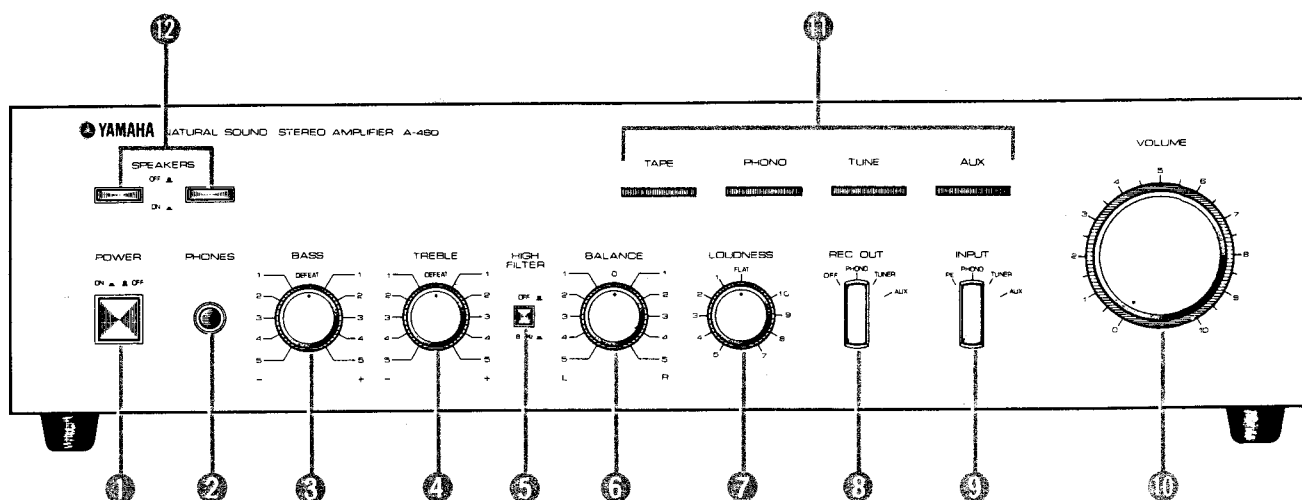


STEREO INTEGRATED AMPLIFIER

A-460

SERVICE MANUAL

FRONT PANEL



- ① POWER SWITCH
- ② PHONES JACK
- ③ BASS CONTROL
- ④ TREBLE CONTROL
- ⑤ HIGH FILTER SWITCH
- ⑥ BALANCE CONTROL
- ⑦ LOUDNESS CONTROL
- ⑧ REC OUT SELECTOR
- ⑨ INPUT SELECTOR
- ⑩ VOLUME CONTROL
- ⑪ INPUT INDICATOR LAMPS
- ⑫ SPEAKERS SWITCHES

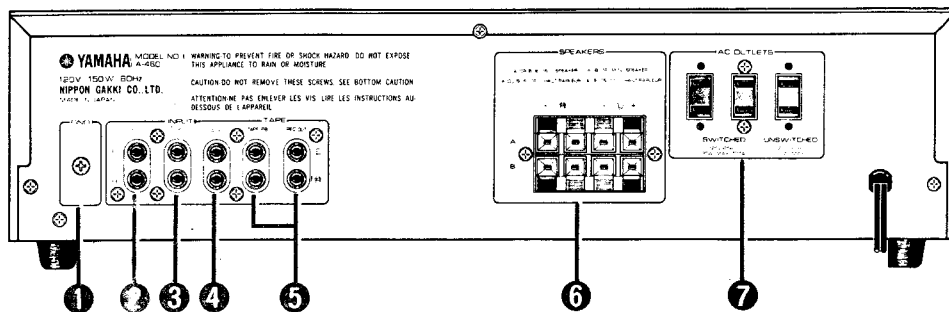
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INTERNAL VIEW	2
DISASSEMBLY PROCEDURES	3
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BLOCK DIAGRAM	5
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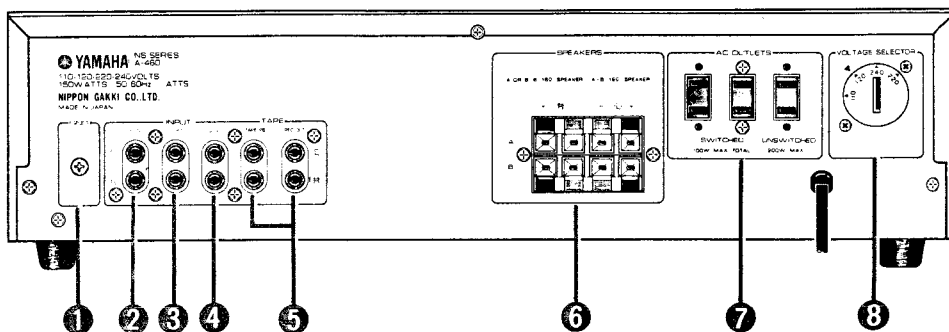
004431

