

# NTP

179-1710-A-4

## COMPRESSOR

**179-170**

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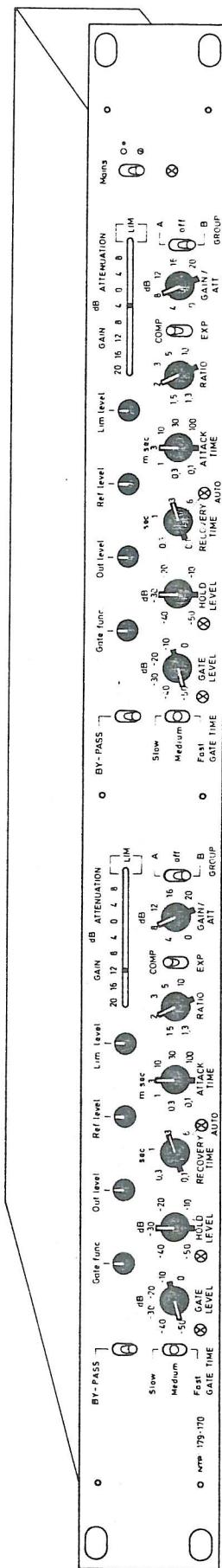
## Compressor

### 179-170

#### Contents:

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General:

Supply voltage	:	220/110V AC 50Hz
Current consumption	:	approx. 80mA.
Input impedance, balanced floating	:	10 kOhms $\pm 10\%$
Input common mode rejection ratio	:	> 60 dB
Input overload level	:	+21 dBu
Output impedance, balanced floating	:	less than 40 Ohms, typ 30 Ohms
Min. load impedance	:	300 Ohms ( $U_{out}$ max.= +19 dBu)
Output overload level at $f \geq 30Hz$	:	+21 dBu ( $R_L > 1$ kOhm)
" " " " " $f = 15Hz$	:	+15 dBu
Basic gain, adjustable	:	0 to +12 dB
Frequency range (0.3 dB points)	:	40 Hz to 15 kHz
Distortion (40 Hz to 15 kHz)	:	less than 0.1% THD (Gain < 15dB, $U_{out} < +15$ dBu)
Output noise (0dB gain)	:	-89 dBu rms 20 Hz to 22 kHz (See Note 1) -78 dBu psh. Peak (CCIR-468-1)

Compressor section:

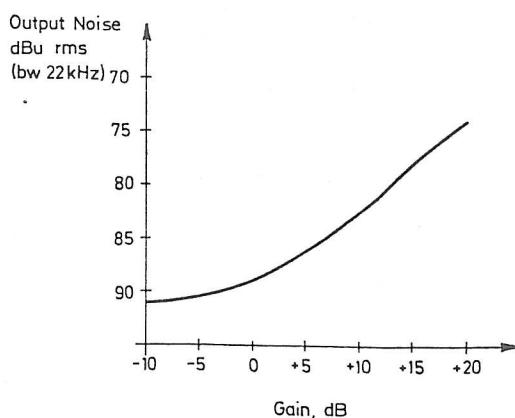
Ref. level, adjustable	:	-8 dBu to +15 dBu
Max. gain/attenuation below threshold, adjustable	:	0 to 20 dB
Compression ratio, adjustable	:	1.3:1 to 20:1
Expansion ratio, adjustable	:	1.25 to 1:1.9
Attack time, adjustable	:	0.1 ms to 100 ms
Recovery time, adjustable	:	0.1s to 6s
Auto position, dual time constants	:	programme dependant
Recovery delay	:	programme controlled, frequency dependant.
Recovery hold level, adjustable	:	10 dB to 50 dB below actual operating level
Control voltage, output/input	:	1 V per 5 dB; Maximum number of compressors connected in a group=10

Limiter section:

Lim. threshold level adjustable	:	0 dBu to +15 dBu output level
Peak limitation level	:	3 dB above threshold level (at 10dB lim.)
Attack time	:	1.5ms combined with clipping circuit
Recovery time	:	0.5 s per 10dB

Gate, section

Threshold level, adjustable	:	0 dBu to -50 dBu input level
Gate attenuation, adjustable	:	0 dB to 20 dB
Expansion ratio	:	1 : 2
Attack time (for increasing input level)	:	approx. 1 ms
Recovery time (for decreasing input level)	:	selectable 20 ms, 100 ms, 500 ms.

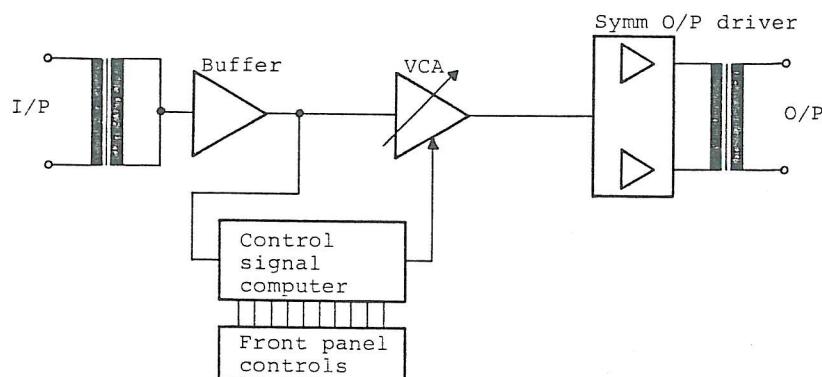


The NTP Compressor 179-170 consists of two identical compressors and an AC power supply mounted in a 19 inch rack.

The compressors combine functions not normally found in one single unit. The heart of the compressor is a very high quality voltage controlled amplifier, (VCA). Because of the extremely precise regulation characteristics of the VCA used, advantage can be taken of the "forward regulation" principle. That is to say, the control voltage can be derived from the input signal, rather than from the output signal; which allows for a more complex and accurate control voltage computation.

The simplified block-schematic diagram below shows this principle.

Fig. 1



For ease of use as a "user's reference manual", the following text, describing the individual functions of the compressor refers to the mechanical lay-out for one channel as shown on page 5. The other channel is identical.

At the end of each section in the text there is a suggested setting to be used as a "start-point".

#### 1. "BY PASS".

The BY PASS switch simply disconnects the VCA control voltage from the VCA. In this way a click free switch-off of all the dynamic gain control funtions is achieved.

As all the gain computing electronics remain connected to the input signal, the att/gain meter and the dynamic controls, (with the exception of OUT LEVEL), may be adjusted without affecting the signal path. Also, the control voltage is still active and can be used to control another compressor or other device.

Setting: ON.

#### 2. "GAIN/ATT".

The GAIN/ATT control sets the maximum gain or attenuation imposed on signals below the compressor threshold level, in the range 0dB to 20dB.

Most compressors have controls only for "threshold", "ratio" and "output level". The amount of compression or expansion required is thus primarily adjusted by "ear".

However, with the NTP 179-160, the amount of gain or attenuation required for a particular input signal, can be predicted by the operator. If for instance the console level meter indicates that the low level passages need 8dB of gain, then the GAIN/ATT control is simply set at 8dB. See figure 4 and section 7.

Suggested setting: 8dB.

#### 3.4 "ATT/GAIN METER" ; "LIM"

The 16 segment LED meter monitors the VCA voltage and thus reads relative gain or attenuation caused by any or all functions in the module.

Gain caused by the output level control is not indicated. The uppermost LED (the red LED) is not part of the meter, but is purely indicator for, when the limiter is in operation.

5. "COMP/EXP".

The COMP/EXP switch selects either compression mode or expansion mode of operation. Theoretically, expansion is the inversion of compression. I.e. if a certain signal level at the input causes a gain of 6dB, when the unit is switched to the compression mode, then the same signal level at the input will cause an attenuation of 6dB, when the unit is switched to the expansion mode. Note that due to mathematical reasons, an exact inversion of the ratio slopes cannot be achieved. (See figure 4, e.g. the +10dB slope in the compression mode is different from the -10dB in the expansion mode).

Suggested setting: "COMP".

6. "RATIO".

The RATIO control sets the compression or expansion slope in the range 1.3:1 to 10:1 for compression and 1:1.25 to 1:1.9 for expansion. The scale marked on the front panel of the module is true for compression only, and the table below shows the relationship between the printed scale and the actual expansion ratios.

Compression Ratio	1.3:1	1.5:1	2:1	5:1	10:1
Expansion Ratio	1:1.25	1:1.3	1:1.5	1:1.8	1:1.9

Also refer to figure 4 on the curve sheet and section 5.

Suggested setting: 2:1.

7. "REF LEVEL".

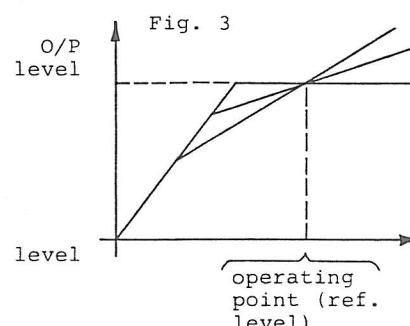
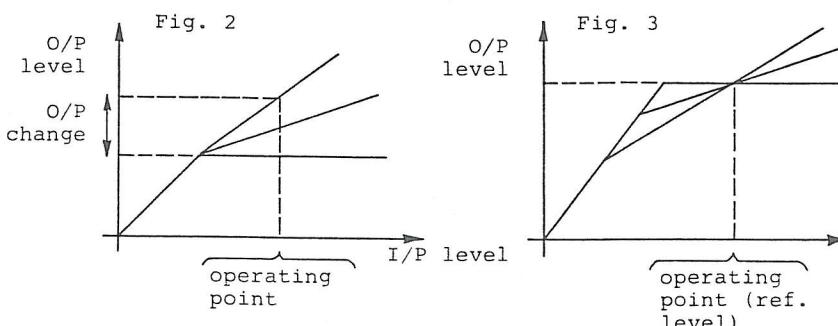
REF LEVEL is defined as the input signal level for which the compressor will impose no relative gain or attenuation (independant of ratio setting). Therefore the REF LEVEL control is set so that the att/gain meter reads 0dB for a normal input level being sent from the preceding equipment. During this adjustment "LIM LEVEL" should be set at a level high enough to prevent activating the lim. function (see 4. "LIM").

The REF LEVEL should be set before the module is used for any programme control.

Suggested setting: Ref.mark (+6dBu).

Additional Information:

While most compressors have a threshold and a ratio control for a particular operating point, a change in the ratio control will cause a change in the output level. This means that the operator will have to compensate for this change by readjusting the output level control. This is shown in figure 2 below.



In contrast to this the 179-160 electronics allow the output to remain constant for any ratio setting, as the characteristic curves all pass through the same point, for a given operating point, provided that the input operating level is equal to the REF LEVEL.

8. "OUT LEVEL".

The OUT LEVEL control provides 0 to 12dB of gain and is used as a normal "gain-make-up" control, so that the output from the module will "level match" the succeeding system.

Suggested setting: Ref. mark (0dB).

9. "LIM LEVEL".

The threshold level of the limiter can be set by the LIM LEVEL control. The attack and recovery times of the limiter are fixed and are quite independant of all the selected compressor time constants.

The limiter function is provided with an instant clipping circuit which ensures "soft" clipping of fast signal peaks and will only overshoot 3dB above the static limiter threshold.

The LIM LEVEL is not dependant on the output level setting.

Suggested setting: Ref. mark (+9dBu).

10. "ATTACK TIME".

The ATTACK TIME control sets the time taken by the compressor or expander to respond to an input signal which is suddenly applied, before the function takes effect. This can be varied from 0.1 milliseconds (very fast) to 100 milliseconds (slow). If the attack time is fast, the function will be applied almost immediately, even to a signal of short duration.

The figures printed on the scale are derived from the following definition:

The duration of a tone-burst required for 7dB of gain reduction, provided that the tone burst amplitude is so that a continuous signal having the same amplitude would cause 10dB of gain reduction.

Suggested setting: 3ms.

11.12. "RECOVERY TIME".

The RECOVERY TIME can be varied between 0.1 seconds and 6 seconds. Within this range the recovery takes place linearly. When the RECOVERY TIME control is set at the maximum clockwise position, a programme dependant dual time constant recovery function is selected. When this occurs the light emitting diode (LED) marked AUTO is illuminated.

Generally when the input signal has a short duration, the recovery time can also be short. But when the input signal is of long duration, the recovery time should be set slow, or in the AUTO mode which will accomodate a wide range of input signal duration.

Additional Notes:

Normally, in a compressor, short recovery times are to be avoided when low frequencies are present, due to distortion. To overcome this problem and to some extent allow for short recovery times on low frequency signals, an automatic, frequency dependant, recovery delay circuit has been incorporated. This circuitry inhibits the recovery function for a time equivalent to 2½ periods of the predominant frequency content of the signal. In this way distortion is minimized on most signals containing low frequencies, when a short recovery time is required for artistic reasons.

Note that the printed scale for recovery times is derived from the same definition as in section 10.

Suggested setting: 3s or "AUTO".

13.14. "HOLD LEVEL".

The HOLD LEVEL function is particularly useful on programme material, such as speech, etc. When a compressor is being used on speech, in the normal way, and the speaker stops to breath or to turn over page in the script, then the compressor will start to recover before the speech begins again. This can cause the "pumping" effects so often associated with speech recording. However, if a HOLD LEVEL is selected so that it just below the total dynamic range of speaker (before compression is introduced), then the normal recovery function is inhibited, and the gain will remain constant. The selected recovery function is reestablished when the speech continues.

The threshold level selected by the HOLD LEVEL control operates with a "floating" or "dynamic" reference. This means that even if the average level of the incoming signal varies above or below the initial average level, the setting of the HOLD LEVEL can remain the same, as this setting is not level dependant.

The associated LED 14 indicates, when the hold function is activated. The threshold of this function is variable from -10dB to -50dB.

Suggested setting: -10dB for speech, -30dB for music.

#### 15. "GROUP".

The internal gain control voltage generated by the compressor units may be connected the "control voltage grouping" connector by means of the GROUP switch.

The gain of the compressor will be defined by the highest control voltage which appears. It means if an external control voltage (from another compressor e.g.) is higher than the voltage generated by the actual compressor, the gain will be defined by the external voltage.

If both GROUP selectors are positioned at A, both compressors are linked together for stereo operation. They may at the same time be controlled externally at pin 1 at the "control voltage grouping" connector.

It is also possible to individually control each of the two compressors from external. The GROUP selector may then be set in position B for the actual compressor. The external voltage is connected to pin 2 for the left compressor and pin 3 for the right.

If two or more compressors are interconnected in this way, a control voltage "group" is made within which the gain of all the compressors involved is defined by the one that generates the highest control voltage. The polarity of the control voltage is unaffected by the COMP/EXP switch, and therefore the "grouping" can be used either to achieve conventional gain tracking (by equal settings of GAIN/ATT control on each unit), or one compressor operating on COMP mode, can be used to gate another compressor in EXP mode.

It should be noted that the gain control voltage is generated by the compressor section only, and that gain variations caused by the limiter or gate sections within a specific unit do not effect the gain in the "grouping".

The compressor operates as a control voltage source, even if the compressor function itself is switched "off" by the BY PASS switch.

The maximum number of units connected in the group should not exceed ten.

In position "off" the compressors are internally controlled.

Suggested setting: "OFF".

#### 16.17. "GATE LEVEL".

The gate threshold is set by the GATE LEVEL control in the range 0dB to -50dB, and the LED indicates, when the modulation level is below the threshold level, i.e. the LED IS "on", when the gate turns the incoming programme "off".

See figure 6 in the curve sheet.

Suggested setting: -50dB.

#### 18. "GATE FUNCTION".

The GATE FUNCTION control sets the maximum attenuation imposed on input signals below the gate threshold level. The actual over all gain/attenuation will be the sum of compressor gain (set by control 2) and the gate attention. Figure 7 on the curve sheet shows the static input/output characteristics obtainable for various settings of the GATE FUNCTION control.

Suggested setting: Ref. Mark 10dB.

#### 19. "GATE TIME".

The three position toggle switch for GATE TIME CONTROLS THE SPEED with which the gate becomes active again (closes) after a signal which has opened the gate, decays below the gate threshold. If the signal decays quickly, then the gate time can be fast. But if the signal decays slowly, then the gate time should be slow, unless a special effect is required.

The attack time for the gate is fixed and is extremely fast.

Suggested setting: "MED".

FIG. 4

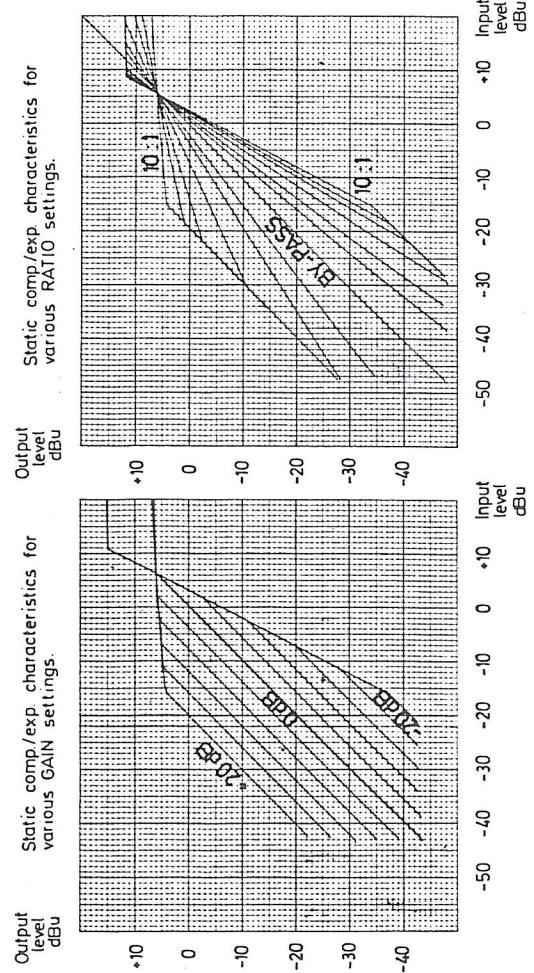


FIG. 5

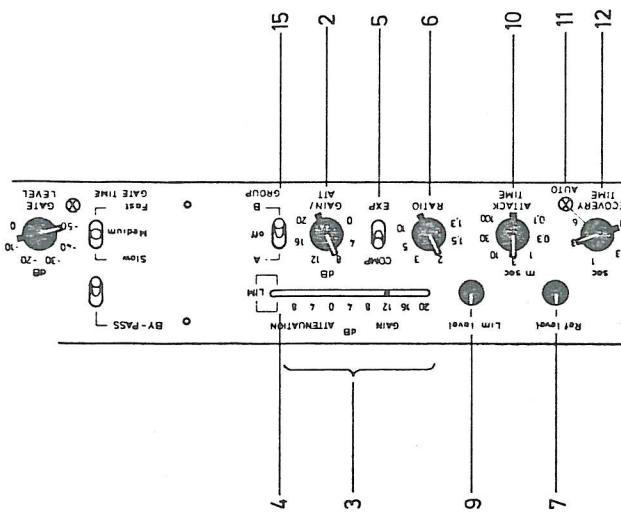


FIG. 6

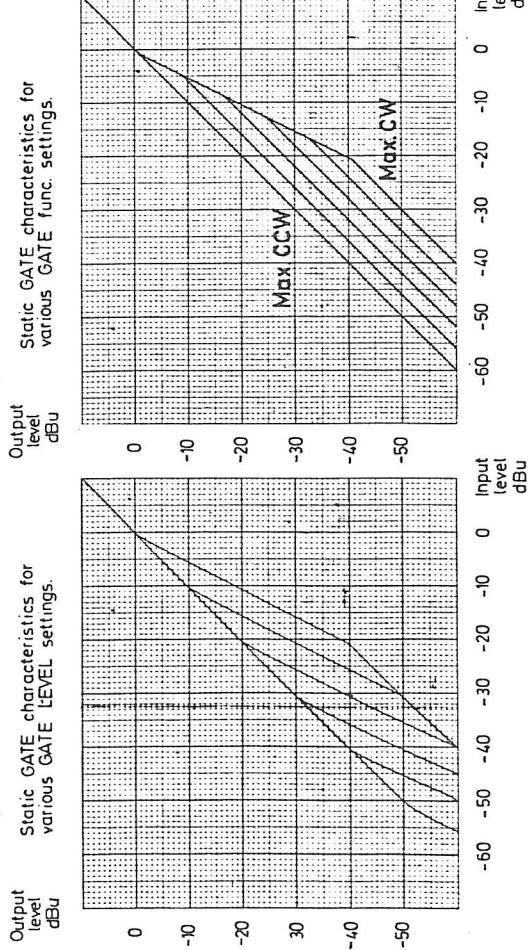
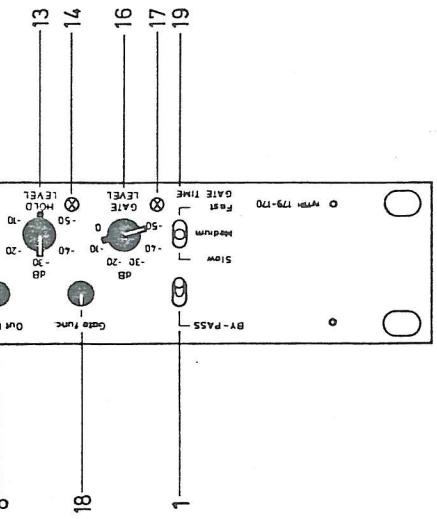


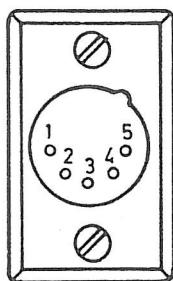
FIG. 7



Ratgeber

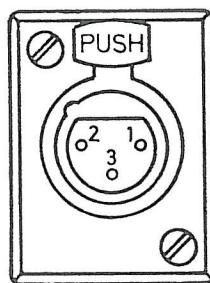
Pos.:	Aantal:	Material:	Behandl:	Del nr:
Materiel:				
Tolerance :	± mm	Compressor	179-170	
Tegnen :	19.5.81 T.L.			
Godkndt:		Users manual		page 5 of 5
Revidert:				179-1713-A-3

