

STEREO INTEGRATED AMPLIFIER AX-900/AX-900U

SERVICE MANUAL

AX-900U

IMPORTANT NOTICE

This manual has been provided for the use of authorized Yamaha Retailers and their service personnel. It has been assumed that basic service procedures inherent to the industry, and more specifically Yamaha Products, are already known and understood by the users, and have therefore not been restated.

WARNING: Failure to follow appropriate service and safety procedures when servicing this product may result in personal injury, destruction of expensive components and failure of the product to perform as specified. For these reasons, we advise all Yamaha product owners that all service required should be performed by an authorized Yamaha Retailer or the appointed service representative.

IMPORTANT: The presentation or sale of this manual to any individual or firm does not constitute authorization, certification or recognition of any applicable technical capabilities, or establish a principle-agent relationship of any form.

The data provided is believed to be accurate and applicable to the unit(s) indicated on the cover. The research, engineering, and service departments of Yamaha are continually striving to improve Yamaha products. Modifications are, therefore, inevitable and specifications are subject to change without notice or obligation to retrofit. Should any discrepancy appear to exist, please contact the distributor's Service Division.

WARNING: Static discharges can destroy expensive components. Discharge any static electricity your body may have accumulated by grounding yourself to the ground buss in the unit (heavy gauge black wires connect to this buss).

IMPORTANT: Turn the unit OFF during disassembly and parts replacement. Recheck all work before you apply power to the unit.

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SINCE 1887




YAMAHA

NIPPON GAKKI CO., LTD. HAMAMATSU, JAPAN

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■ TO SERVICE PERSONNEL

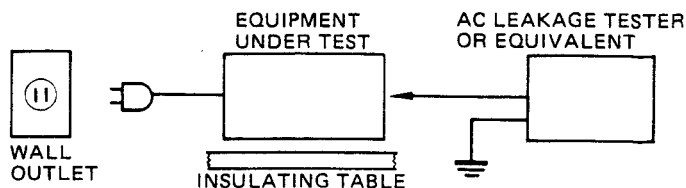
1. Critical Components Information.

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

2. Leakage Current Measurement (For 120 V Model Only).

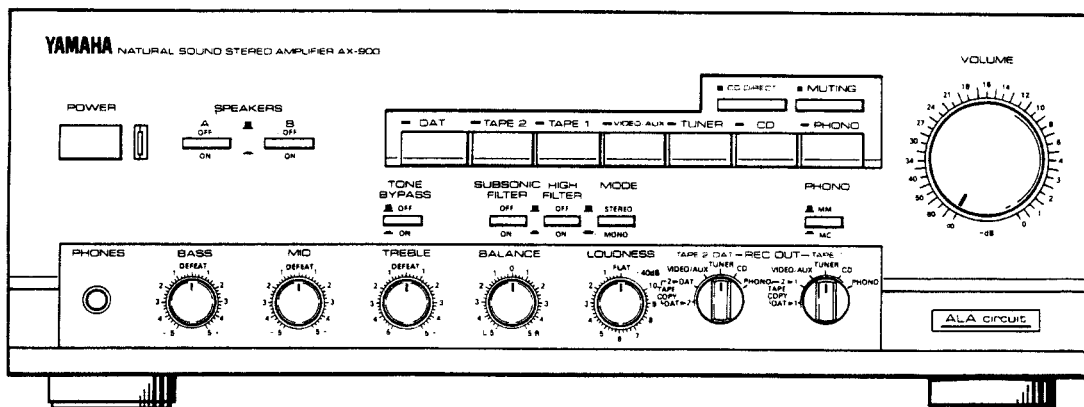
When service has been completed, it is imperative that you verify that all exposed conductive surfaces are properly insulated from supply circuits.

- Meter impedance should be equivalent to 1500 ohm shunted by $0.15\mu\text{F}$.
- Leakage current must not exceed 0.5mA.
- Be sure to test for leakage with the AC plug in both polarities.