REAR PANELS

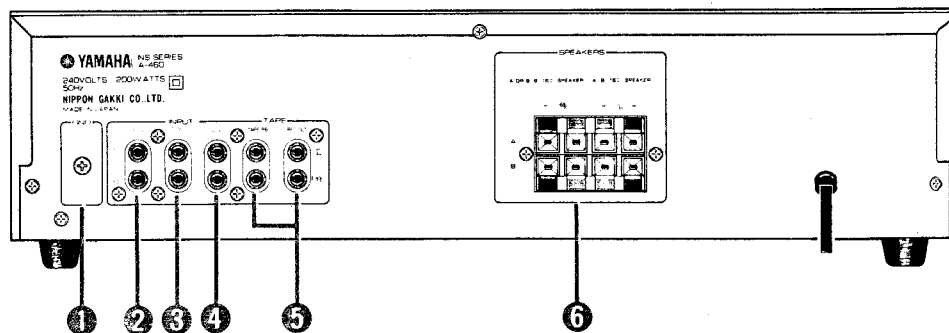
U.S. & CANADIAN MODELS



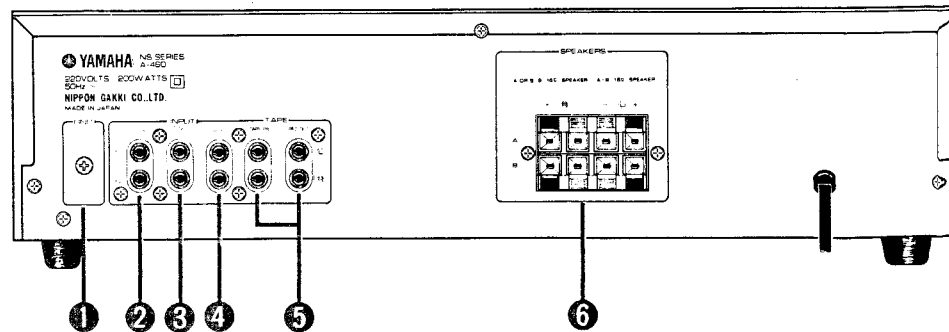
GENERAL MODEL



BRITISH & AUSTRALIAN MODELS



NORTH EUROPEAN MODEL

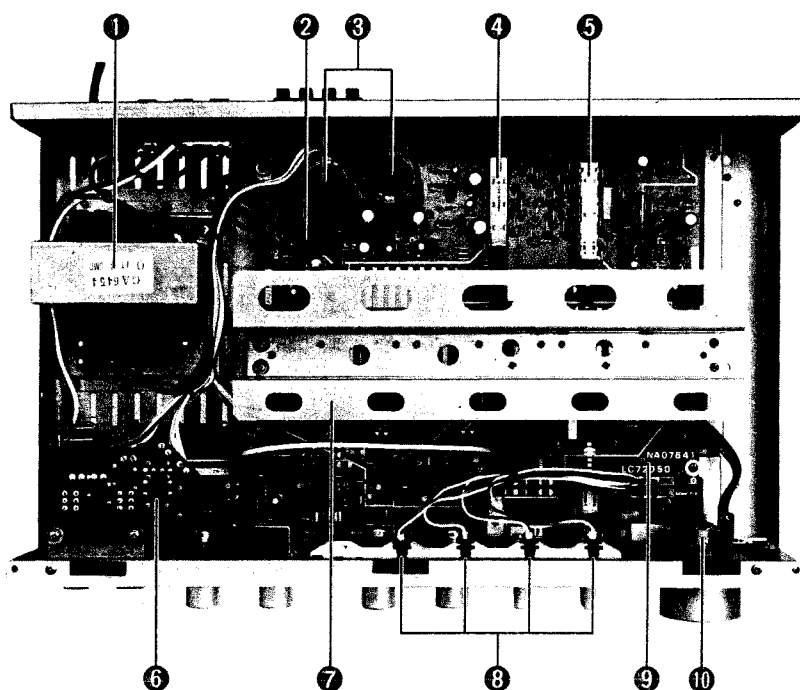


- 1 GND TERMINAL
- 2 PHONO INPUT JACKS
- 3 TUNER INPUT JACKS
- 4 AUX INPUT JACKS
- 5 TAPE PB/REC OUT JACKS

- 6 SPEAKER TERMINALS
- 7 AC OUTLETS
- 8 VOLTAGE SELECTOR

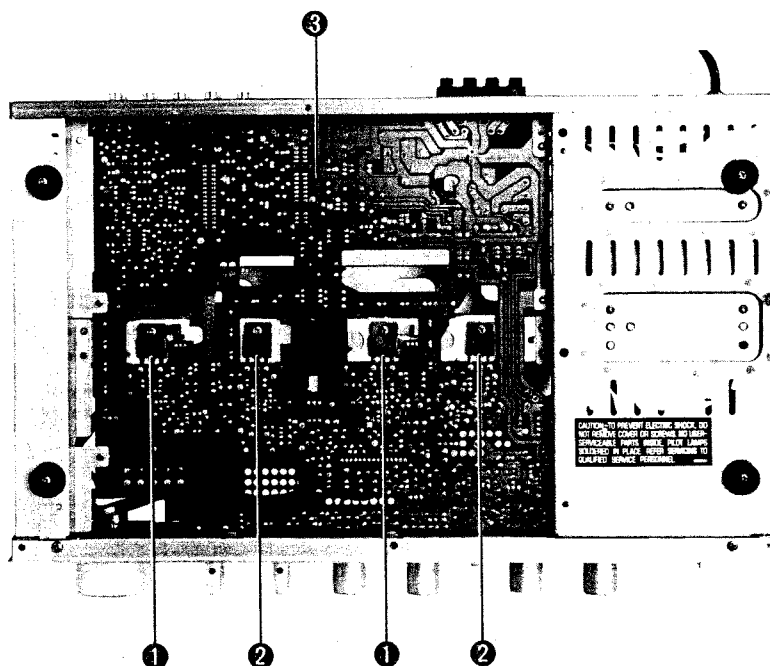
INTERNAL VIEW

▼ TOP VIEW



- ① POWER TRANSFORMER
U.S.A. model : GA6454
N. European model : GA6455
British & Australian models : GA6456
Canadian model : GA6473
General model : GA6457
- ② DIODE BRIDGE 4D4B41 (iH00087)
- ③ ELECTROLYTIC CAPACITOR
(6800 μ F/50V) (FM73968)
- ④ REC OUT SELECTOR SWITCH (SW102)
- ⑤ INPUT SELECTOR SWITCH (SW103-1)
- ⑥ MAIN C. BOARD
U.S.A. model : NA07651
N. European model : NA07653
 : NA07654 (Black)
British model : NA07653
Australian model : NA07652
Canadian model : NA07653
General model : NA07650
- ⑦ HEAT SINK (BA08058)
- ⑧ INPUT INDICATORS
- ⑨ MAIN C. BOARD [1]
- ⑩ VOLUME CONTROL

▼ BOTTOM VIEW



- ① POWER TRANSISTOR 2SC2581
(iC25810)
- ② POWER TRANSISTOR 2SA1106
(iA11060)
- ③ MAIN C. BOARD [1]

DISASSEMBLY PROCEDURES

1. Top cover removal

Remove screws ① to ③ in photo 1 from both right and left sides then remove the top cover.

- ① ~ ② : B.W. head screw
- ③ : Bind head tapping screw

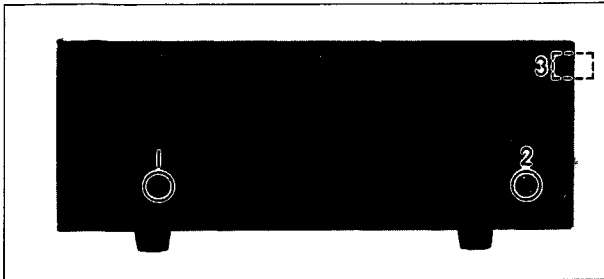


Photo 1

2. Bottom cover removal

Remove screws ① to ⑤ in photo 2 and then remove the bottom cover.

- ① ~ ⑤ : Bind head tapping screw

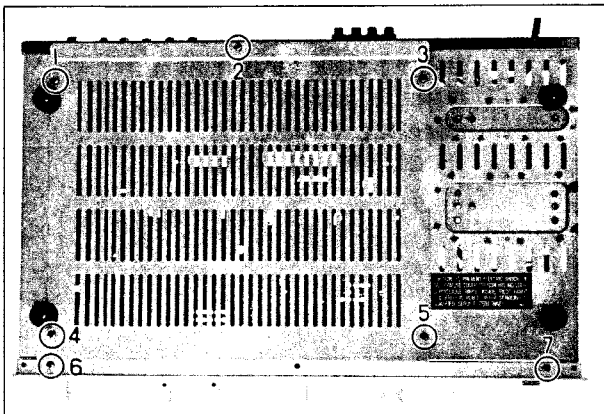


Photo 2

3. Front panel removal

a. Loosen the set screws of REC OUT, and INPUT knobs with a 1.5 mm hexagon wrench, then pull out each knob.

b. Remove screws ⑥ and ⑦ in photo 2 as well as screws ① and ② in photo 3 and then remove the front panel.

- ① · ② (photo 3) ⑥ · ⑦ (photo 2): Bind head tapping screw

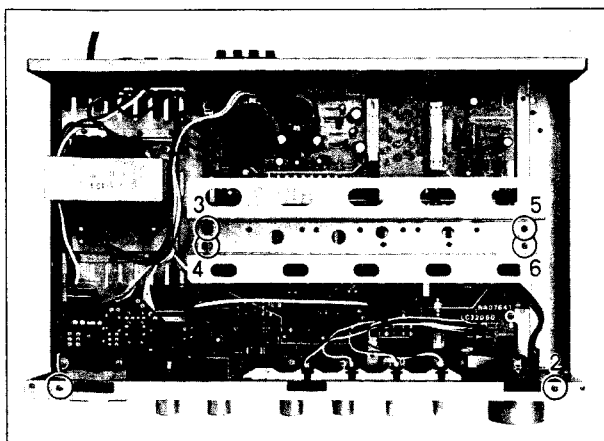


Photo 3

4. Power transistor replacement

a. Remove screws ① to ④ in photo 4.

- ① ~ ④ : Bind head tapping B tight screw

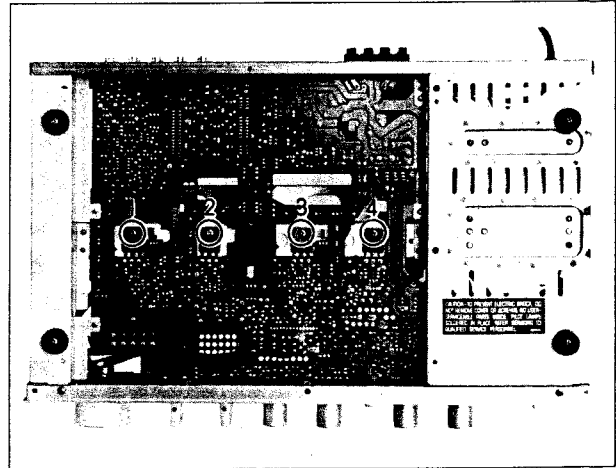


Photo 4

b. Remove screws ③ to ⑥ in photo 3 and remove the heat sink.

- ③ ~ ⑥ : B.W. head tapping screw

c. Detach the soldering of the power transistor and then replace the power transistors.

d. When mounting power transistors, screw power transistors putting mica base between the heat sink and the transistors. Be sure that the heat sink should not be touched to the case of the power transistor. When isolation between power transistors and the heat sink is imperfect, the circuit is occurred.

Apply silicon grease to both sides of the mica base so that heat coupling between power transistors and the heat sink should be tight.

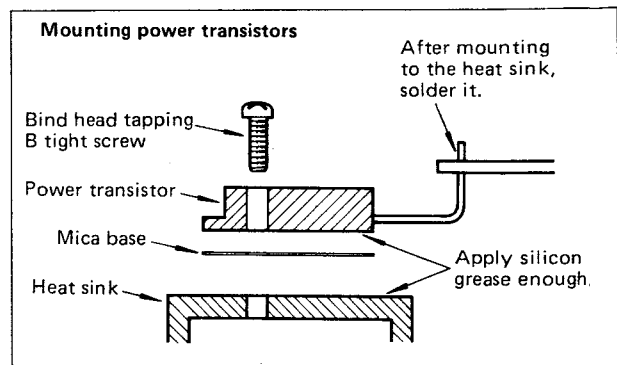


Fig. 1

5. Main printed circuit board removal

a. Remove the Top cover, Bottom cover and Front panel according to foregoing steps 1 to 3.

b. Pull out lamps ① to ④ in photo 5.

