

## **Beolab 8000**

Type 6801, 6802, 6803,  
6804, 6805



11-91 3538801 Indklæbes i serviceanvisningen Beovox 5 (3538717)  
Paste into service manual Beovox 5 (3538717)

# Bang & Olufsen

## INDHOLD

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## TECHNICAL SPECIFICATIONS

### Beolab 8000

Type 6801 (EU), 6802 (GB),  
6803 (USA-CDN), 6804 (JAP), 6805 (AUS)

### System data:

|                      |  |
|----------------------|--|
| Frequency response   | 40-22,000 Hz +4-8 dB<br>50-20,000 Hz ±2 dB |
| Sound Pressure Level | 100 dB/IEC noise<br>3 m/stereo/room        |
| Input impedance      | 47 kΩ                                      |
| Harmonic distortion  | 1%/94 dB SPL, 1 m. 250-5,000 Hz            |

### Electronics:

|                            |                              |
|----------------------------|------------------------------|
| Active crossover network   | 24 dB/octave, Linkwitz/Riley |
| High pass filter           | 30 dB/octave, 40 Hz          |
| Low frequency equalization | 30-250 Hz/+8 dB              |

### Acoustics and cabinet

|                     |                  |
|---------------------|------------------|
| Cabinet principle   | Bass Reflex      |
| Woofers             | 2 units 4"-10 cm |
| Tweeter             | 1"-2.5 cm        |
| Crossover frequency | 4200 Hz          |
| Net volume          | 5.3 litres       |

### Power amplifier:

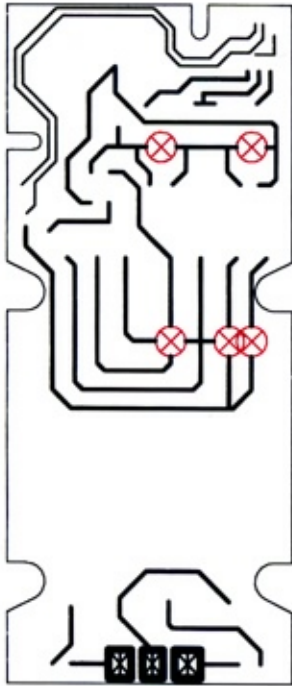
|                               |                               |
|-------------------------------|-------------------------------|
| Frequency range               | 40-20,000 Hz +0-1 dB          |
| Signal-to-noise ratio         | >96 dB A-weighted, max. power |
| Input sensitivity/impedance:  |                               |
| Power Link sockets            | 1 V/47 kΩ                     |
| Power Link channel separation | >55 dB/10,000 Hz              |
| Stand by function             | Automatic ON-OFF              |

### Connections:

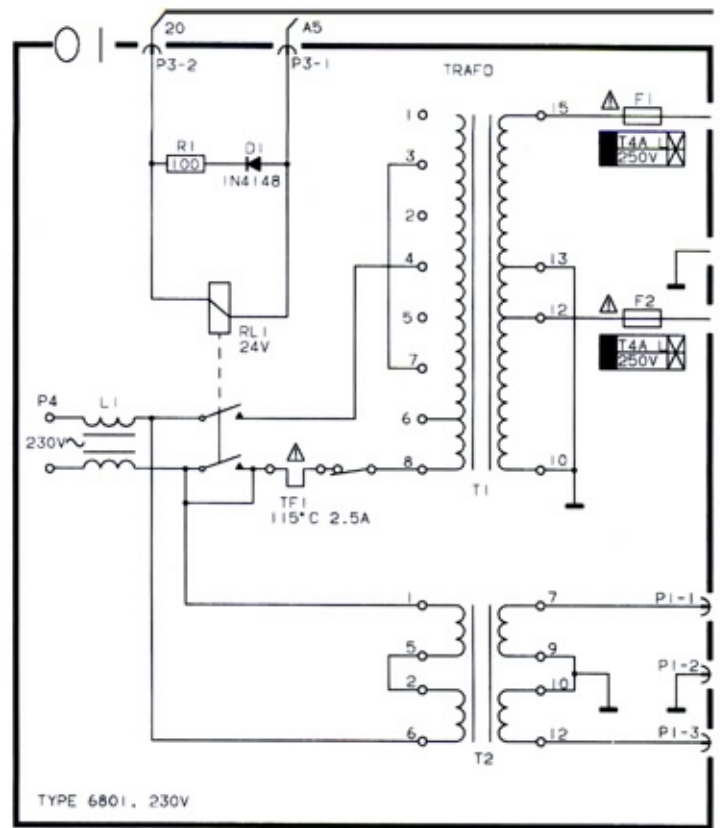
|                            |  |
|----------------------------|--|
| Power Link                 | 8-pin socket   |
| Line                       | Phono socket   |
| Power supply               | 230 Volts (6801), 240 Volts (6802)<br>120 Volts (6803), 100 Volts (6804), 240 Volts (6805) |
| Power consumption          | <210 Watts   |
| Stand by                   | <2 watts   |
| Finish                     | Polished aluminium, black front cloth  |
| Total dimensions W x H x D | 15 x 132 x 15 cm   |
| Weight                     | 20 kg  |

**Subject to change without notice**

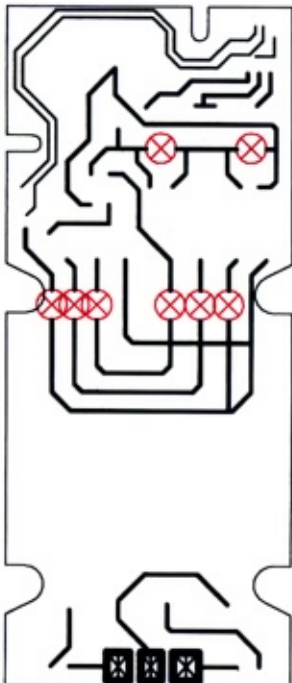
## WIRING OF TRANSFORMER Type 6801 EU 230 V~



