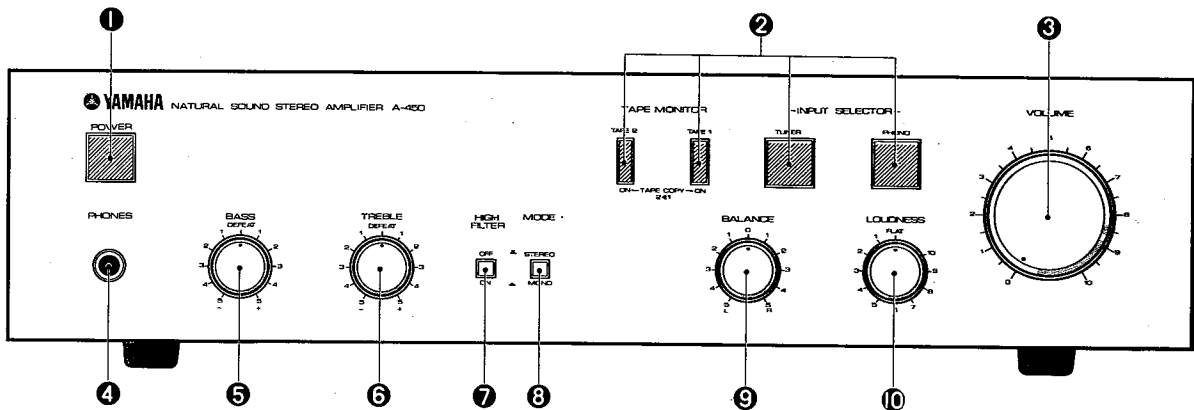


# A-450

## SERVICE MANUAL

### ■ FRONT PANEL



- |                         |                      |
|-------------------------|----------------------|
| 1 POWER SWITCH          | 6 TREBLE CONTROL     |
| 2 INPUT SELECTOR SWITCH | 7 HIGH FILTER SWITCH |
| 3 VOLUME CONTROL        | 8 MODE SWITCH        |
| 4 PHONES JACK           | 9 BALANCE CONTROL    |
| 5 BASS CONTROL          | 10 LOUDNESS CONTROL  |

### ■ CONTENTS

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# SPECIFICATIONS

<b>Output Power</b>	
Continuous r.m.s. power (both channels driven)	
20Hz to 20kHz	8Ω 30 + 30W at 0.05% T.H.D. 4Ω 35 + 35W at 0.1% T.H.D.
at 1kHz	8Ω 35 + 35W at 0.02% T.H.D. 4Ω 40 + 40W at 0.1% T.H.D. 8Ω 35 + 35W at 1% T.H.D. 4Ω 40 + 40W at 1% T.H.D. (DIN)
PHONES OUT	8Ω 37mW (Impedance 220Ω)
<b>Input Sensitivity/Impedance</b>	
PHONO	2.5mV/47kΩ 220pF
TUNER, TAPE 1, 2	150mV/47kΩ
<b>Maximum Input Level</b>	
PHONO (0.005% T.H.D.)	More than 185mV at 1kHz
<b>Output Level/Impedance</b>	
REC OUT 1, 2	150mV/600Ω
<b>Maximum Output Level</b>	
PHONO to REC OUT (0.005% T.H.D.)	11V at 1kHz
<b>Frequency Response</b>	
Phono RIAA deviation (PHONO → REC OUT)	
	40Hz to 20kHz ±0.3dB
TUNER, TAPE 1, 2 → SP OUT	4Hz to 70kHz +0dB, -2.0dB
<b>Power Bandwidth</b>	
15W/8Ω 0.05% T.H.D.	10Hz ~ 60kHz
<b>Tone Control Characteristics</b>	
BASS turnover frequencies	500Hz
BASS boost/cut	±10dB at 20Hz
TREBLE turnover frequencies	3kHz
TREBLE boost/cut	±10dB at 20kHz

<b>Filter &amp; Loudness Control Characteristics</b>	
HIGH FILTER	8kHz 6dB/oct.
Internal SUBSONIC FILTER	12Hz 12dB/oct.
LOUDNESS	Level-related equalization
<b>Signal-to-Noise Ratio</b>	
IHF-A Network, Input shorted	
PHONO	92dB (10mV)
TUNER, TAPE 1, 2	100dB
<b>Residual Noise</b>	
IHF-A Network Vol. min Less than 180μV	
<b>Total Harmonic Distortion</b>	
PHONO to REC OUT	0.007% at 3V output (20Hz ~ 20kHz)
	0.003% at 3V output (1kHz)
TUNER, TAPE 1, 2 to SP OUT	0.01% at 15W/8Ω (20Hz ~ 20kHz)
PHONO to SP OUT	0.01% at 15W/8Ω (20Hz ~ 20kHz)
<b>IM Distortion Ratio (60Hz : 7kHz = 4 : 1)</b>	
TUNER, TAPE 1, 2 → SP OUT	0.01% at 15W/8Ω
<b>Damping Factor at 1kHz, 8Ω</b> More than 50:	
<b>Channel Separation</b>	
TUNER, TAPE 1, 2 → SP OUT	65dB(1kHz, 5.1kΩ shorted)

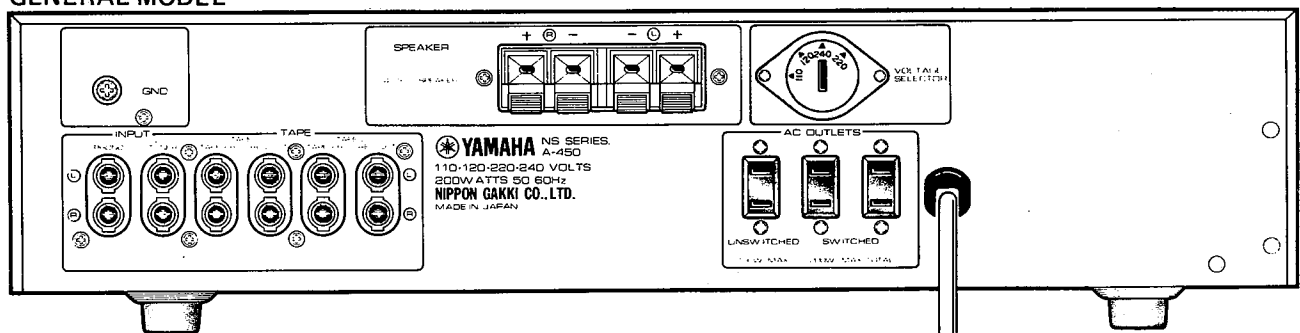
<b>General</b>	
<b>Semiconductors</b>	Transistors 25 ICs 3 Diodes 17 Zener Diodes 2
<b>AC outlets (U.S.A. and General Models)</b>	
	SWITCHED 2 Total 200W max UNSWITCHED 1 100W max
<b>Power supplies</b>	U.S.A. & Canadian Models 120V AC60Hz General Model 110/120/220/240V AC50/60Hz N. European Model 220V AC50Hz British & Australian Models 240V AC50Hz
<b>Power Consumption</b>	U.S.A. & Canadian Models 200W/250VA General Model 200W N. European Model 300W British & Australian Models 330W
<b>Dimensions (W x H x D)</b>	435 x 112 x 338mm (17-1/8" x 4-1/2" x 13-1/4")
<b>Weight</b>	7.8kg (17 lb 3 oz)

Specifications subject to change without notice.