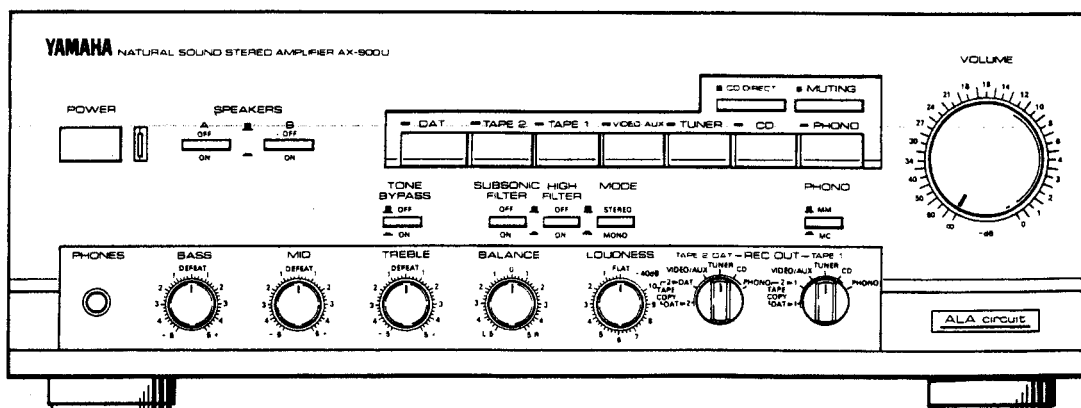


■ FRONT PANELS

• AX-900

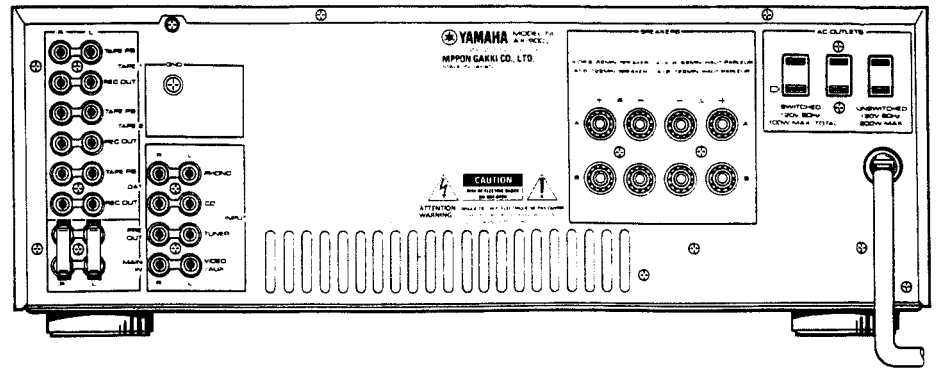


• AX-900U

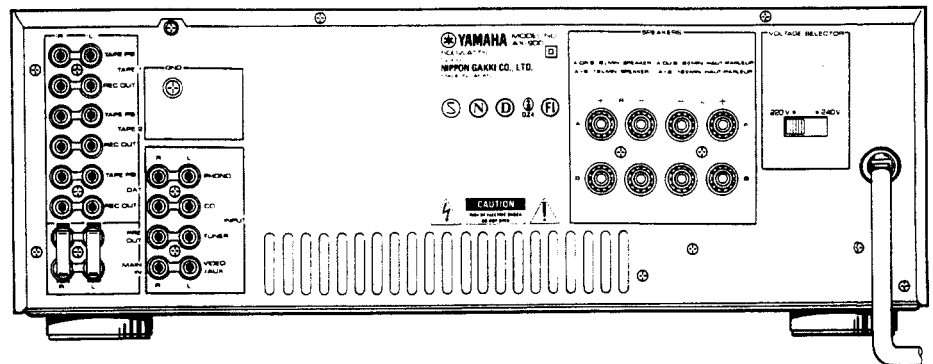


■ REAR PANELS

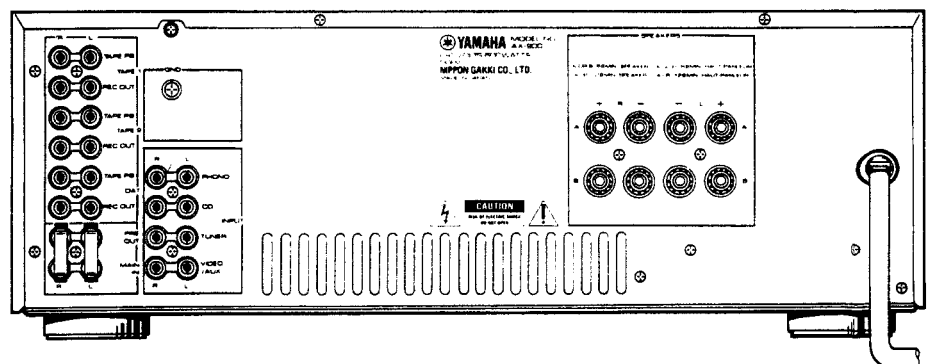
▼ U.S.A. & Canadian models



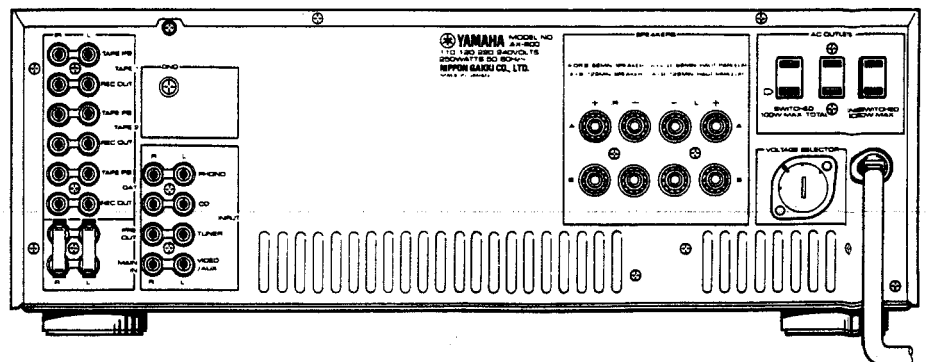
▼ European model



▼ Australian & British models



▼ Other models

AX-900/
AX-900U

SPECIFICATIONS

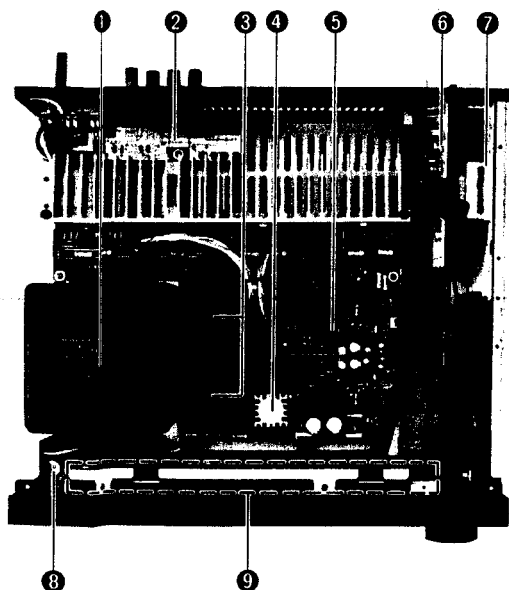
Minimum RMS Output Power Per Channel	
20Hz to 20kHz, 0.05% THD, 8Ω	130W
20Hz to 20kHz, 0.008% 6Ω	150W
Dynamic Power Per Channel	
(by IHF Dynamic Headroom measuring method)	
8Ω	180W
6Ω	240W
4Ω	320W
2Ω	440W
DIN Standard Output Power Per Channel	
1kHz, 1% THD, 4Ω	217W (G)
IEC Power	
1kHz, 0.01% THD, 8Ω	140W (G)
Power Band Width	
0.03% THD, 65W, 8Ω	10Hz to 50kHz
Damping Factor	
1kHz, 8Ω	150
Input Sensitivity/Impedance	
Phono MC	160μV/220Ω
MM	2.5mV/47kΩ
CD etc.	150mV/47kΩ
MAIN IN	1V/47kΩ
Input Sensitivity (New IHF)	
Phono MC	16μV
MM	0.25mV
CD etc.	15mV
Maximum Input Signal (1kHz)	
0.01% THD, Phono MC	10mV
MM	160mV
Output Level/Impedance	
Rec Out	150mV/470Ω
Headphone Jack Rated Output/Impedance	
0.005% THD, RL = 8Ω	0.93V/8Ω
Frequency Response	
20Hz to 20kHz, CD etc.	0 ± _{0.5} dB
RIAA Equalization Deviation	
Phono MC, 20Hz to 20kHz	±0.3dB
MM, 20Hz to 20kHz	±0.2dB
Total Harmonic Distortion (20Hz to 20kHz)	
CD etc. to Sp Out (130W/8Ω)	0.005%
Intermodulation Distortion	
CD etc. Rated Output/8Ω	0.002%
CD etc. 1W/8Ω	0.003%

Signal to Noise Ratio (IHF-A-Network)	
Phono MC (500μV Input Shorted)	76dB
MM (6mV Input Shorted)	92dB
CD etc. (Shorted)	100dB
Signal to Noise Ratio (New IHF)	
Phono MC	74.5dB
MM	78dB
CD etc.	85dB
Input Equivalent Noise	
Phono MC	-142dB (A)/(G)(B)
MM	-138dB (A)/(G)(B)
Residual Noise (IHF-A-Network)	
	250μV
Channel Separation (Vol -30dB)	
Phono MC/MM input shorted 1kHz	70dB
CD etc. Input 5.1kΩ terminated 1kHz	65dB
Tone Control Characteristics	
BASS boost/cut	±10dB (at 20Hz)
turnover frequency	350Hz
TREBLE boost/cut	±10dB (at 20kHz)
turnover frequency	3.5kHz
MID boost/cut	±10dB (at 1kHz)
Filter Characteristics	
Subsonic	15Hz, 12dB/oct
High	10Hz, 12dB/oct
Continuous Loudness Control (Level related equalization)	
Attenuation	-40dB (2kHz)
Audio Muting	
	-20dB
Gain Tacking Error (0dB to -60dB)	
	2dB
Power Supply	
U.S.A. & Canadian models	AC120V, 60Hz
European model	AC220V, 50Hz
Australian & British models	AC240V, 50Hz
Other models	AC110/120/220/240V, 50/60Hz
Power Consumption	
U.S.A. & Canadian models	450W, 500VA
Australian, European & British models	600W
Other models	250W
AC Outlet	
Switched x 2	100W max.
Unswitched x 1	200W max.
Dimensions (W x H x D)	
	435 x 165 x 416 mm (17-1/8" x 6-1/2" x 16-3/8")
Weight	
	17.0 kg (37 lbs 7 oz)

Specifications are subject to change without notice.