Control voltage grouping



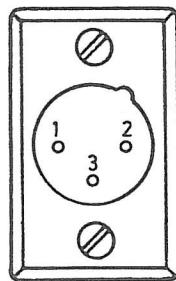
- Pin 1 Control voltage group "A" left and right
- 2 Control voltage group "B" left channel
- 3 Control voltage group "B" right channel
- 4 Control reference
- 5 Shield

Input connectors

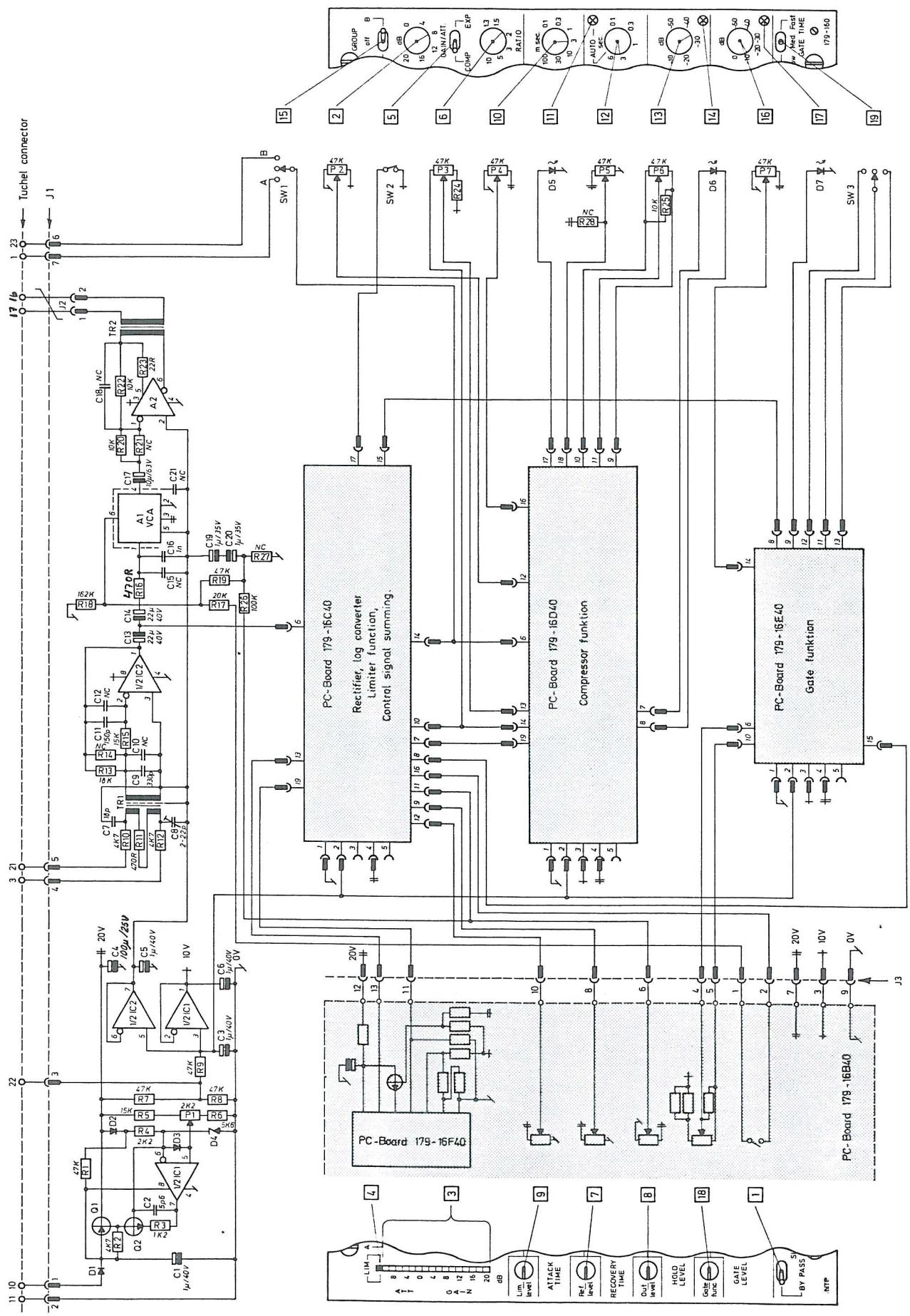


- Pin 1 Shield
  - 2  $180^\circ$
  - 3  $0^\circ$
- } floating input

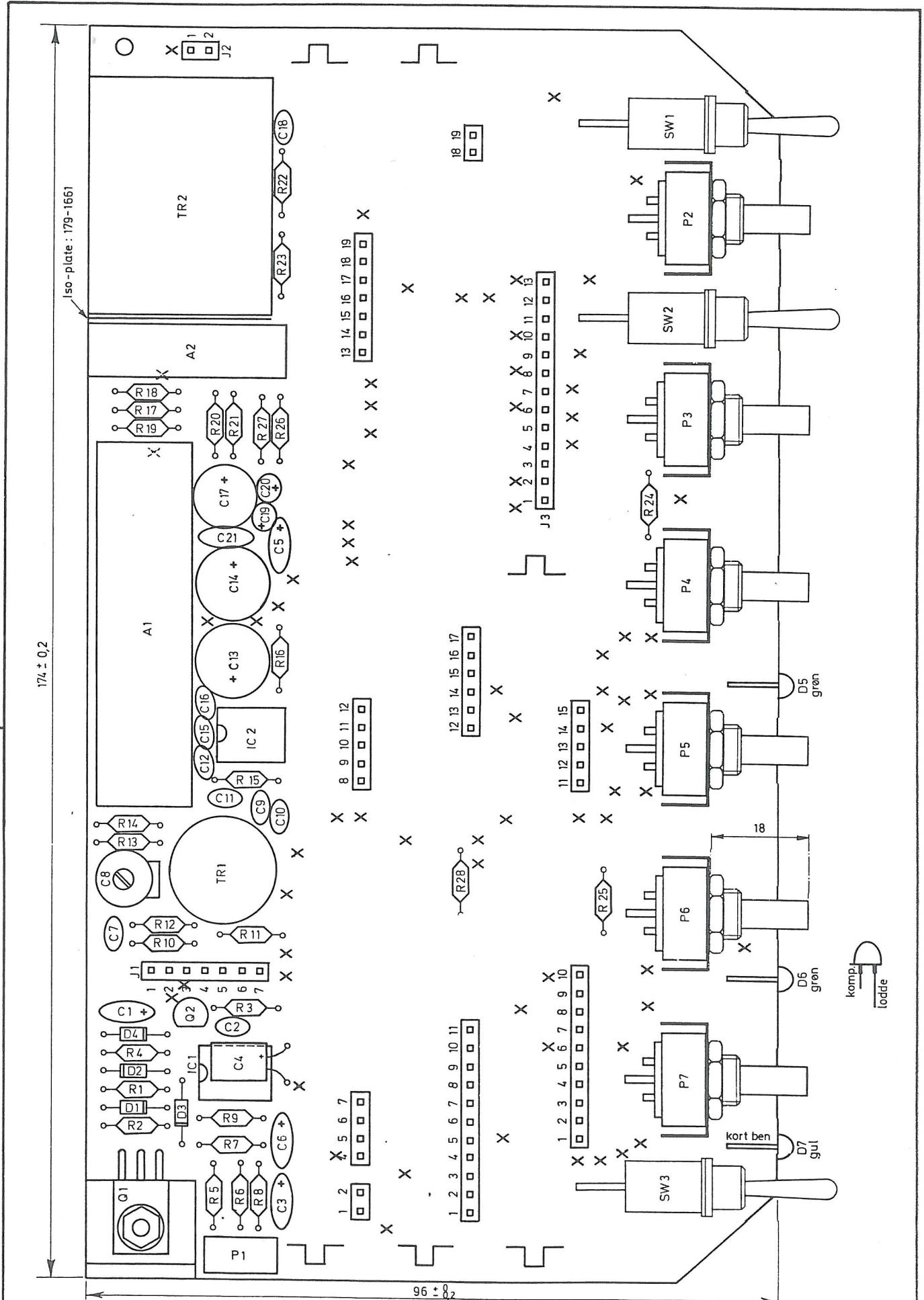
Output connectors



- Pin 1 Shield
  - 2  $180^\circ$
  - 3  $0^\circ$
- } floating output



Pos	Antal	Materiale	Behandl	Delsat
Målestok				
Tolerance	mm	Compressor	179-160	
Tegnet	3.7.79 JS	Motherboard, right		
Godekendt		Schematic Diagram		
Revideret	6			179-16 A 30-A-2



Mälestok :	
Konstruktør :	BJ.
Tegnet :	5. 7. 79 JS
Godkendt :	
Revideret :	1

Compressor 179-160  
Motherboard, right  
Component Lay-out

**NTP**  
NTP ELEKTRONIK A/S  
179-16A41-A-3

## NTP 179-16A31 MOTHERBOARD RIGHT

## PARTS LIST

REF. NO	NTP-ID.	DESCRIPTION	QTY	MANUFACT/DRW.NO.	PART NO.
1	KMM-0245	MODULE CONNECTOR, 2-PIN MALE	3	CANNON G09 A45	KMM-0245
2	KMM-0445	MODULAR CONNECTOR 4-P PIN	1	CANNON G09 45	KMM-0445
3	KMM-0545	MODULAR CONNECTOR 5-PIN MALE	2	CANNON G09 A45	KMM-0545
4	KMM-0645	MODULAR CONNECTOR, 6-PIN MALE	1	CANNON G09 A45	KMM-0645
5	KMM-0745	MODULAR CONNECTOR 7-P PIN	2	CANNON G09 A45	KMM-0745
6	KMM-1045	MODULE CONNECTOR, 10-PIN MALE	1	CANNON G09 A45	KMM-1045
7	KMM-1145	MODULE CONNECTOR, 11-PIN MALE	1	CANNON G09 A45	KMM-1145
8	KMM-1345	MODULAR CONNECTOR, 13-PIN MALE	1	CANNON G09 A45	KMM-1345
9	179-1653	CARD GUIDE FOR SUBUNITS	6	179-1653-A-4	179-1653
10	179-1659	SCREEN FOR VCA MODULE	1	179-1659-A-4	179-1659
11	179-1660	COOLING SQUARE	1	179-1660-A-4	179-1660
12	179-1661	ISO PLATE	1	179-1661-A-4	179-1661
13	179-16A40	P.C. BOARD	1	179-16A40-A-4	179-16A40
14	250-5150	INSULATIONSPLATE	1	250-5150-A-4	250-5150
15	MSC-2508	SCREW 2,5 X 8 CHJZ	1	HFC 9033	2.5 X 8 CHJ
16	MMA-0025	NUT STEEL 2.5 MM	1	HFC-9032	6 KT
17	QBA-0025	ISOLATION WASHER TO-126	1	DENKA	BFG-20D5
A 1	250-520	VCA MODULE	1	250-520	250-520
A 2	250-2031D	OUTPUT DRIVER, PCB UNIT	1	250-2041-D-4	250-2031D
C 1	CFI-0710	CAP ELECTROLYTIC 1UF/40V	1	PH 2222 122	2222 122 57108
C 2	CCB-0156	CAP CERAMIC 5.6PF/100V	1	PH 2222 632	2222 632 57568
C 3	CFI-0710	CAP ELECTROLYTIC 1UF/40V	1	PH 2222 122	2222 122 57108
C 4	CGG-0910	CAP ELECTROLYTIC 100UF/25V	1	PANASONIC SU	100UF / 25V
C 5	CFI-0710	CAP ELECTROLYTIC 1UF/40V	1	PH 2222 122	2222 122 57108
C 6	CFI-0710	CAP ELECTROLYTIC 1UF/40V	1	PH 2222 122	2222 122 57108
C 7	CCB-0218	CAP CERAMIC 18PF/100V	1	PH 2222 632	2222 632 58189
C 8	CVB-0001	TRIMCAPACITOR 2-22PF	1	PH 2222 808	2222 808 11229
C 9	CCB-0333	CAP CERAMIC 330PF/100V	1	PH 2222 632	2222 632 70331
C 11	CCB-0315	CAP CERAMIC 150PF/100V	1	PH 2222 632	2222 632 70151
C 13	CFG-0822	CAP ELECTROLYTIC 22UF/40V	1	SIEMENS B41316	B41316 A7226 V
C 14	CFG-0822	CAP ELECTROLYTIC 22UF/40V	1	SIEMENS B41316	B41316 A7226 V
C 16	CCA-0410	CAP CERAMIC 1NF/63V	1	PH 2222 629	2222 629 02102
C 17	CFH-0810	CAP ELECTROLYTIC 10UF/63V	1	SIEMENS B41316	B41316 A8106 V

**NTP Parts List**

as of date 3-9 1992.

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List No.: 179-16A31-A-4

## NTP 179-16A31 MOTHERBOARD RIGHT

## PARTS LIST

REF. NO	NTP-ID.	DESCRIPTION	QTY	MANUFACT/DRW.NO.	PART NO.
C 19	CTF-0710	CAP TANTALUM 1UF / 35V	1	ERO ETP	ETP 1A 1UF
C 20	CTF-0710	CAP TANTALUM 1UF / 35V	1	ERO ETP	ETP 1A 1UF
D 1	QDS-4-002	DIODE, SILICIUM	1	F-126	1N 4002
D 2	QDS-4148	DIODE, SILICIUM	1	QDS-4148	1N 4148
D 3	QDS-4148	DIODE, SILICIUM	1	QDS-4148	1N 4148
D 4	QZR-0062	REFERENCEDIODE	1	DO-34	1N 821
D 5	OES-0108	LED GREEN 1x1	1	SIEMENS CQV 15	Q62703 Q586
D 6	OES-0108	LED GREEN 1x1	1	SIEMENS CQV 15	Q62703 Q586
D 7	OES-0107	LED YELLOW 1x1	1	SIEMENS CQV 13	Q62703-Q576
IC 1	ILA-4559	OP-AMP	1	RAYTH. 4559NB	RC 4559NB
IC 2	ILA-353	OP-AMP	1	NAT. LF353	LF 353
P 1	RFD-4200	TRIMPOTENTIOMETER 2K	1	BOURNS 3386	3386H-1-202
P 2	RFN-5470	POTENTIOMETER 4.7K LIN 5%	1	RUWIDO 620-312	620 312 47KLIN
P 3	RFN-5470	POTENTIOMETER 4.7K LIN 5%	1	RUWIDO 620-312	620 312 47KLIN
P 4	RFN-5470	POTENTIOMETER 4.7K LIN 5%	1	RUWIDO 620-312	620 312 47KLIN
P 5	RFN-5470	POTENTIOMETER 4.7K LIN 5%	1	RUWIDO 620-312	620 312 47KLIN
P 6	RFN-5470	POTENTIOMETER 4.7K LIN 5%	1	RUWIDO 620-312	620 312 47KLIN
P 7	RFN-5470	POTENTIOMETER 4.7K LIN 5%	1	RUWIDO 620-312	620 312 47KLIN
Q 1	QBP-14010	TRANSISTOR, PNP	1	TO-126	BD140-10
Q 2	QBN-0237	TRANSISTOR, NPN	1	TO-92	BC237 B
R 1	RCA-5470	RESISTOR CARBON 4.7K 0.66W 5%	1	MBB 0207	47K
R 2	RCA-4470	RESISTOR CARBON 4K7 0.66W 5%	1	MBB 0207	4K7
R 3	RCA-4120	RESISTOR CARBON 1K2 0.66W 5%	1	MBB 0207	1K2
R 4	RCA-4120	RESISTOR CARBON 1K2 0.66W 5%	1	MBB 0207	1K2
R 5	RCA-5150	RESISTOR CARBON 1.5K 0.66W 5%	1	MBB 0207	1.5K
R 6	RCA-4560	RESISTOR CARBON 5K6 0.66W 5%	1	MBB 0207	5K6
R 7	RCA-5470	RESISTOR CARBON 4.7K 0.66W 5%	1	MBB 0207	4.7K
R 8	RCA-5470	RESISTOR CARBON 4.7K 0.66W 5%	1	MBB 0207	4.7K
R 9	RCA-5470	RESISTOR CARBON 4.7K 0.66W 5%	1	MBB 0207	4.7K
R 10	RCA-4470	RESISTOR CARBON 4K7 0.66W 5%	1	MBB 0207	4K7
R 11	RCA-3470	RESISTOR CARBON 4.70R 0.66W 5	1	MBB 0207	470R
R 12	RCA-4470	RESISTOR CARBON 4K7 0.66W 5%	1	MBB 0207	4K7
R 13	RCA-5180	RESISTOR CARBON 18K 0.66W 5%	1	MBB 0207	18K

**NTP Parts List**

as of date 3-9-1992

Page 2 of 3

List No.: 179-16A31-A-4

Multi 03.09.92 15: 0

PARTS LIST 179-16A31

Side 3

NTP 179-16A31 MOTHERBOARD RIGHT

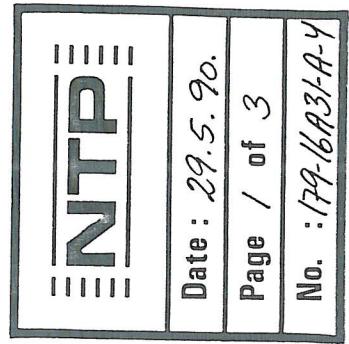
PARTS LIST

REF. NO	NTP-ID.	DESCRIPTION	QTY	MANUFACT/DRW.NO.	PART NO.
R 15	RCA-5150	RESISTOR CARBON 15K 0.66W 5%	1	MBB 0207	MBB 0207 15K
R 16	RCA-3470	RESISTOR CARBON 470R 0.66W 5%	1	MBB 0207	MBB 0207 470R
R 17	RMA-5200	RESISTOR METAL 20K 0.4W 1%	1	PHILLIPS MR25	2322 151 52003
R 18	RMA-6162	RESISTOR METAL 162K 0.4W 1%	1	PHILLIPS MR25	2322 151 51624
R 19	RCA-5470	RESISTOR CARBON 47K 0.66W 5%	1	MBB 0207	MBB 0207 47K
R 20	RCA-5100	RESISTOR CARBON 10K 0.66W 5%	1	MBB 0207	MBB 0207 10K
R 22	RCA-5100	RESISTOR CARBON 10K 0.66W 5%	1	MBB 0207	MBB 0207 10K
R 23	RCA-2220	RESISTOR CARBON 22R 0.66W 5%	1	MBB 0207	MBB 0207 22R
R 24	RCA-5100	RESISTOR CARBON 10K 0.66W 5%	1	MBB 0207	MBB 0207 10K
R 25	RCA-5100	RESISTOR CARBON 10K 0.66W 5%	1	MBB 0207	MBB 0207 10K
R 26	RCA-6100	RESISTOR CARBON 100K 0.66W 5%	1	MBB 0207	MBB 0207 100K
SW 1	STC-0131	TOGGLE SWITCH 3PDT	1	APR 5439	CD WW 13
SW 2	STC-0121	TOGGLE SWITCH SPDT	1	APR 5436	CD WW 13,5
SW 3	STC-0131	TOGGLE SWITCH 3PDT	1	APR 5439	CD WW 13
TR 1	LTB-0003	TRANSFORMER PLUGIN	1:3	BEYER 310	310.203.002
TR 2	LTL-0001	OUTPUTTRANSFORMER	1:1.2	LUNDHAL 5001	LL 5001

**NTP Parts List**as of date 3-9 1992.Page 3 of 3.List No.: 179-16A31-A-4

NTP 179-16A31 MOTHERBOARD RIGHT

REF.NO	NTP-ID.	DESCRIPTION	QTY	PARTS LIST	MANUFACT/DRW.NO.	PART NO.
R 23	RCA-2220	RESISTOR CARBON 22R 0.66W 5%	1	MBB 0207	MBB 0207	22R
R 11	RCA-3470	RESISTOR CARBON 470R 0.66W 5	1	MBB 0207	MBB 0207	470R
R 16	RCA-3470	RESISTOR CARBON 470R 0.66W 5	1	MBB 0207	MBB 0207	470R
R 3	RCA-4120	RESISTOR CARBON 1K2 0.66W 5%	1	MBB 0207	MBB 0207	1K2
R 4	RCA-4120	RESISTOR CARBON 1K2 0.66W 5%	1	MBB 0207	MBB 0207	1K2
R 2	RCA-4470	RESISTOR CARBON 4K7 0.66W 5%	1	MBB 0207	MBB 0207	4K7
R 10	RCA-4470	RESISTOR CARBON 4K7 0.66W 5%	1	MBB 0207	MBB 0207	4K7
R 12	RCA-4470	RESISTOR CARBON 4K7 0.66W 5%	1	MBB 0207	MBB 0207	4K7
R 6	RCA-4560	RESISTOR CARBON 5K6 0.66W 5%	1	MBB 0207	MBB 0207	5K6
R 20	RCA-5100	RESISTOR CARBON 10K 0.66W 5%	1	MBB 0207	MBB 0207	10K
R 22	RCA-5100	RESISTOR CARBON 10K 0.66W 5%	1	MBB 0207	MBB 0207	10K
R 24	RCA-5100	RESISTOR CARBON 10K 0.66W 5%	1	MBB 0207	MBB 0207	10K
R 25	RCA-5100	RESISTOR CARBON 10K 0.66W 5%	1	MBB 0207	MBB 0207	10K
R 5	RCA-5150	RESISTOR CARBON 15K 0.66W 5%	1	MBB 0207	MBB 0207	15K
R 15	RCA-5150	RESISTOR CARBON 15K 0.66W 5%	1	MBB 0207	MBB 0207	15K
R 13	RCA-5180	RESISTOR CARBON 18K 0.66W 5%	1	MBB 0207	MBB 0207	18K
R 1	RCA-5470	RESISTOR CARBON 47K 0.66W 5%	1	MBB 0207	MBB 0207	47K
R 7	RCA-5470	RESISTOR CARBON 47K 0.66W 5%	1	MBB 0207	MBB 0207	47K
R 8	RCA-5470	RESISTOR CARBON 47K 0.66W 5%	1	MBB 0207	MBB 0207	47K
R 9	RCA-5470	RESISTOR CARBON 47K 0.66W 5%	1	MBB 0207	MBB 0207	47K
R 19	RCA-5470	RESISTOR CARBON 47K 0.66W 5%	1	MBB 0207	MBB 0207	47K
R 26	RCA-6100	RESISTOR CARBON 100K 0.66W 5	1	PHILIPS MR25	2322 151 52003	
R 17	RMA-5200	RESISTOR METAL 20K 0.4W 1%	1	PHILIPS MR25	2322 151 51624	
R 18	RMA-6162	RESISTOR METAL 162K 0.4W 1%	1	PHILIPS MR25	2322 151 51624	
P 1	RFD-4200	TRIMPOTENTIOMETER 2K	1	BOURNS 3386	3386H-1-202	
P 2	RFN-5470	POTENTIOMETER 47K LIN 5%	1	RUWIDO 620-312	620 312 47KLIN	
P 3	RFN-5470	POTENTIOMETER 47K LIN 5%	1	RUWIDO 620-312	620 312 47KLIN	
P 4	RFN-5470	POTENTIOMETER 47K LIN 5%	1	RUWIDO 620-312	620 312 47KLIN	
P 5	RFN-5470	POTENTIOMETER 47K LIN 5%	1	RUWIDO 620-312	620 312 47KLIN	
P 6	RFN-5470	POTENTIOMETER 47K LIN 5%	1	RUWIDO 620-312	620 312 47KLIN	
P 7	RFN-5470	POTENTIOMETER 47K LIN 5%	1	RUWIDO 620-312	620 312 47KLIN	
C 2	CCB-0156	CAP CERAMIC 5.6PF/100V	1	PH 2222 632	2222 632 57568	
C 2	CCB-0218	CAP CERAMIC 18PF/100V	1	PH 2222 632	2222 632 58189	



Date : 29.5.90.

