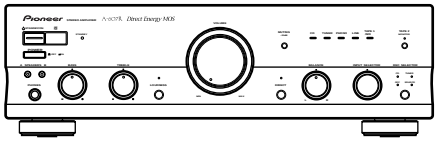
Service Manual



ORDER NO.
RRV2033

STEREO AMPLIFIER

A-607R

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-607R		
MV	○	AC220 – 230V	————
MY/EW	○	AC220 – 230V	————
MY/GR	○	AC220 – 230V	————
SD	○	AC110V/120 – 127V/220/240V	With the voltage selector

CONTENTS

PIONEER ELECTRONIC CORPORATION 4-1, Meguro 1-Chome, Meguro-ku, Tokyo 153-8654, Japan
PIONEER ELECTRONICS SERVICE, INC. P.O. Box 1760, Long Beach, CA 90801-1760, U.S.A.
PIONEER ELECTRONIC (EUROPE) N.V. Haven 1087, Keetberglaan 1, 9120 Melsele, Belgium
PIONEER ELECTRONICS ASIACENTRE PTE. LTD. 501 Orchard Road, #10-00 Wheelock Place, Singapore 238880

T – ZZK OCT. 1998 Printed in Japan

1. SAFETY INFORMATION

This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.
Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING
This product contains lead in solder and certain electrical parts contain chemicals which are known to the state of California to cause cancer, birth defects or other reproductive harm.

Health & Safety Code Section 25249.6 – Proposition 65

NOTICE
(FOR CANADIAN MODEL ONLY)
Fuse symbols (fast operating fuse) and/or (slow operating fuse) on PCB indicate that replacement parts must be of identical designation.

REMARQUE
(POUR MODÈLE CANADIEN SEULEMENT)
Les symboles de fusible (fusible de type rapide) et/ou (fusible de type lent) sur CCI indiquent que les pièces de remplacement doivent avoir la même désignation.

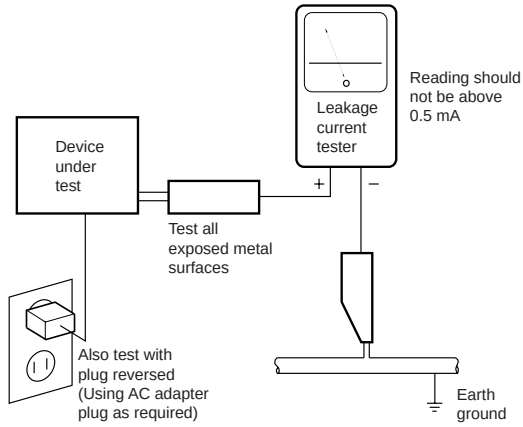
(FOR USA MODEL ONLY)

1. SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

LEAKAGE CURRENT CHECK

Measure leakage current to a known earth ground (water pipe, conduit, etc.) by connecting a leakage current tester such as Simpson Model 229-2 or equivalent between the earth ground and all exposed metal parts of the appliance (input/output terminals, screwheads, metal overlays, control shaft, etc.). Plug the AC line cord of the appliance directly into a 120V AC 60 Hz outlet and turn the AC power switch on. Any current measured must not exceed 0.5 mA.



AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

2. PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in the appliance have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

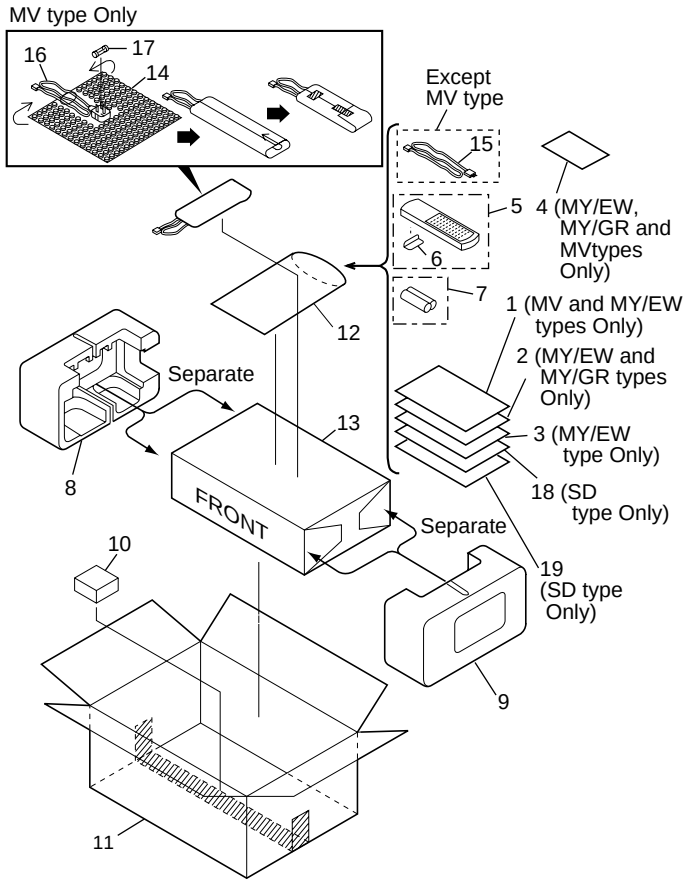
Electrical components having such features are identified by marking with a ⚠ on the schematics and on the parts list in this Service Manual.
The use of a substitute replacement component which does not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

2. EXPLODED VIEWS AND 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.*
● *Screws adjacent to ▼ mark on the product are used for disassembly.*

2.1 PACKING



(1) PACKING PARTS LIST

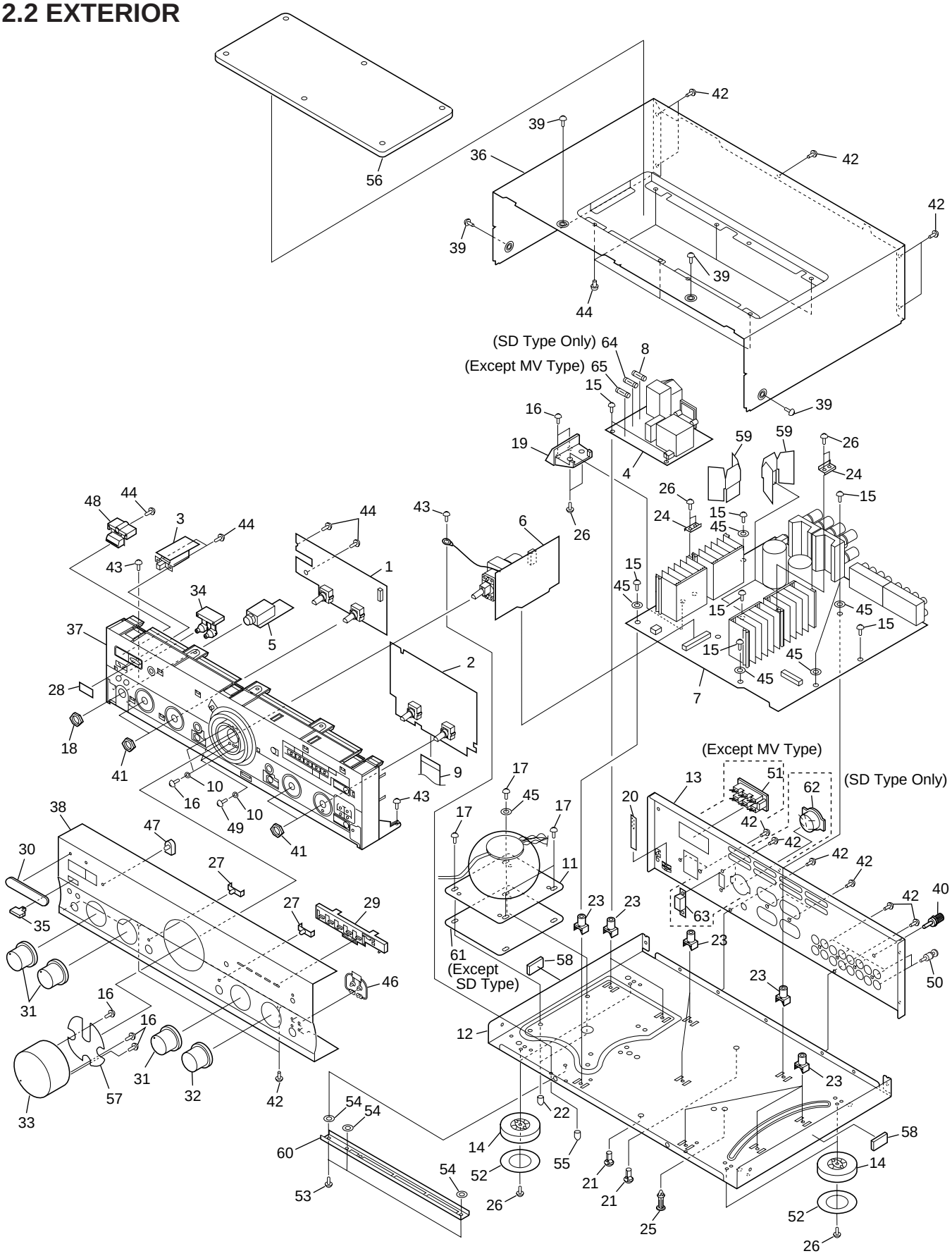
Mark	No.	Description	Part No.
	1	Operating Instructions (English)	See Contrast table (2)
	2	Operating Instructions (German)	See Contrast table (2)
	3	Operating Instructions (French/Italian/Dutch/Swedish/Spanish/Portugese)	See Contrast table (2)
NSP	4	Warranty Card	See Contrast table (2)
	5	Remote Control Unit (CU-A018)	AXD7187
	6	Battery Cover	AZN2249
NSP	7	Dry Cell Battery (R6P,AA)	AEX-010
	8	Side Protector L	AHA7127
	9	Side Protector R	AHA7128
	10	Sub Pad	AHA7245
	11	Packing Case	See Contrast table (2)
NSP	12	Literature Bag	AHG-117
	13	Packing Sheet	AHG1016
NSP	14	Air Cap	See Contrast table (2)
⚠	15	Power Cord	See Contrast table (2)
⚠	16	Power Cord with Fuse	See Contrast table (2)
⚠	17	Fuse (T5A)	See Contrast table (2)
	18	Operating Instructions (Spanish/Chinese)	See Contrast table (2)
NSP	19	Caution Label 220V	See Contrast table (2)

(2) CONTRAST TABLE

A-607R/MV, MY/EW, MY/GR and SD types are constructed the same except for the following :

Mark	No.	Symbol and Description	Part No.				Remarks
			MV Type	MY/EW Type	MY/GR Type	SD Type	
	1	Operating Instructions (English)	ARB7161	ARB7161	Not used	Not used	
	2	Operating Instructions (German)	Not used	ARC7211	ARC7211	Not used	
	3	Operating Instructions (French/Italian/Dutch/Swedish/Spanish/Portuguese)	Not used	ARC7212	Not used	Not used	
	4	Warranty Card	ARY7022	ARY7022	ARY7022	Not used	
	11	Packing Case	AHD7653	AHD7653	AHD7653	AHD7675	
NSP	14	Air Cap	AHG1087	Not used	Not used	Not used	
⚠	15	Power Cord	Not used	ADG1154	ADG1154	ADG1158	
⚠	16	Power Cord with Fuse	ADG1156	Not used	Not used	Not used	
⚠	17	Fuse (T5A)	AEK1046	Not used	Not used	Not used	
	18	Operating Instructions (Spanish/Chinese)	Not used	Not used	Not used	ARC7210	
NSP	19	Caution Label 220V	Not used	Not used	Not used	ARR7003	

2.2 EXTERIOR


(SD Type Only)
(Except MV Type)
(Except MV Type)
(SD Type Only)
(Except SD Type)

(1) EXTERIOR PARTS LIST

Mark	No.	Description	Part No.
	1	FRONT L Assy	AWX7054
	2	FRONT R Assy	AWX7146
	3	POWER SW Assy	See Contrast table (2)
	4	AC PRIMARY Assy	See Contrast table (2)
NSP	5	HEADPHONE Assy	AWX7052
	6	VOLUME Assy	AWX7171
	7	AF Assy	AWX7200
⚠	8	Fuse (FU1, T2A L250V)	AEK1057
	9	Flexible Cable (J1, 21P) (AF CN202 - FRONT R CN601)	ADD1114
	10	Washer	ABE1002
⚠	11	Power Transformer (T1)	See Contrast table (2)
NSP	12	Chassis	ANA7048
	13	Rear Panel	See Contrast table (2)
	14	Insulator	PNW2766
	15	Screw	ABA1018
	16	Screw	ABA1050
	17	Screw (4 × 10)	See Contrast table (2)
	18	Nut	ABN-065
NSP	19	PCB Mold	AMR7222
	20	Barrier	AEC7072
NSP	21	PCB Holder	AEC7057
	22	Stud Cover	AEC7096
NSP	23	PCB Mold	AMR1525
NSP	24	Radiator Plate A	AMR7221
	25	Locking Card Spacer	DEC1908
	26	Screw	ABA-298
	27	LED Lens	AAK2459
	28	IR Filter	AAK7532
	29	LED Lens T	AAK7544
	30	Name Plate	PAN1376

Mark	No.	Description	Part No.
	31	Rotary Knob A	AAB7148
	32	Rotary Knob B	AAB7149
	33	Volume Knob	AAB7189
	34	Speaker Button	AAD7435
	35	Main Power Button	See Contrast table (2)
	36	Bonnet Case	ANE7220
	37	Panel Base	See Contrast table (2)
	38	Front Panel	See Contrast table (2)
	39	Screw	BBT30P080FZK
	40	Terminal Screw	AKE-031
	41	Nut	NK90FUC
	42	Screw	ABA1006
	43	Screw	ABA1009
	44	Screw	BPZ30P080FMC
	45	Washer	WG40FCC
	46	LED Lens B	AAK7538
	47	LED Lens	PNW2019
	48	Power Button	AAD7436
	49	Screw	BMZ30P080FCU
	50	Short Pin Plug	AKM-050
⚠	51	AC Outlet 3-P	See Contrast table (2)
	52	Cushion 55	PNM1316
	53	Screw	ABA1193
	54	Spacer	ABF7004
	55	Stud Cover	AEC7105
	56	Top Cover	AME1086
	57	Dump Plate	ANG7198
	58	Cushion Gum	AEB7004
NSP	59	Radiator Plate C	AMR7257
NSP	60	Sub Frame	ANG7137
	61	Trans Plate	See Contrast table (2)
⚠	62	Voltage Selector (S1)	See Contrast table (2)
⚠	63	Voltage Selector (S2)	See Contrast table (2)
⚠	64	Fuse (FU2 : T2A)	See Contrast table (2)
⚠	65	Fuse (FU3 : T0.5A)	See Contrast table (2)

