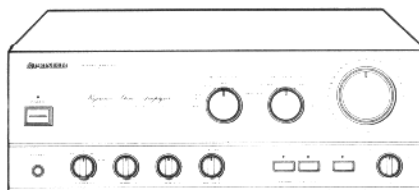


ADDITIONAL

 **PIONEER**  
The future of sound and vision.

# Service Manual



ORDER NO.  
ARP1683

STEREO AMPLIFIER

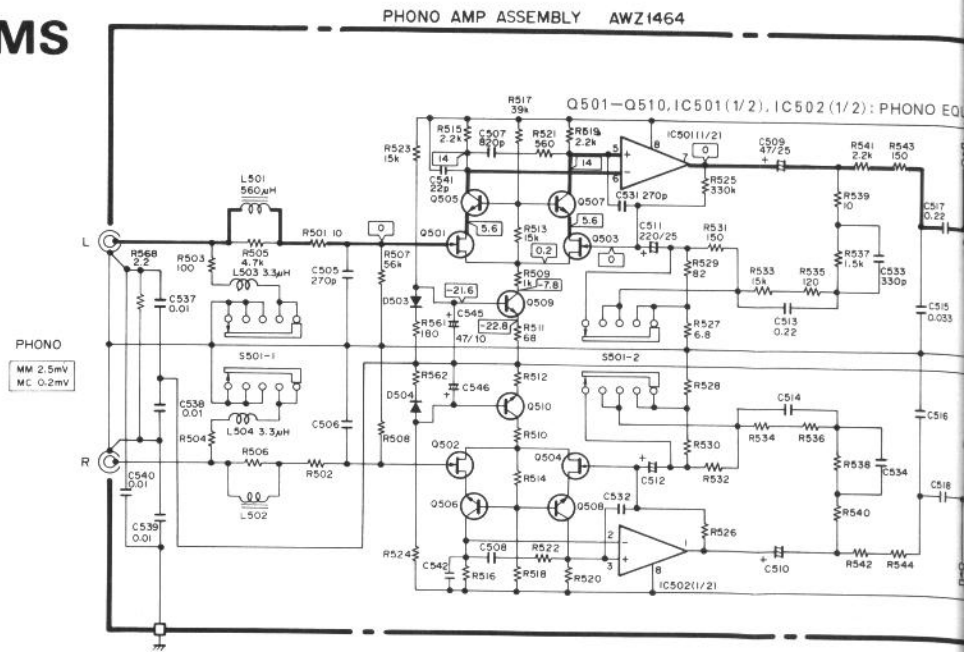
# A-616

# A-616-S

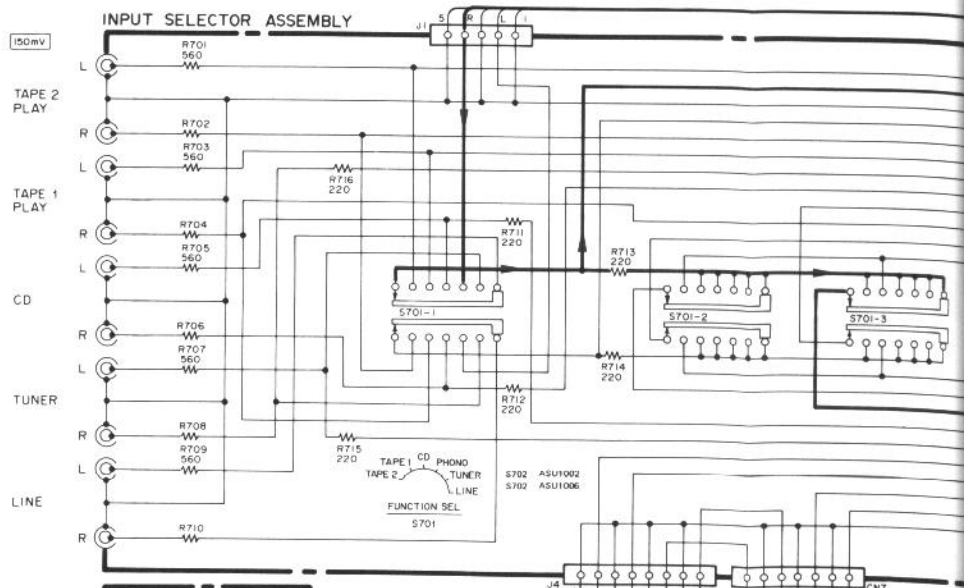
- Refer to the service manual ARP1405, A-616.
- This manual is applicable to the A-616/HEZ, HE, HB, SD, KC and A-616-S/HEZ types.
- This service manual includes the most up-to-date informations.

# 2. SCHEMATIC DIAGRAMS

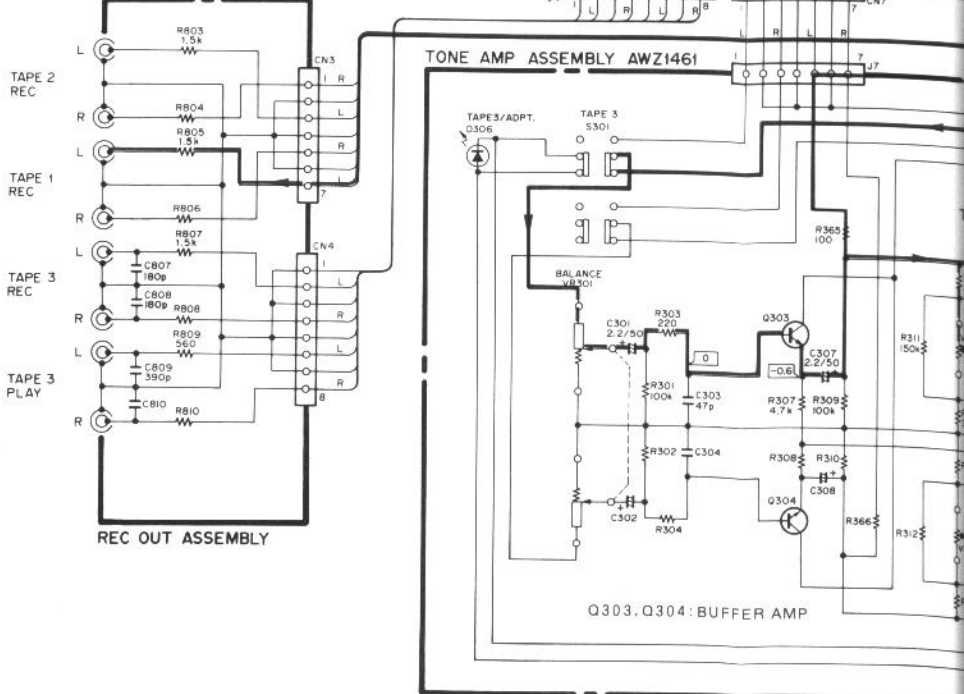
A



B

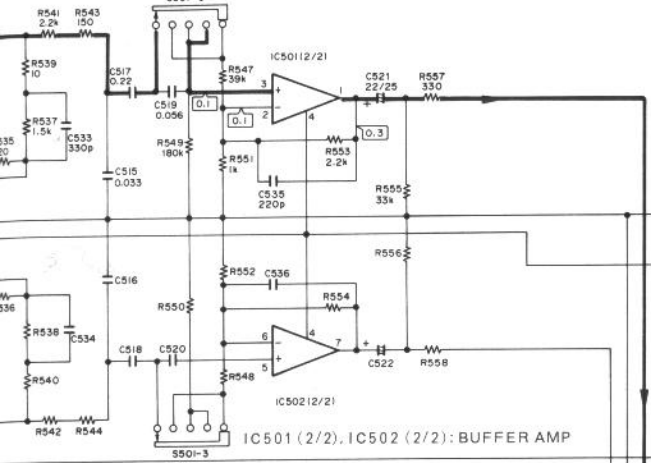


C



D

IC501(2/2), IC502(2/2): BUFFER AMP

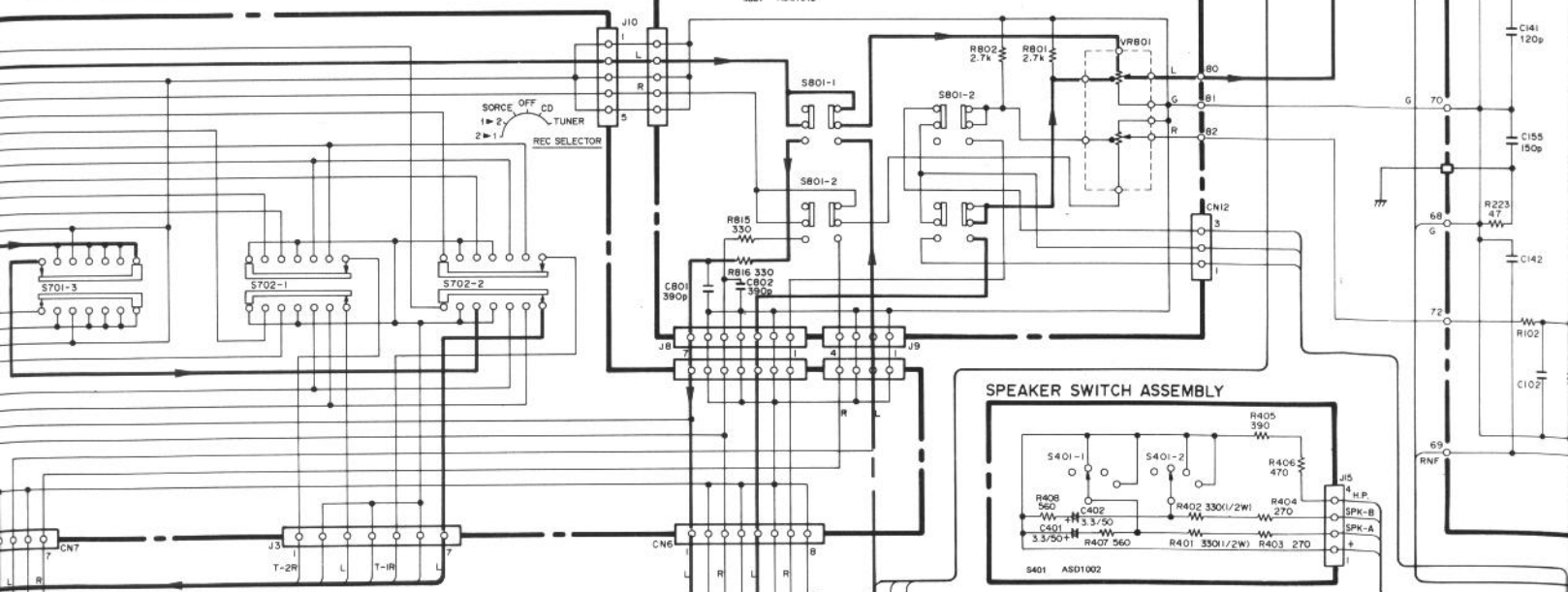


MC SUBSO MC MM  
MM SUBSO  
PHONO SEL

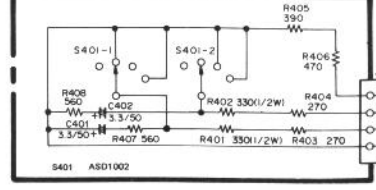
- IC501, IC502 MS220P
- O505, O510 25C1845
- O501, O504 25K309
- D503, D504 15S131
- S501 ASU1008
- L501, L502 ATH1034
- L503, L504 LAU3R3K

