

Service Manual

ORDER NO.
ARP2034

STEREO AMPLIFIER

A-656 MARK II

HEWZ, HE, HB

A-656 MARK II-S

HEWZ

- Refer to the service manual ARP1817, A-656/HEZ type.
- This manual is applicable to the A-656 mark II /HEWZ, HE, HB and A-656 mark II -S/HEWZ types.

1. CONTRAST OF MISCELLANEOUS PARTS

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.

The A-656 mark II /HEWZ, HE, HB and A-656 mark II -S/HEWZ types are the same as the A-656/HEZ type with the exception of the following sections.

Mark	Symbol & Description	Part No.					Remarks
		A-656/HEZ type	A-656mark II /HEWZ type	A-656mark II /HE type	A-656mark II /HB type	A-656mark II -S/HEWZtype	
	REC OUT assembly	Non supply	Non supply	Non supply	Non supply	Non supply	
	INPUT SELECTOR assembly	AWZ2351	AWZ2351	AWZ2459	AWZ2459	AWZ2351	
	HEAD PHONE assembly	Non supply	Non supply	Non supply	Non supply	Non supply	
	POWER AMP assembly	AWZ2335	AWZ2335	AWZ2454	AWZ2454	AWZ2335	
	POWER SUPPLY assembly	AWZ2336	AWZ2336	AWZ2455	AWZ2455	AWZ2336	
	SPEAKER TERMINAL assembly	AWZ2337	AWZ2337	AWZ2456	AWZ2456	AWZ2337	
	PHONO AMP assembly	AWZ2338	AWZ2338	AWZ2457	AWZ2457	AWZ2338	
Δ	T1 Power transformer	ATS1210	ATS1287	ATS1287	ATS1287	ATS1287	
Δ	FU1 Fuse (T2.5A/250V)	AEK-403	AEK-403	AEK-403	AEK-512	AEK-403	
	C2 Ceramic capacitor	.....	CKDYB472K50	.....	.....	CKCYB472K50	
	C1 Ceramic capacitor	CKDYB472K50	CKDYB472K50	.....	.....	CKDYB472K50	
	C3	ACH1043	ACH1155	ACH1155	ACH1155	ACH1155	
	R1	RD1/4PM4R7J	RD1/4PM4R7J	.....	.....	RD1/4PM4R7J	
	R2	RD1/4PM220J	RD1/4PM220J	.....	.....	RD1/4PM220J	
Δ	AC Power cord	ADG1049	ADG1049	ADG1049	ADG1062	ADG1049	
	Front panel	ANB1295	ANB1378	ANB1378	ANB1378	ANB1379	
	Panel base	AMB1200	AMB1628	AMB1628	AMB1628	AMB1629	
	Rotary knob L	AAB1107	AAB1126	AAB1126	AAB1126	AAB1160	
	Rotary knob M	AAB1108	AAB1127	AAB1127	AAB1127	AAB1149	
	Rotary knob S	AAB1109	AAB1143	AAB1143	AAB1143	AAB1144	
	Push knob	AAD1536	AAD1536	AAD1536	AAD1536	AAD1538	
	Direct knob	AAD1560	AAD1560	AAD1560	AAD1560	AAD1562	
	Power knob	AAD1561	AAD1561	AAD1561	AAD1561	AAD1563	
	Bonnet case	ANE1075	ANE1075	ANE1075	ANE1075	ANE1076	
	Screw (BONNET)	FBT40P080FZK	FBT40P080FZK	FBT40P080FZK	FBT40P080FZK	FBT40P080FCR	
	Screw (EARTH)	ABA1047	ABA1047	.....	.....	ABA1047	

POWER AMP assembly (AWZ2454)

The POWER AMP assembly (AWZ2454) is the same as the POWER AMP assembly (AWZ2335) with the exception of the following sections.

Mark	Symbol & Description	Part No.		Remarks
		AWZ2335	AWZ2454	
	L101-L104	.....	ATX1012	
	C105,C108	CKCYB122K50	CKCYB152K50	
	C109,C110	CMA080D500	CMA150J500	
	C111,C112	.....	CMA150J500	
	C141,C142	CCCSL121J50	.....
	C155	CCCSL151J50	.....
	C157,C158	CKCYB331K50	.....
	R123,R124	RD1/4PM560J	RD1/4PM101J	
	R245,R246	RD1/4PM100J	.....

POWER SUPPLY assembly (AWZ2455)

The POWER SUPPLY assembly (AWZ2455) is the same as the POWER SUPPLY assembly (AWZ2336) with the exception of the following sections.

Mark	Symbol & Description	Part No.		Remarks
		AWZ2336	AWZ2455	
⚠	C815 C825	CQMXA104J100 CKCYB472K50	ACG1005	

SPEAKER TERMINAL assembly (AWZ2456)

The SPEAKER TERMINAL assembly (AWZ2456) is the same as the SPEAKER TERMINAL assembly (AWZ2337) with the exception of the following sections.

Mark	Symbol & Description	Part No.		Remarks
		AWZ2337	AWZ2456	
	C905-C908 C909,C910	CQMXA472J100 CCDSL101K500	..... .....
	R901,R902 R905,R906 SPEAKER TERMINAL	RS1LMF101J AKE1015	RS1LMF100J RS1PMF681J AKE1017	

Mark	Symbol & Description	Part No.					Remarks
		A-656/ HEZ type	A-656mark II /HEWZ type	A-656mark II /HE type	A-656mark II /HB type	A-656mark II -S/HEWZtype	
	Packing case	AHD1633	AHD1816	AHD1816	AHD1816	AHD1817	
	Operating instructions (German)	ARC1146	ARC1184	.....	.....	ARC1184	
	Operating instructions (English/German/French/Italian/ Swedish/Dutch/Spanish/ Portuguese)	.....	.....	ARE1148	.....	.....
	Operating instructions (English)	.....	.....	.....	ARB1229	.....

REC OUT assembly

The REC OUT assembly (HE,HB types) is the same as the REC OUT assembly (HEZ,HEWZ types) with the exception of the following sections.

Mark	Symbol & Description	Part No.		Remarks
		HEWZ,HEZ types	HE,HB types	
	C803 - C810	CKCYB331K50	.....
	R803 - R806	RD1/4PM182J	RD1/4PM222J	
	R807, R808	RD1/8PM182J	RD1/8PM222J	
	R809, R810	RD1/8PM221J	.....

INPUT SELECTOR assembly (AWZ2459)

The INPUT SELECTOR assembly (AWZ2459) is the same as the INPUT SELECTOR assembly (AWZ2351) with the exception of the following sections.

Mark	Symbol & Description	Part No.		Remarks
		AWZ2351	AWZ2459	
	C701 - C710	CKCYB331K50	.....

HEAD PHONE assembly

The HEAD PHONE assembly (HE,HB types) is the same as the HEAD PHONE assembly (HEZ,HEWZ types) with the exception of the following sections.

Mark	Symbol & Description	Part No.		Remarks
		HEWZ,HEZ types	HE,HB types	
	C951, C952	CKCYB392K50	.....

PHONO AMP assembly (AWZ2457)

The PHONO AMP assembly (AWZ2457) is the same as the PHONO AMP assembly (AWZ2338) with the exception of the following sections.

Mark	Symbol & Description	Part No.		Remarks
		AWZ2338	AWZ2457	
	L501,L502 (270 μ H) L503,L504 (2.2 μ H)	ATH1010 LAU2R2M	..... .....
	C505,C506 C523,C524	CCCSL221J50 CCCSL390J50	CCCSL271J50	
	R505,R506	RD1/8PM272J	.....

Line Voltage Selection

Line voltage can be changed with following steps.

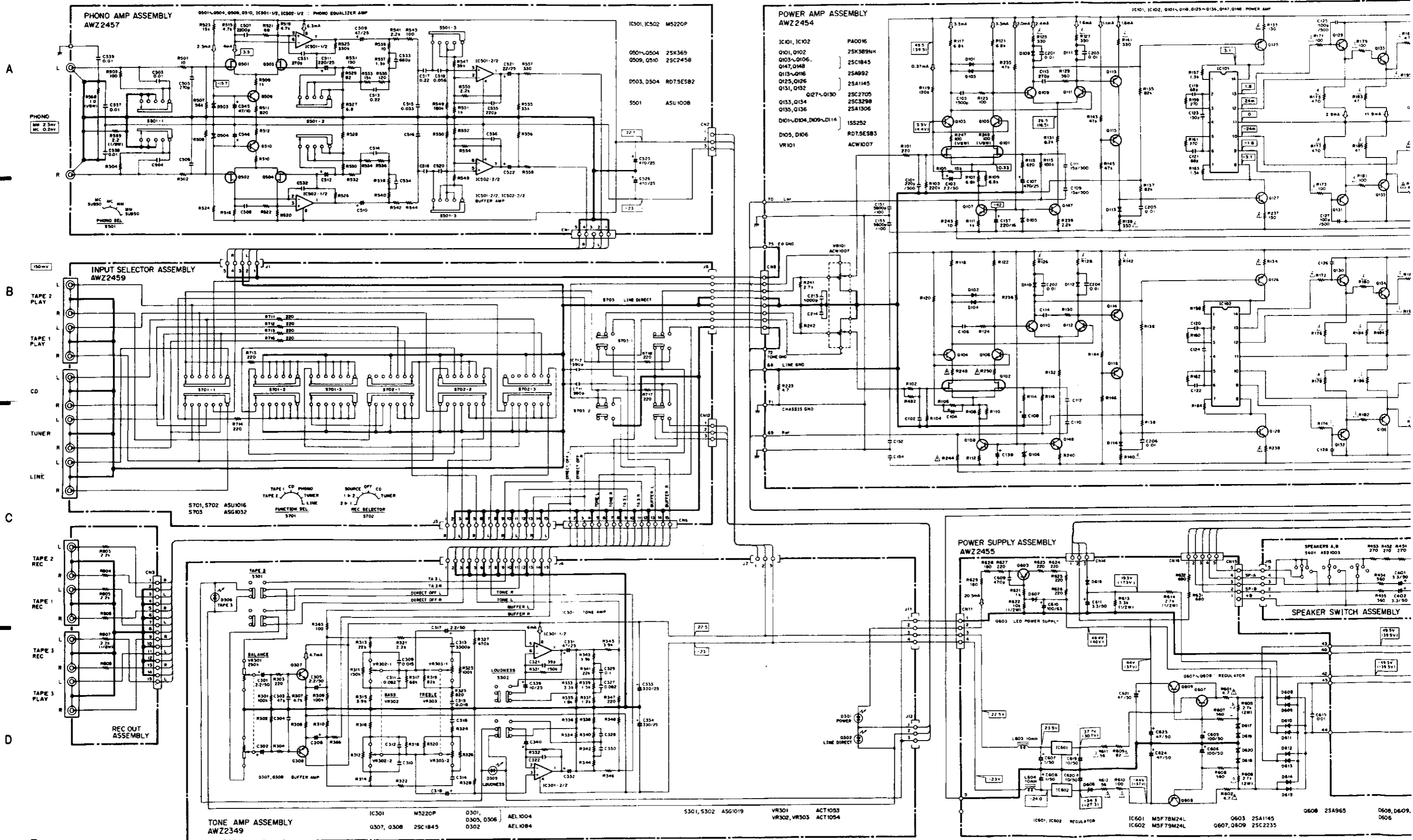
1. Disconnect the AC power cord.
2. Remove the top cover.
3. Change the connection of the power transformer primary pins.

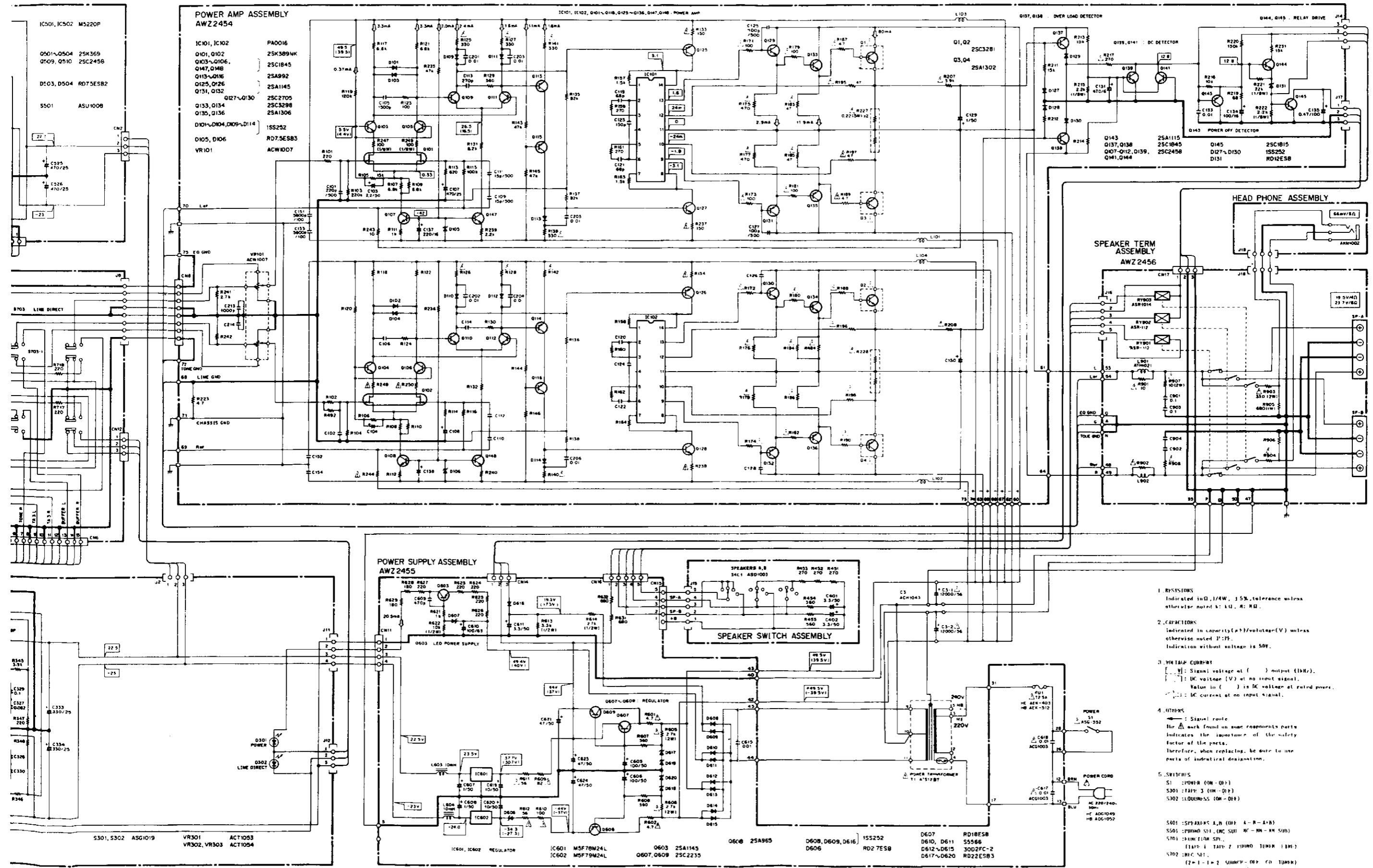
AC voltage	Power transformer Pin No.
220V	3
240V	5

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

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

2. SCHEMATIC AND P.C.BOARDS DIAGRAM





A

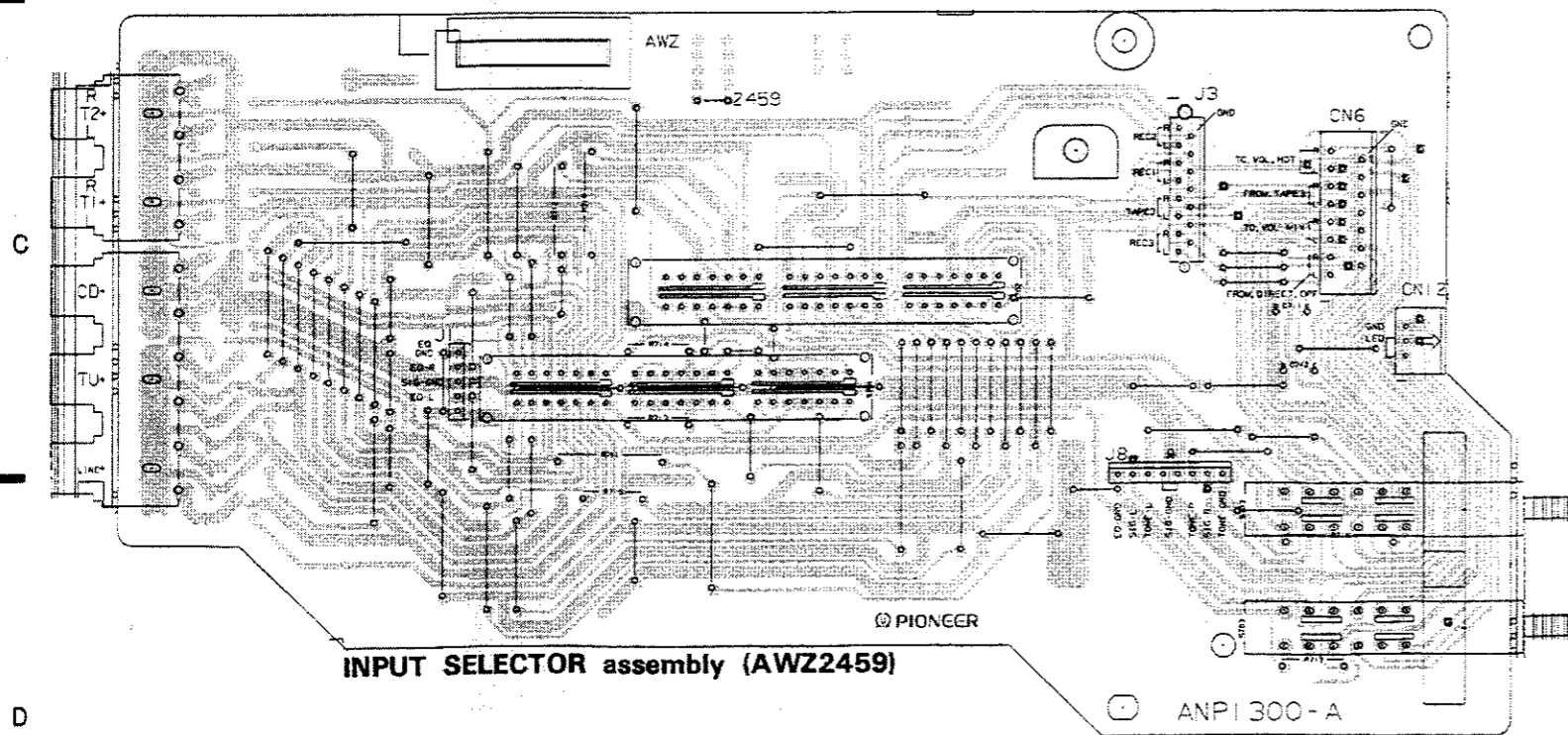
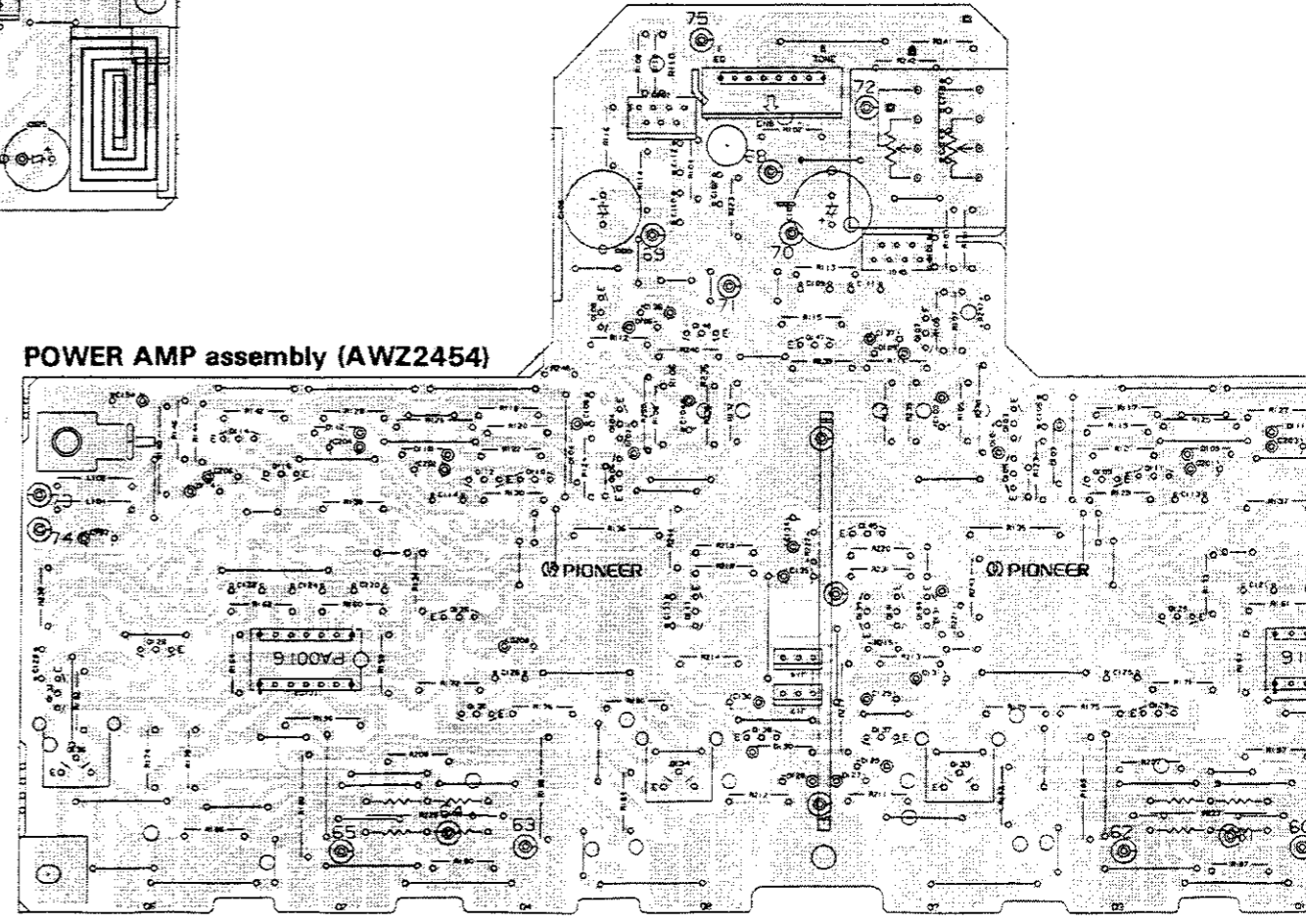
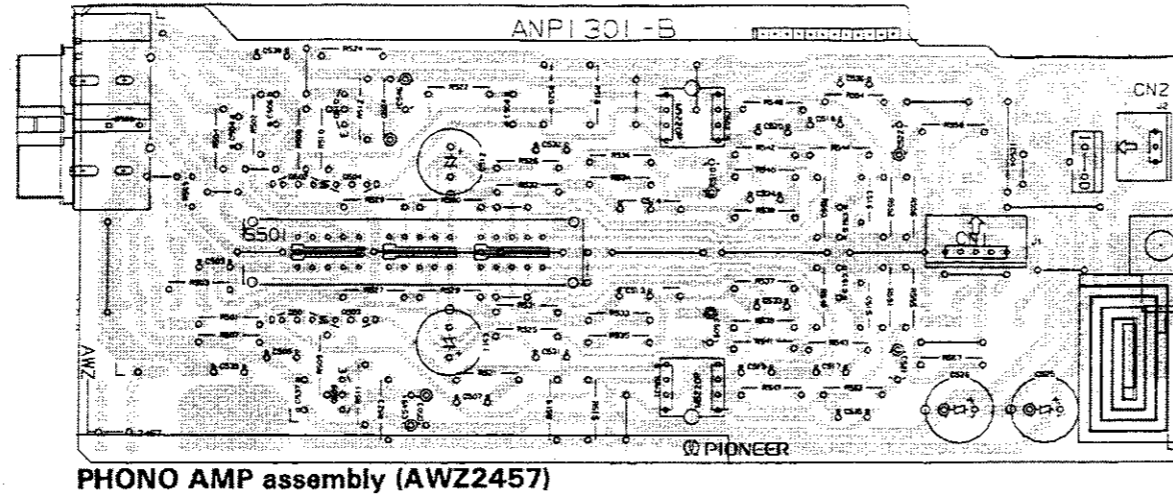
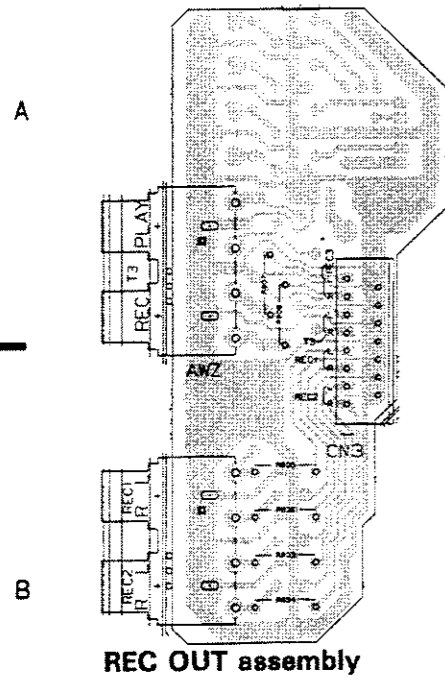
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D