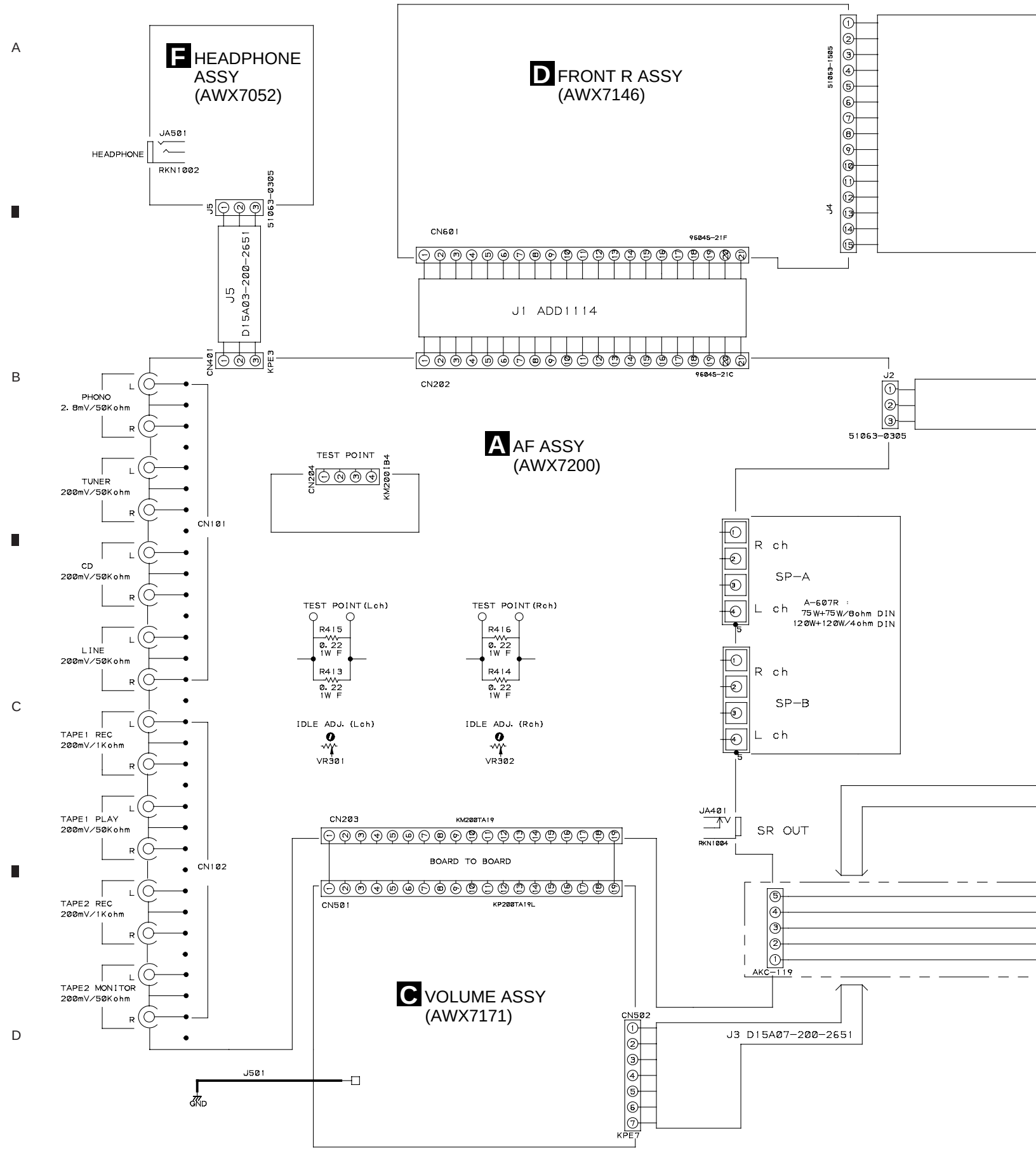
(2) CONTRAST TABLE

A-607R/MV, MY/EW, MY/GR and SD types are constructed the same except for the following :

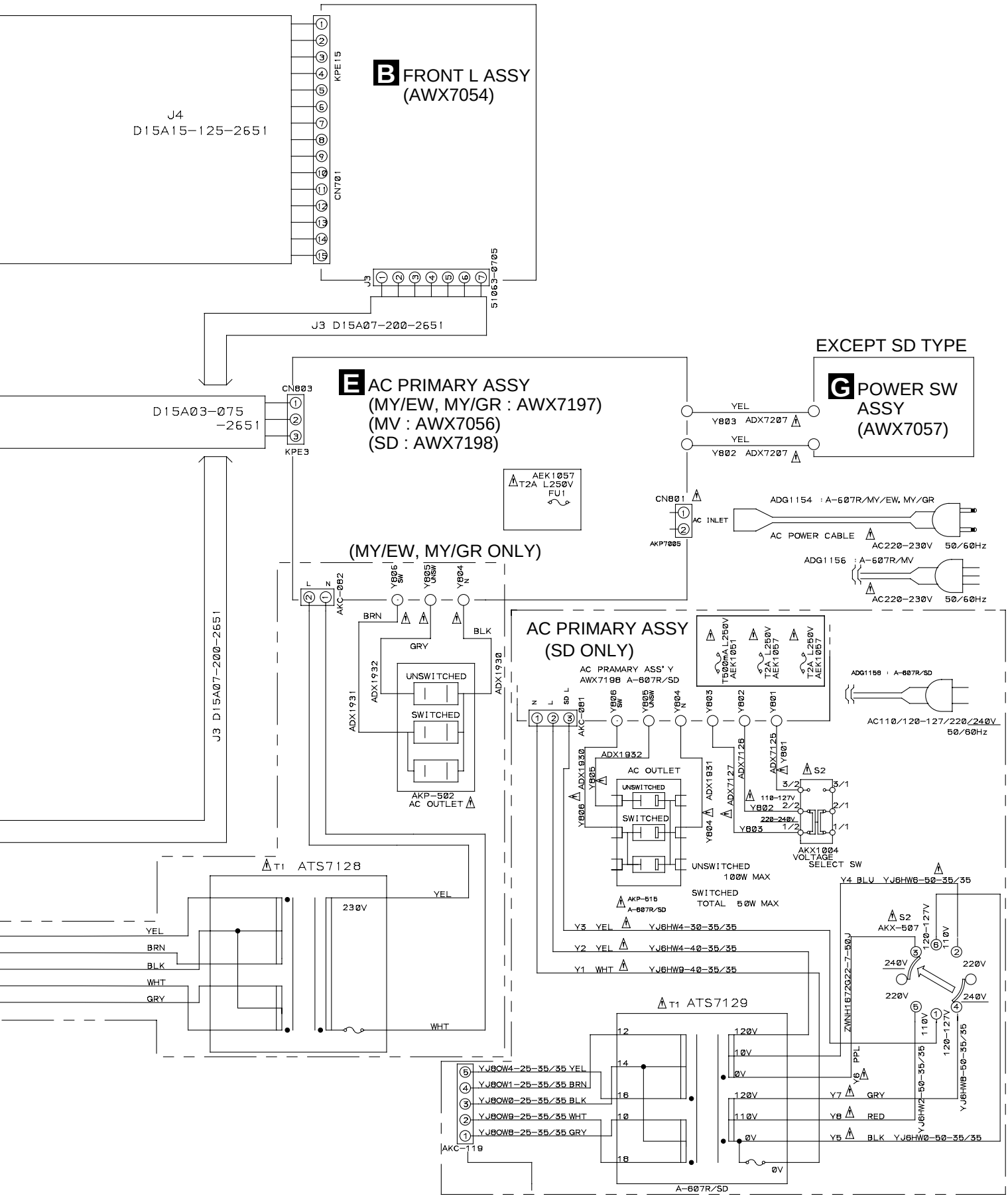
Mark	No.	Symbol and Description	Part No.				Remarks
			MV Type	MY/EW Type	MY/GR Type	SD Type	
	3	POWER SW ASSY	AWX7057	AWX7057	AWX7057	Not used	
	4	AC PRIMARY Assy	AWX7056	AWX7197	AWX7197	AWX7198	
⚠	11	Power Transformer (T1 : AC220-230V)	ATS7128	ATS7128	ATS7128	Not used	
⚠	11	Power Transformer (T1 : AC110V/120-127V/220V/240V)	Not used	Not used	Not used	ATS7129	
	13	Rear Panel	ANC7726	ANC7725	ANC7725	ANC7727	
	17	Screw	ABA1014	ABA1014	ABA1014	ABA7047	
	35	Main Power Button	ADD7437	ADD7437	ADD7437	Not used	
	37	Panel Base	AMB7484	AMB7484	AMB7484	AMB7553	
	38	Front Panel	ANB7149	ANB7149	ANB7149	ANB7152	
⚠	51	AC Outlet 3-P	Not used	AKP-502	AKP-502	AKP7007	
	61	Trans Plate	ANG7228	ANG7228	ANG7228	Not used	
⚠	62	Voltage Selector (S1)	Not used	Not used	Not used	AKX-507	
⚠	63	Voltage Selector (S2)	Not used	Not used	Not used	AKX1004	
⚠	64	Fuse (FU2 : T2A)	Not used	Not used	Not used	AEK1057	
⚠	65	Fuse (FU3 : T0.5A)	Not used	AEK1051	AEK1051	AEK1051	

3. SCHEMATIC DIAGRAM

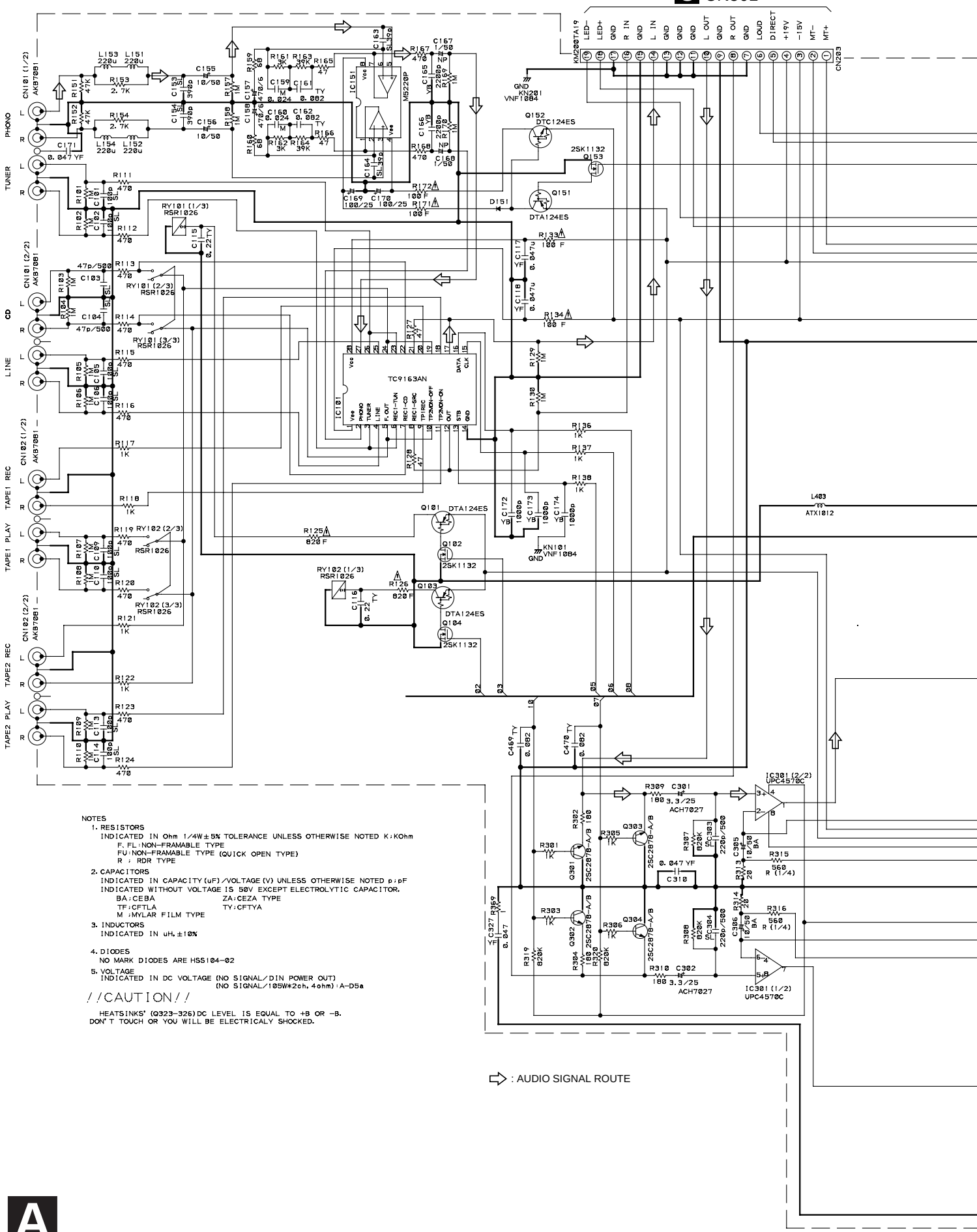
3.1 OVERALL CONNECTION DIAGRAM



Note : When ordering service parts, be sure to refer to "EXPLODED VIEWS and PARTS LIST" or "PCB PARTS LIST".



