLIFIER W BYPASS

PARTS LIST

REF. NO.	NTP-ID.	DESCRIPTION	QTY	MANUFACT/DRW.NO.	PART NO.	
1	179-4040E	PC BOARD	1	CAD	179-4040E	
2	179-4054E	FRONT PLATE	1	179-4054-E-4	179-4054.	
3	179-4051	STAY FOR FRONTPLATE	2	179-4051-A-4	179-4051	
4	179-4053	SCREEN PLATE	1	179-4053-A-4	179-4053	
5	179-4055	ISOLATIONS PLATE	1	179-4055-A-4	179-4055	
6	179-4056	SCREENPLATE	1	179-4056-A-4	179-4056	
7	512-1151	SOLDERING POST	4	512-1151-A-4	512-1151	
10	MMA-0030	NUT STEEL 3 MM	2	HFC 9832	DIN 934 3MG	
11	MSB-2003	SCREW BIX 2 X 3	4	BIX	LKCS 2 X 3	
12	MSB-3006	SCREW BIX 3 X 6	1	BIX	LKCS 3 X 6	
13	MSC-2504	SCREW 2,5 X 4 CHJ	2	HFC 9033	2.5X4 CHJ	
15	MTU-2504	SCREW CROSS HEAD 2.5 X 4 UHJ	2	HFC 9040	2.5 X 4 UHJX	
16	MYA-0001	CARD EJECTOR	1	VERO	C12409/1 TOP	
2000	KEM-6403	EUROCONN 64P MAL ANGLE FORM	1	ELCO 8257	8257 064 000 1	
A	1	ZFT-MODULE, 20K	1	250-3041-J-4	250-300J	
A	2	VCA MODULE	1	250-5241-B-4	250-520B	
C	1	CFG-0847	CAP ELECTROLYTIC 47UF/40V	1	SIEMENS B41316	B41316 A7476 V
C	2	CCA-0410	CAP CERAMIC 1NF/63V	1	PH 2222 629	2222 629 02102
C	3	CFG-0822	CAP ELECTROLYTIC 22UF/40V	1	SIEMENS B41316	B41316 A7226 V
C	4	CCB-0282	CAP CERAMIC 82PF/100V	1	PH 2222 632	2222 632 58829
C	5	CFG-0822	CAP ELECTROLYTIC 22UF/40V	1	SIEMENS B41316	B41316 A7226 V
C	7	CFG-0847	CAP ELECTROLYTIC 47UF/40V	1	SIEMENS B41316	B41316 A7476 V
C	8	CKK-0433	CAP POLYESTER 3.3NF/400V	1	SIEMENS B32560	B32560 D6332 J
C	9	CCB-0282	CAP CERAMIC 82PF/100V	1	PH 2222 632	2222 632 58829
C	10	CKH-0647	CAP POLYESTER 470NF/100V	1	SIEMENS B32560	B32560 D1474 J
C	12	CKH-0622	CAP POLYESTER 220NF/100V	1	SIEMENS B32560	B32560 D1224 J
C	13	CKQ-0722	CAP POLYESTER 2.2UF/100V	1	SIEMENS B32562	B32562 D1225 J
C	15	CKI-0522	CAP POLYESTER 22NF/250V	1	SIEMENS B32560	B32560 D3223 J
C	16	CKH-0610	CAP POLYESTER 100NF/100V	1	SIEMENS B32560	B32560 D1104 J
C	17	CFH-0810	CAP ELECTROLYTIC 10UF/63V	1	SIEMENS B41316	B41316 A8106 V
C	18	CFH-0810	CAP ELECTROLYTIC 10UF/63V	1	SIEMENS B41316	B41316 A8106 V
C	19	CFH-0810	CAP ELECTROLYTIC 10UF/63V	1	SIEMENS B41316	B41316 A8106 V
C	20	CFH-0810	CAP ELECTROLYTIC 10UF/63V	1	SIEMENS B41316	B41316 A8106 V

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NTP 179-400F PARTS LIST 179-400F