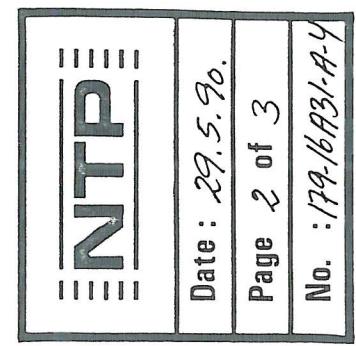
Page / of 3

No. : 179-16A31-A-4

## NTP 179-16A31 MOTHERBOARD RIGHT

## PARTS LIST

REF.NO	NTP-ID.	DESCRIPTION	QTY	MANUFACT/DRW.NO.	PART NO.
C 1.1	CCB-0315	CAP CERAMIC 150PF/100V	1	PH 2222	632 70151
C 9	CCB-0333	CAP CERAMIC 330PF/100V	1	PH 2222	632 70331
C 16	CCA-0410	CAP CERAMIC 1NF/63V	1	PH 2222	629 02102
C 1	CFI-0710	CAP ELECTROLYTIC 1UF/40V	1	PH 2222	122 57108
C 3	CFI-0710	CAP ELECTROLYTIC 1UF/40V	1	PH 2222	122 57108
C 5	CFI-0710	CAP ELECTROLYTIC 1UF/40V	1	PH 2222	122 57108
C 6	CFI-0710	CAP ELECTROLYTIC 1UF/40V	1	PH 2222	122 57108
C 19	CTF-0710	CAP TANTALUM 1UF/35V	1	ERO ETP	ETP 1A 1UF
C 20	CTF-0710	CAP TANTALUM 1UF/35V	1	ERO ETP	ETP 1A 1UF
C 17	CFH-0810	CAP ELECTROLYTIC 10UF/63V	1	SIEMENS	B41316 A8106 V
C 13	CFG-0822	CAP ELECTROLYTIC 22UF/40V	1	SIEMENS	B41316 A7226 V
C 14	CFG-0822	CAP ELECTROLYTIC 22UF/40V	1	SIEMENS	B41316 A7226 V
C 4	CGH-0910	CAP ELECTROLYTIC 100UF/25V	1	PANASONIC SU	100UF/25V
C 8	CVB-0001	TRIMCAPACITOR 2-22PF	1	PH 2222	808 11229
D 1	QDS-4002	DIODE, SILICON	1	F-126	1N 4002
D 2	QDS-4148	DIODE, SILICON	1	QDS-4148	1N 4148
D 3	QDS-4148	DIODE, SILICON	1	QDS-4148	1N 4148
D 4	QZR-0062	REFERENCE DIODE	1	DO-34	1N 821
D 7	OES-0107	LED YELLOW 1x1	1	SIEMENS	CQV 13 Q62703-Q576
D 5	OES-0108	LED GREEN 1x1	1	SIEMENS	CQV 15 Q62703 Q586
D 6	OES-0108	LED GREEN 1x1	1	SIEMENS	CQV 15 Q62703 Q586
Q 2	QBN-0237	TRANSISTOR, NPN	1	TO-92	BC237 B
Q 1	QBP-14010	TRANSISTOR, PNP	1	-TO-126	BD140-10
IC 2	ILA-353	OP-AMP	1	NAT. LF353	LF 353
IC 1	ILA-4559	OP-AMP	1	RAYTH. 4559NB	RC 4559NB
A 2	250-2031D	OUTPUT DRIVER, PCB UNIT	1	250-2041-D-4	250-2031D
A 1	250-520	VCA MODULE	1	250-5241-A-4	250-520
TR 1	LTB-0003	TRANSFORMER PLUGIN 1:3	1	BEYER 310	310.203.002
TR 2	LTL-0001	OUTPUTTRANSFORMER	1.2	1 LUNDAHL 5001	LL 5001
SW 2	STC-0121	TOGGLE SWITCH SPDT	1	APR 5436	CD WW 13,5
SW 1	STC-0131	TOGGLE SWITCH 3PDT	1	APR 5439	CD WW 13
SW 3	STC-0131	TOGGLE SWITCH 3PDT	1	APR 5439	CD WW 13
1	KMM-0245	MODULE CONNECTOR, 2-PIN MALE	3	CANNON G09 A45	KMM-0245



Date : 29.5.90.

Page 2 of 3

No. : 179-16A31-A-4

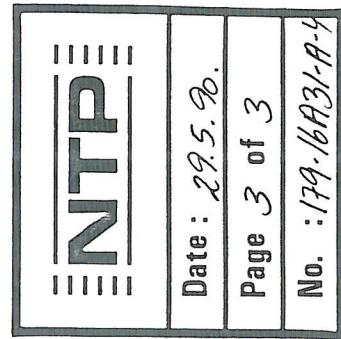
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PAGE 3

NTP 179-16A31 MOTHERBOARD RIGHT

PARTS LIST

REF. NO	NTP-ID.	DESCRIPTION	QTY	MANUFACT/DRW.NO.	PART NO.
2	KMM-0445	MODULAR CONNECTOR 4-P MALE	1	CANNON G09 A45	KMM-0445
3	KMM-0545	MODULAR CONNECTOR 5-PIN MALE	2	CANNON G09 A45	KMM-0545
4	KMM-0645	MODULAR CONNECTOR, 6-PIN MALE	1	CANNON G09 A45	KMM-0645
5	KMM-0745	MODULAR CONNECTOR 7-P MALE	2	CANNON G09 A45	KMM-0745
6	KMM-1045	MODULE CONNECTOR, 10-PIN MALE	1	CANNON G09 A45	KMM-1045
7	KMM-1145	MODULE CONNECTOR, 11-PIN MALE	1	CANNON G09 A45	KMM-1145
8	KMM-1345	MODULAR CONNECTOR, 13-PIN MALE	1	CANNON G09 A45	KMM-1345
9	179-1653	CARD GUIDE FOR SUBUNITS	6	179-1653-A-4	179-1653
10	179-1659	SCREEN FOR VCA MODULE	1	179-1659-A-4	179-1659
11	179-1660	COOLING SQUARE	1	179-1660-A-4	179-1660
12	179-1661	ISO PLATE	1	179-1661-A-4	179-1661
13	179-16A40	P.C. BOARD	1	179-16A40-A-3	179-16A40



Date : 29.5.90.

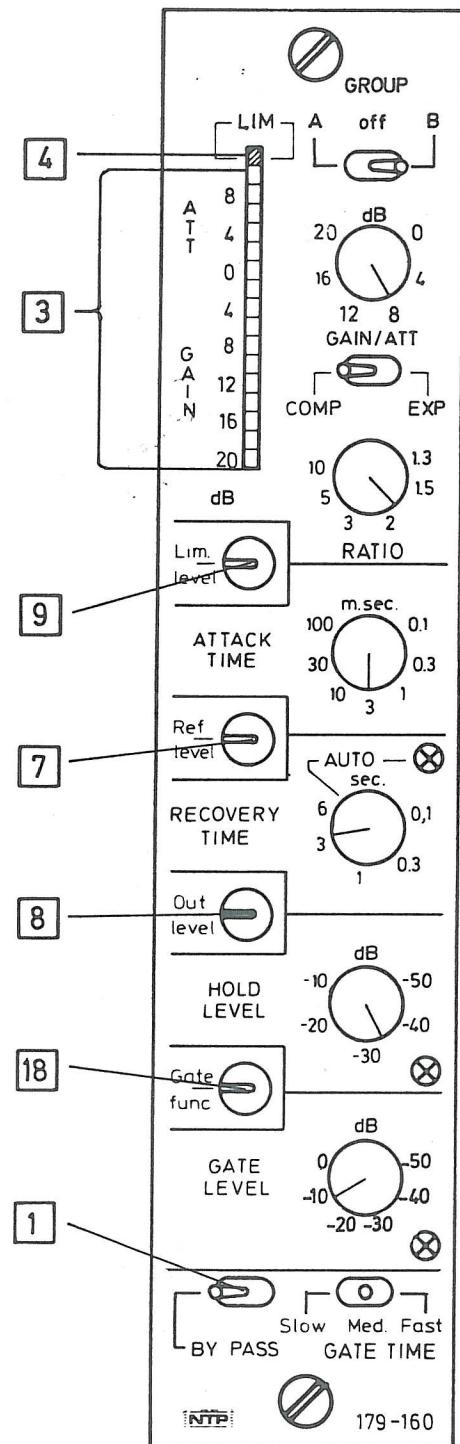
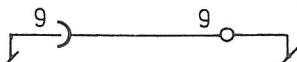
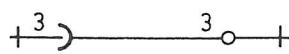
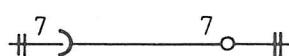
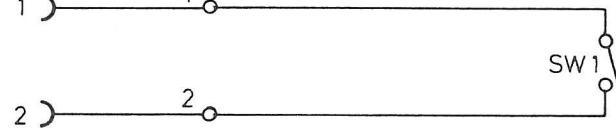
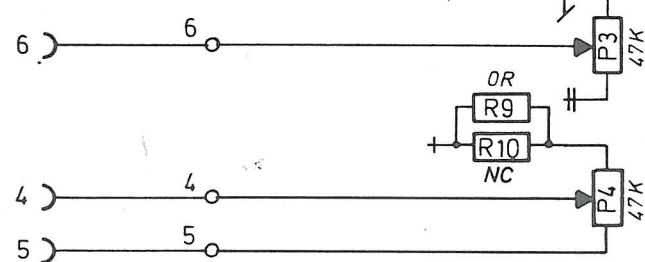
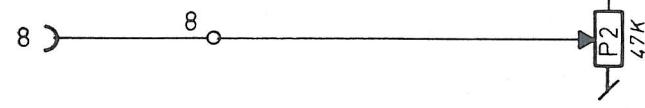
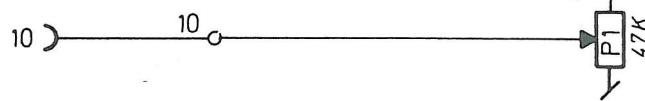
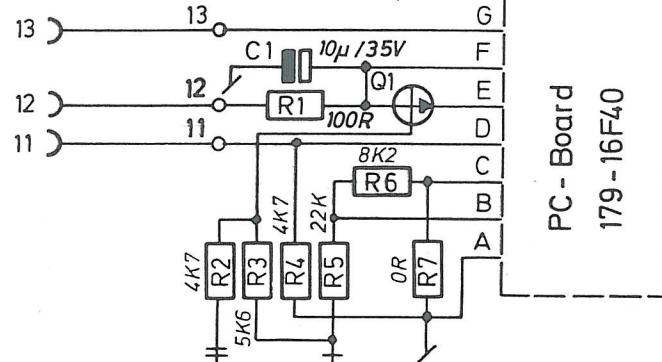
Page 3 of 3

No. : 179-16A31-A-4

SLUT

PARTS LIST 179-16A31

J 3



Målestok

Konstruktør BJ.

Tegnet 13.1.81. T.L.

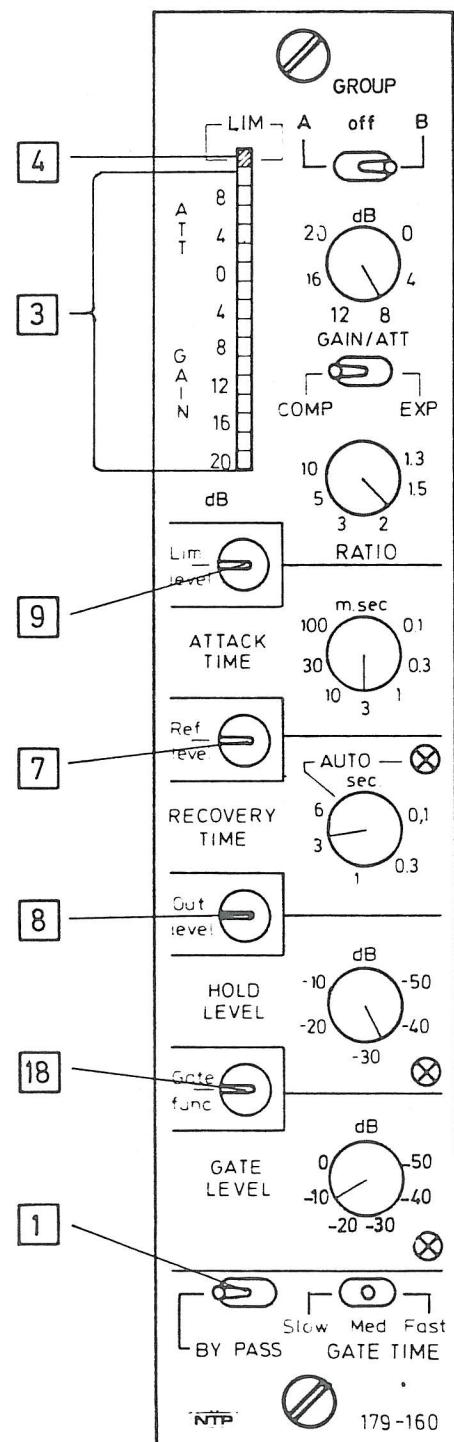
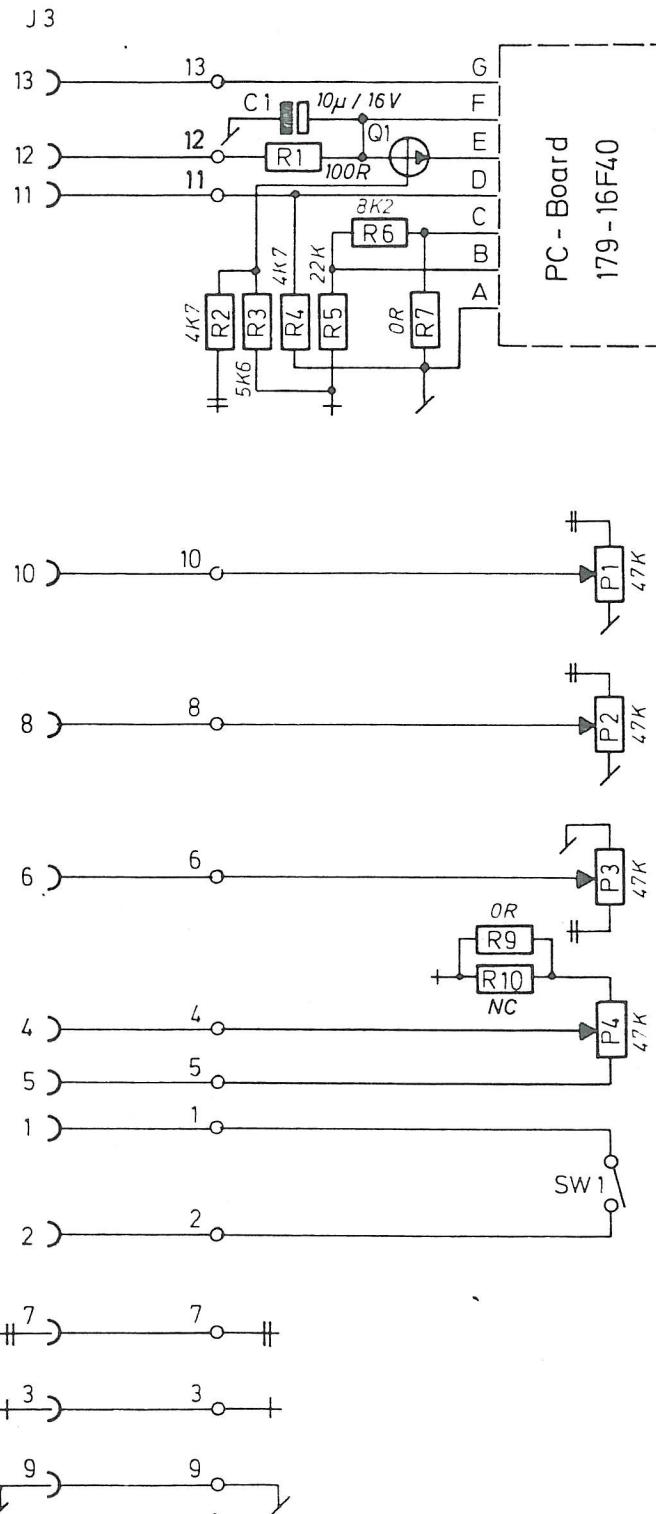
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Revideret 1/950321

Compressor 179-160B  
Motherboard, left  
Schematic Diagram.

**NTP**  
NTP ELEKTRONIK A/S

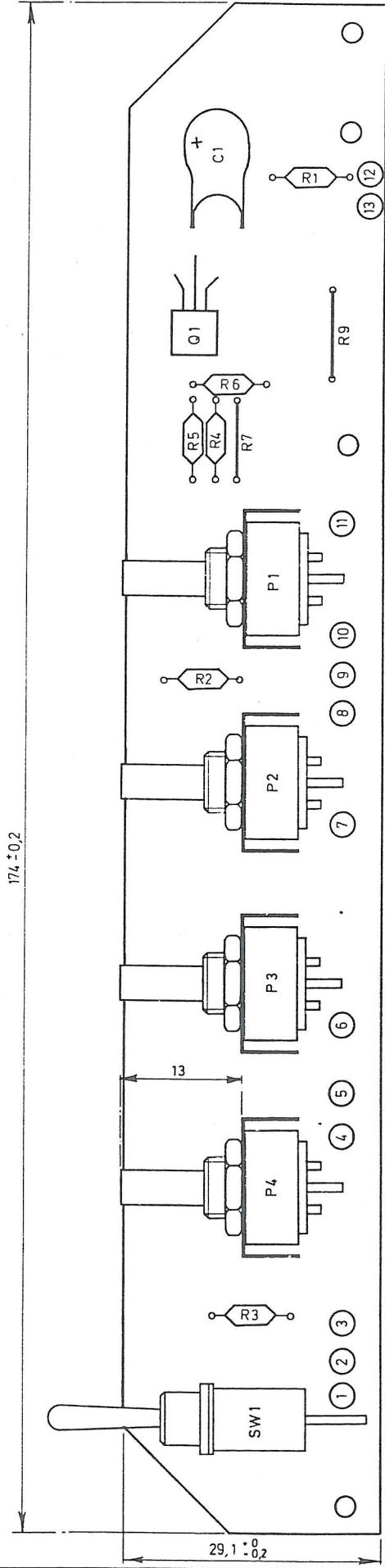
179-16B30-B-4



Mälestök	
Konstruktör	BJ
Teknet	13.1.81. T.L.
Godkändt	
Reviserat	

Compressor  
Motherboard, left  
Schematic Diagram.

**NTP**  
NTP ELEKTRONIK A/S  
179-16B30-B-4



Målestok :	
Konstruktør :	BJ.
Tegnet :	13.1.81. T.L.
Godkendt :	
Revideret :	

Compressor 179-160 B  
Motherboard, left  
Component Lay-out.



