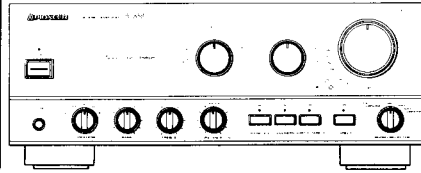


Service Manual

PIONEER
The future of sound and vision.



ORDER NO.
ARP1815

STEREO AMPLIFIER

A-858

- This manual is applicable to the A-858/HEZ type.
- For the other types, refer to additional service manuals.

A-858 AND A-71 HAVE FOLLOWING VERSIONS :

Type	Applicable model		Power requirement	Export destination
	A-858	A-71		
HEZ	○	—	AC220V, 240V (switchable)*	West Germany
HB	○	—	AC220V, 240V (switchable)*	United Kingdom
KU/CA	—	○	AC120V only	U. S. A. and Canada

*Change the primary wiring of the power transformer.

CONTENTS

1. EXPLODED VIEW, PACKING AND PARTS LIST	2
2. SCHEMATIC AND P.C. BOARDS CONNECTION DIAGRAM	6
3. ELECTRICAL PARTS LIST	21
4. SPECIFICATIONS	25
5. PANEL FACILITIES	26

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1. EXPLODED VIEW, PACKING AND PARTS LIST

1.1 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.

Mark	No.	Part No.	Description	Mark	No.	Part No.	Description
Δ	1	2SA1265N	TRANSISTOR Q 3		61	AAB1108	ROTARY KNOB (M)
Δ	2	2SA1265N	TRANSISTOR Q 4		62	AAB1109	ROTARY KNOB (S)
Δ	3	2SA1265N	TRANSISTOR Q 7		63	AAD1016	TACT KNOB (B)
Δ	4	2SA1265N	TRANSISTOR Q 8		64	AAD1536	PUSH KNOB
Δ	5	2SA1265N	TRANSISTOR Q11		65	AAD1560	DIRECT KNOB
Δ	6	2SA1265N	TRANSISTOR Q12		66	AAD1561	POWER KNOB
Δ	7	2SC3182N	TRANSISTOR Q 1		67	ANE1187	BONNET CASE
Δ	8	2SC3182N	TRANSISTOR Q 2		68	ARE1119	OPERATING INSTRUCTIONS
Δ	9	2SC3182N	TRANSISTOR Q 5		69	AEA1010	SPACER SET
Δ	10	2SC3182N	TRANSISTOR Q 6		70	AHA1246	TOP PAD
Δ	11	2SC3182N	TRANSISTOR Q 9		71	AHA1247	BOTTOM PAD
Δ	12	2SC3182N	TRANSISTOR Q10		72	AHD1618	PACKING CASE
Δ	13	RDR1/4PM100J	CARBON FILM RESISTOR R1		73	
Δ	14	RDR1/4PM100J	CARBON FILM RESISTOR R2		74	
Δ	15	ACH1122	CAPACITOR C1		75		SPEAKER SWITCH ASSEMBLY
Δ	16	ACH1122	CAPACITOR C2		76	AWZ2341	TONE AMP ASSEMBLY
Δ	17	COMXA472J100	CAPACITOR C3,C4		77	AWZ2342	REC OUT ASSEMBLY
Δ	18	ATS1198	POWER TRANSFORMER T2		78	AWZ2343	INPUT SELECTOR ASSEMBLY
Δ	19	ATS1199	POWER TRANSFORMER T1		79		
Δ	20	ASG-553	PUSH SWITCH S1		80	AWZ2324	POWER AMP ASSEMBLY
	21	ASU1027	SWITCH S4		81	AWZ2325	POWER SUPPLY ASSEMBLY
	22	ASU1028	SWITCH S3		82	AWZ2326	SPEAKER TERM. ASSEMBLY
	23	ASU1029	SWITCH S2		83	AWZ2327	PHONO AMP ASSEMBLY
	24	AKM1019	JUMPER PLUG		84		HEADPHONE ASSEMBLY
Δ	25	AEK-017	FUSE(T2A) FU3		85		TERMINAL
Δ	26	AEK-017	FUSE(T2A) FU4		86		EARTH LEAD WIRE
Δ	27	ADG1036	AC POWER CORD		87		RIGHT FRAME
	28	ANL1023	LONG SHAFT ASSEMBLY		88		TRANSFORMER FRAME
	29	AMR1158	FOOT		89		LEFT FRAME
	30	AMR1159	FOOT		90		REAR PANEL
	31	ABE1009	WASHER		91		PANEL STAY
	32	ABF1017	WASHER		92		BOTTOM PLATE
	33	ABH1034	SPRING (B)		93		HEAT SINK
	34	ABH1056	SPRING (A)		94		HEAT SINK
	35	AEC-882	STRAIN RELIEF		95		HEAT SINK HOLDER
	36	AMR1178	JOINT		96		VOLUME HOLDER
	37	AMR1180	SHEET		97		SHIELD CASE (B)
	38	ABA-298	SCREW		98		SHIELD CASE (SP)
	39	ABA1004	SCREW (STEEL)		99		CUSHION RUBBER (C)
	40	ABA1009	SCREW (STEEL)		100		CUSHION SPACER
	41	ABA1011	SCREW (STEEL)		101		DAMPER SHEET (B)
	42	ABA1034	SCREW		102		CUSHION RUBBER
	43	ABA1047	SCREW (STEEL)		103		RUBBER SPACER
	44	ABA1048	SCREW (STEEL)		104		NYLON BINDER
	45	ABA1050	SCREW (STEEL)		105		BINDER
	46	ABA1082	SCREW		106		RIVET
	47	ABA1088	SCREW		107		BARRIER
	48	ABN-048	FLANGE NUT M9		108		SPACER
	49	ABN-065	NUT		109		NYLON RIVET
	50	BBZ40P080FZK	SCREW		110		SPACER
	51	BBZ40P140FZK	SCREW		111		SPACER
	52	NK70FUC	NUTS		112	
	53	NK90FCU	NUT		113		CLAMPER
	54	VMZ30P060FCU	SCREW		114		PUSH JOINT
	55	WG70FUC	WASHER		115		P.C.B HOLDER
	56	ANB1287	FRONT PANEL		116	
	57	AMB1474	PANEL BASE		117	
	58	AAM1029	NAME PLATE		118	
	59	AMR1160	INDICATING LENS		119		SHEET
	60	AAB1107	ROTARY KNOB (L)				

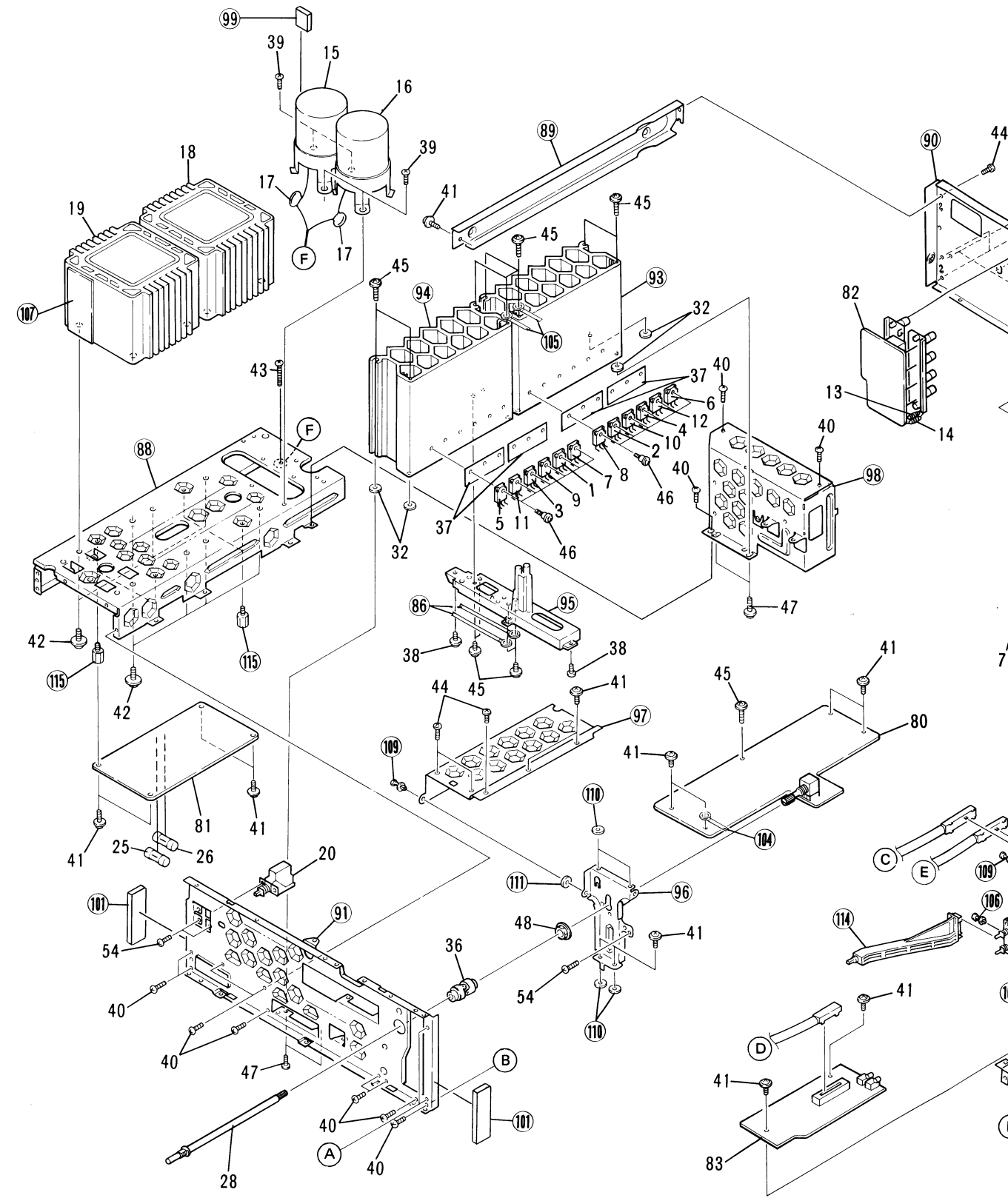
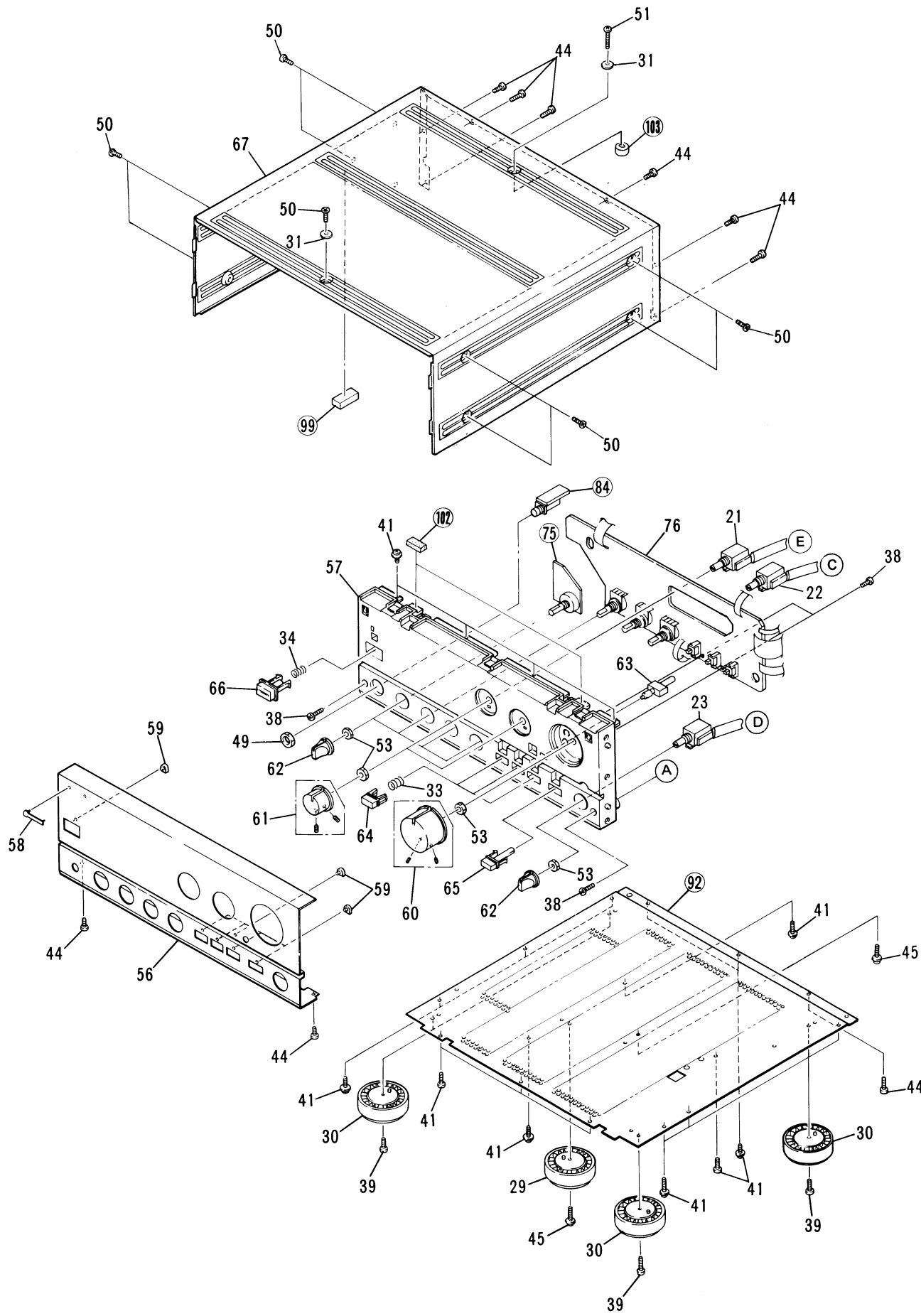
1.2 EXTERIOR

