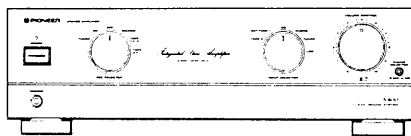


# Service Manual



The illustration shows model A-400.

ORDER NO.  
ARP2044

STEREO AMPLIFIER

# A-400

## A-300

MODEL A-400 AND A-300 HAVE FOLLOWING VERSIONS:

| Type | Applicable model |       | Power requirement           | Export destination |
|------|------------------|-------|-----------------------------|--------------------|
|      | A-400            | A-300 |                             |                    |
| HB   | ○                | ○     | AC220V, 240V (switchable) * | United Kingdom     |

\* Change the connection of the power transformer lead wire.

- This manual is applicable to the A-400/HB and A-300/HB types.
- Ce manuel pour le service comprend les explications de réglage en français.
- Este manual de servicio trata del método ajuste escrito en español.

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# 1. SPECIFICATIONS

## [A-400]

### Amplifier Section

|                                                                     |                           |
|---------------------------------------------------------------------|---------------------------|
| Continuous power output (both channels driven at 20 Hz to 20 kHz) * |                           |
| T.H.D. 0.03 %, 8 Ω                                                  | 50 W + 50 W               |
| T.H.D. 0.05 %, 4 Ω                                                  | 70 W + 70 W               |
| DIN Continuous power output (both channels driven at 1 kHz)         |                           |
| T.H.D. 1.0 %, 8 Ω                                                   | 60 W + 60 W               |
| T.H.D. 1.0 %, 4 Ω                                                   | 85 W + 85 W               |
| Dynamic power output (on EIA dynamic test signal)                   |                           |
| 8 Ω/4 Ω/2 Ω                                                         | 70 W/100 W/135 W          |
| Total harmonic distortion *                                         |                           |
| 20 Hz to 20 kHz, 50 W, 8 Ω                                          | 0.03 %                    |
| 20 Hz to 20 kHz, 70 W, 8 Ω                                          | 0.05 %                    |
| Input sensitivity/impedance                                         |                           |
| PHONO (MM)                                                          | 2.5 mV/50 kΩ              |
| PHONO (MC)                                                          | 0.2 mV/100 Ω              |
| CD, TUNER, LINE, TAPE                                               | 150 mV/50 kΩ              |
| PHONO overload level                                                |                           |
| 1 kHz, T.H.D. 0.008 % (MM/MC)                                       | 150 mV/12 mV              |
| Output level/impedance                                              |                           |
| TAPE REC                                                            | 150 mV/2.2 kΩ             |
| Frequency response                                                  |                           |
| PHONO (MM)                                                          | 20 Hz to 20 kHz, ± 0.3 dB |
| PHONO (MC)                                                          | 20 Hz to 20 kHz, ± 0.5 dB |
| CD, TUNER, LINE, TAPE                                               | 5 Hz to 100 kHz, ± 0.5 dB |
| Signal-to-Noise ratio (IHF short circuit, A network)                |                           |
| PHONO (MM, 2.5 mV input/MC, 0.2 mV input)                           | 87 dB/69 dB               |
| CD, TUNER, LINE, TAPE                                               | 108 dB                    |
| Signal-to-Noise ratio (DIN, continuous power/50 mW)                 |                           |
| PHONO (MM)                                                          | 74 dB/63 dB               |
| CD, TUNER, LINE, TAPE                                               | 88 dB/65 dB               |

### Power Supply/Miscellaneous

|                          |                                |
|--------------------------|--------------------------------|
| Power requirements       | a.c. 240 V ~, 50/60 Hz         |
| Power consumption        | 520 W                          |
| Dimensions               | 420 (W) x 352 (D) x 126 (H) mm |
| Weight (without package) | 8.0 kg                         |

### Accessories

|                        |   |
|------------------------|---|
| Operating instructions | 1 |
|------------------------|---|

• *Specifications and design subject to possible modification without notice, due to improvements.*

\* *Measured by Audio Spectrum Analyzer.*

## [A-300]

### Amplifier Section

|                                                                     |                           |
|---------------------------------------------------------------------|---------------------------|
| Continuous power output (both channels driven at 20 Hz to 20 kHz) * |                           |
| T.H.D. 0.03 %, 8 Ω                                                  | 30 W + 30 W               |
| T.H.D. 0.05 %, 4 Ω                                                  | 40 W + 40 W               |
| DIN Continuous power output (both channels driven at 1 kHz)         |                           |
| T.H.D. 1.0 %, 8 Ω                                                   | 40 W + 40 W               |
| T.H.D. 1.0 %, 4 Ω                                                   | 60 W + 60 W               |
| Dynamic power output (on EIA dynamic test signal)                   |                           |
| 8 Ω/4 Ω/2 Ω                                                         | 50 W/75 W/90 W            |
| Total harmonic distortion *                                         |                           |
| 20 Hz to 20 kHz, 40 W, 8 Ω                                          | 0.03 %                    |
| 20 Hz to 20 kHz, 50 W, 8 Ω                                          | 0.05 %                    |
| Input sensitivity/impedance                                         |                           |
| PHONO (MM)                                                          | 2.5 mV/50 kΩ              |
| CD, TUNER, LINE, TAPE                                               | 150 mV/50 kΩ              |
| PHONO overload level                                                |                           |
| 1 kHz, T.H.D. 0.02 % (MM)                                           | 150 mV                    |
| Output level/impedance                                              |                           |
| TAPE REC                                                            | 150 mV/2.2 kΩ             |
| Frequency response                                                  |                           |
| PHONO (MM)                                                          | 20 Hz to 20 kHz, ± 0.3 dB |
| CD, TUNER, LINE, TAPE                                               | 5 Hz to 100 kHz, ± 0.5 dB |
| Signal-to-Noise ratio (IHF short circuit, A network)                |                           |
| PHONO (MM, 2.5 mV input)                                            | 83 dB                     |
| CD, TUNER, LINE, TAPE                                               | 108 dB                    |
| Signal-to-Noise ratio (DIN, continuous power/50 mW)                 |                           |
| PHONO (MM)                                                          | 73 dB/63 dB               |
| CD, TUNER, LINE, TAPE                                               | 88 dB/65 dB               |

### Power Supply/Miscellaneous

|                          |                                |
|--------------------------|--------------------------------|
| Power requirements       | a.c. 240 V ~, 50/60 Hz         |
| Power consumption        | 410 W                          |
| Dimensions               | 420 (W) x 352 (D) x 126 (H) mm |
| Weight (without package) | 6.8 kg                         |

### Accessories

|                        |   |
|------------------------|---|
| Operating instructions | 1 |
|------------------------|---|

• *Specifications and design subject to possible modification without notice, due to improvements.*

\* *Measured by Audio Spectrum Analyzer.*

## 2. EXPLODED VIEWS, PACKING AND PARTS LIST

### NOTES:

- Parts without part number cannot be supplied.
- The  $\triangle$  mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by "●" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

### 2.1 PARTS LIST

| Mark        | No. | Description                         | Parts No.    | Mark        | No. | Description                                 | Parts No.    |
|-------------|-----|-------------------------------------|--------------|-------------|-----|---------------------------------------------|--------------|
|             | 1   | ROTARY KNOB L (PLS)                 | AAB1160      |             | 38  | C1 CAPACITOR<br>(FOR A-400/HB TYPE)         | CQMXA104J100 |
|             | 2   | ROTARY KNOB R (PLS)                 | AAB1162      |             |     | C1 CAPACITOR<br>(FOR A-300/HB TYPE)         | CQMXA473J100 |
|             | 3   | ROTARY KNOB M (PLS)                 | AAB1164      |             |     | FU1 FUSE(T2.5A)<br>(FOR A-400/HB TYPE)      | AEK-512      |
|             | 4   | PUSH KNOB C<br>(A-400/HB TYPE ONLY) | AAD1366      | $\triangle$ | 39  | FU1 FUSE(T1.6A)<br>(FOR A-300/HB TYPE)      | AEK-510      |
|             | 5   | KNOB (POWER)                        | AAD1535      | $\triangle$ |     | Q1 TRANSISTOR<br>(FOR A-400/HB TYPE)        | 2SC3281      |
|             | 6   | NAME PLATE (METAL)                  | AAM1029      | $\triangle$ | 40  | Q1 TRANSISTOR<br>(FOR A-300/HB TYPE)        | 2SC3181N     |
|             | 7   | SCREW                               | ABA-298      | $\triangle$ |     | Q2 TRANSISTOR<br>(FOR A-400/HB TYPE)        | 2SC3281      |
|             | 8   | SCREW (STEEL)                       | ABA1009      | $\triangle$ |     | Q2 TRANSISTOR<br>(FOR A-300/HB TYPE)        | 2SC3181N     |
|             | 9   | SCREW (STEEL)                       | ABA1011      | $\triangle$ |     | Q3 TRANSISTOR<br>(FOR A-400/HB TYPE)        | 2SA1302      |
|             | 10  | SCREW (STEEL)                       | ABA1016      | $\triangle$ | 41  | Q3 TRNSISTOR<br>(FOR A-300/HB TYPE)         | 2SA1264N     |
|             | 11  | SCREW (STEEL)                       | ABA1048      | $\triangle$ |     | Q4 TRANSISTOR<br>(FOR A-400/HB TYPE)        | 2SA1302      |
|             | 12  | SCREW (STEEL)                       | ABA1050      | $\triangle$ |     | Q4 TRANSISTOR<br>(FOR A-300/HB TYPE)        | 2SA1264N     |
|             | 13  | SCREW                               | ABA1082      | $\triangle$ | 42  | Q5 TRANSISTOR                               | 2SC4137      |
|             | 14  | SPRING                              | ABH-052      | $\triangle$ |     | Q6 TRANSISTOR                               | 2SC4137      |
|             | 15  | NUT                                 | ABN-065      | $\triangle$ |     | S1 SWITCH                                   | ASU1035      |
| $\triangle$ | 16  | AC POWER CORD                       | ADG1070      | $\triangle$ | 46  | S2 SWITCH                                   | ASU1037      |
|             | 17  | RIVET                               | AEC-441      | $\triangle$ | 47  | T1 POWER TRANSFORMER<br>(FOR A-400/HB TYPE) | ATS1279      |
|             | 18  | SHEET                               | AEE1014      | $\triangle$ | 48  | T1 POWER TRANSFORMER<br>(FOR A-300/HB TYPE) | ATS1278      |
|             | 19  | STYROL PROTECTOR                    | AHA1335      | $\triangle$ |     | AF COMPLEX ASS'Y<br>(FOR A-400/HB TYPE)     | AWZ2868      |
|             | 20  | PACKING CASE<br>(FOR A-400/HB TYPE) | AHD1865      | $\triangle$ |     | AF COMPLEX ASS'Y<br>(FOR A-300/HB TYPE)     | AWZ2870      |
|             |     | PACKING CASE<br>(FOR A-300/HB TYPE) | AHD1866      | $\triangle$ | 44  | POWER SW ASS'Y                              |              |
|             |     |                                     |              | $\triangle$ | 45  |                                             |              |
|             | 21  | COVER SHEET                         | AHG1016      |             | 46  | LED ASS'Y                                   |              |
|             | 22  | TERMINAL SCREW                      |              |             | 47  | SHIELD ASS'Y<br>(FOR A-400/HB TYPE)         |              |
|             | 23  | PANEL BASE                          | AMB1651      | $\triangle$ | 48  | HEADPHONE ASS'Y<br>-----                    |              |
|             | 24  | INDICATING LENS                     | AMR1160      | $\triangle$ |     | BINDER                                      |              |
|             | 25  | INSULATOR ASS'Y                     | AMR2140      | $\triangle$ |     | SHIELD ASS'Y<br>(FOR A-300/HB TYPE)         |              |
|             | 26  | ARM<br>(A-400/HB TYPE ONLY)         | AMR2142      |             | 49  | WASHER<br>(A-400/HB TYPE ONLY)              | ABE1018      |
|             | 27  | CHASSIS                             |              |             | 50  | NUTS<br>(A-400/HB TYPE ONLY)                | NK90FCU      |
|             | 28  | FRONT PANEL<br>(FOR A-400/HB TYPE)  | ANB1399      |             | 51  | GND SCREW                                   | ABA1047      |
|             |     | FRONT PANEL<br>(FOR A-300/HB TYPE)  | ANB1400      |             | 52  |                                             |              |
|             | 29  | REAR PANEL                          |              |             | 53  |                                             |              |
|             | 30  | METAL BONNET                        | AZN1799      |             | 54  |                                             |              |
|             | 31  | BOTTOM PLATE                        |              |             | 55  |                                             |              |
|             | 32  | AC CORD SPACER                      | ANG1153      |             | 56  |                                             |              |
|             | 33  | P.C.B HOLDER                        |              |             | 57  |                                             |              |
|             | 34  | HEAT SINK                           |              |             | 58  |                                             |              |
|             | 35  | OPERATING INSTRUCTIONS (E)          | ARB1247      |             | 59  |                                             |              |
|             | 36  | SCREW                               | BBT30P060FZK |             |     |                                             |              |
|             | 37  | NUTS (A-300/HB TYPE ONLY)           | NK90FZB      |             |     |                                             |              |

# WS, PACKING AND PARTS LIST

## 2.2 EXPLODED VIEWS

supplied.  
 ent parts indicates the importance of the safety  
 lacing, be sure to use parts of identical designa-

cept in stock. Their delivery time may be longer

36

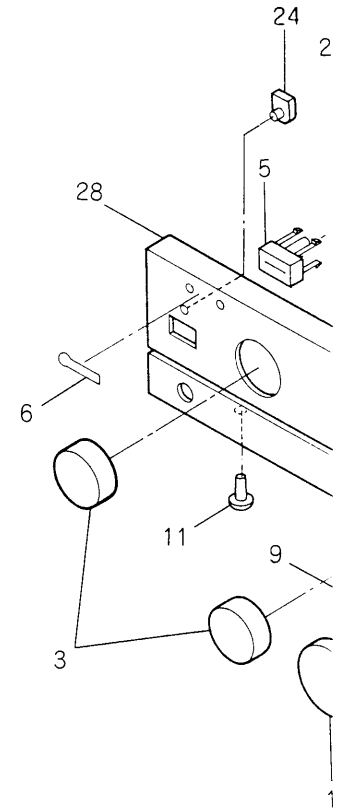
| Parts No.        | Mark | No. | Description          | Parts No.    |
|------------------|------|-----|----------------------|--------------|
| AAB1160          |      | 38  | C1 CAPACITOR         | CQMXA104J100 |
| AAB1162          |      |     | (FOR A-400/HB TYPE)  |              |
| AAB1164          |      |     | C1 CAPACITOR         | CQMXA473J100 |
| AAD1366          |      |     | (FOR A-300/HB TYPE)  |              |
| AAD1535          | ⚠    | 39  | FU1 FUSE(T2.5A)      | AEK-512      |
|                  | ⚠    |     | (FOR A-400/HB TYPE)  |              |
|                  | ⚠    |     | FU1 FUSE(T1.6A)      | AEK-510      |
| AAM1029          |      |     | (FOR A-300/HB TYPE)  |              |
| ABA-298          | ⚠    | 40  | Q1 TRANSISTOR        | 2SC3281      |
| ABA1009          |      |     | (FOR A-400/HB TYPE)  |              |
| ABA1011          | ⚠    |     | Q1 TRANSISTOR        | 2SC3181N     |
| ABA1016          |      |     | (FOR A-300/HB TYPE)  |              |
| ABA1048          | ⚠    | 41  | Q2 TRANSISTOR        | 2SC3281      |
| ABA1050          |      |     | (FOR A-400/HB TYPE)  |              |
| ABA1082          | ⚠    |     | Q2 TRANSISTOR        | 2SC3181N     |
| ABH-052          |      |     | (FOR A-300/HB TYPE)  |              |
| ABN-065          | ⚠    | 42  | Q3 TRANSISTOR        | 2SA1302      |
|                  |      |     | (FOR A-400/HB TYPE)  |              |
| ADG1070          | ⚠    |     | Q3 TRNSISTOR         | 2SA1264N     |
| AEC-441          |      |     | (FOR A-300/HB TYPE)  |              |
| AEE1014          | ⚠    | 43  | Q4 TRANSISTOR        | 2SA1302      |
| AHA1335          |      |     | (FOR A-400/HB TYPE)  |              |
| AHD1865          | ⚠    |     | Q4 TRANSISTOR        | 2SA1264N     |
|                  |      |     | (FOR A-300/HB TYPE)  |              |
| AHD1866          | ⚠    | 44  | Q5 TRANSISTOR        | 2SC4137      |
|                  | ⚠    | 45  | Q6 TRANSISTOR        | 2SC4137      |
| AHG1016          |      | 46  | S1 SWITCH            | ASU1035      |
|                  |      | 47  | S2 SWITCH            | ASU1037      |
| AMB1651          | ⚠    | 48  | T1 POWER TRANSFORMER | ATS1279      |
| AMR1160          |      |     | (FOR A-400/HB TYPE)  |              |
| AMR2140          | ⚠    |     | T1 POWER TRANSFORMER | ATS1278      |
|                  |      |     | (FOR A-300/HB TYPE)  |              |
| AMR2142          |      | 49  | AF COMPLEX ASS'Y     | AWZ2868      |
|                  |      |     | (FOR A-400/HB TYPE)  |              |
|                  |      |     | AF COMPLEX ASS'Y     | AWZ2870      |
|                  |      |     | (FOR A-300/HB TYPE)  |              |
| ANB1399          |      | 50  | POWER SW ASS'Y       |              |
| ANB1400          |      | 51  | LED ASS'Y            |              |
|                  |      | 52  | SHIELD ASS'Y         |              |
|                  |      |     | (FOR A-400/HB TYPE)  |              |
| AZN1799          |      | 53  | HEADPHONE ASS'Y      |              |
|                  |      | 54  | -----                |              |
| ANG1153          |      | 55  | BINDER               |              |
|                  |      | 56  | SHIELD ASS'Y         |              |
|                  |      |     | (FOR A-300/HB TYPE)  |              |
| ARB1247          |      | 57  | WASHER               | ABE1018      |
|                  |      |     | (A-400/HB TYPE ONLY) |              |
|                  |      | 58  | NUTS                 | NK90FCU      |
|                  |      |     | (A-400/HB TYPE ONLY) |              |
| BBT30P060FZK     |      | 59  | GND SCREW            | ABA1047      |
| (E ONLY) NK90FZB |      |     |                      |              |

A

B

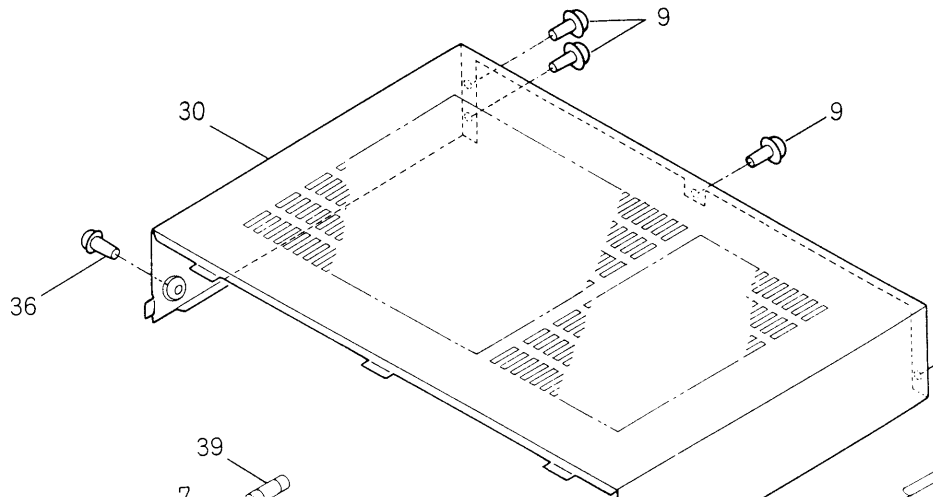
C

D

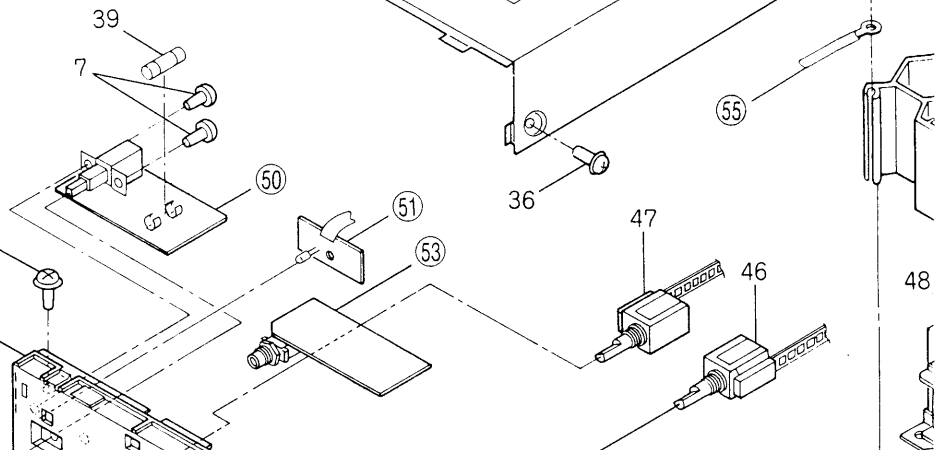


## 2.2 EXPLODED VIEWS

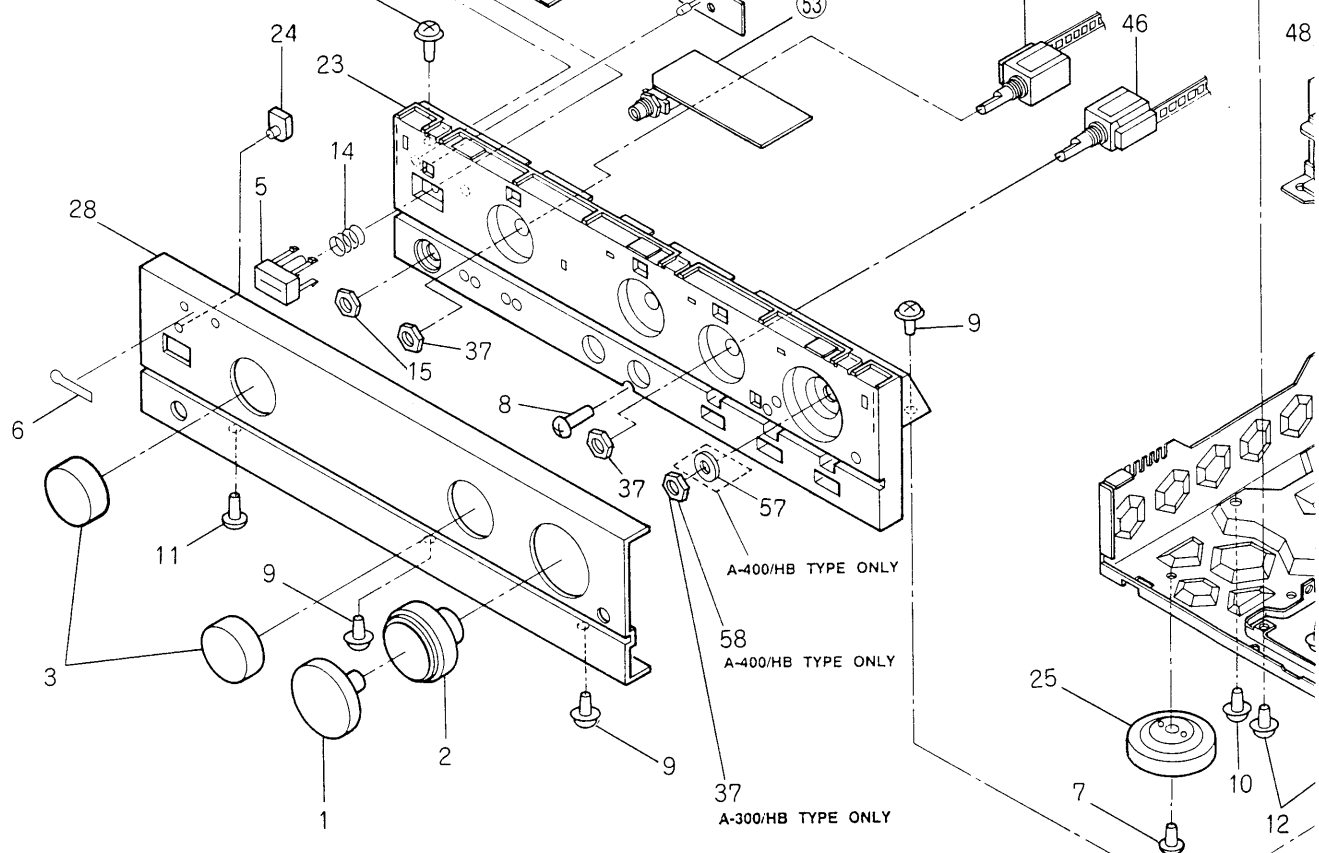
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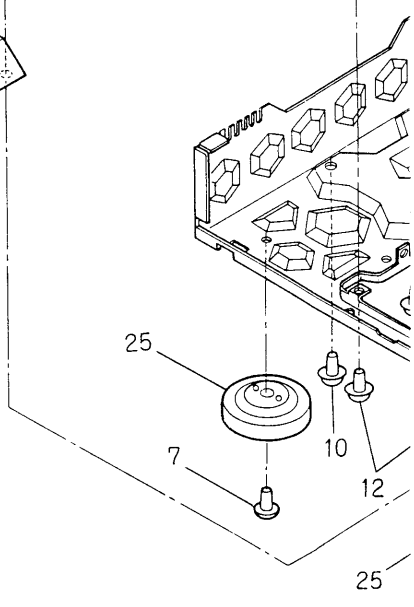
B