- ① ~ ④ : Pilot lamp 14.5V 80mA.

c. Remove screws ① to ④ in photo 4 as well as screws ⑤ to ⑧ in photo 5 and then remove the heat sink.

- ① ~ ④ (photo 4): Bind head tapping B tight screw
- ⑤ ~ ⑧ (photo 5): B.W. head tapping screw

- d. Detach the lead wires which are connected to the main printed circuit board.
- e. Pull out the stopper ① with pliers upwards.
- f. Remove nuts ② to ⑦ in photo 6.
- g. Remove screws ⑨ to ⑫ in photo 5.
⑨ ~ ⑫ : B.W. head tapping screw
- h. Remove screws ① to ⑧ in photo 7.
① ~ ⑧ : Bind head tapping screw
- i. Remove screws ⑨ to ⑬ in photo 7.
Remove rear panel and then remove main printed circuit board.
⑨ ~ ⑬ : Bind head tapping screw

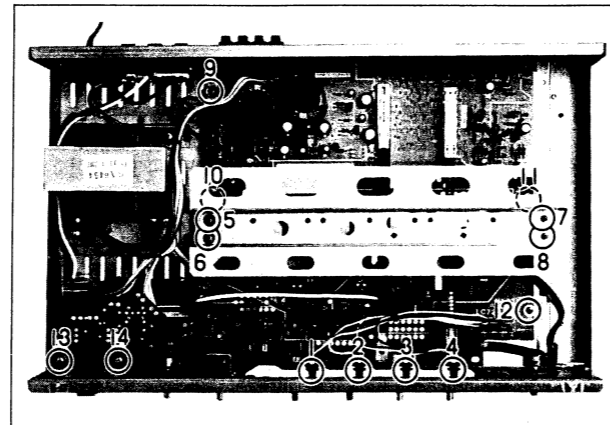


Photo 5

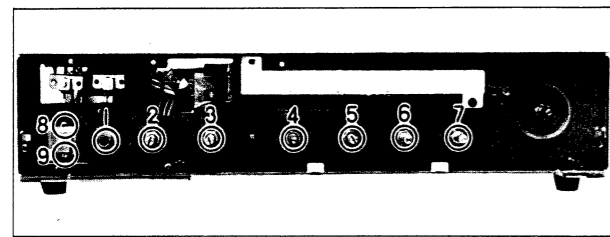


Photo 6

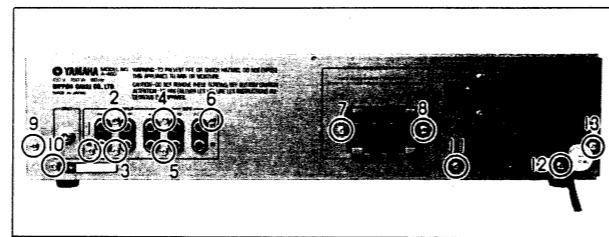


Photo 7

ADJUSTMENTS

1. Idling current

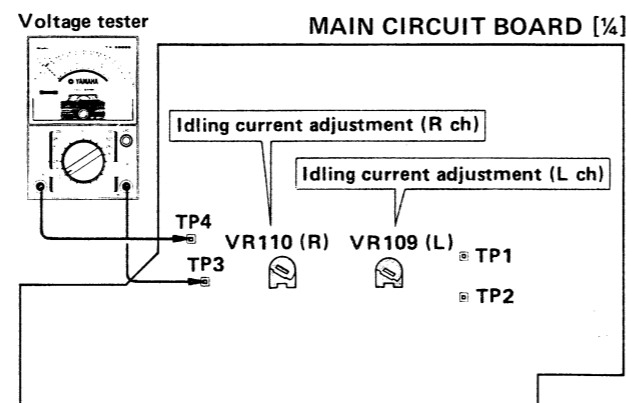
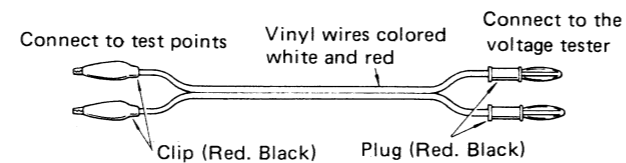
When repairing the main amplifier (replacing TR105 to 122), adjust idling current.

- a. Set the VOLUME control to its lowest position.
- b. Rotate VR109 (L ch) and VR110 (R ch) for idling current adjustment fully counterclockwise.
- c. Connect a voltage tester to the test points.
(L ch: TP1 ⊕ ~ TP2 ⊖, R ch: TP3 ⊕ ~ TP4 ⊖)
- d. After the power has been switched, rotate VR109 and VR110 and set so that the voltage between test points comes to 15mV.
- e. Set so that the voltage between test points comes within 15 ± 3mV about 3 or 4 minutes after the power has been switched on to enable the operation of the amplifier to stabilize.

* When idling current rises abnormally and the voltage of test points is very high, in spite of rotating VR109 or VR110 counterclockwise, the set is broken.

Adjustment item	Channel	Test point	Adjustment VR	Rating or standard
Idling current adjustment	L ch	TP1 ⊕ ~ TP2 ⊖	VR109	15 ± 3mV
	R ch	TP3 ⊕ ~ TP4 ⊖	VR110	

You will find that Adjustment will be facilitated if you use the lead wires as shown in the bottom figure.



SPECIFICATIONS

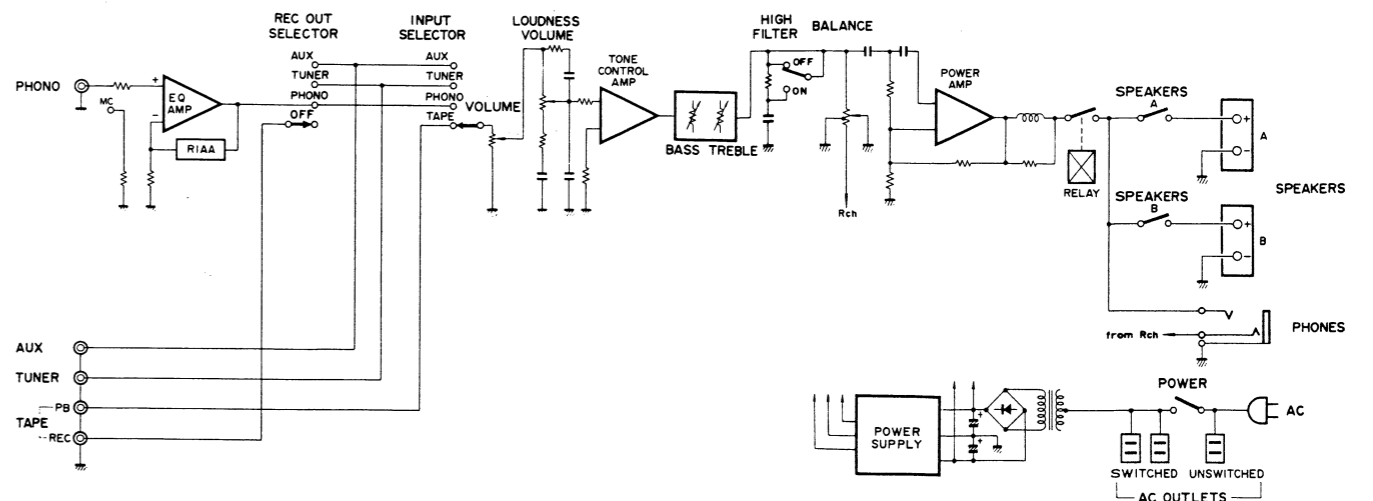
Continuous Power Per Channel	
20Hz ~ 20kHz (0.015% THD, 8Ω)	35W
1kHz (0.5%, 4Ω)	55W
1kHz (0.01% THD, 8Ω)	38W
DIN Standard Output Power	
Per Channel	
1kHz (1% THD, 8Ω)	40W (G)(B)
Power Bandwidth	
0.05% THD, 17.5W (8Ω)	10Hz ~ 40kHz
Damping Factor	
(at 1kHz, 8Ω)	better than 70
Input Sensitivity (New IHF)	
Phono	0.423mV
Aux, Tape, Tuner	25.4mV
Maximum Input Signal Level	
Phono	150mV
Overload Margin	
Phono MM	35dB (G)(B)
Output Level/Impedance	
Rec Out	150mV/470Ω
Headphone Jack Rated Output/Impedance	
	0.68V/8Ω
Frequency Response	
Aux, Tape, Tuner	20Hz ~ 20kHz, -0.2dB
RIAA Equalization Deviation	
Phono	± 0.3dB
Total Harmonic Distortion	
Phono (3V)	0.005%
Aux, Tape, Tuner to Sp Out (1W/8Ω)	0.01%
Intermodulation Distortion	
Aux, Tape, Tuner Rated	
Output/8Ω	0.015%
1W/8Ω	0.015%
Intermodulation Distortion (DIN)	
Aux, Tape, Tuner (35W/8Ω)	0.015%
Signal-to-Noise Ratio (IHF-A-Network)	
Phono (5mV, Input shorted)	92dB
Aux, Tape, Tuner (Input shorted)	100dB