A

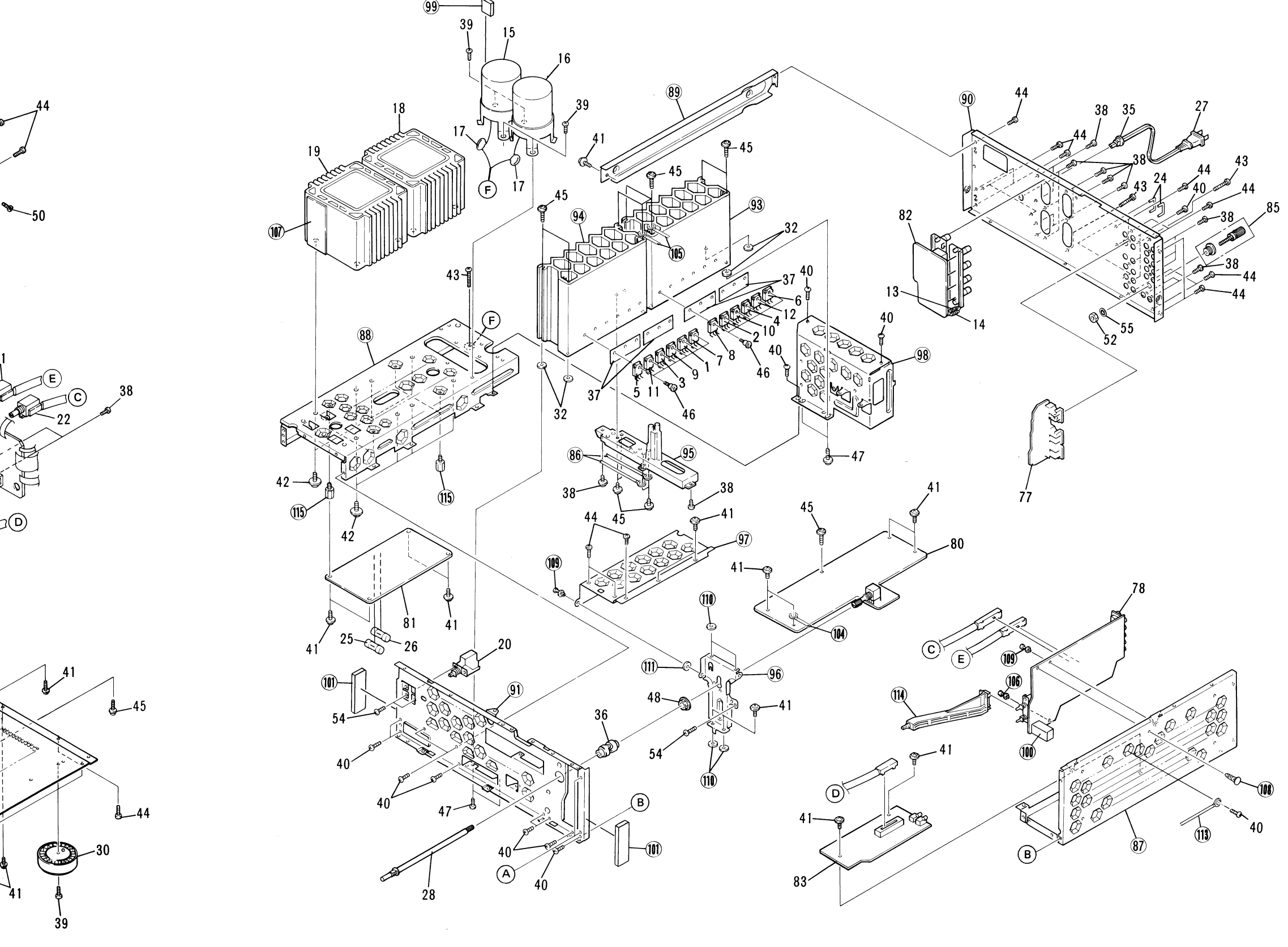
B

C

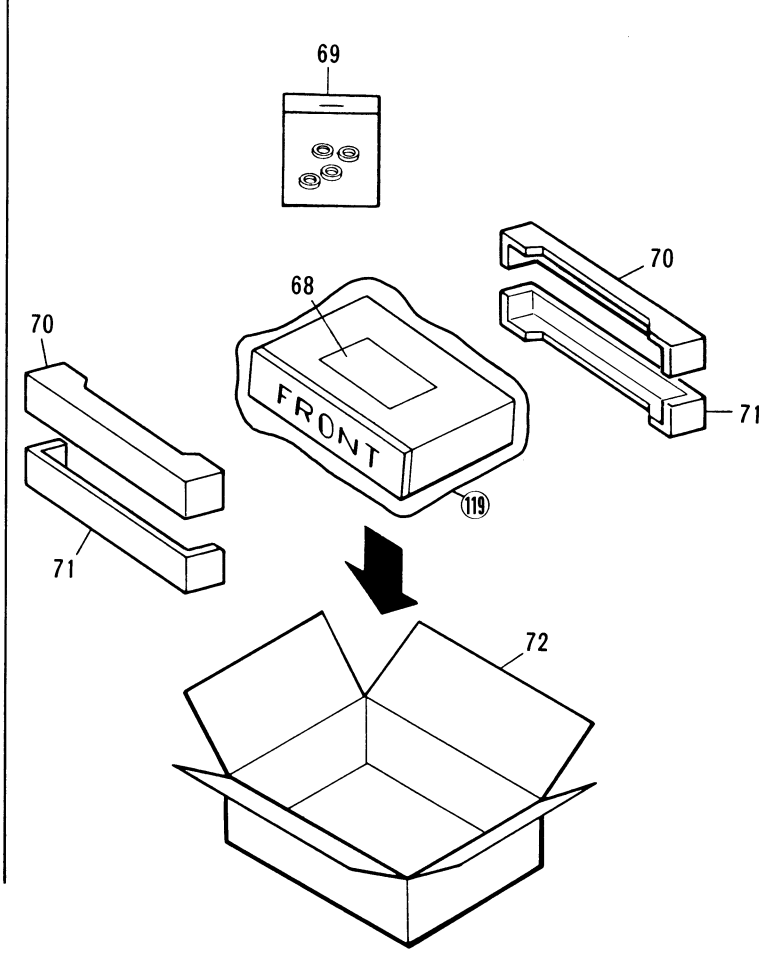
D



3 4 5 6 7 8 9



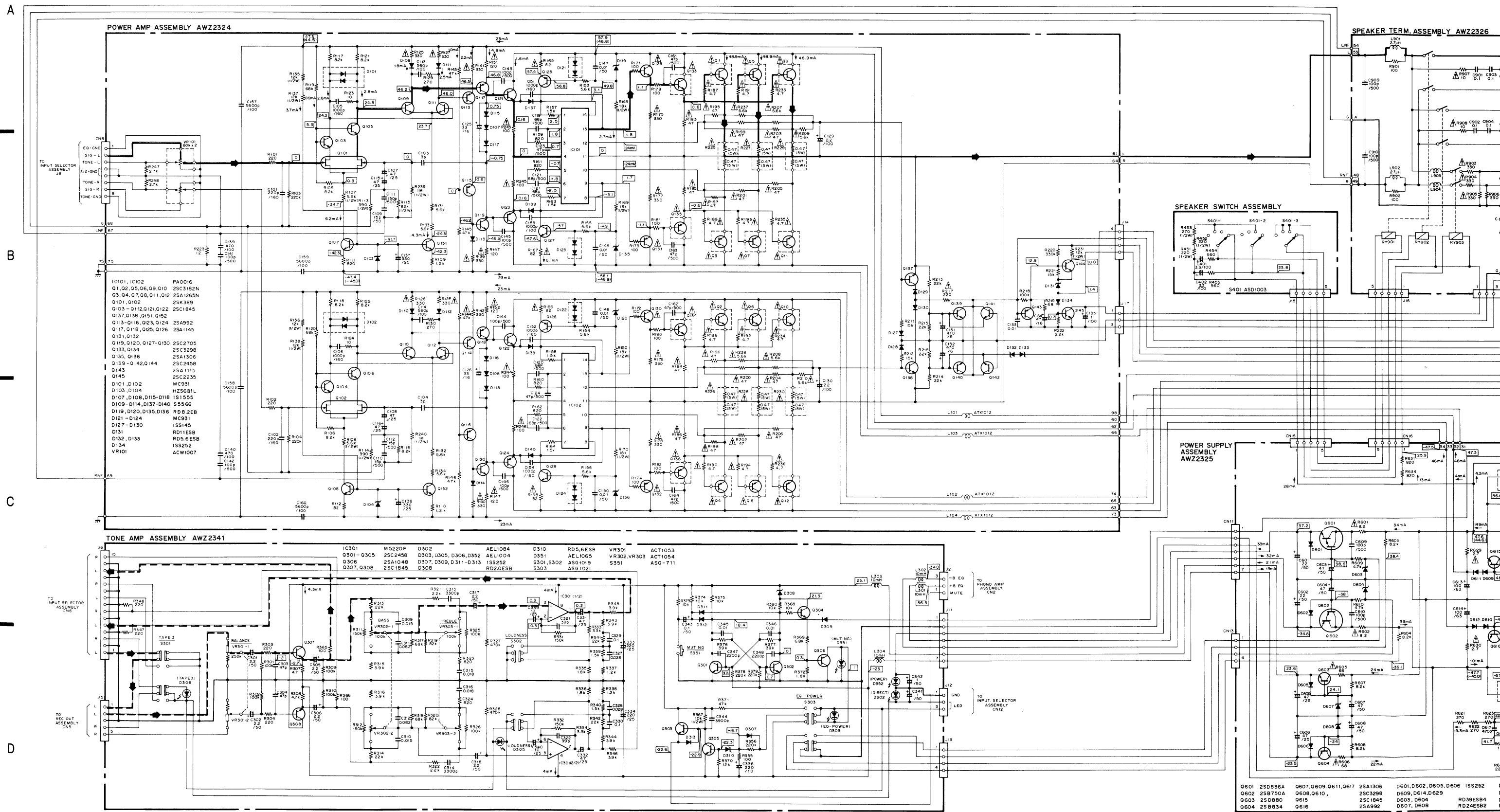
1.3 PACKING

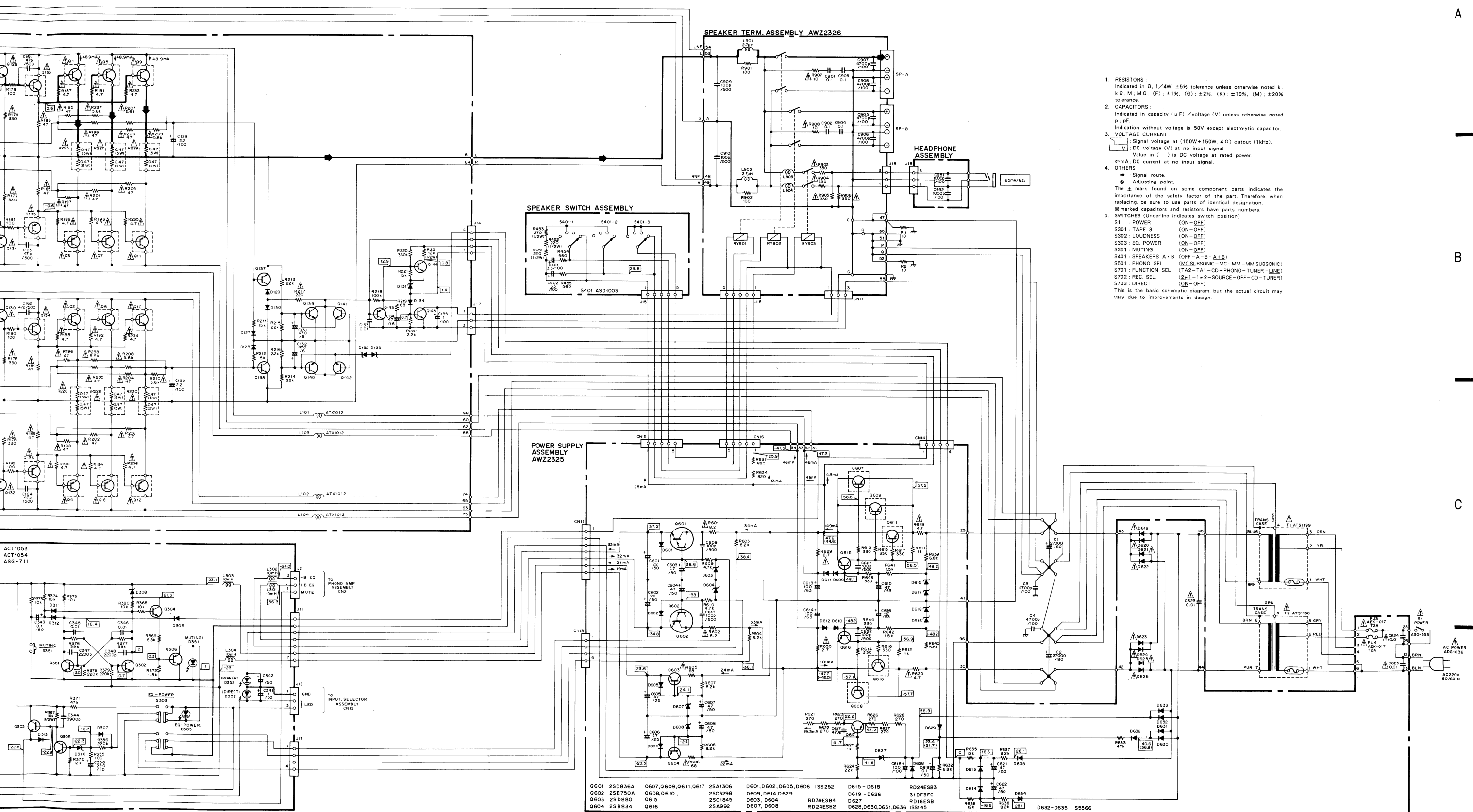


3 4 5 6 7 8 9 5

2. SCHEMATIC AND P.C.BOARDS CONNECTION DIAGRAM

● SCHEMATIC DIAGRAM (1/2)





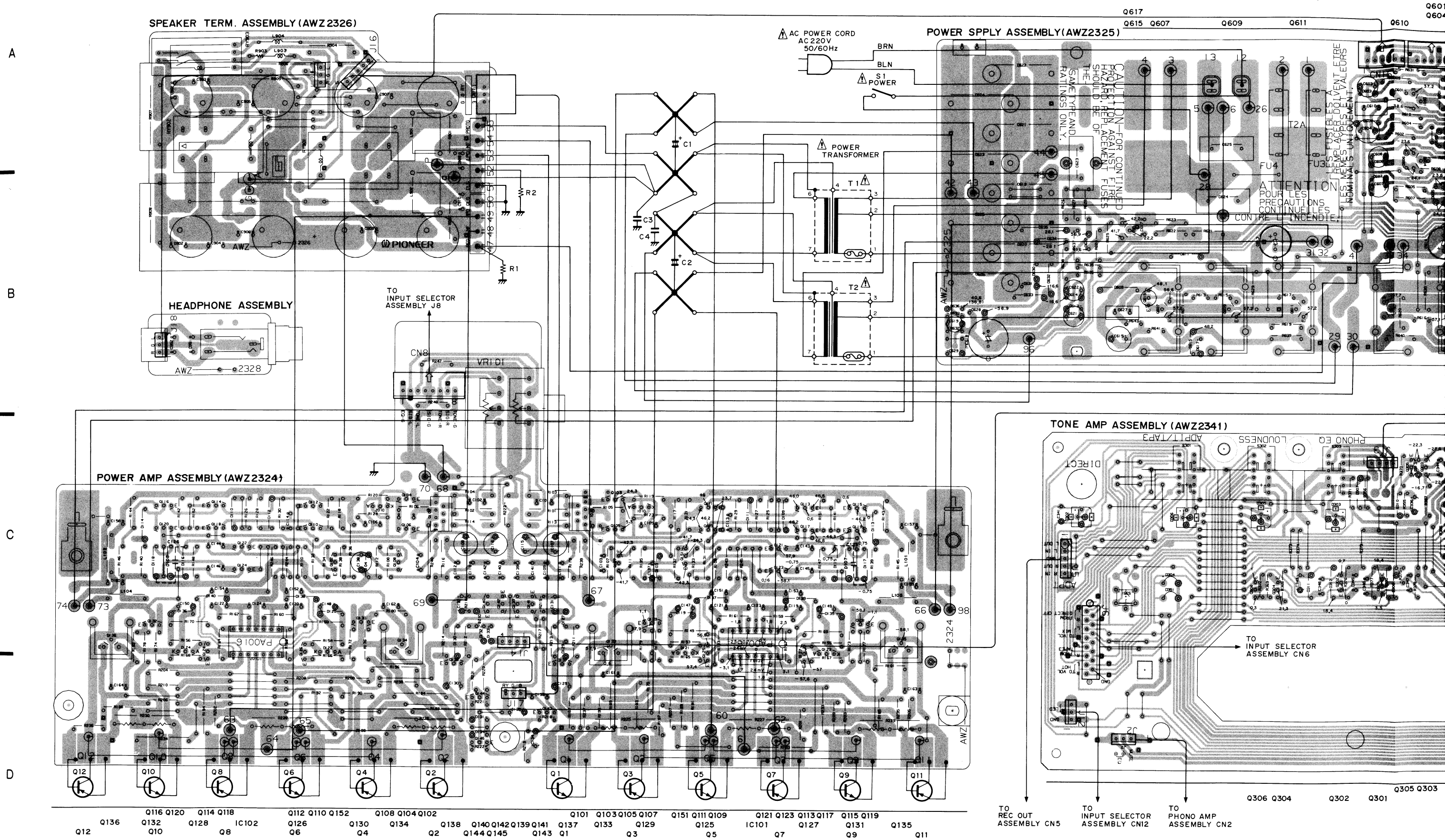
1. RESISTORS:
Indicated in Ω, 1/4W, ±5% tolerance unless otherwise noted k, kΩ, M, MΩ, (F): ±1%, (G): ±2%, (K): ±10%, (M): ±20% tolerance.
 2. CAPACITORS:
Indicated in capacity (μF) / voltage (V) unless otherwise noted p, pF.
Indication without voltage is 50V except electrolytic capacitor.
 3. VOLTAGE CURRENT:
⊖: Signal voltage at (150W+150W, 4 Ω) output (1kHz).
V: DC voltage (V) at no input signal.
Value in () is DC voltage at rated power.
mA: DC current at no input signal.
 4. OTHERS:
●: Signal route.
○: 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.
 5. SWITCHES (Underline indicates switch position)
S1 : POWER (ON-OFF)
S301 : TAPE 3 (ON-OFF)
S302 : LOUDNESS (ON-OFF)
S303 : EQ POWER (ON-OFF)
S351 : MUTING (ON-OFF)
S401 : SPEAKERS A·B (OFF-A-B-A+B)
S501 : PHONO SEL. (MC-SUBSONIC-MC-MM-MM-SUBSONIC)
S701 : FUNCTION SEL. (TA2-TA1-CD-PHONO-TUNER-LINE)
S702 : REC. SEL. (2-1-1-2-SOURCE-OFF-CD-TUNER)
S703 : DIRECT (ON-OFF)
- This is the basic schematic diagram, but the actual circuit may vary due to improvements in design.

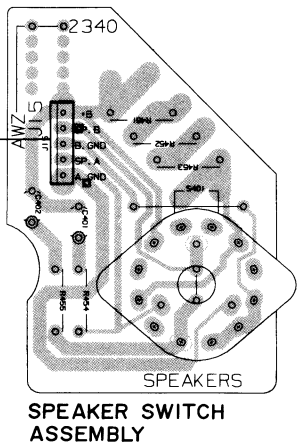
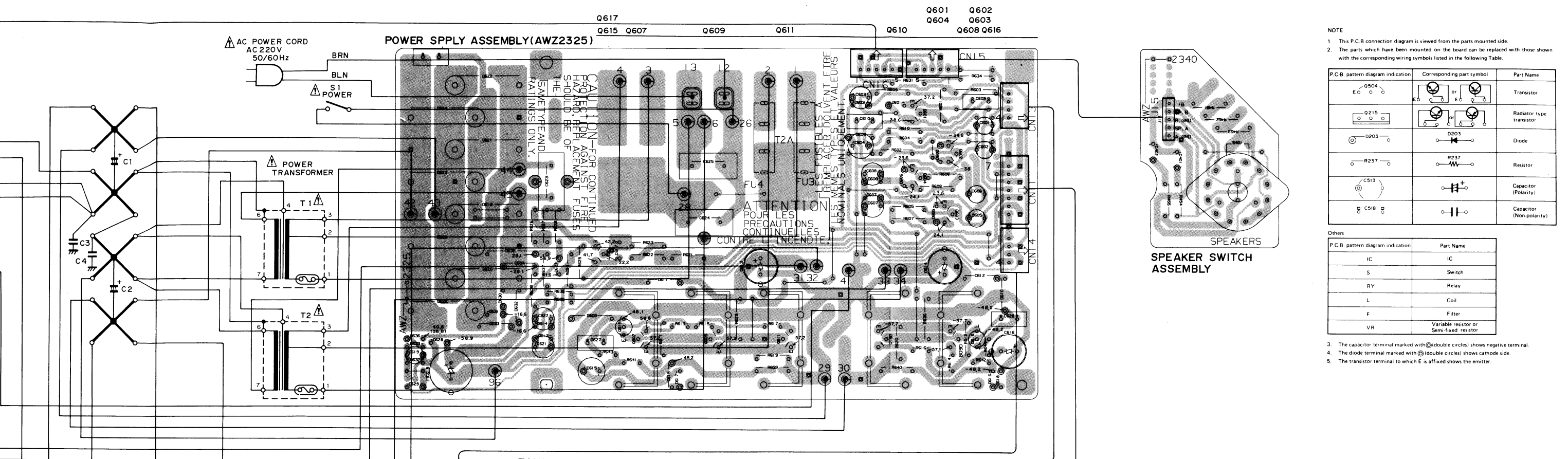
Q601 2SD836A	Q607, Q609, Q611, Q617 2SA1306	D601, D602, D605, D606 1SS252	D615 - D618 RD24ESB3
Q602 2SB750A	Q608, Q610 2SC3298	D609, D614, D629 D633, D604 RD39ESB4	D619 - D626 31DF3FC
Q603 2S0880	Q615 2SC1845	D603, D604 RD24ESB2	D627 RD16ESB
Q604 2SB834	Q616 2SA992	D607, D608 RD24ESB2	D628, D630, D631, D636 1SS145