C



D



1

2

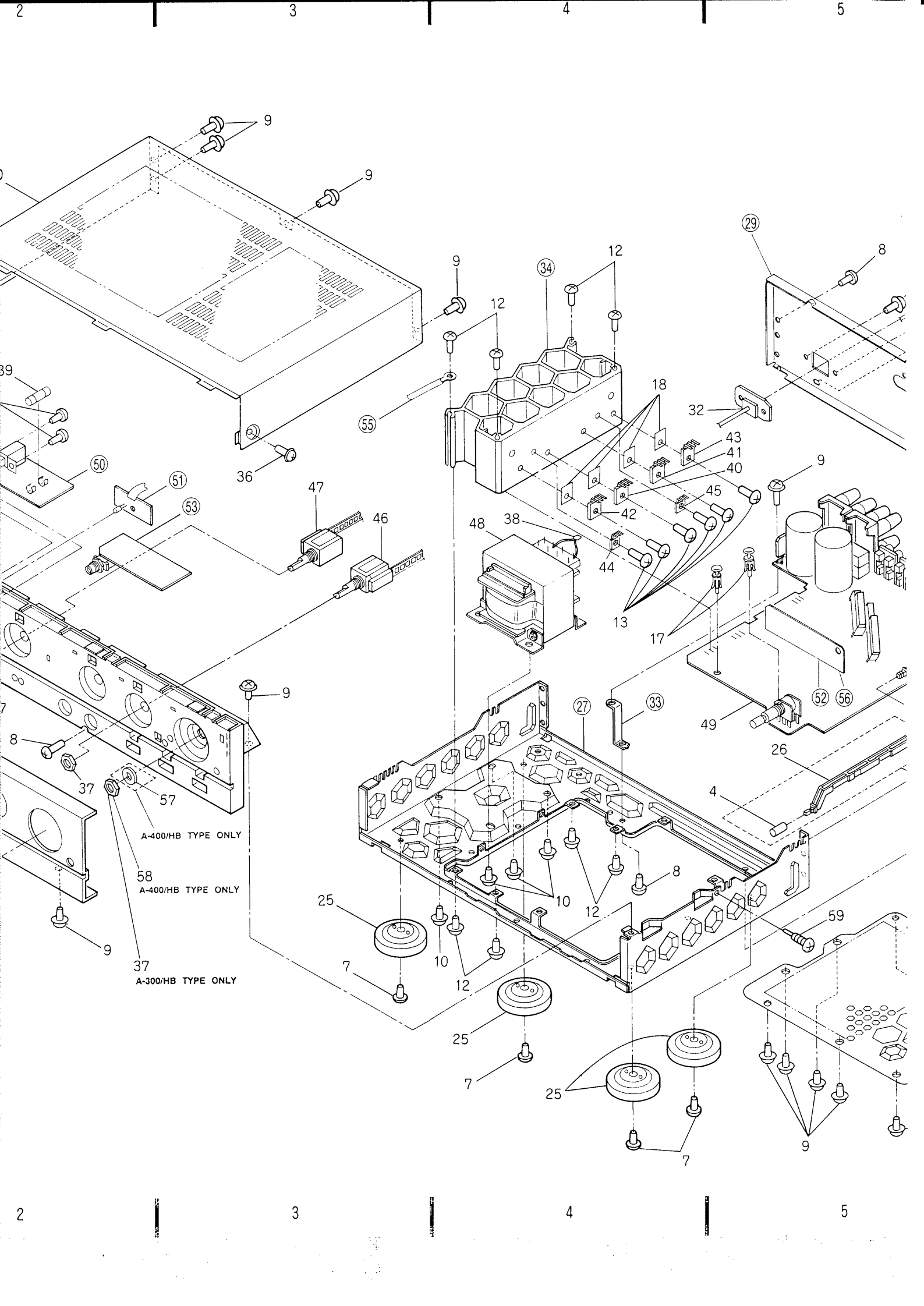
3

A-400/HB TYPE ONLY

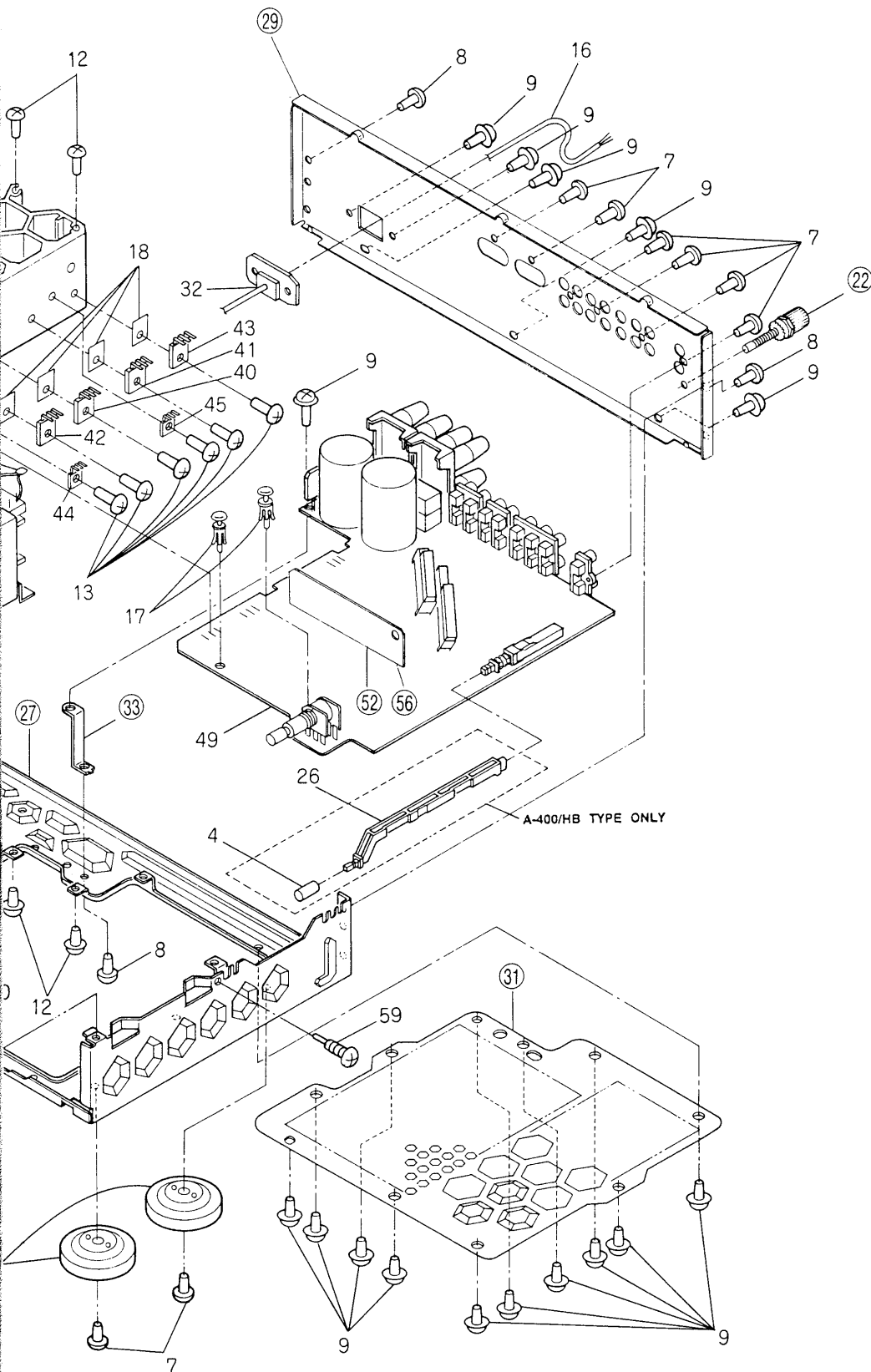
58  
A-400/HB TYPE ONLY

37  
A-300/HB TYPE ONLY

7



# 2.3 PACKING



A

B

C

D

5

6

5

4

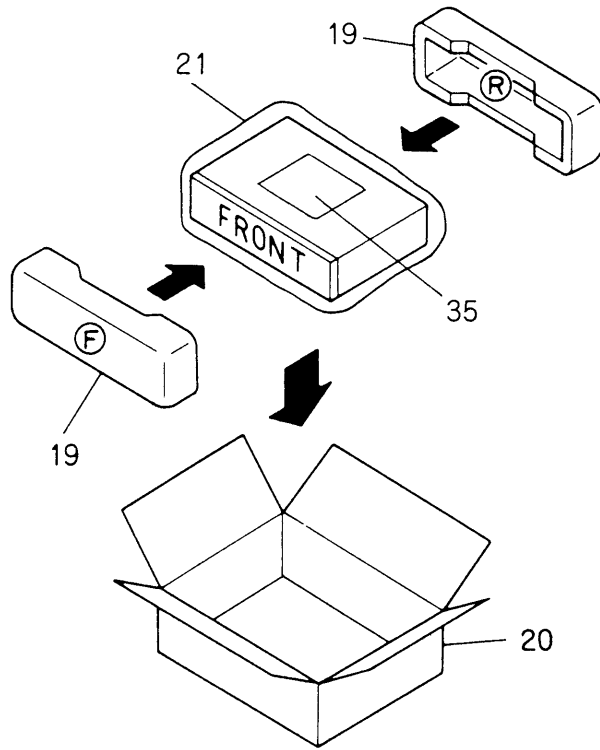
### 2.3 PACKING

A

B

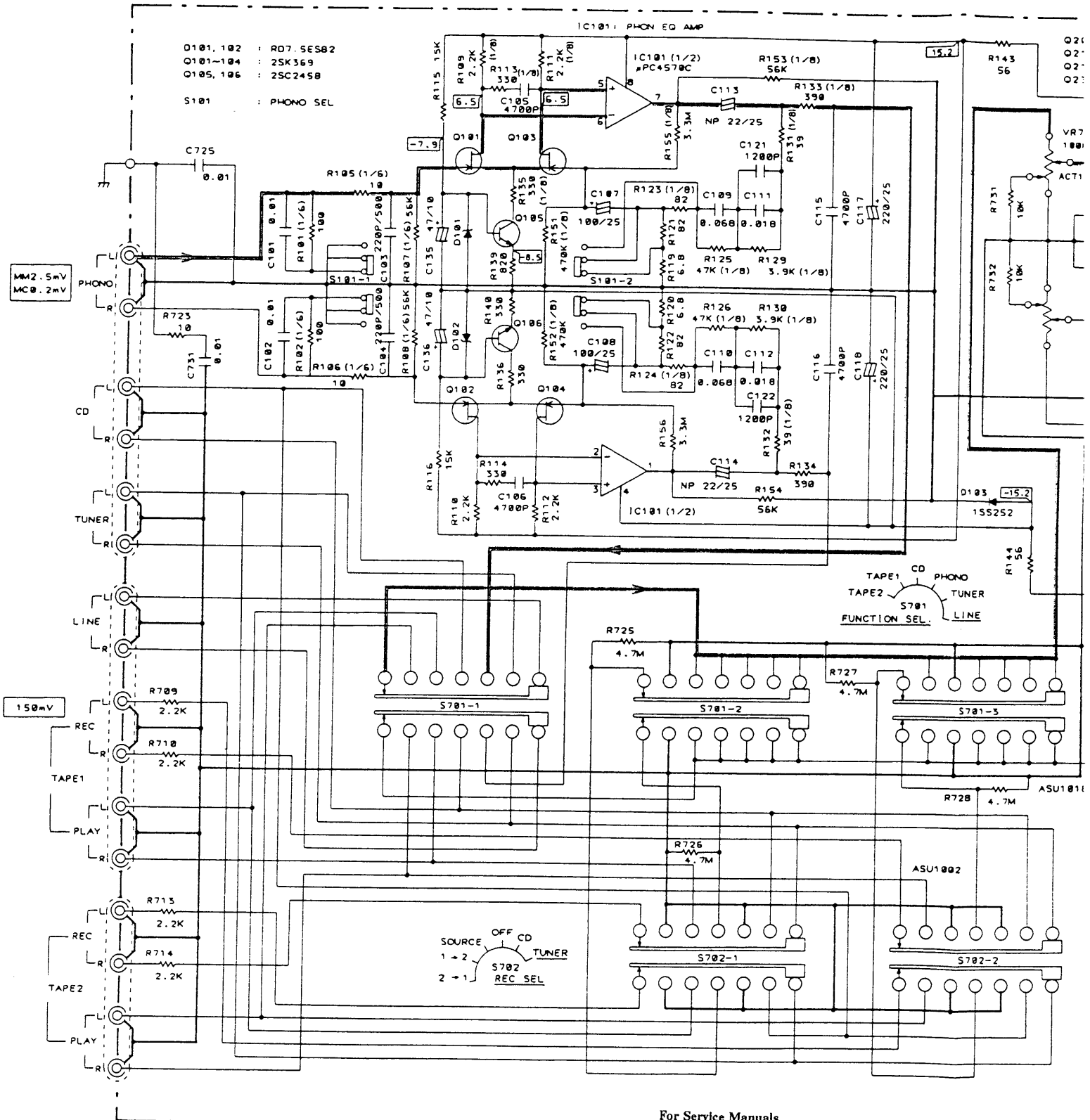
C

D



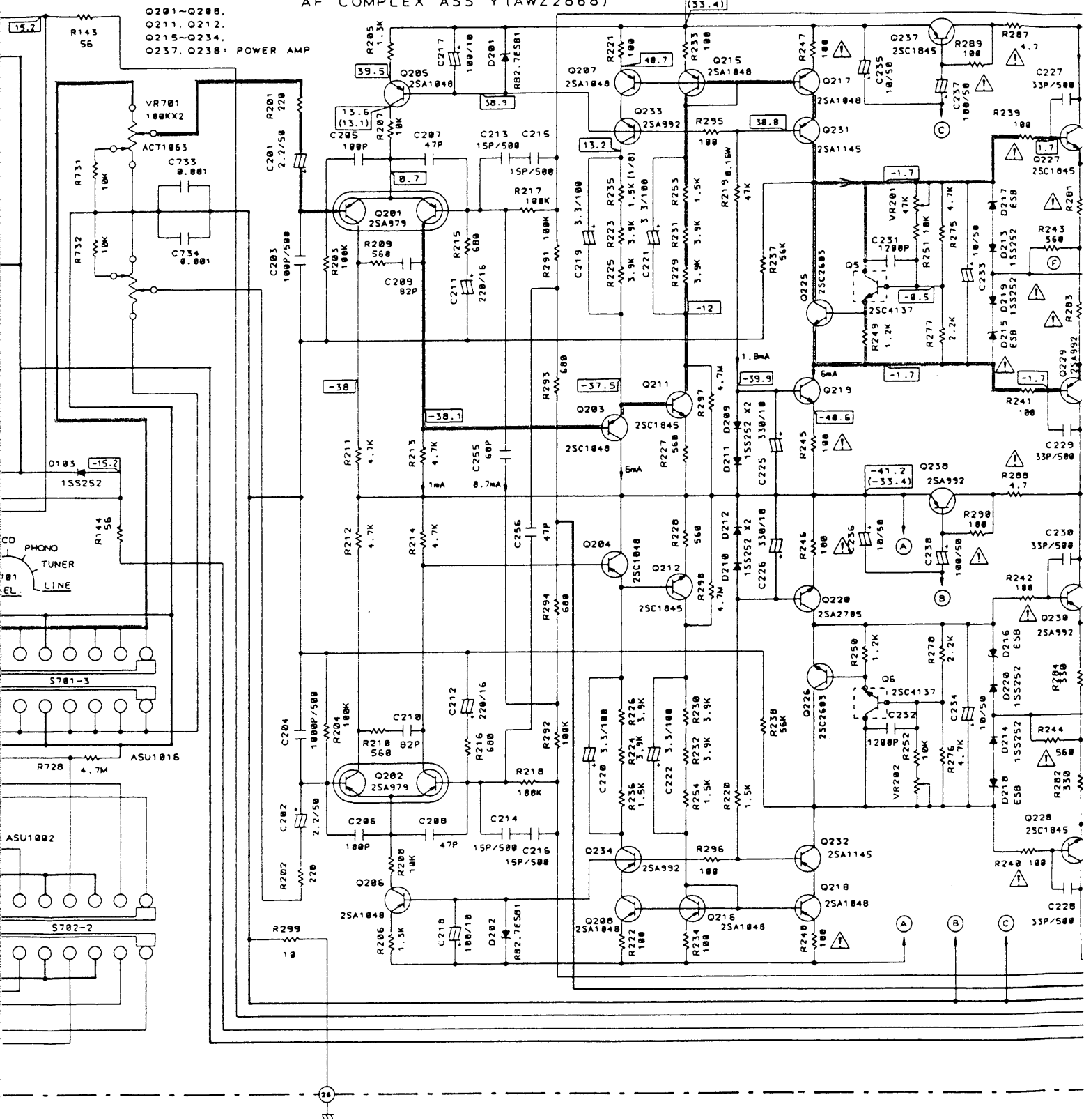


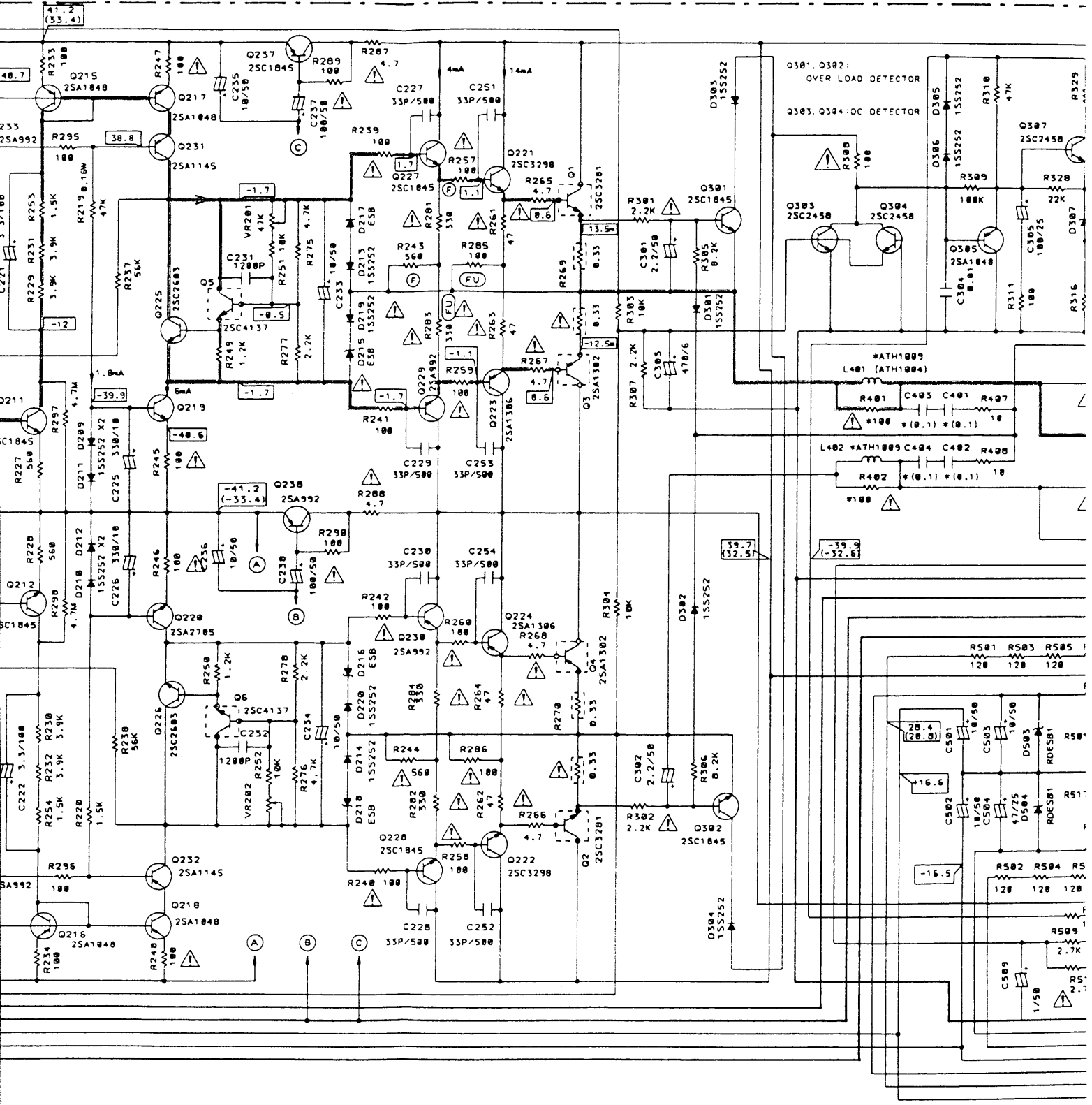
# 3. SCHEMATIC DIAGRAM (FOR A-400/HB TYPE)