Side 2

LIMITER AMPLIFIER W BYPASS

PARTS LIST

REF. NO.	NTP-ID.	DESCRIPTION	QTY	MANUFACT/DRW.NO.	PART NO.
C 21	CKH-0610	CAP POLYESTER 100NF/100V	1	SIEMENS B32560	B32560 D1104 J
D 1	QDS-4002	DIODE, SILICITUM	1	F-126	IN 4002
D 2	QDS-4002	DIODE, SILICITUM	1	F-126	IN 4002
D 3	QDS-4002	DIODE, SILICITUM	1	F-126	IN 4002
D 4	QDS-4002	DIODE, SILICITUM	1	F-126	IN 4002
D 5	QDS-4002	DIODE, SILICITUM	1	F-126	IN 4002
D 6	QDS-4002	DIODE, SILICITUM	1	F-126	IN 4002
D 7	QDS-4002	DIODE, SILICITUM	1	F-126	IN 4002
D 8	QDS-4002	DIODE, SILICITUM	1	F-126	IN 4002
D 9	QDS-4148	DIODE, SILICITUM	1	QDS-4148	IN 4148
D 10	QDS-4148	DIODE, SILICITUM	1	QDS-4148	IN 4148
D 11	QDS-4148	DIODE, SILICITUM	1	QDS-4148	IN 4148
D 12	QDS-4148	DIODE, SILICITUM	1	QDS-4148	IN 4148
D 13	QDS-4148	DIODE, SILICITUM	1	QDS-4148	IN 4148
D 14	QDS-4148	DIODE, SILICITUM	1	QDS-4148	IN 4148
D 15	QDS-4148	DIODE, SILICITUM	1	QDS-4148	IN 4148
D 16	QDS-4148	DIODE, SILICITUM	1	QDS-4148	IN 4148
D 17	QDS-4148	DIODE, SILICITUM	1	QDS-4148	IN 4148
D 18	QDS-4148	DIODE, SILICITUM	1	QDS-4148	IN 4148
D 19	QDS-4148	DIODE, SILICITUM	1	QDS-4148	IN 4148
D 20	QDS-4148	DIODE, SILICITUM	1	QDS-4148	IN 4148
D 21	QDS-4148	DIODE, SILICITUM	1	QDS-4148	IN 4148
D 22	QDS-4148	DIODE, SILICITUM	1	QDS-4148	IN 4148
D 23	QDS-4148	DIODE, SILICITUM	1	QDS-4148	IN 4148
D 24	QDS-4148	DIODE, SILICITUM	1	QDS-4148	IN 4148
D 31	QZD-0047	ZENERDIODE 4,7V	1	DO-35	ZPD 4,7
IC 1	ILA-412	OP-AMP	1	NAT. LF412	LF 412
IC 2	ILA-412	OP-AMP	1	NAT. LF412	LF 412
IC 3	ILA-353	OP-AMP	1	NAT. LF353	LF 353
IC 4	ILA-353	OP-AMP	1	NAT. LF353	LF 353
IC 5	ILA-353	OP-AMP	1	NAT. LF353	LF 353
IC 6	ILA-5532	OP-AMP	1	TEX. NE5532P	NE 5532P
IC 7	ICA-4051	8-CHANNEL ANALOG MULTIPLX.	1	RCA CD4051BE	RCA CD4051BE

