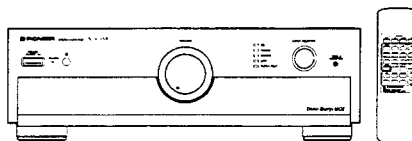


Service Manual

PIONEER®
The Art of Entertainment



The illustration shows model A-605R.

ORDER NO.
RRV 1594

STEREO AMPLIFIER

A-605R

A-605R-G

A-505R

A-405R

A-405R-G

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-605R	A-605R-G	A-505R	A-405R	A-405R-G		
HY/EW	○	○	○	○	○	AC220 - 230V	_____
HY/GR	○	-	○	○	-	AC220 - 230V	_____
SD	○	-	-	-	-	AC110V/120 - 127V/220V/240V	With the voltage selector
HV	○	-	-	○	-	AC230V	_____

CONTENTS

1. EXPLODED VIEWS AND PARTS LIST	2
2. PACKING AND PARTS LIST	5
3. SCHEMATIC AND PCB CONNECTION DIAGRAMS	6
4. PCB PARTS LIST	21
5. ADJUSTMENTS	24
6. IC INFORMATION	25
7. BLOCK DIAGRAM	26
8. FOR A-605R/HY/GR, SD, HV, A-605R-G/HY/EW, A-505R/HY/EW, HY/GR, A-405R/HY/EW, HY/GR, HV AND A-405R-G/HY/EW TYPES	27
9. PANEL FACILITIES	32
10. SPECIFICATIONS	35

PIONEER ELECTRONIC CORPORATION

4-1, Meguro 1-Chome, Meguro-ku, Tokyo 153, 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 Lane Crawford Place, Singapore 0923

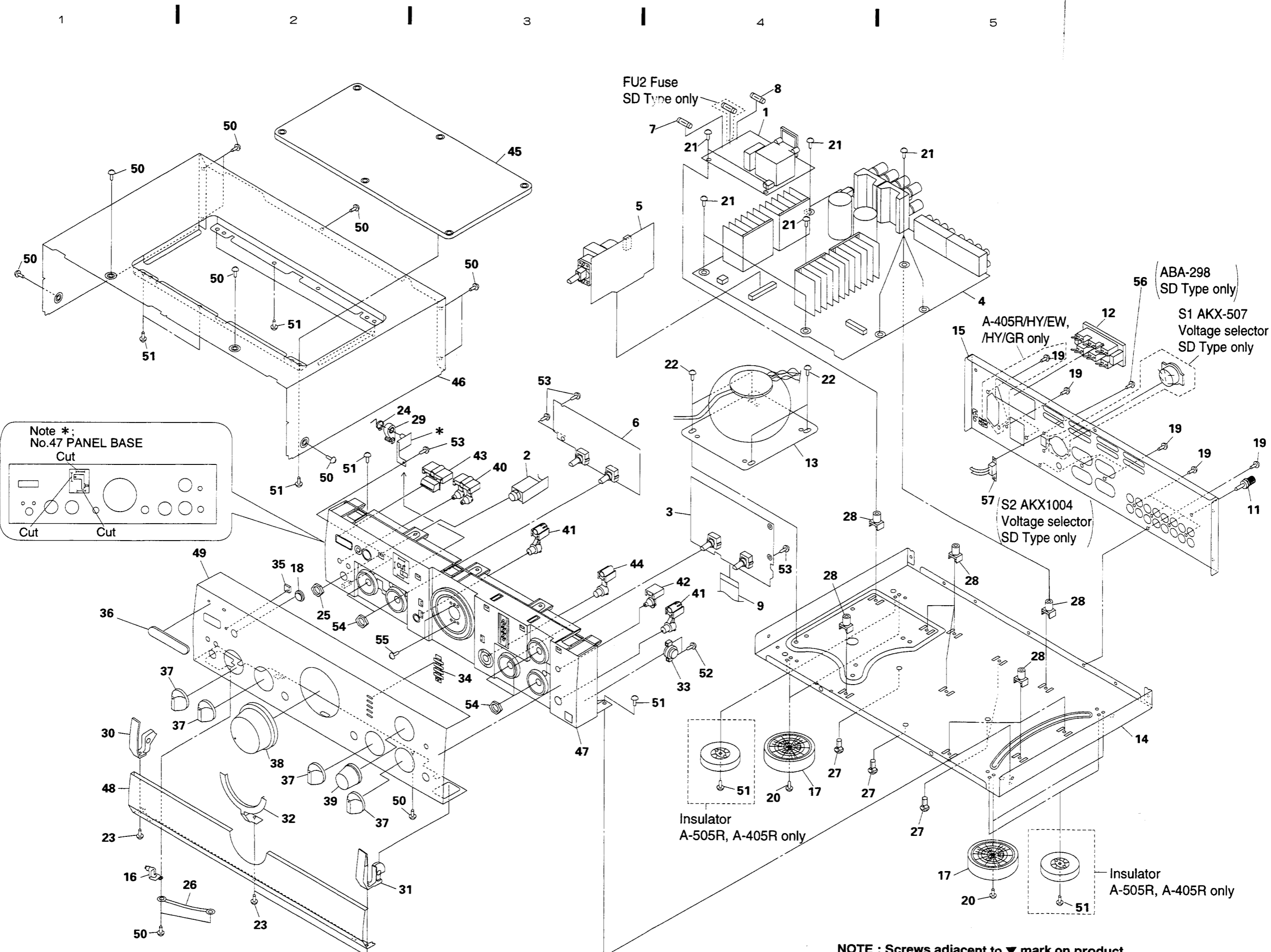
1. EXPLODED VIEWS AND PARTS LIST

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.

Parts List (for A-605R/HY/EW)

Mark	No.	Description	Parts No.	Mark	No.	Description	Parts No.
	1	AC PRIMARY ASSY	AWZ7944		31	HINGE R	AMR7116
NSP	2	HEADPHONE ASSY	AWZ7947		32	PANEL STOPPER MOULD	AMR7117
	3	FRONT R ASSY	AWZ8398		33	DUMPER	AXA7036
	4	AF ASSY	AWZ7932		34	LED LENS	AAK7260
	5	VOLUME ASSY	AWZ7941		35	LED LENS	PNW2019
	6	FRONT L ASSY	AWZ8397		36	NAME PLATE	VAM1032
Δ	7	FU3 FUSE (T500mA)	AEK1051		37	ROTARY KNOB C	AAB7089
Δ	8	FU1 FUSE (T2A)	AEK1057		38	ROTARY KNOB L	AAB7090
	9	J1 FLEXIBLE CABLE	ADD1114		39	ROTARY KNOB B	AAB7091
	10			40	SPEAKER BUTTON	AAD7290
	11	TERMINAL SCREW	AKE - 031		41	SELFILLMI BUTTON A	AAD7291
Δ	12	AC SOKET 3 - P	AKP - 502		42	SELFILLMI BUTTON B	AAD7292
Δ	13	T1 POWER TRANSFORMER	ATS7128		43	POWER BUTTON	AAD7293
NSP	14	CHASSIS	ANA7048		44	MUTING BUTTION	AAD7294
	15	REAR PANEL	ANC7424		45	TOP COVER	AME1086
	16	POCKET HOLDER ASSY	ANG1864		46	METAL BONNET	ANE7119
	17	FOOT	AMR1159		47	PANEL BASE	AMB7362
	18	REMOCON WINDOW	AAK2457		48	DOOR PANEL	ANB7050
	19	SCREW	ABA - 298		49	FRONT PANEL	ANB7052
	20	SCREW (STEEL)	ABA1004		50	SCREW	BBT30P080FZK
	21	SCREW	ABA1018		51	SCREW	BBZ30P080FMC
	22	SCREW (STEEL)	ABA1053		52	SCREW	BPZ20P080FMC
	23	SCREW	ABA7023		53	SCREW	BPZ26P080FMC
	24	POCKET SPRING	ABH7114		54	NUT	NK90FUC
	25	NUT	ABN - 065		55	SCREW	VMZ30P060FMC
NSP	26	CORD WITH PLUG	ADH1003		56	SCREW	BMZ30P080FZK
NSP	27	PCB HOLDER	AEC7057	Δ	57	SWITCH (MAIN POWER)	ASH - 501
NSP	28	PCB MOULD	AMR1525				
	29	POCKET LOCK	AMR2587				
	30	HINGE L	AMR7115				

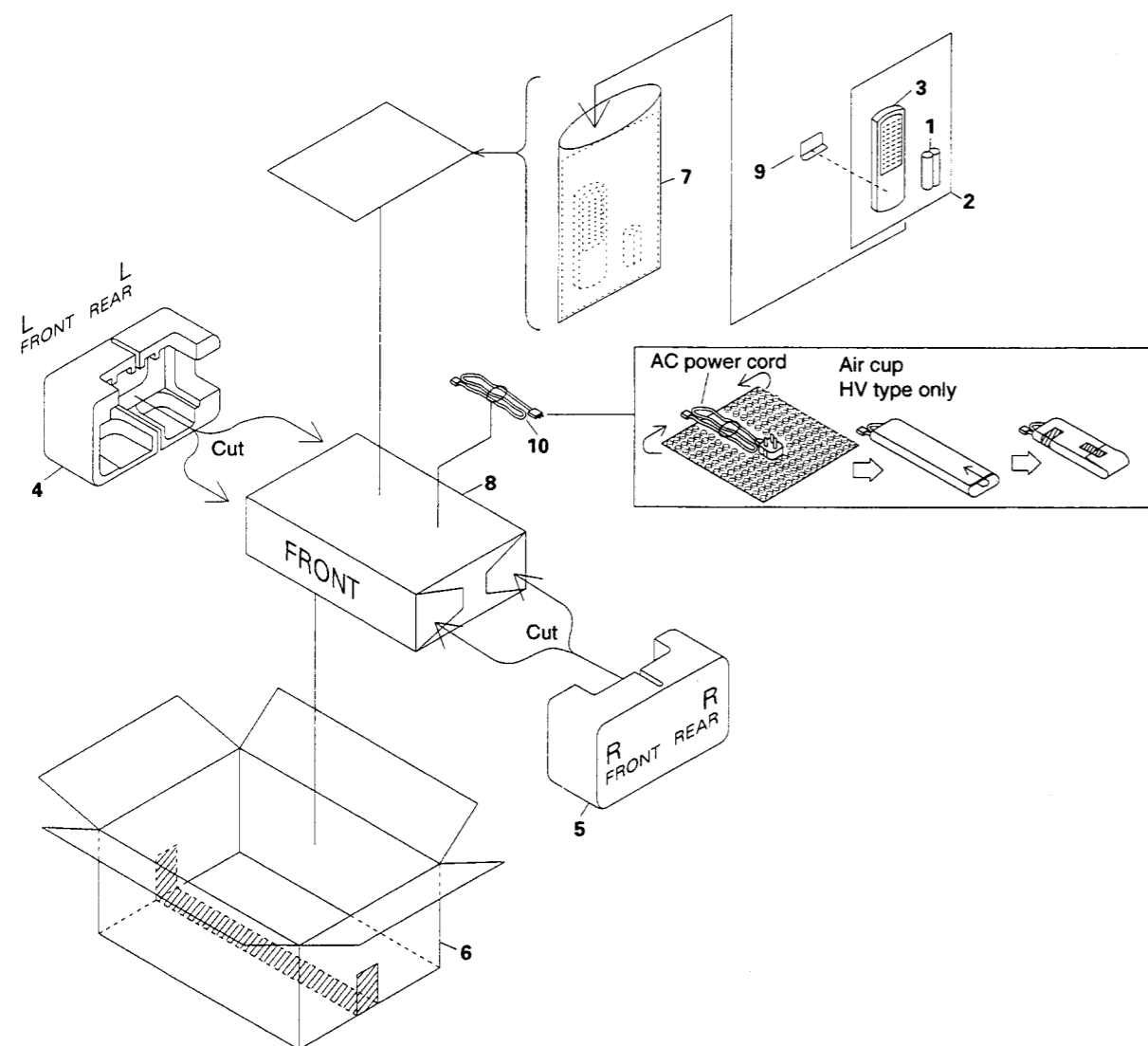


NOTE : Screws adjacent to ▼ mark on product are used for disassembly.