D613 D614 D615 D616 D617 D618 D619 D620 D621 D622 D623 D624 D625 D626 D627 D628 D629 D630 D631 D632 D633 D634 D635 D636 D637 D638 D639 D640 D641 D642 D643 D644 D645 D646 D647 D648 D649 D650 D651 D652 D653 D654 D655 D656 D657 D658 D659 D660 D661 D662 D663 D664 D665 D666 D667 D668 D669 D670 D671 D672 D673 D674 D675 D676 D677 D678 D679 D680 D681 D682 D683 D684 D685 D686 D687 D688 D689 D690 D691 D692 D693 D694 D695 D696 D697 D698 D699 D700 D701 D702 D703 D704 D705 D706 D707 D708 D709 D710 D711 D712 D713 D714 D715 D716 D717 D718 D719 D720 D721 D722 D723 D724 D725 D726 D727 D728 D729 D730 D731 D732 D733 D734 D735 D736 D737 D738 D739 D740 D741 D742 D743 D744 D745 D746 D747 D748 D749 D750 D751 D752 D753 D754 D755 D756 D757 D758 D759 D760 D761 D762 D763 D764 D765 D766 D767 D768 D769 D770 D771 D772 D773 D774 D775 D776 D777 D778 D779 D780 D781 D782 D783 D784 D785 D786 D787 D788 D789 D790 D791 D792 D793 D794 D795 D796 D797 D798 D799 D800 D801 D802 D803 D804 D805 D806 D807 D808 D809 D810 D811 D812 D813 D814 D815 D816 D817 D818 D819 D820 D821 D822 D823 D824 D825 D826 D827 D828 D829 D830 D831 D832 D833 D834 D835 D836 D837 D838 D839 D840 D841 D842 D843 D844 D845 D846 D847 D848 D849 D850 D851 D852 D853 D854 D855 D856 D857 D858 D859 D860 D861 D862 D863 D864 D865 D866 D867 D868 D869 D870 D871 D872 D873 D874 D875 D876 D877 D878 D879 D880 D881 D882 D883 D884 D885 D886 D887 D888 D889 D890 D891 D892 D893 D894 D895 D896 D897 D898 D899 D900 D901 D902 D903 D904 D905 D906 D907 D908 D909 D910 D911 D912 D913 D914 D915 D916 D917 D918 D919 D920 D921 D922 D923 D924 D925 D926 D927 D928 D929 D930 D931 D932 D933 D934 D935 D936 D937 D938 D939 D940 D941 D942 D943 D944 D945 D946 D947 D948 D949 D950 D951 D952 D953 D954 D955 D956 D957 D958 D959 D960 D961 D962 D963 D964 D965 D966 D967 D968 D969 D970 D971 D972 D973 D974 D975 D976 D977 D978 D979 D980 D981 D982 D983 D984 D985 D986 D987 D988 D989 D990 D991 D992 D993 D994 D995 D996 D997 D998 D999 D1000