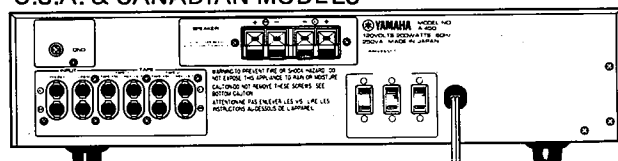
A-450

# REAR PANELS

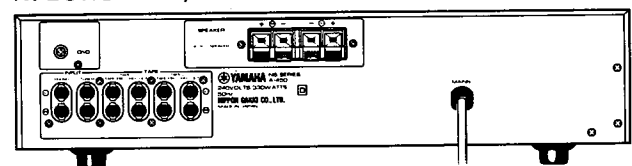
## GENERAL MODEL



## U.S.A. & CANADIAN MODELS

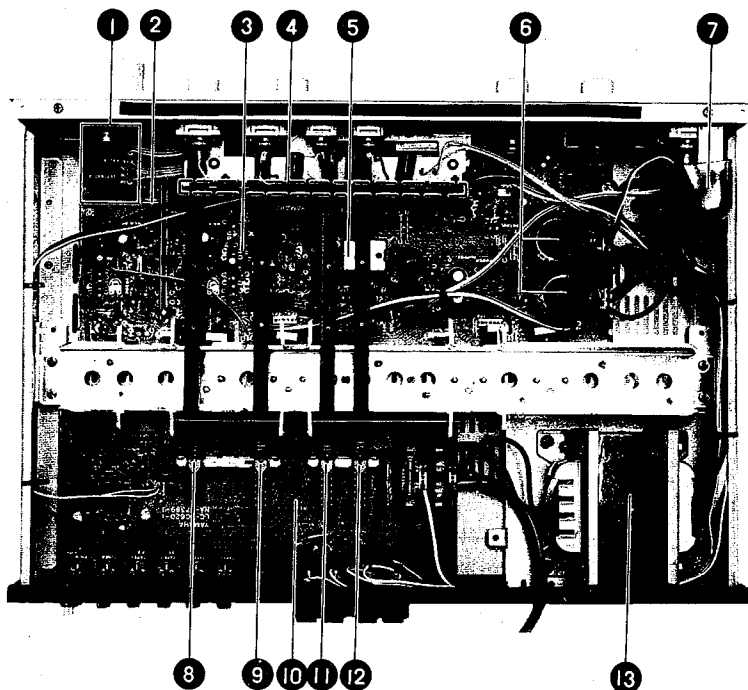


## N. EUROPEAN, BRITISH & AUSTRALIAN MODELS



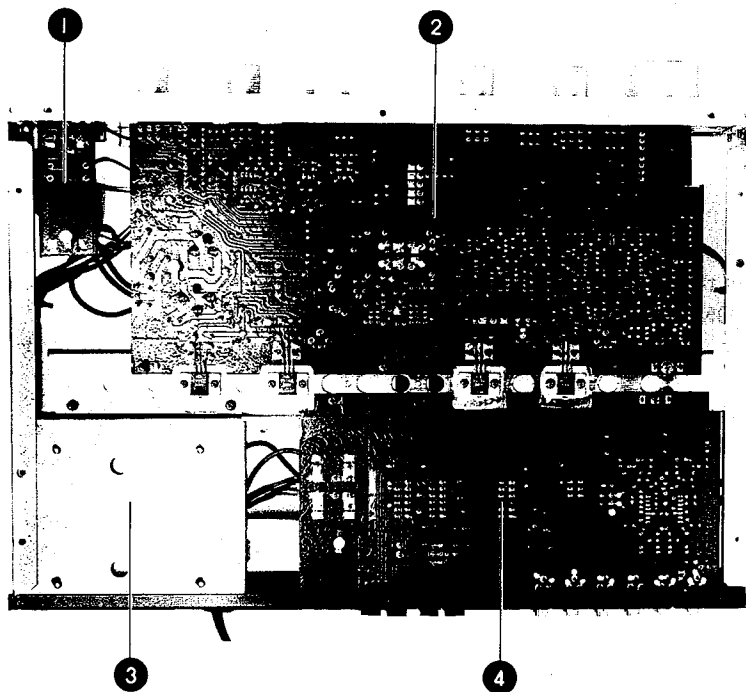
## INTERNAL VIEW

### 1. TOP VIEW



- ① VOLUME (VR203 : 200K x 2)
- ② MAIN CIRCUIT BOARD (2)
- ③ MAIN CIRCUIT BOARD (1)
- ④ FUNCTION CIRCUIT BOARD (2)
- ⑤ RELAY : (RY301, MS12D 4-OZ, 04AL-01 or Jc2a)
- ⑥ ELECTROLYTIC CAPACITOR (C303, C304 . 6800 $\mu$ F 45WV, FM49968)
- ⑦ POWER SWITCH
- ⑧ INPUT SELECTOR PHONO SWITCH
- ⑨ INPUT SELECTOR TUNER SWITCH
- ⑩ FUNCTION CIRCUIT BOARD (1)
- ⑪ INPUT SELECTOR TAPE 1 SWITCH
- ⑫ INPUT SELECTOR TAPE 2 SWITCH
- ⑬ POWER TRANSFORMER

### 2. BOTTOM VIEW



- ① MAIN CIRCUIT BOARD (3)
- ② MAIN CIRCUIT BOARD (1)
- ③ POWER TRANSFORMER
- ④ FUNCTION CIRCUIT BOARD (1)

## DISASSEMBLY PROCEDURES

### 1. Top cover removal

Remove screws ① and ② in Photo 1 and then remove the top cover.

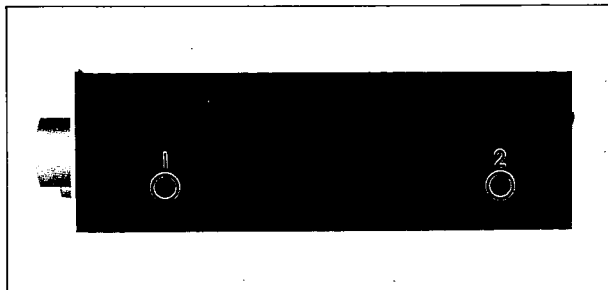


Photo 1

### 2. Bottom cover removal

Remove screws ① ~ ⑦ in Photo 2 and then remove the bottom cover.

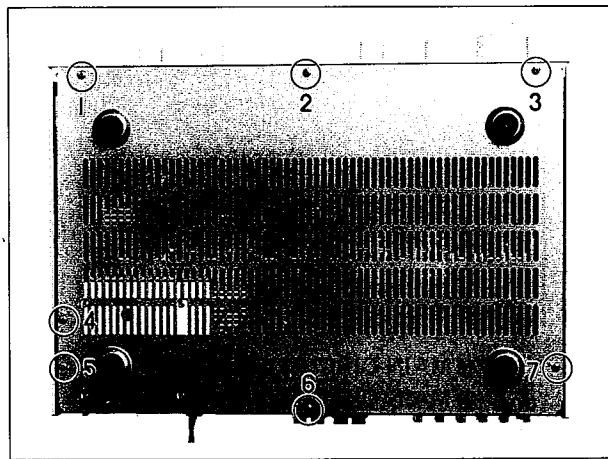


Photo 2

### 3. Front panel removal

- Remove all the knobs on the front panel. Pull the VOLUME, BALANCE, LOUDNESS and TONE CONTROL knobs toward you and remove.
- Remove the top and bottom covers.
- Pull out the illuminating lamps of the push button switch ③ to ⑦ in Photo 3 as shown in Fig. 1.

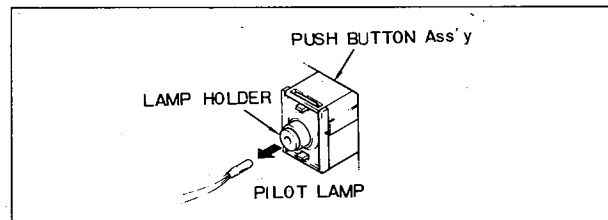


Fig. 1

- Remove screws ① and ② in Photo 3 and then pull out the front panel gently toward you.

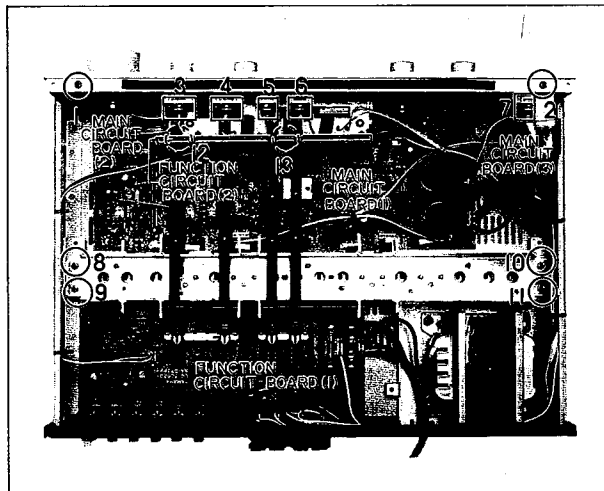


Photo 3

### Function printed circuit board (1) removal

- Remove the top cover. (Refer to step 1.)
- Disconnect the lead wires which are connected to the function printed circuit board.

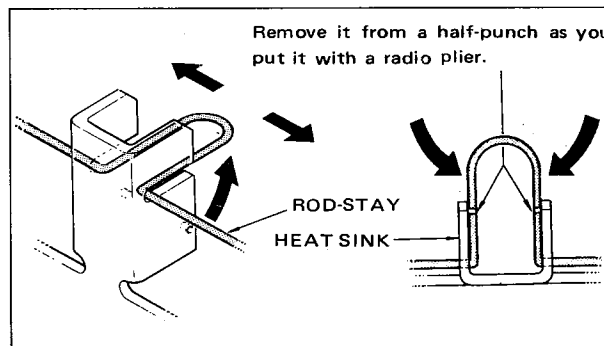


Fig. 2

- Remove the rod stay which is inset in the heat sink as shown in Fig. 2.
- Pull up the four rods as you hold the switches as shown in Fig. 3.