2. PACKING AND PARTS LIST

Parts List (for A-605R/HY/EW)

Mark	No.	Description	Parts No.
NSP	1	BATTERY (R6P, AA)	AEX - 010
	2	OPERATING INSTRUCTIONS (English/German/French/Italian/ Swedish/Spanish/Dutch/Portuguese)	ARE7077
	3	REMOTE CONTROL UNIT (CU - A013)	AXD7053
	4	SIDE PROTECTOR L	AHA7127
	5	SIDE PROTECTOR R	AHA7128
	6	PACKING CASE	AHD7308
NSP	7	LITERATURE BAG	AHG - 117
	8	PACKING SHEET	AHG1016
	9	BATTERY COVER	AZN2249
△	10	AC POWER CORD	ADG1154



3. SCHEMATIC AND PCB CONNECTION DIAGRAMS

NOTE FOR SCHEMATIC DIAGRAMS (Type 1A)

1. When ordering service parts, be sure to refer to "PARTS LIST of EXPLODED VIEWS" or "PCB PARTS LIST".

2. Since these are basic circuits, some parts of them or the values of some components may be changed for improvement.

3. RESISTORS:

Unit: k:kΩ, M:MΩ, or Ω unless otherwise noted.
Rated power: 1/4W, 1/6W, 1/8W, 1/10W unless otherwise noted.
Tolerance: (F): ±1%, (G): ±2%, (K): ±10%, (M): ±20% or ±5% unless otherwise noted.

4. CAPACITORS:

Unit: p:pF or μ:μF unless otherwise noted.
Ratings: capacitor (μF)/voltage(V) unless otherwise noted.
Rated voltage: 50V except for electrolytic capacitors.

5. COILS:

Unit: m:mH or μ:μH unless otherwise noted.

6. VOLTAGE AND CURRENT:

\overline{V} : Signal voltage at rated output.
or $\leftarrow V$:
DC voltage (V) at no input signal unless otherwise noted.
Value in () is DC voltage at rated power.
 \overline{mA} or $\leftarrow mA$:
DC current at no input signal unless otherwise noted.

7. OTHERS:

- \odot or \ominus : Adjusting point.
- \blacktriangleleft : Measurement point.
- The \triangle mark found on some component parts indicates the importance of the safety factor of the parts. Therefore, when replacing, be sure to use parts of identical designation.

8. SCH-□ ON THE SCHEMATIC DIAGRAM:

- SCH-□ indicates the drawing number of the schematic diagram. (SCH stands for schematic diagram.)

9. SWITCHES (Underline indicates switch position):

FRONT L ASSY

- S701 : POWER STANDBY/ON
- S702 : LOUDNESS
- S703 : SPEAKER A
- S704 : SPEAKER B

FRONT R ASSY

- S601 : INPUT SELECTOR
- S602 : REC SELECTOR(SOURCE/OFF/CD/TUNER)
- S603 : TAPE2 MONITOR
- S604 : DIRECT
- S605 : MUTING

NOTE FOR PCB DIAGRAMS

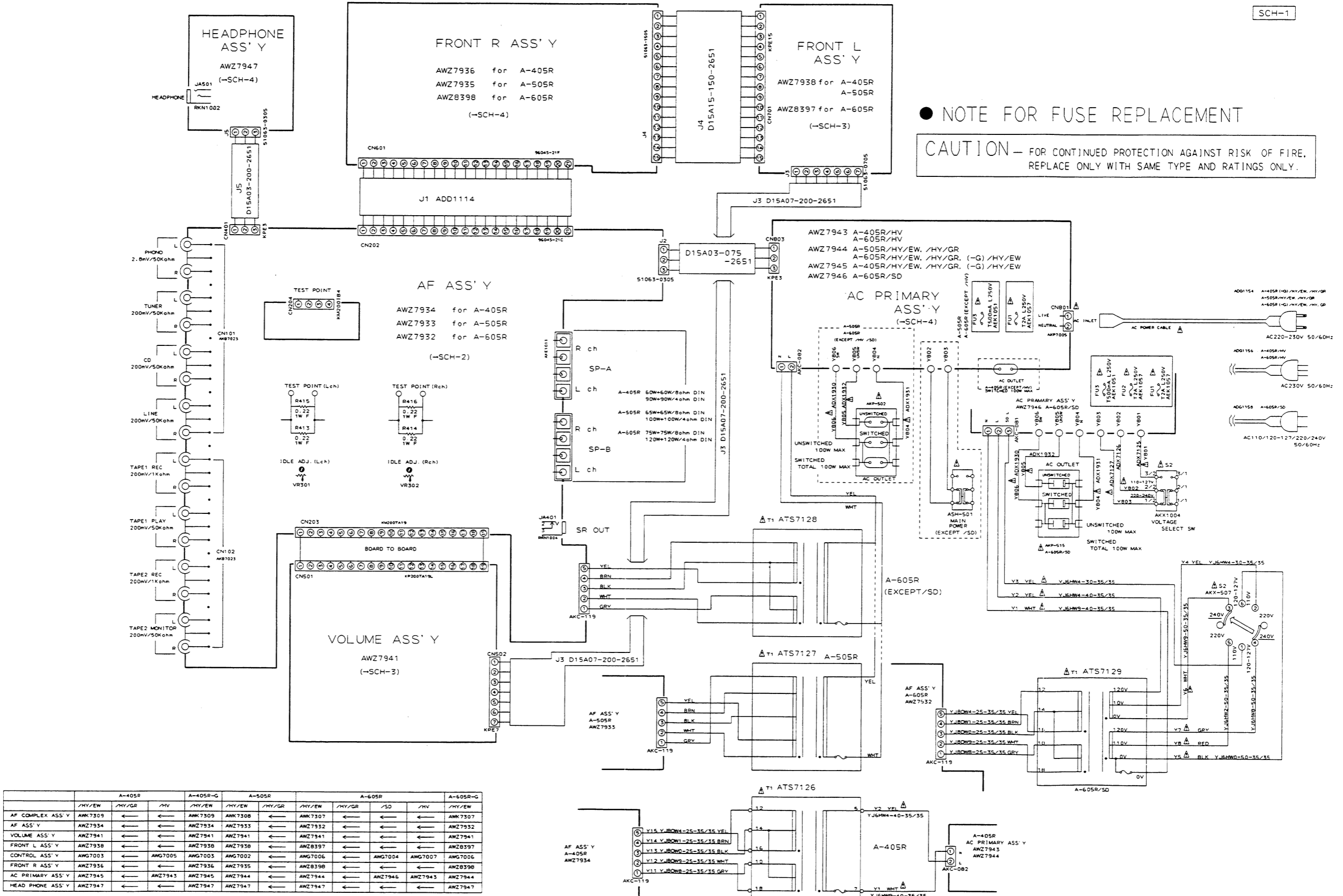
- Part numbers in PCB diagrams match those in the schematic diagrams.
- A comparison between the main parts of PCB and schematic diagrams is shown below.

Symbol in PCB Diagrams	Symbol in Schematic Diagrams	Part Name
		Transistor
		Transistor with resistor
		Field effect transistor
		Resistor array
		3-terminal regulator

3.1 OVERALL WIRING DIAGRAM

SCH-1

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



	A-405R			A-405R-G			A-505R			A-605R			A-605R-G		
	/HY/EW	/HY/GR	/HY	/HY/EW	/HY/EW	/HY/GR	/HY/EW	/HY/GR	/SD	/HY	/HY/EW	/HY/EW	/HY/GR	/SD	/HY
AF COMPLEX ASS'Y	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←
AF ASS'Y	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←
VOLUME ASS'Y	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←
FRONT L ASS'Y	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←
CONTROL ASS'Y	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←
FRONT R ASS'Y	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←
AC PRIMARY ASS'Y	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←
HEAD PHONE ASS'Y	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←

