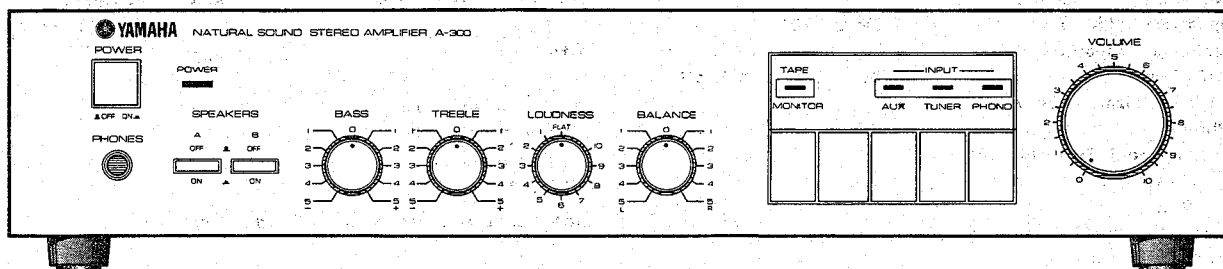


STEREO INTEGRATED AMPLIFIER

A-3000

SERVICE MANUAL

FRONT PANEL



CONTENTS

SPECIFICATIONS	1
REAR PANELS	2
INTERNAL VIEW	3
DISASSEMBLY PROCEDURES	3
ADJUSTMENTS	5
BLOCK DIAGRAM	5
PRINTED CIRCUIT BOARD	6
SCHEMATIC DIAGRAM	7

004504

SINCE 1887



YAMAHA

NIPPON GAKKI CO., LTD. HAMAMATSU, JAPAN

Printed in Japan 2.83. 2.6k 122

SPECIFICATIONS

Continuous Power Per Channel	
20Hz ~ 20kHz (0.05% THD, 8Ω)	30W + 30W
1kHz (0.05% THD, 8Ω)	32W + 32W
DIN Standard Output Power	
Per Channel	
1kHz (1% THD, 8Ω)	35W (G)(B)
Power Bandwidth	
(0.05% THD, 15W 8Ω)	10Hz ~ 50kHz
Damping Factor	
(50Hz, 8Ω)	better than 40
Input Sensitivity/Impedance	
Phono	2.5mV/47kΩ
AUX, Tape, Tuner	150mV/35kΩ
Input Sensitivity (New IHF)	
Phono	0.47mV
AUX, Tape, Tuner	28mV
Maximum Input Signal Level	
Phono (1kHz, 0.02% THD)	170mV
Output Level/Impedance	
Rec Out	150mV/470Ω
Headphone Jack Rated Output/ Impedance (0.05% THD, 8Ω)	
	500mV/220Ω
Frequency Response	
Aux, Tape, Tuner	20Hz ~ 20kHz, ± 0.5dB
RIAA Equalization Deviation	
Phono	± 0.5dB
Total Harmonic Distortion	
Aux, Tape, Tuner to Sp Out (14W/8Ω)	0.03%
Intermodulation Distortion	
Aux, Tape, Tuner Rated Output/8Ω	0.05%
Signal-to-Noise Ratio (IHF-A-Network)	
Phono (5mV, Input shorted)	88dB / 82dB (G)
Aux, Tape, Tuner (5.1kΩ)	98dB

Residual Noise (IHF A Network)	180μV
Tone Control Characteristics	
Bass boost/cut	± 10 ₅ dB (at 50Hz)
Bass turnover frequency	300Hz
Treble boost/cut	± 10 ₅ dB (at 10kHz)
Treble turnover frequency	3.0kHz
Continuous Loudness Control (Level-related equalization)	
Attenuation	20dB (at 1kHz)
Gain Tracking Error (0 to -60dB)	
	2dB
Power Supplies	
General model	AC110/120/220/240V, 60/50Hz
British and Australian models	240V, 50Hz
European model	220V, 50Hz
Power Consumption	
General model	120W
European, British and Australian models	180W
Dimensions (W x H x D)	
	435 x 92 x 293mm (17-1/8x3-5/8x11-1/2)"
Weight	
	5.2kg (11.5 lbs)

A: Australian model

G: European model

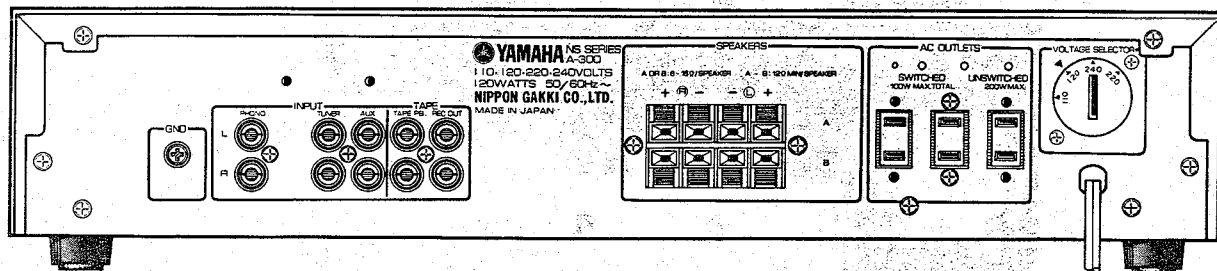
B: British model

R: General model

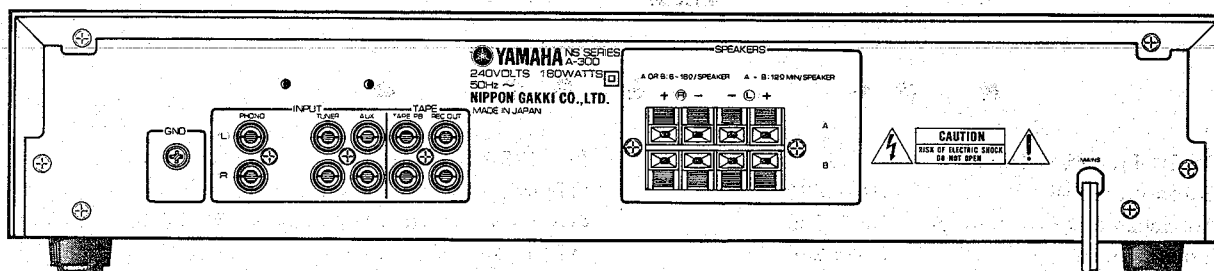
Specifications subject to change without notice.