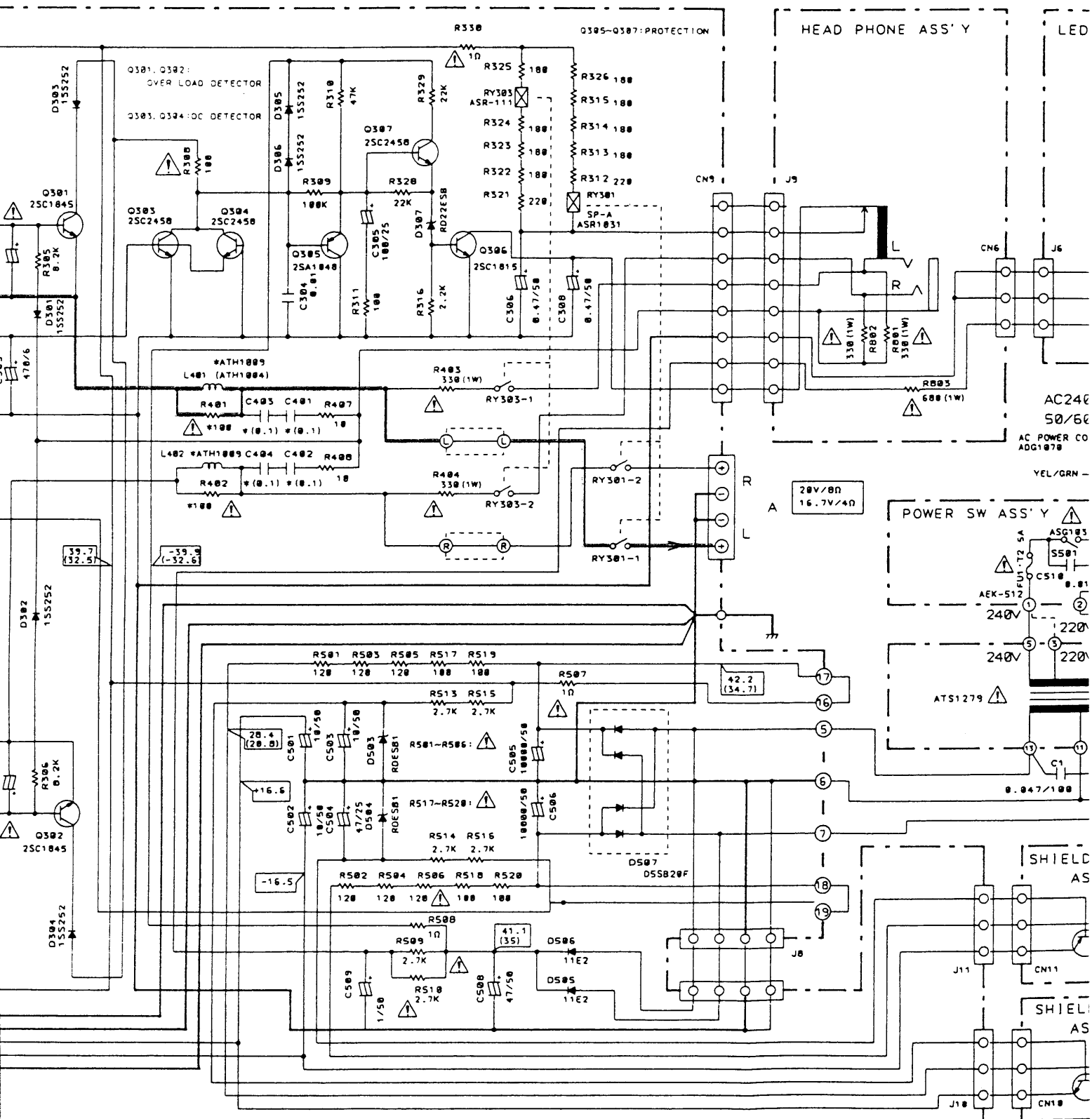


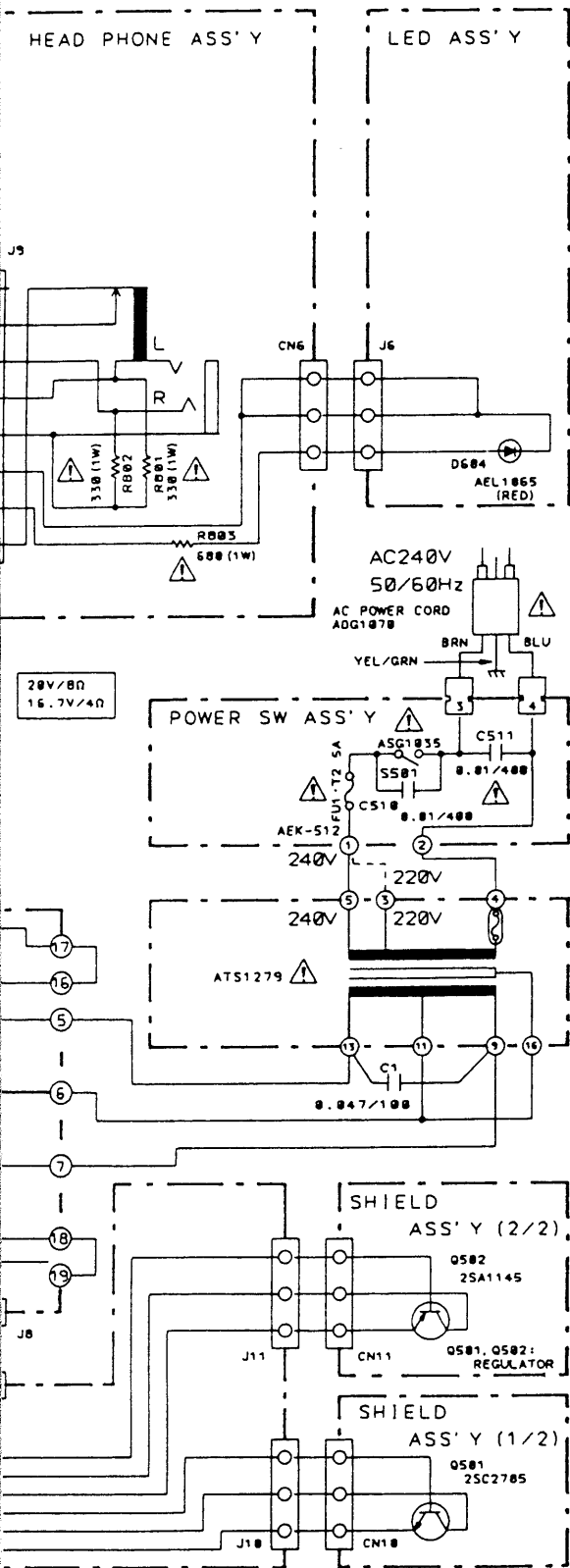
For Service Manuals  
**MAURITRON SERVICES**  
 8 Cherry Tree Road, Chinnor  
 Oxfordshire, OX9 4QY.  
 Tel (01844) 351694  
 Fax (01844) 352554  
 email:- sales@mauritron.co.uk

AF COMPLEX ASS'Y (AWZ2868)









**1. RESISTORS:**

Indicated in  $\Omega$ , 1/8, 1/4W,  $\pm 5\%$  tolerance unless otherwise noted  
 K; k $\Omega$ , M; M $\Omega$ , (F);  $\pm 1\%$ , (G);  $\pm 2\%$ , (K);  $\pm 10\%$ , (M);  $\pm 20\%$  tolerance.

**2. CAPACITORS:**

Indicated in capacity ( $\mu\text{F}$ ) / voltage (V) unless otherwise noted p; pF.  
 Indication without voltage is 50V except electrolytic capacitor.

**3. VOLTAGE CURRENT:**

- $\square$  V ; Signal voltage at (50W + 50W/8 $\Omega$ , 70W + 70W/4 $\Omega$ ) output (1kHz).
- $\square$  ; DC voltage (V) at no input signal.  
 Value in ( ) is DC voltage at rated power.
- mA ; DC current (V) at no input signal.
- mV ; Signal voltage at FM 400Hz  $\pm 75\text{Hz}$  DEV.

**4. OTHERS**

- $\leftarrow$  ; Signal route.
- $\odot$  ; Adjusting point.
- The  $\otimes$  mark on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- $\triangle$  marked capacitor and resistor have parts number.
- This is the basic schematic diagram, but the actual circuit may vary due to improvements in design.

**5. SWITCHES (The underline indicates the switch position)**

- S501 : POWER SW (ON-OFF)
- S101 : PHONO SEL MM/MC
- S701 : FUNCTION SEL (TAPE 2 - TAPE 1 - CD - PHONO - TUNER - LINE)
- S702 : REC SEL (2 - 1 - 1 - 2 - SOURCE - OFF - CD - TUNER)

**Line Voltage Selection**

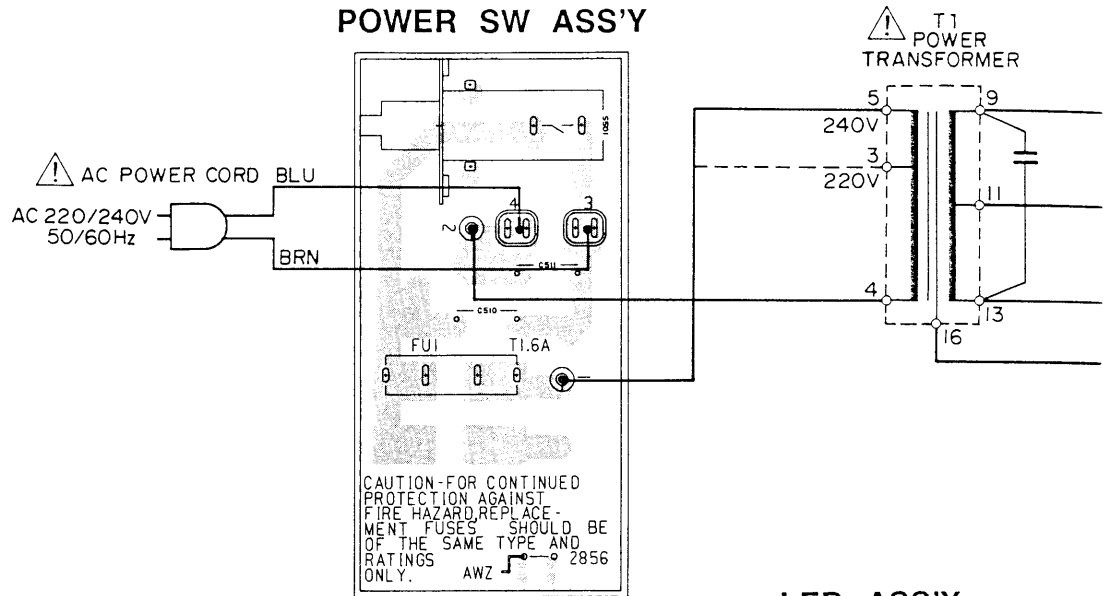
Line voltage can be changed with following steps.

1. Disconnect the AC power cord.
2. Remove the Bonnet case.
3. Change the connection of the power transformer lead wire.
4. Stick the line voltage label on the rear panel.

| Part No. | Description |            |
|----------|-------------|------------|
| AAX-193  | 220V label  | ----- 220V |
| AAX-192  | 240V label  | _____ 240V |

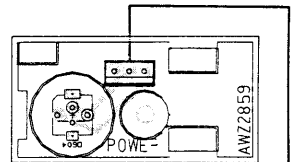
# 4. P.C. BOARDS CONNECTION DIAGRAM (FOR A-400/HB TYPE)

A



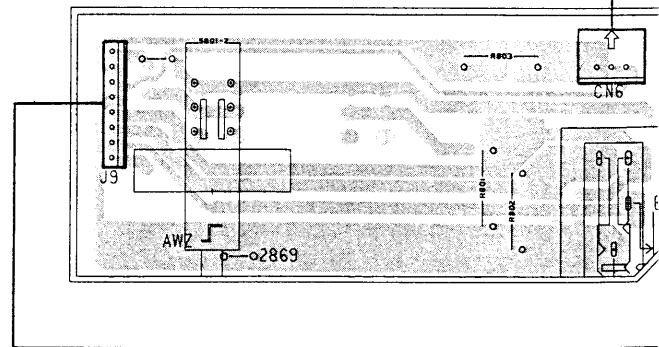
B

### LED ASS'Y



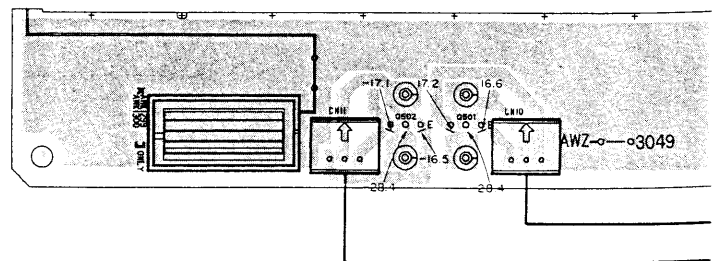
C

### HEADPHONE ASS'Y



D

### SHIELD ASS'Y



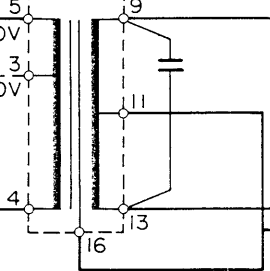
# RAM (FOR A-400/HB TYPE)

# AF COMPLEX ASS'Y (AWZ2868)

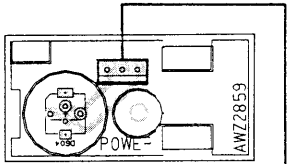
ASS'Y

T1  
POWER  
TRANSFORMER

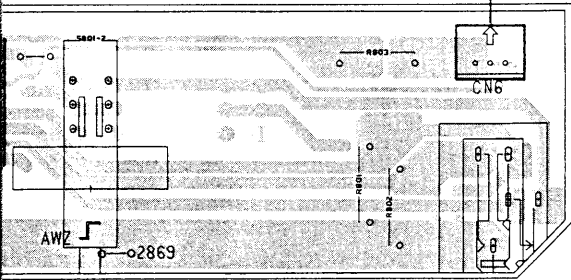
240V  
220V



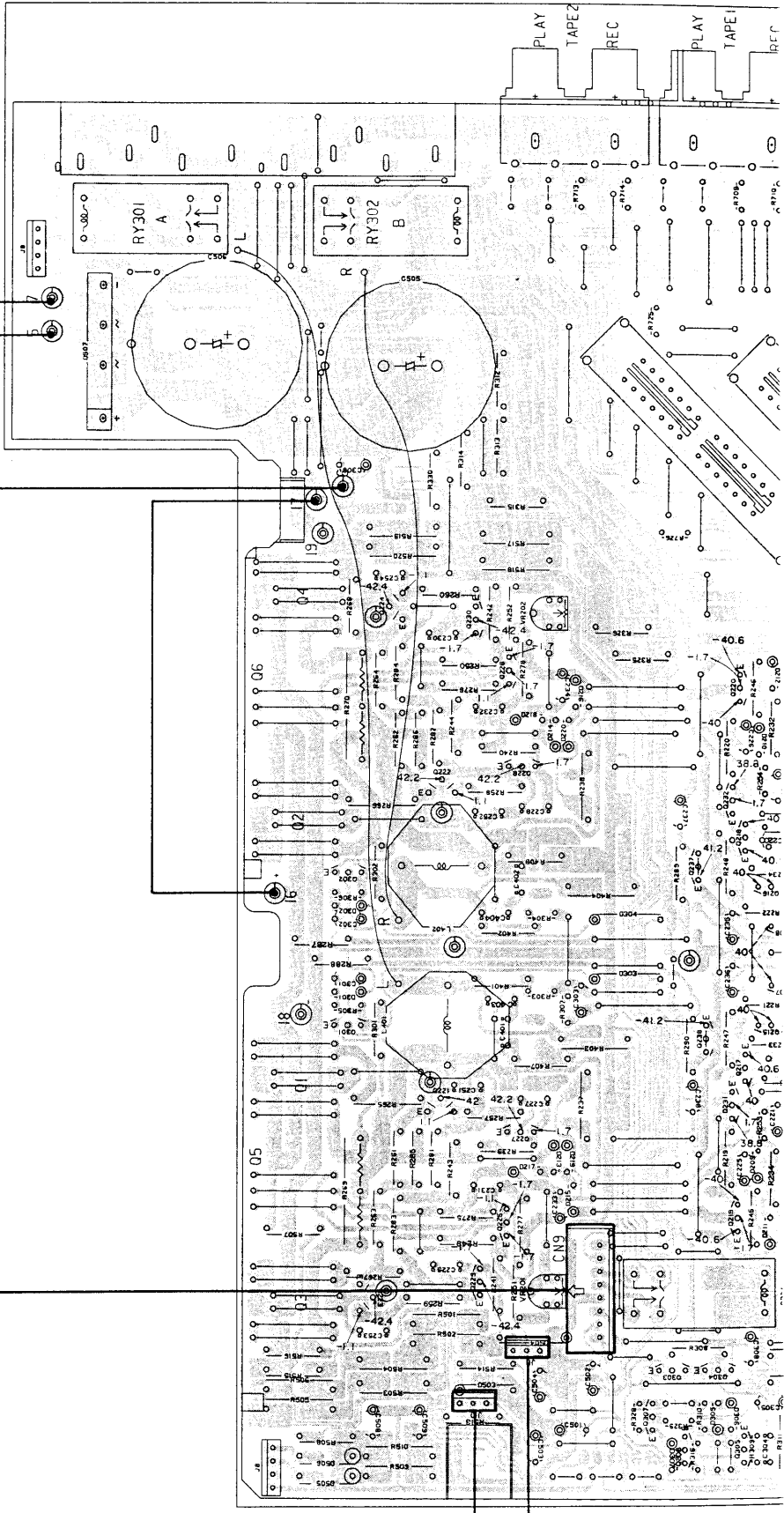
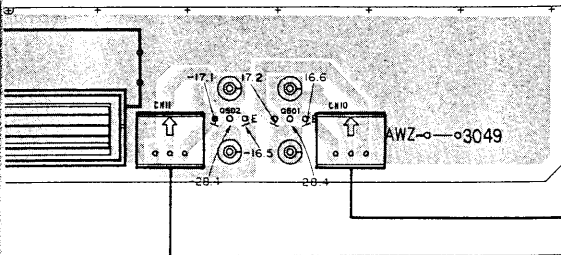
LED ASS'Y