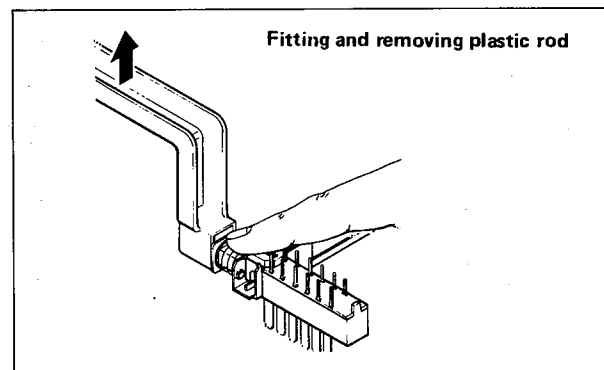


Fig. 3

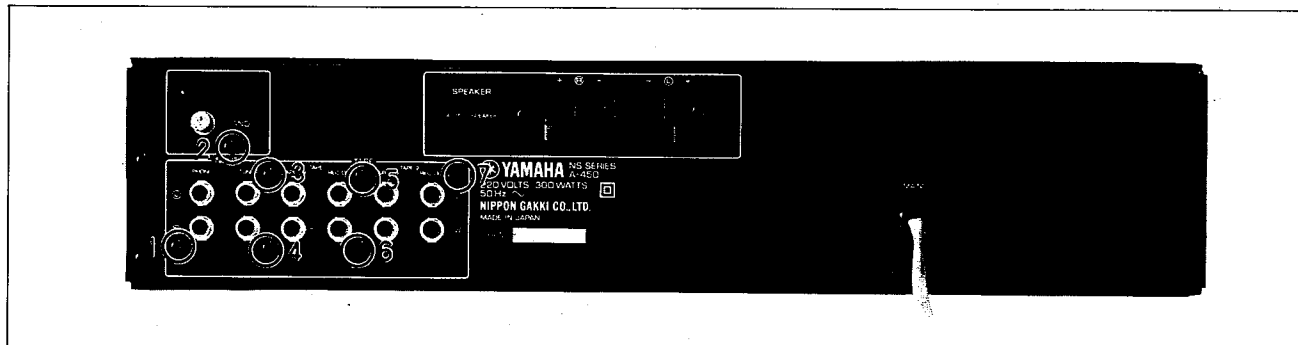


Photo 4

- e) Remove screws ① to ⑦ in Photo 4.
- f) Remove screws ① and ② in Photo 5 and then remove function circuit board.

#### How to remove plastic rivets

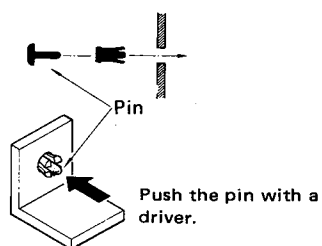


Fig. 4

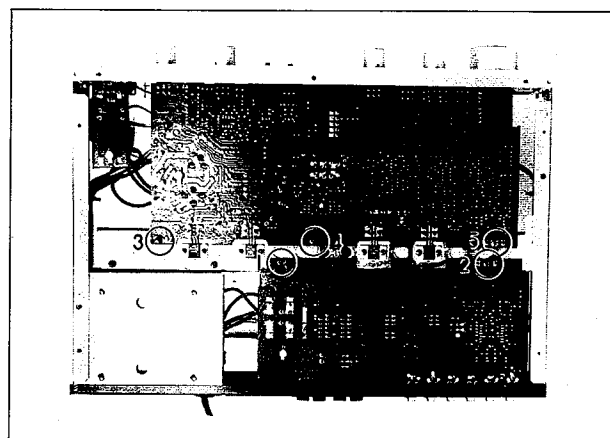


Photo 5

#### 5. Main printed circuit board (1) removal

- a) Remove the front panel. (Refer to step 3.)
- b) Disconnect the lead wires which are connected to the main printed circuit board (1).
- c) Remove nuts ① to ⑤ and screws ⑨, ⑩ in Photo 6.
- d) Remove screws ⑧ to ⑪ in Photo 3.
- e) Remove screws ③ to ⑤ in Photo 5.
- f) Set the rod Ass'y free and remove the main printed circuit board (1). (Refer to Fig. 2 and 3.)

#### 6. Main printed circuit board (PHONES jack) removal

- a) Remove the front panel. (Refer to step 1.)
- b) Pull out the stopper ⑥ in Photo 6 with a plier upwards and then main printed circuit board (3) is removed with the headphone jack.

#### 7. Power switch removal

- a) Remove the front panel. (Refer to step 1.)
- b) Remove screws ⑦ and ⑧ in Photo 6 and remove the power switch.

#### 8. Main printed circuit board (2) (Volume) removal

- a) Remove the top cover. (Refer to step 1.)
- b) Remove nut ⑤ in Photo 6 and then remove the main printed circuit board (2).

#### 9. Function printed circuit board (2) removal

- a) Remove the top cover. (Refer to step 1.)
- b) Pull out illuminating lamps ③ to ⑥ in Photo 3 as shown in Fig. 1.
- c) Remove plastic rivets ⑫ and ⑬ in Photo 3 as in Fig. 4 and then remove the function printed circuit board (2).

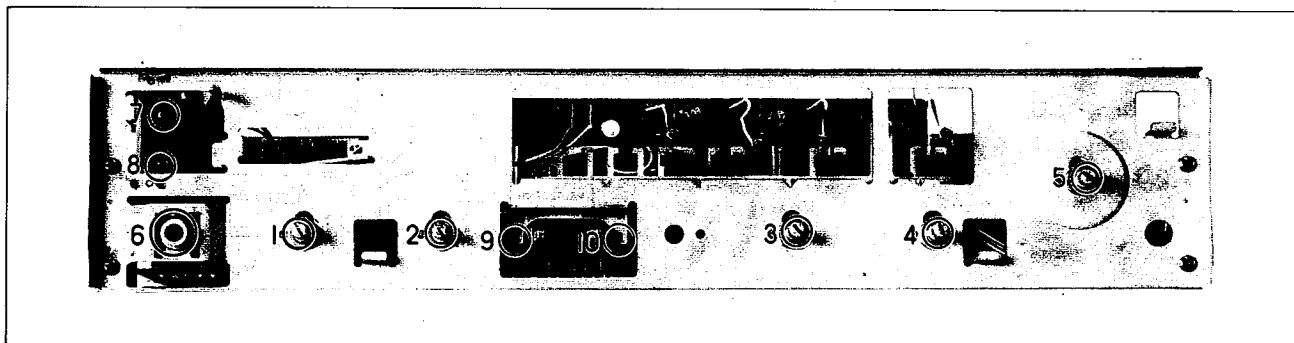


Photo 6

## ADJUSTMENT

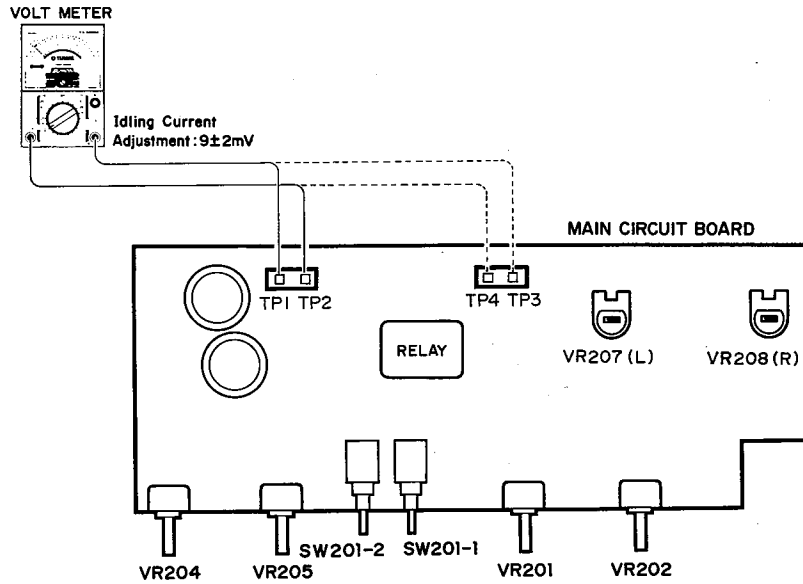
### Before adjusting

- Proceed with the adjustments about 3 or 4 minutes after the power switched on to enable the operation of the amplifier to stabilize.
- Connect 8Ω (over 40W) dummy loads to the speaker terminals.
- Set the volume control to its lowest position.

