

Service Manual



ORDER NO.
ARP2523

STEREO AMPLIFIER

A-676-G

HEZ

- Refer to the service manual ARP2240 for A-676.
- This manual is applicable to A-676-G/HEZ.
- A-676-G is the same as A-676 except for color.

CONTRAST OF MISCELLANEOUS PARTS

NOTES:

- Part without part number cannot be supplied.
- The Δ 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.

A-676-G/HEZ and A-676/HEWZ have the same construction except for the following:

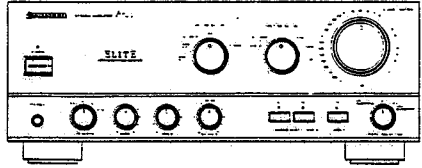
Mark	Symbol & Description	Part No.		Remarks
		A-676/HEWZ	A-676-G/HEZ	
	Rotary knob L	AAB1222	AAB1287	
	Rotary knob M	AAB1223	AAB1288	
	Rotary knob S	AAB1224	AAB1289	
	Push knob	AAD1536	AAD2287	
	Direct knob	AAD1560	AAD2288	
	Power knob	AAD2010	AAD2302	
	Name plate	AAM1029	Non supply	
	Packing case	AHD2069	AHD2311	
	Panel base	AMB1799	AMB2005	
	Front panel	ANB1455	ANB1524	
	Operating instructions (German)	ARC1268	.....
	Operating instructions (English, French, German, Italian, Dutch, Swedish, Spanish, Portugues)	.....	ARE1194	
	Screw	FBT40P080FZK	FBT40P080FCR	

R 165

3014

Service Manual

PIONEER
The Art of Entertainment



ORDER NO.
ARP2240

STEREO AMPLIFIER

A-676

A-676-S

A-676 AND A-676-S HAVE THE FOLLOWING :

Type	Model		Power Requirement	Remarks
	A-676	A-676-S		
HE	○	—	AC220V-230V, 240V (switchable) *	
HB	○	—	AC220V-230V, 240V (switchable) *	
SD	○	—	AC110V, 120V-127V, 220V, 240V (switchable)	
HEWZ	○	○	AC220V-230V, 240V (switchable) *	

* Change the connection of the power transformer primary pins.

- This manual is applicable to the A-676/HE, HB, SD, HEWZ and A-676-S/HEWZ types.
- As to the HB, SD, HEWZ and A-676-S/HEWZ types, refer to page 30.
- The A-676-S is the same as the A-676 except for color.

CONTENTS

1. EXPLODED VIEWS, PACKING AND PARTS LIST	2	5. FOR HB, HEWZ, SD AND A-676-S/HEWZ TYPES	30
2. SCHEMATIC DIAGRAM	7	6. PANEL FACILITIES	31
3. P.C.BOARDS CONNECTION DIAGRAM.....	12	7. SPECIFICATIONS.....	33
4. PCB's PARTS LIST	25	8. ADJUSTMENTS	34

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YX MAY 1991 Printed in Japan

1. EXPLODED VIEWS, PACKING AND PARTS LIST

NOTES:

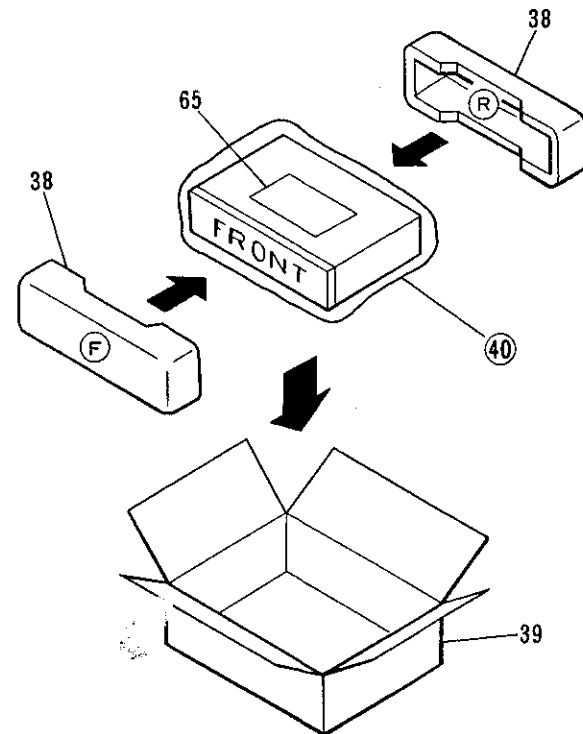
- Parts without part number cannot be supplied.
- The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by "⊙" are not always kept in stock. Their delivery time may be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

Parts list of Exterior and Packing

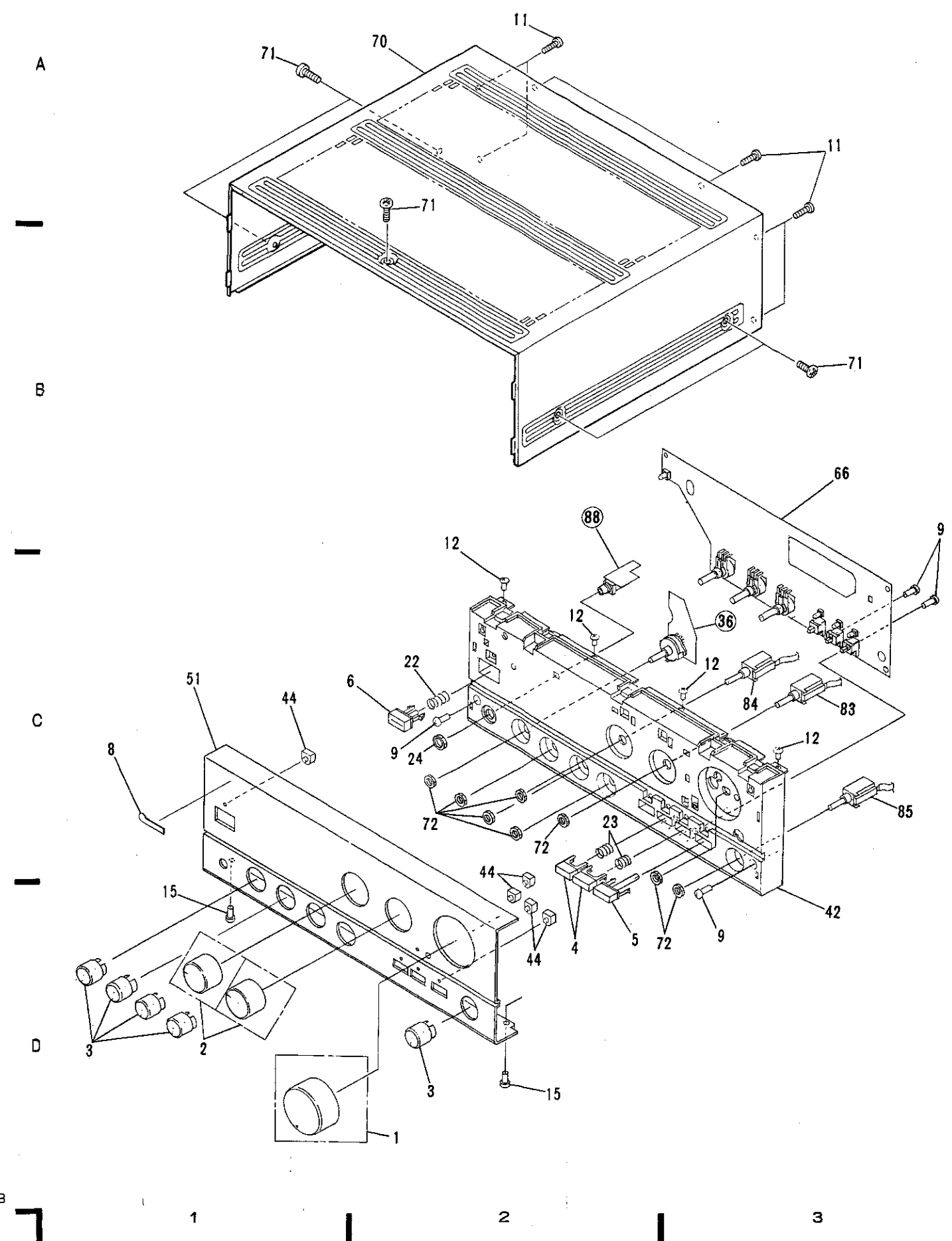
Mark	No.	Description	Parts No.	Mark	No.	Description	Parts No.
	1	ROTARY KNOB L (VOLUME)	AAB1222		36	SPEAKER SWITCH ASSEMBLY	
	2	ROTARY KNOB M (REC SELECTOR, INPUT SELECTOR)	AAB1223		37	CLAMPER	
	3	ROTARY KNOB S (SPEAKERS, BASS, TREBLE, BALANCE, PHONO SELECTOR)	AAB1224		38	STYROL PROTECTOR	AHA1070
					39	PACKING CASE	AHD2069
					40	PACKING SHEET	
	4	PUSH KNOB (LOUDNESS, ADPT/TAPE3)	AAD1536		41	TERMINAL SCREW	
	5	DIRECT KNOB	AAD1560		42	PANEL BASE	AMB1799
	6	POWER KNOB	AAD2010		43	FOOT	AMR1159
	7	REC OUT ASSEMBLY			44	INDICATING LENS	AMR1160
	8	NAME PLATE (METAL)	AAM1029		45	HOLDER	AMR1178
	9	SCREW	ABA-298		46	PUSH JOINT	
	10	SCREW (STEEL)	ABA1004		47	HEAT SINK HOLDER F	
					48	HEAT SINK HOLDER R	
					49	RIGHT FRAME	
	11	SCREW (STEEL)	ABA1009		50	TRANS. FRAME	
	12	SCREW (STEEL)	ABA1011		51	FRONT PANEL	ANB1455
	13	SCREW (STEEL)	ABA1014		52	REAR PANEL	
	14	SCREW (STEEL)	ABA1047		53	PANEL STAY	
	15	SCREW (STEEL)	ABA1048		54	POWER L ASSEMBLY	AWZ3418
					55	BOTTOM PLATE	
	16	SCREW (STEEL)	ABA1050		56	VOLUME HOLDER	
	17	SCREW	ABA1056		57	VOLUME HOLDER ASSEMBLY	
	18	SCREW	ABA1082		58	POWER ASSEMBLY HOLDER (F)	
	19	SCREW	ABA1088		59	POWER ASSEMBLY HOLDER (R)	
	20	SPACER	ABF1002		60	EARTH PLATE	
					61	TRANSISTOR HOLDER	
	21	WASHER	ABF1017		62	HEAT SINK	
	22	SPRING	ABH1033		63	HEAT SINK	
	23	SPRING	ABH1034		64	LONG SHAFT ASSEMBLY	ANL1040
	24	NUT	ABN-065		65	OPERATING INSTRUCTIONS (English, French, German, Italian, Dutch, Swedish, Spanish, Portuguese)	ARE1194
	25	FLANGE NUT M9	ABN-072				
Δ	26	AC POWER CORD	ADG1049				
	27	CUSHION C (RUBBER)					
	28	NYLON BINDER					
⊙	29	POWER R ASSEMBLY	AWZ3421				
	30	STRAIN RELIEF	AEC-882				
	31	SPACER					
	32	NYLON RIVET	AEC1160	⊙	66	TONE AMP ASSEMBLY	AWZ3445
	33	INPUT SELECTOR ASSEMBLY		⊙	67	POWER SUPPLY ASSEMBLY	AWZ3426
					68	SPEAKER TERM. ASSEMBLY	
	34	SPACER		⊙	69	PHONO AMP ASSEMBLY	AWZ3436
	35	SHEET	AEE1014		70	BONNET CASE	AZN1804

Mark	No.	Description	Parts No.
	71	SCREW	FBT40P080FZK
	72	NUT	NK90FCU
	73	SCREW	VMZ30P060FCU
⚠	74	ELECTROLYTIC CAPACIT (C1)	ACH1194
⚠	75	FUSE (T2.5A, FU3)	AEK-512
⚠	76	TRANSISTOR (Q1)	2SC3281
⚠	77	TRANSISTOR (Q155)	2SC4137
⚠	78	TRANSISTOR (Q156)	2SC4137
⚠	79	TRANSISTOR (Q2)	2SC3281
⚠	80	TRANSISTOR (Q3)	2SA1302
⚠	81	TRANSISTOR (Q4)	2SA1302
⚠	82	PUSH SWITCH (S1)	ASG1006
	83	SWITCH (S2)	ASU1039
	84	SWITCH (S3)	ASU1038
	85	SWITCH (S4)	ASU1026
⚠	86	POWER TRANSFORMER (T1)	ATS1352
⊙	87	VR ASSEMBLY	AWZ3441
	88	HEAD PHONE ASSEMBLY	
	89	DIODE ASSEMBLY	
	90	SCREW	ABA1129
	91	WASHER	ABE-053

• Packing



• Exterior



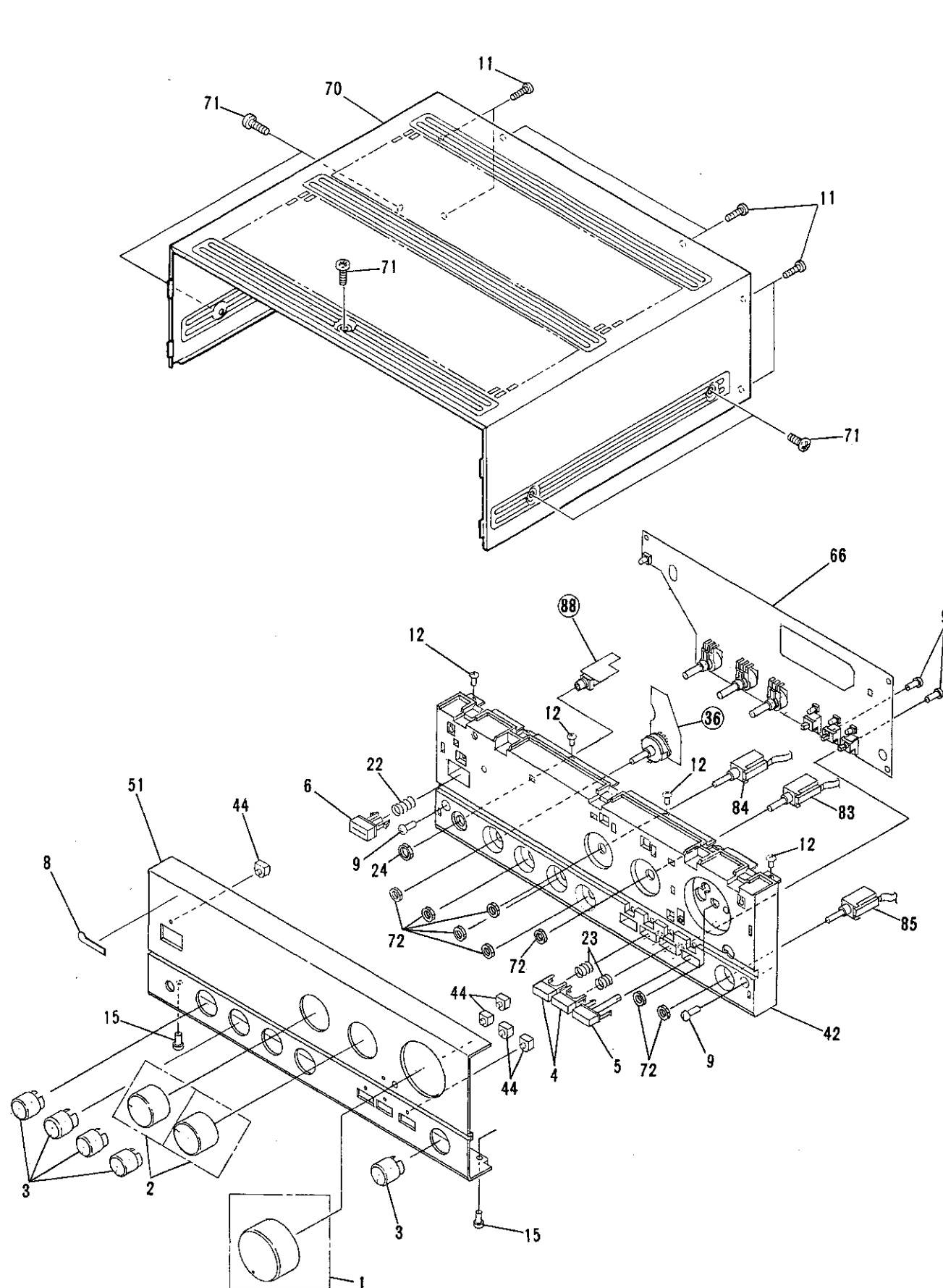
• Exterior

A

B

C

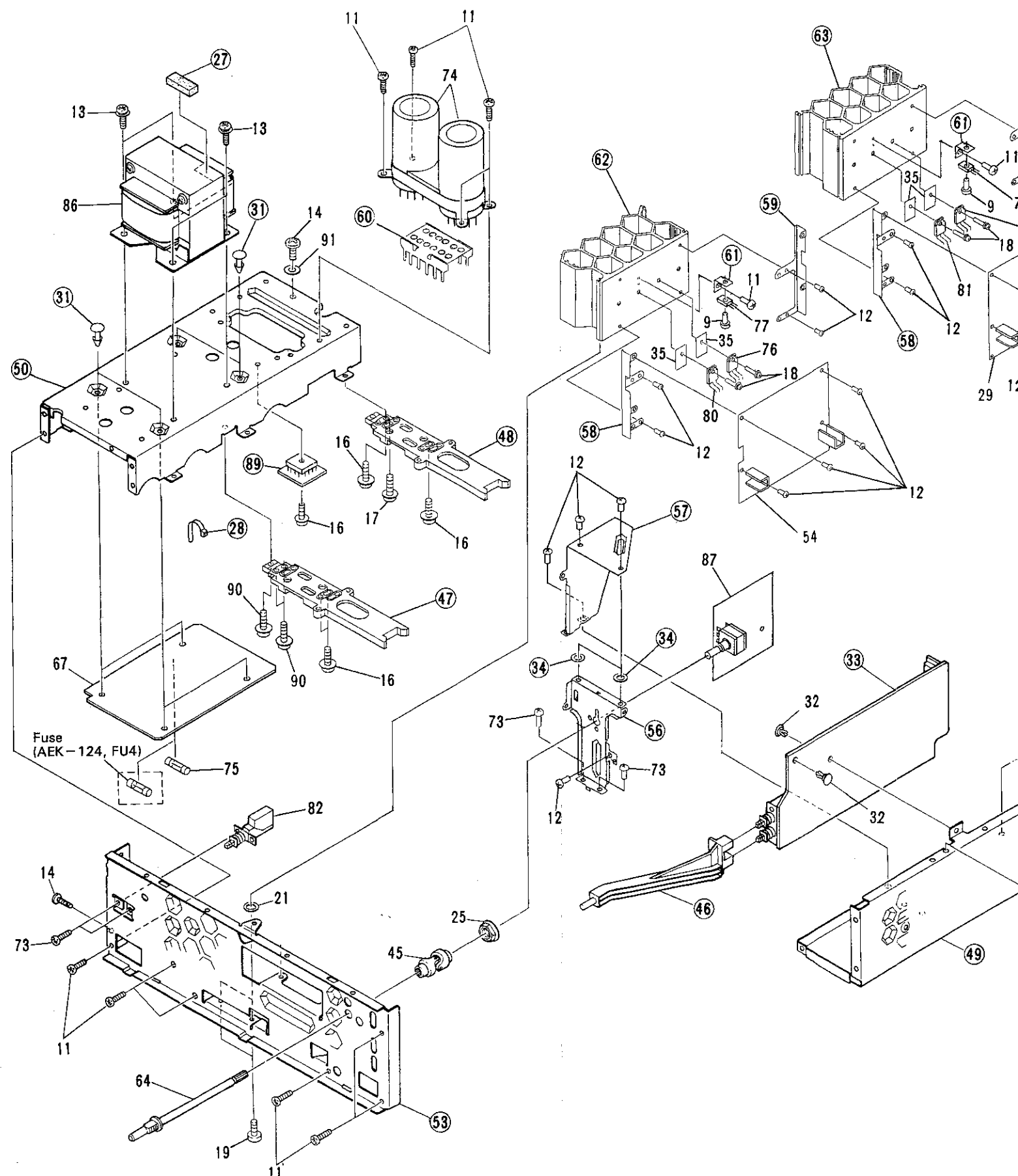
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4