● P.C. BOARDS CONNECTION DIAGRAM (1/2)

● View from component side





NOTE

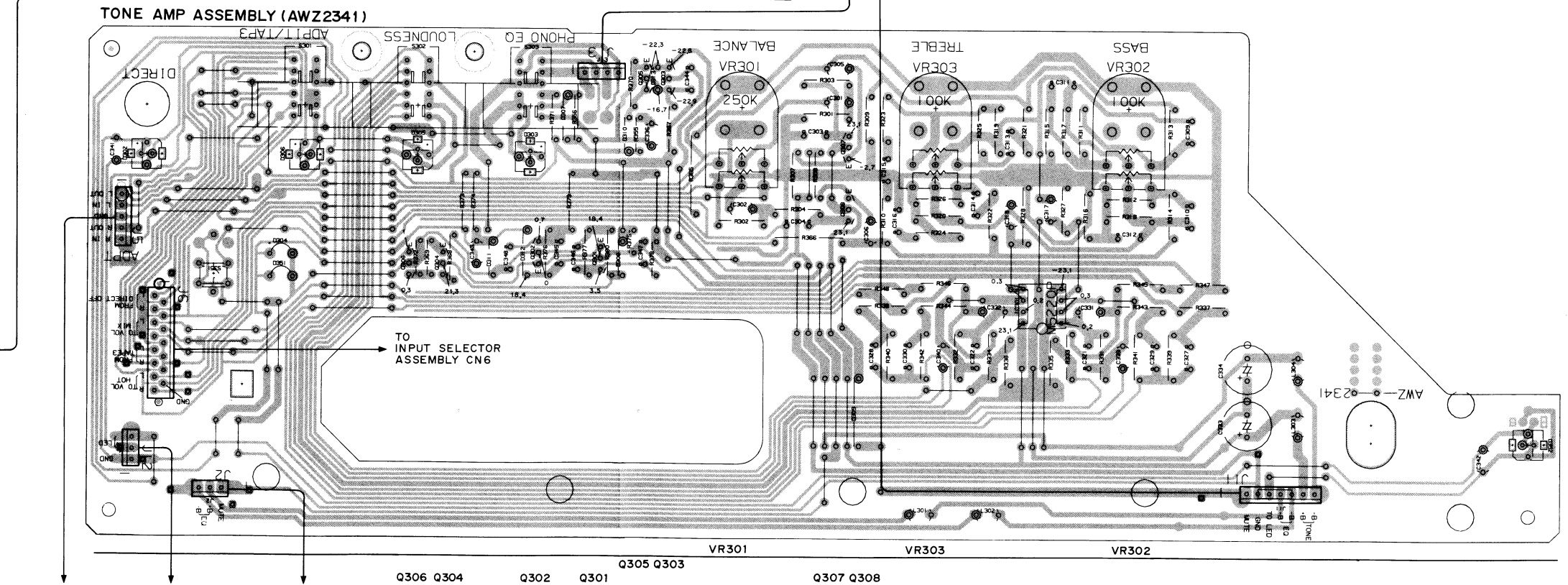
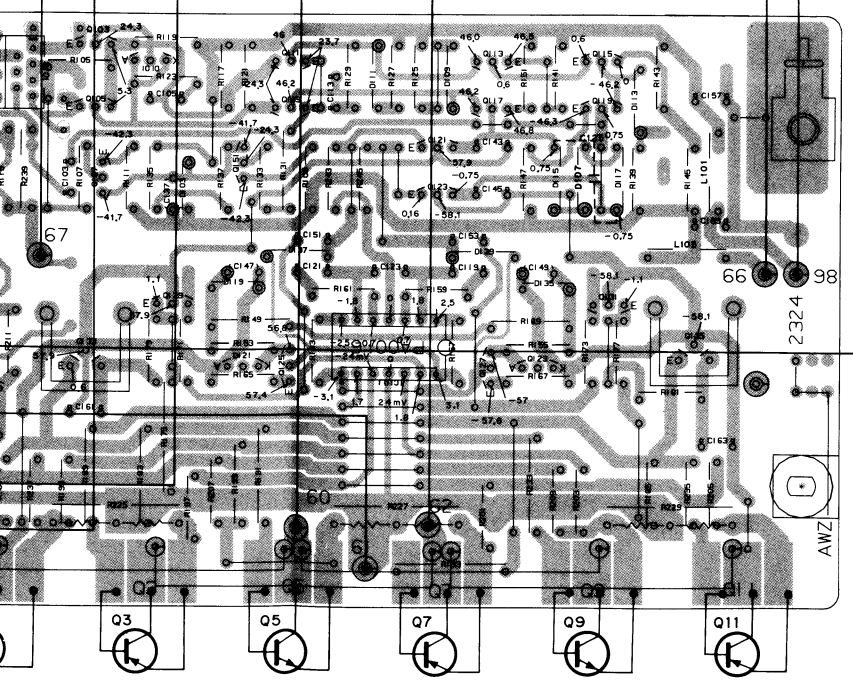
1. This P.C.B. connection diagram is viewed from the parts mounted side.
2. The parts which have been mounted on the board can be replaced with those shown with the corresponding wiring symbols listed in the following Table.

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.



Q101 Q103 Q105 Q107 Q151 Q111 Q109 Q121 Q123 Q113 Q117 Q115 Q119 Q135 Q137 Q133 Q129 Q3 Q5 Q7 Q9 Q11

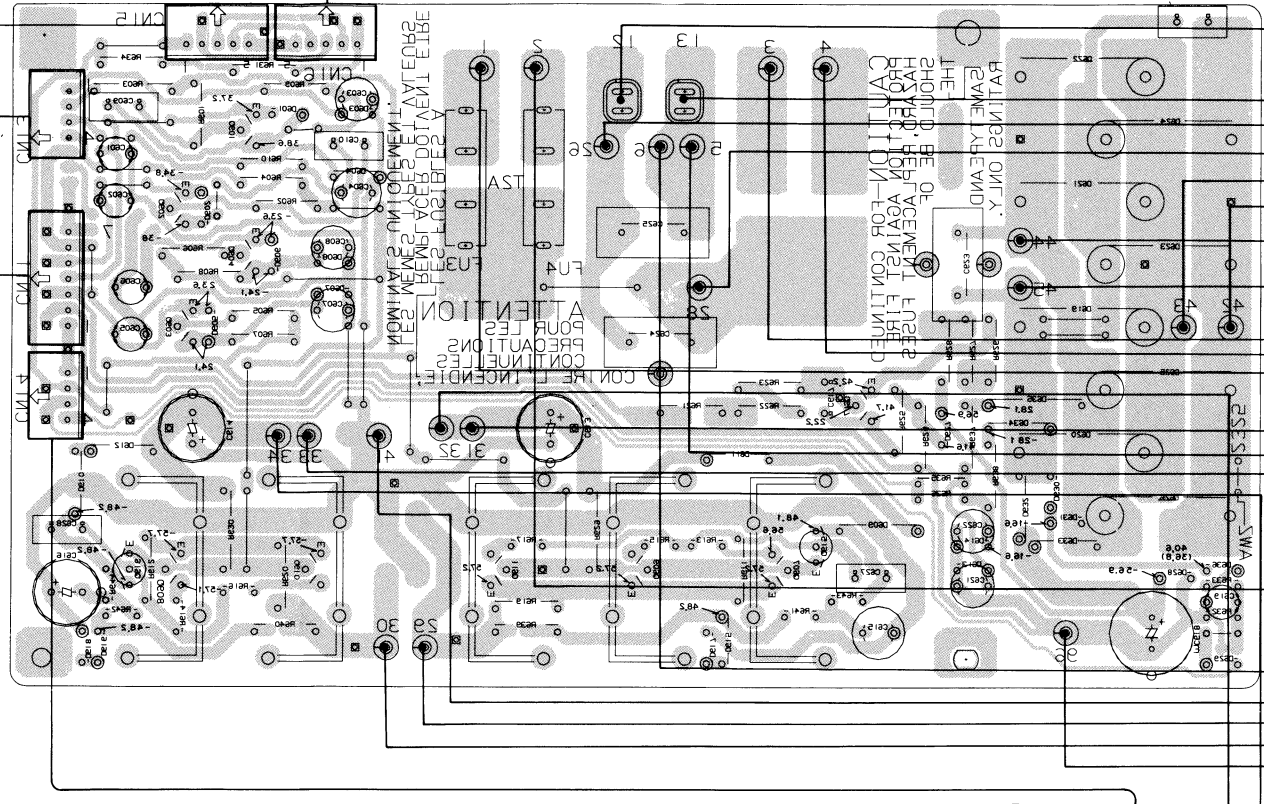
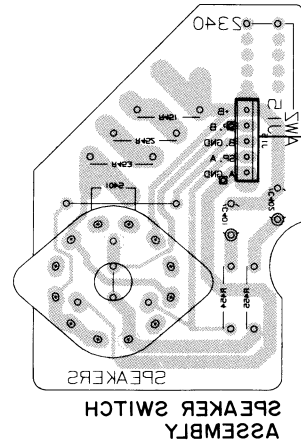
A

B

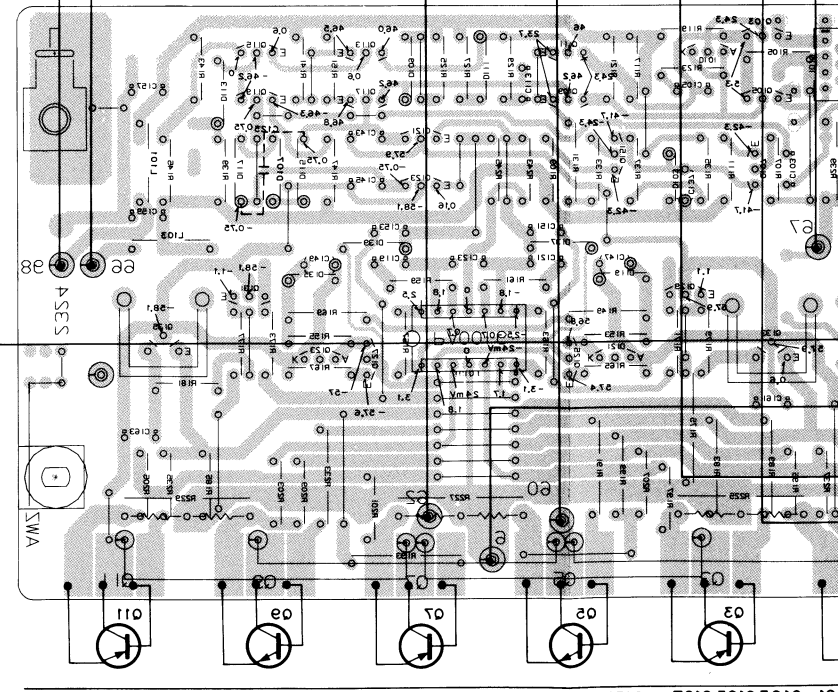
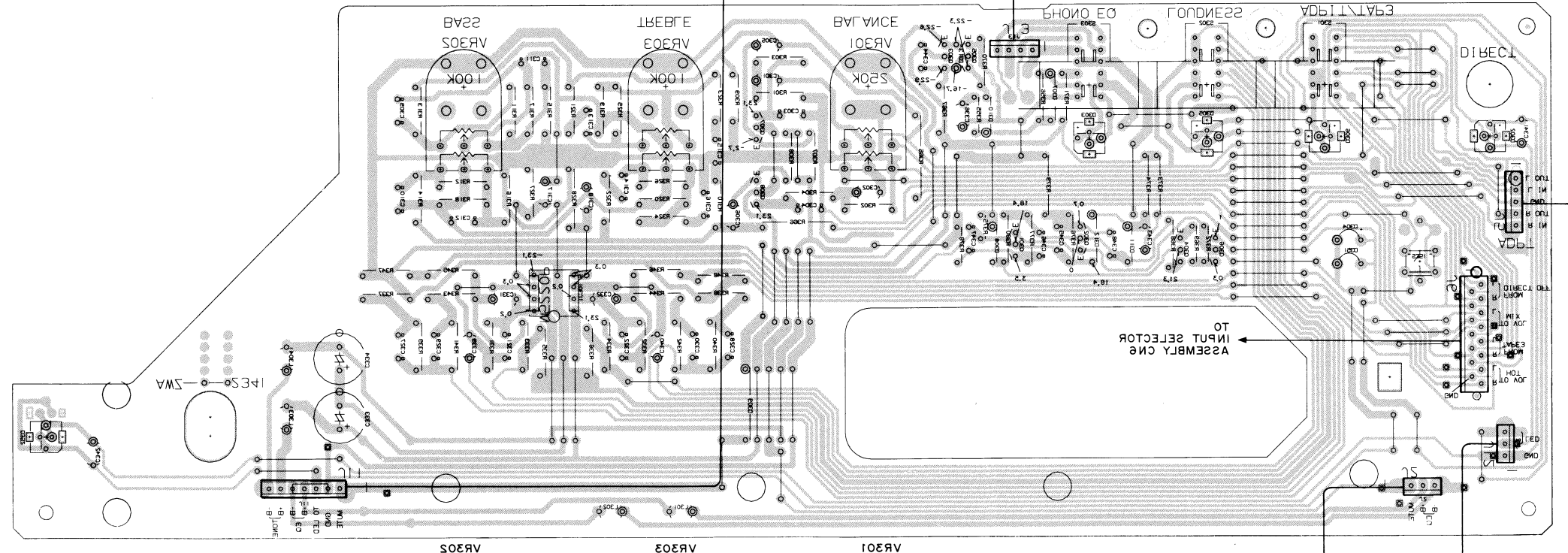
C