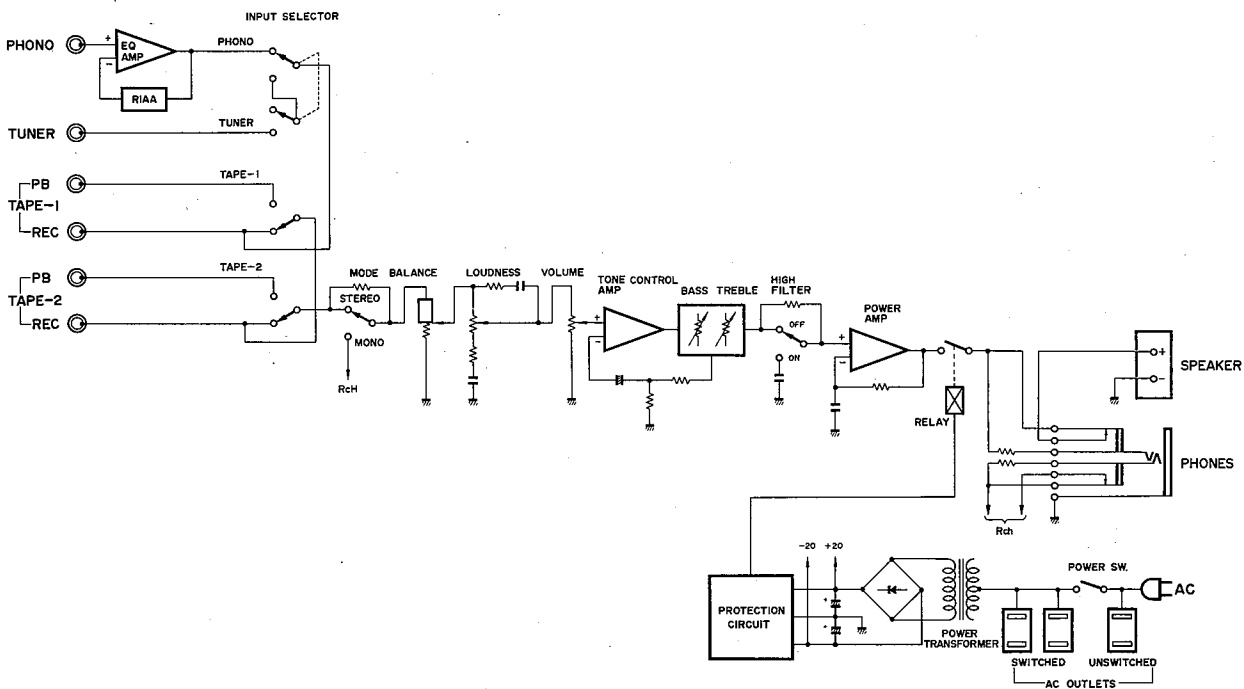
### 1. Idling current adjustment

LEFT CHANNEL : Rotate VR207 on the main printed circuit board and set so that the voltage across TP1 and TP2 comes within a range of  $9 \pm 2\text{mV}$ .

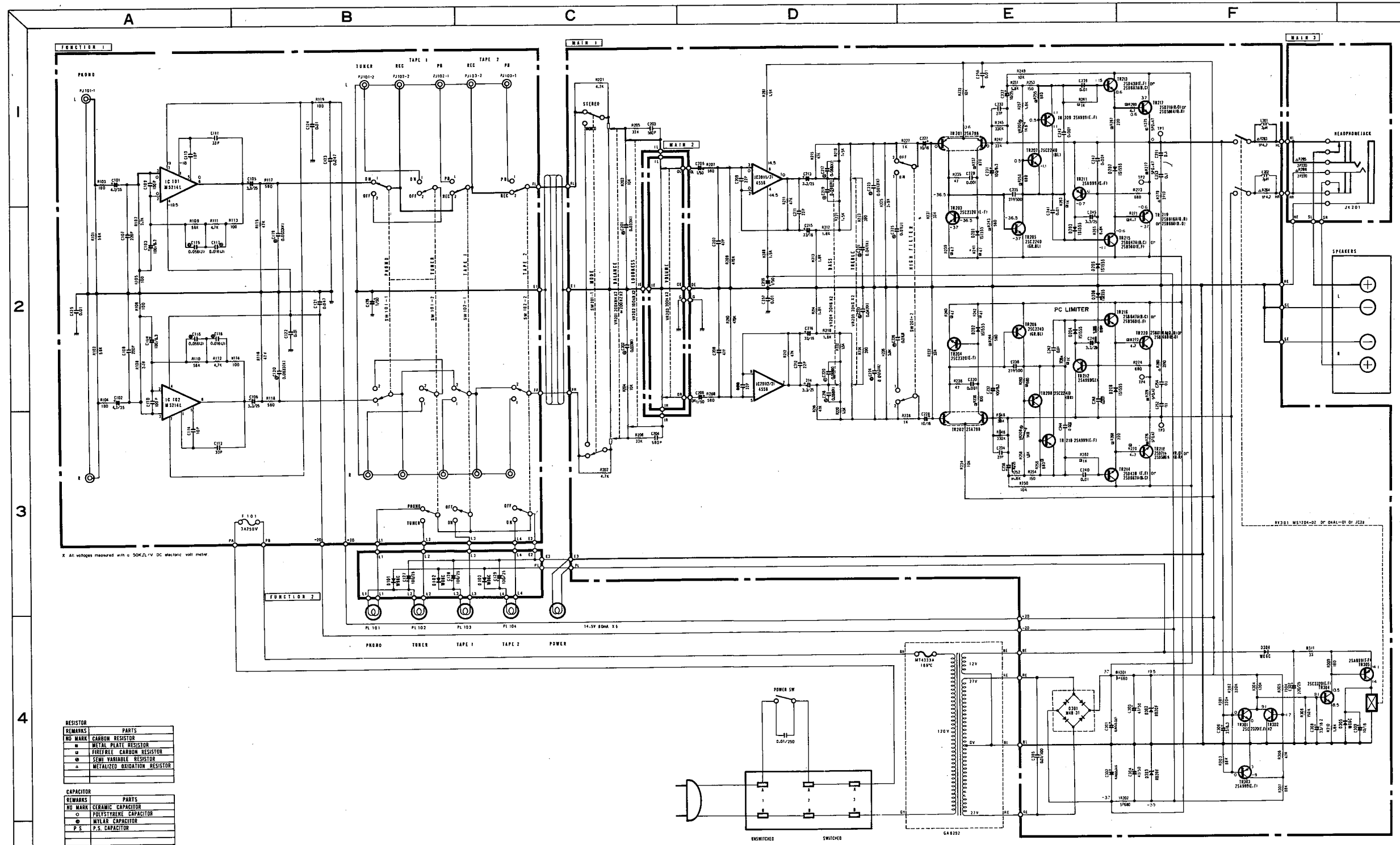
RIGHT CHANNEL : Rotate VR208 on the main printed circuit board and set so that voltage across TP3 and TP4 comes within a range of  $9 \pm 2\text{mV}$ .



## BLOCK DIAGRAM



# SCHEMATIC DIAGRAM



PIN-CONNECTION DIAGRAM OF TRANSISTORS, DIODES AND ICs.

TR219, 220 2S8686 (R,O) (Complementary to 2S2078)	TR217, 218 2S2078 (R,O) (Complementary to 2S8686)
TR215, 220 2S8616A (Q,R) (Complementary to 2S2078)	TR217, 218 2S2078A (Q,R) (Complementary to 2S8616A)
TR213, 214 2S2438 (E,F) (Complementary to 2S8660)	TR215, 216 2S8660 (E,F) (Complementary to 2S2438)
TR213, 214 2S2067A (B,C) (Complementary to 2S8647A)	TR215, 216 2S8647A (B,C) (Complementary to 2S2067A)
TR201, 202 2S4798	TR205, 206 2S2240 (Q,R,BL)
TR203, 204, 301, 302, 304 2S2230 (E,F) (Complementary to 2S4899)	TR205 ~ 212, 303, 305 2S4899 (E,F) (Complementary to 2S2230)
TR207, 208 2S2240 (BL)	IC101, 102 MS214L
IC201 NM4558DS	D302, 303 RD-20F
D101 ~ 103, 304, 305 W66C	D201 ~ 208 1S1655
D301 M4B-31	

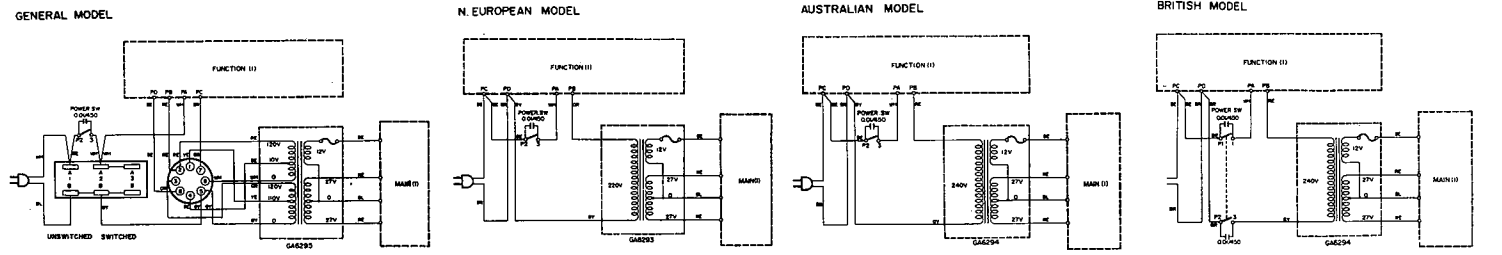
RESISTOR	
REMARKS	PARTS
NO MARK	CARBON RESISTOR
□	METAL PLATE RESISTOR
▨	FIRE-FREE CARBON RESISTOR
◉	SEMI-VARIABLE RESISTOR
○	METALIZED OXIDATION RESISTOR