3.2 AF ASSY

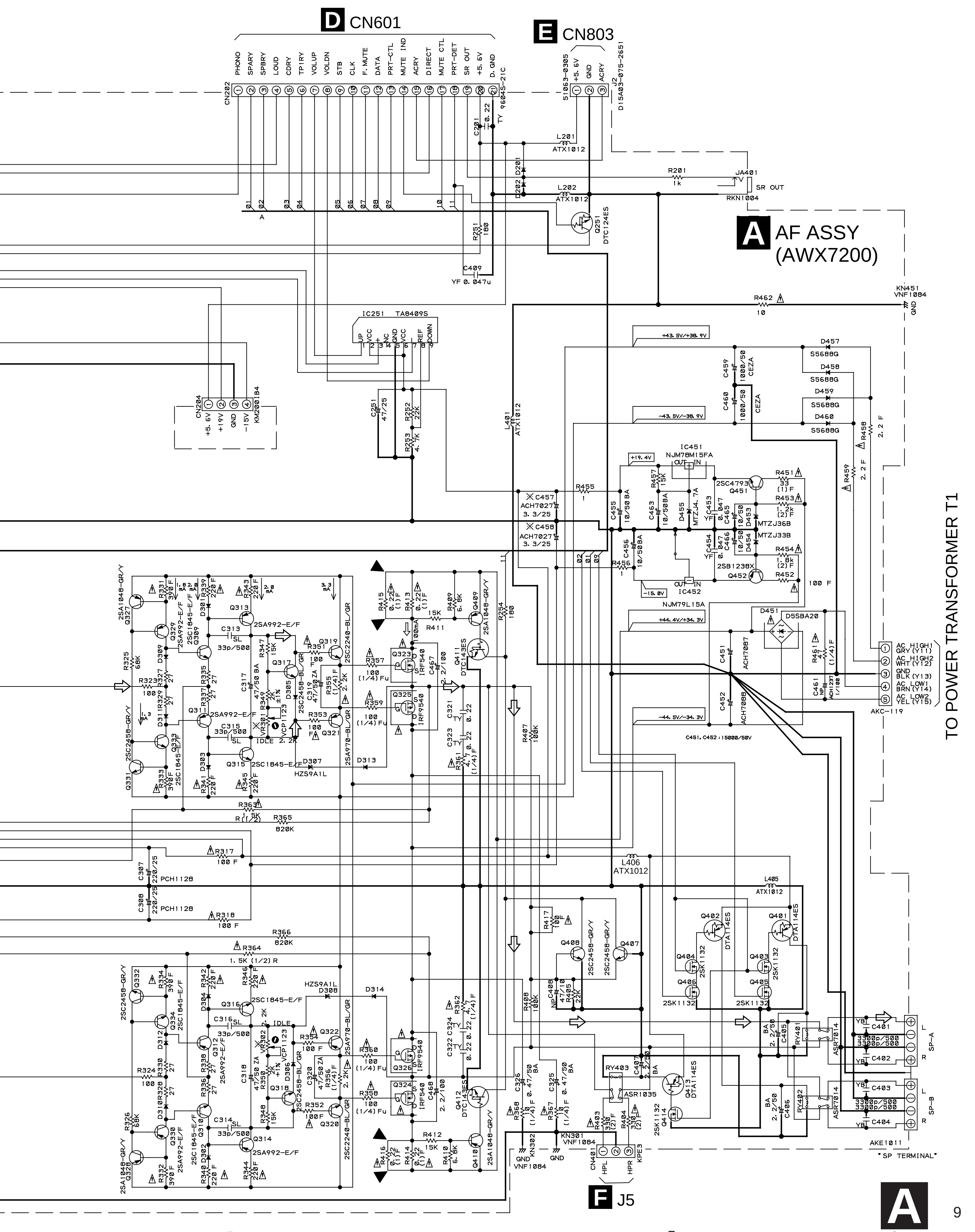


NOTES

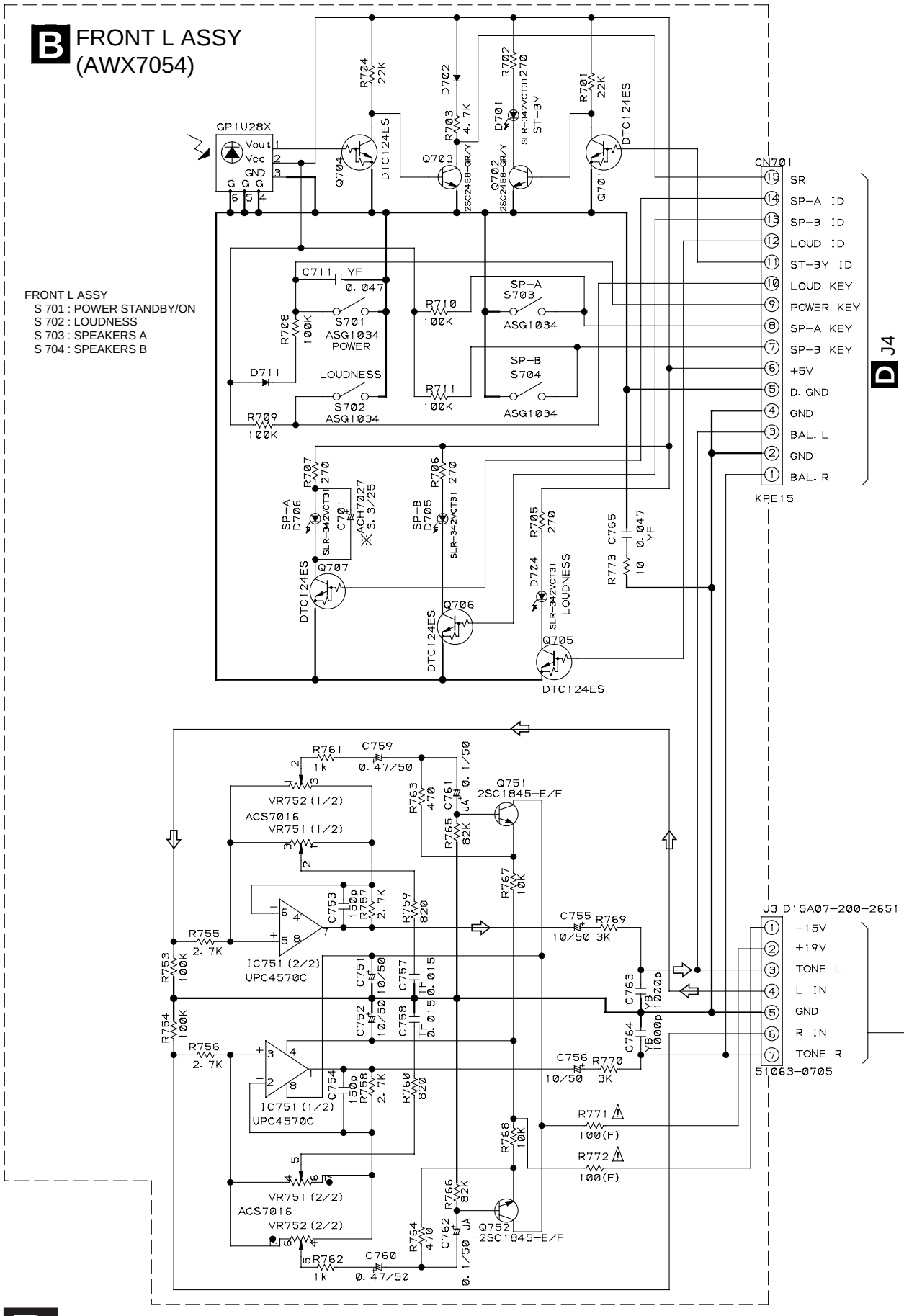
1. RESISTORS
   INDICATED IN Ohm 1/4W±5% TOLERANCE UNLESS OTHERWISE NOTED K:KOhm
   F, FL:NON-FRAMABLE TYPE
   FU:NON-FRAMABLE TYPE (QUICK OPEN TYPE)
   R : RDR TYPE
2. CAPACITORS
   INDICATED IN CAPACITY (uF) /VOLTAGE (V) UNLESS OTHERWISE NOTED p:pF
   INDICATED WITHOUT VOLTAGE IS 50V EXCEPT ELECTROLYTIC CAPACITOR.
   BA:CEBA ZA:CEZA TYPE
   TF:CFTLA TY:CFTYA
   M :MYLAR FILM TYPE
3. INDUCTORS
   INDICATED IN uH, ±10%
4. DIODES
   NO MARK DIODES ARE HSS104-02
5. VOLTAGE
   INDICATED IN DC VOLTAGE (NO SIGNAL/DIN POWER OUT)
   (NO SIGNAL/105W*2ch, 4ohm) : A-D5a

/!\CAUTION/!\

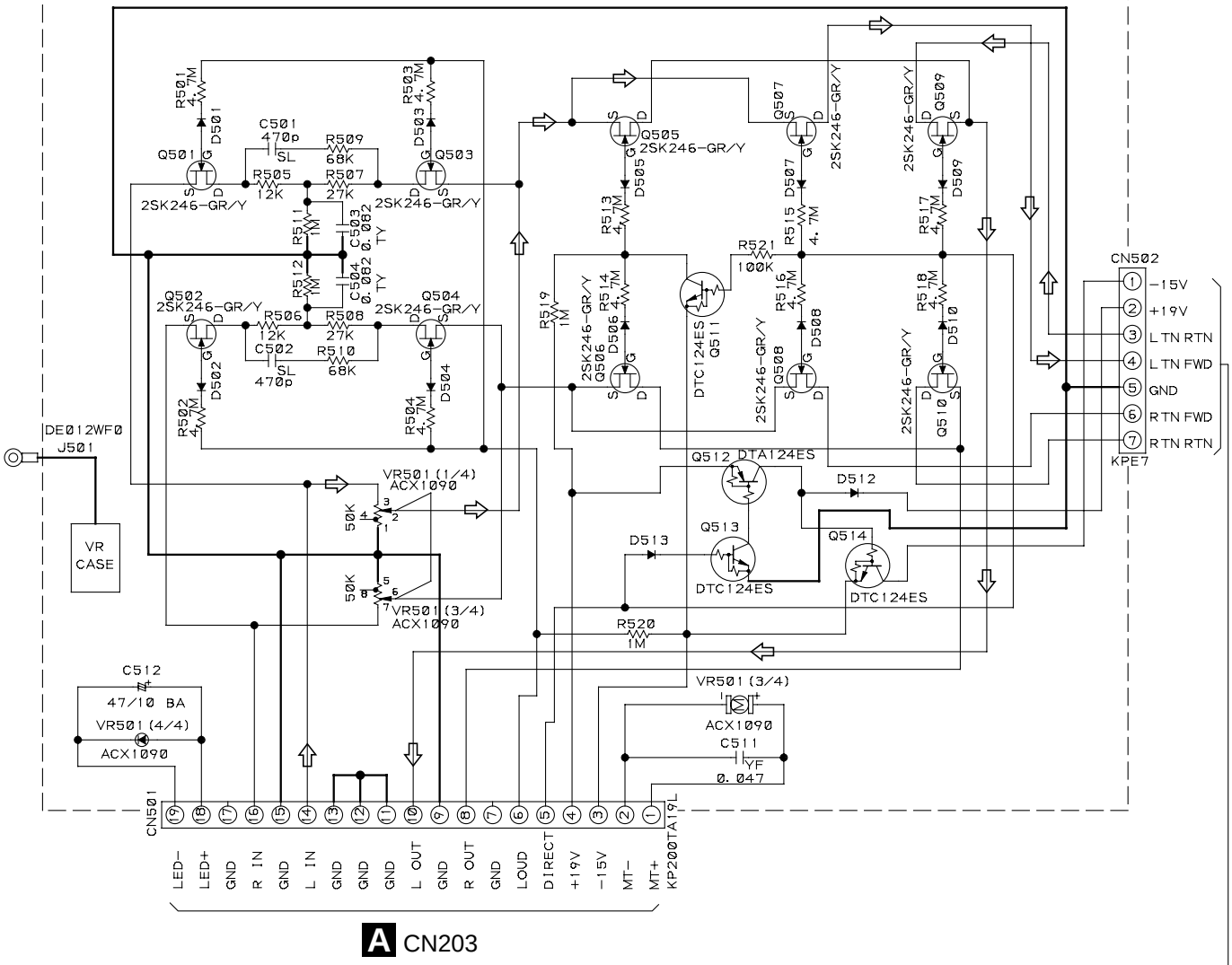
HEATSINKS' (Q323-326) DC LEVEL IS EQUAL TO +B OR -B.
DON'T TOUCH OR YOU WILL BE ELECTRICALY SHOCKED.


5
6
7
8
A
B
C
D
D CN601
E CN803
CN202
PHONO
SPARY
SPBRY
LOUD
CDRY
TP1RY
VOLUP
VOLDN
STB
CLK
F.MUTE
DATA
PRT-CTL
MUTE IND
ACRY
DIRECT
MUTE CTL
PRT-DET
SR OUT
+5.6V
D.GND
TY 96045-21C
51063-0305
J2
D15A03-075-2651
L201
ATX1012
L202
ATX1012
R201
1k
JA401
SR OUT
RKN1004
Q251
DTC124ES
R251
180
C409
YF 0.047u
A AF ASSY
(AWX7200)
KN451
VNF1084
GND
R462
10
IC251 TA8409S
CN204
KM200IB4
C251
47/25
R252
22K
R253
4.7K
L401
ATX1012
+43.5V/+38.9V
-43.5V/-38.9V
D457
S5688G
D458
S5688G
D459
S5688G
D460
S5688G
C459
1000/50
CEZA
C460
1000/50
CEZA
R458
2.2 F
R459
2.2 F
IC451
NJM78M15FA
+19.4V
Q451
2SC4793
Q452
2SB1238X
R451
33
(1) F
R453
1.2k
(2) F
R454
1.8k
(2) F
R452
100 F
IC452
NJM79L15A
-15.0V
C457
ACH7027
3.3/25
C458
ACH7027
3.3/25
R455
1
R456
1
D451
D5SBA20
+44.4V/+34.3V
-44.5V/-34.3V
C451
ACH7087
C452
ACH7088
C451, C452 : 15000/50V
C461
ACH1297
1/100
R461
4.7
(1/4) F
AC HIGH1 GRY (Y11)
AC HIGH2 WHT (Y12)
GND BLK (Y13)
AC LOW1 BRN (Y14)
AC LOW2 YEL (Y15)
AKC-119
TO POWER TRANSFORMER T1
L406
ATX1012
L405
ATX1012
R363
1.5K
R(1/2)
R365
820K
R317
100 F
C307
220/25
PCH1128
C308
220/25
PCH1128
R318
100 F
R366
820K
R364
1.5K (1/2) R
Q401
DTA114ES
Q402
DTA114ES
Q403
Q404
Q405
Q406
2SK1132
Q407
Q408
2SC2458-GR/Y
Q413
DTA114ES
Q414
2SK1132
RY401
ASR7014
RY402
ASR7014
RY403
ASR1035
C401
3300p/500
C402
3300p/500
C403
3300p/500
C404
3300p/500
SP-A
SP-B
AKE1011
"SP TERMINAL"
KN301
VNF1084
KN302
VNF1084
CN401
HPL
HPR
KPE3
F J5

3.3 FRONT L AND VOLUME ASSEMBLIES



C VOLUME ASSY (AWX7171)



