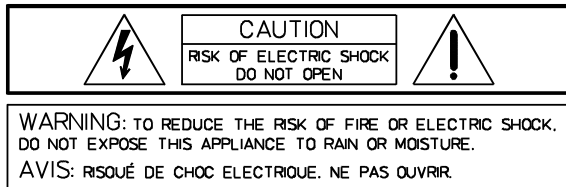


### P3000 PRECISION SERIES

## IMPORTANT SAFETY INSTRUCTIONS



The lightning flash with arrowhead symbol, within an equilateral triangle is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with a damp cloth.
7. Do not block any of the ventilation openings.  
Install in accordance with the manufactures instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus that produce heat.
9. Only use attachments/accessories specified by the manufacturer.
10. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

### For US and CANADA only:

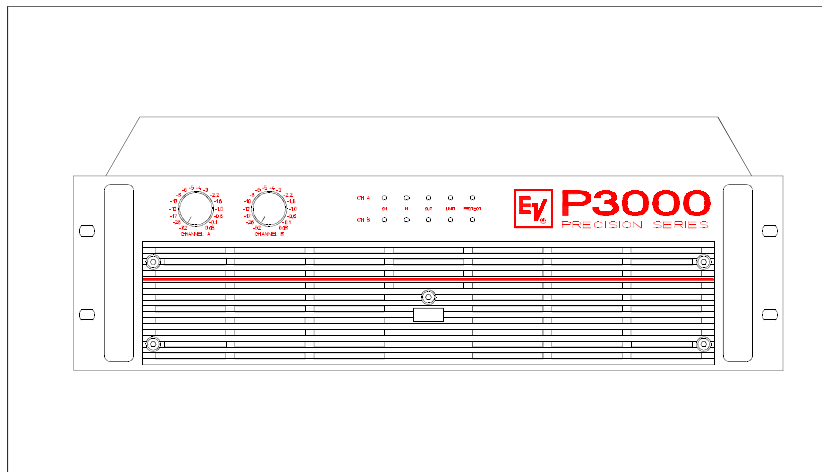
Do not defeat the safety purpose of the grounding-type plug. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. When the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

## IMPORTANT SERVICE INSTRUCTIONS

**CAUTION:** These servicing instructions are for use by qualified personnel only. To reduce the risk of electric shock, do not perform any servicing other than that contained in the Operating Instructions unless you are qualified to do so. Refer all servicing to qualified service personnel.

1. Security regulations as stated in the EN 60065 (VDE 0860 / IEC 65) and the CSA E65 - 94 have to be obeyed when servicing the appliance.
2. Use of a mains separator transformer is mandatory during maintenance while the appliance is opened, needs to be operated and is connected to the mains
3. Switch off the power before retrofitting any extensions, changing the mains voltage or the output voltage.
4. The minimum distance between parts carrying mains voltage and any accessible metal piece (metal enclosure), respectively between the mains poles has to be **3 mm** and needs to be minded at all times.  
The minimum distance between parts carrying mains voltage and any switches or breakers that are not connected to the mains (secondary parts) has to be **6 mm** and needs to be minded at all times.
5. Replacing special components that are marked in the circuit diagram using the security symbol (Note) is only permissible when using original parts.
6. Altering the circuitry without prior consent or advice is not legitimate.
7. Any work security regulations that are applicable at the location where the appliance is being serviced have to be strictly obeyed. This applies also to any regulations about the work place itself.
8. All instructions concerning the handling of **MOS** - circuits have to be observed.

**Note:**  **SAFETY COMPONENT (HAS TO BE REPLACED WITH ORIGINAL PART ONLY)**



*Architects and engineers  
specifications*

## P 3000

**STEREO POWER AMPLIFIER  
PRECISION SERIES**

### TECHNICAL SPECIFICATIONS

at rated output power 8ohms, one channel  
driven, unless otherwise specified

#### Output Power (20Hz - 20kHz /THD≤ 0,1%)

into 8 Ohms	2 x 750 W
into 4 Ohms	2 x 1200 W
into 8 Ohms bridged	1 x 2400 W

#### Output Power (1kHz / THD = 1,0%)

into 8 Ohms	2 x 850 W
into 4 Ohms	2 x 1300 W
into 8 Ohms bridged	1 x 2800 W

#### Technical Specification

Frequency Response 10 Hz - 30 kHz /  
1dB

Max. Output Level 91V / RMS  
before Clipping, reference 1 KHz / THD =  
1%

Voltage Gain 26 dB (constant gain option)  
reference 1kHz

Input Sensitivity 0 dBu/0.775 V  
at rated output power 6 dBu/1.55 V  
reference 1 kHz

Maximum Input Level 21 dBu / 9 V

Input Impedance 20 kOhm  
active balanced

THD < 0.05%  
at rated output power  
MBW = 80 kHz, f = 1kHz

IMD - SMPTE < 0.01%  
60 Hz, 7 kHz, typical

IMD - SMPTE < 0.01%  
60 Hz, 7 kHz, at rated output power

Signal / Noise Ratio > 105 dB  
A-weighted, RMS to rated output level,  
Input sensitivity + 6dBu

Crosstalk < -70 dB  
at rated output power reference 1 kHz

Damping Factor > 300  
internal, 1kHz

DIM 30 < 0.01%

DIM 100 < 0.01%

Slew Rate internal > 40 V / ms

Power Consumption 1650 VA  
1/8 rated output power 4 Ohm

Dimensions (WxHxD) 483x132.5 x 426mm  
19 x 5.2 x 16.77 (in)

Weight 29 kg (63.9 lbs)

Optional Input Transformer 90176

### DESCRIPTION

EV power amplifiers of the PRECISION SERIES meet the stringent requirements of tough touring applications. They are protected against over-temperature, overload, shorted outputs, radio frequency interference and DC faults. The power transistors are protected from damage from reverse feeding of electrical energy by means of an additional special protective circuit. For the so-called soft-start, the power outputs are switched on delayed via relays. An inrush current limiter circuit prevents the mains fuses from being blown.

Maximum precision is also guaranteed as regards mechanical construction and finish. The robust steel chassis features remarkable torsion resistance and is specially designed to cope with the tough wear and tear associated with going on tour. Thermal stability is guaranteed by several low noise 3-stage fans which also means that they can be used inside the studio. Comparator circuits constantly compare the power amplifiers' input and output signal and control the limiters under non-linear operating conditions. They protect the loudspeakers from overload due to power stage clipping. The PRECISION SERIES power amplifiers feature excellent transmission properties. The power amplifier topology also makes for extremely low distortion rates. Distortion factor (THD), intermodulation distortion (SMPTE-IM) and transient intermodulation distortion (DIM 30 and DIM 100) are so low that they are only detectable with the most sophisticated measuring equipment. Generously dimensioned power supplies with low-leakage toroidal-core transformers provide considerable headroom well above the nominal ratings. V/I foldback limiter circuits were deliberately not included in the PRECISION SERIES power amplifiers to facilitate operation at complex loads up to a phase angle of +/- 90°. The inputs are electronically balanced on XLR connectors. (Isolation transformers can be retrofitted). Direct Outs in the form of XLR connectors (male), to loop the signal through, are also standard features.

The modes DUAL/Stereo or PARALLEL/Mono can be selected via the Input Routing Switch. Furthermore, the PRECISION SERIES power amplifiers can also be operated in "Mono Bridged" mode. The front panel accommodates the dB-calibrated input Gain controls which are designed as especially precise and safe-to-operate detented potentiometers. The LED display provides information about the power amplifiers' operating status. For the two channels, they demonstrate readiness to operate, whether there is a signal at the input or output, when the Limiters have been activated and whether one of the protective features has been triggered. The power outputs Channel A, Channel B and Bridged Out are available on Speakon connectors. The rear side of the unit accommodates the ON/OFF switches for the integrated Hi and Lo cut filters, a groundlift switch which separates the housing from the circuit ground thus helping to prevent hum loops and the operating modes selector to mono bridged operation. They also feature extremely quiet fans with front-to-rear airflow, facilitating operation in large and narrow amplifier racks.

## # SERVICE INFORMATION

**WARNING:** No user serviceable parts inside. Extremely hazardous voltages and currents may be encountered within the chassis. The servicing information contained within this document is only for use by Electro-Voice Authorized warranty repair stations and qualified service personnel. To avoid electric shock DO NOT perform any servicing other than that contained in the Operating instructions unless you are qualified to do so. Otherwise, refer all servicing to qualified service personnel.

**NOTICE:** Modification to Electro-Voice products is not recommended. Such modifications shall be at the sole expense of the person(s) or company responsible, and any damage resulting therefrom shall not be covered under warranty or otherwise.

### #.1 ELECTRO-VOICE UNIFORM LIMITED WARRANTY STATEMENT

Electro-Voice products are guaranteed against malfunction due to defects in materials or workmanship for a specified period, as noted in the individual product-line statement(s) below, or in the individual product data sheet or owner's manual, beginning with the date of original purchase. If such malfunction occurs during the specified period, the product will be repaired or replaced (at our option) without charge. The product will be returned to the customer prepaid. Exclusions and Limitations: The Limited Warranty does not apply to: (a) exterior finish or appearance; (b) certain specific items described in the individual product-line statement(s) below, or in the individual product data sheet or owner's manual; (c) malfunction resulting from use or operation of the product other than as specified in the product data sheet or owner's manual; (d) malfunction resulting from misuse or abuse of the product; or (e) malfunction occurring at any time after repairs have been made to the product by anyone other than Electro-Voice or any of its authorized service representatives. Obtaining Warranty Service: To obtain warranty service, a customer must deliver the product, prepaid, to Electro-Voice or any of its authorized service representatives together with proof of purchase of the product in the form of a bill of sale or receipted invoice. A list of authorized service representatives is available from

MARK IV AUDIO Deutschland  
Hirschberger Ring 45  
D - 94315 Straubing  
Postfach 0254 D- 94302 Straubing  
Tel.: ++49 (0)9421/7060  
Fax: ++94(0)9421/706265

MARK IV AUDIO (Europe) AG  
Keltenstr. 5  
CH-2563 Ipsach  
Tel.: ++41 (0)32-516833  
Fax: ++41 (0)32-511221.

Incidental and Consequential Damages Excluded: product repair or replacement and return to the customer are only remedies provided to the customer. Electro-Voice shall not be liable for any incidental or consequential damages including, without limitation, injury to persons or property or loss of use. Some states do not allow the exclusion or limitation of incidental or consequential damages so the above limitation or exclusion may not apply to you. Other Rights: This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

Electro-Voice Electronics are guaranteed against malfunction due to defects in materials or workmanship for a period of three (3) years from the date of original purchase. Additional details are included in the Uniform Limited Warranty statement.

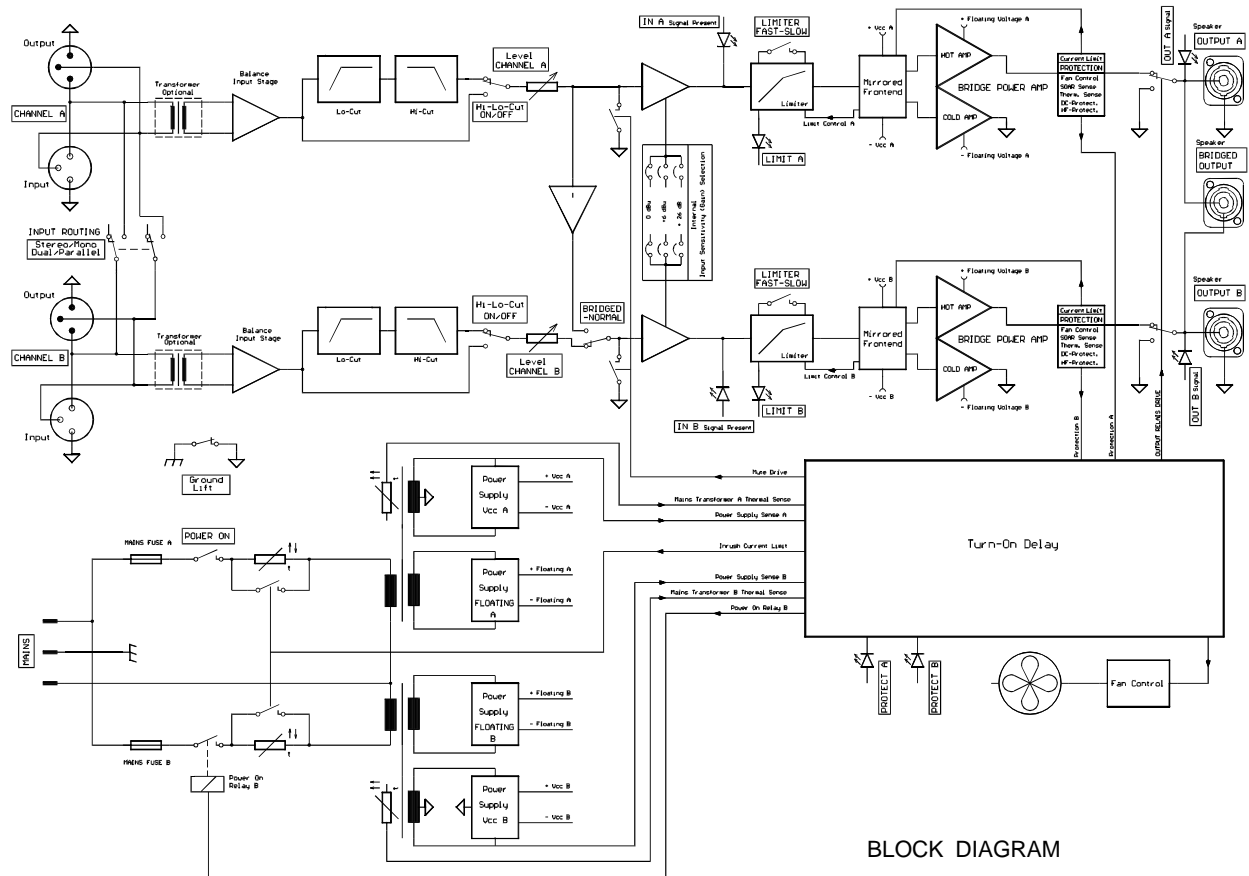
## #. 2 TECHNICAL ASSISTANCE

For applications assistance or other technical information, contact the Applications Engineer. You can call or write:

MARK IV AUDIO Deutschland  
Hirschberger Ring 45  
D - 94315 Straubing  
Postfach 0254 D- 94302 Straubing  
Tel.: ++49 (0)9421-7060  
Fax: ++49 (0)9421-706265

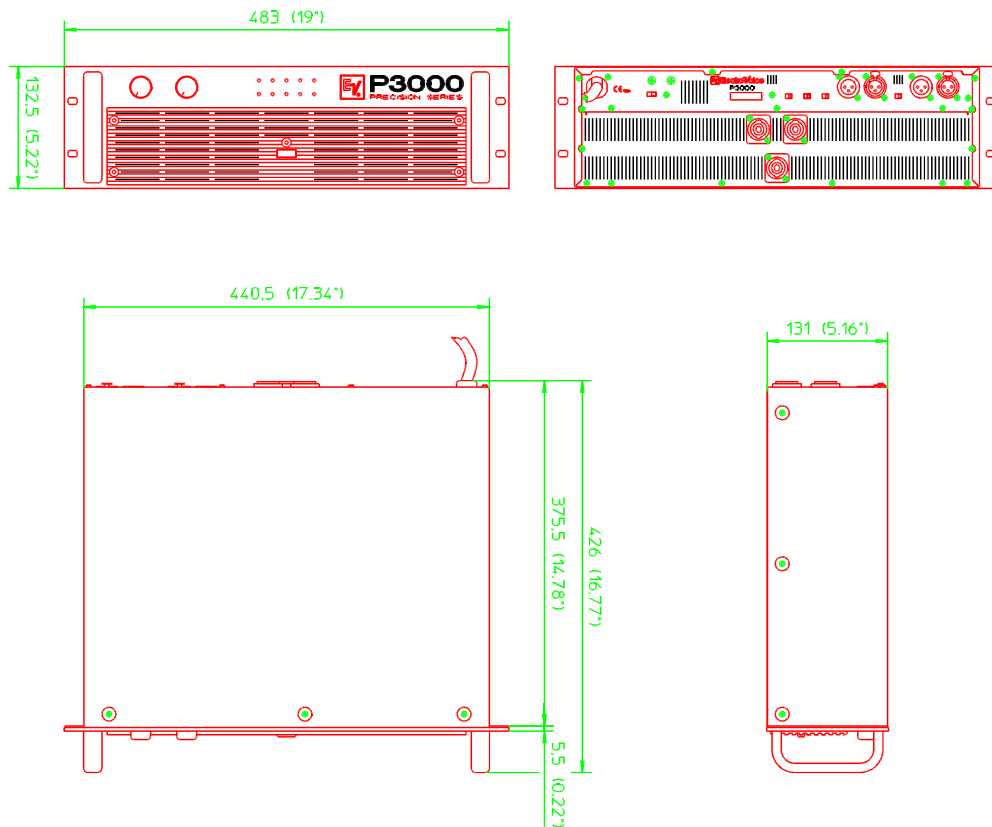
MARK IV AUDIO (Europe) AG  
Keltenstr. 5  
CH-2563 Ipsach  
Switzerland  
Tel.: ++41 (0)32-516833  
Fax: ++41 (0)32-511221

Specifications subject to change without notice



BLOCK DIAGRAM

## DIMENSIONS



## SPECIFICATIONS: P3000 entire unit

Measuring Standard IEC 268 part 3IHF-A  
0 dBu = 775 mV (RMS)

### A. POWER SUPPLY

- |   |                 |
|---|-----------------|
| 1. voltage supply   | AC              |
| 2. nominal supply voltage, depending on the model:          | 120V/230V/240V  |
| 3. nominal mains frequency:                                 | 50 - 60 Hz      |
| 4. nominal power consumption (2x1200W/4Ω):                  | 4100 W          |
| 5. nominal power consumption (2x120W/4Ω):                   | 1500 W          |
| 6. power consumption at 1/8 of the nominal power (150W/4Ω): | 1650 W          |
| 7. deviation range of the power supply:                     | -10 % ... +10 % |

### B. INPUT PROPERTIES

- level control fully open

Input	Nominal input level (nominal source EMK) select jumper internally			Nominal output power	Nominal load impedance
	0 dBu	+6 dBu	+26 dB		
Channel A/B	+1 dBu	+7 dBu	+14 dBu	750 W	8 Ω
Channel A/B	0 dBu	+6 dBu	+13 dBu	1200 W	4 Ω
Channel A/B	-2 dBu	+4 dBu	+11 dBu	1500 W	2 Ω
Channel BRIDGED	0 dBu	+6 dBu	+13 dBu	2400 W	8 Ω
Channel BRIDGED	-2 dBu	+4 dBu	+11 dBu	3000 W	4 Ω

Maximum input level: +21 dBu

### C. OUTPUT PROPERTIES

- nominal output power with THD = 0.1 %, 20 Hz ... 20 kHz, MBW = 80 kHz
- maximum output power at 1 kHz with THD = 1 %, MBW = 80 kHz

Output connector	Nominal load impedance	Nominal output power Dual Mode	Maximum output power Dual Mode, THD=1 %	Single channel output power) <sup>1</sup>	Nominal output voltage
SPEAKER A/B	8 Ω	750 W	850 W	950 W	77.5 V
SPEAKER A/B	4 Ω	1200 W	1300 W	1700 W	69.3 V
SPEAKER A/B	2 Ω	1500 W	1800 W	2000 W	54.8 V
SPEAKER BRIDGED	8 Ω	2400 W	2600 W	3400 W	138.6 V

)<sup>1</sup> measured with Dynamic Headroom Test-Signal according to IHF-A: 1 kHz Burst, 20ms ON, 480 ms OFF

### D. Idling output voltage

Output connector	SPEAKER A/B	SPEAKER BRIDGED
Max. idling voltage	91 V (RMS)	182 V (RMS)

### E. Stabilizing

with nominal load impedance, Dual Mode, standard output voltage

	8 Ω	4 Ω
Stabilizing	0.325 %	0.686 %
Stabilizing level	0.028 dB	0.059 dB

**F. FREQUENCY RESPONSE**

- -3 dB level drop, referenced to the level at the standard frequency of 1 kHz
- the power amplifier's border frequencies are at 13 Hz and 40 kHz respectively, referenced to -1 dB

**Amplification frequency response**

Input	Output	f (u)	f (o)	Remarks
INPUT A/B	SPEAKER A/B	<10 Hz	75 kHz	HI-LO-CUT Off
INPUT A/B	SPEAKER A/B	20 Hz	35 kHz	HI-LO-CUT On

**Distortion-limited transmission range (performance bandwidth)**

- THD = 0.1 %, 1/2 nominal power at 4 ohms, MBW = 500 kHz

Input	Output	f (u)	f (o)	Remarks
INPUT A/B	SPEAKER A/B	<10 Hz	48 kHz	HI-LO-CUT Off

**G. PHASE RESPONSE**

±30° (20 Hz - 20 kHz, HI/LO-CUT off)

**H. INPUT IMPEDANCE**

20 kΩ (20 Hz ... 20 kHz)

**I. AMPLITUDE NON-LINEARITY**

	Amplitude non-linearity	Remarks
<b>nominal overall distortion</b>	<0.05 %	MBW = 80 kHz, f = 1 kHz
<b>standard overall distortion</b>	<0.02 %	MBW = 80 kHz, f = 1 kHz
<b>IMD-SMPTE</b>	<0.01 %	60 Hz, 7 kHz
<b>DIM 30</b>	<0.01 %	3.15 kHz, 15 kHz
<b>DIM 100</b>	<0.01 %	3.15 kHz, 15 kHz

**J. CROSSTALK - at f = 1 kHz**

less than

&lt;-70 dB

**K. DAMPING FACTOR - internal**

at f = 1 kHz

&gt;300

at f = 100 Hz

&gt;400

**L. SLEW RATE - internal**

&gt;40 V/μs

**M. NOISE INTERFERENCE**

- U(F) = external voltage un-weighted with B = 22 Hz ... 22 kHz, effective value (IEC 268-1)
- U(G) = noise voltage, frequency-weighting filter according to CCIR-468-3, quasi peak weighted (IEC 268-1)
- U(A) = interference voltage A-weighted, dB(A), effective value (IEC 268-1)
- Signal-to-noise ratio referenced to a nominal output voltage of 69.3 V (1200W/4ohms)
- HI/LO-CUT ON, GND LIFT = GROUNDED

	Interference output voltage	S/N ratio	Equivalent input interference voltage	Equivalent input interference level	Residual interference output voltage
<b>U(F)</b>	< 615μV	> 101 dB	< 6.9μV	< -101 dBu	< 435μV
<b>U(G)</b>	< 3.65 mV	> 85.5 dB	< 41μV	< -85.5 dBu	< 1.55mV
<b>U(A)</b> <b>i.s.=0dBu</b>	< 490μV	> 103 dB	< 5.5μV	< -103 dBu	< 345μV
<b>U(A)</b> <b>i.s.=6dBu</b>	< 245μV	> 109 dB	< 5.5μV	< -103 dBu	< 170μV
<b>U(A)</b> <b>Gain=26dB</b>	< 110μV	> 116 dB	< 5.5μV	< -103 dBu	< 90μV

The S/N ratio (A-weighted) at max. output voltage at 4Ω is &gt;103 dB.

**N. DIMENSIONS**

Height : 132.5 mm (3 HU)  
 Width : 483 mm  
 Depth : 426 mm

**O. WEIGHT** m = 29 kg

**P. EXTENSIONS** optionally available 2 x input transformer NRS 90176

## MEASURED SPECIFICATIONS: P3000 entire unit

Measurement conditions, unless differently specified:

- tolerance of measured values:  $\Delta X = \pm 1.5 \text{ dB}$
- measuring frequency:  $f = 1 \text{ kHz}$
- stated levels refer to:  $U = 775 \text{ mV (0 dBu)}$
- level controls set to their clockwise limits
- pin assignment of the XLR-type connectors: PIN 1: GROUND  
PIN 2: + INPUT  
PIN 3: - INPUT
- source resistance for the induction via the XLR-type connector:  $R(Q) = 50 \Omega$
- MAIN-PCB numbers relate to the models as follows:

Type of unit	MAIN - PCB
P3000 / 120 V	86211
P3000 / 230 V	86207
P3000 / 240 V	86207

- MAIN-PCB and POWER-AMP-PCB are provided with service connectors.  
The Pin-assignment of these service connectors is as follows:

84157		86207 86211		86207 86211	
CNSERV	Assignment	CNASERV	Assignment	CNBSERV	Assignment
1	Kodierung	1	Limiter A&B OFF	1	n.c.
2	BIAS Hot - Side +	2	Service Limiter A	2	Service Limiter B
3	BIAS Hot - Side -	3	-15V	3	- 15 V
4	Hot - Out	4	GND	4	Fan voltage
5	BIAS Cold - Side +	5	+ 15 V	5	Service Fan Switch
6	BIAS Cold - Side -	6	heat sink temperature A&B	6	Service Fan Switch
7	GND	7	+ U1 front-end A	7	+ U1 front-end B
8	floating voltage +	8	- U1 front-end A	8	- U1 front-end B
9	floating voltage -	9	coding	9	coding

- Operating voltage:**  
depending on the model:  $U(B) = 120V/ 230V/ 240V$   
 $50\text{Hz} \dots 60\text{Hz}$
- Deviation limit of the operation voltage:**  
 $\pm 10\%$
- Power consumption (both channels driven):**
  - at idling condition  $P(B) = 180 - 260 \text{ W}$
  - at standard operation (120W/4Ω)  $P(B) = 1500 \text{ W}$
  - at nominal condition (1200W/4Ω)  $P(B) = 4100 \text{ W}$
  - at 1/8 of the nominal power (150W/4Ω)  $P(B) = 1650 \text{ W}$

#### 4. Settings / Adjustments

##### 4.1. IDLING CURRENT ADJUSTMENT

Connect the DC-volt meter at the BIAS measuring points (refer to table) and adjust the idling current via the trim potentiometer (on the printed board assembly 84157). Adjust both channels of the power amplifier A&B.

