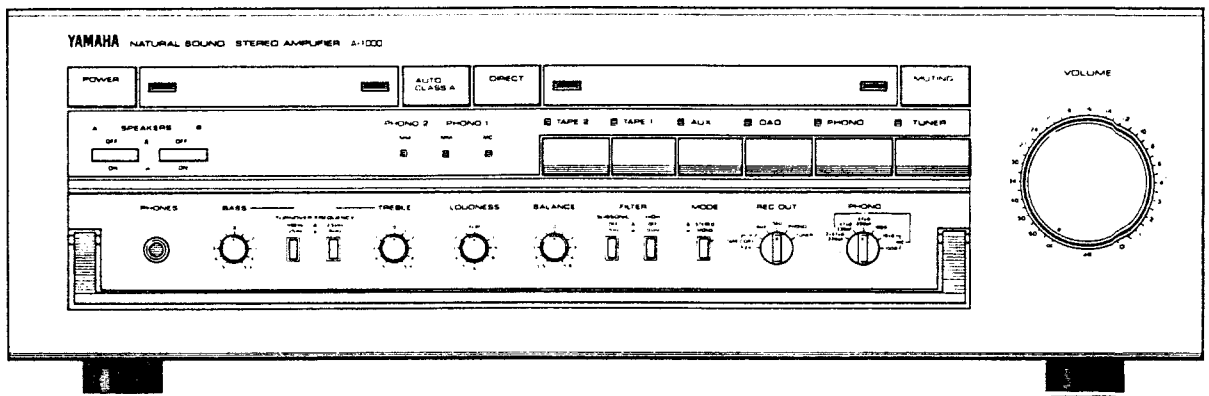


STEREO INTEGRATED AMPLIFIER A-1000

SERVICE MANUAL

FRONT PANEL



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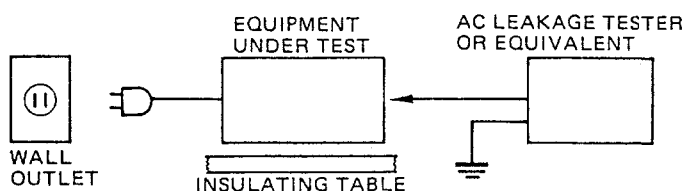
YAMAHA

NIPPON GAKKI CO., LTD. HAMAMATSU, JAPAN

Printed in Japan 83.7. 2.47. 842

■ TO SERVICE PERSONNEL

1. Critical Components Information.
Components having special characteristics are marked $\triangle$ and must be replaced with parts having specifications equal to those originally installed.
2. Leakage Current Measurement (For 120 V Model Only).
When service has been completed, it is imperative that you verify that all exposed conductive surfaces are properly insulated from supply circuits.
 - Meter impedance should be equivalent to 1500 ohm shunted by 0.15 μ F.
 - Leakage current must not exceed 0.5mA.
 - Be sure to test for leakage with the AC plug in both polarities.



■ SPECIFICATIONS

Continuous Power Per Channel	
20Hz ~ 20kHz (0.005% THD 8 Ω)	120W
(0.007% THD 6 Ω)	(Class A 10W) 140W
1kHz (0.005% THD 8 Ω)	130W
(0.005% THD 6 Ω)	150W
Power Band Width	
0.03% THD 60W (8 Ω)	10Hz ~ 100kHz
Damping Factor	
1 kHz 8 Ω	90
Input Sensitivity/Impedance	
Phono 1 MC	160 μ V/10k Ω , 100 Ω
MM	2.5mV/47k Ω 220pF
	47k Ω 330pF
	100 Ω
	47k Ω 390pF (G)
Phono 2 MM	150mV/47k Ω 220pF
Input Sensitivity (New IHF)	
Phono MC	15 μ V
MM	0.23mV
Aux, Tape, Tuner	14mV
Maximum Input Signal	
1kHz, 0.01% THD Phono MC	10mV
MM	165mV
Output Level/Impedance	
Rec Out	150mV/470 Ω
Headphone Jack Rated Output/Impedance	
0.005% THD	0.89V/8 Ω
Frequency Response	
20Hz ~ 20kHz Aux, Tape, Tuner	+0
(Direct ON)	-0.5dB
RIAA Equalization Deviation	
Phono MC	$\pm$ 0.3dB
MM	$\pm$ 0.2dB
Total Harmonic Distortion	
Phono MC to Rec Out (3V)	0.005%
Phono MM to Rec Out (3V)	0.003%
Aux, Tape, Tuner to SP Out 60W/8 Ω	0.005%
Intermodulation Distortion	
Aux, Tape, Tuner Rated Output/8 Ω	0.002%
1W/8 Ω	0.003%
Signal to Noise Ratio (IHF-A-Net work)	
Phono MC (500 μ V Input Shorted)	80dB
Phono MM (5mV Input Shorted)	94dB
Aux, Tape, Tuner (Shorted)	106dB

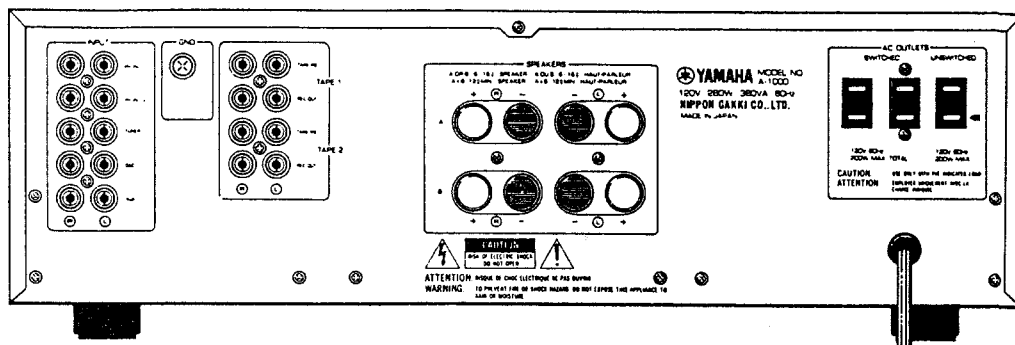
Signal to Noise Ratio (New IHF)	
Phono MC	76dB
MM	79dB
Aux, Tape, Tuner	86dB
Input Equivalent Noise	
Phono MC	-145dBV
MM	-138dBV
Residual Noise (IHF-A-Network)	
	125 μ V
Channel Separation	
Phono MM (Input Shorted 1kHz, vol -30dB)	70dB
Aux, Tape (5.1k Ω , 1kHz, vol -30dB)	65dB
Tone Control Characteristics	
Bass boost/cut	$\pm$ 10dB (at 20Hz)
turnover frequency	125, 500Hz
Treble boost/cut	$\pm$ 10dB (at 20kHz)
turnover frequency	2.5k, 8kHz
Filter Characteristics	
Low (Subsonic)	15Hz, -12dB/oct
High	10kHz, -12dB/oct
Continuous Loudness Control (Level-related equalization)	
Attenuation	-20dB (at 1kHz)
Audio Muting	
	-20dB
Gain tracking error (0 to -60dB)	
	2dB
Power Supply	
U.S. & Canadian models	120V AC, 60Hz
General model	110V/120V/220V/240V AC, 50/60Hz
European model	220V AC, 50Hz
Australian model	240V AC, 50Hz
Power Consumption	
	280W (U), (C), (R)
	680W (A), (G)
AC Outlet (U), (C), (R)	
Switched x 2	200W max total
Unswitched x 1	200W max
Dimensions (W x H x D)	
	435 x 146 x 424.5 mm
	(17-1/8" x 5-3/4" x 16-3/4")
Weight	
	13 kg
	(28.7 lbs)

*Specifications are subject to change without notice.

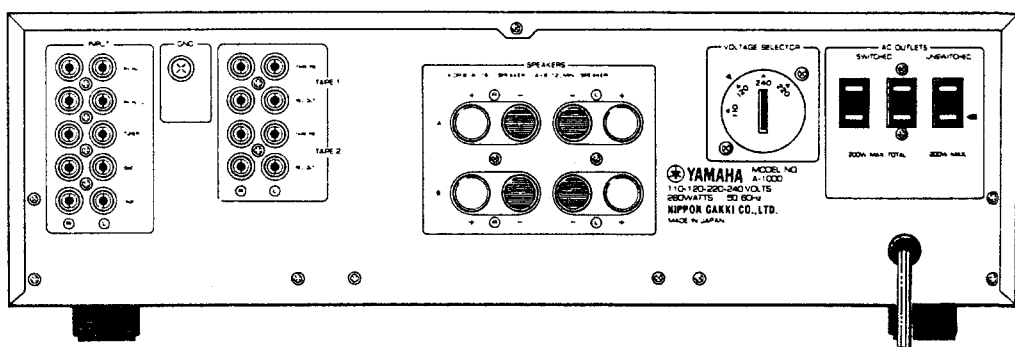
(U) U.S.A. model (G) European model
(C) Canadian model (R) General model
(A) Australian model

REAR PANELS

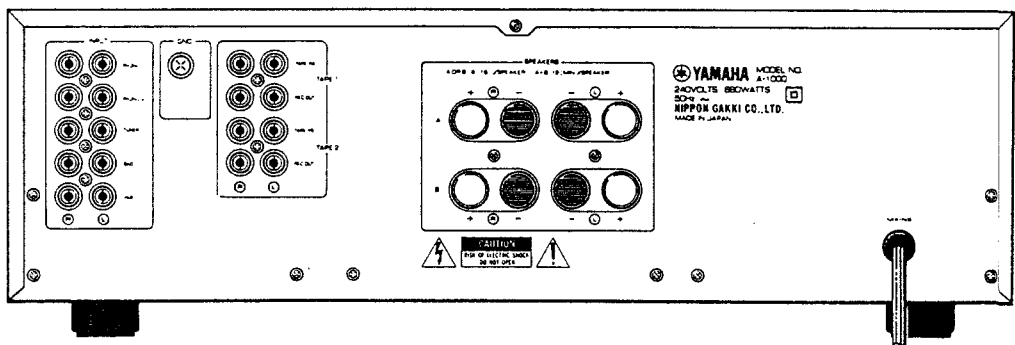
▼ U.S.A. & CANADIAN MODELS



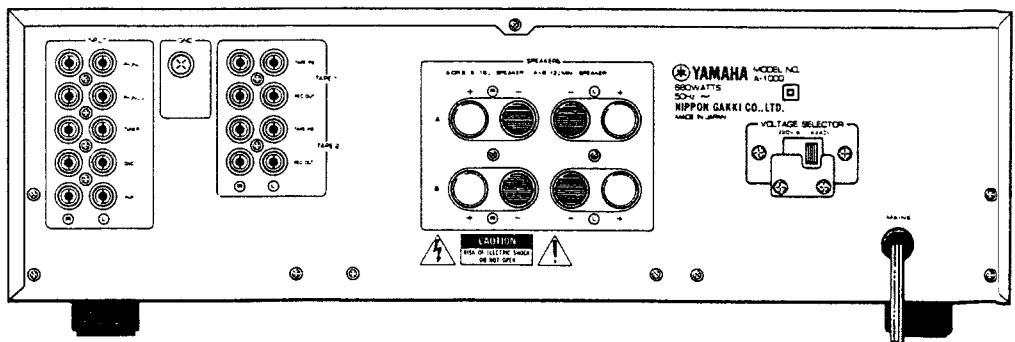
▼ GENERAL MODEL



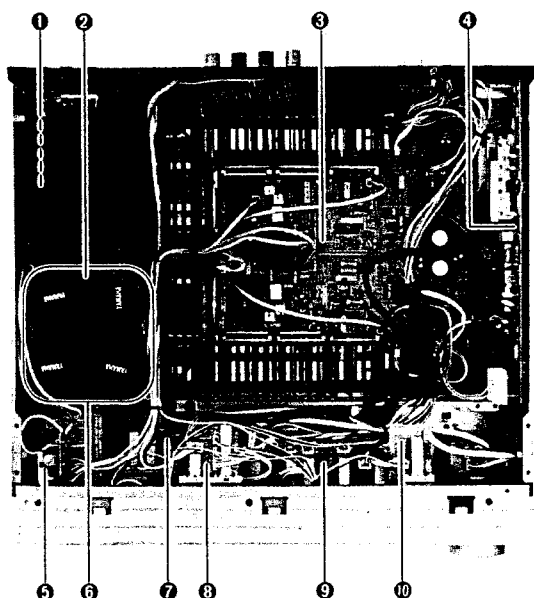
▼ AUSTRALIAN MODEL



▼ EUROPEAN MODEL



INTERNAL VIEW



- ① POWER TRANSFORMER
U.S.A. model: GA66890
Canadian model: GA66900
European model: GA66910
Australian model: GA66930
General model: GA66920
- ② MAIN CIRCUIT BOARD (2): Power Supply section
- ③ MAIN CIRCUIT BOARD (1)
- ④ EQUALIZER CIRCUIT BOARD (1): Phono EQ section
- ⑤ POWER SWITCH
- ⑥ ELECTROLYTIC CAP.
22000 μ F 35V: FZ00458
33000 μ F 50V: FZ00459
- ⑦ EQUALIZER CIRCUIT BOARD (2): Tone Control section
- ⑧ EQUALIZER CIRCUIT BOARD (6): CLASS A & DIRECT switch
- ⑨ EQUALIZER CIRCUIT BOARD (3): INPUT SELECTOR
- ⑩ EQUALIZER CIRCUIT BOARD (4): MUTING switch