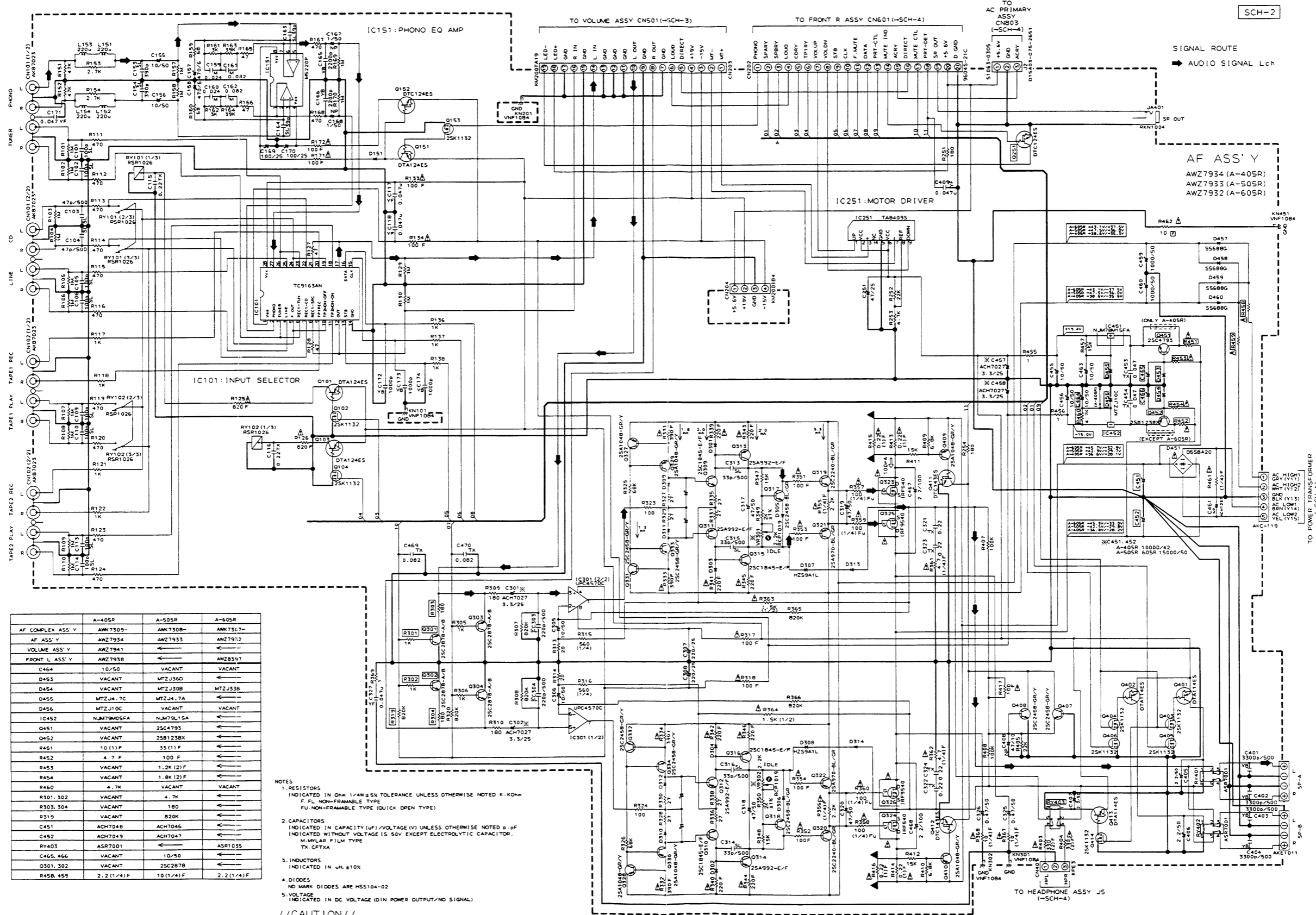
OVERALL WIRING DIAGRAM

OVERALL WIRING DIAGRAM

SCH-1

SCH-1

3.2 AF ASSEMBLY



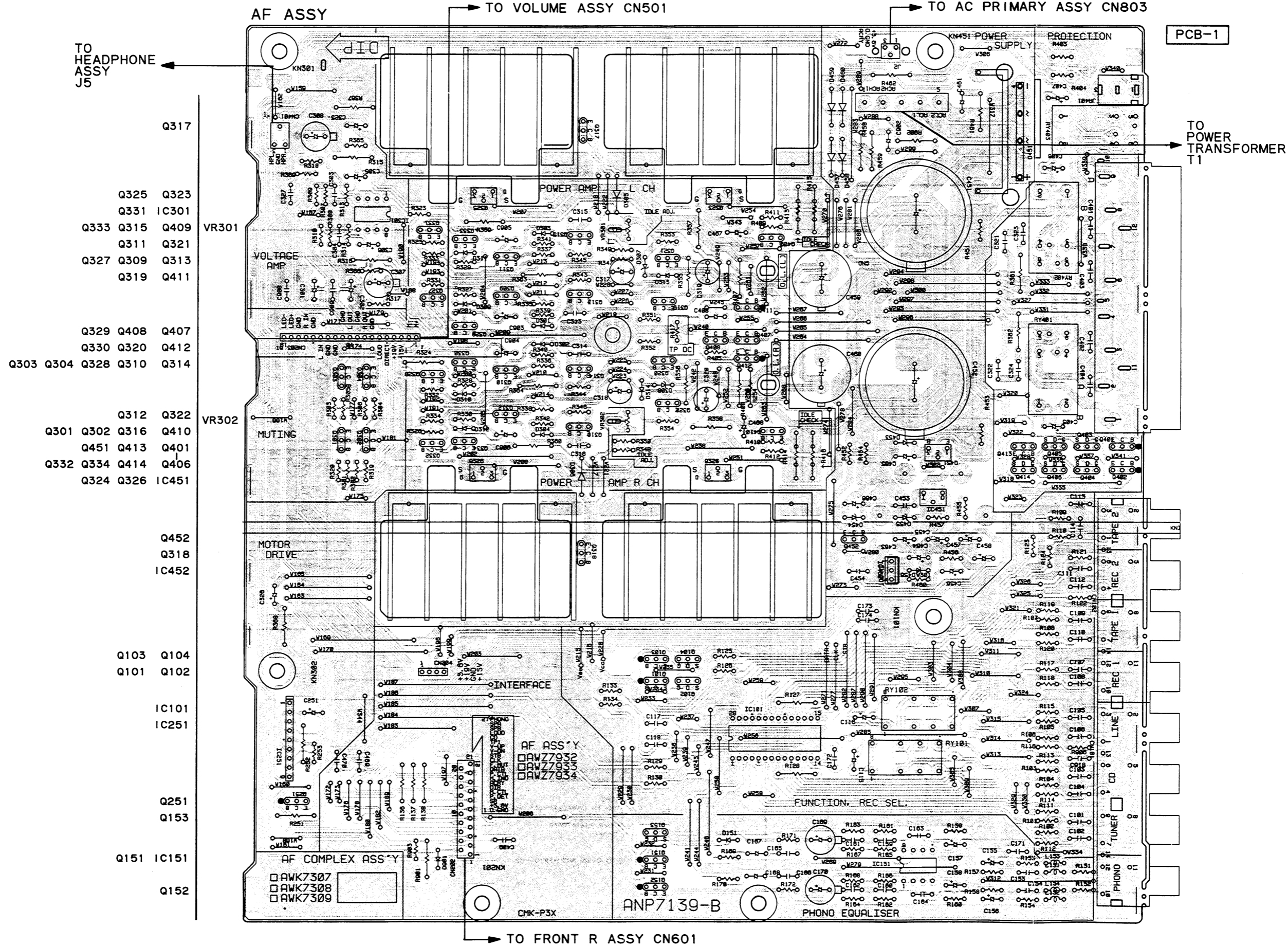
	A-405R	A-505R	A-605R
AF COMPLEX ASS'Y	AWK7309-	AWK7308-	AWK7307-
AF ASS'Y	AWZ7934	AWZ7933	AWZ7932
VOLUME ASS'Y	AWZ7941		AWZ8547
FRONT L ASS'Y	AWZ7938		AWZ8547
C454	10/50	VACANT	VACANT
D453	VACANT	MTZ J350	
D454	VACANT	MTZ J308	MTZ J338
D455	MTZ J4-7C	MTZ J4-7A	
D456	MTZ J10C	VACANT	VACANT
IC452	NJM79M05FA	NJM79L15A	
Q451	VACANT	25C4795	
Q452	VACANT	25B1238X	
R451	10 (1/2)F	35 (1/2)F	
R452	4.7 F	100 F	
R453	VACANT	1.2K (2)F	
R454	VACANT	1.8K (2)F	
R460	4.7K	VACANT	VACANT
R301-302	VACANT	4.7K	
R303-304	VACANT	180	
R319	VACANT	820K	
C451	ACH704B	ACH704E	
C452	ACH704D	ACH7047	
RY403	ASR7001	ASR1055	
C455-456	VACANT	10/50	
Q501-302	VACANT	25C2878	
R45B-459	2.2 (1/4)F	10 (1/4)F	

- NOTES
- RESISTORS
INDICATED IN OHM 1/4W ±5% TOLERANCE UNLESS OTHERWISE NOTED. K, KOH; F, FL, NON-FRANGIBLE TYPE; FU, NON-FRANGIBLE TYPE (QUICK OPEN TYPE).
 - CAPACITORS
INDICATED IN CAPACITY (UF), VOLTAGE (V) UNLESS OTHERWISE NOTED. B, BF, INDICATED WITHOUT VOLTAGE IS 50V EXCEPT ELECTROLYTIC CAPACITOR. M, MYLAR FILM TYPE; TX, CFTX.
 - INDUCTORS
INDICATED IN UH ±10%.
 - DIODES
NO MARK DIODES ARE H55104-02.
 - VOLTAGE
INDICATED IN DC VOLTAGE (DIN POWER OUTPUT/NO SIGNAL).

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

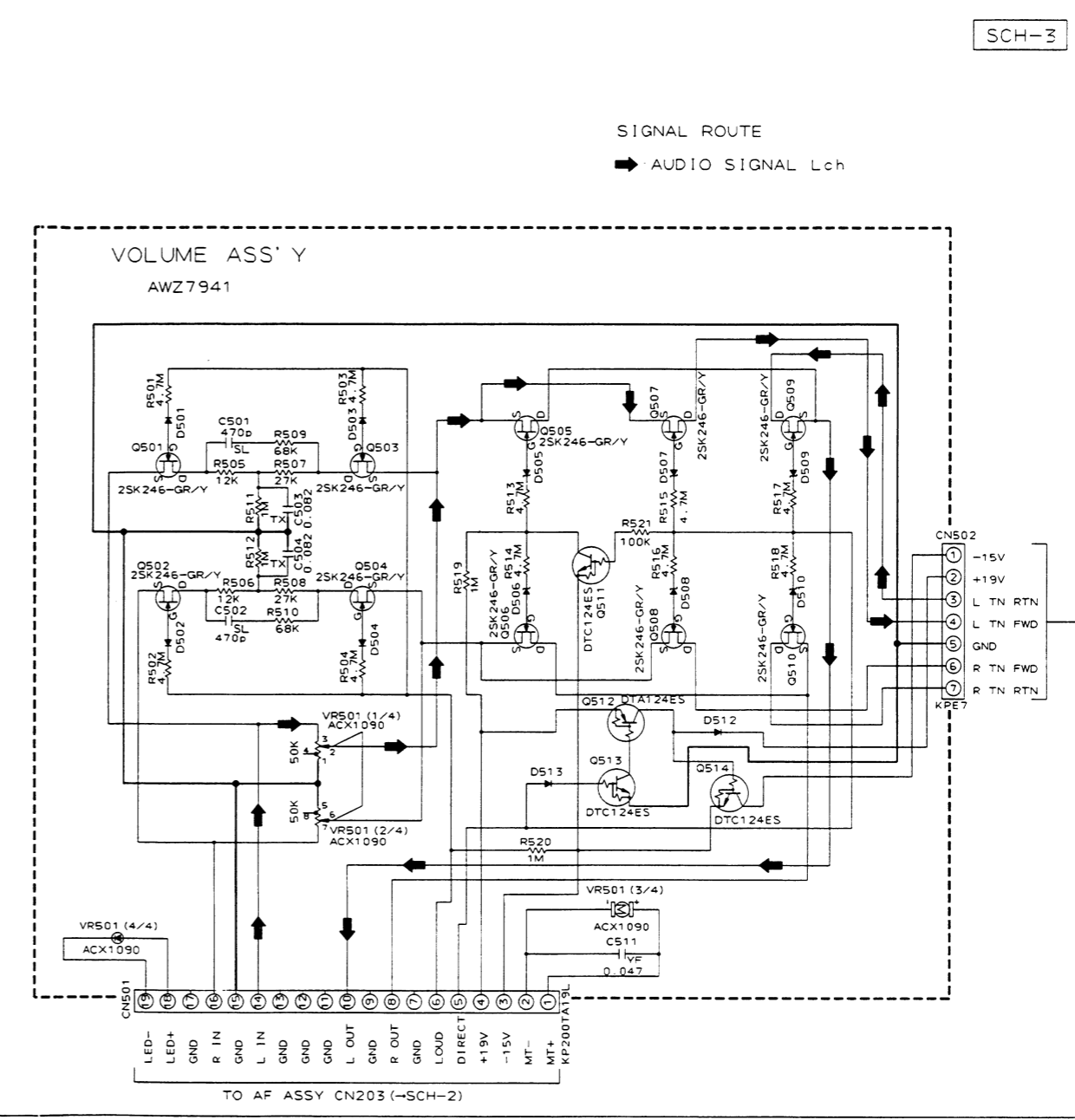
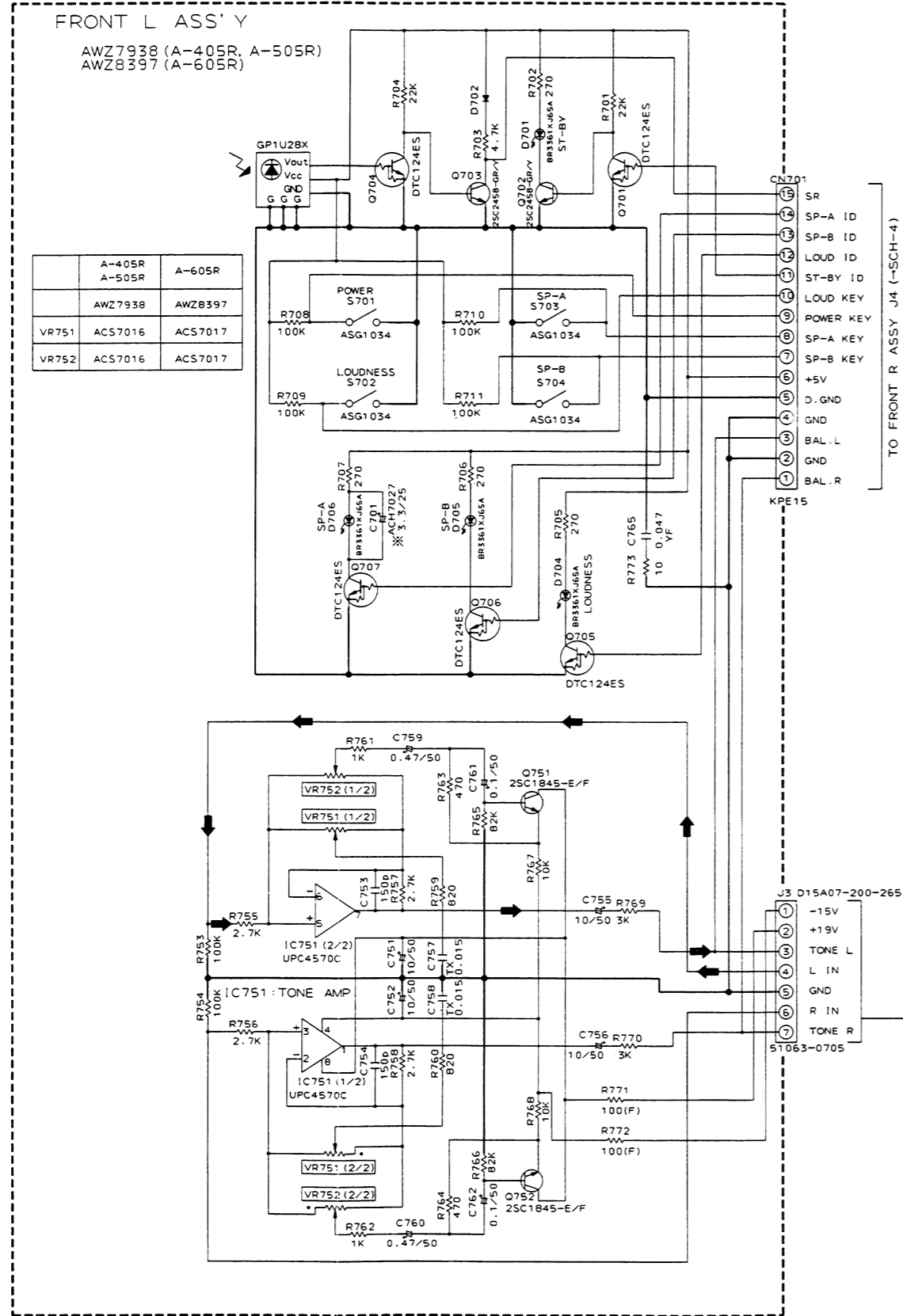
SCH-2 AF ASSY

AF ASSY SCH-2



• This diagram is viewed from the mounted parts side. • The parts mounted on this PCB include all necessary parts for several destinations. For further information for respective destinations, be sure to check with the schematic diagram.