5

6



1

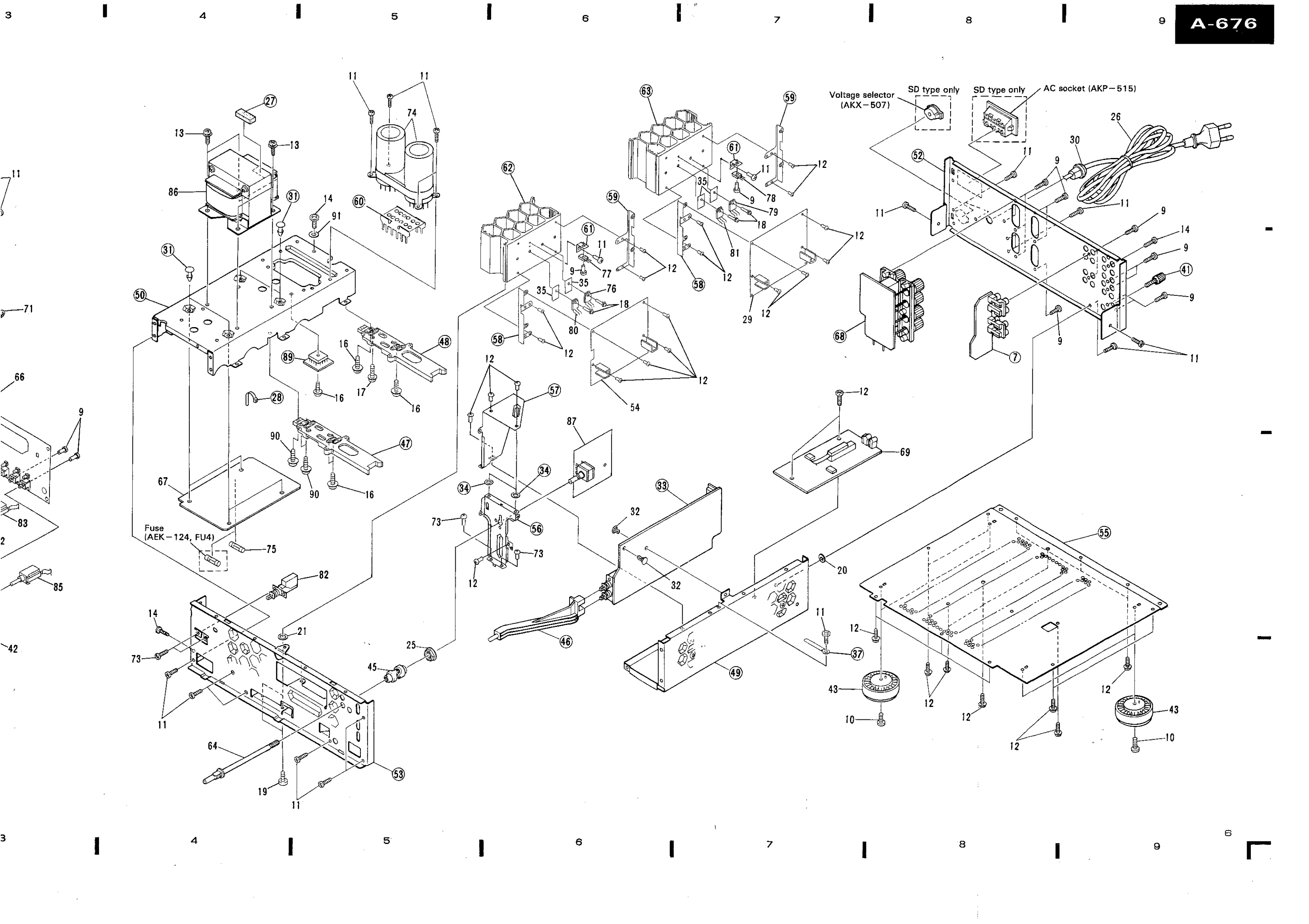
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3

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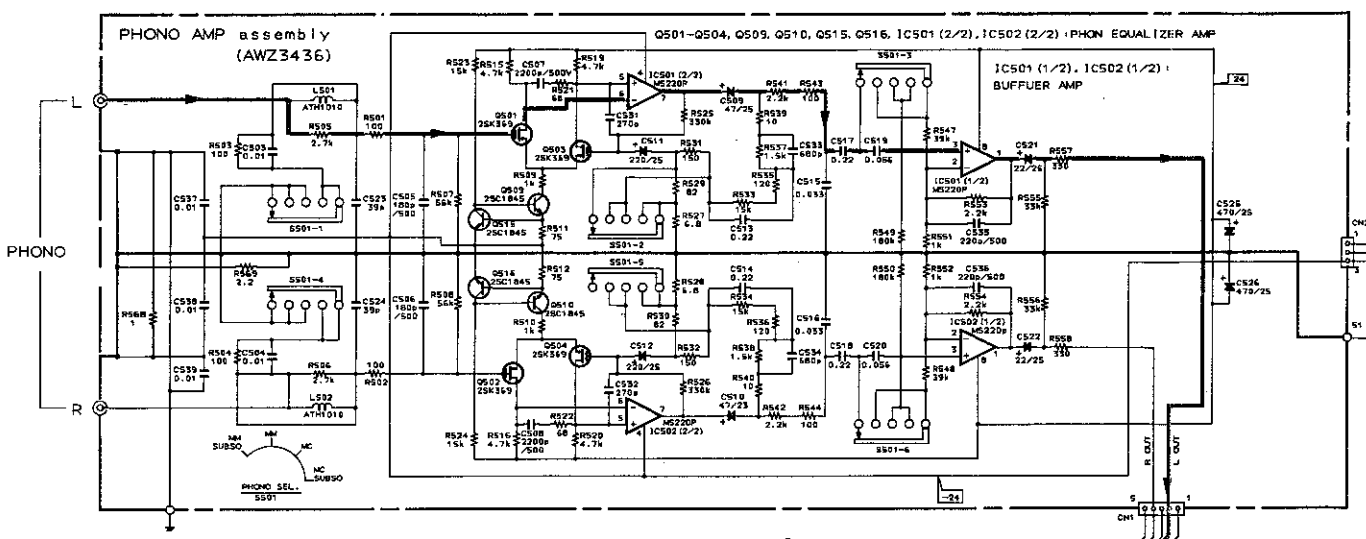
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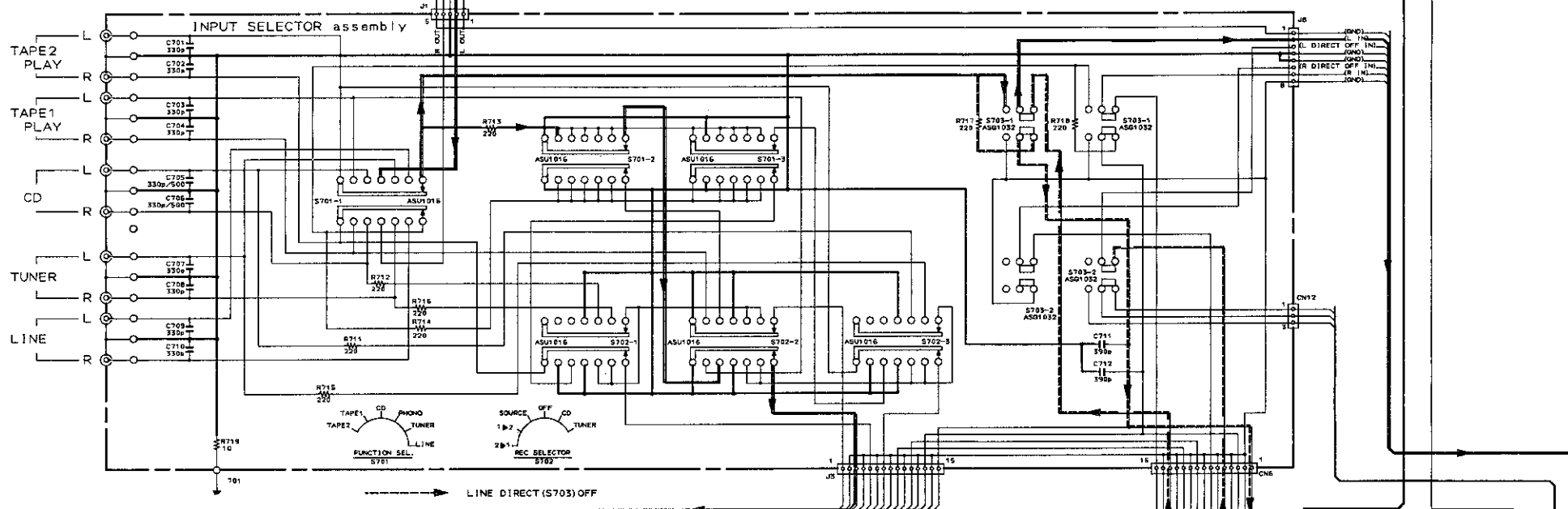


2. SCHEMATIC DIAGRAM

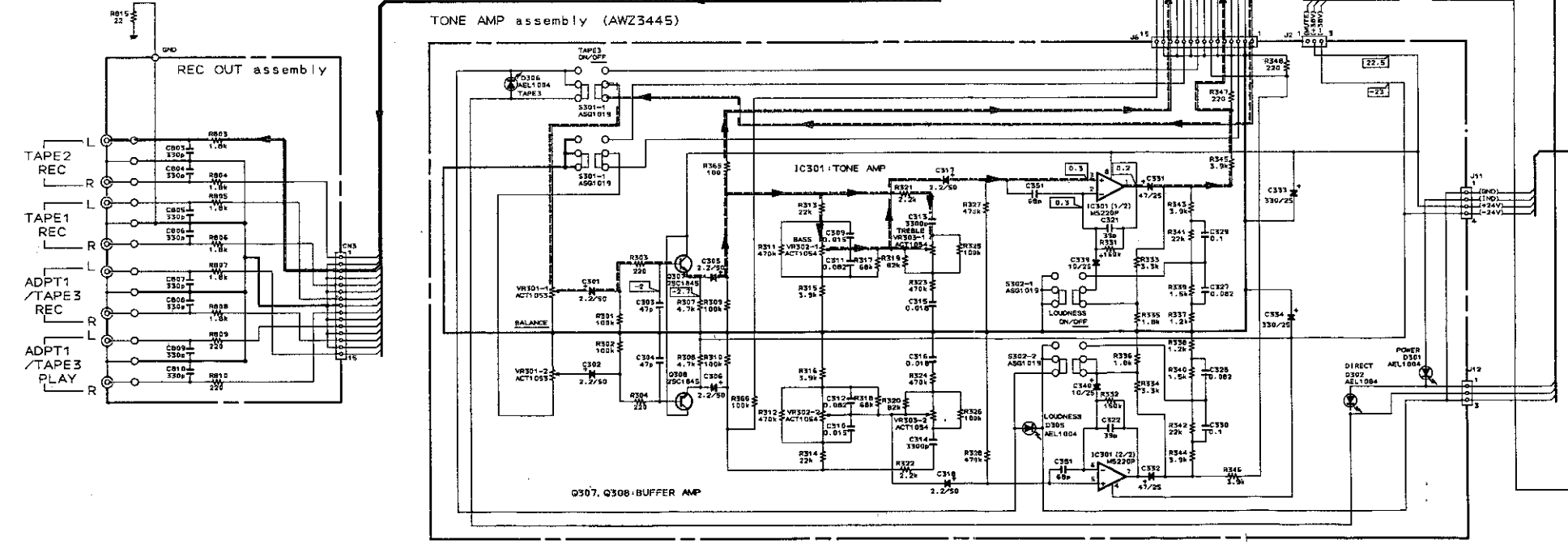
A



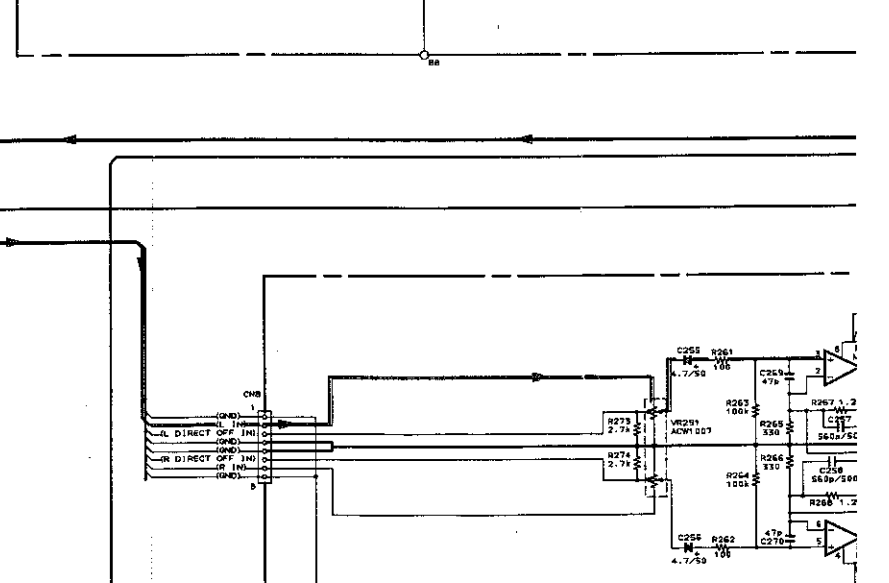
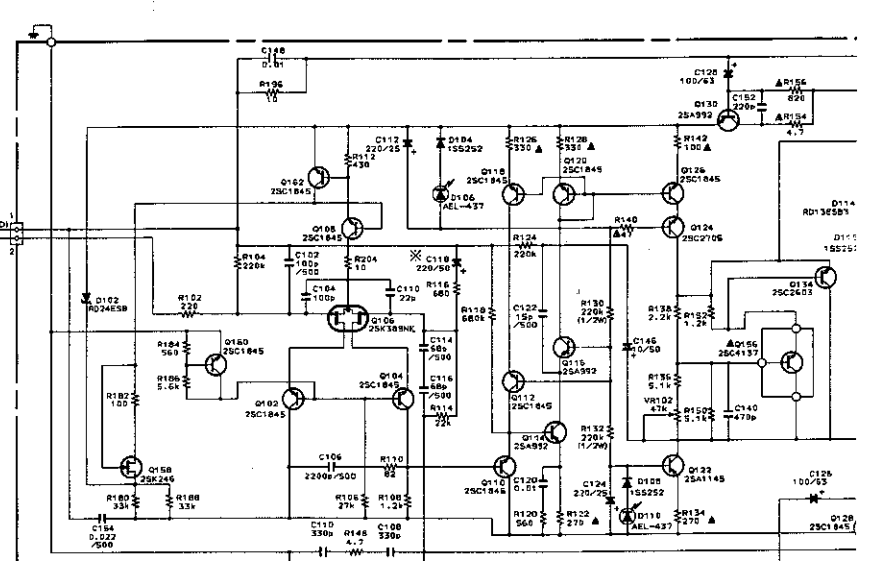
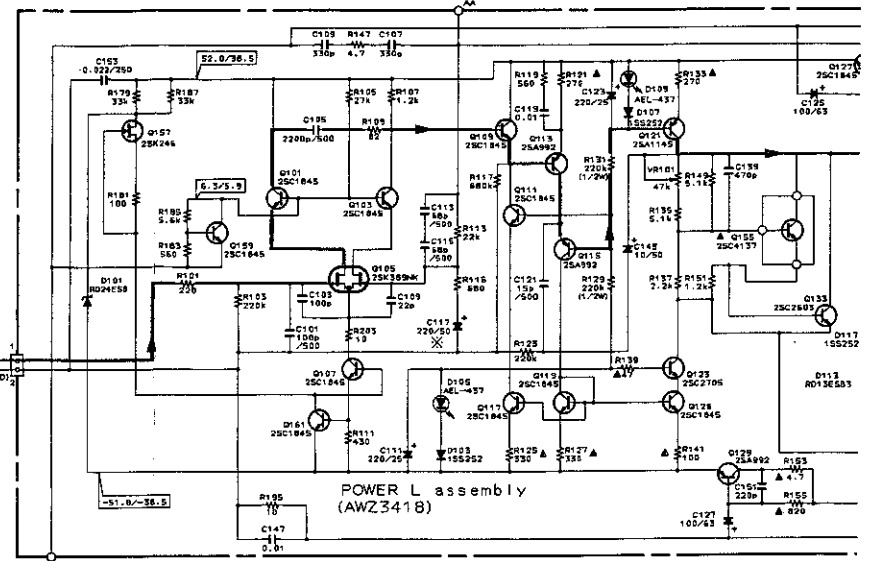
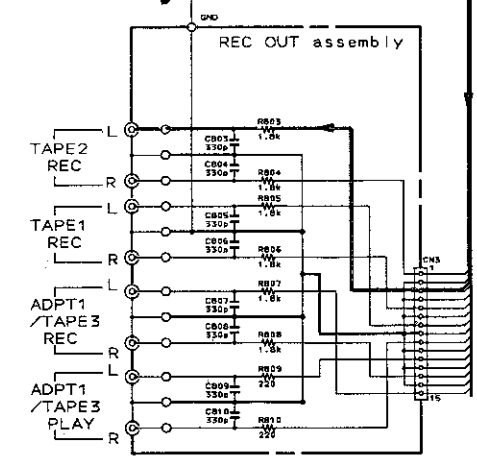
B