D

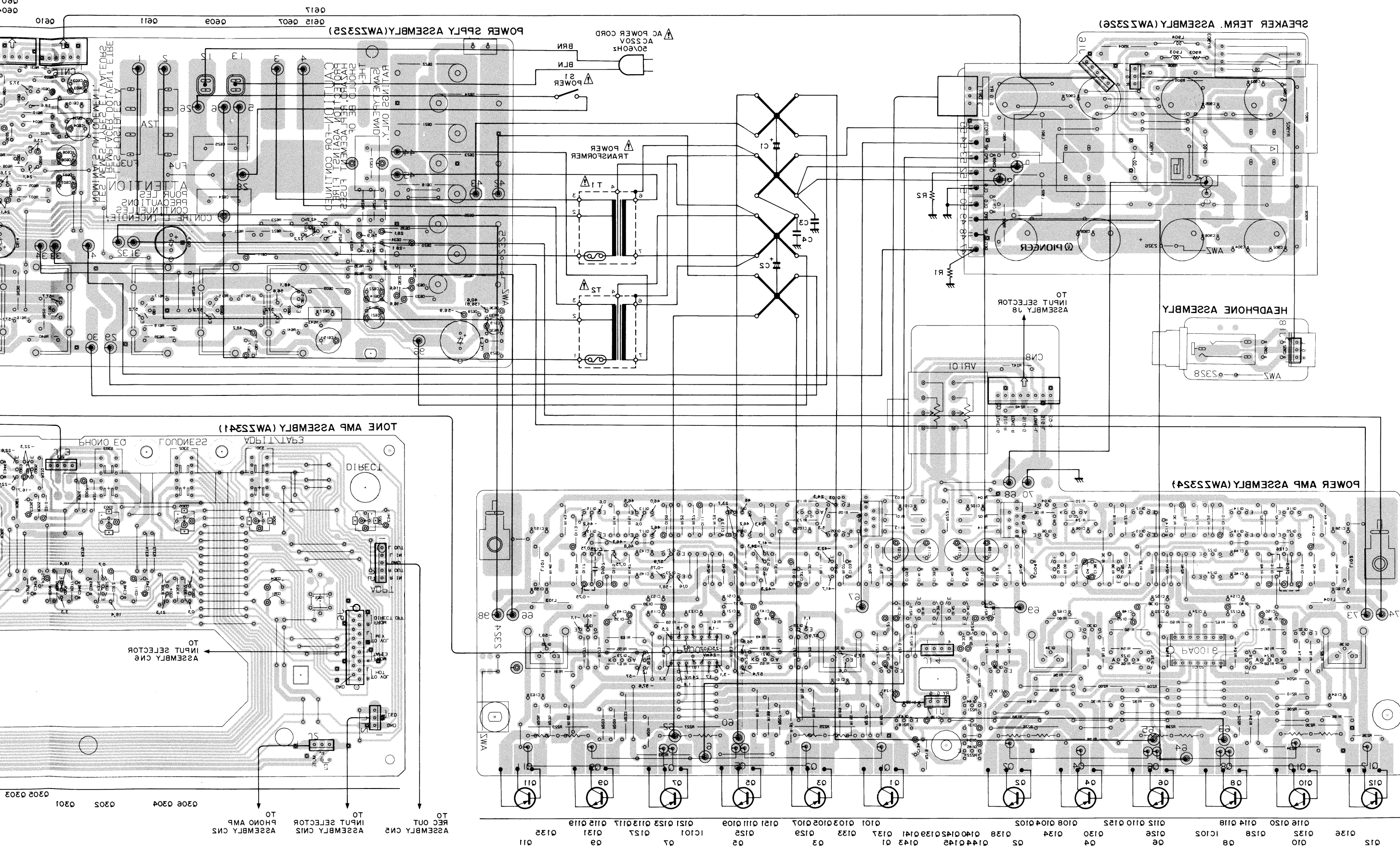
POWER SUPPLY ASSEMBLY (AW3325)
 0E12 0E07 0E03 0E11 0E10 0E08 0E05 0E01 0E04 0E03



TO AMP ASSEMBLY (AW3341)
 TO REC ONLY
 TO INPUT SELECTOR
 TO PHONO AMP



View from soldering side



A

B

C

D

0e01 0e02 0e03 0e04 0e05 0e06 0e07 0e08 0e09 0e10 0e11 0e12 0e13 0e14 0e15 0e16 0e17 0e18 0e19 0e20 0e21 0e22 0e23 0e24 0e25 0e26 0e27 0e28 0e29 0e30 0e31 0e32 0e33 0e34 0e35 0e36 0e37 0e38 0e39 0e40 0e41 0e42 0e43 0e44 0e45 0e46 0e47 0e48 0e49 0e50 0e51 0e52 0e53 0e54 0e55 0e56 0e57 0e58 0e59 0e60 0e61 0e62 0e63 0e64 0e65 0e66 0e67 0e68 0e69 0e70 0e71 0e72 0e73 0e74 0e75 0e76 0e77 0e78 0e79 0e80 0e81 0e82 0e83 0e84 0e85 0e86 0e87 0e88 0e89 0e90 0e91 0e92 0e93 0e94 0e95 0e96 0e97 0e98 0e99 0e100

e

2

4

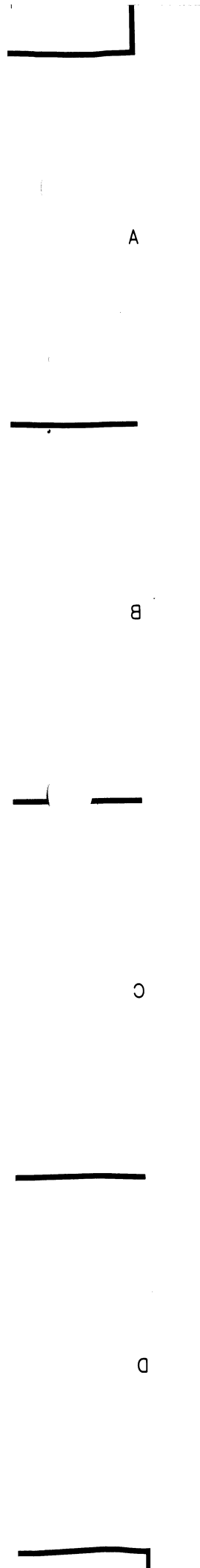
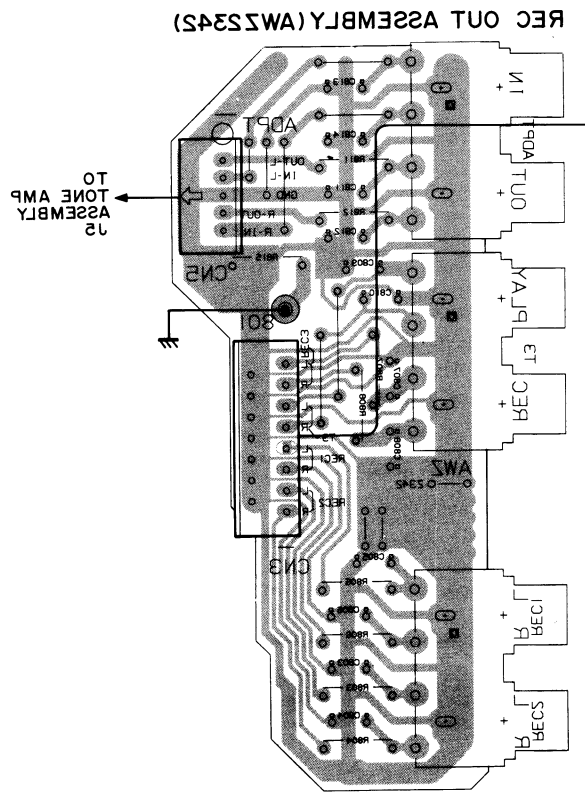
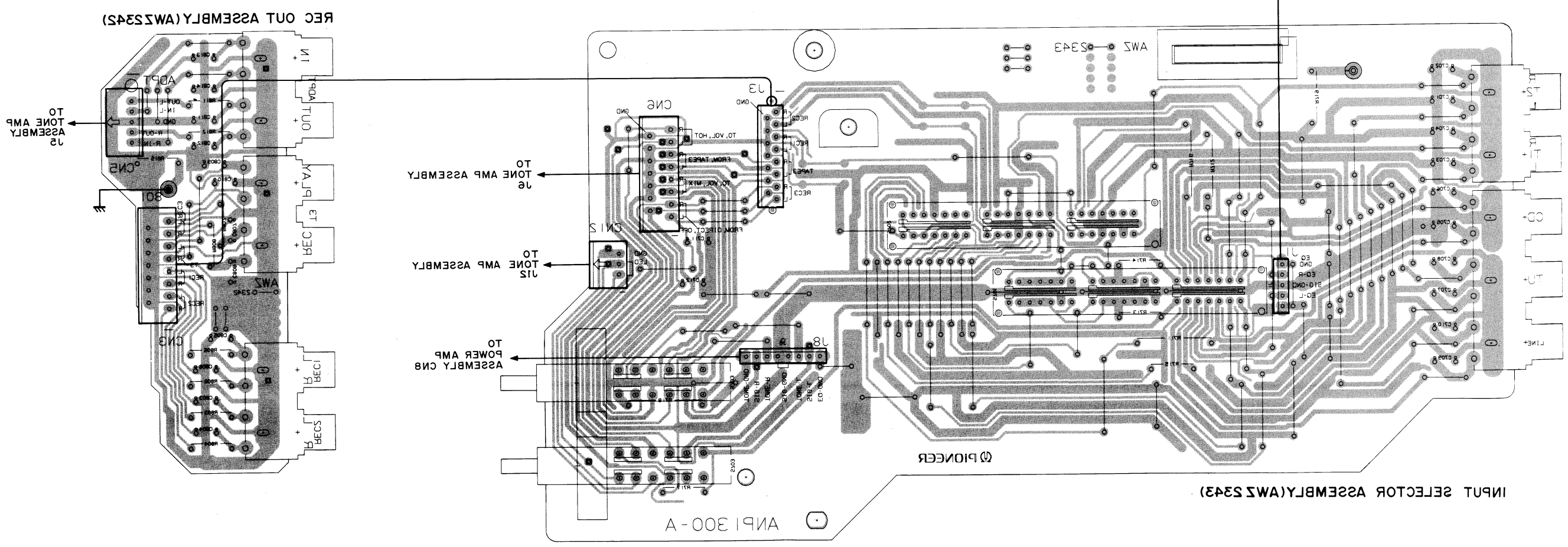
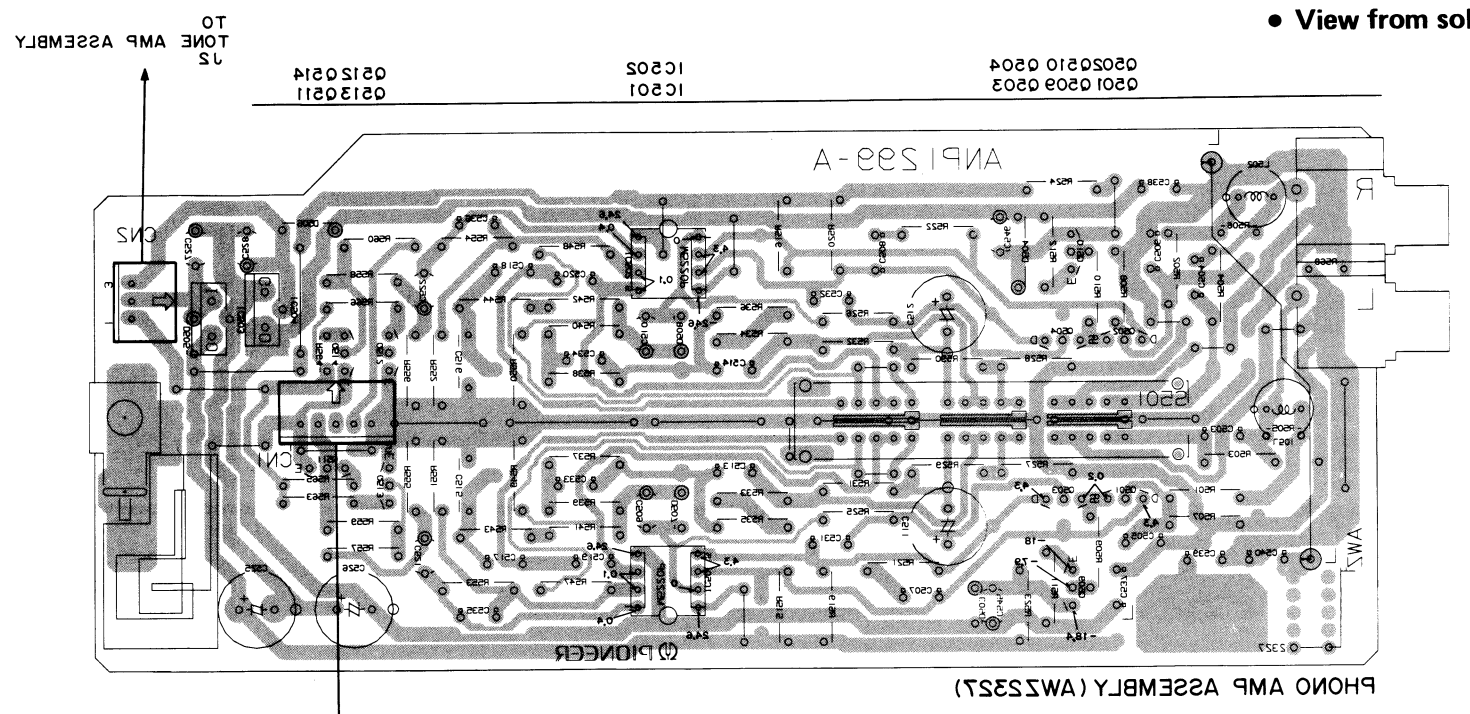
3