Signal-to-Noise Ratio (New IHF)	
Phono	78dB
Aux, Tape, Tuner	82dB
Residual Noise (IHF-A-Network)	
	160μV
NDCR (IHF-A-Network)	
	20mW ~ 37W
Channel Separation	
Phono, Aux, Tape 40Hz	80dB
1kHz	80dB
10kHz	60dB
Tone Control Characteristics	
Bass boost/cut	± 10dB (at 50Hz)
Bass turnover frequency	350Hz
Treble boost/cut	± 10dB (at 20kHz)
Treble turnover frequency	3.0kHz
Filter Characteristics	
Low (Subsonic; built-in)	10Hz 12dB/oct
High	8kHz 6dB/oct
Continuous Loudness Control (Level-related equalization)	
Attenuation	-20dB (at 1kHz)
Semiconductor	
	14 Transistors, 3 ICs, 4 FET, 16 Diodes
Power Supplies	
U.S.A. and Canadian models	AC120V, 60Hz
General model	AC110/120/220/240V, 60/50Hz
Power Consumption	
U.S.A., Canadian and General models	150W
North European, British and Australian models	200W
Dimensions (W x H x D)	
	435 x 112 x 299.5mm (17-1/8x4-2/5x11-7/9)"
Weight	
	5.7kg (12.6lbs)

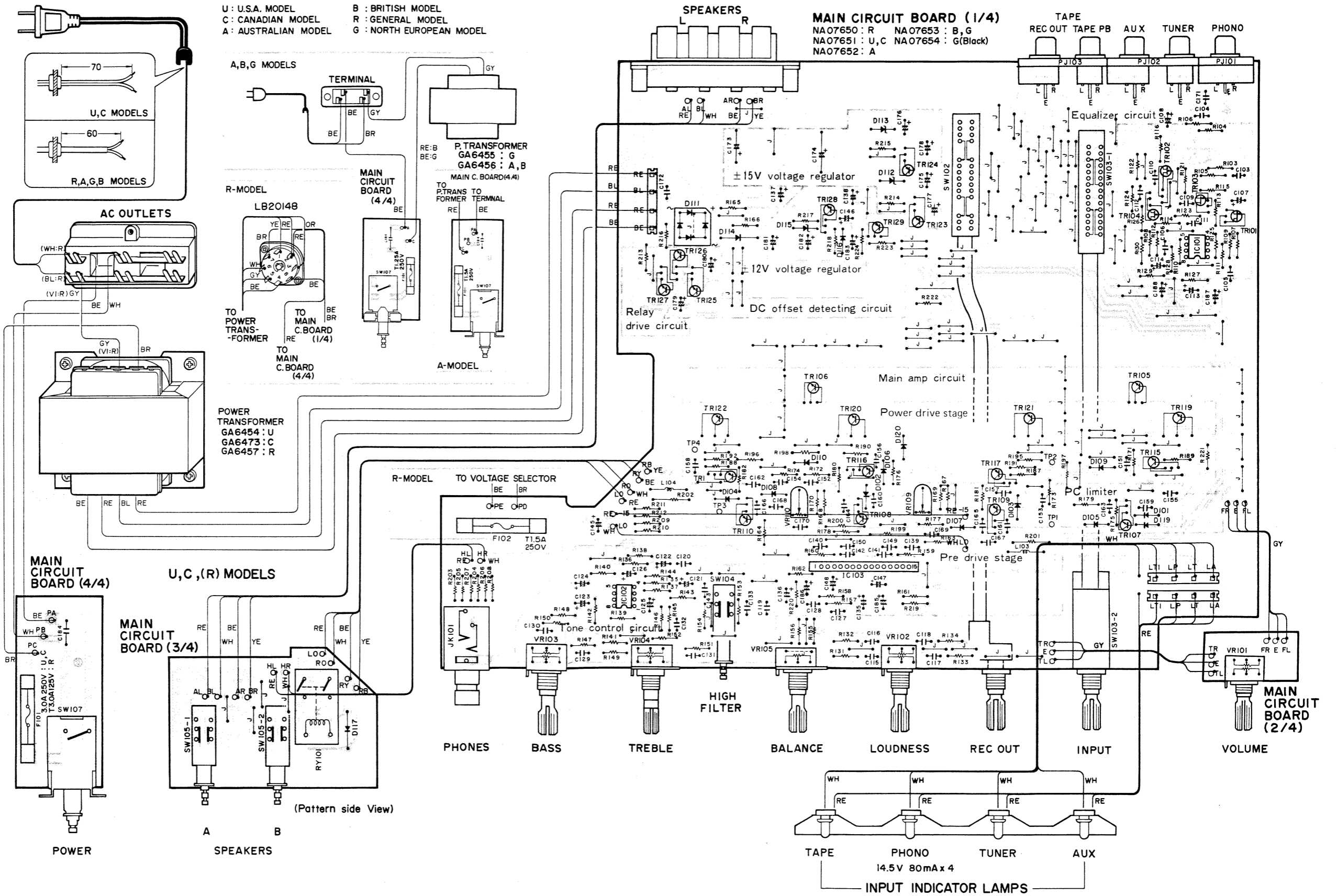
(G) North European model only.
(B) British model only.

Specifications subject to change without notice.