REAR PANELS

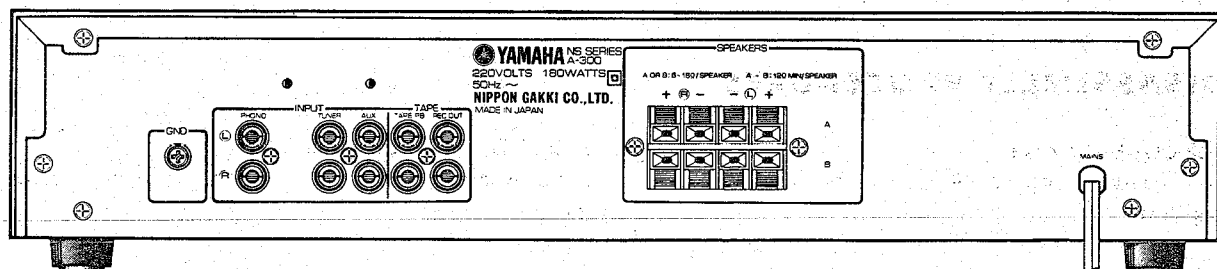
GENERAL MODEL



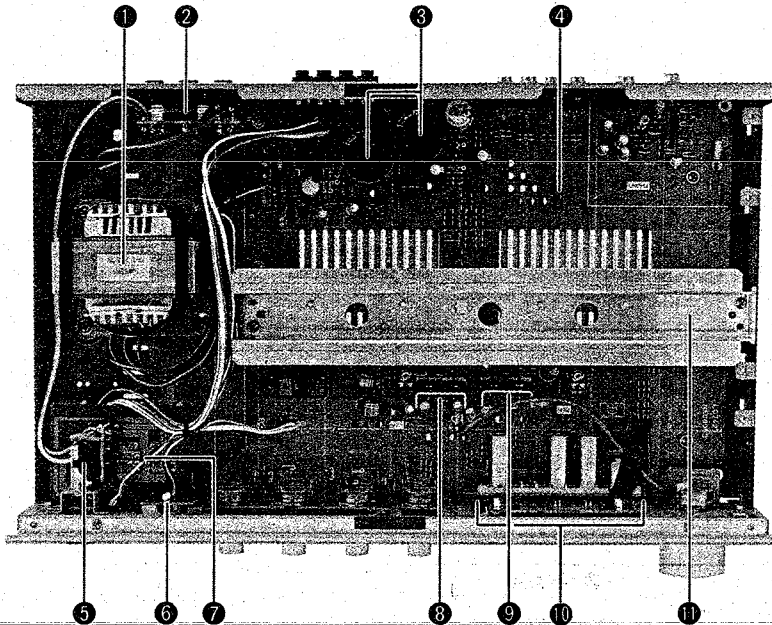
BRITISH & AUSTRALIAN MODELS



EUROPEAN MODEL



INTERNAL VIEW



1 POWER TRANSFORMER

European model : GA65991
 Australian and British models : GA66000
 General model : GA65930

2 FUSE (F103)

General model : T3A 250V

3 ELECTROLYTIC CAPACITOR

6800 μ F 40V : FZ00369

4 MAIN CIRCUIT BOARD

5 POWER SWITCH

6 POWER LED CIRCUIT BOARD

7 SPEAKER SWITCH CIRCUIT BOARD

8 PRE DRIVE IC (Lch)

μ PC1225H : iG06710

9 PRE DRIVE IC (Rch)

μ PC1225H : iG06710

10 LED UNIT

11 HEAT SINK

DISASSEMBLY PROCEDURES

1. TOP COVER removal

Remove screws ① through ⑥ in fig. 1 and then remove the top cover.

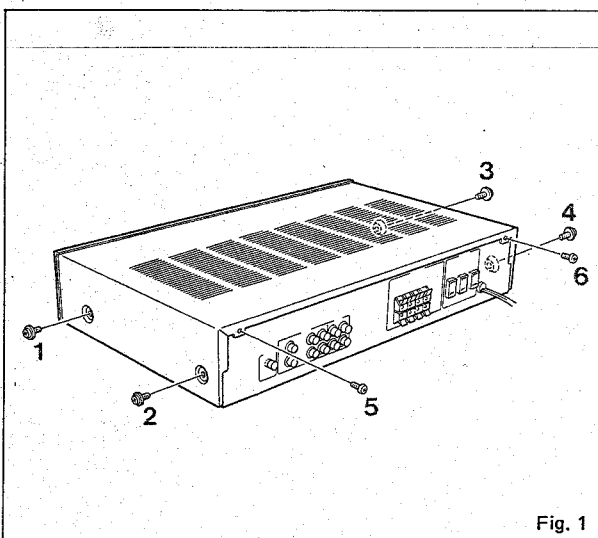


Fig. 1

2. BOTTOM COVER removal

Remove screws ① through ⑤ in fig. 2 and then remove the bottom cover.

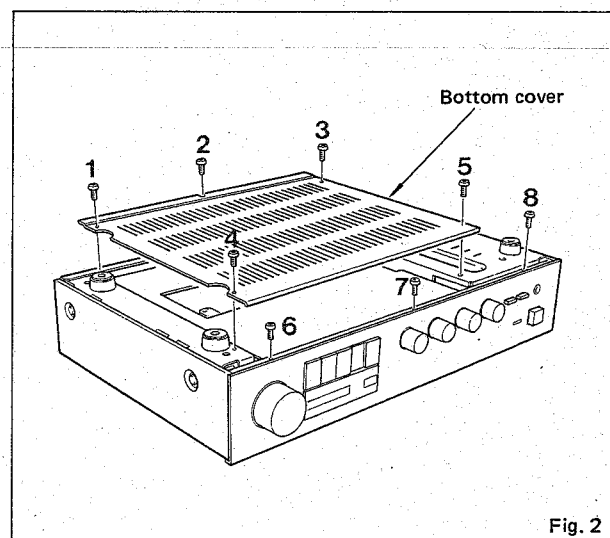


Fig. 2

3. FRONT PANEL removal

- a. Remove the knobs.
These are merely inserted, so you can remove them by pulling forward.
- b. Remove screws ⑥ through ⑧ in fig. 2 and screws ① and ② in fig. 3, and then remove the front panel.

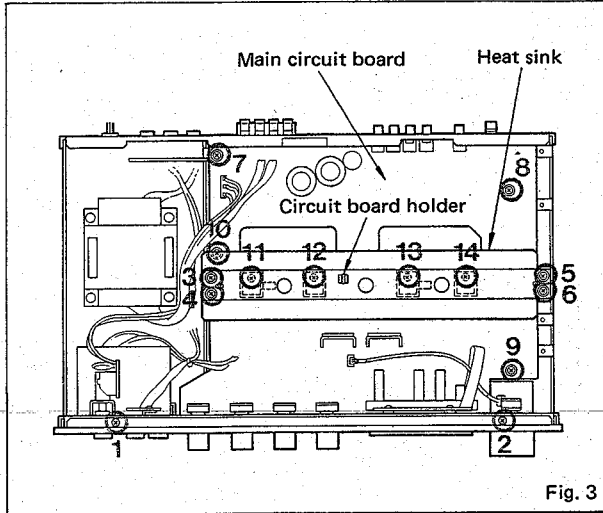


Fig. 3

4. BASS, TREBLE, LOUDNESS and BALANCE control replacement

- a. Remove the front panel.
- b. Remove the power LED circuit board by removing the LED holder and plastic rivet as shown in fig. 4.
- c. Remove screw ① and headphone jack attaching plate in fig. 4, and remove the speaker switch circuit board.
- d. Remove hexagonal nuts ⑦ through ⑩ in fig. 4.
- e. Remove screws ② through ⑥ in fig. 4 and then remove the sub frame.

