

Service Manual



ORDER NO.
ARP2893

STEREO AMPLIFIER

A-204R

- Refer to the service manual ARP2852 for A-203/HEXJ.

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Type	Model	Power Requirement	The voltage can be converted by the following method.
	A-204R		
HEXJ	○	AC 220 - 230V	AC 240V,*
HEWZXJ	○	AC 220 - 230V	AC 240V,*
HBWXJ	○	AC 230V	AC 240V,*

* : Alter the wiring of the Power-supply block at the primary winding of Power-transformer referring to the "Line Voltage Selection" described in Service Manual.

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● CONTRAST OF MISCELLANEOUS PARTS

NOTES:

- Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
- The $\triangle$ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by "●" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

A-204R/HEWZXJ, A-204R/HBWXJ and A-203/HEXJ have the same construction except for the following:

Mark	Symbol & Description	Part No.				Remarks
		A-203 / HEXJ	A-204R / HEXJ	A-204R / HEWZXJ	A-204R / HBWXJ	
NSP	AF assy	AWK1787	AWK7118	AWK7118	AWK7119	For front panel
	Power transformer	ATS1538	ATS7060	ATS7060	ATS7060	
$\triangle$	FUSE FU1 (T1.25A)	REK1023	.....	.....	.....	
$\triangle$	FUSE FU1 (T1.0A)	.....	REK1022	REK1022	REK1022	
$\triangle$	Power AC cord	ADG1154	ADG1154	ADG1154	ADG1156	
$\triangle$	Remote control unit (CU-A014)	.....	AXD7049	AXD7049	AXD7049	
	Filter	.....	AAK7141	AAK7141	AAK7141	
	Wire clamp	.....	AEC7022	AEC7022	AEC7022	
	Front panel (PLS)	AMB2231	AMB7194	AMB7194	AMB7194	
	Rear panel (MET)	ANC2173	ANC7234	ANC7235	ANC7190	
NSP	Radiator	ANH1464	ANH1465	ANH1465	ANH1465	
NSP	Getter (LABEL)	.....	AAX7171	AAX7171	AAX7171	
	Holder	.....	VEC1355	VEC1355	VEC1355	
	Operating instructions (English / French / German/Italian / Swedish / Spanish / Dutch / Portuguese)	ARE1302	ARE7046	.....	.....	
	Operating instructions (German)	.....	.....	ARC7069	.....	
	Operating instructions (Spanish / German)	.....	.....	.....	ARB7046	
	Packig case	AHD2672	AHD7145	AHD7145	AHD7202	For packing
	Paper protector A	AHA1660	AHA7061	AHA7061	AHA7061	
	Paper protector B	AHA1661	AHA7062	AHA7062	AHA7071	
	Paper protector C	AHA1662	AHA7063	AHA7063	AHA7072	
	Paper protector D	.....	AHA7064	AHA7064	AHA7073	
NSP	Polyethy lene bag		AHG1217	AHG1217	AHG1217	For packing
NSP	Air cap				AHG1087	For packing

For AWK7118 and AWK7119

AWK7119 and AWK7118 have the same construction except for the following:

Mark	Symbol & Description	Part No.		Remarks
		AWK7118	AWK7119	
	SP ASSY POWER SW ASSY	AWZ7566 AWZ7567	AWZ7570 AWZ7571	

SP ASSY

AWZ7570 and AWZ7566 have the same construction except for the following:

Mark	Symbol & Description	Part No.		Remarks
		AWK7118	AWK7119	
△	CN401 AC INLET(1P)	AKP1132	AKP1133	

POWER SW ASSY

Although AWZ7571 and AWZ7567 are different in part number, they have the same service parts.

PCB PARTS LIST

NOTES:

• Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.

• 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.

• Parts marked by "⑥" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

• 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 ohms and 47k ohms (tolerance is shown by J = 5%, and K = 10%).

560Ω → 56 × 10¹ → 561 RD1/RPM ⑤⑥① J
47kΩ → 47 × 10³ → 473 RD1/APS ④⑦③ J
0.5Ω → 0R5 RN2H ⑨⑨⑤ K
1Ω → 010 RS1P ⑨①⑨ K

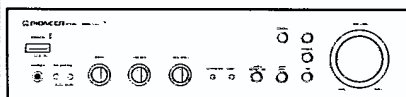
Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62kΩ → 562 × 10¹ → 5621 RN1/4PC ⑤⑥②① F

Mark No.	Description	Parts No.	Mark No.	Description	Parts No.
LIST OF ASSEMBLIES					
NSP	AF ASSY	AWK7118	△	RESISTORS	RD1/8MMF101J
	— FUNCTION ASSY	AWZ7563		R115, R116, R148, R149	ACX7006
	— CONTROL ASSY	AWZ7564		VR101 (100KΩ)	RD1/8PM ①①①①
	— HEADPHONE ASSY	AWZ7565	OTHERS	Other Resistors	
	— SP ASSY	AWZ7566		CN11 (PIN JACK 8P)	AKB7022
	— POWER SW ASSY	AWZ7567		CN10 (PIN JACK 8P)	AKB7023
	— TRANS ASSY	AWZ7568		CN1 (CONNECTOR 15P)	KPE15
	— POWER AMP ASSY	AWZ7569			
FUNCTION ASSY					
	IC201	TA8409S	SEMICONDUCTORS		
	IC101	TC9163N		IC201	NJM4558DXP
	IC102, IC103	UPC4570C		IC202	PD6144A
	Q106, Q109	2SK246		Q210	2SA333S
	D106, D109	1SS252		Q211, Q214	2SC2879
COILS AND FILTERS					
	L101, L104	LAU121K		Q201, Q209	DTC124ES
CAPACITORS					
	C156, C157	CCCSL151J50		D210, D214	1SS252
	C101, C114, C122, C123, C139	CCCSL221J50		D209	AEI1065
	C143, C144	CCCSL221J50		D208	AEI1084
	C118, C119	CCCSL330J50		AEI1099	
	C136, C137	CEAS101M25	COILS AND FILTERS		
	C120, C121, C130, C131	CEAS2R2M50		L201	LAU221K
	C159, C160	CEAS2R2M50	SWITCHES AND RELAYS		
	C124, C125	CEAS470M25		S208	ASG1019
	C162	CEAS470M50		S201, S206	ASG1034
	C149, C150	CEGA470M25		S207	ASG1079
	C151, C154	CEZA470M25	CAPACITORS		
	C155	CFTXA473J50		C225 (0.047F)	ACH1246
	C145, C146	CFTXA823J50		C223, C224	CCCSL151J50
	C141, C142, C147, C148	CFTXA824J50		C217, C218	CCCSL271J50
	C133, C138	KCKYB103K50		C221, C222	CCCSL470J50
	C161, C163	KCKYF103Z50		C219	CEANP220M35
	C115	KCKYF473Z50		C205, C206	CEAS470M25
	C116, C117, C132	CKPLYB881K50		C207, C208, C220, C227, C228	CEAS2R2M50
	C136, C127, C134, C135	COMA222J50		C201	CEAJA2RM50
	C128, C129	COMA822J50		C213, C214	CFTXA154J50
				C211, C212	CFTXA184J50
				C209, C210	CFTXA333J50
				C215, C216	CFTXA824J50
				C204	KCKYF103Z50
				C203	CKPLYB103Z50
				C202, C229	CKPLYB102K50
					CKPLYF103Z25