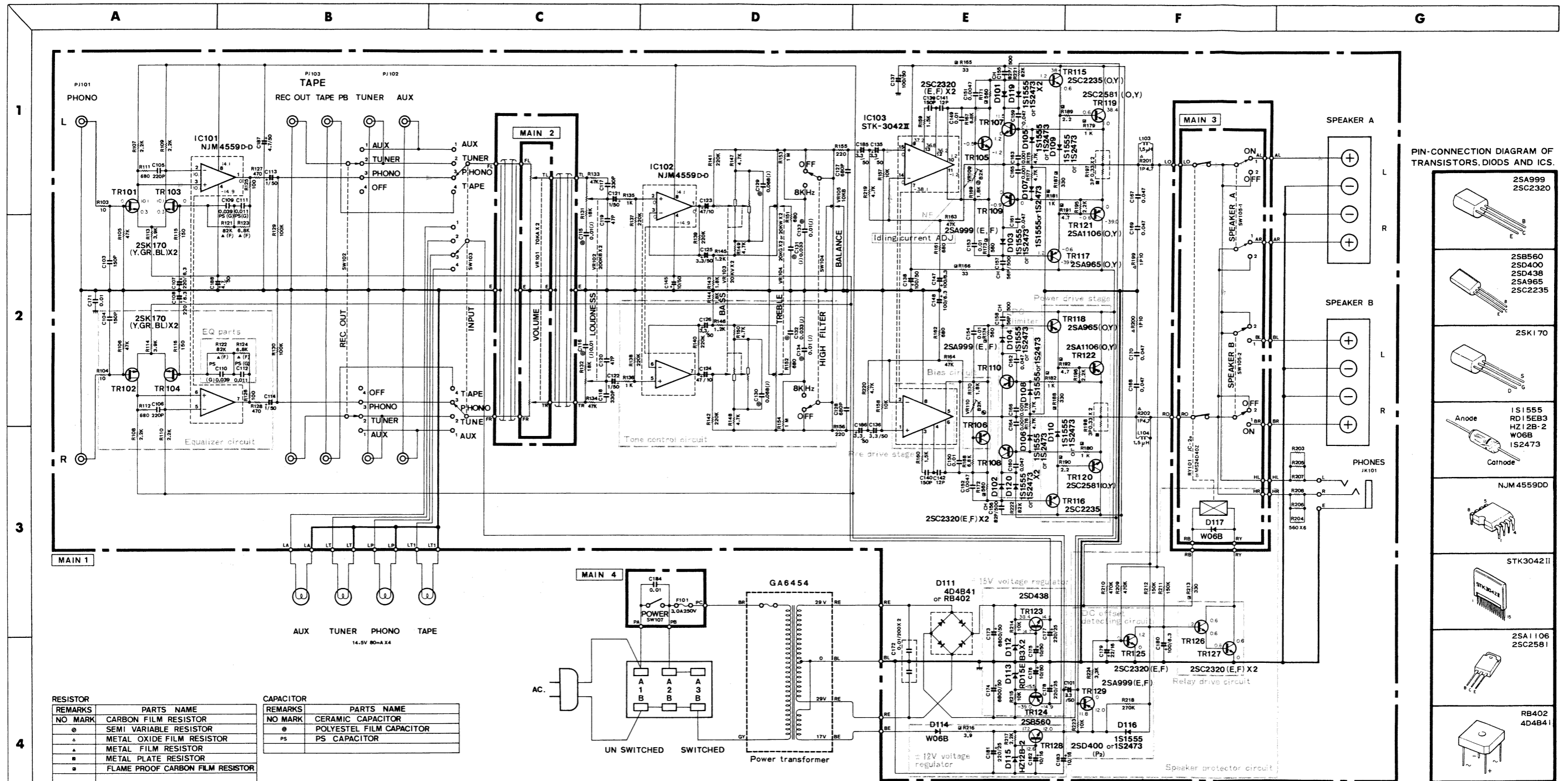
BLOCK DIAGRAM



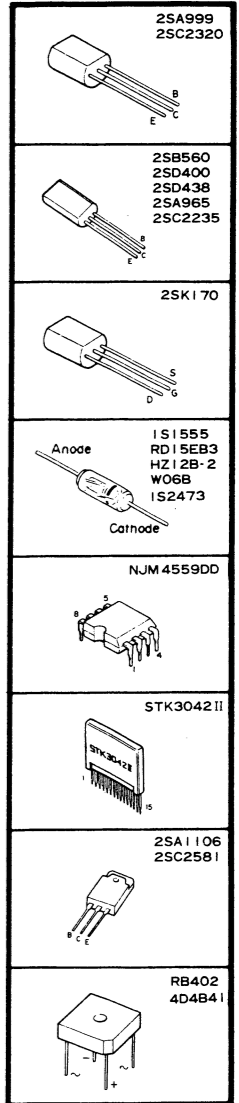
■ WIRING DIAGRAM



SCHEMATIC DIAGRAM



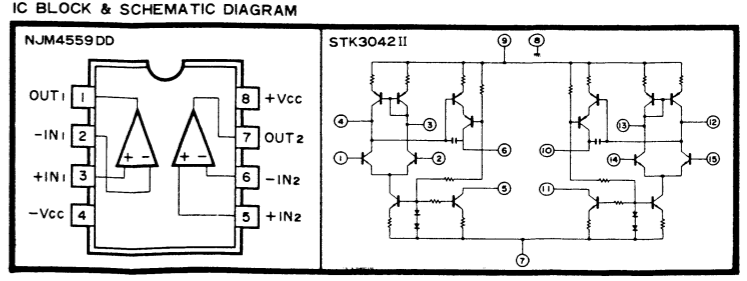
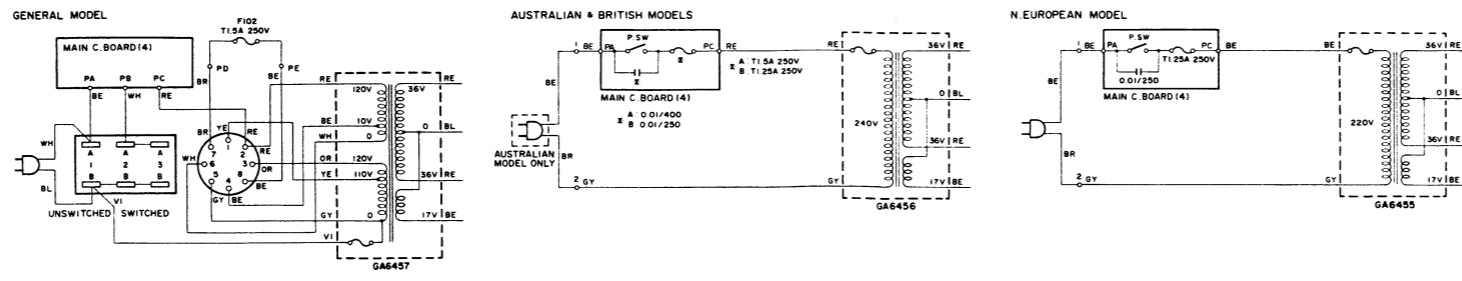
PIN-CONNECTION DIAGRAM OF TRANSISTORS, DIODES AND ICs.



RESISTOR		CAPACITOR	
REMARKS	PARTS NAME	REMARKS	PARTS NAME
NO MARK	CARBON FILM RESISTOR	NO MARK	CERAMIC CAPACITOR
⊙	SEMI VARIABLE RESISTOR	⊙	POLYESTER FILM CAPACITOR
■	METAL OXIDE FILM RESISTOR	PS	PS CAPACITOR
△	METAL FILM RESISTOR		
□	METAL PLATE RESISTOR		
■	FLAME PROOF CARBON FILM RESISTOR		

No.	R	U, C	A	G, B
F101	T3.0A 125V	3.0A 250V	T1.5A 250V	T1.25A 250V
C184	0.01	0.01	0.01/400	0.01/250
F102	T1.5A 250V			

* All voltages measured with a 10MΩ/V DC electric volt meter, under no-signal condition.
 * Schematic Diagram is subject to change without notice.



PARTS LIST

A-460

STEREO INTEGRATED AMPLIFIER

■ CONTENTS

EXPLODED VIEW (FRONT)	1
EXPLODED VIEW (REAR)	2
PARTS LIST	3
PARTS LIST (CIRCUIT BOARD)	5

R: General model
U: U.S.A. model
C: Canadian model
A: Australian model
G: North European model
B: British model