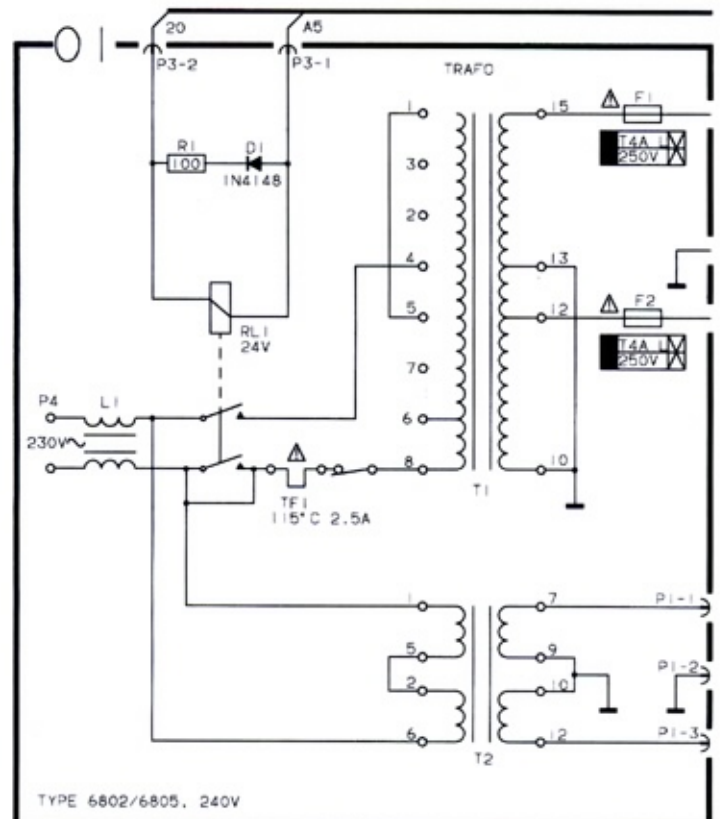
230V - TYPE 6801



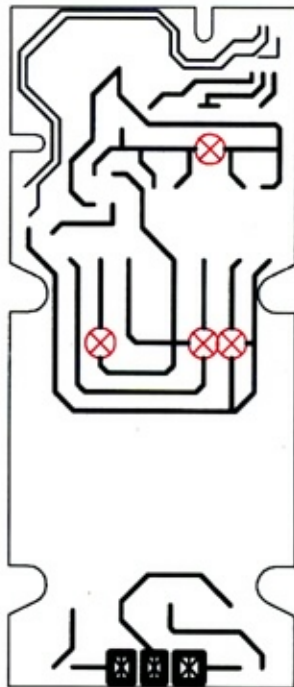
## Type 6802, 6805 GB, AUS 240 V~



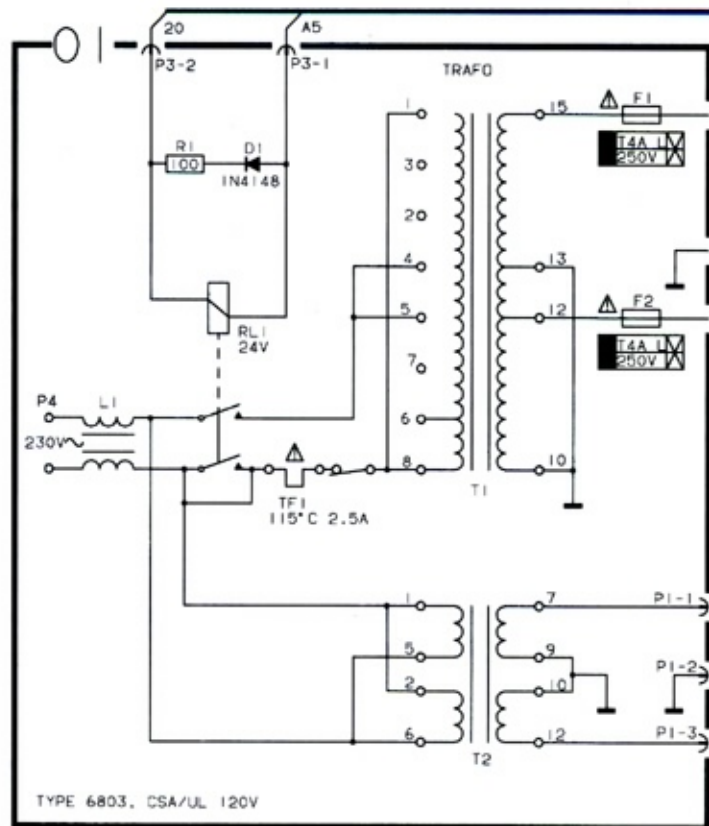
240V - TYPE 6802/6805



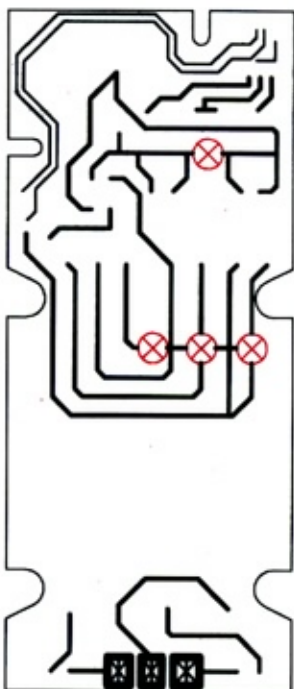
Type 6803  
USA 120 V~



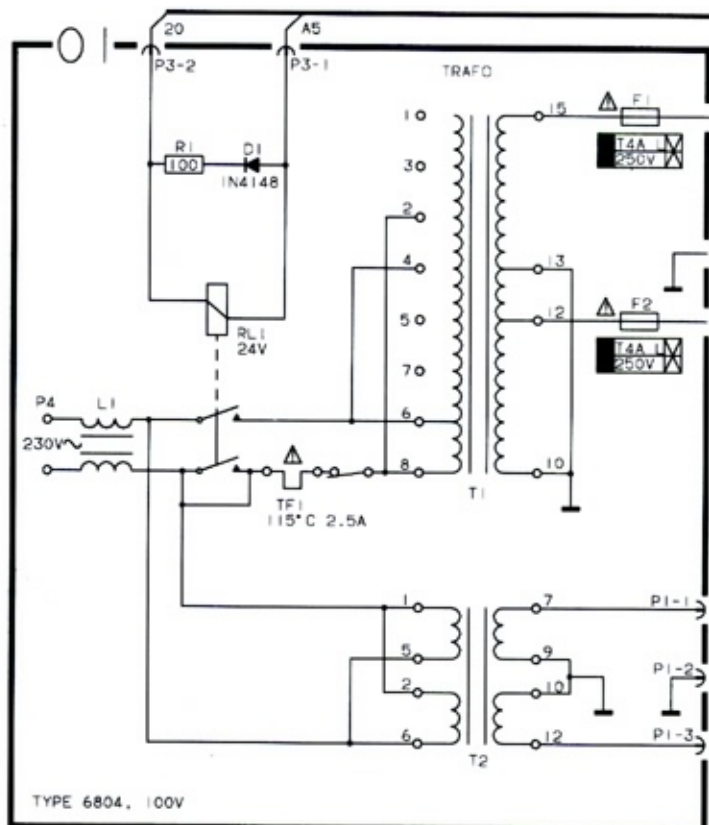
120V - TYPE 6803



Type 6804  
JPN 100 V~



100V - TYPE 6804



**DIAGRAMFORKLARING**

På diagrammerne er der angivet typenumre på transistorer og IC'er. Hvis positionsnummeret er efterfulgt af en stjerne, skal reservedelsnummeret altid benyttes, da denne komponent er specielt udvalgt, f.eks. TR102\*.

**Styrekredsløb**

I visse styrekredsløb er den aktive tilstand angivet med en funktions- eller bogstavsangivelse. Denne kan eksempelvis være  $\overline{ST.BY.}$  = »low« i stand-by-stilling eller ST.BY. = »high« i stand-by-stilling.

**Forsyningsspændinger**

Alle forsyningsspændinger i diagrammerne er angivet med en pil og en spændingsangivelse.

**Eksempel:**

Ved siden af spændingsangivelsen står der f.eks. 7 CON. Dette betyder, at den pågældende forsyningsspænding går til 7 steder på den pågældende diagramside (7 CON. = 7 connections).

**SYMBOL FOR SIKKERHEDSKOMPONENTER**

Ved udskiftning af komponenter med dette symbol skal der anvendes komponenter med samme reservedelsnummer. Den nye komponent skal monteres på samme måde som den udskiftede.

**MÅLEBETINGELSER**

Alle DC-spændinger er målt i forhold til stel med et voltmeter med en indgangsmodstand på 10 Mohm.

DC-spændingerne er opgivet i volt (V), f.eks. 0,7 V.

**EXPLANATION OF DIAGRAM**

Type numbers of transistors and ICs are indicated on the diagrams.

If the position number is followed by an asterisk the spare part number must always be used because the component in question has been specially selected, e.g. TR102\*.

**Control Circuit**

In certain control circuits the active mode is indicated by a function term or by an abbreviation. This may be e.g.  $\overline{ST.BY.}$  = low in the stand-by mode or ST.BY. = high in the stand-by mode.

**Supply Voltages**

All supply voltages in the diagrams are indicated by an arrow and a voltage indication.

**Example:**

"7 CON.". This means that the supply voltage in question goes to 7 different places on the diagram page in question (7 CON. = 7 connections).

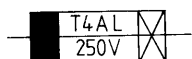
**SYMBOL OF SAFETY COMPONENTS**

When replacing components with this symbol, components with identical part numbers must be used. The new component must be mounted in the same way as the one replaced.

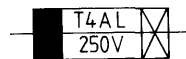
**MEASURING CONDITIONS**

All DC voltages have been measured in relation to ground with a voltmeter with an input resistance of 10 Mohms.

The DC voltages are stated in volts (V), e.g. 0.7 V.