Mark No.	Description	Parts No.	Mark No.	Description	Parts No.
RESISTORS			TRANS ASSY		
	R258, R259	RD1/2PM271J			
	VR202, VR203(10KΩ)	ACS1113	CAPACITORS		
	VR201(250KΩ)	ACS1114		C701(1μ/100V)	ACH1237
	Other Resistors	RD1/8PM□□□□	RESISTORS		
OTHERS			△	Other Resistors	RD1/4PM□□□□
	R206 (SOCKET 10P)	AKP1044	OTHERS		
	X201(4.00MHz)	ASS1025		CN4 (CONNECTOR 7P)	KPE7
	REMOTE RECEIVER UNIT	AXX1023	POWER AMP ASSY		
HEADPHONE ASSY			SEMICONDUCTORS		
CAPACITORS				IC301	UPC4570C
	C503, C504	KCKYB392K50		Q305, Q306	2SA1145
RESISTORS				Q320	2SA933S
△	R505, R506	RS2LMF331J		Q313, Q314	2SA965
OTHERS				Q303, Q304	2SA992
	JACK	AKN1010		Q317, Q318	2SC1740S
SP ASSY				Q301, Q302, Q315, Q316	2SC1845
				Q311, Q312	2SC2235
SEMICONDUCTORS				Q319	2SC2240
△	Q402	2SA1932P		Q309, Q310	2SC2458
△	Q401	2SC5174P		Q307, Q308	2SC2705
	Q403	2SD1913		D301, D308, D313, D322, D334	1SS252
△	D405, D406, D410, D413	1SS252		D323	MTZJ13
	D401	D3SBA20(B)		D333	MTZJ27A
△	D414, D417	MTZJ5.6B		D329, D332	MTZJ23
	D403, D404, D412	RD16ESB2		D309, D312	MTZJ6.2A
	D407, D409, D411, D416	S5666	SWITCHES AND RELAYS		
CAPACITORS				RY301	ASR1035
△	C413(0.01μF)	ACG1054	CAPACITORS		
	C401, C402(6800μ/42V)	ACH1110		C165, C166	CCCSL220J50
	C408, C410, C411	CEAS100M50		C309, C312	CCCSL560K500
	C407	CEAS101M50		C326	CEAS101M25
	C409	CEAS102M50		C317	CEAS471M6
	C412	CEAS470M50		C315, C316	CEAS470M50
	C403, C404	CEA210M25		C327, C328	CEA210M50
	C405, C406	CEZA470M25		C313, C314	CEA2A70M25
	C451, C452	KCKYB472K50		C305, C306, C324, C325	CEZA470M25
RESISTORS				C319, C322	CFTXA224J50
	R410	RD1/2PMF471J		C301, C302	CFTXA824J50
	R411	RD1/4PM153J		C303, C304	KCKYB471K50
	R405	RD1/4PM222J		C323	KCKYF103Z50
	R403, R404, R409	RD1/4PM472J	RESISTORS		
	R406	RD1/4PM82J		R347, R348 (0.33k/5W)	ACN-139
△	R401, R402, R407, R413, R415	RD1/8MMF4R7J		R362	RD1/2PMFL181J
	R417	RD1/8MMF4R7J		R363	RD1/2PMFL221J
	Other Resistors	RD1/8PM□□□□		R369, R370	RD1/2PMFL4R7J
OTHERS			△	R385	RD1/4PMF100J
	SCREW	ABA-296		R357	RD1/4PMF101J
	SPEAKER TERMINAL 4-P	AKE1054		R349, R350	RD1/4PMF222J
	CN7(JACK)	AKN-207		R386	RD1/8MMF100J
△	CN401 (AC INLET 1P)	AKP1132		R337, R340	RD1/8MMF101J
	HEAT SINK M	AKH-697		R341, R342	RD1/8MMF271J
	CN2 (CONNECTOR 15P)	KPE15		R367, R368, R387, R388	RD1/8MMF4R7J
	CN3 (CONNECTOR 8P)	KPE6		R323, R326	RD1/8MMF511J
POWER SW ASSY			△	R327, R330	RD1/8MMF880J
				R371, R372	RD1/4PM332J
				R343, R346	RFA14PS4R7J
				R331, R332	RN1/4PC1501F
SWITCHES AND RELAYS				R335, R336	RN1/4PC6800F
△	S601	ASG1035	OTHERS		
CAPACITORS				Other Resistors	RD1/8PM□□□□
△	C601	ACG1054	OTHERS		
				PLUG(10P)	AKM1037
				CN3 (CONNECTOR 8P)	KPE8

Service Manual



The illustration shows model A-203.

ORDER NO.
ARP2852

STEREO AMPLIFIER **A-203** **A-103**

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Type	Model		Power Requirement	The voltage can be converted by the following method.
	A-203	A-103		
HEXJ	○	○	AC220—230V	AC240V, *
HBXJ	○	○	AC240V	AC220—230V, *
HEWZXJ	○	○	AC220—230V	AC240V, *
HLXJ	○	○	AC220—230V	AC240V, *
SDXJ	○	○	AC110V/120—127V/220V/240V	With the voltage selector
YPWXJ	—	○	AC240V	—

* : Alter the wiring of the Power-supply block at the primary winding of Power-transformer referring to the "Line Voltage Selection" described in Service Manual.

- For the following: A-203/HBXJ, HEWZXJ, HLXJ and SDXJ; A-103/HBXJ, HEWZXJ, HLXJ, SDXJ and YPWXJ, refer to page 22.

CONTENTS

1. DISASSEMBLY	2
2. EXPLODED VIEWS, PACKING AND PARTS LIST ...	3
3. SCHEMATIC DIAGRAM	6
4. PCB CONNECTION DIAGRAMS	9
5. BLOCK DIAGRAM	17
6. PCB PARTS LIST	18
7. IC INFORMATION	21
8. FOR A-203/HBXJ, HEWZXJ, HLXJ SDXJ, A-103/HBXJ, HEWZXJ, HLXJ, SDXJ AND YPWXJ ...	22
9. PANEL FACILITIES	25
10. SPECIFICATIONS	28

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1. DISASSEMBLY

● CHECKING FOR POWER AMP ASSY

1. Remove the bonnet.
2. Remove the VOLUME knob and unscrew nut the ① (Fig. 1).
3. Unscrew the fastening screws ② of the front panel (2 upper and 5 lower screws.).
4. Unscrew the fastening screws ③ (1 screw) and ④ (2 screws) of the RADIATOR.
5. Lift up the RADIATOR (in the direction of the arrow ⑤) approximately 5mm, and remove it from the chassis hook.
6. Remove the lower hooks ⑥ of the front panel (2 places).
7. Slowly remove the front panel together with the RADIATOR. When doing this, be careful so that the flat cable ⑦ from CN 1 does not get caught.
8. When the VOLUME knob shaft ⑨ has been distanced from the front panel, lower the fins of the RADIATOR as shown in Fig. 2 and raise the shaft.

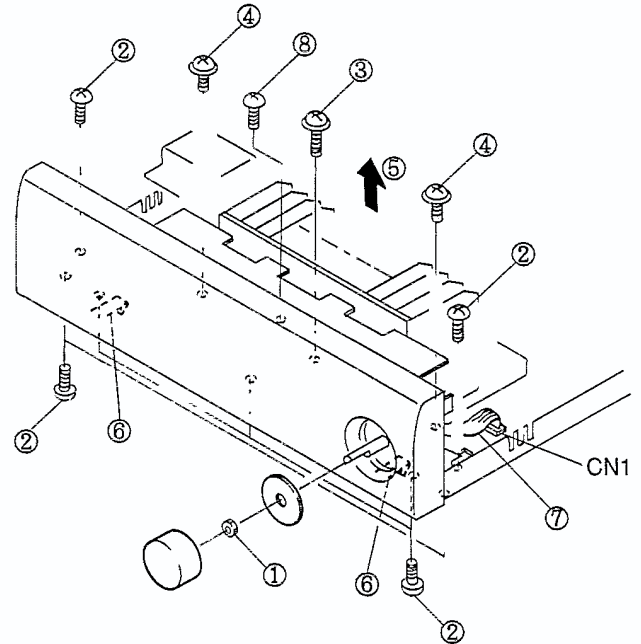


Fig. 1

● HOW TO REMOVE THE POWER AMP ASSY

1. Remove the fastening screw ③ of the RADIATOR (1 screw) and ④ (2 screws) and the center fastening screw ⑧ (1 screw) of the POWER AMP ASSY (Fig. 1).
2. Lift up the RADIATOR (in the direction of the arrow ⑤) approximately 5mm, and remove it from the chassis hook.
3. Pull the RADIATOR backward and remove the POWER AMP ASSY and RADIATOR together.

Note : The CONTROL ASSY of the front panel and the POWER AMP ASSY are connected only with connectors, and they can the refore be easily removed by carrying out the above operations.