MAIN VOLUME ASSEMBLY

S801 ASG1018

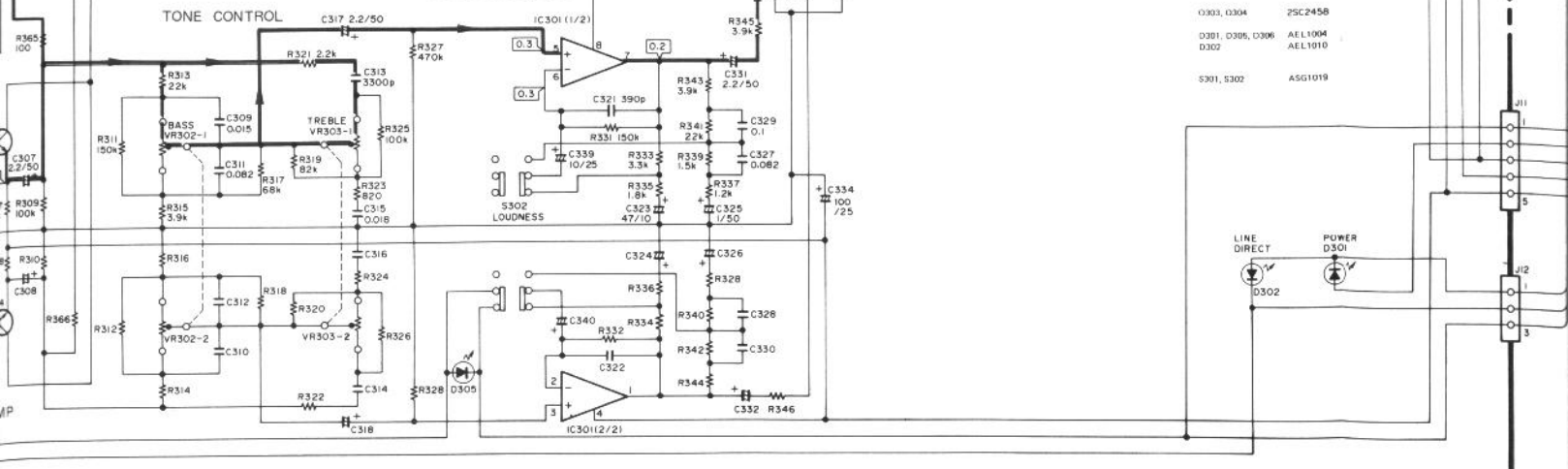


SPEAKER SWITCH ASSEMBLY



IC301: LOUDNESS

TONE CONTROL

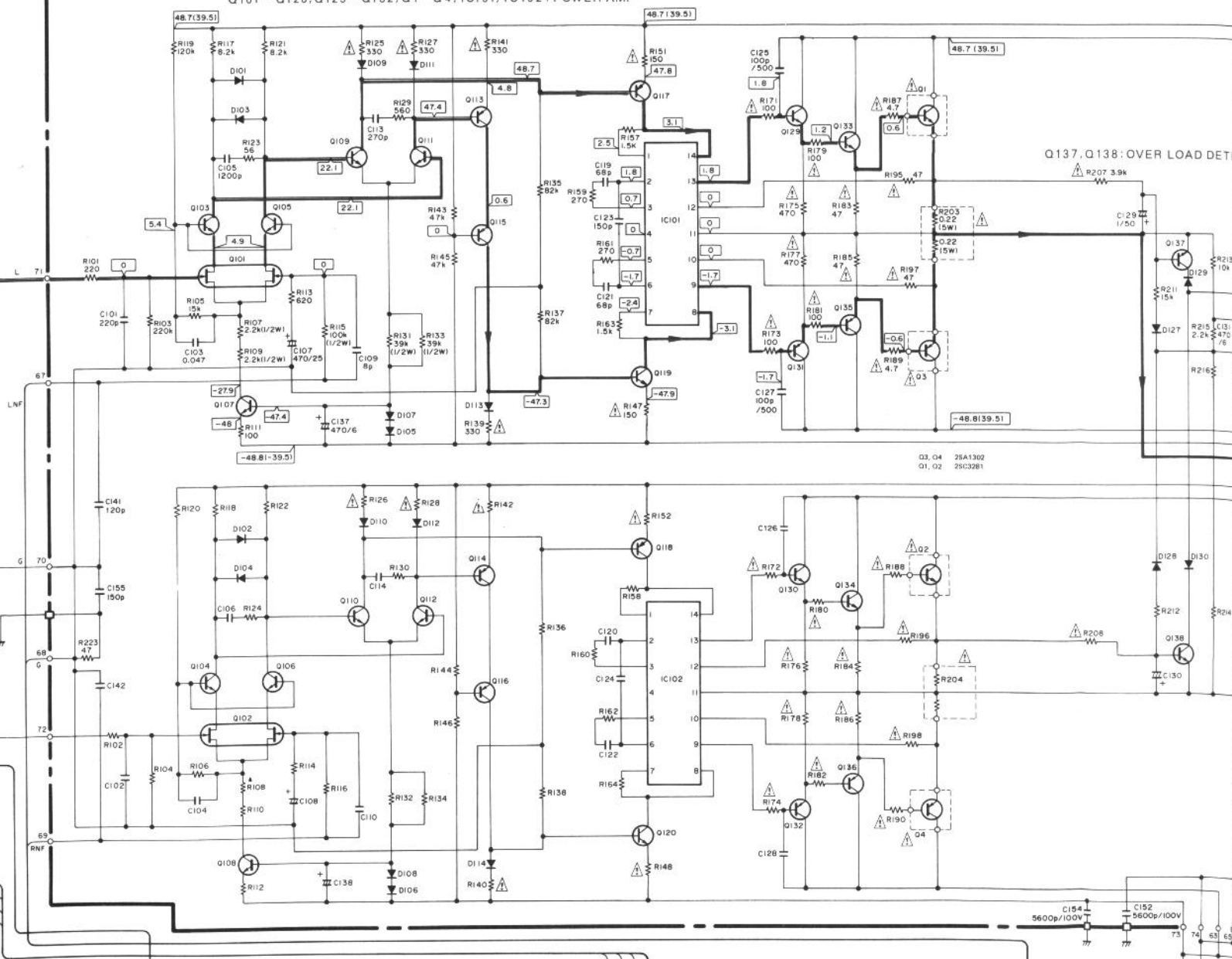


- IC301 MS220P
- O303, O304 25C2458
- D301, D305, D306 ALL1004
- D302 ALL1010
- S301, S302 ASG1019

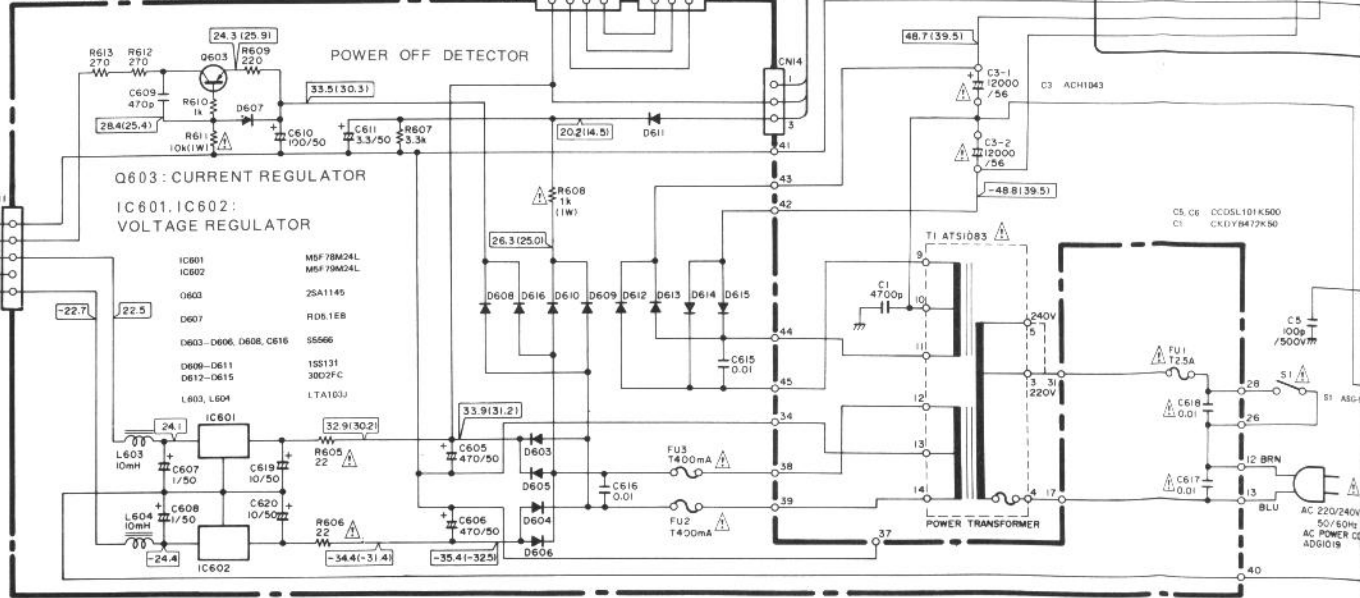


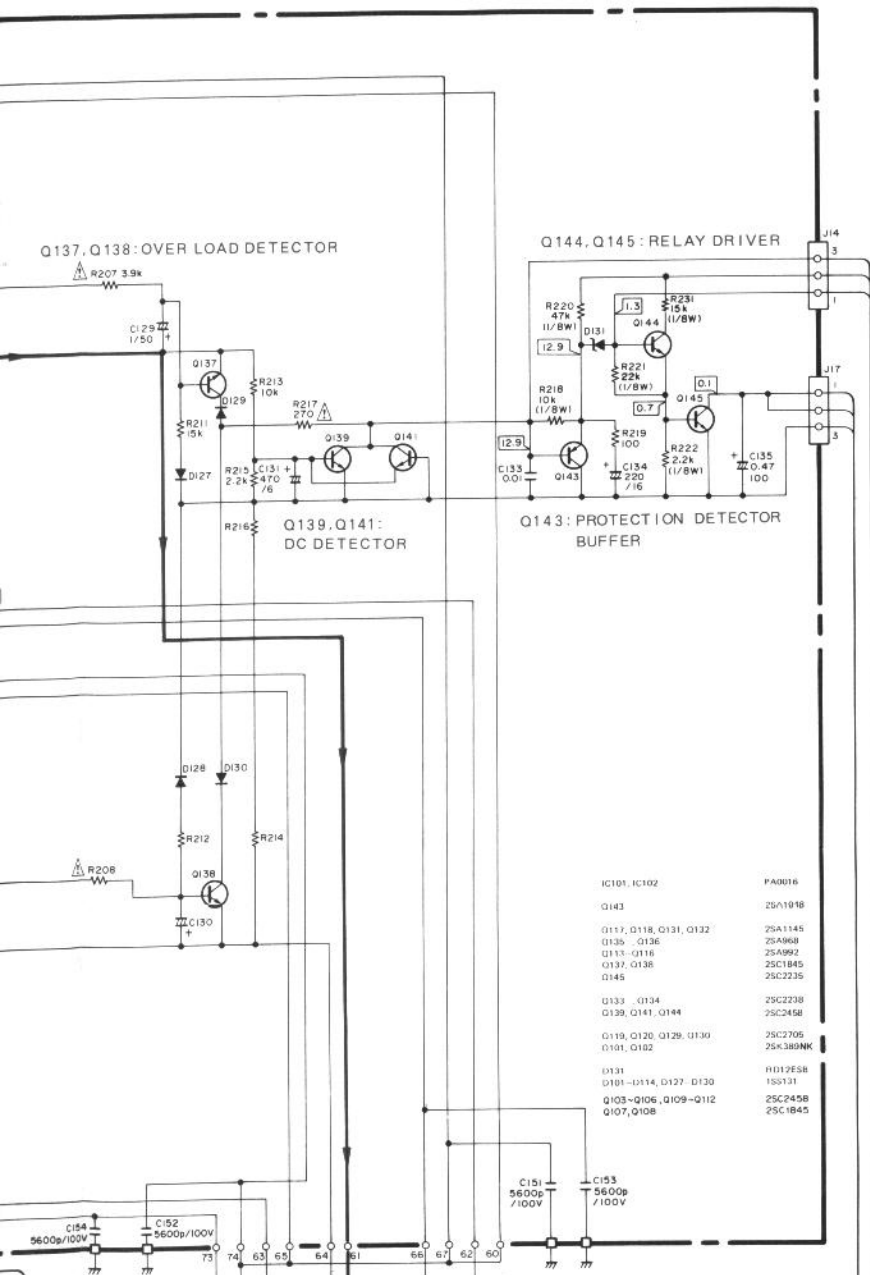
POWER AMP ASSEMBLY AWZ1463

Q101-Q120, Q129-Q132, Q1-Q4, IC101, IC102: POWER AMP



POWER SUPPLY ASSEMBLY





1. RESISTORS:  
Indicated in Ω, kΩ, MΩ, 1/5W, 1/2W, 15% tolerance unless otherwise noted k : kΩ, M : MΩ, (F) : 1%, (G) : 12%, (K) : ±10% (M) : ±20% tolerance
2. CAPACITORS:  
Indicated in capacity (μF)/voltage (V) unless otherwise noted p : pF  
Indication without voltage is 50V except electrolytic capacitor
3. VOLTAGE, CURRENT:  
□ : Signal voltage at (95W+95W 4ohm) out (1KHz)  
▭ : DC voltage (V) at no input signal  
Value in ( ) is DC voltage at rated power.  
↺ : mA : DC current at no input signal
4. OTHERS:  
→ : Signal route  
The  $\Delta$  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.
5. SWITCHES