In this condition, you can remove and replace each controls by unsoldering.

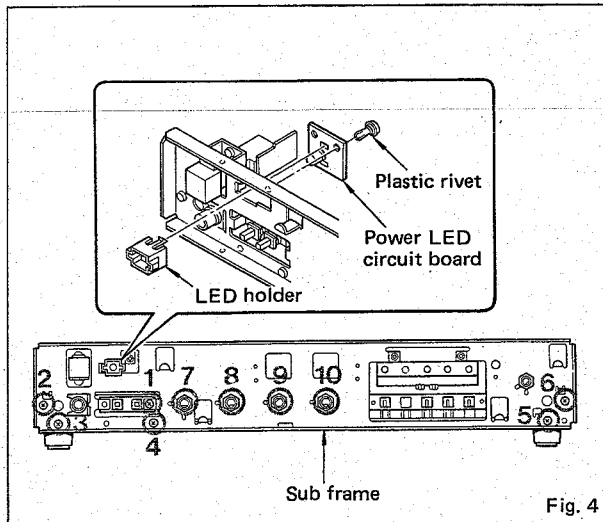


Fig. 4

5. MAIN CIRCUIT BOARD removal

- a. Disconnect the lead wires connected to the main circuit board.
- b. Remove screws (⑪ through ⑭ in fig. 3) by which power transistors are screwed down.
- c. Remove screws ③ through ⑥ in fig. 3 and then remove the heat sink by holding the circuit board holder with a plier or the like.
- d. Remove the sub frame as given in procedure 4 (control replacement).
- e. Remove screws ① through ⑤ in fig. 5.
- f. Remove screws ⑦ through ⑩ in fig. 3 and then remove the main circuit board.

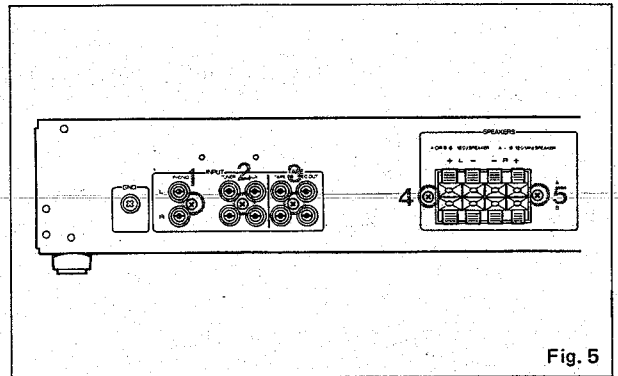
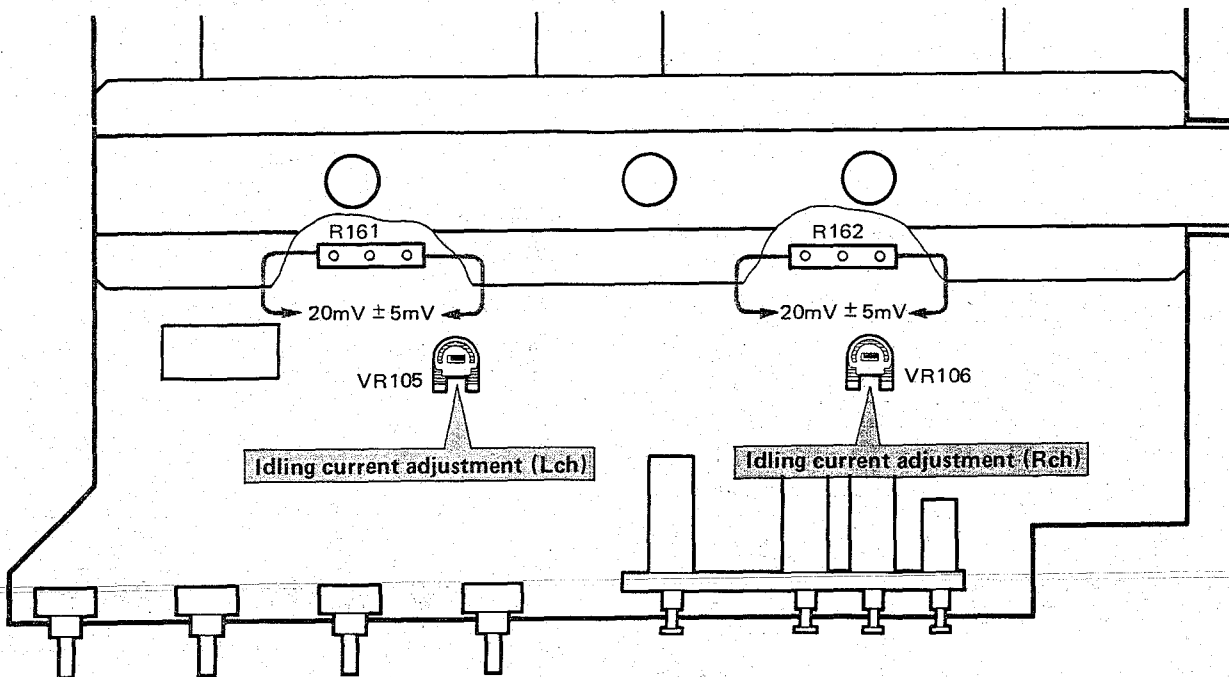