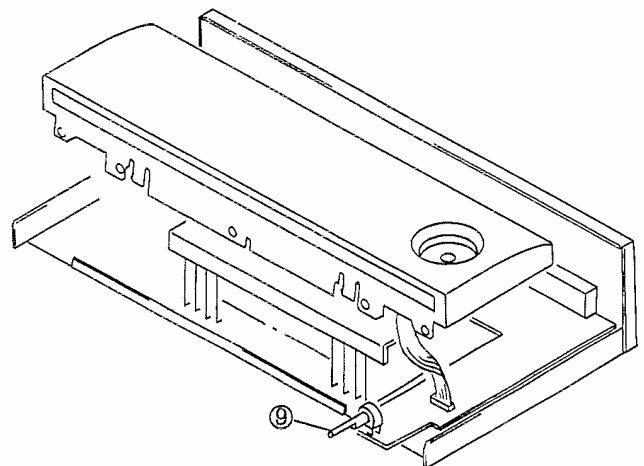
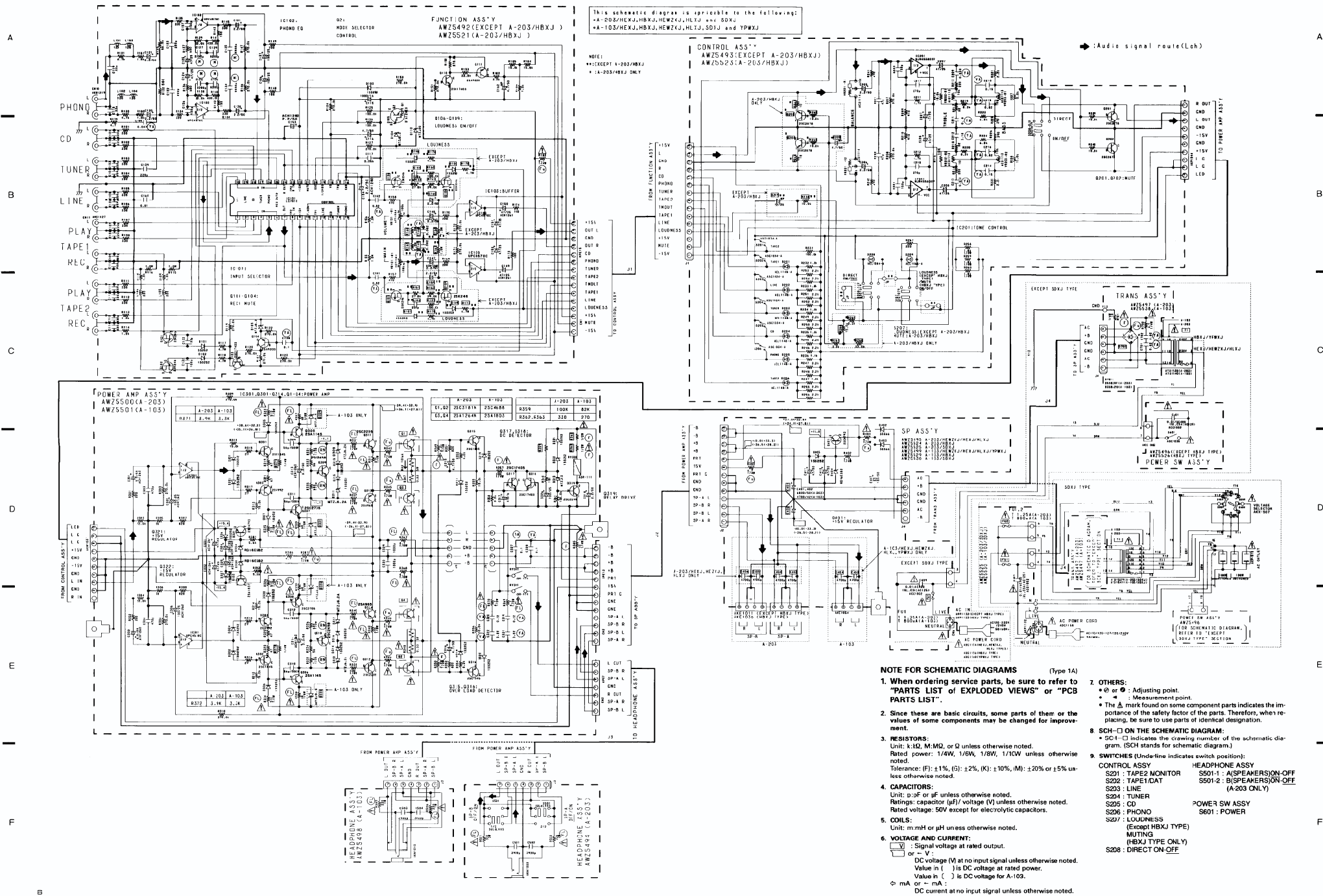


Fig.2

3. SCHEMATIC DIAGRAM



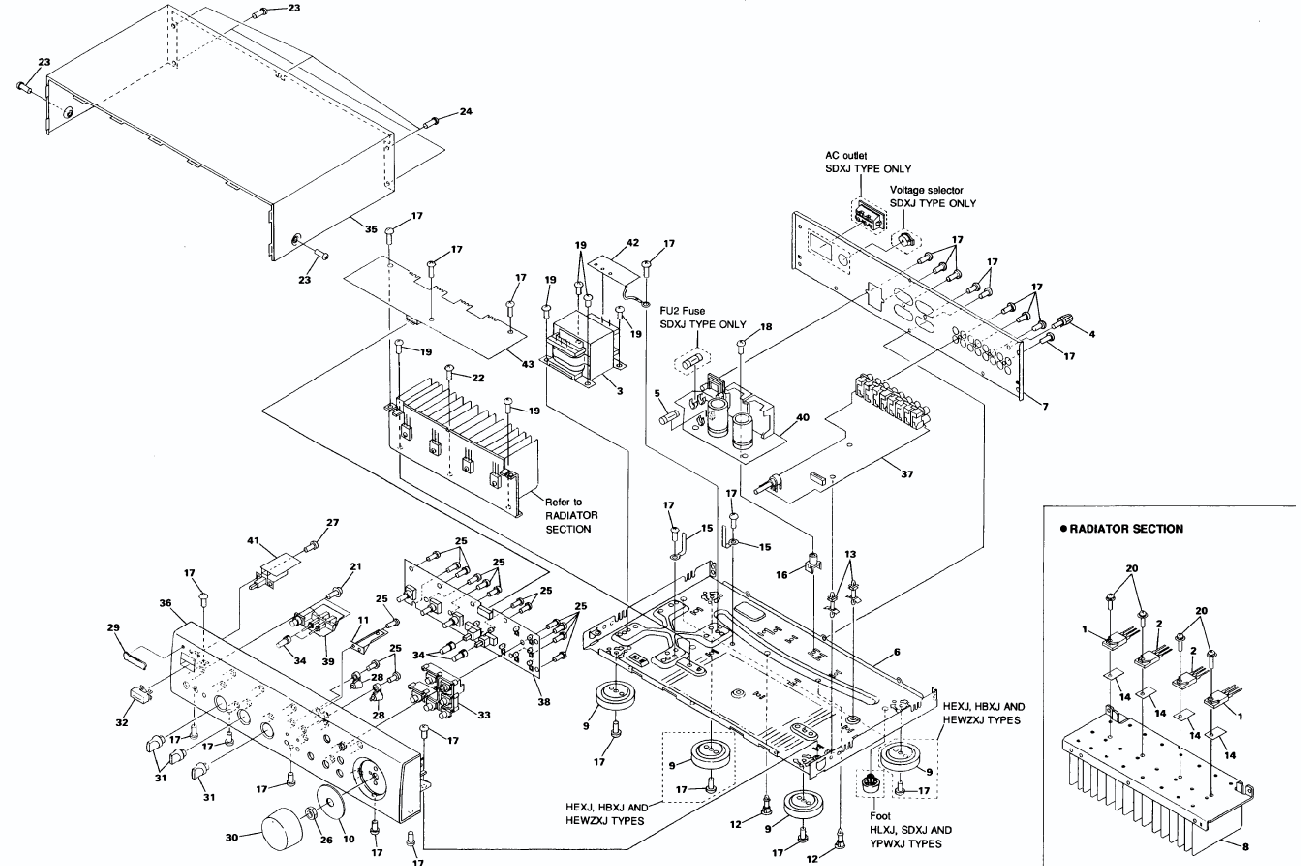
2. EXPLODED VIEWS, PACKING AND PARTS LIST

NOTES:

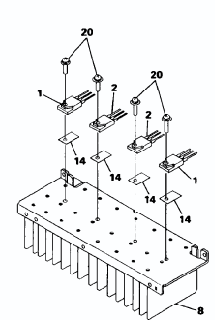
- Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
- The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by "●" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

Mark No.	Description	Parts No.	Mark No.	Description	Parts No.
Δ 1	03.Q4 TRANSISTOR (For A-203)	2SA1204N	38	CONTROL ASSY	AWZ5493
Δ 1	03.Q4 TRANSISTOR (For A-103)	2SA1803	39	HEADPHONE ASSY (For A-203)	AWZ5494
Δ 2	Q1.Q2 TRANSISTOR (For A-203)	2SC3181N	39	HEADPHONE ASSY (For A-103)	AWZ5498
2	Q1.Q2 TRANSISTOR (For A-103)	2SC4688	40	SP ASSY (For A-203)	AWZ5495
Δ 2	TI POWER TRANSFORMER (For A-203)	ATSI538	40	SP ASSY (For A-103)	AWZ5499
Δ 3	TI POWER TRANSFORMER (For A-103)	ATSI540	41	POWER SW ASSY	AWZ5496
4	TERMINAL SCREW	AKE-031	42	TRANS ASSY (For A-203)	AWZ5497
Δ 5	FU1 FUSE (1.25A)	REK1073	42	TRANS ASSY (For A-103)	AWZ5538
Δ 5	FU1 FUSE (400mA)	REK1021	43	POWER AMP ASSY (For A-203)	AWZ5500
NSP 6	CHASSIS MFT	ANA1228	43	POWER AMP ASSY (For A-103)	AWZ5501
7	REAR PANEL (For A-203)	ANC2173	Δ 44	AC POWER CORD	ADG1154
NSP 8	RADIATOR (For A-203)	ANH1484	45	OPE. INSTRUCTIONS (English, French, German, Italian, Dutch, Swedish, Spanish, Portuguese)	AEE1302
NSP 8	RADIATOR (For A-103)	ANH1485	46	PAPER PROTECTOR A	AHA1660
9	INSULATOR	PNW1912	47	PAPER PROTECTOR B	AHA1661
10	RING(MET)	ANG1917	48	PAPER PROTECTOR C	AHA1662
11	PCB HOLDER(MET)	ANG1918	49	PACKING CASE (For A-203)	AHD2672
12	PCB SPACER(PLS)	AEC1566	50	PACKING CASE (For A-103)	AHG1212
13	PCB SPACER(PLS)	AEC1567			
14	SHEET (A-203 only)	AEE1014			
15	BINDER	ASP-215			
16	PCB MOLD(PP)	AMR2533			
17	SCREW	ABA-298			
18	SCREW	ABA1018			
19	SCREW	ABA1027			
20	SCREW	ABA1082			
21	SCREW (STEEL)	ABA1095			
22	SCREW (STEEL)	ABA1193			
23	SCREW	BBT30N80FZK			
24	SCREW	BCZ30P080FZK			
25	SCREW	BPZ20P080FMC			
26	NUT	NK10P1C			
27	SCREW	VPZ30P100FMC			
28	LED LENS	AAK2552			
29	NAME PLATE	PAM1608			
30	ROUND KNOB L (PLS)	AAB1340			
31	ROUND KNOB S (PLS)	AAB2221			
32	POWER BUTTON	AAD2539			
F 33	FUNCTION BUTTON	AAD2540			
34	PUSH BUTTON (PLS)	AAD4645			
35	BONNET CASE	ANE1464			
36	FRONT PANEL (For A-203)	AMB2231			
37	FRONT PANEL (For A-103)	AMB2232			
38	FUNCTION ASSY	AWZ5492			