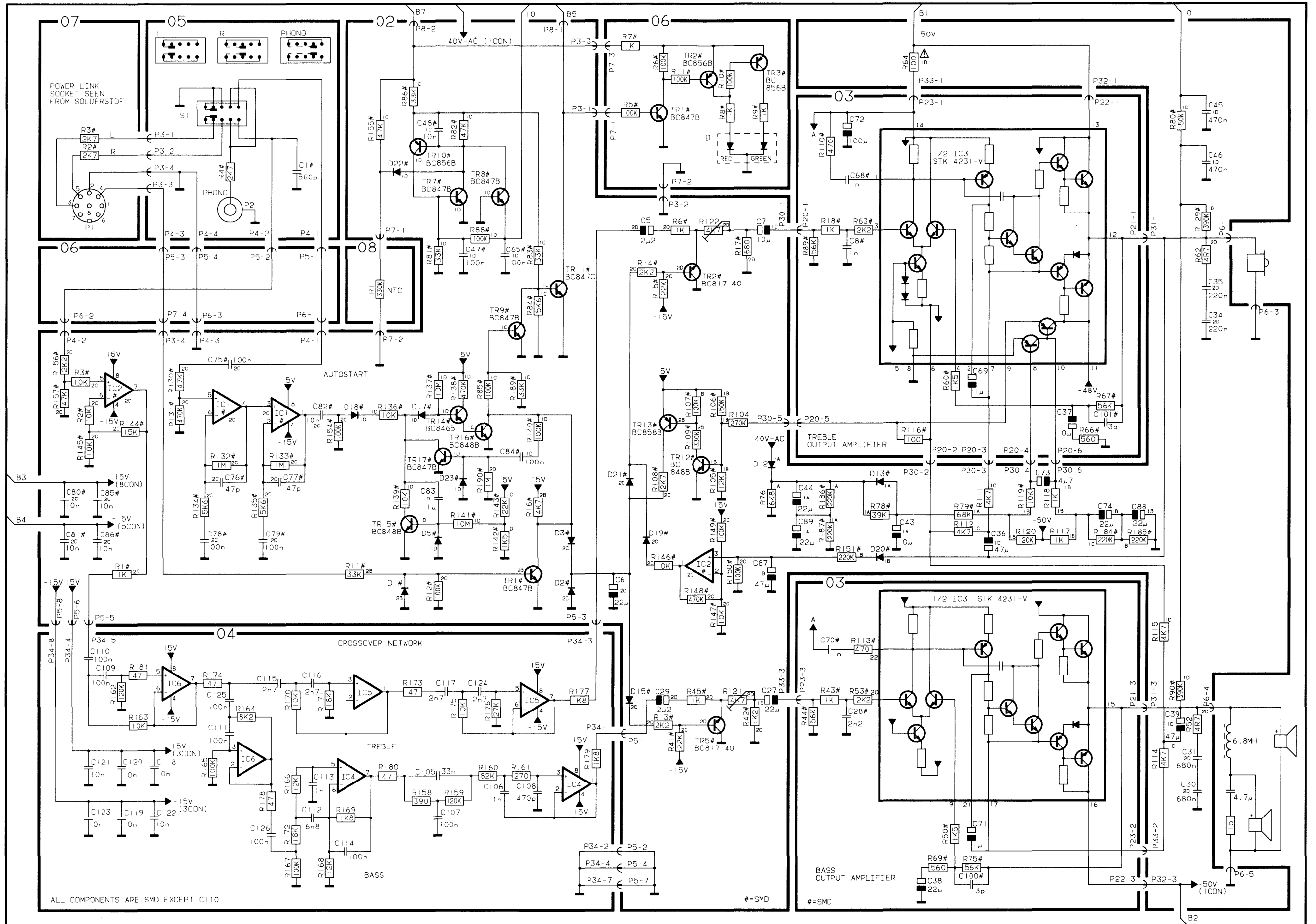
**EXPLANATION DE SYMBOLES DU FUSIBLE UTILISES DANS L'APPAREIL**

Remplacer par un fusible retardé de la même type et de 4 ampères 250 volts.

**EXPLANATION OF THE FUSE SYMBOLS USED IN THE SET**

Replace with the same type of 4 amperes 250 volts slow acting fuse.

DIAGRAM A

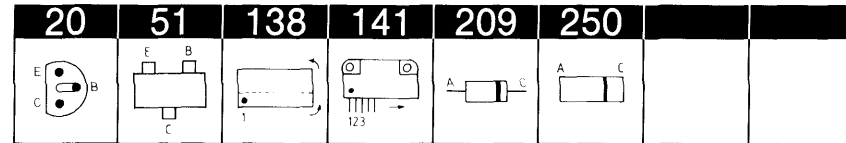








### LIST OF ELECTRICAL PARTS



Resistors not referred to are standard, see page 3-12  
 Δ indicates that static electricity may destroy the component.

#### PCB01, 8006038 Transformer

|           |         |            |               |
|-----------|---------|------------|---------------|
| D1        | 8300798 | <b>209</b> | 1N 4148       |
| L1        | 8022295 |            | Coil 2x0.4 mH |
| RL1       | 7600106 |            | Relay 24V     |
| T2        | 8013473 |            | Transformer   |
| F1-<br>F2 | 6600068 |            | Fuse T4A 250V |
|           | 7200085 |            | Fuse holder   |
| TF1       | 6609044 |            | Termo 2.5A    |

#### PCB02, 8006047 Power Supply

|               |         |            |                    |
|---------------|---------|------------|--------------------|
| IC1-<br>IC2Δ  | 8341022 | <b>138</b> | 4558               |
| TR1           | 8320755 | <b>051</b> | BC847B             |
| TR2           | 8320752 | <b>051</b> | BC817-40           |
| TR3           | 8320498 | <b>020</b> | BC547C             |
| TR4           | 8320540 | <b>020</b> | BC557C             |
| TR5           | 8320752 | <b>051</b> | BC817-40           |
| TR7-<br>TR9   | 8320755 | <b>051</b> | BC847B             |
| TR10          | 8320753 | <b>051</b> | BC856B             |
| TR11          | 8320936 | <b>051</b> | BC847B             |
| TR12          | 8320615 | <b>051</b> | BC848B             |
| TR13          | 8320616 | <b>051</b> | BC858B             |
| TR14          | 8320816 | <b>051</b> | BC846B             |
| TR15-<br>TR16 | 8320615 | <b>051</b> | BC848B             |
| TR17          | 8320755 | <b>051</b> | BC847B             |
| D1-<br>D3     | 8300482 | <b>250</b> | LL4148             |
| D4            | 8300497 |            | KBU 6D             |
| D5            | 8300482 | <b>250</b> | LL4148             |
| D8-<br>D9     | 8300584 | <b>250</b> | Z15V 5%            |
| D12           | 8300428 | <b>209</b> | 1N4007             |
| D13           | 8300482 | <b>250</b> | LL4148             |
| D15           | 8300482 | <b>250</b> | LL4148             |
| D16           | 8300466 |            | 125V 1.5A          |
| D17-<br>D23   | 8300482 | <b>250</b> | LL 4148            |
| R64           | 5020159 |            | 100Ω 10% 0.3W      |
| R121-<br>R122 | 5370370 |            | 4.7kΩ 30% 0.3W     |
| C5            | 4200517 |            | 2.2μF 20% 50V      |
| C6            | 4200672 |            | 22μF 20% 16V       |
| C7            | 4200510 |            | 10μF 20% 16V       |
| C9-<br>C10    | 4201093 |            | 4700μF -20+50% 63V |
| C11-<br>C13   | 4130103 |            | 100nF 20% 250V     |
| C27           | 4200525 |            | 22μF 20% 10V       |
| C29           | 4200517 |            | 2.2μF 20% 50V      |
| C30-<br>C31   | 4130311 |            | 680nF 10% 63V      |
| C34-<br>C35   | 4130233 |            | 220nF 20% 63V      |
| C36           | 4200688 |            | 47μF 20% 50V       |
| C39           | 4200688 |            | 47μF 20% 50V       |
| C43           | 4200561 |            | 10μF 20% 50V       |
| C44           | 4200824 |            | 22μF 20% 50V       |
| C45-<br>C46   | 4130234 |            | 470nF 10% 63V      |
| C47           | 4010166 |            | 100nF -20+80% 50V  |
| C48           | 4010176 |            | 10nF -20+80% 50V   |
| C61-<br>C62   | 4010170 |            | 2.2nF 10% 50V      |
| C63           | 4010166 |            | 100nF -20+80% 50V  |
| C64           | 4010176 |            | 10nF -20+80% 50V   |
| C65           | 4010166 |            | 100nF -20+80% 50V  |
| C66-<br>C67   | 4200858 |            | 220μF 20% 50V      |
| C73           | 4200875 |            | 4.7μF 20% 100V     |
| C74           | 4200824 |            | 22μF 20% 50V       |
| C75           | 4010220 |            | 100nF 10% 50V      |
| C76-<br>C77   | 4000234 |            | 47pF 5% 50V        |
| C78-<br>C79   | 4010220 |            | 100nF 10% 50V      |
| C80-<br>C81   | 4010176 |            | 10nF -20+80% 50V   |
| C82           | 4010157 |            | 10nF 10% 50V       |
| C83           | 4130070 |            | 1μF 10% 50V        |
| C84           | 4010220 |            | 100nF 10% 50V      |
| C85-<br>C86   | 4010176 |            | 10nF -20+80% 50V   |

#### PCB03, 8006046 Output Amplf.

|               |         |            |                     |
|---------------|---------|------------|---------------------|
| C102-<br>C104 | 4010216 |            | 22nF 10% 100V       |
| C87           | 4200688 |            | 47μF 20% 50V        |
| C88-<br>C89   | 4200824 |            | 22μF 20% 50V        |
| P1            | 7220185 |            | Plug 3 pole         |
| P2            | 7220710 |            | Plug 3 pole         |
| P3            | 7220711 |            | Plug 4 pole         |
| P4            | 7220710 |            | Plug 3 pole         |
| P5            | 7220788 |            | Plug 8 pole         |
| P6            | 7220206 |            | Plug 5/4 pole       |
| P7-<br>P8     | 7220709 |            | Plug 2 pole         |
| IC3Δ          | 8350082 | <b>141</b> | Hybrid<br>STK4231-V |
| C8            | 4010132 |            | 1nF 10% 50V         |
| C28           | 4010170 |            | 2.2nF 10% 50V       |
| C37           | 4200510 |            | 10μF 20% 16V        |
| C38           | 4200525 |            | 22μF 20% 10V        |
| C68           | 4010132 |            | 1nF 10% 50V         |
| C69           | 4200512 |            | 1μF 20% 50V         |
| C70           | 4010132 |            | 1nF 10% 50V         |
| C71           | 4200512 |            | 1μF 20% 50V         |
| C72           | 4200368 |            | 100μF -20+50% 63V   |
| C100-<br>C101 | 4000267 |            | 3pF ±0.25pF 50V     |