CAPACITOR	
REMARKS	PARTS
NO MARK	CERAMIC CAPACITOR
○	POLYSTYRENE CAPACITOR
◉	MYLAR CAPACITOR
P.S.	P.S. CAPACITOR

● WIRE COLOR ABBREVIATIONS

BL ▶ Black	VI ▶ Violet
BR ▶ Brown	GY ▶ Gray
RE ▶ Red	WH ▶ White
OR ▶ Orange	GG ▶ Grass Green
YE ▶ Yellow	SB ▶ Sky Blue
GR ▶ Green	PK ▶ Pink
BE ▶ Blue	

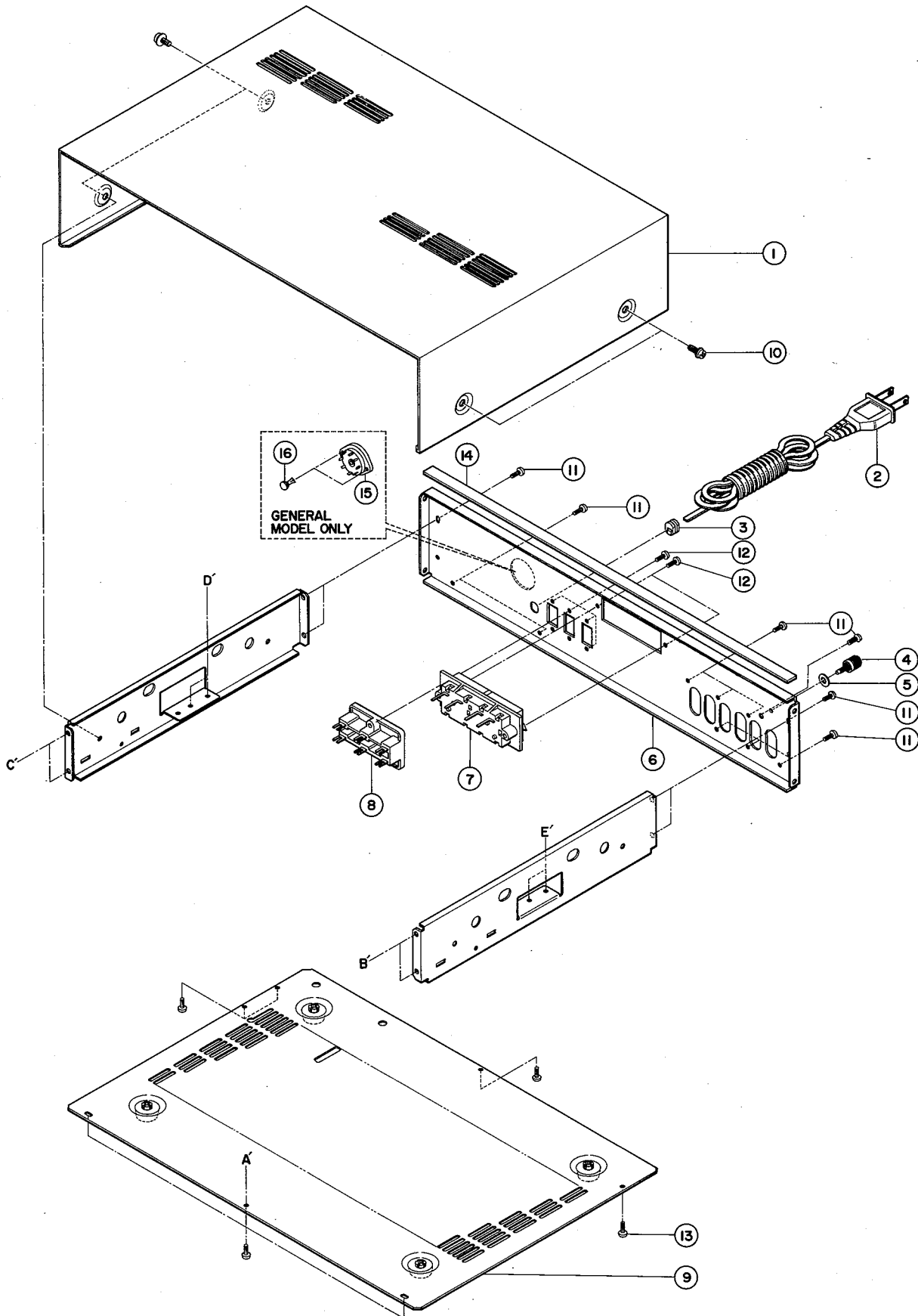


# PARTS LIST

## **A-450**



■ EXPLODED VIEW



**PARTS LIST**

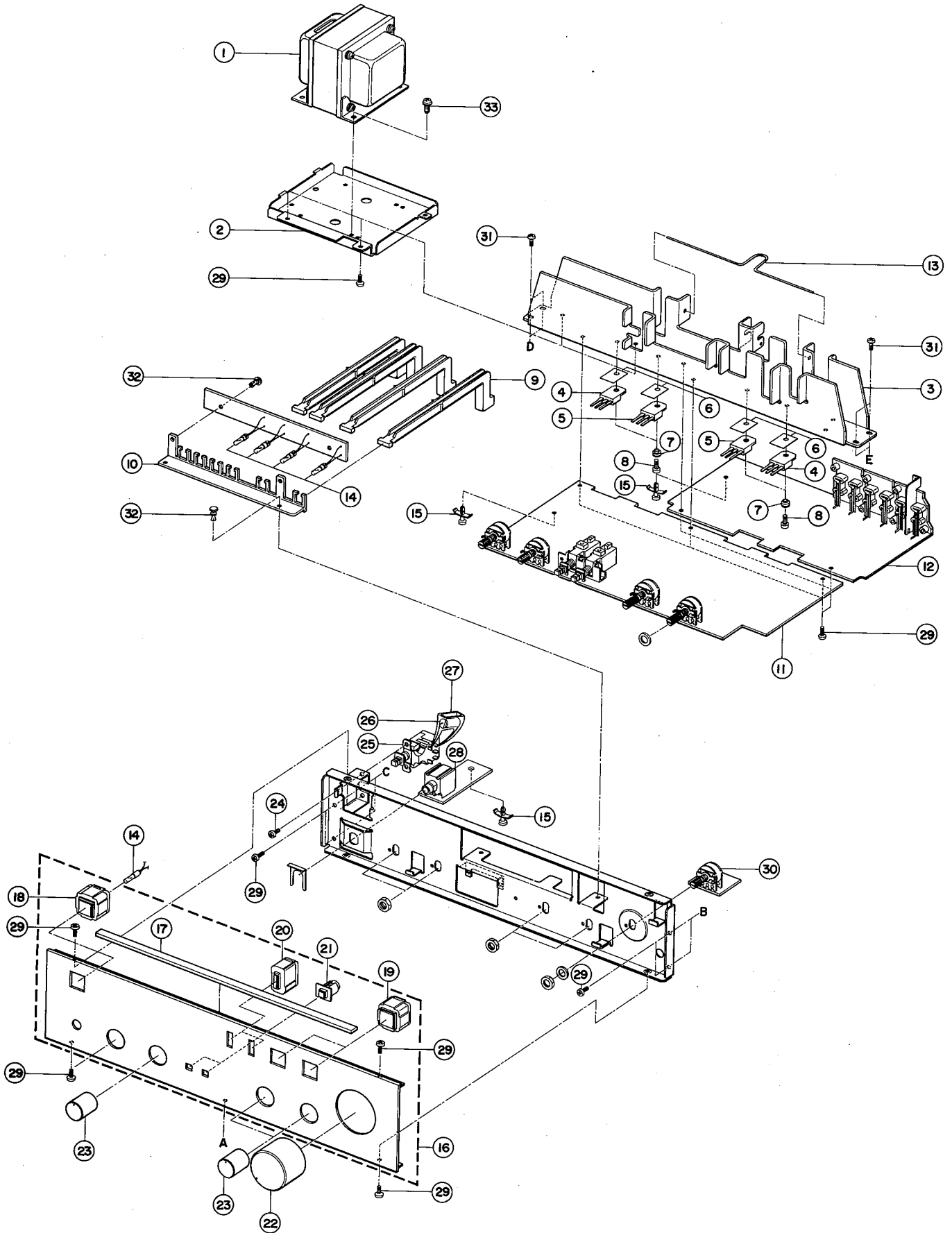
**DESTINATION ABBREVIATIONS**

R : General G : North European A : Australian  
 U : USA B : British C : Canadian