A CN203

⇨ : AUDIO SIGNAL ROUTE

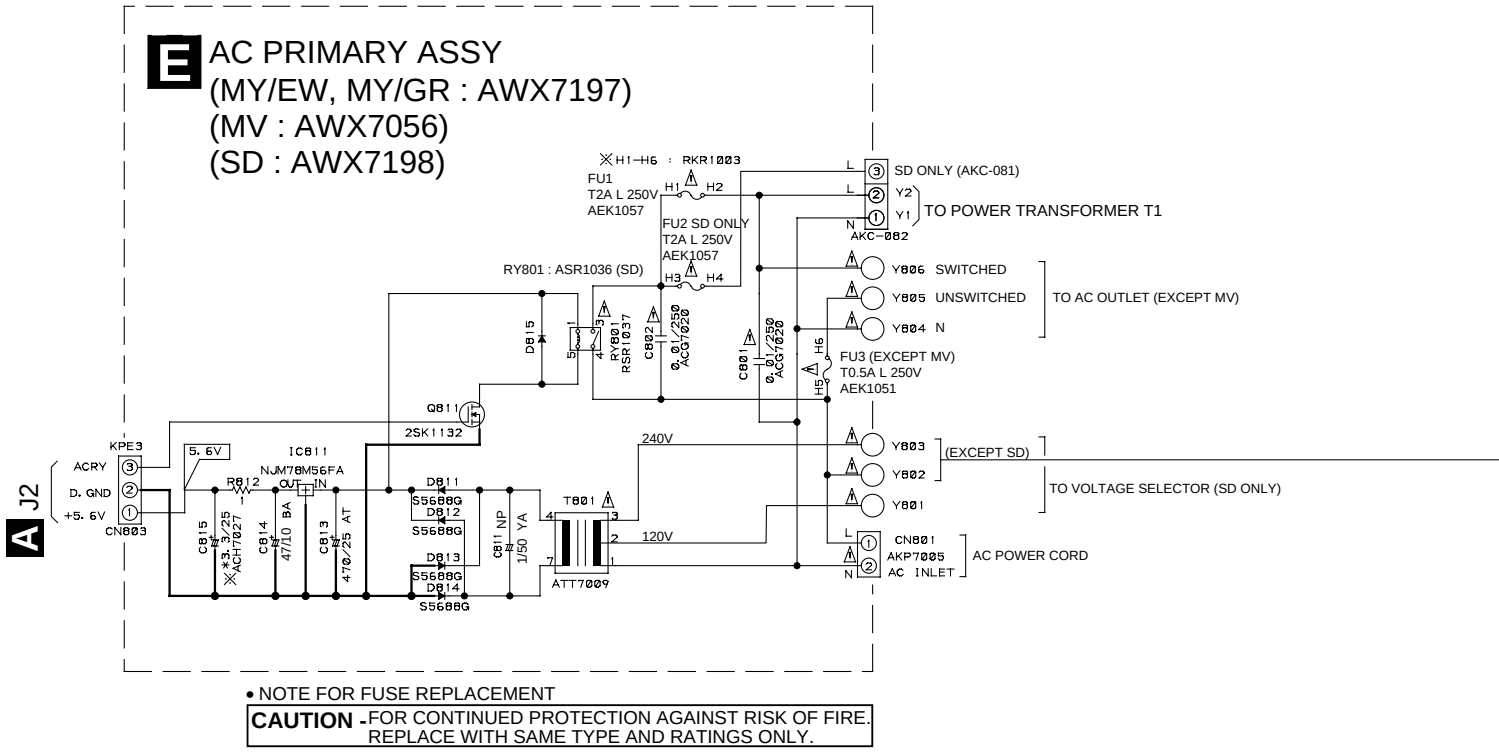
NOTES

1. RESISTORS
   INDICATED IN Ohm 1/4W±5% TOLERANCE UNLESS OTHERWISE NOTED K:KOhm
   F, FL:NON-FRAMABLE TYPE

2. CAPACITORS
   INDICATED IN CAPACITY(uF)/VOLTAGE(V) UNLESS OTHERWISE NOTED p:pF
   INDICATED WITHOUT VOLTAGE IS 50V EXCEPT ELECTROLYTIC CAPACITOR.
   TF:CFTLA TY:CFTYA
   JA:CEJA BA:CEBA

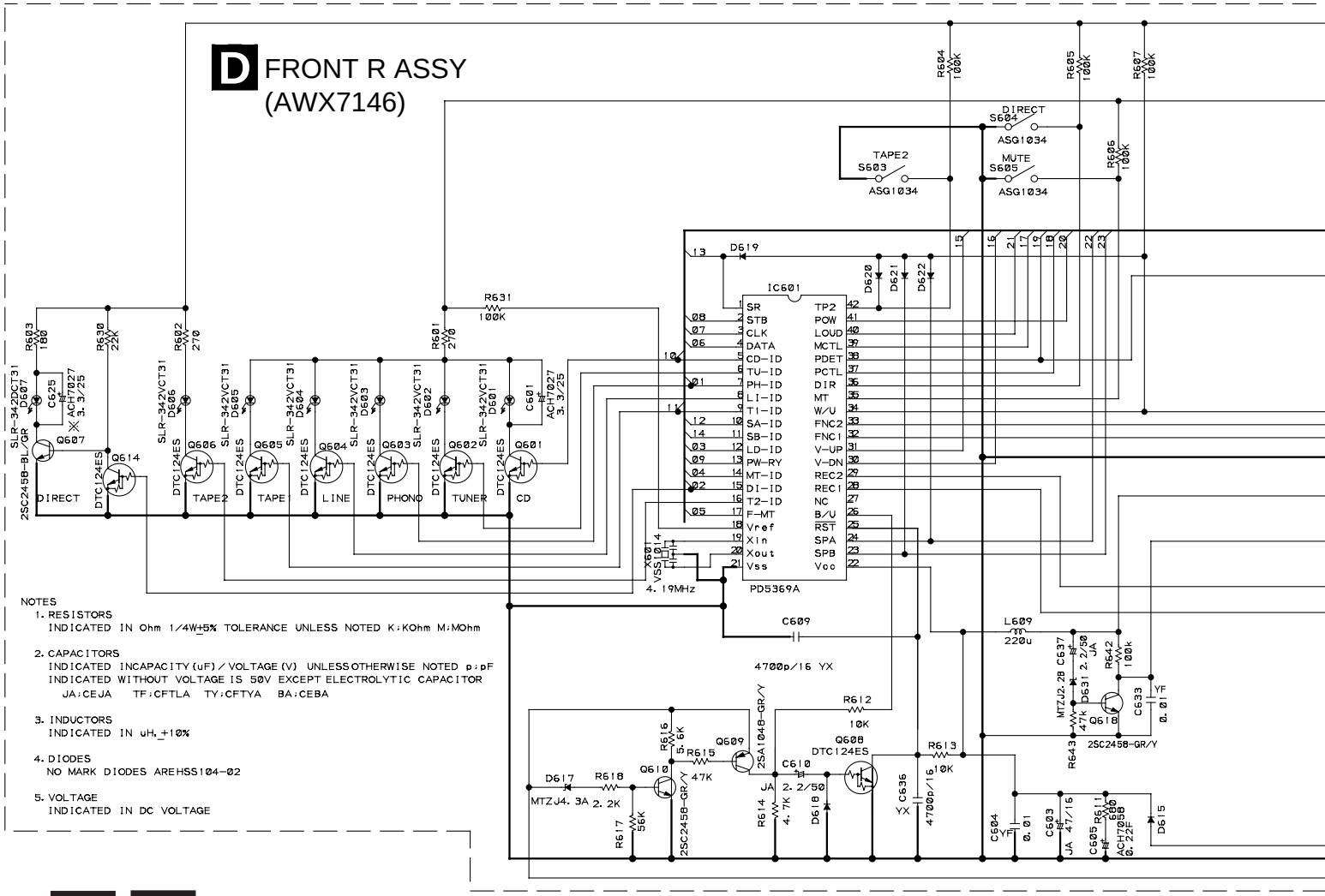
3. DIODES
   NO MARK DIODES ARE HSS104-02

3.4 FRONT R, AC PRIMARY, HEADPHONE AND POWER SW ASSEMBLIES



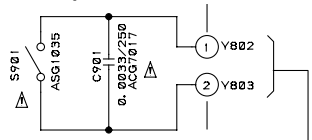
• NOTE FOR FUSE REPLACEMENT

CAUTION - FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE WITH SAME TYPE AND RATINGS ONLY.

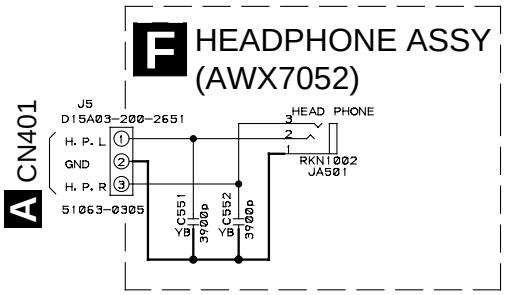


EXCEPT SD TYPE

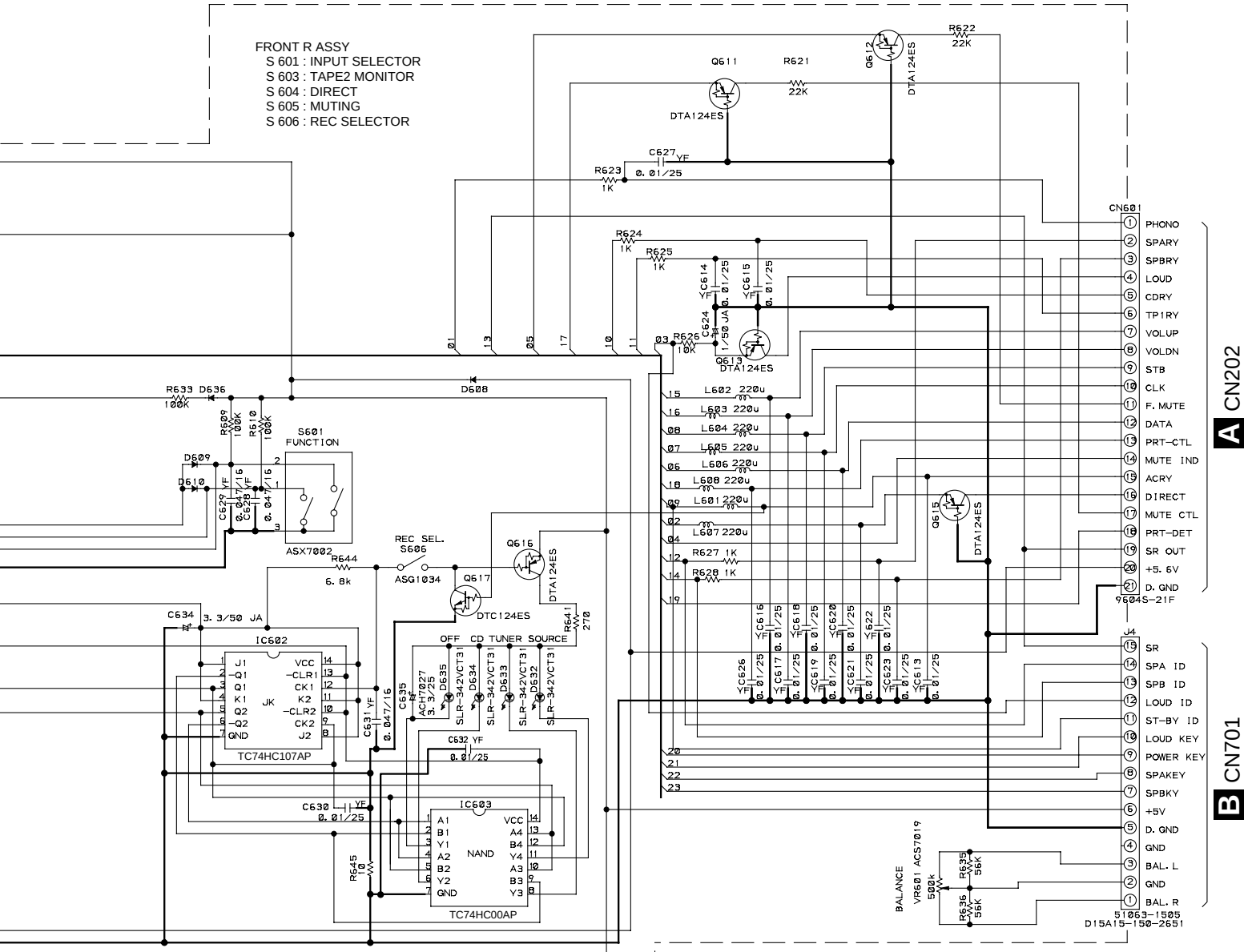
G POWER SW ASSY (AWX7057)



F HEADPHONE ASSY (AWX7052)



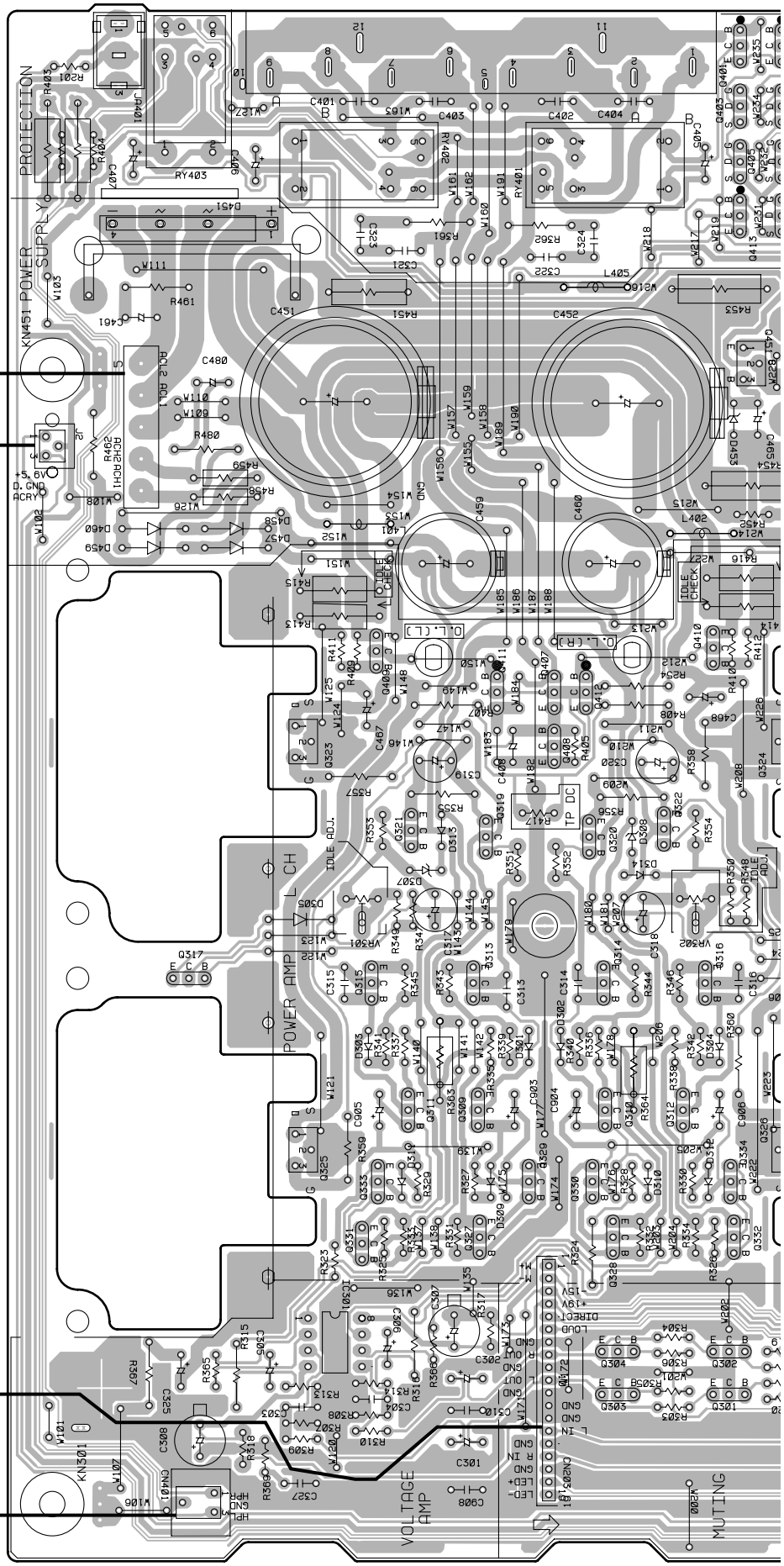
FRONT R ASSY
S 601 : INPUT SELECTOR
S 603 : TAPE2 MONITOR
S 604 : DIRECT
S 605 : MUTING
S 606 : REC SELECTOR



4. PCB CONNECTION DIAGRAM

4.1 AF ASSY

A
AF ASSY



POWER TRANSFORMER T1

E
CN803

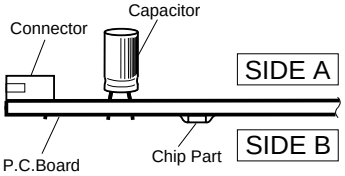
NOTE FOR PCB DIAGRAMS:

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
B C E	B C E B C E	Transistor
B C E	B C E B C E	Transistor with resistor
D G S	D G S D G S	Field effect transistor
S D G / S 1 2 3 G	G D S G D S	MOS Field effect transistor
		Resistor array
		3-terminal regulator

3. The parts mounted on this PCB include all necessary parts for several destination.
   For further information for respective destinations, be sure to check with the schematic diagram.