1. RESISTORS
Indicated in Ω, 1/4W, 5% tolerance unless otherwise noted as 1/2W, 1%, 5%.
 2. CAPACITORS
Indicated in capacity (μF) and voltage (V) unless otherwise noted as 20V.
Indication without voltage is 50V.
 3. VOLTAGE CURRENTS
Signal voltage at () output (1kHz),
() DC voltage (V) at no input signal.
Value in () is DC voltage at rated power.
() is DC current at no input signal.
 4. OTHERS
() Signal route
The mark found on some components parts indicates the importance of the safety factor of the parts.
Therefore, when replacing, be sure to use parts of industrial destination.
 5. SWITCHES
S1 : POWER (ON-OFF)
S201 : TAP: 3 (ON-OFF)
S302 : TUNING-SS (ON-OFF)
- S401 : SPEAKERS A, B (OFF A-B-A-B)
S501 : COMMON SW. (COMMON-NC-NR-NR-SUB)
S701 : FUNCTION SW.
E1A1 : TAP: 2 (COMMON-TUNER LINE)
S702 : MIC-SET.
(2-1-1-2) SWITCH-OFF (D-TUNER)
S703 : LINE DIRECT (ON-OFF)

S301, S302 ASG109
VR301 ACT1033
VR302, VR303 ACT1054



Q132 Q136 Q128 Q114 Q116 IC102 Q112 Q110 Q126 Q130 Q106 Q104 Q110 Q106 Q106 Q102 Q148 Q106 Q104 Q102 Q148 Q147 Q101 Q105 Q107 Q101 Q103 Q105 Q103 Q109 Q111 Q109 Q111 Q109 Q125 Q129

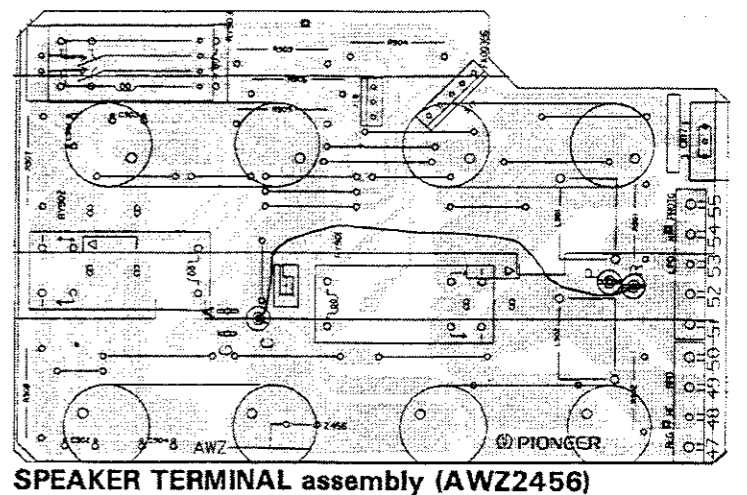
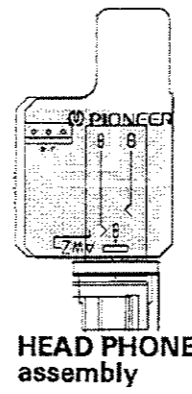
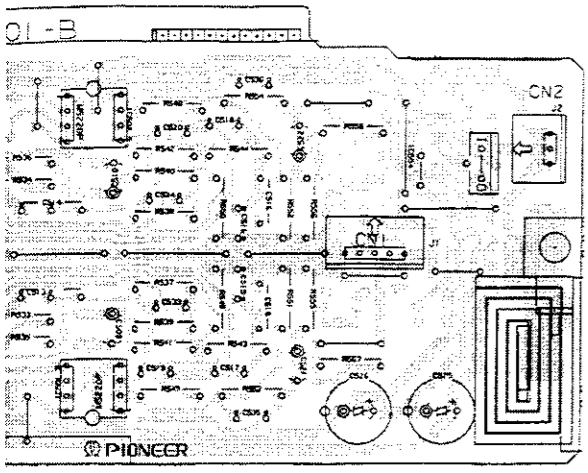
NOTE
 1. This P.C.B. connection diagram is viewed from the parts mounted side.
 2. The parts which have been mounted on the board can be replaced with those shown with the corresponding wiring symbols listed in the following Table.

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

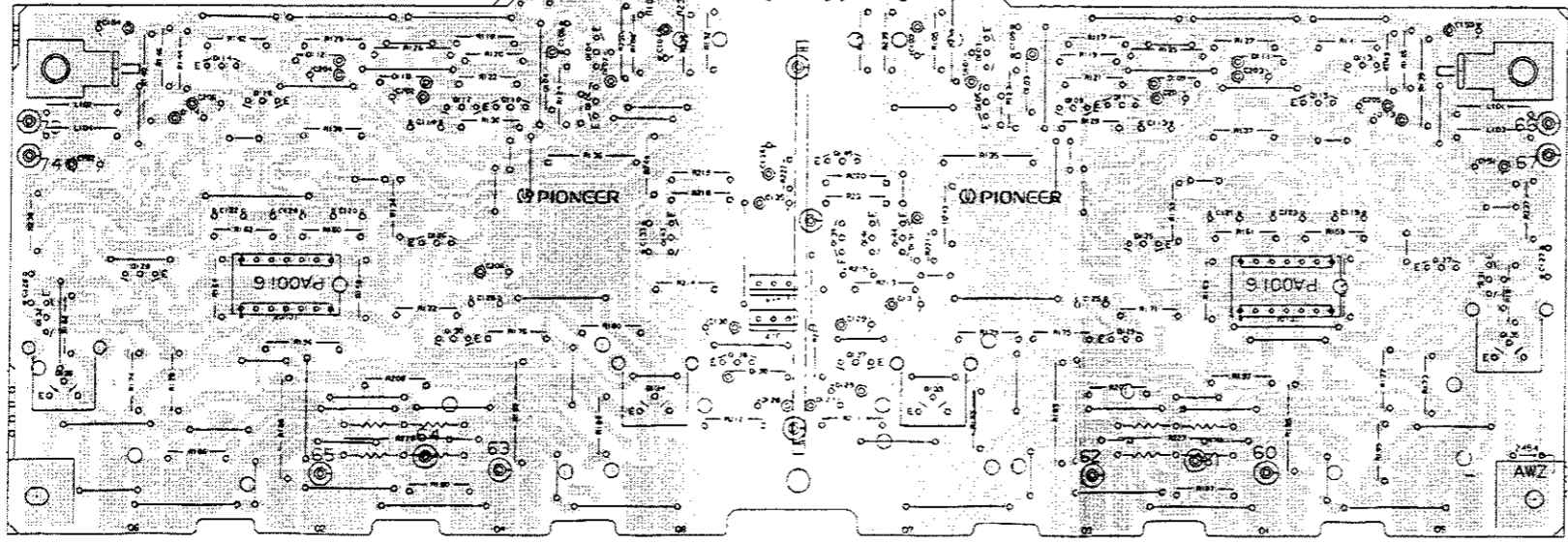
Others

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

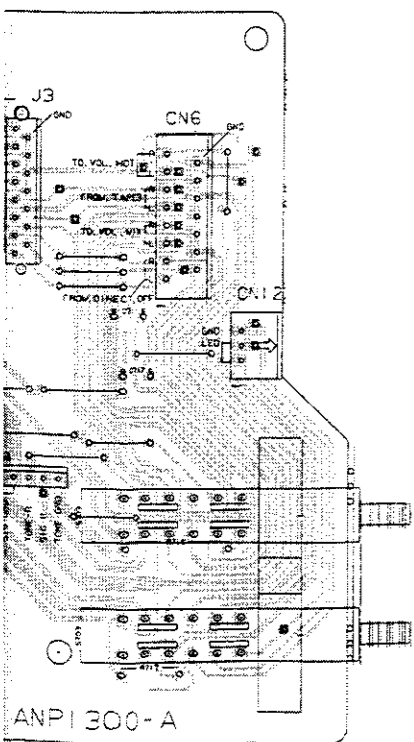
3. The capacitor terminal marked with ⊕ (double circles) shows negative terminal.
 4. The diode terminal marked with ⊕ (double circles) shows cathode side.
 5. The transistor terminal to which E is affixed shows the emitter.



POWER AMP assembly (AWZ2454)



Q132 Q136 Q128 D114 Q116 IC102 D112 C204 D110 Q126 Q130 Q108 Q106 Q104 Q102 Q148 Q104 Q102 Q106 Q134 Q143 Q147 Q139 Q145 Q141 Q144 Q131 Q138 Q130 Q128 Q127 Q129 Q137 Q133 Q101 Q105 Q107 Q101 Q103 Q105 Q103 Q109 Q111 Q109 Q111 Q115 IC101 Q113 Q113 Q127 Q131 Q135



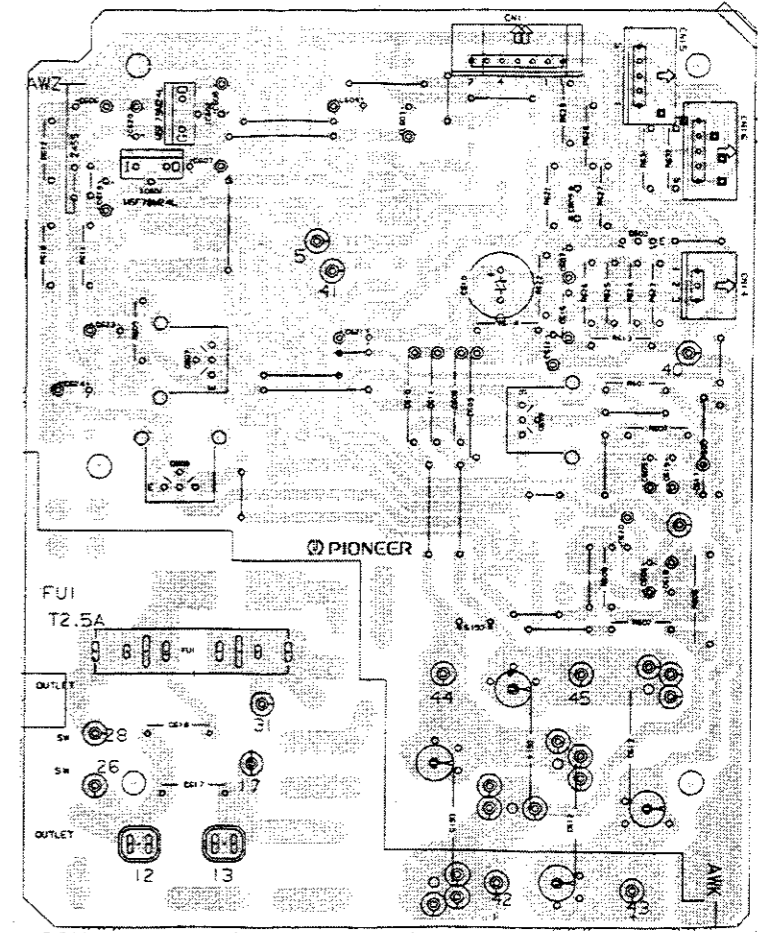
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		Transistor
		Radiator type transistor
		Diode
		Resistor
		Capacitor (Polarity)
		Capacitor (Non-polarity)

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

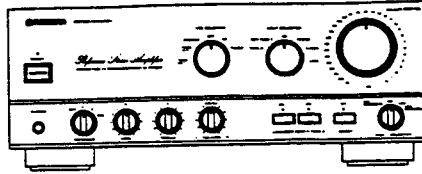
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 4. The diode terminal marked with ⊖ (double circles) shows cathode side.
 5. The transistor terminal to which E is affixed shows the emitter.



POWER SUPPLY assembly (AWZ2455)

Service Manual

PIONEER
The future of sound and vision.



ORDER NO.
ARP1817

STEREO AMPLIFIER

A-656

A-656-S

MODELS A-656 AND A-656-S HAS FIVE VERSIONS:

Type	Applicable model		Power requirement	Export destination
	A-656	A-656-S		
HEZ	○	○	AC220V, 240V (switchable)*	West Germany
HE	○	—	AC220V, 240V (switchable)*	European continent
HB	○	—	AC220V, 240V (switchable)*	United Kingdom
KC	○	—	AC120V only	Canada
SD	○	—	AC110V, 120V-127V, 220V, 240V (switchable)*	Kingdom of Saudi Arabia and general market

*Change the primary wiring of the power transformer

- This manual is applicable to the A-656/HEZ, HE, HB and A-656-S/HEZ types.
- A-656-S is Silver version of A-656.
- For the other types, refer to additional service manual.

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YA MAY 1989 Printed in Japan.

1. EXPLODED VIEWS AND PARTS LIST

NOTES:

- Parts without part number cannot be supplied.
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- Parts marked by "©" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

Mark	No.	Part No.	Description	Mark	No.	Part No.	Description
Δ	1	2SA1302	TRANSISTOR Q 3	51	.....	.....	.....
Δ	2	2SA1302	TRANSISTOR Q 4	52	ARC1146	OPERATING INSTRUCTIONS	
Δ	3	2SC3281	TRANSISTOR Q 1	53	AHA1070	STYROL PROTECTOR	
Δ	4	2SC3281	TRANSISTOR Q 2	54	AHD1633	PACKING CASE	
	5	RD1/4PM220J	CARBON FILM RESISTOR	55	ANE1075	METAL BONNET	
	6	RD1/4PM4R7J	CARBON FILM RESISTOR	56	.....	.....
Δ	7	ACH1043	ELECTROLYTIC CAPACITOR	57	.....	.....
	8	CKDYB472K50	CERAMIC CAPACITOR	58	AWZ2349	SPEAKER SWITCH	
Δ	9	ATS1210	POWER TRANSFORMER T1	59	.....	.....
Δ	10	ASG-552	SWITCH S1	60	AWZ2351	INPUT SELECTOR	
	11	ASU1024	SWITCH S3	61	.....	.....
	12	ASU1025	SWITCH S2	62	.....	.....
	13	ASU1026	SWITCH S4	63	AWZ2335	HEAD PHONE	
Δ	14	AEK-403	FUSE (T2.5A) FU 1	64	AWZ2336	POWER AMP	
Δ	15	ADG1049	AC POWER CORD	65	AWZ2337	POWER SUPPLY	
	16	ANL1025	LONG SHAFT ASSY	66	AWZ2338	SPEAKER TERM	
	17	AMR1159	FOOT	67	.....	.....
	18	ABF1002	SPACER	68	.....	.....
	19	ABF1017	WASHER	69	.....	.....
	20	ABH1033	SPRING	70	.....	.....
	21	ABH1034	SPRING	71	.....	.....
	22	AEC-882	STRAIN RELIEF	72	.....	.....
	23	AEF1014	SHEET	73	.....	.....
	24	AEH1005	ADHESIVE TAPE	74	.....	.....
	25	ABA-298	SCREW	75	.....	.....
	26	ABA1004	SCREW (STEEL)	76	.....	.....
	27	ABA1009	SCREW (STEEL)	77	.....	.....
	28	ABA1011	SCREW (STEEL)	78	.....	.....
	29	ABA1014	SCREW (STEEL)	79	.....	.....
	30	ABA1047	SCREW (STEEL)	80	.....	.....
	31	ABA1048	SCREW (STEEL)	81	.....	.....
	32	ABA1050	SCREW (STEEL)	82	.....	.....
	33	ABA1082	SCREW	83	.....	.....
	34	ABA1088	SCREW	84	.....	.....
	35	ABN-048	FLANGE NUT M9	85	.....	.....
	36	ABN-065	NUT	86	.....	.....
	37	FBT40P080FZK	SCREW	87	.....	.....
	38	NK90FCU	NUT	88	.....	.....
	39	VMZ30P060FCU	SCREW	89	.....	.....
	40	AMR1178	HOLDER	90	.....	.....
	41	ANB1295	FRONT PANEL	91	.....	.....
	42	AMB1200	BASE	92	.....	.....
	43	AAM1029	NAME PLATE (METAL)	93	.....	.....
	44	AMR1160	INDICATING LENS	94	.....	.....
	45	AAB1107	ROTARY KNOB L	95	.....	.....
	46	AAB1108	ROTARY KNOB M				
	47	AAB1109	ROTARY KNOB S				
	48	AAD1536	PUSH KNOB				
	49	AAD1560	DIRECT KNOB				
	50	AAD1561	POWER KNOB				