EXPLODED VIEWS



RADIATOR SECTION

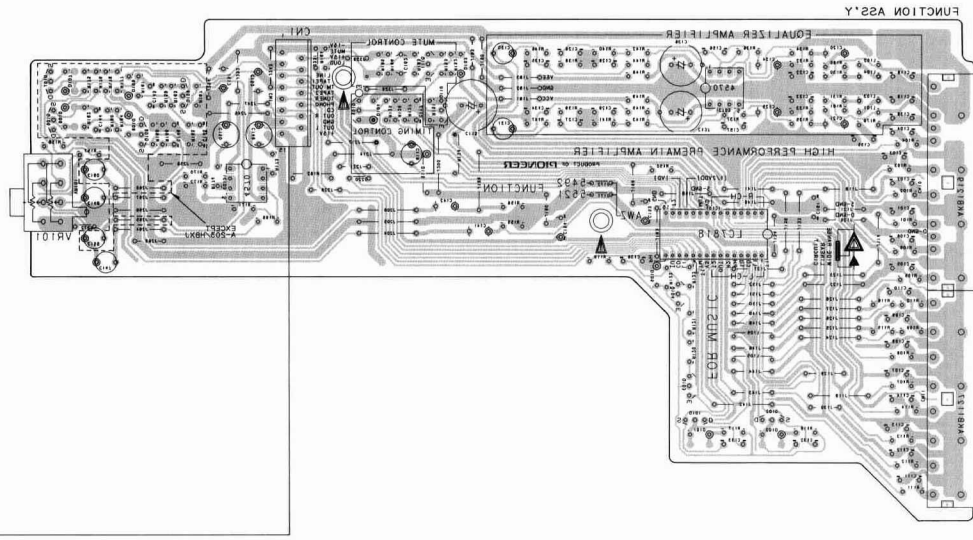


NOTE: Screws adjacent to ▼ mark on product are used for disassembly.

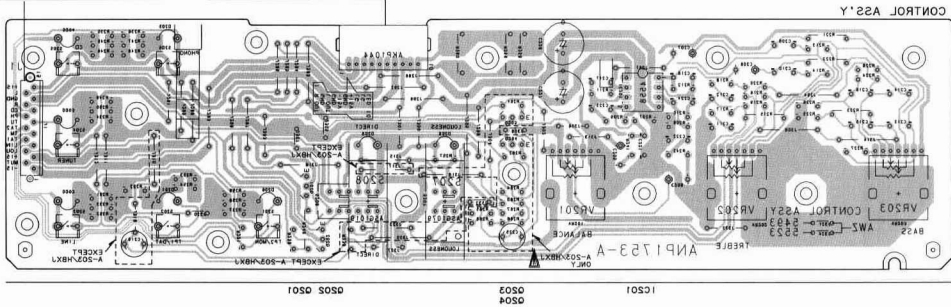
4. PCB CONNECTION DIAGRAMS

● This diagram is viewed from the foil side.

PCB-1



PHONO	10101	10102	10103	10104	10105	10106	10107	10108	10109	10110	10111
TUNER	10101	10102	10103	10104	10105	10106	10107	10108	10109	10110	10111
CD	10101	10102	10103	10104	10105	10106	10107	10108	10109	10110	10111
LINE	10101	10102	10103	10104	10105	10106	10107	10108	10109	10110	10111
REC	10101	10102	10103	10104	10105	10106	10107	10108	10109	10110	10111
TAPES	10101	10102	10103	10104	10105	10106	10107	10108	10109	10110	10111
PLAY	10101	10102	10103	10104	10105	10106	10107	10108	10109	10110	10111
REC	10101	10102	10103	10104	10105	10106	10107	10108	10109	10110	10111
PLAY	10101	10102	10103	10104	10105	10106	10107	10108	10109	10110	10111



0501 0502 0503 0504 0505

• This diagram is viewed from the mounted parts side.

PCB-2

SP ASS'Y

EXCEPT TYPE

SPEAKER TERMINAL

SDXJ TYPE ONLY

POWER TRANSFORMER

1 7 120V

2 6 10V

3 5 0V

4 120V

5 3 110V

6 2 0V

7 1 0V

8 4 0V

9 10 0V

A-203 SERIES

A-103 SERIES

120V

110V

240V

220V

240V

110V

120V

125V

VOLTAGE SELECTOR

TRANS ASS'Y

EXCEPT SDXJ TYPE

POWER TRANSFORMER

1 7 240V

2 6 10V

3 5 0V

4 120V

5 3 110V

6 2 0V

7 1 0V

8 4 0V

9 10 0V

A-203 SERIES

A-103 SERIES

Line Voltage Selection

(For HEXJ, HBXJ, HEWZJ and HLXJ types)

Line Voltage can be changed by the following modification:

1. Disconnect the AC power cord.
2. Remove the cover.
3. Change the connection of the power transformer primary taps.
4. Stick a line voltage label on the rear panel.

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

POWER SW ASS'Y

PIONEER

ASG1035

POWER SW ASS'Y

PART NO. 9496

REVISION 5526

POWER AMP ASS'Y

PIONEER

AKM1037

POWER AMP ASS'Y

PART NO. 9496

REVISION 5526

PIONEER

AKM1037

POWER AMP ASS'Y

PART NO. 9496

REVISION 5526

PIONEER

AKM1037

POWER AMP ASS'Y

PART NO. 9496

REVISION 5526

PIONEER

AKM1037

POWER AMP ASS'Y

PART NO. 9496

REVISION 5526

PIONEER

AKM1037

POWER AMP ASS'Y

PART NO. 9496

REVISION 5526

PIONEER

AKM1037

POWER AMP ASS'Y

PART NO. 9496

REVISION 5526

PIONEER

AKM1037

POWER AMP ASS'Y

PART NO. 9496

REVISION 5526

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AKM1037

POWER AMP ASS'Y

PART NO. 9496

REVISION 5526

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AKM1037

POWER AMP ASS'Y

PART NO. 9496

REVISION 5526

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AKM1037

POWER AMP ASS'Y

PART NO. 9496

REVISION 5526

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POWER AMP ASS'Y

PART NO. 9496

REVISION 5526

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POWER AMP ASS'Y

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AKM1037

POWER AMP ASS'Y

PART NO. 9496

REVISION 5526

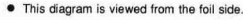
PIONEER

AKM1037

POWER AMP ASS'Y

PART NO. 9496

REVISION 5526



• This diagram is viewed from the mounted parts side.

PCB-1

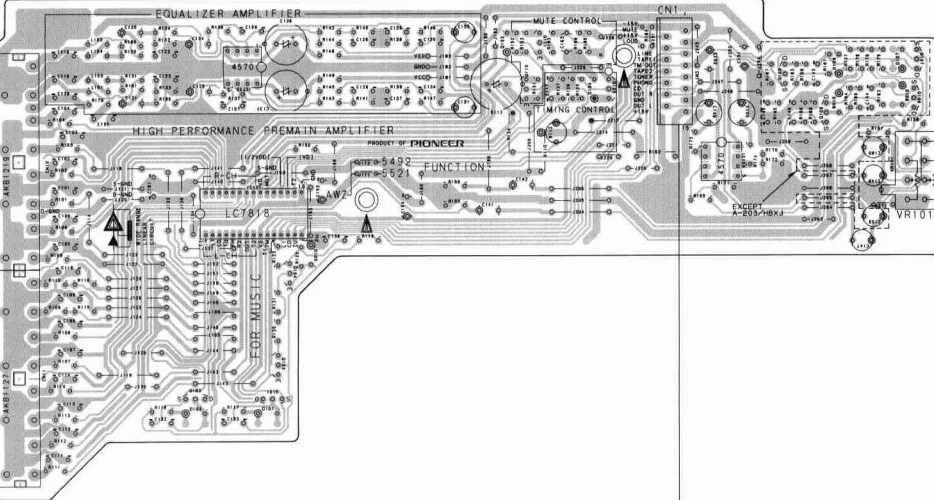
NOTE FOR PCB DIAGRAMS:

1. Part numbers in PCB diagrams match those in the schematic diagrams.
2. A comparison between the main parts of PCB and schematic diagrams is shown below.