Fig. 5

ADJUSTMENTS

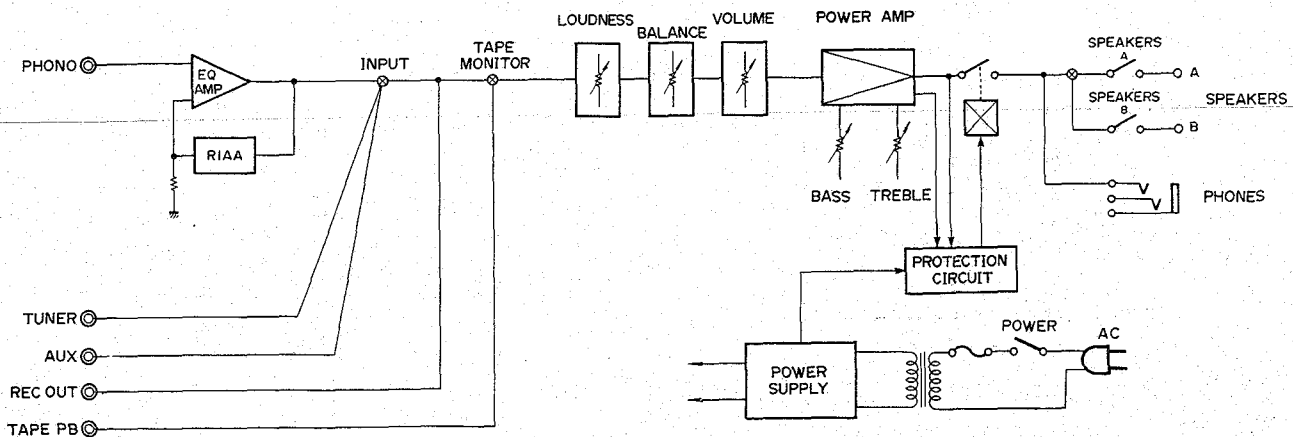


● IDLING CURRENT ADJUSTMENT

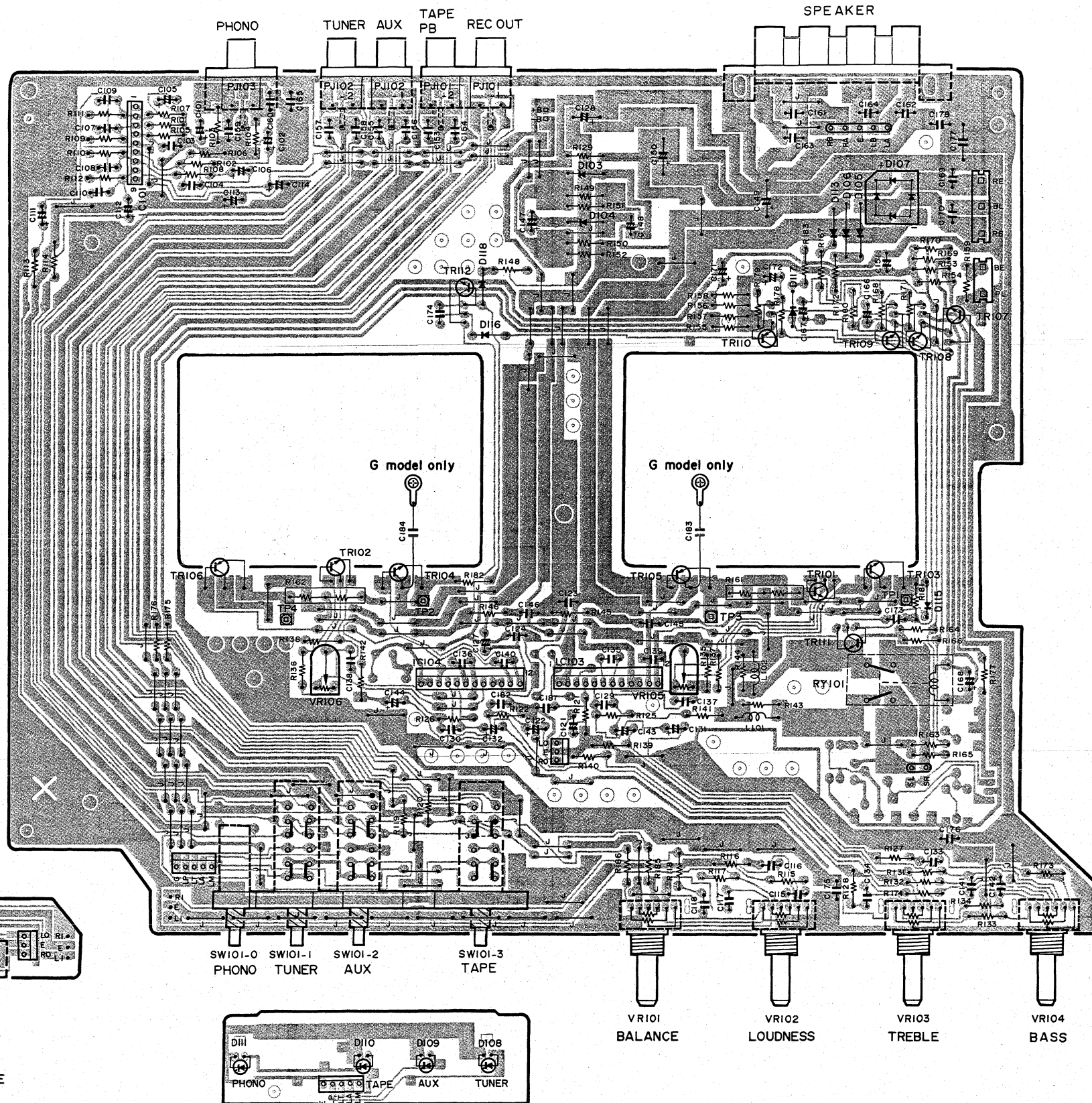
When replacing the power and drive transistors, adjust idling current. After the power has been turned on, age about 5 minutes in non loaded condition. Adjust VR105 (Lch) and VR106(Rch) so that the voltage across the terminals of R161 and 162 come to $20\text{mV} \pm 50\text{mV DC}$.

	Test points	Adjustment points	Rating
Lch	Across the terminals of R161	VR105	$20\text{mV} \pm 5\text{mV}$
Rch	Across the terminals of R162	VR106	$20\text{mV} \pm 5\text{mV}$

BLOCK DIAGRAM

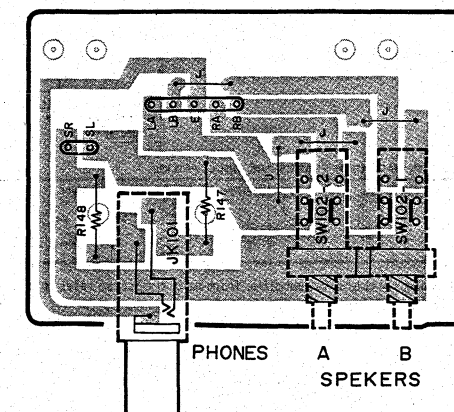
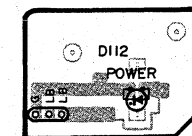
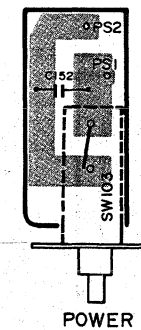
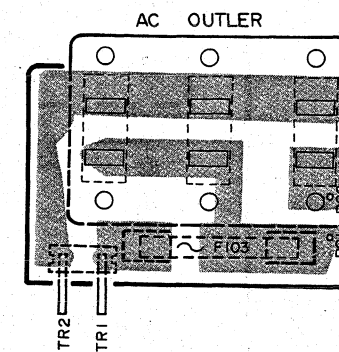