1

2

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4

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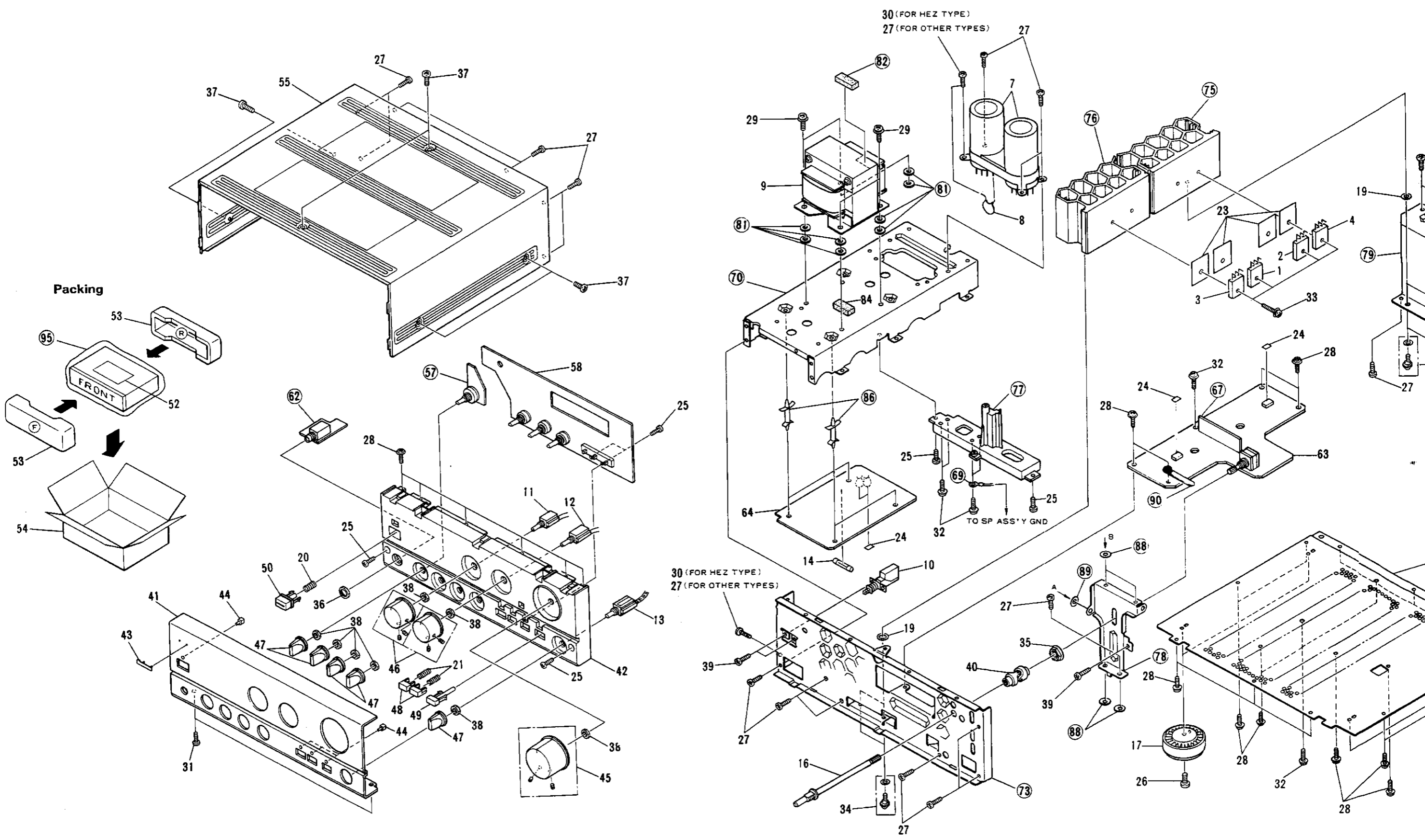
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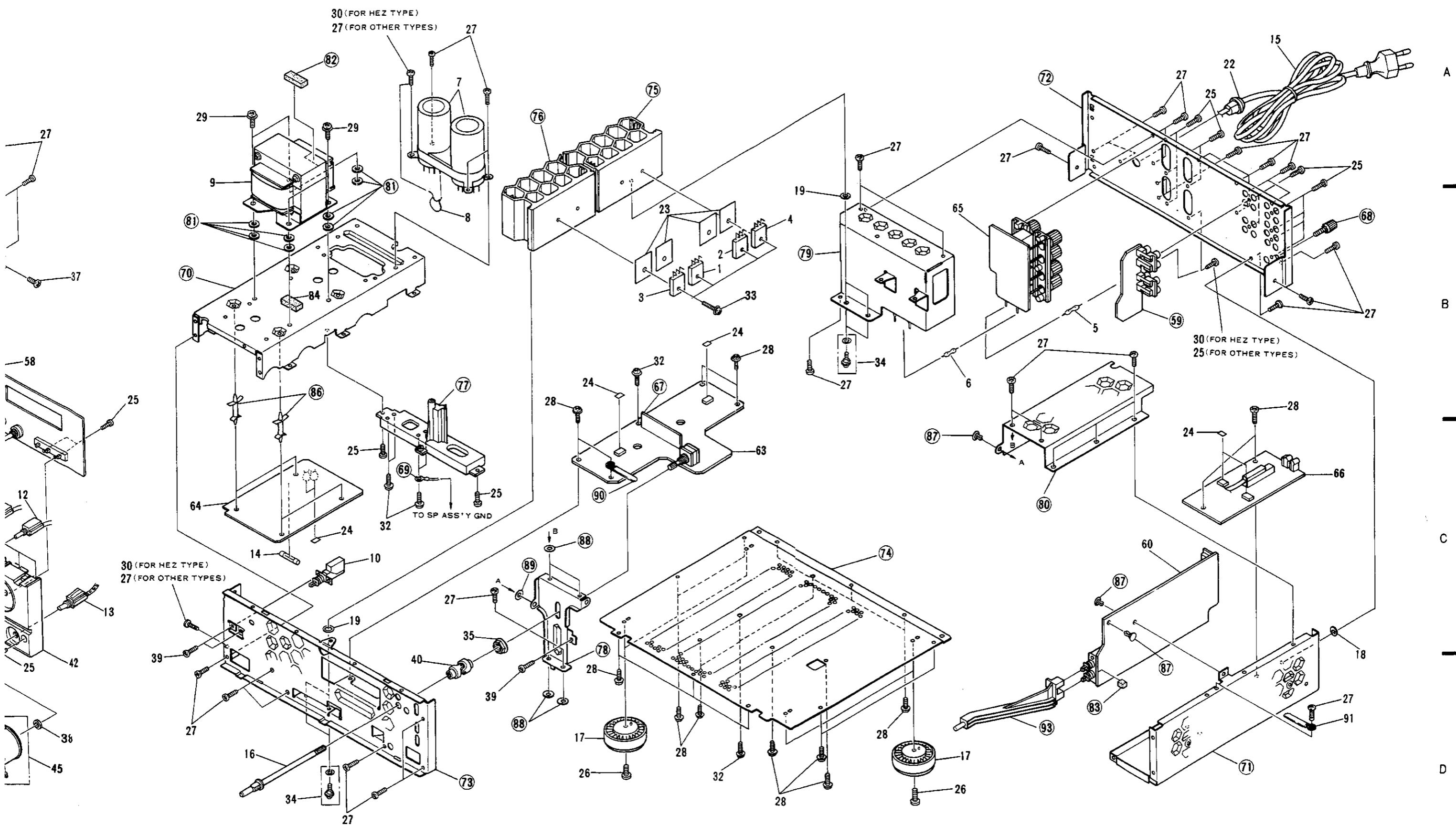
A

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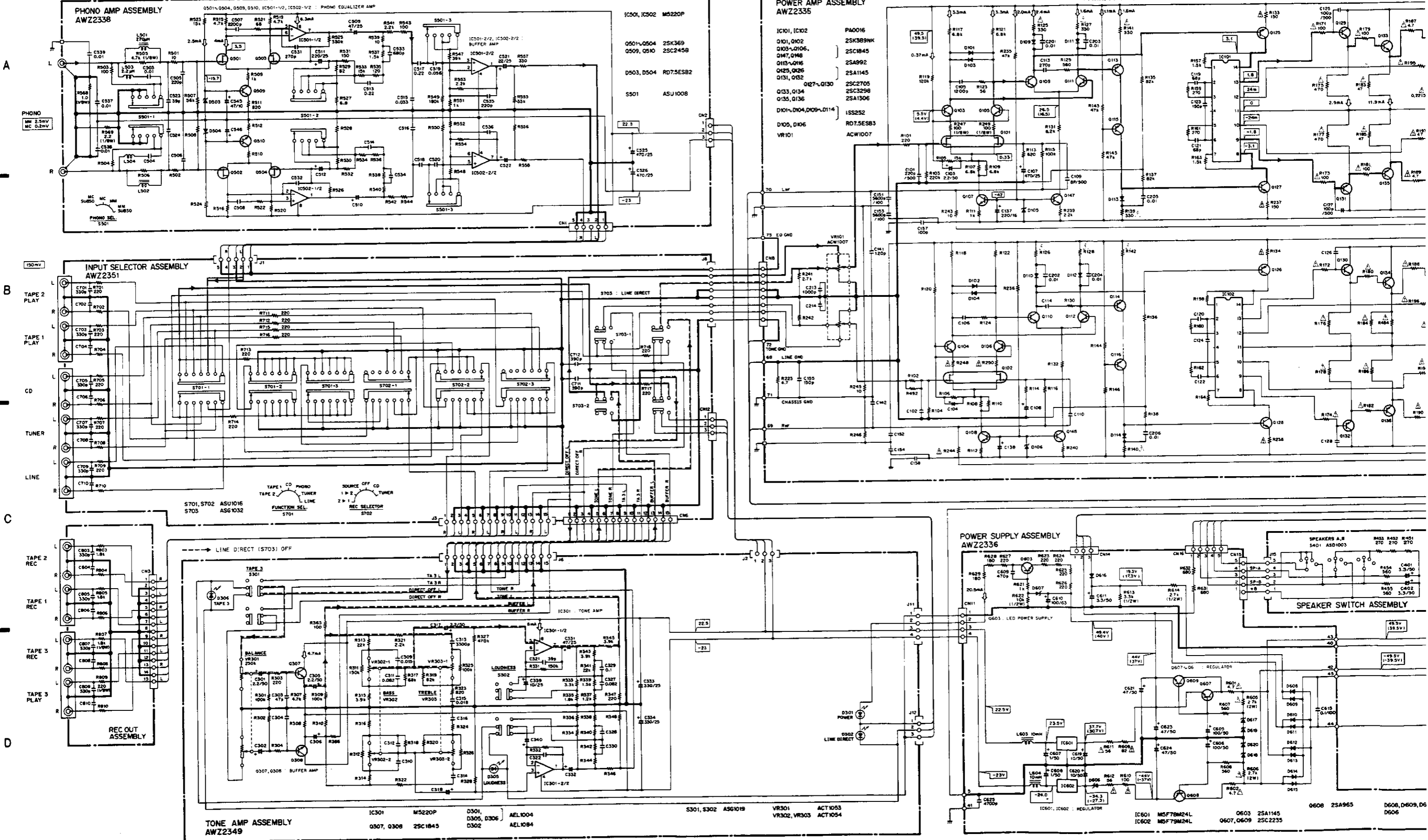
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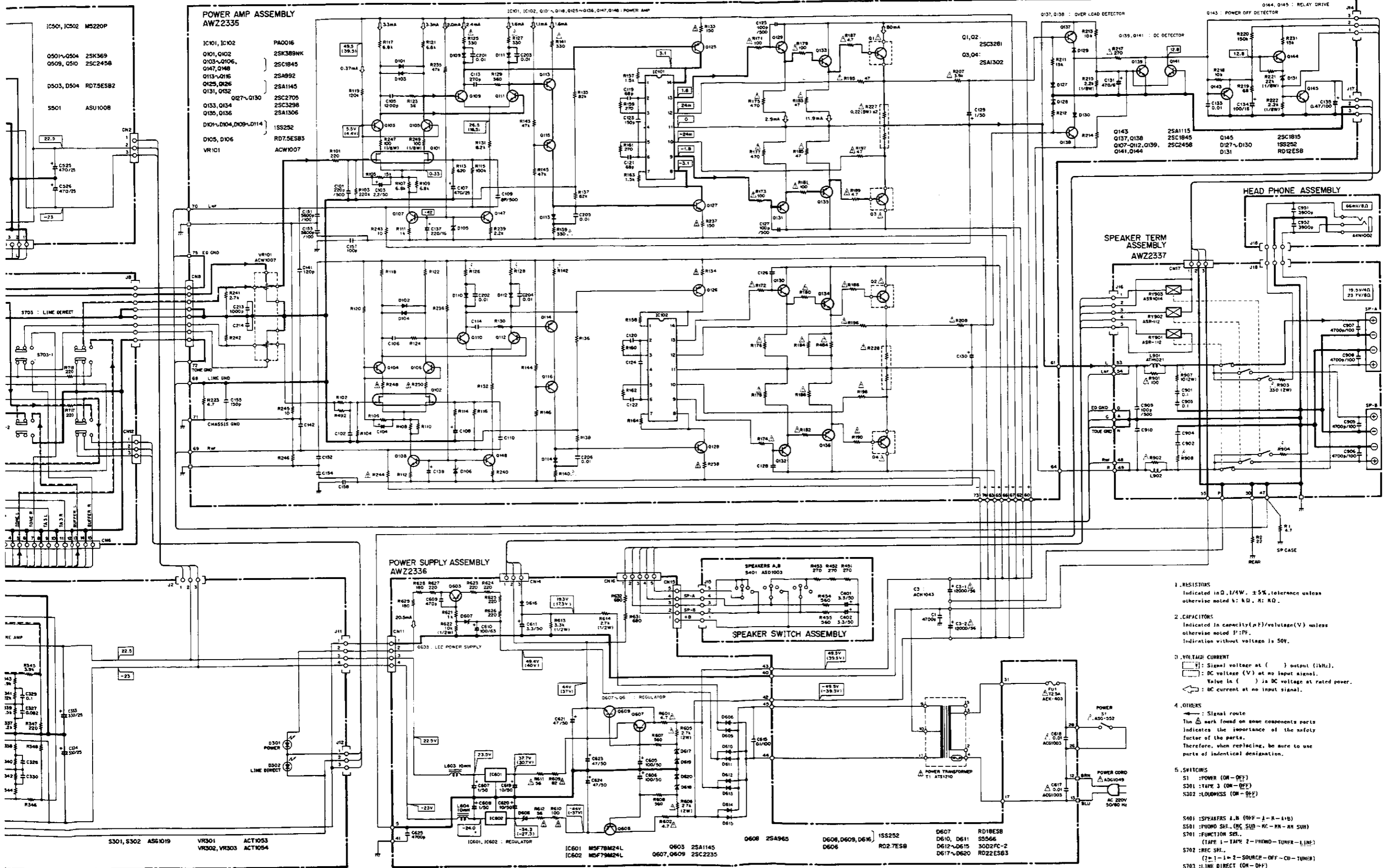




A
B
C
D

2. SCHEMATIC DIAGRAM





1. RESISTORS
Indicated in Ω, 1/4W, ±5% tolerance unless otherwise noted: R; D, R; KD.
 2. CAPACITORS
Indicated in capacity (pF)/voltage (V) unless otherwise noted: P; PP.
Indication without voltage is 50V.
 3. VOLTAGE CURRENT
□: Signal voltage at () output (kHz).
□: DC voltage (V) at no input signal.
□: Value in () is DC voltage at rated power.
◁: DC current at no input signal.
 4. OTHERS
—: Signal route
⚠: mark found on some components parts indicates the importance of the safety factor of the parts. Therefore, when replacing, be sure to use parts of identical designation.
 5. SWITCHES
S1 : POWER (ON-OFF)
S301 : TUNE 3 (ON-OFF)
S302 : LOUDNESS (ON-OFF)
- S401 : SPEAKERS A,B (OFF-A-1-1B)
S501 : PHONO SEL. (NC, SUB-NC-RN-RH SWH)
S701 : FUNCTION SEL. (TAPE 1-TAPE 2-TUNING-TUNER-LINE)
S702 : REC. SEL. (1-1-2-SOURCE-OFF-CO-TUNER)
S703 : LINE DIRECT (ON-OFF)

A

B

C

D

3. P.C. BOARDS CONNECTION DIAGRAM

NOTE

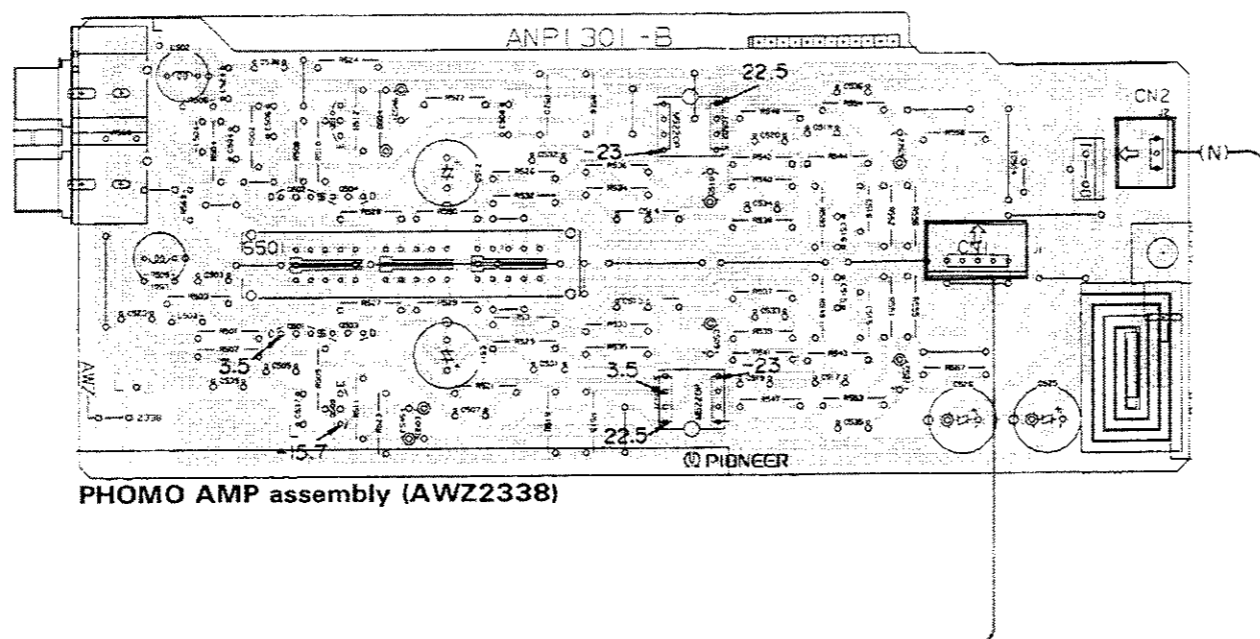
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		Transistor
		Radiator type transistor
		Diode
		Resistor
		Capacitor (Polarity)
		Capacitor (Non-polarity)