179-16B41-B-3

Multi . . .03.95 11:55

PARTS LIST

Side 1

NTP 179-16B31 MOTHERBOARD LEFT

PARTS LIST

179-16B31

REF. NO	NTP-ID.	DESCRIPTION	QTY	MANUFACT/DRW. NO.	PART NO.
1	235-9001	KNOB	4	235-9001-A-4	235-9001
2	179-1690	BUSHING	2	179-1690-A-4	179-1690
3	KMB-0003	CRIMP W/GOLD FOR MOLEX CONN	13	MOLEX 2759GL 1	2759GL 1
4	KMF-1301	MOLEX CONN. 13P FEM	1	MOLEX 6471-13	6471 22-1-2136
5	179-16B40	P.C. BOARD	1	179-16B40-A-4	179-16B40
6	MSC-3003	SCREW 3 X 3 CHJZ	1	HFC 9033	3 X 3 CHJ
7	MSB-3006	SCREW BIX 3 X 6	2	BIX	LKCS 3 X 6
C 1	CGI-0810	CAP ELECTROLYTIC 10UF/35V	1	PANASONIC K	10UF/35V Ø5X7
P 1	RFN-5470	POTENTIOMETER 47K LIN 5%	1	RUWIDO	620-312
P 2	RFN-5470	POTENTIOMETER 47K LIN 5%	1	RUWIDO	620-312
P 3	RFN-5470	POTENTIOMETER 47K LIN 5%	1	RUWIDO	620-312
P 4	RFN-5470	POTENTIOMETER 47K LIN 5%	1	RUWIDO	620-312
Q 1	QBN-33716	TRANSISTOR, NPN	1	T0-92	BC337-16
R 1	RCA-3100	RESISTOR CARBON 100R 0.66W 5	1	MBB 0207	MBB 0207 100R
R 2	RCA-4470	RESISTOR CARBON 4K7 0.66W 5%	1	MBB 0207	MBB 0207 4K7
R 3	RCA-4560	RESISTOR CARBON 5K6 0.66W 5%	1	MBB 0207	MBB 0207 5K6
R 4	RCA-4470	RESISTOR CARBON 4K7 0.66W 5%	1	MBB 0207	MBB 0207 4K7
R 5	RCA-5220	RESISTOR CARBON 22K 0.66W 5%	1	MBB 0207	MBB 0207 22K
R 6	RCA-4820	RESISTOR CARBON 8K2 0.66W 5%	1	MBB 0207	MBB 0207 8K2
R 7	RWA-0000	STRAP 0.0 OHMS	1	RWA-0000	RWA-0000
R 9	RWA-0000	STRAP 0.0 OHMS	1	RWA-0000	RWA-0000
SW 1	STC-0121	TOGGLE SWITCH SPDT	1	CD WW 13 , 5	CD WW 13 , 5
			1	APR 5436	

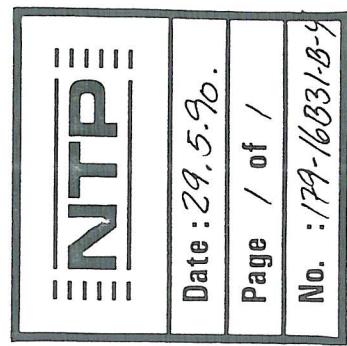
**NTP Parts List**as of date 14-3 1995Page / of /.List No.: 179-16B31-B-4

Multi 29.05.90 9: 4 PARTS LIST 179-16B31

PAGE 1

NTP 179-16B31 MOTHERBOARD LEFT

REF. NO	NTP-ID.	DESCRIPTION	QTY	MANUFACT/DRW.NO.	PART NO.
R 1	RCA-3100	RESISTOR CARBON 100R 0.66W 5%	1	MBB 0207	MBB 0207 100R
R 2	RCA-4470	RESISTOR CARBON 4K7 0.66W 5%	1	MBB 0207	MBB 0207 4K7
R 4	RCA-4470	RESISTOR CARBON 4K7 0.66W 5%	1	MBB 0207	MBB 0207 4K7
R 3	RCA-4560	RESISTOR CARBON 5K6 0.66W 5%	1	MBB 0207	MBB 0207 5K6
R 6	RCA-4820	RESISTOR CARBON 8K2 0.66W 5%	1	MBB 0207	MBB 0207 8K2
R 5	RCA-5220	RESISTOR CARBON 22K 0.66W 5%	1	MBB 0207	MBB 0207 22K
R 7	RWA-0000	STRAP 0.0 OHMS	1	RWA-0000	RWA-0000
R 9	RWA-0000	STRAP 0.0 OHMS	1	RWA-0000	RWA-0000
P 1	RFN-5470	POTENTIOMETER 4.7K LIN 5%	1	RUWIDO 620-312	620 312 4.7KLIN
P 2	RFN-5470	POTENTIOMETER 4.7K LIN 5%	1	RUWIDO 620-312	620 312 4.7KLIN
P 3	RFN-5470	POTENTIOMETER 4.7K LIN 5%	1	RUWIDO 620-312	620 312 4.7KLIN
P 4	RFN-5470	POTENTIOMETER 4.7K LIN 5%	1	RUWIDO 620-312	620 312 4.7KLIN
C 1	CFI-0810	CAP ELECTROLYTIC 10UF/16V	1	PH 2222 122	2222 122 55109
Q 1	QBN-33716	TRANSISTOR, NPN	1	TO-92	BC337-16
SW 1	STC-0121	TOGGLE SWITCH SPDT	1	APR 5436	CD WW 13,5
1	235-9001	KNOB	4	235-9001-A-4	235-9001
2	179-1690	BUSHING	2	179-1690-A-4	179-1690
3	KMB-0003	CRIMP W/GOLD FOR MOLEX CONN	13	MOLEX 2759GL 1	2759GL 1
4	KMF-1301	MOLEX CONN. 13P FEM	1	MOLEX 6471-13	6471 22-1-2136
5	179-16B40	P.C. BOARD	1	179-16B40-A-3	179-16B40



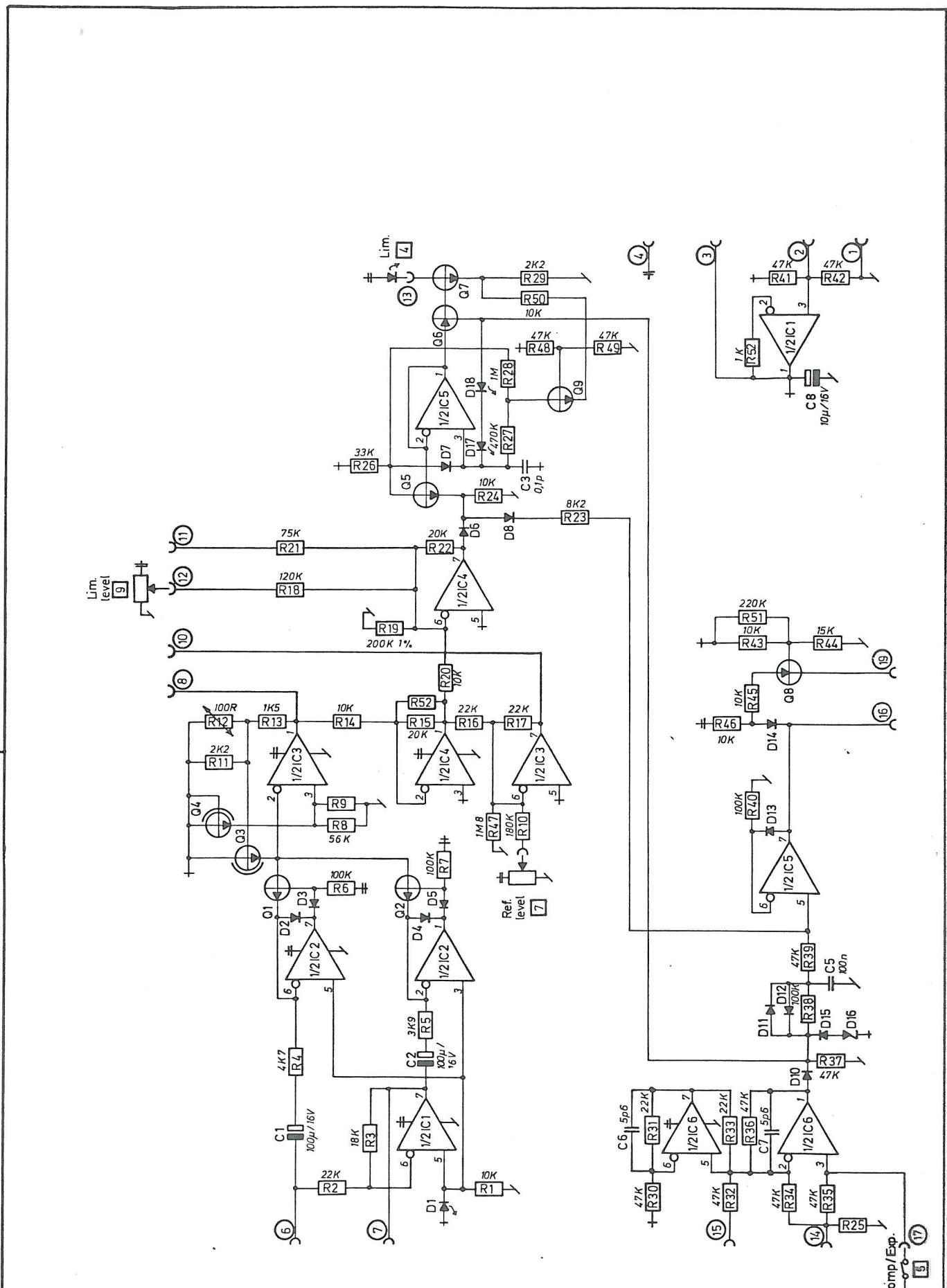
Date : 29.5.90.

Page / of /

No. : 179-16B31-B-4

SLUT

PARTS LIST 179-16B31

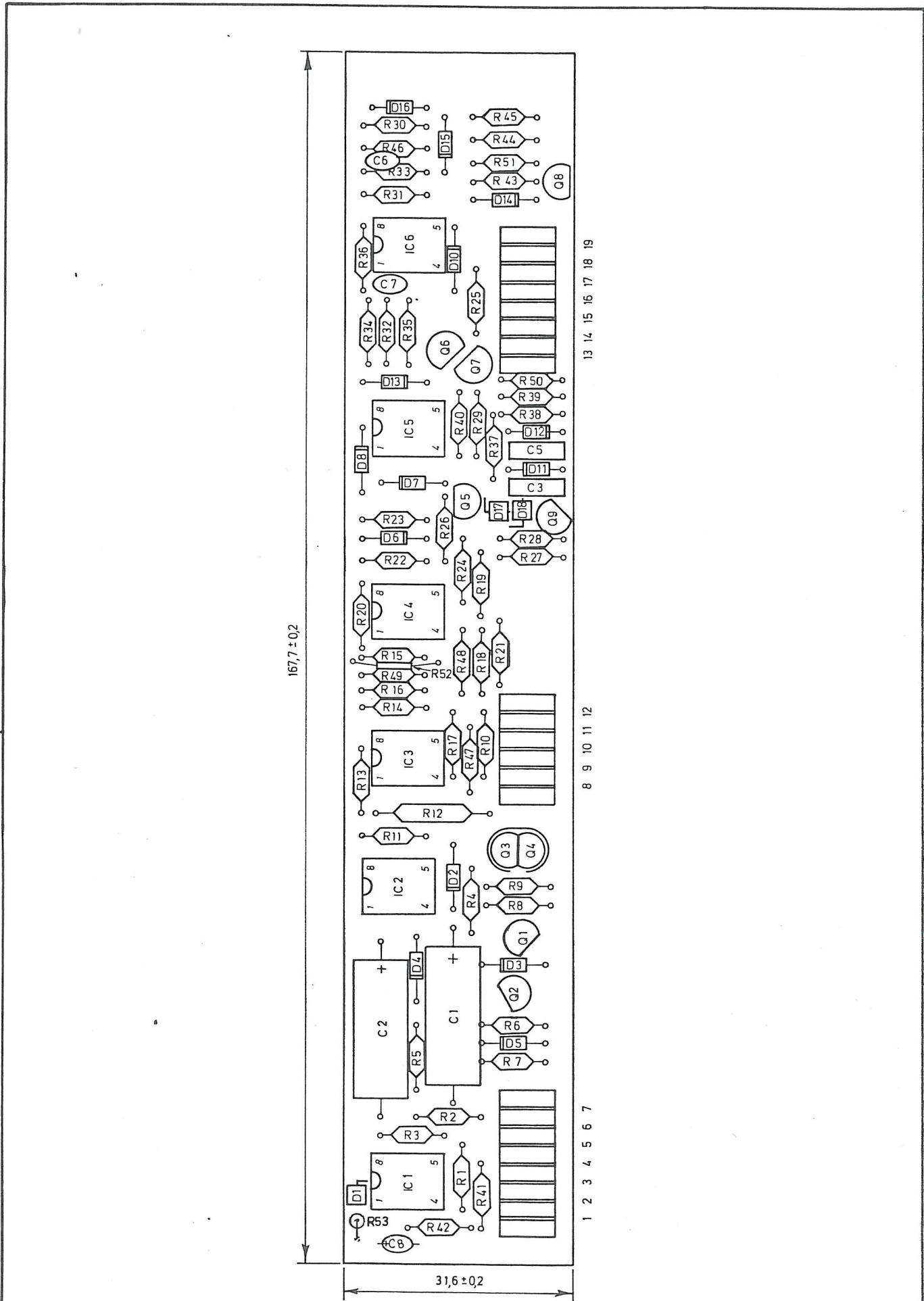


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Konstruktør :	BJ.
Tegnet :	13.1.81. T.L.
Godkendt :	
Revideret :	2.

Compressor 179-160 B  
Limiter Module  
Schematic diagramme

**NTP**  
NTP ELEKTRONIK A/S

179-16C30-B-3



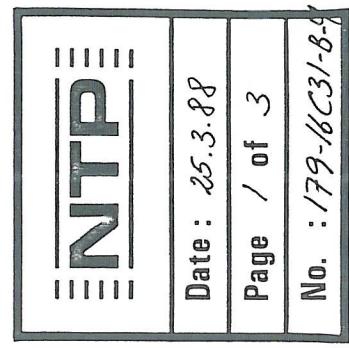
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Konstruktør :	BJ.
Tegnet :	13.1.81. T.L.
Godkendt :	
Revideret :	3

Compressor  
Limiter Module  
Component Lay-out.



179-16C41-B-3

REF. NO.	NTP ID.	DESCRIPTION	QTY	MANUFACT/DRW. NO.	PART NO.
1	KMF-0545	MODULAR CONNECTOR 5 P. FEMALE	1	CANNON 609 A45	KMF 0545
2	KMF-0745	MODULAR CONNECTOR 7-P FEMALE	1	CANNON 609 A45	KMF-0745
C 1	179-16C40	P.C. BOARD	1	179-16C40-A-3	179-16C40
C 2	CFB 0910	CAP ELECTROLYTIC 100U/1KV	1	ROE EB	ROE EB 100UF
C 3	CFB 0910	CAP ELECTROLYTIC 100U/1KV	1	ROE EB	ROE EB 100UF
C 4	CKH 0610	CAP POLYESTER 100NF/100V	1	SIEMENS B32560	B32560 01104 J
C 5	CKH 0610	CAP POLYESTER 100NF/100V	1	SIEMENS B32560	B32560 01104 J
C 6	CCB 0156	CAP CERAMIC 5.6PF/100V	1	PH 2222	2222 632 57568
C 7	CCB 0156	CAP CERAMIC 5.6PF/100V	1	PH 2222	2222 632 57568
C 8	CFI 0810	CAP ELECTROLYTIC 100U/1KV	1	PH 2222	2222 122 55109
D 1	OES 0117	LED RED 1x1	1	SIEMENS LD 461	QC2703 Q72
D 2	QDS 4148	DIODE, SILICON	1	QDS 4148	1N 4148
D 3	QDS 4148	DIODE, SILICON	1	QDS 4148	1N 4148
D 4	QDS 4148	DIODE, SILICON	1	QDS 4148	1N 4148
D 5	QDS 4148	DIODE, SILICON	1	QDS 4148	1N 4148
D 6	QDS 4148	DIODE, SILICON	1	QDS 4148	1N 4148
D 7	QDS 4148	DIODE, SILICON	1	QDS 4148	1N 4148
D 8	QDS 4148	DIODE, SILICON	1	QDS 4148	1N 4148
D 9	QDS 4148	DIODE, SILICON	1	QDS 4148	1N 4148
D 10	QDS 4148	DIODE, SILICON	1	QDS 4148	1N 4148
D 11	QDS 4148	DIODE, SILICON	1	QDS 4148	1N 4148
D 12	QDS 4148	DIODE, SILICON	1	QDS 4148	1N 4148
D 13	QDS 4148	DIODE, SILICON	1	QDS 4148	1N 4148
D 14	QDS 4148	DIODE, SILICON	1	QDS 4148	1N 4148
D 15	QDS 4148	DIODE, SILICON	1	QDS 4148	1N 4148
D 16	QZD 005G	ZENERDIODE 5,6V	1	DO 35	ZRD 5,6
D 17	OES 0117	LED RED 1x1	1	SIEMENS LD 461	QC2703 Q72
D 18	OES-0117	LED RED	1	SIEMENS LD 461	QC2703 Q72
IC 1	ILA-5532	OP AMP	1	TEX. NE5532P	NE 5532P
IC 2	ILA 4559	OP AMP	1	RAYTH. 4552ND	RC 4552ND
IC 3	ILA 4559	OP AMP	1	RAYTH. 4552ND	RC 4552ND
IC 4	ILA-4559	OP AMP	1	RAYTH. 4552ND	RC 4552ND
IC 5	ILA 972	OP AMP	1	TEX. TL072CP	TL 072CP
IC 6	ILA-4559	OP-AMP	1	RAYTH. 4552ND	RC 4552ND
Q 1	QBN-0495	TRANSISTOR, NPN	1	QBN-0495	BF495
Q 2	QBN-0495	TRANSISTOR, NPN	1	QBN-0495	BF495
Q 3	QBM-0237-2	TRANSISTORPAIR, NPN	1	T0 92	BC 237 FAR
Q 4	QBN-0237	TRANSISTOR, NPN	1	T0-92	BC237 B
Q 5	QBP-0307	TRANSISTOR, PNP	1	T0-92	BC307
Q 6	QBN-0237	TRANSISTOR, NPN	1	T0-92	BC237 B
Q 7	QBP-0307	TRANSISTOR, PNP	1	T0-92	BC307
Q 8	QBN-0237	TRANSISTOR, PNP	1	T0-92	BC307



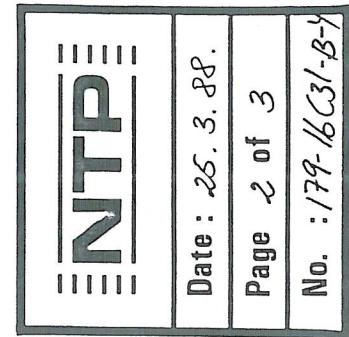
Date : 25.3.88

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No. : 179-16C31-B-1

NTP 179 16C31 LIMITER MODULE

REF. NO.	NTP ID.	DESCRIPTION	QTY	MANUFACT/DRW. NO.	PART NO.
Q 9	RCA 5100	TRANSISTOR, NPN RESISTOR CARBON 10K 0.66W 5%	1	TO-92	BC237 B
R 1	RCA 5220	RESISTOR CARBON 22K 0.66W 5%	1	SBB 0207	SBB 0207 10K
R 2	RCA-5180	RESISTOR CARBON 13K 0.66W 5%	1	SBB 0207	SBB 0207 22K
R 3	RCA-4470	RESISTOR CARBON 4K7 0.66W 5%	1	SBB 0207	SBB 0207 18K
R 4	RCA-4390	RESISTOR CARBON 3K9 0.66W 5%	1	SBB 0207	SBB 0207 4K7
R 5	RCA-6100	RESISTOR CARBON 100K 0.66W 5%	1	SBB 0207	SBB 0207 3K9
R 6	RCA C100	RESISTOR CARBON 100K 0.66W 5%	1	SBB 0207	SBB 0207 100K
R 7	RCA 5560	RESISTOR CARBON 5K 0.66W 5%	1	SBB 0207	SBB 0207 10K
R 8	RXX .9999	UNSPECIFIED RESISTOR	1	RXX 9999	RXX 9999
R 9	RCA 6130	RESISTOR CARBON 10K 0.66W 5%	1	SBB 0207	SBB 0207 180K
R 10	RCA 4220	RESISTOR CARBON 2K2 0.66W 5%	1	SBB 0207	SBB 0207 2K2
R 11	RWD 3100	RESISTOR WIRE WOUND 100R 1W	1	VITROUM 253 9	253 9 100R
R 12	RCA 4150	RESISTOR CARBON 1K5 0.66W 5%	1	SBB 0207	SBB 0207 1K5
R 13	RCA 5100	RESISTOR CARBON 10K 0.66W 5%	1	SBB 0207	SBB 0207 10K
R 14	RMA .5200	RESISTOR METAL 20K 0.4W 1%	1	PHILIPS MR25	2322 151 52003
R 15	RCA 5220	RESISTOR CARBON 22K 0.66W 5%	1	SBB 0207	SBB 0207 22K
R 16	RCA 5220	RESISTOR CARBON 22K 0.66W 5%	1	SBB 0207	SBB 0207 22K
R 17	RCA 6120	RESISTOR CARBON 120K 0.66W 5%	1	SBB 0207	SBB 0207 120K
R 18	RCA 6200	RESISTOR METAL 200K 0.4W 1%	1	PHILIPS MR25	2322 151 52004
R 19	RCA 5100	RESISTOR CARBON 1K 0.66W 5%	1	SBB 0207	SBB 0207 1K
R 20	RCA 6150	RESISTOR CARBON 150K 0.66W 5%	1	SBB 0207	SBB 0207 150K
R 21	RMA 5200	RESISTOR METAL 20K 0.4W 1%	1	PHILIPS MR25	2322 151 52003
R 22	RCA-4820	RESISTOR CARBON 5K2 0.66W 5%	1	SBB 0207	SBB 0207 5K2
R 23	RCA-5100	RESISTOR CARBON 10K 0.66W 5%	1	SBB 0207	SBB 0207 10K
R 24	RCA-5220	RESISTOR CARBON 22K 0.66W 5%	1	SBB 0207	SBB 0207 22K
R 25	RCA-5330	RESISTOR CARBON 33K 0.66W 5%	1	SBB 0207	SBB 0207 33K
R 26	RCA-6470	RESISTOR CARBON 470K 0.66W 5%	1	SBB 0207	SBB 0207 470K
R 27	RCA-7100	RESISTOR CARBON 1M 0.66W 5%	1	SBB 0207	SBB 0207 1M
R 28	RCA-4220	RESISTOR CARBON 2K2 0.66W 5%	1	SBB 0207	SBB 0207 2K2
R 29	RCA-5470	RESISTOR CARBON 47K 0.66W 5%	1	SBB 0207	SBB 0207 47K
R 30	RCA-5220	RESISTOR CARBON 22K 0.66W 5%	1	SBB 0207	SBB 0207 47K
R 31	RCA 5470	RESISTOR CARBON 47K 0.66W 5%	1	SBB 0207	SBB 0207 47K
R 32	RCA 5470	RESISTOR CARBON 47K 0.66W 5%	1	SBB 0207	SBB 0207 47K
R 33	RCA 5470	RESISTOR CARBON 47K 0.66W 5%	1	SBB 0207	SBB 0207 47K
R 34	RCA-5470	RESISTOR CARBON 47K 0.66W 5%	1	SBB 0207	SBB 0207 47K
R 35	RCA 5470	RESISTOR CARBON 47K 0.66W 5%	1	SBB 0207	SBB 0207 47K
R 36	RCA 5470	RESISTOR CARBON 47K 0.66W 5%	1	SBB 0207	SBB 0207 47K
R 37	RCA 5470	RESISTOR CARBON 47K 0.66W 5%	1	SBB 0207	SBB 0207 47K
R 38	RCA C100	RESISTOR CARBON 10K 0.66W 5%	1	SBB 0207	SBB 0207 100K
R 39	RCA 5470	RESISTOR CARBON 47K 0.66W 5%	1	SBB 0207	SBB 0207 47K



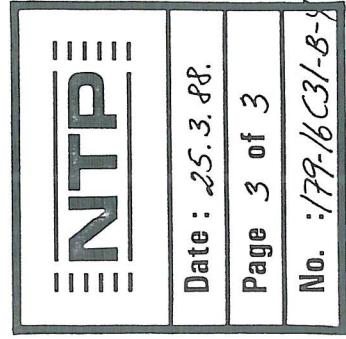
Date : 26. 3. 88.