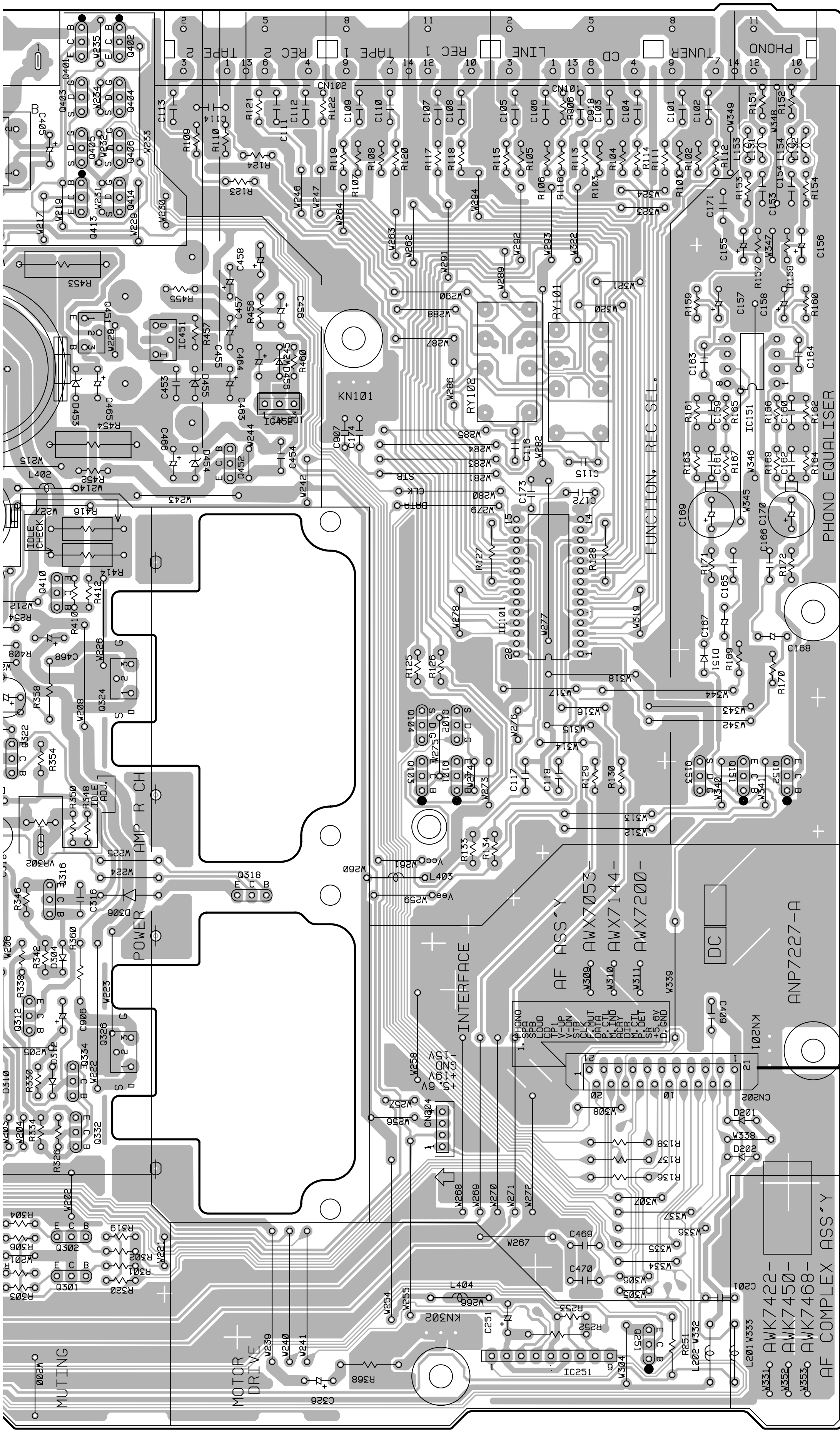
4. Viewpoint of PCB diagrams



SIDE A

C
CN501

F
J5



Q401
|
Q406

Q413 Q414

Q451
IC451
IC151

IC452

Q452

IC101

Q409 Q410

Q411 Q407 Q412

Q323 Q408 Q324

Q319 Q101 Q151
| | |
Q322 Q104 Q153

VR301
VR302

Q313
|
Q318

D CN601

Q309
|
Q312

Q325
|
Q334

IC301

Q301
|
Q304

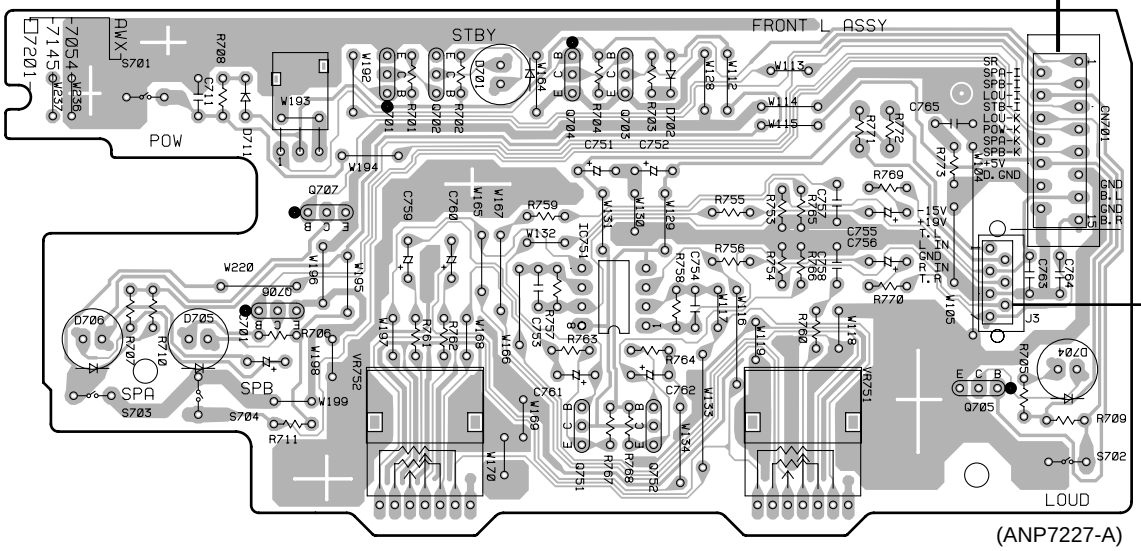
IC251 Q251

A
B
C
D

(ANP7227-A)

4.2 FRONT L AND VOLUME ASSEMBLIES

B FRONT L ASSY



VR752 VR751

Q701 Q702 Q704 Q703 Q705

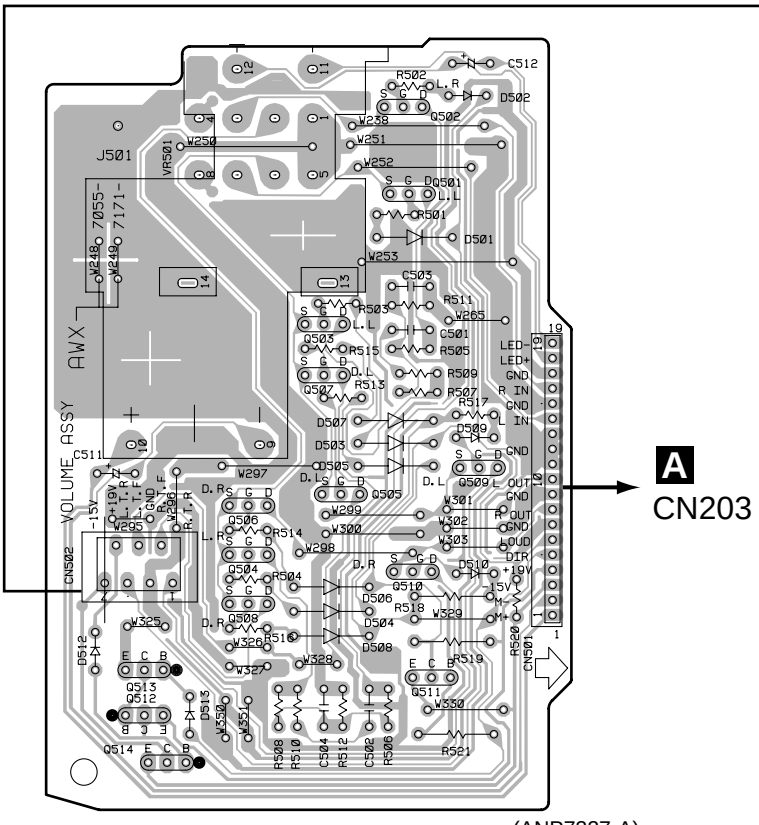
Q707 IC751

Q706 Q751 Q752

D J4

SIDE A

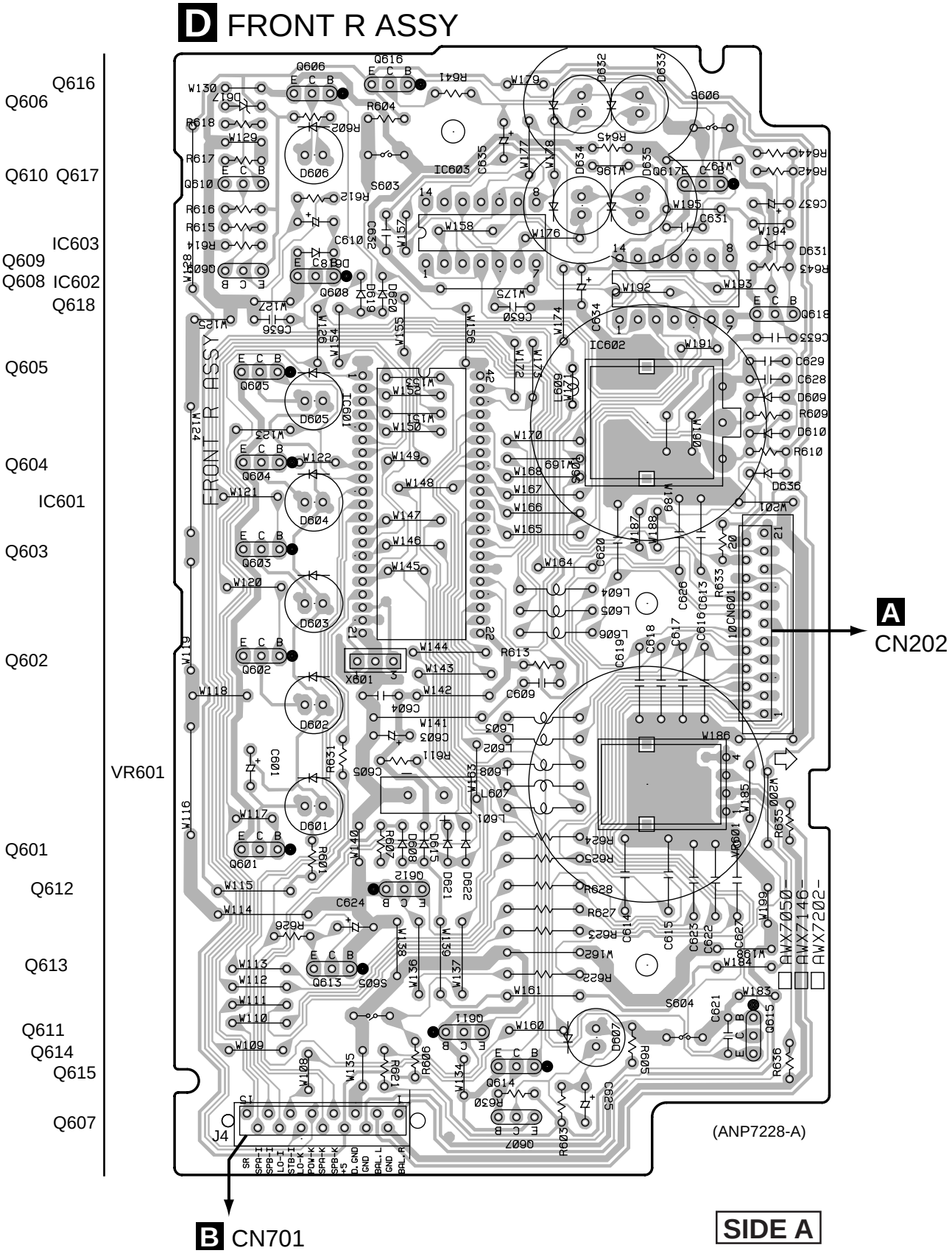
Q502
Q501
Q503
Q507
Q509
Q506 Q505
Q504 Q510
Q508
Q513 Q511
Q512
Q514