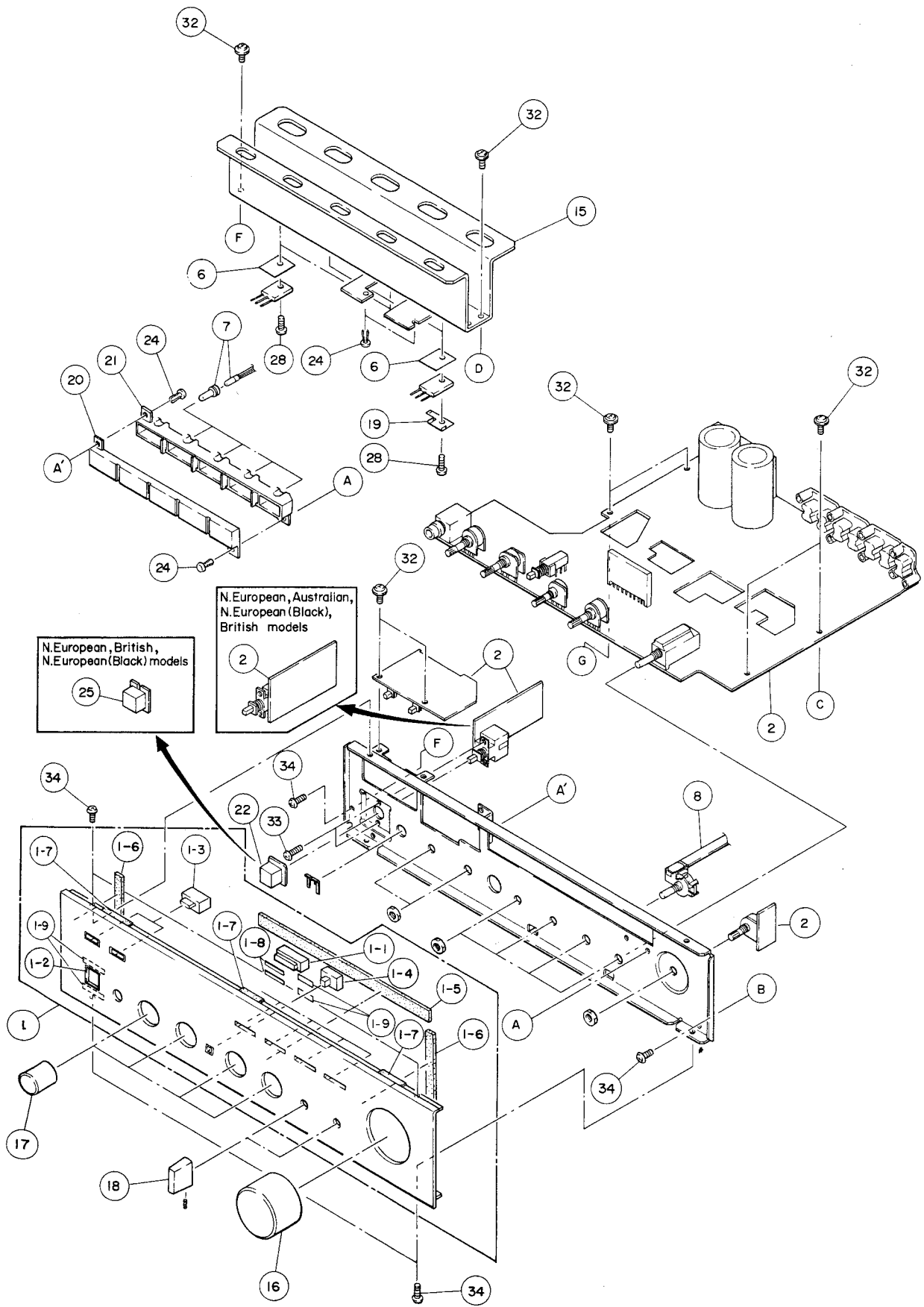
SINCE 1887



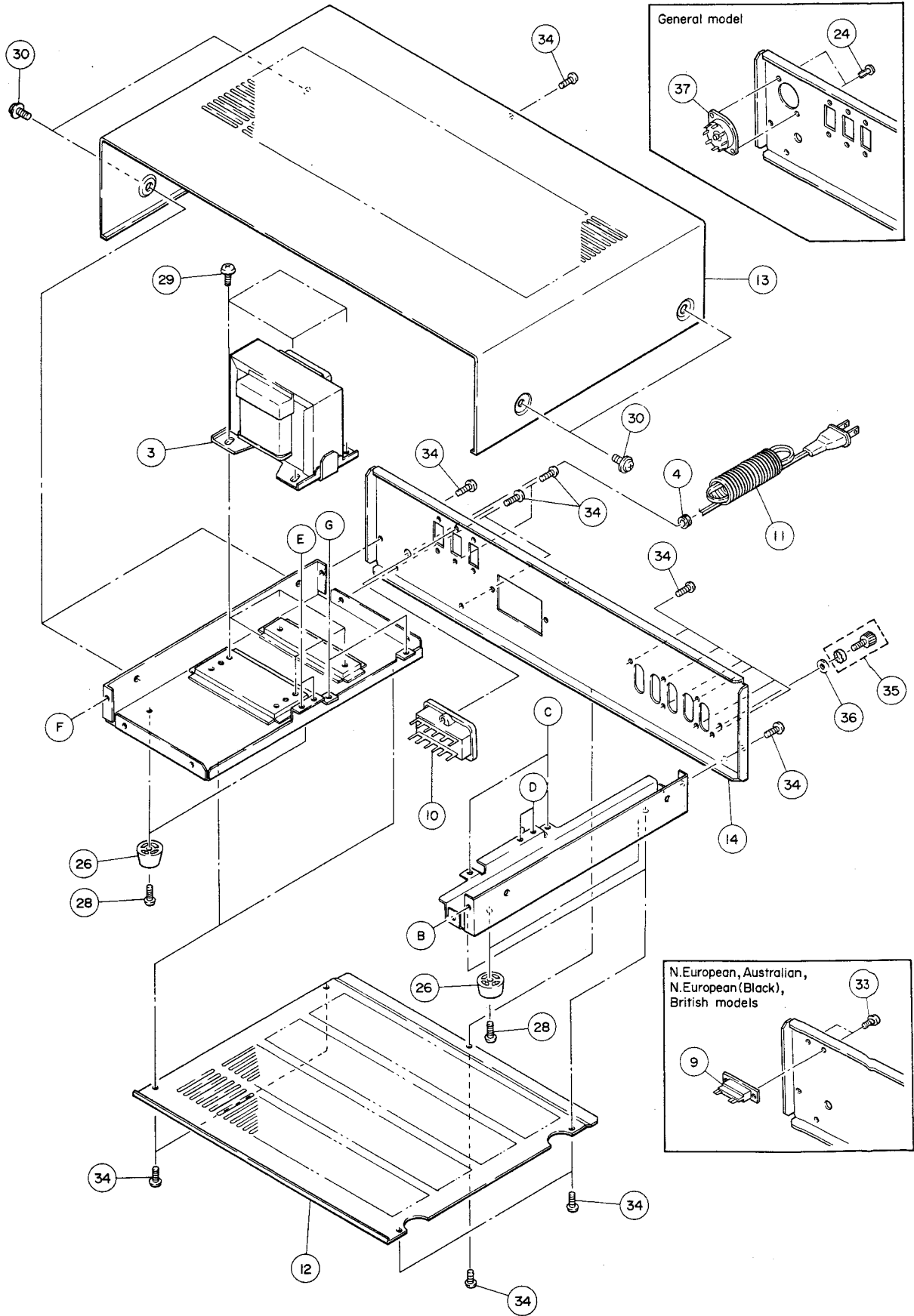
YAMAHA

NIPPON GAKKI CO., LTD. HAMAMATSU, JAPAN

EXPLODED VIEW (FRONT)



EXPLODED VIEW (REAR)



PARTS LIST

Ref. No.	Part No.	Description	(部 品 名)	Remarks	Common model	Markets
※ 1	32,00,00 NB 60,12,20	Front Panel Unit	フロントパネルユニット			
※ "	32,00,00 NB 60,12,30	" (Black model)	"			G
※ 1-1	32,00,00 CB 60,32,30	Indicator	インジケータ			
※ "	32,00,00 CB 60,37,80	" (Black model)	"			G
1-2	32,00,00 CB 09,38,40		パワーボタン枠		CR-240	
※ "	32,00,00 CB 09,38,80	" (Black model)	"		CR-240B	G
※ 1-3	32,00,00 NB 60,02,40	Push Button Ass'y	プッシュボタン Ass'y			
※ "	32,00,00 NB 60,09,00	" (Black model)	"			G
1-4	32,00,00 NB 09,39,20		"		CR-640	
※ "	32,00,00 NB 09,39,30	" (Black model)	"		CR-640B	G
1-5	42,00,00 CB 60,32,80	Shade Tape	遮光テープ			
1-6	42,00,00 CB 09,31,90	"	"			
1-7	42,00,00 CB 07,59,80	Anti Vibrator Tape	防振テープ			
1-8	42,00,00 CB 07,41,90	Adhesive Tape	ダブルタックテープ			
※ 1-9	42,00,00 CB 60,32,70	"	両面テープ			
※ 2	32,00,00 NA 07,65,00	Main C. Board	メインシート			R
※ "	32,00,00 NA 07,65,10	"	"			U,C
※ "	32,00,00 NA 07,65,20	"	"			A
※ "	32,00,00 NA 07,65,30	"	"			G,B
※ "	32,00,00 NA 07,65,40	" (Black model)	"			G
※ 3	42,00,00 GA 64,54,00	Power Transformer	電源トランス			U
※ "	42,00,00 GA 64,55,00	"	"			G
※ "	42,00,00 GA 64,56,00	"	"			A,B
※ "	42,00,00 GA 64,73,00	"	"			C
※ "	42,00,00 GA 64,57,00	"	"			R
4	42,00,00 CB 06,86,30	Cord Stopper SR-3P-4	コードストッパー			U,C
※ "	40,10,00 CB 07,27,50	" SR-4N-4	"			R,A,G,B
6	42,00,00 iL 00,05,70	Mica Base MT-100	マイカベース			
※ 7	42,00,00 JB 00,09,60	Pilot Lamp 14.5V 80mA	パイロットランプリード式			
※ 8	42,00,00 KA 90,19,50	Remoto Rotary Switch	リモートロータリーSW操作+ワイヤー部			
9	42,00,00 LA 00,29,50	2P Terminal Plate MA0092A	2P中継端子台			A,G,B
※ 10	42,00,00 LB 60,39,20	AC Outlet (3 Socket) MD-86-4	ACアウトレット3連			R,U,C
11	42,00,00 MG 00,07,80	Power Cord	電源コード			R
※ "	42,00,00 MG 00,08,40	"	"			U,C
※ "	42,00,00 MG 00,09,20	"	"			A
※ "	42,00,00 MG 00,09,50	"	"			G
※ "	42,00,00 MG 00,10,00	"	"			B
※ 12	32,00,00 AA 60,66,90	Bottom Cover	ボトムカバー			
※ 13	32,00,00 AA 60,67,10	Top Cover	トップカバー			
※ 14	32,00,00 AA 60,67,80	Rear Panel	リアパネル			R
※ "	32,00,00 AA 60,67,90	"	"			U,C
※ "	32,00,00 AA 60,68,00	"	"			G
※ "	32,00,00 AA 60,69,50	"	"			A,B
※ 15	42,00,00 BA 08,05,80	Heat Sink	放熱板			
16	32,00,00 BA 07,33,80	Volume Knob	ボリュームツマミ			
※ "	32,00,00 BA 07,60,80	" (Black model)	"			G
17	32,00,00 BA 08,01,40	Knob	ツマミ	Inter-	R-300	
※ "	32,00,00 BA 08,14,70	"	"	changeable		
※ "	32,00,00 BA 08,01,70	" (Black model)	"		R-300	G
18	32,00,00 BA 07,94,60	Switch Knob	スイッチツマミ			
※ "	32,00,00 BA 08,01,80	" (Black model)	"		R-300	G