**tone AMP ASSEMBLY**  
S301: TAPE 3 ( ON-OFF )  
S302: LOUDNESS ( ON-OFF )

**SPEAKER SWITCH ASSEMBLY**  
S401: SPEAKERS A, B ( OFF-A-B-A+B )

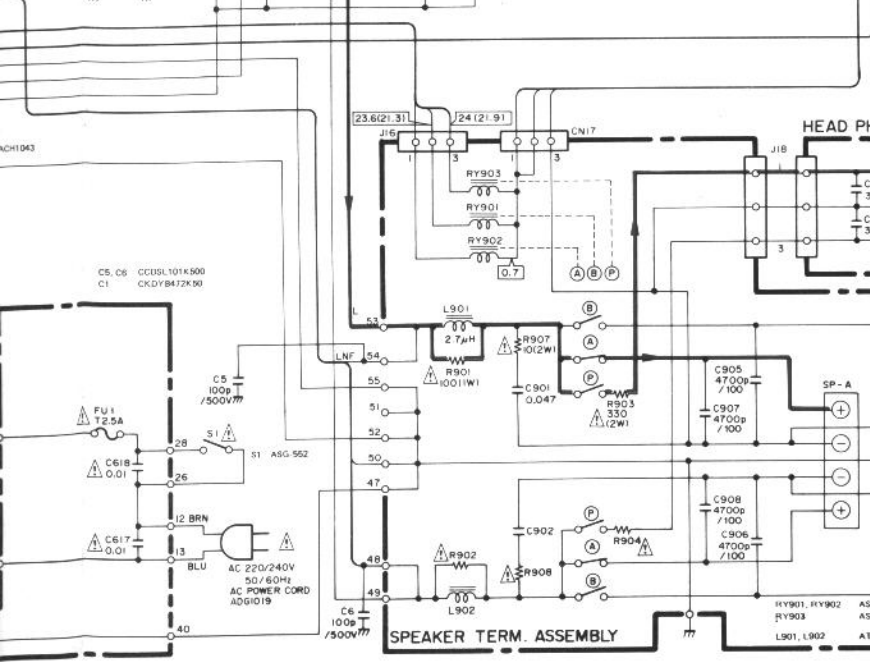
**PHONO AMP ASSEMBLY**  
S501: PHONO SEL. ( 2 )

**INPUT SELECTOR ASSEMBLY**  
S701: FUNCTION SEL. ( TA2-TA1-CD-PHONO-TUNER-LINE )  
S702: REC. SEL. ( 2-1-1-2-SOURCE-OFF-CD-TUNER )

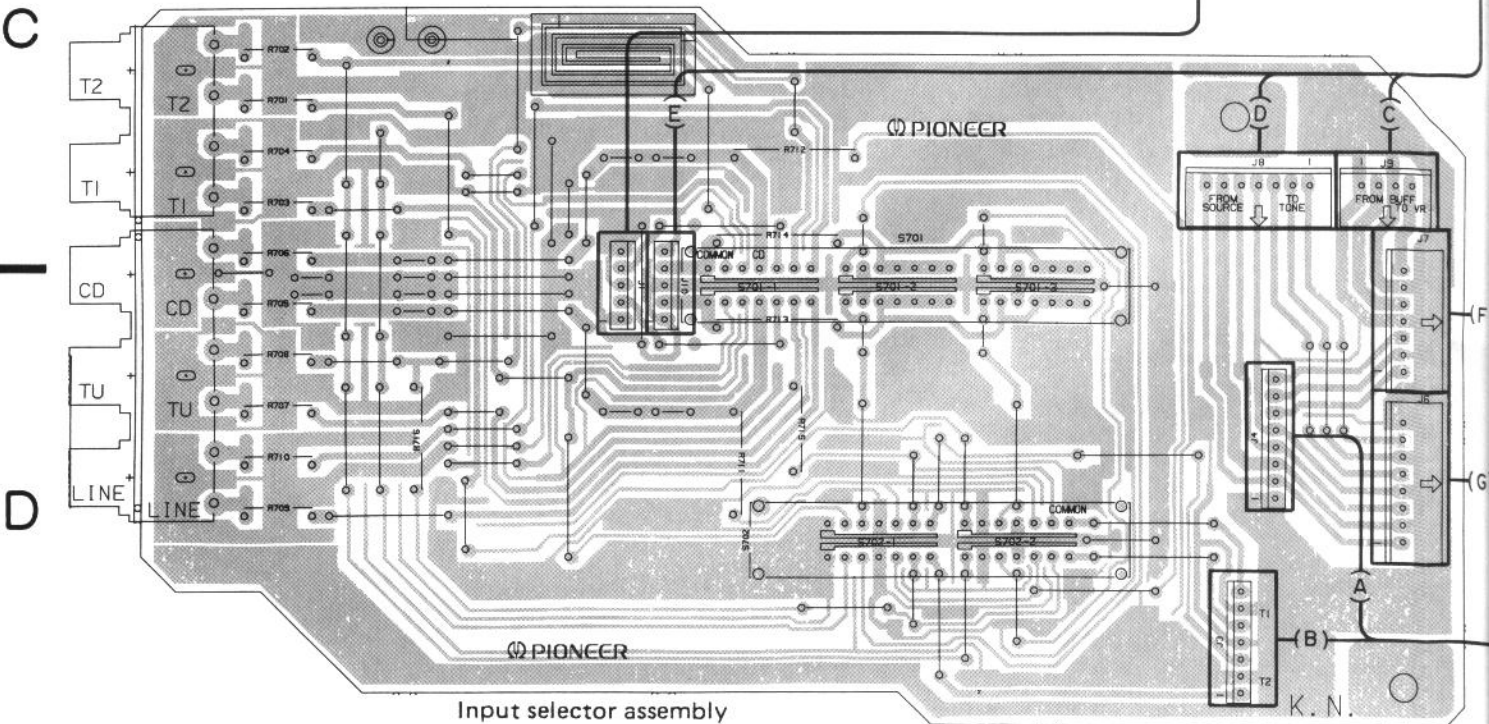
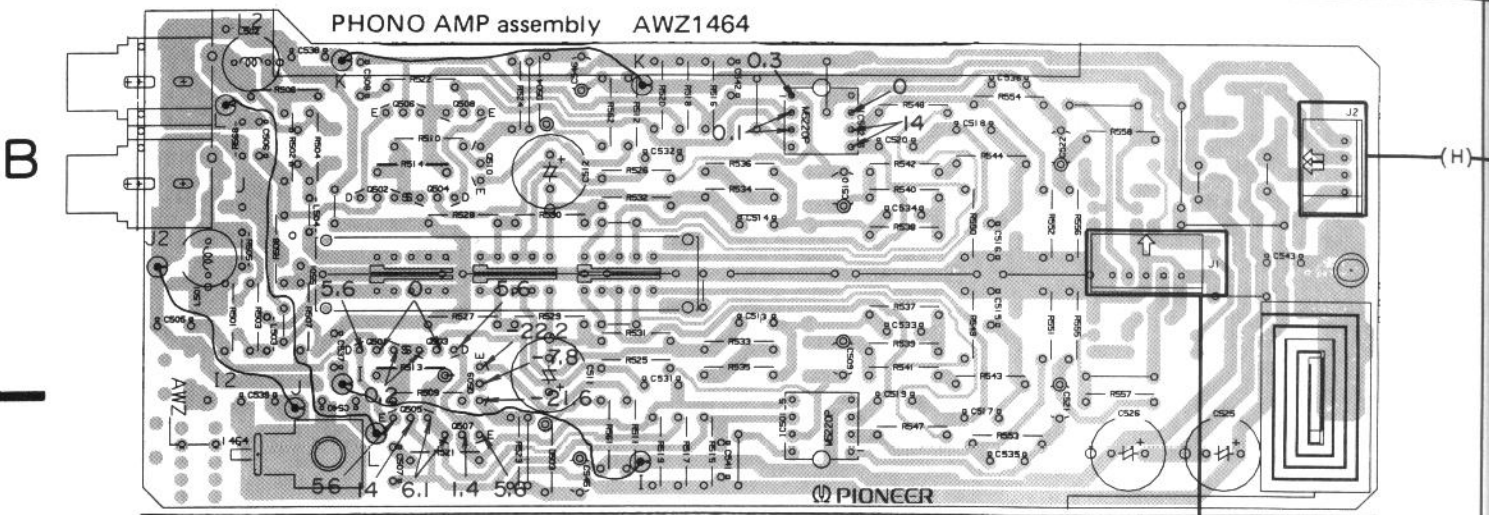
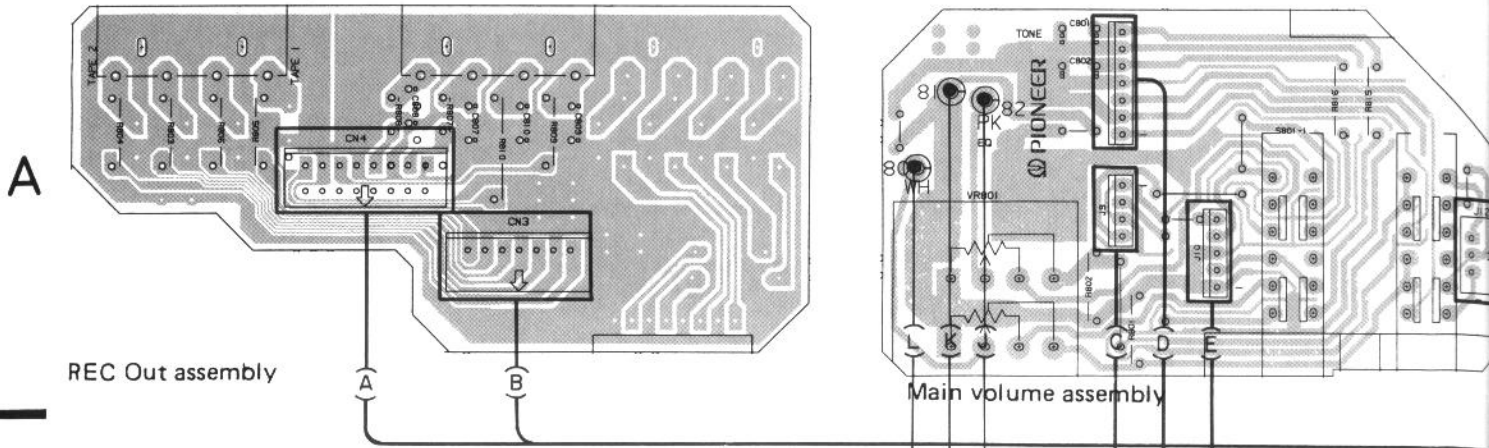
**MAIN VOLUME ASSEMBLY**  
S801: DIRECT ( ON-OFF )  
S1 : POWER ( ON-OFF )

The underlined indication the switch position

IC101, IC102	FA0016
Q143	2SA1018
Q117, Q118, Q131, Q132	2SA1145
Q136, Q135	2SA968
Q113, Q118	2SA992
Q137, Q138	2SC1845
Q145	2SC2235
Q133, Q134	2SC2238
Q139, Q141, Q144	2SC2458
Q119, Q120, Q129, Q130	2SC2705
Q101, Q102	2SK389NK
D131	HD12ESB
D101-D114, D127, D130	1SS131
Q103-Q106, Q109-Q112	2SC2458
Q107, Q108	2SC1845