3.3 FRONT L AND VOLUME ASSEMBLIES



- NOTES
- RESISTORS
INDICATED IN Ohm 1/4W ±5% TOLERANCE UNLESS OTHERWISE NOTED K, Kohm
F, FL: NON-FRAGILE TYPE
 - CAPACITORS
INDICATED IN CAPACITY (uF)/VOLTAGE (V) UNLESS OTHERWISE NOTED p, pF
INDICATED WITHOUT VOLTAGE IS 50V EXCEPT ELECTROLYTIC CAPACITOR.
M, MYLAR FILM TYPE
TX, CFTXA
 - DIODES
NO MARK DIODES ARE HSS104-02

FRONT L ASSY,
VOLUME ASSY

SCH-3

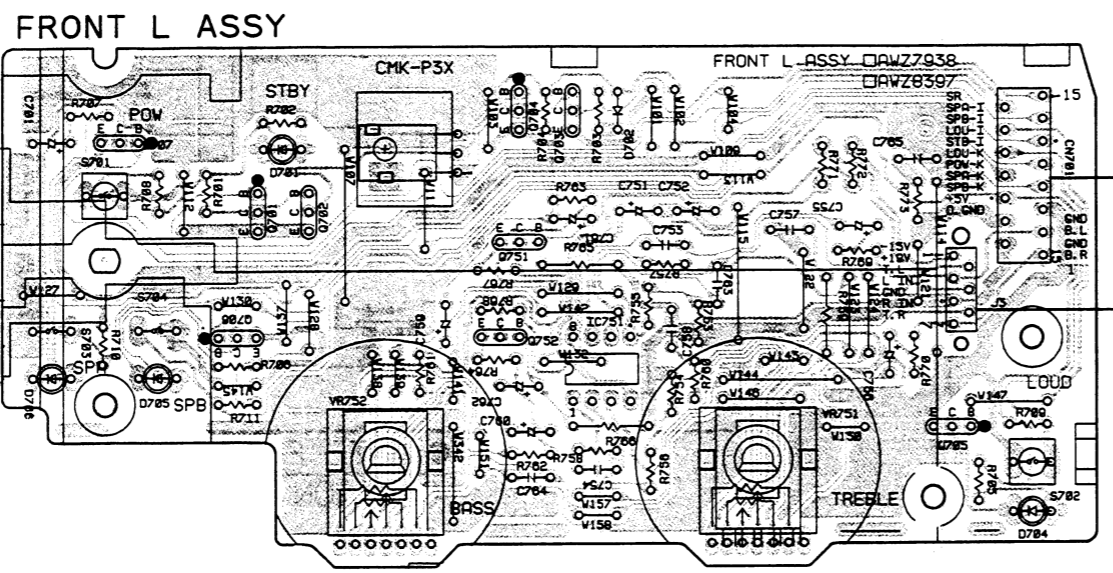
FRONT L ASSY,
VOLUME ASSY

SCH-3

1 2 3 4 5

A

A



PCB-2

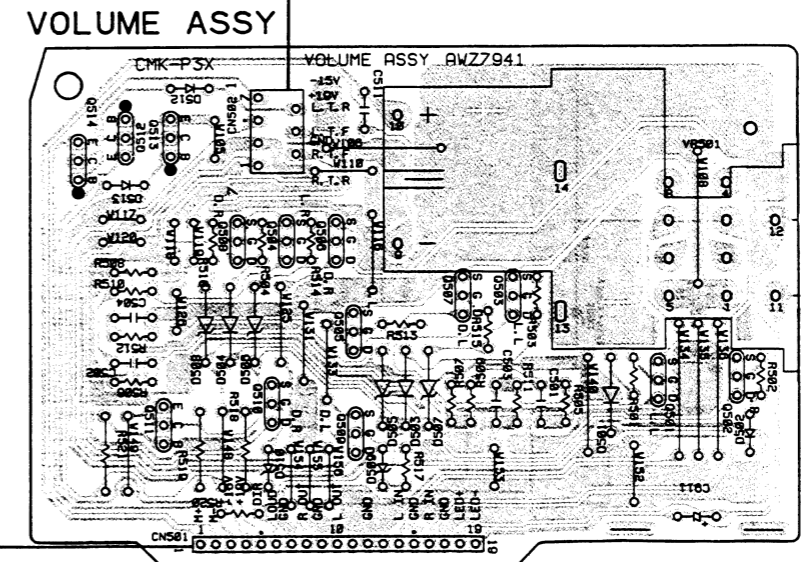
B

B

Q707 Q701 Q702 Q704 Q703 Q705
 Q706 Q751 IC751
 Q752

C

C



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

- This diagram is viewed from the mounted parts side.
- The parts mounted on this PCB include all necessary parts for several destinations. For further information for respective destinations, be sure to check with the schematic diagram.

D

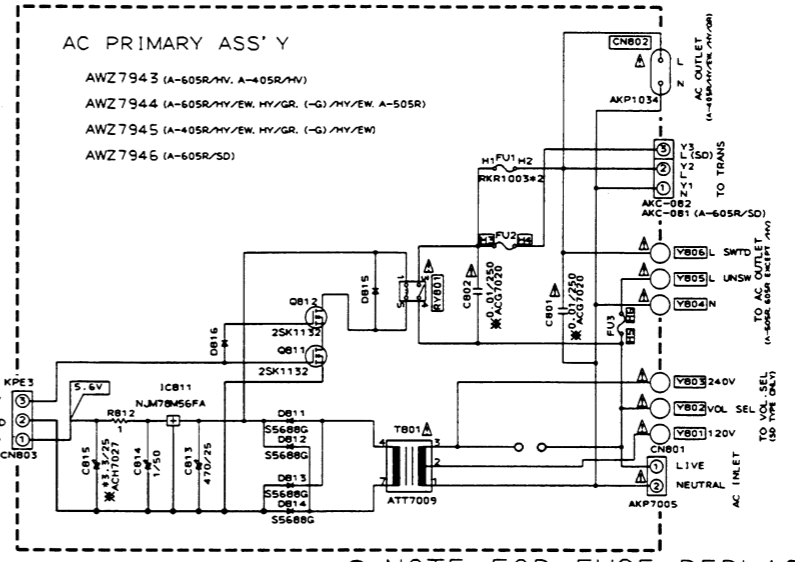
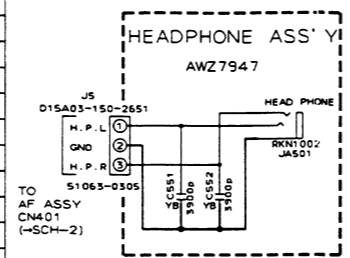
D

ANP7139-B

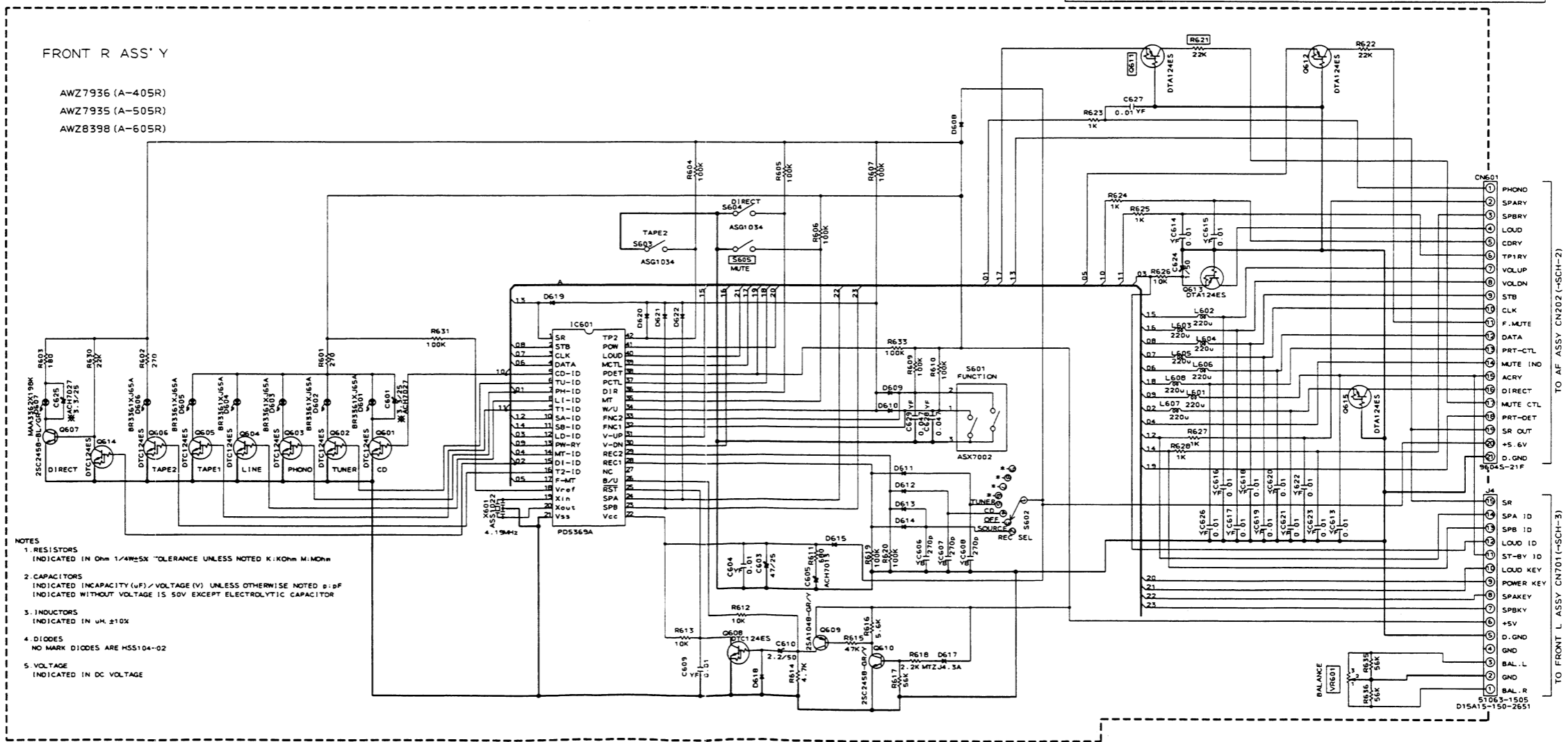
1 2 3 4 5 6

3.4 FRONT R, HEADPHONE, AC PRIMARY ASSEMBLIES

	A-405R		A-505R		A-605R	
	/HY/ EW /HY/GR	/HY	/HY/ EW /HY/GR	/HY	/HY/ EW /HY/GR	/HY
CONTROL ASS'Y	AWG7003-	AWG7005-	AWG7002-	AWG7006-	AWG7007-	AWG7004-
FRONT R ASS'Y	AWZ7936	←	AWZ7935	AWZ8398	←	←
AC PRIMARY ASS'Y	AWZ7945	AWZ7943	AWZ7944	←	AWZ7943	AWZ7946
HEADPHONE ASS'Y	AWZ7947	←	←	←	←	←
S605	VACANT	VACANT	ASG1034	←	←	←
CN802	AKP1034	VACANT	VACANT	VACANT	VACANT	VACANT
RY801	ASR1044	←	←	←	←	ASR1036
Y801	VACANT	VACANT	VACANT	VACANT	VACANT	VACANT
Y802	VACANT	VACANT	VACANT	VACANT	VACANT	ADX7126
Y803	VACANT	VACANT	VACANT	VACANT	VACANT	ADX7127
Y804	VACANT	VACANT	ADX1930	←	VACANT	ADX1930
Y805	VACANT	VACANT	ADX1932	←	VACANT	ADX1932
Y806	VACANT	VACANT	ADX1931	←	VACANT	ADX1931
HS, H4	VACANT	VACANT	VACANT	VACANT	VACANT	RKR1003
HS, H6	VACANT	VACANT	VACANT	VACANT	VACANT	RKR1003
R621	VACANT	VACANT	22K	←	←	←
D611	VACANT	VACANT	DTA124E5	←	←	←
S602	ASD7001	←	←	ASD7009	←	←
VR601	ACS7014	←	←	ACS7015	←	←



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



- NOTES
- RESISTORS INDICATED IN Ohm 1/4W±5% TOLERANCE UNLESS NOTED K:KOhm M:MOhm
 - CAPACITORS INDICATED IN CAPACITY (UF)/VOLTAGE (V) UNLESS OTHERWISE NOTED & DF INDICATED WITHOUT VOLTAGE IS 50V EXCEPT ELECTROLYTIC CAPACITOR
 - INDUCTORS INDICATED IN uH ±10%
 - DIODES NO MARK DIODES ARE HSS104-02
 - VOLTAGE INDICATED IN DC VOLTAGE