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No. : 179-16C31-B-Y

NTP 179 16C31 LIMITER MODULE

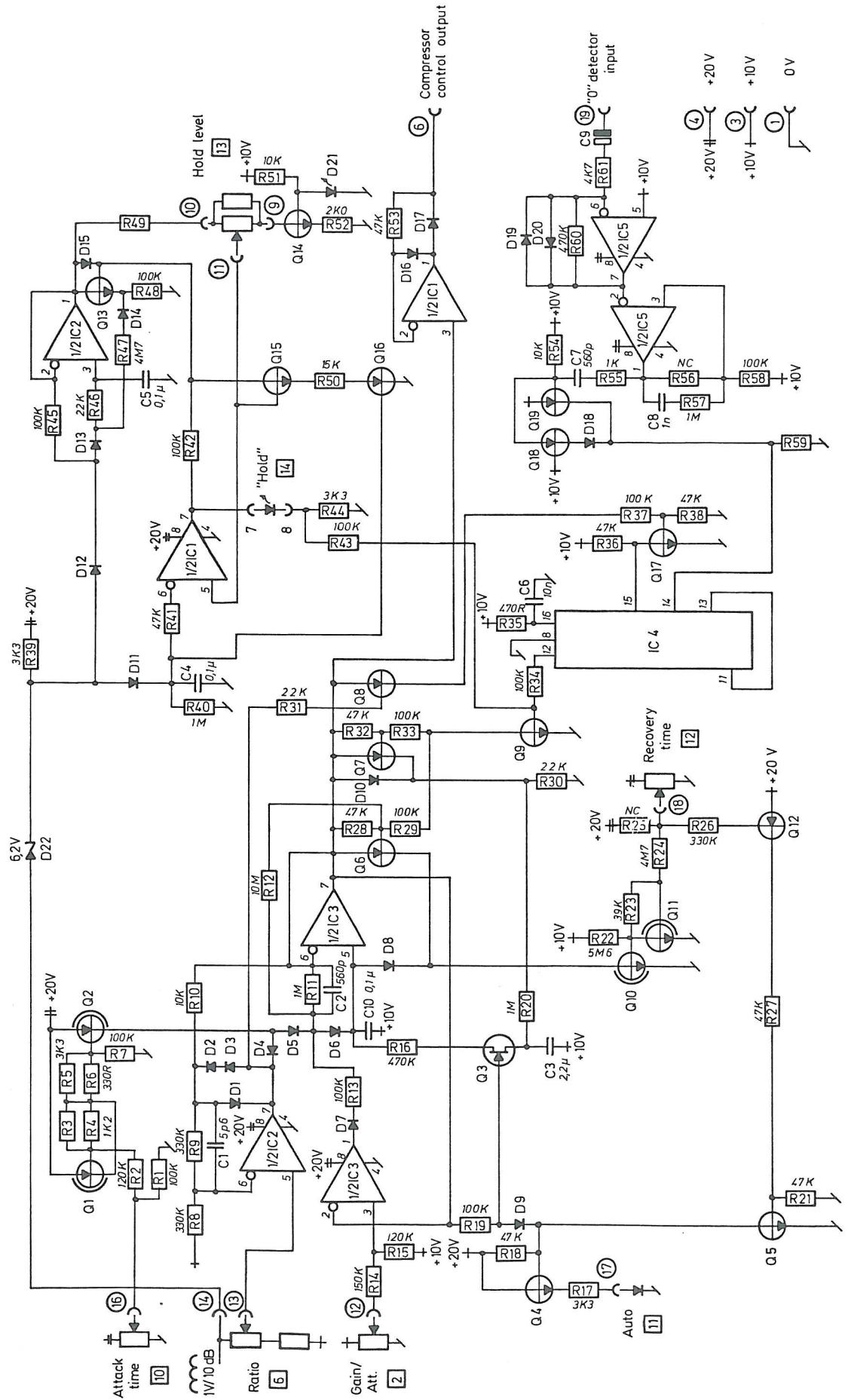
REF. NO.	NTP ID.	DESCRIPTION	QTY	MANUFACT/DRW. NO. PART NO.
R 40	RCA 6100	RESISTOR CARBON 100K 0.6GW 5%	1	SBB 0207 100K
R 41	RCA 5470	RESISTOR CARBON 47K 0.6GW 5%	1	SBB 0207 47K
R 42	RCA 5470	RESISTOR CARBON 47K 0.6GW 5%	1	SBB 0207 47K
R 43	RCA 5100	RESISTOR CARBON 10K 0.6GW 5%	1	SBB 0207 10K
R 44	RCA-5150	RESISTOR CARBON 15K 0.6GW 5%	1	SBB 0207 15K
R 45	RCA 5100	RESISTOR CARBON 10K 0.6GW 5%	1	SBB 0207 10K
R 46	RCA 5100	RESISTOR CARBON 10K 0.6GW 5%	1	SBB 0207 10K
R 47	RCA 7150	RESISTOR CARBON 1M5 0.6GW 5%	1	SBB 0207 1M5
R 48	RCA 5470	RESISTOR CARBON 47K 0.6GW 5%	1	SBB 0207 47K
R 49	RCA 5470	RESISTOR CARBON 47K 0.6GW 5%	1	SBB 0207 47K
R 50	RCA 5100	RESISTOR CARBON 10K 0.6GW 5%	1	SBB 0207 10K
R 51	RCA 6220	RESISTOR CARBON 22K 0.6GW 5%	1	SBB 0207 22K
R 52	RAX 2222	UNSPECIFIED RESISTOR	1	RAX 2222
R 53	RCA 4100	RESISTOR CARBON 1K 0.6GW 5%	1	SBB 0207 1K



Date : 25.3.88.

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No. : 179/16C31-B/



Målestok :

Konstruktør : BJ.

Tegnet : 11.6.79 JS

Godkendt :

Revideret : 3

Compressor 179-160

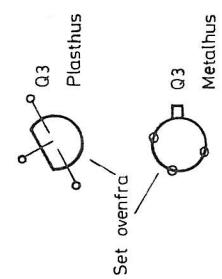
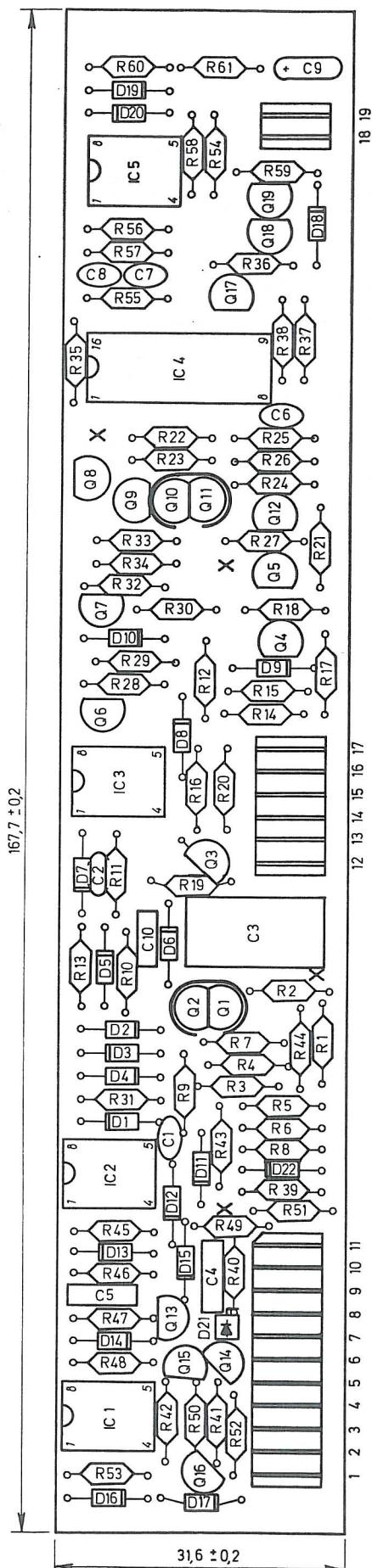
Compressor Module

Schematic Diagram

**NTP**

NTP ELEKTRONIK A/S

179-16D30-A-3

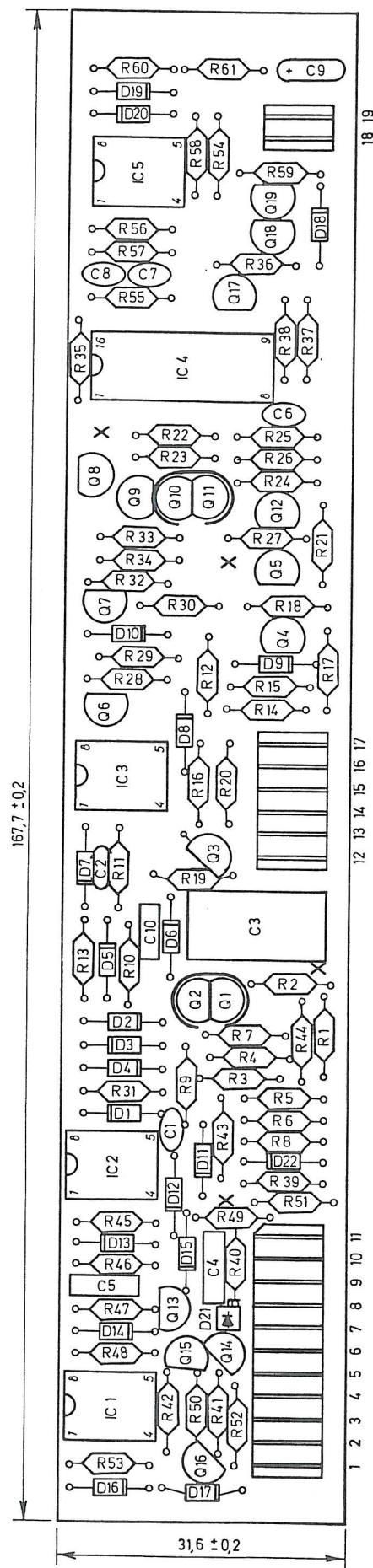


Målestok :	
Konstruktør :	BJ.
Tegnet :	8.6.79 JS
Godkendt :	
Revideret :	3/931015

Compressor 179-160  
Compressor Module  
Component Lay-out.

**NTP**  
NTP ELEKTRONIK A/S

179-16D41-A-3



Målestok :	
Konstruktør :	BJ.
Tegnet :	8.6.79 JS
Godkendt :	
Revideret :	2

Compressor      179-160  
Compressor Module  
Component Lay-out.

**NTP**  
NTP ELEKTRONIK A/S

179-16D41-A-3

NTP 179-16D31 COMPRESSOR MODULE

## PARTS LIST

REF. NO	NTP-ID.	DESCRIPTION	QTY	MANUFACT/DRW.NO.	PART NO.
1	KMF-0245	MODULE CONNECTOR 2-P FEMALE	1	CANNON G09 A45	KMF-0245
2	KMF-0645	MODULAR CONNECTOR 6-P FEMALE	1	CANNON G09 A45	KMF-0645
3	KMF-1145	11-POLE FEMALE G09 CONNECTOR	1	CANNON G09 A45	KMF-1145
4	179-16D40	P.C.BOARD	1	179-16D40-A-3	179-16D40
C 1	CCB-0156	CAP CERAMIC 5.6PF/100V	1	PH 2222 632	2222 632 57568
C 2	CCB-0356	CAP CERAMIC 560PF/100V	1	PH 2222 632	2222 632 70561
C 3	CKQ-0722	CAP POLYESTER 2.2UF/100V	1	SIEMENS B32562	B32562 D1225 J
C 4	CKH-0610	CAP POLYESTER 100NF/100V	1	SIEMENS B32560	B32560 D1104 J
C 5	CKH-0610	CAP POLYESTER 100NF/100V	1	SIEMENS B32560	B32560 D1104 J
C 6	CCA-0510	CAP CERAMIC 10NF/63V	1	PH 2222 629	2222 629 02103
C 7	CCB-0356	CAP CERAMIC 560PF/100V	1	PH 2222 632	2222 632 70561
C 8	CCA-0410	CAP CERAMIC 1NF/63V	1	PH 2222 629	2222 629 02102
C 9	CFI-0810	CAP ELECTROLYTIC 10UF/16V	1	PH 2222 122	2222 122 55109
C 10	CKC-0610	CAP POLYESTER 100NF/50V	1	WIMA MKS	MKS 2 100NF
D 1	QDS-4148	DIODE, SILICON	1	QDS-4148	1N 4148
D 2	QDS-4148	DIODE, SILICON	1	QDS-4148	1N 4148
D 3	QDS-4148	DIODE, SILICON	1	QDS-4148	1N 4148
D 4	QDS-4148	DIODE, SILICON	1	QDS-4148	1N 4148
D 5	QDS-4148	DIODE, SILICON	1	QDS-4148	1N 4148
D 6	QDS-4148	DIODE, SILICON	1	QDS-4148	1N 4148
D 7	QDS-4148	DIODE, SILICON	1	QDS-4148	1N 4148
D 8	QDS-4148	DIODE, SILICON	1	QDS-4148	1N 4148
D 9	QDS-4148	DIODE, SILICON	1	QDS-4148	1N 4148
D 10	QDS-4148	DIODE, SILICON	1	QDS-4148	1N 4148
D 11	QDS-4148	DIODE, SILICON	1	QDS-4148	1N 4148
D 12	QDS-4148	DIODE, SILICON	1	QDS-4148	1N 4148
D 13	QDS-4148	DIODE, SILICON	1	QDS-4148	1N 4148
D 14	QDS-4148	DIODE, SILICON	1	QDS-4148	1N 4148
D 15	QDS-4148	DIODE, SILICON	1	QDS-4148	1N 4148
D 16	QDS-4148	DIODE, SILICON	1	QDS-4148	1N 4148
D 17	QDS-4148	DIODE, SILICON	1	QDS-4148	1N 4148
D 18	QDS-4148	DIODE, SILICON	1	QDS-4148	1N 4148
D 19	QDS-4148	DIODE, SILICON	1	QDS-4148	1N 4148

**NTP Parts List**as of date 30-1 1991.Page 4 of 4.List No.: 179-16D31-A-4

## PARTS LIST COMPRESSOR MODULE

## PARTS LIST

REF. NO	NTP-ID.	DESCRIPTION	QTY	MANUFACT/DRW.NO.	PART NO.
D 20	QDS-4148	DIODE, SILICIUM	1	QDS-4148	1N 4148
D 21	OES-0117	LED RED 1x1	1	SIEMENS LD 461	Q62703-Q79
D 22	QZD-0056	ZENERDIODE 5,6V	1	DO-35	ZPD 5,6
IC 1	ILA-353	OP-AMP	1	NAT. LF353	LF 353
IC 2	ILA-353	OP-AMP	1	NAT. LF353	LF 353
IC 3	ILA-353	OP-AMP	1	NAT. LF353	LF 353
IC 4	TCA-4017	5-STAGE JOHNSON DECADE COUNT	1	RCA CD4017BE	CD 4017BE
IC 5	ILA-4559	OP-AMP	1	RAYTH. 4559NB	RC 4559NB
Q 1	QBM-0307-2	TRANSISTORPAIR, PNP	1	TO-92	BC 307 PAR
Q 3	QFN-4393	FET	1	QFN-4393	2N 4393
Q 4	QBN-0237	TRANSISTOR, NPN	1	TO-92	BC237 B
Q 5	QBN-0237	TRANSISTOR, NPN	1	TO-92	BC237 B
Q 6	QBP-0307	TRANSISTOR, PNP	1	TO-92	BC307
Q 7	QBP-0307	TRANSISTOR, PNP	1	TO-92	BC307
Q 8	QBP-0307	TRANSISTOR, PNP	1	TO-92	BC307
Q 9	QBN-0237	TRANSISTOR, NPN	1	TO-92	BC237 B
Q 10	QBM-0237-2	TRANSISTORPAIR, NPN	1	TO 92	BC 237 PAR
Q 12	QBP-0307	TRANSISTOR, PNP	1	TO-92	BC307
Q 13	QBN-0237	TRANSISTOR, NPN	1	TO-92	BC237 B
Q 14	QBN-0237	TRANSISTOR, NPN	1	TO-92	BC237 B
Q 15	QBN-0237	TRANSISTOR, NPN	1	TO-92	BC237 B
Q 16	QBP-0307	TRANSISTOR, PNP	1	TO-92	BC307
Q 17	QBN-0237	TRANSISTOR, NPN	1	TO-92	BC237 B
Q 18	QBP-0307	TRANSISTOR, PNP	1	TO-92	BC307
Q 19	QBP-0307	TRANSISTOR, PNP	1	TO-92	BC307
R 1	RCB-6100	RESISTOR CARBON 100K 0.33W 5	1	MBA 0204	MBA 0204 100K
R 2	RCA-6120	RESISTOR CARBON 120K 0.66W 5	1	MBB 0207	MBB 0207 120K
R 4	RCA-4120	RESISTOR CARBON 1K2 0.66W 5%	1	MBB 0207	MBB 0207 1K2
R 5	RCB-4330	RESISTOR CARBON 3K3 0.33W 5%	1	MBA 0204	MBA 0204 3K3
R 6	RCB-3330	RESISTOR, CARBON 330R 0.33W	1	MBA 0204	MBA 0204 330R
R 7	RCA-6100	RESISTOR CARBON 100K 0.66W 5	1	MBB 0207	MBB 0207 100K
R 8	RCB-6330	RESISTOR CARBON 330K 0.33W 5	1	MBA 0204	MBA 0204 330K
R 9	RCA-6330	RESISTOR CARBON 330K 0.66W 5	1	MBB 0207	MBB 0207 330K

**NTP Parts List**as of date 30-11-1991.Page 2 of 4.List No.: 179-16D31-A-Y

## COMPRESSOR MODULE

## PARTS LIST

REF. NO.	NTP	NTP-ID.	DESCRIPTION	QTY	MANUFACT/DRW.NO.	PART NO.
R 10		RCA-5100	RESISTOR CARBON 10K 0.66W 5%	1	MBB 0207	MBB 0207 10K
R 11		RCA-7100	RESISTOR CARBON 1M 0.66W 5%	1	MBB 0207	MBB 0207 1M
R 12		RXA-8100	RESISTOR HIGHVOLT 10M 0.25W	1	PHILIPS VR25	2322 241 13106
R 13		RCA-6100	RESISTOR CARBON 100K 0.66W 5	1	MBB 0207	MBB 0207 100K
R 14		RCA-6150	RESISTOR CARBON 150K 0.66W 5	1	MBB 0207	MBB 0207 150K
R 15		RCA-6120	RESISTOR CARBON 120K 0.66W 5	1	MBB 0207	MBB 0207 120K
R 16		RCA-6470	RESISTOR CARBON 470K 0.66W 5	1	MBB 0207	MBB 0207 470K
R 17		RCA-4330	RESISTOR CARBON 3K3 0.66W 5%	1	MBB 0207	MBB 0207 3K3
R 18		RCA-5470	RESISTOR CARBON 47K 0.66W 5%	1	MBB 0207	MBB 0207 47K
R 19		RCA-6100	RESISTOR CARBON 100K 0.66W 5	1	MBB 0207	MBB 0207 100K
R 20		RCA-7100	RESISTOR CARBON 1M 0.66W 5%	1	MBB 0207	MBB 0207 1M
R 21		RCA-5470	RESISTOR CARBON 47K 0.66W 5%	1	MBB 0207	MBB 0207 47K
R 22		RXA-7560	RESISTOR HIGHVOLT 5M6 0.25W	1	PHILIPS VR25	2322 241 13565
R 23		RCA-5390	RESISTOR CARBON 39K 0.66W 5%	1	MBB 0207	MBB 0207 39K
R 24		RCA-7470	RESISTOR CARBON 4M7 0.66W 5%	1	MBB 0207	MBB 0207 4M7
R 26		RCA-6330	RESISTOR CARBON 330K 0.66W 5	1	MBB 0207	MBB 0207 330K
R 27		RCA-5470	RESISTOR CARBON 47K 0.66W 5%	1	MBB 0207	MBB 0207 47K
R 28		RCA-5470	RESISTOR CARBON 47K 0.66W 5%	1	MBB 0207	MBB 0207 47K
R 29		RCA-6100	RESISTOR CARBON 100K 0.66W 5	1	MBB 0207	MBB 0207 100K
R 30		RCA-5220	RESISTOR CARBON 22K 0.66W 5%	1	MBB 0207	MBB 0207 22K
R 31		RCA-5220	RESISTOR CARBON 22K 0.66W 5%	1	MBB 0207	MBB 0207 22K
R 32		RCA-5470	RESISTOR CARBON 47K 0.66W 5%	1	MBB 0207	MBB 0207 47K
R 33		RCA-6100	RESISTOR CARBON 100K 0.66W 5	1	MBB 0207	MBB 0207 100K
R 34		RCA-6100	RESISTOR CARBON 100K 0.66W 5	1	MBB 0207	MBB 0207 100K
R 35		RCA-3470	RESISTOR CARBON 470R 0.66W 5	1	MBB 0207	MBB 0207 470R
R 36		RCA-5470	RESISTOR CARBON 47K 0.66W 5%	1	MBB 0207	MBB 0207 47K
R 37		RCA-6100	RESISTOR CARBON 100K 0.66W 5	1	MBB 0207	MBB 0207 100K
R 38		RCA-5470	RESISTOR CARBON 47K 0.66W 5%	1	MBB 0207	MBB 0207 47K
R 39		RCB-4330	RESISTOR CARBON 3K3 0.33W 5%	1	MBA 0204	MBA 0204 3K3
R 40		RCB-7100	RESISTOR CARBON 1M 0.33W 5%	1	MBA 0204	MBA 0204 1M
R 41		RCA-5470	RESISTOR CARBON 47K 0.66W 5%	1	MBB 0207	MBB 0207 47K
R 42		RCA-6100	RESISTOR CARBON 100K 0.66W 5	1	MBB 0207	MBB 0207 100K
R 43		RCA-6100	RESISTOR CARBON 100K 0.66W 5	1	MBB 0207	MBB 0207 100K

**NTP Parts List**

as of date 30- / 199 / .