Setting	Measuring point 1	Measuring point 2	U (DC)	BIAS trimmer
BIAS HOT A	CNSERV 2	CNSERV 3	15 mV	VR1
BIAS COLD A	CNSERV 5	CNSERV 6	15 mV	VR2
BIAS HOT B	CNSERV 2	CNSERV 3	15 mV	VR1
BIAS COLD B	CNSERV 5	CNSERV 6	15 mV	VR2



Adjusting the idling current has to be performed at normal room temperature. In case the power amplifier had previously been operated, it has to be given several hours to cool off.

#### 4.2. FLOATING - SYMMETRY

Immediately after setting the idle current, a symmetry check of the floating voltage has to be performed. The power amplifier has to be operated in idling condition. DC-volt meters have to be connected between the measuring points 1 - 2, and 2 - 3. Using the FLOATING-trim potentiometers that are located on the printed board assembly 86207/86211, the floating voltage is set symmetric to the ground potential. Not the actual voltage value is relevant but the symmetry of the + floating voltage and the - floating voltage to the ground potential.

Setting	Measuring point 1	Measuring point 2	Measuring point 3	U(DC)	Trim potentiometer
FLOTING SYMMETRIE A	CNSERV 8 AMP-A	CNSERV 7 AMP-A	CNSERV 9 AMP-A	ca. $\pm 67V$	VR102
FLOTING SYMMETRIE B	CNSERV 8 AMP-B	CNSERV 7 AMP-B	CNSERV 9 AMP-B	ca. $\pm 67V$	VR202

#### 4.3. VCA - OFFSET:

Rhythmically open and short-circuit the service switch S101 respectively S201 which are located on the printed board assembly 86207/86211. Use VR101 respectively VR201 to adjust the power amplifier outputs to their minimum offset (with oscilloscope to minimal peak value or to the audible minimal volume of the interfering pulse).

Instead of using the service switch, it is also possible to employ the service connector with short-circuited pins CNASERV 2 and CNASERV 3 for the power amplifier A, or short-circuited pins CNBSERV 2 and CNBSERV 3 for the power amplifier B.

#### 4.4. ADJUSTING THE METER INSTRUMENTS

- level control set all the way to its clockwise position
- $f = 1 \text{ kHz}$

Feed the signal to the inputs A or B so that the IN-LED just lights (U(E) approx. -34 dBu). Adjust the OUT-LED to approximately the same brightness, using the trim potentiometers VR600 respectively VR601 which are located on the printed board assembly 86207/86211.

#### 4.5. ADJUSTING THE FANS

Close the service switch S001 on the printed board assembly 86207/86211 or insert a bridge between CNBSERV 5 and CNBSERV 6. Adjust the voltage at CNBSERV 4 to 27.5 V (DC), using the VR700. Switch the service switch back to normal or detach the bridge.

#### 4.6. GAIN SELECTION:

The power amplifier's input sensitivity can be set using the jumpers J11 ... J13 or J21 ... J23 which are located on the printed board assembly 86207/86211. The stated values for the input sensitivity or gain are always referenced to the level control being set to its fully clockwise position.

CHANNEL A	CHANNEL B	SELECTION
J11	J21	Input Sensitivity 0 dBu
J12	J22	Input Sensitivity +6 dBu
J13	J23	Gain +26 dB

When shipped, the input sensitivity is set to a value of 0 dBu.

### 5. Function test

#### 5.1. OUTPUT - offset voltage

DC-voltage measuring at the loudspeaker outputs CHANNEL A/B with  $U(DC) \leq \pm 10 \text{ mV}$ .

#### 5.2 LIMITER

##### 5.2.1. Attenuation test

Both channels separately driven with a 1 kHz signal up to  $U(A) = 89 \text{ V}$  (without load). Increase the input voltage by 10 dB. The LIMITER LED lights and the output voltage ascends by approx. 0.5 dB to 91 volts, with slight

clipping. The distortion rate of the limited signal is at THD = 1 % ... 2 %. Increasing the input signal up to a value of +21 dBu should not result in remarkably higher clipping.

#### 5.2.2. LIMITER FAST/SLOW-Test

- tests have to be performed for both channels of the power amplifier individually: testing has to be performed without load resistors connected.
- 1.) Drive the power amplifier with a burst signal ( $f = 1 \text{ kHz}$ , 1-10 cycles, rate:  $\approx 0.5 \text{ sec.}$ ) and  $U(E) = +10 \text{ dB}$  above the nominal input voltage.
- 2.) When monitoring the output signal via oscilloscope, continuously press the FAST/SLOW-switch.
- SLOW: after 2-3 signal periods, the limiter controlled the major distortion down to a minor residual distortion (THD = 1 % ... 2 %).
- FAST: already after 1-2 signal periods, the limiter controlled the major distortion down to a minor residual distortion (THD = 1 % ... 2 %).

**When shipped, the appliance is set to SLOW!**

#### 5.3. POWER-ON DELAY:

Approximately 2 seconds after switching the power on, the relays E1 and E3 which are located on the printed board assembly 86207/86211 and the relay E1 on the printed board assembly 84157 (channel A/B) pull simultaneously.

#### 5.4. FAN CONTROL:

Upon powering-on the power amplifier, the fans will run for approximately 2 seconds and stop when the power amplifier has re-gained its "normal" temperature. In idling condition (power-on, no signal present) the fans are switched between the SLOW and OFF mode, depending on the heat sink's temperature. When the switch S001 on the printed board assembly 86207/86211 is closed, the fans will run with FAST speed. When shipped, the S001 switch is set to "OPEN"!

Connecting a variable resistor (approx.  $50 \text{ k}\Omega$ ) between CNBSERV 5 and CNBSERV 6 allows for testing the functioning of the fans. During operation, CNASERV 6 can be utilized to monitor the temperature of the heat sink.

FAN SPEED	U(DC) CNASERV 6	U(DC) CNBSERV 4	Remarks
Stufe 0	< 6.5 V	0 V	Fans are not running
Stufe 1	6.5 V ... 7.5 V	12.5 V	
Stufe 2	7.5 V ... 9 V	19.5 V	
Stufe 3	9 V ... 12.5 V	27.5 V	
Protect	> 12.5 V	27.5 V	Power amplifier is switched off

#### 5.5. SOAR-PROTECTION TEST:

Channels separately driven up to  $69.3 \text{ V}$  on  $4 \Omega$ . Parallel connect a  $0.1 \Omega$  resistor. The protection circuit reacts and tries continuously to re-start! The protect-LED blinks in the same rhythm.

#### 5.6. SHORT-CIRCUIT CURRENT-LIMITING TEST

testing has to be performed for both channels of the power amplifier individually:

- drive the channel with a burst signal ( $f = 1 \text{ kHz}$ , 1-10 cycles, rate  $\approx 1 \text{ sec.}$ ) without load, with  $U(A) = 89 \text{ V}$
- connect a load resistor of  $1 \Omega$ .
- the short-circuit current-limiter limits the output voltage at the load resistor symmetrically (monitor via oscilloscope!) to a peak voltage value of  $45 \text{ V}$  ( approx.  $45 \text{ A}$ ).

#### 5.7. DC-VOLTAGE-PROTECTION TEST

- HI/LO-Cut off, Limiter set to SLOW
- testing has to be performed for both channels of the power amplifier individually:
- drive the power amplifier with a test signal ( $f = 7 \text{ Hz}$ ) and without load resistor connected.
- at an input voltage of approx.  $3 \text{ V}_{\text{peak}}$  the protection circuit reacts and tries continuously to re-start! The protect-LED blinks with the same frequency.
- Repeat the test with  $f = 14 \text{ Hz}$ ; the power amplifier should not switch off.

#### 5.8. HF-PROTECTION TEST

**Caution:** it is mandatory to drive the power amplifier without load resistors connected. Set the fan service switch to ON and the HI/LO-Cut to OFF. Switch off the limiter via S102 or by disconnecting the bridge between CNASERV 1 and CNASERV 3. Drive the power amplifier with a with  $7 \text{ V}_{\text{rms}}$  and a sine burst of  $f = 60 \text{ kHz}$

(100 ms ON, 900 ms OFF), applied to each channel at a time. The protection circuit has to react. The power amplifier tries to re-start continuously while the PROTECT LED blinks with the same frequency. Repeat the test with **f = 30 kHz** and the limiter set to ON; the power amplifier should not switch off.

#### 6. Level CHANNEL A&B:

- set the level control to its fully clockwise position.
- set the INPUT ROUTING switch to: DUAL / STEREO.
- HI-LOW-CUT switch is ON (as factory pre-set!).
- BRIDGED MODE: NORMAL
- LIMITER: SLOW (as factory pre-set!)
- THD < 0.1 %

##### 6.1. NOMINAL LEVEL

Input	U(E)	Measuring point	U(A)	Load resistor	Jumper on 86207/86211
CH. A/B	0 dBu	SPEAKER A/B	69.3 V	4 Ohm	select J11,J21
CH. A/B	+ 6 dBu	SPEAKER A/B	69.3 V	4 Ohm	select J12,J22
CH. A/B	+ 13 dBu	SPEAKER A/B	69.3 V	4 Ohm	select J13,J23
CH. A/B	+1 dBu	SPEAKER A/B	77.5 V	8 Ohm	select J11,J21
CH. A/B	-2 dBu	SPEAKER A/B	54.8 V	2 Ohm	select J11,J21

##### 6.2. MAXIMUM INPUT LEVEL:

U(E) = +21 dBu (9 Vrms)

#### 7. INPUT-ROUTING switch

- DUAL / STEREO (as factory pre-set!)
- channel A and B have to be driven separately.
- PARALLEL / MONO
- channel A and B are paralleled at the input. Both channels can be driven using a common signal source.

#### 8. Level BRIDGED MODE

- set the level control all the way to its fully clockwise position.
- HI-LOW-CUT switch is ON (as factory pre-set!).
- BRIDGED MODE: BRIDGED
- LIMITER: SLOW (as factory pre-set!)
- THD < 0.1 %

**BRIDGED:** Double the output voltage is presented at the BRIDGED OUT connector. It is mandatory to use the CHANNEL A input connector. The CHANNEL B input connector is without function.

Input	U(E)	Measuring point	U(A)	Load resistor	Remarks
CH. A	0 dBu	BRIDGED OUT	109.5 V	4 ohms	select J11,J21
CH. A	0 dBu	BRIDGED OUT	138.5 V	8 ohms	select J11,J21

#### 9. GROUND LIFT switch

Test the functioning of the switch using an ohm-meter:

The circuit ground (at the input or the output connector) is measured versus the common ground of the enclosure (contact at the ground terminal, located on the rear panel - or common ground of the mains cord).