PRINTED CIRCUIT BOARD (Pattern side)

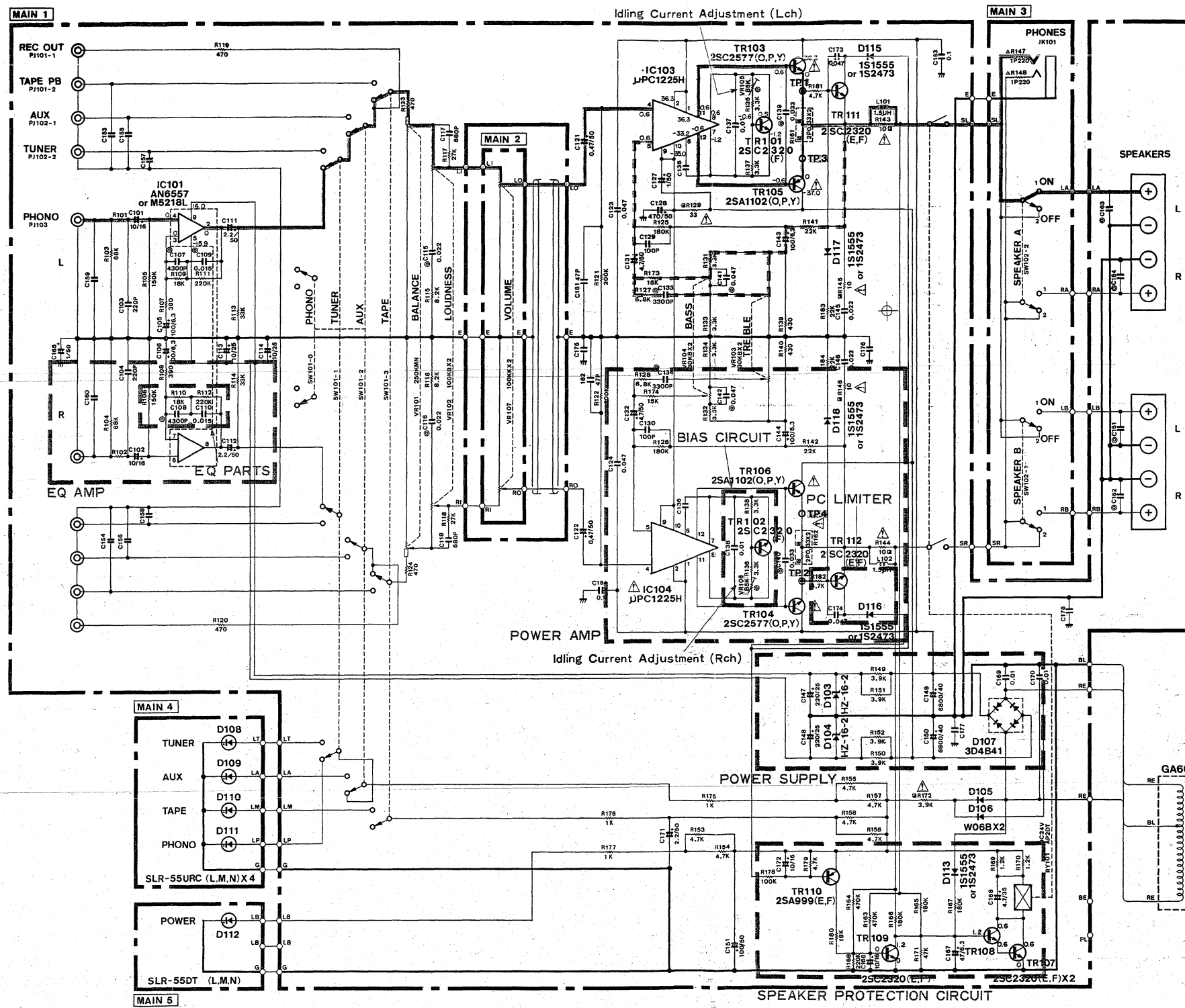


The following parts and values differ from each model, so refer to the corresponding column.

	R	G	A, B
R101, 102	100	2.2k	100
C135, 136	15p	27p/500	15p
C152	0.01		
C153 ~ 160		220p	
C161 ~ 164		4700p	
C175, 176		0.01	
C177, 178		0.1	
C183, 184		0.1	
SW103	KA80321		
F103	T3A 250V		
MAIN 6	Set		
MAIN 7	Set		

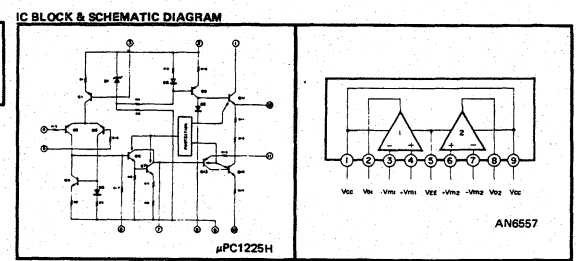
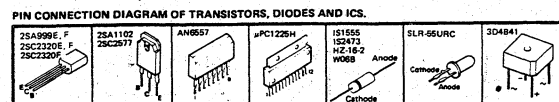
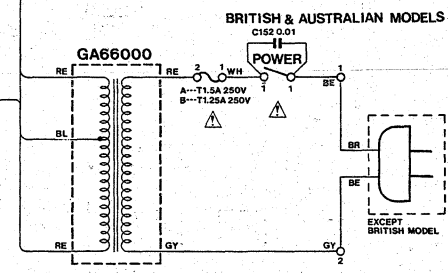


SCHEMATIC DIAGRAM



REMARKS	PARTS NAME	
NO MARK	ELECTROLYTIC CAPACITOR	#
NO MARK	CERAMIC CAPACITOR	#
⊙	POLYESTER FILM CAPACITOR	#

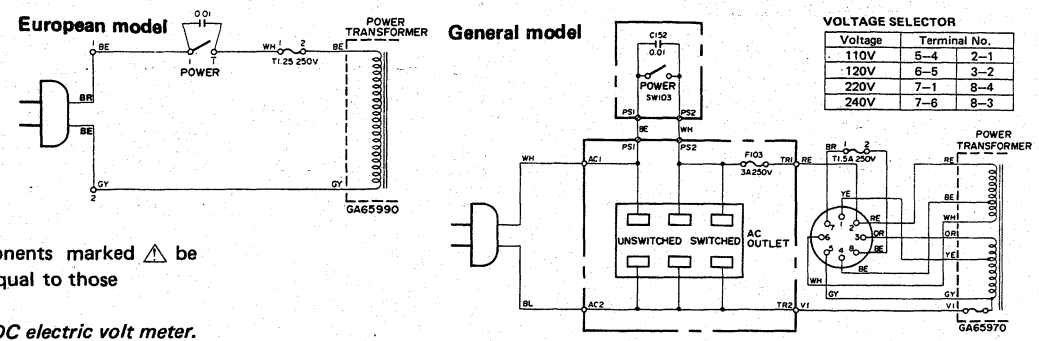
REMARKS	PARTS NAME
NO MARK	CARBON FILM RESISTOR
▲	METAL OXIDE FILM RESISTOR
■	METAL FILM RESISTOR
▲	METAL PLATE RESISTOR
⊙	FLAME PROOF CARBON FILM RESISTOR
⊙	SEMI VARIABLE RESISTOR



The following parts and values differ from each model, so refer to the corresponding column.