5

1

● P.C. BOARDS CONNECTION DIAGRAM (2/2)

● View from soldering side

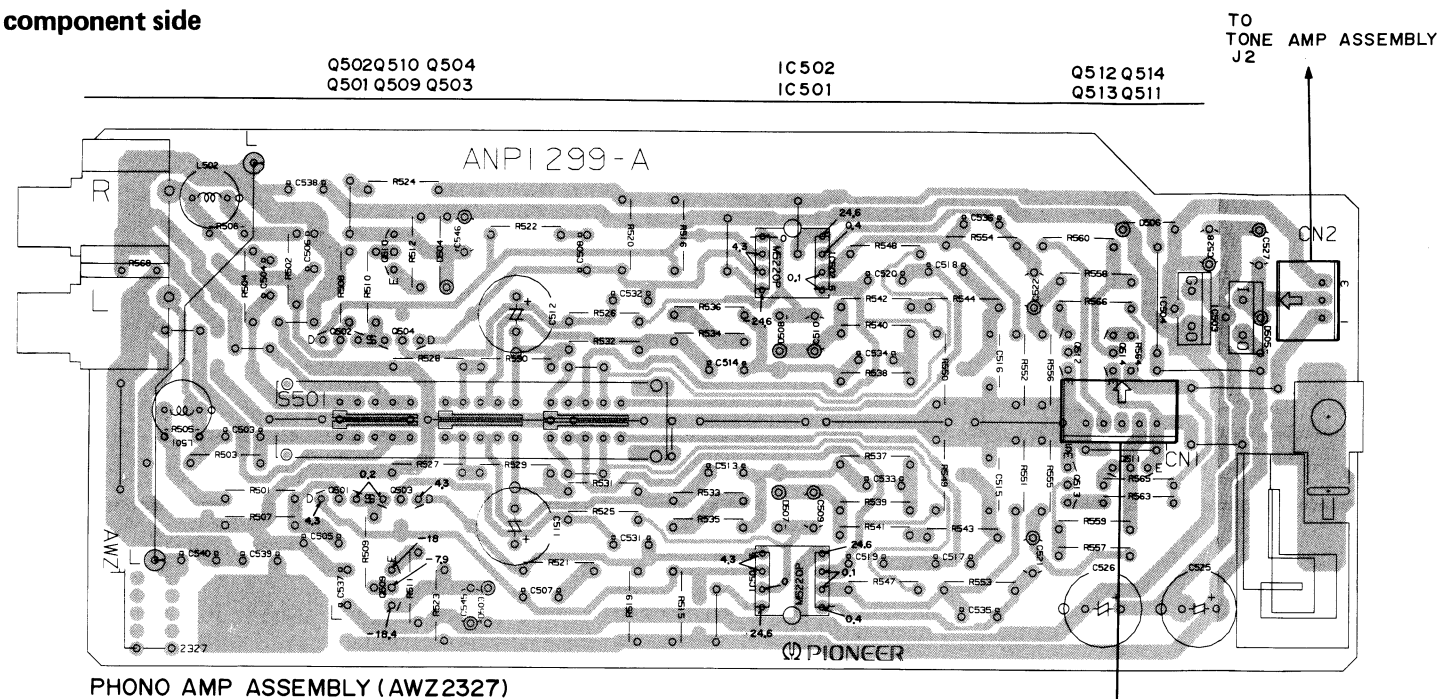


P.C. BOARDS CONNECTION DIAGRAM (2/2)