Page 3 of 4.

List No.: 179-16D31-A-9

## NTP 179-16D31 COMPRESSOR MODULE

## PARTS LIST

REF. NO.	NTP-ID.	DESCRIPTION	QTY	MANUFACT/DRW.NO.	PART NO.
R 44	RCB-4330	RESISTOR CARBON 3K3 0.33W 5%	1	MBA 0204	3K3
R 45	RCA-6100	RESISTOR CARBON 100K 0.66W 5	1	MBB 0207	100K
R 46	RCA-5220	RESISTOR CARBON 22K 0.66W 5%	1	MBB 0207	22K
R 47	RCA-7470	RESISTOR CARBON 4M7 0.66W 5%	1	MBB 0207	4M7
R 48	RCA-6100	RESISTOR CARBON 100K 0.66W 5	1	MBB 0207	100K
R 49	RCB-4150	RESISTOR CARBON 1K5 0.33W 5%	1	MBA 0204	1K5
R 50	RCA-5150	RESISTOR CARBON 15K 0.66W 5%	1	MBB 0207	15K
R 51	RCB-5100	RESISTOR CARBON 10K 0.33W 5%	1	MBA 0204	10K
R 52	RMA-4200	RESISTOR METAL 2K 0.4W 1%	1	PHILIPS MR25	2322 151 52002
R 53	RCA-5470	RESISTOR CARBON 47K 0.66W 5%	1	MBB 0207	47K
R 54	RCA-5100	RESISTOR CARBON 10K 0.66W 5%	1	MBB 0207	10K
R 55	RCA-4100	RESISTOR CARBON 1K 0.66W 5%	1	MBB 0207	1K
R 57	RCA-7100	RESISTOR CARBON 1M 0.66W 5%	1	MBB 0207	1M
R 58	RCA-6100	RESISTOR CARBON 100K 0.66W 5	1	MBB 0207	100K
R 59	RCA-6100	RESISTOR CARBON 100K 0.66W 5	1	MBB 0207	100K
R 60	RCA-6470	RESISTOR CARBON 470K 0.66W 5	1	MBB 0207	470K
R 61	RCA-4470	RESISTOR CARBON 4K7 0.66W 5%	1	MBB 0207	4K7

**NTP Parts List**

as of date 30-1 199 /.

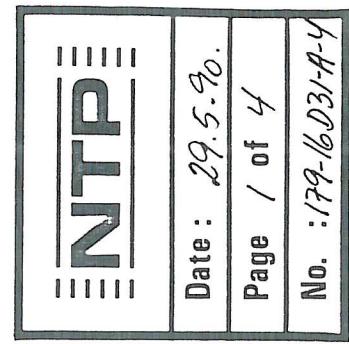
Page 4 of 4.

List No.: 179-16D31-A-4

## NTP 179-16D31 COMPRESSOR MODULE

PARTS LIST

REF.NO	NTP-ID.	DESCRIPTION	QTY	MANUFACT/DRW.NO.	PART NO.
R 6	RCA-3330	RESISTOR CARBON 330R 0.66W 5	1	MBB 0207	330R
R 35	RCA-3470	RESISTOR CARBON 470R 0.66W 5	1	MBB 0207	470R
R 55	RCA-4100	RESISTOR CARBON 1K 0.66W 5%	1	MBB 0207	1K
R 4	RCA-4120	RESISTOR CARBON 1K2 0.66W 5%	1	MBB 0207	1K2
R 49	RCA-4150	RESISTOR CARBON 1K5 0.66W 5%	1	MBB 0207	1K5
R 5	RCA-4330	RESISTOR CARBON 3K3 0.66W 5%	1	MBB 0207	3K3
R 17	RCA-4330	RESISTOR CARBON 3K3 0.66W 5%	1	MBB 0207	3K3
R 39	RCA-4330	RESISTOR CARBON 3K3 0.66W 5%	1	MBB 0207	3K3
R 44	RCA-4330	RESISTOR CARBON 3K3 0.66W 5%	1	MBB 0207	3K3
R 61	RCA-4470	RESISTOR CARBON 4K7 0.66W 5%	1	MBB 0207	4K7
R 10	RCA-5100	RESISTOR CARBON 10K 0.66W 5%	1	MBB 0207	10K
R 51	RCA-5100	RESISTOR CARBON 10K 0.66W 5%	1	MBB 0207	10K
R 54	RCA-5100	RESISTOR CARBON 10K 0.66W 5%	1	MBB 0207	10K
R 50	RCA-5150	RESISTOR CARBON 15K 0.66W 5%	1	MBB 0207	15K
R 30	RCA-5220	RESISTOR CARBON 22K 0.66W 5%	1	MBB 0207	22K
R 31	RCA-5220	RESISTOR CARBON 22K 0.66W 5%	1	MBB 0207	22K
R 46	RCA-5220	RESISTOR CARBON 22K 0.66W 5%	1	MBB 0207	22K
R 23	RCA-5390	RESISTOR CARBON 39K 0.66W 5%	1	MBB 0207	39K
R 18	RCA-5470	RESISTOR CARBON 47K 0.66W 5%	1	MBB 0207	47K
R 21	RCA-5470	RESISTOR CARBON 47K 0.66W 5%	1	MBB 0207	47K
R 27	RCA-5470	RESISTOR CARBON 47K 0.66W 5%	1	MBB 0207	47K
R 28	RCA-5470	RESISTOR CARBON 47K 0.66W 5%	1	MBB 0207	47K
R 32	RCA-5470	RESISTOR CARBON 47K 0.66W 5%	1	MBB 0207	47K
R 36	RCA-5470	RESISTOR CARBON 47K 0.66W 5%	1	MBB 0207	47K
R 38	RCA-5470	RESISTOR CARBON 47K 0.66W 5%	1	MBB 0207	47K
R 41	RCA-5470	RESISTOR CARBON 47K 0.66W 5%	1	MBB 0207	47K
R 53	RCA-5470	RESISTOR CARBON 47K 0.66W 5%	1	MBB 0207	47K
R 1	RCA-6100	RESISTOR CARBON 100K 0.66W 5	1	MBB 0207	100K
R 7	RCA-6100	RESISTOR CARBON 100K 0.66W 5	1	MBB 0207	100K
R 13	RCA-6100	RESISTOR CARBON 100K 0.66W 5	1	MBB 0207	100K
R 19	RCA-6100	RESISTOR CARBON 100K 0.66W 5	1	MBB 0207	100K
R 29	RCA-6100	RESISTOR CARBON 100K 0.66W 5	1	MBB 0207	100K
R 33	RCA-6100	RESISTOR CARBON 100K 0.66W 5	1	MBB 0207	100K



Date : 29.5.90.

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No. : 179-16D31-A-4

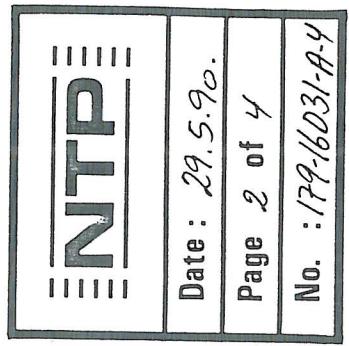
## NTP 179-16D31 COMPRESSOR MODULE

REF.NO	NTP-ID.	DESCRIPTION	QTY	PARTS LIST	MANUFACT/DRW.NO.	PART NO.
R 34	RCA-6100	RESISTOR CARBON 100K 0.66W 5	1	MBB 0207	MBB 0207	100K
R 37	RCA-6100	RESISTOR CARBON 100K 0.66W 5	1	MBB 0207	MBB 0207	100K
R 42	RCA-6100	RESISTOR CARBON 100K 0.66W 5	1	MBB 0207	MBB 0207	100K
R 43	RCA-6100	RESISTOR CARBON 100K 0.66W 5	1	MBB 0207	MBB 0207	100K
R 45	RCA-6100	RESISTOR CARBON 100K 0.66W 5	1	MBB 0207	MBB 0207	100K
R 48	RCA-6100	RESISTOR CARBON 100K 0.66W 5	1	MBB 0207	MBB 0207	100K
R 58	RCA-6100	RESISTOR CARBON 100K 0.66W 5	1	MBB 0207	MBB 0207	100K
R 59	RCA-6100	RESISTOR CARBON 100K 0.66W 5	1	MBB 0207	MBB 0207	100K
R 2	RCA-6120	RESISTOR CARBON 120K 0.66W 5	1	MBB 0207	MBB 0207	120K
R 15	RCA-6120	RESISTOR CARBON 120K 0.66W 5	1	MBB 0207	MBB 0207	120K
R 14	RCA-6150	RESISTOR CARBON 150K 0.66W 5	1	MBB 0207	MBB 0207	150K
R 8	RCA-6330	RESISTOR CARBON 330K 0.66W 5	1	MBB 0207	MBB 0207	330K
R 9	RCA-6330	RESISTOR CARBON 330K 0.66W 5	1	MBB 0207	MBB 0207	330K
R 26	RCA-6330	RESISTOR CARBON 330K 0.66W 5	1	MBB 0207	MBB 0207	330K
R 16	RCA-6470	RESISTOR CARBON 470K 0.66W 5	1	MBB 0207	MBB 0207	470K
R 60	RCA-6470	RESISTOR CARBON 470K 0.66W 5	1	MBB 0207	MBB 0207	470K
R 11	RCA-7100	RESISTOR CARBON 1M 0.66W 5%	1	MBB 0207	MBB 0207	1M
R 20	RCA-7100	RESISTOR CARBON 1M 0.66W 5%	1	MBB 0207	MBB 0207	1M
R 40	RCA-7100	RESISTOR CARBON 1M 0.66W 5%	1	MBB 0207	MBB 0207	1M
R 57	RCA-7100	RESISTOR CARBON 1M 0.66W 5%	1	MBB 0207	MBB 0207	1M
R 24	RCA-7470	RESISTOR CARBON 4M7 0.66W 5%	1	MBB 0207	MBB 0207	4M7
R 47	RCA-7470	RESISTOR CARBON 4M7 0.66W 5%	1	MBB 0207	MBB 0207	4M7
R 22	RXA-7560	RESISTOR HIGHVOLT 5M6 0.25W	1	PHILLIPS VR25	2322 241	13565
R 12	RXA-8100	RESISTOR HIGHVOLT 10M 0.25W	1	PHILLIPS VR25	2322 241	13106
R 52	RMA-4200	RESISTOR METAL 2K 0.4W 1%	1	PHILLIPS MR25	2322 151	52002
C 6	CCA-0510	CAP CERAMIC 10NF/63V	1	PH 2222 629	2222 629	02103
C 1	CCB-0156	CAP CERAMIC 5.6PF/100V	1	PH 2222 632	2222 632	57568
C 2	CCB-0356	CAP CERAMIC 560PF/100V	1	PH 2222 632	2222 632	70561
C 7	CCB-0356	CAP CERAMIC 560PF/100V	1	PH 2222 632	2222 632	70561
C 8	CCA-0410	CAP CERAMIC 1NF/63V	1	PH 2222 629	2222 629	02102
C 9	CFI-0810	CAP ELECTROLYTIC 10UF/16V	1	PH 2222 122	2222 122	55109
C 10	CKR-0610	CAP POLYESTER 100NF/50V	1	WIMA MKS	MKS 2	100NF
C 4	CKH-0610	CAP POLYESTER 100NF/100V	1	SIEMENS B32560	B32560	D1104 J

Date : 29.5.90.

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No. : 179-16D31-A-4



ITP 179-16D31 COMPRESSOR MODULE

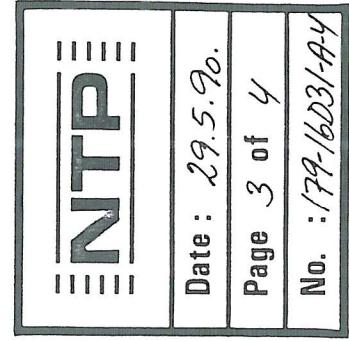
## PARTS LIST

ITEM NO	NTP-ID	DESCRIPTION	QTY	MANUFACT / DRW NO	PART NO
---------	--------	-------------	-----	-------------------	---------

NOTY MANUFACT /DBW NO PART NO

DESCRIPTON

C 5	CKH-0610	CAP POLYESTER	100NF/100V	1	SIEMENS B32560	D1104 J
C 3	CKQ-0722	CAP POLYESTER	2.2UF/100V	1	SIEMENS B32562	B32562 D1225 J
D 21	OES-0117	LED RED	1x1	1	SIEMENS LD 461	Q62703-Q79
D 1	QDS-4148	DIODE, SILICIUM		1	QDS-4148	IN 4148
D 2	QDS-4148	DIODE, SILICIUM		1	QDS-4148	IN 4148
D 3	QDS-4148	DIODE, SILICIUM		1	QDS-4148	IN 4148
D 4	QDS-4148	DIODE, SILICIUM		1	QDS-4148	IN 4148
D 5	QDS-4148	DIODE, SILICIUM		1	QDS-4148	IN 4148
D 6	QDS-4148	DIODE, SILICIUM		1	QDS-4148	IN 4148
D 7	QDS-4148	DIODE, SILICIUM		1	QDS-4148	IN 4148
D 8	QDS-4148	DIODE, SILICIUM		1	QDS-4148	IN 4148
D 9	QDS-4148	DIODE, SILICIUM		1	QDS-4148	IN 4148
D 10	QDS-4148	DIODE, SILICIUM		1	QDS-4148	IN 4148
D 11	QDS-4148	DIODE, SILICIUM		1	QDS-4148	IN 4148
D 12	QDS-4148	DIODE, SILICIUM		1	QDS-4148	IN 4148
D 13	QDS-4148	DIODE, SILICIUM		1	QDS-4148	IN 4148
D 14	QDS-4148	DIODE, SILICIUM		1	QDS-4148	IN 4148
D 15	QDS-4148	DIODE, SILICIUM		1	QDS-4148	IN 4148
D 16	QDS-4148	DIODE, SILICIUM		1	QDS-4148	IN 4148
D 17	QDS-4148	DIODE, SILICIUM		1	QDS-4148	IN 4148
D 18	QDS-4148	DIODE, SILICIUM		1	QDS-4148	IN 4148
D 19	QDS-4148	DIODE, SILICIUM		1	QDS-4148	IN 4148
D 20	QDS-4148	DIODE, SILICIUM		1	QDS-4148	IN 4148
D 22	QZD-0056	ZENERDIODE 5,6V		1	DO-35	ZPD 5,6
Q 10	QBM-0237-2	TRANSISTORPAIR, NPN		1	TO 92	BC 237 PAR
Q 1	QBM-0307-2	TRANSISTORPAIR, PNP		1	TO-92	BC 307 PAR
Q 4	QBN-0237	TRANSISTOR, NPN		1	TO-92	BC237 B
Q 5	QBN-0237	TRANSISTOR, NPN		1	TO-92	BC237 B
Q 9	QBN-0237	TRANSISTOR, NPN		1	TO-92	BC237 B
Q 13	QBN-0237	TRANSISTOR, NPN		1	TO-92	BC237 B
Q 14	QBN-0237	TRANSISTOR, NPN		1	TO-92	BC237 B
Q 15	QBN-0237	TRANSISTOR, NPN		1	TO-92	BC237 B
Q 17	QBN-0237	TRANSISTOR, NPN		1	TO-92	BC237 B



Date : 29.5.90.

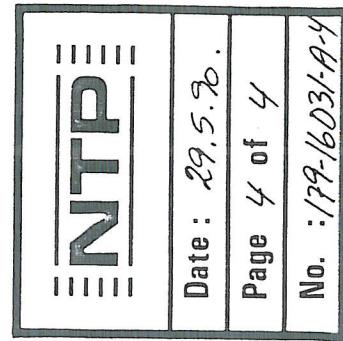
Page 3 of 4

No. : 179-16031-A-4

## NTP 179-16D31 COMPRESSOR MODULE

## PARTS LIST

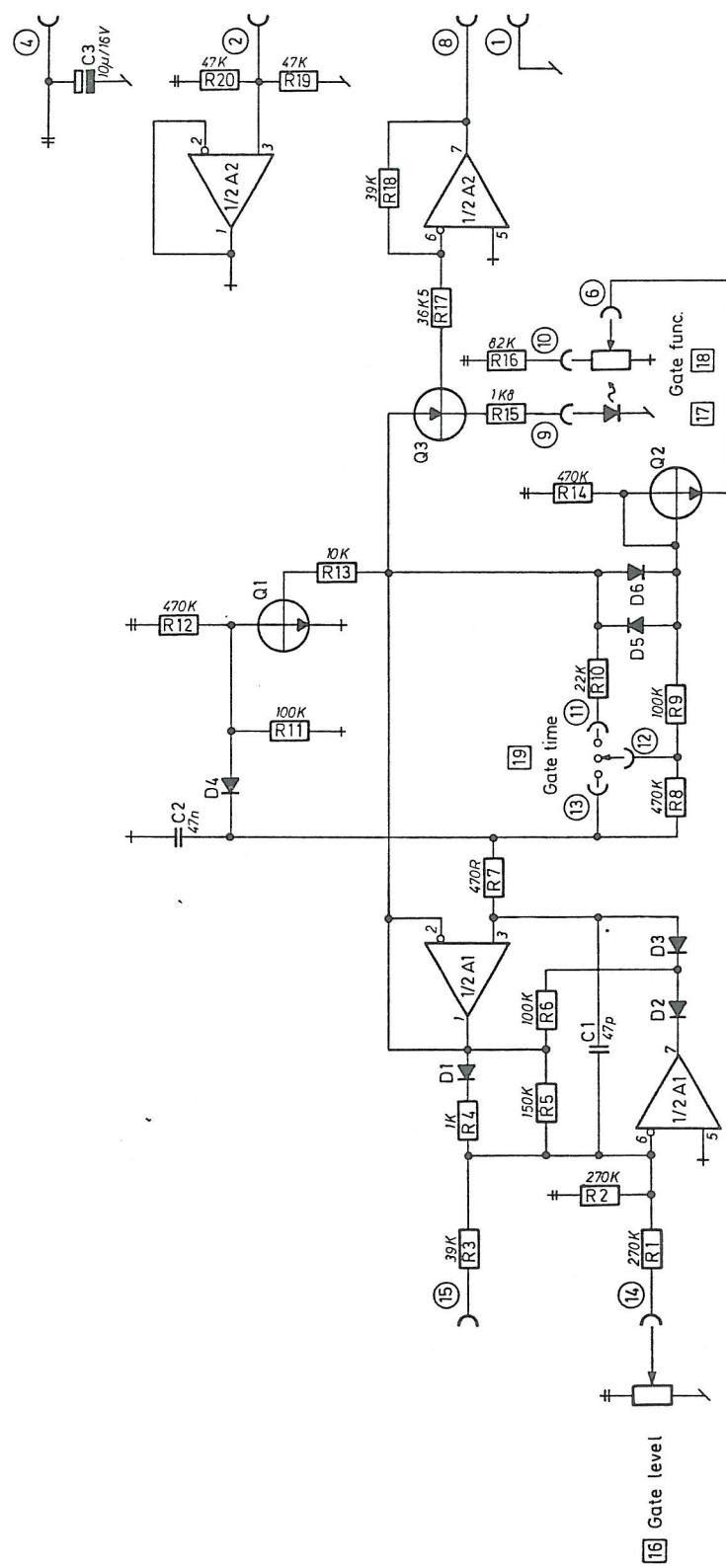
REF.NO	NTP-ID.	DESCRIPTION	QTY	MANUFACT/DRW.NO.	PART NO.
Q 6	QBP-0307	TRANSISTOR, PNP	1	TO-92	BC307
Q 7	QBP-0307	TRANSISTOR, PNP	1	TO-92	BC307
Q 8	QBP-0307	TRANSISTOR, PNP	1	TO-92	BC307
Q 12	QBP-0307	TRANSISTOR, PNP	1	TO-92	BC307
Q 16	QBP-0307	TRANSISTOR, PNP	1	TO-92	BC307
Q 18	QBP-0307	TRANSISTOR, PNP	1	TO-92	BC307
Q 19	QBP-0307	TRANSISTOR, PNP	1	TO-92	BC307
Q 3	QFN-4393	FET	1	QFN-4393	2N 4393
IC 4	ICA-4017	5-STAGE JOHNSON DECADE COUNT	1	RCA CD4017BE	CD 4017BE
IC 1	ILA-353	OP-AMP	1	NAT. LF353	LF 353
IC 2	ILA-353	OP-AMP	1	NAT. LF353	LF 353
IC 3	ILA-353	OP-AMP	1	NAT. LF353	LF 353
IC 5	ILA-4559	OP-AMP	1	RAYTH. 4559NB	RC 4559NB
IC 1	KMF-0245	MODULE CONNECTOR 2-P FEMALE	1	CANNON G09 A45	KMF-0245
2	KMF-0645	MODULAR CONNECTOR 6-P FEMALE	1	CANNON G09 A45	KMF-0645
3	KMF-1145	11-POLE FEMALE G09 CONNECTOR	1	CANNON G09 A45	KMF-1145
4	179-16D40	P.C. BOARD	1	179-16D40-A-3	179-16D40



Date : 29.5.86.