※ NEW PARTS

■ PARTS LIST (CIRCUIT BOARD)

Ref. No.	Part No.	Description	(部 品 名)	Remarks	Common model	Markets
*	32'00'00 NA 07'65'00	Main C. Board	メ イ ン シ ー ト			R
*	32'00'00 NA 07'65'10	"	"			U,C
*	32'00'00 NA 07'65'20	"	"			A
*	32'00'00 NA 07'65'30	"	"			G,B
*	32'00'00 NA 07'65'40	" (Black model)	"			G
C101	42'00'00 UW 86'63'30	Electrolytic Cap.	3.3 μ F 50V	ケ ミ コ ン		
C103, 104	42'00'00 FG 41'21'50	Ceramic Cap.	150pF 50V	セ ラ コ ン		
C105, 106	42'00'00 FG 41'22'20	"	220pF 50V	"		
C107, 108	42'00'00 UW 81'82'20	Electrolytic Cap.	220 μ F 6.3V	ケ ミ コ ン		
C109, 110	42'00'00 FT 36'43'90	Polypropylene Film Cap.	0.039 μ F	P S コ ン		
C111, 112	42'00'00 FT 36'41'10	"	0.011 μ F	"		
C113, 114	42'00'00 UW 86'61'00	Electrolytic Cap.	1 μ F 50V	ケ ミ コ ン		
C115, 116	42'00'00 FA 85'41'00	Mylar Cap.	0.01 μ F 50V	マ イ ラ ー コ ン		
C117, 118	42'00'00 FG 41'23'30	Ceramic Cap.	330pF 50V	セ ラ コ ン		
C119, 120	42'00'00 FG 41'14'70	"	47pF 50V	"		
C121, 122	42'00'00 UW 86'61'00	Electrolytic Cap.	1 μ F 50V	ケ ミ コ ン		
C123, 124	42'00'00 UW 82'74'70	"	47 μ F 10V	"		
C125, 126	42'00'00 UW 86'63'30	"	3.3 μ F 50V	"		
C127, 128	42'00'00 FG 41'26'80	Ceramic Cap.	680pF 50V	セ ラ コ ン		
C129, 130	42'00'00 FA 85'46'80	Mylar Cap.	0.068 μ F 50V	マ イ ラ ー コ ン		
C131, 132	42'00'00 FA 85'43'30	"	0.033 μ F 50V	"		
C133, 134	42'00'00 FA 85'41'00	"	0.01 μ F 50V	"		
C135, 136	42'00'00 UW 86'63'30	Electrolytic Cap.	3.3 μ F 50V	ケ ミ コ ン		
C137, 138	42'00'00 UW 86'81'00	"	100 μ F 50V	"		
C139, 140	42'00'00 FG 41'21'50	Ceramic Cap.	150pF 50V	セ ラ コ ン		
C141, 142	42'00'00 FG 41'11'20	"	12pF 50V	"		
C145	42'00'00 UW 86'71'00	Electrolytic Cap.	10 μ F 50V	ケ ミ コ ン		
C147, 148	42'00'00 UW 81'81'00	"	100 μ F 6.3V	"		
C149, 150	42'00'00 FG 44'41'00	Ceramic Cap.	0.01 μ F 50V	セ ラ コ ン		
C151, 152	42'00'00 FG 41'34'70	"	0.0047 μ F 50V	"		
C153, 154	42'00'00 FG 44'41'00	"	0.01 μ F 50V	"		
C155, 156	42'00'00 FH 61'18'20	"	82pF 500V	"		
C157, 158	42'00'00 FH 61'15'60	"	56pF 500V	"		
C159~ C162	42'00'00 FG 44'44'70	"	0.047 μ F 50V	"		
C163~ C166	42'00'00 FG 41'31'00	"	0.001 μ F 50V	"		
C167~ C170	42'00'00 FG 44'44'70	"	0.047 μ F 50V	"		
C171	42'00'00 FG 44'41'00	"	0.01 μ F 50V	"		
C172	42'00'00 FZ 00'25'10	"	0.01 μ F 200V	"		
C173, 174	42'00'00 FM 73'96'80	Electrolytic Cap.	6800 μ F 50V	ケ ミ コ ン		
C175, 176	42'00'00 UW 86'71'00	"	10 μ F 50V	"		
C177, 178	42'00'00 UW 84'82'20	"	220 μ F 25V	"		
C179	42'00'00 UW 83'72'20	"	22 μ F 16V	"		
C180	42'00'00 UW 81'81'00	"	100 μ F 6.3V	"		
C181	42'00'00 UW 84'82'20	"	220 μ F 25V	"		
C182, 183	42'00'00 UW 83'71'00	"	10 μ F 16V	"		
C184	42'00'00 Fi 33'41'00	Ceramic Cap.	0.01 μ F 400V	セ ラ コ ン		A
"	42'00'00 Fi 34'41'00	"	0.01 μ F	"		R,U,C
"	42'00'00 FR 16'41'00	Metallized Paper Cap.	0.01 μ F 250V	M P コ ン		G,B
C185, 186	42'00'00 UW 86'63'30	Electrolytic Cap.	3.3 μ F 50V	ケ ミ コ ン		
C187, 188	42'00'00 UW 86'64'70	"	4.7 μ F 50V	"		
L103, 104	42'00'00 GD 90'03'40	Output Coil	1.5 μ H	ア ウ ト ブ ッ ト コ イ ル		
R103, 104	42'00'00 HJ 35'41'00	Carbon Resistor RD25	10 Ω	カ ー ボ ン 抵 抗		
R105, 106	42'00'00 HJ 35'74'70	"	47k Ω	"		