### 3. P.C. BOARDS CONNECTION DIAGRAM

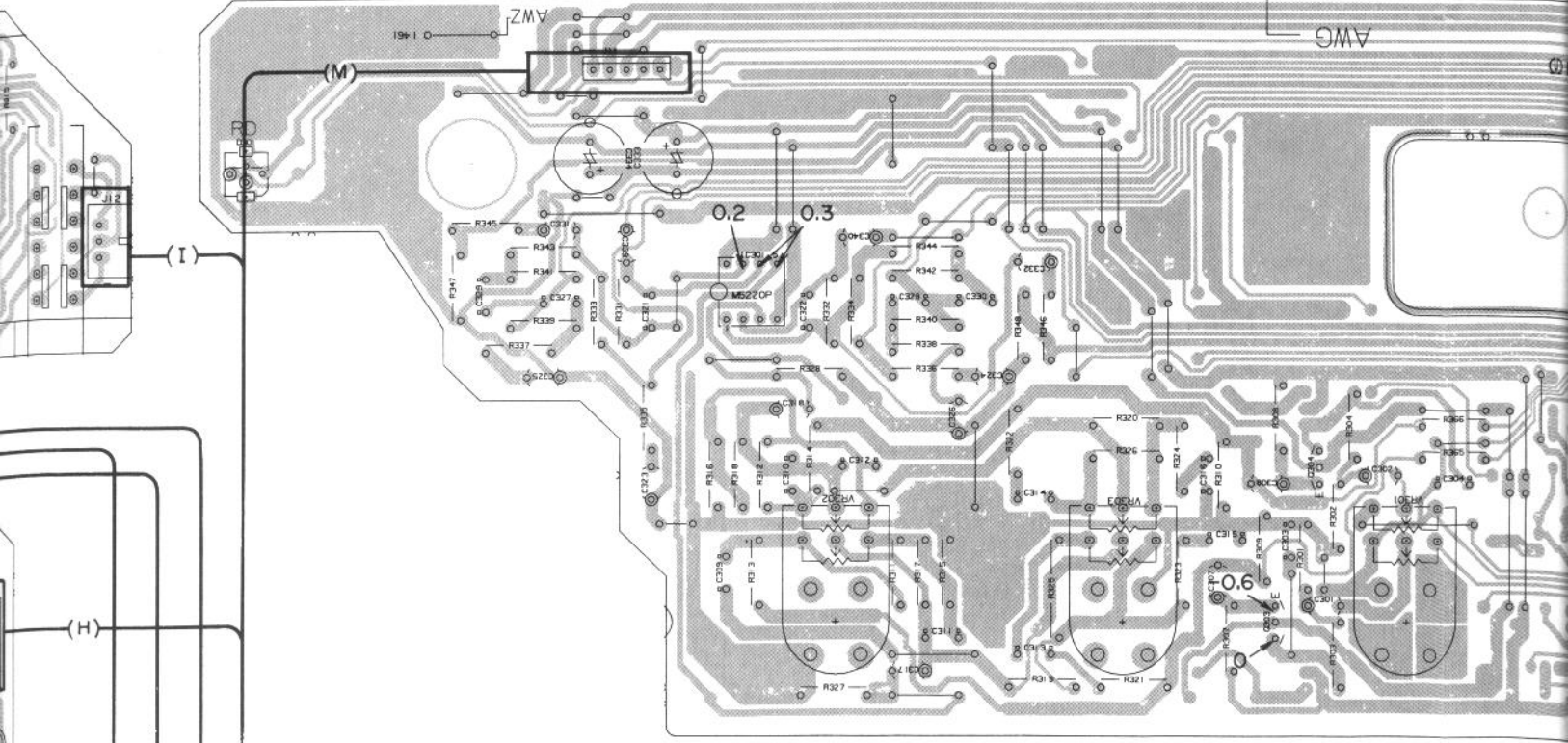


1

2

3

Tone AMP assembly AWZ1461



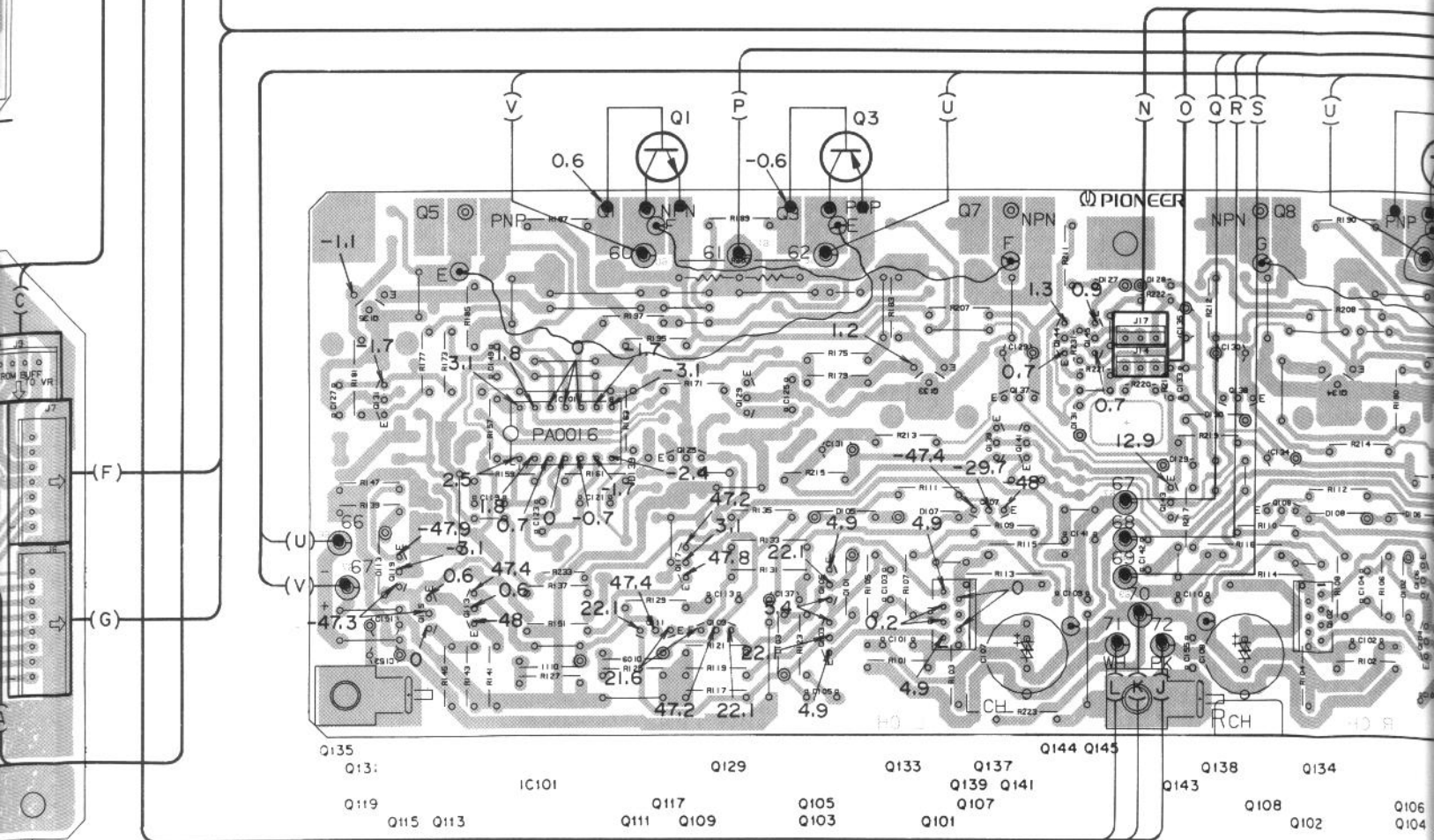
IC301

Q303 Q304

VR302

VR303

VR301



Q135

Q13:

Q119

Q115 Q113

IC101

Q129

Q117 Q109

Q105 Q103

Q133

Q101

Q137 Q139 Q141

Q107

Q144 Q145

Q138

Q143

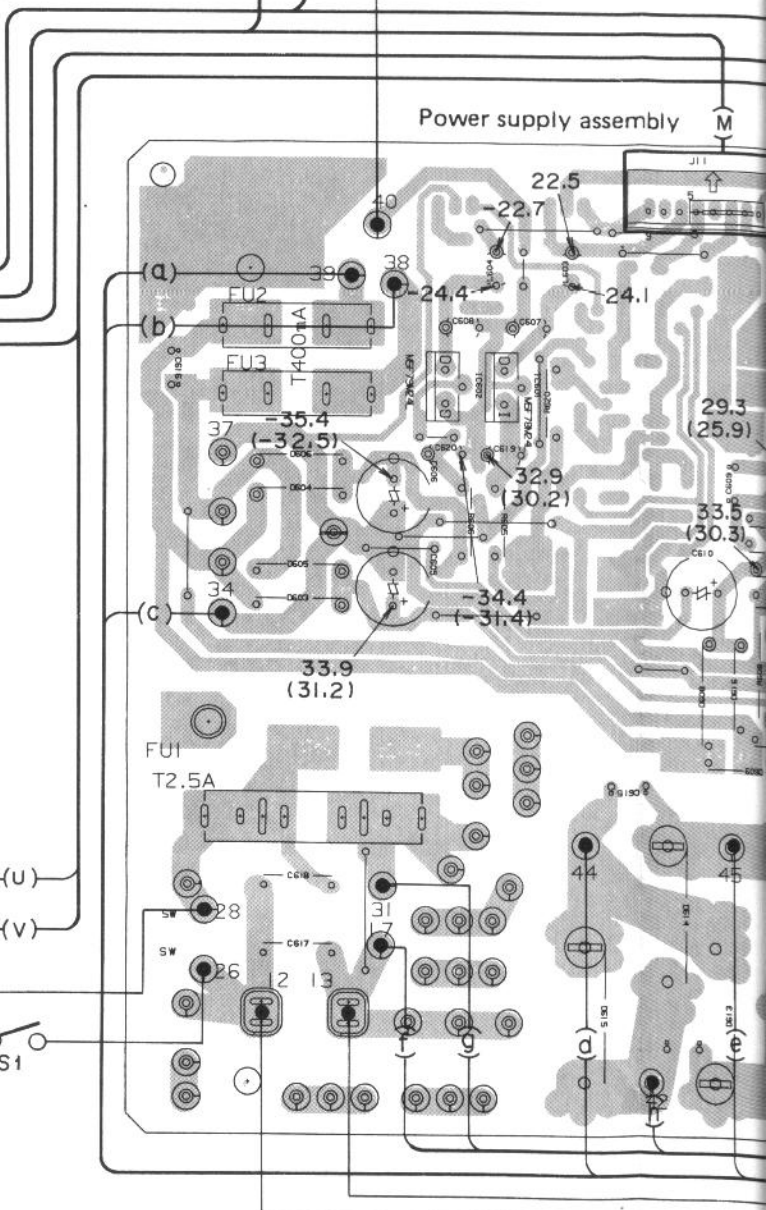
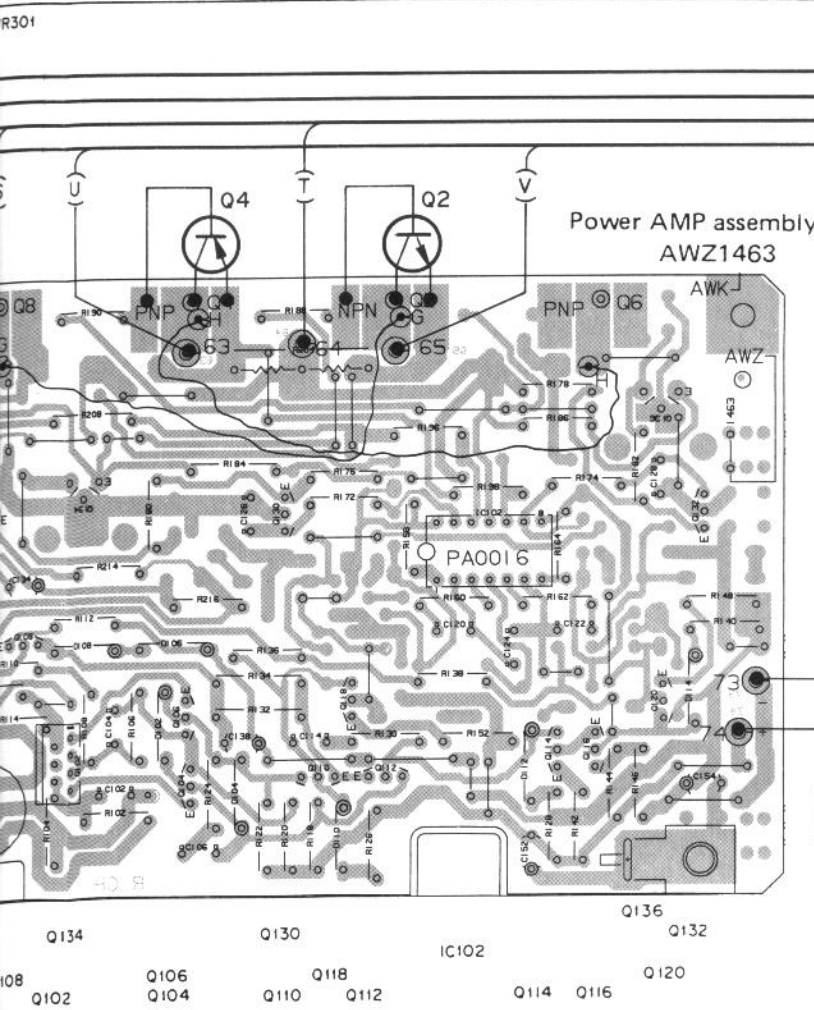
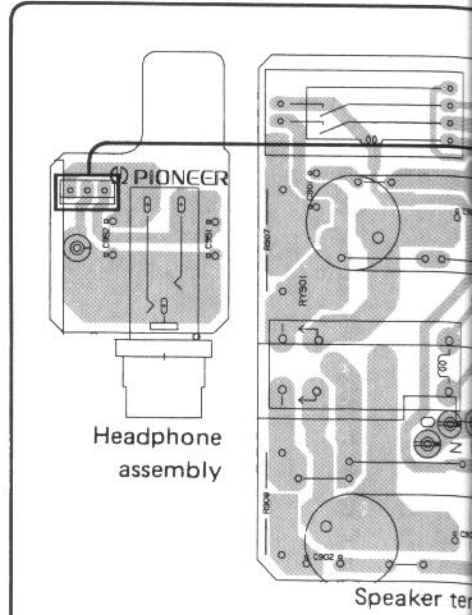
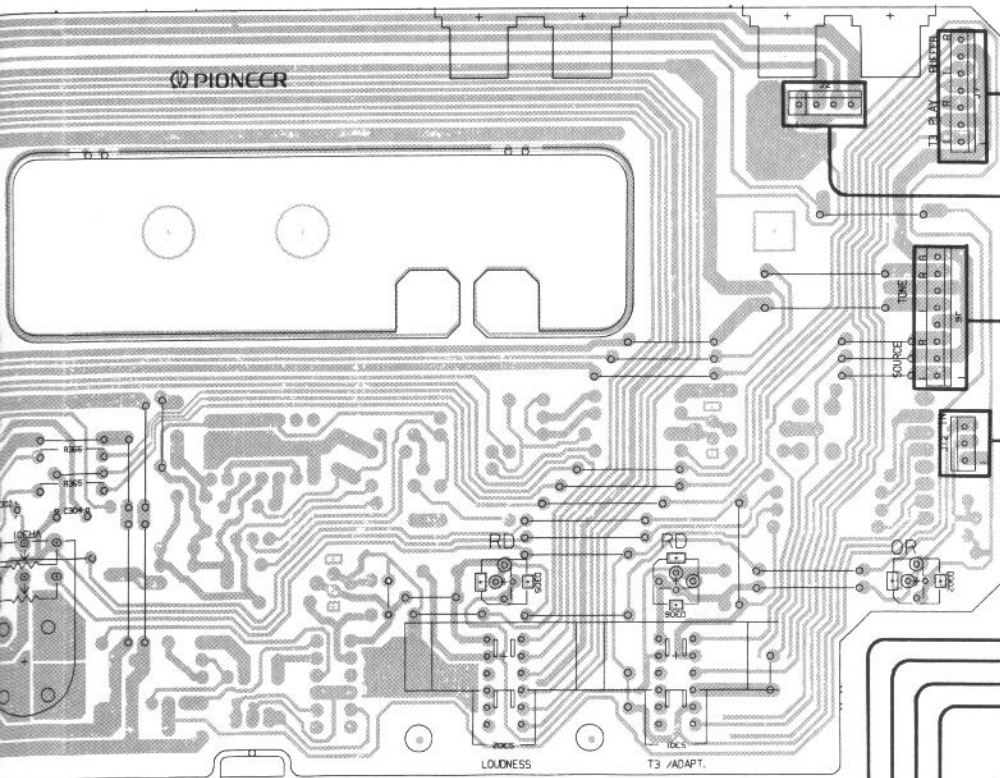
Q134