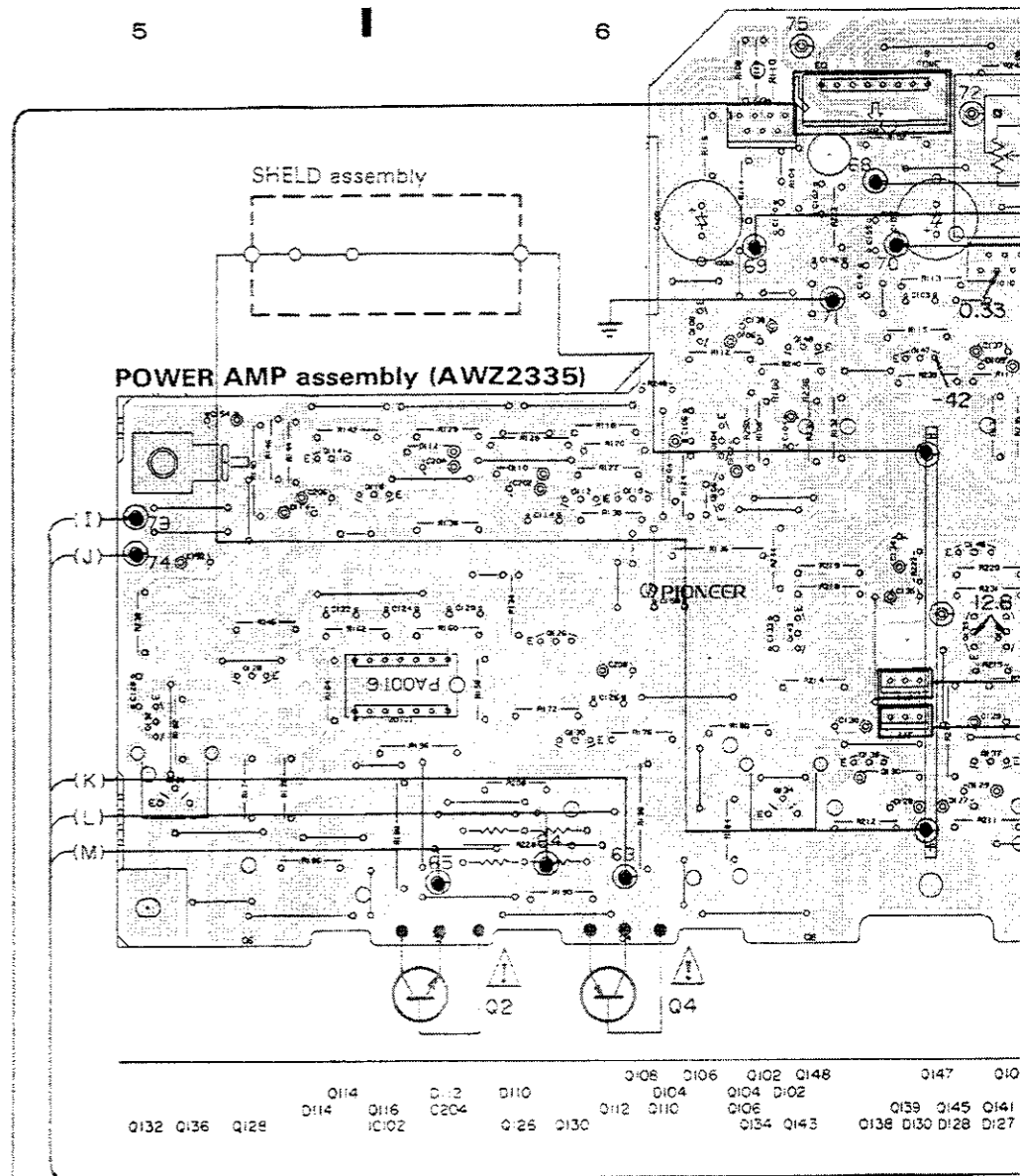
Others

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

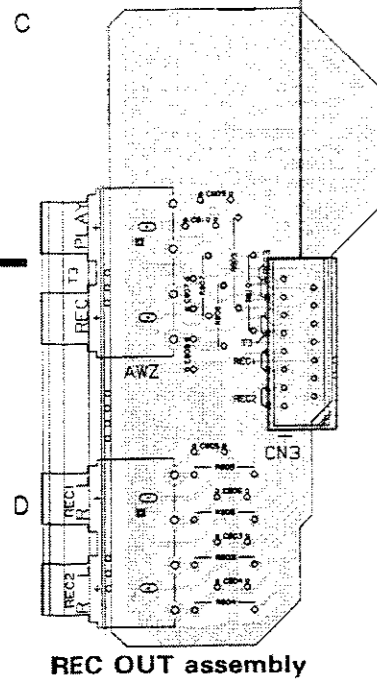
3. The capacitor terminal marked with ⊖ (double circles) shows negative terminal.
4. The diode terminal marked with ⊖ (double circles) shows cathode terminal.
5. The transistor terminal to which E is affixed shows the emitter.



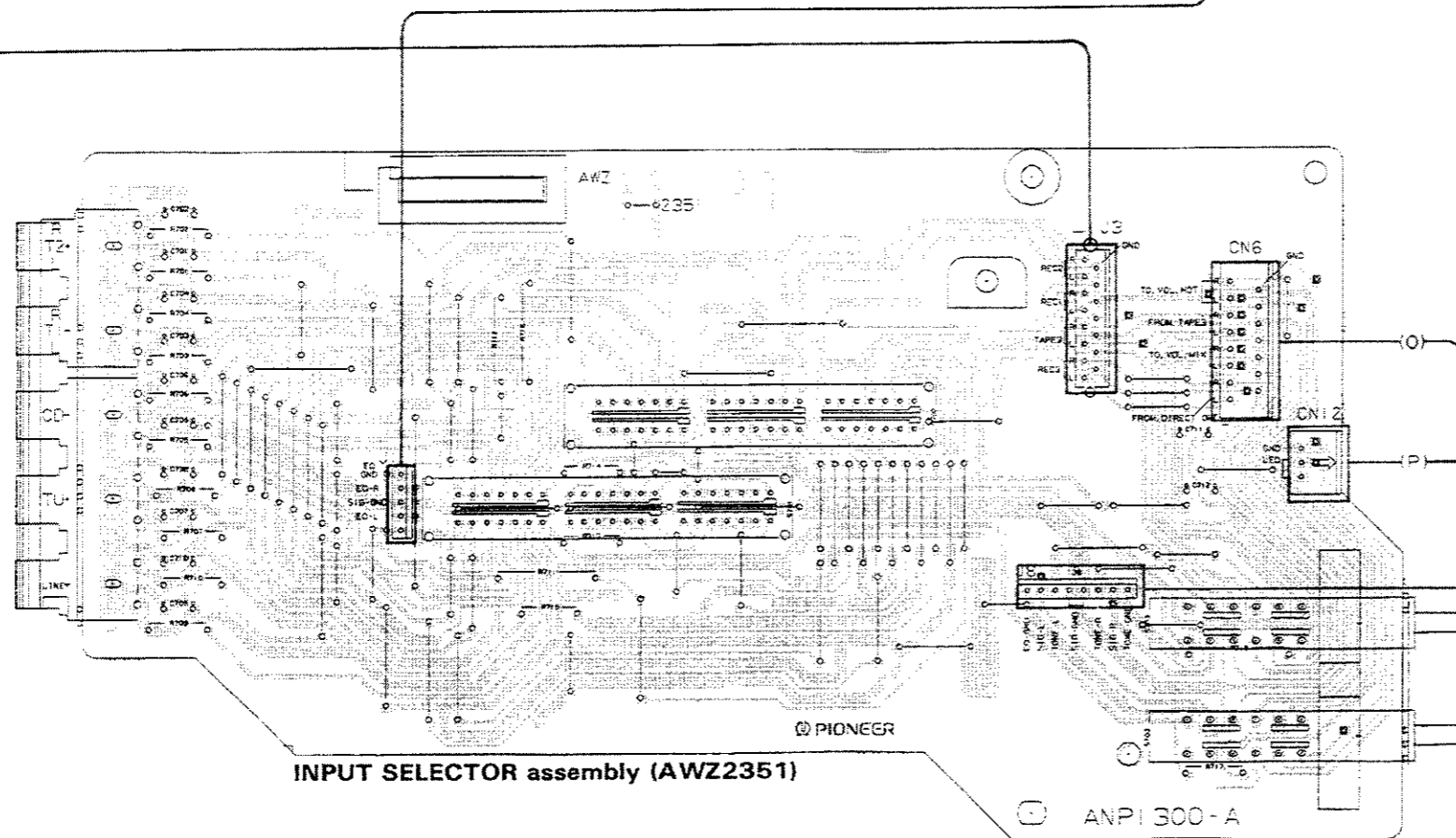
PHOMO AMP assembly (AWZ2338)



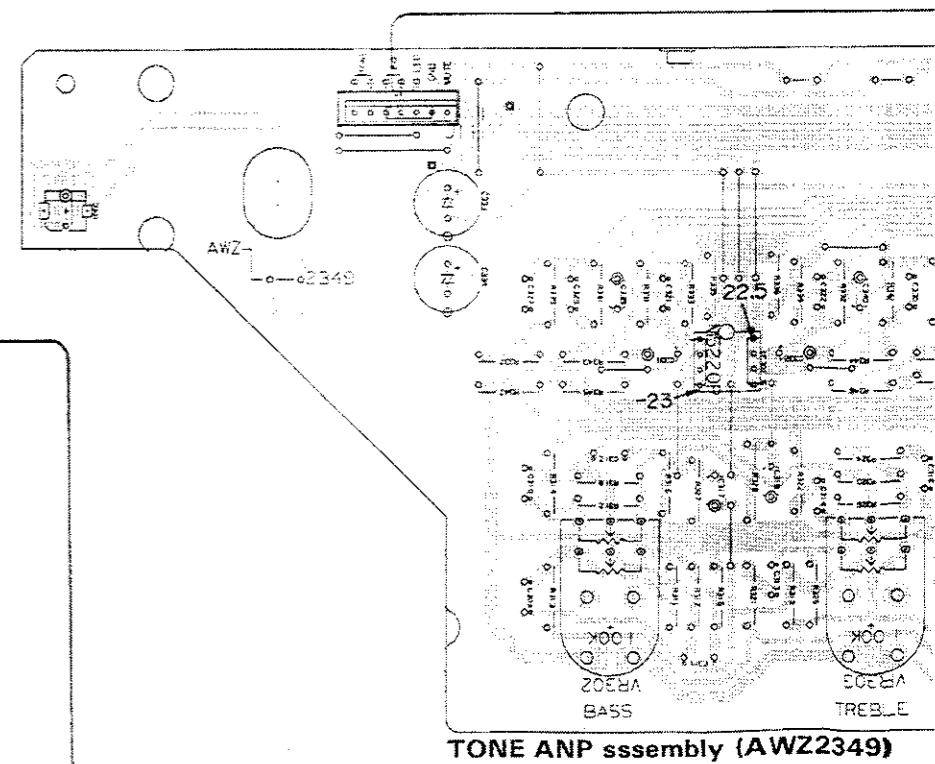
POWER AMP assembly (AWZ2335)



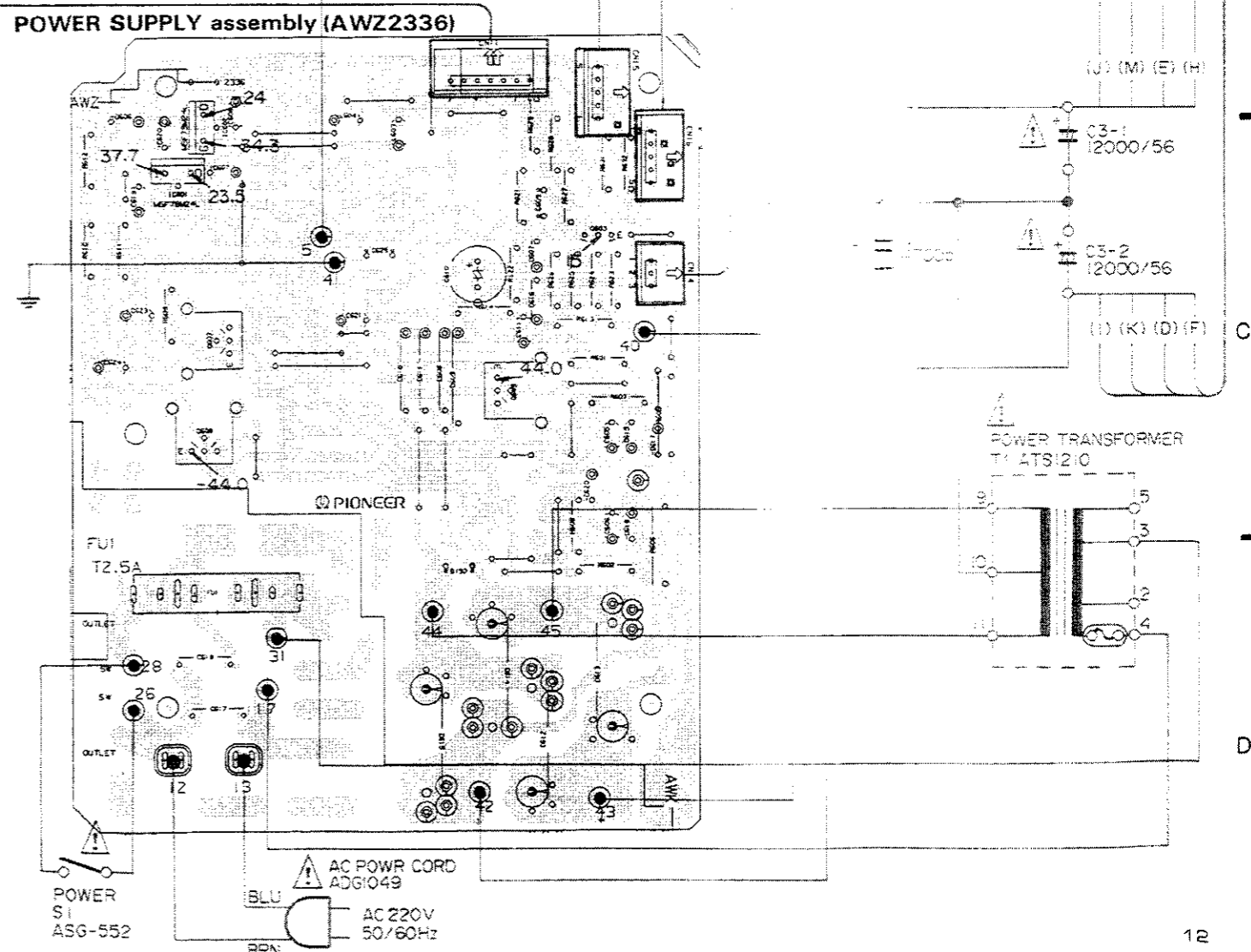
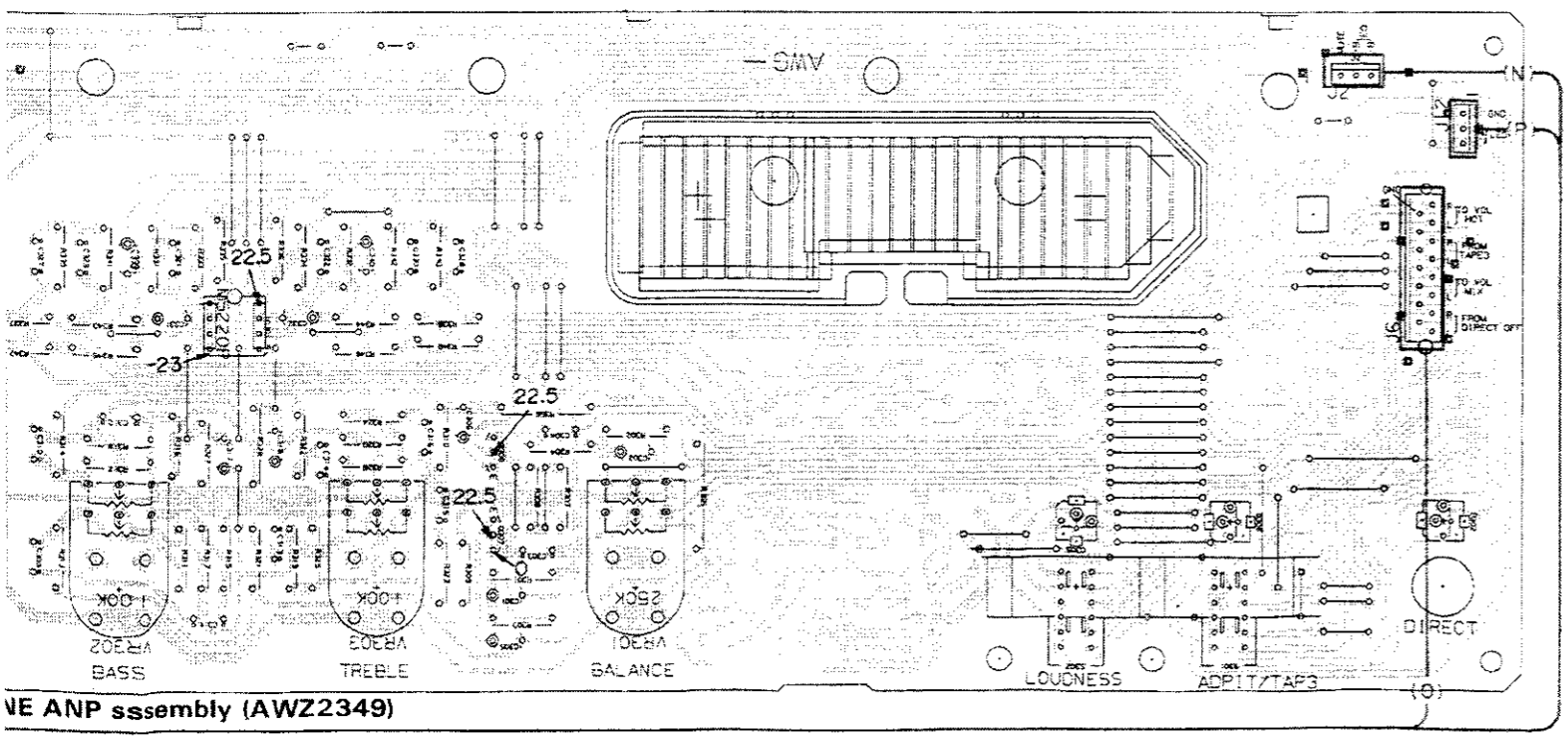
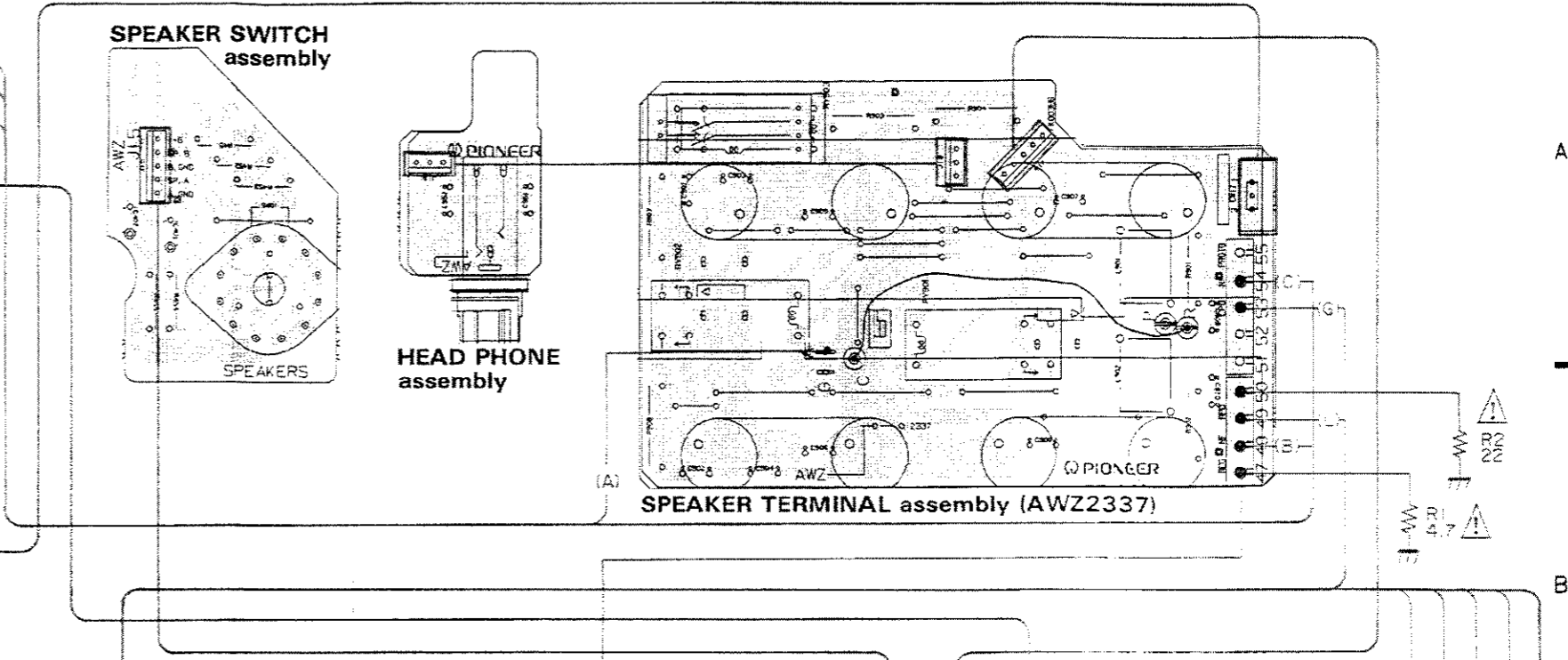
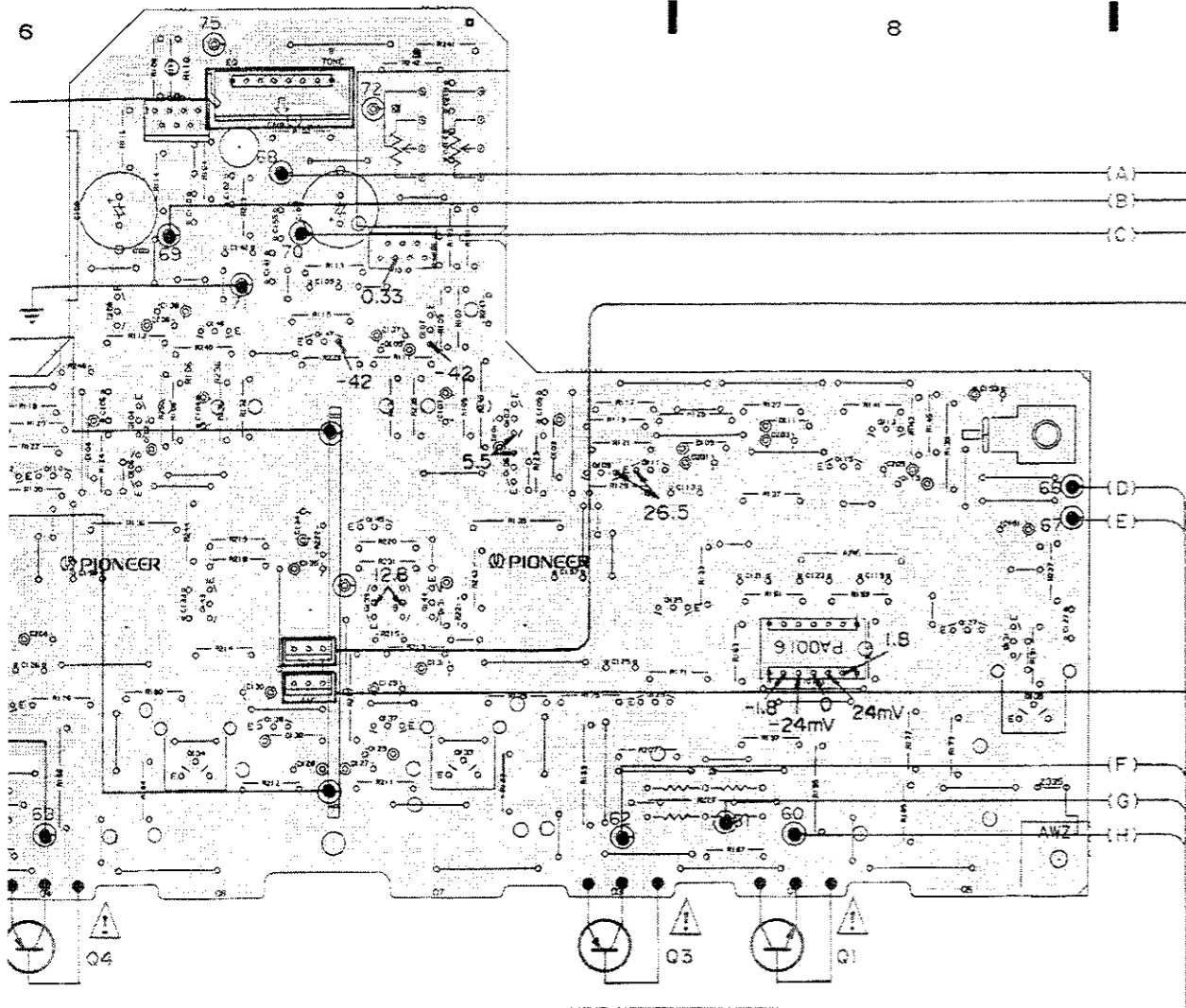
REC OUT assembly