	R	G	A, B
R101, 102	100	2.2k	100
C135, 136	15p	27p/500	15p
C152	0.01		
C153 ~ 160		220p	
C161 ~ 164		4700p	
C175, 176		0.01	
C177, 178		0.1	
C183, 184		0.1	
SW103	KA80321		
F103	T3A, 250V		
MAIN 6	Set		
MAIN 7	Set		

WARNING
 UL Standard 1270 requires that components marked ▲ be replaced with parts having specifications equal to those originally installed.
 * All voltages are measured with a 10MΩ/V DC electric volt meter.
 * Schematic diagram is subject to change without notice.



PARTS LIST

A-300

STEREO INTEGRATED AMPLIFIER

■ CONTENTS

EXPLODED VIEW	1
PARTS LIST	2, 3
PARTS LIST (CIRCUIT BOARD)	4, 5

■ WARNING

UL Standard 1270 requires that components marked Δ be replaced with parts having specifications equal to those originally installed.

- Carbon resistors of this receiver are $\frac{1}{4}W$. There is no discription about them in this parts list. Use the "Part No.:" HJ350000 or equivalent.

J: Japanese model
A: Australian model
G: European model
B: British model
R: General model

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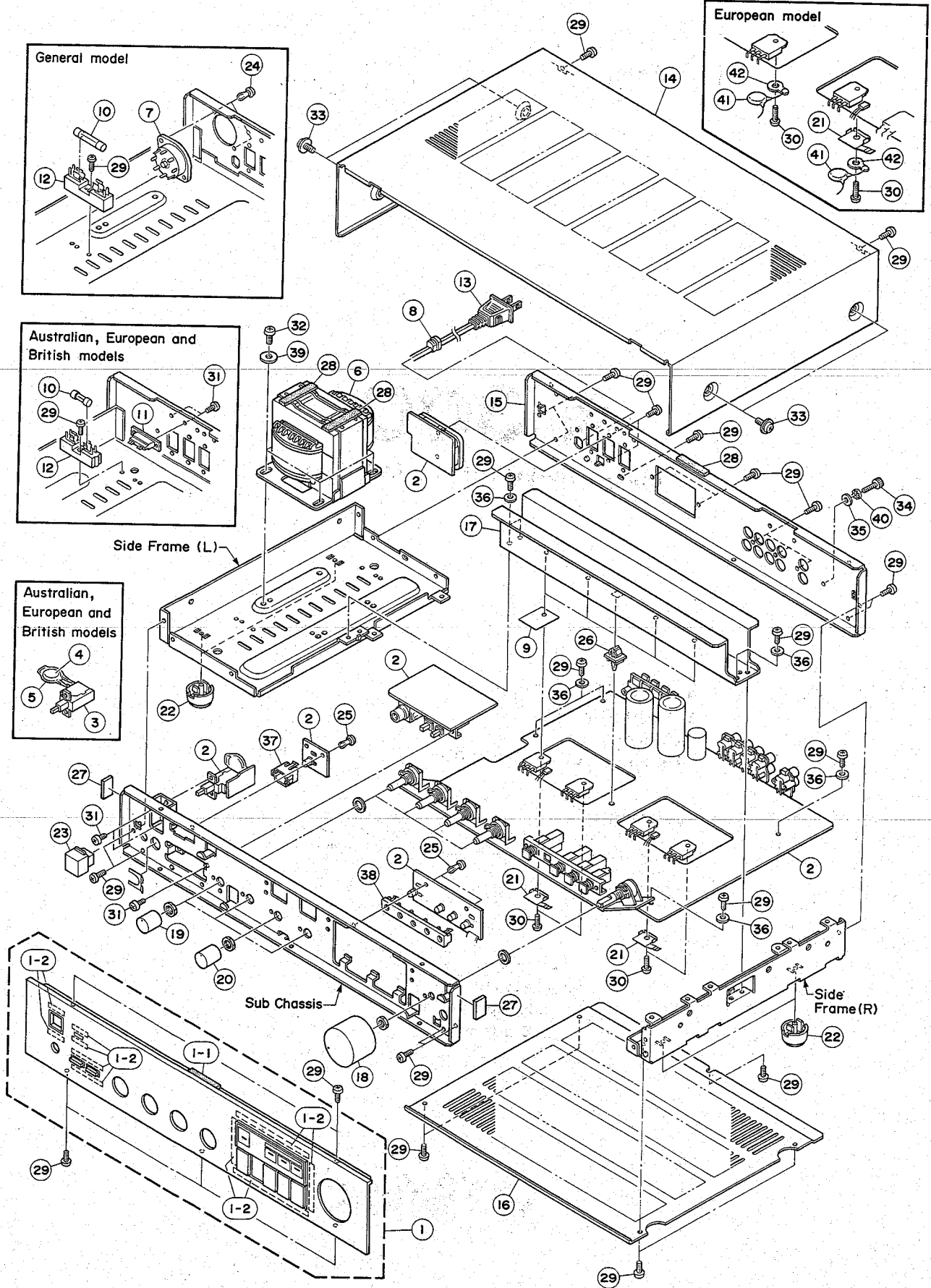
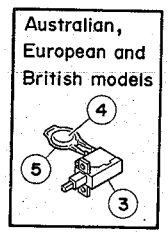
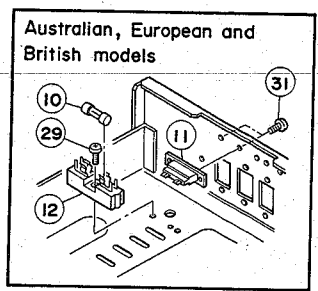
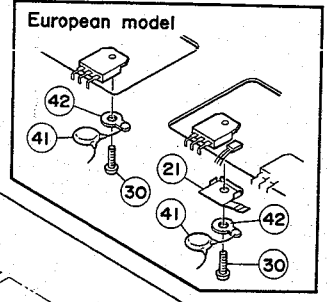
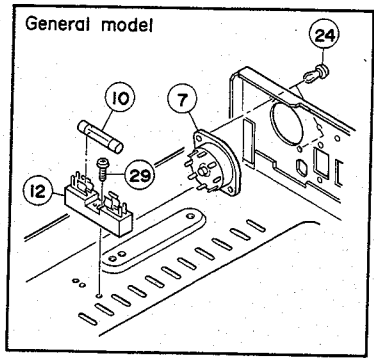