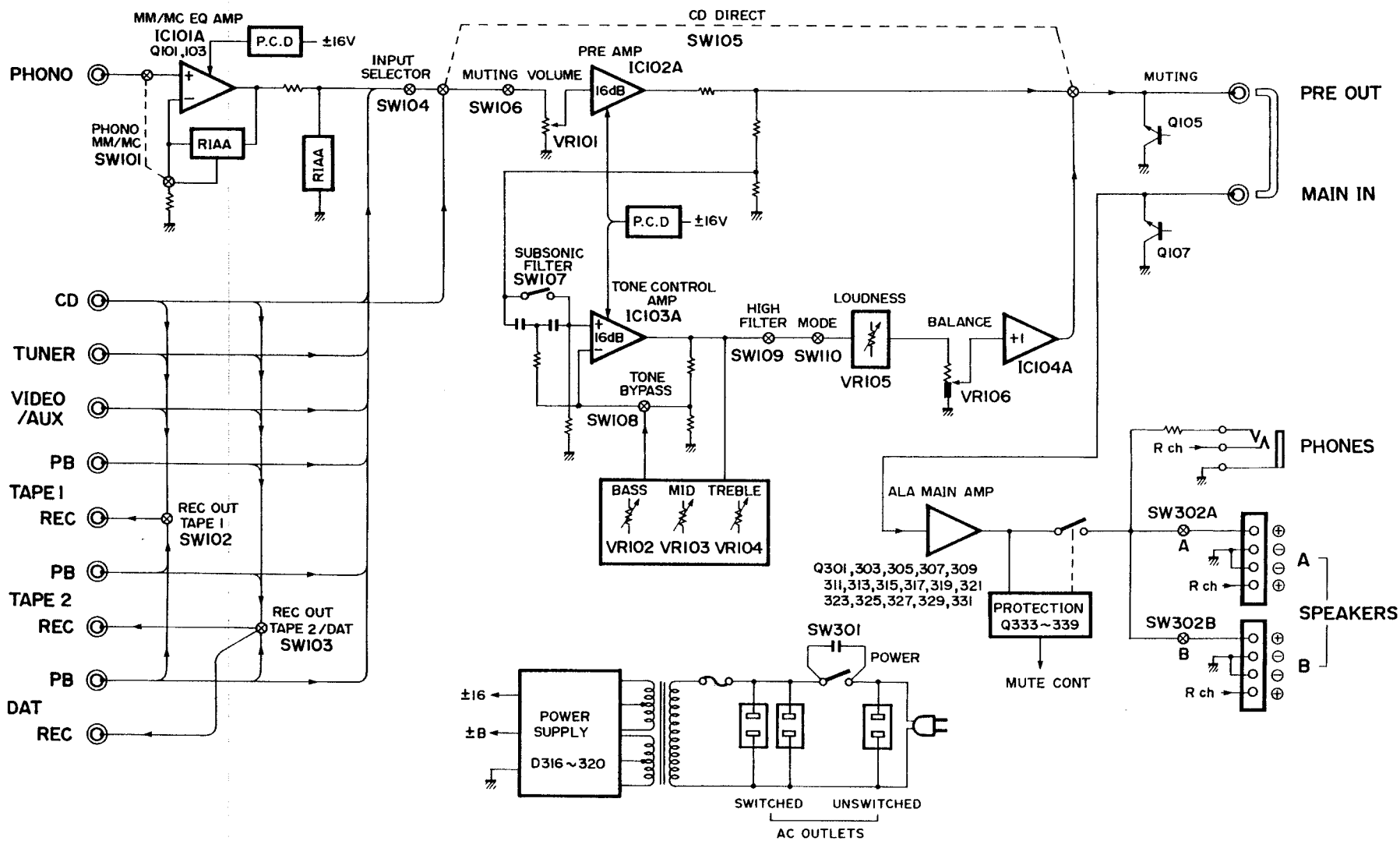
(U) U.S.A. model (B) British model
(C) Canadian model (R) Other models
(A) Australian model

INTERNAL VIEW



- ① POWER TRANSFORMER
U.S.A. model: XB781001
Australian model: XB782001
European & British models: XB783001
Canadian model: XB784001
Other models: XB780001
- ② MAIN CIRCUIT BOARD (2)
- ③ ELECTROLYTIC CAPACITOR: 22000μF 71V
- ④ DIODE BRIDGE: D5FB20
- ⑤ MAIN CIRCUIT BOARD (1)
- ⑥ FUNCTION CIRCUIT BOARD (3): PHONO AMP SECTION
- ⑦ FUNCTION CIRCUIT BOARD (2)
- ⑧ FUSE
U.S.A. & Canadian models: 10A 250V
Australian, British & European models: T4.0A 250V
Other models: 10A 250V
- ⑨ FUNCTION CIRCUIT BOARD (1)

■ BLOCK DIAGRAM



DISASSEMBLY PROCEDURES

1. Removal of Top Cover

Remove 6 screws (①) in Fig. 1, and slide the Top Cover back.

2. Removal of Bottom Cover

Remove 12 screws (②) in Fig. 1.

3. Removal of Front Panel

Remove 3 screws (③) in Fig. 1, and pull the Front Panel forward.

4. Removal of Flame, EQ

Remove 6 screws (④) in Fig. 1.