INPUT SELECTOR assembly (AWZ2351)



TONE ANP assembly (AWZ2349)

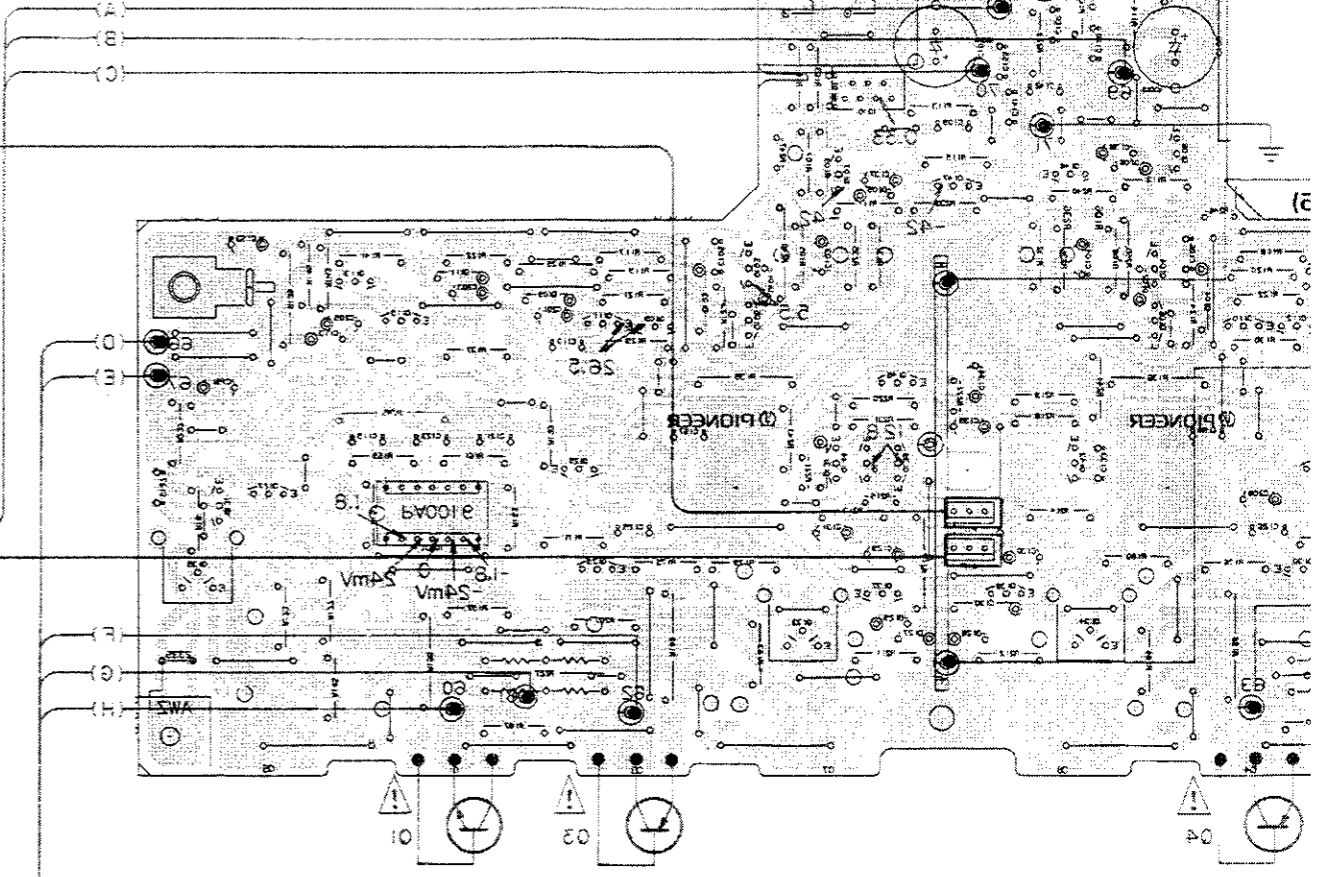
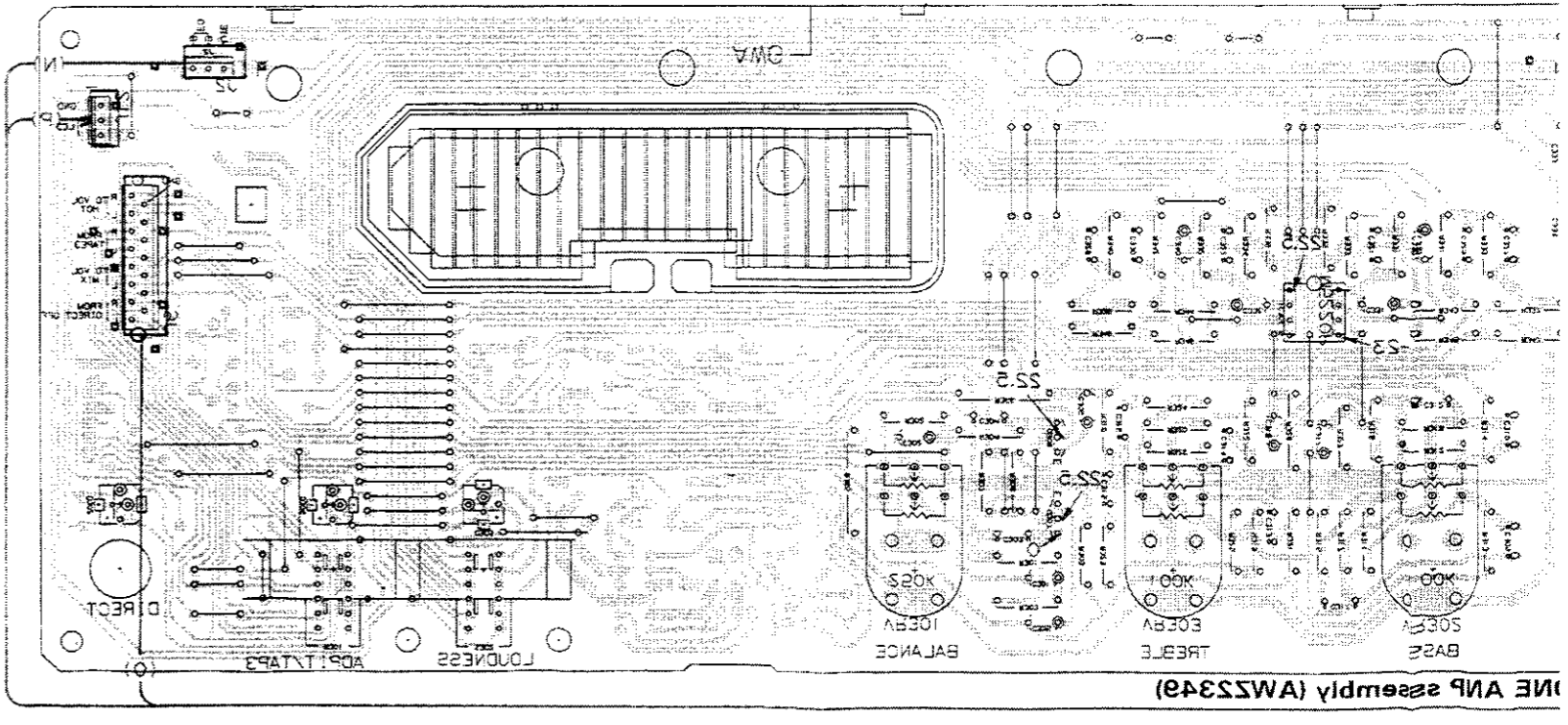
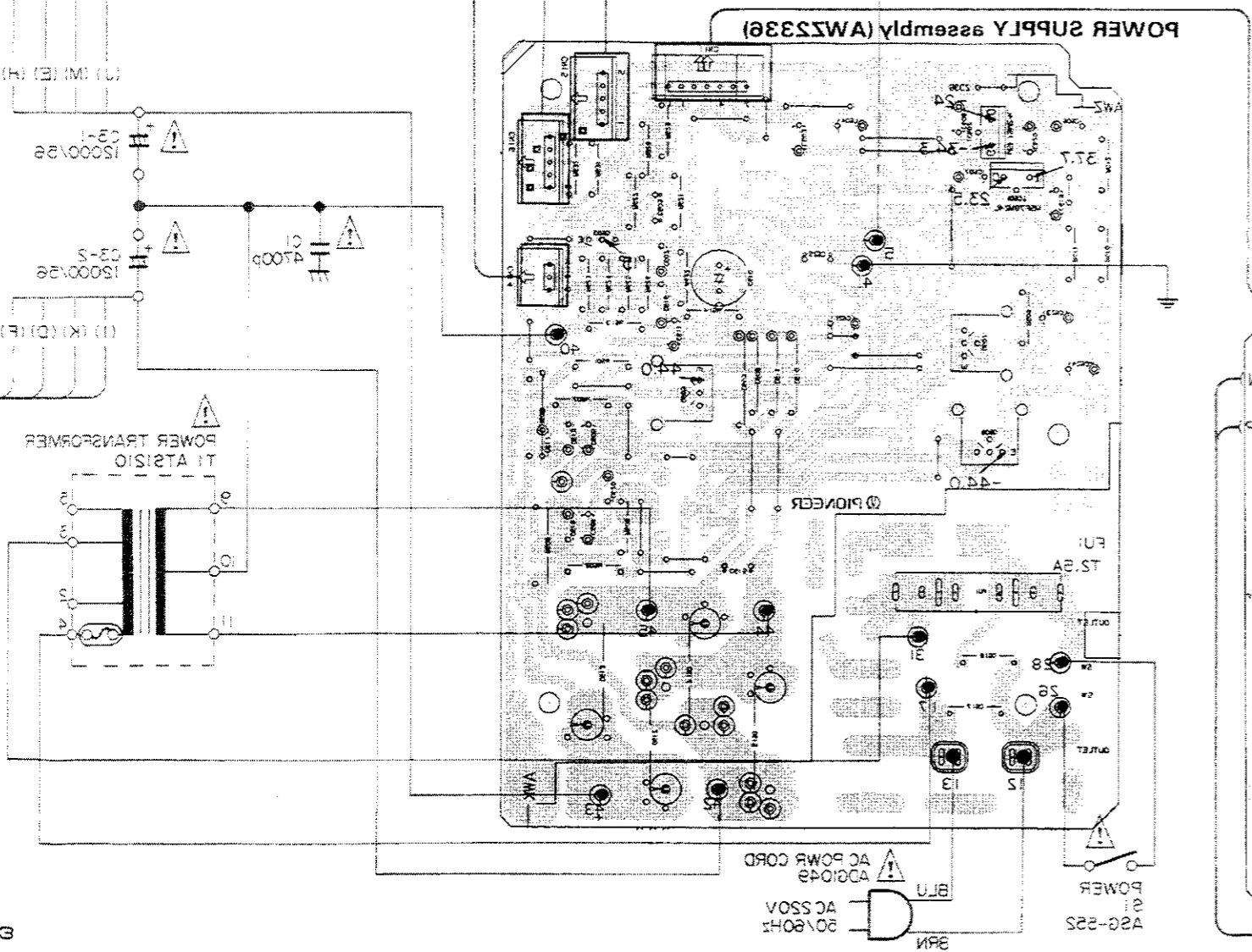
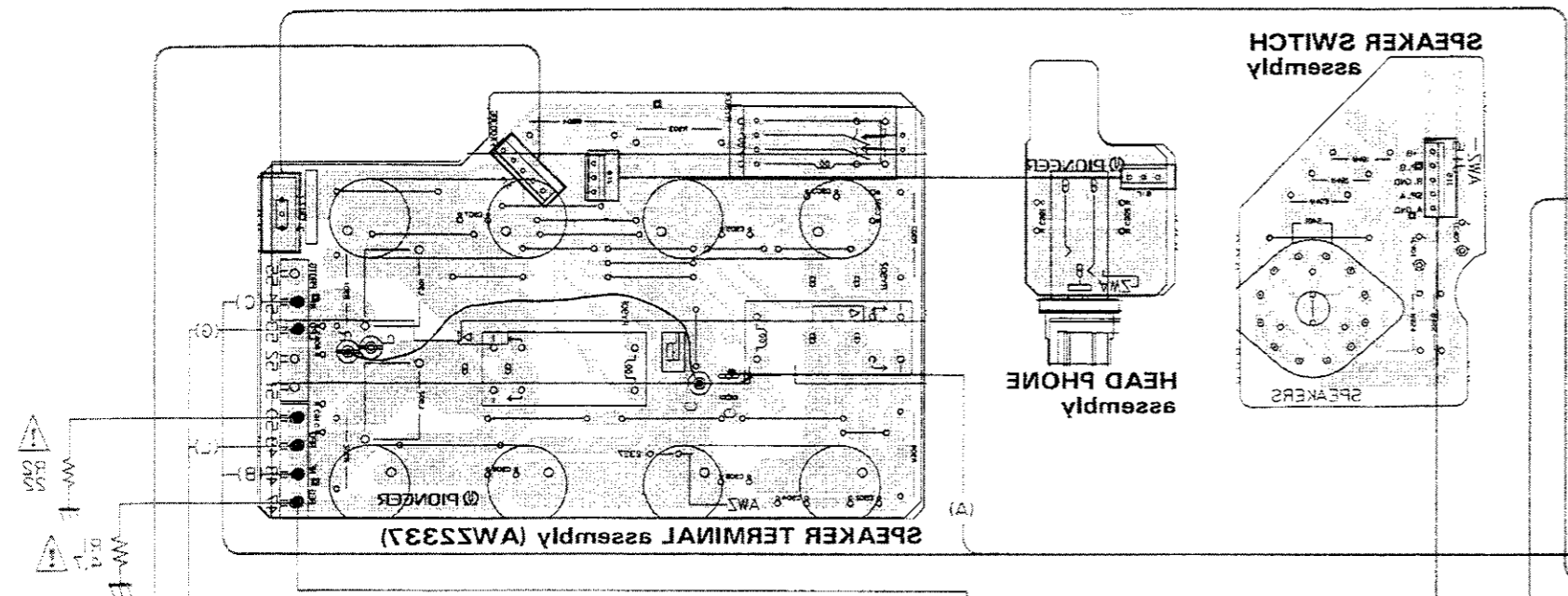


A

B

C

D



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4. 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 ¹	561.....	RD1/4PS	Ⓜ	Ⓜ	Ⓜ	J
47kΩ	47 × 10 ³	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 ¹	5621.....	RN1/4SR	Ⓜ	Ⓜ	Ⓜ	F
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Miscellaneous parts

P.C.BOARD ASSEMBLIES

Mark	Symbol & Description	Part No.
	SPEAKER SWITCH assembly	
	TONE AMP assembly	AWZ2349
	REC OUT assembly	
	INPUT SELECTOR assembly	AWZ2351
	HEAD PHONE assembly	
	POWER AMP assembly	AWZ2335
	POWER SUPPLY assembly	AWZ2336
	SPEAKER TERMINAL assembly	AWZ2337
	PHONO AMP assembly	AWZ2338
	SHELD assembly	

OTHERS

Mark	Symbol & Description	Part No.
⚠	Q3,Q4 Transistor	2SA1302
⚠	Q1,Q2 Transistor	2SC3281
⚠	FU1 Fuse (T2.5A/250V)	AEK-403
⚠	T1 Power transformer (AC220V/240V)	ATS1210
⚠	S1 Push switch (POWER)	ASG-552
	S3 Remote slide rotary switch	ASU1024
	S2 Remote slide rotary switch	ASU1025
	S4 Remote slide rotary switch	ASU1026
⚠	C3 Electrolytic capacitor (12000μF/56)	ACH1043
	C1 Ceramic capacitor	CKDYB472K5C
	R2 Carbon film resistor	RD1/4PM220J
	R1 Carbon film resistor	RD1/4PM4R7J
⚠	AC Power cord	ADG1049
	Strain relief	AEC-882

SPEAKER SWITCH assembly SWITCH

Mark	Symbol & Description	Part No.
	S401 Rotary switch (SPEAKERS)	ASD1003

CAPACITORS

Mark	Symbol & Description	Part No.
	C401,C402	CEAS3R3M50

RESISTORS

Mark	Symbol & Description	Part No.
	All resistors	RD1/4PM□□□J

TONE ANP ssembly (AWZ2349)

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
	IC301	M5220P
	Q307,Q308	2SC1845
	D301,D305,D306 LED assembly	AEL1004
	D302 LED	AEL1084

SWITCHES

Mark	Symbol & Description	Part No.
	S301,S302 Push switch (TAPE 3, LOUDNESS)	AS61019

CAPACITORS

Mark	Symbol & Description	Part No.
	C321,C322	CCCSL390J50
	C303,C304	CCCSL470J50
	C339,C340	CEAS100M25
	C333,C334	CEAS331M25
	C301,C302,C305,C306,C317	CEAS2R2M50
	C318	

Mark	Symbol & Description	Part No.
	C331,C332	CEAS470M25
	C329,C330	CFTXA104J50
	C309,C310	CFTXA153J50
	C315,C316	CFTXA183J50
	C311,C312,C327,C328	CFTXA823J50
	C313,C314	CQMA332K50