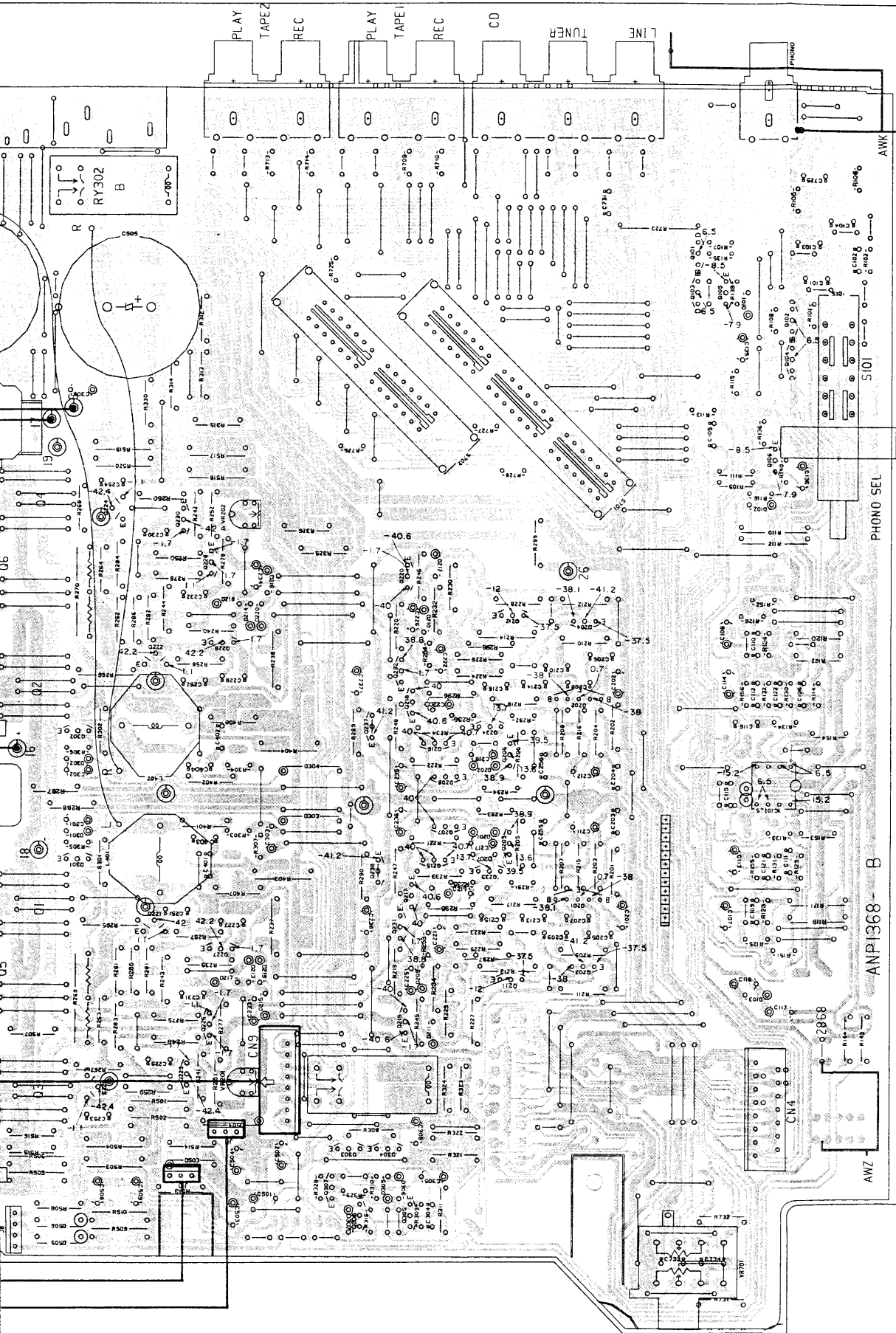


ADPHONE ASS'Y



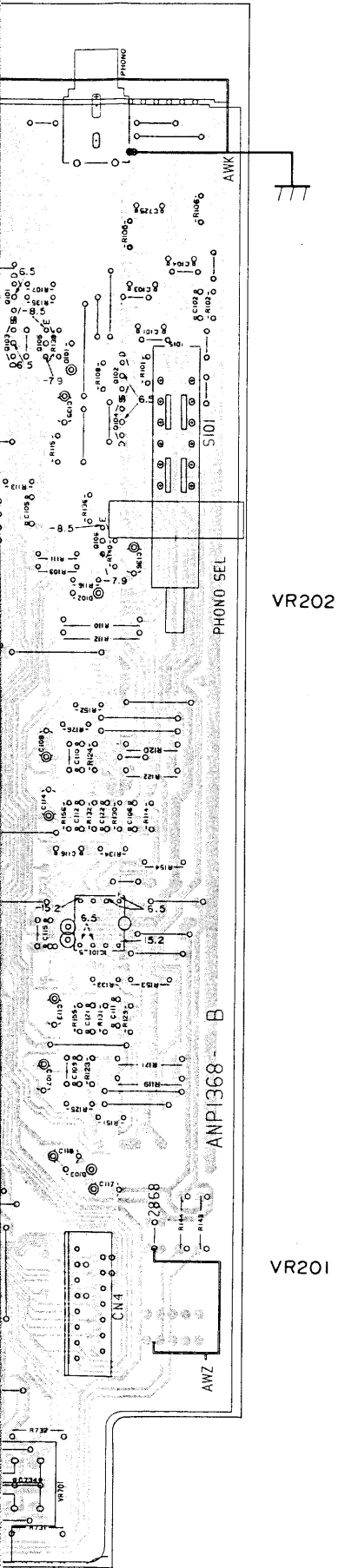
ASS'Y





|       |      |      |
|-------|------|------|
| VR202 | Q224 |      |
|       | Q230 |      |
|       | Q226 | Q220 |
|       |      | Q212 |
|       |      | Q204 |
|       | Q222 |      |
|       | Q228 | Q232 |
|       |      | Q218 |
|       |      | Q207 |
|       |      | Q237 |
|       | Q302 | Q234 |
|       |      | Q216 |
|       |      | Q206 |
|       |      | Q207 |
|       |      | Q205 |
|       | Q301 | Q238 |
|       |      | Q215 |
|       |      | Q233 |
|       | Q221 | Q217 |
|       |      | Q201 |
|       | Q227 | Q231 |
|       |      | Q203 |
|       |      | Q211 |
|       | Q225 | Q219 |
| VR201 | Q229 |      |
|       | Q223 |      |
|       |      | Q303 |
|       |      | Q304 |
|       |      | Q307 |
|       |      | Q306 |
|       |      | Q305 |





Q101  
Q103  
Q105  
Q102  
Q104

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Q106

VR202  
Q224  
Q230  
Q226

Q220  
Q212  
Q204

Q222  
Q228

Q232  
Q218  
Q202  
Q237  
Q234  
Q216  
Q206  
Q208

Q302

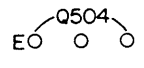
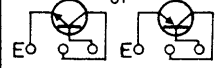
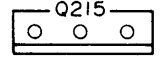
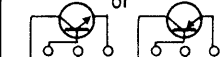
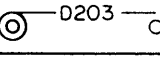
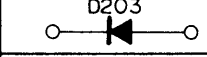
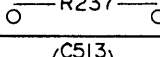
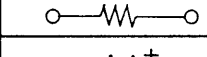
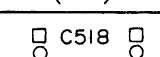
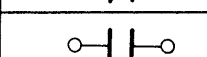
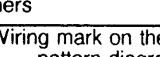
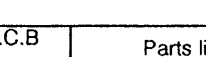
IC101

Q301  
Q221  
Q227  
Q225  
Q229  
Q223

Q207  
Q205  
Q238  
Q215  
Q233  
Q217  
Q201  
Q231  
Q203  
Q211

Q303  
Q304  
Q307  
Q306  
Q305

1. This P.C.B connection diagram is seen from the parts mount side.
2. The parts mounted on to the P.C.B can be replaced with those shown in the following correspondence table with wiring marks.

| Indication of the P.C.B. pattern                                                     | Symbol of corresponding parts                                                         | Parts name                 |
|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|----------------------------|
|  |  | Transistor                 |
|  |  | Radiator type transistor   |
|  |  | Diode                      |
|  |  | Resistor                   |
|  |  | Condenser (Polar type)     |
|  |  | Condenser (Non-polar type) |

Others

| Wiring mark on the P.C.B pattern diagram | Parts list                               |
|------------------------------------------|------------------------------------------|
| IC                                       | IC                                       |
| S                                        | Switch                                   |
| RY                                       | Relay                                    |
| L                                        | Coil                                     |
| F                                        | Filter                                   |
| VR                                       | Variable resistor or semi-fixed resistor |

3. The condenser terminal marked with double circles (⊙) represents (-) terminal.
4. The diode terminal marked with double circles (⊙) represents the cathode side.
5. The transistor terminal marked with "E" represents an emitter.

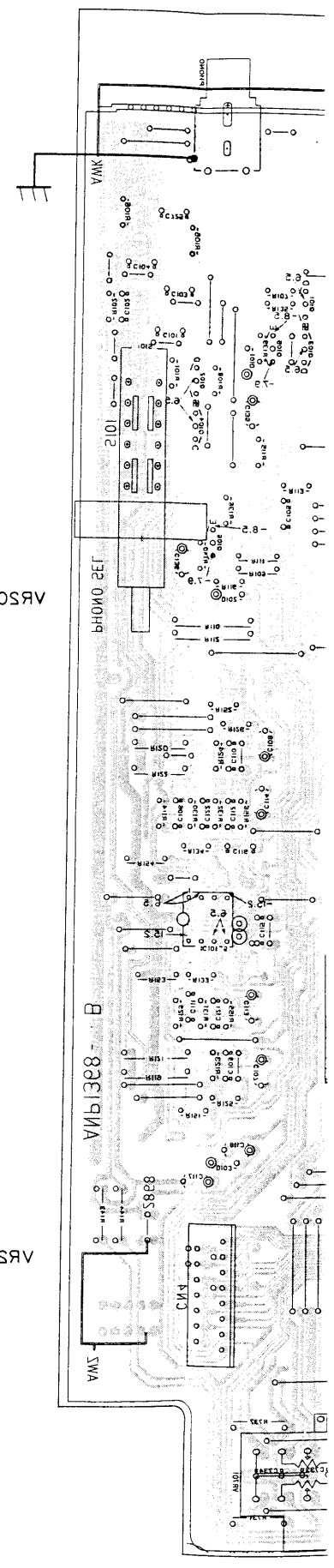
● View from soldering side

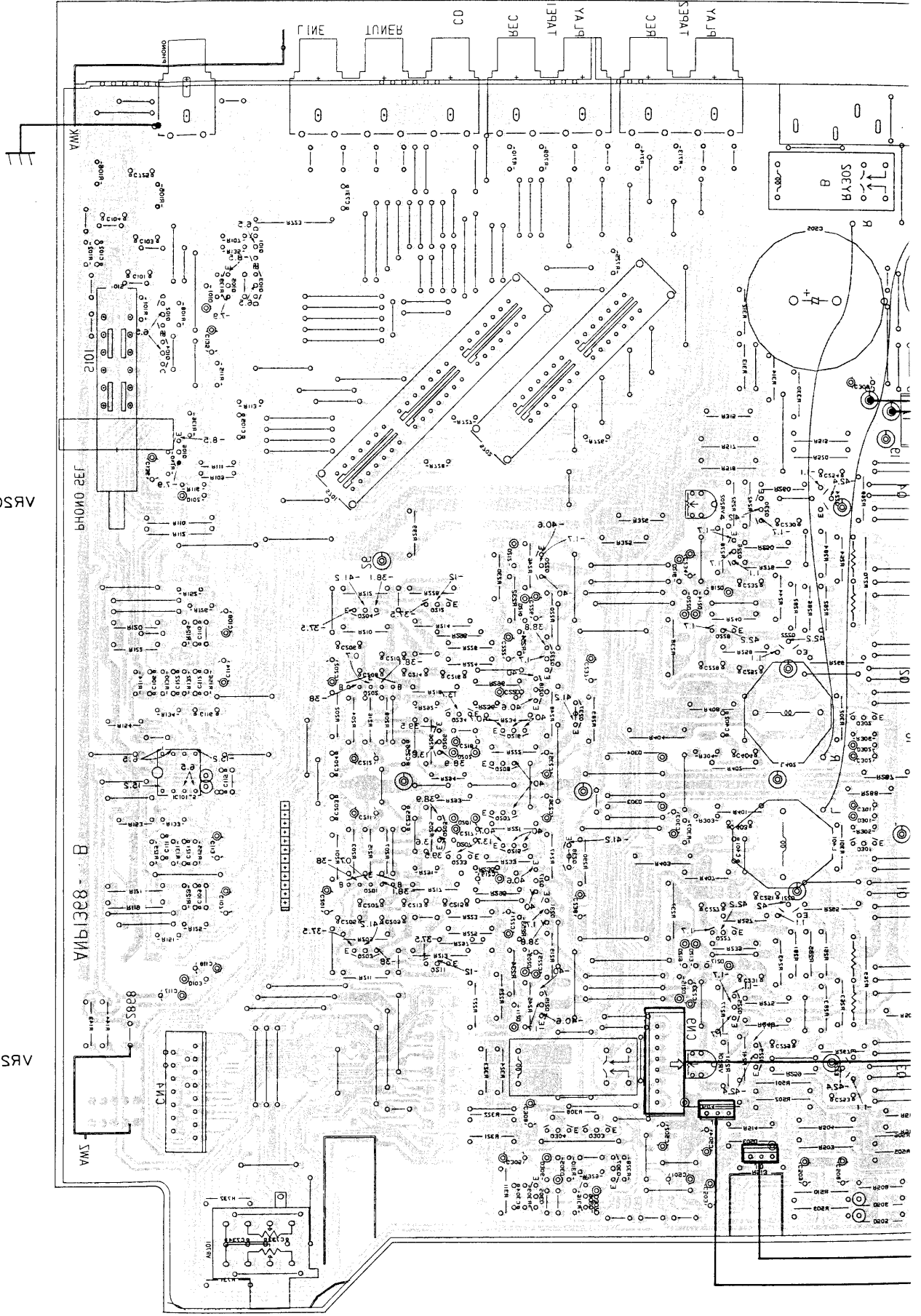
- Q101
- Q103
- Q102
- Q105
- Q104
- Q108
- Q554
- Q530
- Q552
- Q515
- Q504
- Q555
- Q558
- Q305
- Q508
- Q506
- Q516
- Q534
- Q532
- Q505
- Q518
- Q535
- Q507
- Q502
- Q502
- Q538
- Q512
- Q533
- Q517
- Q501
- Q531
- Q503
- Q511
- Q552
- Q51a
- Q55a
- Q553
- Q302
- Q301
- Q304
- Q303

IC101

AR505

AR501





- 0302
- 030E
- 0301
- 0304
- 0303
- 0553
- 055a
- 0552
- 051a
- 0511
- 0503
- 0521
- 0521
- 0538
- 0502
- 0501
- 0531
- 0508
- 050E
- 051E
- 0534
- 0537
- 0505
- 0518
- 0535
- 0558
- 0555
- 0504
- 0515
- 0550
- 055E
- 0530
- 0554

ARSO5

ARSO1

ВНОЮ РЕГ

В - 8215

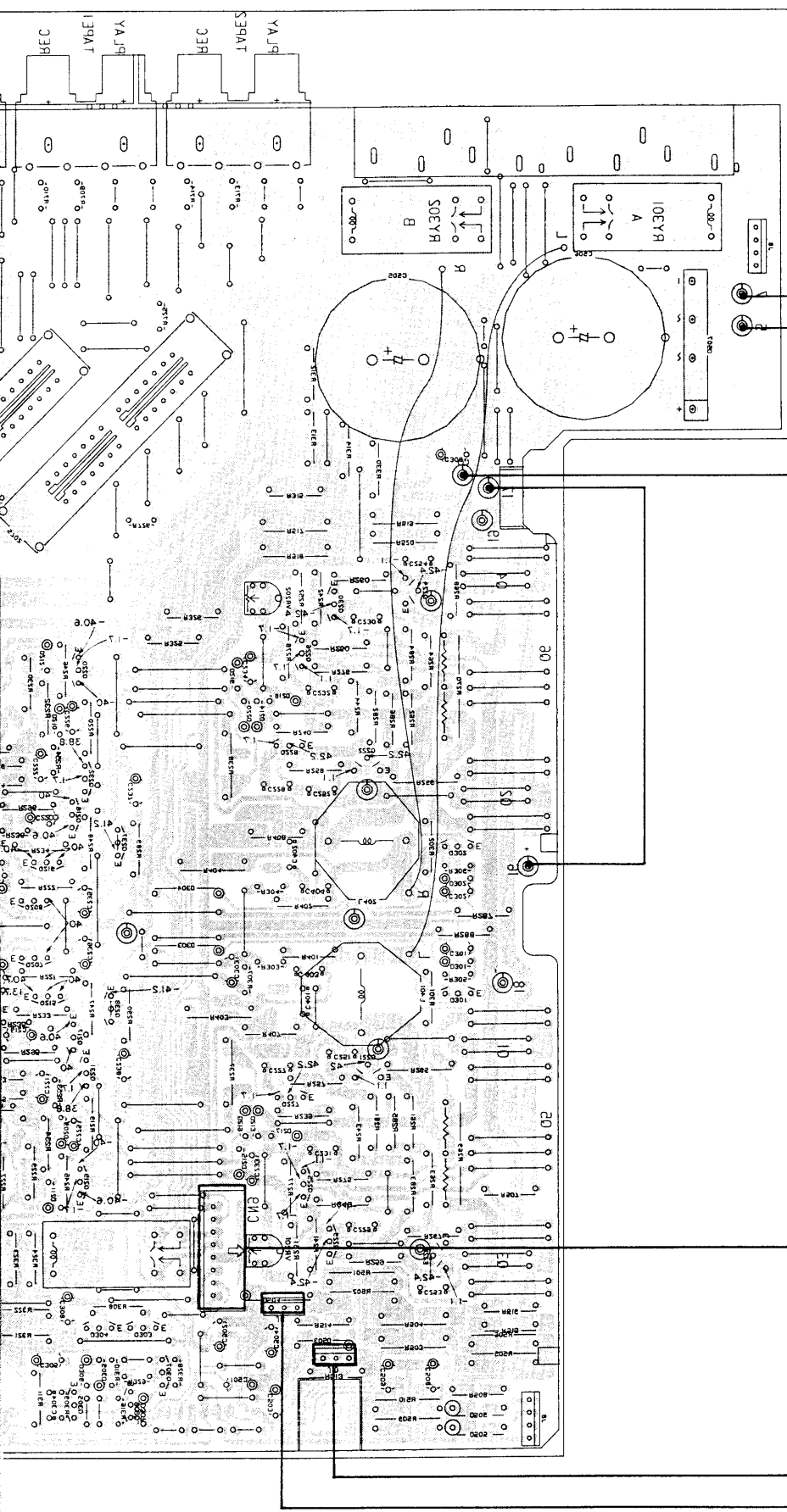
YMA

YMC

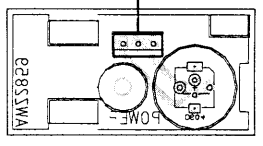
YMO

7M (FOR A-400/HB TYPE)

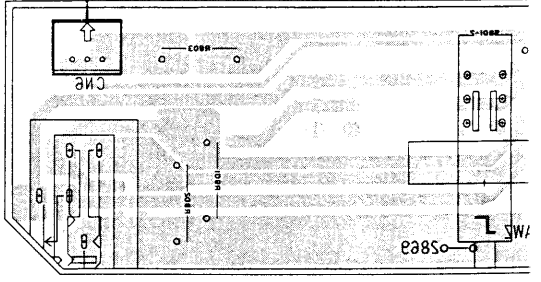
AF COMPLEX ASSY (AWZ5868)



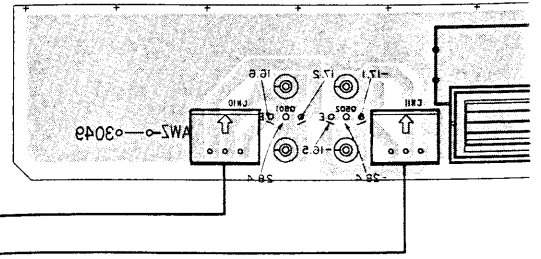
LED ASSY



PHONE ASSY

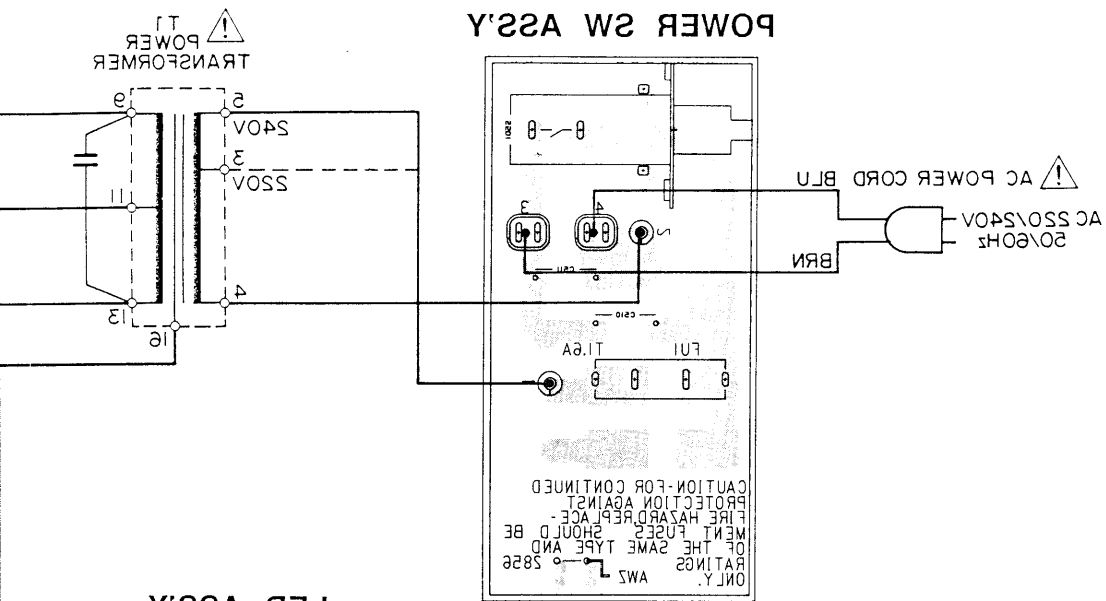


Y

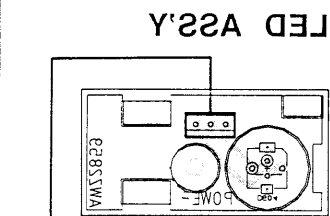


# 4.P.C. BOARDS CONNECTION DIAGRAM (FOR A-400\HB TYPE)

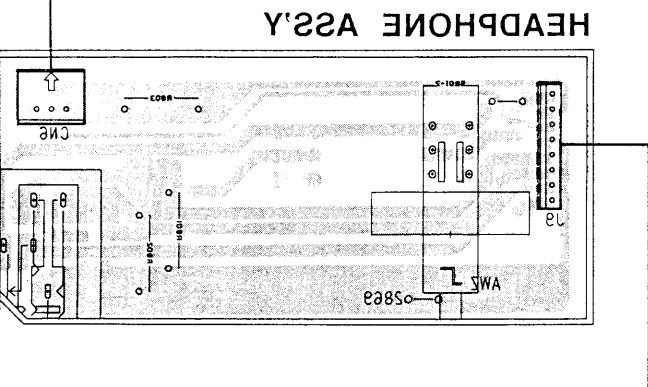
A



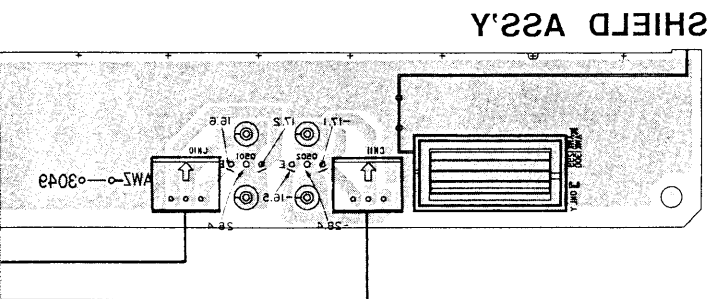
B



C



D



3

5

1

● View from soldering side

A

B

C

D

IC101

|      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 0302 | 0301 | 0305 | 0504 | 0508 | 0502 | 0511 | 0519 | 0522 | 0523 | 0524 | 0525 | 0526 | 0527 | 0528 | 0529 | 0530 | 0531 | 0532 | 0533 | 0534 | 0535 | 0536 | 0537 | 0538 | 0539 | 0540 | 0541 | 0542 | 0543 | 0544 | 0545 | 0546 | 0547 | 0548 | 0549 | 0550 | 0551 | 0552 | 0553 | 0554 | 0555 | 0556 | 0557 | 0558 | 0559 | 0560 | 0561 | 0562 | 0563 | 0564 | 0565 | 0566 | 0567 | 0568 | 0569 | 0570 | 0571 | 0572 | 0573 | 0574 | 0575 | 0576 | 0577 | 0578 | 0579 | 0580 | 0581 | 0582 | 0583 | 0584 | 0585 | 0586 | 0587 | 0588 | 0589 | 0590 | 0591 | 0592 | 0593 | 0594 | 0595 | 0596 | 0597 | 0598 | 0599 | 0600 |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|