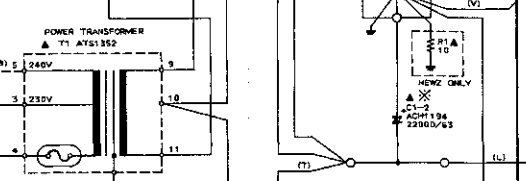
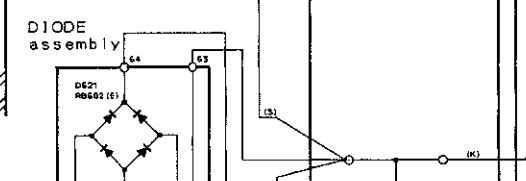
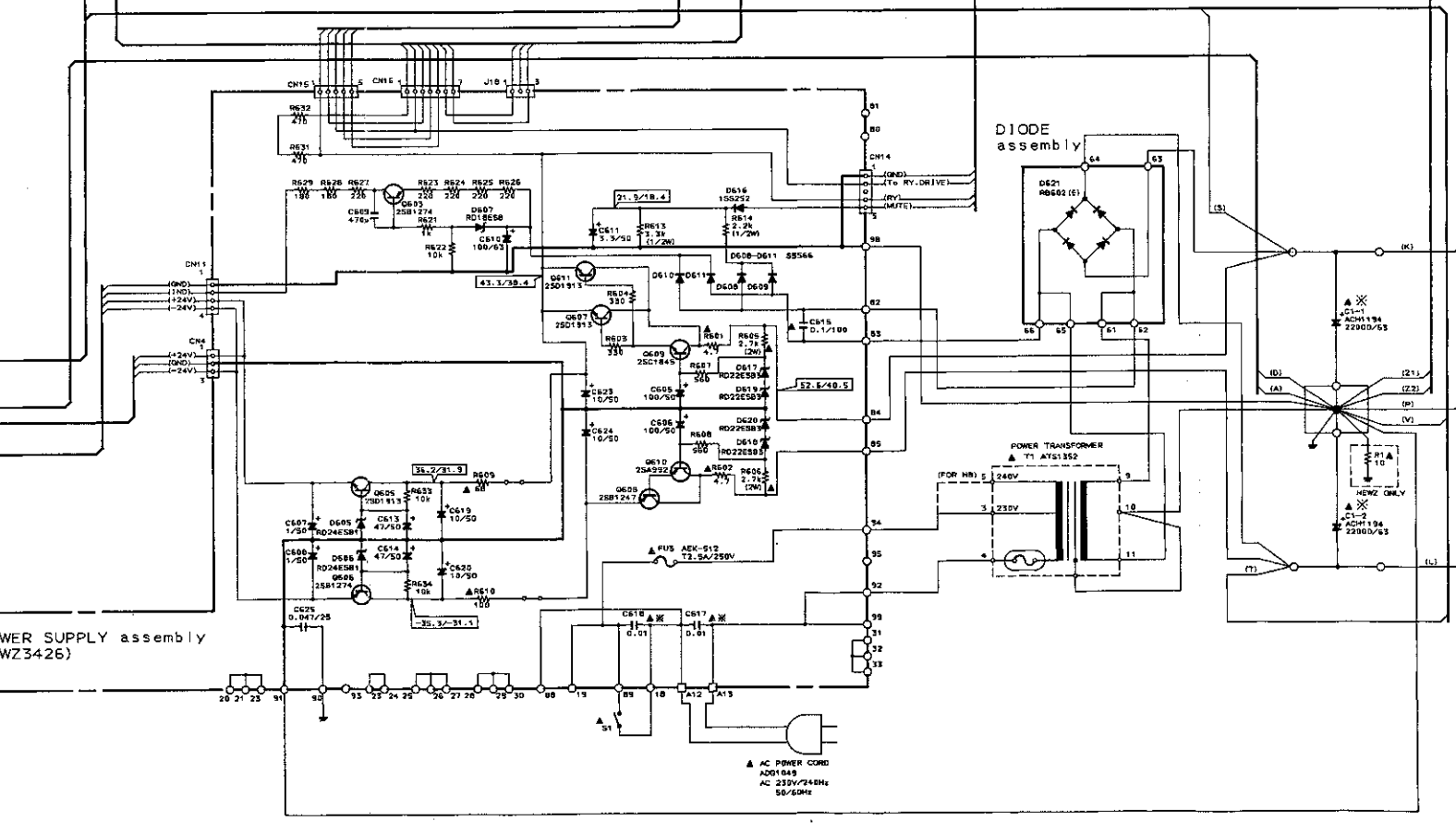
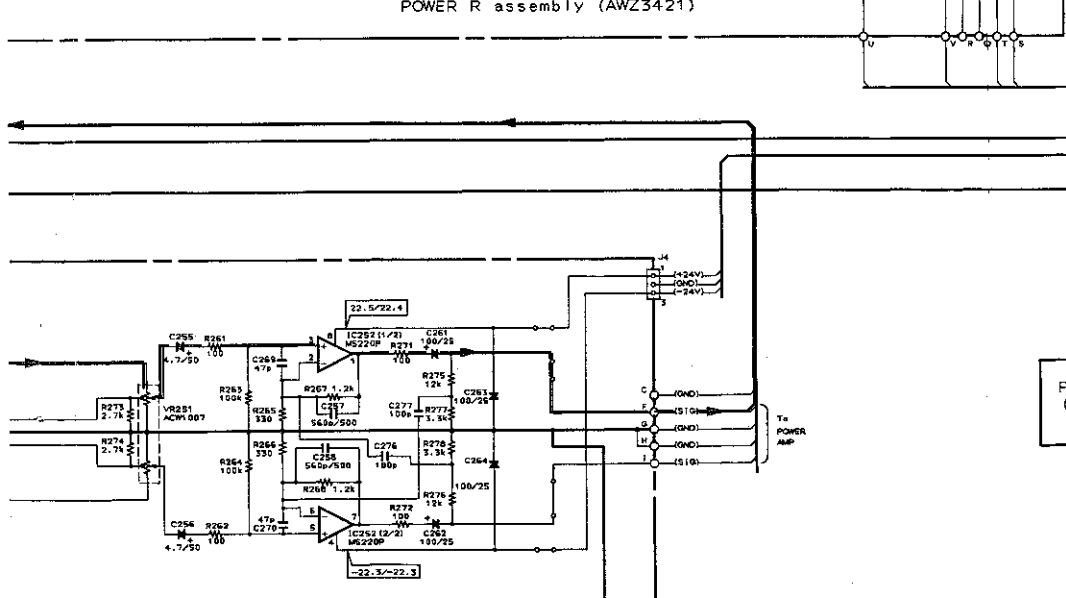
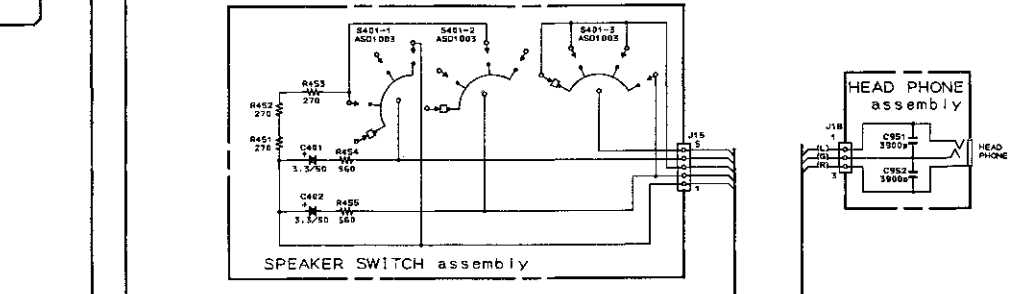
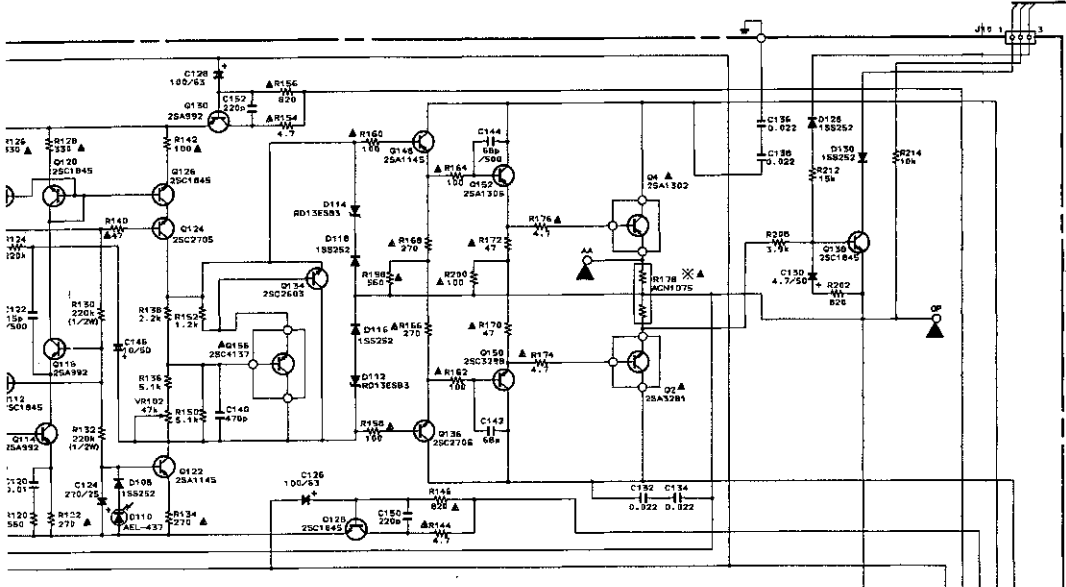
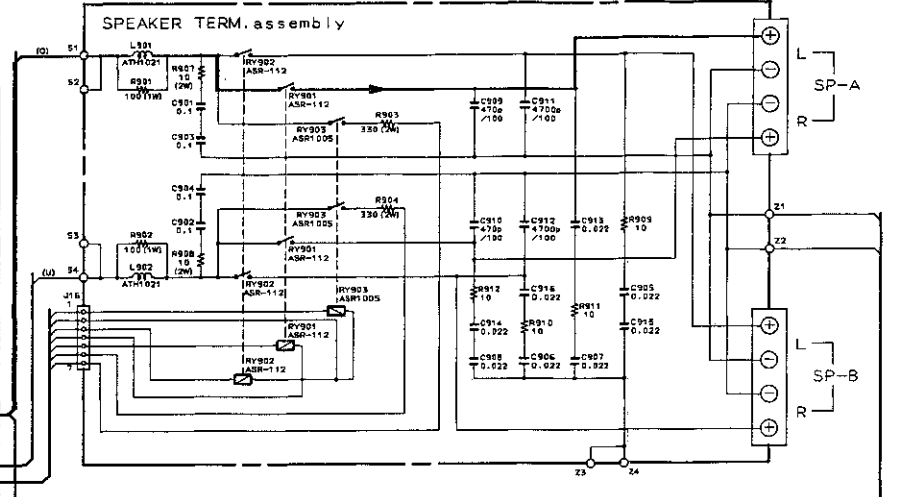
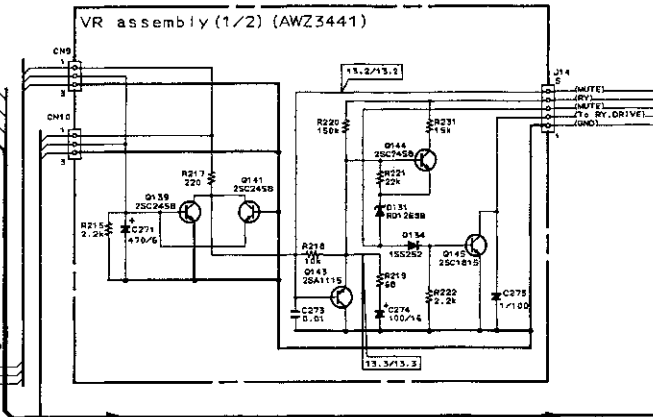
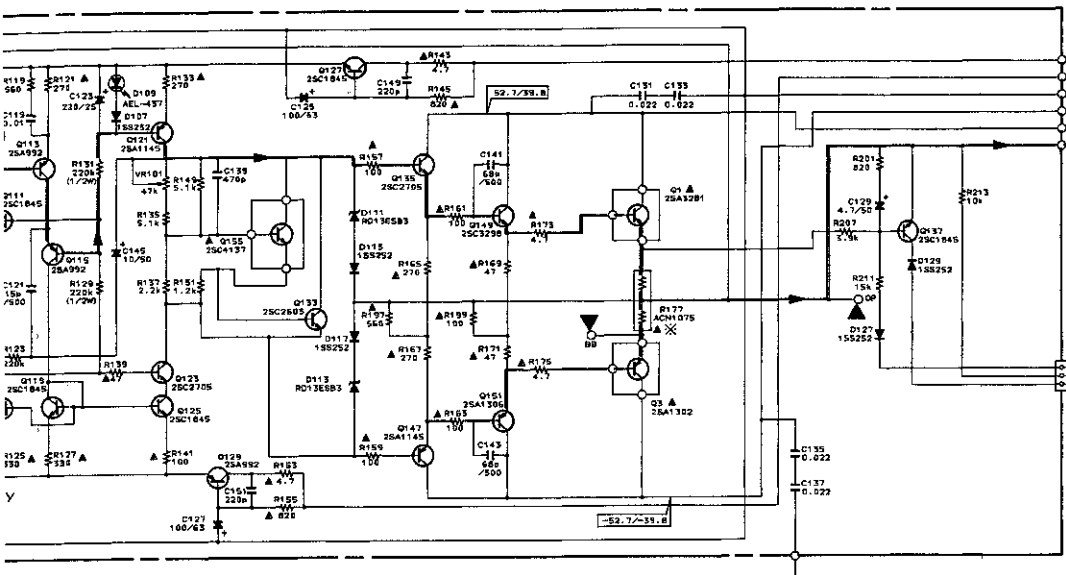
C



D



VR assembly



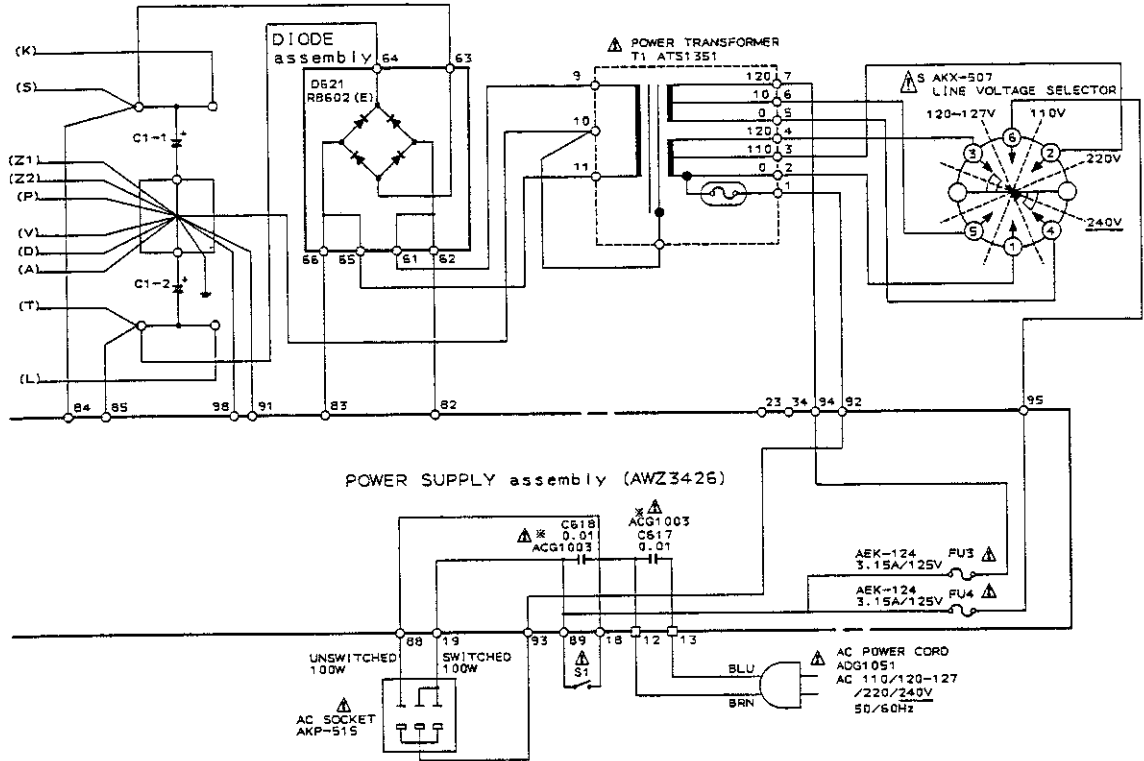
A





B

C

D

• POWER SUPPLY SECTION (SD type)



1. RESISTORS:
Indicated in Ω , $\frac{1}{4}W$, $\frac{1}{2}W$, $\pm 5\%$ tolerance unless otherwise noted k : k Ω , M : M Ω , (F) : $\pm 1\%$, (G) : $\pm 2\%$, (K) : $\pm 10\%$ (M) ; $\pm 20\%$ 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 (W + W 8 Ω)output (1kHz)
 : DC voltage (V) at no input signal
 Value in () is DC voltage at rated power.
4. OTHERS:
 : Signal route.
 : Adjusting point.
 The Δ 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 capacitors and resistors have parts numbers.

This is the basic schematic diagram, but the actual circuit may vary due to improvements in design.

SWITCHES:

S1 POWER SW

TONE AMP assembly

- S301 TAPE3 ON/OFF
- S302 LOUDNESS ON/OFF

SPEAKER SWITCH assembly

- S401 SPEAKER A,B(OFF/A/B/A+B)

INPUT SELECTOR assembly

- S701 INPUT SELECTOR
- S702 REC SELECTOR
- S703 DIRECT

PHONO AMP assembly

- S501 PHONO SELECTOR

LINE VOLTAGE SELECTION
(For A-676/HE, HB, HEWZ and A-676-S/HEWZ types.)

Line voltage can be changed with the following steps.

1. Disconnect the AC Power cord.
2. Remove the top cover.
3. Change the connection of the power transformer primary pins.

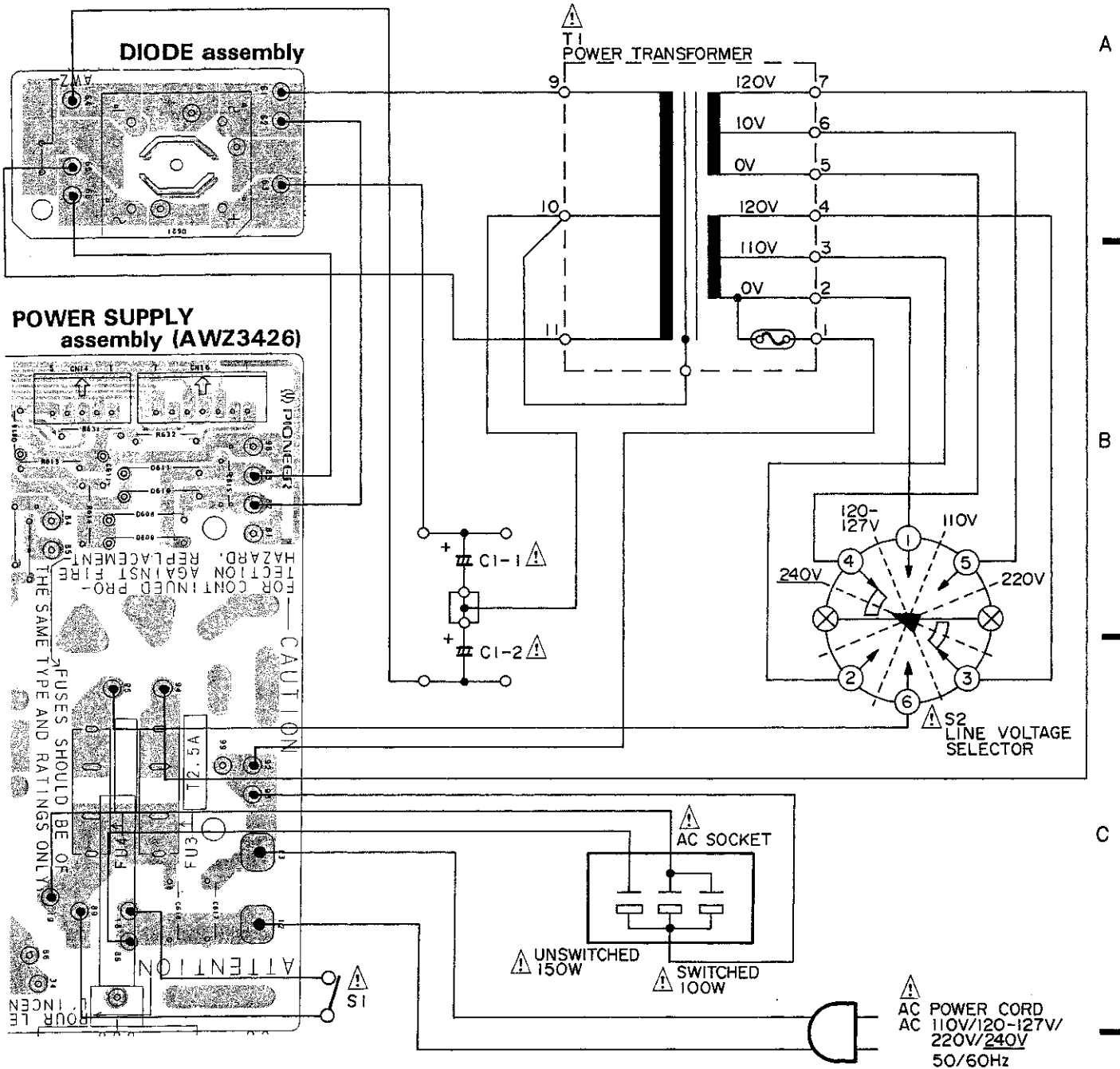
Voltage	Power transformer Pin No.
220V	3
240V	5

4. Stick the line voltage label on the rear panel.

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

3. P.C. BOARDS CONNECTION DIAGRAM

• POWER SUPPLY SECTION (SD type)