Q108

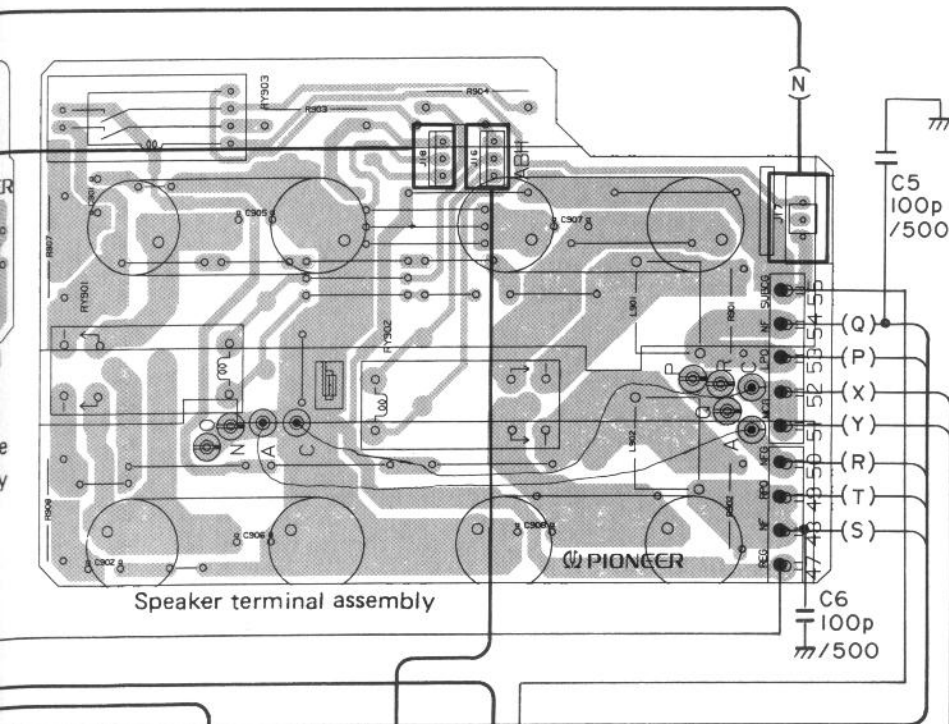
Q102

Q106

Q104







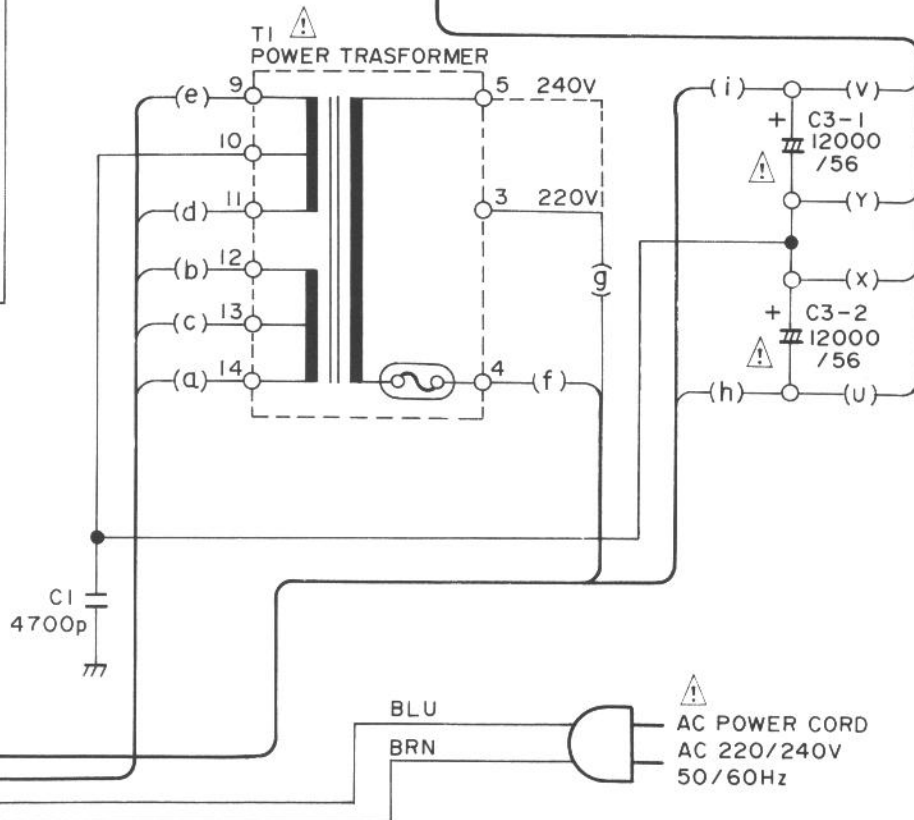
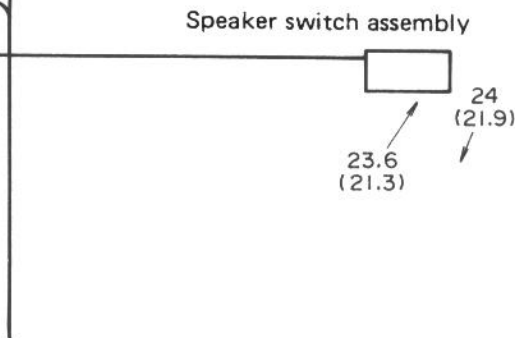
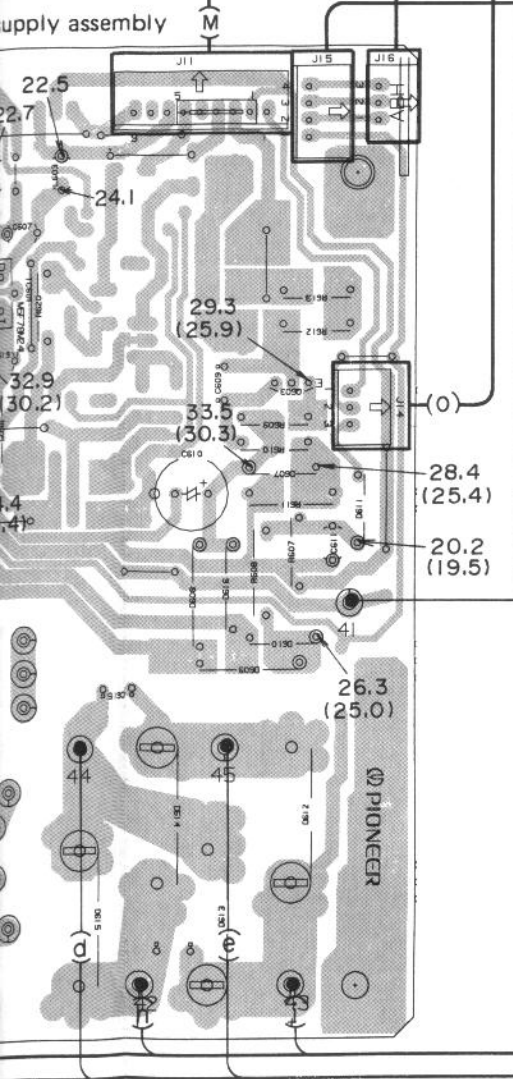
NOTE

1. This P.C.B. connection diagram is viewed from the parts mounted side.
2. The parts which have been mounted on the board can be replaced with those shown with the corresponding wiring symbols listed in the following Table.

P.C.B. pattern diagram indication	Corresponding part symbol	Part Name
Q504		Transistor
Q215		Radiator type transistor
D203		Diode
R237		Resistor
C513		Capacitor (Polarity)
C518		Capacitor (Non-polarity)

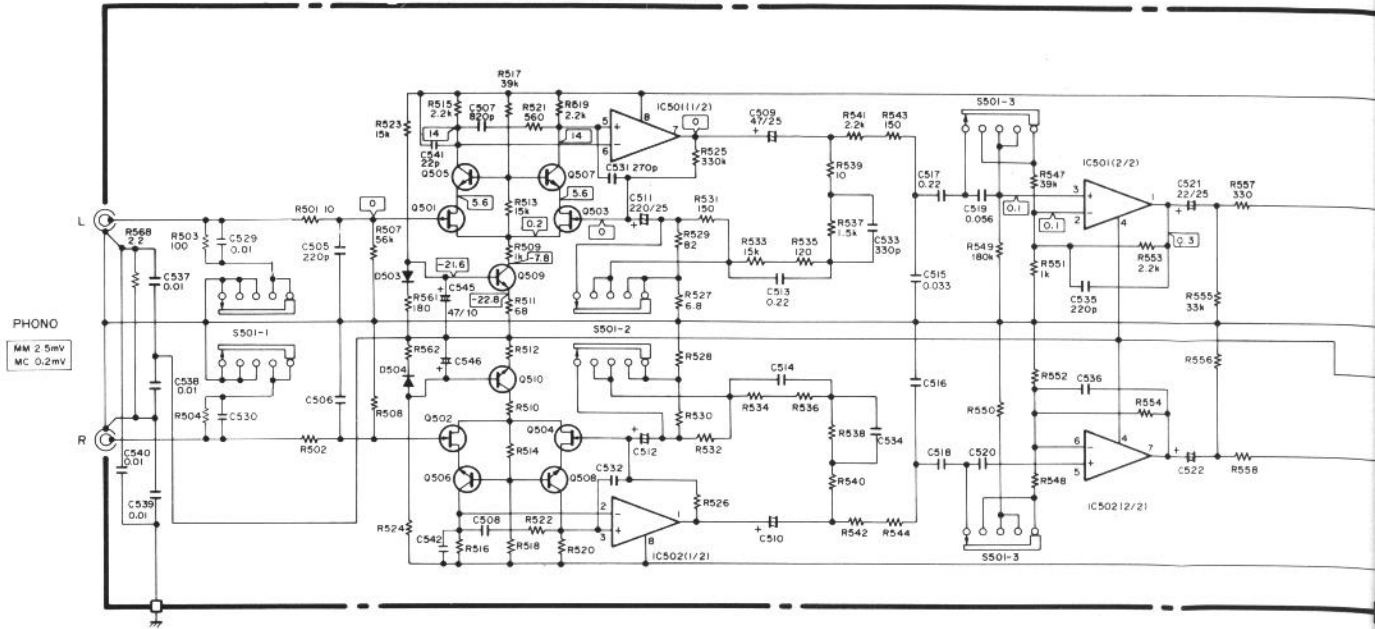
P.C.B. pattern diagram indication	Part Name
IC	IC
S	Switch
RY	Relay
L	Coil
F	Filter
VR	Variable resistor or Semi-fixed resistor

3. The capacitor terminal marked with ⊕ (double circles) shows negative terminal.
4. The diode terminal marked with ⊕ (double circles) shows cathode side.
5. The transistor terminal to which E is affixed shows the emitter.