ARS01

ARS02

ARS03

ARS04

ARS05

ARS06

ARS07

ARS08

ARS09

ARS10

ARS11

ARS12

ARS13

ARS14

ARS15

ARS16

ARS17

ARS18

ARS19

ARS20

ARS21

ARS22

ARS23

ARS24

ARS25

ARS26

ARS27

ARS28

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ARS31

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ARS64

ARS65

ARS66

ARS67

ARS68

ARS69

ARS70

ARS71

ARS72

ARS73

ARS74

ARS75

ARS76

ARS77

ARS78

ARS79

ARS80

ARS81

ARS82

ARS83

ARS84

ARS85

ARS86

ARS87

ARS88

ARS89

ARS90

ARS91

ARS92

ARS93

ARS94

ARS95

ARS96

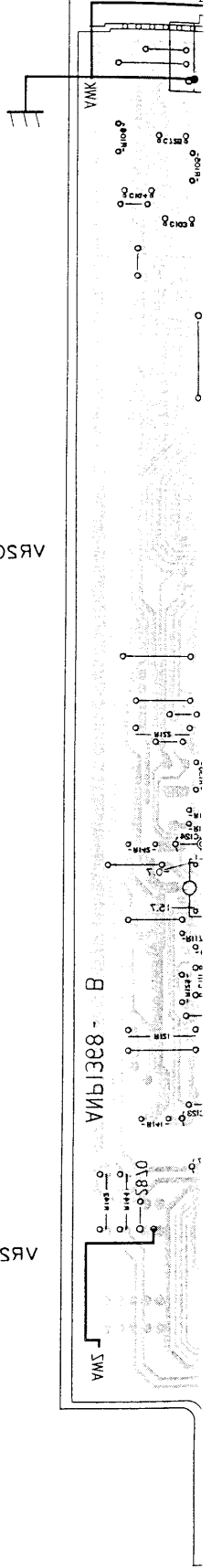
ARS97

ARS98

ARS99

ARS00

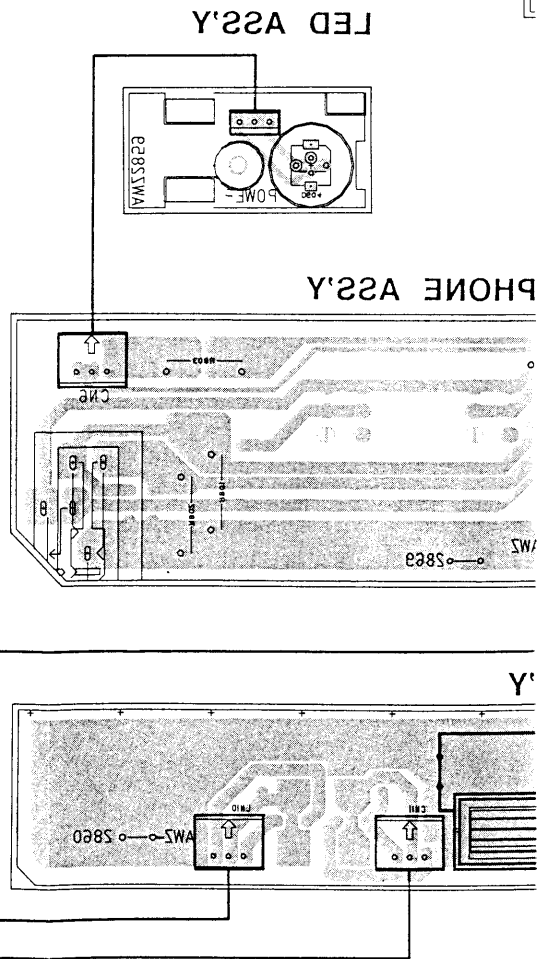
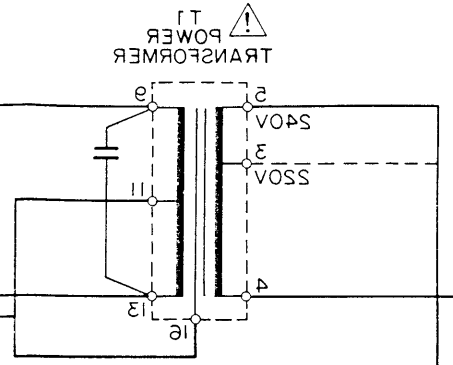
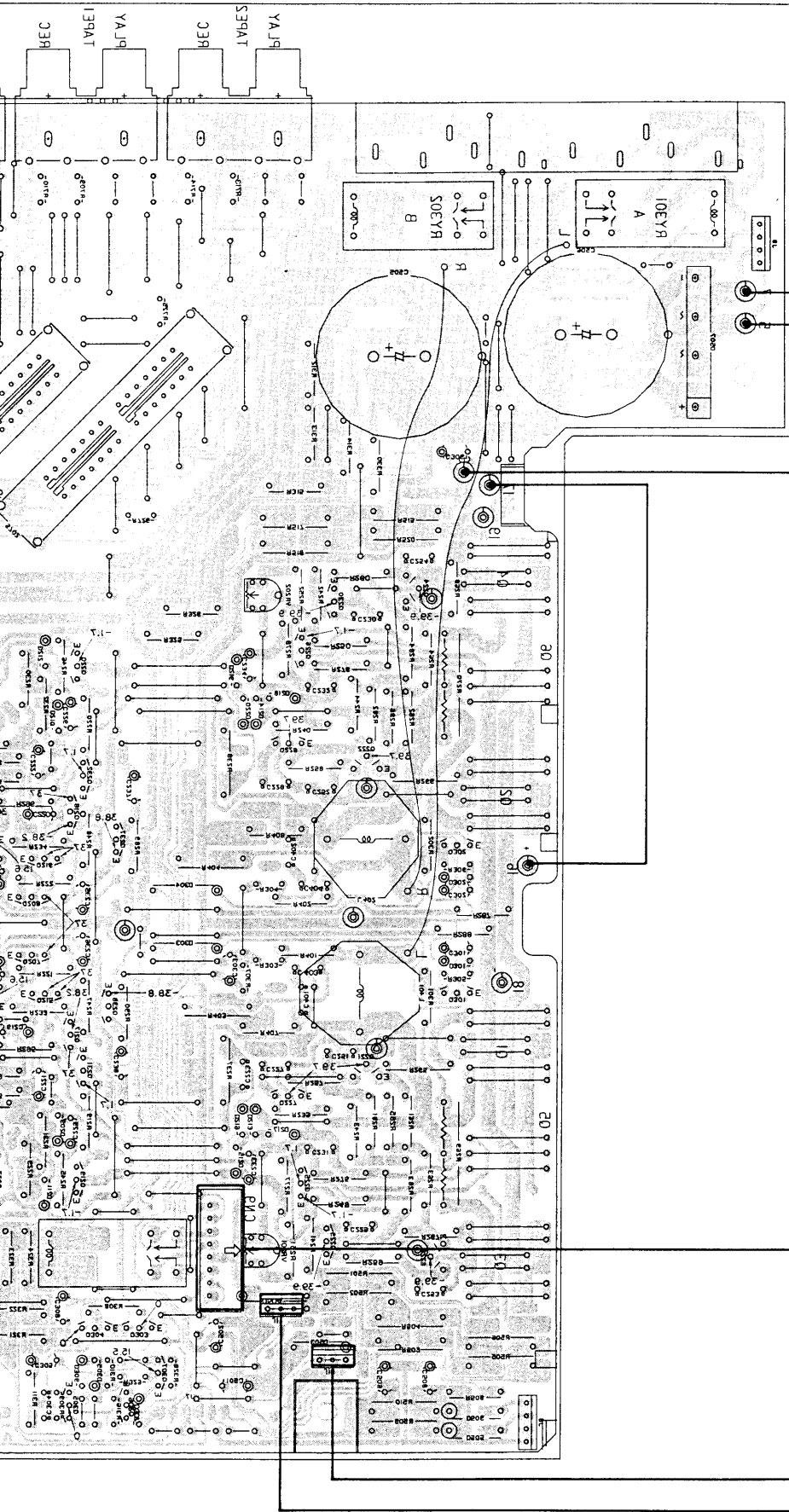
AM1368 - B





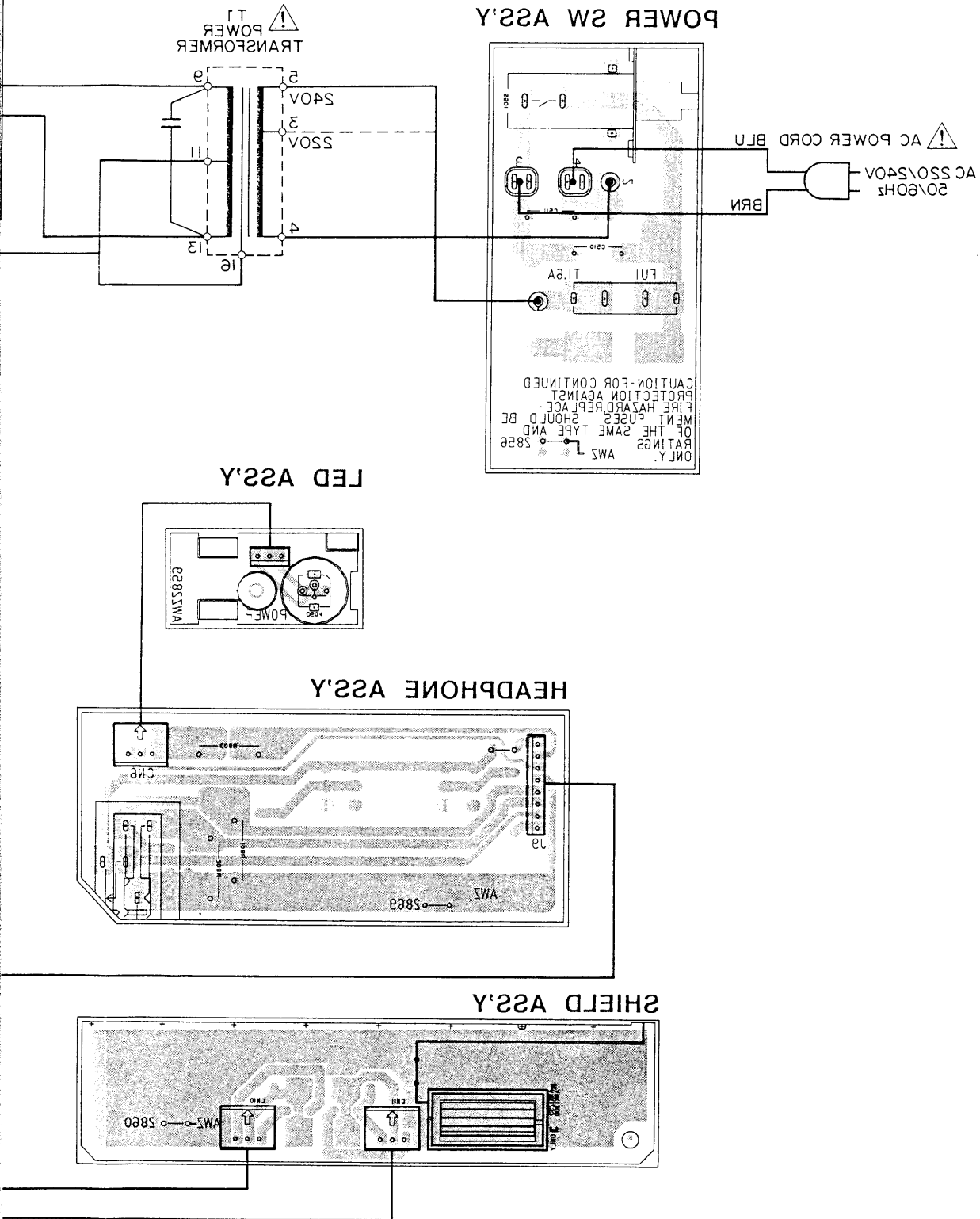
# 7M (FOR A-300HB TYPE)

## AF COMPLEX ASSY (AW52870)

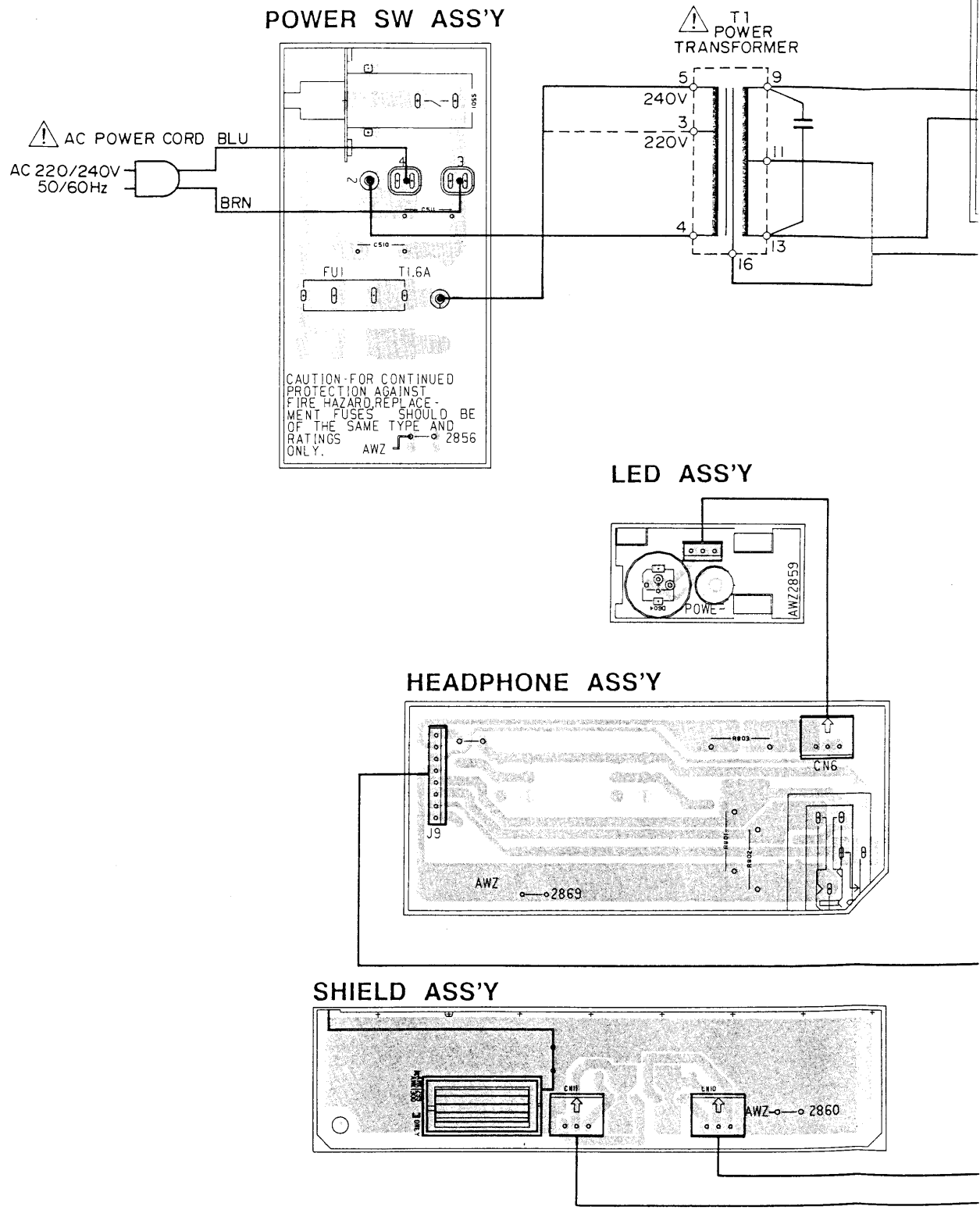




# 5. P.C. BOARDS CONNECTION DIAGRAM (FOR A-300\HB TYPE)

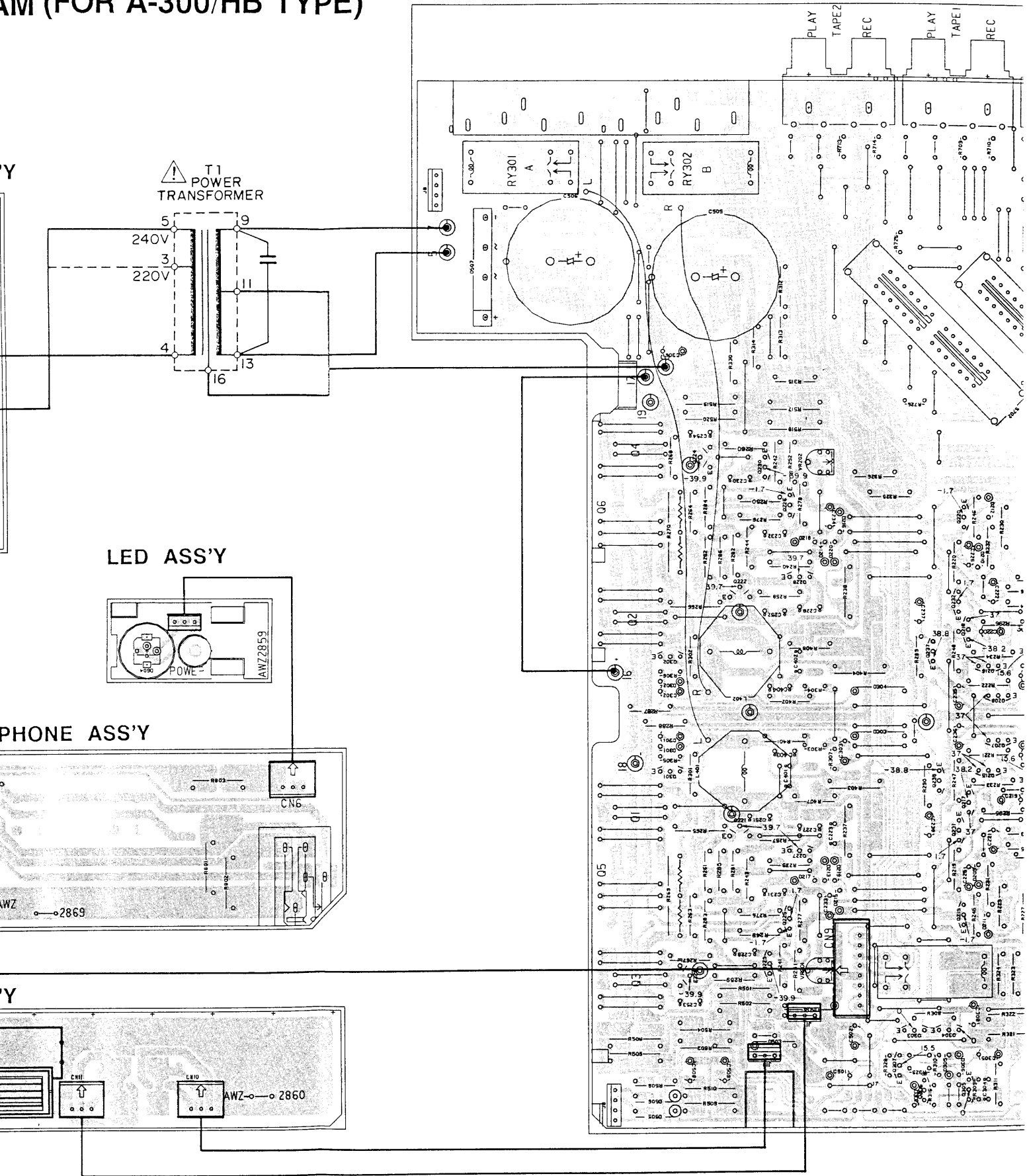


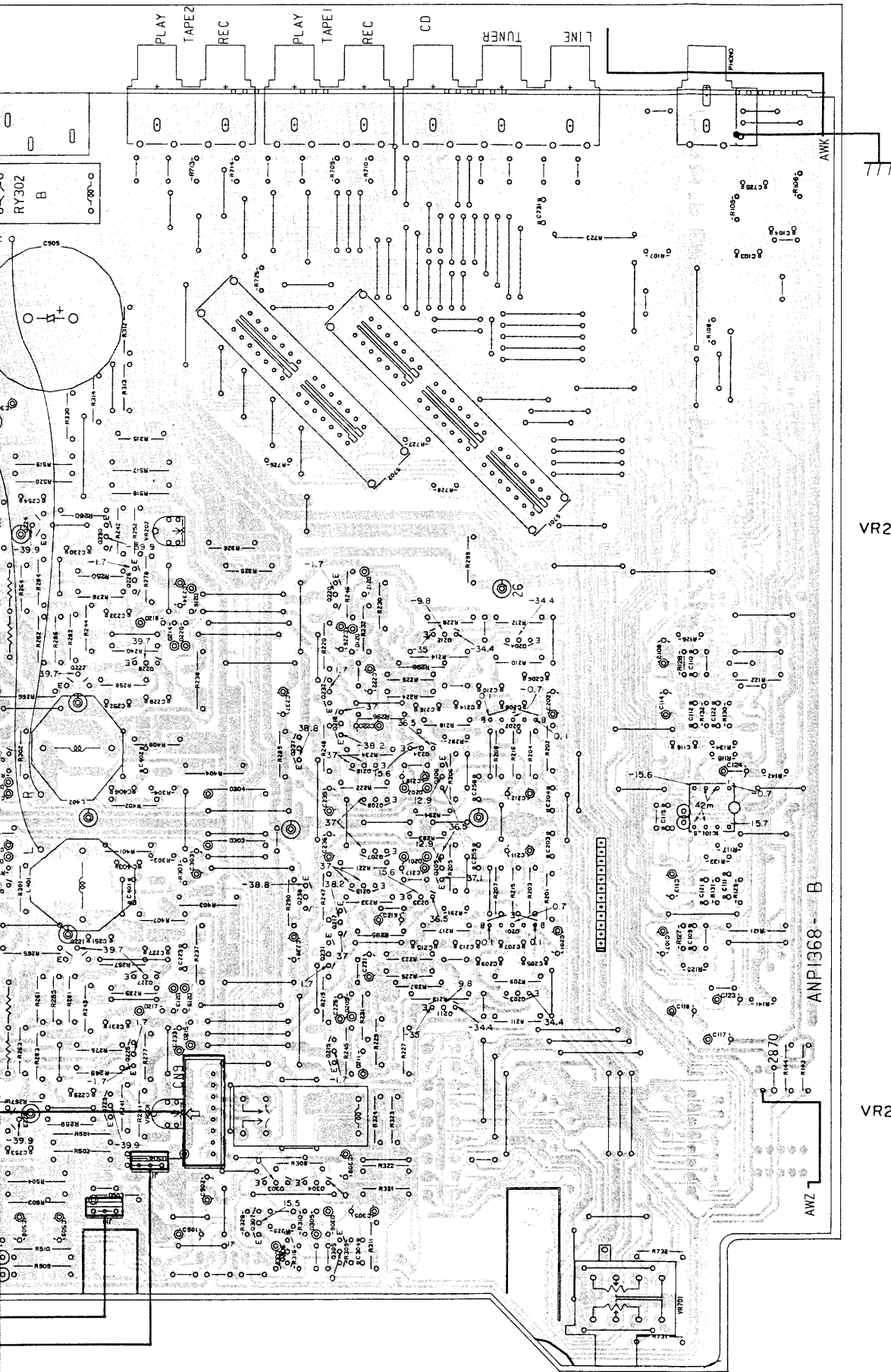
# 5. P.C. BOARDS CONNECTION DIAGRAM (FOR A-300/HB TYPE)