NOTE

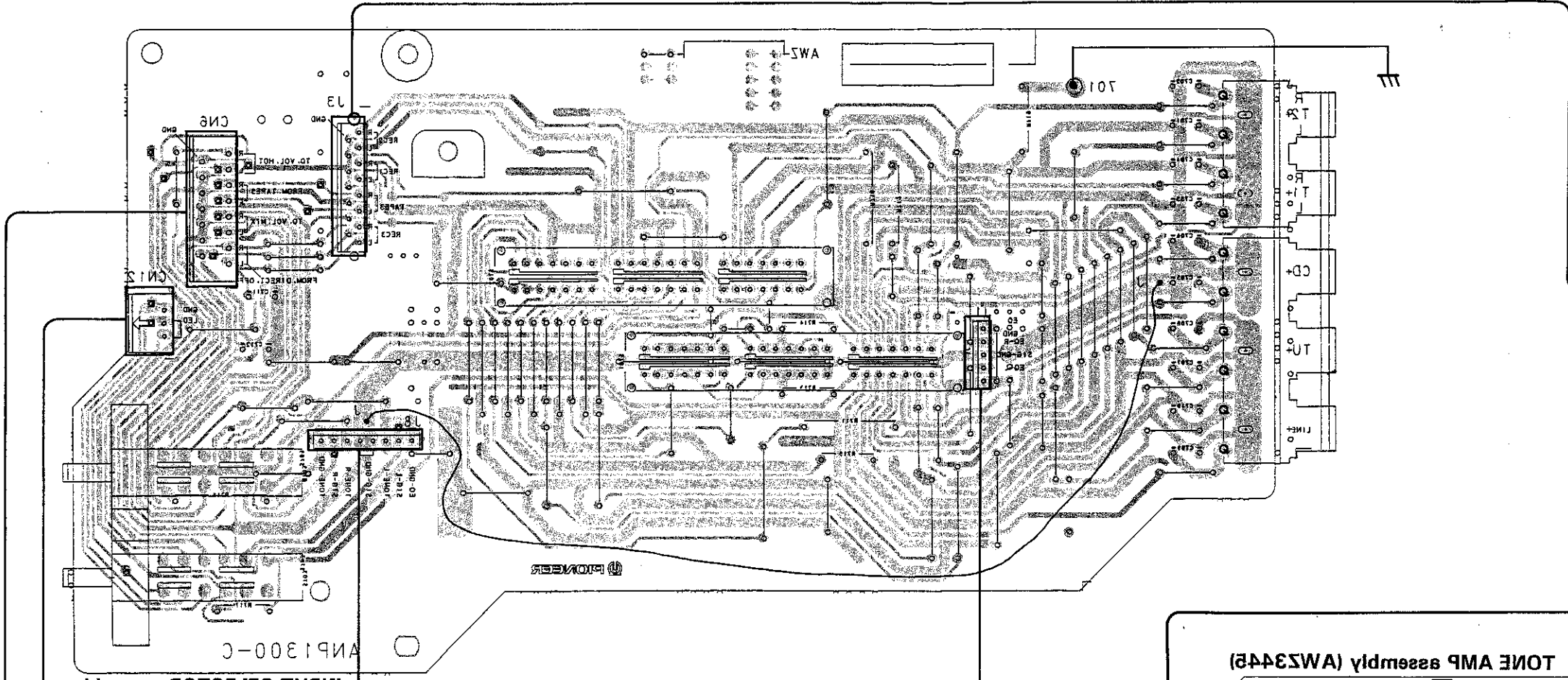
1. This P.C.B connection diagram is viewed from the parts mounted side.
2. The parts which have been mounted on the board can be replaced with those shown with the corresponding wiring symbols listed in the following Table.

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

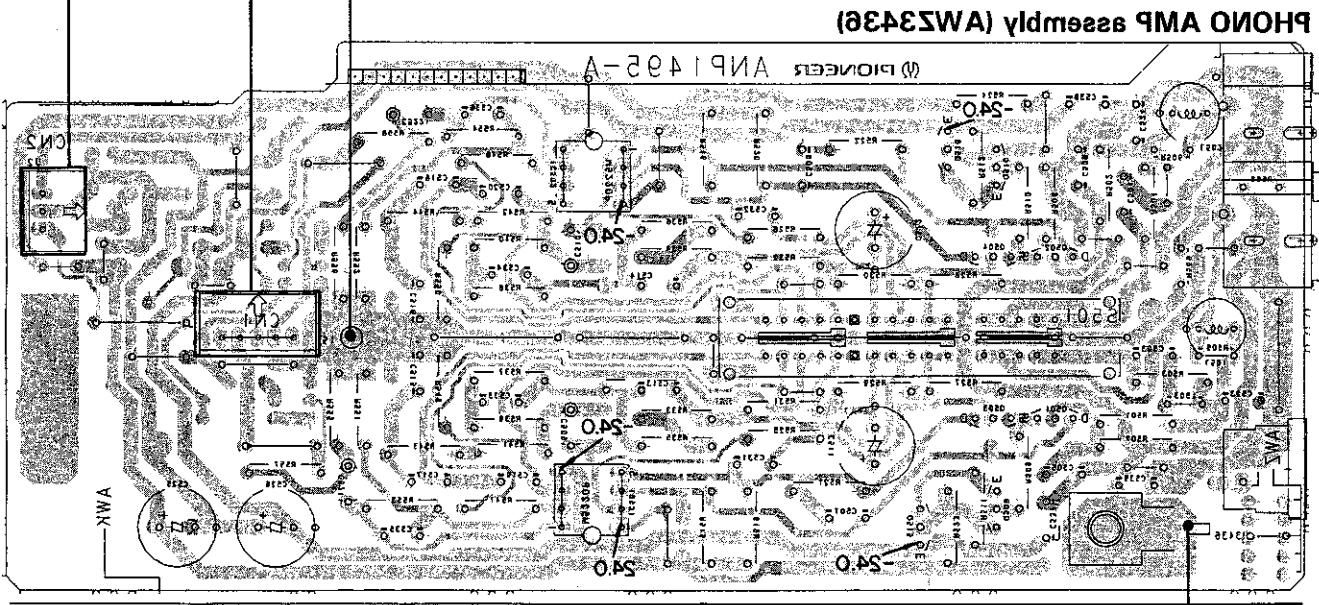
Others

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.

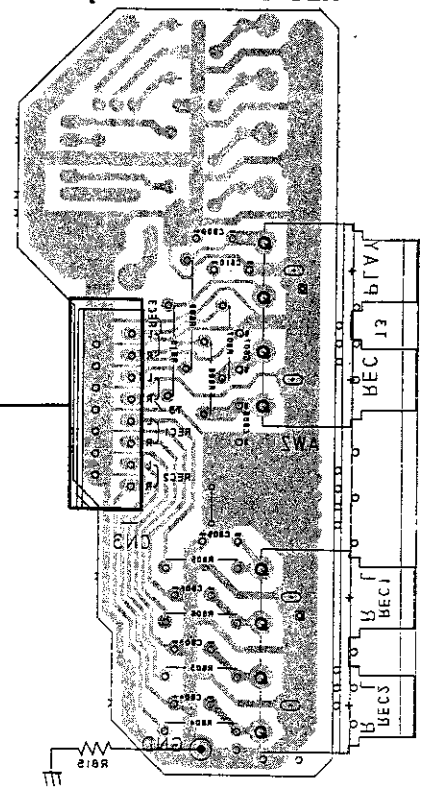
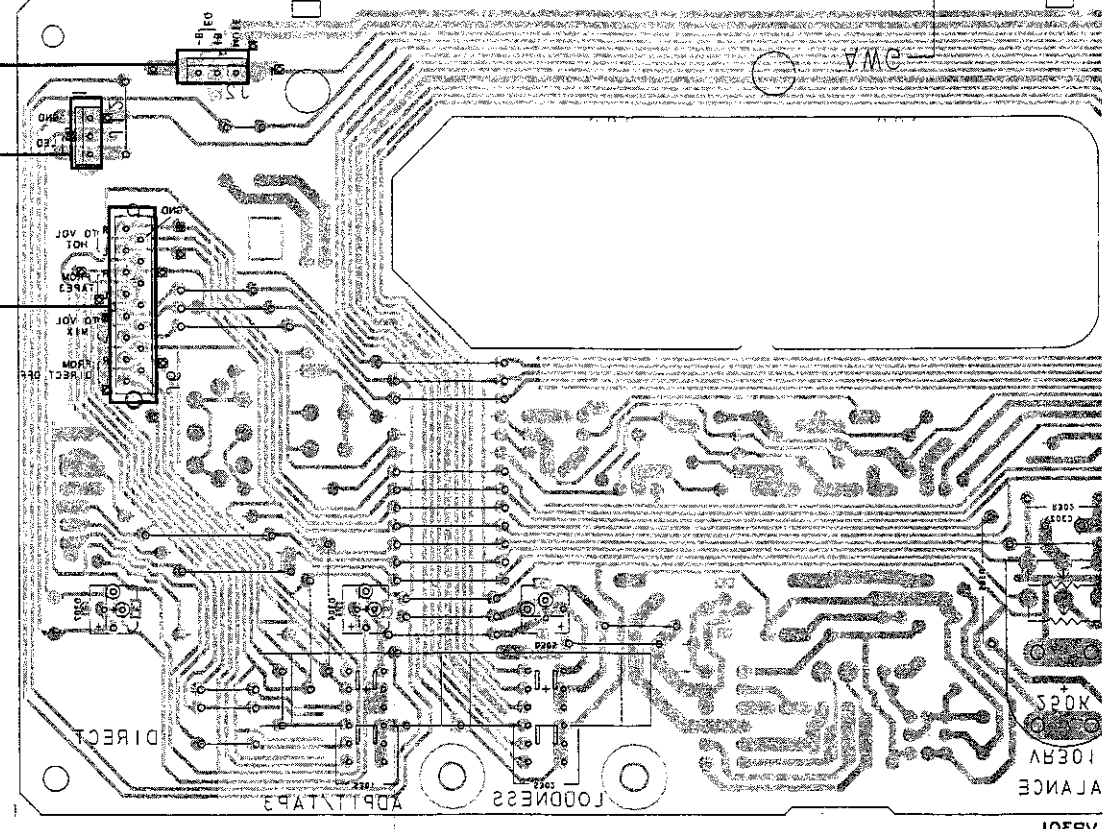


INPUT SELECTOR assembly



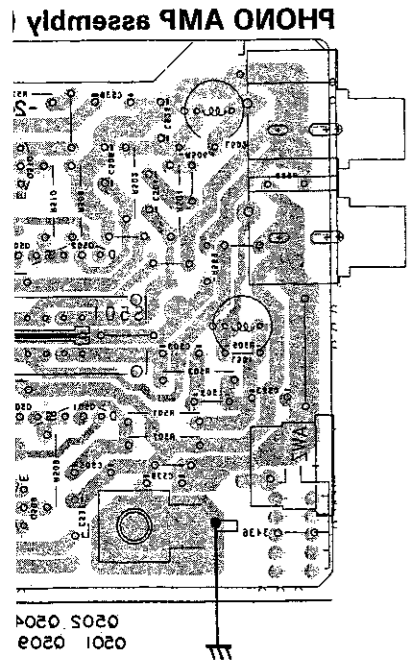
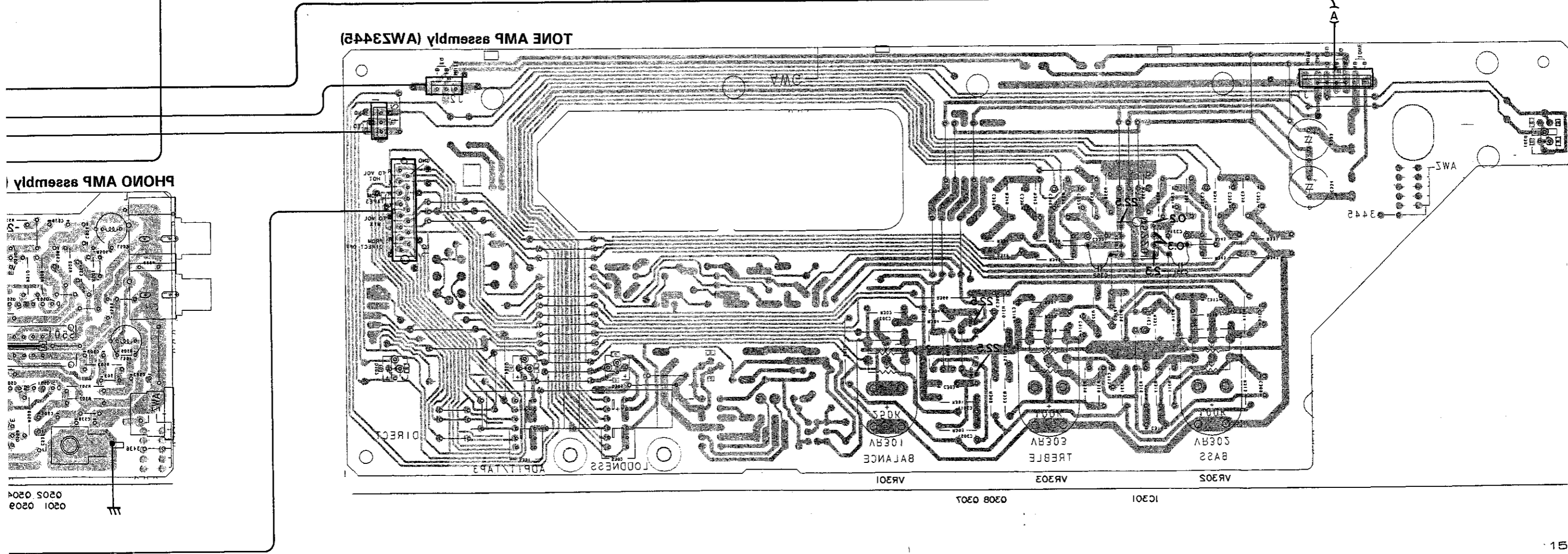
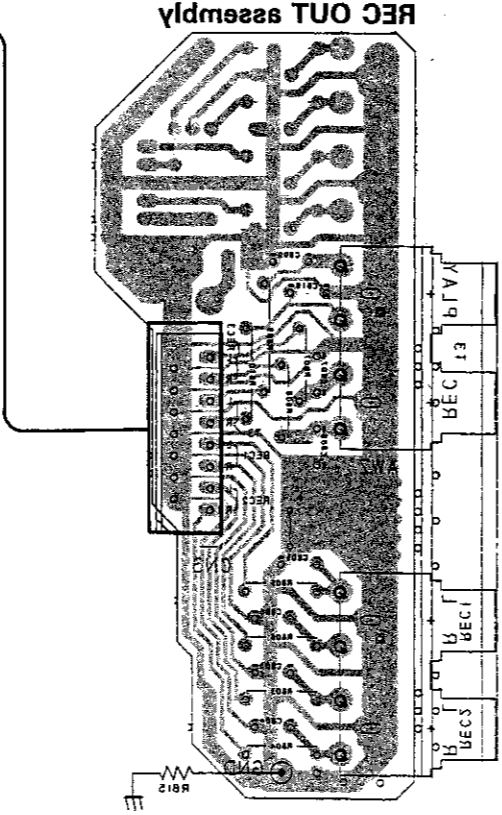
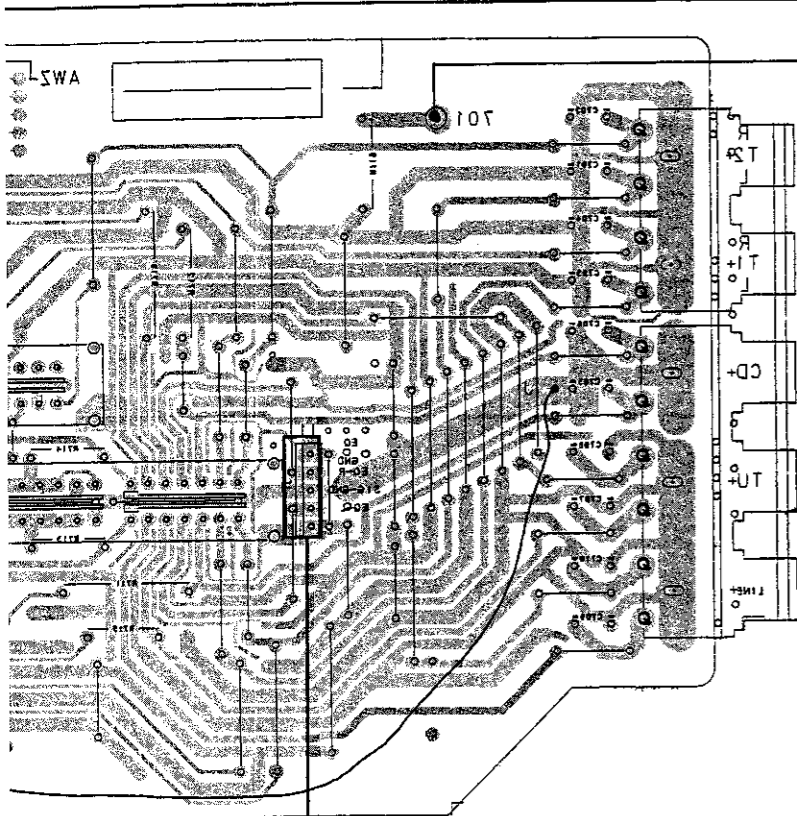
PHONO AMP assembly (W23438)

W23445 (AMP assembly)



REC OUT assembly

This P.C.B. connection diagram is viewed from the foil side.



A

B

C

D

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.

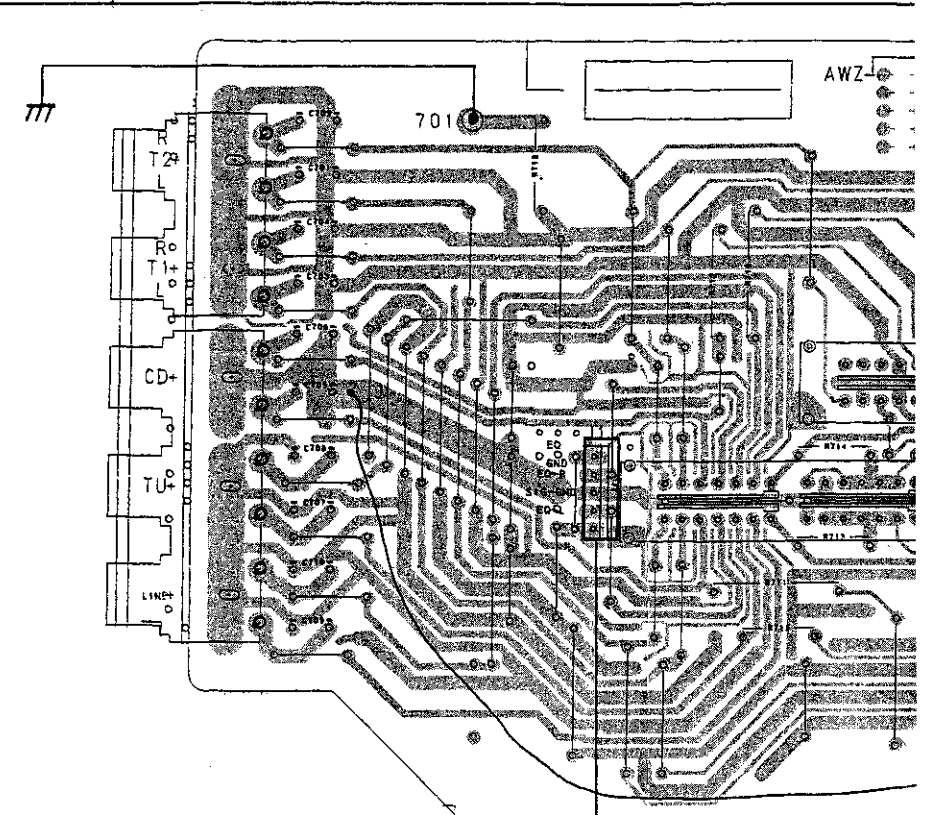
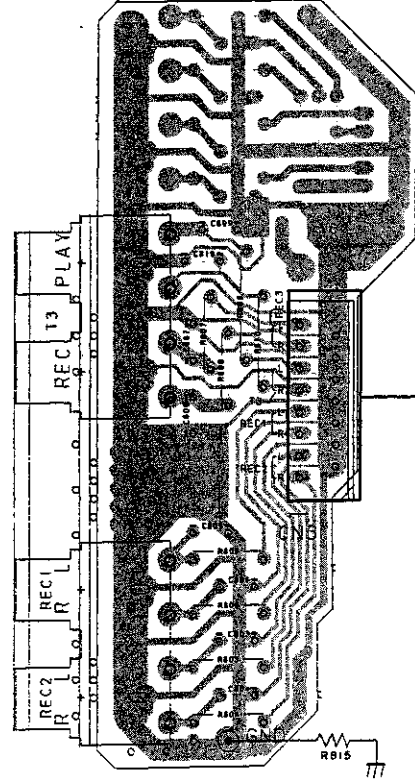
P.C.B. pattern diagram indication	Corresponding part symbol	Part Name
Q504 EO		Transistor
Q215		Radiator type transistor
D203		Diode
R237		Resistor
C513		Capacitor (Polarity)
C518		Capacitor (Non-polarity)