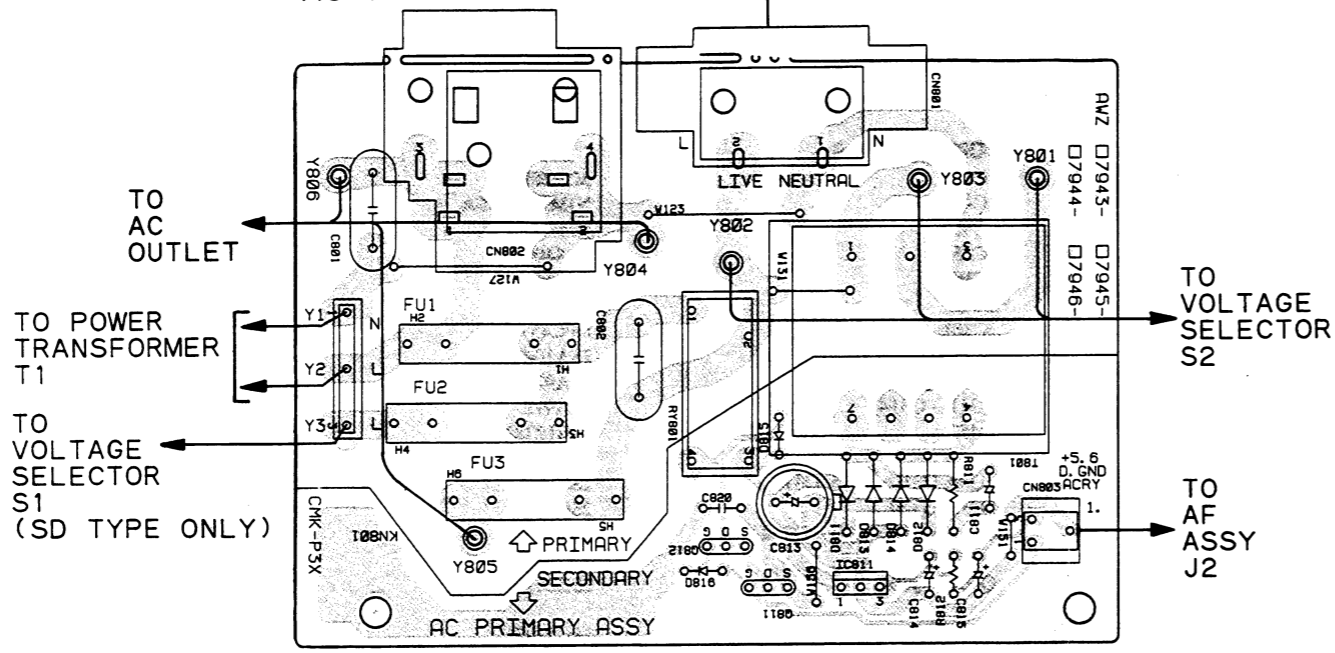
SCH-4

FRONT R ASSY,
HEADPHONE ASSY,
AC PRIMARY ASSY

FRONT R ASSY,
HEADPHONE ASSY,
AC PRIMARY ASSY

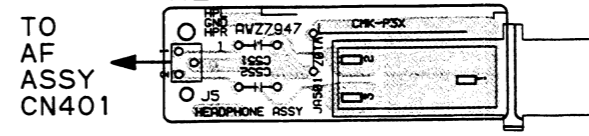
SCH-4

AC PRIMARY ASSY



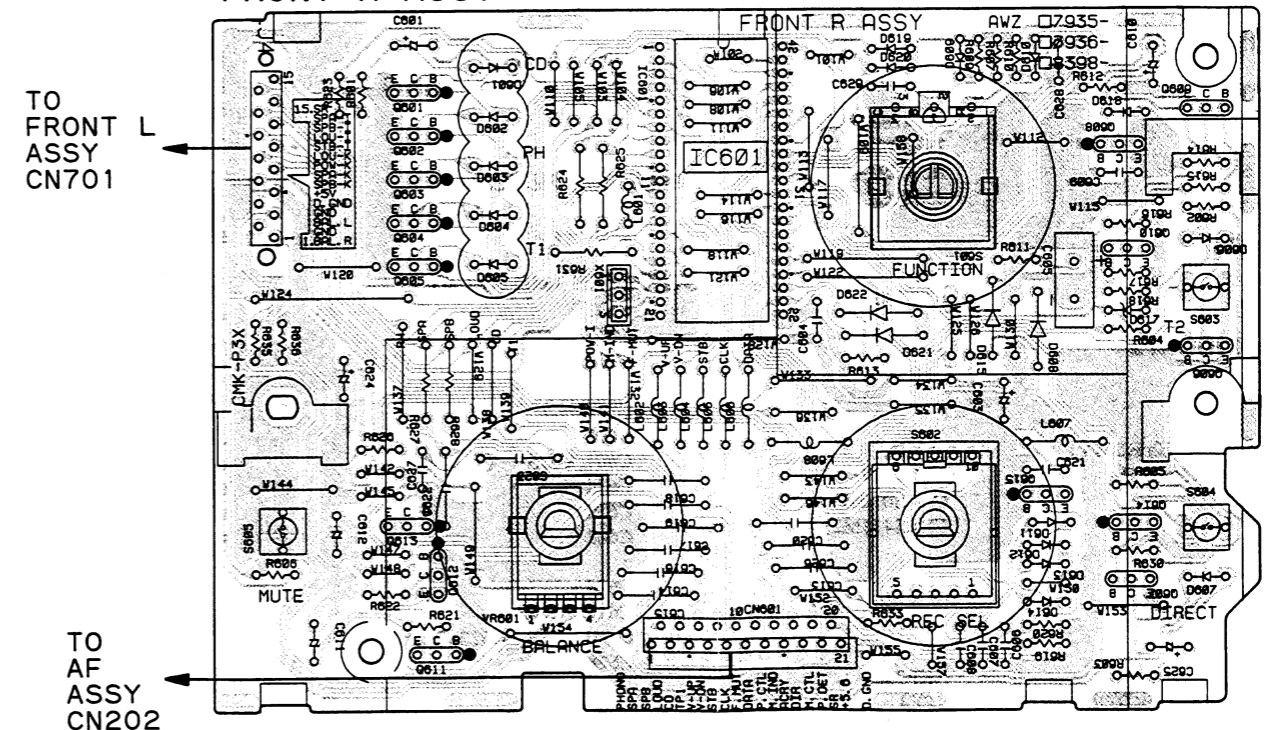
PCB-3

HEADPHONE ASSY



Q812 Q811 IC811

FRONT R ASSY



Q601-Q605 IC601 Q615 Q608 Q609
 Q613 Q612 Q610 Q606
 Q611 Q614 Q607

- This diagram is viewed from the mounted parts side.
- The parts mounted on this PCB include all necessary parts for several destinations. For further information for respective destinations, be sure to check with the schematic diagram.

4. PCB PARTS LIST

(for A-605R/HY/EW)

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 × 10¹ → 561 RD1/4PU561J
 47kΩ → 47 × 10³ → 473 RD1/4PU473J
 0.5Ω → 0R5 RN2H0R5K
 1Ω → 1R0 RS1P1R0K

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

5.62kΩ → 562 × 10¹ → 5621 RN1/4PC5621F

Mark No.	Description	Parts No.	Mark No.	Description	Parts No.
LIST OF ASSEMBLIES					
NSP	CONTROL ASSY	AWG7006			
	├ AC PRIMARY ASSY	AWZ7944			
NSP	├ HEADPHONE ASSY	AWZ7947			
	└ FRONT R ASSY	AWZ8398			
NSP	AF COMPLEX ASSY	AWK7307			
	├ AF ASSY	AWZ7932			
	├ VOLUME ASSY	AWZ7941			
	└ FRONT L ASSY	AWZ8397			
AC PRIMARY ASSY					
SEMICONDUCTORS					
	IC811	NJM78M56FA			
	Q811, Q812	2SK1132			
	D815, D816	HSS104-02			
	D811 - D814	S5688G			
TRANSFORMERS					
Δ	T801	ATT7009			
SWITCHES AND RELAYS					
Δ	RY801	ASR1044			
CAPACITORS					
Δ	C801, C802 (10000pF/250V)	ACG7020			
	C815 (3.3μF/25V)	ACH7027			
	C814	CEAS010M50			
	C813	CEAS471M25			
RESISTORS					
	All Resistors	RD1/4PU□□□			
OTHERS					
Δ	CN801 AC INLET	AKP7005			
	CN803 CONNECTOR(3P)	KPE3			
	H1, H2, H5, H6 FUSE HOLDER	RKR1003			
HEADPHONE ASSY					
CAPACITORS					
	C551, C552	CKCYB392K50			

Mark No.	Description	Parts No.	Mark No.	Description	Parts No.
OTHERS					
	CN601 CABLE HOLDER(15P) CONNECTOR	51063 - 1505 9604S - 21F	C103, C104	CCCSL470K500	
AF ASSY					
SEMICONDUCTORS					
	IC151	M5220P	C167, C168	CEANP010M50	
	IC451	NJM78M15FA	C408	CEANP470M10	
	IC452	NJM79L15A	C155, C156, C305, C306	CEAS100M50	
	IC251	TA8409S	C455, C456, C463, C465, C466	CEAS100M50	
	IC101	TC9163AN	C169, C170	CEAS101M25	
	IC301	UPC4570C	C459, C460	CEAS102M50	
	Q327 - Q330, Q409, Q410	2SA1048	C307, C308	CEAS221M25	
	Q321, Q322	2SA970	C405 - C407	CEAS2R2M50	
	Q311 - Q314	2SA992	C467, C468	CEAS2R2M100	
	Q452	2SB1238X	C251	CEAS470M25	
	Q309, Q310, Q315, Q316	2SC1845	C317 - C320	CEAS470M50	
	Q319, Q320	2SC2240	C157, C158	CEAS471M6	
	Q317, Q318, Q331 - Q334	2SC2458	C325, C326	CEASR47M50	
	Q407, Q408	2SC2458	C115, C116, C321 - C324	CFTXA224J50	
	Q301 - Q304	2SC2878	C469, C470	CFTXA823J50	
	Q451	2SC4793	C165, C166	CKCYB222K50	
	Q102, Q104, Q153, Q403 - Q406	2SK1132	C401 - C404	CKCYB332K500	
	Q414	2SK1132	C117, C118, C171, C327, C409	CKCYF473Z50	
	Q401, Q402, Q413	DTA114ES	C453, C454	CKCYF473Z50	
	Q101, Q103, Q151	DTA124ES	C172 - C174	CKPUYB102K50	
	Q152, Q251	DTC124ES	C159, C160	CQMA243J50	
	Q411, Q412	DTC143ES	C161, C162	CQMA823J50	
	Q323, Q324	IRF540	RESISTORS		
	Q325, Q326	IRF9540	Δ	R363, R364	RD1/2PM152J
	D451	D5SBA20	Δ	R133, R134, R171, R172	RD1/4MUF101J
	D151, D301 - D306, D309 - D314	HSS104-02	Δ	R317, R318, R351 - R354, R417	RD1/4MUF101J
	D307, D308	HZS9A1L	Δ	R452	RD1/4MUF101J
	D454	MTZJ33B	Δ	R339 - R346	RD1/4MUF221J
	D453	MTZJ36D	Δ	R331 - R334	RD1/4MUF391J
	D455	MTZJ4.7A	Δ	R125, R126	RD1/4MUF821J
	D457 - D460	S5688G	Δ	R315, R316	RD1/4PM561J
COILS AND FILTERS					
	L151 - L154	LAU221J	Δ	R367, R368	RD1/4PMF100J
SWITCHES AND RELAYS					
	RY403	ASR1035	Δ	R355, R356	RD1/4PMF222J
	RY401, RY402	ASR7001	Δ	R458, R459	RD1/4PMF2R2J
	RY101, RY102 (12V/960Ω)	RSR1026	Δ	R461	RD1/4PMF470J
CAPACITORS					
	C461 (1μF/100V)	ACH1237	Δ	R361, R362	RD1/4PMF4R7J
	C301, C302, C457, C458 (3.3μF/25V)	ACH7027	Δ	R462	RD1/4PU100J
	C451 (15000pF/42V)	ACH7046	Δ	R357 - R360	RFA1/4PS101J
	C452 (15000pF/42V)	ACH7047	Δ	R349, R350	RN1/6PQ2001F
	C101, C102, C105, C106	CCCSL101J50	Δ	R451	RS1MMF330J
	C109, C110, C113, C114	CCCSL101J50	Δ	R413 - R416	RS1MMF22J
	C303, C304	CCCSL221K500	Δ	R453	RS2MMF122J
	C313 - C316	CCCSL330K500	Δ	R454	RS2MMF182J
	C163, C164	CCCSL390J50	Δ	R403, R404	RS2MMF331J
	C153, C154	CCCSL391J50	Δ	VR301, VR302 (2.2kΩ, 0.1W)	RCP1019
OTHERS					
	CN202 CABLE HOLDER(3P) CONNECTOR	51063 - 0305 9604S - 21C	Other Resistors		
	SCREW	ABA - 298	RD1/4PU□□□		
	SCREW (STEEL)	ABA1007			
	SCREW	ABA1052			
	CN101, CN102 PIN JACK(8P)	AKB7023			
	SPEAKER TERMINAL 8 - P	AKE1011			
	HEAT SINK FITTING	ANG7095			
	HEAT SINK B	ANH1021			
	HEAT SINK	ANH1150			