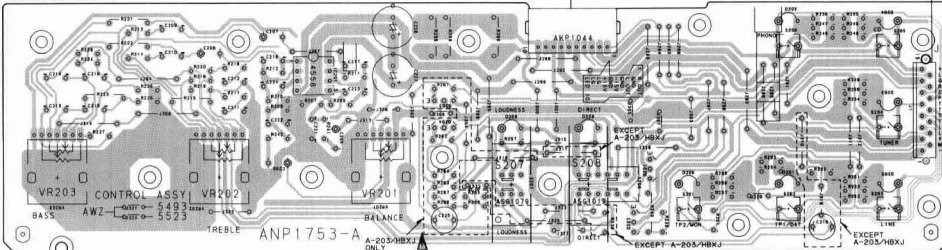
Symbol in PCB Diagrams	Symbol in Schematic Diagrams	Part Name
 	 	Transistor
 	 	Diode
 	 	Capacitor (Polarized)

3. The transistor terminal marked with E or  shows the emitter.
4. The diode terminal marked with  or C shows cathode side.
5. The capacitor terminal marked with  or L shows negative terminal.

FUNCTION ASS'Y



CONTROL ASS'Y

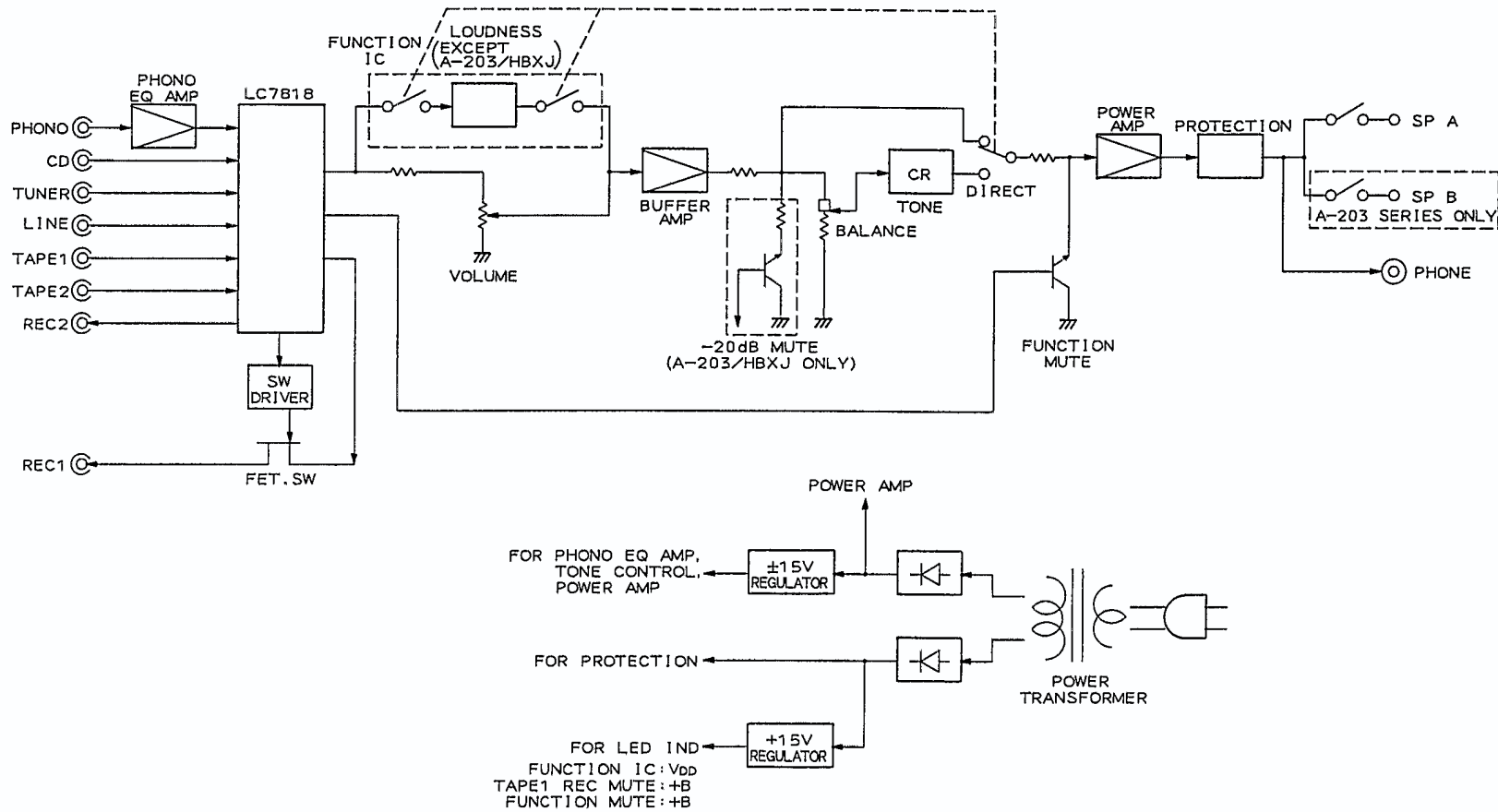


IC201

Q203
Q204

Q202 Q201

5. BLOCK DIAGRAM



6. PCB PARTS LIST

NOTES:

- Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
- 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.
- 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	.....	RD1/8PM	561J
47kΩ	→	47 × 10 ³	→	473	.....	RD1/4PS	473J
0.5Ω	→	0R5	.....			RN2H	0R5K
1Ω	→	010	.....			RS1P	010K

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

5.62kΩ	→	562 × 10 ¹	→	5621		RN1/4PC	5621F
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Mark	No.	Description	Parts No.	Mark	Mark	No.	Description	Parts No.	Mark
------	-----	-------------	-----------	------	------	-----	-------------	-----------	------

LIST OF ASSEMBLIES

NSP	AF ASSY (For A-203)	AWK1787
	— FUNCTION ASSY	AWZ5492
	— CONTROL ASSY	AWZ5493
	— HEADPHONE ASSY	AWZ5494
	— SP ASSY	AWZ5495
	— POWER SW ASSY	AWZ5496
	— TRANS ASSY	AWZ5497
	— POWER AMP ASSY	AWZ5500
NSP	AF ASSY (For A-103)	AWK1788
	— FUNCTION ASSY	AWZ5492
	— CONTROL ASSY	AWZ5493
	— POWER SW ASSY	AWZ5496
	— HEADPHONE ASSY	AWZ5498
	— SP ASSY	AWZ5499
	— POWER AMP ASSY	AWZ5501
	— TRANS ASSY	AWZ5538

FUNCTION ASSY

SEMICONDUCTORS

IC101	LC7818
IC102, IC103	UPC4570C
Q104, Q111	2SA933S
Q103, Q110	2SC1740S
Q101, Q102, Q106—Q109	2SK246

Q105	DTA124ES
D101—D103, D106—D109	1SS252
D110	MTZJ20
D104, D105	MTZJ8.2

COILS AND FILTERS

L101—L104	LAU121K
L105, L106	LAU221K

CAPACITORS

C147, C148, C153, C154 (2.2/50)	ACH1260
C149, C150 (47/25)	ACH1261
C132, C133	CCCSL101J50
C156, C157	CCCSL151J50
C101—C114, C122, C123, C139	CCCSL221J50
C143, C144	CCCSL221J50
C118, C119	CCCSL330J50
C162	CEANP4R7M50

C136, C137	CEAS101M25
C115	CEAS102M16
C120, C121, C130, C131	CEAS2R2M50
C159, C160	CEAS2R2M50
C124, C125, C151, C152	CEAS470M25

C116	CEAS4R7M50
C138	CFTYA104J50
C155	CFTYA473J50
C117	CFTYA563J50
C145, C146	CFTYA823J50

C141, C142	CFTYA824J50
C161	CKCYF103Z50
C126, C127, C134, C135	CQMA222J50
C128, C129	CQMA822J50

RESISTORS

Δ R182	RFA1/4PS4R7J
VR101 (100k—A5×2)	ACT1084

Other Resistors

RD1/8PM□□□J

OTHERS

CN11 (PIN JACK—8P)	AKB1127
CN10 (PIN JACK—8P)	AKB1219
CN1 CONNECTOR(15P)	KPE15

CONTROL ASSY

SEMICONDUCTORS

IC201	NJM4558DXP
Q201, Q202	2SC2878
D209 (Red)	AEL1065
D208 (Orange)	AEL1084
D201—D206 (Red)	AEL1148