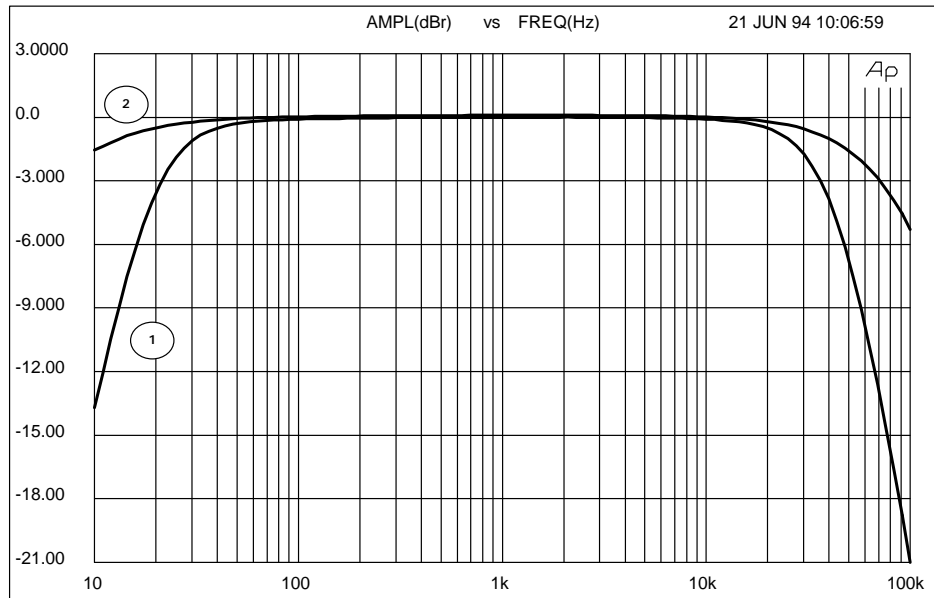
#### 10. Amplitude - Non-Linearity

- testing with load resistor 8 ohms, dual mode
- MDW = 80 kHz
- input sensitivity = 0 dBu
- power amplifier's condition as shipped from the factory

Measurement	at nominal voltage U(A) = 63.2 V	at nominal voltage U(A) = 20 V	Remarks
THD+N ( f = 1 kHz )	< 0.005 %	< 0.005 %	
THD+N ( f = 10 kHz )	< 0.02 %	< 0.01 %	
IMD-SMPTE	< 0.01 %	< 0.01 %	60 Hz, 7 kHz
DIM 30	< 0.007 %	< 0.005 %	3.15 kHz, 15 kHz

<b>DIM 100</b>	< 0.009 %	< 0.005 %	3.15 kHz, 15 kHz
----------------	-----------	-----------	------------------

## 11. Frequency Response



**Plot 1: HI/LO-Cut on      Plot 2: HI/LO-Cut off**

## 12. Noise Interference

- U(F) = external voltage un-weighted with B = 22 Hz ... 22 kHz, effective value (IEC 268-1)
- U(G) = noise voltage, frequency-weighting filter according to CCIR-468-3, quasi peak weighted (IEC 268-1)
- U(A) = interference voltage A-weighted, dB(A), effective value (IEC 268-1)
- Signal-to-noise ratio referenced to a nominal output voltage of 69.3 V (1200W/4ohms)
- HI/LO-CUT ON, GND LIFT = GROUNDED, input sensitivity = 0 dBu

	Interference output voltage	S/N ratio	Equivalent input interference voltage	Equivalent input interference level	Residual interference output voltage
<b>U(F)</b>	< 615µV	> 101 dB	< 6.9µV	< -101 dBu	< 435µV
<b>U(G)</b>	< 3.65mV	> 85.5 dB	< 41µV	< -85.5 dBu	< 1.55mV
<b>U(A)</b>	< 490µV	> 103 dB	< 5.5µV	< -103 dBu	< 345µV

## 13. Crosstalk

- at f = 1 kHz < -70 dB

## 14. DAMPING FACTOR - internal

>300

- internal with f = 1 kHz

## 15. SLEW RATE

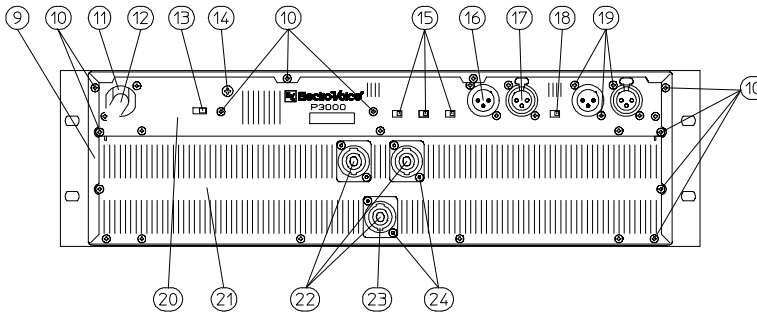
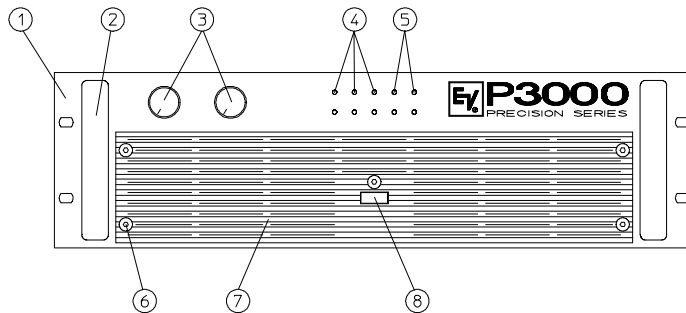
>40 V/µs

- internal

## 16. Factory Defaults

- **Caution:** make sure to ckeck these settings:

Function	Location	Control	State	Setting
Input Sensitivity L & P	86207/86211	Jumper J11/J21	plugged in	0 dBu
Limiter Off Switch	86207/86211	S102	open	Limiter on
Limiter Service	86207/86211	S101 / S201	open	
Fan Service	86207/86211	S001	open	
Input Routing	rear panel	slide switch	Dual/Stereo	Dual Mode
HI/LO-Cut Filter	rear panel	slide switch	on	Filter on
Bridged Mode	rear panel	slide switch	Normal	Dual Mode
Limiter	rear panel	slide switch	Slow	Limiter slow
CIR.GND to Chassis	rear panel	slide switch	Grounded	



POS.	DESCRIPTION	PART.NO.
1	FRONT PANEL	351 141
2	HANDLE 109MM	351 214
	SCREW M5x12	349 615
3	KNOB Ø22	347 348
	POTENTIOMETER	348 430
	NUT M7x0.75	347 249
4	LED GREEN Ø3mm	336 398
5	LED RED Ø3mm	336 399
6	SCREW M5x12	349 532
7	GRILLE	351 328
8	KNOB	341 382
	MAINS SWITCH	346 720
	SCREW M3x6	334 989
9	COVER	351 359
10	SCREW M3x6	334 989
11	STRAIN RELIEF	349 768
12	POWER CORD	353 914
13	SLIDE SWITCH	338 886
14	TAPPING SCREW 3.9x9.5	348 583
15	SWITCH	348 583
16	XLR CONNECTOR (MALE)	346 792
17	XLR CONNECTOR (FEMALE)	346 791
18	SWITCH	348 572
19	SCREW PT-KB 30x8	344 229
20	REAR PANEL (TOP)	351 142
21	REAR PANEL (BOTTOM)	351 143
22	SPEAKON CONNECTOR	341 343
23	HOLE, PLUG Ø18.5MM	341 343
24	RIVET	335 632

Ohne unsere Genehmigung darf diese Zeichnung weder vervielfältigt, noch dritten Personen oder anderen Firmen zugänglich gemacht werden (siehe einschlägige Gesetze)

2000	Tag	Name		
Isars	03.11.	O. Kaiser		
Gepr.	03.11.	Flexeder		
Stand	03.11.	O. Kaiser		
EM AUDIO			SERVICE-INFORMATION	
DYNACORD			359 780	
			P 3000 US	
Ausgabe	Änderung	Tag	Name	Maßstab
				1:2,5
				3-

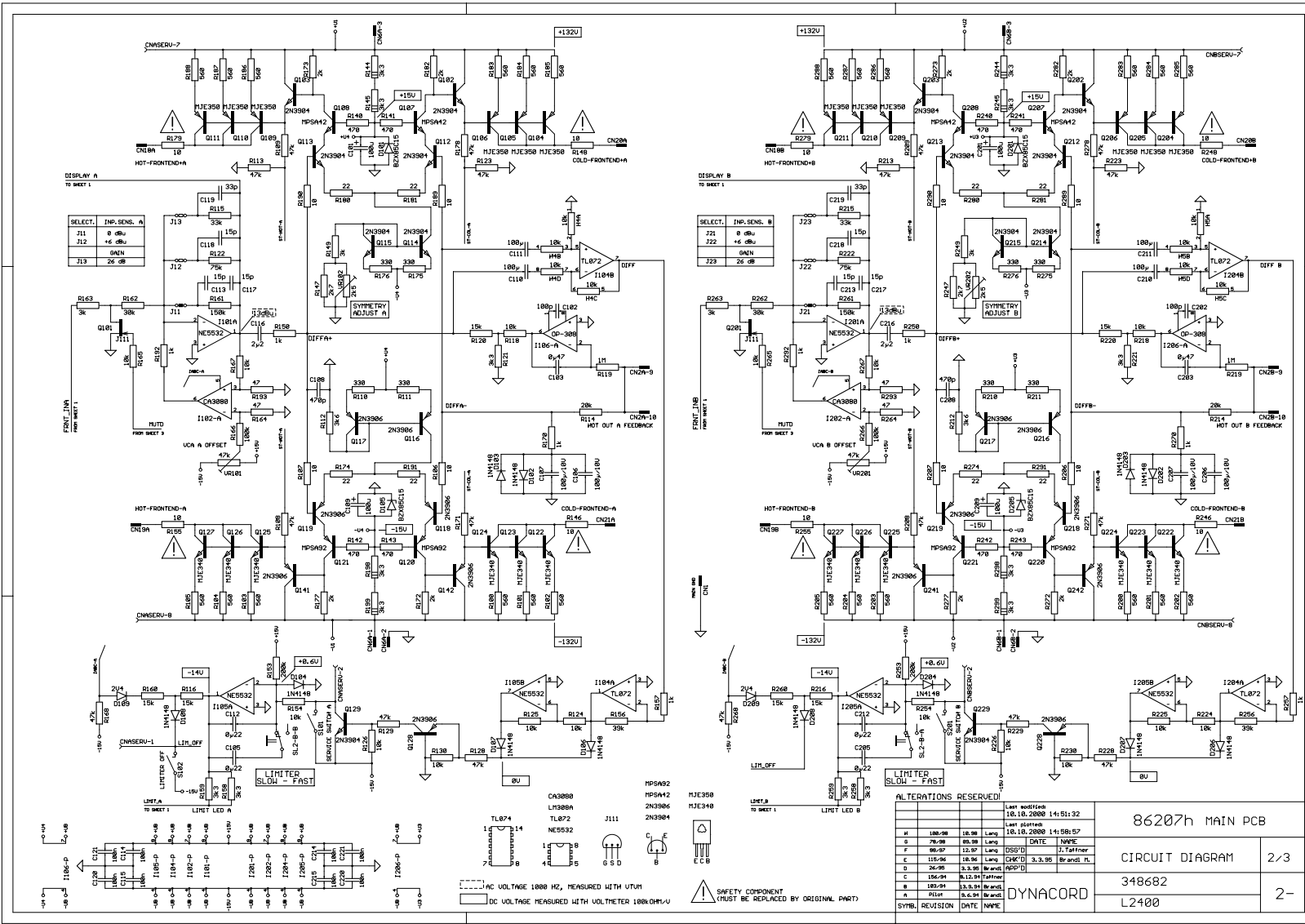


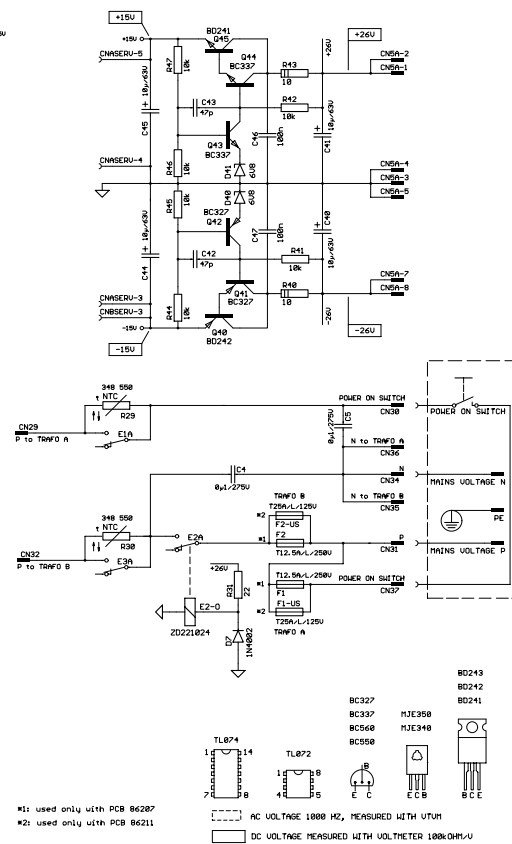












☐ AC VOLTAGE 1000 HZ, MEASURED WITH UTUM  
☐ DC VOLTAGE MEASURED WITH VOLTMETER 100kOHM/V

## Ersatzteilliste - Bill of Materials

170018 P 3000 US 120V POWER-AMP	
Pos. Nr.	Best. Nr.
Ref. No.	Part No.
Bezeichnung	Description

Zubehör	Accessories & packing material
---------	--------------------------------

341341	STECKER-SPEAKON 4POL	speakon-connector 4-pole
351212	OWNER'S MANUAL P 3000	owner's manual P3000
349832	R-HAL.LI.L24/1600 RACKHALTE	rack ear left
349833	R-HAL.RE.L24/1600 RACKHALTE	rack ear right
335589	FUSS-GUMMI SJ 5009 SW	rubber foot
332652	KRT. L 2400 612X570X270	carton outer
347526	KRT. IN L 2400 502X465X155	carton inner
303715	STYROPOR-ECK 150X150X150X50	styrofoam #2
348018	SCHUTZFOLIE 1200X800X0,05	poly bag
327495	STYROPOR-ECK 150X150X100X50	styrofoam #1
345438	SCHUTZHÜLLE 165X345X0,05	plastic bag
349988	FALTEINLAGE 750X280	carton filler
349989	FALTEINLAGE 1864X150	carton filler