Mark No.	Description	Parts No.
	HEAT SINK L	ANH7044
J2	JUMPER WIRE	D15A03-075-2651
CN204	4P PLUG	KM200IB4
CN203	19P PLUG	KM200TA19
CN401	CONNECTOR(3P)	KPE3
JA401	JACK	RKN1004
	PCB BINDER	VEF1040
KN101, KN201	EARTH METAL FITTING	VNF1084
KN301, KN302, KN451	EARTH METAL FITTING	VNF1084

VOLUME ASSY

SEMICONDUCTORS

Q501 - Q510	2SK246
Q512	DTA124ES
Q511, Q513, Q514	DTC124ES
D501 - D504, D512, D513	HSS104 - 02
D505 - D510	HSS104 - 02

CAPACITORS

C501, C502	CCCSL471J50
C503, C504	CFTXA823J50
C511	CKCYF473Z50

RESISTORS

VR501	VARIABLE RESISTOR	ACX1090
	Other Resistors	RD1/4PU□□□J

OTHERS

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

FRONT L ASSY

SEMICONDUCTORS

IC751	UPC4570C
Q751, Q752	2SC1845
Q702, Q703	2SC2458
Q701, Q704 - Q707	DTC124ES
D701, D704 - D706	BR3361XJ65A
D702	HSS104 - 02

SWITCHES AND RELAYS

S701 - S704	ASG1034
-------------	---------

CAPACITORS

C701 (3.3μF/25V)	ACH7027
C753, C754	CCCSL151J50
C751, C752, C755, C756	CEAS100M50
C761, C762	CEASR10M50
C759, C760	CEASR47M50
C757, C758	CFTXA153J50
C765	CKCYF473Z50

RESISTORS

R771, R772	RD1/4MUF101J
VR751, VR752 (30kΩ - B5X2)	ACS7017
Other Resistors	RD1/4PU□□□J

OTHERS

CN701	CABLE HOLDER(7P) CONNECTOR(15P)	51063 - 0705 KPE15
-------	------------------------------------	-----------------------

5. ADJUSTMENTS

1) IDLE CURRENT ADJUSTMENT

1. Connect the measuring instrument as Fig.5-1. (R413 or R414)
2. Set the VOLUME CONTROL to minimum, BASS TONE CONTROL to center, TREBLE TONE CONTROL to center, BALANCE CONTROL to center and REC SELECTOR SWITCH to off. 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 R413 (R414) becomes $16\text{mV} \pm 1\text{mV}$. (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 R413 (R414) becomes $11\text{mV} \pm 1\text{mV}$.

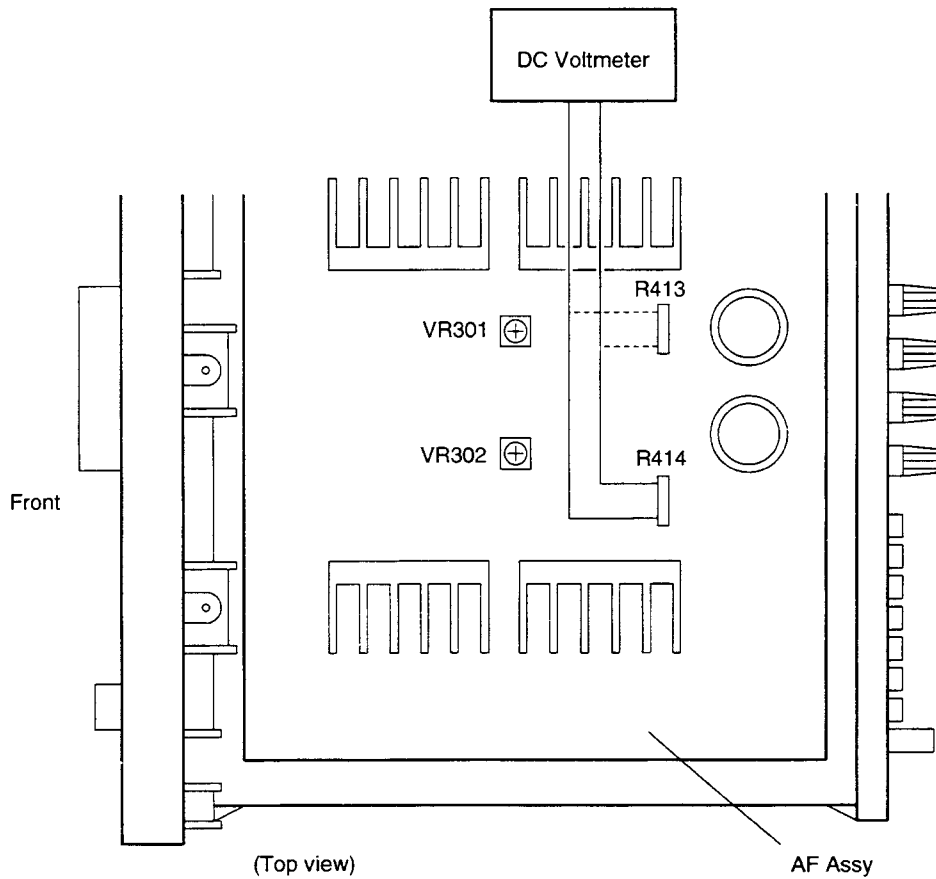
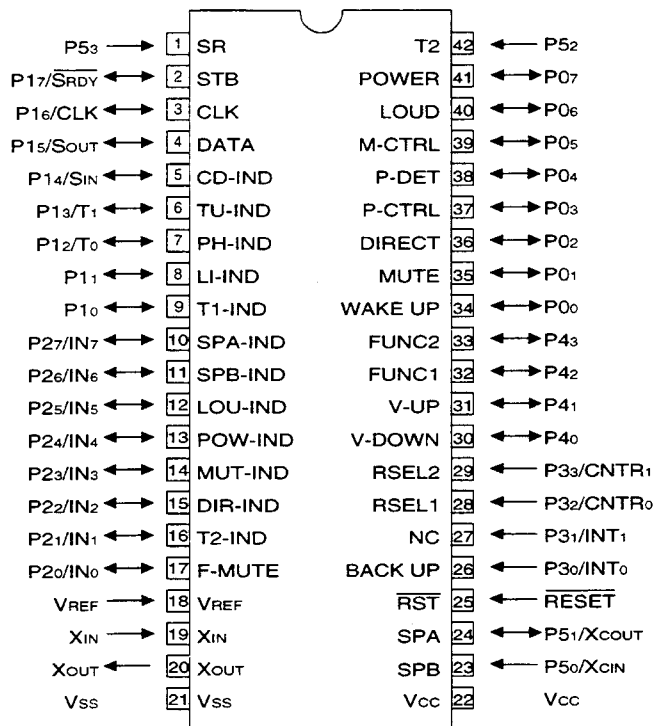


Fig.5-1 Adjustment Method

6. IC INFORMATION

- PD5369A (FRONT R ASSY : IC601)
- REMOTE CONTROL AMP MICROCOMPUTER
- Pin Assignment (Top view)

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

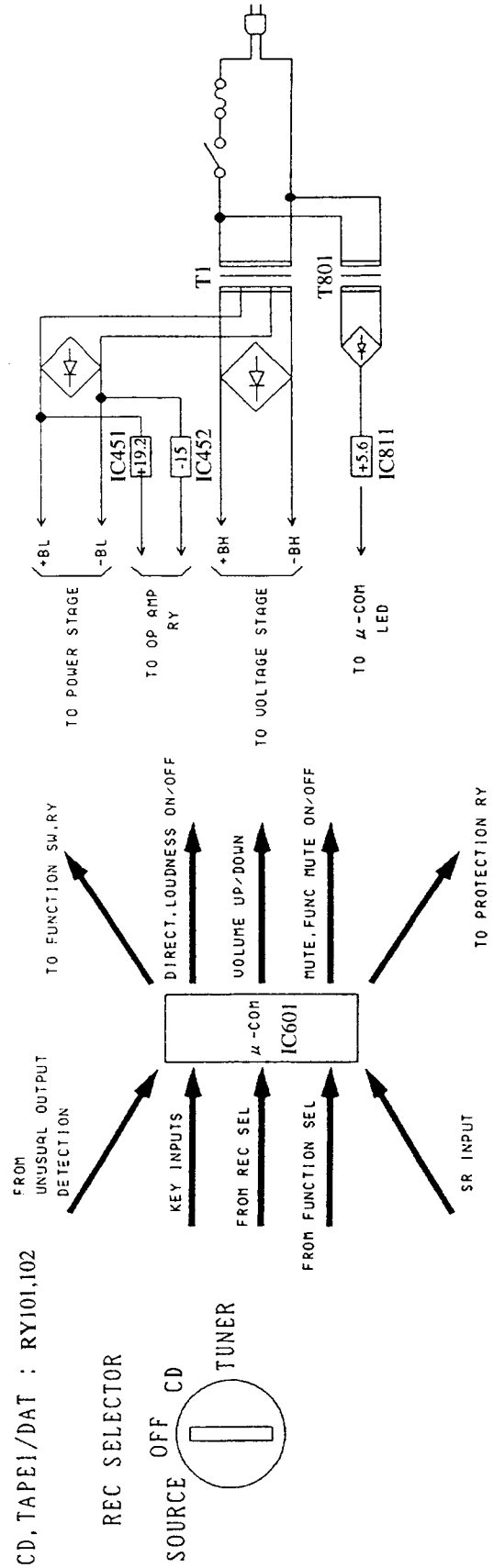
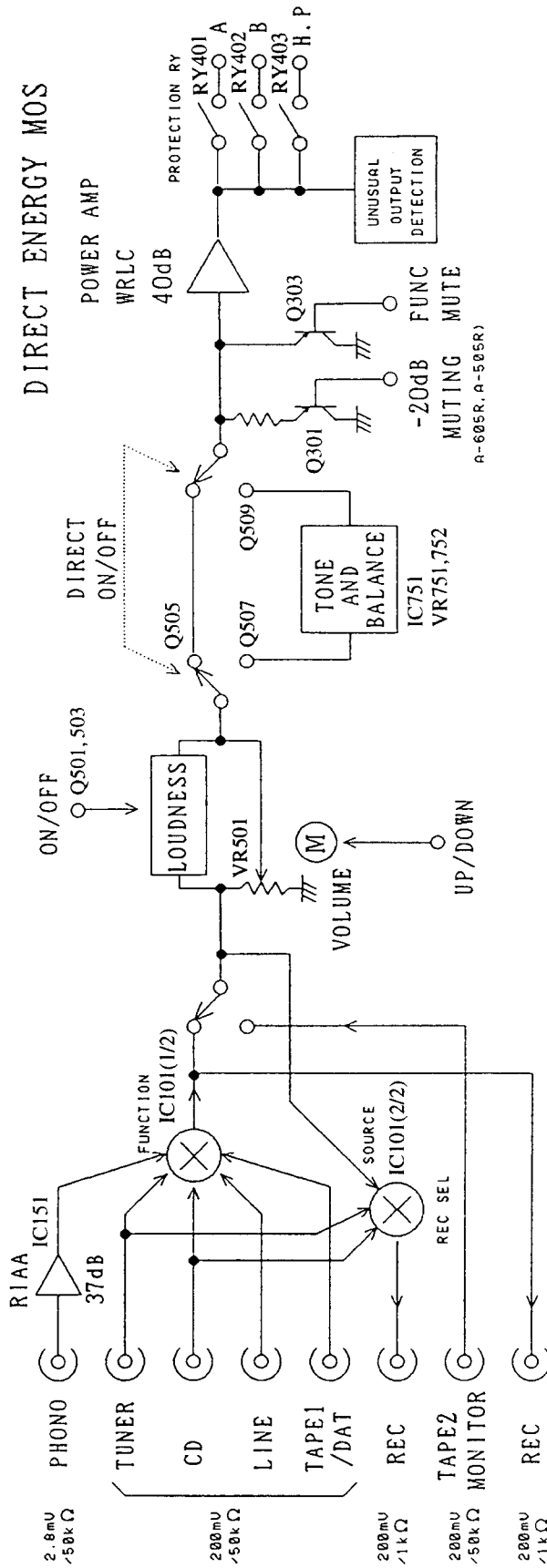


● Pin Function

No.	Pin name	I/O	Function
1	P5 ₃	I	Remote control signal input pin.
2	P1 ₇ /SRDY	O	STB for TC9163N.
3	P1 ₆ /CLK	O	CLOCK for TC9163N.
4	P1 ₅ /SOUT	O	DATA for TC9163N.
5	P1 ₄ /SIN	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	VREF	I	Pulls up to 5V.
19	XIN	I	4.19MHz .
20	XOUT	O	Ceramic vibrating and connecting terminal.
21	VSS	-	Digital GND.
22	VCC	-	Power supply +5V.
23	P5 ₀ /XCIN	I	SPEAKER-B KEY input.