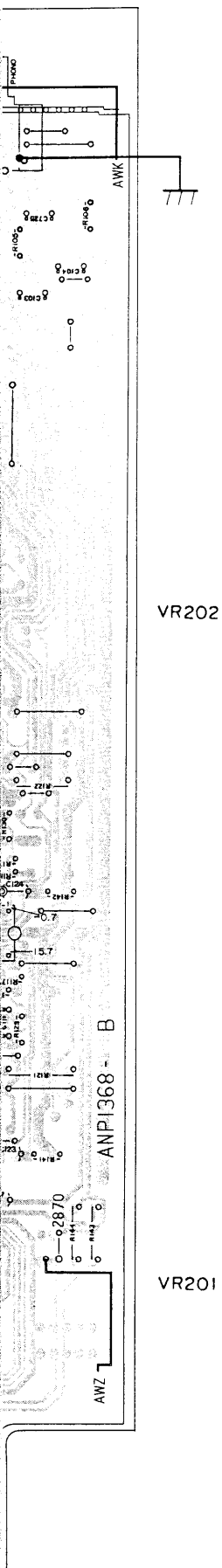
# AM (FOR A-300/HB TYPE)

## AF COMPLEX ASS'Y (AWZ2870)





|       |      |       |
|-------|------|-------|
| VR202 | Q224 |       |
|       | Q230 |       |
|       | Q226 | Q220  |
|       |      | Q212  |
|       |      | Q204  |
|       | Q222 |       |
|       | Q228 | Q232  |
|       |      | Q218  |
|       |      | Q202  |
|       |      | Q237  |
|       | Q302 | Q234  |
|       |      | Q216  |
|       |      | Q206  |
|       |      | Q208  |
|       |      | IC101 |
|       |      | Q207  |
|       |      | Q205  |
|       |      | Q238  |
|       |      | Q215  |
|       |      | Q233  |
|       | Q221 | Q217  |
|       |      | Q201  |
|       | Q227 | Q231  |
|       |      | Q203  |
|       |      | Q211  |
|       | Q225 | Q219  |
| VR201 | Q229 |       |
|       | Q223 |       |
|       |      | Q303  |
|       |      | Q304  |
|       |      | Q307  |
|       |      | Q306  |
|       |      | Q305  |



VR202

- Q 224
- Q 230
- Q 226    Q 220  
          Q 212  
          Q 204
- Q 222
- Q 228    Q 232  
          Q 218  
          Q 202  
          Q 237
- Q 302    Q 234  
          Q 216  
          Q 206  
          Q 208
- Q 207
- Q 205
- Q 301    Q 238  
          Q 215  
          Q 233
- Q 221    Q 217  
          Q 201
- Q 227    Q 231  
          Q 203  
          Q 211

IC101

VR201

- Q 225    Q 219
- Q 229
- Q 223
- Q 303
- Q 304
- Q 307
- Q 306
- Q 305

1. This P.C.B connection diagram is seen from the parts mount side.
2. The parts mounted on to the P.C.B can be replaced with those shown in the following correspondence table with wiring marks.

| Indication of the P.C.B. pattern | Symbol of corresponding parts | Parts name                 |
|----------------------------------|-------------------------------|----------------------------|
|                                  |                               | Transistor                 |
|                                  |                               | Radiator type transistor   |
|                                  |                               | Diode                      |
|                                  |                               | Resistor                   |
|                                  |                               | Condenser (Polar type)     |
|                                  |                               | Condenser (Non-polar type) |

Others

| Wiring mark on the P.C.B pattern diagram | Parts list                               |
|------------------------------------------|------------------------------------------|
| IC                                       | IC                                       |
| S                                        | Switch                                   |
| RY                                       | Relay                                    |
| L                                        | Coil                                     |
| F                                        | Filter                                   |
| VR                                       | Variable resistor or semi-fixed resistor |

3. The condenser terminal marked with double circles (⊙) represents (-) terminal.
4. The diode terminal marked with double circles (⊙) represents the cathode side.
5. The transistor terminal marked with "E" represents an emitter.

A

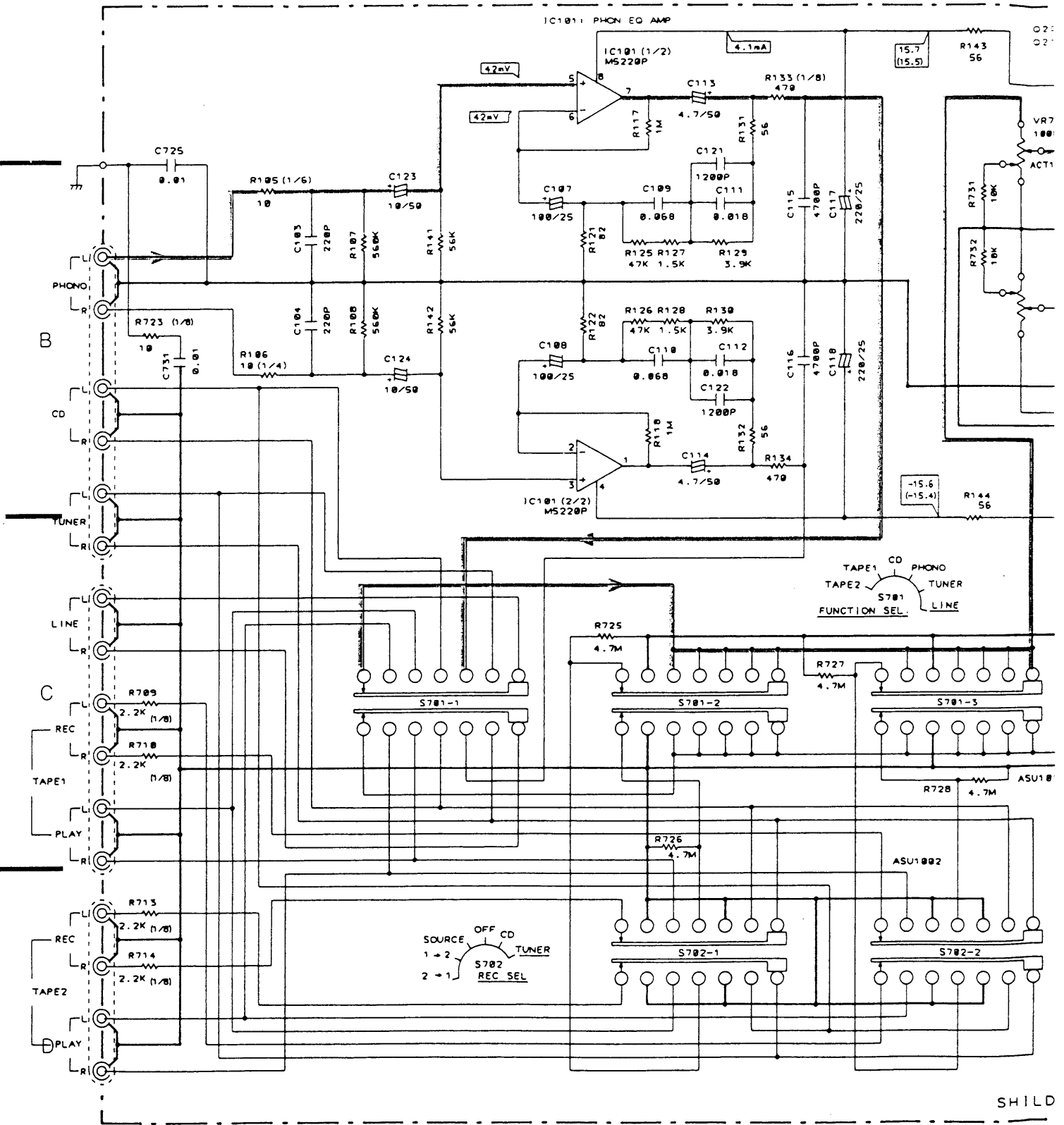
B

C

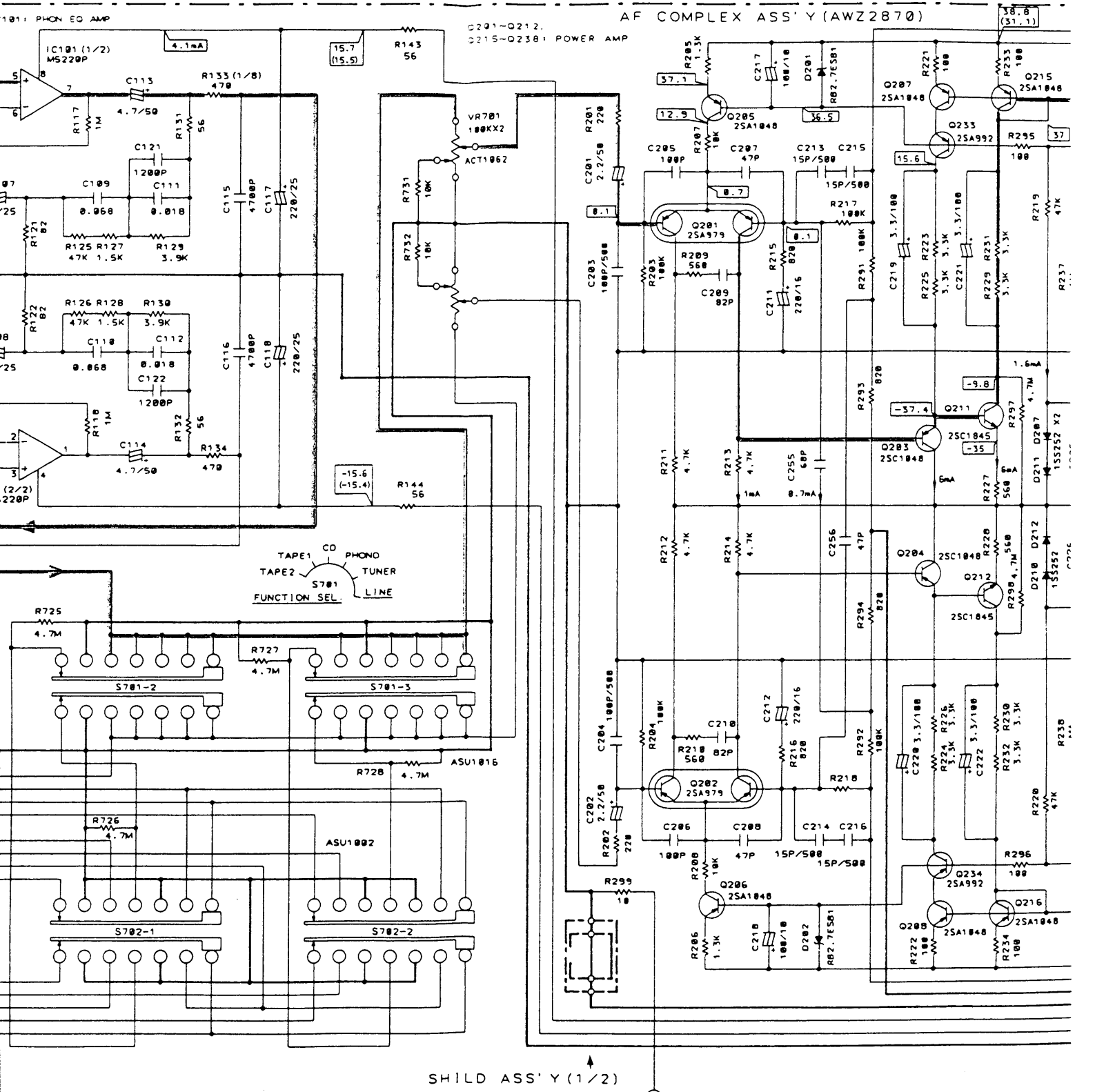
D

# 6. SCHEMATIC DIAGRAM (FOR A-300/HB TYPE)

A



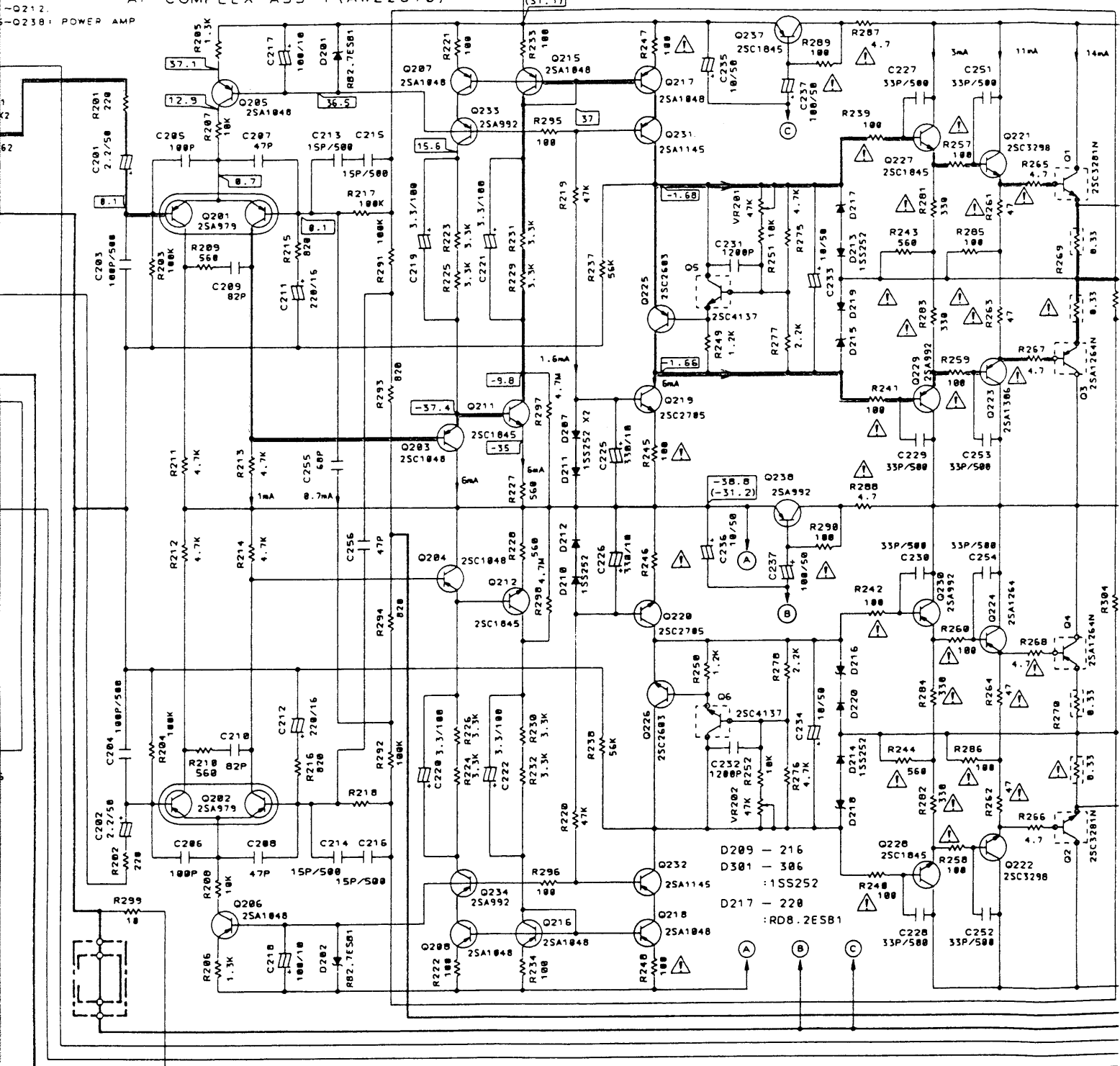
R A-300/HB TYPE)



SHILD ASS'Y (1/2)

AF COMPLEX ASS'Y (AWZ2870)

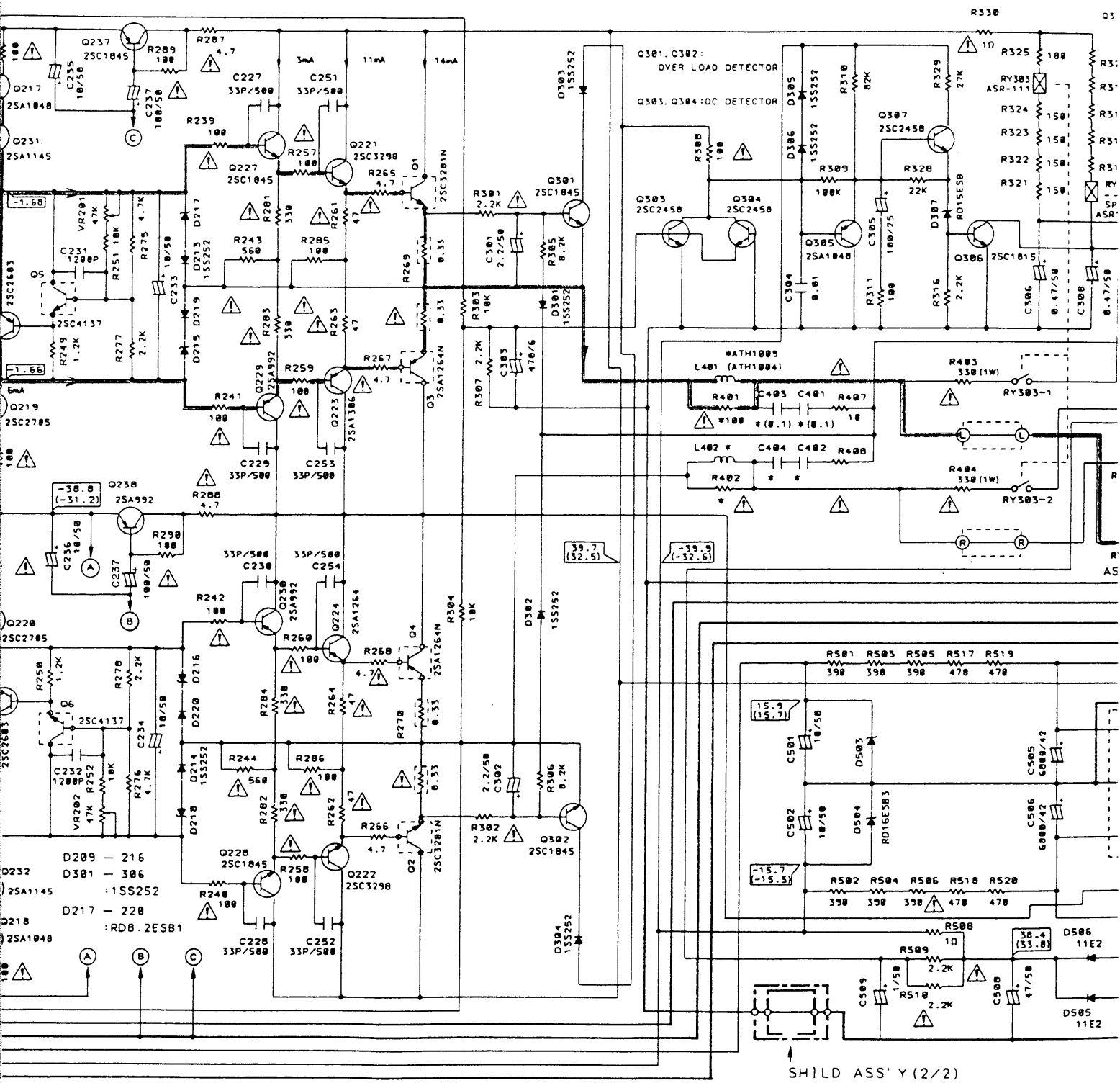
-Q212.  
-Q238: POWER AMP



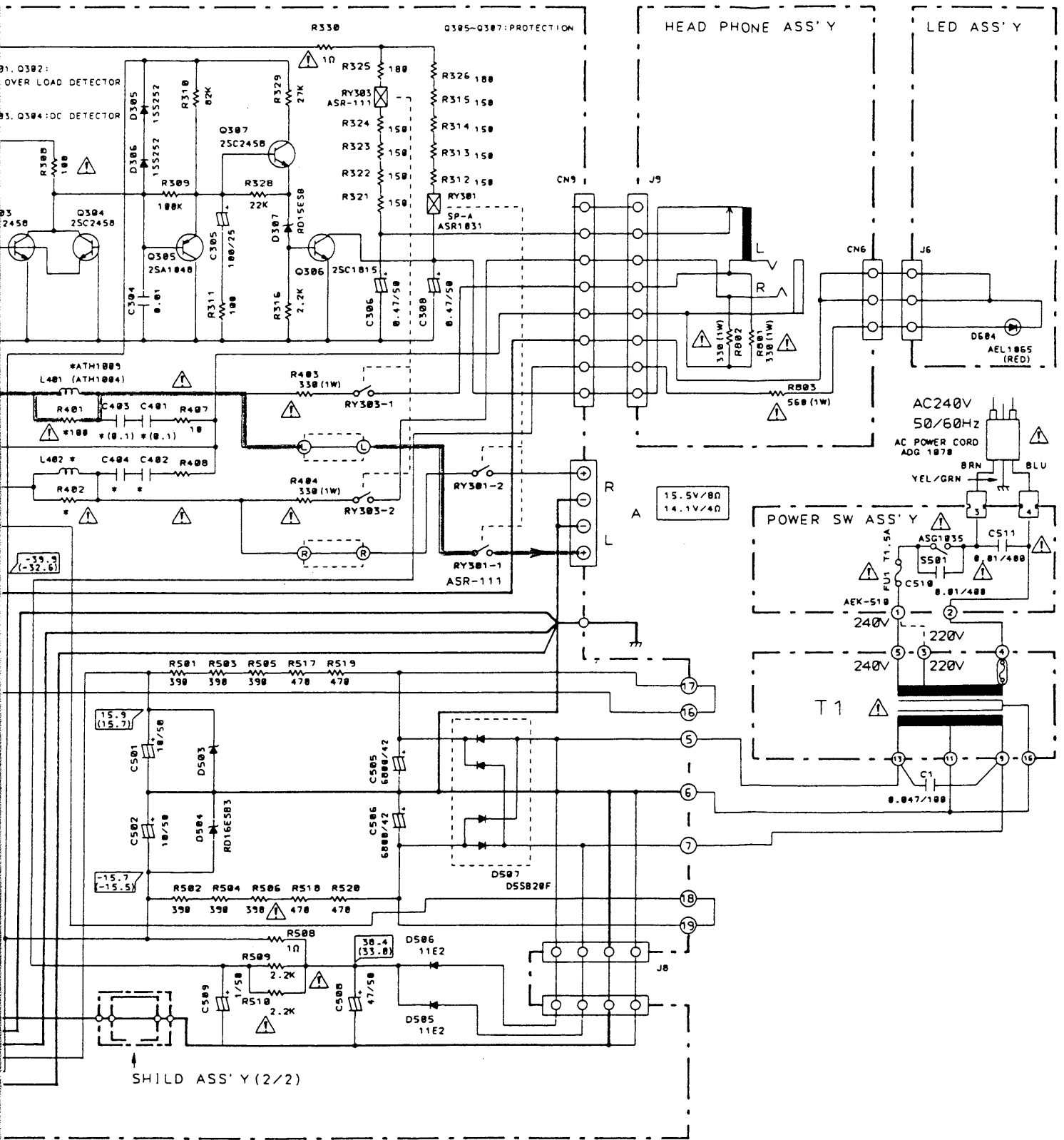
ASS'Y (1/2)