#### PCB04, 8006048 Crossover network

|               |         |            |                  |
|---------------|---------|------------|------------------|
| IC4-<br>IC6Δ  | 8341022 | <b>138</b> | 4558             |
| C105          | 4010175 |            | 33nF 10% 50V     |
| C106          | 4000345 |            | 1nF 5% 50V       |
| C107          | 4010220 |            | 100nF 10% 50V    |
| C108          | 4000286 |            | 470nF 5% 50V     |
| C109          | 4010220 |            | 100nF 10% 50V    |
| C110          | 4130230 |            | 100nF 20% 63V    |
| C111          | 4010220 |            | 100nF 10% 50V    |
| C112          | 4010174 |            | 6.8nF 10% 50V    |
| C113          | 4000345 |            | 1nF 5% 50V       |
| C114          | 4010220 |            | 100nF 10% 50V    |
| C115-<br>C117 | 4010195 |            | 2.7nF 5% 50V     |
| C118-<br>C123 | 4010176 |            | 10nF -20+80% 50V |
| C124          | 4010195 |            | 2.7nF 5% 50V     |
| C125-<br>C126 | 4010220 |            | 100nF 10% 50V    |

#### PCB05, 8006052 Line/Shift

|     |         |  |               |
|-----|---------|--|---------------|
| P34 | 7210768 |  | Plug 8 pole   |
| C1  | 4000344 |  | 560pF 5% 50V  |
| S1  | 7400371 |  | Switch        |
| P2  | 7210384 |  | Socket, Phono |
| P3  | 7220711 |  | Plug 4 pole   |
| P4  | 7220712 |  | Plug 5 pole   |

#### PCB06, 8006050 Stand by

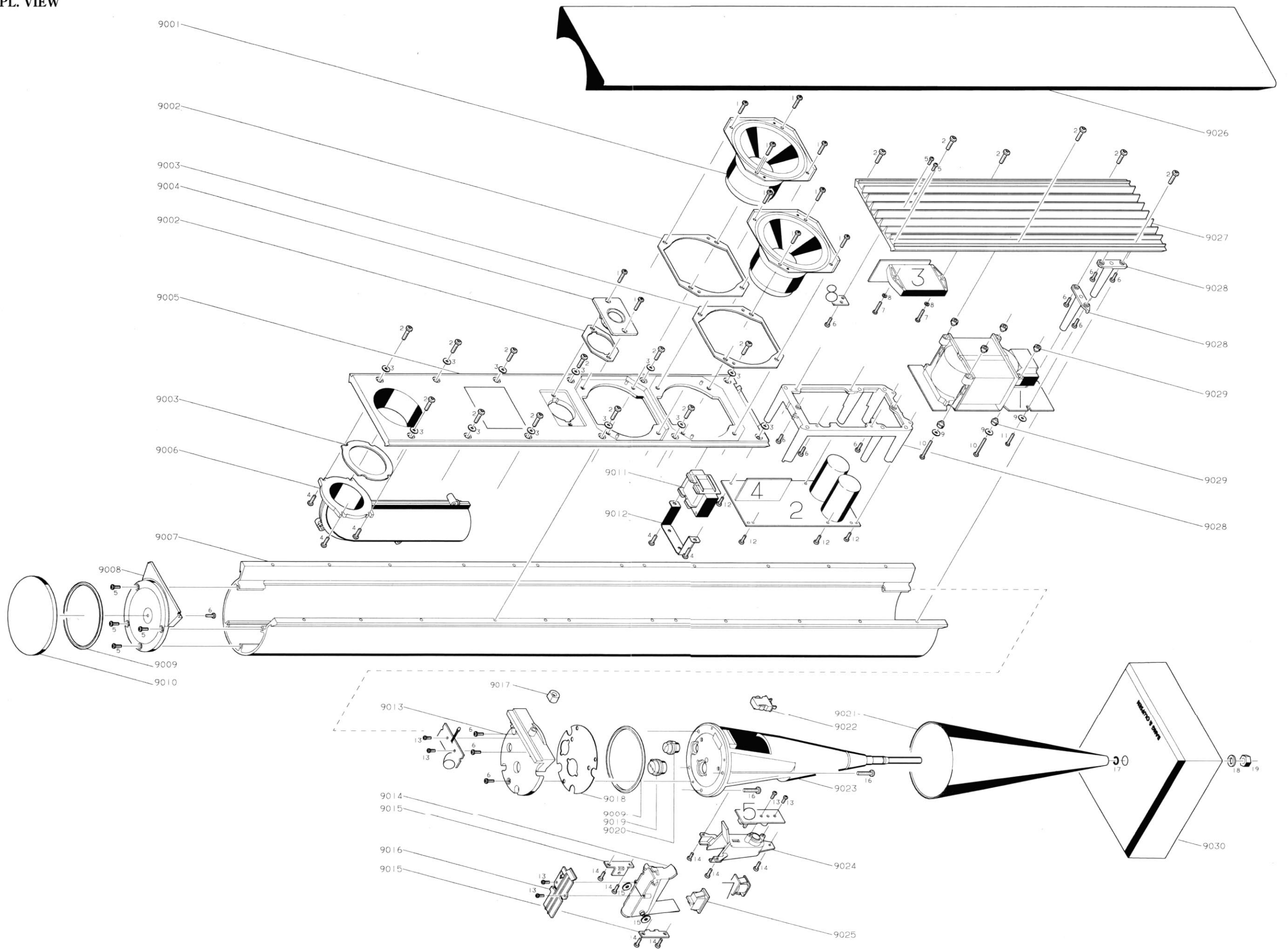
|             |         |            |             |
|-------------|---------|------------|-------------|
| TR1         | 8320755 | <b>051</b> | BC847B      |
| TR2-<br>TR3 | 8320753 | <b>051</b> | BC856B      |
| D1          | 8330289 |            | LED         |
| R7-<br>R9   | 5011631 |            | 1kΩ 1% 1/4W |
| P5          | 7220712 |            | Plug 5 pole |
| P6          | 7220710 |            | Plug 3 pole |
| P7          | 7220711 |            | Plug 4 pole |

#### PCB07, 8006051 Power Link

|    |         |  |                   |
|----|---------|--|-------------------|
| P1 | 7210518 |  | DIN-Socket 8 pole |
| R1 | 5220036 |  | 330kΩ 10% 1/2W    |