No.	Pin name	I/O	Function
24	P5 ₁ /XCOUT	I	SPEAKER-A KEY input.
25	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. BLOCK DIAGRAM



8. FOR A-605R/HY/GR, SD, HV, A-605R-G/HY/EW, A-505R/HY/EW, HY/GR, A-405R/HY/EW, HY/GR, HV AND A-405R-G/HY/EW TYPES

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 FOR A-605R/HY/GR, SD, HV AND A-605R-G/HY/EW

A-605R/HY/GR, SD, HV, A-605-G/HY/EW and A-605R/HY/EW have the same construction except for the following:

Mark	Symbol & Description	Part No.					Remarks
		A-605R /HY/EW	A-605R /HY/GR	A-605R /SD	A-605R /HV	A-605R-G /HY/EW	
NSP	CONTROL assembly	AWG7006	AWG7006	AWG7004	AWG7007	AWG7006	
	AC PRIMARY assembly	AWZ7944	AWZ7944	AWZ7946	AWZ7943	AWZ7944	
Δ	FU3 Fuse (T500mA)	AEK1051	AEK1051	AEK1051	Not used	AEK1051	*1
Δ	FU2 Fuse (T2A)	Not used	Not used	AEK1057	Not used	Not used	
Δ	AC power cord	ADG1154	ADG1154	ADG1158	ADG1156	ADG1154	
Δ	Fuse (T5A) (With in AC pulg)	Not used	Not used	Not used	AEK1046	Not used	
Δ	AC socket 3 - P	AKP - 502	AKP - 502	AKP - 515	Not used	AKP - 502	
Δ	T1 Power transformer (AC220 - 230V)	ATS7128	ATS7128	Not used	ATS7128	ATS7128	
Δ	T1 Power transformer (AC110V/120 - 127V/220V/240V)	Not used	Not used	ATS7129	Not used	Not used	
Δ	Swith (Main power)	ASH - 501	ASH - 501	Not used	ASH - 501	ASH - 501	
Δ	Voltage selector S1 (AC110V/120 - 127V/220V/240V)	Not used	Not used	AKX - 507	Not used	Not used	*1
Δ	Voltage selector S2 (AC110 - 127V/220V - 240V)	Not used	Not used	AKX1004	Not used	Not used	*1
	Rear panel	ANC7424	ANC7424	ANC7425	ANC7426	ANC7424	
	Hinge L	AMR7115	AMR7115	AMR7115	AMR7115	AMR7118	
	Hinge R	AMR7116	AMR7116	AMR7116	AMR7116	AMR7119	
	Panel stopper mould	AMR7117	AMR7117	AMR7117	AMR7117	AMR7120	
	Name plate	VAM1032	VAM1032	VAM1032	VAM1032	VAM1051	
	Rotary knob C	AAB7089	AAB7089	AAB7089	AAB7089	AAB7094	
	Rotary knob L	AAB7090	AAB7090	AAB7090	AAB7090	AAB7096	
	Rotary knob B	AAB7091	AAB7091	AAB7091	AAB7091	AAB7095	
	Speaker button	AAD7290	AAD7290	AAD7290	AAD7290	AAD7298	
	Selfillmi button A	AAD7291	AAD7291	AAD7291	AAD7291	AAD7299	
	Selfillmi button B	AAD7292	AAD7292	AAD7292	AAD7292	AAD7300	
	Power button	AAD7293	AAD7293	AAD7293	AAD7293	AAD7301	
	Muting button	AAD7294	AAD7294	AAD7294	AAD7294	AAD7302	
	Top cover	AME1086	AME1086	AME1086	AME1086	AME7370	
	Metal bonnet	ANE7119	ANE7119	ANE7119	ANE7119	ANE7128	
	Panel base	AMB7362	AMB7362	AMB7362	AMB7362	AMB7369	
	Door panel	ANB7050	ANB7050	ANB7050	ANB7050	ANB7056	
	Front panel	ANB7052	ANB7052	ANB7052	ANB7052	ANB7057	
	Screw (For bonnet)	BBT30P080FZK	BBT30P080FZK	BBT30P080FZK	BBT30P080FZK	BBT30P080FNI	
	Operating instructions (English/French/German/Italian/Swedish/Spanish/Dutch/Portuguese)	ARE7077	Not used	Not used	Not used	ARE7077	

Mark	Symbol & Description	Part No.					Remarks
		A-605R /HY/EW	A-605R /HY/GR	A-605R /SD	A-605R /HV	A-605R-G /HY/EW	
NSP	Operating instructions (German)	Not used	ARC7125	Not used	Not used	Not used	*2
	Operating instructions (English/Spanish/Chinese)	Not used	Not used	ARE7078	Not used	Not used	
	Operating instructions (English)	Not used	Not used	Not used	ARB7080	Not used	
	Remote control unit (CU – A013)	AXD7053	AXD7053	AXD7053	AXD7053	Not used	
	Remote control unit (CU – A015)	Not used	Not used	Not used	Not used	AXD7054	
	Packing case	AHD7308	AHD7308	AHD7326	AHD7308	AHD7315	
	Battery cover	AZN2249	AZN2249	AZN2249	AZN2249	AZN2250	
Air cap	Not used	Not used	Not used	AHG1087	Not used		

Notes *1 : Refer to page 4.
*2 : Refer to page 5.

AC PRIMARY ASSEMBLY

AWZ7946, AWZ7943 and AWZ7944 have the same construction except for the following:

Mark	Symbol & Description	Part No.			Remarks
		AWZ7944	AWZ7946	AWZ7943	
△	RY801 H3, H4 Fuse holder H5, H6 Fuse holder	ASR1044 Not used RKR1003	ASR1036 RKR1003 RKR1003	ASR1044 Not used Not used	*3

Note *3 : Refer to SCH-4.

8.2 FOR A-505R/HY/EW AND HY/GR

A-505R/HY/EW, HY/GR and A-605R/HY/EW have the same construction except for the following:

Mark	Symbol & Description	Part No.			Remarks
		A-605R /HY/EW	A-505R /HY/EW	A-505R /HY/GR	
NSP	CONTROL assembly	AWG7006	AWG7002	AWG7002	*4
	FRONT R assembly	AWZ8398	AWZ7935	AWZ7935	
NSP	AF COMPLEX assembly	AWK7307	AWK7308	AWK7308	
	AF assembly	AWZ7932	AWZ7933	AWZ7933	
	FRONT L assembly	AWZ8397	AWZ7938	AWZ7938	
△	T1 Power transformer (AC220 – 230V)	ATS7128	ATS7127	ATS7127	
	Pocket holder assembly	ANG1864	Not used	Not used	
	Foot	AMR1159	Not used	Not used	
	Insulator	Not used	PNW1912	PNW1912	
NSP	Screw (STEEL) (For foot)	ABA1004	Not used	Not used	
	Screw (For door panel)	ABA7023	Not used	Not used	
	Pocket spring	ABH7114	Not used	Not used	
	Cord with plug	ADH1003	Not used	Not used	
	Pocket lock	AMR2587	Not used	Not used	
	Hinge L	AMR7115	Not used	Not used	
	Hinge R	AMR7116	Not used	Not used	
	Panel stopper mould	AMR7117	Not used	Not used	
	Dumper	AXA7036	Not used	Not used	
	Rotary knob C	AAB7089	Not used	Not used	

Mark	Symbol & Description	Part No.			Remarks
		A-605R /HY/EW	A-505R /HY/EW	A-505R /HY/GR	
	Rotary knob A Rotary knob L Top cover Metal bonnet Door panel Front panel Screw (For dumper) Operating instructions (English/French/German/Italian/ Swedish/Spanish/Dutch/Portuguese) Operating instructions (German) Packing case	Not used AAB7090 AME1086 ANE7119 ANB7050 ANB7052 BPZ20P080FMC ARE7077 Not used AHD7308	AAB7088 AAB7087 Not used ANE7118 Not used ANB7051 Not used ARE7077 Not used AHD7307	AAB7088 AAB7087 Not used ANE7118 Not used ANB7051 Not used Not used ARC7125 AHD7307	For rotary knob C

Note *4 : Refer to page 4.

FRONT R ASSEMBLY

AWZ7935 and AWZ8398 have the same construction except for the following:

Mark	Symbol & Description	Part No.		Remarks
		AWZ8398	AWZ7935	
	S602 VR601 (500kΩ - B)	ASD7009 ACS7015	ASD7001 ACS7014	

AF ASSEMBLY

AWZ7933 and AWZ7932 have the same construction except for the following:

Mark	Symbol & Description	Part No.		Remarks
		AWZ7932	AWZ7933	
△	D454 R458, R459 RY403 Heat sink fitting Heat sink L Heat sink M	MTZJ33B RD1/4PMF2R2J ASR1035 ANG7095 ANH7044 Not used	MTZJ30B RD1/4PMF100J ASR7001 Not used Not used ANH7043	For heat sink L

FRONT L ASSEMBLY

AWZ7938 and AWZ8397 have the same construction except for the following:

Mark	Symbol & Description	Part No.		Remarks
		AWZ8397	AWZ7938	
	VR751, VR752 (30kΩ - B5X2)	ACS7017	ACS7016	

8.3 FOR A-405R/HY/EW, HY/GR, HV AND A-405R-G/HY/EW

A-405R/HY/EW, HY/GR, HV, A-405-G/HY/EW and A-605R/HY/EW have the same construction except for the following:

Mark	Symbol & Description	Part No.					Remarks
		A-605R /HY/EW	A-405R /HY/EW	A-405R /HY/GR	A-405R /HV	A-405R-G /HY/EW	
NSP	CONTROL assembly	AWG7006	AWG7003	AWG7003	AWG7005	AWG7003	
	AC PRIMARY assembly	AWZ7944	AWZ7945	AWZ7945	AWZ7943	AWZ7945	
	FRONT R assembly	AWZ8398	AWZ7936	AWZ7936	AWZ7936	AWZ7936	
NSP	AF COMPLEX assembly	AWK7307	AWK7309	AWK7309	AWK7309	AWK7309	
	AF assembly	AWZ7932	AWZ7934	AWZ7934	AWZ7934	AWZ7934	
△	FRONT L assembly	AWZ8397	AWZ7938	AWZ7938	AWZ7938	AWZ7938	
△	FU3 Fuse (T500mA)	AEK1051	Not used	Not used	Not used	Not used	
△	AC power cord	ADG1154	ADG1154	ADG1154	ADG1156	ADG1154	
△	Fuse (T5A) (With in AC pulg)	Not used	Not used	Not used	AEK1046	Not used	
△	AC socket 3 – P	AKP – 502	Not used	Not used	Not used	Not used	
△	T1 Power transformer (AC220 – 230V)	ATS7128	ATS7126	ATS7126	ATS7126	ATS7126	
	Rear panel	ANC7424	ANC7423	ANC7423	ANC7426	ANC7423	
	Pocket holder assembly	ANG1864	Not used	Not used	Not used	Not used	
	Foot	AMR1159	Not used	Not used	Not used	Not used	
	Insurator	Not used	PNW1912	PNW1912	PNW1912	PNW1912	*5
	Screw (STEEL) (For foot)	ABA1004	Not used	Not used	Not used	Not used	
	Screw (For door panel)	ABA7023	Not used	Not used	Not used	Not used	
	Pocket spring	ABH7114	Not used	Not used	Not used	Not used	
NSP	Cord with plug	ADH1003	Not used	Not used	Not used	Not used	
	Pocket lock	AMR2587	Not used	Not used	Not used	Not used	
	Hinge L	AMR7115	Not used	Not used	Not used	Not used	
	Hinge R	AMR7116	Not used	Not used	Not used	Not used	
	Panel stopper mould	AMR7117	Not used	Not used	Not used	Not used	
	Dumper	AXA7036	Not used	Not used	Not used	Not used	
	Name plate	VAM1032	VAM1032	VAM1032	VAM1032	VAM1051	
	Rotary knob C	AAB7089	Not used	Not used	Not used	Not used	
	Rotary knob A (For rotary knob C)	Not used	AAB7088	AAB7088	AAB7088	AAB7093	
	Rotary knob L	AAB7090	AAB7087	AAB7087	AAB7087	AAB7097	
	Rotary knob B	AAB7091	AAB7091	AAB7091	AAB7091	AAB7095	
	Speaker button	AAD7290	AAD7290	AAD7290	AAD7290	AAD7298	
	Selfillmi button A	AAD7291	AAD7291	AAD7291	AAD7291	AAD7299	
	Selfillmi button B	AAD7292	AAD7292	AAD7292	AAD7292	AAD7300	
	Power button	AAD7293	AAD7293	AAD7293	AAD7293	AAD7301	
	Muting button	AAD7294	Not used	Not used	Not used	Not used	
	Top cover	AME1086	Not used	Not used	Not used	Not used	
	Metal bonnet	ANE7119	ANE7118	ANE7118	ANE7118	ANE7127	
	Panel base	AMB7362	AMB7362	AMB7362	AMB7362	AMB7369	
	Door panel	ANB7050	Not used	Not used	Not used	Not used	
	Front panel	ANB7052	ANB7049	ANB7049	ANB7049	ANB7058	
	Screw (For dumper)	BPZ20P080FMC	Not used	Not used	Not used	Not used	
	Screw (For bonnet)	BBT30P080FZK	BBT30P080FZK	BBT30P080FZK	BBT30P080FZK	BBT30P080FNI	
	Operating instructions (English/French/German/Italian/ Swedish/Spanish/Dutch/Portuguese)	ARE7077	ARE7077	Not used	Not used	ARE7077	
	Operating instructions (German)	Not used	Not used	ARC7125	Not used	Not used	
	Operating instructions (English)	Not used	Not used	Not used	ARB7080	Not used	
	Remote control unit (CU – A013)	AXD7053	AXD7053	AXD7053	AXD7053	Not used	
	Remote control unit (CU – A015)	Not used	Not used	Not used	Not used	AXD7054	
	Packing case	AHD7308	AHD7306	AHD7306	AHD7306	AHD7316	
	Battery cover	AZN2249	AZN2249	AZN2249	AZN2249	AZN2250	
NSP	Air cap	Not used	Not used	Not used	AHG1087	Not used	*6

Notes *5 : Refer to page 4.
*6 : Refer to page 5.