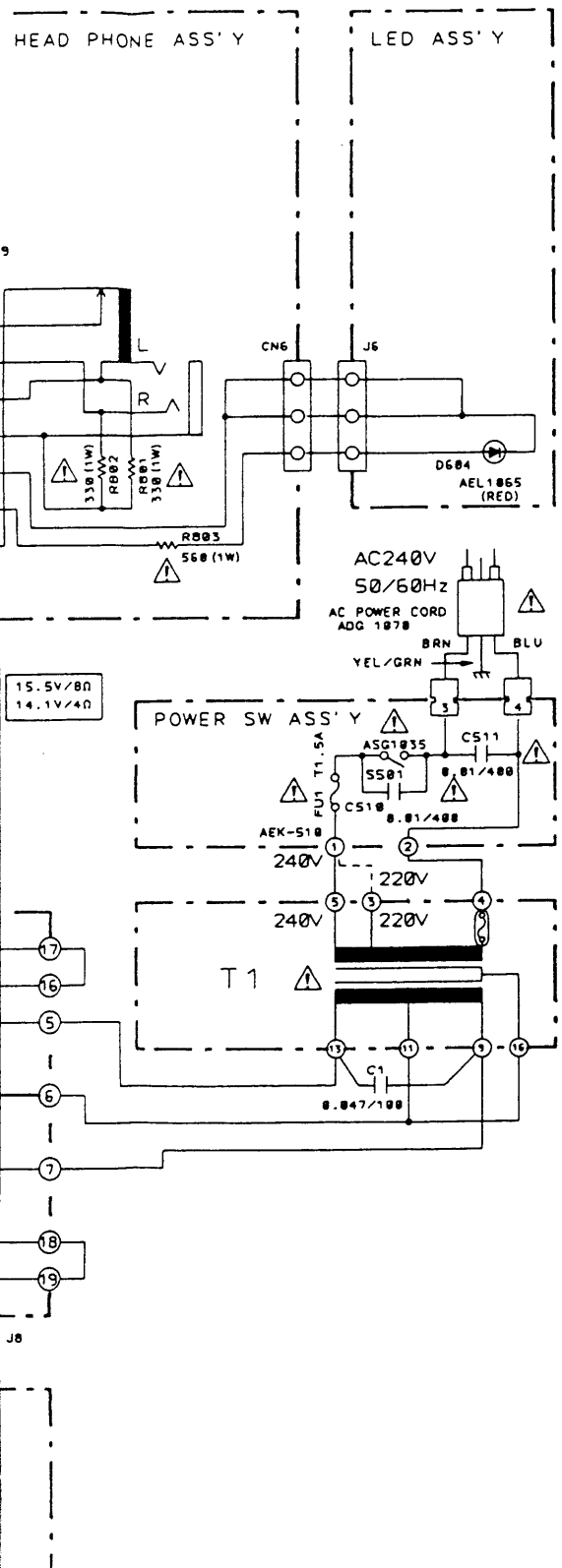
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 email:- sales@mauritron.co.uk





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 Fax (01844) 352554  
 email:- sales@mauritron.co.uk





1. RESISTORS:

Indicated in  $\Omega$ , 1/8, 1/4W,  $\pm 5\%$  tolerance unless otherwise noted  
 K; k $\Omega$ , M; M $\Omega$ , (F);  $\pm 1\%$ , (G);  $\pm 2\%$ , (K);  $\pm 10\%$ , (M);  $\pm 20\%$   
 tolerance.

2. CAPACITORS:

Indicated in capacity ( $\mu\text{F}$ ) / voltage (V) unless otherwise noted p; pF.  
 Indication without voltage is 50V except electrolytic capacitor.

3. VOLTAGE CURRENT:

- : Signal voltage at (30W + 30W/8 $\Omega$ , 50W + 50W/4 $\Omega$ )  
 output (1kHz).
- : DC voltage (V) at no input signal.  
 Value in ( ) is DC voltage at rated power.
- mA : DC current (V) at no input signal.
- mV : Signal voltage at FM 400Hz  $\pm 75\text{Hz}$  DEV.

4. OTHERS

- : Signal route.
- : Adjusting point.
- The  $\otimes$  mark found on some component parts indicates the  
 importance of the safety factor of the part. Therefore, when  
 replacing, be sure to use parts of identical designation.
- marked capacitor and resistor have parts number.
- This is the basic schematic diagram, but the actual circuit may  
 vary due to improvements in design.

5. SWITCHES (The underline indicates the switch position)

- S501 : POWER SW (ON-OFF)
- S701 : FUNCTION SEL  
 (TAPE 2 - TAPE 1 - CD - PHONO -  
 TUNER - LINE )
- S702 : REC SEL  
 (2 $\rightarrow$ 1 - 1 $\rightarrow$ 2 - SOURCE - OFF - CD - TUNER)

## 7. ELECTRICAL PARTS LIST

**NOTES:**

- Parts without part number cannot be supplied.
- Parts marked by "●" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.
- The △ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- When ordering resistors, first convert resistance values into code form as shown in the following examples.

Ex. 1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).

|      |                      |          |         |   |   |   |   |
|------|----------------------|----------|---------|---|---|---|---|
| 560Ω | 56 × 10 <sup>1</sup> | 561..... | RD1/4PS | □ | □ | □ | J |
| 47kΩ | 47 × 10 <sup>3</sup> | 473..... | RD1/4PS | □ | □ | □ | J |
| 0.5Ω | 0R5.....             |          | RN2H    | □ | □ | □ | K |
| 1Ω   | 010.....             |          | RS1P    | □ | □ | □ | K |

Ex. 2 When there are 3 effective digits (such as in high precision metal film resistors).

|        |                       |           |         |   |   |   |   |
|--------|-----------------------|-----------|---------|---|---|---|---|
| 5.62kΩ | 562 × 10 <sup>1</sup> | 5621..... | RN1/4SR | □ | □ | □ | F |
|--------|-----------------------|-----------|---------|---|---|---|---|

| Mark                              | No.         | Description          | Parts No.  | Mark                       | No.       | Description          | Parts No.    |
|-----------------------------------|-------------|----------------------|------------|----------------------------|-----------|----------------------|--------------|
| <b>POWER SW ASS'Y</b>             |             |                      |            |                            | Q219,Q220 | TRANSISTOR           | 2SC2705      |
| <b>CAPACITORS</b>                 |             |                      |            |                            | Q221,Q222 | TRANSISTOR           | 2SC3298      |
|                                   | △ C510,C511 | CKA (0.01/AC400V)    | ACG1002    |                            | Q223,Q224 | TRANSISTOR           | 2SA1306      |
| <b>SWITCH</b>                     |             |                      |            |                            | Q225,Q226 | TRANSISTOR           | 2SC2603      |
|                                   | △ S501      | PUSH SWITCH          | ASG1035    |                            | Q227,Q228 | TRANSISTOR           | 2SC1845      |
| <b>LED ASS'Y</b>                  |             |                      |            |                            | Q229,Q230 | TRANSISTOR           | 2SA992       |
| <b>SEMICONDUCTOR</b>              |             |                      |            |                            | Q231,Q232 | TRANSISTOR           | 2SA1145      |
|                                   | D604        | LED (RED)            | AEL1065    |                            | Q233,Q234 | TRANSISTOR           | 2SA992       |
| <b>SHIELD ASS'Y</b>               |             |                      |            |                            | Q237      | TRANSISTOR           | 2SC1845      |
| <b>(FOR A-400/HB TYPE)</b>        |             |                      |            |                            | Q238      | TRANSISTOR           | 2SA992       |
| <b>SEMICONDUCTORS</b>             |             |                      |            |                            | Q301,Q302 | TRANSISTOR           | 2SC1845      |
|                                   | Q501        | TRANSISTOR           | 2SC2705    |                            | Q303,Q304 | TRANSISTOR           | 2SC2458      |
|                                   | Q502        | TRANSISTOR           | 2SA1145    |                            | Q305      | TRANSISTOR           | 2SA1048      |
| <b>OTHERS</b>                     |             |                      |            |                            | Q306      | TRANSISTOR           | 2SC1815      |
|                                   | CN10,CN11   | JUMPER CONNECTOR 3-P | KPC3       |                            | Q307      | TRANSISTOR           | 2SC2458      |
| <b>HEADPHONE ASS'Y</b>            |             |                      |            |                            | D101,D102 | ZENER DIODE          | RD7.5ESB2    |
| <b>RESISTORS</b>                  |             |                      |            |                            | D103      | DIODE                | 1SS252       |
|                                   | △ R801,R802 | METAL OXIDE RESISTOR | RS1PMF331J |                            | D201,D202 | ZENER DIODE          | RD2.7ESB1    |
|                                   | △ R803      | METAL OXIDE RESISTOR | RS1LMF681J |                            | D209-D216 | DIODE                | 1SS252       |
| <b>OTHERS</b>                     |             |                      |            |                            | D217-D220 | ZENER DIODE          | RD15ESB      |
|                                   | JACK        |                      | AKN1022    |                            | D301-D306 | DIODE                | 1SS252       |
|                                   | CN6         | JUMPER CONNECTOR 3-P | KPC3       |                            | D307      | ZENER DIODE          | RD22ESB      |
| <b>AF COMPLEX ASS'Y (AWZ2868)</b> |             |                      |            |                            | D503,D504 | ZENER DIODE          | RD18ESB1     |
| <b>FOR A-400/HB TYPE</b>          |             |                      |            |                            | D505,D506 | DIODE                | 11E2         |
| <b>SEMICONDUCTORS</b>             |             |                      |            |                            | D507      | DIODE                | D5SB20F      |
|                                   | IC101       | IC                   | UPC4570C   | <b>COILS &amp; FILTERS</b> |           |                      |              |
|                                   | Q101-Q104   | N-FET                | 2SK369     |                            | L401,L402 | COIL                 | ATH1004      |
|                                   | Q105,Q106   | TRANSISTOR           | 2SC2458    | <b>CAPACITORS</b>          |           |                      |              |
|                                   | Q201,Q202   | TRANSISTOR           | 2SA979     |                            | C101,C102 | AUDIO FILM CAPACITOR | CFTXA103J50  |
|                                   | Q203-Q208   | TRANSISTOR           | 2SA1048    |                            | C103,C104 | CERAMIC CAPACITOR    | CCCSL221K500 |
|                                   | Q211,Q212   | TRANSISTOR           | 2SC1845    |                            | C105,C106 | POLYESTER CAPACITOR  | CQMXA472J100 |
|                                   | Q215-Q218   | TRANSISTOR           | 2SA1048    |                            | C107,C108 | ELECTR. CAPACITOR    | CEXA101M25   |
|                                   |             |                      |            |                            | C109,C110 | AUDIO FILM CAPACITOR | CFTXA683J50  |
|                                   |             |                      |            |                            | C111,C112 | AUDIO FILM CAPACITOR | CFTXA183J50  |
|                                   |             |                      |            |                            | C113,C114 | ELECTR. CAPACITOR    | CEXANP220M25 |
|                                   |             |                      |            |                            | C115,C116 | POLYESTER CAPACITOR  | CQMXA472J100 |

| Mark | No.       | Description                     | Parts No.    |
|------|-----------|---------------------------------|--------------|
|      | C117,C118 | ELECTR. CAPACITOR               | CEXA221M25   |
|      | C121,C122 | POLYESTER CAPACITOR             | CQMXA122J100 |
|      | C135,C136 | ELECTR. CAPACITOR               | CEAS470M10   |
|      | C201,C202 | ELECTR. CAPACITOR               | CEEA2R2M50   |
|      | C203,C204 | MICA CAPACITOR                  | CMA101J500   |
|      | C205,C206 | CERAMIC CAPACITOR               | CCCCL101J50  |
|      | C207,C208 | CERAMIC CAPACITOR               | CCCCL470J50  |
|      | C209,C210 | CERAMIC CAPACITOR               | CCCCL820J50  |
|      | C211,C212 | ELECTR. CAPACITOR               | CEEA221M16   |
|      | C213-C216 | CERAMIC CAPACITOR               | CCCCL150K500 |
|      | C217,C218 | ELECTR. CAPACITOR               | CEAS101M10   |
|      | C219-C222 | ELECTR. CAPACITOR               | CEAS3R3M100  |
|      | C225,C226 | ELECTR. CAPACITOR               | CEAS331M10   |
|      | C227-C230 | CERAMIC CAPACITOR               | CCCCL330K500 |
|      | C231,C232 | CERAMIC CAPACITOR               | CKCYB122K50  |
|      | C233-C236 | ELECTR. CAPACITOR               | CEAS100M50   |
|      | C237,C238 | ELECTR. CAPACITOR               | CEAS101M50   |
|      | C251-C254 | CERAMIC CAPACITOR               | CCCCL330K500 |
|      | C255      | CERAMIC CAPACITOR               | CCCCL680J50  |
|      | C256      | CERAMIC CAPACITOR               | CCDSL470J50  |
|      | C301,C302 | ELECTR. CAPACITOR               | CEAS2R2M50   |
|      | C303      | ELECTR. CAPACITOR               | CEAS471M6    |
|      | C304      | CERAMIC CAPACITOR               | CKCYF103Z50  |
|      | C305      | ELECTR. CAPACITOR               | CEAS101M25   |
|      | C306,C308 | ELECTR. CAPACITOR               | CEASR47M50   |
|      | C401-C404 | AUDIO FILM CAPACITOR            | CFTXA104J50  |
|      | C501,C502 | ELECTR. CAPACITOR               | CEAS100M50   |
|      | C503,C504 | ELECTR. CAPACITOR               | CEAS470M25   |
|      | C505      | ELECTR. CAPACITOR<br>(10000/5V) | ACH1152      |
|      | C506      | ELECTR. CAPACITOR<br>(10000/5V) | ACH1153      |
|      | C508      | ELECTR. CAPACITOR               | CEAS470M50   |
|      | C509      | ELECTR. CAPACITOR               | CEAS010M50   |
|      | C725      | CERAMIC CAPACITOR               | CKCYF103Z50  |
|      | C731      | CERAMIC CAPACITOR               | CKCYF103Z50  |
|      | C733,C734 | CERAMIC CAPACITOR               | CKDYF102Z50  |

#### RESISTORS

|   |             |                      |              |
|---|-------------|----------------------|--------------|
|   | VR201,VR202 | SEMI-FIXED(47K)      | ACP1045      |
|   | VR701       | VARIABLE(100K-20AX2) | ACT1063      |
|   | R101,R102   | CARBON FILM RESISTOR | RDR1/6PU101J |
|   | R105-R108   | CARBON FILM RESISTOR | RDR1/6PU□□□J |
|   | R119-R122   | CARBON FILM RESISTOR | RDR1/4PM□□□J |
|   | R133,R134   | CARBON FILM RESISTOR | RDR1/6PU391J |
|   | R143,R144   | CARBON FILM RESISTOR | RD1/4PM560J  |
|   | R201-R204   | CARBON FILM RESISTOR | RDR1/4PM□□□J |
|   | R205-R214   | CARBON FILM RESISTOR | RD1/4PM□□□J  |
|   | R215-R218   | CARBON FILM RESISTOR | RDR1/4PM□□□J |
|   | R219-R234   | CARBON FILM RESISTOR | RD1/4PM□□□J  |
|   | R237,R238   | CARBON FILM RESISTOR | RDR1/4PM563J |
| △ | R239-R242   | FUSIBLE RESISTOR     | RFA1/4PS101J |
| △ | R243,R244   | CARBON FILM RESISTOR | RD1/4PMF561J |
| △ | R245-R248   | FUSIBLE RESISTOR     | RFA1/4PS101J |

| Mark            | No.             | Description          | Parts No.     |
|-----------------|-----------------|----------------------|---------------|
|                 | R249-R252       | CARBON FILM RESISTOR | RD1/4PM□□□J   |
| △               | R257-R260       | FUSIBLE RESISTOR     | RFA1/4PS101J  |
| △               | R261-R264       | FUSIBLE RESISTOR     | RFA1/4PS470J  |
| △               | R265-R268       | FUSIBLE RESISTOR     | RFA1/4PS4R7J  |
| △               | R269,R270       | RESISTOR (0.33, 5W)  | ACN1063       |
|                 | R275-R278       | CARBON FILM RESISTOR | RD1/4PM□□□J   |
| △               | R281-R284       | FUSIBLE RESISTOR     | RFA1/4PS331J  |
| △               | R285,R286       | FUSIBLE RESISTOR     | RFA1/4PS101J  |
| △               | R287,R288       | CARBON FILM RESISTOR | RD1/4PMF4R7J  |
| △               | R289,R290       | FUSIBLE RESISTOR     | RFA1/4PS101J  |
|                 | R299            | CARBON FILM RESISTOR | RD1/4PM100J   |
| △               | R301,R302       | CARBON FILM RESISTOR | RD1/4PMF222J  |
| △               | R308            | CARBON FILM RESISTOR | RD1/4PMF101J  |
|                 | R311-R315       | CARBON FILM RESISTOR | RD1/4PM□□□J   |
|                 | R321-R326       | CARBON FILM RESISTOR | RD1/4PM□□□J   |
| △               | R330            | CARBON FILM RESISTOR | RD1/4PMF010J  |
| △               | R401,R402       | CARBON FILM RESISTOR | RD1/4PMFL100J |
| △               | R403,R404       | METAL OXIDE RESISTOR | RS1LMF331J    |
| △               | R407,R408       | CARBON FILM RESISTOR | RD1/4PMFL100J |
| △               | R501-R506       | METAL OXIDE RESISTOR | RS1PMF121J    |
| △               | R507,R508       | CARBON FILM RESISTOR | RD1/4PMF010J  |
| △               | R509,R510       | METAL OXIDE RESISTOR | RS1LMF272J    |
|                 | R513-R516       | CARBON FILM RESISTOR | RD1/4PM272J   |
| △               | R517-R520       | METAL OXIDE RESISTOR | RS1PMF101J    |
|                 | R731,R732       | CARBON FILM RESISTOR | RD1/4PM103J   |
|                 | OTHER RESISTORS |                      | RD1/8PM□□□J   |
| <b>SWITCHES</b> |                 |                      |               |
|                 | S101            | PUSH SWITCH          | ASG1012       |
|                 | S701            | SWITCH               | ASU1016       |
|                 | S702            | SWITCH               | ASU1002       |
| <b>OTHERS</b>   |                 |                      |               |
|                 | CN9             | JUMPER CONNECTOR     | KPC8          |
|                 | RY301           | RELAY                | ASR1031       |
|                 | RY303           | RELAY                | ASR-111       |
|                 |                 | PHONO JACK 6-P       | AKB1007       |
|                 |                 | PHONO JACK 6-P       | AKB1008       |
|                 |                 | PHONO JACK 2-P       | AKB1059       |
|                 |                 | SPEAKER TERMINAL 4-P | AKE1020       |