#### PCB08, 8006049 NTC

EXPL. VIEW



## LIST OF MECHANICAL PARTS

|                                     |         |                              |      |         |                              |
|-------------------------------------|---------|------------------------------|------|---------|------------------------------|
| 01modul                             | 8006038 | PCB transformer              |      |         |                              |
| 02modul                             | 8006047 | PCB power supply             |      |         |                              |
| 03modul                             | 8006046 | PCB output amplifier         |      |         |                              |
| 04modul                             | 8006048 | PCB crossover network        |      |         |                              |
| 05modul                             | 8006052 | PCB line/shift               |      |         |                              |
| 06modul                             | 8006050 | PCB stand by                 |      |         |                              |
| 07modul                             | 8006051 | PCB powerlink                |      |         |                              |
| 08modul                             | 8006049 | PCB NTC                      |      |         |                              |
| 9001                                | 8480242 | Woofers                      | 9017 | 3340084 | Gasket f. stand by           |
| 9002                                | 3340082 | Gasket f. woofer and tweeter | 9018 | 3340100 | Gasket f. bottom             |
| 9003                                | 3340102 | Gasket f. woofer and port    | 9019 | 3340083 | Gasket f. mains cable        |
| 9004                                | 8480243 | Tweeter                      | 9020 | 3340085 | Gasket f. signal cable       |
| 9005                                | 3440152 | Baffle                       | 9021 | 3131359 | Cone                         |
|                                     | 3947395 | Tape                         | 9022 | 3034066 | Lock fittings                |
| 9006                                | 3458787 | Woofers port                 |      |         | f. socket holder             |
| 9007                                | 3430590 | Cabinet                      | 9023 | 3114378 | Chassis cone                 |
|                                     | 3947350 | Foam tape, 10 meter          |      | 3947350 | Foam tape, 10 meter          |
|                                     | 3947529 | Black tape, 66 meter         |      |         |                              |
| 9008                                | 3458838 | Top, inside                  | 9024 | 3152838 | Holder f. line/shift         |
| 9009                                | 2732095 | O-ring                       |      |         |                              |
| 9010                                | 3458782 | Top, outside                 | 9025 | 7219075 | Socket f. mains cable        |
| 9011                                | 6850219 | Coil, 6.8mH                  |      |         |                              |
| 9012                                | 2510151 | Clamp                        | 9026 | 3451204 | Cloth front                  |
| 9013                                | 3454739 | Bottom                       | 9027 | 3358300 | Heat sink                    |
| 9014                                | 3168952 | Socket holder                |      | 3947350 | Foam tape, 10 m              |
| 9015                                | 2530541 | Fitting                      | 9028 | 3114379 | Chassis PW                   |
| 9016                                | 3164871 | Lid f. socket holder         | 9029 | 2938283 | Bushing                      |
|                                     |         |                              | 9030 | 3103321 | Foot                         |
| <b>Survey of screws and washers</b> |         |                              |      |         |                              |
| 1                                   | 2015139 | Screw, 3.5x16                | 11   | 2013154 | Screw, 3x16                  |
| 2                                   | 2015143 | Screw, 4x16                  | 12   | 2013137 | Screw, 3x10                  |
| 3                                   | 2622338 | Washer, Ø4.1                 | 13   | 2013144 | Screw, 3x8                   |
| 4                                   | 2013186 | Screw, 3.5x12                | 14   | 2013188 | Screw, 3x8                   |
| 5                                   | 2019023 | Screw, 4x10                  | 15   | 2622455 | Washer, Ø4                   |
| 6                                   | 2011055 | Screw, 3x10                  | 16   | 2013185 | Screw, 4x20                  |
| 7                                   | 2011056 | Screw, 3x16                  | 17   | 2390114 | Snap ring                    |
| 8                                   | 2624013 | Washer, Ø3                   | 18   | 2576285 | Spacer                       |
| 9                                   | 2622247 | Washer, Ø3.2                 | 19   | 2380156 | Nut, M8                      |
| 10                                  | 2013189 | Screw, 3x26                  |      |         |                              |
| <b>Parts not shown</b>              |         |                              |      |         |                              |
|                                     | 7530119 | Solder tag                   |      | 6100245 | Mains cable, type 6801, 6802 |
|                                     | 6276490 | Wire, 1P4 - Main socket      |      | 6100268 | Mains cable, type 6803       |
|                                     | 6276492 | Wire, 5P4-6P5                |      | 6100247 | Mains cable, type 6804       |
|                                     | 6276494 | Wire, 1P3-2P8                |      | 6100248 | Mains cable, type 6805       |
|                                     | 6276526 | Wire, 2P3-6P7                |      | 6270418 | HT cable, 5m                 |
|                                     | 6276527 | Wire, 2P4-6P6                |      | 330133  | Cable assembler, 1.5 m       |
|                                     | 6276528 | Wire, 1P1-2P2                |      | 3392203 | Outer carton                 |
|                                     | 3332040 | Damper, big                  |      | 3397706 | Foam packing                 |
|                                     | 3332043 | Damper, medium               |      | 3392234 | Wood piece, long             |
|                                     | 3332044 | Damper, small                |      | 3392237 | Wood piece                   |
|                                     | 3103313 | Foot, "Spike", adjustable    |      |         |                              |
|                                     | 3103322 | Foot "Soft", adjustable      |      |         |                              |
|                                     | 3340029 | Pipe wrench                  |      |         |                              |
| <b>Owners Manual</b>                |         |                              |      |         |                              |
|                                     | 3506189 | Danish                       |      | 3506194 | Dutch                        |
|                                     | 3506190 | Swedish                      |      | 3506195 | French                       |
|                                     | 3506191 | Finnish                      |      | 3506196 | Italian                      |
|                                     | 3506192 | English                      |      | 3506197 | Spanish                      |
|                                     | 3506193 | German                       |      |         |                              |

## JUSTERING

Når R121 og R122 skal justeres er det ikke nødvendigt at have højttalere tilsluttet.

### Udskiftning af diskanthøjttaleren.

1. Tilfør et signal fra en tonegenerator, 10 kHz - 100 mV til enten:
  - ben 5 (omskifter i stilling RIGHT) på POWER LINK stikket.
  - ben 3 (omskifter i stilling LEFT) på POWER LINK stikket.
  - phonostikket (omskifter i stilling PHONO).
2. Slut et AC-voltmeter til diskanthøjttalerstikket P6-1/P6-3.
3. Juster R122-PCB02 til der måles 2,95 V.

### Udskiftning af bashøjttaler.

Ved udskiftning af en enkelt bashøjttaler må der ikke justeres i R121-PCB02.

Ved udskiftning af *begge* bashøjttalere skal R121-PCB02 justeres:

1. Tilfør et signal fra en tonegenerator, 1 kHz - 100 mV til enten:
  - ben 5 (omskifter i stilling RIGHT) på POWER LINK stikket.
  - ben 3 (omskifter i stilling LEFT) på POWER LINK stikket.
  - phonostikket (omskifter i stilling PHONO).
2. Slut et AC-voltmeter til bashøjttalerstikket P6-4/P6-5.
3. Juster R121-PCB02 til der måles 4,8 V.

### Udskiftning af PCB02

Ved udskiftning af PCB02 skal potentiometer R121 og R122 justeres:

#### Justering af R122

1. Tilfør et signal fra en tonegenerator, 10 kHz - 100 mV til enten:
  - ben 5 (omskifter i stilling RIGHT) på POWER LINK stikket.
  - ben 3 (omskifter i stilling LEFT) på POWER LINK stikket.
  - phonostikket (omskifter i stilling PHONO).
2. Slut et AC-voltmeter til diskanthøjttalerstikket P6-1/P6-3.
3. Juster R122-PCB02 til der måles 2,95 V.

## ADJUSTMENT

When adjusting R121 and R122 it is not necessary to have speakers connected.

### Replacement of the treble speaker

1. Feed a signal from a tone generator, 10 kHz - 100 mV to either:
  - pin 5 (switch in position RIGHT) on the POWER LINK socket
  - pin 3 (switch in position LEFT) on the POWER LINK socket
  - the phono socket (switch in position PHONO)
2. Connect an AC voltmeter to the treble speaker socket P6-1/P6-3.
3. Adjust R122-PCB02 until 2.95 V are measured.

### Replacement of the bass speaker

When replacing a single bass speaker, do not adjust R121-PCB02.

When replacing *both* bass speakers, adjust R121-PCB02.

1. Feed a signal from a tone generator, 1 kHz - 100 mV to either:
  - pin 5 (switch in position RIGHT) on the POWER LINK socket
  - pin 3 (switch in position LEFT) on the POWER LINK socket
  - the phono socket (switch in position PHONO)
2. Connect an AC voltmeter to the bass speaker socket P6-4/P6-5.
3. Adjust R121-PCB02 until 4.8 V are measured.

### Replacement of PCB02

When replacing PCB02 adjust potentiometers R121 and R122:

#### Adjustment of R122

1. Feed a signal from a tone generator, 10 kHz - 100 mV to either:
  - pin 5 (switch in position RIGHT) on the POWER LINK socket
  - pin 3 (switch in position LEFT) on the POWER LINK socket
  - the phono socket (switch in position PHONO)
2. Connect an AC voltmeter to the treble speaker socket P6-1/P6-3.
3. Adjust R122-PCB02 until 2.95 V are measured.

## Justering af R121

1. Tilfør et signal fra en tonegenerator, 1 kHz - 100 mV til enten:
  - ben 5 (omskifter i stilling RIGHT) på POWER LINK stikket.
  - ben 3 (omskifter i stilling LEFT) på POWER LINK stikket.
  - phonostikket (omskifter i stilling PHONO).
2. Slut et AC-voltmeter til bashøjtalerstikket P6-4/P6-5.
3. Juster R121-PCB02 til der måles 4,8 V.