DISASSEMBLY PROCEDURES (Remove parts in order to disassemble as numbered)

1. Removal of Top Cover

- a. Remove 5 screws (①) in fig. 1.

2. Removal of Bottom Cover

- a. Remove 10 screws (②) in fig. 1.

3. Removal of Front Panel

- a. Remove 3 screws (③) in fig. 1.

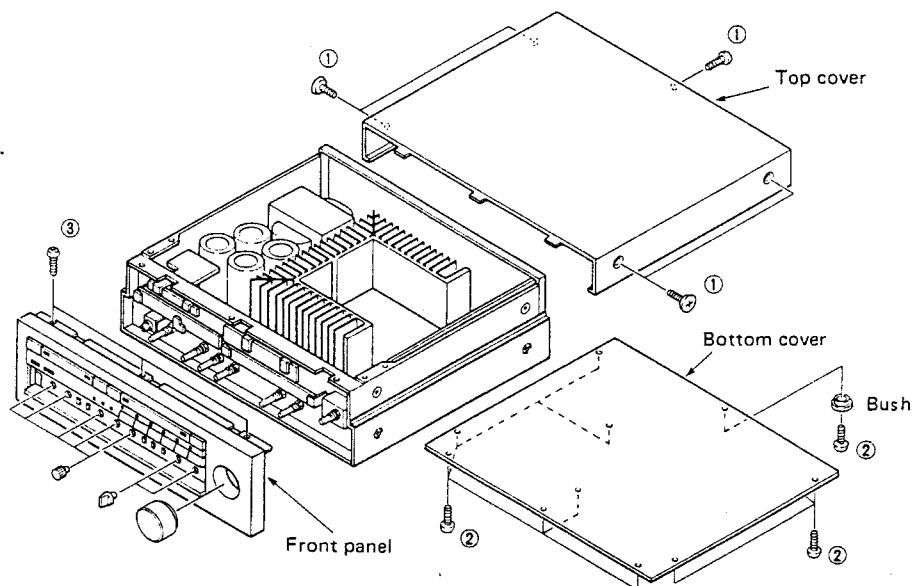


Fig. 1

4. Removal of Equalizer Circuit Board (2)

- a. Remove 7 screws (④ and ⑤) in fig. 2.
- b. Pull sub chassis up. (⑥) in fig. 2.

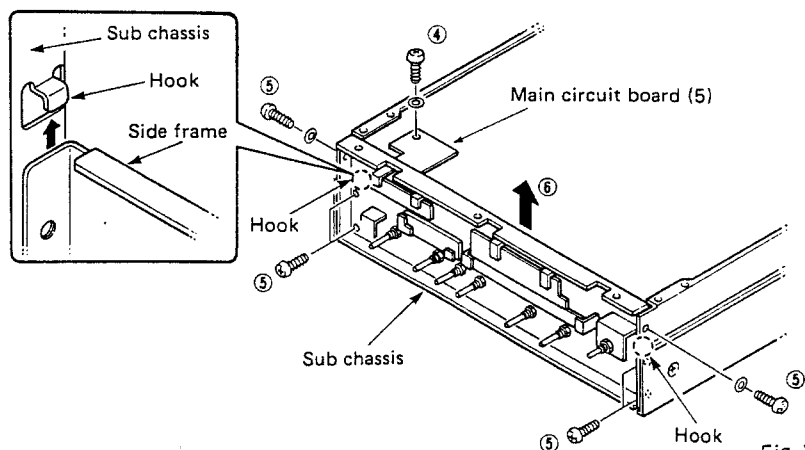


Fig. 2

- c. Remove 2 screws (⑦) and 6 hexagonal nuts (⑧) in fig. 3 and then remove the equalizer circuit board (2).
- d. In this condition, you can exchange the control parts.

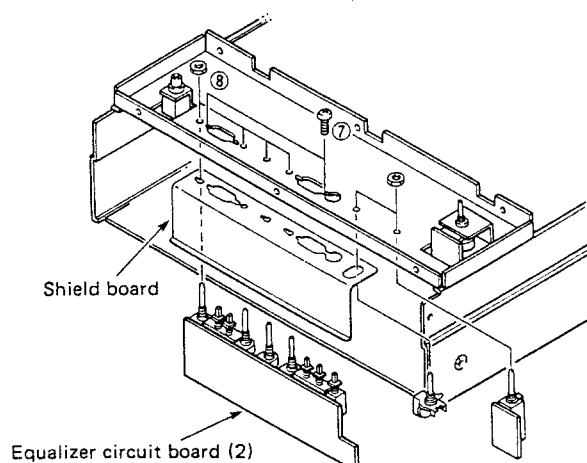


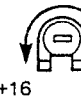
Fig. 3

ADJUSTMENTS

BEFORE COMMENCING

1. Make sure that primary supply voltage comes within $*120V\ AC \pm 10\%$ (U, C models).
2. Proceed with the adjustments about 5 minutes after the power has been turned on to stabilize the operation of the amplifier.

*G model 220V AC.
A model 240V AC.

Step	Adjustment item	Connection terminal	Instrument required	Measurement conditions	Adjustment locations	Rating or standard	Remarks
1	Idling Current	Across the terminals of R263 (Lch) and R264 (Rch).	DCVM		VR101 (Lch) VR102 (Rch)	$11mV \pm 2mV$	AUTO, CLASS A SW $\rightarrow$ OFF No load No signal
2	AUTO CLASS A	INPUT SP OUT TP101 $\sim$ GND	Low frequency ACVM DCVM	Apply a 1kHz sine wave signal to INPUT so that the output level to 30W ($15.5V^{+0V}_{-4.5V}$)	VR103  +16 -16	Pin 1 of IC102 do change to "L" level ($-16V$) from "H" level ($+16V$).	8Ω load AUTO CLASS A SW $\rightarrow$ ON *1
3	X AMP operation	INPUT SP OUT $\pm LP \sim$ GND $\pm RP \sim$ GND	Low frequency ACVM Oscilloscope	Apply a 1kHz sine wave signal to INPUT so that the output level to $30V \pm 0.5V$.		Output wave obtained as listed in fig. 4.	No load

*1. AUTO A circuit has a hysteresis response and holding time, so take notice that the changing point at the high level of signal differ from the one at the low level.

TEST POINT

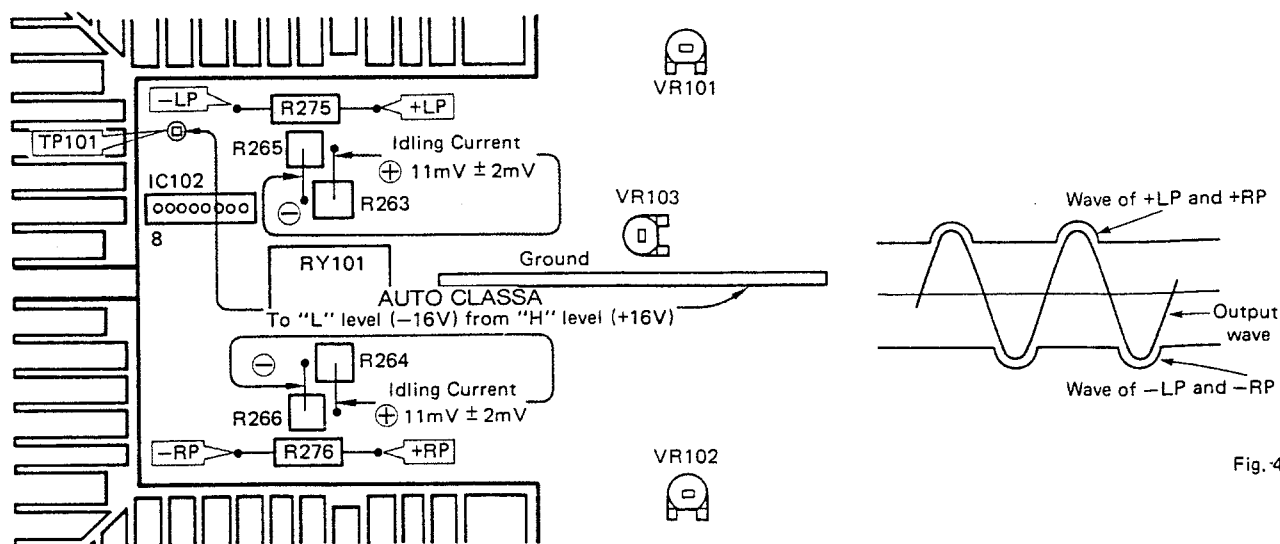
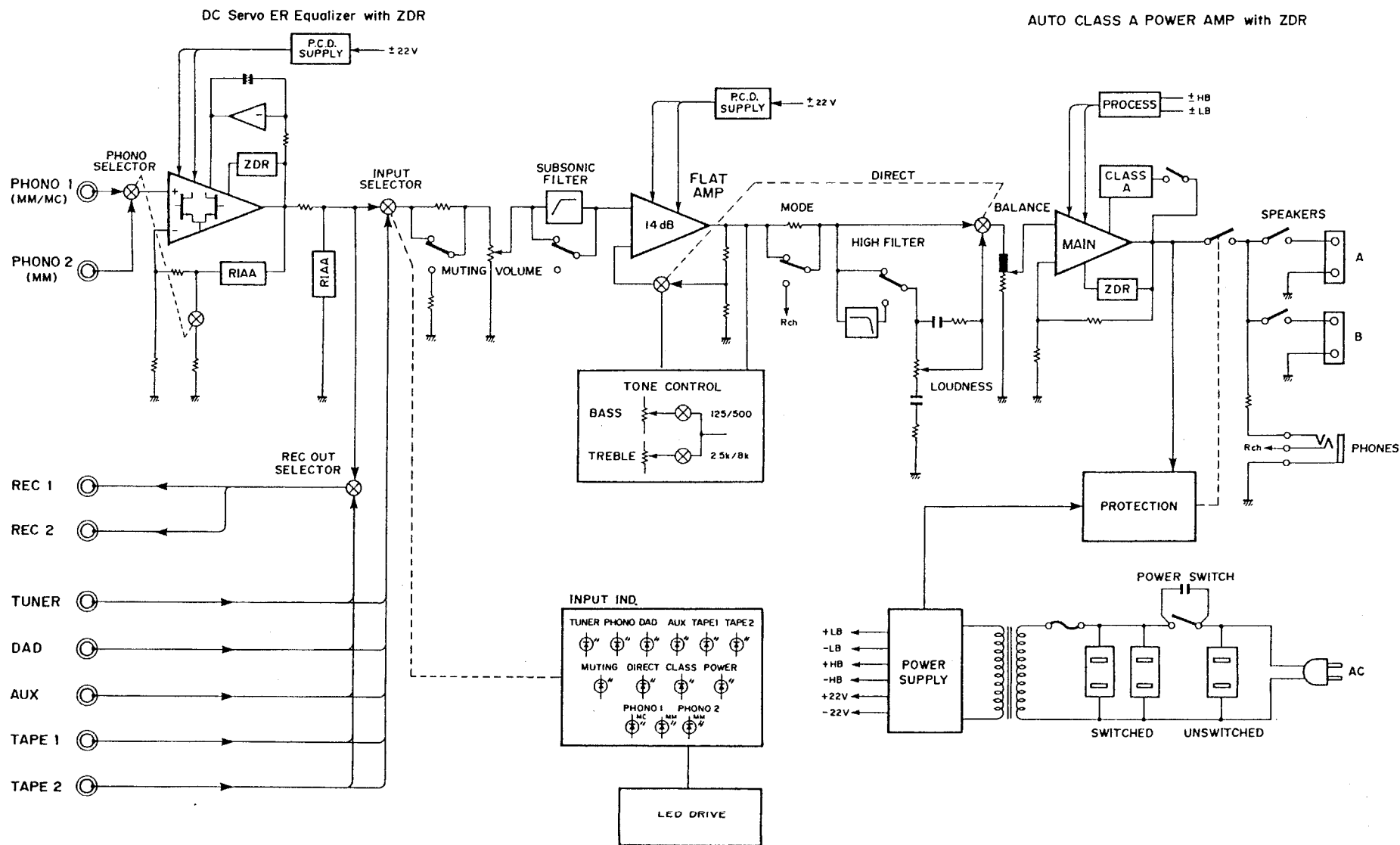