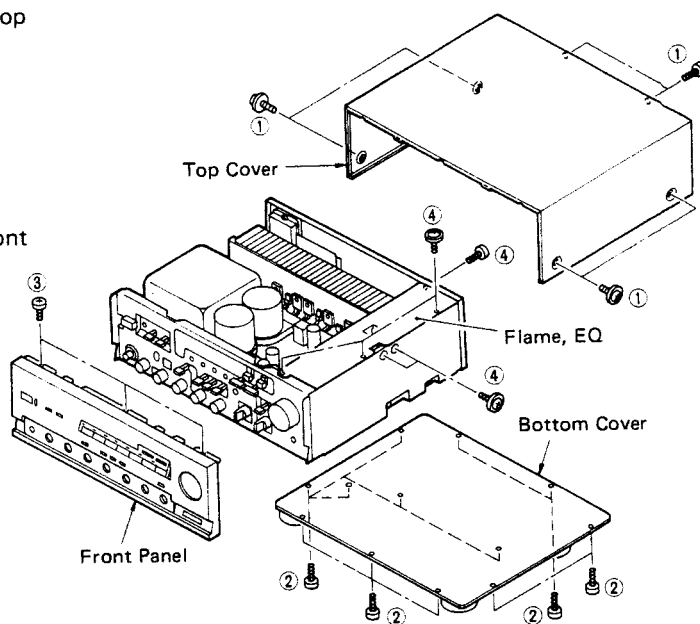


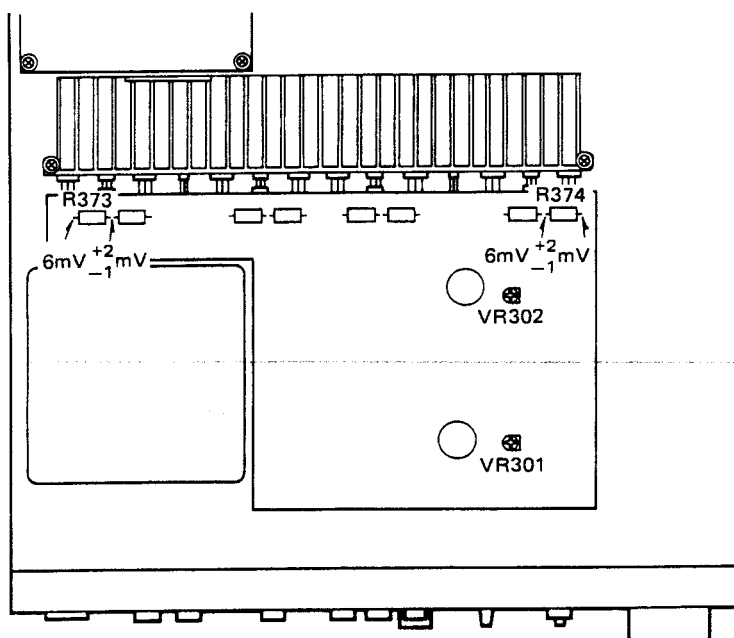
Fig. 1

ADJUSTMENTS

● IDLING CURRENT ADJUSTMENT

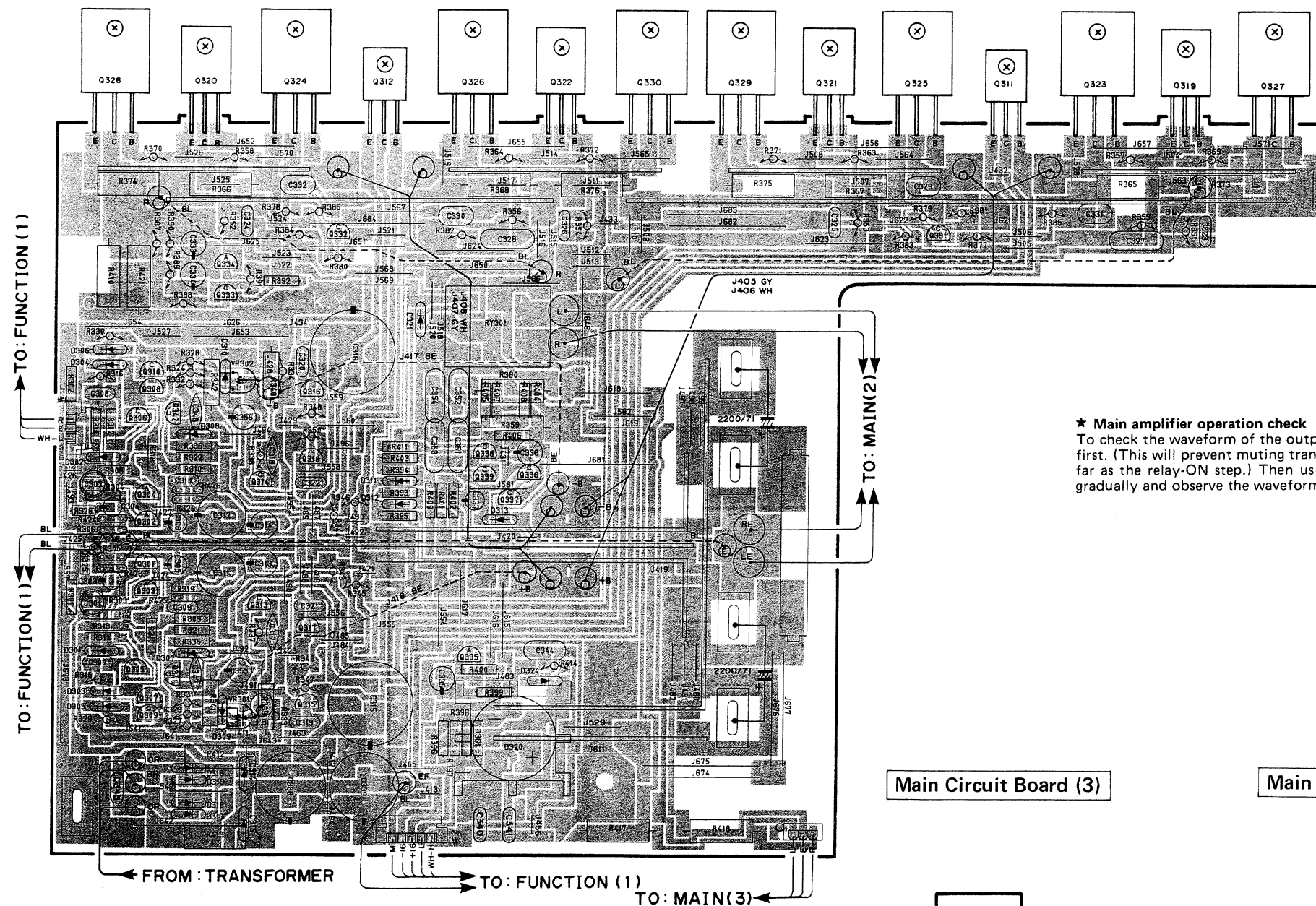
When replacing the power and drive transistors, adjust idling current. After the power has been turned on, age about 2 minutes in no signal and non loaded condition. Adjust VR301 (Lch) and VR302 (Rch) so that the voltage across the terminals of R373 (Lch) and R374 (Rch) come to $6\text{mV}^{+2}_{-1}\text{mV DC}$.

	Test points	Adjustment points	Rating
Lch	Across the terminals of R373	VR301	$6\text{mV}^{+2}_{-1}\text{mV DC}$
Rch	Across the terminals of R374	VR302	$6\text{mV}^{+2}_{-1}\text{mV DC}$



■ **PRINTED CIRCUIT BOARD (Pattern side)**

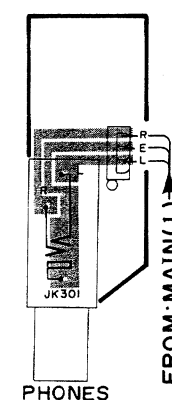
Main Circuit Board (1)