## AF COMPLEX ASS'Y (AWZ2870)

### FOR A-300/HB TYPE

#### SEMICONDUCTORS

|           |            |         |
|-----------|------------|---------|
| IC101     | IC         | M5220P  |
| Q201,Q202 | TRANSISTOR | 2SA979  |
| Q203-Q208 | TRANSISTOR | 2SA1048 |
| Q211,Q212 | TRANSISTOR | 2SC1845 |
| Q215-Q218 | TRANSISTOR | 2SA1048 |
| Q219,Q220 | TRANSISTOR | 2SC2705 |
| Q221,Q222 | TRANSISTOR | 2SC3298 |
| Q223,Q224 | TRANSISTOR | 2SA1306 |
| Q225,Q226 | TRANSISTOR | 2SC2603 |
| Q227,Q228 | TRANSISTOR | 2SC1845 |

| Mark                       | No.       | Description          | Parts No.    |
|----------------------------|-----------|----------------------|--------------|
|                            | Q229,Q230 | TRANSISTOR           | 2SA992       |
|                            | Q231,Q232 | TRANSISTOR           | 2SA1145      |
|                            | Q233,Q234 | TRANSISTOR           | 2SA992       |
|                            | Q237      | TRANSISTOR           | 2SC1845      |
|                            | Q238      | TRANSISTOR           | 2SA992       |
|                            | Q301,Q302 | TRANSISTOR           | 2SC1845      |
|                            | Q303,Q304 | TRANSISTOR           | 2SC2458      |
|                            | Q305      | TRANSISTOR           | 2SA1048      |
|                            | Q306      | TRANSISTOR           | 2SC1815      |
|                            | Q307      | TRANSISTOR           | 2SC2458      |
|                            | D201,D202 | ZENER DIODE          | RD2.7ESB1    |
|                            | D209-D216 | DIODE                | 1SS252       |
|                            | D217-D220 | ZENER DIODE          | RD8.2ESB1    |
|                            | D301-D306 | DIODE                | 1SS252       |
|                            | D307      | ZENER DIODE          | RD15ESB      |
|                            | D503,D504 | ZENER DIODE          | RD16ESB3     |
|                            | D505,D506 | DIODE                | 11E2         |
|                            | D507      | DIODE                | D5SB20F      |
| <b>COILS &amp; FILTERS</b> |           |                      |              |
|                            | L401,L402 | COIL                 | ATH1004      |
| <b>CAPACITORS</b>          |           |                      |              |
|                            | C103,C104 | CERAMIC CAPACITOR    | CCCSL221J50  |
|                            | C107,C108 | ELECTR. CAPACITOR    | CEXA101M25   |
|                            | C109,C110 | AUDIO FILM CAPACITOR | CFTXA683J50  |
|                            | C111,C112 | AUDIO FILM CAPACITOR | CFTXA183J50  |
|                            | C113,C114 | ELECTR. CAPACITOR    | CEXA4R7M50   |
|                            | C115,C116 | MYLOR FILM CAPACITOR | CQMA472K50   |
|                            | C117,C118 | ELECTR. CAPACITOR    | CEAS1221M25  |
|                            | C121,C122 | MYLOR FILM CAPACITOR | CQMA122J50   |
|                            | C123,C124 | ELECTR. CAPACITOR    | CEXA100M50   |
|                            | C201,C202 | ELECTR. CAPACITOR    | CEEA2R2M50   |
|                            | C203,C204 | CERAMIC CAPACITOR    | CCCSL101K500 |
|                            | C205,C206 | CERAMIC CAPACITOR    | CCCSL101J50  |
|                            | C207,C208 | CERAMIC CAPACITOR    | CCCSL470J50  |
|                            | C209,C210 | CERAMIC CAPACITOR    | CCCSL101J50  |
|                            | C211,C212 | ELECTR. CAPACITOR    | CEEA221M16   |
|                            | C213-C216 | CERAMIC CAPACITOR    | CCCSL150K500 |
|                            | C217,C218 | ELECTR. CAPACITOR    | CEAS101M10   |
|                            | C219-C222 | ELECTR. CAPACITOR    | CEAS3R3M100  |
|                            | C225,C226 | ELECTR. CAPACITOR    | CEAS331M10   |
|                            | C227-C230 | CERAMIC CAPACITOR    | CCCSL330K500 |
|                            | C231,C232 | CERAMIC CAPACITOR    | CKCYB122K50  |
|                            | C233-C236 | ELECTR. CAPACITOR    | CEAS100M50   |
|                            | C237,C238 | ELECTR. CAPACITOR    | CEAS101M50   |
|                            | C251-C254 | CERAMIC CAPACITOR    | CCCSL330K500 |
|                            | C255      | CERAMIC CAPACITOR    | CCCSL680J50  |
|                            | C256      | CERAMIC CAPACITOR    | CCDSL470J50  |
|                            | C301,C302 | ELECTR. CAPACITOR    | CEAS2R2M50   |
|                            | C303      | ELECTR. CAPACITOR    | CEAS471M6    |
|                            | C304      | CERAMIC CAPACITOR    | CKCYF103Z50  |
|                            | C305      | ELECTR. CAPACITOR    | CEAS101M25   |

| Mark | No.       | Description                     | Parts No.   |
|------|-----------|---------------------------------|-------------|
|      | C306,C308 | ELECTR. CAPACITOR               | CEASR47M50  |
|      | C401-C404 | AUDIO FILM CAPACITOR            | CFTXA104J50 |
|      | C501,C502 | ELECTR. CAPACITOR               | CEAS470M25  |
|      | C505,C506 | ELECTR. CAPACITOR<br>(6800/42V) | ACH1077     |
|      | C508      | ELECTR. CAPACITOR               | CEAS470M50  |
|      | C509      | ELECTR. CAPACITOR               | CEAS010M50  |
|      | C725      | CERAMIC CAPACITOR               | CKCYF103Z50 |
|      | C731      | CERAMIC CAPACITOR               | CKCYF103Z50 |

### RESISTORS

|  |                 |                      |               |
|--|-----------------|----------------------|---------------|
|  | VR201,VR202     | SEMI-FIXED (47K)     | ACP1045       |
|  | VR701           | VARIABLE(100K-20AX2) | ACT1062       |
|  | R105,R106       | CARBON FILM RESISTOR | RDR1/6PU100J  |
|  | R121,R122       | CARBON FILM RESISTOR | RDR1/4PM820J  |
|  | R133,R134       | CARBON FILM RESISTOR | RDR1/6PU471J  |
|  | R141,R142       | CARBON FILM RESISTOR | RDR1/6PU563J  |
|  | R143,R144       | CARBON FILM RESISTOR | RD1/4PM560J   |
|  | R201-R204       | CARBON FILM RESISTOR | RDR1/4PM□□□J  |
|  | R205-R214       | CARBON FILM RESISTOR | RD1/4PM□□□J   |
|  | R215-R218       | CARBON FILM RESISTOR | RDR1/4PM□□□J  |
|  | R219-R234       | CARBON FILM RESISTOR | RD1/4PM□□□J   |
|  | R237,R238       | CARBON FILM RESISTOR | RDR1/4PM563J  |
|  | △ R239-R242     | FUSIBLE RESISTOR     | RFA1/4PS101J  |
|  | △ R243,R244     | CARBON FILM RESISTOR | RD1/4PMF561J  |
|  | △ R245-R248     | FUSIBLE RESISTOR     | RFA1/4PS101J  |
|  | R249-R252       | CARBON FILM RESISTOR | RD1/4PM□□□J   |
|  | △ R257-R260     | FUSIBLE RESISTOR     | RFA1/4PS101J  |
|  | △ R261-R264     | FUSIBLE RESISTOR     | RFA1/4PS470J  |
|  | △ R265-R268     | FUSIBLE RESISTOR     | RFA1/4PS4R7J  |
|  | △ R269,R270     | RESISTOR (0.33, 5W)  | ACN1063       |
|  | R275-R278       | CARBON FILM RESISTOR | RD1/4PM□□□J   |
|  | △ R281-R284     | FUSIBLE RESISTOR     | RFA1/4PS331J  |
|  | △ R285,R286     | FUSIBLE RESISTOR     | RFA1/4PS101J  |
|  | △ R287,R288     | CARBON FILM RESISTOR | RD1/4PMF4R7J  |
|  | △ R289,R290     | FUSIBLE RESISTOR     | RFA1/4PS101J  |
|  | R299            | CARBON FILM RESISTOR | RD1/4PM100J   |
|  | R301,R302       | CARBON FILM RESISTOR | RD1/4PMF222J  |
|  | R308            | CARBON FILM RESISTOR | RD1/4PMF101J  |
|  | R311-R315       | CARBON FILM RESISTOR | RD1/4PM□□□J   |
|  | R321-R326       | CARBON FILM RESISTOR | RD1/4PM□□□J   |
|  | R330            | CARBON FILM RESISTOR | RD1/4PMF010J  |
|  | R401,R402       | CARBON FILM RESISTOR | RD1/4PMFL100J |
|  | R403,R404       | METAL OXIDE RESISTOR | RS1LMF331J    |
|  | R407,R408       | CARBON FILM RESISTOR | RD1/4PMFL100J |
|  | R501-R506       | CARBON FILM RESISTOR | RD1/2PM□□□J   |
|  | R508            | CARBON FILM RESISTOR | RD1/4PMF010J  |
|  | R509,R510       | METAL OXIDE RESISTOR | RS1LMF222J    |
|  | R517-R520       | CARBON FILM RESISTOR | RD1/2PM471J   |
|  | R731,R732       | CARBON FILM RESISTOR | RD1/4PM103J   |
|  | OTHER RESISTORS |                      | RD1/8PM□□□J   |

| <u>Mark</u>     | <u>No.</u> | <u>Description</u>   | <u>Parts No.</u> |
|-----------------|------------|----------------------|------------------|
| <b>SWITCHES</b> |            |                      |                  |
|                 | S701       | SWITCH               | ASU1016          |
|                 | S702       | SWITCH               | ASU1002          |
| <b>OTHERS</b>   |            |                      |                  |
|                 | CN9        | JUMPER CONNECTOR     | KPC8             |
|                 | RY301      | RELAY                | ASR-111          |
|                 | RY303      | RELAY                | ASR-111          |
|                 |            | PHONO JACK 4-P       | AKB1007          |
|                 |            | PHONO JACK 6-P       | AKB1008          |
|                 |            | PHONO JACK 2-P       | AKB1059          |
|                 |            | SPEAKER TERMINAL 4-P | AKE1020          |

## **SHIELD ASS'Y (FOR A-300/HB TYPE)**

No parts supplied with the SHIELD Ass'y.

## 8. ADJUSTMENT

### ADJUSTMENT OF IDLE CURRENT

1. Connect wire as shown in Fig. 8-1.
2. After power ON, aging lasts for 5 mins with no-load.
3. In the Lch VR201 should be adjusted so that both terminal voltages of R269 may attain to 20 mV ( $\pm 3$  mV).
4. In the Rch VR202 should be adjusted so that both terminal voltages may attain to 20 mV ( $\pm 3$  mV).

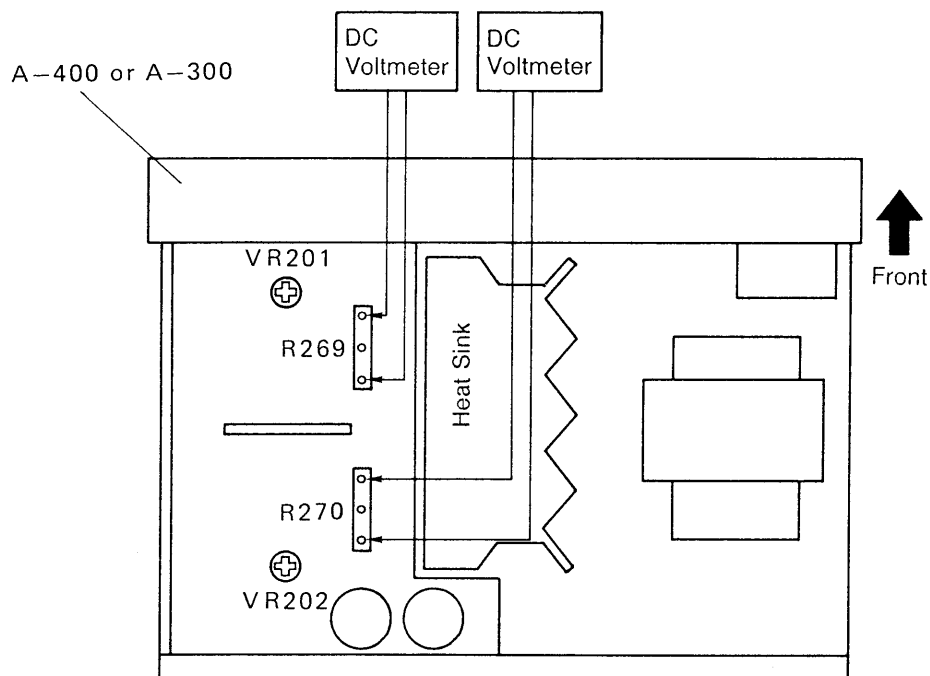


Fig. 8-1 Adjustment Drawing

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 Oxfordshire, OX9 4QY.  
 Tel (01844) 351694  
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 email:- sales@mauritron.co.uk



## 8. RÉGLAGE

### RÉGLAGE DU COURANT DÉWATTÉ

1. Brancher les fils comme indiqué dans la fig. 8-1.
2. Après la mise sous tension, le moteur dure 5 minutes et n'introduire charge.
3. VR 201 sera réglé dans le canal gauche de manière que les deux tensions de bornes de R269 atteignent 20 mV ( $\pm 3$  mV).
4. VR 202 sera réglé dans le canal droit de manière que les deux tensions de bornes atteignent 20 mV ( $\pm 3$  mV).

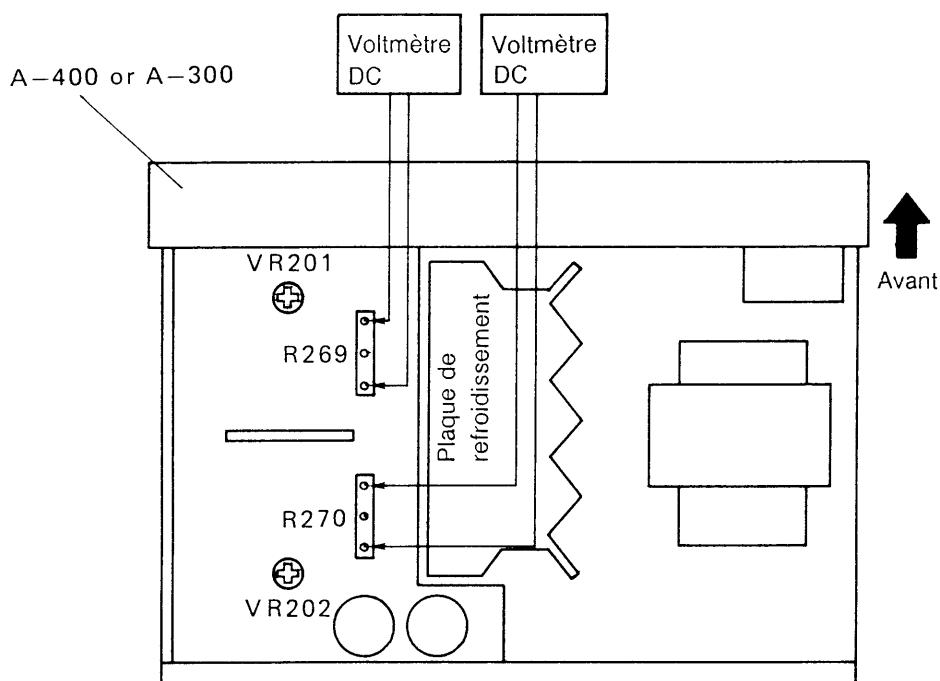


Fig. 8-1 Schéma du réglage

## 8. AJUSTE

### AJUSTE DE LA CORRIENTE DEVATIADA

1. Conecte el cable como lo ilustra la Fig. 8-1.
2. El motor funciona por 5 minutos después de encender la unidad, sin introduzca.
3. El VR201 del canal izquierdo debe ajustarse de modo que la tensión entre ambos bornes de R269 llegue a 20 mV ( $\pm 3$  mV).
4. El VR202 del canal derecho debe ajustarse de modo que la tensión entre ambos bornes llegue a 20 mV ( $\pm 3$  mV).

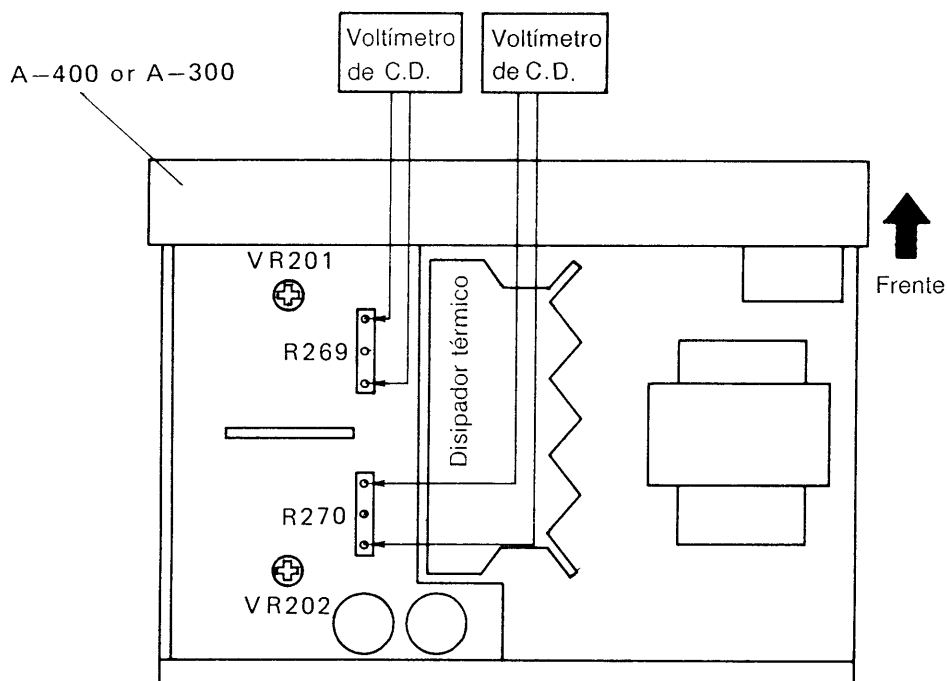


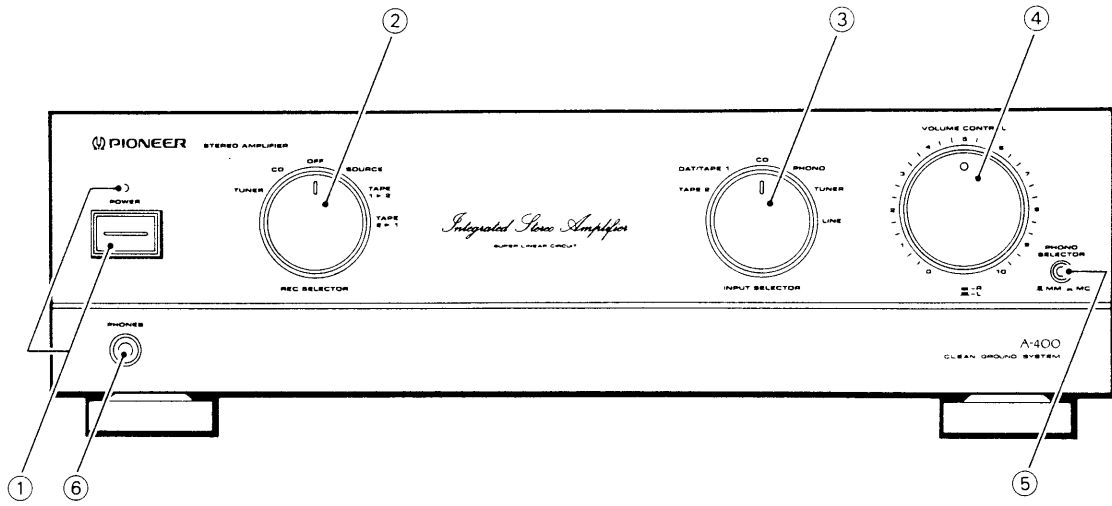
Fig. 8-1 Diagrama de ajuste

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# 9. FRONT PANEL FACILITIES

**[FRONT PANEL]**

The illustration shows model A-400.



**① POWER switch/indicator**

Press to turn power to the unit on and off. When the power is on, the indicator lights.

**② REC SELECTOR switch**

When this switch is set to a position other than SOURCE or OFF, the equipment selected by REC SELECTOR switch can be recorded from, irrespective of the settings of INPUT SELECTOR and DIRECT switches.

- TUNER:**  
To record from the equipment connected to TUNER terminals.
- CD:**  
To record from the equipment connected to CD terminals.
- OFF:**  
In this position, nothing from the REC terminals of DAT/TAPE 1 and TAPE 2 is output. Set to this position when not recording; the cassette deck will be disconnected, improving sound quality.
- SOURCE:**  
To record from the equipment selected by INPUT SELECTOR switch.

- TAPE 1 ► 2:**  
To record (copy) from the cassette deck of DAT/TAPE 1 terminals, to the cassette deck of TAPE 2 terminals.
- TAPE 2 ► 1:**  
To record (copy) from the cassette deck of TAPE 2 terminals, to the cassette deck of DAT/TAPE 1 terminals.

**③ INPUT SELECTOR switch**

- Use to select the playback source.
- LINE:**  
For playback with a component connected to LINE terminal.
- TUNER:**  
For AM or FM broadcast reception with a tuner.
- PHONO:**  
For record playback with a turntable.

**NOTE:**

- With the A-300, you can use an MM cartridge or a high-output MC cartridge (over 1 mV).
- According to the type of cartridge used with the A-400, you can select MM or MC with the PHONO SELECTOR switch.

**CD:**  
For compact disc playback with a CD player.

**DAT/TAPE 1:**

For playback with a cassette deck or digital audio tape deck connected to DAT/TAPE 1 terminals.

**TAPE 2:**

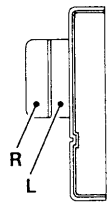
For playback with a cassette deck connected to TAPE 2 terminals.

**④ VOLUME CONTROL**

Use to adjust the volume level. This volume knob consists of two volume controls. Because you can adjust L (left) and R (right) channel volume levels independently, it also functions as a balance control.

**[Example]**

To raise R (right) channel volume level, prevent the L knob from turning with one hand, and turn the R knob with the other hand.



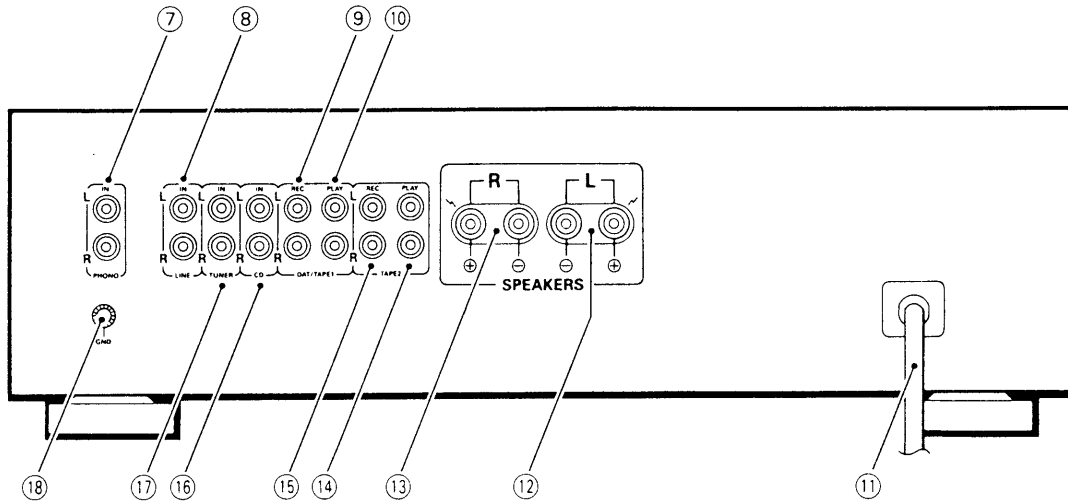
**⑤ PHONO SELECTOR switch (A-400 only)**

- Set in accordance with the type of cartridge used with your turntable.
- MM ( ■ ):**  
Set to this position when using a moving magnet cartridge, or a moving coil cartridge with a high output of 1 mV or more.
- MC ( ▲ ):**  
Set to this position when using a moving coil cartridge.

**⑥ PHONES jack**

When using headphones, insert the plug into this jack. The output to the speakers is cut automatically when connecting headphones.

**[REAR PANEL]**



⑦ PHONO terminals

⑧ LINE terminals

⑨ DAT/TAPE 1 REC terminals

⑩ DAT/TAPE 1 PLAY terminals

⑪ Power cord

Connect this cord to an AC wall socket, or the AC outlet of an audio timer.

⑫ SPEAKERS terminals L (left channel)

⑬ SPEAKERS terminals R (right channel)

⑭ TAPE 2 PLAY terminals

⑮ TAPE 2 REC terminals

⑯ CD terminals

⑰ TUNER terminals

⑱ Turntable ground terminal (GND)