Others

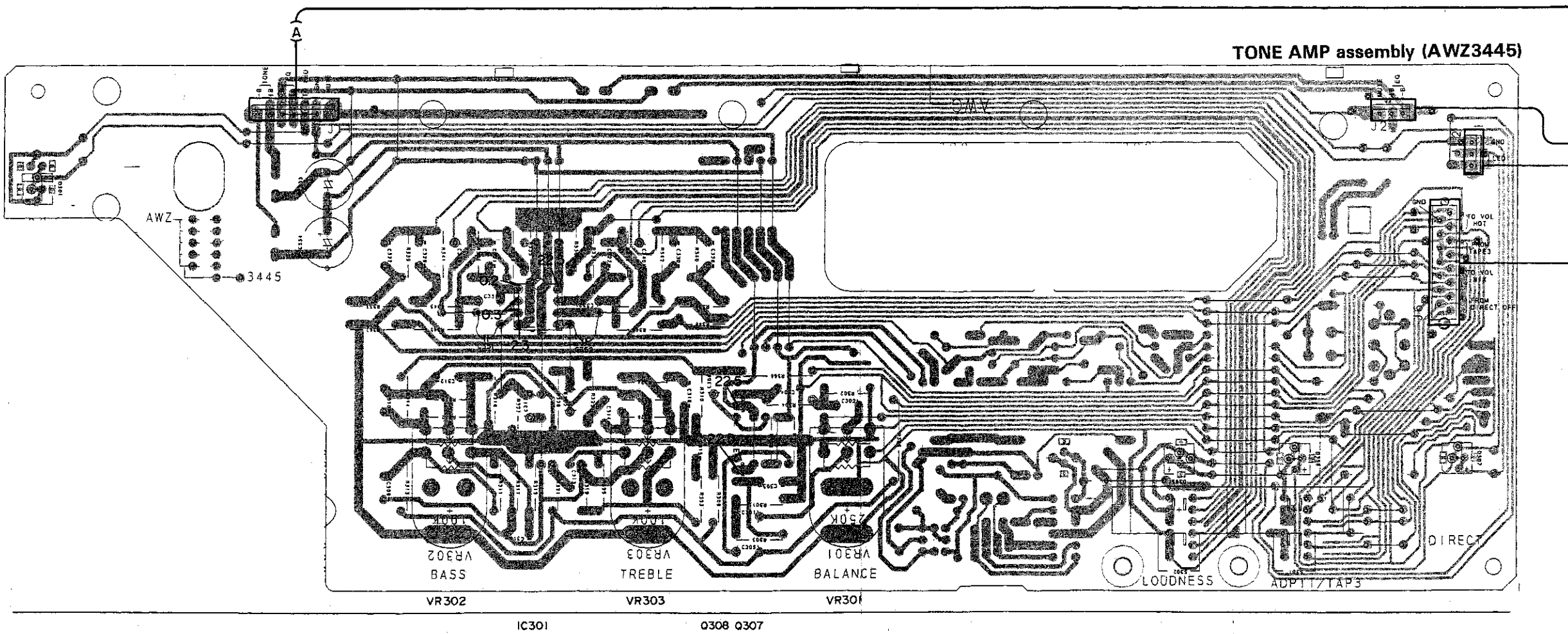
P.C.B. pattern diagram indication	Part Name
IC	IC
S	Switch
RY	Relay
L	Coil
F	Filter
VR	Variable resistor or Semi-fixed resistor

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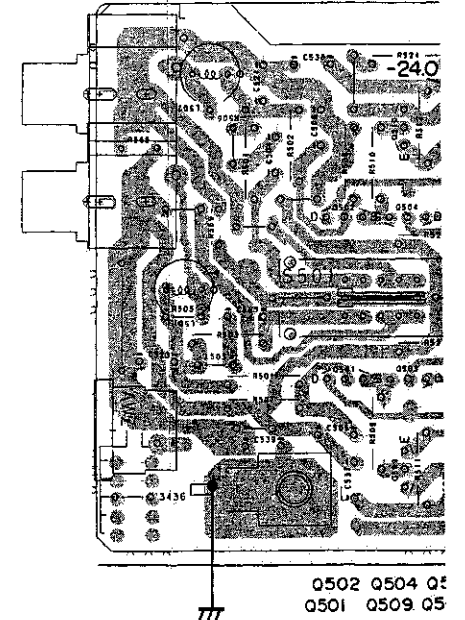
REC OUT assembly



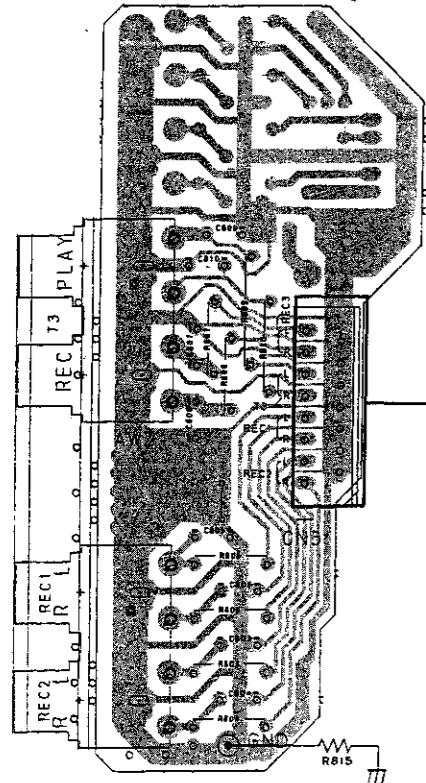
TONE AMP assembly (AWZ3445)



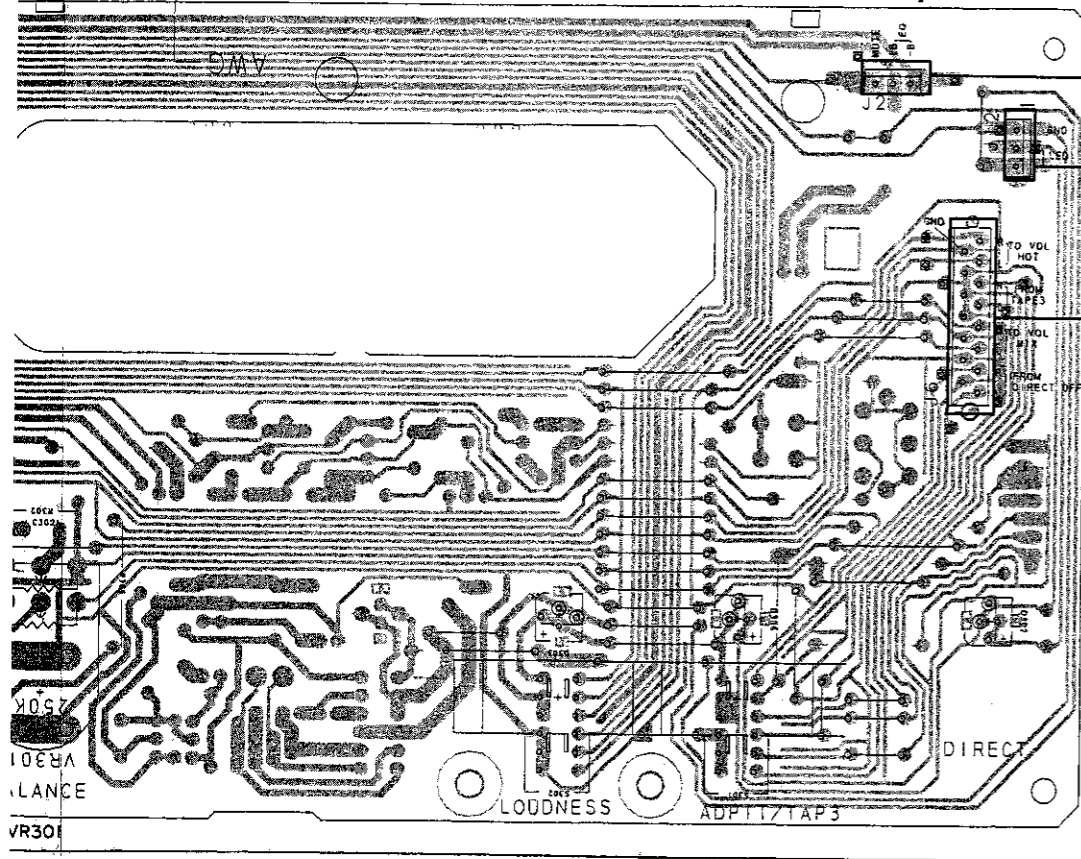
PHONO AMP assembly (A)



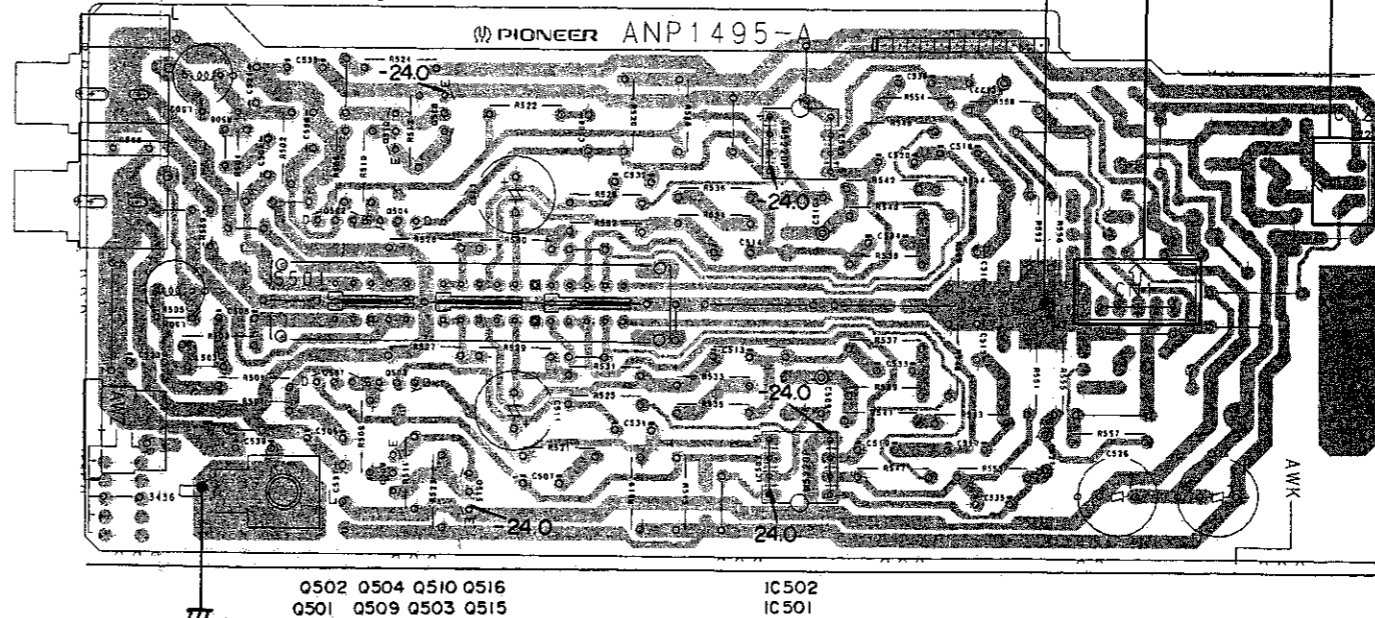
REC OUT assembly



TONE AMP assembly (AWZ3445)

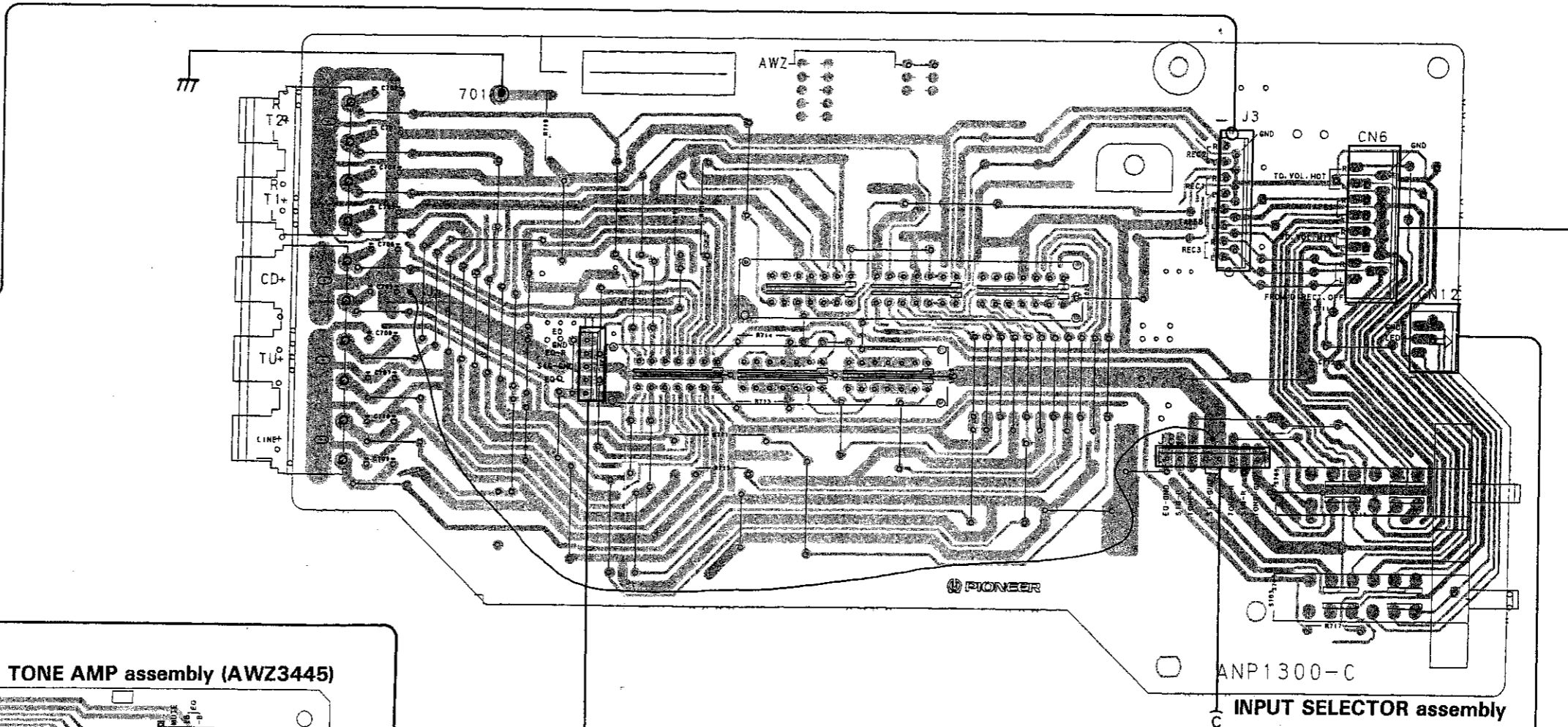


PHONO AMP assembly (AWZ3436)



Q502 Q504 Q510 Q516
Q501 Q509 Q503 Q515

IC502
IC501



ANP1300-C

INPUT SELECTOR assembly

A

B

Z

C

D

Q162
Q158 Q102
Q108 Q106
Q118 Q104
Q112 Q110
Q120 Q160
Q116 Q114

Q126 Q122
Q124 Q156

Q134 Q128

Q130

Q148 Q136 Q138

Q152 Q150

Q4
Q2

**POWER R assembly
(AWZ3421)**



Q161
Q157 Q101
Q107 Q105
Q117 Q103
Q111 Q109
Q119 Q159
Q115 Q113

Q125 Q121
Q123 Q155

Q133 Q127

Q129

Q147 Q135 Q137

Q151 Q149

Q3 Q1

**POWER L assembly
(AWZ3418)**



Z

C

IC252

Q141
Q139

Q143

Q144

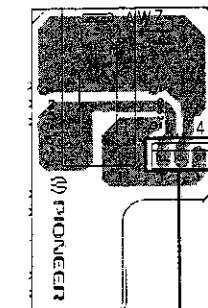
D

Q145

VR assembly (AWZ3441)