RESISTORS

Mark	Symbol & Description	Part No.
	VR301 (250k × 2)	ACT1053
	VR302,VR303 (100k × 2)	ACT1054
	Other resistors	RD1/4PM□□□J

REC OUT assembly

CAPACITORS

Mark	Symbol & Description	Part No.
	C803-C810	CKCYB331K50

RESISTORS

Mark	Symbol & Description	Part No.
	R803-R806	RD1/4PM182J
	R807-R810	RD1/8PM□□□J

OTHERS

Mark	Symbol & Description	Part No.
	Terminal 4P (TAPE 1-3)	AKB1009

INPUT SELECTOR assembly (AWZ2351)

SWITCHES

Mark	Symbol & Description	Part No.
	S703 Push switch (LINE DIRECT)	ASG1032
	S701,S702 Remote slide switch (FUNCTION SEL., REC SEL)	ASU1016

CAPACITORS

Mark	Symbol & Description	Part No.
	C701-C710	CKCYB331K50
	C711,C712	CKCYB391K50

RESISTORS

Mark	Symbol & Description	Part No.
	R701-R718	RD1/4PM221J

OTHERS

Mark	Symbol & Description	Part No.
	Terminal 4P (TAPE 1, TAPE 2)	AKB1007
	Terminal 6P (CD, TUNER, LINE)	AKB1008

HEAD PHONE assembly

CAPACITORS

Mark	Symbol & Description	Part No.
	C951,C952	CKCYB392K50

OTHERS

Mark	Symbol & Description	Part No.
	Jack (HEAD PHONE)	AKN1002

POWER AMP assembly (AWZ2335)

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
	IC101,IC102	PA0016
	Q143	2SA1115
	Q125,Q126,Q131,Q132	2SA1145
	Q135,Q136	2SA1306
	Q113-Q116	2SA992
	Q145	2SC1815
	Q103-Q106,Q137,Q138,Q147, Q148	2SC1845
	Q107-Q112,Q139,Q141,Q144	2SC2458
	Q127-Q130	2SC2705
	Q133,Q134	2SC3298
	Q101,Q102	2SK389NK
	D131 Zener diode	RD12ESB
	D105,D106 Zener diode	RD7.5ESB3
	D101-D104,D109-D114	1SS252
	D127-D130	

CAPACITORS

Mark	Symbol & Description	Part No.
	C157,C158	CCCSL101J50
	C125-C128	CCCSL101K500
	C141,C142	CCCSL121J50
	C123,C124,C155	CCCSL151J50
	C101,C102	CCCSL221J50
	C113,C114	CCCSL271J50
	C119-C122	CCCSL680J50
	C135	CEASR47M100
	C129,C130	CEAS010M50
	C134	CEAS101M16
	C137,C138	CEAS221M16
	C131	CEAS471M6
	C103,C104	CEXA2R2M50
	C107,C108	CEYA471M25
	C105,C106	CKCYB122K50
	C133	CKCYF103Z50
	C213,C214	CKDYF102Z50
	C109,C110	CMA080D500
	C151-C154	CQMXA562J100
	C201-C206	CKDYF103Z50

RESISTORS

Mark	Symbol & Description	Part No.
△	VR101	ACW1007
	R227,R228 (0.22 × 2)	ACN-146
	R243,R244	RDR1/4PM100J
	R247,R249	RD1/8PM101J
	R245	RD1/4PM100J
	R215,R221,R222,R248,R250	RD1/8PM□□□J
	R101-R104,R113-R116,R241, R242	RDR1/4PM□□□J
△	R171-R182,R187-R190,R207, R208,R217	RD1/4PMF□□□J
△	R125-R128,R133,R134, R139-R142,R183-R186, R195-R198,R237,R238	RFA1/4PS□□□J
	Other resistors	RD1/4PM□□□J

POWER SUPPLY assembly (AWZ2336)

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
	IC601	M5F78M24L
	IC602	M5F79M24L
	Q603	2SA1145
	Q608	2SA965
	Q607,Q609	2SC2235
	D607 Zener diode	RD18ESB
	D606 Zener diode	RD2.7ESB
	D617-D620 Zener diode	RD22ESB3
	D610,D611	S5566
	D608,D609,D616	1SS252
	D612-D615	30D2FC-2

COILS

Mark	Symbol & Description	Part No.
	L603,L604 Inductor (10mH)	LTA103J

CAPACITORS

Mark	Symbol & Description	Part No.
△	C617,C618 (0.01/400V)	ACG1003
	C607,C608	CEAS010M50
	C619,C620	CEAS100M50
	C605,C606	CEAS101M50
	C610	CEAS101M63
	C611	CEAS3R3M50
	C621,C623,C624	CEAS470M50
	C609	CKCYB471K50
	C625	CKCYB472K50
	C615	CQMXA104J100

RESISTORS

Mark	Symbol & Description	Part No.
△	R612	RD1/4PMF560J
△	R611	RD1/4PMF560J
	R622,R614,R613	RD1/2PM□□□J
△	R609,R610	RFA1/4PS□□□J
△	R601,R602	RFA1/4PS4R7J
△	R605,R606	RS2LMF272J
	Other resistors	RD1/4PM□□□J

SPEAKER TERMINAL assembly (AWZ2337)

RELAIES

Mark	Symbol & Description	Part No.
	RY901,RY902 Relay	ASR-112
	RY903 Relay	ASR1014

COILS

Mark	Symbol & Description	Part No.
	L901,L902 AF Choke coil (2.7μH)	ATH1021

CAPACITORS

Mark	Symbol & Description	Part No.
	C909,C910	CCDSL101K500
	C901-C904	CFTXA104J50
	C905-C908	CQMXA472J100

RESISTORS

Mark	Symbol & Description	Part No.
△	R901,R902	RS1MF101J
△	R903,R904,R907,R908	RS2LMF□□□J

OTHER

Mark	Symbol & Description	Part No.
	Terminal 4P (SPEAKER)	AKE1 015

PHOMO AMP assembly (AWZ2338)

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
	IC501,IC502	M5220P
	Q509,Q510	2SC2458
	Q501-Q504	2SK369
	D503,D504 Zener diode	RD7.5ESB2

SWITCH

Mark	Symbol & Description	Part No.
S501	Remote slide switch (PHONO SEL.)	ASU1008

COILS

Mark	Symbol & Description	Part No.
L501,L502	(270 μ H)	ATH1024
L503,L504	Axial inductor (2.2 μ H)	LAU2R2M

CAPACITORS

Mark	Symbol & Description	Part No.
C505,C506,C535,C536		CCCSL221J50
C531,C532		CCCSL271J50
C523,C524		CCCSL390J50
C545,C546		CEAS470M10
C525,C526		CEXA471M25
C521,C522		CEXA220M25
C511,C512		CEXA221M25
C509,C510		CEXA470M25
C503,C504		CFTXA103J50
C513,C514,C517,C518		CFTXA224J50
C515,C516		CFTXA333J50
C519,C520		CFTXA563J50
C507,C508		CKCYB222K50
C533,C534		CKCYB681K50
C537-C539		CKCYF103Z50

RESISTORS

Mark	Symbol & Description	Part No.
R527-R530,R533,R534,R537, R538,R541,R542,R501-R504		RDR1/4PM□□□F
R505,R506,R568,R569		RD1/8PM□□□J
Other resistors		RD1/4PM□□□J

OTHERS

Mark	Symbol & Description	Part No.
	Terminal 1P (PHONO L)	AKB1025
	Terminal 1P (PHONO R)	AKB1026

SHELD assembly

No parts are supplied with the SHELD assembly

Line Voltage Selection

Line voltage can be changed with 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

5. FOR HE, HB AND A-656-S/HEZ TYPES

5.1 CONTRAST OF MISCELLANEOUS PARTS

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.

The A-656/HE, HB and A-656-S/HEZ types are the same as the A-656/HEZ type with the exception of the following sections.

Mark	Symbol & Description	Part No.				Remarks
		A-656/ HEZ type	A-656/ HE type	A-656/ HB type	A-656-S/ HEZ type	
	REC OUT assembly	Non supply	Non supply	Non supply	Non supply	
	INPUT SELECTOR assembly	AWZ2351	AWZ2459	AWZ2459	AWZ2351	
	HEAD PHONE assembly	Non supply	Non supply	Non supply	Non supply	
	POWER ANP assembly	AWZ2335	AWZ2454	AWZ2454	AWZ2335	
	POWER SUPPLY assembly	AWZ2336	AWZ2455	AWZ2455	AWZ2336	
	SPEAKER TERMINAL assembly	AWZ2337	AWZ2456	AWZ2456	AWZ2337	
	PHONO AMP assembly	AWZ2338	AWZ2457	AWZ2457	AWZ2338	
Δ	FU1 Fuse (T2.5A/250V)	AEK-403	AEK-403	AEK-512	AEK-403	
	C1 Ceramic capacitor	CKDYB472K50	.....	.....	CKDYB472K50	
	R2 Carbon film resistor	RD1/4PM220J	.....	.....	RD1/4PM220J	
	R1 Carbon film resistor	RD1/4PM4R7J	.....	.....	RD1/4PM4R7J	
Δ	AC Power cord	ADG1049	ADG1049	ADG1052	ADG1049	
	Earth screw	ABA1047	.....	.....	ABA1047	
	Operating instructions (German)	ARC1146	.....	.....	ARC1146	
	Operating Instructions (English, French, Dutch, Italian, Nederlands, Svenska, Spanish, portuguese)	.....	ARE1128	.....	.....
	Operating instructions (English)	.....	.....	ARB1175	.....
	SCREW (BONNET)	FBT40P080FZK	FBT40P080FZK	FBT40P080FZK	FBT40P080FCR	
	Rotary knob L	AAB1107	AAB1107	AAB1107	AAB1110	
	Rotary knob M	AAB1108	AAB1108	AAB1108	AAB1112	
	Rotary knob S	AAB1109	AAB1109	AAB1109	AAB1111	
	Push knob	AAD1536	AAD1536	AAD1536	AAD1538	
	Direct knob	AAD1560	AAD1560	AAD1560	AAD1562	
	Power knob	AAD1561	AAD1561	AAD1561	AAD1563	
	Panel base	AMB1200	AMB1200	AMB1200	AMB1495	
	Front panel	ANB1295	ANB1295	ANB1295	ANB1296	
	Bonnet case	ANE1075	ANE1075	ANE1075	ANE1076	
	Packing case	AHD1633	AHD1633	AHD1633	AHD1634	

REC OUT assembly

The REC OUT assembly (HE,HB types) is the same as the REC OUT assembly (HEZ type) with the exception of the following sections.

Mark	Symbol & Description	Part No.		Remarks
		HEZ type	HE, HB types	
	C803-C810	CKCYB331K50	.....
	R803-R806	RD1/4PM182J	RD1/4PM222J	
	R807,R808	RD1/8PM182J	RD1/8PM222J	
	R809,R810	RD1/8PM221J	.....

INPUT SELECTOR assembly (AWZ2459)

The INPUT SELECTOR assembly (AWZ2459) is the same as the INPUT SELECTOR assembly (AWZ2351) with the exception of the following sections.

Mark	Symbol & Description	Part No.		Remarks
		AWZ2351	AWZ2459	
	C701-C710	CKCYB331K50	.....
	R701-R710	RD1/4PM221J	.....

HEAD PHONE assembly

The HEAD PHONE assembly (HE,HB types) is the same as the HEAD PHONE assembly (HEZ type) with the exception of the following sections.

Mark	Symbol & Description	Part No.		Remarks
		HEZ type	HE, HB types	
	C951,C952	CKCYB392K50	.....

POWER AMP assembly (AWZ2454)

The POWER AMP assembly (AWZ2454) is the same as the POWER AMP assembly (AWZ2335) with the exception of the following sections.

Mark	Symbol & Description	Part No.		Remarks
		AWZ2335	AWZ2454	
	L101-L104	.....	ATX1012	
	C105,C106	CKCYB122K50	CKCYB152K50	
	C109,C110	CMA080D500	CMA150J500	
	C111,C112	.....	CMA150J500	
	C141,C142	CCCSL121J50	.....
	C155	CCCSL151J50	.....
	C157,C158	CCCSL101J50	.....
	R123,R124	RD1/4PM560J	RD1/4PM101J	
	R245,R246	RD1/4PM100J	.....

POWER SUPPLY assembly (AWZ2455)

The POWER SUPPLY assembly (AWZ2455) is the same as the POWER SUPPLY assembly (AWZ2336) with the exception of the following sections.

Mark	Symbol & Description	Part No.		Remarks
		AWZ2336	AWZ2455	
	C615 C625	CQMXA104J100 CKCYB472K50	ACG1005	

SPEAKER TERMINAL assembly (AWZ2456)

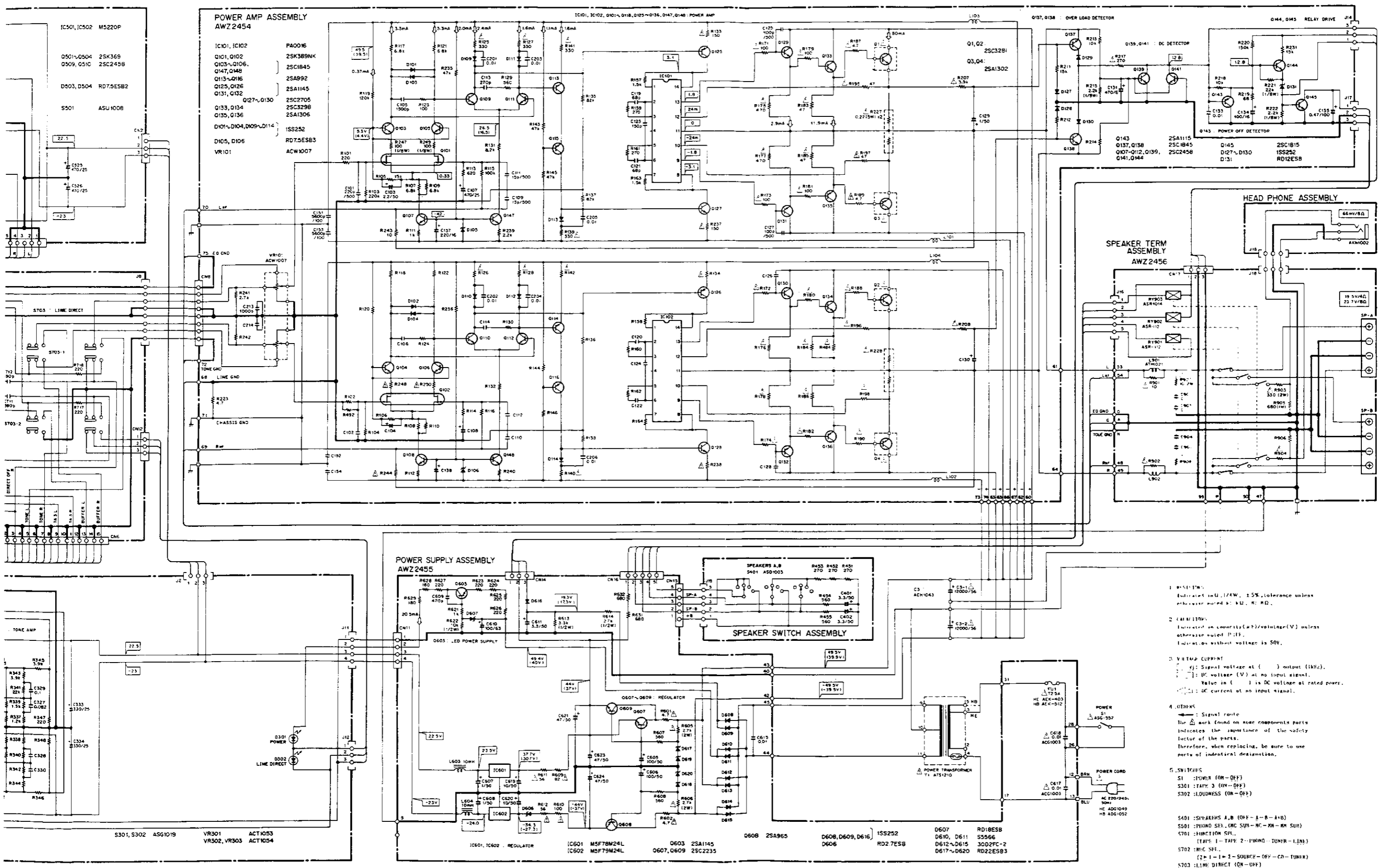
The SPEAKER TERMINAL assembly (AWZ2456) is the same as the SPEAKER TERMINAL assembly (AWZ2337) with the exception of the following sections.

Mark	Symbol & Description	Part No.		Remarks
		AWZ2337	AWZ2456	
	C905 - C908 C909, C910 R901, R902 R905, R906	CQMXA472J100 CCDSL101K500 RS1LMF101J .....	..... ..... RS1LMF100J RS1PMF681J	

PHONO AMP assembly (AWZ2457)

The PHONO AMP assembly (AWZ2457) is the same as the PHONO AMP assembly (AWZ2338) with the exception of the following sections.

Mark	Symbol & Description	Part No.		Remarks
		AWZ2338	AWZ2457	
	L501, L502 (560 μ H) L503, L504 (2.2 μ H) C505, C506 C523, C524 R505, R506	ATH1024 LAU2R2M CCCSL221J50 CCCSL390J50 RD1/8PM472J	..... ..... CCCSL271J50	



IC501, IC502 M5220P
 Q501~Q504 2SK369
 Q509, Q510 2SC245B
 D503, D504 RD7.5ESB2
 S501 ASU100B

ST03 LINE DIRECT
 ST03-1
 ST03-2

R343 3.3k
 R341 22k
 R333 1.5k
 R327 1.2k
 R338 330/25
 R340 5k
 R342 22k
 R344 10k

S301, S302 ASG1019
 VR301 ACT1053
 VR302, VR303 ACT1054

**POWER AMP ASSEMBLY
 AWZ 2454**
 IC101, IC102 PA0016
 Q101, Q102 2SK389NK
 Q103~Q106 2SC1845
 Q147, Q148 2SA992
 Q113~Q116 2SA1145
 Q125, Q126 2SC2705
 Q135, Q136 2SC3298
 2SA1306
 Q127~Q130 2SC2705
 Q135, Q136 2SC3298
 2SA1306
 D101~D104, D109~D114 ISS252
 D105, D106 RD7.5ESB3
 VR101 ACW1007

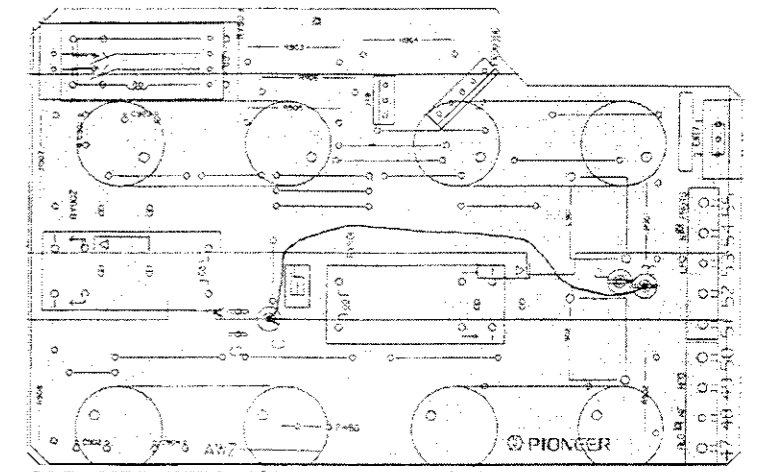
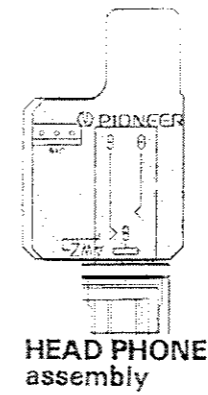
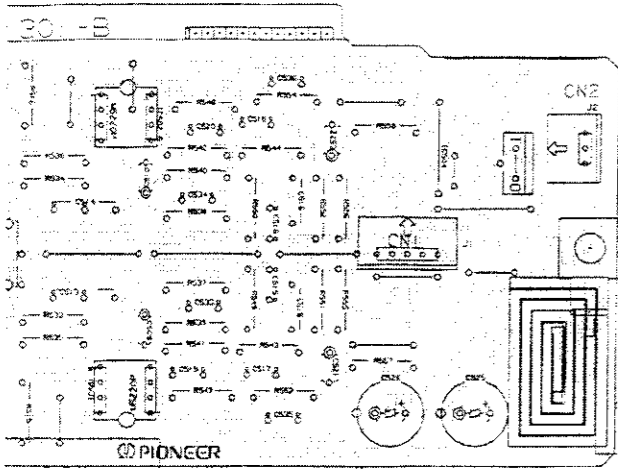
**POWER SUPPLY ASSEMBLY
 AWZ 2455**
 IC601, IC602 REGULATOR
 IC601 MSF78M24L
 IC602 MSF78M24L
 O603 2SA1145
 O607, O609 2SC2235
 O608 2SA965
 D608, D609, D616 ISS252
 D606 RD7.5ESB
 D610, D611 S5566
 D612~D615 30D2FC-2
 D617~D620 RD22ESB3
 R101 250
 R102 220k
 R103 220k
 R104 220k
 R105 10k
 R106 10k
 R107 10k
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1. RESISTORS: Indicated in Ω, kΩ, MΩ, tolerance unless otherwise noted: ±1%, ±5%, ±10%.