Mechanische Teile	Cabinet material
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B0010	341343	BUCHSE-SPEAKON-VIERECK 4POL	speaker socket 4-pole
S0010	346720	SCHALTER-NETZ ESB-99888V	power switch
	347348	DK 22 SW/GA C 6FL	rotary knob black
	341382	KNOPF-TASTE 20X8 SW 3.3	push button black
	349528	HUTSTOPFEN H7 18,5MM	plug, hole
	353914	KABEL-NETZ BEARB.AUS 348951	mains cable USA
	352268	STECKER-NETZ 30A UL/CSA	mains connector 30amp US
	349846	KABEL-KONFEKT 8POL 0.680M	ribbon cable assy 8way
	349847	KABEL-KONFEKT 10POL 0.800M	ribbon cable assy 10way
	351153	KABEL-KONFEKT 10POL 0.400M	ribbon cable assy 10way
	351214	GRIF 109 MM GRAU 3HE	handle 109 mm
	348415	LÜFTER TYP FBA08A24H DC	fan dc 24V
	351141	FB.P3000 BED	front panel p3000
	351142	RW.OT.P3000 US 120V BED	rear panel top P3000
	351143	RW.UT.P3000 BED	rear panel bottom P3000
	351359	DEC.3HE-EV-LACK/P2-3000 LAC	top cover
	348819	NT-RG.A.P3000 US 120V K.A	transformer power 120V (A)
	348805	WI-SO PTC K155 100GRAD	safety component PTC
	348341	FEDERLEISTE 3POL CE100-	connector female 3-pole
	348820	NT-RG.B.P3000 US 120V K.B	transformer power 120V (B)
	348805	WI-SO PTC K155 100GRAD	safety component PTC
	348341	FEDERLEISTE 3POL CE100-	connector female 3-pole
	348341	FEDERLEISTE 3POL CE100-	connector female 3-pole
	344861	FEDERLEISTE 3POL CE156-	connector female 3-pole

841578 PCB+A#L2400/P3000	PCB assy 84157 power amp
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CNSER	306446	FEDERLEISTE 2,5MM O 9POL	connector female 9-pole
CN001	330269	FL.STECKER 6.3/0.8	connector 6.3mm faston
CN002	344975	MESSERLST. 10POL	connector male 10-pin
CN003	330269	FL.STECKER 6.3/0.8	connector 6.3mm faston

170018 P 3000 US 120V POWER-AMP				
Pos. Nr.	Best. Nr.			
Ref. No.	Part No.	Bezeichnung	Description	
CN004	330269	FL.STECKER 6.3/0.8	connector 6.3mm faston	
CN006	330269	FL.STECKER 6.3/0.8	connector 6.3mm faston	
CN007	330269	FL.STECKER 6.3/0.8	connector 6.3mm faston	
CN018	343516	FL.STECKER 4.8/0.5	connector 4.8mm faston	
CN019	343516	FL.STECKER 4.8/0.5	connector 4.8mm faston	
CN020	343516	FL.STECKER 4.8/0.5	connector 4.8mm faston	
CN021	343516	FL.STECKER 4.8/0.5	connector 4.8mm faston	
C0001	348846	KO-KER 680.0PF 500V 5%	cap ceramic 680pF	
C0002	348846	KO-KER 680.0PF 500V 5%	cap ceramic 680pF	
C0003	348846	KO-KER 680.0PF 500V 5%	cap ceramic 680pF	
C0004	348846	KO-KER 680.0PF 500V 5%	cap ceramic 680pF	
C0005	335787	KO-KER 15.0PF 100V 2%	cap ceramic 15pF	
C0006	301458	KO-EL 2.200MF 63V	cap electrolytic 2.2uF/63V	
C0007	344934	KO-SO 0.22MF 275V 20% K	safety component 220nF/275V	
C0008	301474	KO-EL 22.000MF 16V BIP	cap bip electr. 22uF/16V	
C0009	335787	KO-KER 15.0PF 100V 2%	cap ceramic 15pF	
C0011	348846	KO-KER 680.0PF 500V 5%	cap ceramic 680pF	
C0012	348846	KO-KER 680.0PF 500V 5%	cap ceramic 680pF	
C0013	348846	KO-KER 680.0PF 500V 5%	cap ceramic 680pF	
C0014	348846	KO-KER 680.0PF 500V 5%	cap ceramic 680pF	
C0015	341714	KO-SO 0.10MF 275V 20% K	safety cap 100nF/275V	
D0001	301254	DIODE 1N 4148 AXIAL	diode 1N 4148	
D0002	307916	DIODZ BZX 55C 7V5 0.50W	diode zener 7V5	
D0003	301254	DIODE 1N 4148 AXIAL	diode 1N 4148	
D0004	307916	DIODZ BZX 55C 7V5 0.50W	diode zener 7V5	
D0005	301254	DIODE 1N 4148 AXIAL	diode 1N 4148	
D0006	304360	DIODE 1N 4007 GEGURTET	diode 1N 4002	
D0007	304360	DIODE 1N 4007 GEGURTET	diode 1N 4002	
D0008	304360	DIODE 1N 4007 GEGURTET	diode 1N 4002	
D0009	304360	DIODE 1N 4007 GEGURTET	diode 1N 4002	
D0010	328769	DIODE MR 752	diode MR 752	
D0011	328769	DIODE MR 752	diode MR 752	
D0013	301254	DIODE 1N 4148 AXIAL	diode 1N 4148	
D0014	301254	DIODE 1N 4148 AXIAL	diode 1N 4148	
D0015	301254	DIODE 1N 4148 AXIAL	diode 1N 4148	
D0016	301254	DIODE 1N 4148 AXIAL	diode 1N 4148	
E0001	348634	RELAIS 832A-1C-F-C-B 24V DC	relay 24v	
L0001	348592	FILTERSP. 2.50UH/0.004OHM	coil 2.5uH	
Q0001	348422	TRANS MPSA 42	transistor MPSA 42	
Q0002	348422	TRANS MPSA 42	transistor MPSA 42	
Q0003	331657	TRANS MJ 15022	transistor MJ 15022	
Q0004	331657	TRANS MJ 15022	transistor MJ 15022	
Q0005	331657	TRANS MJ 15022	transistor MJ 15022	
Q0006	331657	TRANS MJ 15022	transistor MJ 15022	
Q0007	331657	TRANS MJ 15022	transistor MJ 15022	
Q0008	331657	TRANS MJ 15022	transistor MJ 15022	
Q0009	351981	TRANS MJL 3281 A	transistor MJL 3281 A	
Q0010	348409	TRANS 2SC 4793	transistor 2SC 4793	
Q0011	348409	TRANS 2SC 4793	transistor 2SC 4793	
Q0012	331657	TRANS MJ 15022	transistor MJ 15022	
Q0013	331657	TRANS MJ 15022	transistor MJ 15022	
Q0014	331657	TRANS MJ 15022	transistor MJ 15022	

170018 P 3000 US 120V POWER-AMP			
Pos. Nr.	Best. Nr.		
Ref. No.	Part No.	Bezeichnung	Description
Q0015	331657	TRANS MJ 15022	transistor MJ 15022
Q0016	331657	TRANS MJ 15022	transistor MJ 15022
Q0017	331657	TRANS MJ 15022	transistor MJ 15022
Q0018	351981	TRANS MJL 3281 A	transistor MJL 3281 A
Q0019	348409	TRANS 2SC 4793	transistor 2SC 4793
Q0020	331658	TRANS MJ 15023	transistor MJ 15023
Q0021	331658	TRANS MJ 15023	transistor MJ 15023
Q0023	348409	TRANS 2SC 4793	transistor 2SC 4793
00010	338876	TRIAC MAC 223 A6	triac MAC 223 A6
Q0026	348423	TRANS MPSA 92	transistor MPSA 92
Q0027	348423	TRANS MPSA 92	transistor MPSA 92
Q0028	348422	TRANS MPSA 42	transistor MPSA 42
Q0029	348421	TRANS 2N 3906	transistor 2N 3906
Q0030	335763	TRANS 2N 3904	transistor 2N 3904
Q0031	348421	TRANS 2N 3906	transistor 2N 3906
Q0032	331658	TRANS MJ 15023	transistor MJ 15023
Q0033	331658	TRANS MJ 15023	transistor MJ 15023
Q0034	331658	TRANS MJ 15023	transistor MJ 15023
Q0035	331658	TRANS MJ 15023	transistor MJ 15023
Q0036	331658	TRANS MJ 15023	transistor MJ 15023
Q0037	331658	TRANS MJ 15023	transistor MJ 15023
Q0038	351982	TRANS MJL 1302 A	transistor MJL 1302 A
Q0039	348408	TRANS 2SA 1837	transistor 2SA 1837
Q0040	348408	TRANS 2SA 1837	transistor 2SA 1837
Q0041	351982	TRANS MJL 1302 A	transistor MJL 1302 A
Q0042	331658	TRANS MJ 15023	transistor MJ 15023
Q0043	331658	TRANS MJ 15023	transistor MJ 15023
Q0044	331658	TRANS MJ 15023	transistor MJ 15023
Q0045	331658	TRANS MJ 15023	transistor MJ 15023
Q0046	348423	TRANS MPSA 92	transistor MPSA 92
Q0047	348423	TRANS MPSA 92	transistor MPSA 92
Q0048	348422	TRANS MPSA 42	transistor MPSA 42
Q0049	301184	TRANS BC 550 C	transistor BC 550 B
Q0050	301184	TRANS BC 550 C	transistor BC 550 B
00010	338869	TRANS MJE 350	transistor MJE 350
00010	338869	TRANS MJE 350	transistor MJE 350
00010	338869	TRANS MJE 350	transistor MJE 350
00010	338869	TRANS MJE 350	transistor MJE 350
Q0055	348422	TRANS MPSA 42	transistor MPSA 42
Q0056	348422	TRANS MPSA 42	transistor MPSA 42
Q0057	348422	TRANS MPSA 42	transistor MPSA 42
00010	338868	TRANS MJE 340	transistor MJE 340
00010	338868	TRANS MJE 340	transistor MJE 340
00010	338868	TRANS MJE 340	transistor MJE 340
00010	338868	TRANS MJE 340	transistor MJE 340
Q0062	348423	TRANS MPSA 92	transistor MPSA 92
Q0063	348423	TRANS MPSA 92	transistor MPSA 92
Q0064	348423	TRANS MPSA 92	transistor MPSA 92
R0001	348632	WI-DR 2X 0.47 OHM 5.00W 5%	resistor 2x 0.47 Ohm 5watt
R0002	348632	WI-DR 2X 0.47 OHM 5.00W 5%	resistor 2x 0.47 Ohm 5watt
R0003	348632	WI-DR 2X 0.47 OHM 5.00W 5%	resistor 2x 0.47 Ohm 5watt
R0004	348632	WI-DR 2X 0.47 OHM 5.00W 5%	resistor 2x 0.47 Ohm 5watt

<b>170018 P 3000 US 120V POWER-AMP</b>				
<b>Pos. Nr.</b>	<b>Best. Nr.</b>			
<b>Ref. No.</b>	<b>Part No.</b>	<b>Bezeichnung</b>	<b>Description</b>	
R0005	348632	WI-DR 2X 0.47 OHM 5.00W 5%	resistor 2x 0.47 Ohm 5watt	
R0006	348632	WI-DR 2X 0.47 OHM 5.00W 5%	resistor 2x 0.47 Ohm 5watt	
R0039	348632	WI-DR 2X 0.47 OHM 5.00W 5%	resistor 2x 0.47 Ohm 5watt	
R0040	348632	WI-DR 2X 0.47 OHM 5.00W 5%	resistor 2x 0.47 Ohm 5watt	
R0041	348632	WI-DR 2X 0.47 OHM 5.00W 5%	resistor 2x 0.47 Ohm 5watt	
R0042	348632	WI-DR 2X 0.47 OHM 5.00W 5%	resistor 2x 0.47 Ohm 5watt	
R0043	348632	WI-DR 2X 0.47 OHM 5.00W 5%	resistor 2x 0.47 Ohm 5watt	
R0044	348632	WI-DR 2X 0.47 OHM 5.00W 5%	resistor 2x 0.47 Ohm 5watt	
R0070	341713	WI-DR 4.70 OHM 4.00W 5%	resistor 4.70 Ohm 4watt	
R0071	341713	WI-DR 4.70 OHM 4.00W 5%	resistor 4.70 Ohm 4watt	
R0072	341713	WI-DR 4.70 OHM 4.00W 5%	resistor 4.70 Ohm 4watt	
R0074	341713	WI-DR 4.70 OHM 4.00W 5%	resistor 4.70 Ohm 4watt	
R0075	341713	WI-DR 4.70 OHM 4.00W 5%	resistor 4.70 Ohm 4watt	
R0119	348490	WI-SO NTC K 164/100K/J	safety component NTC	
R0120	348490	WI-SO NTC K 164/100K/J	safety component NTC	
R0163	348593	WI-SO NTC K 164/2.2K	safety component NTC	
R0164	348593	WI-SO NTC K 164/2.2K	safety component NTC	
R0166	302032	WI-SCH 470.00 OHM 2.00W 5%	resistor 470 Ohm 2watt	
R0173	348847	WI-SO PTC C 1011 120 C 5%	safety component PTC	
R0178	348847	WI-SO PTC C 1011 120 C 5%	safety component PTC	
R0200	348966	WI-SO NTC B57164-K101-J 52	safety component NTC	
R0201	348966	WI-SO NTC B57164-K101-J 52	safety component NTC	
VR001	348674	WI-TRI 250.00 OHM LIN	pot trim 250 Ohm lin	
VR002	348674	WI-TRI 250.00 OHM LIN	pot trim 250 Ohm lin	
00035	306397	KODIERSTIFT	code plug	