SPEAKER TERM assembly

**HEAD PHONE
assembly**



1

2

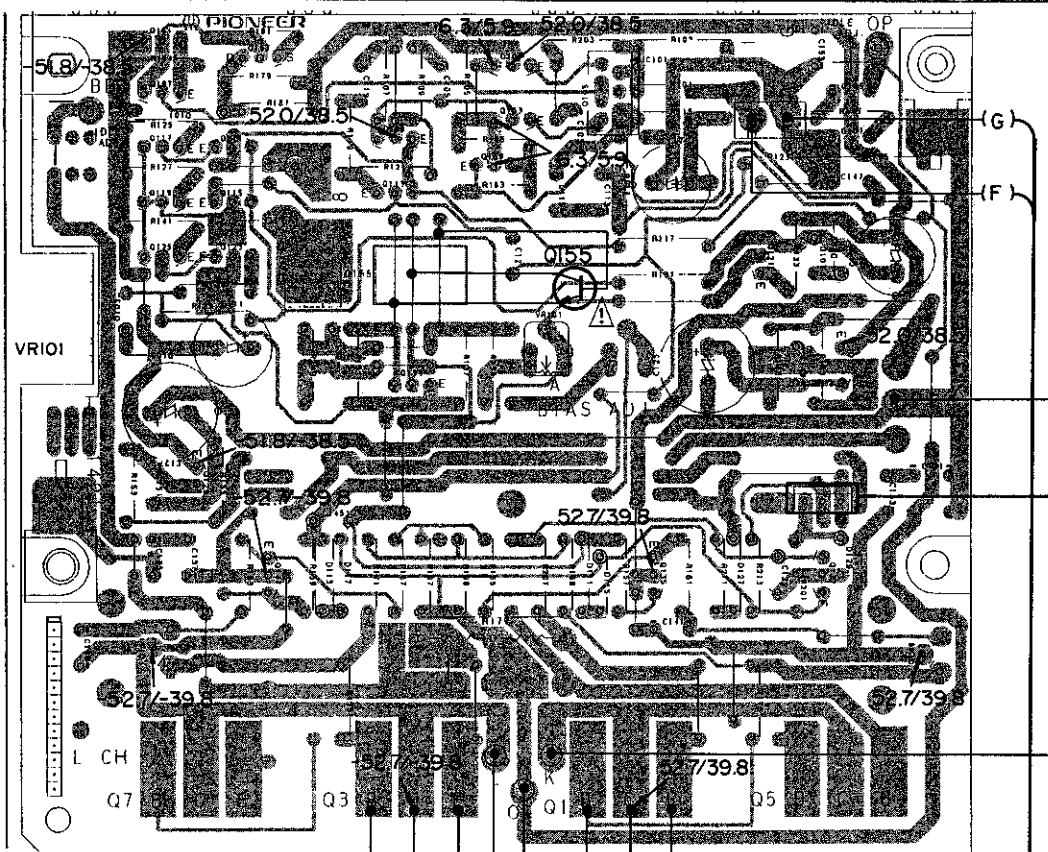
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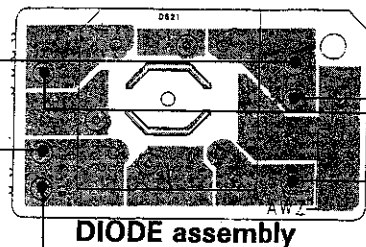
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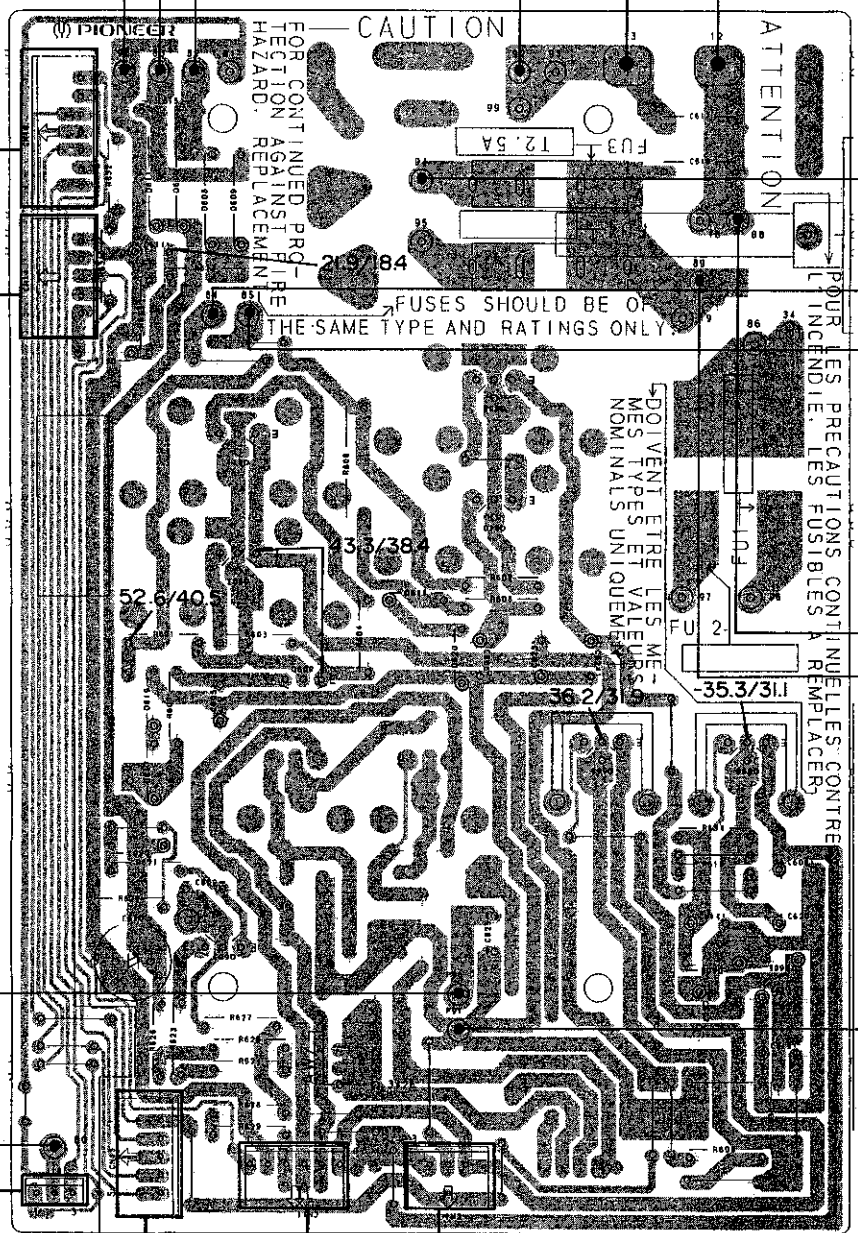
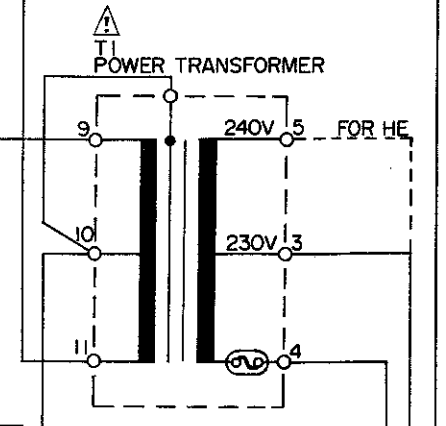
- Q161
- Q157
- Q107
- Q103
- Q117
- Q109
- Q111
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- Q123
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- Q137
- Q151
- Q149
- Q3
- Q1



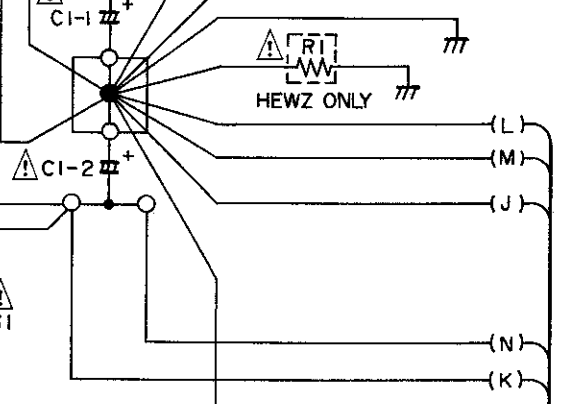
POWER L assembly (AWZ3418)



AC POWER CORD
AC 230-240V
50/60Hz

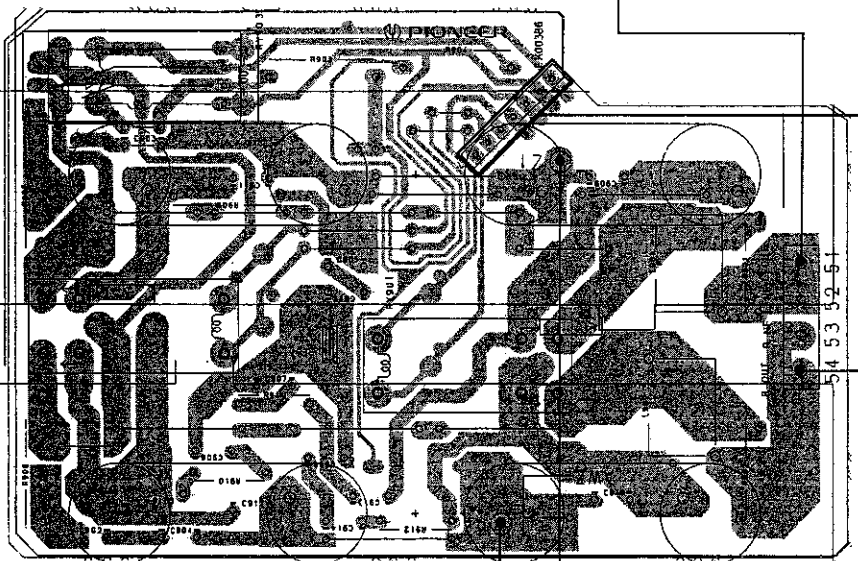
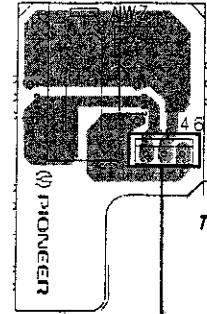


POWER SUPPLY assembly (AWZ3426)

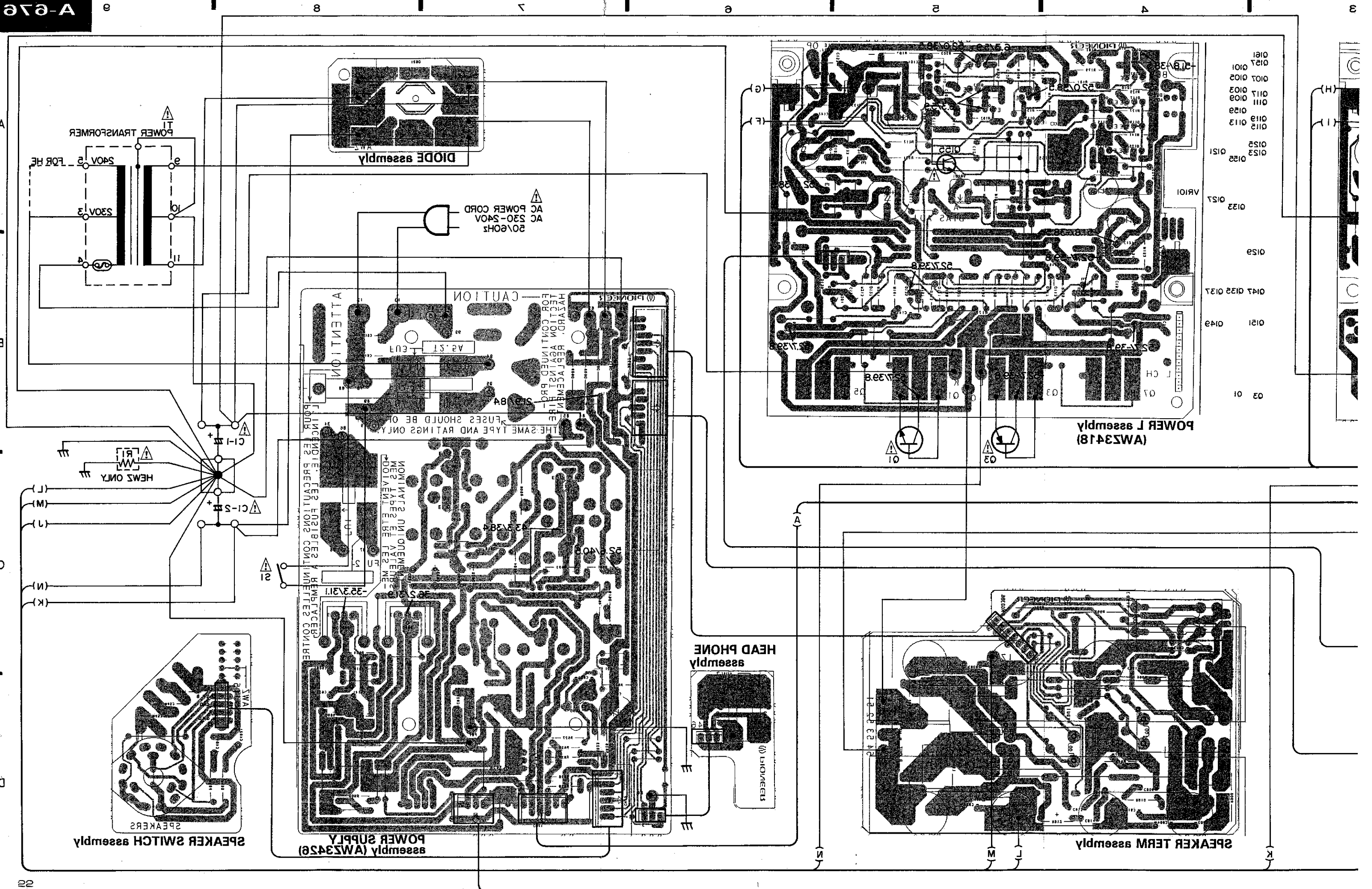


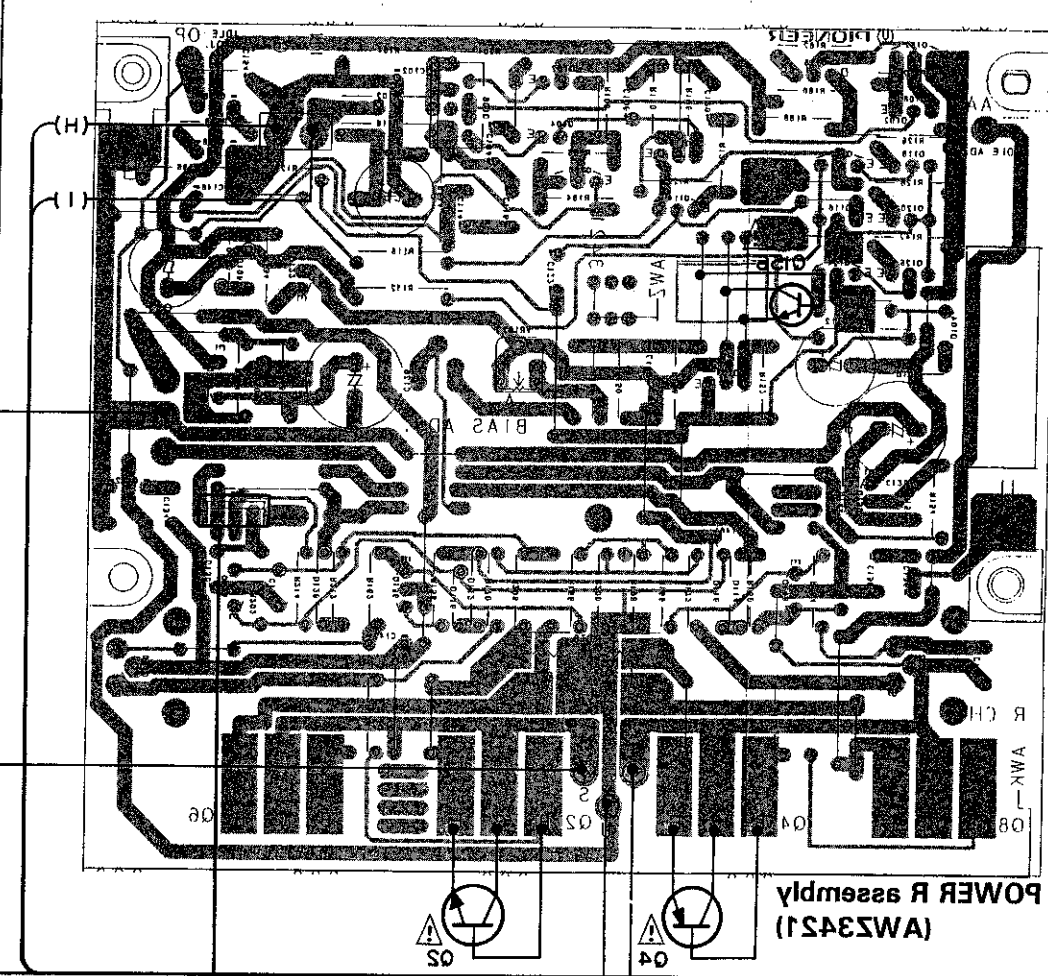
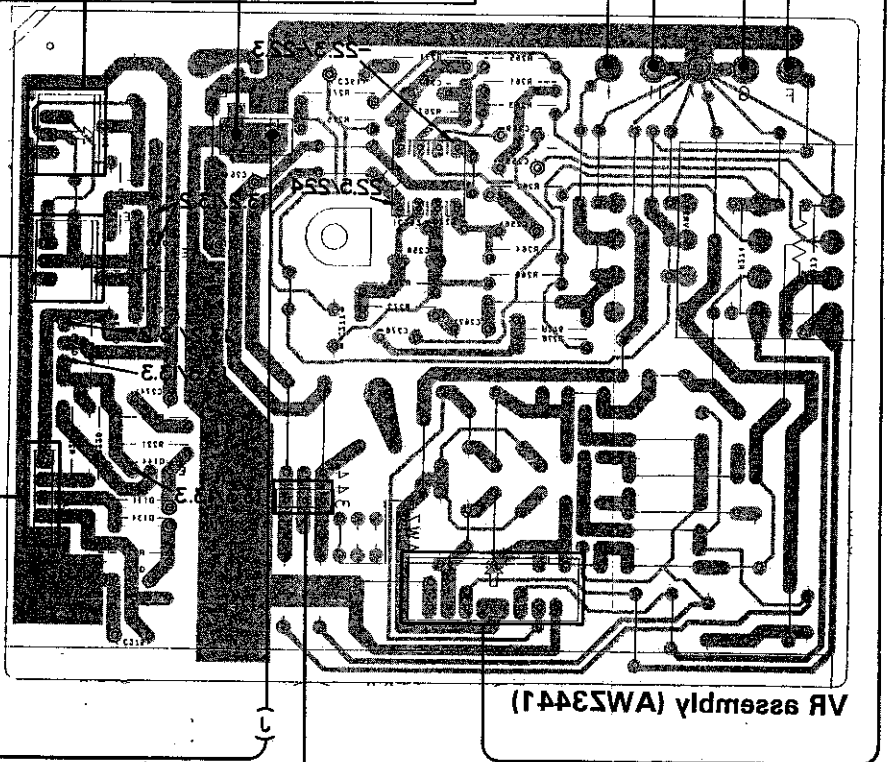
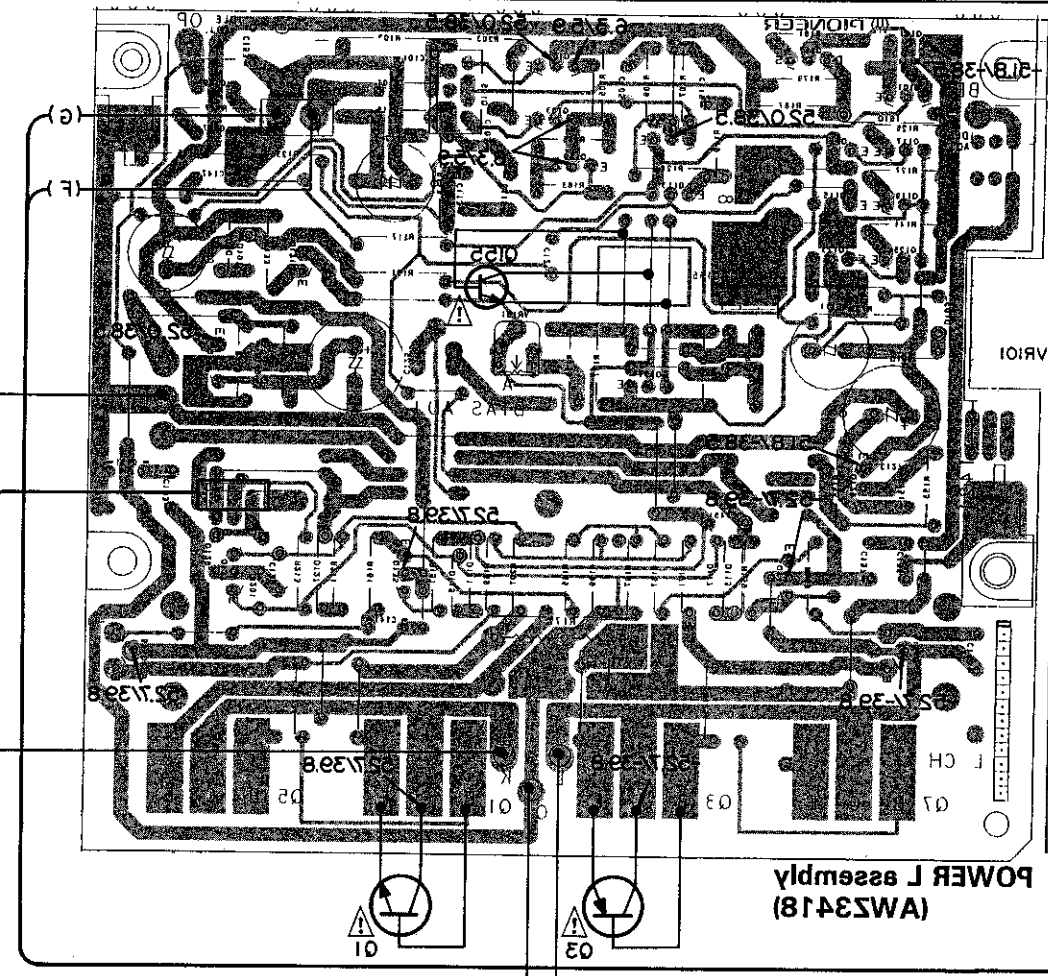
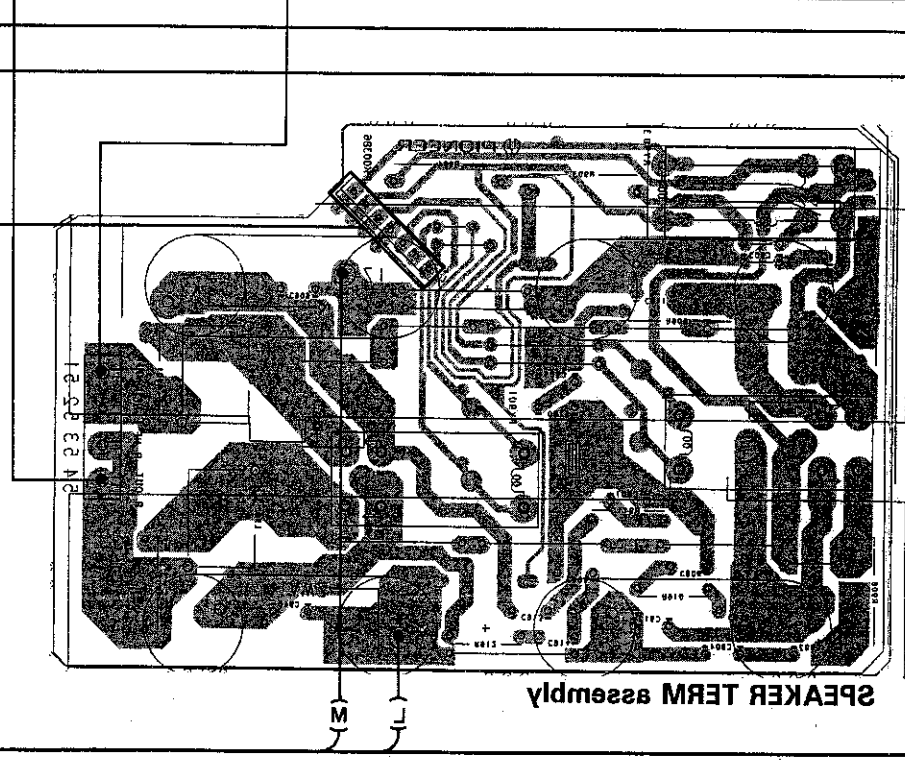
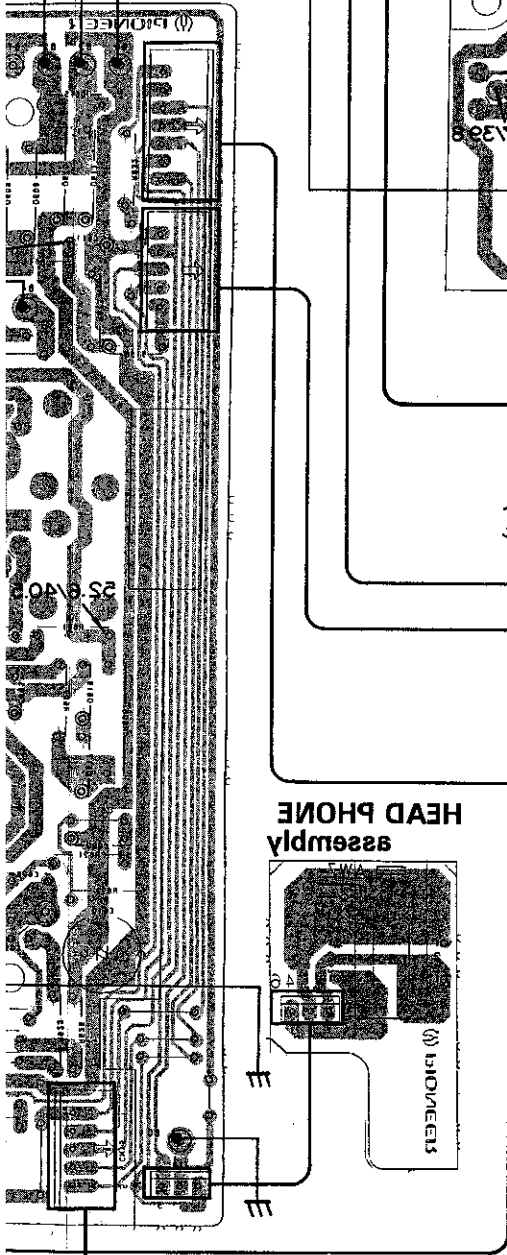
SPEAKER SWITCH assembly