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NTP 179-400F PARTS LIST

Side 3

NTP 179-400F LIMITER AMPLIFIER W BYPASS

PARTS LIST

REF. NO.	NTP-ID.	DESCRIPTION	QTY	MANUFACT/DRW.NO.	PART NO.
IC 8	IICA-4051	8-CHANNEL ANALOG MULTIPLX.	1	RCA CD4051BE	RCA CD4051BE
IC 9	ILR-317T	SPENDING REGULATOR	1	TEX. TO-220	LM 317T
LD 1	OES-0106	LED RED 1x1	1	SIEMENS CQV 11	Q62703-573
LD 2	OES-0108	LED GREEN 1x1	1	SIEMENS CQV 15	Q62703 Q586
LD 3	OES-0116	LED GREEN 1x1	1	SIEMENS LD 471	Q62703-Q102
P 4	RFD-5200	TRIMPOTENTIOMETER 20K	1	BOURNS 3386	3386H-1-203
P 5	RFD-4200	TRIMPOTENTIOMETER 2K	1	BOURNS 3386	3386H-1-202
Q 3	QBN-0237	TRANSISTOR, NPN	1	TO-92	BC237 B
Q 6	QBP-0307	TRANSISTOR, PNP	1	TO-92	BC307
Q 7	QBN-0237	TRANSISTOR, NPN	1	TO-92	BC237 B
Q 8	QBP-0307	TRANSISTOR, PNP	1	TO-92	BC307
Q 9	QBN-0237	TRANSISTOR, NPN	1	TO-92	BC237 B
Q 10	QBN-0237	TRANSISTOR, NPN	1	TO-92	BC237 B
Q 11	QBN-0237	TRANSISTOR, NPN	1	TO-92	BC237 B
Q 12	QFN-4302	FET	1	QFN-4302	2N 4302
Q 13	QBP-0307	TRANSISTOR, PNP	1	TO-92	BC307
Q 1/2	QBM-0237-2	TRANSISTORPAIR, NPN	1	TO 92	BC 237 PAR
Q 4/5	QBM-0237-2	TRANSISTORPAIR, NPN	1	TO 92	BC 237 PAR
R 2	RAB-6100	RESISTOR NETWORK 100K 2%	1	SIL 8PIN RA&K	4308R 101 104
R 3	RCA-3470	RESISTOR CARBON 470R 0.66W 5	1	MBB 0207	MBB 0207 470R
R 4	RMA-4562	RESISTOR METAL 5K62 0.4W 1%	1	PHILLIPS MR25	2322 1.51 55622
R 5	RMA-4221	RESISTOR METAL 2K21 0.4W 1%	1	PHILLIPS MR25	2322 1.51 52212
R 6	RMA-4332	RESISTOR METAL 3K32 0.4W 1%	1	PHILLIPS MR25	2322 1.51 53322
R 7	RCA-5220	RESISTOR CARBON 22K 0.66W 5%	1	MBB 0207	MBB 0207 22K
R 9	RMA-2681	RESISTOR METAL 68R1 0.4W 1%	1	PHILLIPS MR25	2322 1.51 56819
R 10	RTA-2100	RESISTOR PTC 10R 0.13W 2%	1	PTC GT-55	LP 1/8 10R
R 11	RMA-5133	RESISTOR METAL 13K3 0.4W 1%	1	PHILLIPS MR25	2322 1.51 51333
R 12	RMA-4182	RESISTOR METAL 1K82 0.4W 1%	1	PHILLIPS MR25	2322 1.51 51822
R 13	RCA-4220	RESISTOR CARBON 2K2 0.66W 5%	1	MBB 0207	MBB 0207 2K2
R 14	RMA-3392	RESISTOR METAL 392R 0.4W 1%	1	PHILLIPS MR25	2322 1.51 53921
R 15	RMA-3392	RESISTOR METAL 392R 0.4W 1%	1	PHILLIPS MR25	2322 1.51 53921
R 16	RCA-5470	RESISTOR CARBON 47K 0.66W 5%	1	MBB 0207	MBB 0207 47K
R 17	RMA-6150	RESISTOR METAL 150K 0.4W 1%	1	PHILLIPS MR25	2322 1.51 51504

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NTP 179-400F LIMITER AMPLIFIER W BYPASS