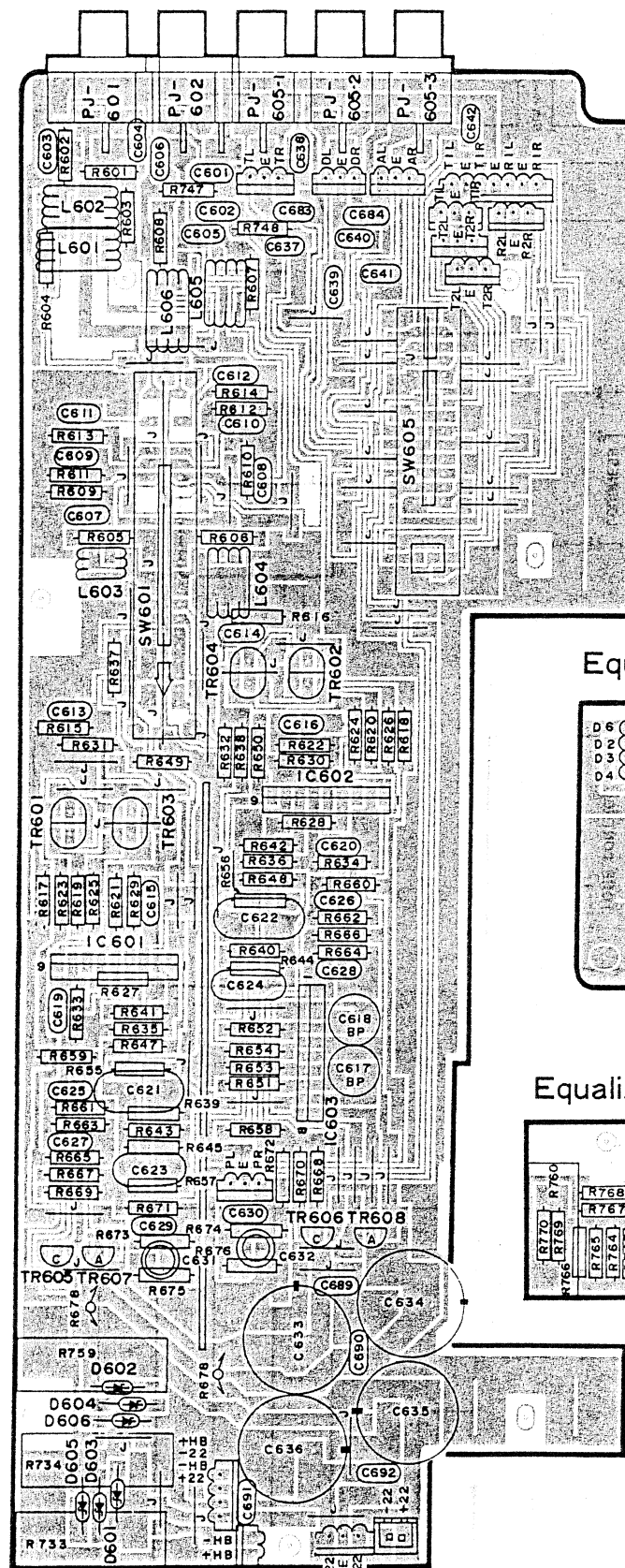
Fig. 4

BLOCK DIAGRAM



PRINTED CIRCUIT BOARD (Pattern side)

Equalizer(1)

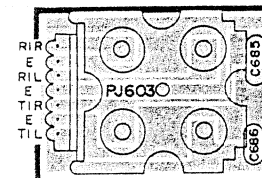


Equalizer circuit board

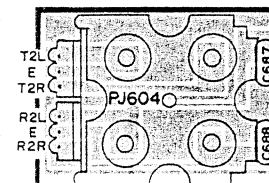
The following parts and values differ from each model, so refer to the corresponding column.

	J,R,U,C,A	G
C603, 604	Open	270P
C605, 606	Open	180P
C637 ~ 642	Open	330P
C685 ~ 688	Open	330P
L601, 602	Open	15μH
R603, 604	Short	220

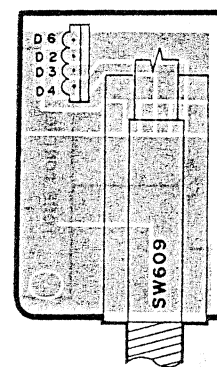
Equalizer(7)



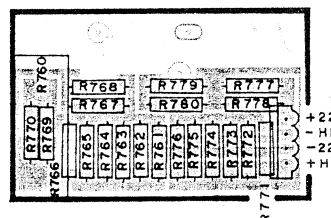
Equalizer(8)



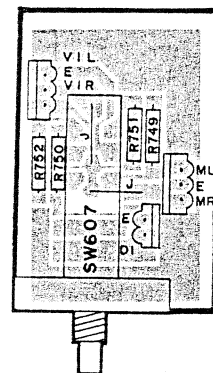
Equalizer(12)



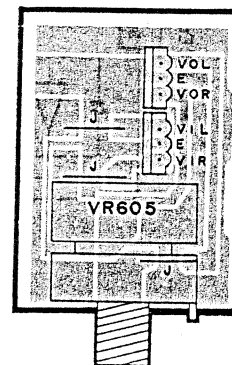
Equalizer(14)



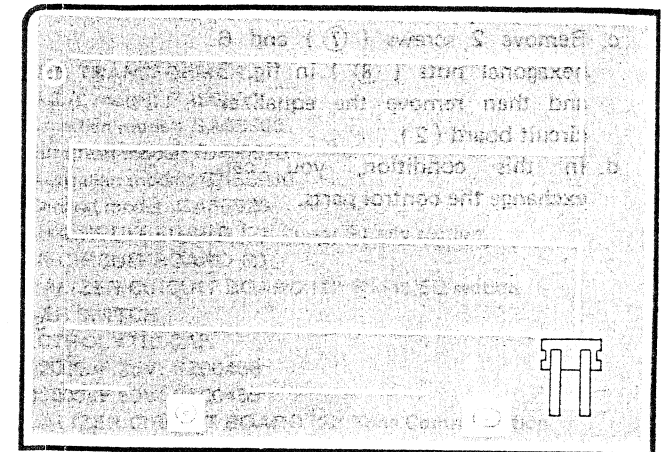
Equalizer(4)



Equalizer(5)



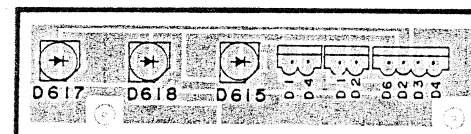
Equalizer(13)



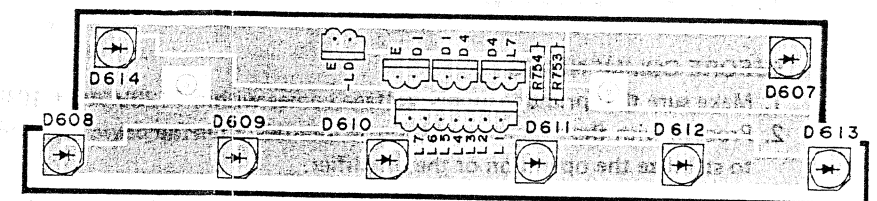
Equalizer(11)



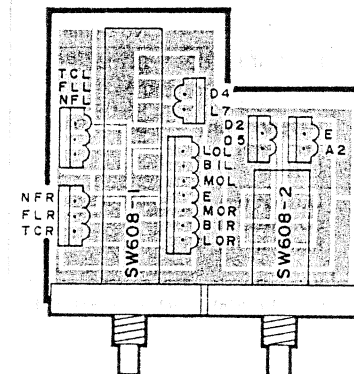
Equalizer(10)



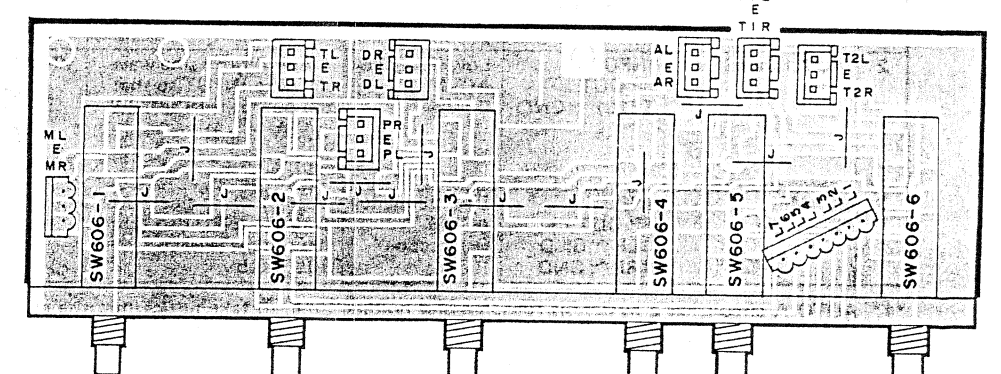
Equalizer(9)