Ref. No.	Part No.			Description	(部 品 名)	Remarks	Common model	Markets
1	32	00	AA 09'78;20	Top Cover	#9782	ト ッ プ カ バ ー		
2	42	00	MG 00'07;80	AC Cord	6A 250V	電 源 コ ー ド		R
			00'08;40	"	10A 125V	"		C, U
			00'09;50	"	2.5A 250V	"		G
			00'09;20	"	7.5A 250V	"		A
			MZ 07'28;90	AC Cord Ass'y		電 源 コ ー ド Ass' y		B
3	42	00	CB 06'86;30	Cord Stopper	3R-3P-4	コ ー ド ス ト ッ パ ー		C, U
			07'27;50	"	SR-4N-4	"		R,A,G,B
4	42	00	EZ 00'14;00	Earth Lug Screw 3 x 13.5 MFN: II		ア ー ス 端 子 ネ ジ		
5	42	00	EV 90'13;60	Sems Type Plain Washer 3.6x10x0.8 FNM3-3g		鉄 セ ム ス 平 座 金		
※	32	00	AA 09'86;50	Rear Panel	#9865	リ ア パ ネ ル		R
※			AA 16'02;20	"	#60022	"		C, U
※			AA 09'86;40	"	#9864	"		A,B
			AA 09'86;90	"	#9869	"		G
7	42	00	LA 00'30;30	Push Terminal 4P		4 P プ シ ュ ー タ ー ミ ナ ル		
8	42	00	LB 60'29;80	AC Outlet	M7017	A C ア ウ ト レ ッ ト 3 連		R, C, U
9	32	00	NB 09'16;60	Bottom Cover Unit		ボ ト ム カ バ ー ユ ニ ッ ト		
10	42	00	EK 36'50;20	B.W. Head Screw M4 x 6 FCM3-BL		鉄 ブ レ ー ザ ー ワ ッ シ ン グ		
11	42	00	EN 34'00;10	Bind Bonding Tapping Screw 3 x 8 ZMC2-BL		鉄 バ イ ン ド ボ ン ド イ ン グ		
12	42	00	EN 33'00;10	Bind Tapping Screw 3 x 8 FCM3-BL		鉄 バ イ ン ド タ ッ ピ ン グ ネ ジ 2 種		
13	42	00	EN 03'00;20	" 3 x 8 ZMC2-Y		"		
14	42	00	CB 07'58;90	Anti Vibrator Tape	#7589	防 振 テ ー プ		C, R, A, G, B
			08'51;80	"		"		U
15	42	00	LB 20'14;80	Voltage Selector		電 圧 切 換 器		R
16	42	00	CB 06'88;80	Plastic Rivet		プ ラ ス チ ッ ク リ ベ ッ ト		R

※ New Parts

EXPLODED VIEW



Ref. No.	Part No.	Description	(部 品 名)	Remarks	Common model	Markets
※ 1	42,00,00 GA 162,95,00	Power Transformer	電 源 ト ラ ン ス			R
※	42,00,00 GA 162,92,00	"	"			C, U
※	42,00,00 GA 162,93,00	"	"			G
※	42,00,00 GA 162,94,00	"	"			A,B
2	32,00,00 AA 09,80,90	Transformer Holder #9809	ト ラ ン ス ホ ル ダ ー			
3	32,00,00 BA 07,61,60	Heat Sink #7616	放 熱 板			
4	42,00,00 iD 107,16,00	Power Transistor 2SD716 R,O	パ ワ ー ト ラ ン ジ ス タ	TR217 TR218	Complementary	
5	42,00,00 iB 06,86,00	" 2SB686 R,O	"	TR219 TR220	pair	
4	42,00,00 iD 05,86,10	" 2SD586A Q,R	"	TR217 TR218	Complementary	Interchangeable
5	42,00,00 iB 06,16,10	" 2SB616A Q,R	"	TR219 TR220	pair	
6	42,00,00 iL 00,04,60	Mica Base AC-238	マ イ カ ベ ー ス	used 2SD716, 2SB686		
	42,00,00 iL 00,04,20	" S-22	"	used 2SD586A, 2SB616A		
7	42,00,00 iL 00,04,00	Bush	絶 縁 ブ ッ シ ュ	used 2SD716, 2SB686		
	32,00,00 CB 07,28,80	"	"	used 2SD586A, 2SB616A		
8	42,00,00 EK 03,50,30	B.W. Head Tapping Screw 3 x 12 ZMC2-Y	鉄 B W ヘ ッ ド タ ッ ピ ン グ ネ ジ	used 2SD716, 2SB686		
	42,00,00 EK 03,50,40	" 2.6 x 12 ZMC2-Y	"	used 2SD586A, 2SB616A		
9	32,00,00 CB 09,24,20	Rod #9242	ロ ッ ド		A-550	
10	32,00,00 CB 09,24,30	Rod Holder #9243	ロ ッ ド ホ ル ダ ー		A-550	
※ 11	32,00,00 NA 07,39,10	Main C. Board	メ イ ン シ ー ト			R,A,G,C,B
※	32,00,00 NA 07,39,20	"	"	Black Model		G
※	32,00,00 NA 07,45,10	"	"			U
※ 12	32,00,00 NA 07,38,70	Function C. Board	フ ァ ン ク シ ョ ン シ ー ト			R
※	32,00,00 NA 07,38,80	"	"			A
※	32,00,00 NA 07,38,90	"	"			G,B
※	32,00,00 NA 07,39,00	"	"			C
※	32,00,00 NA 07,45,00	"	"			U
13	32,00,00 AA 09,81,10	Rod Stay #9811	ロ ッ ド ス テ イ			
14	42,00,00 JB 00,06,80	Pilot Lamp 14.5V 80mA	パ イ ロ ッ ト ラ ン プ リ ー ド 式			
15	32,00,00 CB 08,60,30	P.C. Board Spacer #8603	プ リ ン ト ス ペ ー サ ー		A-1	
※ 16	32,00,00 NB 09,37,40	Panel Unit	パ ネ ル ユ ニ ッ ト			R,A,G,C,B
※	32,00,00 NB 09,37,50	"	"	Black Model		G
※	32,00,00 NB 09,66,10	"	"			U
※ 17	42,00,00 CB 07,98,80	Anti Vibrator Tape #7988	防 振 テ ー プ			
※	42,00,00 CB 07,98,70	"	"			U
18	32,00,00 NB 09,14,30	Push Button Ass'y #9143	プ ッ シ ュ ボ タ ン Ass'y			R,A,G,C,B,U
	32,00,00 NB 09,14,20	" #9142	"	Black Model		G
19	32,00,00 NB 09,14,50	" #9145	"			R,A,G,C,B,U
	32,00,00 NB 09,14,40	" #9144	"	Black Model		G
20	32,00,00 NB 09,14,70	" #9147	"			R,A,G,C,B,U
	32,00,00 NB 09,14,60	" #9146	"	Black Model		G
21	32,00,00 NB 09,39,20	" #9149	"			R,A,G,C,B,U
	32,00,00 NB 09,39,30	" #9148	"	Black Model		G
22	32,00,00 BA 07,33,80	Volume Knob #7338	ボ リ ュ ー ム つ ま み			R,A,G,C,B,U
	32,00,00 BA 07,60,80	" #7608	"	Black Model		G
23	32,00,00 BA 07,59,50	T.C. Knob #7595	ト ー ン コ ン つ ま み			R,A,G,C,B,U
	32,00,00 BA 07,59,60	" #7596	"	Black Model		G
24	42,00,00 ED 03,00,60	Bind Head Screw 3 x 6 ZMC2-Y	バ イ ン ド 小 ネ ジ			
25	42,00,00 KA 180,05,00	Push Switch SDG1P 125V 5A	プ ッ シ ュ ス イ ッ チ		A-550	C,U
	42,00,00 KA 180,05,10	" SDG5P-E 250V 5/80A	"		A-550	R,A,G,B
26	42,00,00 FZ 00,15,60	Spark Quencher Cap. 0.01μF 450VAC	ス パ ー ク キ ラ ー コ ン			A,G,B
	42,00,00 FZ 00,20,30	Ceramic Cap. 0.01μF 250VAC	セ ラ コ ン			R,C,U
27	42,00,00 CB 08,86,90	Condenser Cover	コ ン デ ン サ カ バ ー			A,G,B
	42,00,00 CB 09,52,60	"	"			R,C,U
28	42,00,00 LB 30,09,70	Phones Jack Gray S-G2395	ホ ー ン ジャ ッ ク			R,A,G,C,B,U
	42,00,00 LB 30,09,90	" Black S-G2338	"	Black Model		G
29	42,00,00 EN 03,00,20	Bind Head Tapping Screw 3 x 8 ZMC2-Y	バ イ ン ド タ ッ ピ ン グ ネ ジ 2 種 ミ ソ			
30	42,00,00 HS 11,03,60	Variable Resistor 200kΩ x 2	ボ リ ュ ー ム			
31	42,00,00 EN 03,00,60	Bind Head Tapping Screw 3 x 10 ZMC2-Y	バ イ ン ド タ ッ ピ ン グ ネ ジ 2 種 ミ ソ			
32	42,00,00 CB 06,88,80	Plastic Rivet	プ ラ ス チ ッ ク リ ベ ッ ト			
33	42,00,00 EZ 00,04,40	B.W. Head Screw M4 x 6 ZMC2-Y	鉄 プ レ ー ヴ ー ツ ッ ヌ ー ヘ ッ ド 小 ネ ジ			