View from component side

A

B

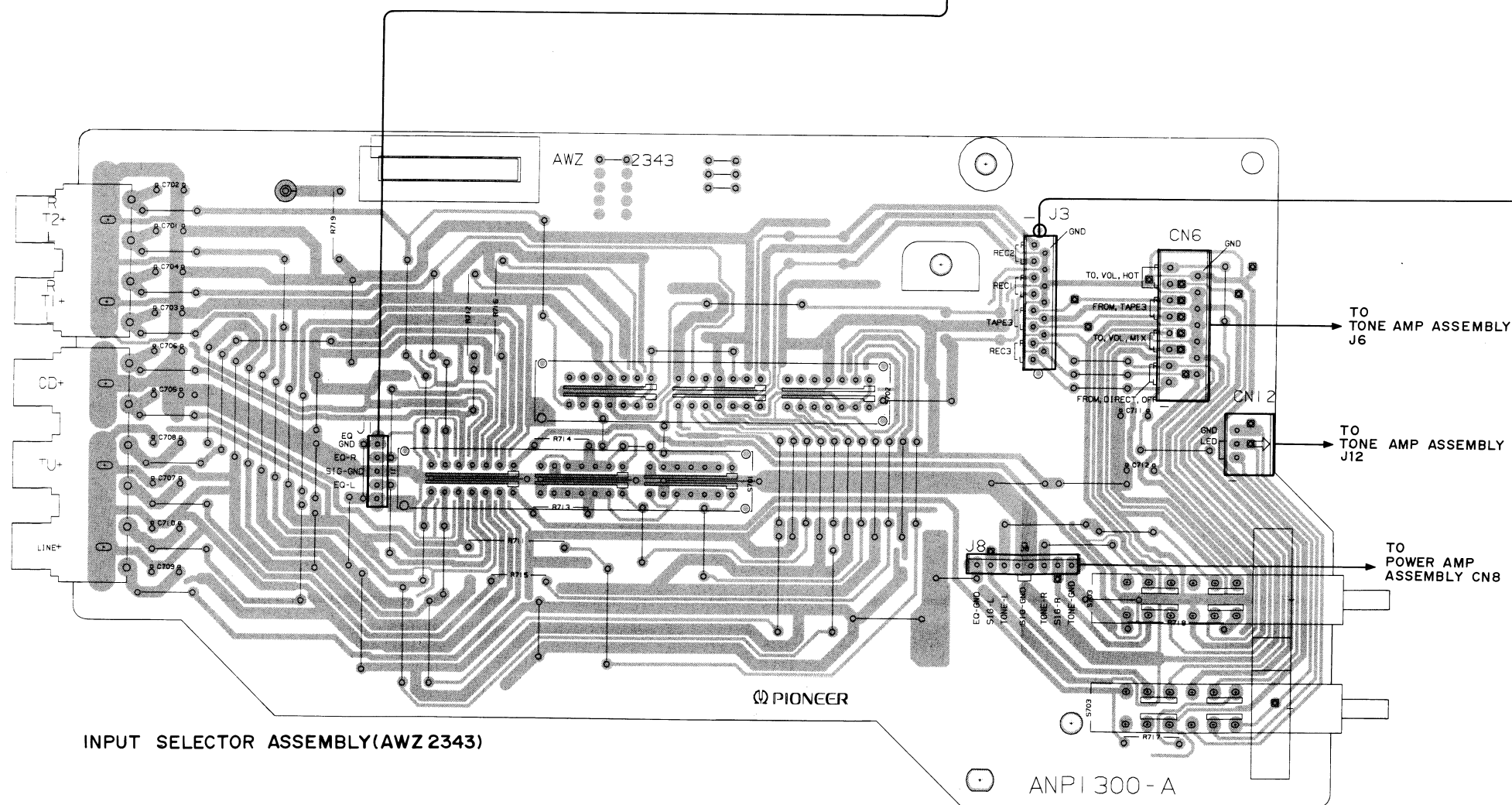


A

B

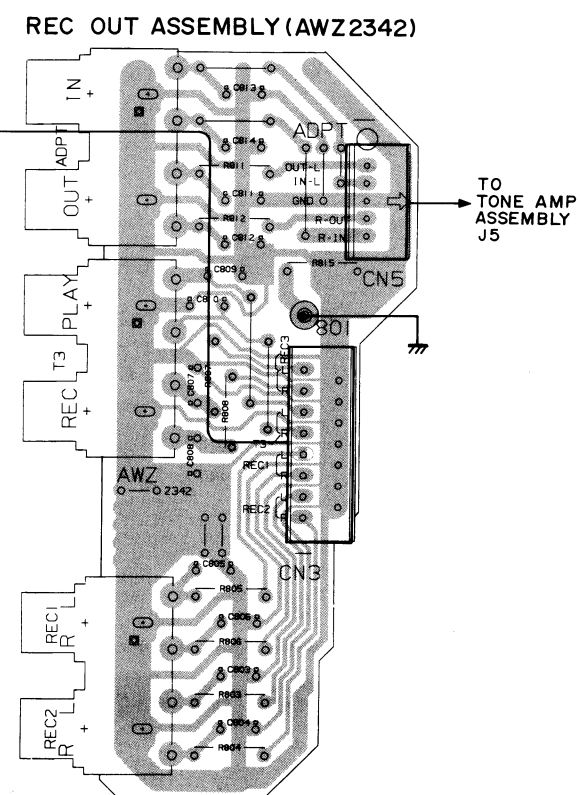
C

D

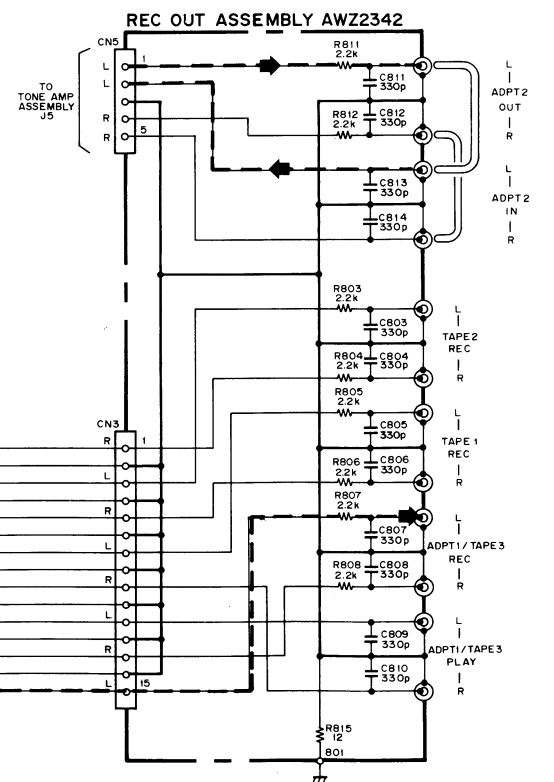
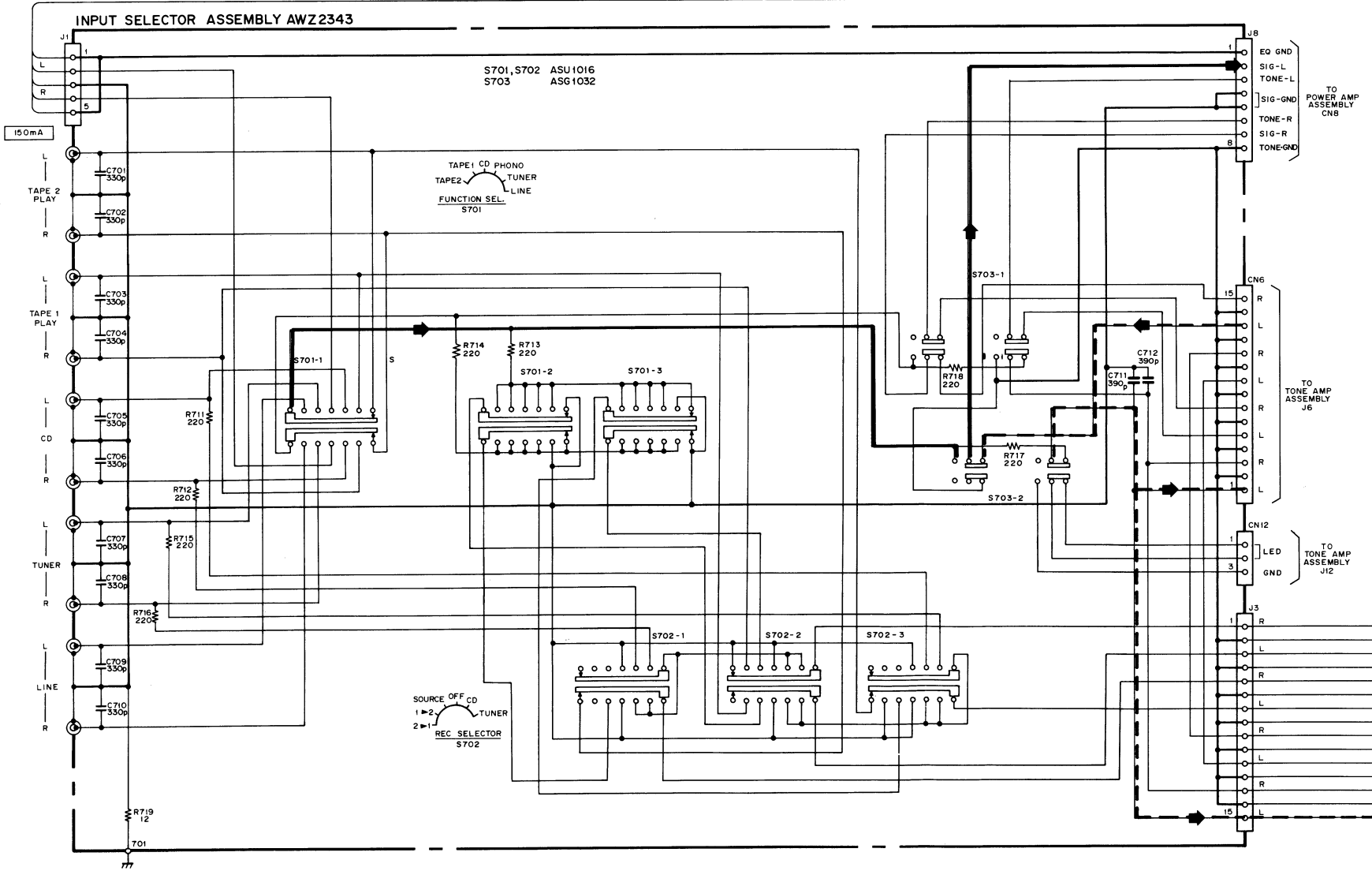
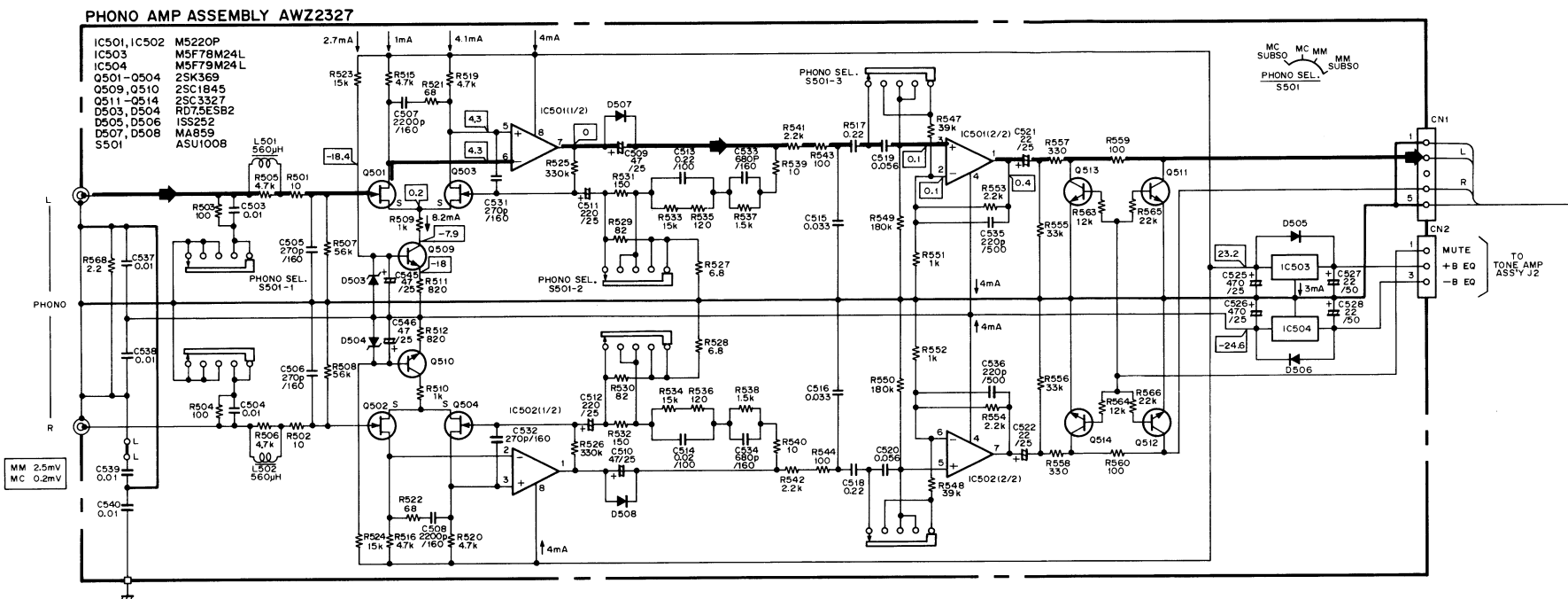


C

D



SCHEMATIC DIAGRAM (2/2)



3. 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 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	56×10 ¹	561	RD1/4PS	561J
47k Ω	47×10 ³	473	RD1/4PS	473J
0.5 Ω	0R5		RN2H	0R5K
1 Ω	010		RS1P	010K

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

5.62k Ω	562×10 ¹	5621	RN1/4SR	5621F
---------	---------------------	------	---------	-------

Miscellaneous Parts

P. C. BOARD ASSEMBLIES

Mark	Symbol & Description	Part No.
	Power amp assembly	AWZ2324
	Power supply assembly	AWZ2325
	Speaker term. assembly	AWZ2326
	Phono amp assembly	AWZ2327
	Tone amp assembly	AWZ2341
	Rec out assembly	AWZ2342
	Input selector assembly	AWZ2343
	Headphone assembly	
	Speaker switch assembly	

OTHERS

Mark	Symbol & Description	Part No.
Δ	Q1, Q2, Q5, Q6, Q9, Q10	2SC3182N
Δ	Q3, Q4, Q7, Q8, Q11, Q12	2SA1265N
Δ	R1, R2	RDR¼PM100J
Δ	C1, C2 (0.027 μ F/80)	ACH1122
Δ	C3, C4	CQMXA472J100
Δ	T2 Power transformer	ATS1198
Δ	T1 Power transformer	ATS1199
Δ	S1 Push switch (POWER)	ASG-553
Δ	S4 Switch	ASU1027
Δ	S3 Switch	ASU1028
Δ	S2 Switch	ASU1029
Δ	FU3, FU4 Fuse (T2A)	AEK-017
Δ	AC power cord	ADG1036

Power Amp Assembly (AWZ2324)

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
	IC101, IC102	PA0016
	Q143	2SA1115
	Q117, Q118, Q125, Q126, Q131, Q132	2SA1145
	Q135, Q136	2SA1306
	Q113-Q116, Q123, Q124	2SA992

Mark	Symbol & Description	Part No.
	Q103-Q112, Q121, Q122, Q137, Q138, Q151, Q152	2SC1845
	Q145	2SC2235
	Q139-Q142, Q144	2SC2458
	Q119, Q120, Q127-Q130	2SC2705
	Q133, Q134	2SC3298
	Q101, Q102	2SK389
	D103, D104	HZS6B1L
	D101, D102, D121-D124	MC931
	D131	RD11ESB
	D132, D133	RD5.6ESB
	D119, D120, D135, D136	RD8.2EB
	D109-D114, D137-D140	S5566
	D127-D130	1SS145
	D134	1SS252
	D107, D108, D115-D118	1S1555

FILTERS

Mark	Symbol & Description	Part No.
	L101-L104 Filter	ATX1012

CAPACITORS

Mark	Symbol & Description	Part No.
	C129, C130	CEANP2R2M100
	C135	CEAS010M100
	C134	CEAS470M16
	C131, C132	CEAS471M6
	C137, C138	CEYA331M25
	C125, C126	CEYA330M16
	C107, C108, C115, C116	CEYA470M25
	C133, C147-C150	CKCYF103Z50
	C103, C104	CMA030D500
	C141-C146	CMA101J500
	C109-C112	CMA150J500
	C123, C124, C161-C164	CMA470J500
	C119-C122	CMA680J500
	C157-C160	CQMXA562J100
	C139, C140	CQPXA471J2A
	C105, C106, C151-C154	CQSXA102J160
	C101, C102	CQSXA221J160
	C113, C114	CQSXA561J160

RESISTORS

Mark	Symbol & Description	Part No.
Δ	R225-R230 (0.47 Ω)	ACN-130
	VR101 Variable resistor (60k×2)	ACW1007
	R113-R116, R239, R240	RDR¼PM□□□J
	R107, R108, R135-R138, R149, R150, R169, R170, R231	RD¼PM□□□J
Δ	R139, R140, R175-R178, R207-R210, R217, R237, R238	RD¼PMF□□□J
	R211-R214, R219	RD¼PM□□□J
Δ	R215, R216, R218, R220-R222	RD¼PM□□□J
	R125-R128, R141, R142, R147, R148, R151, R152, R165-R168, R171-R174, R179-R206, R233-R236, R241-R246	RFA¼PS□□□J
	Other resistors	RDR¼PM□□□J

OTHERS

Mark	Symbol & Description	Part No.
	Screw	ABA-298

Power Supply Assembly (AWZ2325)

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
	Q607, Q609, Q611, Q617	2SA1306
	Q616	2SA992
	Q602	2SB750A
	Q604	2SB834
	Q615	2SC1845
	Q608, Q610	2SC3298
	Q601	2SD836A
	Q603	2SD880
	D627	RD16ESB
	D607, D608	RD24ESB2
	D615-D618	RD24ESB3
	D604	RD39ESB1
	D603	RD39ESB4
	D632-D635	S5566
	D628, D630, D631, D636	1SS145
	D601, D602, D605, D606, D609-D614, D629	1SS252
Δ	D619-D626	31DF3FC

CAPACITORS

Mark	Symbol & Description	Part No.
Δ	C623-C625 (0.01 μ F/AC400V)	ACG1003
	C619	CEAS0R1M50
	C618	CEAS101M100
	C621, C622	CEAS470M50
	C613, C614, C616	CEXA101M63
	C601, C602	CEXA220M50
	C605, C606	CEXA470M25
	C603, C604, C607, C608	CEXA470M50
	C615	CEXA470M63
	C617	CKCYB471K50
	C609, C610, C627, C628	CMA101J500

RESISTORS

Mark	Symbol & Description	Part No.
Δ	R611-R617, R641-R644	RDR¼PU□□□J
Δ	R629, R630	RD¼PMF2R7J
Δ	R632, R633, R635, R636	RD¼PM□□□J
Δ	R601, R602, R605, R606, R619, R620	RFA¼PS□□□J
	Other resistors	RD¼PM□□□J

OTHERS

Mark	Symbol & Description	Part No.
	Screw	ABA-298

Speaker Term. Assembly (AWZ2326)

RELAYS

Mark	Symbol & Description	Part No.
	RY903 Relay	ASR1014
	RY901, RY902 Relay	ASR1026

COILS

Mark	Symbol & Description	Part No.
	L901, L902 AF choke coil	ATH1021
	L903, L904 (Bead filter)	ATX1012

CAPACITORS

Mark	Symbol & Description	Part No.
	C901-C904	CFTXA104J50
	C909, C910	CMA101J500
	C905-C908	CQPXA472J2A

RESISTORS

Mark	Symbol & Description	Part No.
Δ	R901, R902	RS1LMF101J
Δ	R903-R906	RS2LMF331J
Δ	R907, R908	RS3LMF100J

OTHERS

Mark	Symbol & Description	Part No.
	Speaker terminal 4P (SPEAKERS A/B)	AKE1015

Phono Amp Assembly (AWZ2327)