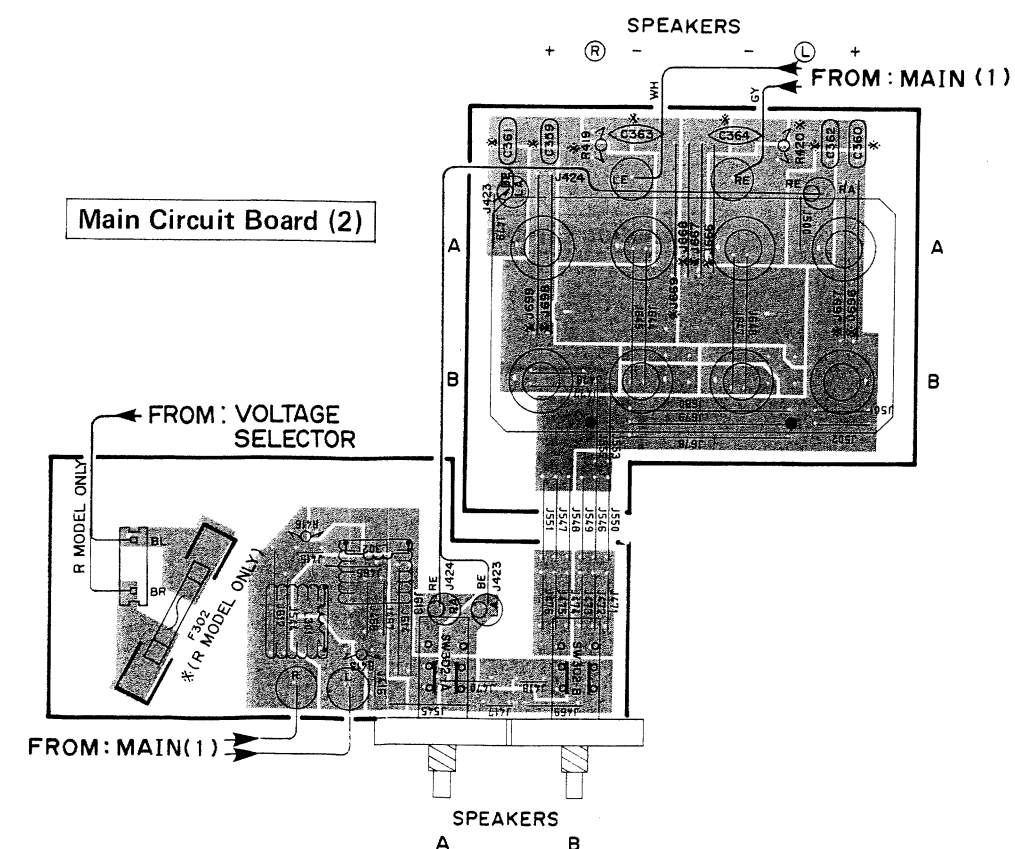
★ Main amplifier operation check

To check the waveform of the output (speaker), remove the diode D312 first. (This will prevent muting transistors Q105 to 108 from operating as far as the relay-ON step.) Then using the AC regulators, apply voltage gradually and observe the waveform.

Main Circuit Board (3)



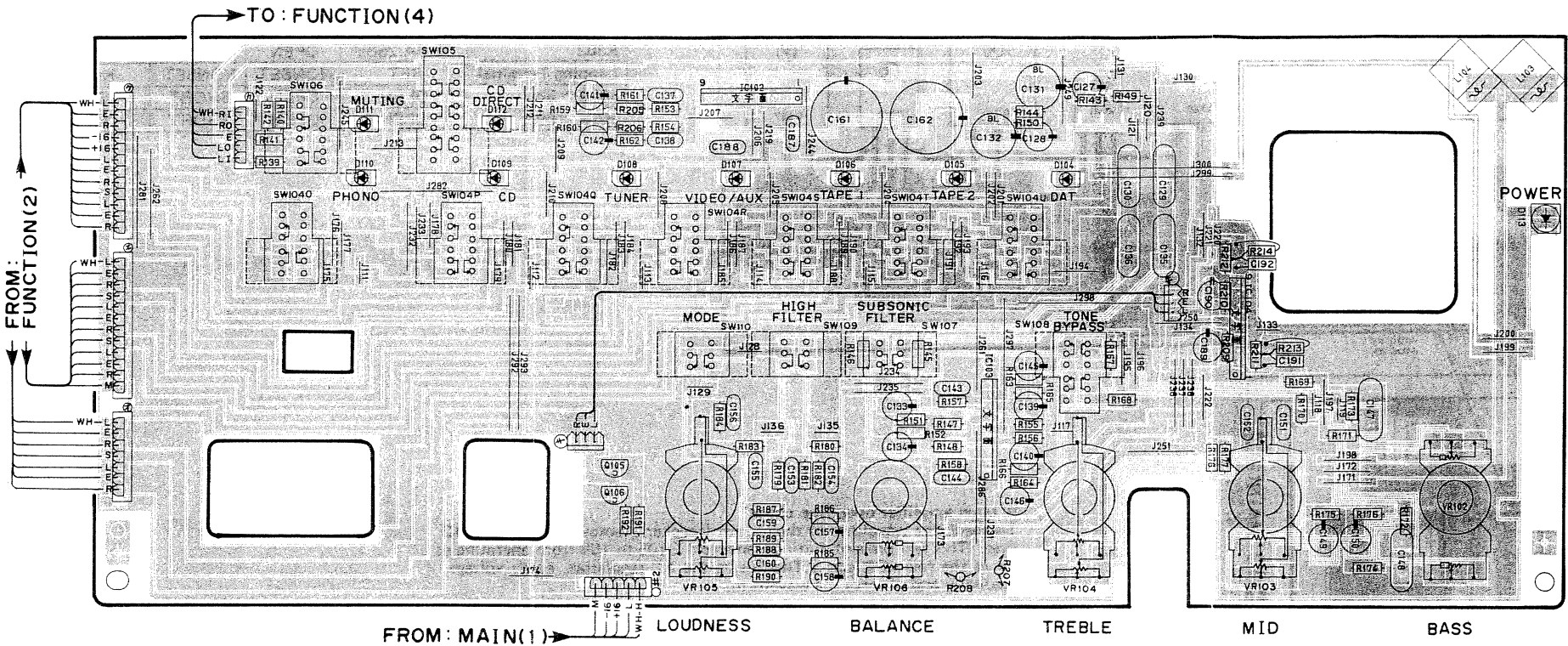
Main Circuit Board (2)



PRINTED CIRCUIT BOARD(Pattern side)

Note) 文字面 : Component side

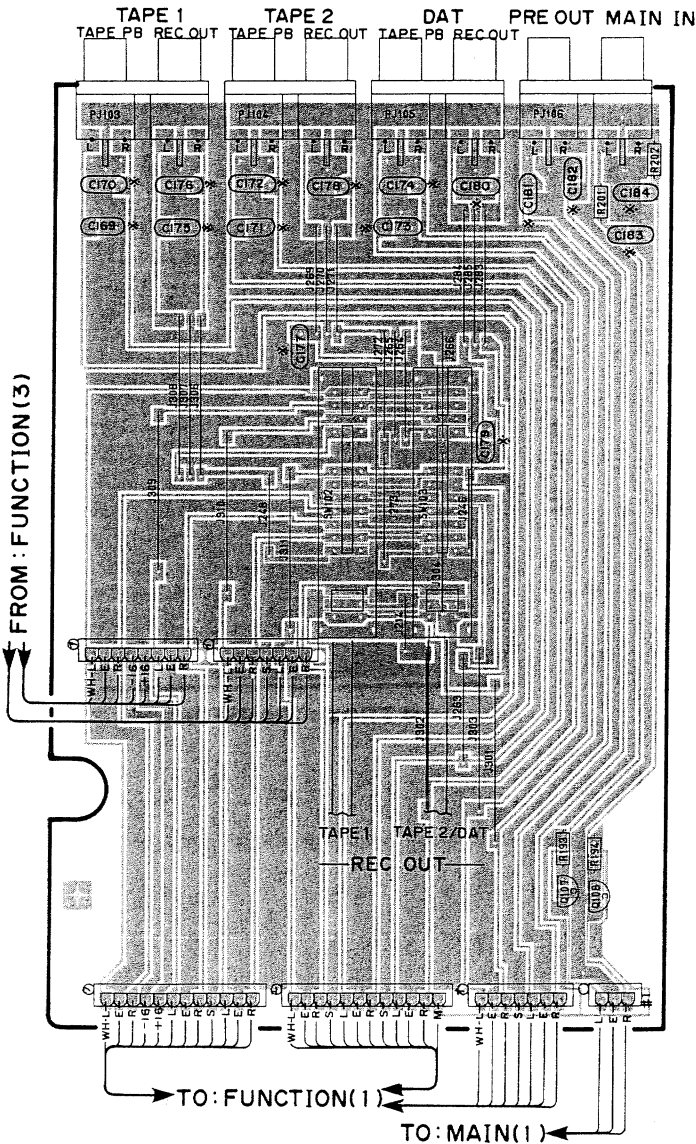
Function Circuit Board (1)