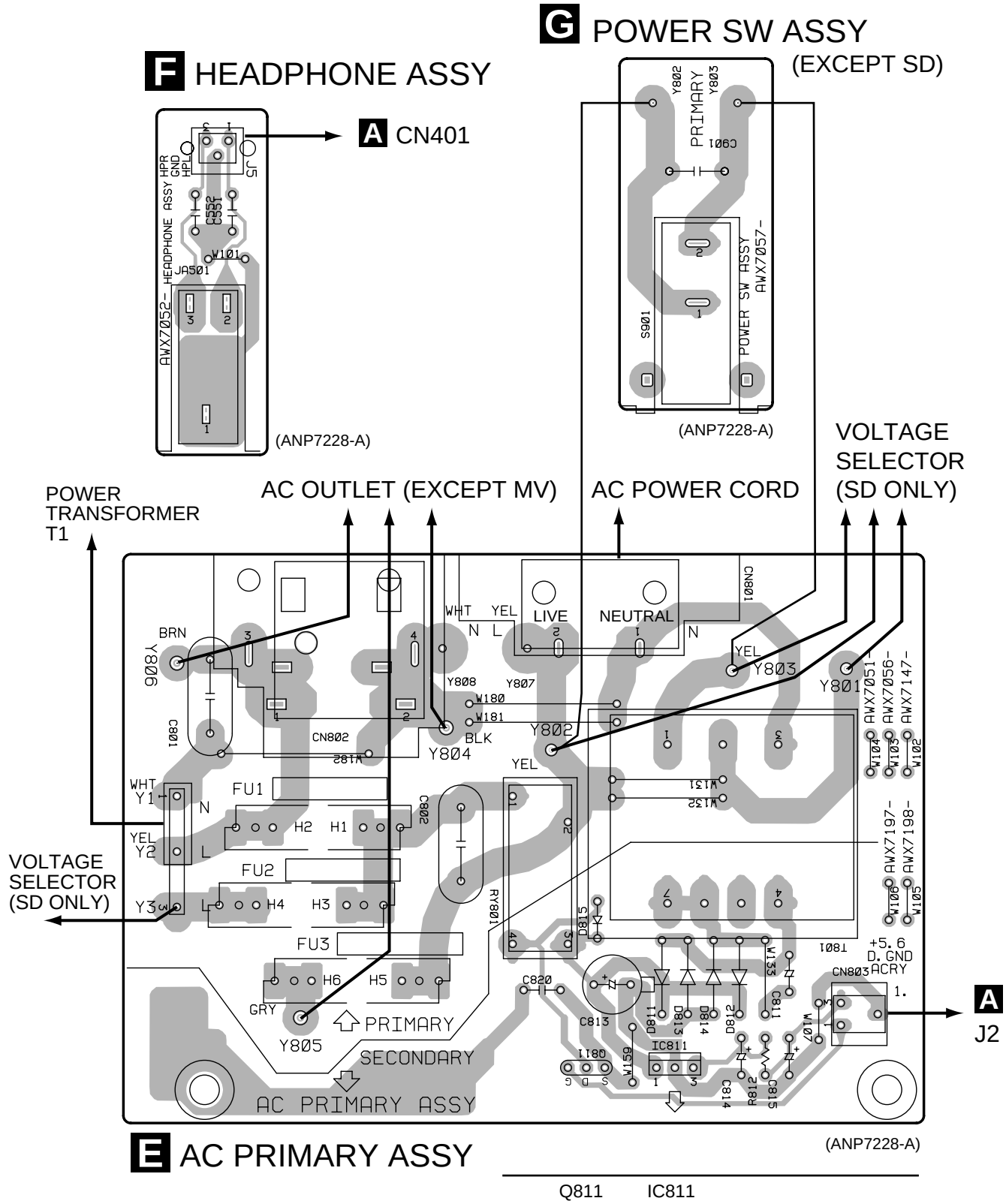
A CN203

C VOLUME ASSY

4.3 FRONT R ASSY



4.4 AC PRIMARY, HEADPHONE AND POWER SW ASSEMBLIES



SIDE A

5. 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.*
●*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 ..... RD1/4PU 5 6 1 J
47k Ω → 47×10^3 → 473 ..... RD1/4PU 4 7 3 J
0.5 Ω → R50 ..... RN2H R 5 0 K
1 Ω → 1R0 ..... RS1P 1 R 0 K
Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).
5.62k Ω → 562×10^1 → 5621 ..... RN1/4PC 5 6 2 1 F

■ LIST OF WHOLE PCB ASSEMBLIES

Mark	Symbol and Description	Part No.				Remarks
		MV Type	MY/EW Type	MY/GR Type	SD Type	
NSP	AF COMPLEX ASSY	AWK7468	AWK7468	AWK7468	AWK7468	
	├ AF ASSY	AWX7200	AWX7200	AWX7200	AWX7200	
	├ FRONT L ASSY	AWX7054	AWX7054	AWX7054	AWX7054	
	└ VOLUME ASSY	AWX7171	AWX7171	AWX7171	AWX7171	
NSP	CONTROL ASSY	AWG7017	AWG7015	AWG7015	AWG7016	
	├ FRONT R ASSY	AWX7146	AWX7146	AWX7146	AWX7146	
	├ AC PRIMARY ASSY	AWX7056	AWX7197	AWX7197	AWX7198	
NSP	├ HEADPHONE ASSY	AWX7052	AWX7052	AWX7052	AWX7052	
	└ POWER SW ASSY	AWX7057	AWX7057	AWX7057	Not used	

Mark	No.	Description	Part No.
	A	**AF ASSY**	
		SEMICONDUCTORS	
	IC151		M5220P
	IC451		NJM78M15FA
	IC452		NJM79L15A
	IC251		TA8409S
	IC101		TC9163AN
	IC301		UPC4570C
	Q327, Q328, Q409, Q410		2SA1048
	Q321, Q322		2SA970
	Q311–Q314, Q329, Q330		2SA992
	Q452		2SB1238X
	Q309, Q310, Q315, Q316		2SC1845
	Q333, Q334		2SC1845
	Q319, Q320		2SC2240
	Q317, Q318, Q331, Q332		2SC2458
	Q407, Q408		2SC2458
	Q301–Q304		2SC2878
	Q451		2SC4793
	Q102, Q104, Q153, Q403–Q406		2SK1132
	Q414		2SK1132
	Q401, Q402, Q413		DTA114ES
	Q101, Q103, Q151		DTA124ES
	Q152, Q251		DTC124ES
	Q411, Q412		DTC143ES
⚠	Q323, Q324		IRF540
⚠	Q325, Q326		IRF9540

Mark	No.	Description	Part No.
⚠	D451		D5SBA20
	D151, D201, D202, D301–D306		HSS104-02
	D309–D314		HSS104-02
	D307, D308		HZS9A1L
	D454		MTZJ33B
	D453		MTZJ36B
	D455		MTZJ4.7A
	D457–D460		S5688G
		COILS AND FILTERS	
	L201, L202, L401, L403		ATX1012
	L405, L406		ATX1012
	L151–L154		LAU221J
		SWITCHES AND RELAYS	
	RY403		ASR1035
	RY401, RY402		ASR7014
	RY101, RY102		RSR1026
		CAPACITORS	
	C461 (1µF/100V)		ACH1237
	C301, C302, C457, C458 (3.3µF/25V)		ACH7027
	C451 (15000µF/50V)		ACH7087
	C452 (15000µF/50V)		ACH7088
	C101, C102, C105, C106		CCCSL101J50
	C109, C110, C113, C114		CCCSL101J50
	C153, C154		CCCSL221J50
	C303, C304		CCCSL221K2H
	C313–C316		CCCSL330K2H
	C163, C164		CCCSL390J50

Mark	No.	Description	Part No.
	C103, C104		CCCSL470K2H
	C167, C168		CEANP1R0M50
	C408		CEANP470M10
	C155, C156, C465, C466		CEAS100M50
	C169, C170		CEAS101M25
	C467, C468		CEAS2R2M2A
	C251		CEAS470M25
	C157, C158		CEAS471M6R3
	C305, C306, C455, C456, C463		CEBA100M50
	C405–C407		CEBA2R2M50
	C317, C318		CEBA470M50
	C325, C326		CEBAR47M50
	C459, C460		CEZA102M50
	C319, C320		CEZA470M50
	C115, C116, C201, C321–C324		CFTYA224J50
	C161, C162, C469, C470		CFTYA823J50
	C165, C166		CKCYB222K50
	C401–C404		CKCYB332K2H
	C117, C118, C171, C310, C327		CKCYF473Z50
	C409, C453, C454		CKCYF473Z50
	C172–C174		CKPUYB102K50
	C159, C160		CQMA243J50
	C307, C308		PCH1128

RESISTORS

Mark			
⚠	R458, R459		RD1/4LMF2R2J
⚠	R133, R134, R171, R172		RD1/4MUF101J
⚠	R317, R318, R351–R354, R417		RD1/4MUF101J
⚠	R452		RD1/4MUF101J
⚠	R339–R346		RD1/4MUF221J
⚠	R331–R334		RD1/4MUF391J
⚠	R125, R126		RD1/4MUF821J
⚠	R367, R368		RD1/4PMF100J
⚠	R355, R356		RD1/4PMF222J
⚠	R461		RD1/4PMF470J
⚠	R361, R362		RD1/4PMF4R7J
⚠	R462		RD1/4PU100J
⚠	R363, R364		RDR1/2PM152J
	R315, R316		RDR1/4PM561J
⚠	R357–R360		RFA1/4PS101J
	R349, R350		RN1/4PC2001F
⚠	R451		RS1LMF330J
⚠	R413–R416		RS1LMFR22J
⚠	R453		RS2LMF122J
⚠	R454		RS2LMF182J
⚠	R403, R404		RS2LMF331J
	VR301, VR302 (2.2kΩ)		VCP1123
	Other Resistors		RD1/4PU□□□J

OTHERS

	CABLE HOLDER (3P)	51063-0305
CN202	21P FFC CONNECTOR	9604S-21C
	SCREW	ABA-298
	SCREW	ABA1007
	SCREW	ABA1052
CN101, CN102	PIN JACK(8P)	AKB7081
	SPEAKER TERMINAL 8-P	AKE1011
	HEAT SINK B	ANH1021
	HEAT SINK	ANH1150
J2	JUMPER WIRE	D15A03-075-2651
CN204	4P PLUG	KM200IB4
CN203	19P PLUG	KM200TA19
CN401	CONNECTOR (3P)	KPE3
JA401	REMOTE CONTROL JACK	RKN1004
	PCB BINDER	VEF1040
KN101, KN201, KN301, KN302		VNF1084
KN451	EARTH METAL FITTING	VNF1084

B FRONT L ASSY

SEMICONDUCTORS

IC751	UPC4570C
Q751, Q752	2SC1845
Q702, Q703	2SC2458
Q701, Q704–Q707	DTC124ES
D702, D711	HSS104-02
D701, D704–D706	SLR-342VCT31

SWITCHES AND RELAYS

S701–S704	ASG1034

CAPACITORS

C701 (3.3µF/25V)	ACH7027
C753, C754	CCCSL151J50
C751, C752, C755, C756	CEAS100M50
C759, C760	CEASR47M50
C761, C762	CEJAR10M50
C757, C758	CFTLA153J50
C765	CKCYF473Z50
C763, C764	CKPUYB102K50
C711	CKPUYF473Z16

RESISTORS

R771, R772	RD1/4MUF101J
VR751, VR752 (30kΩ)	ACS7016
Other Resistors	RD1/4PU□□□J

OTHERS

	CABLE HOLDER (7P)	51063-0705
J3	JUMPER WIRE	D15A07-200-2651
CN701	CONNECTOR (15P)	KPE15
	REMOTE RECEIVER UNIT	GP1U28X

C VOLUME ASSY

SEMICONDUCTORS

Q501–Q510	2SK246
Q512	DTA124ES
Q511, Q513, Q514	DTC124ES
D501–D510, D512, D513	HSS104-02

CAPACITORS

C501, C502	CCCSL471J50
C512	CEBA470M10
C503, C504	CFTYA823J50
C511	CKCYF473Z50

RESISTORS

VR501 (50kΩ)	ACX1090
Other Resistors	RD1/4PU□□□J

OTHERS

CN501	19P SOCKET	KP200TA19L
CN502	CONNECTOR (7P)	KPE7

Mark	No.	Description	Part No.

D FRONT R ASSY

SEMICONDUCTORS

	IC601	PD5369A
	IC603	TC74HC00AP
	IC602	TC74HC107AP
	Q609	2SA1048
	Q607, Q610, Q618	2SC2458
	Q611–Q613, Q615, Q616	DTA124ES
	Q601–Q606, Q608, Q614, Q617	DTC124ES
	D608–D610, D615, D618–D622	HSS104-02
	D636	HSS104-02
	D631	MTZJ2.2B
	D617	MTZJ4.3A
	D607	SLR-342DCT31
	D601–D606, D632–D635	SLR-342VCT31

COILS AND FILTERS

	L601–L609	LAU221J

SWITCHES AND RELAYS

	S603–S606	ASG1034
	S601	ASX7002

CAPACITORS

	C601, C625, C635 (3.3µF/25V)	ACH7027
	C605 (0.22F)	ACH7058
	C624	CEJA1R0M50
	C610, C637	CEJA2R2M50
	C634	CEJA3R3M50
	C603	CEJA470M16
	C604	CKCYF103Z50
	C613–C623, C626, C627, C630	CKPUYF103Z25
	C632, C633	CKPUYF103Z25
	C628, C629, C631	CKPUYF473Z16
	C609, C636	CKPUYX472M16

RESISTORS

	VR601 (500KΩ)	ACS7019
	Other Resistors	RD1/4PU□□□J

OTHERS

	CABLE HOLDER (15P)	51063-1505
CN601	21P FFC CONNECTOR	9604S-21F
J4	JUMPER WIRE	D15A15-125-2651
X601	CERAMIC RESONATOR (4.19MHz)	VSS1014

E AC PRIMARY ASSY

(1) CONTRAST TABLE

AWX7056, AWX7197 and AWX7198 are constructed the same except for the following :

Mark	Symbol and Description	Part No.			Remarks
		AWX7056	AWX7197	AWX7198	
	H3, H4 FUSE HOLDER	Not used	Not used	RKR1003	
	H5, H6 FUSE HOLDER	Not used	RKR1003	RKR1003	
⚠	RY801	RSR1037	RSR1037	ASR1036	

Mark	No.	Description	Part No.

(2) PARTS LIST FOR AWX7056

SEMICONDUCTORS

	IC811	NJM78M56FA
	Q811	2SK1132
	D815	HSS104-02
	D811–D814	S5688G

TRANSFORMERS

⚠	T801	ATT7009

SWITCHES AND RELAYS

⚠	RY801	RSR1037

CAPACITORS

⚠	C801, C802 (0.01µF/AC250V)	ACG7020
	C815 (3.3µF/25V)	ACH7027
	C813	CEAT471M25
	C814	CEBA470M10
	C811	CEYANP1R0M50

RESISTORS

	Other Resistors	RD1/4PU□□□J

OTHERS

⚠	Y802, Y803	BOARDIN READ WIRE	ADX7207
⚠	CN801	AC INLET	AKP7005
	CN803	CONNECTOR (3P)	KPE3
	H1, H2	FUSE HOLDER	RKR1003

F HEADPHONE ASSY

CAPACITORS

	C551, C552	CKCYB392K50

OTHERS

	CABLE HOLDER (3P)	51063-0305
J5	JUMPER WIRE	D15A03-150-2651
JA501	HEADPHONE JACK	RKN1002

G POWER SW ASSY

SWITCHES AND RELAYS

⚠	S901	ASG1035

CAPACITORS

⚠	C901 (0.0033µF/AC250V)	ACG7017

6. ADJUSTMENTS

6.1 IDLE CURRENT ADJUSTMENT

- CAUTION : Heatsinks' (Q323–Q326) DC level is equal to +B or -B.
  Don't touch them or you will be electricary chocked.