<b>871288 PCB-B"L1600/2400/P3000/2000</b>				
<b>PCB assy 87128 display</b>				
CN004	306395	FEDERLEISTE 2,5MM O 7POL	connector female 7-pole	
CN07X	344975	MESSERLST. 10POL	connector male 10-pin	
D0019	336399	LED RT 3MM TLUR 4401	LED red 3mm	
D0020	336399	LED RT 3MM TLUR 4401	LED red 3mm	
D0021	336399	LED RT 3MM TLUR 4401	LED red 3mm	
D0022	336398	LED GN 3MM TLHG 4400/01	LED green 3mm	
D0023	336399	LED RT 3MM TLUR 4401	LED red 3mm	
D0024	336398	LED GN 3MM TLHG 4400/01	LED green 3mm	
D0026	336398	LED GN 3MM TLHG 4400/01	LED green 3mm	
D0027	336398	LED GN 3MM TLHG 4400/01	LED green 3mm	
D0028	336398	LED GN 3MM TLHG 4400/01	LED green 3mm	
D0029	336398	LED GN 3MM TLHG 4400/01	LED green 3mm	
VR001	348430	P-DREH 10KOHM LIN B	potentiometer 10k Ohm lin	
VR002	348430	P-DREH 10KOHM LIN B	potentiometer 10k Ohm lin	
00005	306397	KODIERSTIFT	code plug	

<b>862118 PCBAR#P3000US</b>				
<b>PCB assy 86211</b>				
B0001	346791	BUCHSE-FL. XLR 3POL SW	socket XLR 3pole	
B0002	346792	STECKER-FL. XLR 3POL SW	connector XLR 3pin	
B0003	346791	BUCHSE-FL. XLR 3POL SW	socket XLR 3pole	
B0004	346792	STECKER-FL. XLR 3POL SW	connector XLR 3pin	
CNASE	306446	FEDERLEISTE 2,5MM O 9POL	connector female 9-pole	
CNBSE	306446	FEDERLEISTE 2,5MM O 9POL	connector female 9-pole	



170018 P 3000 US 120V POWER-AMP				
Pos. Nr.	Best. Nr.			
Ref. No.	Part No.	Bezeichnung	Description	
CN001	330269	FL.STECKER 6.3/0.8	connector 6.3mm faston	
CN004	306395	FEDERLEISTE 2,5MM O 7POL	connector female 7-pole	
CN007	344975	MESSERLST. 10POL	connector male 10-pin	
CN02A	344975	MESSERLST. 10POL	connector male 10-pin	
CN02B	344975	MESSERLST. 10POL	connector male 10-pin	
CN023	348334	STIFTLEISTE 3POL MLSS	connector male 3-pin	
CN024	348334	STIFTLEISTE 3POL MLSS	connector male 3-pin	
CN025	348334	STIFTLEISTE 3POL MLSS	connector male 3-pin	
CN026	348334	STIFTLEISTE 3POL MLSS	connector male 3-pin	
CN029	330269	FL.STECKER 6.3/0.8	connector 6.3mm faston	
CN030	330269	FL.STECKER 6.3/0.8	connector 6.3mm faston	
CN031	330269	FL.STECKER 6.3/0.8	connector 6.3mm faston	
CN032	330269	FL.STECKER 6.3/0.8	connector 6.3mm faston	
CN034	330269	FL.STECKER 6.3/0.8	connector 6.3mm faston	
CN035	330269	FL.STECKER 6.3/0.8	connector 6.3mm faston	
CN036	330269	FL.STECKER 6.3/0.8	connector 6.3mm faston	
CN037	330269	FL.STECKER 6.3/0.8	connector 6.3mm faston	
CN05A	344862	MESSERLST. 8POL	connector male 8-pin	
CN05B	348676	STIFTLEISTE 3POL MLSS	connector male 3-pin	
CN06A	348676	STIFTLEISTE 3POL MLSS	connector male 3-pin	
CN06B	348676	STIFTLEISTE 3POL MLSS	connector male 3-pin	
CN08A	348334	STIFTLEISTE 3POL MLSS	connector male 3-pin	
CN08B	348334	STIFTLEISTE 3POL MLSS	connector male 3-pin	
CN18A	343516	FL.STECKER 4.8/0.5	connector 4.8mm faston	
CN18B	343516	FL.STECKER 4.8/0.5	connector 4.8mm faston	
CN19A	343516	FL.STECKER 4.8/0.5	connector 4.8mm faston	
CN19B	343516	FL.STECKER 4.8/0.5	connector 4.8mm faston	
CN20A	343516	FL.STECKER 4.8/0.5	connector 4.8mm faston	
CN20B	343516	FL.STECKER 4.8/0.5	connector 4.8mm faston	
CN21A	343516	FL.STECKER 4.8/0.5	connector 4.8mm faston	
CN21B	343516	FL.STECKER 4.8/0.5	connector 4.8mm faston	
C0001	342923	KO-FOL 0.220MF 63V 5%	cap mylar 220nF	
C0002	342967	KO-FOL 3.300MF 50V 10%	cap mylar 3.3uF	
C0003	340988	KO-FOL 0.470MF 63V 5%	cap mylar 470nF	
C0004	341714	KO-SO 0.10MF 275V 20% K	safety cap 100nF/275V	
C0005	341714	KO-SO 0.10MF 275V 20% K	safety cap 100nF/275V	
C0040	301472	KO-EL 10.000MF 63V	cap electrolytic 10uF/63V	
C0041	301472	KO-EL 10.000MF 63V	cap electrolytic 10uF/63V	
C0042	301524	KO-KER 47.0PF 500V 10%	cap ceramic 47pF	
C0043	301524	KO-KER 47.0PF 500V 10%	cap ceramic 47pF	
C0044	301472	KO-EL 10.000MF 63V	cap electrolytic 10uF/63V	
C0045	301472	KO-EL 10.000MF 63V	cap electrolytic 10uF/63V	
C0046	329021	KO-KER 0.10MF 100V 20%	cap ceramic 100nF	
C0047	329021	KO-KER 0.10MF 100V 20%	cap ceramic 100nF	
C0101	343532	KO-EL 100.000MF 25V	cap electrolytic 100uF/25V	
C0102	300046	KO-FOL 100.000PF 100V 5%	cap mylar 100pF	
C0103	340988	KO-FOL 0.470MF 63V 5%	cap mylar 470nF	
C0105	342923	KO-FOL 0.220MF 63V 5%	cap mylar 220nF	
C0106	326675	KO-EL 100.000MF 10V BIP	cap bip electr. 100uF/10V	
C0107	326675	KO-EL 100.000MF 10V BIP	cap bip electr. 100uF/10V	
C0108	327391	KO-FOL 1500.000PF 100V 5%	cap mylar 1500pF	
C0109	343532	KO-EL 100.000MF 25V	cap electrolytic 100uF/25V	



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Pos. Nr.	Best. Nr.				Description
Ref. No.	Part No.	Bezeichnung			
C0110	326675	KO-EL	100.000MF	10V BIP	cap bip electr. 100uF/10V
C0111	326675	KO-EL	100.000MF	10V BIP	cap bip electr. 100uF/10V
C0112	342923	KO-FOL	0.220MF	63V 5%	cap mylar 220nF
C0113	335787	KO-KER	15.0PF	100V 2%	cap ceramic 15pF
C0114	329021	KO-KER	0.10MF	100V 20%	cap ceramic 100nF
C0115	329021	KO-KER	0.10MF	100V 20%	cap ceramic 100nF
C0116	304349	KO-EL	2.200MF	50V BIP	cap bip electr. 2.2uF/50V
C0117	335787	KO-KER	15.0PF	100V 2%	cap ceramic 15pF
C0118	335787	KO-KER	15.0PF	100V 2%	cap ceramic 15pF
C0119	301558	KO-KER	33.0PF	100V 2%	cap ceramic 33pF
C0120	329021	KO-KER	0.10MF	100V 20%	cap ceramic 100nF
C0121	329021	KO-KER	0.10MF	100V 20%	cap ceramic 100nF
C0201	343532	KO-EL	100.000MF	25V	cap electrolytic 100uF/25V
C0202	300046	KO-FOL	100.000PF	100V 5%	cap mylar 100pF
C0203	340988	KO-FOL	0.470MF	63V 5%	cap mylar 470nF
C0205	342923	KO-FOL	0.220MF	63V 5%	cap mylar 220nF
C0206	326675	KO-EL	100.000MF	10V BIP	cap bip electr. 100uF/10V
C0207	326675	KO-EL	100.000MF	10V BIP	cap bip electr. 100uF/10V
C0208	327391	KO-FOL	1500.000PF	100V 5%	cap mylar 1500pF
C0209	343532	KO-EL	100.000MF	25V	cap electrolytic 100uF/25V
C0210	326675	KO-EL	100.000MF	10V BIP	cap bip electr. 100uF/10V
C0211	326675	KO-EL	100.000MF	10V BIP	cap bip electr. 100uF/10V
C0212	342923	KO-FOL	0.220MF	63V 5%	cap mylar 220nF
C0213	335787	KO-KER	15.0PF	100V 2%	cap ceramic 15pF
C0214	329021	KO-KER	0.10MF	100V 20%	cap ceramic 100nF
C0215	329021	KO-KER	0.10MF	100V 20%	cap ceramic 100nF
C0216	304349	KO-EL	2.200MF	50V BIP	cap bip electr. 2.2uF/50V
C0217	335787	KO-KER	15.0PF	100V 2%	cap ceramic 15pF
C0218	335787	KO-KER	15.0PF	100V 2%	cap ceramic 15pF
C0219	301558	KO-KER	33.0PF	100V 2%	cap ceramic 33pF
C0220	329021	KO-KER	0.10MF	100V 20%	cap ceramic 100nF
C0221	329021	KO-KER	0.10MF	100V 20%	cap ceramic 100nF
C0300	342937	KO-FOL	1.000MF	63V 5%	cap mylar 1uF
C0301	342937	KO-FOL	1.000MF	63V 5%	cap mylar 1uF
C0302	337181	KO-FOL	0.010MF	100V 5%	cap mylar 10nF
C0303	327393	KO-FOL	4700.000PF	63V 5%	cap mylar 4700pF
C0304	342361	KO-KER	47.0PF K	100V 2%	cap ceramic 47pF
C0305	327366	KO-EL	4.700MF	50V BIP	cap bip electr. 4.7uF/50V
C0306	342937	KO-FOL	1.000MF	63V 5%	cap mylar 1uF
C0307	342937	KO-FOL	1.000MF	63V 5%	cap mylar 1uF
C0308	337181	KO-FOL	0.010MF	100V 5%	cap mylar 10nF
C0309	327393	KO-FOL	4700.000PF	63V 5%	cap mylar 4700pF
C0310	342361	KO-KER	47.0PF K	100V 2%	cap ceramic 47pF
C0311	329021	KO-KER	0.10MF	100V 20%	cap ceramic 100nF
C0312	329021	KO-KER	0.10MF	100V 20%	cap ceramic 100nF
C0313	329021	KO-KER	0.10MF	100V 20%	cap ceramic 100nF
C0314	329021	KO-KER	0.10MF	100V 20%	cap ceramic 100nF
C0315	301558	KO-KER	33.0PF	100V 2%	cap ceramic 33pF
C0316	301558	KO-KER	33.0PF	100V 2%	cap ceramic 33pF
C0317	301558	KO-KER	33.0PF	100V 2%	cap ceramic 33pF
C0318	301558	KO-KER	33.0PF	100V 2%	cap ceramic 33pF
C0319	301474	KO-EL	22.000MF	16V BIP	cap bip electr. 22uF/16V