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
	IC503	M5F78M24L
	IC504	M5F79M24L
	IC501, IC502	M5220P
	Q509, Q510	2SC1845
	Q511-Q514	2SC3327
	Q501-Q504	2SK369
	D507, D508	MA859
	D503, D504	RD7.5ESB2
	D505, D506	1SS252

SWITCH

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

COILS

Mark	Symbol & Description	Part No.
	L501, L502 Coil	ATH1024

CAPACITORS

Mark	Symbol & Description	Part No.
	C521, C522	CEXA220M25
	C527, C528	CEXA220M50
	C511, C512	CEXA221M25
	C509, C510, C545, C546	CEXA470M25
	C525, C526	CEXA471M25
	C503, C504, C537-C540	CFTXA103J50
	C517, C518	CFTXA224J50
	C519, C520	CFTXA563J50
	C535, C536	CMA221J500
	C513, C514	CQPXA224J2A
	C515, C516	CQPXA333J2A
	C507, C508	CQSA222J160
	C505, C506, C531, C532	CQSA271J160
	C533, C534	CQSA681J160

RESISTORS

Mark	Symbol & Description	Part No.
	R505, R506	RDR 1/8 PU472J
	R563-R566, R568	RD 1/8 PM □□□J
	Other resistors	RDR 1/4 PM □□□J

OTHERS

Mark	Symbol & Description	Part No.
	Pin jack 1P (PHONO L)	AKB1027
	Pin jack 1P (PHONO R)	AKB1028

Tone Amp Assembly (AWZ2341)

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
	IC301	M5220P
	Q306	2SA1048
	Q307, Q308	2SC1845
	Q301-Q305	2SC2458
	D303, D305, D306, D352	AEL1004-B
	D351	AEL1065-A
	D302	AEL1084-A
	D308	RD2.0ESB
	D310	RD5.6ESB
	D307, D309, D311-D313	1SS252

SWITCHES

Mark	Symbol & Description	Part No.
	S351 Tact switch (MUTING)	ASG-711
	S301, S302 Push switch (ADPT1/TAPE3)	ASG1019
	S303 Push switch (LOUDNESS)	ASG1021

COILS

Mark	Symbol & Description	Part No.
	L301-L304 Inductor (10mH)	LTA103J

CAPACITORS

Mark	Symbol & Description	Part No.
	C321, C322	CCCSL390J50
	C303, C304	CCCSL470J50
	C301, C302	CEANL2R2M50
	C343	CEAS0R1M50
	C341, C342	CEAS010M50
	C339, C340	CEAS100M25
	C305, C306, C317, C318	CEAS2R2M50
	C336	CEAS221 M10
	C333, C334	CEAS221 M25
	C331, C332	CEAS470M25
	C329, C330	CFTXA104J50
	C309, C310	CFTXA153J50
	C315, C316	CFTXA183J50
	C311, C312, C327, C328	CFTXA823J50
	C347, C348	CKCYB222K50
	C344	CKCYB392K50
	C345, C346	CKCYF103Z50
	C313, C314	CQMA332K50

RESISTORS

Mark	Symbol & Description	Part No.
	VR301 Variable resistor (BALANCE) (250k×2)	ACT1053
	VR302, VR303 Variable resistor (BASS, TREBLE) (100k-20A×2)	ACT1054
	R367	RD 1/2 PM 03J
	R355, R356, R368-R380	RD 1/8 PM □□□J
	Other resistors	RD 1/4 PM □□□J

Rec Out Assembly (AWZ2342)

CAPACITORS

Mark	Symbol & Description	Part No.
	C803-C814	CKDYB331K50

RESISTORS

Mark	Symbol & Description	Part No.
	R815	RDR 1/4 PM 120J
	R803-R806, R811, R812	RD 1/4 PM 22J
	R807, R808	RD 1/8 PM 22J

OTHERS

Mark	Symbol & Description	Part No.
	Pin jack 4P (TAPE2, DAT/TAPE1, ADPT1/ TAPE3, ADPT2)	AKB1009

Input Selector Assembly (AWZ2343)

SWITCHES

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

CAPACITORS

Mark	Symbol & Description	Part No.
	C701 - C710	CKDYB331K50
	C711, C712	CKDYB391K50

RESISTORS

Mark	Symbol & Description	Part No.
	R719	RDR $\frac{1}{4}$ PM120J
	R711, R712	RDR $\frac{1}{4}$ PM221J
	R713 - R718	RD $\frac{1}{4}$ PM221J

OTHERS

Mark	Symbol & Description	Part No.
	Pin jack 4P (TAPE2, DAT/TAPE1)	AKB1007
	Pin jack 6P (CD, TUNER, LINE)	AKB1029

Headphone Assembly

CAPACITORS

Mark	Symbol & Description	Part No.
	C951, C952	CQMXA102J100

OTHERS

Mark	Symbol & Description	Part No.
	Headphone jack (PHONES)	AKN1002

Speaker Switch Assembly

SWITCHES

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

CAPACITORS

Mark	Symbol & Description	Part No.
	C401, C402	CEAS3R3M100

RESISTORS

Mark	Symbol & Description	Part No.
	R454, R455	RD $\frac{1}{4}$ PM561J
	Other resistors	RD $\frac{1}{2}$ PM□□□J

4. SPECIFICATIONS

Continuous power output (both channels driven at 20 Hz to 20 kHz) **

T.H.D. 0.003%, 8 Ω 105W + 105W *

T.H.D. 0.005%, 4 Ω 160W + 160W *

DIN continuous power output (both channels driven)

1 kHz, T.H.D. 1.0%, 8 Ω 120W + 120W

1 kHz, T.H.D. 1.0%, 4 Ω 180W + 180W

Power bandwidth

0.05%, 8 Ω 5 Hz – 60 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 230W/350W

Total harmonic distortion **

20 Hz to 20 kHz, 105W, 8 Ω 0.003% *

20 Hz to 20 kHz, 160W, 4 Ω 0.005% *

Inter-modulation distortion (at rated output) 0.003% *

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, ADAPTOR OUTPUT 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)

MUTING -∞

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 1,000W

Dimensions 420 (W) × 474 (D) × 172 (H) mm

Weight (without package) 24.5 kg

Accessories

Operating instructions 1

Cushion spacer set 1

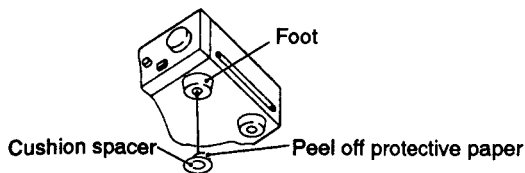
NOTE:

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.

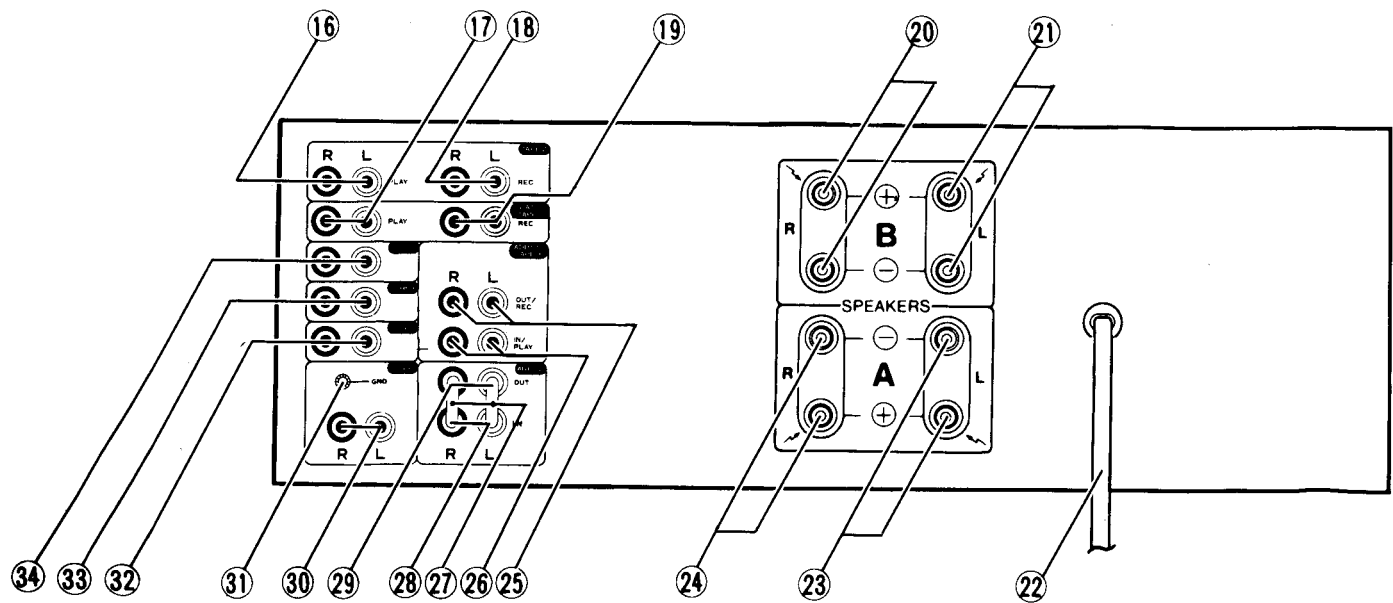
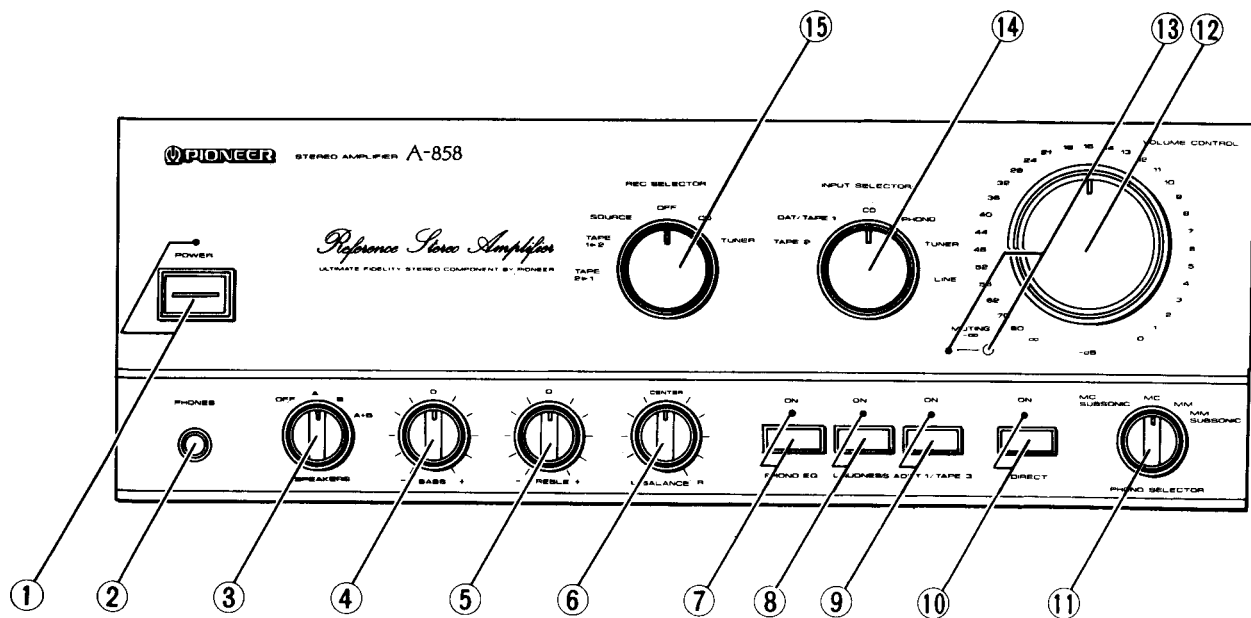
Be sure to place the unit on a level surface so that it stands firmly on all its feet. If wobbly, adjust by attaching the supplied cushion spacers to one or more feet.



MAINTENANCE OF EXTERNAL SURFACES

- Use a polishing cloth or dry cloth to wipe off dust and dirt.
- When the surfaces are very dirty, wipe with a soft cloth dipped in some neutral cleanser diluted five or six times with water, and wrung out well, and then wipe again with a dry cloth. Do not use furniture wax or cleaners.
- Never use thinners, benzene, insecticide sprays and other chemicals on or near this unit, since these will corrode the surfaces.

5. PANEL FACILITIES



[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

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

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 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.

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

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]

⑮ TAPE 2 PLAY terminals.

⑰ DAT/TAPE 1 PLAY terminals.

⑬ TAPE 2 REC terminals.

⑰ 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).

⑮ ADPT 1/TAPE 3 OUT/REC terminals.

⑮ ADPT 1/TAPE 3 IN/PLAY terminals.

㉗ Shorting bars.

㉘ ADPT 2 IN terminals.

㉘ ADPT 2 OUT terminals.

㉙ PHONO terminals.

㉚ Turntable ground terminal (GND).

㉛ LINE terminals.

㉜ TUNER terminals.

㉝ CD terminals.