PARTS LIST

REF. NO.	NTP-ID.	DESCRIPTION	QTY	PARTS LIST	MANUFACT/DRW.NO.	PART NO.
R 19	RWB-3100	RESISTOR WIRE-WOUND 100R 1W	1	VITROHM 253-9	PHILLIPS MR25	253-9 100R
R 20	RMA-4150	RESISTOR METAL 1K5 0.4W 1%	1	PHILLIPS MR25	PHILLIPS MR25	2322 151 51502
R 21	RMA-4332	RESISTOR METAL 3K32 0.4W 1%	1	PHILLIPS MR25	PHILLIPS MR25	2322 151 53322
R 22	RMA-5133	RESISTOR METAL 13K3 0.4W 1%	1	PHILLIPS MR25	PHILLIPS MR25	2322 151 51333
R 23	RMA-6200	RESISTOR METAL 200K 0.4W 1%	1	PHILLIPS MR25	PHILLIPS MR25	2322 151 52004
R 24	RMA-6200	RESISTOR METAL 200K 0.4W 1%	1	PHILLIPS MR25	PHILLIPS MR25	2322 151 52004
R 25	RMA-6200	RESISTOR METAL 200K 0.4W 1%	1	PHILLIPS MR25	PHILLIPS MR25	2322 151 52004
R 26	RMA-6200	RESISTOR METAL 200K 0.4W 1%	1	PHILLIPS MR25	PHILLIPS MR25	2322 151 52004
R 27	RMA-6200	RESISTOR METAL 200K 0.4W 1%	1	PHILLIPS MR25	PHILLIPS MR25	2322 151 52004
R 28	RMA-6200	RESISTOR METAL 200K 0.4W 1%	1	PHILLIPS MR25	PHILLIPS MR25	2322 151 52004
R 29	RMA-6100	RESISTOR METAL 100K 0.4W 1%	1	PHILLIPS MR25	PHILLIPS MR25	2322 151 51004
R 30	RMA-6100	RESISTOR METAL 100K 0.4W 1%	1	PHILLIPS MR25	PHILLIPS MR25	2322 151 51004
R 31	RMA-5475	RESISTOR METAL 47K5 0.4W 1%	1	PHILLIPS MR25	PHILLIPS MR25	2322 151 54753
R 32	RMA-4243	RESISTOR METAL 2K43 0.4W 1%	1	PHILLIPS MR25	PHILLIPS MR25	2322 151 52432
R 33	RMA-5475	RESISTOR METAL 47K5 0.4W 1%	1	PHILLIPS MR25	PHILLIPS MR25	2322 151 54753
R 34	RMA-4243	RESISTOR METAL 2K43 0.4W 1%	1	PHILLIPS MR25	PHILLIPS MR25	2322 151 52432
R 35	RMA-6200	RESISTOR METAL 200K 0.4W 1%	1	PHILLIPS MR25	PHILLIPS MR25	2322 151 52004
R 36	RMA-6200	RESISTOR METAL 200K 0.4W 1%	1	PHILLIPS MR25	PHILLIPS MR25	2322 151 52004
R 37	RMA-6200	RESISTOR METAL 200K 0.4W 1%	1	PHILLIPS MR25	PHILLIPS MR25	2322 151 52004
R 38	RMA-6100	RESISTOR METAL 100K 0.4W 1%	1	PHILLIPS MR25	PHILLIPS MR25	2322 151 51004
R 39	RMA-5475	RESISTOR METAL 47K5 0.4W 1%	1	PHILLIPS MR25	PHILLIPS MR25	2322 151 54753
R 40	RMA-4243	RESISTOR METAL 2K43 0.4W 1%	1	PHILLIPS MR25	PHILLIPS MR25	2322 151 52432
R 41	RCA-6180	RESISTOR CARBON 180K 0.66W 5	1	MBB 0207	MBB 0207	MBB 180K
R 42	RMA-5133	RESISTOR METAL 13K3 0.4W 1%	1	PHILLIPS MR25	PHILLIPS MR25	2322 151 51333
R 43	RMA-5200	RESISTOR METAL 20K 0.4W 1%	1	PHILLIPS MR25	PHILLIPS MR25	2322 151 52003
R 44	RMA-5110	RESISTOR METAL 11K 0.4W 1%	1	PHILLIPS MR25	PHILLIPS MR25	2322 151 51103
R 45	RMA-5100	RESISTOR METAL 10K 0.4W 1%	1	PHILLIPS MR25	PHILLIPS MR25	2322 151 51003
R 46	RCA-7100	RESISTOR CARBON 1M 0.66W 5%	1	MBB 0207	MBB 0207	MBB 0207 1M
R 47	RCA-7100	RESISTOR CARBON 1M 0.66W 5%	1	MBB 0207	MBB 0207	MBB 0207 1M
R 48	RCA-7100	RESISTOR METAL 20K 0.4W 1%	1	PHILLIPS MR25	PHILLIPS MR25	2322 151 52003
R 49	RMA-5200	RESISTOR METAL 10K 0.4W 1%	1	PHILLIPS MR25	PHILLIPS MR25	2322 151 51003
R 50	RMA-5100	RESISTOR METAL 10K 0.4W 1%	1	PHILLIPS MR25	PHILLIPS MR25	2322 151 51003
R 51	RMA-5100	RESISTOR CARBON 100K 0.66W 5	1	MBB 0207	MBB 0207	MBB 0207 100K
R 53	RCA-6100					