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Ref. No.	Part No.	Bezeichnung	Description		
C0320	301474	KO-EL 22.000MF 16V BIP	cap bip electr. 22uF/16V		
C0600	301472	KO-EL 10.000MF 63V	cap electrolytic 10uF/63V		
C0603	301472	KO-EL 10.000MF 63V	cap electrolytic 10uF/63V		
C0610	301472	KO-EL 10.000MF 63V	cap electrolytic 10uF/63V		
C0613	301472	KO-EL 10.000MF 63V	cap electrolytic 10uF/63V		
C0700	329021	KO-KER 0.10MF 100V 20%	cap ceramic 100nF		
C0701	301524	KO-KER 47.0PF 500V 10%	cap ceramic 47pF		
C0702	343530	KO-EL 47.000MF 50V	cap electrolytic 47uF/50V		
C0703	329021	KO-KER 0.10MF 100V 20%	cap ceramic 100nF		
C0704	329021	KO-KER 0.10MF 100V 20%	cap ceramic 100nF		
C0705	329021	KO-KER 0.10MF 100V 20%	cap ceramic 100nF		
C0706	329021	KO-KER 0.10MF 100V 20%	cap ceramic 100nF		
C0707	340244	KO-FOL 0.330MF 63V 5%	cap mylar 330nF		
D0001	301254	DIODE 1N 4148 AXIAL	diode 1N 4148		
D0002	301254	DIODE 1N 4148 AXIAL	diode 1N 4148		
D0003	301254	DIODE 1N 4148 AXIAL	diode 1N 4148		
D0004	301254	DIODE 1N 4148 AXIAL	diode 1N 4148		
D0005	301254	DIODE 1N 4148 AXIAL	diode 1N 4148		
D0006	304360	DIODE 1N 4007 GEGURTET	diode 1N 4002		
D0007	304360	DIODE 1N 4007 GEGURTET	diode 1N 4002		
D0008	301254	DIODE 1N 4148 AXIAL	diode 1N 4148		
D0040	351577	DIODZ BZX 79-B 6V8 0.50W	diode zener BZX 79 6V8		
D0041	351577	DIODZ BZX 79-B 6V8 0.50W	diode zener BZX 79 6V8		
D0101	334321	DIODZ BZX 85C 15V 1.30W	diode zener BZX 85C 15V		
D0102	301254	DIODE 1N 4148 AXIAL	diode 1N 4148		
D0103	301254	DIODE 1N 4148 AXIAL	diode 1N 4148		
D0104	301254	DIODE 1N 4148 AXIAL	diode 1N 4148		
D0105	334321	DIODZ BZX 85C 15V 1.30W	diode zener BZX 85C 15V		
D0106	301254	DIODE 1N 4148 AXIAL	diode 1N 4148		
D0107	301254	DIODE 1N 4148 AXIAL	diode 1N 4148		
D0108	301254	DIODE 1N 4148 AXIAL	diode 1N 4148		
D0109	329511	DIODZ BZX 55C 2V4 0.50W	diode zener 2V4		
D0201	334321	DIODZ BZX 85C 15V 1.30W	diode zener BZX 85C 15V		
D0202	301254	DIODE 1N 4148 AXIAL	diode 1N 4148		
D0203	301254	DIODE 1N 4148 AXIAL	diode 1N 4148		
D0204	301254	DIODE 1N 4148 AXIAL	diode 1N 4148		
D0205	334321	DIODZ BZX 85C 15V 1.30W	diode zener BZX 85C 15V		
D0206	301254	DIODE 1N 4148 AXIAL	diode 1N 4148		
D0207	301254	DIODE 1N 4148 AXIAL	diode 1N 4148		
D0208	301254	DIODE 1N 4148 AXIAL	diode 1N 4148		
D0209	329511	DIODZ BZX 55C 2V4 0.50W	diode zener 2V4		
D0233	301254	DIODE 1N 4148 AXIAL	diode 1N 4148		
D0234	301254	DIODE 1N 4148 AXIAL	diode 1N 4148		
D0600	301254	DIODE 1N 4148 AXIAL	diode 1N 4148		
D0601	301254	DIODE 1N 4148 AXIAL	diode 1N 4148		
D0602	301254	DIODE 1N 4148 AXIAL	diode 1N 4148		
D0701	301254	DIODE 1N 4148 AXIAL	diode 1N 4148		
D0702	301254	DIODE 1N 4148 AXIAL	diode 1N 4148		
D0703	301254	DIODE 1N 4148 AXIAL	diode 1N 4148		
D0704	301254	DIODE 1N 4148 AXIAL	diode 1N 4148		
D0705	301254	DIODE 1N 4148 AXIAL	diode 1N 4148		
D0706	301254	DIODE 1N 4148 AXIAL	diode 1N 4148		

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Ref. No.	Part No.	Bezeichnung	Description	
D0707	301254	DIODE 1N 4148 AXIAL	diode 1N 4148	
D0708	301254	DIODE 1N 4148 AXIAL	diode 1N 4148	
D0710	301254	DIODE 1N 4148 AXIAL	diode 1N 4148	
D0711	304360	DIODE 1N 4007 GEGURTET	diode 1N 4002	
E0001	348634	RELAIS 832A-1C-F-C-B 24V DC	relay 24v	
E0002	348634	RELAIS 832A-1C-F-C-B 24V DC	relay 24v	
E0003	348634	RELAIS 832A-1C-F-C-B 24V DC	relay 24v	
F0001	348866	SICHER T 25 A 125V	fuse 25A slow blow	
F0002	348866	SICHER T 25 A 125V	fuse 25A slow blow	
H0001	343457	DICKS-NETZW. 8PIN 2%	res.network 8x10k	
H0003	343457	DICKS-NETZW. 8PIN 2%	res.network 8x10k	
H0004	343457	DICKS-NETZW. 8PIN 2%	res.network 8x10k	
H0005	343457	DICKS-NETZW. 8PIN 2%	res.network 8x10k	
I0101	327197	IC NE 5532 P 2FACH OP	IC NE 5532 N	
I0102	307421	IC CA 3080 E OTA	IC CA 3080 E	
I0104	331340	IC TL 072 CP 2FACH OP	IC TL 072 CP	
I0105	327197	IC NE 5532 P 2FACH OP	IC NE 5532 N	
I0106	338359	IC LM 308 AN	IC LM 308 A	
I0201	327197	IC NE 5532 P 2FACH OP	IC NE 5532 N	
I0202	307421	IC CA 3080 E OTA	IC CA 3080 E	
I0204	331340	IC TL 072 CP 2FACH OP	IC TL 072 CP	
I0205	327197	IC NE 5532 P 2FACH OP	IC NE 5532 N	
I0206	338359	IC LM 308 AN	IC LM 308 A	
I0300	327197	IC NE 5532 P 2FACH OP	IC NE 5532 N	
I0301	327197	IC NE 5532 P 2FACH OP	IC NE 5532 N	
I0302	327197	IC NE 5532 P 2FACH OP	IC NE 5532 N	
I0600	331340	IC TL 072 CP 2FACH OP	IC TL 072 CP	
I0700	331340	IC TL 072 CP 2FACH OP	IC TL 072 CP	
I0701	332985	IC TL 074 CN	IC TL 074 CN	
J0001	340681	STIFTLEISTE 2X 3POL	connector male 2x3-pin	
J0003	340681	STIFTLEISTE 2X 3POL	connector male 2x3-pin	
Q0001	306928	TRANS BC 560 C	transistor BC 560 C	
Q0002	306928	TRANS BC 560 C	transistor BC 560 C	
Q0003	306928	TRANS BC 560 C	transistor BC 560 C	
Q0004	306928	TRANS BC 560 C	transistor BC 560 C	
Q0005	306928	TRANS BC 560 C	transistor BC 560 C	
Q0006	306928	TRANS BC 560 C	transistor BC 560 C	
Q0007	307150	TRANS BC 337-25 TO 92	transistor BC 337-25	
Q0008	307150	TRANS BC 337-25 TO 92	transistor BC 337-25	
Q0009	301184	TRANS BC 550 C	transistor BC 550 B	
Q0010	306928	TRANS BC 560 C	transistor BC 560 C	
Q0011	306928	TRANS BC 560 C	transistor BC 560 C	
00010	301235	TRANS BD 242 B	transistor BD 242 B	
Q0041	307430	TRANS BC 327-25 TO 92	transistor BC 327-25	
Q0042	307430	TRANS BC 327-25 TO 92	transistor BC 327-25	
Q0043	307150	TRANS BC 337-25 TO 92	transistor BC 337-25	
Q0044	307150	TRANS BC 337-25 TO 92	transistor BC 337-25	
00010	301236	TRANS BD 241 B	transistor BD 241 B	
Q0101	330264	TRANS J 111	transistor J 111 A	
Q0102	335763	TRANS 2N 3904	transistor 2N 3904	
Q0103	335763	TRANS 2N 3904	transistor 2N 3904	
00010	338869	TRANS MJE 350	transistor MJE 350	

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Pos. Nr.	Best. Nr.		
Ref. No.	Part No.	Bezeichnung	Description
00010	338869	TRANS MJE 350	transistor MJE 350
00010	338869	TRANS MJE 350	transistor MJE 350
Q0107	348422	TRANS MPSA 42	transistor MPSA 42
Q0108	348422	TRANS MPSA 42	transistor MPSA 42
00010	338869	TRANS MJE 350	transistor MJE 350
00010	338869	TRANS MJE 350	transistor MJE 350
00010	338869	TRANS MJE 350	transistor MJE 350
Q0112	335763	TRANS 2N 3904	transistor 2N 3904
Q0113	335763	TRANS 2N 3904	transistor 2N 3904
Q0114	335763	TRANS 2N 3904	transistor 2N 3904
Q0115	335763	TRANS 2N 3904	transistor 2N 3904
Q0116	348421	TRANS 2N 3906	transistor 2N 3906
Q0117	348421	TRANS 2N 3906	transistor 2N 3906
Q0118	348421	TRANS 2N 3906	transistor 2N 3906
Q0119	348421	TRANS 2N 3906	transistor 2N 3906
Q0120	348423	TRANS MPSA 92	transistor MPSA 92
Q0121	348423	TRANS MPSA 92	transistor MPSA 92
00010	338868	TRANS MJE 340	transistor MJE 340
00010	338868	TRANS MJE 340	transistor MJE 340
00010	338868	TRANS MJE 340	transistor MJE 340
00010	338868	TRANS MJE 340	transistor MJE 340
00010	338868	TRANS MJE 340	transistor MJE 340
00010	338868	TRANS MJE 340	transistor MJE 340
Q0128	348421	TRANS 2N 3906	transistor 2N 3906
Q0129	335763	TRANS 2N 3904	transistor 2N 3904
Q0141	348421	TRANS 2N 3906	transistor 2N 3906
Q0142	348421	TRANS 2N 3906	transistor 2N 3906
Q0201	330264	TRANS J 111	transistor J 111 A
Q0202	335763	TRANS 2N 3904	transistor 2N 3904
Q0203	335763	TRANS 2N 3904	transistor 2N 3904
00010	338869	TRANS MJE 350	transistor MJE 350
00010	338869	TRANS MJE 350	transistor MJE 350
00010	338869	TRANS MJE 350	transistor MJE 350
Q0207	348422	TRANS MPSA 42	transistor MPSA 42
Q0208	348422	TRANS MPSA 42	transistor MPSA 42
00010	338869	TRANS MJE 350	transistor MJE 350
00010	338869	TRANS MJE 350	transistor MJE 350
00010	338869	TRANS MJE 350	transistor MJE 350
Q0212	335763	TRANS 2N 3904	transistor 2N 3904
Q0213	335763	TRANS 2N 3904	transistor 2N 3904
Q0214	335763	TRANS 2N 3904	transistor 2N 3904
Q0215	335763	TRANS 2N 3904	transistor 2N 3904
Q0216	348421	TRANS 2N 3906	transistor 2N 3906
Q0217	348421	TRANS 2N 3906	transistor 2N 3906
Q0218	348421	TRANS 2N 3906	transistor 2N 3906
Q0219	348421	TRANS 2N 3906	transistor 2N 3906
Q0220	348423	TRANS MPSA 92	transistor MPSA 92
Q0221	348423	TRANS MPSA 92	transistor MPSA 92
00010	338868	TRANS MJE 340	transistor MJE 340
00010	338868	TRANS MJE 340	transistor MJE 340
00010	338868	TRANS MJE 340	transistor MJE 340
00010	338868	TRANS MJE 340	transistor MJE 340