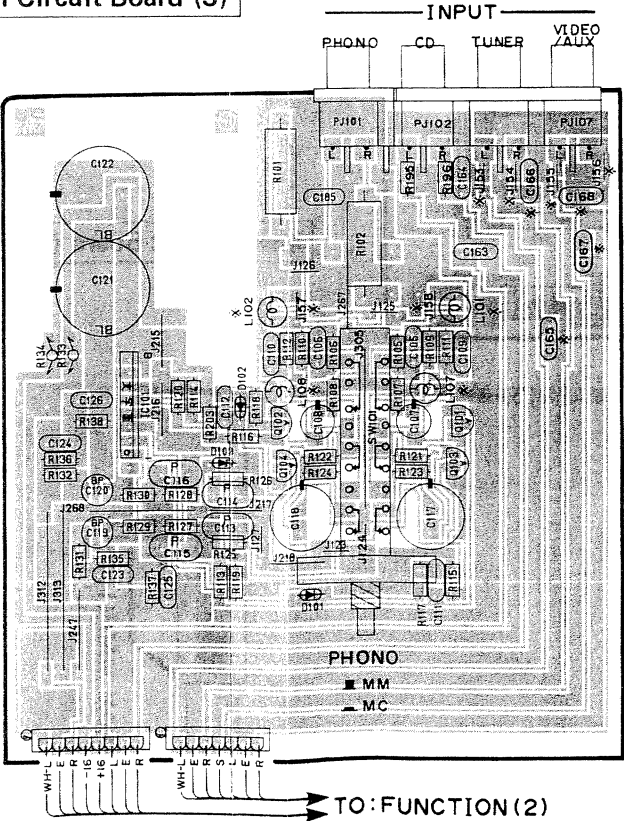
Note) * marked

	R, U, A, C	G, B
C165 ~ 184	OPEN	220P/100
R103, 104, 197 ~ 200	SHORT	470
L101, 102	OPEN	15μH
L107, 108	OPEN	220μH

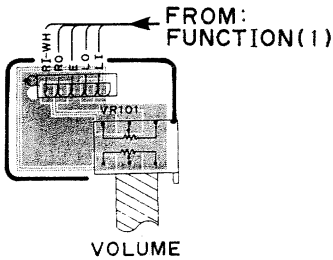
Function Circuit Board (2)



Function Circuit Board (3)

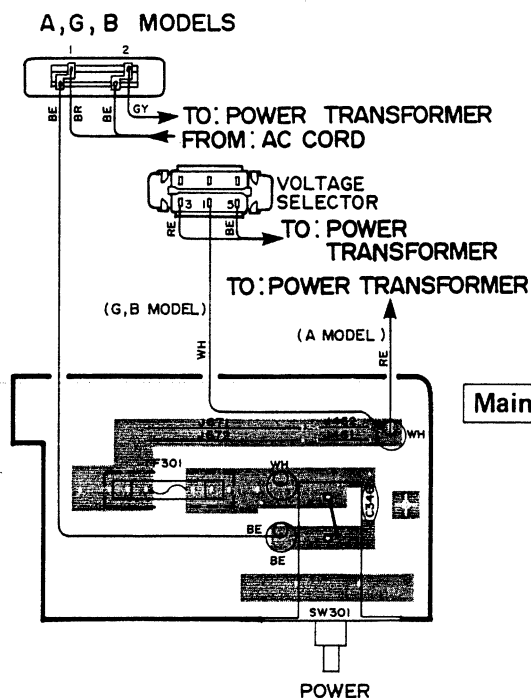
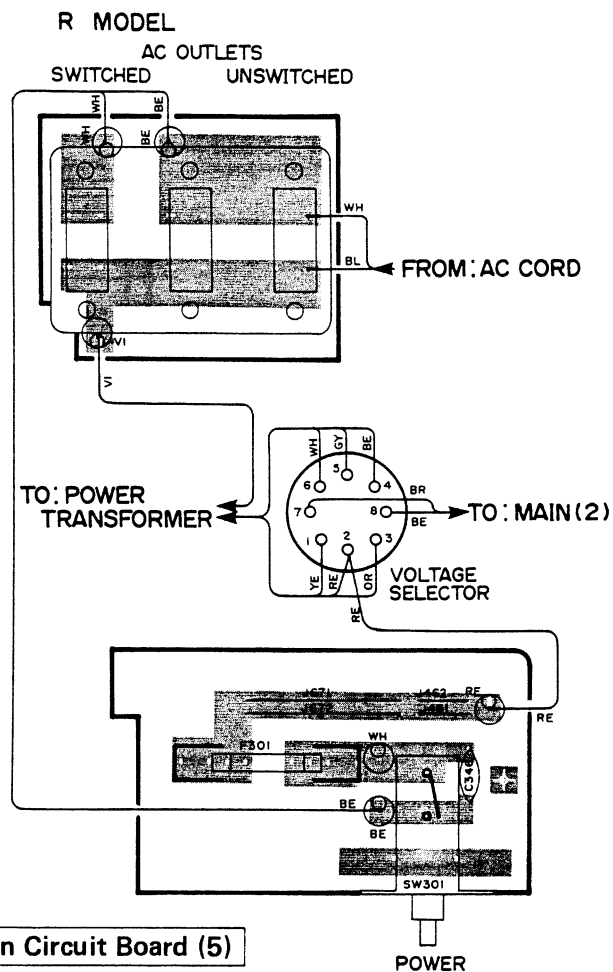
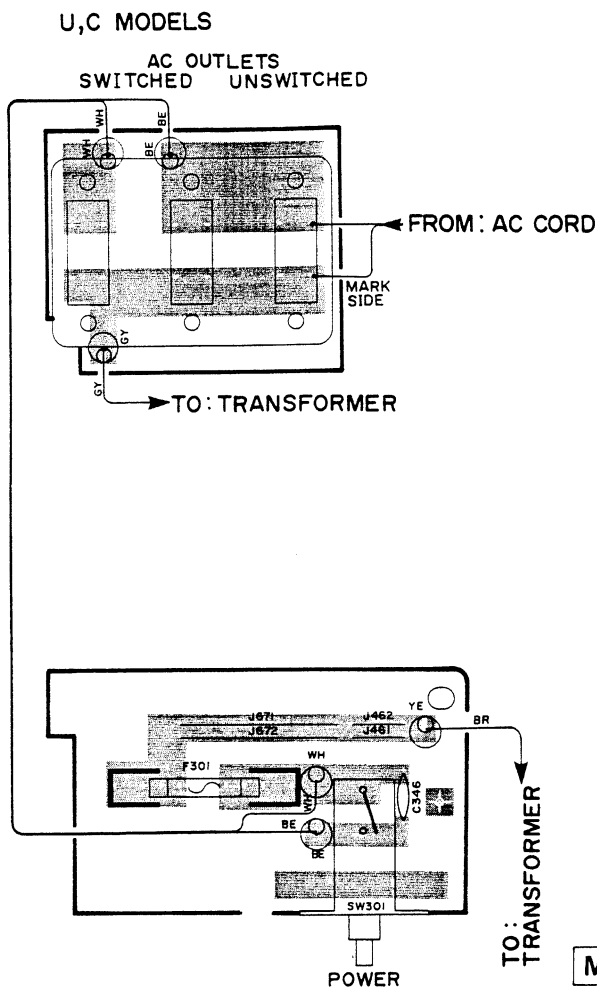


Function Circuit Board (4)



PRINTED CIRCUIT BOARD(Pattern side)

Main Circuit Board (4)



Main Circuit Board (5)

Diagram of the main power supply circuit for the XB782001. The circuit includes a transformer with a primary winding connected to a 240V AC source. The secondary winding has a center tap labeled GY and two outer taps labeled BE and WH. The BE tap is connected to a fuse block labeled MAIN (5). The output of the fuse block is connected to a bridge rectifier (BR) and a 2000µF electrolytic capacitor (C1) connected to ground.