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No. : 179-16D31-A-4



Målestok	:
Konstruktør	: B.S.
Tegnet	: 12.12.80. T.L.
Godkendt	:
Revideret	:

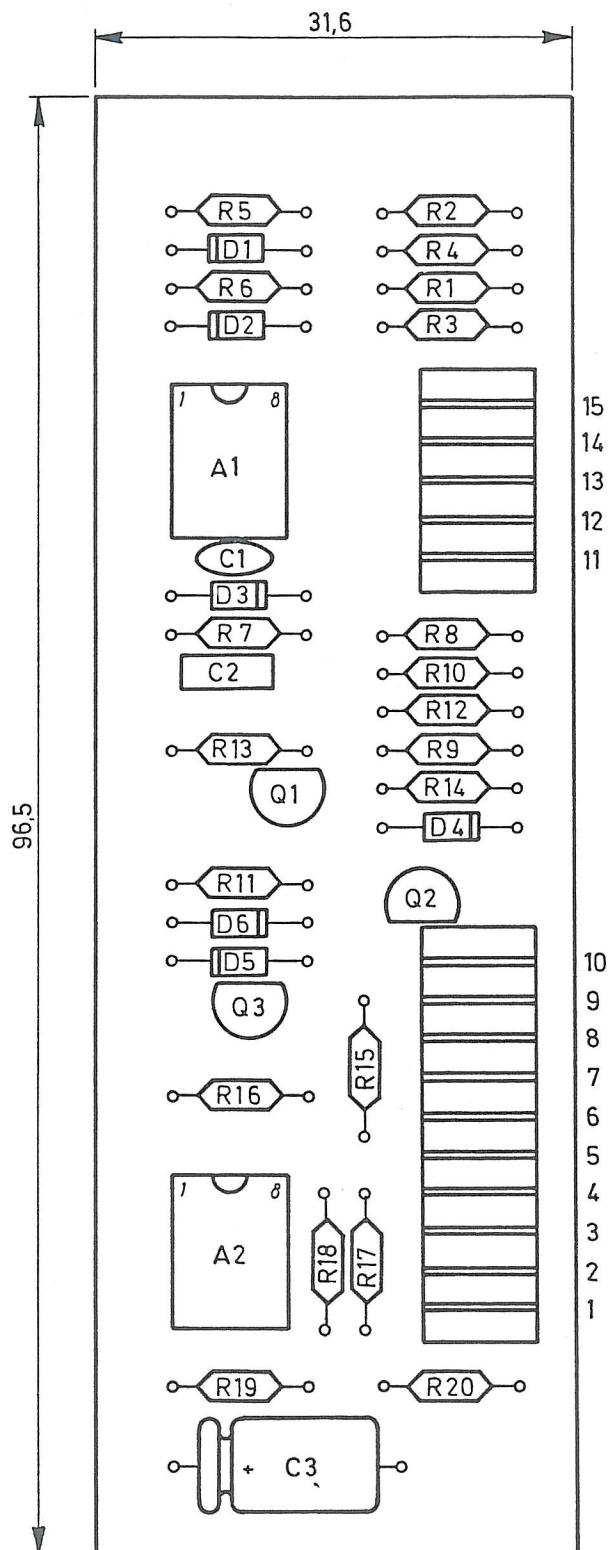
Compressor 179-180 B

### Noise - Gate Module

## Schematic diagramme

**NTP**  
NTP ELEKTRONIK A/S

170 16 E 30 B 3



Målestok :	
Konstruktør:	B.S.
Tegnet :	9.12.80. T.L.
Godkendt :	
Revideret :	

Compressor 179-160 B  
Noise - Gate Module  
Components Lay - out

**NTP**  
NTP ELEKTRONIK A/S

179-16E 41 - B - 4

## NTP 179-16E31 NOISE GATE MODULE

REF. NO	NTP-ID.	DESCRIPTION	QTY	PARTS LIST
1	KMF-0545	MODULAR CONNECTOR 5-P. FEMAL	1	CANNON G09 A45
2	KMF-1045	10-POLE FEMALE G09 CONNECTOR	1	CANNON G09 A45
3	179-16E40	P.C. BOARD	1	179-16E40-B-4
A 1	ILA-353	OP-AMP	1	NAT. LF353
A 2	ILA-353	OP-AMP	1	NAT. LF353
C 1	CCB-0247	CAP CERAMIC 47PF/100V	1	PH 2222 632
C 2	CKI-0547	CAP POLYESTER 47NE/250V	1	SIEMENS B32560
C 3	CFD-0810	CAP ELECTROLYTIC 10UF/40V	1	ROE EB 15UF
D 1	QDS-4148	DIODE, SILICITUM	1	QDS-4148
D 2	QDS-4148	DIODE, SILICITUM	1	QDS-4148
D 3	QDS-4148	DIODE, SILICITUM	1	QDS-4148
D 4	QDS-4148	DIODE, SILICITUM	1	QDS-4148
D 5	QDS-4148	DIODE, SILICITUM	1	QDS-4148
D 6	QDS-4148	DIODE, SILICITUM	1	QDS-4148
Q 1	QBN-0237	TRANSISTOR, NPN	1	TO-92
Q 2	QBN-0237	TRANSISTOR, NPN	1	TO-92
Q 3	QBP-0307	TRANSISTOR, PNP	1	TO-92
R 1	RCA-6270	RESISTOR CARBON 270K 0.66W 5	1	MBB 0207
R 2	RCA-6270	RESISTOR CARBON 270K 0.66W 5	1	MBB 0207
R 3	RCA-5390	RESISTOR CARBON 39K 0.66W 5%	1	MBB 0207
R 4	RCA-4100	RESISTOR CARBON 1K 0.66W 5%	1	MBB 0207
R 5	RCA-6150	RESISTOR CARBON 150K 0.66W 5	1	MBB 0207
R 6	RCA-6100	RESISTOR CARBON 100K 0.66W 5	1	MBB 0207
R 7	RCA-3470	RESISTOR CARBON 470R 0.66W 5	1	MBB 0207
R 8	RCA-6470	RESISTOR CARBON 470K 0.66W 5	1	MBB 0207
R 9	RCA-6100	RESISTOR CARBON 100K 0.66W 5	1	MBB 0207
R 10	RCA-5220	RESISTOR CARBON 22K 0.66W 5%	1	MBB 0207
R 11	RCA-6100	RESISTOR CARBON 100K 0.66W 5	1	MBB 0207
R 12	RCA-6470	RESISTOR CARBON 470K 0.66W 5	1	MBB 0207
R 13	RCA-5100	RESISTOR CARBON 10K 0.66W 5%	1	MBB 0207
R 14	RCA-6470	RESISTOR CARBON 470K 0.66W 5	1	MBB 0207
R 15	RCA-4180	RESISTOR CARBON 1K8 0.66W 5%	1	MBB 0207
R 16	RCA-5820	RESISTOR CARBON 82K 0.66W 5%	1	MBB 0207

**NTP Parte List**as of date 13-7-1990.Page / of 2.List No.: 79-16E31-A-4

Multi 13.07.90 11: 4

PAGE 2

NTP 179-16E31 NOISE GATE MODULE

PARTS LIST

REF. NO	NTP-ID.	DESCRIPTION	QTY	MANUFACT/DRW.NO.	PART NO.
R 17	RMA-5365	RESISTOR METAL 36K5 0.4W 1%	1	PHILIPS MR25	2322 151 53653
R 18	RCA-5390	RESISTOR CARBON 39K 0.66W 5%	1	MBB 0207	MBB 0207 3K
R 19	RCA-5470	RESISTOR CARBON 47K 0.66W 5%	1	MBB 0207	MBB 0207 4.7K
R 20	RCA-5470	RESISTOR CARBON 47K 0.66W 5%	1	MBB 0207	MBB 0207 4.7K

**NTP Part List**

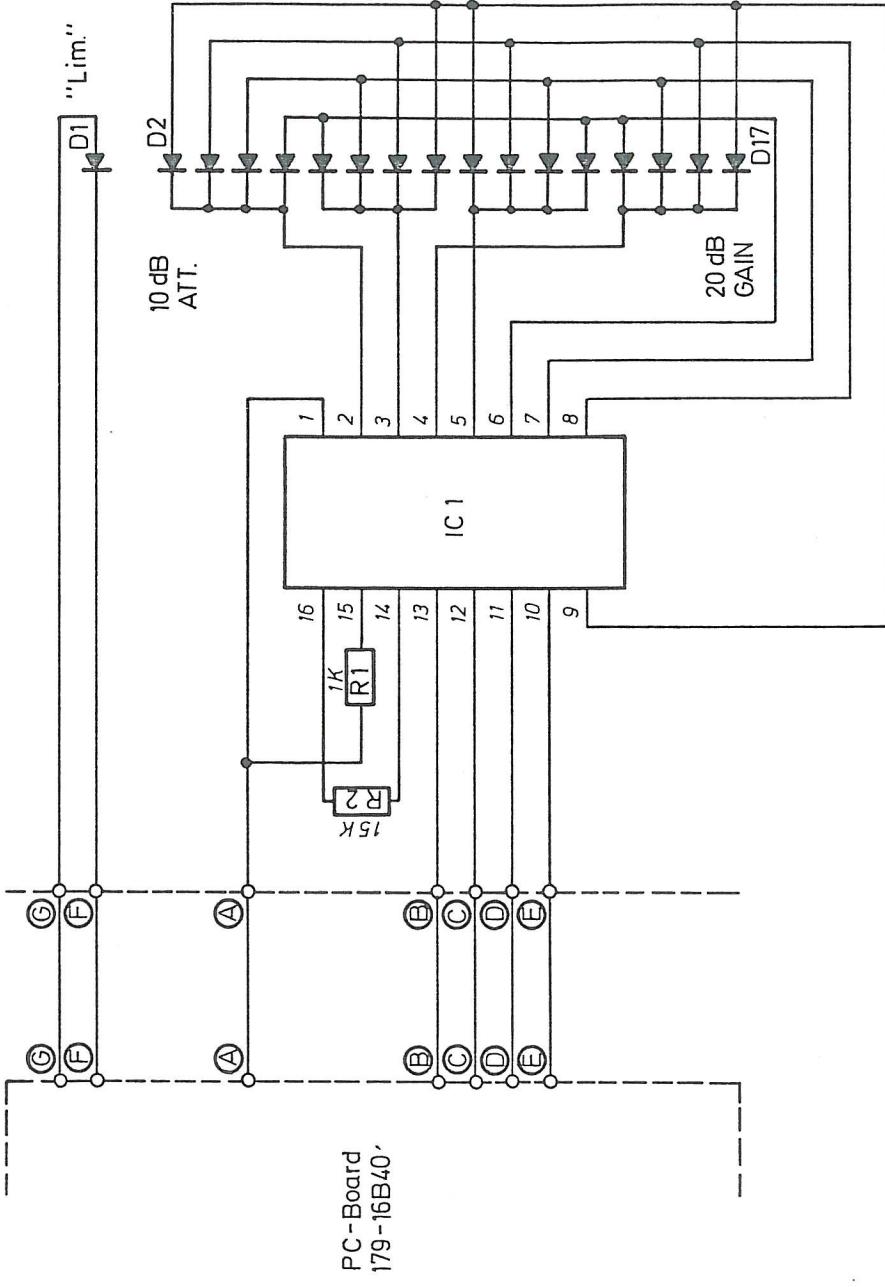
as of date /3-7 1990.

Page 2 of 2.

List No.: 179-16E31-A-4

SLUT

PARTS LIST 179-16E31

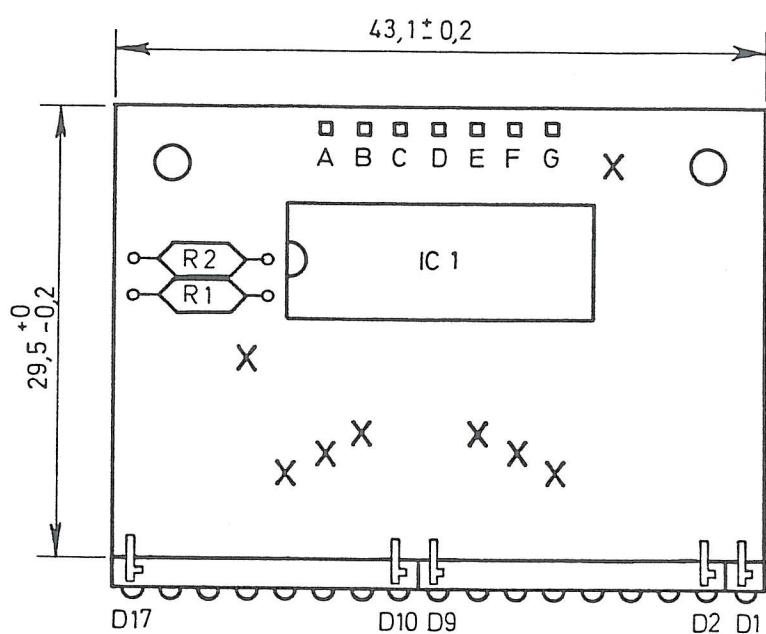


Målestok :	
Konstruktør:	BJ.
Tegnet :	3.7.79 JS
Godkendt :	
Revideret :	

Compressor 179-160  
Meter - Module  
Schematic Diagram.

**NTP**  
NTP ELEKTRONIK A/S

179-16F30-A-4



Ittelser

Målestok :	
Konstruktør:	BJ.
Tegnet :	27.6.79 JS
Godkendt :	
Revideret :	

Compressor 179-160  
Meter Module  
Component Lay-out.

**NTP**  
NTP ELEKTRONIK A/S

179-16F41-A-4

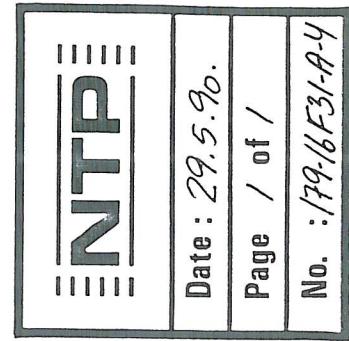
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PARTS LIST 179-16F31 PAGE 1

NTP 179-16F31 METER MODULE

PARTS LIST

REF. NO	NTP-ID.	DESCRIPTION	QTY	MANUFACT/DRW.NO.	PART NO.
R 1	RCA-4100	RESISTOR CARBON 1K 0.66W 5%	1	MBB 0207	MBB 0207 1K
R 2	RCA-5150	RESISTOR CARBON 15K 0.66W 5%	1	MBB 0207	MBB 0207 15K
D 1	OES-0117	LED RED 1x1	1	SIEMENS LD 461	Q62703-Q79
D 2	OES-0801	LED GREEN 8x1	1	SIEMENS LD478	Q62703-Q109
D 10	OES-0801	LED GREEN 8x1	1	SIEMENS LD478	Q62703-Q109
IC 1	IIL-170	LED-ARRAY DRIVER P.C.BOARD	1	SIEMENS UUA170	UAA 170
1	179-16F40		1	179-16F40-A-4	179-16F40



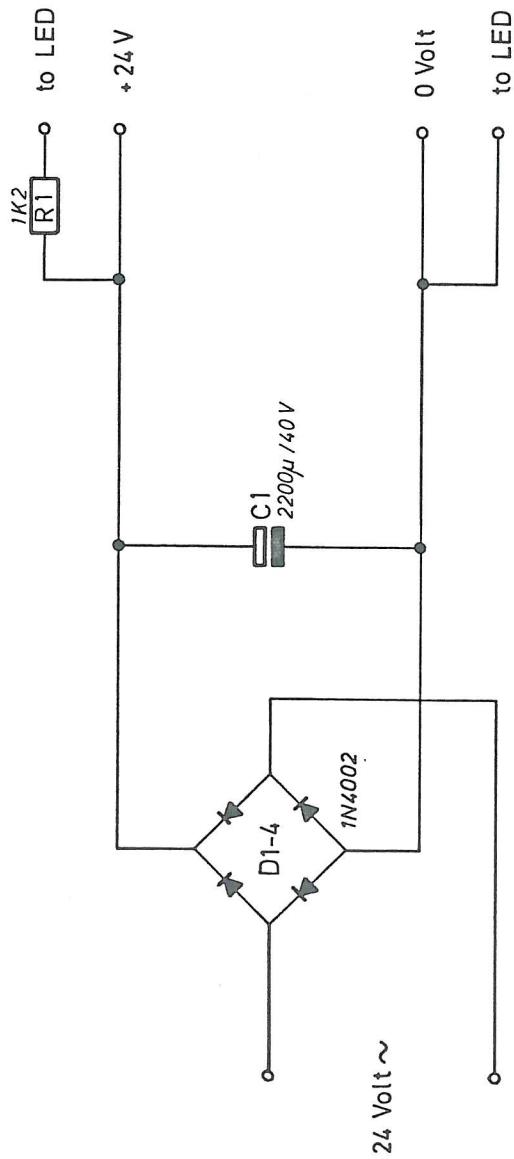
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No. : 179-16F31-A-4

SLUT

PARTS LIST 179-16F31



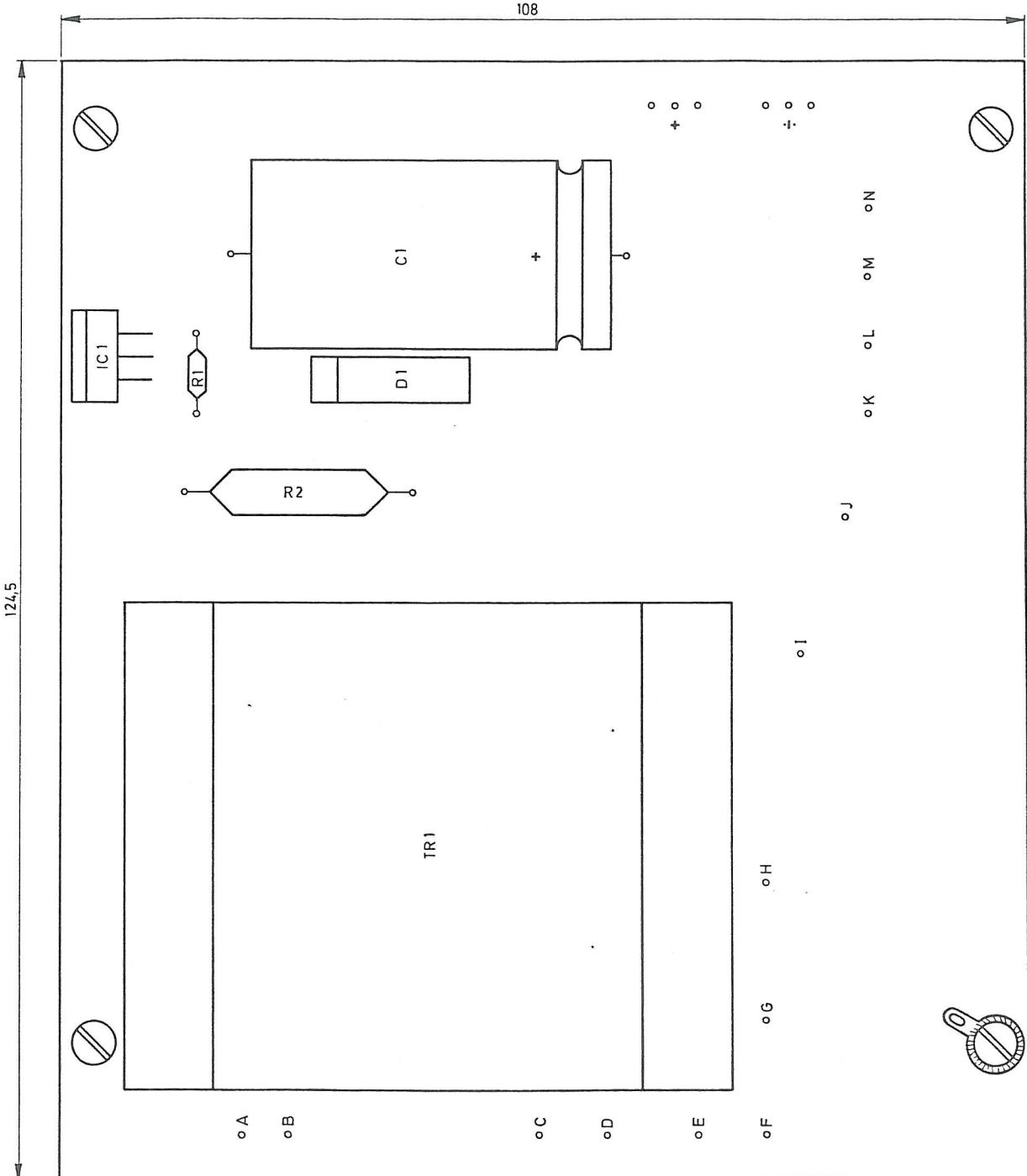
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Målestok :	
Konstruktør:	B.S.
Tegnet :	24.9.80.T.L.
Godkendt :	
Revideret :	3.