2. CAPACITORS: Indicated in pF, nF, μF, tolerance unless otherwise noted: ±1%, ±5%, ±10%.

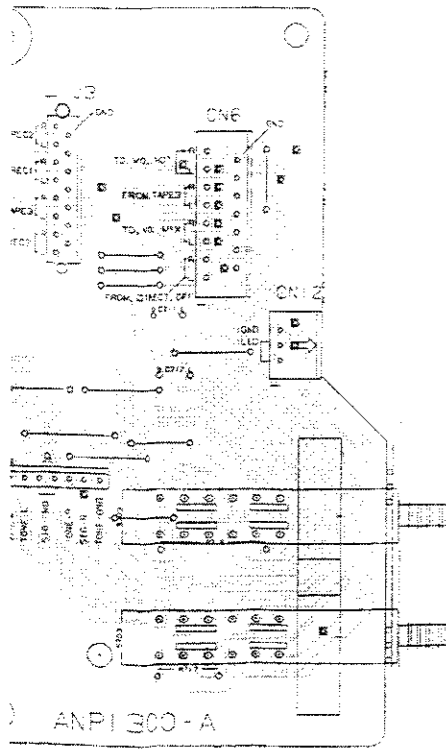
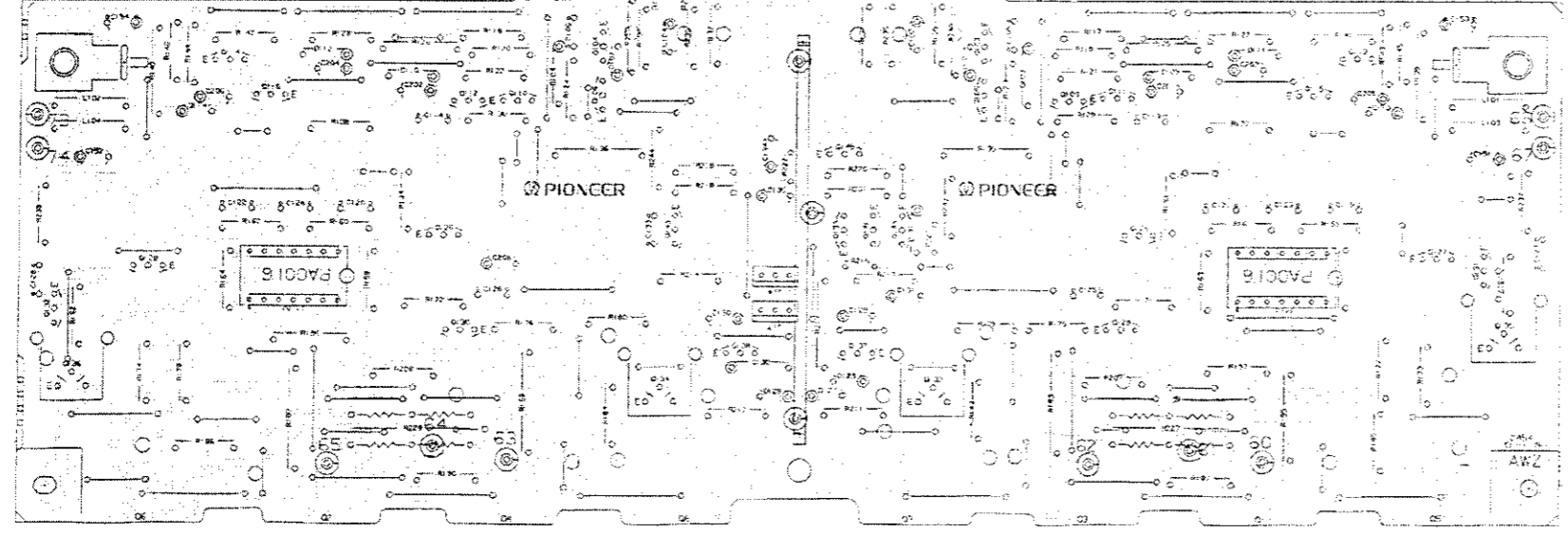
3. VOLTAGE: (V) Signal voltage at () output (RMS), (V) DC voltage (V) at no input signal, (V) DC current at no input signal.

4. OTHERS: Signal route, The mark found on some components parts indicates the importance of the

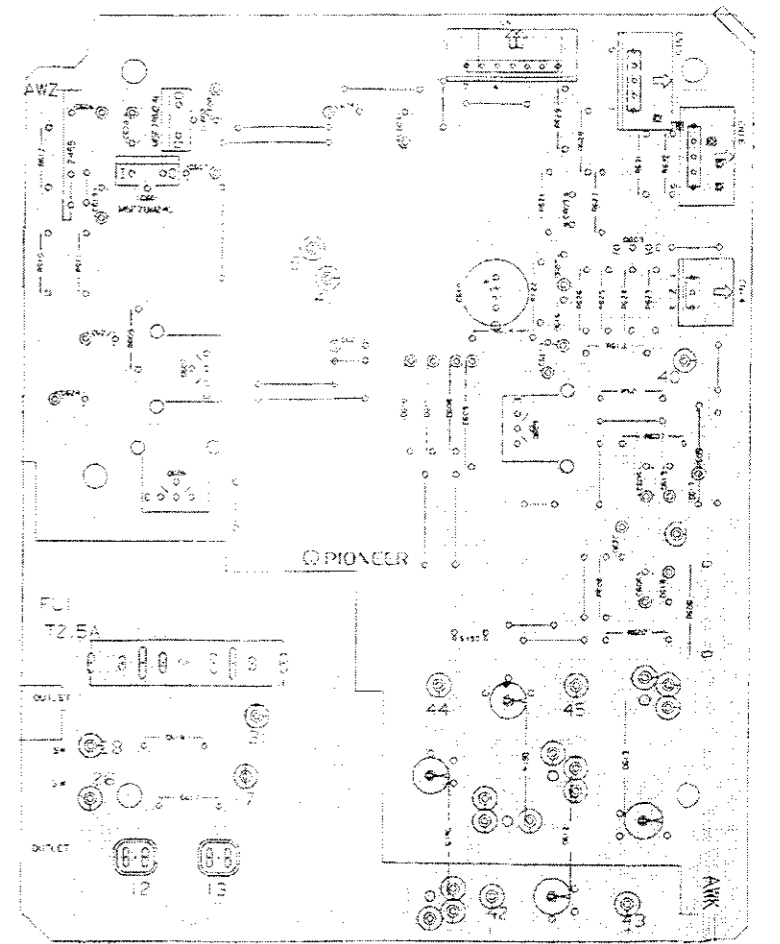


SPEAKER TERMINAL assembly (AWZ2456)

POWER AMP assembly (AWZ2454)

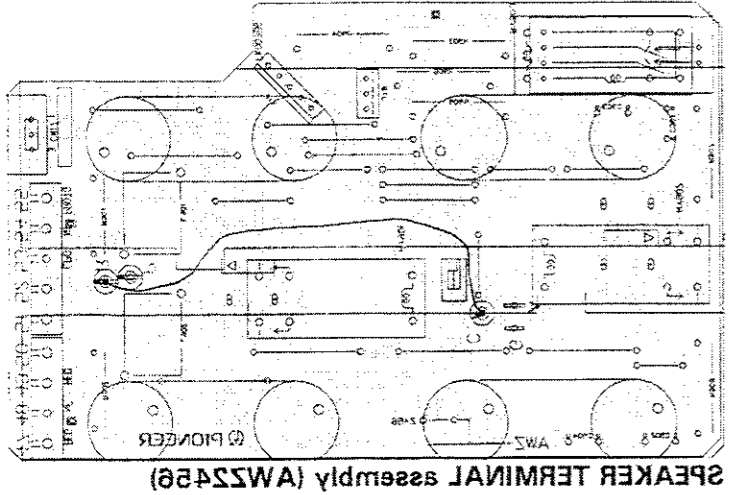


- Q132 Q136 Q128 Q114 Q116 IC102 Q112 C204 Q110 Q125 Q130 Q108 Q106 Q104 Q102 Q104 Q102 Q106 Q104 Q134 Q143 Q102 Q146 Q147 Q101 Q105 Q107 Q101 Q103 Q105 Q103 Q09 Q11 Q109 Q111 Q115 Q113 Q138 Q130 Q128 Q127 Q129 Q137 Q133 Q129 Q125 IC101 Q127 Q131 Q135

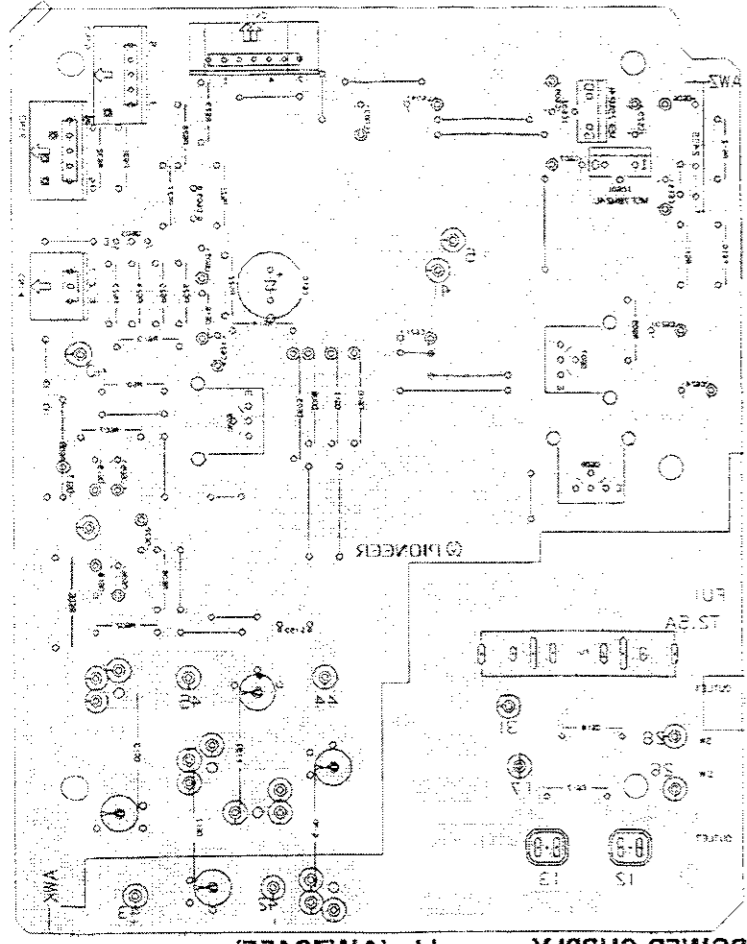


POWER SUPPLY assembly (AWZ2455)

A

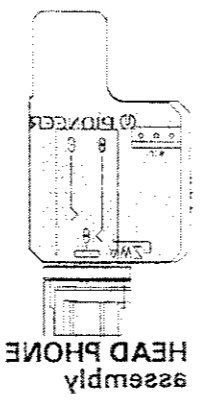


B

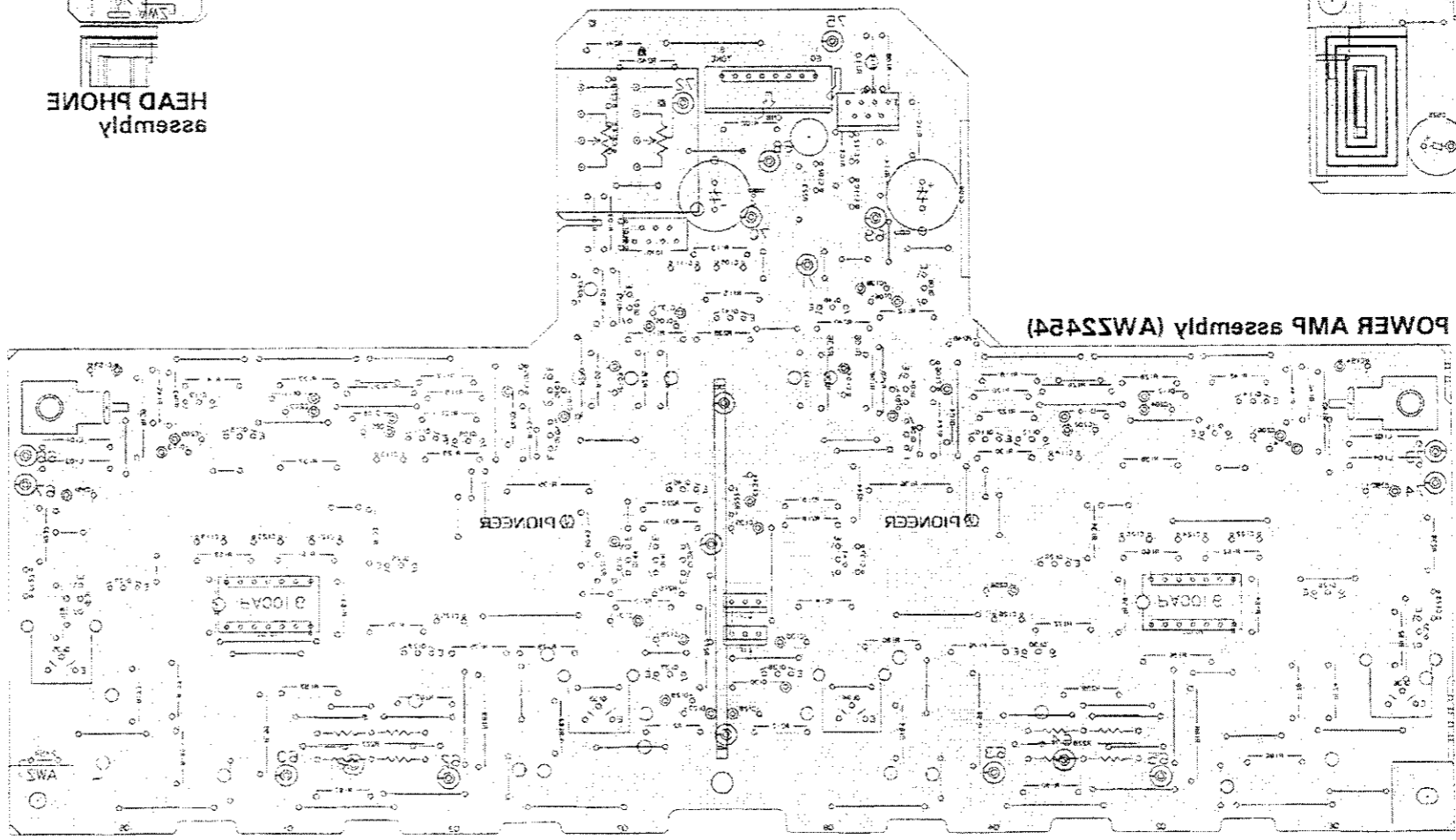


D

POWER SUPPLY assembly (WZ2455)



HEAD PHONE assembly



POWER AMP assembly (WZ2454)

015 016 018 019 020 021 022 023 024 025 026 027 028 029 030 031 032 033 034 035 036 037 038 039 040 041 042 043 044 045 046 047 048 049 050 051 052 053 054 055 056 057 058 059 060 061 062 063 064 065 066 067 068 069 070 071 072 073 074 075 076 077 078 079 080 081 082 083 084 085 086 087 088 089 090 091 092 093 094 095 096 097 098 099 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000

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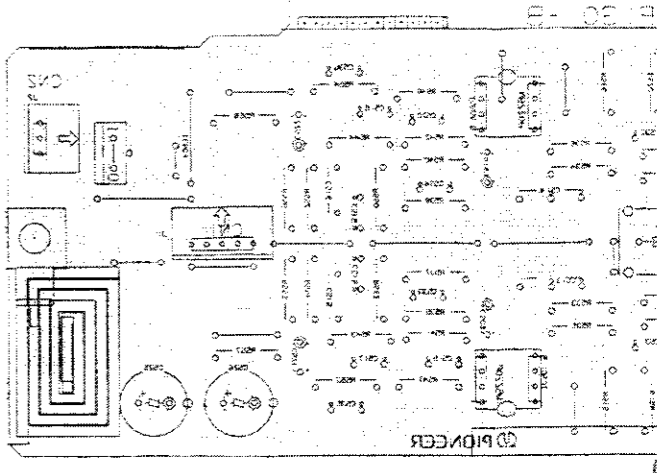
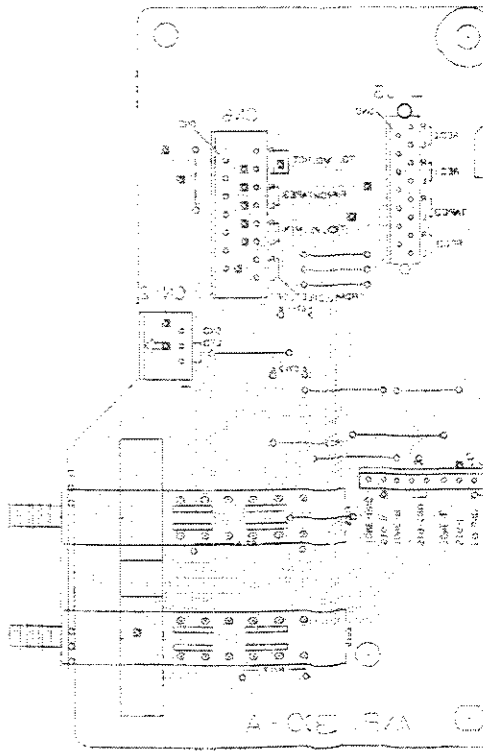
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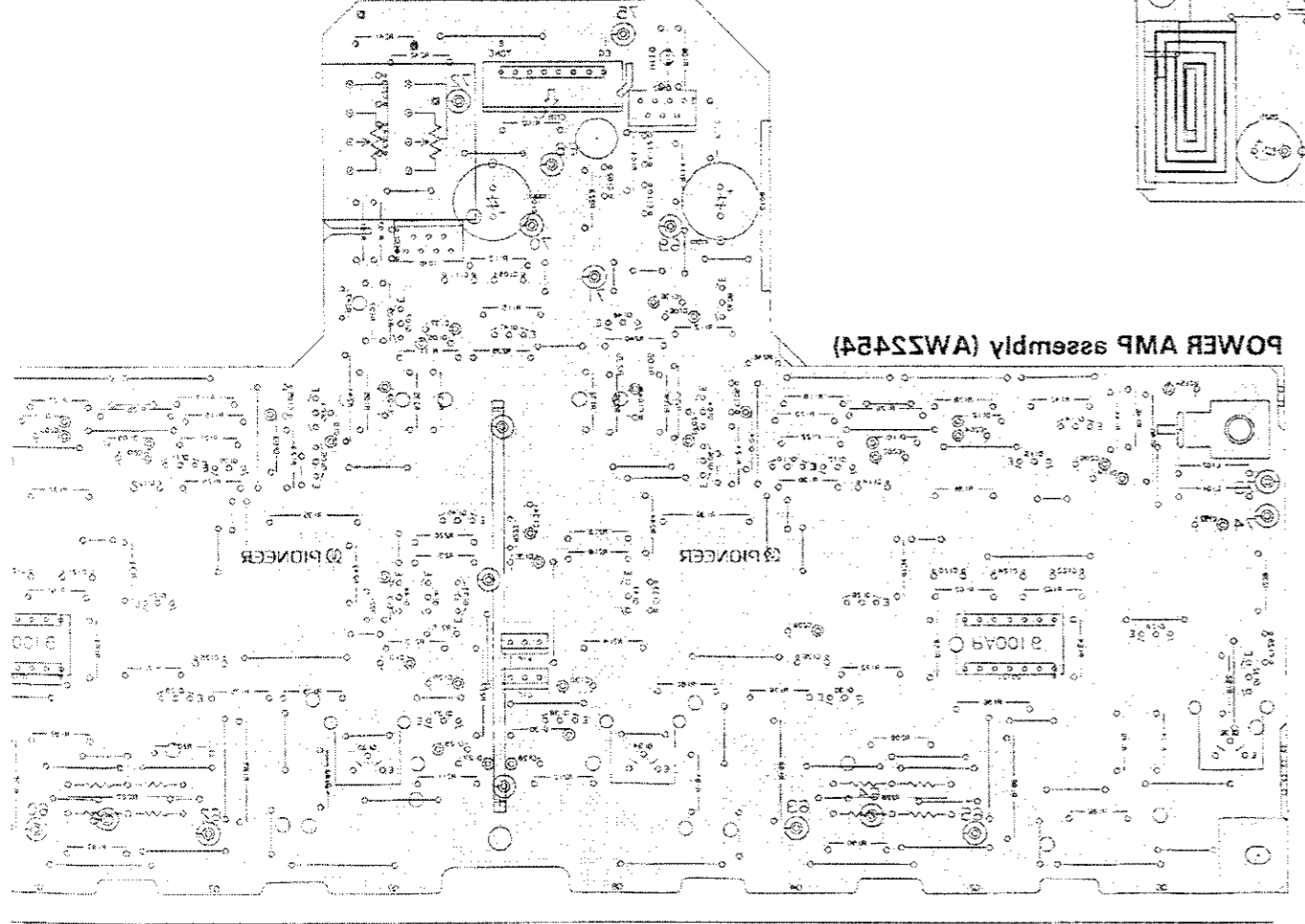
2