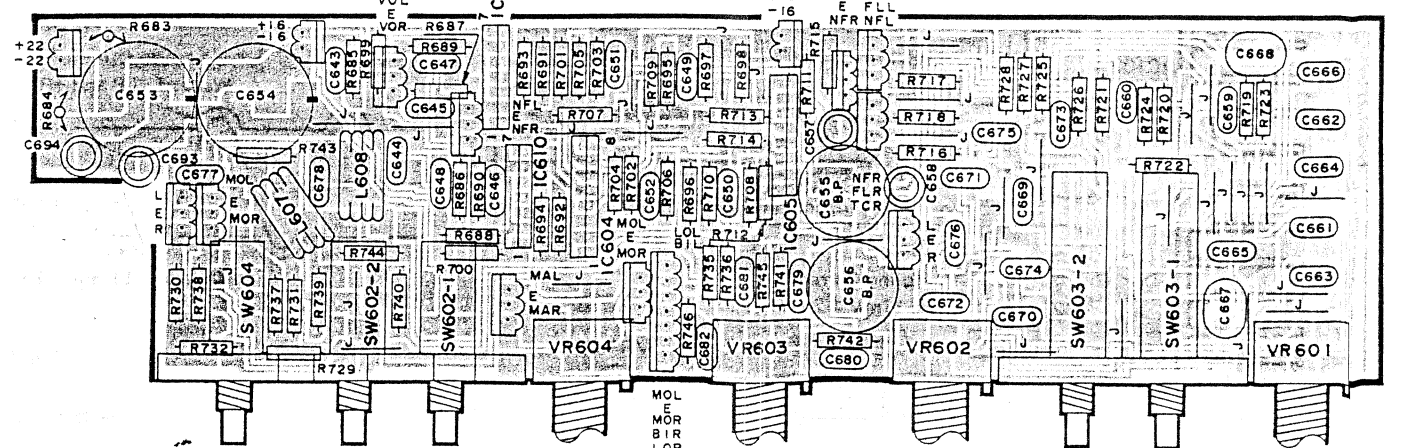
Equalizer(6)



Equalizer(3)



Equalizer(2)



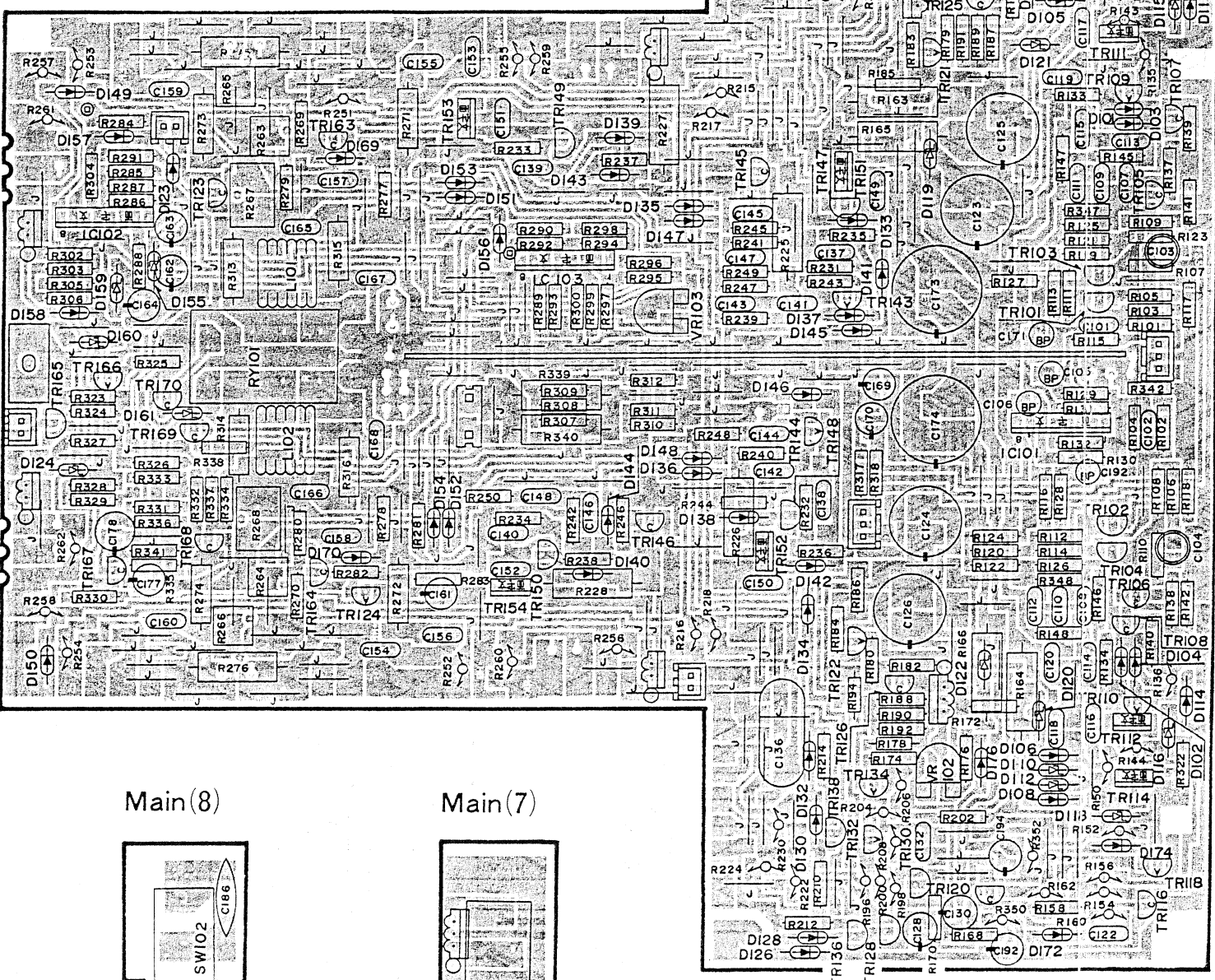
■ PRINTED CIRCUIT BOARD (Pattern side)

● Main circuit board

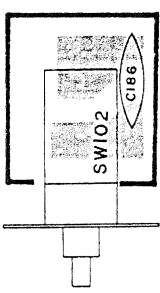
The following parts and values differ from each model, so refer to the corresponding column.

	J,C	U	A	G	R
C180, 181	0.1/250	0.1/250	0.1/250	Open	0.1/250
C182 ~ 185	Open	Open	Open	0.1/250	Open
C187, 188	Open	Open	Open	0.01	Open
C189 ~ 192	Open	Open	Open	4700P	Open
R345, 346	Open	Open	Open	4.7	Open
F102	Open	Open	Open	Open	10A250V
Main (8)	Set	Set			Set
J381	Short	Open	Short	Short	Short

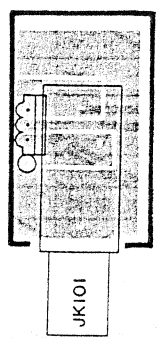
Main(1)



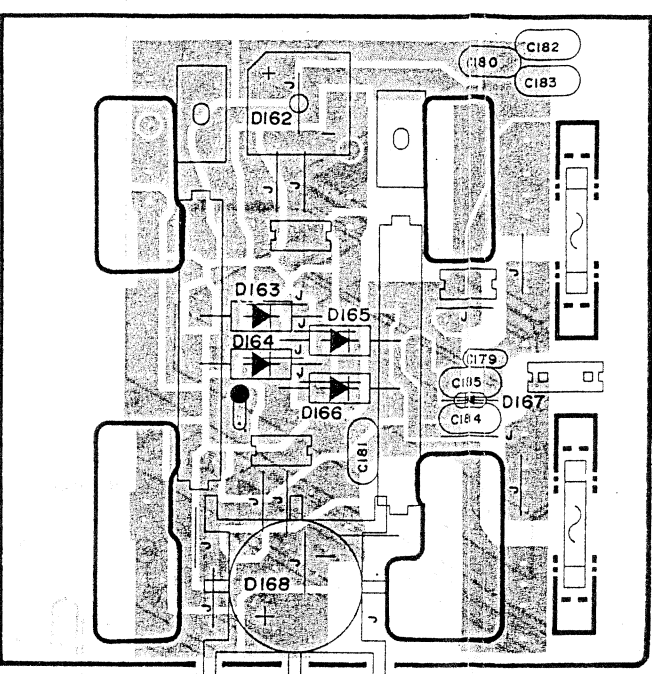
Main(8)



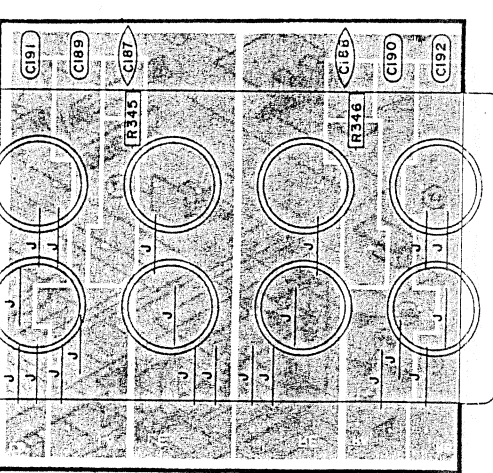
Main(7)



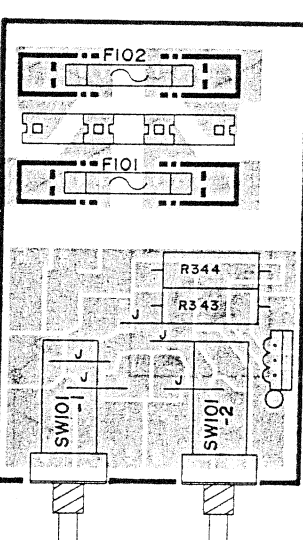
Main(2)



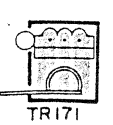
Main(6)



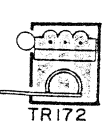
Main(5)



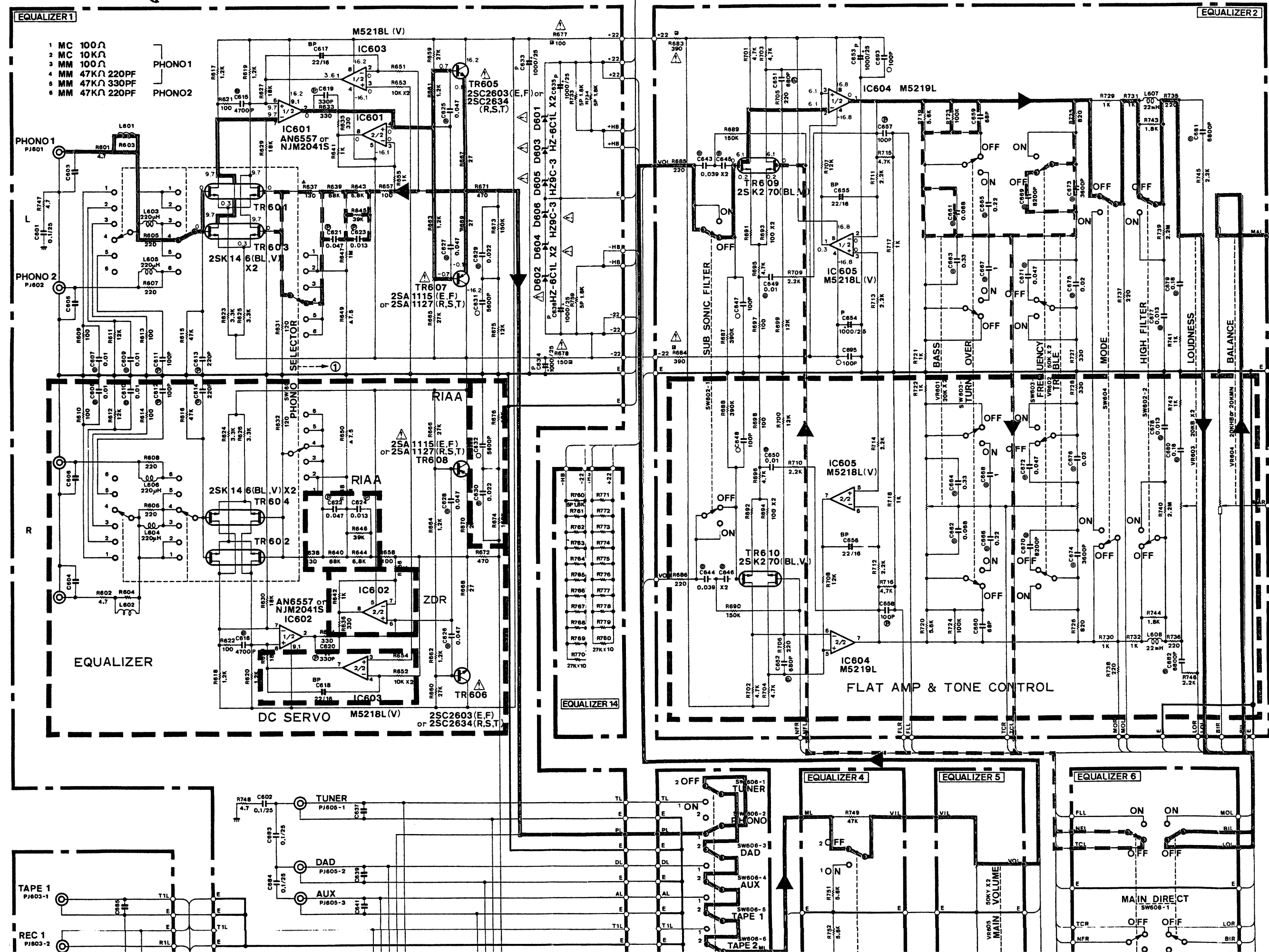
Main(3)