1. Connect the measuring instrument as Fig.6-1. (R415 or R416)
2. Set the VOLUME CONTROL to minimum, BASS TONE CONTROL to center, TREBLE TONE CONTROL to center and BALANCE CONTROL to center. Set VR301 and VR302 to minimum.
3. Set the POWER switch to ON.
4. Adjust VR301 (VR302) so that the voltage between both sides of R415 (R416) becomes 16mV±1mV. (Within 10 seconds from when the relay is turned ON)
5. Ages for 7 minutes.
6. Adjust VR301 (VR302) so that the voltage between both sides of R415 (R416) becomes 11mV±1mV.

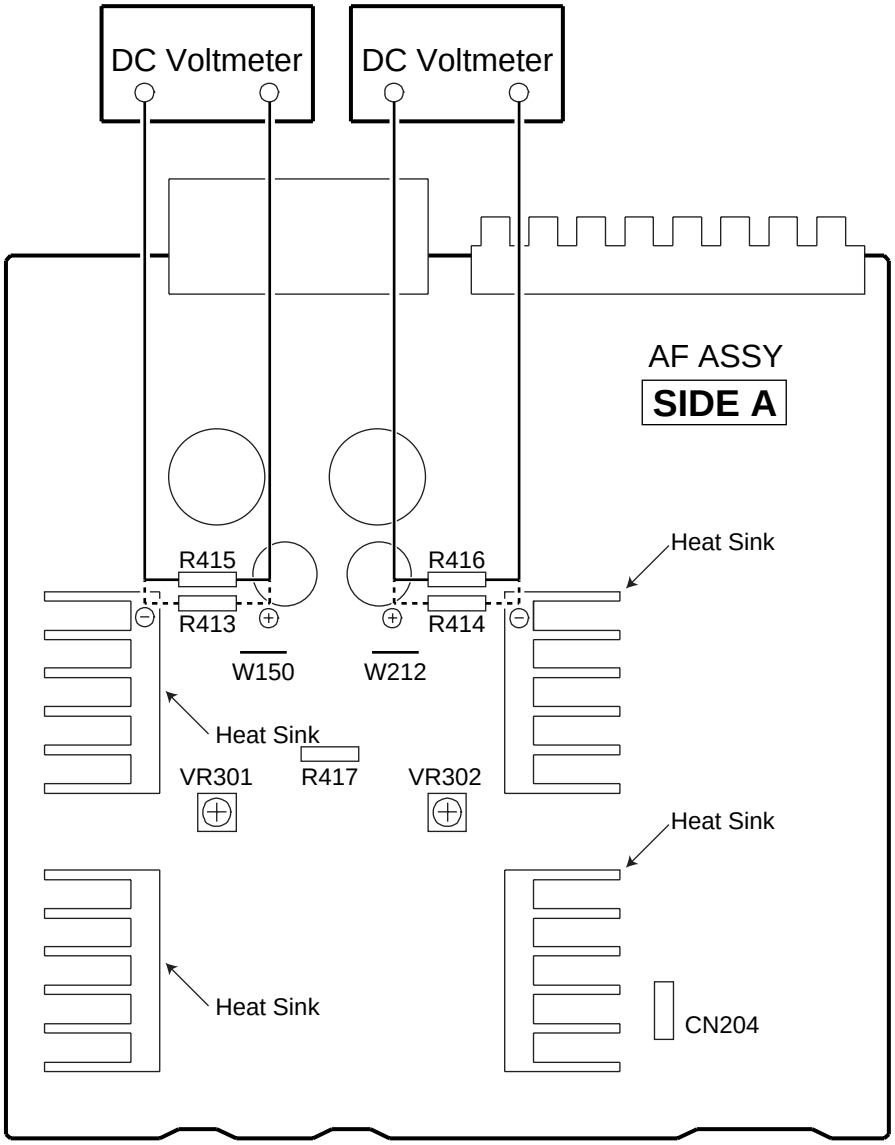


Fig.6-1 Adjustment Method

7. GENERAL INFORMATION

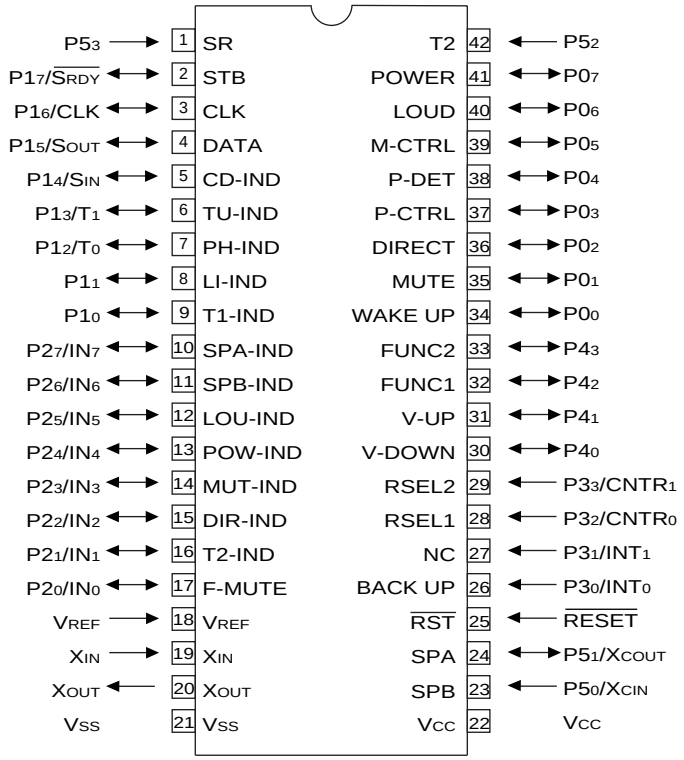
7.1 IC INFORMATION

■ PD5369A (FRONT R ASSY : IC601)

• REMOTE CONTROL AMP MICROCOMPUTER

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

● Pin Assignment (Top view)

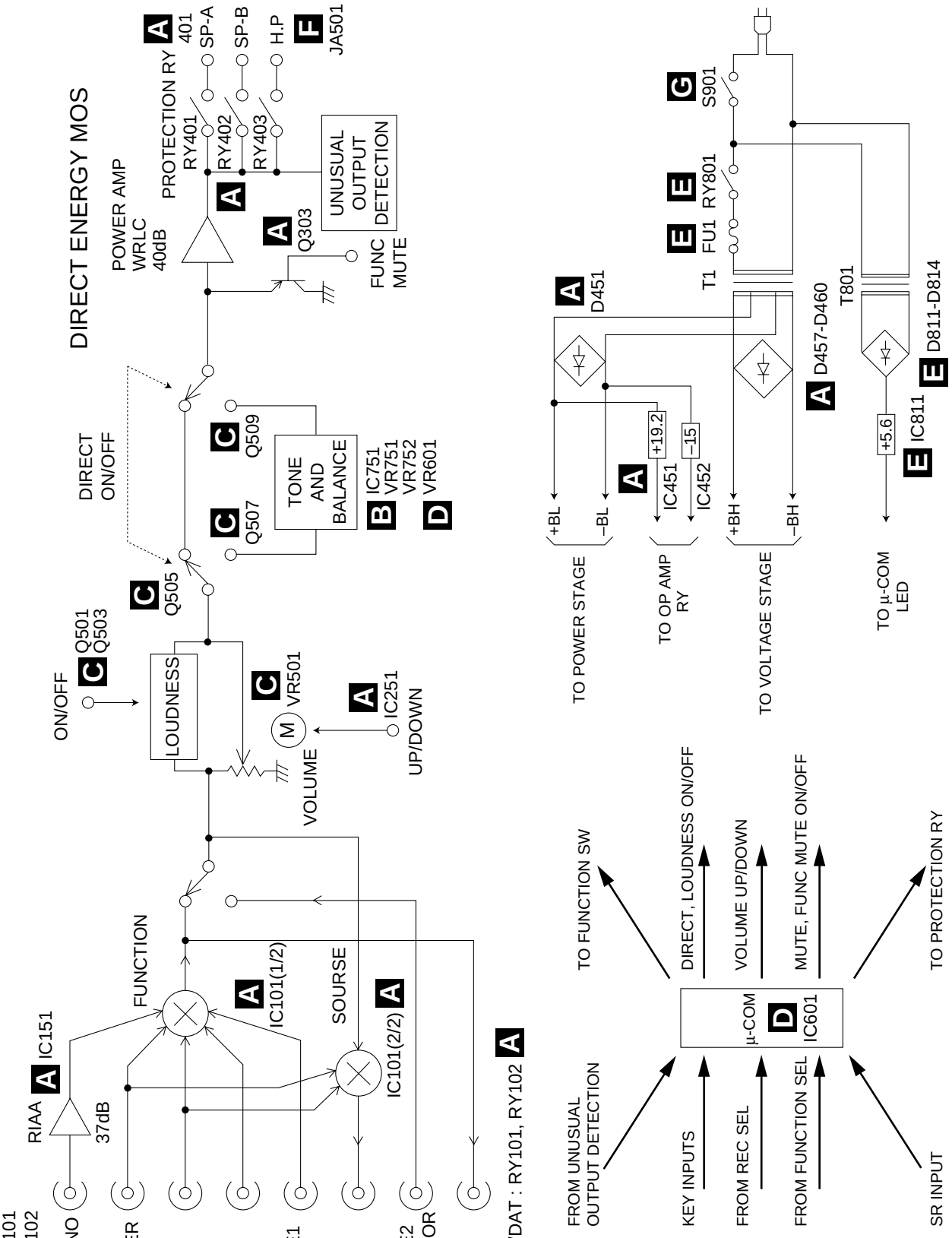


● Pin Function

No.	Pin name	I/O	Function
1	$P5_3$	I	Remote control signal input pin.
2	$P1_7/\overline{S_{RDY}}$	O	STB for TC9163N.
3	$P1_6$/CLK	O	CLOCK for TC9163N.
4	$P1_5/S_{OUT}$	O	DATA for TC9163N.
5	$P1_4/S_{IN}$	O	CD INDICATOR.
6	$P1_3/T_1$	O	TUNER INDICATOR.
7	$P1_2/T_0$	O	PHONO INDICATOR.
8	$P1_1$	O	LINE INDICATOR.
9	$P1_0$	O	TAPE1 INDICATOR.
10	$P2_7/IN_7$	O	SPEAKER-A INDICATOR.
11	$P2_6/IN_6$	O	SPEAKER-B INDICATOR.
12	$P2_5/IN_5$	O	LOUDNESS INDICATOR.
13	$P2_4/IN_4$	O	POWER (STAND-BY) INDICATOR.
14	$P2_3/IN_3$	O	MUTE INDICATOR. MUTE ON : Repeats H and L every 1 second. Normal : "H"
15	$P2_2/IN_2$	O	DIRECT INDICATOR.
16	$P2_1/IN_1$	O	TAPE2 INDICATOR.
17	$P2_0/IN_0$	O	FUNCTION switch MUTE.
18	V_{REF}	I	Pulls up to 5V.
19	X_{IN}	I	4.19MHz .
20	X_{OUT}	O	Ceramic vibrating and connecting terminal.
21	V_{SS}	-	Digatal GND.
22	V_{CC}	-	Power supply +5V.
23	$P5_0/X_{CIN}$	I	SPEAKER-B KEY input.

No.	Pin name	I/O	Function
24	$P5_1/X_{COUT}$	I	SPEAKER-A KEY input.
25	$\overline{RESET}$	I	Reset pin.
26	$P3_0/INT_0$	I	BACK UP detection pin. interrupt specification.
27	$P3_1/INT_1$	O	Not used.
28	$P3_2/CNTR_0$	I	REC selector input 1.
29	$P3_3/CNTR_1$	I	REC selector input 2. interrupt specification.
30	$P4_0$	O	Volume DOWN data output.
31	$P4_1$	O	Volume UP data output.
32	$P4_2$	I	FUNCTION selector input 1.
33	$P4_3$	I	FUNCTION selector input 2.
34	$P0_0$	I	WAKE UP input. Key on wake up specification.
35	$P0_1$	I	MUTE KEY input. Key on wake up specification.
36	$P0_2$	I	DIRECT KEY input. Key on wake up specification.
37	$P0_3$	O	Protection control pin.
38	$P0_4$	I	Output error detection pin
39	$P0_5$	O	MUTING control pin.
40	$P0_6$	I	LOUDNESS KEY input. Key on wake up specification.
41	$P0_7$	I	POWER KEY input. Key on wake up specification.
42	$P5_2$	I	TAPE2 KEY input.

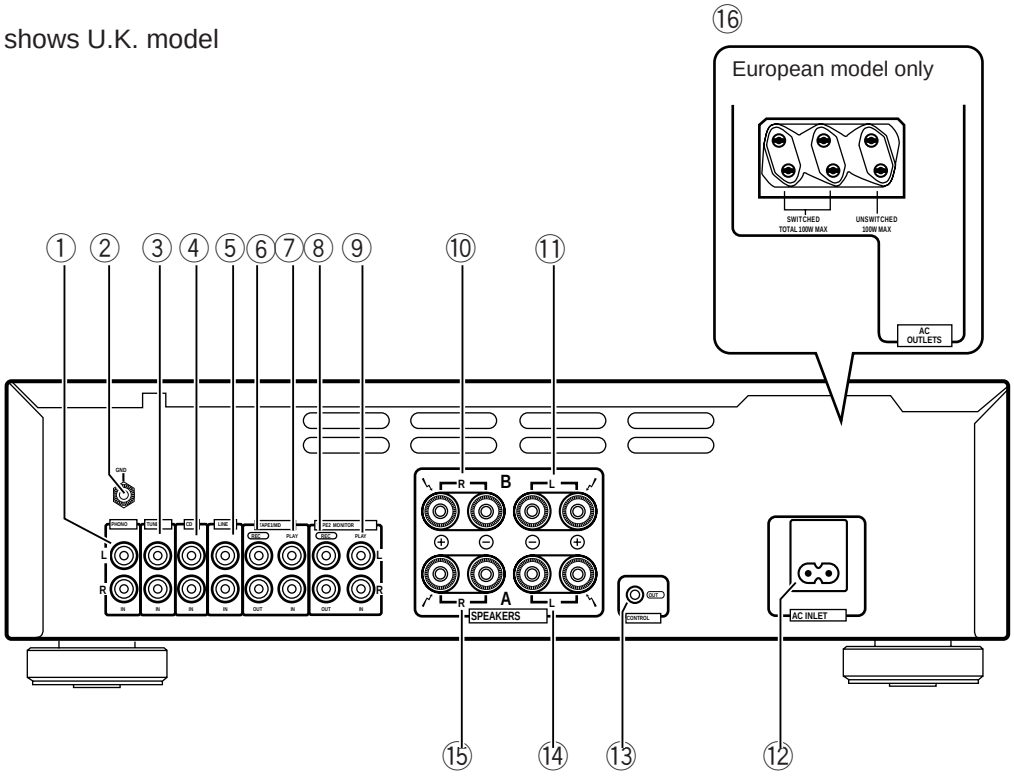
7.2 BLOCK DIAGRAM



8. PANEL FACILITIES AND SPECIFICATIONS

8.1 REAR PANEL

Illustration shows U.K. model



① **PHONO terminals**

② **SIGNAL GND (Turntable ground) terminal**

③ **TUNER terminals**

④ **CD terminals**

⑤ **LINE terminals**

⑥ **TAPE 1/MD REC (OUT) terminals**

⑦ **TAPE 1/MD PLAY (IN) terminals**

⑧ **TAPE 2 MONITOR REC (OUT) terminals**

⑨ **TAPE 2 MONITOR PLAY (IN) terminals**

⑩ **SPEAKERS B terminals (Right channel)**

⑪ **SPEAKERS B terminals (Left channel)**

⑫ **AC INLET jack**

Connect one end of the power cord to here and the other end to an AC wall socket, or the AC outlet of an audio timer.
If you are going to be away from home for a long period of time, disconnect the unit from the wall socket.