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004504

EXPLODED VIEW



PARTS LIST

Ref. No.	Part No.	Description	部 品 名	Remarks	Common Model	Markets	ランク
※	1	NB 60 89 20	Panel Unit	Silver	パネルユニット	A-305	J
※	※	NB 60 89 40	※	Black	※		R,G,A,B
	1-1	CB 61 03 50	Anti-Vibration Rubber		防 振 ゴ ム		T-20
	1-2	CB 07 41 90	Adhesive Tape		ダブルタックテープ		
※	2	NA 08 04 20	Main Circuit Board	Silver	メ イン シ ー ト		J
※	※	NA 08 04 60	※	Black	※		R
※	※	NA 08 04 70	※	※	※		G
※	※	NA 08 20 20	※	※	※		B,A
※	3	KA 80 32 10	Push Switch		プッシュスイッチ	POWER	A,G,B
※	4	Fi 38 41 00	Ceramic Cap	0.01 μ F	セ ラ コ ン		A,G,B
	5	CB 09 52 60	Cover		コンデンサーカバー		A,G,B
※	6	GA 65 92 00	Power Transformer		電 源 ト ラ ン ス		J
※	※	GA 65 99 10	※	※	※		G
※	※	GA 66 00 00	※	※	※		A,B
※	※	GA 65 93 00	※	※	※		R
	7	LB 20 14 80	Voltage Selector		電 圧 切 換 器		R
	8	CB 61 68 10	Cord Stopper	CM-22A	コ ー ド ス ト ッ パ ー		J
	※	CB 07 27 50	※	SR-4N-4	※		R,A,G,B
	9	iL 00 05 70	Mica Base	MT-100	マイカベース		
	10	KB 00 03 40	Fuse	T 1.5A 250V	ヒ ュ ー ズ		R,A
	※	KB 00 06 80	※	T1.25A 250V	※		G,B
	11	LA 00 29 50	Terminal	2P	2 P 中 継 端 子 台		A,G,B
	12	LB 20 13 00	Fuse Holder		ヒューズホルダー		R,A
	※	LB 20 21 10	※	※	※		G,B
	13	MG 00 04 10	Power Cord	7A 125V 2.2m	電 源 コ ー ド	} Interchangeable	J
	※	MG 00 12 70	※	※	※		J
	※	MG 00 07 80	※	6A 250V 2m	※		R
	※	MG 00 09 20	※	7.5A 250V 2.5m	※		A
	※	MG 00 09 50	※	2.5A 250V 2m	※		G
	※	MG 00 10 00	※	6A 300/500V 2m	※		B
※	14	AA 61 31 60	Top Cover	Silver	ト ッ プ カ バ ー		J
※	※	AA 61 37 70	※	Black	※		R,G,A,B
※	15	AA 61 32 40	Rear Panel		リ ア パ ネ ル		J
※	※	AA 61 32 50	※	※	※		R
※	※	AA 61 32 70	※	※	※		A,B
※	※	AA 61 32 80	※	※	※		G
	16	AA 60 66 90	Bottom Cover		ボ ト ム カ バ ー		A-560
※	17	BA 08 39 30	Heat Sink		放 熱 板		
※	18	BA 08 39 40	Knob	Silver	ツ マ ミ	VOLUME	J
※	※	BA 08 44 60	※	Black	※	※	R,G,A,B
	19	BA 08 24 90	※	Silver	※	BASS, TREBLE, BALANCE	J
	※	BA 08 29 30	※	Black	※	※	R,G,A,B
※	20	BA 08 44 70	※	Silver	※	LOUDNESS	J
※	※	BA 08 44 80	※	Black	※	※	R,G,A,B
	21	BB 06 96 70	Transistor Pusher		トランジスタプッシャー		A-10
	22	CB 61 03 90	Leg		脚		
※	23	NB 60 91 60	Button Ass'y	Silver	ボ タ ン Ass'y	POWER	J
※	※	NB 60 91 70	※	Black	※	※	R,G,A,B
	24	CB 06 88 80	Plastic Rivet		プラスチックリベット		R
	25	CB 60 29 70	※	※	※		
	26	CB 09 98 30	P.C.Support		P C サ ポ ー ト		A-760
※	27	CB 61 59 10	Spacer		ス ペ ー サ ー		
	28	CB 61 03 50	Anti-Vibration Rubber		防 振 ゴ ム		T-20

※New Parts (新規部品)

PARTS LIST(CIRCUIT BOARD)