HEAD PHONE assembly



SPEAKER TERM assembly





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Q100

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A B C D

A B C D

4. PCB's 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 Δ 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%).

560 Ω	56 $\times 10^1$	561.....	RD1/4PS	5	6	1	J
47k Ω	47 $\times 10^3$	473.....	RD1/4PS	4	7	3	J
0.5 Ω	0R5.....		RN2H	0	5		K
1 Ω	010.....		RS1P	0	1	0	K

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

5.62k Ω	562 $\times 10^1$	5621.....	RN1/4SR	5	6	2	1	F
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Mark No.	Description	Parts No.	Mark No.	Description	Parts No.
⊙ TONE AMP ASSEMBLY (AWZ3445)			RESISTORS		
SEMICONDUCTORS			VR301	VARIABLE RESISTOR	ACT1053
IC301	OP-AMP-IC	M5220P	VR302, 303	VARIABLE RESISTOR	ACT1054
Q307, 308	TRANSISTOR	2SC1845	Other resistors		RD1/4PM□□□J
D301	LED (RED)	AEL1004	SPEAKER SWITCH ASSEMBLY		
D302	LED	AEL1084	SWITCH		
D305, 306	LED (RED)	AEL1004	S401	SWITCH	ASD1003
SWITCHES			CAPACITORS		
S301, 302	PUSH SWITCH	ASG1019	C401, 402	ELECTR.CAPACITOR	CEAS3R3M50
CAPACITORS			RESISTORS		
C301, 302	ELECTR.CAPACITOR	CEAS2R2M50	All resistors		RD1/4PM□□□J
C303, 304	CERAMIC CAPACITOR	CCCSL470J50	INPUT SELECTOR ASSEMBLY		
C305, 306	ELECTR.CAPACITOR	CEAS2R2M50	SWITCH		
C309, 310	AUDIO FILM CAPACITOR	CFTXA153J50	S701, 702	SWITCH	ASU1016
C311, 312	AUDIO FILM CAPACITOR	CFTXA823J50	S703	PUSH SWITCH	ASG1032
C313, 314	MYLOR FILM CAPACITOR	CQMA332K50	CAPACITORS		
C315, 316	AUDIO FILM CAPACITOR	CFTXA183J50	C701-704	CERAMIC CAPACITOR	CKDYB331K50
C317, 318	ELECTR.CAPACITOR	CEAS2R2M50	C705, 706	CERAMIC CAPACITOR	CKCYB331K500
C321, 322	CERAMIC CAPACITOR	CCCSL390J50	C707-710	CERAMIC CAPACITOR	CKDYB331K50
C327, 328	AUDIO FILM CAPACITOR	CFTXA823J50	C711, 712	CERAMIC CAPACITOR	CKDYB391K50
C329, 330	AUDIO FILM CAPACITOR	CFTXA104J50	RESISTORS		
C331, 332	ELECTR.CAPACITOR	CEAS470M25	All resistors		RD1/4PM221J
C333, 334	ELECTR.CAPACITOR	CEAS331M25	OTHERS		
C339, 340	ELECTR.CAPACITOR	CEAS100M25	PIN JACK (4P)		AKB1007
C351, 352	CERAMIC CAPACITOR	CCDSL680J50	PIN JACK (6P)		AKB1008
			CN6	CONNECTOR (15P)	KPE15

Mark No.	Description	Parts No.
REC OUT ASSEMBLY		
CAPACITORS		
C803-810	CERAMIC CAPACITOR	CKDYB331K50
RESISTORS		
R807, 808	CARBON FILM RESISTOR	RD1/8PM182J
R809, 810	CARBON FILM RESISTOR	RD1/8PM221J
	Other resistors	RD1/4PM□□□J
OTHERS		
CN3	PIN JACK (4P) CONNECTOR (15P)	AKB1009 KPE15

© POWER L ASSEMBLY (AWZ3418)

Mark No.	Description	Parts No.
SEMICONDUCTORS		
Q101, 103	TRANSISTOR	2SC1845
Q105	N-DUAL-FET	2SK389NK
Q107, 109	TRANSISTOR	2SC1845
Q111	TRANSISTOR	2SC1845
Q113, 115	TRANSISTOR	2SA992
Q117, 119	TRANSISTOR	2SC1845
Q121	TRANSISTOR	2SA1145
Q123	TRANSISTOR	2SC2705
Q125, 127	TRANSISTOR	2SC1845
Q129	TRANSISTOR	2SA992
Q133	TRANSISTOR	2SC2603
Q135	TRANSISTOR	2SC2705
Q137	TRANSISTOR	2SC1845
Q147	TRANSISTOR	2SA1145
Q149	TRANSISTOR	2SC3298
Q151	TRANSISTOR	2SA1306
Q157	N-FET	2SK246
Q159, 161	TRANSISTOR	2SC1845
D101	ZENER DIODE	RD24ESB
D103	DIODE	1SS252
D105	LED (RED)	AEL-437
D107	DIODE	1SS252
D109	LED (RED)	AEL-437
D111, 113	ZENER DIODE	RD13ESB3
D115, 117	DIODE	1SS252
D127, 129	DIODE	1SS252
CAPACITORS		
C101	CERAMIC CAPACITOR	CCCSL101K500
C103	CERAMIC CAPACITOR	CCCSL101J50
C105	CERAMIC CAPACITOR	CKCYB222K500
C107, 109	CERAMIC CAPACITOR	CKCYB331K50
C111	ELECTR. CAPACITOR	CEAS221M25

Mark No.	Description	Parts No.
C113, 115	CERAMIC CAPACITOR	CCCSL680K500
C117	ELECTR. CAPACITOR (220/50)	ACH1058
C119	AUDIO FILM CAPACITOR	CFTXA103J50
C121	CERAMIC CAPACITOR	CCCSL150K500
C123	ELECTR. CAPACITOR	CEAS221M25
C125, 127	ELECTR. CAPACITOR	CEAS101M63
C129	ELECTR. CAPACITOR	CEAS4R7M50
C131, 133	CERAMIC CAPACITOR	CKDYF223Z50
C135, 137	CERAMIC CAPACITOR	CKDYF223Z50
C139	CERAMIC CAPACITOR	CKCYB471K50
C141, 143	CERAMIC CAPACITOR	CCCSL680K500
C145	ELECTR. CAPACITOR	CEAS100M50
C147	AUDIO FILM CAPACITOR	CFTXA103J50
C149, 151	CERAMIC CAPACITOR	CCCSL221J50
C153	MYLOR FILM CAPACITOR	CQMA223K250

Mark No.	Description	Parts No.
RESISTORS		
VR101	VR	VRTM6H503
R101	CARBON FILM RESISTOR	RDR1/4PM221J
R103	CARBON FILM RESISTOR	RDR1/4PM224J
R113	CARBON FILM RESISTOR	RDR1/4PM223J
R115	CARBON FILM RESISTOR	RDR1/4PM681J
△ R121	FUSIBLE RESISTOR	RFA1/4PS271J
R123	CARBON FILM RESISTOR	RDR1/4PM224J
△ R125, 127	FUSIBLE RESISTOR	RFA1/4PS331J
R129, 131	CARBON FILM RESISTOR	RD1/2PM223J
△ R133	FUSIBLE RESISTOR	RFA1/4PS271J
△ R139	FUSIBLE RESISTOR	RFA1/4PS470J
△ R141	FUSIBLE RESISTOR	RFA1/4PS101J
△ R143	FUSIBLE RESISTOR	RFA1/4PS4R7J
△ R145	FUSIBLE RESISTOR	RFA1/4PS821J
△ R153	FUSIBLE RESISTOR	RFA1/4PS4R7J
△ R155	FUSIBLE RESISTOR	RFA1/4PS821J
△ R157, 159	FUSIBLE RESISTOR	RFA1/4PS101J
△ R161, 163	FUSIBLE RESISTOR	RFA1/4PS101J
△ R165, 167	FUSIBLE RESISTOR	RFA1/4PS271J
△ R169, 171	FUSIBLE RESISTOR	RFA1/4PS470J
△ R173, 175	FUSIBLE RESISTOR	RFA1/4PS4R7J
△ R177	RESISTOR (0.33, 5W)	ACN1075
△ R197	FUSIBLE RESISTOR	RFA1/4PS561J
△ R199	FUSIBLE RESISTOR	RFA1/4PS101J
R201	CARBON FILM RESISTOR	RD1/8PM821J
	Other resistors	RD1/4PM□□□J

Mark No.	Description	Parts No.	Mark No.	Description	Parts No.
◎ POWER R ASSEMBLY (AWZ3421)					
SEMICONDUCTORS					
Q102, 104	TRANSISTOR	2SC1845	C150, 152	CERAMIC CAPACITOR	CCCSL221J50
Q106	N-DUAL-FET	2SK389NK	C154	MYLOR FILM CAPACITOR	CQMA223K250
Q108, 110	TRANSISTOR	2SC1845	RESISTORS		
Q112	TRANSISTOR	2SC1845	VR102	VR	VRTM6H503
Q114, 116	TRANSISTOR	2SA992	R102	CARBON FILM RESISTOR	RDR1/4PM221J
Q118, 120	TRANSISTOR	2SC1845	R104	CARBON FILM RESISTOR	RDR1/4PM224J
Q122	TRANSISTOR	2SA1145	R114	CARBON FILM RESISTOR	RDR1/4PM223J
Q124	TRANSISTOR	2SC2705	R116	CARBON FILM RESISTOR	RDR1/4PM681J
Q126, 128	TRANSISTOR	2SC1845	△ R122	FUSIBLE RESISTOR	RFA1/4PS271J
Q130	TRANSISTOR	2SA992	R124	CARBON FILM RESISTOR	RDR1/4PM224J
Q134	TRANSISTOR	2SC2603	△ R126, 128	FUSIBLE RESISTOR	RFA1/4PS331J
Q136	TRANSISTOR	2SC2705	R130, 132	CARBONFILM RESISTOR	RD1/2PM223J
Q138	TRANSISTOR	2SC1845	△ R134	FUSIBLE RESISTOR	RFA1/4PS271J
Q148	TRANSISTOR	2SA1145	△ R140	FUSIBLE RESISTOR	RFA1/4PS470J
Q150	TRANSISTOR	2SC3298	△ R142	FUSIBLE RESISTOR	RFA1/4PS101J
Q152	TRANSISTOR	2SA1306	△ R144	FUSIBLE RESISTOR	RFA1/4PS4R7J
Q158	N-FET	2SK246	△ R146	FUSIBLE RESISTOR	RFA1/4PS821J
Q160, 162	TRANSISTOR	2SC1845	△ R154	FUSIBLE RESISTOR	RFA1/4PS4R7J
D102	ZENER DIODE	RD24ESB	△ R156	FUSIBLE RESISTOR	RFA1/4PS821J
D104	DIODE	1SS252	△ R158, 160	FUSIBLE RESISTOR	RFA1/4PS101J
D106	LED (RED)	AEL-437-O	△ R162, 164	FUSIBLE RESISTOR	RFA1/4PS101J
D108	DIODE	1SS252	△ R166, 168	FUSIBLE RESISTOR	RFA1/4PS271J
D110	LED (RED)	AEL-437-O	△ R170, 172	FUSIBLE RESISTOR	RFA1/4PS470J
D112, 114	ZENER DIODE	RD13ESB3	△ R174, 176	FUSIBLE RESISTOR	RFA1/4PS4R7J
D116, 118	DIODE	1SS252	△ R178	RESISTOR (0.33, 5W)	ACN1075
D128, 130	DIODE	1SS252	△ R198	FUSIBLE RESISTOR	RFA1/4PS561J
CAPACITORS			△ R200	FUSIBLE RESISTOR	RFA1/4PS101J
C102	CERAMIC CAPACITOR	CCCSL101K500	△ R202	CARBONFILM RESISTOR	RD1/8PM821J
C104	CERAMIC CAPACITOR	CCCSL101J50	Other resistors RDR1/4PM□□□J		
C106	CERAMIC CAPACITOR	CKCYB222K500	◎ POWER SUPPLY ASSEMBLY (AWZ3426)		
C108, 110	CERAMIC CAPACITOR	CKCYB331K50	SEMICONDUCTORS		
C112	ELECTR.CAPACITOR	CEAS221M25	Q603	TRANSISTOR	2SB1274
C114, 116	CERAMIC CAPACITOR	CCCSL680K500	Q605	TRANSISTOR	2SD1913
C118	ELECTR. CAPACITOR (220/50)	ACH1058	Q606	TRANSISTOR	2SB1274
C120	AUDIO FILM CAPACITOR	CFTXA103J50	Q607	TRANSISTOR	2SD1913
C122	CERAMIC CAPACITOR	CCCSL150K500	Q608	TRANSISTOR	2SB1274
C124	ELECTR.CAPACITOR	CEAS221M25	Q609	TRANSISTOR	2SC1845
C126, 128	ELECTR.CAPACITOR	CEAS101M63	Q610	TRANSISTOR	2SA992
C130	ELECTR.CAPACITOR	CEAS4R7M50	Q611	TRANSISTOR	2SD1913
C132, 134	CERAMIC CAPACITOR	CKDYF223Z50			
C136, 138	CERAMIC CAPACITOR	CKDYF223Z50			
C140	CERAMIC CAPACITOR	CKCYB471K50			
C142, 144	CERAMIC CAPACITOR	CCCSL680K500			
C146	ELECTR.CAPACITOR	CEAS100M50			
C148	AUDIO FILM CAPACITOR	CFTXA103J50			

Mark No.	Description	Parts No.
D605, 606	ZENER DIODE	RD24ESB1
D607	ZENER DIODE	RD18ESB
D608-611	DIODE	S5566
D616	DIODE	1SS252
D617-620	ZENER DIODE	RD22ESB3

CAPACITORS

C605, 606	ELECTR.CAPACITOR	CEAS101M50
C607, 608	ELECTR.CAPACITOR	CEAS010M50
C609	CERAMIC CAPACITOR	CKCYB471K50
C610	ELECTR.CAPACITOR	CEAS101M63
C611	ELECTR.CAPACITOR	CEAS3R3M50
△ C613, 614	ELECTR.CAPACITOR	CEAS470M50
△ C615	POLYESTER CAPACITOR	CQMXA104J100
△ C617, 618	CKA (0.01/AC400V)	ACG1003
C619, 620	ELECTR.CAPACITOR	CEAS100M50
C623, 624	ELECTR.CAPACITOR	CEAS100M50
C625	CERAMIC CAPACITOR	CKCYX473M25

RESISTORS

△ R601,602	FUSIBLE RESISTOR	RFA1/4PS4R7J
△ R605, 606	METAL OXIDE RESISTOR	RS2LMF272J
△ R609, 610	FUSIBLE RESISTOR	RFA1/4PS680J
R613	CARBON FILM RESISTOR	RD1/2PM332J
R614	CARBON FILM RESISTOR	RD1/2PM222J
R622	CARBON FILM RESISTOR	RD1/2PM103J
	Other resistors	RD1/4PM□□□J

OTHERS

CN11	CONNECTOR (4P)	KPC4
CN16	CONNECTOR (7P)	KPC7

SPEAKER TERM. ASSEMBLY

RELAIIES

RY901, 902	RELAY	ASR-112
RY903	RELAY	ASR1005

COILS

L901, 902	COIL	ATH1021
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Mark No.	Description	Parts No.
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CAPACITORS

C901-904	AUDIO FILM CAPACITOR	CFTXA104J50
C905-908	AUDIO FILM CAPACITOR	CFTXA223J50
C909-912	POLYESTER CAPACITOR	CQMXA472J100
C913-916	AUDIO FILM CAPACITOR	CFTXA223J50

RESISTORS

△ R901, 902	METAL OXIDE RESISTOR	RS1LMF101J
△ R903, 904	METAL OXIDE RESISTOR	RS2LMF331J
△ R907, 908	METAL OXIDE RESISTOR	RS2LMF100J
R909-912	CARBON FILM RESISTOR	RD1/4PM100J

OTHERS

SPEAKER TERMINAL AKE1017
4-P

◎ PHONO AMP ASSEMBLY (AWZ3436)

SEMICONDUCTORS

IC501, 502	OP-AMP-IC	M5220P
Q501-504	N-FET	2SK369
Q509, 510	TRANSISTOR	2SC1845
Q515, 516	TRANSISTOR	2SC1845

SWITCH

S501	SWITCH	ASU1008
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COILS

L501, 502	COIL	ATH1010
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CAPACITORS

C503, 504	AUDIO FILM CAPACITOR	CFTXA103J50
C505, 506	CERAMIC CAPACITOR	CCCSL181K500
C507, 508	CERAMIC CAPACITOR	CKCYB222K500
C509, 510	ELECTR. CAPACITOR	CEXA470M25
C511, 512	ELECTR. CAPACITOR	CEXA221M25
C513, 514	AUDIO FILM CAPACITOR	CFTXA224J50
C515, 516	AUDIO FILM CAPACITOR	CFTXA333J50
C517, 518	AUDIO FILM CAPACITOR	CFTXA224J50
C519, 520	AUDIO FILM CAPACITOR	CFTXA563J50