※ New Parts

Ref. No.	Part No.	Description	(部 品 名)	Remarks	Common model	Markets
	32,00,00 NA 07,38,70	Function C. Board	ファンクションシート			R
	32,00,00 NA 07,38,80	"	"			A
	32,00,00 NA 07,38,90	"	"			G,B
	32,00,00 NA 07,39,00	"	"			C
	32,00,00 NA 07,45,00	"	"			U
C101 C102	42,00,00 FJ 15,64,70	Electrolytic Cap.	4.7 $\mu$ F 35V	ケミコンタテ型		
C103 C104	42,00,00 FJ 11,81,00	"	100 $\mu$ F 6.3V	"		
C105 C106	42,00,00 FJ 14,63,30	"	3.3 $\mu$ F 25V	"		
C107 C108	42,00,00 FG 51,22,20	Ceramic Cap.	220pF 50V	セラコン		
C109 C110	42,00,00 FG 51,21,00	"	100pF 50V	"		
C111 C112	42,00,00 FG 51,13,30	"	33pF 50V	"		
C113 C114	42,00,00 FG 51,11,00	"	10pF 50V	"		
C115 C116	42,00,00 FA 15,45,60	Mylar Cap.	0.056 $\mu$ F 50V	マイラコン		
C117 C118	42,00,00 FA 15,41,60	"	0.016 $\mu$ F 50V	"		
C119 C120	42,00,00 FA 11,33,30	"	0.0033 $\mu$ F 50V	"		
C121	42,00,00 FG 24,44,70	Ceramic Cap.	0.047 $\mu$ F 50V	セラコン		
C122	42,00,00 FG 54,41,00	"	0.01 $\mu$ F 50V	"		
C123	42,00,00 FG 24,44,70	"	0.047 $\mu$ F 50V	"		
C124 C125	42,00,00 FG 54,41,00	"	0.01 $\mu$ F 50V	"		
C126	42,00,00 FJ 16,61,00	Electrolytic Cap.	1 $\mu$ F 50V	ケミコンタテ型		
C127 ~C129	42,00,00 FJ 24,81,00	"	100 $\mu$ F 25V	"		
R101 R102	42,00,00 HJ 35,75,60	Carbon Resistor	56k $\Omega$	カーボン抵抗		
R103 ~R106	42,00,00 HJ 35,51,00	"	100 $\Omega$	"		
R107 R108	42,00,00 HJ 35,62,70	"	2.7k $\Omega$	"		
R109 R110	42,00,00 HJ 35,75,60	"	56k $\Omega$	"		
R111 R112	42,00,00 HJ 35,64,70	"	4.7k $\Omega$	"		
R113 R114	42,00,00 HJ 35,51,00	"	100 $\Omega$	"		
R115 R116	42,00,00 HJ 35,74,70	"	47k $\Omega$	"		
R117 R118	42,00,00 HJ 35,55,60	"	560 $\Omega$	"		
R119	42,00,00 HJ 35,51,00	"	100 $\Omega$	"		
IC101 IC102	42,00,00 IG 03,49,00	IC	M5214L	I C		
D101 ~D103	42,00,00 IH 00,07,10	Diode	W06C	ダイオード		
PL101 ~PL104	42,00,00 JB 00,06,80	Pilot Lamp	80mA 14.5V	パイロットランプリード式		
SW102	42,00,00 KA 80,13,60	Push Switch		プッシュスイッチ		
※ SW101	42,00,00 KA 80,13,50	"				
F101	42,00,00 KB 00,03,50	Fuse	2.0AT 250V	ヒューズ		A
	42,00,00 KB 00,03,80	"	4.0AT 250V	"		R
	42,00,00 KB 00,07,40	"	1.6AT 250V	"		G,B
	42,00,00 KB 00,10,40	"	UL 3.0A 250V	"		C,U
F102	42,00,00 KB 00,07,40	"	1.6AT 250V	"		G,B
	42,00,00 KB 00,12,90	"	UL 1.5A 250V	"		C,U
	42,00,00 KB 00,03,50	"	2.0AT 250V	"		R
PJ101 ~PJ103	42,00,00 LB 40,03,10	Pin Jack	4P	ピンジャック		
	42,00,00 LB 20,09,00	Fuse Holder Pin		ヒューズホルダーピン		R,A,C,U
	42,00,00 LB 20,10,60	"		"		G,B
	42,00,00 LA 00,21,10	Wrapping Terminal	P = 5 2P	i型ラッピング端子板		
	42,00,00 LA 00,21,20	"	P = 5 3P	"		
	42,00,00 LA 00,21,40	"	P = 10 2P	"		
	42,00,00 LA 00,25,80	"	P = 10(0) 2P	"		A,G,B
	42,00,00 LA 00,23,90	"	P = 7.5 2P	L型ラッピング端子板		
	32,00,00 BB 06,83,70	Earth Plate	#6837	アース金具		
	32,00,00 AA 09,81,00	Shield Plate	#9810	シールド板		
	32,00,00 AA 08,29,10	"	#8291	"		

※ New Parts

Ref. No.	Part No.	Description	(部 品 名)	Remarks	Common model	Markets
	32,00,00 NA 07,39,10	Main C. Board	メ イ ン シ ー ト			R,A,G,C,B
	32,00,00 NA 07,39,20	"	"	Black Model		G
	32,00,00 NA 07,45,10	"	"			U
C201 C202	42,00,00 FA 41,43,30	Mylar Cap.	0.033 $\mu$ F 50V	マ イ ラ ー コ ン		
C203 C204	42,00,00 FG 71,25,60	Ceramic Cap.	560pF 50V	セ ラ コ ン		
C205 C206	42,00,00 FJ 16,61,00	Electrolytic Cap.	1 $\mu$ F 50V	ケ ミ コ ン タ テ 型		
C207 C208	42,00,00 FG 51,14,70	Ceramic Cap.	47pF 50V	セ ラ コ ン		
C209 ~ C212	42,00,00 FG 71,12,20	"	22pF 50V	"		
C213 C214	42,00,00 FJ 14,63,30	Electrolytic Cap.	3.3 $\mu$ F 25V	ケ ミ コ ン タ テ 型		
C215 C216	42,00,00 FJ 33,73,30	"	33 $\mu$ F 16V	"		
C217 ~ C220	42,00,00 FA 41,46,80	Mylar Cap.	0.068 $\mu$ F 50V	マ イ ラ ー コ ン		
C221 C222	42,00,00 FA 41,44,70	"	0.047 $\mu$ F 50V	"		
C223 C224	42,00,00 FA 41,31,20	"	0.0012 $\mu$ F 50V	"		
C225 C226	42,00,00 FA 45,41,00	"	0.01 $\mu$ F 50V	"		
C227 C228	42,00,00 FJ 33,71,00	Electrolytic Cap.	10 $\mu$ F 16V	ケ ミ コ ン タ テ 型		
C229 C230	42,00,00 FG 74,31,00	Ceramic Cap.	0.001 $\mu$ F 50V	セ ラ コ ン		
C231 C232	42,00,00 FJ 11,81,00	Electrolytic Cap.	100 $\mu$ F 6.3V	ケ ミ コ ン タ テ 型		
C233 C234	42,00,00 FG 51,12,70	Ceramic Cap.	27pF 50V	セ ラ コ ン		
C235 C236	42,00,00 FH 61,12,70	"	27pF 500V	"		
C237 C238	42,00,00 FJ 12,47,10	Electrolytic Cap.	10 $\mu$ F 25V	ケ ミ コ ン タ テ 型		
C239 ~ C242	42,00,00 FG 54,41,00	Ceramic Cap.	0.01 $\mu$ F 50V	セ ラ コ ン		
C243 C244	42,00,00 FG 74,31,00	"	0.001 $\mu$ F 50V	"		
C245 C246	42,00,00 FJ 14,63,30	Electrolytic Cap.	3.3 $\mu$ F 25V	ケ ミ コ ン タ テ 型		
C247 C248	42,00,00 FG 74,31,00	Ceramic Cap.	0.001 $\mu$ F 50V	セ ラ コ ン		
C251 ~ C254	42,00,00 FG 54,51,00	"	0.1 $\mu$ F 50V	"		
C255	42,00,00 FJ 16,61,00	Electrolytic Cap.	1 $\mu$ F 50V	ケ ミ コ ン タ テ 型		
C256 C257	42,00,00 FG 54,41,00	Ceramic Cap.	0.01 $\mu$ F 50V	セ ラ コ ン		
C301 C302	42,00,00 FM 49,96,80	Electrolytic Cap.	6,800 $\mu$ F 45V	ケ ミ コ ン 基 板 型		
C303 C304	42,00,00 FJ 36,74,70	"	47 $\mu$ F 50V	ケ ミ コ ン タ テ 型		
C305	42,00,00 FH 23,41,00	Ceramic Cap.	0.01 $\mu$ F 500V	セ ラ コ ン		
C306	42,00,00 FJ 11,73,30	Electrolytic Cap.	33 $\mu$ F 6.3V	ケ ミ コ ン タ テ 型		
C307	42,00,00 FJ 14,82,20	"	220 $\mu$ F 25V	"		
C308	42,00,00 FM 39,73,30	"	33 $\mu$ F 16V	"		
L201 L202	42,00,00 GD 90,02,80	Coil	3 $\mu$ H	ス プ リ ン グ コ イ ル		
R201 R202	42,00,00 HJ 35,64,70	Carbon Resistor	4.7k $\Omega$	カ ー ボ ン 抵 抗		
R203 R204	42,00,00 HJ 35,71,00	"	10k $\Omega$	"		
R205 R206	42,00,00 HJ 35,73,30	"	33k $\Omega$	"		
R207 R208	42,00,00 HJ 35,55,60	"	560 $\Omega$	"		
R209 R210	42,00,00 HJ 35,84,70	"	470k $\Omega$	"		
R211 R212	42,00,00 HJ 35,74,70	"	47k $\Omega$	"		
R213 R214	42,00,00 HJ 35,61,80	"	1.8k $\Omega$	"		
R215 R216	42,00,00 HJ 35,74,70	"	47k $\Omega$	"		
R217 R218	42,00,00 HJ 35,61,80	"	1.8k $\Omega$	"		
R219 ~ R222	42,00,00 HJ 35,61,50	"	1.5k $\Omega$	"		
R223 R224	42,00,00 HJ 35,53,90	"	390 $\Omega$	"		
R225 R226	42,00,00 HJ 35,63,90	"	3.9k $\Omega$	"		
R227 R228	42,00,00 HJ 35,61,00	"	1k $\Omega$	"		
R231 R232	42,00,00 HJ 35,73,30	"	33k $\Omega$	"		
R233 R234	42,00,00 HJ 35,71,00	"	10k $\Omega$	"		
R235 R236	42,00,00 HJ 35,44,70	"	47 $\Omega$	"		
R237 R238	42,00,00 HV 35,58,20	Fire Proof Resistor	820 $\Omega$	不 燃 化 カ ー ボ ン 抵 抗		
R239 ~ R242	42,00,00 HV 35,44,70	"	47 $\Omega$	"		
R243 R244	42,00,00 HV 35,55,60	"	560 $\Omega$	"		
R245 R246	42,00,00 HJ 35,83,30	Carbon Resistor	330k $\Omega$	カ ー ボ ン 抵 抗		