e

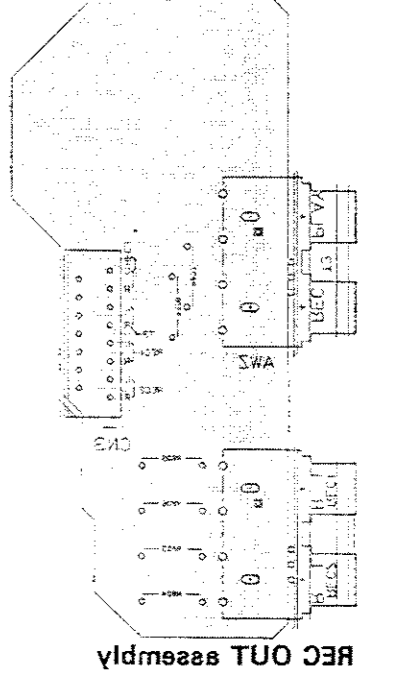
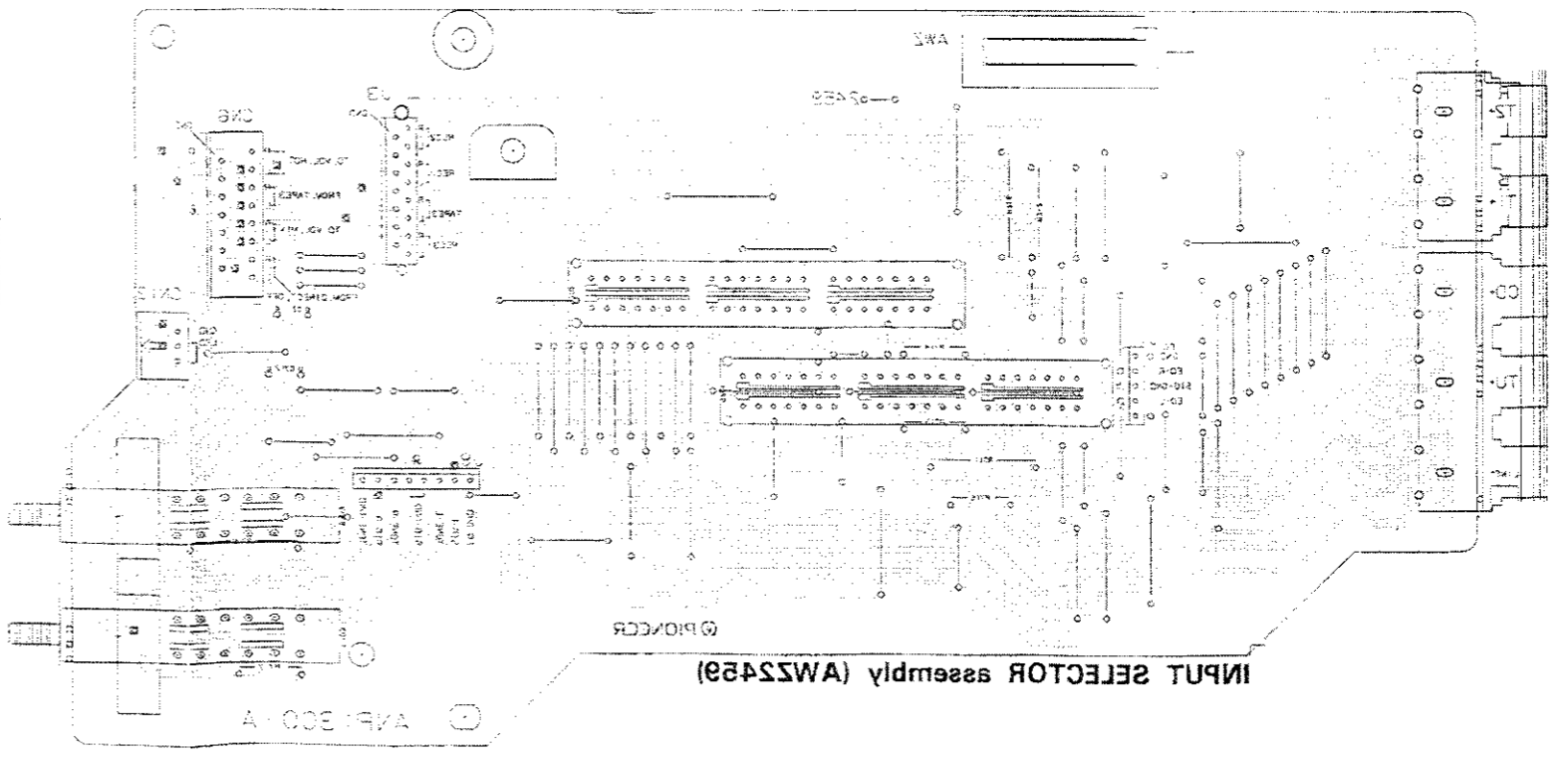
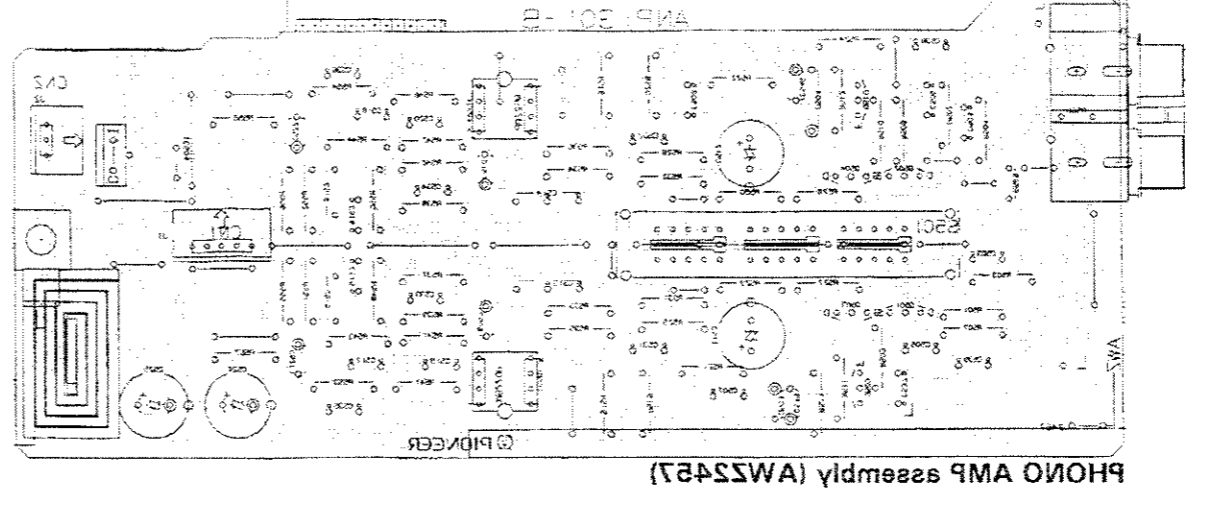
7

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NOTE:
This picture shows the foil side of the printed circuit.



0133 0128 0158 0105 0116 0104 0102 0101 0103 0104 0105 0106 0107 0108 0109 0110 0111 0112 0113 0114 0115 0116 0117 0118 0119 0120 0121 0122 0123 0124 0125 0126 0127 0128 0129 0130 0131 0132 0133 0134 0135 0136 0137 0138 0139 0140 0141 0142 0143 0144 0145 0146 0147 0148 0149 0150 0151 0152 0153 0154 0155 0156 0157 0158 0159 0160 0161 0162 0163 0164 0165 0166 0167 0168 0169 0170 0171 0172 0173 0174 0175 0176 0177 0178 0179 0180 0181 0182 0183 0184 0185 0186 0187 0188 0189 0190 0191 0192 0193 0194 0195 0196 0197 0198 0199 0200



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6. PANEL FACILITIES

The illustration shows model A-757.
Model A-656 is not equipped ⑦ and ⑬.

L'illustration montre le modèle A-757.
Le modèle A-656 n'est pas équipé des éléments ⑦ et ⑬.

Die Abbildung zeigt Modell A-757.
Modell A-656 ist nicht mit Bedienelementen ⑦ und ⑬
ausgestattet.

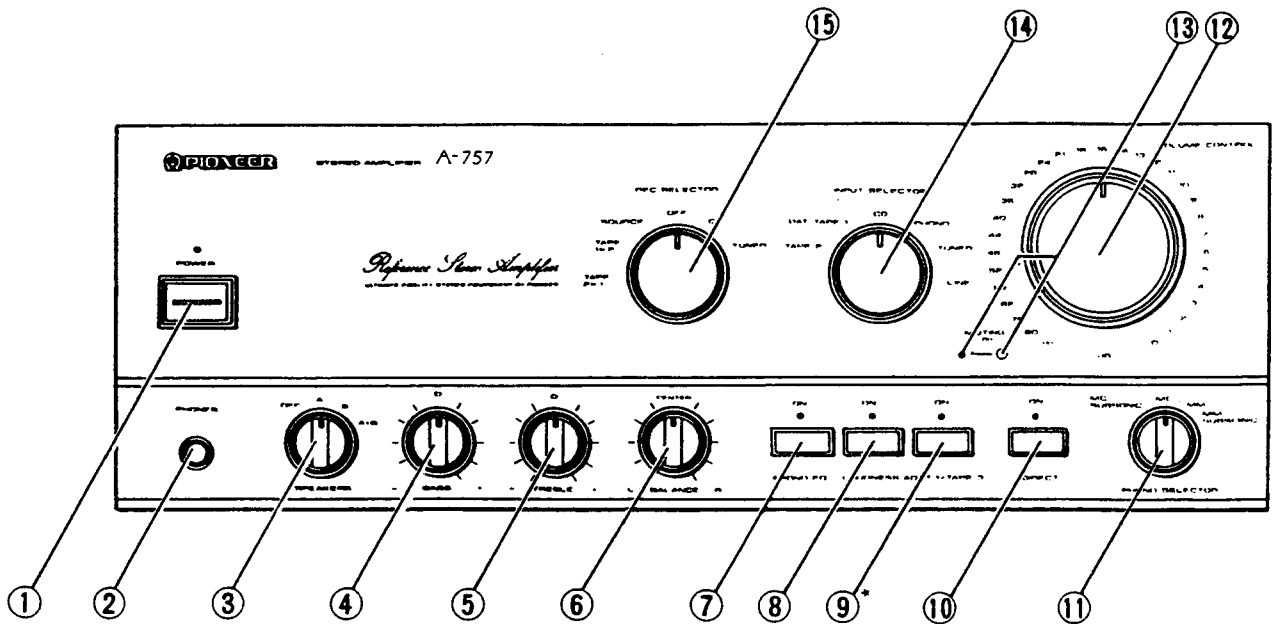
Il modello nell'illustrazione è l' A-757.
Il modello A-656 non possiede i No. ⑦ e ⑬.

De afbeelding toont model A-757.
Model A-656 is niet uitgerust met de bedieningsorganen
⑦ en ⑬.

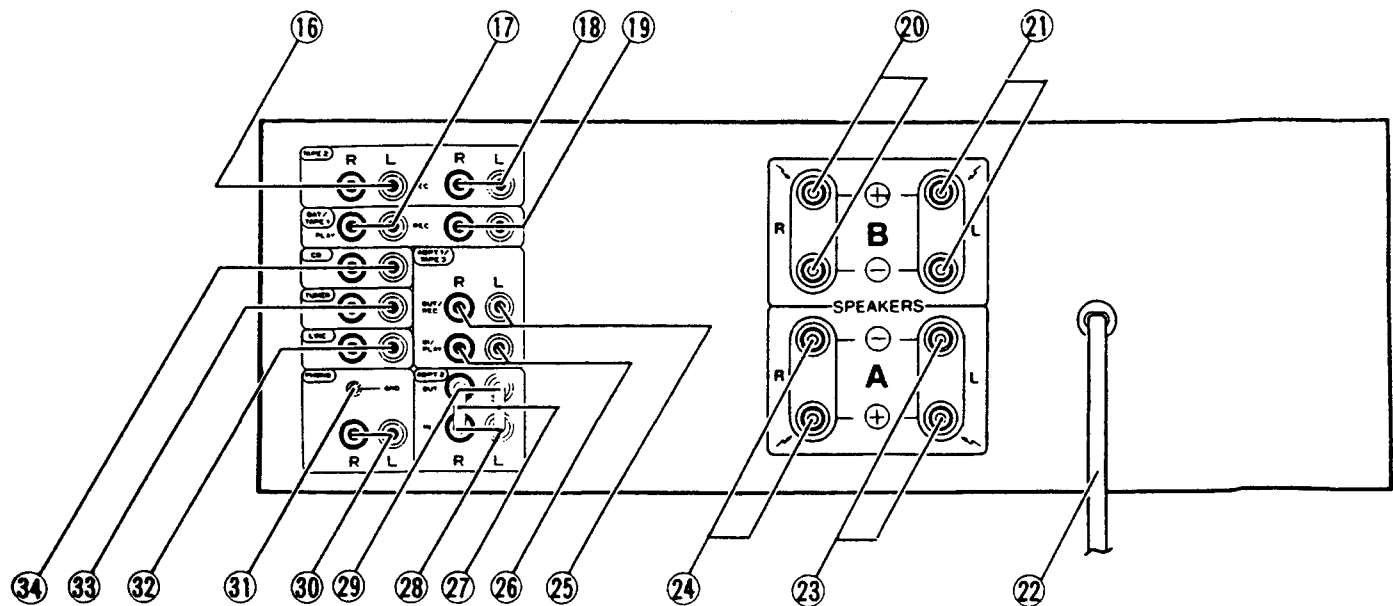
På bildeln visas modell A-757.
Modell A-656 saknar ⑦ och ⑬.

Il modello nell'illustrazione è l' A-757.
Il modello A-656 non possiede i No. ⑦ e ⑬.

Esta ilustração mostra o modelo A-757.
O modelo A-656 não possui os recursos ⑦ e ⑬.



* A-656...ADPT/TAPE 3
A-757...ADPT 1/TAPE 3



[FRONT PANEL]**① POWER switch/indicator**

Press to turn power to the unit ON and OFF.
When the power is ON, 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 the SPEAKERS terminals.

OFF:

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

A:

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

B:

For reproduction of sound with the speaker systems 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 switch is in the ON position.

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 switch is in the ON position.

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 switch is in the ON position.

⑦ PHONO EQ switch/indicator (A-757 only)

When not using a phono input, turn the phono equalizer power circuit off in order to prevent it from collecting noise during playback of other sources.

ON:

The indicator lights: Always set to this position when using a phono input. Immediately after turning ON, audio signal will be muted for several seconds until circuit operation becomes stable.

OFF:

The indicator goes off: Set to this position when not using a phono input.

⑧ LOUDNESS switch/indicator

Use when listening at low volume levels.

ON:

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

OFF:

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

NOTE:

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

⑨ ADPT 1/TAPE 3 switch/indicator (ADPT/TAPE 3 switch in the A-656)

Use this switch to listen to tape playback, or to listen to the sounds being recorded during tape recording.

ON:

The indicator lights: Press when listening to the playback sound of the tape deck or the adaptor connected to the ADPT 1/TAPE 3 IN/PLAY terminals, or to monitor the sound being recorded on the tape deck connected to the ADPT 1/TAPE 3 OUT/REC terminals.

OFF:

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

NOTE:

When the DIRECT switch is set to ON, this function does not operate and no signal is output at the ADPT 1/TAPE 3 OUT/REC terminals.

⑩ DIRECT switch/indicator

Use this switch when you do not wish to pass the output from input terminal equipment through the various frequency adjusting circuits and adaptor terminals (ADPT 1/TAPE 3, ADPT 2, BASS, TREBLE, BALANCE, LOUDNESS).

ON:

When the switch is in this position, the indicator lights and the signals input from the input terminals 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 switch is in this position the indicator goes out and the signal passes through the various frequency adjusting circuits.

⑪ PHONO SELECTOR switch

Set in accordance with the type of cartridge used in you 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.

⑫ VOLUME CONTROL

Use to adjust volume level.

NOTE:

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

⑬ MUTING switch/indicator (A-757 only)

Use to temporarily cut sound volume.

ON:

The indicator lights. The sound volume will be cut off.

OFF:

The indicator goes off. The sound will return to its previous volume.

⑭ 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 terminals.

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 tape deck or digital audio tape deck connected to the DAT/TAPE 1 terminals.

TAPE 2:

For playback with a tape deck connected to the TAPE 2 terminals.

⑮ REC SELECTOR switch

Switch to select recording signal. When set at other than SOURCE or OFF position, 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 terminals of DAT/TAPE 1 and TAPE 2 will be output. Select it when not recording; output to tape 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 tape deck of DAT/TAPE 1 terminals, over to the tape deck of TAPE 2 terminals.

2 ► 1

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

NOTE:

The REC SELECTOR switch has no effect on the recording out put of the ADPT 1/TAPE 3 terminals.

[REAR PANEL]**⑯ TAPE 2 PLAY terminals.****⑰ DAT/TAPE 1 PLAY terminals.****⑱ TAPE 2 REC terminals.****⑲ DAT/TAPE 1 REC terminals.****⑳ SPEAKERS B terminals (right channel).****㉑ SPEAKERS B terminals (left channel).****㉒ Power cord.**

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

㉓ SPEAKERS A terminals (left channel).**㉔ SPEAKERS A terminals (right channel).****㉕ ADPT 1/TAPE 3 OUT/REC terminals.**

ADPT/TAPE 3 OUT/REC terminals. (A-656 only).

㉖ ADPT 1/TAPE 3 IN/PLAY terminals.

ADPT/TAPE 3 IN/PLAY terminals. (A-656 only).

㉗ Shorting bars. (A-757 only).**㉘ ADPT 2 IN terminals. (A-757 only).****㉙ ADPT 2 OUT terminals. (A-757 only).****㉚ PHONO terminals.****㉛ Turntable ground terminal (GND).****㉜ LINE terminals.****㉝ TUNER terminals.****㉞ CD terminals.**

7. SPECIFICASIONS

[A-656]

Continuous power output (both channels driven at 20 Hz to 20 kHz) **	
T.H.D. 0.005%, 8 Ω	70W + 70W *
T.H.D. 0.008%, 4 Ω	95W + 95W *
DIN continuous power output (both channels driven)	
1 kHz, T.H.D. 1%, 8 Ω	80W + 80W
1 kHz, T.H.D. 1%, 4 Ω	120W + 120W
Power bandwidth	
0.05%, 8 Ω	5 Hz – 80 kHz *
Damping factor	
(1 kHz/20 Hz to 20 kHz), 8 Ω	200/70
Dynamic power output (on EIA dynamic test signal)	
4 Ω /2 Ω	150W/190W
Total harmonic distortion **	
20 Hz to 20 kHz, 70W, 8 Ω	0.005% *
20 Hz to 20 kHz, 95W, 4 Ω	0.008% *
Inter-modulation distortion (at rated output)	0.005% *
Input sensitivity/impedance	
PHONO (MM)	2.5 mV/50 k Ω
PHONO (MC)	0.2 mV/100 Ω
CD, TUNER, LINE, TAPE	150 mV/50 k Ω
PHONO overload level	
1 kHz, T.H.D. 0.008% (MM/MC)	200 mV/19 mV
Output level/impedance	
TAPE REC	150 mV/2.2 k Ω
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 -3 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)	95 dB/77 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	a.c.220 Volts ~, 50/60 Hz
Power consumption	650W
Dimensions	420 (W) × 435 (D) × 162 (H) mm
Weight (without package)	13.5 kg

Accessories

Operating instructions	1
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NOTE:

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

* Measured with the DIRECT switch set to ON.

** Measured by Audio Spectrum Analyzer.