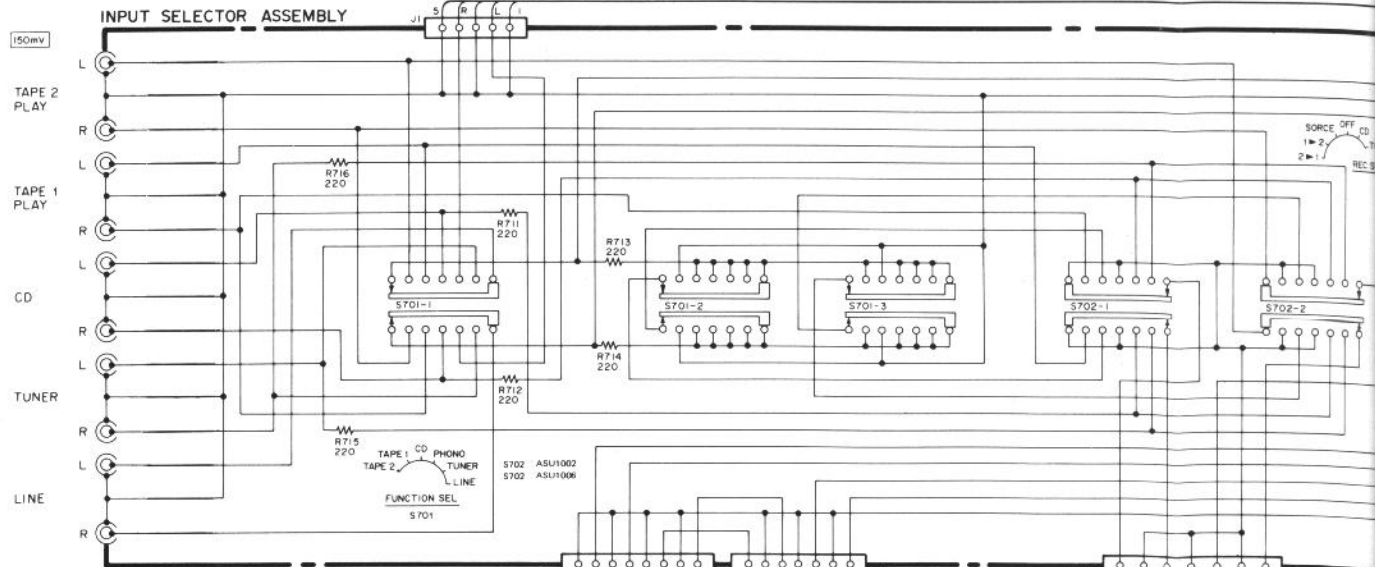


3. SCHEMATIC DIAGRAM

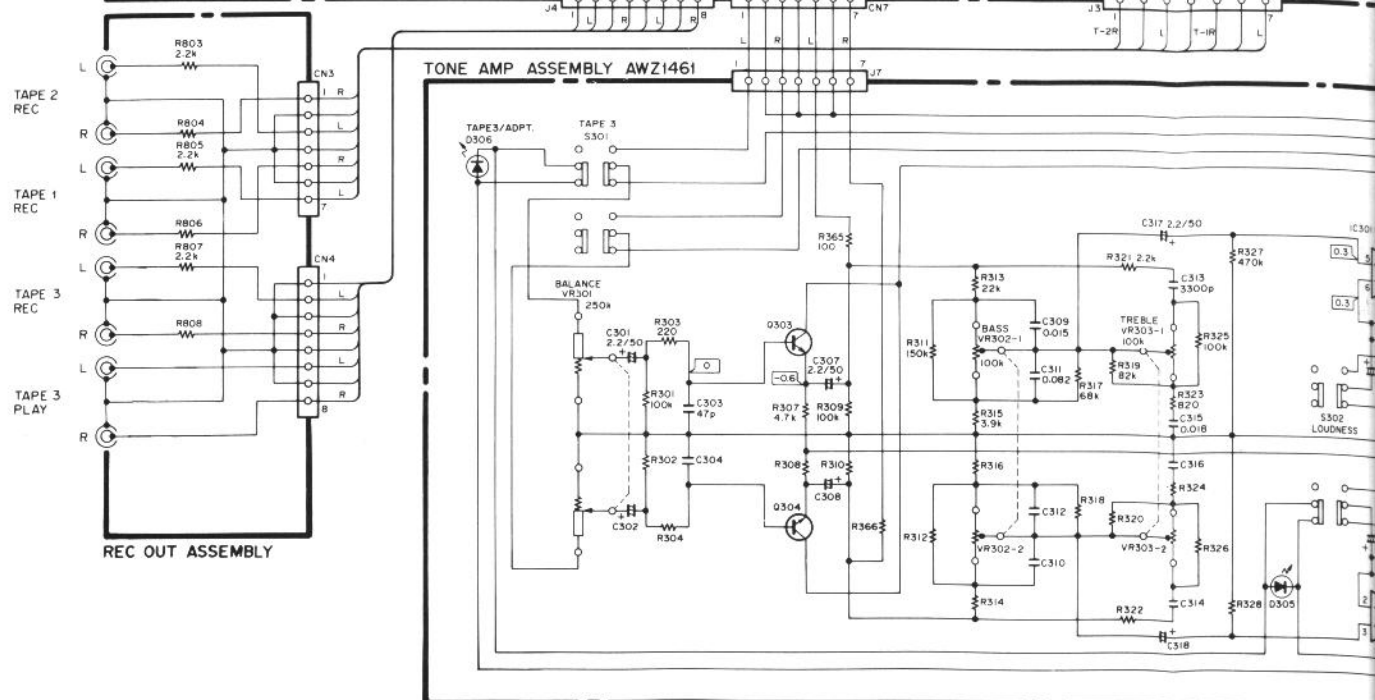
PHONO AMP ASSEMBLY AWZ1519



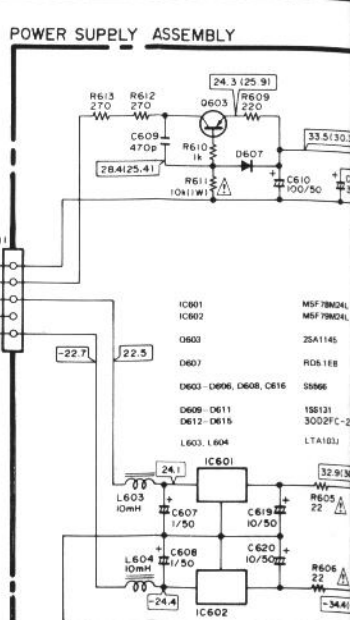
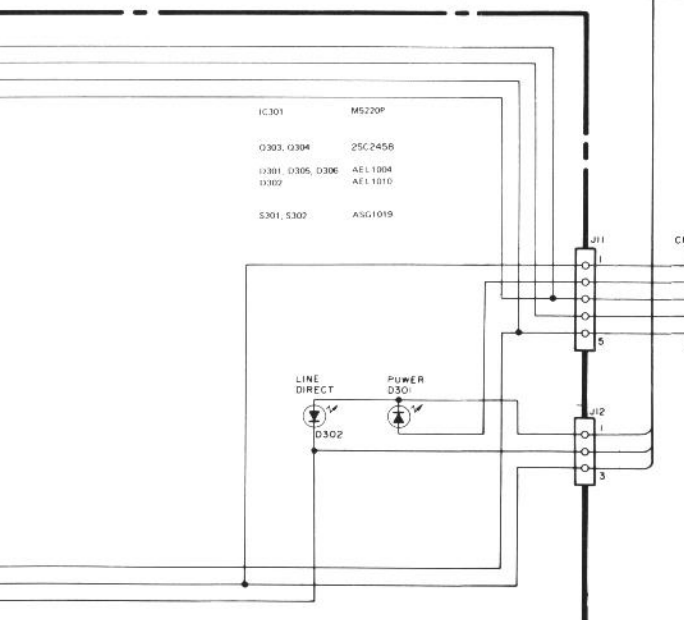
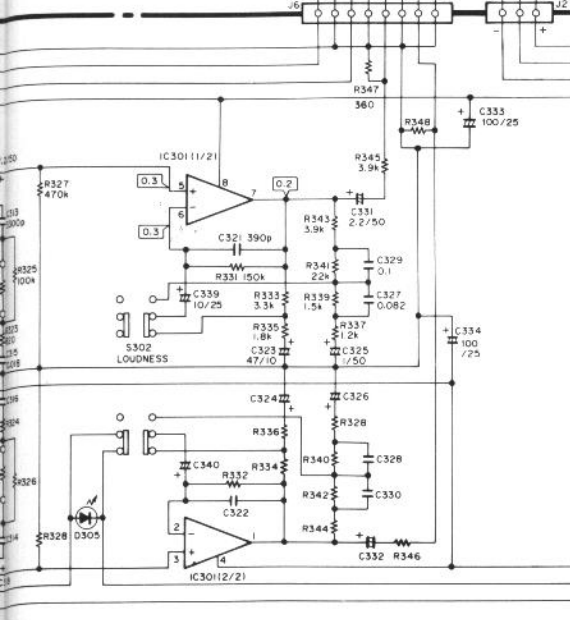
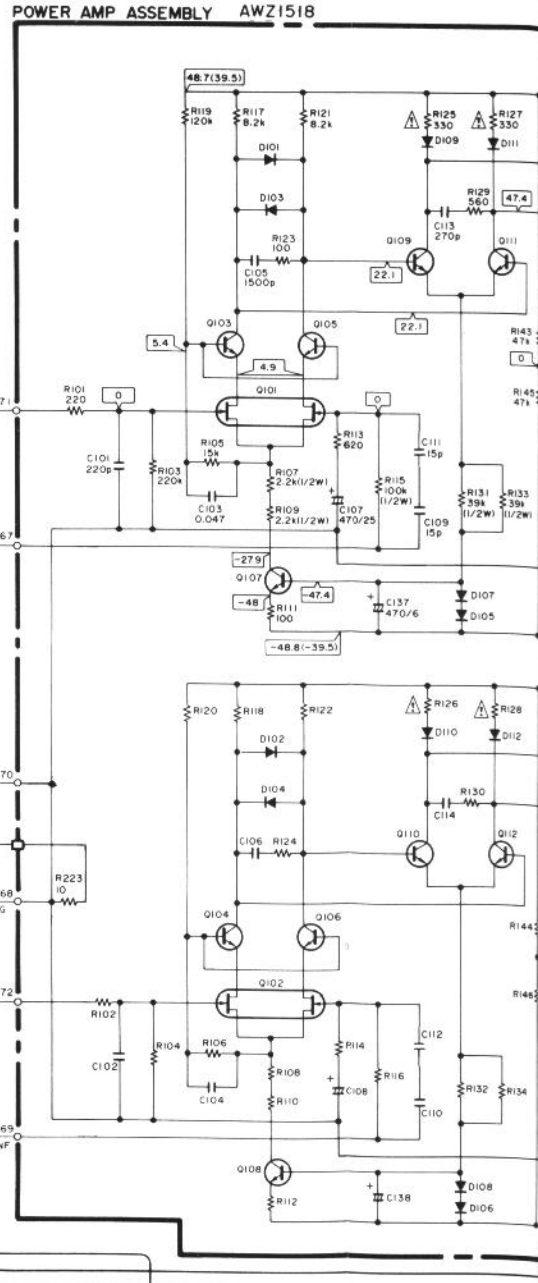
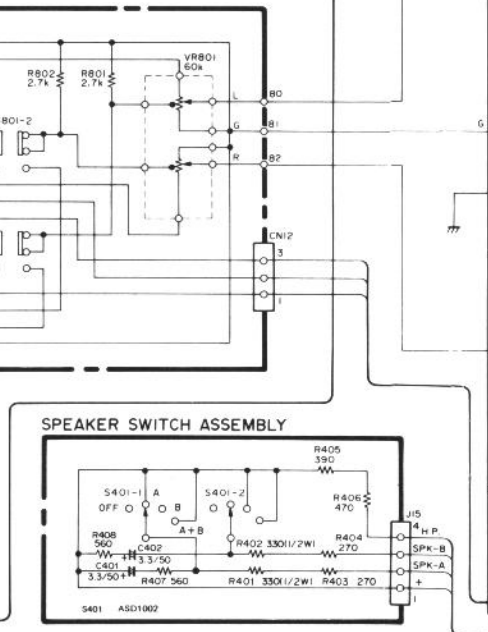
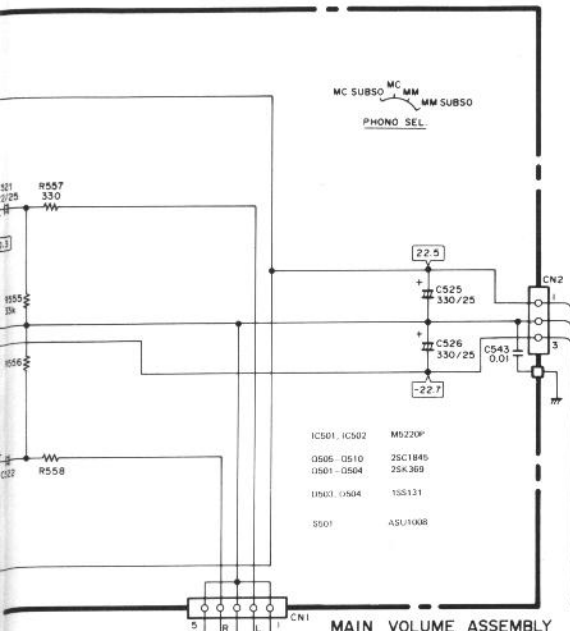
B