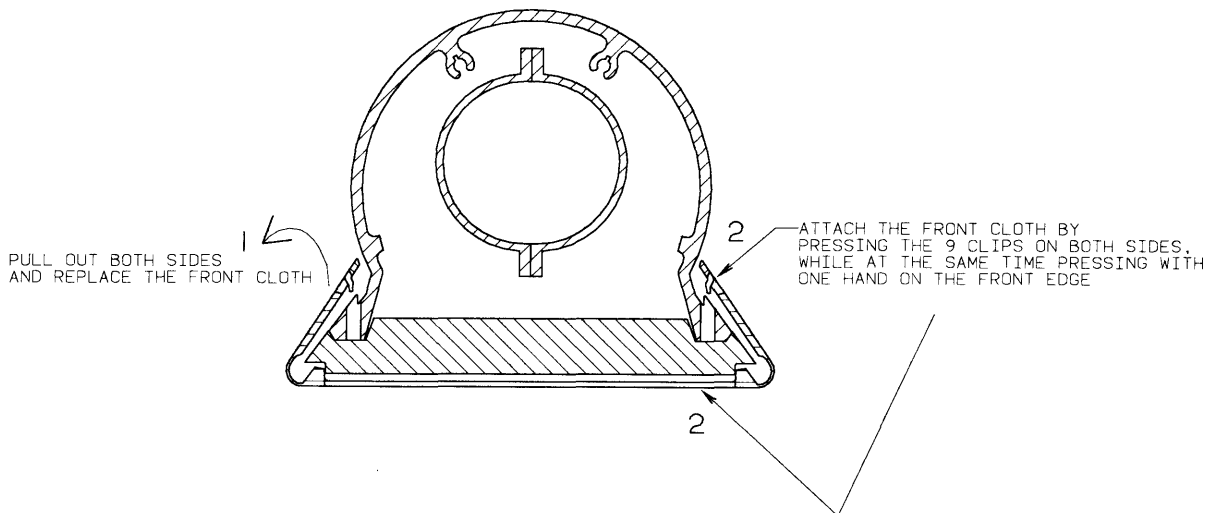
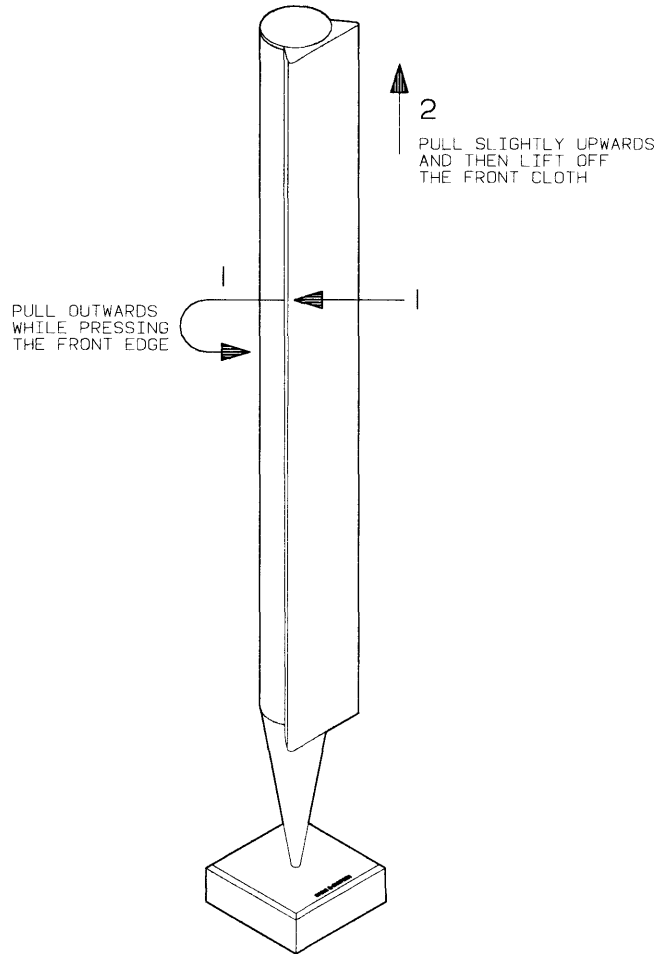
## Adjustment of R121

1. Feed a signal from a tone generator, 1 kHz - 100 mV to either:
  - pin 5 (switch in position RIGHT) on the POWER LINK socket
  - pin 3 (switch in position LEFT) on the POWER LINK socket
  - the phono socket (switch in position PHONO)
2. Connect an AC voltmeter to the bass speaker socket P6-4/P6-5.
3. Adjust R121-PCB02 until 4.8 V are measured.



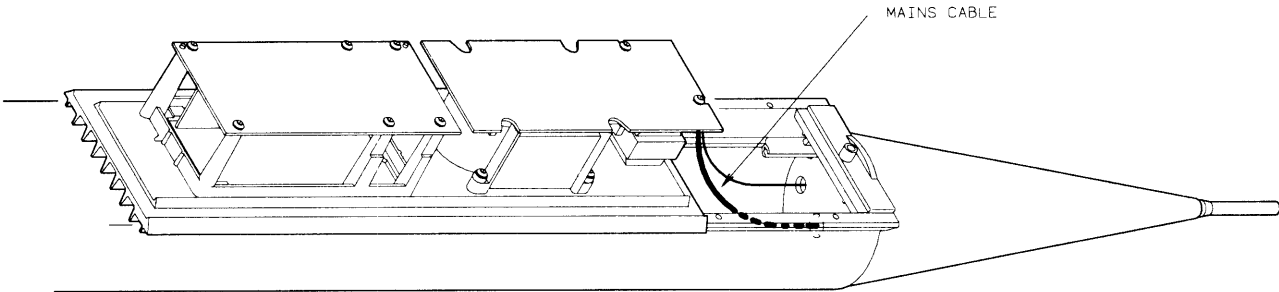
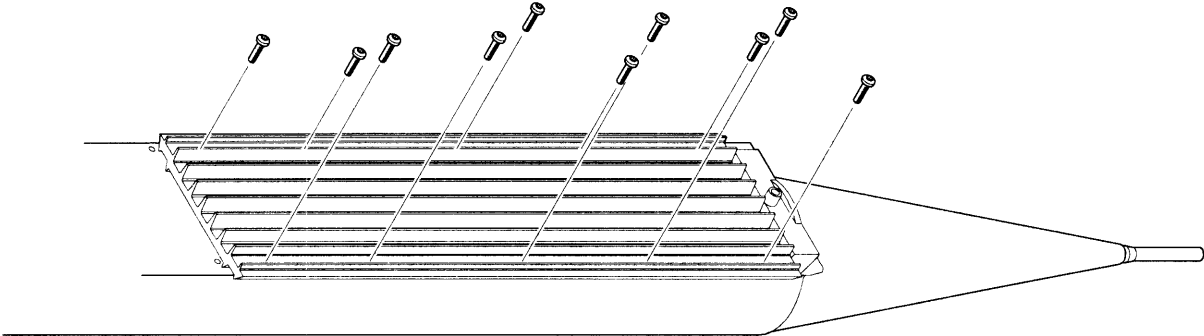
## ADSKILLELSE

## DISASSEMBLY



Adskillelse

Disassembly



**REPARATIONSTIPS**

Ved reparation af Beolab 8000 kan det være en fordel at benytte en original emballage til at lægge højttaleren i.

**Vigtigt!**

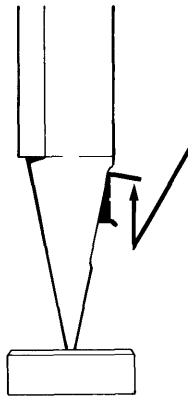
Ladeelektrolytterne C9-PCB02 og C10-PCB02 skal aflades med en 500 ohms effektmodstand, 5W inden der skiftes komponenter. Disse ladeelektrolytter aflades nemlig ikke, hverken i stand-by eller ved fjernelse af net-spændingen. (Spændingen kan holde sig i op til en uge).

**Placering af type og serienr.****REPAIR TIPS**

When repairing a Beolab 8000 it may be a good idea to place the speaker in an original speaker packaging.

**Important!**

The charging electrolytes C9-PCB02 and C10-PCB02 must be discharged with a 500 ohm effect resistor, 5W, before replacering components. These charging electrolytes will not be discharged, eigher in stand-by or when disconnecting the mains voltage. (The voltage can remain for up to a week).

**Positioning of type and serial numbers****Autostart-kredsløb**

Hvis man under en reparation ønsker at slukke for autostart-kredsløbet, kan det gøres ved at kortslutte C83-PCB02.

**Udskiftning af termosikring**

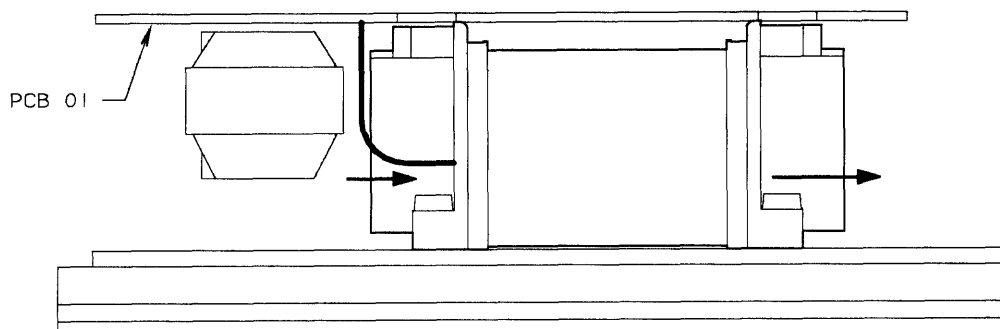
Termosikringen TF1 skal placeres på samme måde som den defekte. Ved afmontering skal termosikringen loddes fra i printet og trækkes ud i den modsatte side af transformatoren. Den nye sikring skal monteres på samme måde, altså ved at føre tilledningerne gennem transformatoren og lodde dem i printet.

**Autostart circuit**

If it is desirable to switch off the autostart circuit during a repair, this can be achieved by short-circuiting C83-PCB02.

**Replacement of thermal fuse**

The thermal fuse, TF1, must be positioned in the same way as the defective fuse. When dismantling the defective fuse, it must be unsoldered from the PCB and pulled out on the opposite side of the transformer. The new fuse must be positioned in the same way, i.e. by running the supply leads through the transformer and soldering them to the PCB.