※ New Parts

Ref. No.	Part No.	Description	(部 品 名)	Remarks	Common model	Markets
R247 R248	42,00,00 HJ 35,73,30	Carbon Resistor	33k $\Omega$	カーボン抵抗		
R249 R250	42,00,00 HJ 35,71,00	"	10k $\Omega$	"		
R251 R252	42,00,00 HJ 35,65,60	"	5.6k $\Omega$	"		
R253 R254	42,00,00 HJ 35,51,50	"	150 $\Omega$	"		
R255 R256	42,00,00 HV 35,56,80	Fire Proof Resistor	680 $\Omega$	不燃化カーボン抵抗		
R257 R258	42,00,00 HJ 35,61,80	Carbon Resistor	1.8k $\Omega$	カーボン抵抗		
R259 R260	42,00,00 HV 35,56,80	Fire Proof Resistor	680 $\Omega$	不燃化カーボン抵抗		
R261 ~ R264	42,00,00 HV 35,61,00	"	1k $\Omega$	"		
R265 ~ R266	42,00,00 HJ 35,66,80	Carbon Resistor	6.8k $\Omega$	カーボン抵抗		
R267 R268	42,00,00 HV 35,52,20	Fire Proof Resistor	220 $\Omega$	不燃化カーボン抵抗		
R269 ~ R272	42,00,00 HV 35,34,70	"	4.7 $\Omega$	"		
R273 R274	42,00,00 HJ 35,56,80	Carbon Resistor	680 $\Omega$	カーボン抵抗		
R275 ~ R278	42,00,00 HZ 00,10,30	Metal Plate Resistor	0.47 $\Omega$ 5P	金属板抵抗		
R279 R280	42,00,00 HL 52,41,00	Metal Oxide Film Resistor	10 $\Omega$	酸金抵抗		
R281 R282	42,00,00 HJ 35,82,20	Carbon Resistor	220k $\Omega$	カーボン抵抗		
R283 R284	42,00,00 HL 51,34,70	Metal Oxide Film Resistor	4.7 $\Omega$	酸金抵抗		
R285 R286	42,00,00 HL 42,52,20	"	220 $\Omega$	"		
R287 R288	42,00,00 HJ 35,61,50	Carbon Resistor	1.5k $\Omega$	カーボン抵抗		
R301 R302	42,00,00 HM 35,56,80	Cement Molded Resistor	680 $\Omega$	セメント抵抗		
R303	42,00,00 HJ 35,76,80	Carbon Resistor	68k $\Omega$	カーボン抵抗		
R304	42,00,00 HJ 35,81,20	"	120k $\Omega$	"		
R305	42,00,00 HJ 35,81,50	"	150k $\Omega$	"		
R306	42,00,00 HJ 35,74,70	"	47k $\Omega$	"		
R307	42,00,00 HJ 35,76,80	"	68k $\Omega$	"		
R308	42,00,00 HJ 35,81,50	"	150k $\Omega$	"		
R309	42,00,00 HJ 35,51,80	"	180 $\Omega$	"		
R310	42,00,00 HJ 35,61,80	"	1.8k $\Omega$	"		
R311	42,00,00 HJ 35,43,30	"	33 $\Omega$	"		
VR201	42,00,00 HS 31,03,60	Variable Resistor	200k $\Omega$ BH x 2	ポリューム	Interchangeable	
	42,00,00 HS 11,03,50	"	200k $\Omega$ Z x 2	"		
VR202	42,00,00 HS 31,09,00	"	100k $\Omega$ B x 2	"	Interchangeable	
VR203	42,00,00 HS 11,04,40	"	100k $\Omega$ B x 2	"		
VR204	42,00,00 HS 31,08,40	"	30k $\Omega$ B x 2	"		
VR205	42,00,00 HS 31,08,50	"	30k $\Omega$ G x 2	"		
VR207 VR208	42,00,00 HT 77,00,30	Semi-Fixed Variable Resistor	1k $\Omega$ B	半固定ポリューム		
TR201 TR202	42,00,00 iA 07,98,00	Dual Transistor	2SA798	デュアルトランジスタ		
TR203 TR204	42,00,00 iC 23,20,10	Transistor	2SC2320 E,F	トランジスタ		
TR205 TR206	42,00,00 iC 22,40,00	"	2SC2240 GR,BL	"		
TR207 TR208	42,00,00 iC 22,40,10	"	2SC2240 BL	"		
TR209 ~ TR212	42,00,00 iA 09,99,10	"	2SA999 E,F	"		
TR213 TR214	42,00,00 iD 04,38,10	"	2SD438 E,F	"		
	42,00,00 iD 06,67,10	"	2SD667A B,C	"		
TR215 TR216	42,00,00 iB 05,60,10	"	2SB560 E,F	"		
	42,00,00 iB 06,47,10	"	2SB647A B,C	"		
TR301 TR302	42,00,00 iC 23,20,10	"	2SC2320 E,F	"		
TR303	42,00,00 iA 09,99,10	"	2SA999 E,F	"		
TR304	42,00,00 iC 23,20,10	"	2SC2320 E,F	"		
TR305	42,00,00 iA 09,99,10	"	2SA999 E,F	"		
D201 ~ D208	42,00,00 iF 00,00,40	Diode	1S1555	ダイオード		
D301	42,00,00 iH 00,07,40	Diode Bridge	M4B-31	ダイオードブリッジ		
D302 D303	42,00,00 iF 00,16,40	Zener Diode	RD-20F	ツェナーダイオード		
D304 D305	42,00,00 iH 00,07,10	Diode	W06C	ダイオード		

※ New Parts

Ref. No.	Part No.	Description	(部 品 名)	Remarks	Common model	Markets
IC201	42,00,00 iG 02,84,00	IC NJM4558DS	I C			
SW201	42,00,00 KA 80,11,00	Push Switch	プッシュスイッチ			
RY301	42,00,00 KC 00,06,60	Relay MS12D4-OZ DC12V	リ レ ー			
	42,00,00 KC 00,08,00	" 04AL-01 DC12V	"	Interchangeable		
	42,00,00 KC 00,07,70	" JC2a DC12V	"			
JK201	42,00,00 LB 30,09,70	Phones Jack Gray S-G2395	ホ ー ン ジャ ッ ク			R,A,G,C,B,U
	42,00,00 LB 30,09,90	" Black S-G2338	"	Black Model		G
	42,00,00 LA 00,21,10	Wrapping Terminal P = 5 2P	i 型ラッピング端子板			
	42,00,00 LA 00,21,20	" P = 5 3P	"			
	42,00,00 LA 00,20,40	" P = 5 5P	"			
	42,00,00 LA 00,21,40	" P = 5 2P	"			
	42,00,00 LA 00,25,40	" P = 5(0) 2P	"			
	32,00,00 BB 06,52,50	Transistor Pusher #6525	トランジスタプッシャー			
	32,00,00 BB 06,83,70	Earth Plate #6837	ア ー ス 金 具			

※ New Parts