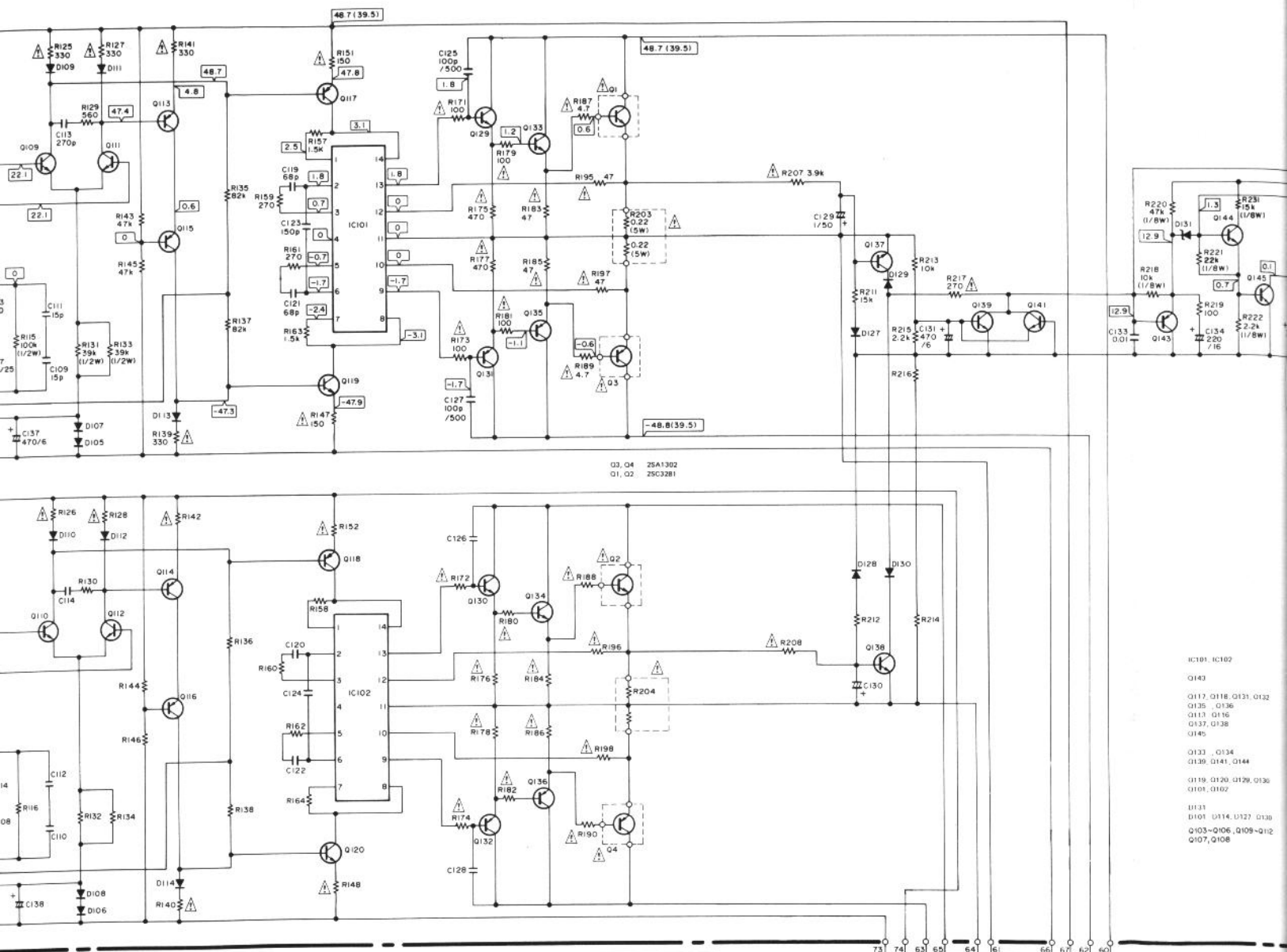


C

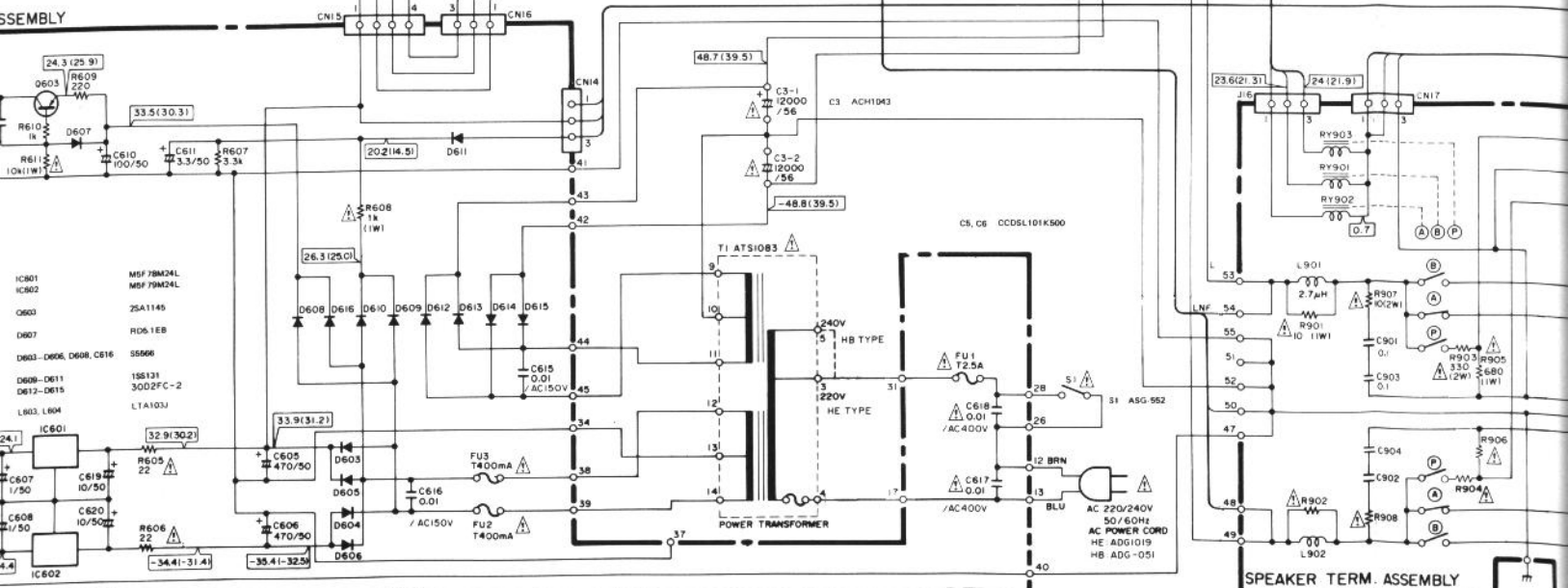


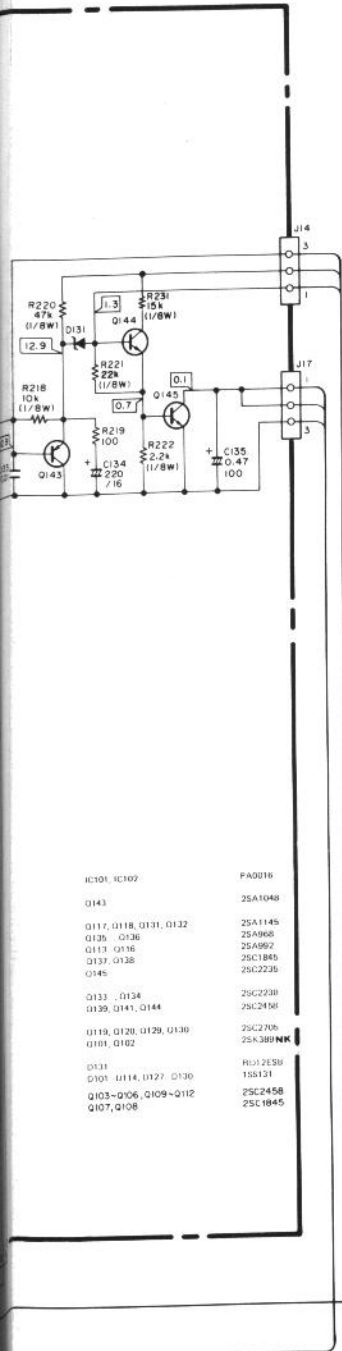
D



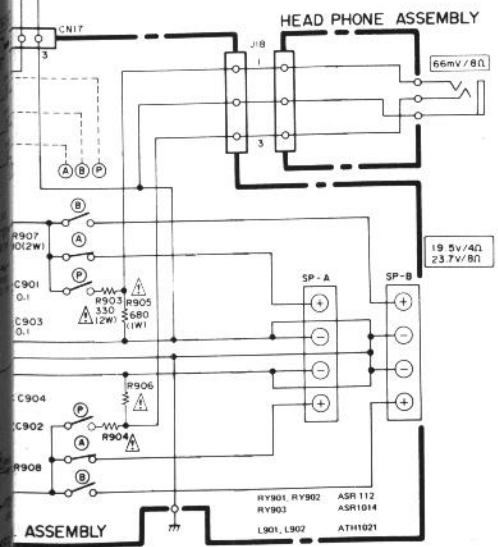


- IC101, IC102
- Q143
- Q112, Q116, Q131, Q132
- Q135, Q136
- Q113, Q116
- Q137, Q138
- Q145
- Q133, Q134
- Q139, Q141, Q144
- Q119, Q120, Q126, Q130
- Q101, Q102
- Q113
- D101, D114, D127, Q130
- Q103-Q106, Q109-Q12
- Q107, Q108





- IC101, IC102 PA0016
- Q143 2SA1048
- Q117, Q118, Q131, Q132 2SA1145
- Q130, Q136 2SA968
- Q113, Q136 2SA962
- Q137, Q138 2SC1840
- Q145 2SC2236
- Q133, Q134 2SC2338
- Q139, Q141, Q144 2SC2458
- Q119, Q120, Q129, Q139 2SC2706
- Q101, Q162 2SK380NK
- Q131 RUJ2E50
- Q101, Q114, Q127, Q130 158131
- Q103-Q106, Q109-Q112 2SC2458
- Q107, Q108 2SC1845



### Line voltage selection (HE, HB TYPES)

Line voltage can be changed with following steps.

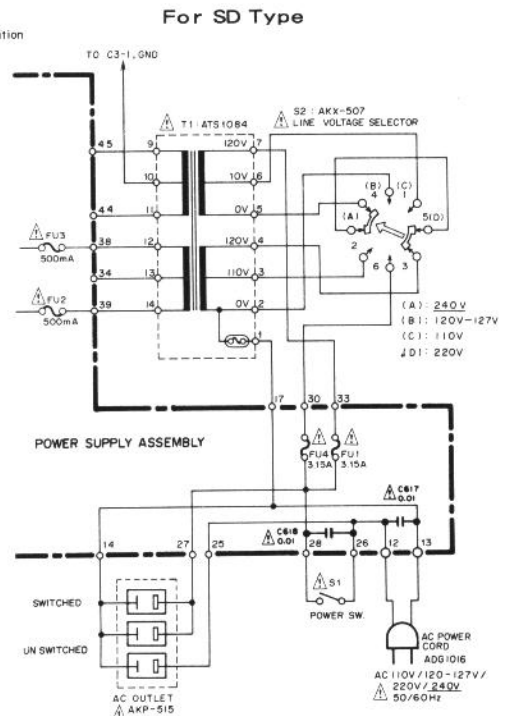
1. Disconnect the AC power cord.
2. Remove the top cover.
3. Change the connection wire (To Power transformer) of Terminal No. 3 (White) as follows.