SWITCHES AND RELAYS

S208	ASG1019
S201—S206	ASG1034
S207	ASG1079

CAPACITORS

C223, C224	CCCSL151J50
C217, C218	CCCSL271J50
C221, C222	CCCSL470J50
C219	CEANP220M35
C205, C206	CEAS2R2M50

Mark	No.	Description	Parts No.	Mark	No.	Description	Parts No.	Mark
		C207,C208,C227,C228	CEAS470M25			TRANS ASSY		
		C213,C214	CFTYA154J50			SEMICONDUCTORS		
		C211,C212	CFTYA184J50		D701	(For A-203)	D5SB20F	
		C209,C210	CFTYA333J50		D701	(For A-103)	D3SBA20	
		C215,C216	CFTYA824J50					
RESISTORS				CAPACITORS				
		R258-R260	RD1/4PM182J			C701,C702	CFTYA824J50	
		VR202,VR203 (10k-20A×2)	ACSI113					
		VR201 (250k-B×2)	ACSI114		RESISTORS			
				△	R702		RFA1/4PS100J	
		Other Resistors	RD1/8PM□□□J					
				△		Other Resistors	RD1/4PM□□□J	
OTHERS						POWER AMP ASSY		
		SOCKET (10P)	AKP1044			SEMICONDUCTORS		
HEADPHONE ASSY						IC301	UPC4570C	
SWITCHES AND RELAYS						Q305,Q306	2SA1145	
		S501 (A-203 only)	SUL6LXXS			Q322	2SA1837	
CAPACITORS						Q313,Q314	2SA965	
		C501,C502 (A-203 only)	CKCYB392K50			Q303,Q304	2SA992	
		C503,C504 (A-103 only)	CKCYB392K50					
RESISTORS						Q317,Q318	2SC1740S	
△		R501,R502 (A-203 only)	RS2LMF331J			Q301,Q302,Q315,Q316	2SC1845	
△		R505,R506 (A-103 only)	RS1LMF331J			Q311,Q312	2SC2235	
						Q319	2SC2240	
OTHERS						Q309,Q310	2SC2458	
		JACK (Headphone) (For A-203)	AKN1002			Q307,Q308	2SC2705	
		JACK (Headphone) (For A-103)	AKN1010			Q321	2SC4793	
SP ASSY						D301-D308,D313-D322	1SS252	
SEMICONDUCTORS						D326,D327	1SS252	
		Q401	2SC4793			D323	MTZJ13	
		D405	1SS252					
		D404	RD16ESB2			D329-D332 (A-103 only)	MTZJ3.3	
		D402,D403	S5566			D309-D312	MTZJ6.2A	
						D324,D325	RD16ESB2	
CAPACITORS						SWITCHES AND RELAYS		
△		C409 (0.01/400)	ACG1002			RY301	ASR-111	
		C401,C402 (6800/50) (For A-203)	ACH1105			CAPACITORS		
		C401,C402 (4700/42) (For A-103)	ACH1269			C301,C302,C313,C314 (2.2/50)	ACH1260	
		C407	CEAS101M50			C331,C332 (47/25)	ACH1261	
		C410,C411	CEAS470M50			C305,C306,C324,C325 (100/25)	ACH1262	
						C309-C312	CCCSL560K500	
						C326	CEAS101M25	
		C403,C404	CKCYB472K50					
		C405,C406 (A-203 only)	CKCYB472K50			C318	CEAS2R2M50	
RESISTORS						C317	CEAS471M6	
△		R401,R403	RFA1/4PS4R7J			C315,C316	CEAS4R7M50	
						C327,C328	CFTYA104J50	
		Other Resistors	RD1/4PM□□□J			C319-C322	CFTYA224J50	
OTHERS								
		SCREW	ABA-298			C329,C330	CKCYB102K50	
		SPEAKER TERMINAL 8-P (For A-203)	AKE1011			C303,C304	CKCYB471K50	
		SPEAKER TERMINAL 4-P (For A-103)	AKE1054			RESISTORS		
△		CN6 (AC INLET-1P)	AKP1132		△	R347,R348 (0.33/5W)	ACN-139	
POWER SW ASSY					△	R362,R363 (For A-203)	RD1/2PMF331J	
SWITCHES AND RELAYS					△	R362,R363 (For A-103)	RD1/2PMF271J	
△		S601	ASG1035		△	R369,R370	RD1/2PMFL4R7J	
CAPACITORS					△	R385	RD1/4PMF100J	
△		C601 (0.01/400)	ACG1002		△			
					△	R357	RD1/4PMF101J	
					△	R349,R350	RD1/4PMF222J	
					△	R337-R340	RD1/8MMF101J	
					△	R341,R342	RD1/8MMF271J	
					△	R367,R368	RD1/8MMF4R7J	

A-203, A-103

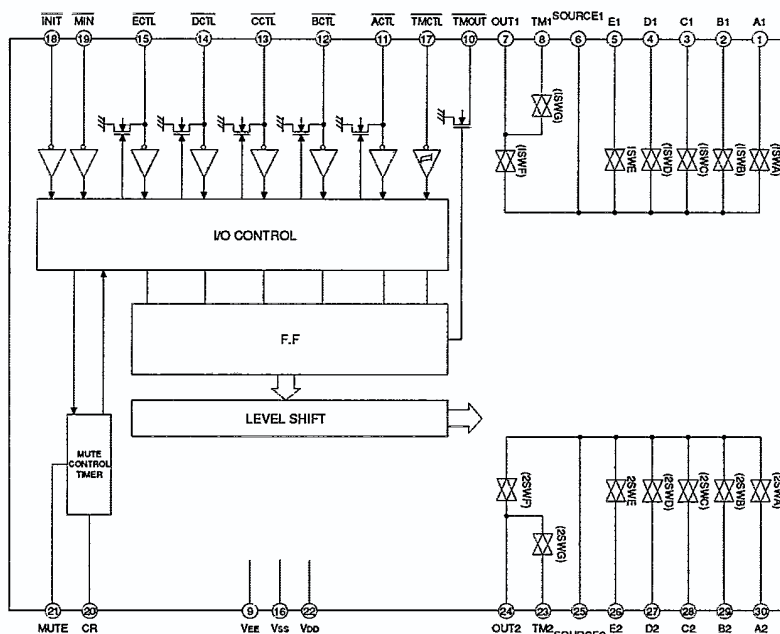
Mark	No.	Description	Parts No.	Mark
△	R323	—R326	RD1/8MMF511J	
△	R327	—R330	RD1/8MMF680J	
	R371,R372	(For A — 203)	RDR1/4PM392J	
	R371,R372	(For A — 103)	RDR1/4PM332J	
△	R343	—R346	RFA1/4PS4R7J	
	R331,R332		RN1/4PC1501F	
	R335,R336		RN1/4PC6800F	
	Other Resistors		RD1/8PM□□□J	
OTHERS				
	PLUG	(10P)	AKM1037	
	CN2	CONNECTOR(13P)	KPE13	
	CN3	CONNECTOR(7P)	KPE7	

7. IC INFORMATION

● The information shown in the list is basic information and may not correspond exactly to that shown in the schematic diagrams.

■ LC7818 (IC101) Input Selector IC

● Block diagram



● Pin Function

No.	Name	Function
1	A1	Audio signal input
2	B1	
3	C1	
4	D1	
5	E1	
6	SOURCE1	Recording output
7	OUT1	Audio signal output
8	TM1	Audio signal input
9	VEE	1. When power supply (+) is used: VSS=VEE=GND 2. When power supply (+-) is used: VSS=GND, VEE=(-)V
10	TMOUT	TM ON/OFF display LED driver output
11	ACTL	Input/output pin for analog switch control and display LED driver output
12	BCTL	
13	CCTL	
14	DCTL	
15	ECTL	
16	VSS	1. When power supply (+) is used: VSS=VEE=GND 2. When power supply (+-) is used: VSS=GND, VEE=(-)V

No.	Name	Function																					
17	TMCTL	TM control input																					
18	INIT	Mode setting input Operations According to the Combination of INIT and MIN Inputs																					
19	MIN																						
		<table border="1"> <thead> <tr> <th>INIT</th><th>MIN</th><th>Operations</th></tr> </thead> <tbody> <tr> <td>H</td><td>M</td><td>Localization</td></tr> <tr> <td>H</td><td>L</td><td>Backup</td></tr> <tr> <td>H</td><td>H</td><td>Auto function</td></tr> <tr> <td>L</td><td>M</td><td>Mute</td></tr> <tr> <td>L</td><td>L</td><td>Initialize (Circuit A)</td></tr> <tr> <td>L</td><td>H</td><td>Reset</td></tr> </tbody> </table>	INIT	MIN	Operations	H	M	Localization	H	L	Backup	H	H	Auto function	L	M	Mute	L	L	Initialize (Circuit A)	L	H	Reset
INIT	MIN	Operations																					
H	M	Localization																					
H	L	Backup																					
H	H	Auto function																					
L	M	Mute																					
L	L	Initialize (Circuit A)																					
L	H	Reset																					
20	CR	Clock oscillation input/output Connected to C1 and R1																					
21	MUTE	Mute control output																					
22	VDD	Power supply																					
23	TM2	Audio signal input																					
24	OUT2	Audio signal output																					
25	SOURCE2	Recording output																					
26	E2	Audio signal input																					
27	D2																						
28	C2																						
29	B2																						
30	A2																						

8. FOR A-203/HBXJ, HEWZXJ, HLXJ, SDXJ, A-103/HBXJ, HEWZXJ, HLXJ, SDXJ AND YPWXJ

NOTES:

- Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
- 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.