AC PRIMARY ASSEMBLY

AWZ7945, AWZ7943 and AWZ7944 have the same construction except for the following:

Mark	Symbol & Description	Part No.			Remarks
		AWZ7944	AWZ7945	AWZ7943	
△	CN802 AC socket 1 – P H5, H6 Fuse holder	Not used RKR1003	AKP1034 Not used	Not used Not used	

FRONT R ASSEMBLY

AWZ7936 and AWZ8398 have the same construction except for the following:

Mark	Symbol & Description	Part No.		Remarks
		AWZ8398	AWZ7936	
	Q611 R621 S602 S605 VR601 (500kΩ – B)	DTA124ES RD1/4PU223J ASD7009 ASG1034 ACS7015	Not used Not used ASD7001 Not used ACS7014	

AF ASSEMBLY

AWZ7934 and AWZ7932 have the same construction except for the following:

Mark	Symbol & Description	Part No.		Remarks
		AWZ7932	AWZ7934	
	C451 C452 C464 C465, C466 D453	ACH7046 (15000µF/50V) ACH7047 (15000µF/50V) Not used CEAS100M50 MTZJ36D	ACH7048 (10000µF/42V) ACH7049 (10000µF/42V) CEAS100M50 Not used Not used	*7
	D454 D455 D456 IC452 Q301, Q302	MTZJ33B MTZJ4.7A Not used NJM79L15A 2SC2878	Not used MTZJ4.7C MTZJ10C NJM79M05FA Not used	*7
	Q451 Q452 R301, R302 R303, R304 R319	2SC4793 2SB1238X RD1/4PU102J RD1/4PU181J RD1/4PU824J	Not used Not used Not used Not used Not used	
△ △ △ △	R451 R452 R453 R454 R460	RS1MMF330J RD1/4MUF101J RS2MMF122J RS2MMF182J Not used	RS1MMF100J RD1/4MUF4R7J Not used Not used RD1/4PU472J	*7
	RY403 Heat sink fitting Heat sink Heat sink L Heat sink M	ASR1035 ANG7095 ANH1150 ANH7044 Not used	ASR7001 Not used Not used Not used ANH – 697	For heat sink
	Heat sink S	Not used	ANH7042	For heat sink L

Note *7 : Refer to SCH-2.

FRONT L ASSEMBLY

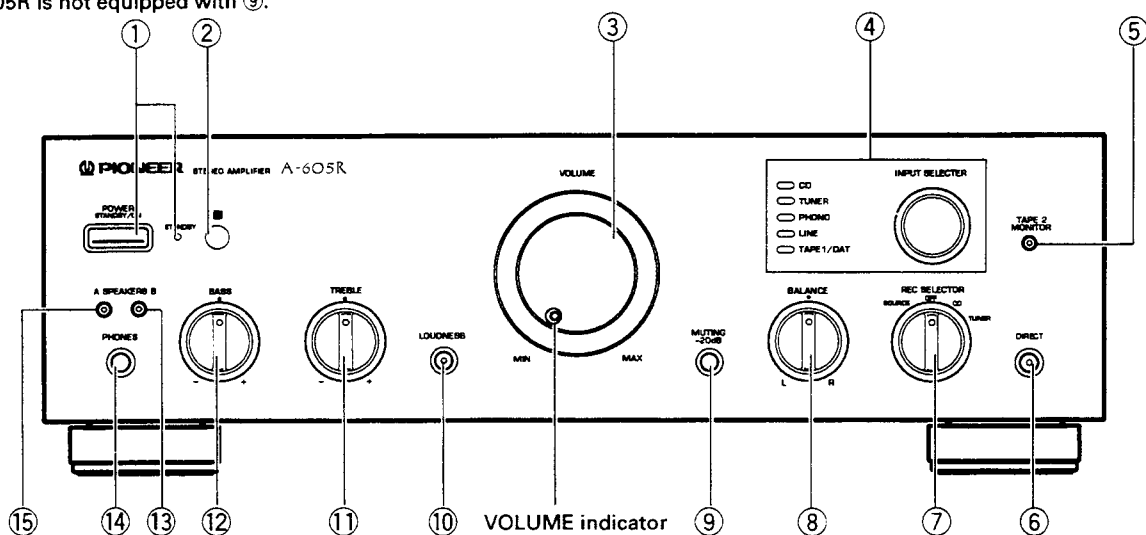
AWZ7938 and AWZ8397 have the same construction except for the following:

Mark	Symbol & Description	Part No.		Remarks
		AWZ8397	AWZ7938	
	VR751, VR752 (30kΩ - B5X2)	ACS7017	ACS7016	

9. PANEL FACILITIES

[FRONT PANEL]

The illustration shows mode A-605R.
The illustration shows the hinged panel open.
Model A-405R is not equipped with ⑨.



① POWER STANDBY/ON switch/indicator

This is the switch for electric power.

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 STANDBY/ON switch to ON.

② Remote control sensor window

③ VOLUME control

Use to adjust the volume level.

NOTE:

The TONE effect functions regardless of volume levels.

④ INPUT SELECTOR knob/indicators

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

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

⑤ 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.)

⑥ 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.

⑦ REC SELECTOR switch (For TAPE 1/DAT terminals)

When this switch is set to a position other than SOURCE or OFF, the equipment selected by the REC SELECTOR switch can be recorded, irrespective of the INPUT SELECTOR knob and the DIRECT button settings (TAPE 1/DAT 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/DAT is output. Set to this position when not recording; the cassette deck will be disconnected, improving sound quality.

CD : To record from the equipment connected to the CD terminals.

TUNER : To record from the equipment connected to the TUNER terminals.

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).

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 button is in the on position.

⑨ MUTING button/indicator (A-605R and A-505R only)

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.

⑩ 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.

⑪ 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.

⑫ 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.

⑬ SPEAKERS B selector 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.

⑭ PHONES jack

When using headphones, insert the plug into this jack.

⑮ SPEAKERS A selector button/indicator

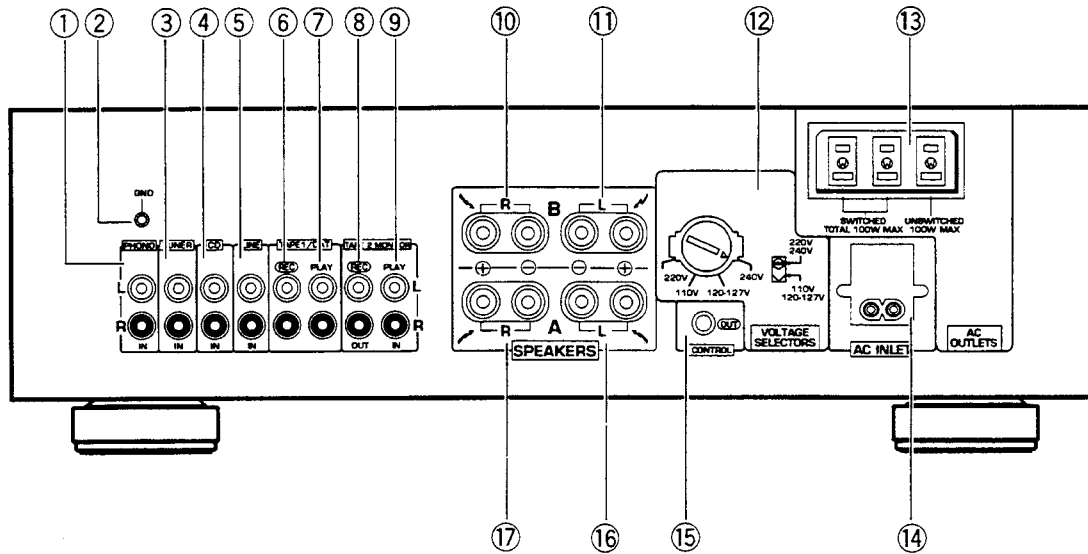
Use this button to listen to the speaker system connected to the SPEAKERS A terminals.


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.

[REAR PANEL]

Illustration shows Multi-voltage model.



- | | |
|--|--|
| <ul style="list-style-type: none"> ① PHONO terminals ② GND (Turntable ground) terminal ③ TUNER terminals ④ CD terminals ⑤ LINE terminals ⑥ TAPE 1/DAT REC terminals ⑦ TAPE 1/DAT PLAY terminals ⑧ TAPE 2 MONITOR REC (OUT) terminals ⑨ TAPE 2 MONITOR PLAY (IN) terminals | <ul style="list-style-type: none"> ⑩ SPEAKERS B terminals (Right channel) ⑪ SPEAKERS B terminals (Left channel) ⑫ VOLTAGE SELECTORS ⑬ AC OUTLETS ⑭ 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. ⑮ CONTROL OUT jack
This jack is for outputting control signals when operating other components bearing the  mark with the amplifier's remote control unit. ⑯ SPEAKERS A terminals (Left channel) ⑰ SPEAKERS A terminals (Right channel) |
|--|--|

CAUTION:
DO NOT CONNECT MONITOR OR TV SET TO THE AC OUTLET.

10. SPECIFICATIONS

Amplifier Section

Continuous power output

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

[A-605R]

T.H.D. 0.06 %, 8 Ω 60 W + 60 W*

T.H.D. 0.09 %, 4 Ω 90 W + 90 W*

[A-405R]

T.H.D. 0.06 %, 8 Ω 45 W + 45 W*

T.H.D. 0.09 %, 4 Ω 65 W + 65 W*

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

[A-605R]

T.H.D. 1.0 %, 8 Ω 75 W + 75 W

T.H.D. 1.0 %, 4 Ω 120 W + 120 W

[A-405R]

T.H.D. 1.0 %, 8 Ω 60 W + 60 W

T.H.D. 1.0 %, 4 Ω 90 W + 90 W

Dynamic power output (on EIA dynamic test signal)

[A-605R]

4 Ω/ 2 Ω 140 W/ 190 W

[A-405R]

4 Ω/ 2 Ω 100 W/ 115 W

Total harmonic distortion**

20 Hz to 20 kHz, 30 W, 8 Ω 0.05 %*

Input sensitivity/ impedance

PHONO (MM) 2.8 mV/ 50 kΩ

CD, TUNER, LINE, TAPE 1/DAT,

TAPE 2 MONITOR 200 mV/ 50 kΩ

PHONO overload level (MM)

1 kHz, T.H.D. 0.1 % 150 mV

Output level/ impedance

TAPE 1/DAT, 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/DAT,

TAPE 2 MONITOR 5 Hz to 150 kHz ± 0.5 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)

[A-605R]

PHONO (MM, 5 mV input) 88 dB*

CD, TUNER, LINE, TAPE 1/DAT,

TAPE 2 MONITOR 108 dB*

[A-405R]

PHONO (MM, 5 mV input) 86 dB*

CD, TUNER, LINE, TAPE 1/DAT,

TAPE 2 MONITOR 106 dB*

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

PHONO (MM) 71 dB/ 67 dB*

CD, TUNER, LINE, TAPE 1/DAT,

TAPE 2 MONITOR 95 dB/ 71 dB*

MUTING (volume control set at - 30 dB position)

[A-605R and A-505R only] - 20 dB

Power Supply/ Miscellaneous

Power requirements AC 230 Volts, 50/ 60 Hz

Power consumption

[A-605R] 550 W

[A-405R] 380 W

Dimensions (including knobs and other protruding parts)

[A-605R] 420 (W) × 344 (D) × 132 (H) mm

[A-405R] 420 (W) × 344 (D) × 125 (H) mm

Weight (without package)

[A-605R] 6.6 kg

[A-405R] 6.5 kg

Accessories

Remote control unit 1

Batteries (AA/R6P) 2

Operating instructions 1

Power cord 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.

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.