Voltage	Terminal No. 3	Terminal No. 5
220 V	White	.....
240 V	.....	White

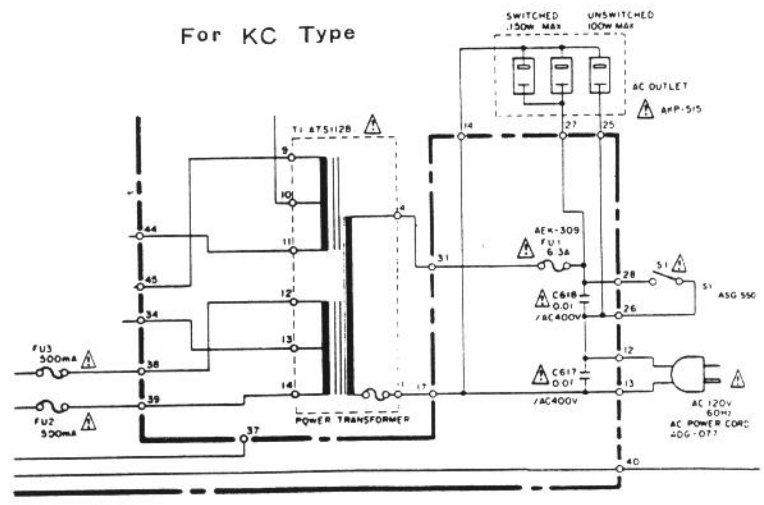
Part No.	Description
AAX-193	220V level
AAX-192	240V level

4. Stick the voltage level on the rear panel.

The underlined indication the switch position

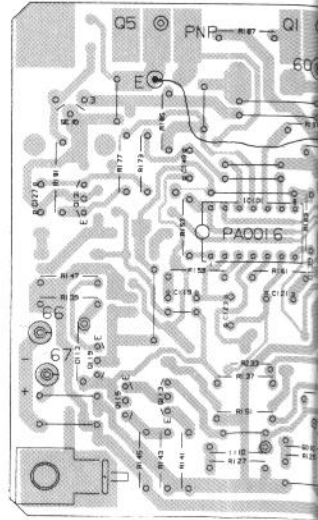
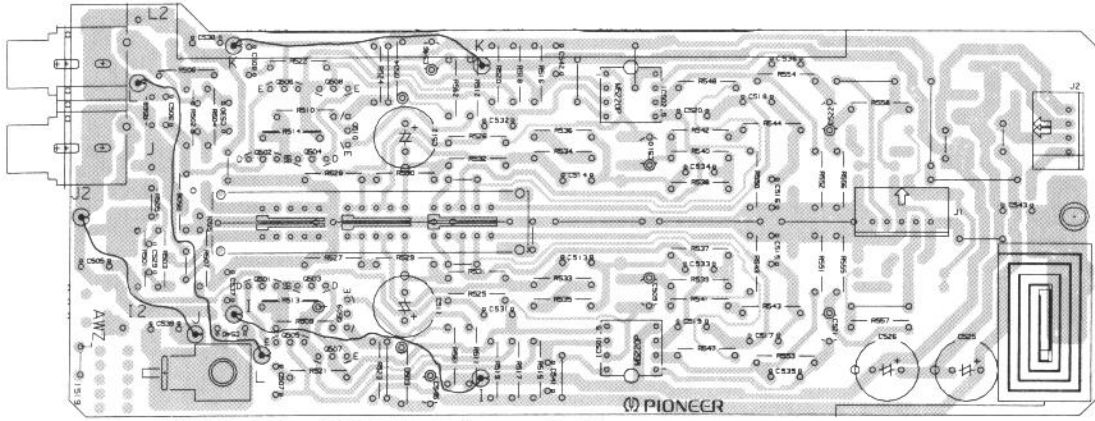


### For KC Type

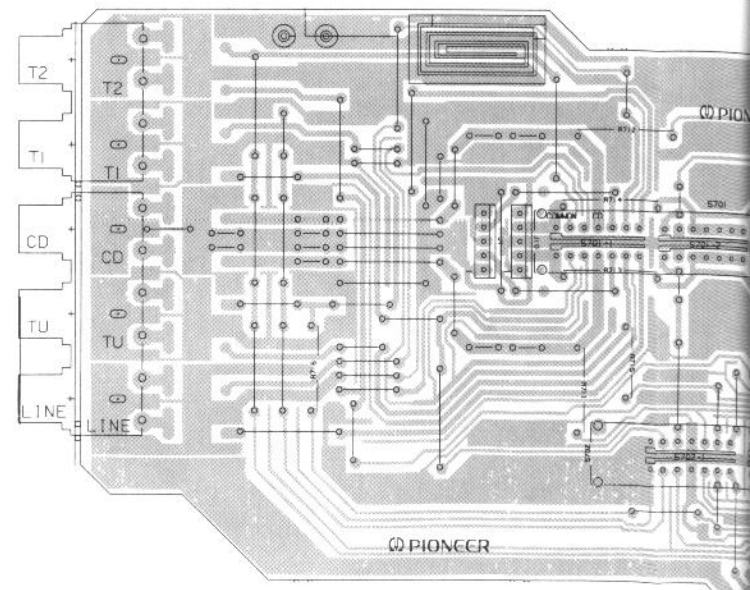


### 4. P.C. BOARD PATTERNS

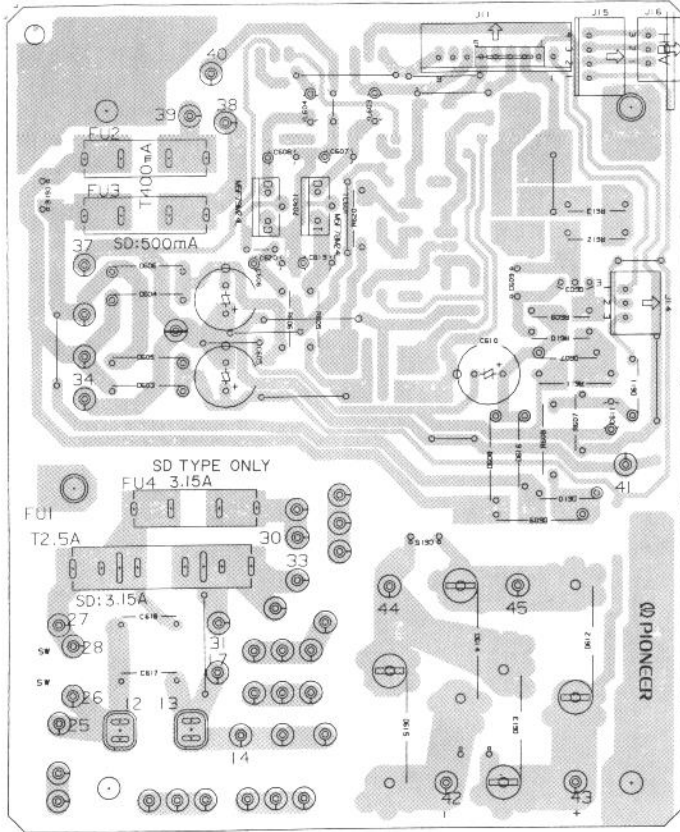
A



B



C

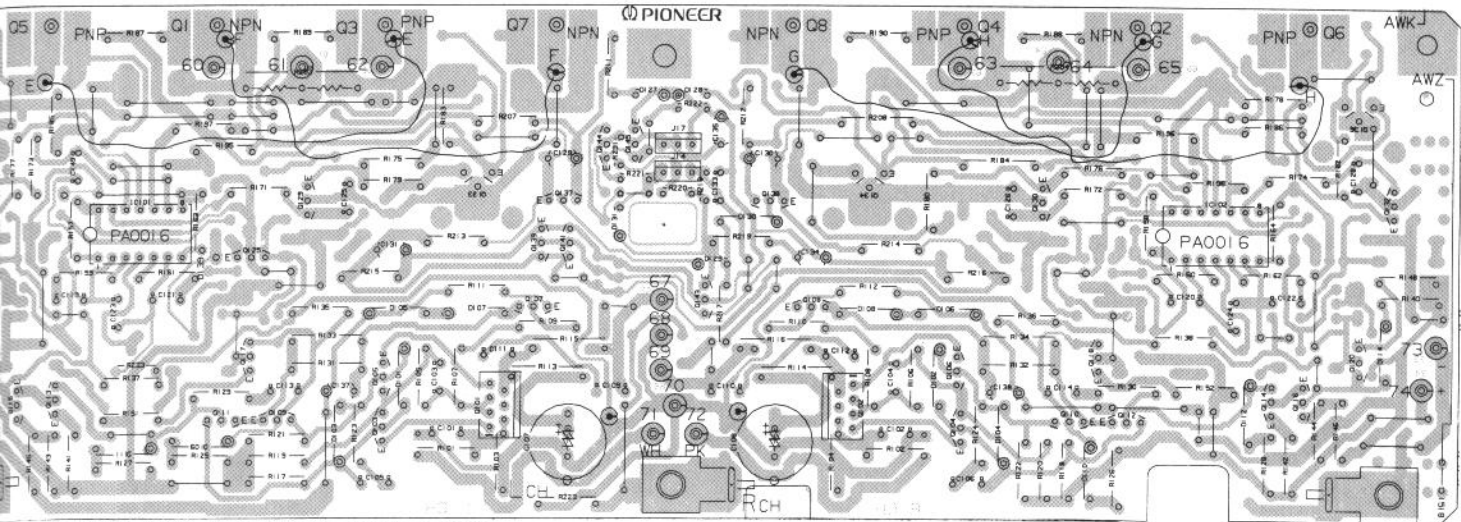


D

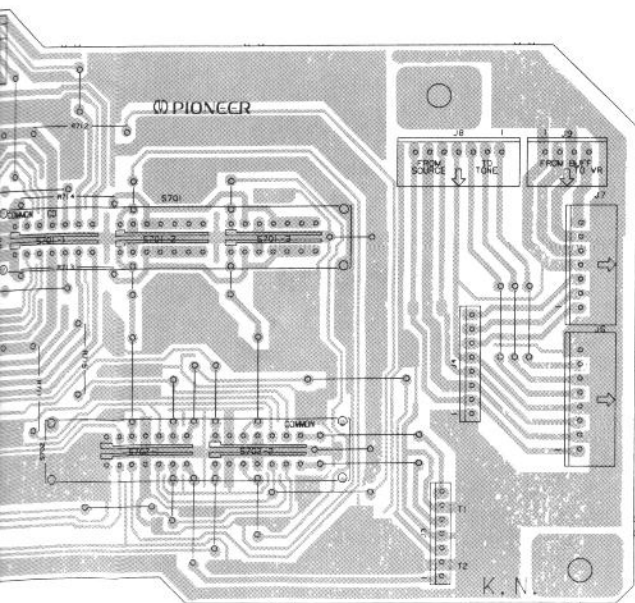
	HE type	HB type	SD type
FU1	T2.5A	T2.5A	3.15A
FU2	T400mA	T400mA	500mA
FU3	T400mA	T400mA	500mA
FU4	•••••	•••••	3.15A

4

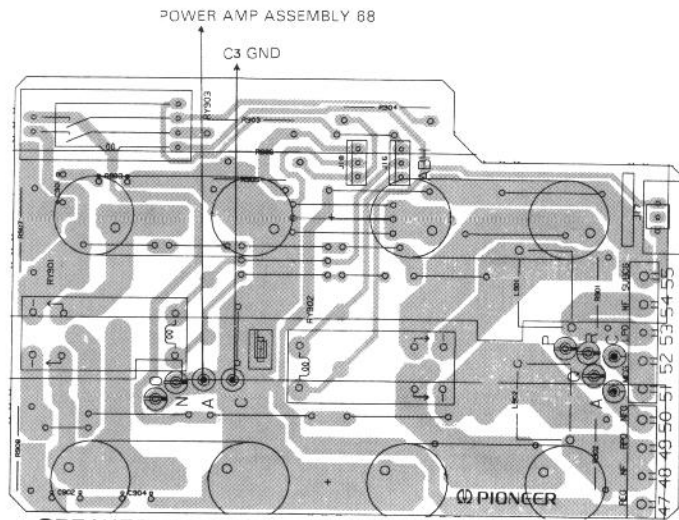
5



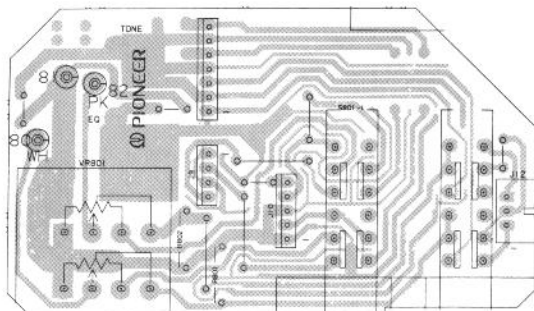
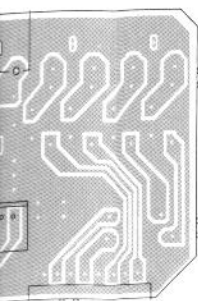
POWER AMP ASSEMBLY (AWZ 1518)



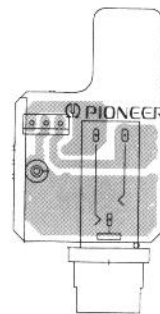
INPUT SELECTOR ASSEMBLY



SPEAKER TERMINAL ASSEMBLY



MAIN VOLUME ASSEMBLY



HEADPHONE ASSEMBLY

A

B

C

D

4

5

6