⑬ **CONTROL OUT jack**

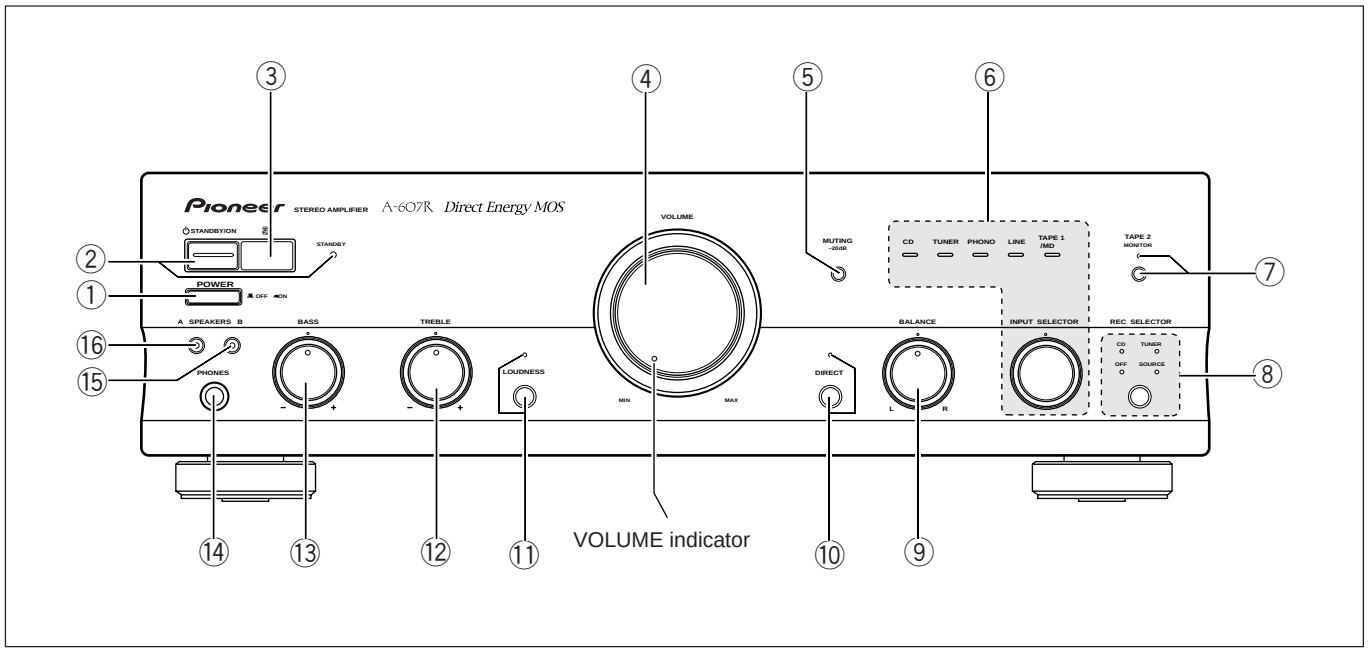
This jack is for outputting control signals when operating other components bearing the 5R mark with the amplifier's remote control unit.

⑭ **SPEAKERS A terminals (Left channel)**

⑮ **SPEAKERS A terminals (Right channel)**

⑯ **AC OUTLETS (European model only)**

8.2 FRONT PANEL



① POWER (▮ OFF/ ▬ ON) switch

Press to turn power to the unit ON and OFF.

② ⏻ STANDBY/ON switch/indicator

This is the switch for electric power.

This switch does not function unless the POWER ▮ OFF/ ▬ ON switch is set to ON.

ON : When set to the ON position, power is supplied and the unit becomes operational.

STANDBY : When set to the STANDBY position, the main power flow is cut and the unit is no longer fully operational. A minute flow of power feeds the unit to maintain operation readiness.
When the STANDBY indicator lights, the unit is in STANDBY.

NOTE:

When performing timer recording with this unit, be sure to set the POWER and STANDBY/ON switch to ON.

③ Remote control sensor window

④ VOLUME control

Use to adjust the volume level.

NOTE:

The TONE effect functions regardless of volume levels.

⑤ MUTING button/indicator

Use to temporarily lower sound volume.

On : The VOLUME indicator flashes. The sound volume is lowered to one-tenth (–20dB).

Off : The VOLUME indicator lights. The sound will return to its previous volume.

⑥ INPUT SELECTOR knob/indicators

Turn the knob clockwise or counterclockwise so that the indicator lights for your desired input source. Turning the knob clockwise causes the lit indicator to right. Turning counterclockwise causes it to left.

CD : For compact disc playback with a CD player.

TUNER : For AM or FM broadcast reception with a tuner.

PHONO : For record playback with a turntable.

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

TAPE 1/MD : For playback with a cassette deck or MD recorder connected to the TAPE 1/MD terminals.

⑦ TAPE 2 MONITOR button/indicator

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

Off : Indicator goes out when not in use.

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

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.)

⑧ REC SELECTOR switch /indicator(For TAPE 1/MD terminals)

This switch is used to select the recording source component. The signal from the selected component is output at the TAPE1/MD jacks for recording. To select a recording source component, press the REC SELECTOR switch so that the indicator of the desired source component lights up. When this switch is set to [TUNER] or [CD], the signal from the selected component can be recorded regardless of the input selector switch and TAPE2 MONITOR button settings.

- **CD** : To record from the equipment connected to the CD terminals.
- **TUNER** : To record from the equipment connected to the TUNER terminals.
- **SOURCE** : To record from the equipment selected by the INPUT SELECTOR knob.
- **OFF** : In this position, nothing from the REC terminals of TAPE 1/MD is output. Set to this position when not recording; the cassette deck will be disconnected, improving sound quality.

NOTE:

The function selected using the INPUT SELECTOR knob will be recorded irrespective of the position of the REC SELECTOR switch (TAPE 2 MONITOR terminals).

⑨ 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 button is in the on position.

⑩ DIRECT button/indicator

Use this button 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.

⑪ LOUDNESS button/indicator

Use when listening at low volume level.

- **On** : The indicator lights. Boosts low and high frequencies to give added punch to playback even at low volume level.
- **Off** : The indicator goes out. Should normally be left in this position.

NOTE:

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

⑫ TREBLE tone control

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

NOTE:

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

⑬ BASS tone control

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

NOTE:

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

⑭ PHONES jack

When using headphones, insert the plug into this jack.

⑮ SPEAKERS B (ON/OFF) button/indicator

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

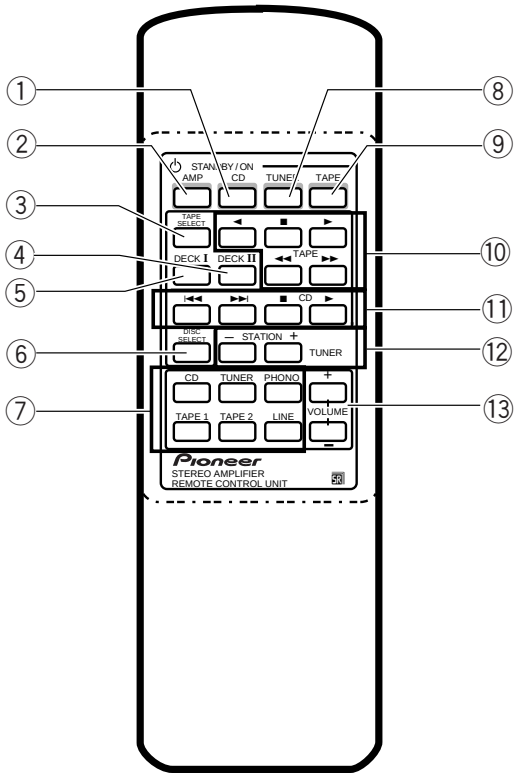
- **On** : The indicator lights. Sound is heard from the speaker system.
- **Off** : The indicator goes out. No sound is heard from the speaker system. Set to this position when listening with headphones.

⑯ SPEAKERS A (ON/OFF) button/indicator

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

- **On** : The indicator lights. Sound is heard from the speaker system.
- **Off** : The indicator goes out. No sound is heard from the speaker system. Set to this position when listening with headphones.

8.3 REMOTE CONTROL UNIT



① CD ⏻ STANDBY/ON button
Switches CD player power STANDBY/ON.

② AMP ⏻ STANDBY/ON button
Switches the amplifier power STANDBY/ON.

③ TAPE SELECT button
Selects the cassette No. (1 to 6) for a multi-cassette changer.

④ DECK II button
To operate Deck II, press this button before pressing the operating buttons. Also, when using a single deck, press this button before pressing the operating buttons.

⑤ DECK I button
To operate Deck I, press this button before pressing the operating buttons.

⑥ DISC SELECT button
Press this to select discs on a multi or twin tray compact disc player.

⑦ Input selector buttons
Use to select the playback source.

CD : For compact disc playback with a CD player.
TUNER : For AM or FM broadcast reception with a tuner.
PHONO : For record playback with a turntable.
TAPE 1 : For playback with a cassette deck or MD recorder connected to the TAPE 1/MD terminals.
TAPE 2 : For playback with a cassette deck or adaptor connected to the TAPE 2 MONITOR terminals.
LINE : For playback with a component connected to the LINE terminal.

⑧ TUNER ⏻ STANDBY/ON button
Switches TUNER power STANDBY/ON.

⑨ TAPE ⏻ STANDBY/ON button
Switches the cassette deck power STANDBY/ON.

⑩ TAPE operation buttons
◄, ► : Playback in the direction of the arrows.
■ : Stop
◄◄, ►► : Tape fast forward/reverse.

⑪ CD player operation buttons
⏮ : Returns you to the start of the current track (Track search).
⏭ : Takes you to the start of the next track (Track search).
■ : Stop
► : Play

⑫ STATION +, – buttons (TUNER)
Calls each station number in sequence.

⑬ VOLUME +, – buttons
+ ..... Increases the volume.
– ..... Decreases the volume.

NOTE:
When the accessory remote control unit is used to operate other PIONEER components with the mark, it cannot be used to operate functions which do not correspond to the functions listed on the remote control unit.

8.4 SPECIFICATIONS

Amplifier Section

Continuous power output
(both channels driven at 20 Hz to 20 kHz)**
T.H.D. 0.06 %, 8 Ω ..... 60 W + 60 W*
T.H.D. 0.09 %, 4 Ω ..... 90 W + 90 W*
DIN Continuous power output (both channels driven at 1 kHz)
T.H.D. 1.0 %, 8 Ω ..... 75 W + 75 W
T.H.D. 1.0 %, 4 Ω ..... 120 W + 120 W
Total harmonic distortion**
20 Hz to 20 kHz, 30 W, 8 Ω ..... 0.06 %*

- **Power output specification is for when power supply is 230V.**

Input sensitivity/ impedance
PHONO (MM) ..... 2.8 mV/ 50 kΩ
CD, TUNER, LINE, TAPE 1/MD,
TAPE 2 MONITOR ..... 200 mV/ 50 kΩ
PHONO (MM) overload level
1 kHz, T.H.D. 0.1 % ..... 150 mV
Output level/ impedance
TAPE 1/MD, TAPE 2 MONITOR output
..... 200 mV/ 1 kΩ
Frequency response
PHONO (MM) ..... 20 Hz to 20 kHz ± 0.5 dB
CD, TUNER, LINE, TAPE 1/MD,
TAPE 2 MONITOR ..... 5 Hz to 150 kHz $^{+0}_{-3}$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) ..... 88 dB*
CD, TUNER, LINE, TAPE 1/MD,
TAPE 2 MONITOR ..... 108 dB*
Signal-to-Noise ratio (DIN, continuous power/ 50 mW)
PHONO (MM) ..... 71 dB/ 67 dB*
CD, TUNER, LINE, TAPE 1/MD,
TAPE 2 MONITOR ..... 95 dB/ 71 dB*
MUTING (volume control set at –30 dB position) ..... –20 dB

Power Supply/ Miscellaneous

Power requirements ..... AC 220 - 230 Volts, 50/ 60 Hz
Power consumption ..... 220 W
AC outlets (European model only)
Switched (x2) ..... total 100 W
Unswitched (x1) ..... 50 W
Power Consumption in standby mode ..... 1 W
Dimensions (including knobs and other protruding parts)
..... 420 (W) x 335 (D) x 128 (H) mm
Weight (without package) ..... 7.0 kg

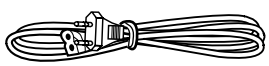
Accessories

Remote control unit 1
Batteries (AA/R6P) 2
Operating instructions 1
Power cord(Rated current 2.5 A) 1

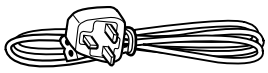
NOTE:
Specifications and design subject to possible modification without notice, due to improvements.

* Measured with the DIRECT button set to on.
** Measured by Audio Spectrum Analyzer.

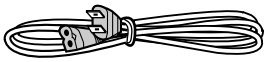
• ACCESSORIES



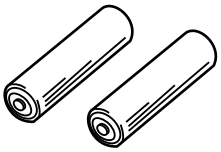
Power cord (ADG1154)
MY/EW and MY/GR types



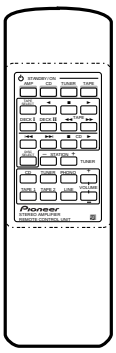
Power cord with fuse (ADG1156)
MV type



Power cord (ADG1158)
SD type



Batteries (AA/R6P)
(AEX-010)



Remote control unit
(CU-A018)
(AXD7187)