Ref. No.	Part No.	Description	部 品 名	Remarks	Common Model	Markets	ランク
※	NA 08 04 20	Main Circuit Board	Silver	メ イン シ ー ト		J	
※	NA 08 04 60	"	Black	"		R	
※	NA 08 04 70	"	"	"		G	
※	NA 08 20 20	"	"	"		A,B	
	FG 41 11 50	Ceramic Cap	15pF 50V	セ ラ コ ン	C135,136	J,R,A,B	
	FH 61 12 70	"	27pF 500V	"	"	G	
	FG 41 14 70	"	47pF 50V	"	C181,182		
	FG 41 21 00	"	100pF 50V	"	C129,130		
	FG 41 22 20	"	220pF 50V	"	C103,104		
	FG 41 22 20	"	220pF 50V	"	C153~160	G	
	FG 41 26 80	"	680pF 50V	"	C117,118		
	FG 44 41 00	"	0.01 μ F 50V	"	C137,138,169,170		
	FG 44 41 00	"	0.01 μ F 50V	"	C175,176	G	
	FG 44 42 20	"	0.022 μ F 50V	"	C145,146		
	FG 44 44 70	"	0.047 μ F 50V	"	C123,124		
	FG 44 44 70	"	0.047 μ F 50V	"	C173,174	R,G,A,B	
	FG 44 51 00	"	0.1 μ F 50V	"	C177	G	
	Fi 38 41 00	"	0.01 μ F 40V	"	C152	J,R	
	FZ 00 36 90	Electrolytic Cap	6800 μ F 40V	ケ ミ コ ン	C149,150		
	UA 25 33 30	Mylar Cap	3300pF 50V	マ イ ラ ー コ ン	C133,134		
	UA 25 34 30	"	4300pF 50V	"	C107,108		
	UA 25 34 70	"	4700pF 50V	"	C161~164	G	
	UA 25 41 50	"	0.015 μ F 50V	"	C109,110		
	UA 25 42 20	"	0.022 μ F 50V	"	C115,116		
	UA 25 43 30	"	0.033 μ F 60V	"	C139,140		
	UA 25 44 70	"	0.047 μ F 50V	"	C141,142		
	UA 25 51 00	"	0.1 μ F 50V	"	C178	G	
	UW 91 74 70	Electrolytic Cap	47 μ F 6.3V	ケ ミ コ ン	C167	R,G,A,B	
	UW 91 81 00	"	100 μ F 6.3V	"	C105,106,143,144		
	UW 93 71 00	"	10 μ F 16V	"	C101,102		
	UW 93 71 00	"	10 μ F 16V	"	C166,172	R,G,A,B	
	UW 94 64 70	"	4.7 μ F 25V	"	C131,132	R,G,A,B	
	UW 86 62 20	"	2.2 μ F 50V	"	"	J	
	UW 94 71 00	"	10 μ F 25V	"	C113,114		
	UW 94 82 20	"	220 μ F 25V	"	C147,148		
	UW 94 82 20	"	220 μ F 25V	"	C125,126	J	
	UW 95 64 70	"	4.7 μ F 35V	"	C168	R,G,A,B	
	UW 96 54 70	"	0.47 μ F 50V	"	C121,122		
	UW 96 61 00	"	1 μ F 50V	"	C127,165		
	UW 96 62 20	"	2.2 μ F 50V	"	C111,112,171		
	UW 86 81 00	"	100 μ F 50V	"	C151		
	UW 86 84 70	"	470 μ F 50V	"	C128		
	GD 90 03 40	Coil	1.5 μ H	ア ウ ト ブ ッ ト コ イ ル	L101,102		
	HL 71 52 20	Metal Oxide Film Resistor	220 Ω 1P	酸 金 抵 抗	R147,148		
	HV 55 33 90	Flame Ploof Carbon Resistor	3.9 Ω RDF-25S	不 燃 化 カ ー ボ ン 抵 抗	R172		△
	HV 55 41 00	"	10 Ω "	"	R143~146		△
	HV 55 43 30	"	33 Ω "	"	R129		
	HZ 00 19 50	Dual Metal Film Resistor	0.33 Ω 2P	デュアル金属板抵抗	R161,162		△
※	HS 41 20 00	Variable Resistor	K100k Ω × 2	可 変 抵 抗 器	VR107 VOLUME		
	HS 41 17 30	"	B 30k Ω × 2	"	VR103,104 TREBLE BASS		

※New Parts (新規部品)

Ref. No.	Part No.	Description	部 品 名	Remarks	Common Model	Markets	ランク
	HS 41 17 40	Variable Resistor	250 kΩ	可 変 抵 抗 器	VR101 BALANCE		
	HS 41 17 50	"	B100kΩ×2	"	VR102 LOUDNESS		
	HT 37 00 50	Semi Variable Resistor	B5kΩ	半 固 定 抵 抗 器	VR105,106		
	iA 09 99 10	Transistor	2SA999(E,F)	ト ラ ン ジ ス タ	TR110		R,G,A,B
	iC 23 20 40	"	2SC2320(F)	"	TR101,102		
	iC 23 20 10	"	2SC2320(E,F)	"	TR107~109,111,112		R,G,A,B
	iA 11 02 00	"	2SA1102(O,P,Y)	"	TR105,106		
	iC 25 77 10	"	2SC2577(O,P,Y)	"	TR103,104		
	iF 00 00 40	Diode	1S1555	ダ イ オ ー ド	D101,102	Inter-changeable	J
	iF 00 06 70	"	1S2473	"	"		J
	iF 00 00 40	"	1S1555	"	D113,115~118	Inter-changeable	R,G,A,B
	iF 00 06 70	"	1S2473	"	"		R,G,A,B
	iF 00 25 00	Zener Diode	HZ-16-2	ツェナーダイオード	D103,104		
	iF 00 33 30	LED	SLR-55URC	L E D	D108~111		
	iF 00 33 90	"	SLR-55DT	"	D112		
	iH 00 07 30	Diode	W06B	ダ イ オ ー ド	D105,106		
	iH 00 10 30	Diode Bridge	3D4B41	ダ イ オ ー ド ブ リ ッ ジ	D107		
	iG 06 71 00	IC	μPC1225H	I C	IC103,104		
	iG 08 52 00	"	AN6557	"	IC101		
	KA 80 32 10	Push Switch		プ ッ シ ュ ス イ ッ チ	SW103 POWER		J,R
	KA 80 32 20	"		"	SW101 INPUT		
	KA 80 34 90	"		"	SW102 SPEAKER		
※	KB 00 28 60	Fuse	T3A 250V	ヒ ュ ー ズ	F101,102		J
	KB 00 03 60	"	T3A 250V	"	F103		J,R
	KC 00 13 80	Relay	DC24V	リ レ ー	RY101		R,G,A,B
	LB 20 23 40	Pin Jack	2P	ピ ン ジャ ッ ク	PJ103		
	LB 40 10 70	"	4P	"	PJ101,102		
	LB 30 17 10	Phone Jack	Silver	ホ ー ン ジャ ッ ク	JK101		
	LB 30 17 20	"	Black	"	"		R,G,B,A
	LA 00 20 00	Wrapping Terminal	P=7.5 2P i-Type	i 型 ラ ッ ピ ン ぐ 端 子 板			G,A,B
	LA 00 23 90	"	P=7.5 2P L-Type	L 型 ラ ッ ピ ン ぐ 端 子 板			J,R
	LA 00 23 20	"	P=7.5 3P i-Type	i 型 ラ ッ ピ ン ぐ 端 子 板			
	LA 00 42 50	Push Terminal	8P	プ ッ シ ュ タ ー ミ ナ ル			
	LB 20 18 80	Fuse Holder Pin		ヒ ュ ー ズ ホ ル ダ ー ピ ン			J,R
	LB 60 42 80	AC Outlet	3P	A C ア ウ ト レ ッ ト			J,R
	LA 00 41 20	Test Point Pin	1P	テ ス ト ポ イ ン ト ピ ン			
	LB 20 19 70	Fuse Holder Pin		ヒ ュ ー ズ ホ ル ダ ー ピ ン			J
※	BA 08 44 50	Heat Sink		放 熱 板			
※	CB 61 41 40	LED Holder		L E D ホ ル ダ ー			
※	CB 61 41 50	Holder	5L	5 L ホ ル ダ ー			

※New Parts (新規部品)