## Forslag til fremgangsmåde ved reparation

Højtaleren er tavs, rødt lys i lysdioden.

Kontroller følgende:

- Står omskifteren rigtigt?
- Forsyningsspændingen +/-15V DC.
- Mål spændingen mellem R83 og R86 på PCB02, den skal være ca. 11.3V.
- Spændingen på kollektoren af TR11-PCB02, den skal være under 0,5V DC.

Højtaleren er tavs, grønt lys i lysdioden.

Kontroller følgende:

- Står omskifteren rigtigt?
- Sikringerne F1 og F2.
- Sikringsmodstand R64 på PCB02.
- Forsyningsspændingen +/-50V DC.
- Forsyningsspændingen +/-15V DC.
- Er delefilteret monteret?
- Er relæ RL1 trukket?
- AC-forsyningsspændingen (D12-PCB02) ca. 40V AC.
- Spændingen på C43-PCB02, der skal være ca. 30V DC.
- Spændingen på IC3-PCB03, ben 9, den skal være under -45V DC.
- Spændingen på basis af mutetransistorerne TR2-PCB02 og TR5-PCB02 skal være ca. -2V DC.

## Suggested repair procedure

The speaker is silent, the LED emits red light.

Check the following:

- Is the switch in the right position?
- The supply voltage +/-15V DC.
- Measure the voltage between R83 and R86 on PCB02. It should be approx. 11.3V.
- The voltage at the collector of TR11-PCB02. It should be less than 0.5V DC.

The speaker is silent, the LED emits green light.

Check the following:

- Is the switch in the right position?
- The fuses F1 and F2.
- Fuse resistor R64 on PCB02.
- The supply voltage +/-50V DC.
- The supply voltage +/-15V DC.
- Is the crossover network installed?
- Is relay RL1 driven?
- The AC supply voltage (D12-PCB02) approx. 40V AC.
- The voltage at C43-PCB02, which should be approx. 30V DC.
- The voltage at IC3-PCB03, pin 9; it should be less than -45V DC.
- The voltage at the base of the mute transistors TR2-PCB02 and TR5-PCB02 should be approx. -2V DC.

## ISOLATIONSTEST

Ethvert apparat skal isolationstestes, efter at det har været adskilt. Testen udføres, når apparatet er samlet igen og er klar til udlevering til kunden.

Der må ikke forekomme overslag under testen!

Isolationstesten udføres på følgende måde:

De to stikben på netstikket kortsluttes og tilsluttes den ene af terminalerne på isolationstesteren. Den anden terminal tilsluttes stel på phono bøsningen (LINE IN).

### OBS!

For at undgå beskadigelser af apparatet er det vigtigt, at begge terminaler på isolationstesteren har virkelig god kontakt.

Spændingsreguleringen på isolationstesteren drejes langsomt op, indtil en spænding på 1,5-2 kV er opnået. Her skal den holdes i ét sekund, hvorefter der langsomt drejes ned for spændingen igen.

## INSULATION TEST

Each set must be insulation tested after having been dismantled. Make the test when the set has been reassembled and is ready to be returned to the customer.

Flashovers must not occur during the testing procedure!

Make the insulation test as follows:

Short-circuit the two pins of the mains plug and connect them to one of the terminals of the insulation tester. Connect the other terminal to ground in phono socket (LINE IN).

### NOTE!

To avoid damaging the set it is essential that both terminals of the insulation tester have good contact.

Slowly turn the voltage control of the insulation tester until a voltage of 1.5-2 kV is obtained. Maintain that voltage for one second, then slowly turn it down again.



# Bang & Olufsen

3538826 03-93 Paste into service manual Beovox 5 (3538717)

## **Beolab 8000**

**ABL and Corrections**



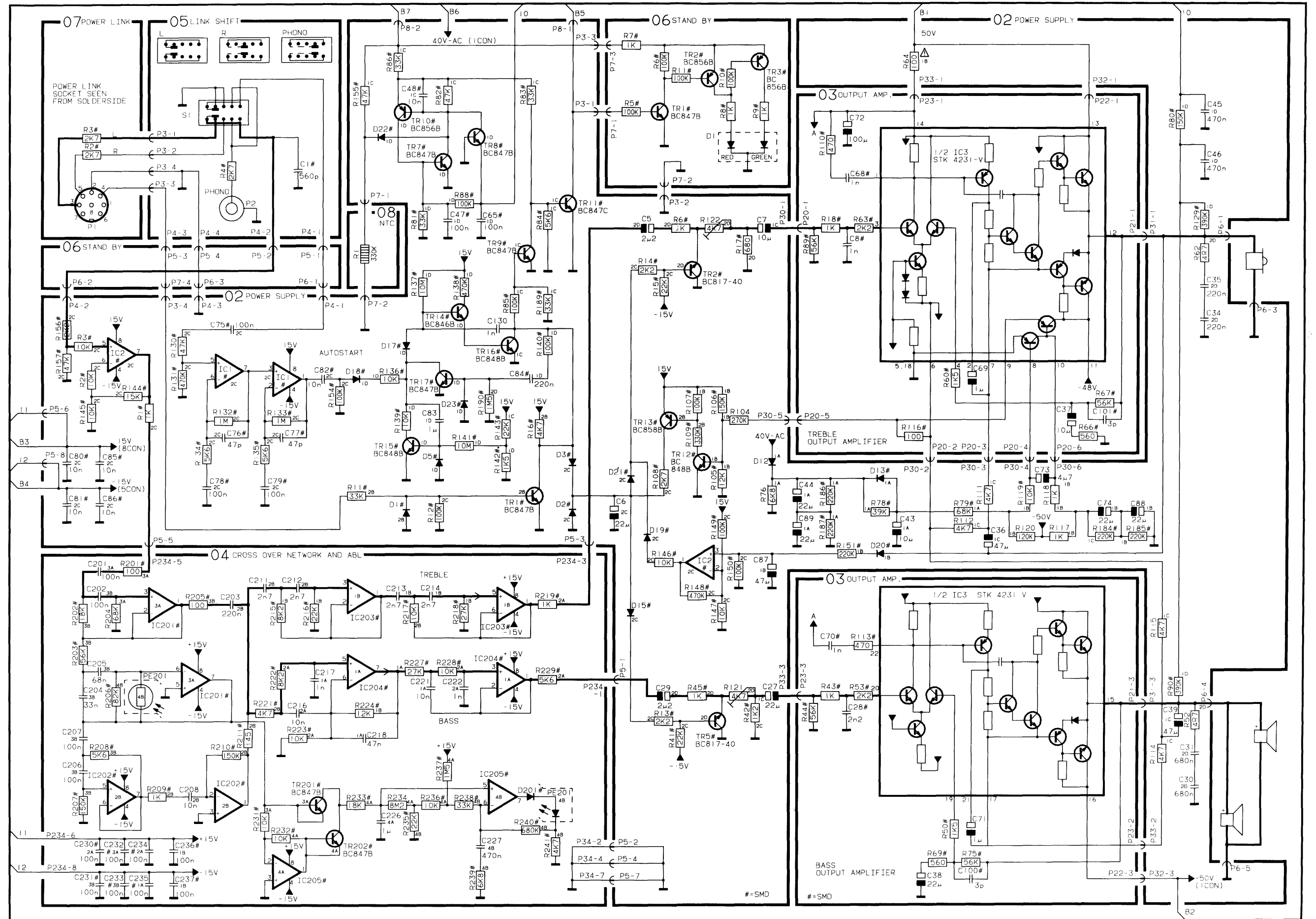
**Main differences from previous model**

As from serial no. 10145230, ABL (in module 04) and a new woofer have been implemented.

The coil (pos. no. 9011 in expl. view, page 20-1) has been removed.