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NTP 179-400F LIMITER AMPLIFIER W BYPASS

PARTS LIST

REF. NO	NTP-ID.	DESCRIPTION	QTY	MANUFACT/DRW.NO.	PART NO.
R 54	RCA-6100	RESISTOR CARBON 100K 0.66W 5%	1	MBB 0207	MBB 0207 100K
R 55	RTC-1940	RESISTOR PTC 9R4	1	PTC Q63100	P2390 C970
R 56	RCA-4330	RESISTOR CARBON 3K3 0.66W 5%	1	MBB 0207	MBB 0207 3K3
R 57	RCA-4560	RESISTOR CARBON 5K6 0.66W 5%	1	MBB 0207	MBB 0207 5K6
R 58	RCA-5120	RESISTOR CARBON 12K 0.66W 5%	1	MBB 0207	MBB 0207 12K
R 59	RCA-6100	RESISTOR CARBON 100K 0.66W 5%	1	MBB 0207	MBB 0207 100K
R 60	RCA-5100	RESISTOR CARBON 10K 0.66W 5%	1	MBB 0207	MBB 0207 10K
R 61	RCA-7100	RESISTOR CARBON 1M 0.66W 5%	1	MBB 0207	MBB 0207 1M
R 62	RCA-6100	RESISTOR CARBON 100K 0.66W 5%	1	MBB 0207	MBB 0207 100K
R 63	RCA-7120	RESISTOR CARBON 1M2 0.66W 5%	1	MBB 0207	MBB 0207 1M2
R 64	RCA-6560	RESISTOR CARBON 560K 0.66W 5%	1	MBB 0207	MBB 0207 560K
R 65	RCA-6330	RESISTOR CARBON 330K 0.66W 5%	1	MBB 0207	MBB 0207 330K
R 66	RCA-6120	RESISTOR CARBON 120K 0.66W 5%	1	MBB 0207	MBB 0207 120K
R 67	RCA-5680	RESISTOR CARBON 68K 0.66W 5%	1	MBB 0207	MBB 0207 68K
R 68	RCA-5270	RESISTOR CARBON 27K 0.66W 5%	1	MBB 0207	MBB 0207 27K
R 69	RCA-6470	RESISTOR CARBON 470K 0.66W 5%	1	MBB 0207	MBB 0207 470K
R 70	RCA-6560	RESISTOR CARBON 560K 0.66W 5%	1	MBB 0207	MBB 0207 560K
R 71	RCA-6330	RESISTOR CARBON 330K 0.66W 5%	1	MBB 0207	MBB 0207 330K
R 72	RCA-6100	RESISTOR CARBON 100K 0.66W 5%	1	MBB 0207	MBB 0207 100K
R 73	RCA-5560	RESISTOR CARBON 56K 0.66W 5%	1	MBB 0207	MBB 0207 56K
R 74	RCA-5470	RESISTOR CARBON 47K 0.66W 5%	1	MBB 0207	MBB 0207 47K
R 75	RCA-4100	RESISTOR CARBON 1K 0.66W 5%	1	MBB 0207	MBB 0207 1K
R 76	RCA-7100	RESISTOR CARBON 1M 0.66W 5%	1	MBB 0207	MBB 0207 1M
R 77	RCA-5100	RESISTOR CARBON 10K 0.66W 5%	1	MBB 0207	MBB 0207 10K
R 78	RCA-7100	RESISTOR CARBON 1M 0.66W 5%	1	MBB 0207	MBB 0207 1M
R 79	RCA-4100	RESISTOR CARBON 1K 0.66W 5%	1	MBB 0207	MBB 0207 1K
R 80	RCA-7120	RESISTOR CARBON 1M2 0.66W 5%	1	MBB 0207	MBB 0207 1M2
R 81	RCA-7330	RESISTOR CARBON 3M3 0.66W 5%	1	MBB 0207	MBB 0207 3M3
R 82	RCA-6220	RESISTOR CARBON 220K 0.66W 5%	1	MBB 0207	MBB 0207 220K
R 83	RCA-5470	RESISTOR CARBON 47K 0.66W 5%	1	MBB 0207	MBB 0207 47K
R 84	RCA-5220	RESISTOR CARBON 22K 0.66W 5%	1	MBB 0207	MBB 0207 22K
R 85	RCA-4180	RESISTOR CARBON 1K8 0.66W 5%	1	MBB 0207	MBB 0207 1K8
R 86	RCA-4220	RESISTOR CARBON 2K2 0.66W 5%	1	MBB 0207	MBB 0207 2K2