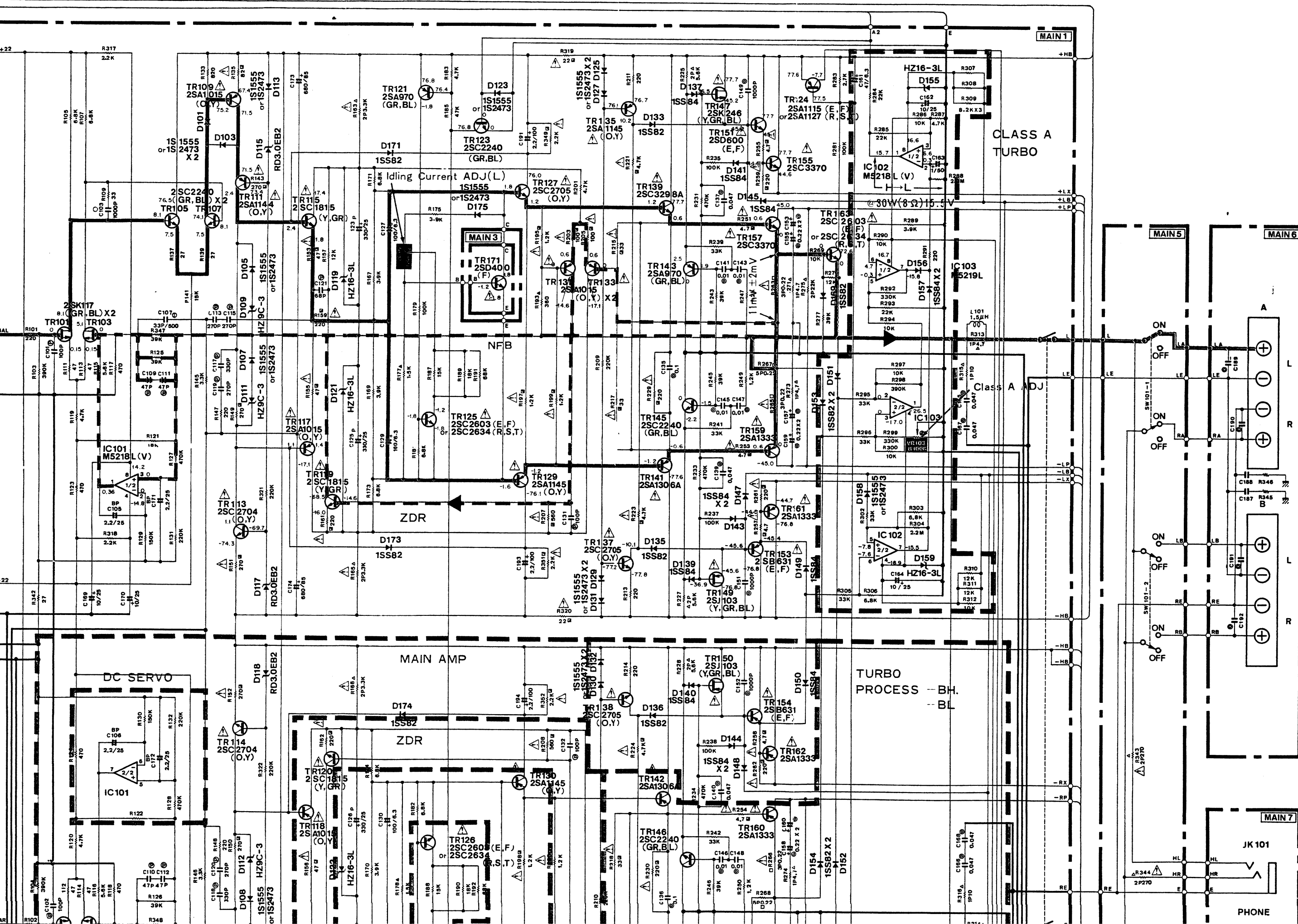


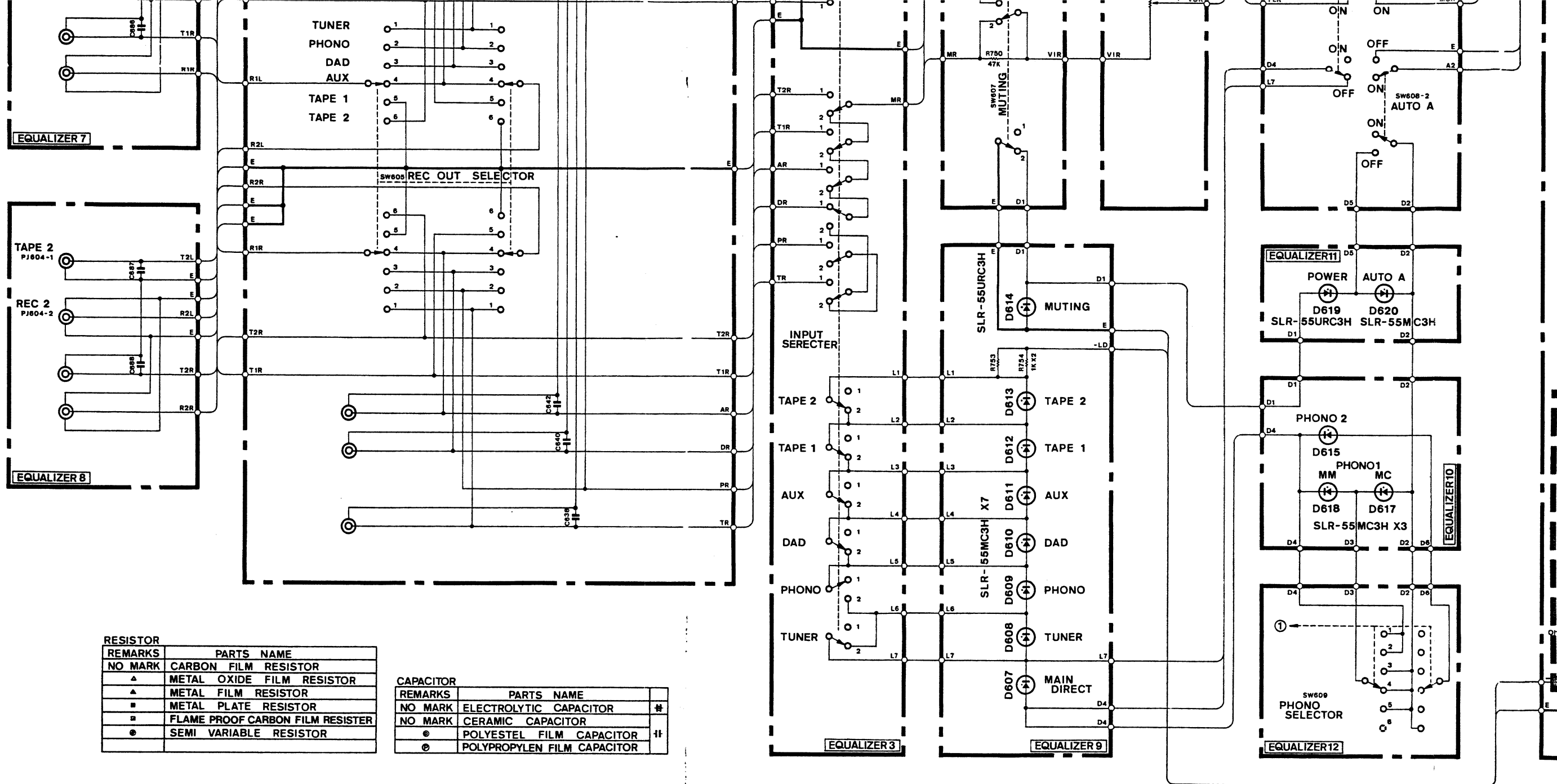
Main(4)



SCHEMATIC DIAGRAM







RESISTOR	
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

CAPACITOR	
REMARKS	PARTS NAME
NO MARK	ELECTROLYTIC CAPACITOR
NO MARK	CERAMIC CAPACITOR
⊙	POLYESTEL FILM CAPACITOR
⊙	POLYPROPYLEN FILM CAPACITOR

PIN CONNECTION DIAGRAM OF TRANSISTORS, DIODES AND ICS.

2SA970(GR,BL) 2SA1115(E,F) 2SA1127(R,S,T) 2SA1015(O,Y) 2SA1145(O,Y) 2SC1815(Y,GR) 2SC23240(GR,BL) 2SC2603(E,F) 2SC2634(R,S,T) 2SC2705(O,Y) 2SD400(F) 2SD438(E,F)	2SD600 (E, F) 2SB631 (E, F) 2SC2704 (O, Y) 2SA1144 (O, Y)	2SA1333 2SC3370	2SK146(BL,V)	1S1555 HZ-6C1L 1S2473 RD3.0EB2 1SS82 HZ24-2 1SS84 HZ16-3L HZ9C-3	30DF1 S3K20 RP4Z	M5218L M5219L
2SA1306A 2SC3298A	2SK246(Y,GR,BL) 2SK117(GR,BL) 2SJ103(Y,GR,BL)	2SK270 A	4D4B41	D5FB20	AN6557 NJM2041S	