Mark No.	Description	Parts No.	Mark No.	Description	Parts No.
C521, 522	ELECTR. CAPACITOR	CEXA220M25	CAPACITORS		
C523, 524	CERAMIC CAPACITOR	CCDSL390J50	C255, 256	ELECTR. CAPACITOR	CEXA4R7M50
C525, 526	ELECTR. CAPACITOR	CEXA471M25	C257, 258	CERAMIC CAPACITOR	CKCYB561K500
C531, 532	CERAMIC CAPACITOR	CCCSL271J50	C261, 262	ELECTR. CAPACITOR	CEXA101M25
C533, 534	CERAMIC CAPACITOR	CKCYB681K50	C263, 264	ELECTR. CAPACITOR	CEAS101M25
C535, 536	CERAMIC CAPACITOR	CCCSL221K500	C269, 270	CERAMIC CAPACITOR	CCCSL470J50
C537, 538	CERAMIC CAPACITOR	CKCYF103Z50	C271	ELECTR. CAPACITOR	CEAS471M6
C539	CERAMIC CAPACITOR	CKDYF103Z50	C273	CERAMIC CAPACITOR	CKDYF103Z50
RESISTORS			C274	ELECTR. CAPACITOR	CEAS101M16
R505, 506	CARBON FILM RESISTOR	RD1/8PM272J	C275	ELECTR. CAPACITOR	CEAS010M100
R527, 528	CARBON FILM RESISTOR	RDR1/4PM6R8F	C276	CERAMIC CAPACITOR	CCCSL181J50
R529, 530	CARBON FILM RESISTOR	RDR1/4PM820F	RESISTORS		
R533, 534	CARBON FILM RESISTOR	RDR1/4PM153F	VR251	VARIABLE RESISTOR	ACW1007
R537, 538	CARBON FILM RESISTOR	RDR1/4PM152F	R215	CARBON FILM RESISTOR	RD1/8PM222J
R541, 542	CARBON FILM RESISTOR	RDR1/4PM222F	R217	FUSIBLE RESISTOR	RFA1/4PS221J
R568	CARBON FILM RESISTOR	RD1/8PM010J	R221	CARBON FILM RESISTOR	RD1/8PM223J
R569	CARBON FILM RESISTOR	RD1/8PM2R2J	R222	CARBON FILM RESISTOR	RD1/8PM222J
	Other resistors	RD1/4PM□□□J	R231	CARBON FILM RESISTOR	RD1/8PM153J
OTHERS			R261, 262	CARBON FILM RESISTOR	RDR1/4PM101J
	PIN JACK (1P)	AKB1025	R265, 266	CARBON FILM RESISTOR	RDR1/4PM331J
	PIN JACK (1P)	AKB1026	R267, 268	CARBON FILM RESISTOR	RDR1/4PM122J
© VR ASSEMBLY (AWZ3441)			R271, 272	CARBON FILM RESISTOR	RDR1/4PM101J
SEMICONDUCTORS				Other resistors	RD1/4PM□□□J
IC252	OP-AMP-IC	M5220P	OTHERS		
Q139, 141	TRANSISTOR	2SC2458	CN8	JUMPER CONNECTOR	KPC8
Q143	TRANSISTOR	2SA1115	HEAD PHONE ASSEMBLY		
Q144	TRANSISTOR	2SC2458	CAPACITORS		
Q145	TRANSISTOR	2SC1815	C951, 952	CERAMIC CAPACITOR	CKCYB392K50
D131	ZENER DIODE	RD12ESB	OTHERS		
D134	DIODE	1SS252		JACK (HEAD PHONE)	AKN1002
DIODE ASSEMBLY			SEMICONDUCTOR		
			D621	DIODE	RB602(E)

A-676/HB, SD, HEWZ A-676-S/HEWZ

5. FOR HB, SD, HEWZ AND A-676-S/HEWZ TYPES

NOTES:

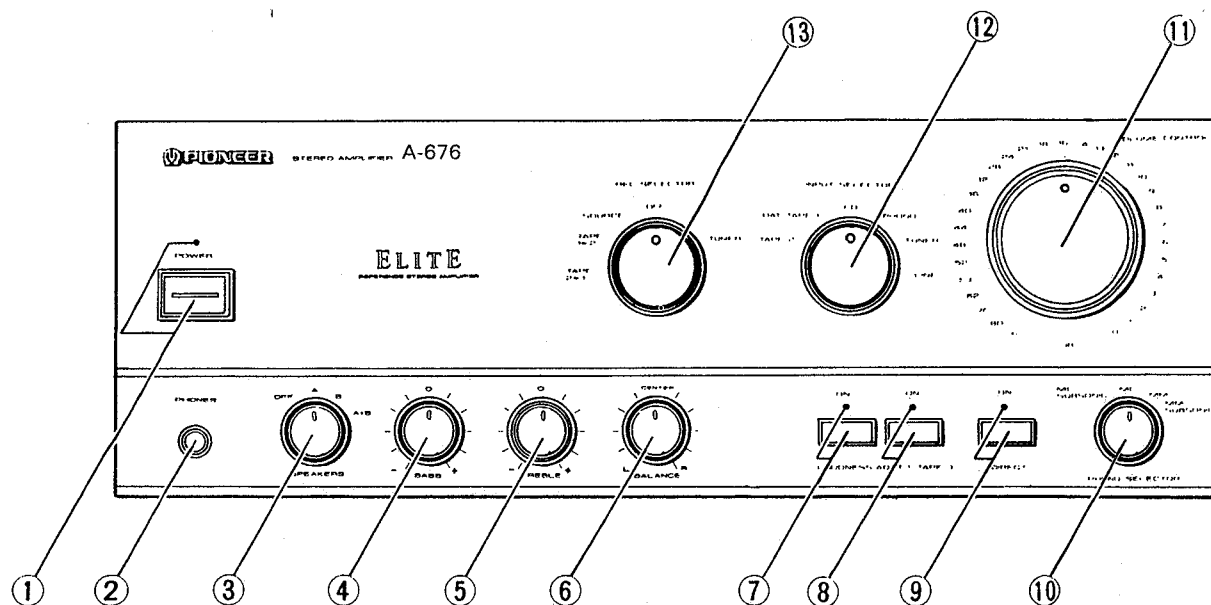
- Parts without part number cannot be supplied.
- The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by "⊙" are not always kept in stock. Their delivery time may be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

CONTRAST OF MISCELLANEOUS PARTS

The A-676/HB, SD, HEWZ and A-676-S/HEWZ types are the same as the A-676/HE type with the exception of the following sections.

Mark	Symbol & Description	Part No.					Remarks
		A-676/ HE type	A-676/ HB type	A-676/ SD type	A-676/ HEWZ type	A-676-S/ HEWZ type	
Δ	S Line voltage selector switch	.....	.....	AKX-507	.....	.....
Δ	T1 Power transformer	ATS1352	ATS1352	ATS1351	ATS1352	ATS1352	
	R1 Carbon film resistor	.....	.....	.....	RD1/4PMF100J	RD1/4PMF100J	
Δ	FU3 Fuse (T2.5A/250V)	AEK-512	AEK-512	.....	AEK-512	AEK-512	
Δ	FU3 Fuse (3.15A/125V)	.....	.....	AEK-124	.....	.....
Δ	FU4 Fuse (3.15A/125V)	.....	.....	AEK-124	.....	.....
Δ	AC Power cord	ADG1049	ADG1087	ADG1051	ADG1049	ADG1049	
Δ	AC socket (OUTLET, 3P)	.....	.....	AKP-515	.....	.....
	Rotary knob L	AAB1222	AAB1222	AAB1222	AAB1222	AAB1225	
	Rotary knob M	AAB1223	AAB1223	AAB1223	AAB1223	AAB1226	
	Rotary knob S	AAB1224	AAB1224	AAB1224	AAB1224	AAB1240	
	Push knob	AAD1536	AAD1536	AAD1536	AAD1536	AAD1538	
	Direct knob	AAD1560	AAD1560	AAD1560	AAD1560	AAD1562	
	Power knob	AAD2010	AAD2010	AAD2010	AAD2010	AAD2041	
	Panel base	AMB1799	AMB1799	AMB1799	AMB1799	AMB1800	
	Front panel	ANB1455	ANB1455	ANB1455	ANB1455	ANB1456	
	Bonnet case	AZN1804	AZN1804	AZN1804	AZN1804	ANE1305	
	Screw	FBT40P080FZK	FBT40P080FZK	FBT40P080FZK	FBT40P080FZK	FBT40P080FCR	
	Packing case	AHD2069	AHD2069	AHD2069	AHD2069	AHD2070	
	Operating instructions (English, French, German, Italian, Dutch, Swedish, Spanish, Portuguese)	ARE1194	.....	.....	.....	.....
	Operating instructions (English, Spanish)	.....	ARE1204	ARE1204	.....	.....
	Operating instructions (German)	.....	.....	.....	ARC1268	ARC1268	

6. PANEL FACILITIES



① POWER switch/indicator

Press to turn power to the unit ON and OFF.
When the power is ON, the indicator lights.

② PHONES jack

When using headphones, insert the plug into this jack.

③ SPEAKERS selector switch

Use this switch to listen to the speaker systems connected to SPEAKERS terminals.

OFF:

Released position: No sound is heard from the speaker systems. Set to this position when listening with headphones.

A:

For reproduction of sound with the speaker system connected to the SPEAKERS A terminals.

B:

For reproduction of sound with the speaker system connected to the SPEAKERS B terminals.

A + B:

For reproduction of sound with the speaker systems connected to SPEAKERS A and B terminals.

④ BASS tone control

Use to adjust the low-frequency tone at low volume level. The center position is the flat (normal) position. When turned to the right, low-frequency tones are emphasized; when turned to the left, low-frequency tones are de-emphasized.

NOTE:

- This function does not operate when the DIRECT button is in the ON position.
- At volume levels lower than "32," the set tone control effect is obtained.
- At volume levels higher than "32," the effect becomes increasingly weaker.

⑤ TREBLE tone control

Use to adjust the high-frequency tone at low volume level. The center position is the flat (normal) position. When turned to the right, high-frequency tones are emphasized; when turned to the left, high-frequency tones are de-emphasized.

NOTE:

- This function does not operate when the DIRECT button is in the ON position.
- At volume levels lower than "32," the set tone control effect is obtained.
- At volume levels higher than "32," the effect becomes increasingly weaker.

⑥ BALANCE control

Should normally be left in the center position. Adjust balance if the sound is louder from one of the speakers. If the right side is louder, turn toward the LEFT position and if the left side is louder, turn toward the RIGHT position.

NOTE:

This function does not operate when the DIRECT button is in the ON position.

⑦ LOUDNESS button/indicator

Use when listening at low volume levels.

ON:

The indicator lights: Boosts low and high frequencies to give added punch to playback at low volume.

OFF:

The indicator goes off: Should normally be left in this position.

NOTE:

This button does not operate when the DIRECT button is in the ON position.

⑧ ADPT /TAPE 3 button/indicator

Use this button to listen to tape playback, or to monitor a tape recording.

ON:

The indicator lights: Press when listening to the playback sound of the cassette deck or the adaptor connected to the ADPT /TAPE 3 IN/PLAY jacks, or to monitor the sound being recorded on the cassette deck connected to the ADPT /TAPE 3 OUT/REC jacks.

OFF:

The indicator goes off: Normally leave the button in this position.

NOTE:

When the DIRECT button is set to ON, this function does not operate and no signal is output at the ADPT /TAPE 3 OUT/REC jacks.

⑨ DIRECT button/indicator

Use this button when you wish to bypass the various frequency adjusting circuits and adaptor jacks (ADPT /TAPE 3, ADPT 2, BASS, TREBLE, BALANCE, LOUDNESS).

ON:

When this button is in this position, the indicator lights and the signals input from the input jacks are reproduced without passing through the various frequency-adjusting circuits. This results in flat, pure sound which is a more faithful reproduction of the input source.

OFF:

When the button is in this position the indicator goes out and the signal passes through the various frequency adjusting circuits.

⑩ PHONO SELECTOR switch

Set in accordance with the type of cartridge used in your turntable.

MM:

Set to this position when using a moving magnet cartridge, or a MC (moving coil) cartridge with high output of 1 mV or more.

MC:

Set to this position when using a moving coil cartridge.

MM SUBSONIC/MC SUBSONIC:

Subsonic filter for moving coil or moving magnet cartridges to cut ultralow frequency noise less than 17 Hz generated when playing a warped record.

When using a high-output moving coil cartridge, set this switch to MM or MM SUBSONIC.

⑪ VOLUME CONTROL

Use to adjust volume level.

NOTE:

This unit is equipped with a circuit that attenuates the effect of tone and loudness controls as volume is turned up.

⑫ INPUT SELECTOR switch

Use to select playback source.

LINE:

Set to this position when listening to the programs from a component connected to the LINE jacks.

TUNER:

Set to this position when listening to AM or FM broadcasts with a tuner.

PHONO:

Set to this position when listening to record playback on a turntable.

CD:

Set to this position when listening to a compact disc playback with a CD player.

DAT/TAPE 1:

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

TAPE 2:

For playback with a cassette deck connected to the TAPE 2 jacks.

⑬ REC SELECTOR switch

Switch to select recording signal. When set at other positions than SOURCE or OFF, signals can be recorded during playback of the equipment selected by INPUT SELECTOR switch.

TUNER:

To record from a TUNER.

CD:

To record from a CD player.

OFF:

In this position nothing from the REC jacks of DAT/TAPE 1 and TAPE 2 will be output. Select it when not recording; output to cassette decks will be disconnected, improving sound quality.

SOURCE:

To record the equipment selected by INPUT SELECTOR switch.

TAPE:**1 ► 2**

To record (copy) from the cassette deck of DAT/TAPE 1 jacks, over to the cassette deck of TAPE 2 jacks.

2 ► 1

To record (copy) from the cassette deck of TAPE 2 jacks, over to the cassette deck of DAT/TAPE 1 jacks.

NOTE:

The REC SELECTOR switch has no effect on the recording output of the ADPT /TAPE 3 jacks.

7. SPECIFICATIONS

[A-676]

Continuous power output (both channels driven at 20 Hz to 20 kHz)**	
U.K. model	
T.H.D. 0.007%, 8 Ω	70 W + 70 W*
T.H.D. 0.009%, 4 Ω	95 W + 95 W*
Multi-voltage model	
T.H.D. 0.007 %, 8 Ω	80 W + 80 W*
T.H.D. 0.009 %, 4 Ω	100 W + 100 W*
DIN Continuous power output (both channels driven at 1 kHz)	
T.H.D. 1.0 %, 8 Ω	80 W + 80 W
T.H.D. 1.0 %, 4 Ω	120 W + 120 W
Power bandwidth	
0.05 %, 8 Ω	5 Hz — 80 kHz*
Damping factor	
(1 kHz/20 Hz to 20 kHz), 8 Ω	150/70
Dynamic power output (on EIA dynamic test signal)	
4 Ω/2 Ω	150 W/200 W
Total harmonic distortion**	
U.K. model	
20 Hz to 20 kHz, 70 W, 8 Ω	0.007 %*
20 Hz to 20 kHz, 95 W, 4 Ω	0.009 %*
Multi-voltage model	
20 Hz to 20 kHz, 80 W, 8 Ω	0.007 %*
20 Hz to 20 kHz, 100 W, 4 Ω	0.009 %*
Inter-modulation distortion (at rated output)	0.007 %*
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)	200 mV/19 mV
Output level/impedance	
TAPE REC, ADAPTOR OUTPUT	150 mV/2.2 kΩ
Frequency response	
PHONO (MM), 20 Hz to 20 kHz	± 0.2 dB
PHONO (MC), 20 Hz to 20 kHz	± 0.3 dB
CD, TUNER, LINE, TAPE, 1 Hz to 150 kHz	± 0.5 dB*
Tone control (volume control set at -40 dB position)	
BASS	± 8 dB (100 Hz)
TREBLE	± 8 dB (10 kHz)
Loudness contour (volume control set at -40 dB position)	
	+ 5 dB (100 Hz)/+ 3 dB (10 kHz)
Filter (SUBSONIC)	17 Hz (12 dB/oct.)
Signal-to-Noise ratio (IHF short circuit, A network)	
PHONO (MM, 5 mV input/MC, 0.5 mV input)	94 dB/76 dB*
CD, TUNER, LINE, TAPE	110 dB*
Signal-to-Noise ratio (DIN, continuous power/50 mW)	
PHONO (MM)	74 dB/65 dB*
CD, TUNER, LINE, TAPE	92 dB/68 dB*

Power Supply/Miscellaneous

Power requirements	
U.K. model	a.c. 240 Volts ~, 50/60 Hz
Multi-voltage models	AC 110/120 — 127/220/240V (switchable), 50/60 Hz
Power consumption	650 W
AC outlets (Multi-voltage models only)	
Switched (x 2)	100 W
Unswitched (x 1)	100 W
Dimensions	420 (W) x 435 (D) x 162 (H) mm 16-9/16 (W) x 17-1/8 (D) x 6-3/8 (H) in
Weight (without package)	12.8 kg (28 lbs 4 oz)

Accessories

Operating instructions	1
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NOTE:

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

* When the DIRECT button to ON.

** Measured by Audio Spectrum Analyzer.

8. ADJUSTMENTS

■ IDLE CURRENT ADJUSTMENT

1. Set the VOLUME CONTROL to minimum.
2. Set the POWER switch to ON.
3. Adjust VR101 (VR102) so that the voltage between OP and BB(AA) becomes $11 \pm \frac{3}{33}$ mV.

NOTE :

After tuning on the power, wait at least 30 minutes before adjustment.

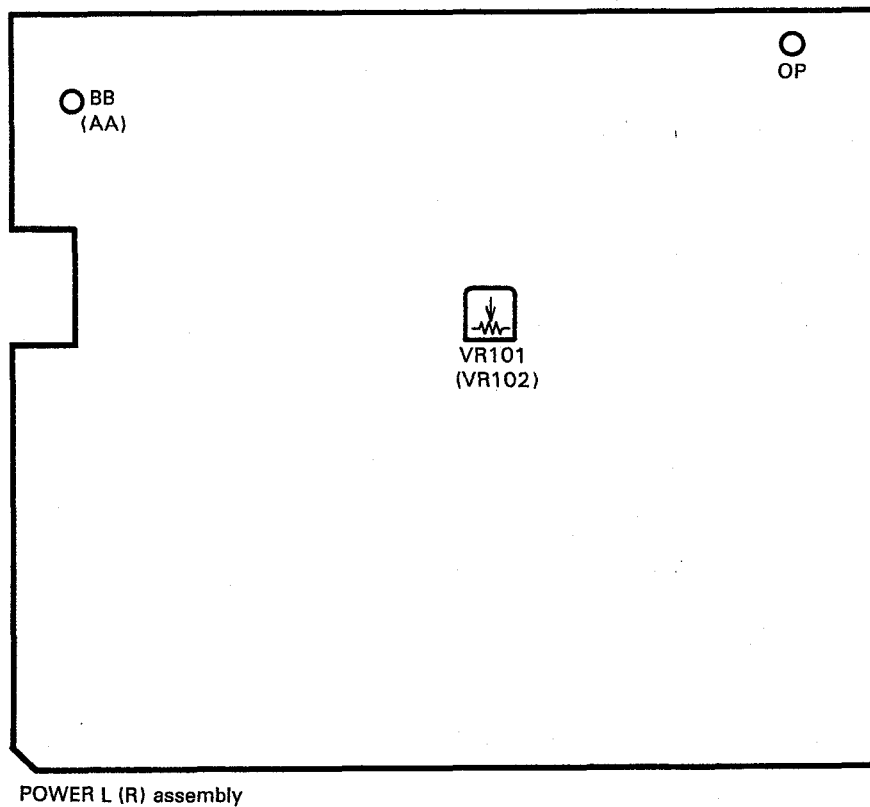


Fig. 1 Adjustment point