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PARTS LIST 179-400F

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NTP 179-400F LIMITER AMPLIFIER W BYPASS

PARTS LIST

REF. NO	NTP-ID.	DESCRIPTION	QTY	MANUFACT/DRW. NO.	PART NO.
R 87	RMA-5100	RESISTOR METAL 10K 0 .4W 1%	1	PHILLIPS MR25	2322 151 51003
R 88	RMA-5100	RESISTOR METAL 10K 0 .4W 1%	1	PHILLIPS MR25	2322 151 51003
R 89	RCA-4180	RESISTOR CARBON 1K8 0 .66W 5%	1	MBB 0207	MBB 0207 1K8
R 90	RCA-4220	RESISTOR CARBON 2K2 0 .66W 5%	1	MBB 0207	MBB 0207 2K2
R 91	RCA-4470	RESISTOR CARBON 4K7 0 .66W 5%	1	MBB 0207	MBB 0207 4K7
R 92	RCA-6470	RESISTOR CARBON 470K 0 .66W 5	1	MBB 0207	MBB 0207 470K
R 93	RCA-6470	RESISTOR CARBON 470K 0 .66W 5	1	MBB 0207	MBB 0207 470K
R 94	RCA-6470	RESISTOR CARBON 470K 0 .66W 5	1	MBB 0207	MBB 0207 470K
R 95	RCA-6470	RESISTOR CARBON 470K 0 .66W 5	1	MBB 0207	MBB 0207 470K
R 96	RCA-6470	RESISTOR CARBON 470K 0 .66W 5	1	MBB 0207	MBB 0207 470K
R 97	RCA-6470	RESISTOR CARBON 470K 0 .66W 5	1	MBB 0207	MBB 0207 470K
R 98	RCA-4150	RESISTOR CARBON 1K5 0 .66W 5%	1	MBB 0207	MBB 0207 1K5
R 99	RCA-5180	RESISTOR CARBON 18K 0 .66W 5%	1	MBB 0207	MBB 0207 18K
R 100	RMA-5100	RESISTOR METAL 10K 0 .4W 1%	1	PHILLIPS MR25	2322 151 51003
R 101	RMA-5100	RESISTOR METAL 10K 0 .4W 1%	1	PHILLIPS MR25	2322 151 51003
R 102	RCA-4100	RESISTOR CARBON 1K 0 .66W 5%	1	MBB 0207	MBB 0207 1K
R 103	RCA-2100	RESISTOR CARBON 10R 0 .66W 5%	1	MBB 0207	MBB 0207 10R
R 105	RXA-8220	RESISTOR HIGHVOLT 22M 0 .25W	1	PHILLIPS VR25	2322 241 13226
R 106	RCA-5120	RESISTOR CARBON 12K 0 .66W 5%	1	MBB 0207	MBB 0207 12K
R 107	RCA-6100	RESISTOR CARBON 100K 0 .66W 5	1	MBB 0207	MBB 0207 100K
RS 1	SRB-0004	ROTARY SWITCH 9 POS YELLOW	1	HOPP & S.	422 020
RS 2	SRB-0004	ROTARY SWITCH 9 POS YELLOW	1	HOPP & S.	422 020
S 1	SSE-0112	SLIDE SWITCH SPDT	1	ALCO TSS	11 DG RA
S 2	SSE-0112	SLIDE SWITCH SPDT	1	ALCO TSS	11 DG RA
TR 1	LTL-0008	OUTPUTTRANSFORMER	1.2	LUNDHAL 5011	LL 5011

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