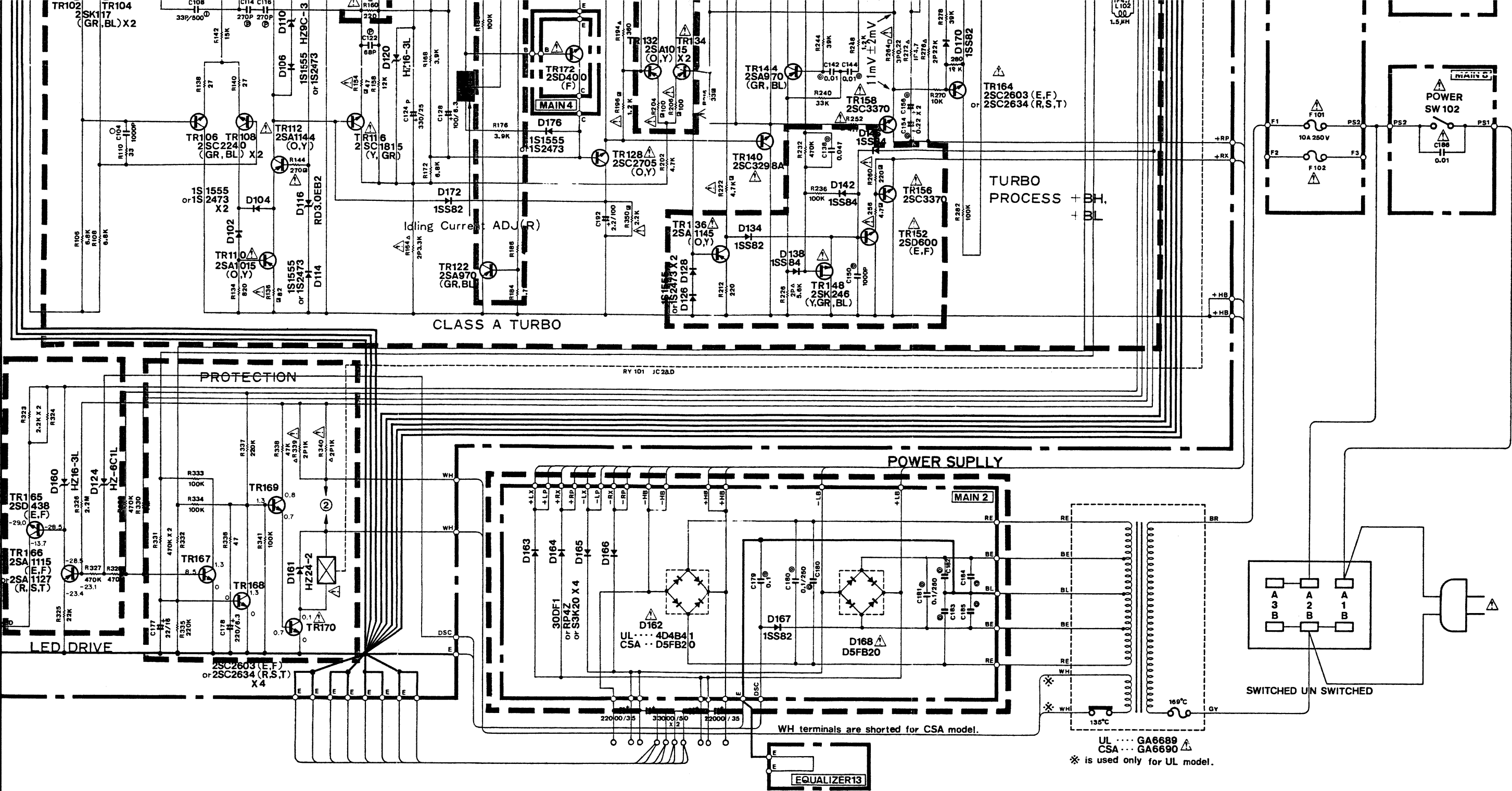
WARNING

- Components having special characteristics are marked ▲ and must be replaced with parts having specifications equal to those originally installed.
- * Schematic diagram is subject to change without notice.

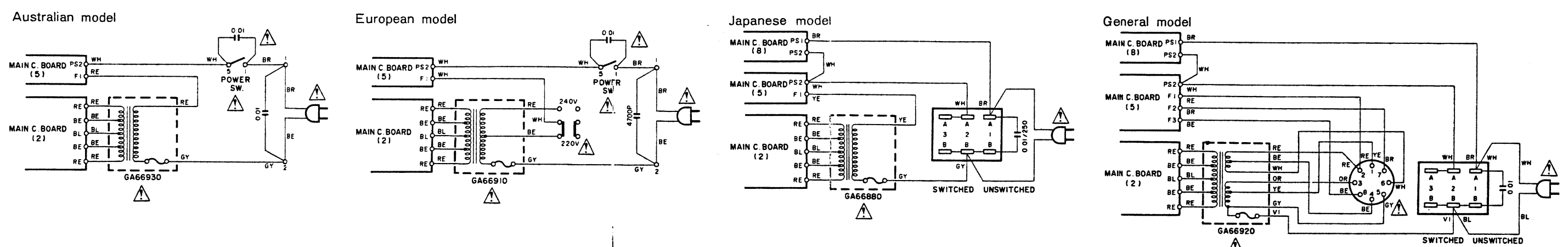
This schematic diagram is for U.S. and Canadian models. As the following parts and values differ from each model, so refer to the corresponding column.

	J	R	U	C	A	G
C180, 81	0.1/250	0.1/250	0.1/250	0.1/250	0.1/250	Open
C182 ~ 85	Open	Open	Open	Open	Open	0.1/250
C187, 88	Open	Open	Open	Open	Open	0.01
C189 ~ 92	Open	Open	Open	Open	Open	4700P
R345, 96	Open	Open	Open	Open	Open	4.7
D16:	4D4B41	4D4B41	4D4B41	D5FB20	4D4B41	4D4B41
F10:	10A250V	10A250V	10A250V	10A250V	T4, 0A250V	T4, 0A250V
F10:	Open	T5A250V	Open	Open	Open	Open
Main ()	Set	Set	Set	Set		
→ ②	Short	Short	Open	Short	Short	Short

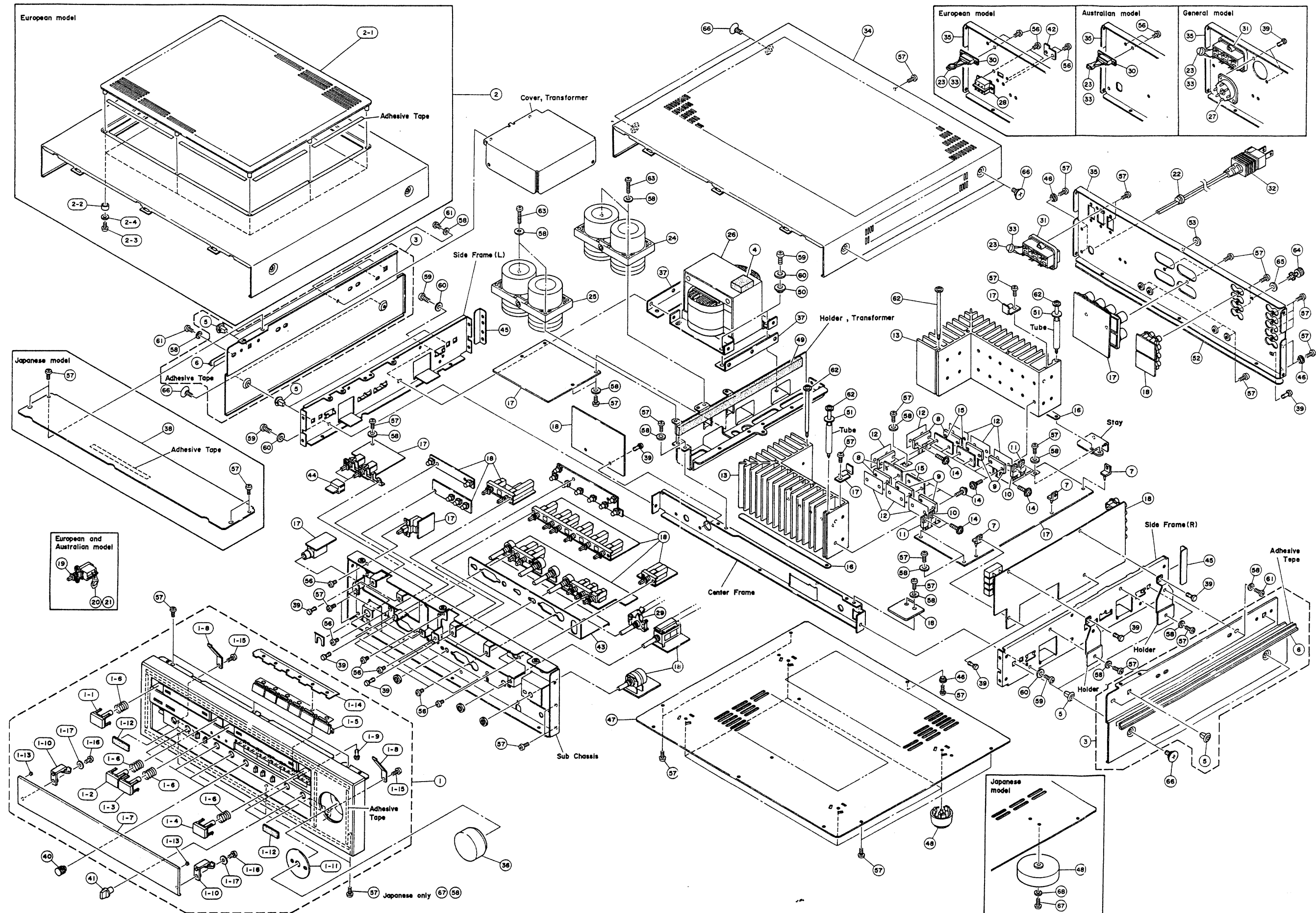
	J	R	U	C	A
C603, 604	Open	Open	Open	Open	Open
C605, 606	Open	Open	Open	Open	Open
C611, 612	Ⓟ100P	Ⓟ100P	Ⓟ100P	Ⓟ100P	Ⓟ100P
C613, 614	220P	220P	220P	220P	220P
C637 ~ 642	Open	Open	Open	Open	Open
C685 ~ 688	Open	Open	Open	Open	Open
L601, 602	Open	Open	Open	Open	Open
R603, 604	Short	Short	Short	Short	Short
R605 ~ 608	220	220	220	220	220
R621, 622	150	150	150	150	150