Compressor      179 - 170  
 Power Supply  
 Schematic Diagramme

**NTP**  
 NTP ELEKTRONIK A/S

179-1730-A-4



Målestok :	
Konstruktør :	B. S.
Tegnet :	23.9.80. T.L.
Godkendt :	
Revideret :	

Compressor      179-170  
 Power Supply Board  
 Components Lay - out

**NTP**  
 NTP ELEKTRONIK A/S  
 179-1743-A-3

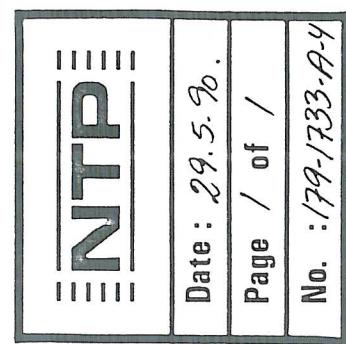
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NTP 179-1733 POWER SUPPLY BOARD

PARTS LIST

REF. NO	NTP-ID.	DESCRIPTION	QTY	MANUFACT/DRW.NO.	PART NO.
R	1	RCA-4120	1	RESISTOR CARBON 1K2 0.66W 5%	MBB 0207 1K2
C	1	CFD-1022	1	CAP ELECTROLYTIC 2200UF/40V	ROE EG 2200 UF
D	1-4	QDS-4002	4	DIODE, SILICONUM	1N 4002
	1	179-1744	1	P.C. BOARD	179-1744-A-4



REF. NO.	NTP-ID.	DESCRIPTION	QTY	MANUFACT/DRW.NO.	PART NO.
1	179-16A31	MOTHERBOARD RIGHT	2	179-16A41-A-4	179-16A31
2	179-16B31	MOTHERBOARD LEFT	2	179-16B41-B-3	179-16B31
3	179-16C31	LIMITER MODULE	2	179-16C41-B-3	179-16C31
4	179-16D31	COMPRESSOR MODULE	2	179-16D41-A-4	179-16D31
5	179-16E31	NOISE GATE MODULE	2	179-16E41-B-4	179-16E31
6	179-16F31	METER MODULE	2	179-16F41-A-4	179-16F31
7	179-1733	POWER SUPPLY BOARD	1	179-1745-A-4	179-1733
8	179-1656	CHASSIS	2	179-1656-A-3	179-1656
9	MES-0008	SCREW 4 X 10	10	ELMA	1904-12
10	179-1752	COVER PLATE SET	1	179-1752-A-3X	179-1752
11	179-1756	MOUNTING PANEL	1	179-1756-A-3X	179-1756
12	235-1015	ISO PLATE	6	235-1015-A-4	235-1015
13	DFA-0013	FUSE HOLDER	1	WICKMANN	RP 498006
45	DFT-00014	COVER FOR FUSEHOLDER	1	WICKMANN	19202
14	DFT-0001	SLOWBLOW FUSE 0.1 A 250 V	1	WICKMANN	19202
16	KAF-0308	XLR CONNECTOR, 3P FEMALE	2	NEUTRIK	NC3FDL
17	KAM-0308	XLR CONNECTOR 3P MALE	2	NEUTRIK	NC3MDL-1
18	KAM-0503	XRL-CONN. 5P MAL CHASSIS-PA	1	NEUTRIK	NC5MDL-1
19	KMB-0003	CRIMP W/GOLD FOR MOLEX CONN	18	MOLEX	2759GL 1
20	KMF-0201	MOLEX CONN.	2	MOLEX	6471-2
21	KMF-0701	MOLEX CONN. 7P FEM	2	MOLEX	6471-7
22	KUM-0309	MAIN CONN. MALE	1	RP	383005
24	MEP-1046	PROFILE DEPTH 254MM	2	ELMA	66-103-20
25	179-1755	REARPLATE	1	179-1755-A-3X	179-1755
27	MFB-0001	WASHER 3 MM	1	HFC-9161	3MM
40	MHL-0001	SOLDERING LUG 3.2MM Ø HOLE	1	RP	305005
28	MKD-0012	CAP FOR KNOB, RED	2	RITEL	30 10 014
29	MKD-0014	CAP FOR KNOB, YELLOW	2	RITEL	30 10 016
30	MKD-0015	CAP FOR KNOB, GREEN	4	RITEL	30 10 017
31	MKD-0016	CAP FOR KNOB, BLUE	2	RITEL	30 10 015
32	MKD-0018	CAP FOR KNOB GREY	2	RITEL	30 10 011
33	MKK-0040	KNOB	12	RITEL	23 10 403
34	MSC-3004	SCREW 3 X 4 CHJZ	3	HFC 9033	3 X 4 CHJZ

**NTP Parts List**

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PARTS LIST 179-170

Side 2

NTP 179-170 COMPRESSOR, BASIC VERSION

PARTS LIST

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

35	MSC-3005	SCREW 3 X 5 CHJZ	2	HFC 9033	3X 5 CHJZ
36	OES-0103	LED RED 1x1	1	TEXAS TIL 209	TIL 209
37	QBA-0013	ISOLATION BUSH	1	QBA-0013	T0220HW
38	SSD-0002	MAINS-VOLTAGE SWITCH 115/230	1	ARCOLECTRIC	T22205 BAAL
39	STC-0221	TOGGLE SWITCH DPDT	1	APR 5646	AD
46	LTD-0002	MAINS TRANSFORMER 2x110:2x20	1	LUBCKE RT 20	RT 20-24560
47	MSU-4035	SCREW 4 X 35	1	HFC-9030	4 X 35
48	MMA-0040	NUT STEEL 4 MM	1	HFC 9832	DIN 934 4MM
49	MFD-0004	WASHER THREADED 4 .3 MM	1	HFC 1226	4.3MM DIN 1226
50	179-1765	ANGLE FOR TRAFO	1	179-1765-A-4	179-1765
51	KUB-0001	JACKET FOR MAINS CONN. FEMAL	1	BULGIN PN	PN 11328
52	KUB-0002	CRIMP FOR MAINS CONN. FEMALE	1	RP 383200	383200
53	OEA-0002	HOLDER FOR LED	1	TEXAS	C2-100
54	WPM-7501 0	MAIN CABLE, BLACK	1	PHM 322/4030	2X0.75 + JORD

**NTP Parts List**as of date 26-8 1992.Page 2 of 2.List No.: 179-1704-A-4

## REF.NO NTP-ID.

## PARTS LIST

## NTP

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

1	179-16A31	MOTHERBOARD RIGHT	2	179-16A41-A-4
2	179-16B31	MOTHERBOARD LEFT	2	179-16B41-B-3
3	179-16C31	LIMITER MODULE	2	179-16C41-B-3
4	179-16D31	COMPRESSOR MODULE	2	179-16D41-A-4
5	179-16E31	NOISE GATE MODULE	2	179-16E41-B-4
6	179-16F31	METER MODULE	2	179-16F41-A-4
7	179-1733	POWER SUPPLY BOARD	1	179-1745-A-4
8	179-1656	CHASSIS	2	179-1656-A-3
9	MES-0008	SCREW 4 X 10	10	ELMA
10	179-1752	COVER PLATE SET	1	179-1752-A-3X
11	179-1756	MOUNTING PANEL	1	179-1756-A-3X
12	235-1015	ISO PLATE	6	235-1015-A-4
13	DFA-0013	FUSE HOLDER	1	WICKMANN
4.5	DFA-0014	COVER FOR FUSEHOLDER	1	WICKMANN
14	DFT-0001	SLOWBLOW FUSE 0.1 A 250 V	1	WICKMANN 19202
16	KAF-0308	XLR CONNECTOR, 3P FEMALE	2	NEUTRIK
17	KAM-0308	XLR CONNECTOR 3P MALE	2	NEUTRIK
18	KAM-0503	XRL-CONN. 5P MAL CHASSIS-PA	1	NEUTRIK
19	KMB-0003	CRIMP W/GOLD FOR MOLEX CONN	18	MOLEX 2759GL 1
20	KMF-0201	MOLEX CONN. 2P FEM	2	MOLEX 6471-2
21	KMF-0701	MOLEX CONN. 7P FEM	2	MOLEX 6471-7
22	KUM-0309	MAINS CONN. MALE	1	RP 383005
24	MEP-1046	PROFILE DEPTH 254MM	2	ELMA
25	179-1755	REARPLATE	1	179-1755-A-3X
27	MFB-0001	WASHER 3 MM	1	HFC-9161
40	MHL-0001	SOLDERING LUG 3.2MM Ø HOLE	1	RP 305005
28	MKD-0012	CAP FOR KNOB, RED	2	RITEL
29	MKD-0014	CAP FOR KNOB, YELLOW	2	RITEL
30	MKD-0015	CAP FOR KNOB, GREEN	4	RITEL
31	MKD-0016	CAP FOR KNOB, BLUE	2	RITEL
32	MKD-0018	CAP FOR KNOB GREY	2	RITEL
33	MKK-0040	KNOB	12	RITEL
34	MSC-3004	SCREW 3 X 4 CHJZ	3	HFC 9033

**NTP Parts List**

as of date 28-1 1992.

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Side 2

PARTS LIST 179-170

NTP 179-170 COMPRESSOR, BASIC VERSION

PARTS LIST

REF. NO	NTP-ID.	DESCRIPTION	QTY	MANUFACT/DRW.NO.	PART NO.
35	MSC-3005	SCREW 3 X 5 CHJZ	2	HFC 9033	3X 5 CHJZ
36	OES-0103	LED RED 1x1	1	TEXAS TIL 209	TIL 209
37	QBA-0013	ISOLATION BUSH	1	QBA-0013	TO220HW
38	SSD-0001	MAINS-VOLTAGE SWITCH 2 POS	1	KAUTT & BUX SU	10 A1
39	STC-0221	TOGGLE SWITCH DPDT	1	APR 5646	AD
46	LTD-0002	MAINS TRANSFORMER 2x110:2x20	1	LUBCKE RT 20	RT 20-24560
47	MSU-4035	SCREW 4 X 35	1	HFC-9030	4 X 35
48	MMA-0040	NUT STEEL 4 MM	1	HFC 9832	DIN 934 4MM
49	MFD-0004	WASHER THREADED 4.3 MM	1	HFC 1226	4.3MM DIN 1226
50	179-1765	ANGLE FOR TRAFO	1	179-1765-A-4	179-1765
51	KUB-0001	JACKET FOR MAINS CONN. FEMAL	1	BULGIN PN	PN 11328
52	KUB-0002	CRIMP FOR MAINS CONN. FEMALE	1	RP 383200	383200
53	OEA-0002	HOLDER FOR LED	1	TEXAS	C2-100
54	WPM-7501 0	MAIN CABLE, BLACK	1	PHM 322/4030	2X0.75 + JORD

**NTP Parts List**

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PARTS LIST 179-170

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PARTS LIST 179-170

Side 1

NTP 179-170 COMPRESSOR, BASIC VERSION

PARTS LIST 179-170

REF. NO	NTP-ID.	DESCRIPTION	QTY	PARTS LIST MANUFACT/DRW.NO. PART NO.
1	179-16A31	MOTHERBOARD RIGHT	2	179-16A41-A-4
2	179-16B31	MOTHERBOARD LEFT	2	179-16B41-B-3
3	179-16C31	LIMITER MODULE	2	179-16C41-B-3
4	179-16D31	COMPRESSOR MODULE	2	179-16D41-A-4
5	179-16E31	NOISE GATE MODULE	2	179-16E41-B-4
54	WPM-7501 0	MAINS CABLE, BLACK	1	PHM 322 / 4030 2X0 .75 + JORD
6	179-16F31	METER MODULE	2	179-16F41-A-4
7	179-1733	POWER SUPPLY BOARD	1	179-1745-A-4
8	179-1656	CHASSIS	2	179-1656-A-3
9	MES-0007	SCREW MUSHROOM HEAD 4 X 10	10	ELMA 1910-23
10	179-1752	COVER PLATE SET	1	179-1752-A-3X
11	179-1756	MOUNTING PANEL	1	179-1756-A-3X
12	235-1015	ISO PLATE	6	235-1015-A-4
13	DFA-0013	FUSE HOLDER	1	WICKMANN RP 498006
45	DFA-0014	COVER FOR FUSEHOLDER	1	WICKMANN RP 498056
14	DFT-0001	SLOWBLOW FUSE 0.1 A 250 V	1	WICKMANN 19202 RP 480406
16	KAF-0308	XLR CONNECTOR, 3P FEMALE	2	NEUTRIK NC3FDL
17	KAM-0308	XLR CONNECTOR 3P MALE	2	NEUTRIK NC3MDL-1
18	KAM-0503	XRL-CONN. 5P MAL CHASSIS-PA	1	NEUTRIK NC5MDL-1
19	KMB-0003	CRIMP W/GOLD FOR MOLEX CONN	18	MOLEX 2759GL 1 2759GL 1
20	KMF-0201	MOLEX CONN. 2P FEM	2	MOLEX 6471-2
21	KMF-0701	MOLEX CONN. 7P FEM	2	MOLEX 6471-7
22	KUM-0309	MAINS CONN. MALE	1	RP 383005 TYPE 580 /110
24	MEP-1046	PROFILE DEPTH 254MM	2	ELMA 66-103-20
25	179-1755	REARPLATE	1	179-1755-A-3X
27	MFB-0001	WASHER 3 MM	1	HFC-9161 3MM
40	MHL-0001	SOLDERING LUG 3.2MM Ø HOLE	1	RP 305005 3.2MM Ø HULL
28	MKD-0012	CAP FOR KNOB, RED	2	RITEL 30 10 014
29	MKD-0014	CAP FOR KNOB, YELLOW	2	RITEL 30 10 016
30	MKD-0015	CAP FOR KNOB, GREEN	4	RITEL 30 10 017
31	MKD-0016	CAP FOR KNOB, BLUE	2	RITEL 30 10 015
32	MKD-0018	CAP FOR KNOB GREY	2	RITEL 30 10 011
33	MKK-0040	KNOB	12	RITEL 23 10 403

**NTP Parts List**

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PARTS LIST 179-170

Side 2

NTP 179-170 COMPRESSOR, BASIC VERSION

PARTS LIST

REF. NO	NTP-ID.	DESCRIPTION	QTY	MANUFACT/DRW.NO.	PART NO.
34	MSC-3004	SCREW 3 X 4 CHJZ	3	HFC 9033	3 X 4 CHJZ
35	MSC-3005	SCREW 3 X 5 CHJZ	2	HFC 9033	3X 5 CHJZ
36	OES-0103	LED RED 1x1	1	TEXAS TIL 209	TIL 209
37	QBA-0013	ISOLATION BUSH	1	QBA-0013	T0220HW
38	SSD-0001	MAINS-VOLTAGE SWITCH 2 POS	1	KAUTT & BUX SU	10 A1
39	STC-0221	TOGGLE SWITCH DPDT	1	APR 5646	AD
46	LTD-0002	MAINS TRANSFORMER 2x110:2x20	1	LUBCKE RT 20	RT 20-24560
47	MSU-4035	SCREW 4 X 3.5	1	HFC-9030	4 X 3.5
48	MMA-0040	NUT STEEL 4 MM	1	HFC 9832	DIN 934 4MM
49	MFD-0004	WASHER THREADED 4.3 MM	1	HFC 1226	4.3MM DIN 1226
50	179-1765	ANGLE FOR TRAFO	1	179-1765-A-4	179-1765
51	KUB-0001	JACKET FOR MAINS CONN. FEMAL	1	BULGIN PN	PN 11328
52	KUB-0002	CRIMP FOR MAINS CONN. FEMALE	1	RP 383200	383200
53	OEA-0002	HOLDER FOR LED	1	TEXAS	C2-100

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PARTS LIST 179-170

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PARTS LIST 1/9-170

Side 1

NTP 179-170 COMPRESSOR, BASIC VERSION

PARTS LIST

REF. NO	NTP-ID.	DESCRIPTION	QTY	MANUFACT/DRW.NO.	PART NO.
1	179-16A31	MOTHERBOARD RIGHT	2	179-16A41-A-4	179-16A31
2	179-16B31	MOTHERBOARD LEFT	2	179-16B41-B-3	179-16B31
3	179-16C31	LIMITER MODULE	2	179-16C41-B-3	179-16C31
4	179-16D31	COMPRESSOR MODULE	2	179-16D41-A-4	179-16D31
5	179-16E31	NOISE GATE MODULE	2	179-16E41-B-4	179-16E31
54	WPM-7501 0	MAINS CABLE, BLACK	1	PHM 322/4030	2X0.75 + JORD
6	179-16F31	METER MODULE	2	179-16F41-A-4	179-16F31
7	179-1733	POWER SUPPLY BOARD	1	179-1745-A-4	179-1733
8	179-1656	CHASSIS	2	179-1656-A-3	179-1656
10	179-1752	COVER PLATE SET	1	179-1752-A-3X	179-1752
11	179-1756	MOUNTING PANEL	1	179-1756-A-3X	179-1756
12	235-1015	ISO PLATE	6	235-1015-A-4	235-1015
13	DFA-0013	FUSE HOLDER	1	WICKMANN	RP 498006
4.5	DFA-0014	COVER FOR FUSEHOLDER	1	WICKMANN	RP 498056
14	DFT-0001	SLOWBLOW FUSE 0.1 A 250 V	1	WICKMANN	19202
16	KAF-0308	XLR CONNECTOR, 3P FEMALE	2	NEUTRIK	NC3FDL
17	KAM-0308	XLR CONNECTOR 3P MALE	2	NEUTRIK	NC3MDL-1
18	KAM-0503	XRL-CONN. 5P MAL CHASSIS-PA	1	NEUTRIK	NC5MDL-1
19	KMB-0003	CRIMP W/GOLD FOR MOLEX CONN	18	MOLEX 2759GL 1	2759GL 1
20	KMF-0201	MOLEX CONN. 2P FEM	2	MOLEX	6471-2
21	KMF-0701	MOLEX CONN. 7P FEM	2	MOLEX	6471-7
22	KUM-0309	MAINS CONN. MALE	1	RP 383005	TYPE 580 /110
24	MEP-1046	PROFILE DEPTH 254MM	2	ELMA	66-103-20
25	179-1755	REARPLATE	1	179-1755-A-3X	179-1755
27	MFB-0001	WASHER 3 MM	1	HFC-9161	3MM
4.0	MHL-0001	SOLDERING LUG 3.2MM Ø HOLE	1	RP 305005	3.2MM Ø HUL
28	MKD-0012	CAP FOR KNOB, RED	2	RITEL	30 10 014
29	MKD-0014	CAP FOR KNOB, YELLOW	2	RITEL	30 10 016
30	MKD-0015	CAP FOR KNOB, GREEN	4	RITEL	30 10 017
31	MKD-0016	CAP FOR KNOB, BLUE	2	RITEL	30 10 015
32	MKD-0018	CAP FOR KNOB GREY	2	RITEL	30 10 011
33	MKK-0040	KNOB	12	RITEL	23 10 403
34	MSC-3004	SCREW 3 X 4 CHJZ	3	HFC 9033	3 X 4 CHJZ

**NTP Parts List**as of date 6-12 1991.Page 1 of 2.List No.: 179-1704-A-4

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Side 2

PARTS LIST 179-170

NTP 179-170 COMPRESSOR, BASIC VERSION

PARTS LIST

REF. NO	NTP-ID.	DESCRIPTION	QTY	MANUFACT/DRW.NO.	PART NO.
35	MSC-3005	SCREW 3 X 5 CHJZ	2	HFC 9033	3X 5 CHJZ
36	OES-0103	LED RED 1x1	1	TEXAS TIL 209	TIL 209
37	QBA-0013	ISOLATION BUSH	1	QBA-0013	T0220HW
38	SSD-0001	MAINS-VOLTAGE SWITCH 2 POS	1	KAUTT & BUXT SU	10 A1
39	STC-0221	TOGGLE SWITCH DPDT	1	APR 5646	AD
46	LTD-0002	MAINS TRANSFORMER 2x110:2x20	1	LUBCKE RT 20	RT 20-24560
47	MSU-4035	SCREW 4 X 35	1	HFC-9030	4 X 35
48	MMA-0040	NUT STEEL 4 MM	1	HFC 9832	DIN 934 4MM
49	MFD-0004	WASHER THREADED 4.3 MM	1	HFC 1226	4.3MM DIN 1226
50	179-1765	ANGLE FOR TRAFO	1	179-1765-A-4	179-1765
51	KUB-0001	JACKET FOR MAINS CONN. FEMAL	1	BULGIN PN	PN 11328
52	KUB-0002	CRIMP FOR MAINS CONN. FEMALE	1	RP 383200	383200
53	OEA-0002	HOLDER FOR LED	1	TEXAS	C2-100

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PARTS LIST 179-170

PARTS LIST

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PARTS LIST

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PAGE

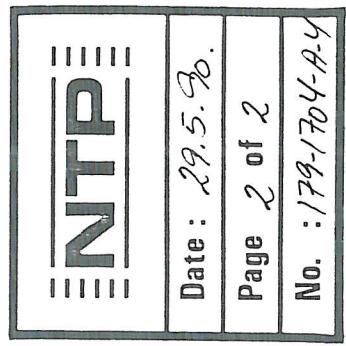
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NTP 179-170 COMPRESSOR, BASIC VERSION

PARTS LIST

REF.NO	NTP-ID.	DESCRIPTION	QTY	MANUFACT/DRW.NO.	PART NO.
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34	MSC-3004	SCREW 3 X 4 CHJZ	3	HFC 9033	3 X 4 CHJZ
35	MSC-3005	SCREW 3 X 5 CHJZ	2	HFC 9033	3X 5 CHJZ
36	OES-0103	LED RED 1x1	1	TEXAS TIL 209	TIL 209
37	QBA-0013	ISOLATION BUSH	1	QBA-0013	T0220HW
38	SSD-0001	MAINS-VOLTAGE SWITCH 2 POS	1	KAUTT & BUX SU	10 A1
39	STC-0221	TOGGLE SWITCH DPDT	1	APR 5646	AD
46	LTD-0002	MAINS TRANSORMER 2x110:2x20	1	LUBCKE RT 20	RT 20-24560
47	MSU-4035	SCREW 4 X 3.5	1	HFC-9030	4 X 3.5
48	MMA-0040	NUT STEEL 4 MM	1	HFC 9832	DIN 934 4MM
49	MFD-0004	WASHER THREADED 4.3 MM	1	HFC 1226	4.3MM DIN 1226
50	179-1765	ANGLE FOR TRAFO	1	179-1765-A-4	179-1765
51	KUB-0001	JACKET FOR MAINS CONN. FEMALE	1	BULGIN PN	PN 11328
52	KUB-0002	CRIMP FOR MAINS CONN. FEMALE	1	RP 383200	383200
53	OEA-0002	HOLDER FOR LED	1	TEXAS	C2-100



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PARTS LIST 179-170