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Pos. Nr.	Best. Nr.			
Ref. No.	Part No.	Bezeichnung	Description	
00010	338868	TRANS MJE 340	transistor MJE 340	
00010	338868	TRANS MJE 340	transistor MJE 340	
Q0228	348421	TRANS 2N 3906	transistor 2N 3906	
Q0229	335763	TRANS 2N 3904	transistor 2N 3904	
Q0241	348421	TRANS 2N 3906	transistor 2N 3906	
Q0242	348421	TRANS 2N 3906	transistor 2N 3906	
Q0600	348421	TRANS 2N 3906	transistor 2N 3906	
Q0601	307430	TRANS BC 327-25 TO 92	transistor BC 327-25	
Q0602	307150	TRANS BC 337-25 TO 92	transistor BC 337-25	
Q0603	335763	TRANS 2N 3904	transistor 2N 3904	
Q0610	348421	TRANS 2N 3906	transistor 2N 3906	
Q0611	307430	TRANS BC 327-25 TO 92	transistor BC 327-25	
Q0612	307150	TRANS BC 337-25 TO 92	transistor BC 337-25	
Q0613	335763	TRANS 2N 3904	transistor 2N 3904	
Q0620	307150	TRANS BC 337-25 TO 92	transistor BC 337-25	
Q0621	307150	TRANS BC 337-25 TO 92	transistor BC 337-25	
Q0700	339860	TRANS BD 243 C	transistor BD 243 C	
Q0701	307150	TRANS BC 337-25 TO 92	transistor BC 337-25	
Q0702	307150	TRANS BC 337-25 TO 92	transistor BC 337-25	
Q0703	301184	TRANS BC 550 C	transistor BC 550 B	
Q0704	301184	TRANS BC 550 C	transistor BC 550 B	
Q0705	301184	TRANS BC 550 C	transistor BC 550 B	
Q0706	301184	TRANS BC 550 C	transistor BC 550 B	
Q0707	301184	TRANS BC 550 C	transistor BC 550 B	
R0029	348550	WI-SO NTC 10 OHM K	safety resistor 10 Ohm	
R0030	348550	WI-SO NTC 10 OHM K	safety resistor 10 Ohm	
R0040	301674	WI-SCH 10.00 OHM 2.00W 5%	resistor 10 Ohm 2watt	
R0043	301674	WI-SCH 10.00 OHM 2.00W 5%	resistor 10 Ohm 2watt	
R0144	332306	WI-SCH 3.30 KOHM 2.00W 5%	resistor 3.3k Ohm 2watt	
R0145	332306	WI-SCH 3.30 KOHM 2.00W 5%	resistor 3.3k Ohm 2watt	
R0146	329215	WI-SI 10.00 OHM 0.30W 5%	safety resistor 10 Ohm	
R0148	329215	WI-SI 10.00 OHM 0.30W 5%	safety resistor 10 Ohm	
R0155	329215	WI-SI 10.00 OHM 0.30W 5%	safety resistor 10 Ohm	
R0179	329215	WI-SI 10.00 OHM 0.30W 5%	safety resistor 10 Ohm	
R0198	332306	WI-SCH 3.30 KOHM 2.00W 5%	resistor 3.3k Ohm 2watt	
R0199	332306	WI-SCH 3.30 KOHM 2.00W 5%	resistor 3.3k Ohm 2watt	
R0244	332306	WI-SCH 3.30 KOHM 2.00W 5%	resistor 3.3k Ohm 2watt	
R0245	332306	WI-SCH 3.30 KOHM 2.00W 5%	resistor 3.3k Ohm 2watt	
R0246	329215	WI-SI 10.00 OHM 0.30W 5%	safety resistor 10 Ohm	
R0248	329215	WI-SI 10.00 OHM 0.30W 5%	safety resistor 10 Ohm	
R0255	329215	WI-SI 10.00 OHM 0.30W 5%	safety resistor 10 Ohm	
R0279	329215	WI-SI 10.00 OHM 0.30W 5%	safety resistor 10 Ohm	
R0298	332306	WI-SCH 3.30 KOHM 2.00W 5%	resistor 3.3k Ohm 2watt	
R0299	332306	WI-SCH 3.30 KOHM 2.00W 5%	resistor 3.3k Ohm 2watt	
SL001	348583	SCHALTER-SCHIEBE 2XUM	slide switch dpdt	
SL002	348583	SCHALTER-SCHIEBE 2XUM	slide switch dpdt	
S0001	327947	SCHALTELEMENT C42315-A1347-	switch element on/off	
S0002	348583	SCHALTER-SCHIEBE 2XUM	slide switch dpdt	
S0003	338886	SCHALTER-SCHIEBE L202-02-1-	switch slide	
S0004	348572	SCHALTER-SCHIEBE 4XUM	slide switch 4pdt	
S0101	327947	SCHALTELEMENT C42315-A1347-	switch element on/off	
S0102	327947	SCHALTELEMENT C42315-A1347-	switch element on/off	



170018 P 3000 US 120V POWER-AMP				
Pos. Nr.	Best. Nr.			
Ref. No.	Part No.	Bezeichnung	Description	
S0201	327947	SCHALTELEMENT C42315-A1347-	switch element on/off	
VR101	348486	WI-TRI 47.00 KOHM LIN	pot trim 47k Ohm lin	
VR102	348675	WI-TRI 2.50 KOHM LIN	pot trim 2.5k Ohm lin	
VR201	348486	WI-TRI 47.00 KOHM LIN	pot trim 47k Ohm lin	
VR202	348675	WI-TRI 2.50 KOHM LIN	pot trim 2.5k Ohm lin	
VR600	348487	WI-TRI 4.70 KOHM LIN	pot trim 4.7k Ohm lin	
VR601	348487	WI-TRI 4.70 KOHM LIN	pot trim 4.7k Ohm lin	
VR700	348675	WI-TRI 2.50 KOHM LIN	pot trim 2.5k Ohm lin	
00015	348855	SICHER-HALTE-FEDER 122090.	fuse clip	
00025	306397	KODIERSTIFT	code plug	
00030	332452	KODIERBRÜCKE 330.0101 SW	shorting plug	

852428 PCB+B"L2400/P3000 PCB assy 85242 supply A				
CN001	330269	FL.STECKER 6.3/0.8	connector 6.3mm faston	
CN002	330269	FL.STECKER 6.3/0.8	connector 6.3mm faston	
CN006	348676	STIFTLEISTE 3POL MLSS	connector male 3-pin	
CN010	330269	FL.STECKER 6.3/0.8	connector 6.3mm faston	
CN011	330269	FL.STECKER 6.3/0.8	connector 6.3mm faston	
CN012	343516	FL.STECKER 4.8/0.5	connector 4.8mm faston	
CN013	343516	FL.STECKER 4.8/0.5	connector 4.8mm faston	
CN014	343516	FL.STECKER 4.8/0.5	connector 4.8mm faston	
CN015	343516	FL.STECKER 4.8/0.5	connector 4.8mm faston	
CN016	343516	FL.STECKER 4.8/0.5	connector 4.8mm faston	
CN017	343516	FL.STECKER 4.8/0.5	connector 4.8mm faston	
CN05A	344862	MESSERLST. 8POL	connector male 8-pin	
C0001	348458	KO-EL 2200.000MF 160V 20%	cap electrolytic 2200uF/160	
C0002	348458	KO-EL 2200.000MF 160V 20%	cap electrolytic 2200uF/160	
C0003	348458	KO-EL 2200.000MF 160V 20%	cap electrolytic 2200uF/160	
C0004	348458	KO-EL 2200.000MF 160V 20%	cap electrolytic 2200uF/160	
C0005	348458	KO-EL 2200.000MF 160V 20%	cap electrolytic 2200uF/160	
C0006	348458	KO-EL 2200.000MF 160V 20%	cap electrolytic 2200uF/160	
C0007	348458	KO-EL 2200.000MF 160V 20%	cap electrolytic 2200uF/160	
C0008	348458	KO-EL 2200.000MF 160V 20%	cap electrolytic 2200uF/160	
C0009	348458	KO-EL 2200.000MF 160V 20%	cap electrolytic 2200uF/160	
C0010	348459	KO-EL 820.000MF 160V 20%	cap electrolytic 820uF/160V	
C0011	348459	KO-EL 820.000MF 160V 20%	cap electrolytic 820uF/160V	
C0012	337597	KO-EL 1000.000MF 50V	cap electrolytic 1000uF/50V	
C0013	337597	KO-EL 1000.000MF 50V	cap electrolytic 1000uF/50V	
C0014	341714	KO-SO 0.10MF 275V 20% K	safety cap 100nF/275V	
C0015	341714	KO-SO 0.10MF 275V 20% K	safety cap 100nF/275V	
D0001	301254	DIODE 1N 4148 AXIAL	diode 1N 4148	
D0002	301254	DIODE 1N 4148 AXIAL	diode 1N 4148	
F0001	302579	SICHER T 500 MA 250V	fuse 500mA slow blow	
F0002	302579	SICHER T 500 MA 250V	fuse 500mA slow blow	
F0003	302582	SICHER T 1 A 250V	fuse 1A slow blow	
F0004	302582	SICHER T 1 A 250V	fuse 1A slow blow	
G0001	348714	GLRI GBPC 3504 W WIRE LEADS	rectifier GBPC-W 3504	
G0002	343270	GLRI GBPC 3504	rectifier GBPC-P 3504	
G0003	333719	GLRI SKB 250 C1000 L5B	rectifier B250 C1000	
G0004	331965	GLRI B 80 C1500 G	rectifier B80 C1500	
G02.2	330269	FL.STECKER 6.3/0.8	connector 6.3mm faston	

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Pos. Nr.	Best. Nr.				
Ref. No.	Part No.	Bezeichnung			Description
G02,1	330269	FL.STECKER 6.3/0.8			connector 6.3mm faston
00010	306838	SICHER-HALTER	FAP		fuse holder
00015	306838	SICHER-HALTER	FAP		fuse holder
00020	306838	SICHER-HALTER	FAP		fuse holder
00025	306838	SICHER-HALTER	FAP		fuse holder

852438 PCB+B"L2400/3000 PCB assy 85243 supply B					
CN006	348676	STIFTLEISTE 3POL MLSS			connector male 3-pin
CN01A	330269	FL.STECKER 6.3/0.8			connector 6.3mm faston
CN010	330269	FL.STECKER 6.3/0.8			connector 6.3mm faston
CN011	330269	FL.STECKER 6.3/0.8			connector 6.3mm faston
CN012	343516	FL.STECKER 4.8/0.5			connector 4.8mm faston
CN013	343516	FL.STECKER 4.8/0.5			connector 4.8mm faston
CN014	343516	FL.STECKER 4.8/0.5			connector 4.8mm faston
CN015	343516	FL.STECKER 4.8/0.5			connector 4.8mm faston
CN017	343516	FL.STECKER 4.8/0.5			connector 4.8mm faston
CN02A	330269	FL.STECKER 6.3/0.8			connector 6.3mm faston
CN05B	348676	STIFTLEISTE 3POL MLSS			connector male 3-pin
C0001	348458	KO-EL 2200.000MF 160V 20%			cap electrolytic 2200uF/160
C0002	348458	KO-EL 2200.000MF 160V 20%			cap electrolytic 2200uF/160
C0003	348458	KO-EL 2200.000MF 160V 20%			cap electrolytic 2200uF/160
C0004	348458	KO-EL 2200.000MF 160V 20%			cap electrolytic 2200uF/160
C0005	348458	KO-EL 2200.000MF 160V 20%			cap electrolytic 2200uF/160
C0006	348458	KO-EL 2200.000MF 160V 20%			cap electrolytic 2200uF/160
C0007	348458	KO-EL 2200.000MF 160V 20%			cap electrolytic 2200uF/160
C0008	348458	KO-EL 2200.000MF 160V 20%			cap electrolytic 2200uF/160
C0009	348458	KO-EL 2200.000MF 160V 20%			cap electrolytic 2200uF/160
C0010	348459	KO-EL 820.000MF 160V 20%			cap electrolytic 820uF/160V
C0011	348459	KO-EL 820.000MF 160V 20%			cap electrolytic 820uF/160V
C0012	337597	KO-EL 1000.000MF 50V			cap electrolytic 1000uF/50V
C0013	341714	KO-SO 0.10MF 275V 20% K			safety cap 100nF/275V
C0014	341714	KO-SO 0.10MF 275V 20% K			safety cap 100nF/275V
F0001	302579	SICHER T 500 MA 250V			fuse 500mA slow blow
F0002	302579	SICHER T 500 MA 250V			fuse 500mA slow blow
F0003	305205	SICHER T 2.5 A 250V			fuse 2.5A slow blow
G0001	348714	GLRI GBPC 3504 W WIRE LEADS			rectifier GBPC-W 3504
G0002	343270	GLRI GBPC 3504			rectifier GBPC-P 3504
G0003	333719	GLRI SKB 250 C1000 L5B			rectifier B250 C1000
G0004	331965	GLRI B 80 C1500 G			rectifier B80 C1500
G02.1	330269	FL.STECKER 6.3/0.8			connector 6.3mm faston
G02.2	330269	FL.STECKER 6.3/0.8			connector 6.3mm faston
00010	306838	SICHER-HALTER	FAP		fuse holder
00015	306838	SICHER-HALTER	FAP		fuse holder
00020	306838	SICHER-HALTER	FAP		fuse holder

# MEMO