* NEW PARTS

Ref. No.	Part No.	Description	(部 品 名)	Remarks	Common model	Markets
R107~ R110	42,00,00 HJ 35,62,20	Carbon Resistor RD25	2.2kΩ	カーボン抵抗		
R111, 112	42,00,00 HJ 35,56,80	"	680Ω	"		
R113, 114	42,00,00 HJ 35,63,90	"	3.9kΩ	"		
R115, 116	42,00,00 HJ 35,51,50	"	150Ω	"		
R121, 122	42,00,00 HU 57,78,20	Metal Film Resistor	82kΩ	金属被膜抵抗		
R123, 124	42,00,00 HU 57,66,80	"	6.8kΩ	"		
R125, 126	42,00,00 HJ 35,51,00	Carbon Resistor RD25	100Ω	カーボン抵抗		
R127, 128	42,00,00 HJ 35,54,70	"	470Ω	"		
R129, 130	42,00,00 HJ 35,81,00	"	100kΩ	"		
R131, 132	42,00,00 HJ 35,71,80	"	18kΩ	"		
R133, 134	42,00,00 HJ 35,74,70	"	47kΩ	"		
R135, 136	42,00,00 HJ 35,61,00	"	1kΩ	"		
R137~ R142	42,00,00 HJ 35,82,20	"	220kΩ	"		
R143, 144	42,00,00 HJ 35,61,80	"	1.8kΩ	"		
R145, 146	42,00,00 HJ 35,61,20	"	1.2kΩ	"		
R147~ R150	42,00,00 HJ 35,64,70	"	4.7kΩ	"		
R151, 152	42,00,00 HJ 35,56,80	"	680Ω	"		
R153, 154	42,00,00 HJ 35,91,00	"	1MΩ	"		
R155, 156	42,00,00 HJ 35,52,20	"	220Ω	"		
R157, 158	42,00,00 HJ 35,71,00	"	10kΩ	"		
R159, 160	42,00,00 HJ 35,61,50	"	1.5kΩ	"		
R161, 162	42,00,00 HJ 35,56,80	"	680Ω	"		
R163, 164	42,00,00 HJ 35,74,70	"	47kΩ	"		
R165, 166	42,00,00 HV 35,43,30	Flame Proof Carbon Resistor RDF25SF	33Ω	不燃化カーボン抵抗		
R167, 168	42,00,00 HJ 35,66,80	Carbon Resistor RD25	6.8kΩ	カーボン抵抗		
* R169, 170	42,00,00 HJ 35,61,80	"	1.8kΩ	"		
R171~ R174	42,00,00 HV 35,55,60	Flame Proof Carbon Resistor RDF25SF	560Ω	不燃化カーボン抵抗		
R175~ R178	42,00,00 HJ 35,64,70	Carbon Resistor RD25	4.7kΩ	カーボン抵抗		
R179~ R182	42,00,00 HV 35,61,00	Flame Proof Carbon Resistor RDF25SF	1kΩ	不燃化カーボン抵抗		
R187, 188	42,00,00 HV 35,53,30	"	330Ω	"		
R189, 190	42,00,00 HV 35,32,20	"	2.2Ω	"		
R191, 192	42,00,00 HV 35,34,70	"	4.7Ω	"		
* R195, 196	42,00,00 HJ 35,62,20	Carbon Resistor RD25	2.2kΩ	カーボン抵抗		
R197, 198	42,00,00 HZ 00,14,50	Dual Metal Film Resistor RGC. 3P	0.33Ω	デュアル金属板抵抗		
R199, 200	42,00,00 HL 71,41,00	Metal Oxide Film Resistor 1P	10Ω	酸金抵抗		
R201, 202	42,00,00 HL 71,34,70	"	1P 4.7Ω	"		
R203~ R208	42,00,00 HJ 35,55,60	Carbon Resistor RD25	560Ω	カーボン抵抗		
R209, 210	42,00,00 HJ 35,84,70	"	470kΩ	"		
R211, 212	42,00,00 HJ 35,81,50	"	150kΩ	"		
R213	42,00,00 HV 35,53,30	Flame Proof Carbon Resistor RDF25SF	330Ω	不燃化カーボン抵抗		
R214, 215	42,00,00 HJ 35,71,00	Carbon Resistor RD25	10kΩ	カーボン抵抗		
R216	42,00,00 HV 35,33,90	Flame Proof Carbon Resistor RDF25SF	3.9Ω	不燃化カーボン抵抗		
R217	42,00,00 HJ 35,62,20	Carbon Resistor RD25	2.2kΩ	カーボン抵抗		
R218	42,00,00 HJ 35,82,70	"	270kΩ	"		
R219, 220	42,00,00 HJ 35,64,70	"	4.7kΩ	"		
R221, 222	42,00,00 HJ 35,78,20	"	82kΩ	"		
R223	42,00,00 HJ 35,71,00	"	10kΩ	"		
R224	42,00,00 HJ 35,63,30	"	3.3kΩ	"		
* VR101	42,00,00 HS 41,14,20	Variable Resistor	70kΩ A x 2	可変抵抗器		
* VR102	42,00,00 HS 31,13,00	"	200kΩ B x 2	"	Inter- changeable	
* "	42,00,00 HS 41,12,90	"	"	"	Inter- changeable	
VR103	42,00,00 HS 31,12,20	"	20kΩ V x 2	"	Inter- changeable	
"	42,00,00 HS 41,11,80	"	"	"	Inter- changeable	

* NEW PARTS

Ref. No.	Part No.	Description	(部 品 名)	Remarks	Common model	Markets
VR104	42'00'00 HS 31'13'40	Variable Resistor 20kΩ G x 2	可 変 抵 抗 器	Inter-		
"	42'00'00 HS 41'11'10	" 20kΩ W x 2	"	changeable		
* VR105	42'00'00 HS 31'13'10	" 10kΩ B	"	Inter-		
"	42'00'00 HS 41'13'00	" "	"	changeable		
VR109, VR110	42'00'00 HT 37'00'60	Semi Variable Resistor B2kΩ	半 固 定 抵 抗	Inter-		
"	42'00'00 HT 177'00'40	" "	"	changeable		
TR101 ~ TR104	42'00'00 iE 10'24'00	FET 2SK170 (Y, GR, BL)	F E T			
TR105 ~ TR108	42'00'00 iC 23'20'10	Transistor 2SC2320 (E, F)	ト ラ ン ジ ス タ			
TR109, TR110	42'00'00 iA 09'99'10	" 2SA999 (E, F)	"			
TR115, TR116	42'00'00 iC 22'35'00	" 2SC2235 (O, Y)	"			
TR117, TR118	42'00'00 iA 09'65'00	" 2SA965 (O, Y)	"			
TR119, TR120	42'00'00 iC 25'81'00	" 2SC2581 (O, Y)	"	Compremen-		
TR121, TR122	42'00'00 iA 11'06'00	" 2SA1106 (O, Y)	"	tary Pair		
TR123	42'00'00 iD 04'38'00	" 2SD438	"			
TR124	42'00'00 iB 05'60'00	" 2SB560	"			
* TR125 ~ TR127	42'00'00 iC 23'20'10	" 2SC2320 (E, F)	"			
TR128	42'00'00 iD 04'00'10	" 2SD400 (P2)	"			
TR129	42'00'00 iA 09'99'10	" 2SA999 (E, F)	"			
D101 ~ D110	42'00'00 iF 00'06'70	Diode 1S2473	ダ イ オ ー ド	Inter-		
"	42'00'00 iF 00'00'40	" 1S1555	"	changeable		
D111	42'00'00 iH 00'08'70	Diode Bridge 4D4B41	ダ イ オ ー ド ブ リ ッ ジ	Inter-		
"	42'00'00 iH 00'10'40	" RB402 (LFA)	"	changeable		
D112, 113	40'10'00 iF 00'17'00	Zener Diode RD15EB3	ツェナーダイオード			
D114	42'00'00 iH 00'07'30	Diode W06B	ダ イ オ ー ド			
D115	42'00'00 iF 00'23'50	Zener Diode HZ12B-2	ツェナーダイオード			
D116	42'00'00 iF 00'06'70	Diode 1S2473	ダ イ オ ー ド	Inter-		
"	42'00'00 iF 00'00'40	" 1S1555	"	changeable		
D117	42'00'00 iH 00'07'30	" W06B	"			
D119, 120	42'00'00 iF 00'06'70	" 1S2473	"	Inter-		
"	42'00'00 iF 00'00'40	" 1S1555	"	changeable		
* IC101,102	30'00'00 iG 03'96'10	IC NJM4559DD	I C			
IC103	42'00'00 iG 04'72'00	" STK-3042II	"			
SW102	42'00'00 KA 90'10'70	Remote Switch	リ モ ー ト ス イ ッ チ			
SW103-1	42'00'00 KA 90'12'30	Remote Rotary Switch	リ モ ー ト ロ ー タ リ ー ス イ ッ チ			
* SW103-2	42'00'00 KA 90'19'20	"	"			
SW104	42'00'00 KA 80'23'50	Push Switch	プ ッ シ ュ ス イ ッ チ			
* SW105	42'00'00 KA 80'25'40	"	"			
SW107	42'00'00 KA 80'23'30	"	"			G,B
* "	42'00'00 KA 80'25'20	Power Switch	電 源 ス イ ッ チ			R,A
"	42'00'00 KA 80'25'30	"	"			U,C
F101	42'00'00 KB 00'02'40	Fuse T3.0A 125V	ヒ ュ ー ズ			R
"	42'00'00 KB 00'03'40	" T1.5A 250V	"			A
"	42'00'00 KB 00'06'80	" T1.25A 250V	"			G,B
"	42'00'00 KB 00'10'40	" 3.0A 250V	"			U,C
F102	42'00'00 KB 00'03'40	" T1.5A 250V	"			R
RY101	42'00'00 KC 00'11'50	Relay JC2a	リ レ ー	Inter-		
"	42'00'00 KC 00'12'00	" MS24D40Z	"	changeable		
JK101	42'00'00 LB 30'13'70	Phone Jack (BL)	ホ ー ン ジャ ッ ク			G
"	42'00'00 LB 30'13'60	" (GY)	"			
* PJ101	42'00'00 LB 20'18'30	Pin Jack 2P	ピ ン ジャ ッ ク			
PJ102, PJ103	42'00'00 LB 40'08'10	" 4P	"			
"	42'00'00 LA 00'34'50	Push Terminal	プ ッ シ ュ タ ー ミ ナ ル	Speaker		
* "	42'00'00 LB 20'18'80	Fuse Holder Pin	ヒ ュ ー ズ ホ ル ダ ー ピ ン			

* NEW PARTS