8.1 CONTRAST OF MISCELLANEOUS PARTS FOR A-203/HBXJ, HEWZXJ, HLXJ AND SDXJ.

A-203/HBXJ, HEWZXJ, HLXJ, SDXJ and A-203/HEXJ have the same construction except for the following:

Mark	Symbol & Description	Part No.					Remarks
		A-203 HEXJ	A-203 HBXJ	A-203 HEWZXJ	A-203 HLXJ	A-203 SDXJ	
NSP	AF assembly	AWK1787	AWK1822	AWK1787	AWK1787	AWK1823	
	FUNCTION assembly	AWZ5492	AWZ5521	AWZ5492	AWZ5492	AWZ5492	
	CONTROL assembly	AWZ5493	AWZ5523	AWZ5493	AWZ5493	AWZ5493	
	SP assembly	AWZ5495	AWZ5524	AWZ5495	AWZ5495	AWZ5525	
	POWER SW assembly	AWZ5496	AWZ5526	AWZ5496	AWZ5496	AWZ5496	
Δ	T1 Power transformer (AC220—230V/240V)	ATS1538	ATS1538	ATS1538	ATS1538	.....	
Δ	T1 Power transformer (AC110V/120—127V/220V/240V)	.....	.....	.....	.....	ATS1539	
Δ	Voltage selector (AC110V/120—127V/220V/240V)	.....	.....	.....	.....	AKX—507	Refer to page5.
Δ	AC outlet	.....	.....	.....	.....	AKP—515	Refer to page5.
Δ	FU2 Fuse (1.25A)	.....	.....	.....	.....	REK1023	Refer to page5.
Δ	AC power cord	ADG1154	ADG1156	ADG1154	ADG1154	ADG1158	
	Rear panel	ANC2173	ANC2174	ANC2172	ANC2201	ANC2175	
	Insulator (for front/rear)	PNW1912	PNW1912	PNW1912	.....	.....	
	Insulator (for front)	.....	.....	.....	DXA1490	DXA1490	
	Foot (for rear)	.....	.....	.....	AEC1505	AEC1505	
	Front panel	AMB2231	AMB2233	AMB2231	AMB2231	AMB2231	
	Operating instructions (English/French/German/Italian/ Swedish/Spanish/Dutch/ Portuguese)	ARE1302	.....	.....	.....	.....	
	Operating instructions (English)	.....	ARB1468	.....	.....	.....	
	Operating instructions (German)	.....	.....	ARC1455	.....	.....	
	Operating instructions (English/Chinese)	.....	.....	.....	ARE1300	.....	
	Operating instructions (English/Spanish/Chinese)	.....	.....	.....	.....	ARE1301	
	Packing case	AHD2672	AHD2672	AHD2672	AHD2701	AHD2701	

FUNCTION ASSEMBLY

AWZ5521 and AWZ5492 have the same construction except for the following:

Mark	Symbol & Description	Part No.		Remarks
		AWZ5492	AWZ5521	
	D106—D109	1SS252	.....	
	Q106—Q109	2SK246	.....	
	R159, R160	RD1/8PM104J	.....	
	R161, R162	RD1/8PM273J	.....	
	R163, R164	RD1/8PM393J	.....	
	R165—R168	RD1/8PM105J	.....	
	R175—R178	RD1/8PM475J	.....	
	C143, C144	CCCSL221J50	.....	
	C145, C146	CFTXA823J50	.....	
	C159, C160	CEAS2R2M50	.....	

CONTROL ASSEMBLY

AWZ5523 and AWZ5493 have the same construction except for the following:

Mark	Symbol & Description	Part No.		Remarks
		AWZ5493	AWZ5523	
	Q203, Q204	.....	2SC2878	
	R238	RD1/8PM103J	.....	
	R261, R262	.....	RD1/8PM100J	
	R263, R264	.....	RD1/8PM103J	
	R265, R267	.....	RD1/8PM332J	
	R266	.....	RD1/8PM153J	
	R268	.....	RD1/8PM333J	
	C219	CEANP220M35	.....	
	C225	.....	CEANP4R7M50	

SP ASSEMBLY

AWZ5524, AWZ5525 and AWZ5495 have the same construction except for the following:

Mark	Symbol & Description	Part No.			Remarks
		AWZ5495	AWZ5524	AWZ5525	
	C403—C406	CKCYB472K50	.....	.....	
	Speaker terminal 8—P	AKE1011	AKE1036	AKE1011	
△	CN6 (AC INLET—1P)	AKP1132	AKP1133	AKP1132	

POWER SW ASSEMBLY

Although AWZ5526 and AWZ5496 are different in part number, they have the same service parts.

8.2 CONTRAST OF MISCELLANEOUS PARTS FOR A-103/HBXJ, HEWZXJ, HLXJ SDXJ AND YPWXJ.

A-103/HBXJ, HEWZXJ, HLXJ, SDXJ, YPWXJ and A-103/HEXJ have the same construction except for the following:

Mark	Symbol & Description	Part No.						Remarks
		A-103 HEXJ	A-103 HBXJ	A-103 HEWZXJ	A-103 HLXJ	A-103 SDXJ	A-103 YPWXJ	
NSP	AF assembly	AWK1788	AWK1825	AWK1788	AWK1788	AWK1826	AWK1788	
	SP assembly	AWZ5499	AWZ5529	AWZ5499	AWZ5499	AWZ5530	AWZ5499	
	POWER SW assembly	AWZ5496	AWZ5526	AWZ5496	AWZ5496	AWZ5496	AWZ5496	
△	T1 Power transformer (AC220—230V/240V)	ATS1540	ATS1540	ATS1540	ATS1540	.....	ATS1540	
△	T1 Power transformer (AC110V/120—127V/220V/240V)	.....	.....	.....	.....	ATS1541	.....	
△	Voltage selector (AC110V/120—127V/220V/240V)	.....	.....	.....	.....	AKX—507	.....	Refer to page5.
△	AC outlet	.....	.....	.....	.....	AKP—515	.....	Refer to page5.
△	FU2 Fuse (800mA)	.....	.....	.....	.....	REK1021	.....	Refer to page5.
△	AC power cord	ADG1154	ADG1156	ADG1154	ADG1154	ADG1158	ADG1160	
	Rear panel	ANC2177	ANC2178	ANC2176	ANC2202	ANC2179	ANC2178	
	Insulator	PNW1912	PNW1912	PNW1912	.....	.....	.....	
	Foot	.....	.....	.....	AEC1505	AEC1505	AEC1505	
	Front panel	AMB2232	AMB2232	AMB2232	AMB2234	AMB2234	AMB2234	
	Operating instructions (English/French/German/Italian/ Swedish/Spanish/Dutch/ Portuguese)	ARE1302	.....	.....	.....	.....	.....	
	Operating instructions (English)	.....	ARB1468	.....	.....	.....	ARB1468	
	Operating instructions (German)	.....	.....	ARC1455	.....	.....	.....	
	Operating instructions (English/Chinese)	.....	.....	.....	ARE1300	.....	.....	
	Operating instructions (English/Spanish/Chinese)	.....	.....	.....	.....	ARE1301	.....	
	Packing case	AHD2673	AHD2673	AHD2673	AHD2702	AHD2702	AHD2673	

SP ASSEMBLY

AWZ5529, AWZ5530 and AWZ5499 have the same construction except for the following:

Mark	Symbol & Description	Part No.			Remarks
		AWZ5499	AWZ5529	AWZ5530	
	C403, C404	CKCYB472K50	.....	.....	
△	CN6 (AC INLET—1P)	AKP1132	AKP1133	AKP1132	

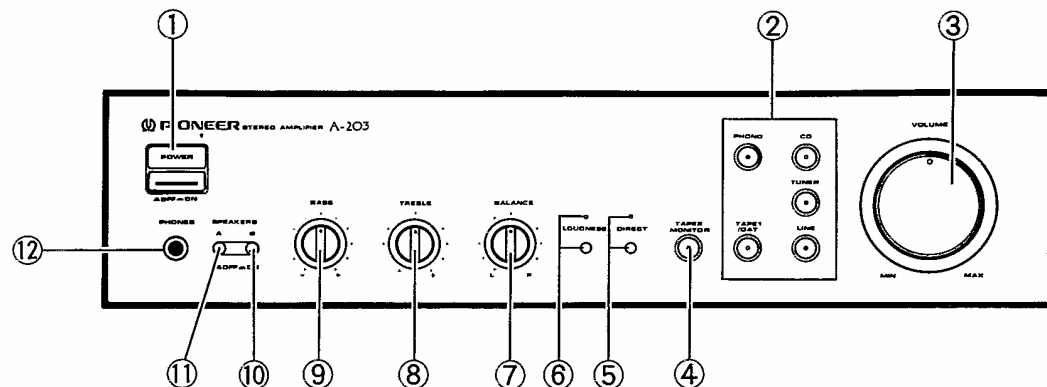
POWER SW ASSEMBLY

Although AWZ5526 and AWZ5496 are different in part number, they have the same service parts.

9. PANEL FACILITIES

1

The illustration shows model A-203.



Model A-103 is not equipped with ⑩ and ⑪.

FRONT PANEL

See Fig. 1

① POWER switch

Press to turn power to the unit ON and OFF.

② Input Selector switch/indicator

Use to select the playback source.

PHONO:

For record playback with a turntable.

CD:

For compact disc playback with a CD player.

TUNER:

For AM or FM broadcast reception with a tuner.

LINE:

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

TAPE 1/DAT:

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

③ VOLUME control

Use to adjust the volume level.

④ TAPE 2 MONITOR switch/indicator

Use when there is an adaptor component (graphic equalizer, etc.) or cassette deck connected to the TAPE 2 MONITOR terminals.

ON:

Indicator lights when using the adaptor component or listening to the cassette deck.

OFF:

Indicator goes out when not in use.

NOTE:

- When no connections are made to the TAPE 2 MONITOR terminals, or when they are not in use, be sure to set this switch to the OFF position. (No sound will be heard if it is set to the ON position.)
- When the TAPE 2 MONITOR indicator is on and the input selector switch is not set to TAPE 1/DAT, the signals which are input through TAPE 2 MONITOR are then output at TAPE 1/DAT REC OUT.

⑤ 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 (BASS, TREBLE, BALANCE, LOUDNESS.)