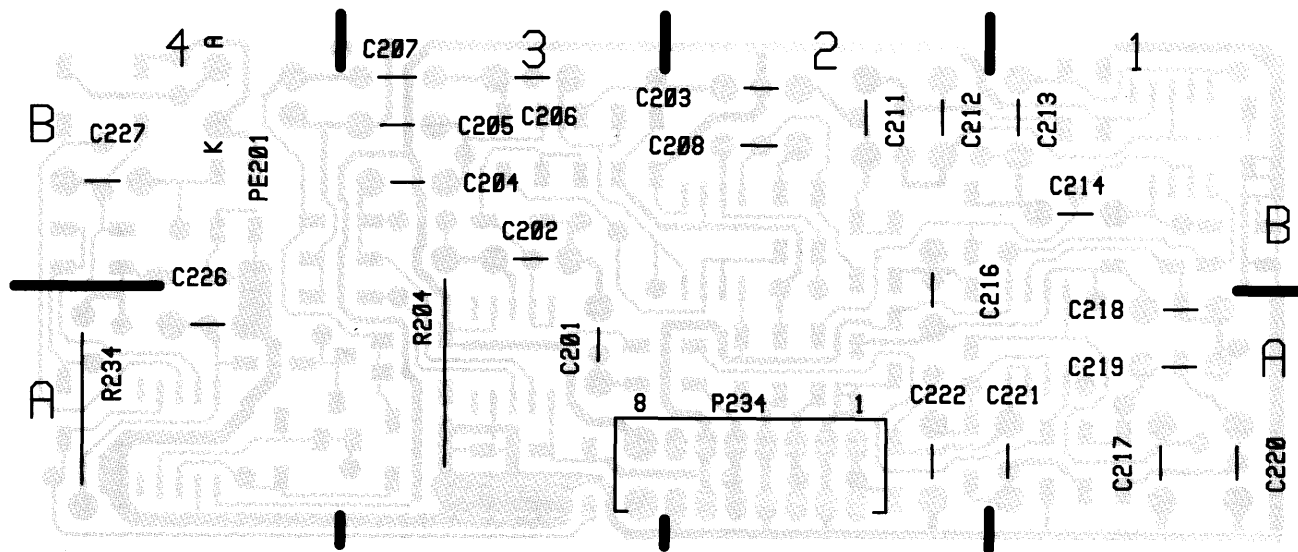
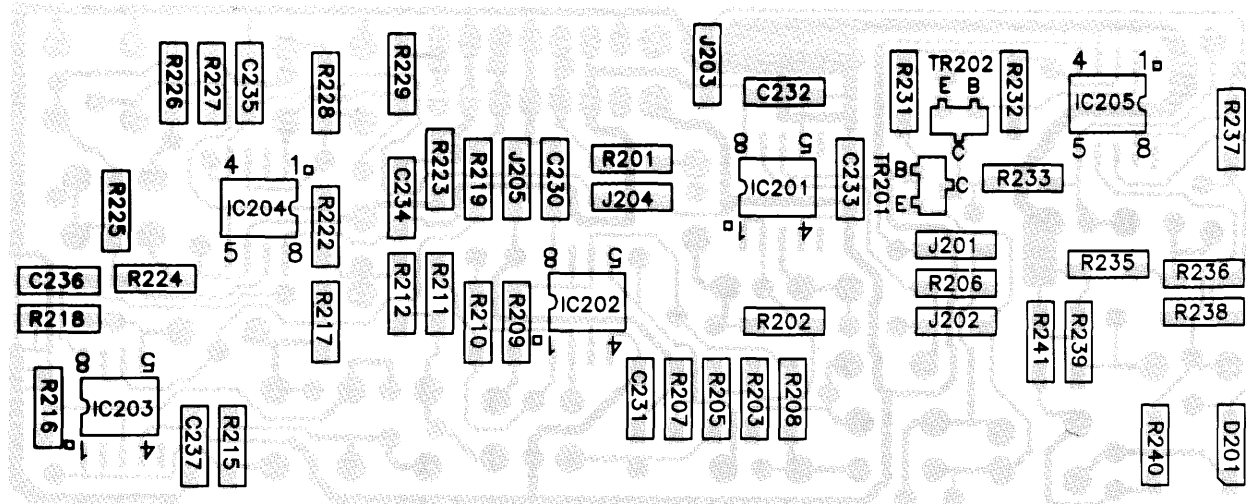
All other Electrical and Mechanical parts are identical with the parts mentioned in the Service Manual 3538801.

DIAGRAM A



SMD SURVEY

PCB 4, Crossover network and ABL



LIST OF ELECTRICAL PARTS PAGE 19-1

| 51 | 136 | 138 | 250 |  |  |  |
|----|-----|-----|-----|--|--|--|
|    |     |     |     |  |  |  |

Resistors not referred to are standard, see page 3-12.  
 Δ indicates that static electricity may destroy the component.

PCB 01, 8006038  
Transformer

|     |         |                     |  |  |  |
|-----|---------|---------------------|--|--|--|
| F1- | 7200085 | Fuse holder, 2 pole |  |  |  |
| F2  | 7200064 | Fuse holder, 1 pole |  |  |  |

PCB 02, 8006047  
Power Supply

|     |         |                     |      |         |                   |
|-----|---------|---------------------|------|---------|-------------------|
| C9- | 3340115 | Gasket f. capacitor | C84  | 4000287 | 220nF -20+80% 25V |
| C10 |         |                     | C130 | 4010105 | 1nF 10% 63V       |

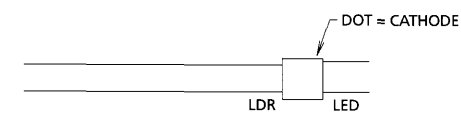
PCB 04, 8006088\*  
Crossover network and ABL

|                  |         |     |      |        |         |     |       |
|------------------|---------|-----|------|--------|---------|-----|-------|
| IC201-<br>IC204Δ | 8341022 | 138 | 4558 | IC205Δ | 8341033 | 136 | LF353 |
|------------------|---------|-----|------|--------|---------|-----|-------|

|                 |         |     |        |
|-----------------|---------|-----|--------|
| TR201-<br>TR202 | 8320755 | 051 | BC847B |
|-----------------|---------|-----|--------|

|      |         |     |        |
|------|---------|-----|--------|
| D201 | 8300482 | 250 | LL4148 |
|------|---------|-----|--------|

|       |         |                 |
|-------|---------|-----------------|
| PE201 | 5210017 | LDR/LED coupler |
|-------|---------|-----------------|



|      |         |              |
|------|---------|--------------|
| R204 | 5010062 | 68kΩ 5% 1/4W |
|------|---------|--------------|

|       |         |                |       |         |                   |
|-------|---------|----------------|-------|---------|-------------------|
| C201- | 4130306 | 100nF 10% 63V  | C216  | 4130265 | 10nF 10% 63V      |
| C202  |         |                | C217  | 4010105 | 1nF 10% 63V       |
| C203  | 4130308 | 220nF 10% 63V  | C218  | 4130240 | 47nF 10% 63V      |
| C204  | 4130305 | 33nF 10% 63V   | C221  | 4130265 | 10nF 10% 63V      |
| C205  | 4130264 | 68nF 10% 63V   | C222  | 4010105 | 1nF 10% 50V       |
| C206- | 4130306 | 100nF 10% 63V  | C226  | 4130399 | 1uF 10% 63V       |
| C207  |         |                | C227  | 4130234 | 470nF 10% 63V     |
| C208  | 4130265 | 10nF 10% 63V   | C230- | 4010166 | 100nF -20+80% 50V |
| C211- | 4010167 | 2.7nF 10% 100V | C237  |         |                   |
| C214  |         |                |       |         |                   |

|      |         |               |
|------|---------|---------------|
| P234 | 7210768 | Socket, 8pole |
|------|---------|---------------|

\* IMPORTANT!  
 Check if the coil (pos. 9011 in expl. view, page 20-1) is mounted in the set.  
 If the coil is mounted, use part no. 8006048.

PCB 05, 8006052  
Line/Shift

|    |         |        |
|----|---------|--------|
| S1 | 7400421 | Switch |
|----|---------|--------|

|    |         |               |
|----|---------|---------------|
| P2 | 7210959 | Socket, phono |
|    | 2625028 | Washer        |

All other electrical parts are identical with the list of Electrical parts page 19-1.

**List of Mechanical Parts**  
page 20-2

9001\* 8480256 Woofer

**\* IMPORTANT!**

Before replacing woofer, check if the coil (pos. 9011 in expl. view, page 20-1) is mounted in the set.

If the coil is mounted, use part no. 8480242.

When replacing the woofer with part no. 8480256, the tweeter level has to be readjusted. See the skema below.

**Survey of screws and washers**

|    |         |             |
|----|---------|-------------|
| 5  | 2015143 | Screw, 4x16 |
| 15 | 2622454 | Washer, Ø4  |
| 18 | 2622455 | Spacer      |

**Parts not shown**

|         |                        |
|---------|------------------------|
| 3300133 | Cable assembler, 1.5 m |
| 3300137 | Cable assembler, 20 m  |

*All other Mechanical parts are identical with the list of Mechanical parts page 20-2.*

**REPAIR TIPS**  
PAGE 23-1**ABL (adaptive bass linearization)**

The ABL function is most easily checked by connecting an audio oscillator (80 Hz) to the input socket.

Connect a DC voltmeter across R238-PCB04.

Adjust the level of the audio oscillator until the voltage across R238-PCB04 just begins to rise from 0V. The voltage must be between 0 and 30mV. This is just sufficient for making ABL active. (The output is approx. 11W).

Now increase the level at the input by 10 dB.

The voltage across R238-PCB04 should now rise to approx. 2.2V immediately. (The output is approx. 24W).

Reduce the level at the input by 10 dB.

After 5-10 seconds, the voltage across R238-PCB04 should drop to approx. 0V. ABL is out of operation.