G
270P
180P
56P
100P
330P
330P
15μH
220
2.2k
220



EXPLODED VIEW



PARTS LIST

MECHANISM PARTS

Ref. No.	Part No.	Description	部 品 名	Remarks	Common Model	Markets	ランク
※ 1	NB 61 54 70	Panel Unit	Black	パ ネ ル ユ ニ ッ ト		J	
※ "	NB 61 48 50	"	Silver	"		R,U,C,A	
※ "	NB 61 49 60	"	"	"		G	
※ 1-1	NB 61 42 20	Button Ass'y	Black	ボ タ ン Ass'y	POWER	J	
※ "	NB 61 42 10	"	Silver	"	"	R,U,C,G,A	
※ 1-2	NB 61 42 40	"	Black	"	CLASS A TURBO	J	
※ "	NB 61 54 90	"	Silver	"	AUTO CLASS A	R,U,C,G,A	
※ 1-3	NB 61 42 60	"	Black	"	DIRECT	J	
※ "	NB 61 42 50	"	Silver	"	"	R,U,C,G,A	
※ 1-4	NB 61 42 80	"	Black	"	MUTING	J	
※ "	NB 61 42 70	"	Silver	"	"	R,U,C,G,A	
※ 1-5	NB 61 45 30	Knob Ass'y	Black	ブ ッ シ ュ ツ マ ミ Ass'y	INPUT	J	
※ "	NB 61 45 20	"	Silver	"	"	R,U,C,G,A	
1-6	AA 61 78 80	Spring		ス プ リ ン グ		A-700	
※ 1-7	BA 08 67 40	Silling Panel	Black	シ ー リ ン グ パ ネ ル		J	
※ "	BA 08 67 30	"	Silver	"		R,U,C,G,A	
※ 1-8	BB 07 04 50	Hinge Hold		ヒ ン ジ 押 え			
1-9	CB 06 88 80	Plastic Rivet		プ ラ ス チ ッ ク リ ベ ッ ト			
※ 1-10	CB 62 07 80	Hinge	Black	ヒ ン ジ		J	
※ "	CB 62 07 70	"	Silver	"		R,U,C,G,A	
※ 1-11	CB 62 17 50	Shield Board		シ ー ル ド 板			
※ 1-12	CB 62 34 40	Damper		パ ネ ル ダ ン パ ー			
※ 1-13	CB 62 19 30	"	Black	"		J	
※ "	CB 62 08 90	"	Silver	"		R,U,C,G,A	
1-14	AA 61 78 70	Cover		カ バ ー		A-700	
1-15	Ei 33 00 86	Binding Head Tapping Screw	3×8 FCM3-BI	バ イ ン ド タ ッ ピ ン グ ネ ジ	PACK		
1-16	ED 33 00 66	Binding Head Screw	3×6 FCM3-BI	バ イ ン ド 小 ネ ジ	PACK		
1-17	EV 30 00 36	Plain Washer	φ3 FCM3-BI	平 座 金	PACK		
※ 2	NB 61 48 70	Top Case Unit	Silver	ト ッ プ ケ ー ス ユ ニ ッ ト		G	
2-1	CB 09 00 50	Radiation Grille	"	放 熱 グ リ ル		G	
※ 2-2	EZ 00 16 40	Bush	φ6×5 FCM3-BI	巻 ブ ッ シ ュ		G	
2-3	Ei 33 00 66	Binding Head Tapping Screw	3×6 FCM3-BI	バ イ ン ド タ ッ ピ ン グ ネ ジ	PACK	G	
2-4	EV 30 00 36	Plain Washer	φ3 FCM3-BI	平 座 金	PACK	G	
※ 3	NB 61 49 00	Side Case Unit	Black	サ イ ド ケ ー ス ユ ニ ッ ト		J	
※ "	NB 61 48 90	"	Silver	"		R,U,C,G,A	
※ 4	CB 62 36 00	Damper		ダ ン パ ー			
5	CB 62 12 70	Screw Gromette		ス ク リ ュ ー グ ロ メ ッ ト			
※ 6	CB 62 25 80	Side Mould	Black	サ イ ド モ ー ル ド		J	
※ "	CB 62 25 70	"	Silver	"		R,U,C,G,A	
7	CB 09 12 90	Board Holder		基 板 ホ ル ダ ー			
8	IX 60 16 30	Transistor	2SA1333	ト ラ ン ジ ス タ	TR159~162	A-700	
9	IX 60 16 40	"	2SC3370	"	TR155~158	A-700	
10	IX 60 16 50	"	2SA1306A	"	TR141, 142	A-700	
11	IX 60 16 60	"	2SC3298A	"	TR139, 140	A-700	
12	IL 00 05 10	Mica Base		マ イ カ ベ ー ス			
※ 13	BA 08 75 00	Heat Sink		放 熱 板		J	
※ "	BA 08 64 10	"		"		R,U,C,G,A	
14	EZ 00 13 50	Cup Screw	3×14 FCM3-BI	カ ッ プ ス ク リ ュ ー (Bタイ ト)			
※ 15	BB 07 04 80	Spacer		ト ラ ン ス ペ ー サ ー		J	
16	CA 07 44 90	Anti-Vibration Spacer		防 振 ス ペ ー サ ー			
※ 17	NA 08 25 80	Main Circuit Board	Black	メ イ ン シ ー ト		J	
※ "	NA 08 25 90	"	Silver	"		R	

※New Parts (新規部品)

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Ref. No.	Part No.	Description	部 品 名	Remarks	Common Model	Markets	ランク
※ 17	NA:08:26:10	Main Circuit Board	Silver	メ イ ン シ ー ト		U	
※ "	NA:08:26:30	"	"	"		C	
※ "	NA:08:28:40	"	"	"		A	
※ "	NA:08:28:60	"	"	"		G	
※ 18	NA:08:26:50	Equalizer Circuit Board		イ コ ラ イ ザ ー シ ー ト		J,R,U,C,A	
※ "	NA:08:26:60	"		"		G	
※ 19	KA:80:40:10	Push Switch		プ ッ シ ュ ス イ ッ チ	POWER	A,G	
20	Fi:38:41:00	Ceramic Cap	0.01 μ F	セ ラ コ ン		A,G	
21	CB:09:52:60	Cover		コ ン デ ン サ ー カ バ ー		A,G	
22	CB:07:27:50	Cord Stopper	SR-4N-4	コ ー ド ス ト ッ パ ー		J	
"	CB:62:01:90	"	CM-22B	"		R,A,G	
"	CB:62:02:00	"	CM-22C	"		U,C	
23	Fi:32:41:00	Ceramic Cap	0.01 μ F 250V	セ ラ コ ン		J	
"	Fi:38:41:00	"	0.01 μ F	"		R,U,C,A	
"	Fi:38:34:70	"	4700pF	"		G	
※ 24	FZ:00:45:80	Electrolytic Cap Set	22000 μ F 35V	ケ ミ コ ン セ ッ ト			
※ 25	FZ:00:45:90	"	33000 μ F 50V	"			
※ 26	GA:66:88:00	Power Transformer		電 源 ト ラ ン ス		J	
※ "	GA:66:89:00	"		"		U	
※ "	GA:66:90:00	"		"		C	
※ "	GA:66:91:00	"		"		G	
※ "	GA:66:93:00	"		"		A	
※ "	GA:66:92:00	"		"		R	
27	LB:20:14:80	Voltage Selector		電 圧 切 換 器		R	
※ 28	KA:40:12:60	Slide Switch		ス ラ イ ド ス イ ッ チ		G	
※ 29	KA:90:55:30	Rotary Switch		ロ ー タ リ ー ス イ ッ チ	OPERATION & WIRE		
30	LA:00:29:50	Terminal Board	2P	中 継 端 子 台		A,G	
31	LB:60:39:20	AC Outlet		AC ア ウ ト レ ッ ト		J,R,U	
"	LB:60:43:20	"		"		C	
32	MG:00:12:10	Power Cord	15A 125V 2m	電 源 コ ー ド		J	
"	MG:00:14:50	"	10A 125V 1.98m	"	} Inter- changeable	U,C	
"	MG:00:14:60	"	10A 125V 2m	"		U,C	
"	MG:00:16:30	"	6A 250V 2m	"		R	
"	MG:00:09:20	"	7.5A 250V 2.5m	"	} Inter- changeable	A	
"	MG:00:14:90	"	7.5A 250V 2.5m	"		A	
"	MG:00:16:20	"	2.5A 250V 2m	"		G	
33	CB:60:19:00	Cover		コ ン デ ン サ ー カ バ ー		J	
"	CB:60:08:10	"		"		R,U,C,A	
"	CB:09:52:60	"		"		G	
※ 34	AA:61:87:90	Top Case	Black	ト ッ プ ケ ー ス		J	
"	AA:61:86:70	"	Silver	"		R,U,C,A	
※ 35	AA:61:77:90	Rear Panel		リ ア パ ネ ル		J	
※ "	AA:61:78:00	"		"		R	
※ "	AA:61:78:10	"		"		U,C	
※ "	AA:61:78:20	"		"		A	
※ "	AA:61:79:50	"		"		G	
※ 36	BA:08:65:60	Knob	Black	ツ マ ミ	VOLUME	J	
※ "	BA:08:65:50	"	Silver	"	"	R,U,C,A,G	
37	CA:07:40:50	Spacer B		ス ペ ー サ ー B		A-700	
※ 38	AA:61:89:70	Cover, T.C.		TC カ バ ー		J	
39	CB:06:88:80	Plastic Rivet		プ ラ ス チ ッ ク リ ベ ッ ト			
※ 40	CB:62:08:20	Knob	Black	ツ マ ミ	TONE CONTROL	J	
※ "	CB:62:08:10	"	Silver	"	"	R,U,C,A,G	

*New Parts (新規部品)

[illegible]

※ New Parts (新規部品)

■ WARNING

Components having special characteristics are marked Δ and must be replaced with parts having specifications equal to those originally installed.

- Carbon resistors of this amplifier are 1/4W.

There is no description about them in this parts list.
Use the "Part No." HJ350000 or equivalent.

■ ELECTRICAL PARTS

Ref. No.	Part No.	Description	部 品 名	Remarks	Common Model	Markets	ランク
※	NA 08 25 90	Main Circuit Board	BLACK	メインシールド		J	
※	NA 08 25 90	"	SILVER	"		J	
※	NA 08 25 90	"	"	"		U	
※	NA 08 25 90	"	"	"		U	
※	NA 08 25 90	"	"	"		U	
※	NA 08 25 90	"	"	"		U	
	FC 36 44 70	Mylar Cap.	0.047 μ F 50V	マイラーコン	C165-168		
※	FF 11 31 00	Polystyrene Film Cap.	1000pF	ステコン	C103,104		
	FG 44 41 00	Ceramic Cap.	0.01 μ F 50V	セラコン	C187,188	G	
	Fi 40 41 00	"	0.01 μ F AC250V	"	C186	J,R	Δ
	Fi 41 41 00	"	0.01 μ F VA-1	"	"	U,C	Δ
※	FT 55 14 70	Polypropylene Film Cap.	47P 50V	ポリプロコン	C111,112		
	FT 55 21 00	"	100p 50V	"	C101,102,131,132		
	FT 55 22 20	"	220p 50V	"	C115,116		
	FT 55 22 70	"	270p 50V	"	C113,114,117-120		
	FU 35 13 30	Mica Cap.	33p 500V	マイカコン	C107,180		
※	FV 44 83 30	Electrolytic Cap.	330 μ F 25V	プラスチックケミコン	C123-126		
※	FZ 00 46 30	"	2.2 μ F 25V	ケミコン	C105,106,171,172		
※	FZ 00 46 90	"	680 μ F 85V	"	C173,174		
※	FZ 00 46 60	Metalized Mylar Cap.	0.1 μ F 250V	M M コン	C182-185	G	
※	FZ 00 46 60	"	0.1 μ F 250V	"	C180,181	J,R,U,A,C	
※	FZ 00 49 40	Mylar Cap.	0.1 μ F 50V	マイラーコン	C135,136		
	UA 25 31 00	"	1000pF 50V	"	C149-152		
※	FC 36 31 00	"	1000pF 50V	"	"		
	UA 25 34 70	"	4700pF 50V	"	C189-192	G	
	UA 25 41 00	"	0.01 μ F 50V	"	C141-148		
※	FC 36 41 00	"	0.01 μ F 50V	"	"		
	UA 25 44 70	"	0.047 μ F 50V	"	C137-140		
	FC 36 44 70	"	0.047 μ F 50V	"	"		
	UA 25 52 20	"	0.22 μ F 50V	"	C153-160		
	UA 25 51 00	"	0.1 μ F 50V	"	C179		
※	UM 02 82 20	Electrolytic Cap.	220 μ F 6.3V	ケミコン	C178		
※	UM 02 81 00	"	100 μ F 6.3V	"	C127-130		
※	UT 55 14 70	Polypropylene Film Cap.	47pF 50V	ポリプロコン	C109,110		
※	UT 55 16 80	"	68pF 50V	"	C121,122		
	UW 69 62 20	Electrolytic Cap.	2.2 μ F 100V	ケミコン	C191-194		
	UW 91 74 70	"	47 μ F 6.3V	"	C161		
	UW 93 72 20	"	22 μ F 16V	"	C177		
	UW 94 71 00	"	10 μ F 25V	"	C162,164,169,170		
	UW 96 61 00	"	1 μ F 50V	"	C163		
	GD 90 03 70	Coil	1.5 μ H	空 芯 コ イ ル	L101,102		
	HL 71 34 70	Metal Oxid Film Resistor	4.7 Ω 1P	酸 金 抵 抗	R271-274,313,314		
	HL 71 41 00	"	10 Ω 1P	"	R315,316		
	HL 72 52 70	"	270 Ω 2P	"	R343,344		
	HL 32 61 00	"	1k Ω 2P	"	R339,340		
	HL 32 63 30	"	3.3k Ω 2P	"	R163-166		
	HL 32 65 60	"	5.6k Ω 2P	"	R225-228		
	HL 32 72 20	"	22k Ω 2P	"	R275, 276		
	HU 57 53 60	Metal Film Resistor	360 Ω SK14K2E	金 属 被 膜 抵 抗	R193,194		
	HU 57 61 50	"	1.5k Ω "	"	R177,178		