ON:

The indicator lights: The signals input through 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:

The indicator goes out: The signal passes through the various frequency adjusting circuits.

⑥ MUTING button/indicator

(Only U.K. model of A-203)

Use to temporarily cut sound volume.

ON: (Red illumination)

The indicator lights. The sound volume will be reduced -20dB.

OFF:

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

⑦ LOUDNESS switch/indicator

(Except U.K. model of A-203)

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 levels.

OFF:

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

NOTE:

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

⑧ BALANCE control

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

NOTE:

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

⑧ TREBLE tone control

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

NOTE:

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

⑨ BASS tone control

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

NOTE:

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

⑩ SPEAKERS B selector switch (A-203 only)

Use this switch to listen to the speaker system connected to the SPEAKERS B terminals.

ON (■):

Depressed position: Sound is heard from the speaker system.

OFF (■):

Released position: No sound is heard from the speaker system.

Set to this position when listening with headphones

⑪ SPEAKERS A selector switch (A-203 only)

Use this switch to listen to the speaker system connected to the SPEAKERS A terminals.

ON (■):

Depressed position: Sound is heard from the speaker system.

OFF (■):

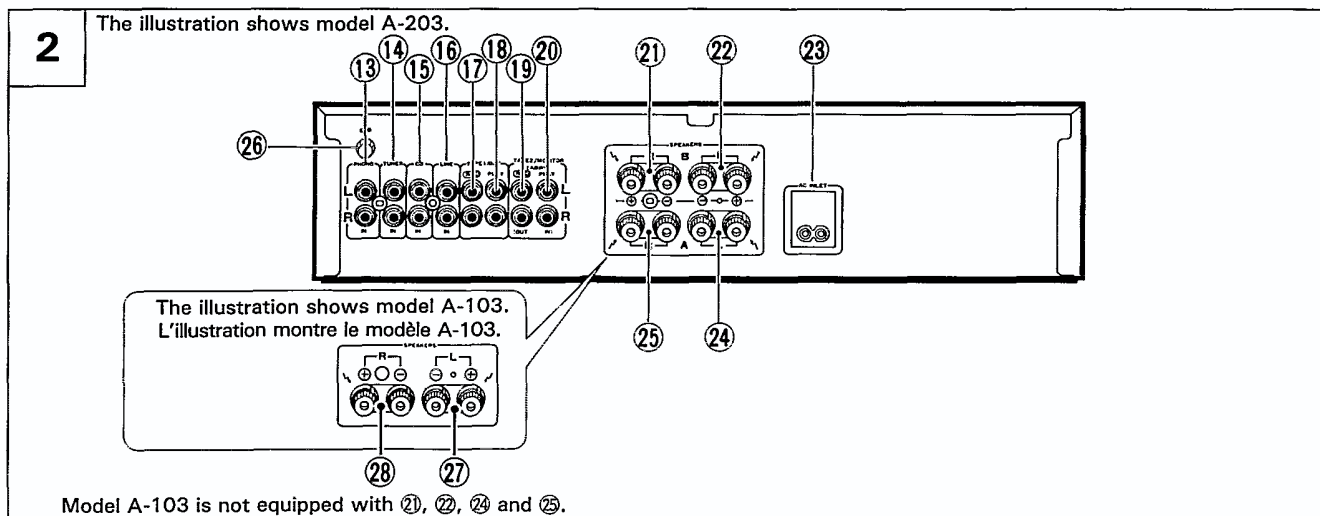
Released position: No sound is heard from the speaker system.

Set to this position when listening with headphones.

⑫ PHONES jack

When using headphones, insert the plug into this jack.

With model A-103 the output to the speakers is cut automatically when connecting headphones.


REAR PANEL
See Fig. 2

- | | |
|---|--|
| ⑬ PHONO terminals | ⑳ SPEAKERS B terminals (left channel) (A-203 only) |
| ⑭ TUNER terminals | ㉑ AC INLET jack |
| ⑮ CD terminals | Connect power cord to here and an AC wall socket, or the AC outlet of an audio timer. |
| ⑯ LINE terminals | If you are going to be away from home for a long period of time, disconnect the unit from the wall socket. |
| ⑰ TAPE 1/DAT REC terminals | ㉒ SPEAKERS A terminals (left channel) (A-203 only) |
| ⑱ TAPE 1/DAT PLAY terminals | ㉓ SPEAKERS A terminals (right channel) (A-203 only) |
| ㉑ TAPE 2/MONITOR (ADPT) REC (OUT) terminals | ㉔ GND (Turntable ground) terminal |
| ㉒ TAPE 2/MONITOR (ADPT) PLAY (IN) terminals | ㉕ SPEAKERS terminals (left channel) (A-103 only) |
| ㉓ SPEAKERS B terminals (right channel) (A-203 only) | ㉖ SPEAKERS terminals (right channel) (A-103 only) |

10. SPECIFICATIONS

[A-203]

Amplifier Section

Continuous power output

(both channels driven at 20 Hz to 20 kHz)**

T.H.D. 0.07 %, 8 Ω 35 W + 35 W*

T.H.D. 0.1 %, 4 Ω 40 W + 40 W*

DIN Continuous power output (both channels driven at 1 kHz)

T.H.D. 1.0 %, 8 Ω 45 W + 45 W

T.H.D. 1.0 %, 4 Ω 55 W + 55 W

Dynamic power output (E.I.A. test signal)

4 Ω 66 W

Total harmonic distortion**

20 Hz to 20 kHz, 17.5 W, 8 Ω 0.05 %*

• Above specifications are for when power supply is 230 V.

Input sensitivity/impedance

PHONO (MM) 2.8 mV/50 k Ω

CD, TUNER, LINE, TAPE 1/DAT, TAPE 2 MONITOR 200 mV/50 k Ω

PHONO overload level

1 kHz, T.H.D. 0.1 % (MM) 150 mV

Output level/impedance

TAPE REC, ADPT OUT 200 mV/1 k Ω

Frequency response

PHONO (MM) 20 Hz to 20 kHz ± 0.5 dB

CD, TUNER, LINE, TAPE 1/DAT, TAPE 2 MONITOR,

..... 5 Hz to 100 kHz ± 3 dB*

Tone control

BASS ± 8 dB (100 Hz)

TREBLE ± 8 dB (10 kHz)

Loudness contour (volume control set at -30 dB position)

Australian model only

..... +5 dB (100 Hz) / +3 dB (10 kHz)

Signal-to-Noise ratio (IHF short circuit, A network)

PHONO (MM, 5 mV input) 82 dB*

CD, TUNER, LINE, TAPE 1/DAT, TAPE 2 MONITOR 105 dB*

Signal-to-Noise ratio (DIN, continuous power/50 mW)

PHONO (MM) 68 dB/64 dB*

CD, TUNER, LINE, TAPE 1/DAT, TAPE 2 MONITOR 85 dB/67 dB*

Power Supply/Miscellaneous

Power requirements AC 220 - 230 Volts, 50/60 Hz

Power consumption 330 W

Dimensions (including knobs and other protruding parts)

..... 420 (W) $\times$ 312 (D) $\times$ 110 (H) mm

Weight (without package) 5.2 kg

Accessories

Operating instructions 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.

[A-103]

Amplifier Section

Continuous power output

(both channels driven at 20 Hz to 20 kHz)**

T.H.D. 0.1 %, 8 Ω 25 W + 25 W*

DIN Continuous power output (both channels driven at 1 kHz)

T.H.D. 1.0 %, 8 Ω 30 W + 30 W

Total harmonic distortion**

20 Hz to 20 kHz, 12.5 W, 8 Ω 0.05 %*

• Above specifications are for when power supply is 230 V.

Input sensitivity/impedance

PHONO (MM) 2.8 mV/50 k Ω

CD, TUNER, LINE, TAPE 1/DAT, TAPE 2 MONITOR 200 mV/50 k Ω

PHONO overload level

1 kHz, T.H.D. 0.1 % (MM) 150 mV

Output level/impedance

TAPE REC, ADPT OUT 200 mV/1 k Ω

Frequency response

PHONO (MM) 20 Hz to 20 kHz ± 0.5 dB

CD, TUNER, LINE, TAPE 1/DAT, TAPE 2 MONITOR,

..... 5 Hz to 100 kHz ± 3 dB*

Tone control

BASS ± 8 dB (100 Hz)

TREBLE ± 8 dB (10 kHz)

Loudness contour (volume control set at -30 dB position)

..... +5 dB (100 Hz) / +3 dB (10 kHz)

Signal-to-Noise ratio (IHF short circuit, A network)

PHONO (MM, 5 mV input) 82 dB*

CD, TUNER, LINE, TAPE 1/DAT, TAPE 2 MONITOR 105 dB*

Signal-to-Noise ratio (DIN, continuous power/50 mW)

PHONO (MM) 68 dB/64 dB*

CD, TUNER, LINE, TAPE 1/DAT, TAPE 2 MONITOR 85 dB/67 dB*

Power Supply/Miscellaneous

Power requirements AC 220 - 230 Volts, 50/60 Hz

Power consumption 210 W

Dimensions (including knobs and other protruding parts)

..... 420 (W) $\times$ 312 (D) $\times$ 110 (H) mm

Weight (without package) 4.2 kg

Accessories

Operating instructions 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.