※ New Parts (新規部品)

Ref. No.	Part No.	Description	部 品 名	Remarks	Common Model	Markets	ランク
	HV 45 34 70	Flame Proof Resistor	4.7Ω ERD-25FV	不燃化カーボン抵抗	R251 - 258		△
	HV 45 42 20	"	22Ω "	"	R319,320		△
	HV 45 43 30	"	33Ω "	"	R215 - 218		△
	HV 45 44 70	"	47Ω "	"	R153 - 156		△
	HV 45 48 20	"	82Ω "	"	R135,136		△
	HV 45 51 00	"	100Ω "	"	R203 - 206		△
	HV 45 52 20	"	220Ω "	"	R159 - 162, 229, 230, 259 - 262		△
	HV 45 52 70	"	270Ω "	"	R143,144,149 - 152		△
	HV 45 55 60	"	560Ω "	"	R207,208		△
	HV 45 62 20	"	2.2kΩ "	"	R349 - 352		△
	HV 45 61 20	"	1.2kΩ "	"	R195 - 200		△
	HV 45 64 70	"	4.7kΩ "	"	R221 - 224		△
	HZ 00 32 40	Cement Molded Resistor	0.22Ω 3P	セメント抵抗	R263 - 266		△
	HZ 00 32 10	"	0.22Ω 5P	"	R267,268		△
	HT 37 00 30	Semi Variable Resistor	B100kΩ	半固定抵抗	VR103		
	HT 37 00 50	"	B5kΩ	"	VR101,102		
	iA 09 70 00	Transistor	2SA970 (GR,BL)	トランジスタ	TR121,122,143,144		
	iA 11 15 10	"	2SA1115(E,F)	"	TR124,166	Inter-changeable	
	iA 11 27 00	"	2SA1127(R,S,T)	"	"		
	iA 10 15 70	"	2SA1015(O,Y)	"	TR109,110,117,118,131,134		△
	iA 11 44 00	"	2SA1144(O,Y)	"	TR111,112		△
	iA 11 45 00	"	2SA1145(O,Y)	"	TR129,130,135,136		△
	iB 06 31 00	"	2SB631 (E,F)	"	TR153,154		△
	iC 18 15 80	"	2SC1815(Y,GR)	"	TR115,116,119,120		△
	iC 22 40 00	"	2SC2240(GR,BL)	"	TR105,108,123,145,146		△
	iC 26 03 10	"	2SC2603(E,F)	"	TR125,126,163,164,167,170	Inter-changeable	△
	iC 26 34 00	"	2SC2634(R,S,T)	"	"		
	iC 27 04 00	"	2SC2704(O,Y)	"	TR113,114		△
	iC 27 05 00	"	2SC2705(O,Y)	"	TR127,128,137,138		△
	iD 04 00 20	"	2SD400 (F)	"	TR171,172		△
	iD 06 00 00	"	2SD600 (E,F)	"	TR151,152		△
	iD 04 38 00	"	2SD438 (E,F)	"	TR165		
	iE 10 26 00	FET	2SK246 (Y,GR,BL)	F E T	TR147,148		△
	iE 10 34 10	"	2SK117 (GR,BL)	"	TR101 - 104		
※	iE 20 08 00	"	2SJ103 (Y,GR,BL)	"	TR149,150		△
	iF 00 00 40	Diode	1S1555	ダイオード	D101,108,113,114,123,125,132,158,175,176	Inter-changeable	
	iF 00 06 70	"	1S2473	"	"		
	iF 00 14 00	"	1SS82	"	D137 - 150,156,157	Inter-changeable	
	iF 00 13 80	"	1SS84	"	"		
	iF 00 14 00	"	1SS82	"	D133,136,151,154,167,169,174		
	iF 00 15 10	Zener Diode	HZ-6CIL	ツェナーダイオード	D124		
	iF 00 18 40	"	RD3.0EB2	"	D115 - 118		
	iF 00 19 40	"	HZ24-2	"	D161		
	iF 00 20 80	"	HZ16-3L	"	D119 - 122,155,159,160		
	iF 00 33 20	"	HZ9C-3	"	D109 - 112		
	iH 00 08 70	Diode Bridge	4D4B41	ダイオードブリッジ	D162	J,R,U,G	△
	iH 00 11 30	"	D5FB20	"	"	C	△
	iH 00 11 30	"	D5FB20	"	D168		△

※New Parts (新規部品)

Ref. No.	Part No.	Description	部 品 名	Remarks	Common Model	Markets	ランク
	iH 00:09:60	Diode	30DF1	ダイオード	D163 166		
	iH 00:13:50	"	S3K20	"	"		
	iH 00:13:60	"	RP4Z	"	"		
	iG 08:57:00	IC	M5218L	I C	IC101,102		
	iG 09:21:00	"	M5219L	"	IC103		
	KA 80:35:20	Push Switch	SDL TV-5	ブッシュスイッチ	SW102	A-700	J,R,U,C
	KA 80:40:60	"		"	SW101		
	KB 00:04:00	Fuse	T5A 250V	ヒューズ	F102		R
	KB 00:07:90	"	T4.0A 250V	"	F101		A,G
	KB 00:13:90	"	10A 250V	"	"		U,C
	KB 00:14:90	"	10A 250V	"	"		J,R
	KC 00:11:50	Relay	DC24V	リレー	RY101		U,C
	KC 00:16:10	"	"	"	"		J,R,A,G
	LB 30:17:10	Headphone Jack	Gray	ヘッドホンジャック	JK101		R,U,A,G,C
	LB 30:17:20	"	Black	"	"		J
	LA 00:20:00	Wrapping Terminal	P=7.5 2P i-Type	i 型ラッピング端子板			U
	LA 00:21:10	"	P=5 2P i-Type	"			
	LA 00:25:80	"	P=10 2P i-Type	"			
	LA 00:25:40	"	P=5 2P i-Type	"			
	LA 00:45:60	Screw Terminal	8P	ネジターミナル			J,R,U,A,C
	LA 00:46:80	"	8P	"			G
	LB 20:10:60	Fuse Holder Pin		ヒューズホルダーピン			A,G
	LB 20:19:70	"		"			J,R,U,C
	LB 91:80:20	Base Pin	2P i-Type	i 型ベースピン			
	LB 91:80:30	"	3P i-Type	"			
	LA 00:41:20	Test Point Pin		テストポイントピン			
	NA 08:26:50	Equalizer Circuit Board		イコライザーボード			J,R,U,A,C
	NA 08:26:60	"		"			G
	FC 36:41:00	Mylar Cap.	0.01 μ F 50V	マイラーコン	C607 610,649,650		
	FC 36:42:20	"	0.022 μ F 50V	"	C629,630		
	FC 36:44:70	"	0.047 μ F 50V	"	C625 628		
	FA 41:34:70	"	4700pF 50V	"	C615,616		
	FF 11:35:60	Polystyrene Film Cap.	5600pF	スチコン	C631,632		
	FF 11:21:00	"	100pF	"	C657,658,693,694		
	FG 41:15:60	Ceramic Cap.	56pF 50V	セラコン	C611,612		G
	FT 55:21:00	Polypropylene Film Cap.	100pF 50V	ポリプロコン	"		J,R,U,A,C
	FT 55:21:00	"	100pF 50V	"	C613,614		G
	FT 55:22:20	"	220pF 50V	"	"		J,R,U,A,C
	FG 41:16:80	Ceramic Cap.	68pF 50V	セラコン	C659,660		
	FG 21:21:80	"	180pF 50V	"	C605,606		G
	FG 41:22:70	"	270pF 50V	"	C603,604		G
	FG 41:23:30	"	330pF 50V	"	C637 642,685 688		G
	FT 55:21:00	Polypropylene Film Cap.	100pF 50V	ポリプロコン	C647,648		
	FT 55:22:20	"	220pF 50V	"	C689 692		
	FT 55:23:30	"	330pF 50V	"	C619,620		
	FT 55:26:80	"	680pF 50V	"	C651,652		

*New Parts (新規部品)

Ref. No.	Part No.	Description	部 品 名	Remarks	Common Model	Markets	ランク
※	FV 44:91:00	Electrolytic Cap.	1000 μ F 25V	プラスチックケミコン	C633~636,653,654		
	FZ 00:37:90	Ceramic Cap.	0.1 μ F 25V	セラコン	C601,602,683,684		
※	FZ 00:47:00	Electrolytic Cap.	22 μ F 16V	ケミコン	C617,618		
※	FZ 00:49:90	"	22 μ F 25V	プラスチックケミコン	C655,656	Inter-changeable	
※	FZ 00:49:60	"	22 μ F 16V	"	"		
	UA 25:33:90	Mylar Cap.	3900pF 50V	マイラーコン	C673,674		
	UA 25:36:80	"	6800pF 50V	"	C681,682		
	UA 25:38:20	"	8200pF 50V	"	C669,670		
	UA 25:41:20	"	0.012 μ F 50V	"	C677,678		
	UA 25:42:20	"	0.022 μ F 50V	"	C675,676	Inter-changeable	
	FA 15:42:20	"	0.022 μ F 50V	"	"		
	UA 25:43:90	"	0.039 μ F 50V	"	C643~646		
	UA 25:44:70	"	0.047 μ F 50V	"	C671,672	Inter-changeable	
	FC 36:44:70	"	0.047 μ F 50V	"	"		
	UA 25:46:80	"	0.068 μ F 50V	"	C661,662		
	UA 25:51:80	"	0.18 μ F 50V	"	C679,680		
	UA 25:52:20	"	0.22 μ F 50V	"	C665,666		
	FA 15:53:30	"	0.33 μ F 50V	"	C663,664		
	UA 55:61:00	"	1 μ F 50V	"	C667,668		
※	UT 46:41:30	Polypropylene Film Cap.	0.013 μ F	ポリプロコン	C623,624		
※	UT 46:44:70	"	0.047 μ F	"	C621,622		
※	GE 90:13:60	Coil	22 mH	固定コイル	L607,608		
	GE 90:08:40	Choke Coil	15 μ H	チョークコイル	L601,602	G	
	GE 90:03:30	"	220 μ H	"	L603~606		
※	HM 05:61:80	Cement Molded Resistor	1.8k Ω 5P	セメント抵抗	R733,734,759,760		
※	HU 57:37:50	Metal Film Resistor	7.5 Ω SN14K2E	金属被膜抵抗	R649,650		
※	HV 45:51:00	Flam Proof Resistor	100 Ω ERD-25FV	不燃化カーボン抵抗	R677,678		△
	HV 45:53:90	"	390 Ω "	"	R683,684		△
※	HS 41:19:50	Variable Resistor	20k Ω MN	可変抵抗器	VR604		
※	HS 41:19:70	"	50k Ω ×2	"	VR602		
※	HS 41:19:80	"	20k Ω ×2	"	VR601		
※	HS 41:19:90	"	820k Ω ×2	"	VR603		
※	HS 42:03:30	"	Y50k Ω ×2	"	VR605		
	iA 11:15:10	Transistor	2SA1115 (E,F)	トランジスタ	TR607,608	Inter-changeable	△
	iA 11:27:00	"	2SA1127 (R,S,T)	"	"		
	iC 26:03:10	"	2SC2603 (E,F)	"	TR605,606	Inter-changeable	△
	iC 26:34:00	"	2SC2634 (R,S,T)	"	"		
	iE 10:22:00	Dual FET	2SK146 (BL,V)	デュアル FET	TR601~604		
	iE 10:27:10	"	2SK270 (BL,V)	"	TR609,610		

※New Parts (新規部品)

[illegible]

※ New Parts (新規部品)