Diagram of the MAIN (5) unit showing its connection to the transformer and the GY line. The transformer has terminals RE, BE, and 5. The MAIN (5) unit has terminals WH, BE, and 1. The GY line has terminals BE and 2. The connections are: RE to WH, BE to BE, 5 to 1, and 2 to 1.

SCHEMATIC DIAGRAM

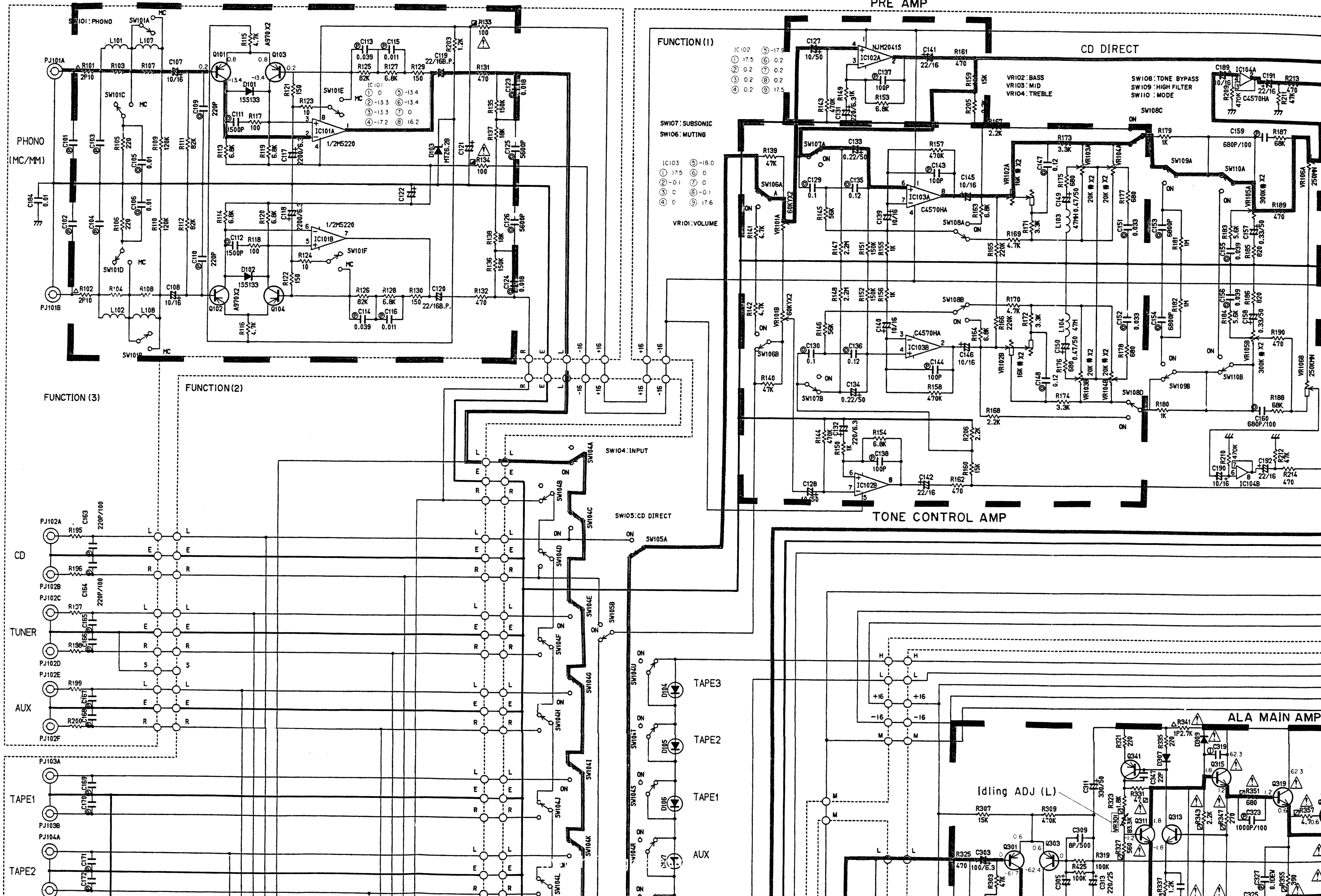
PHONO MM/MC AMP

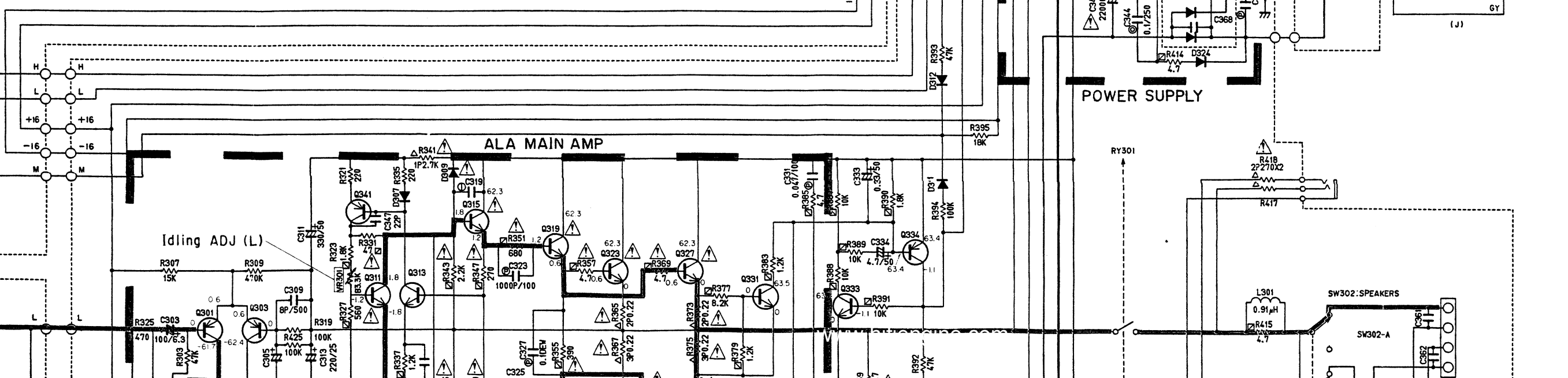
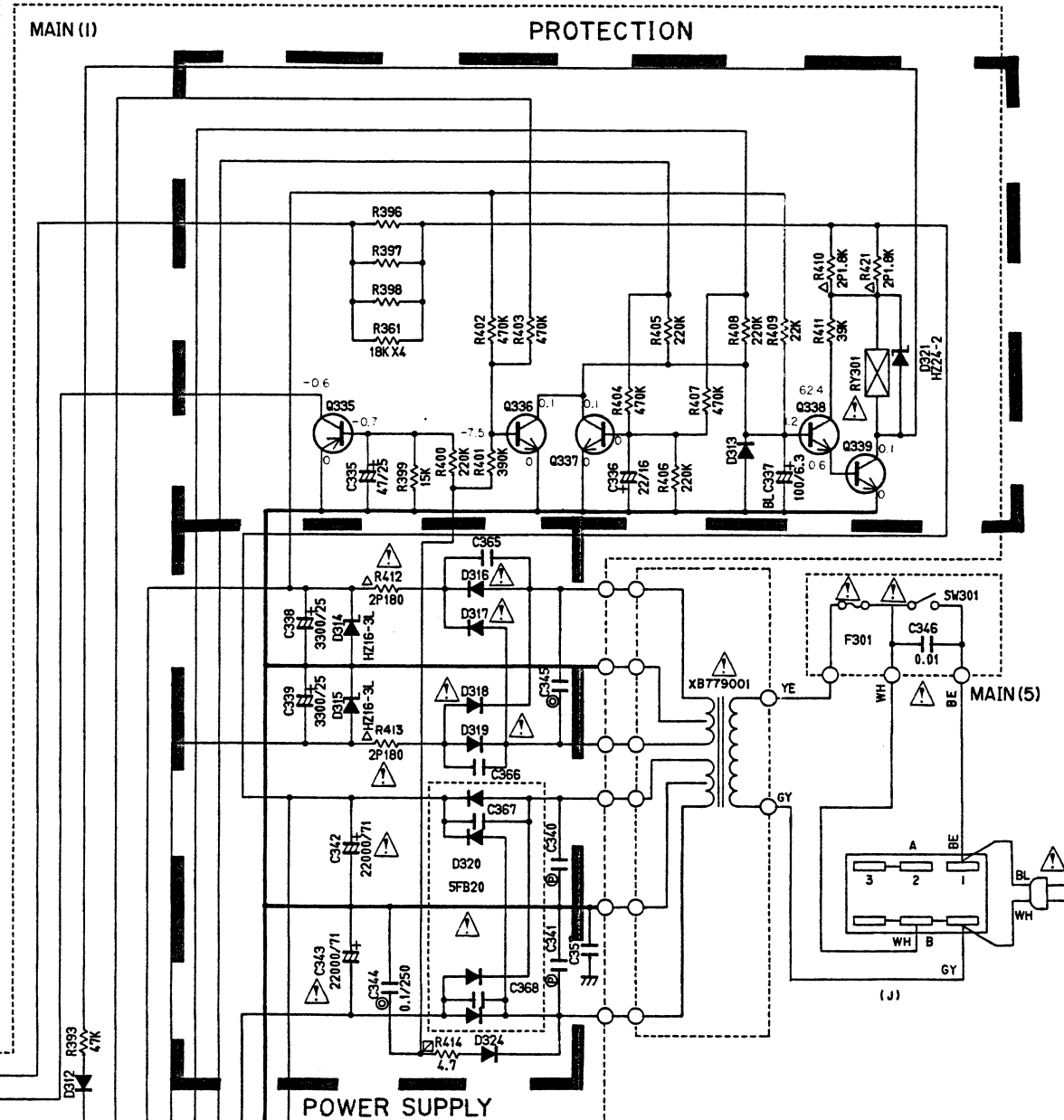
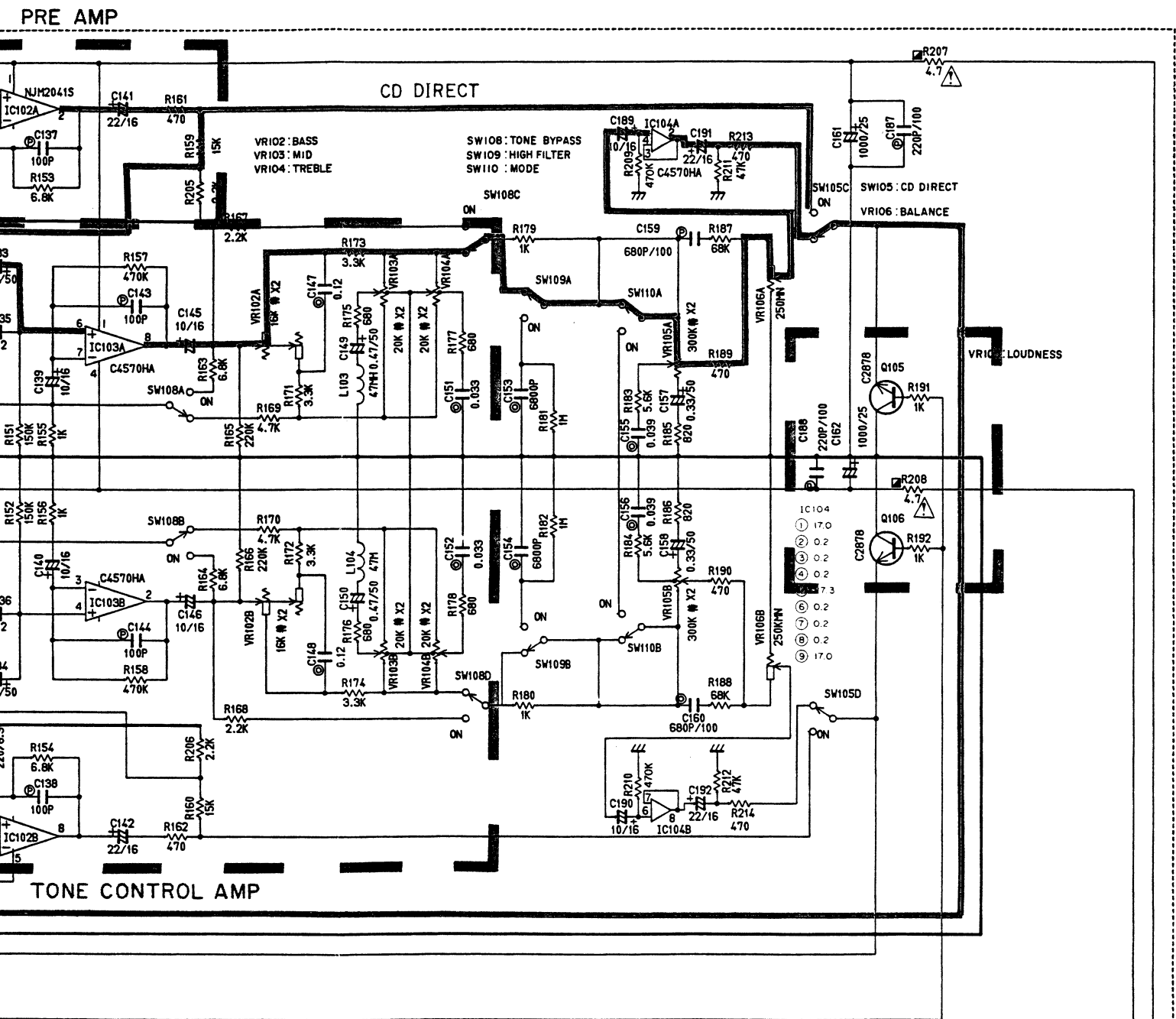
PRE AMP

CD DIRECT

TONE CONTROL AMP

ALA MAIN AMP





5

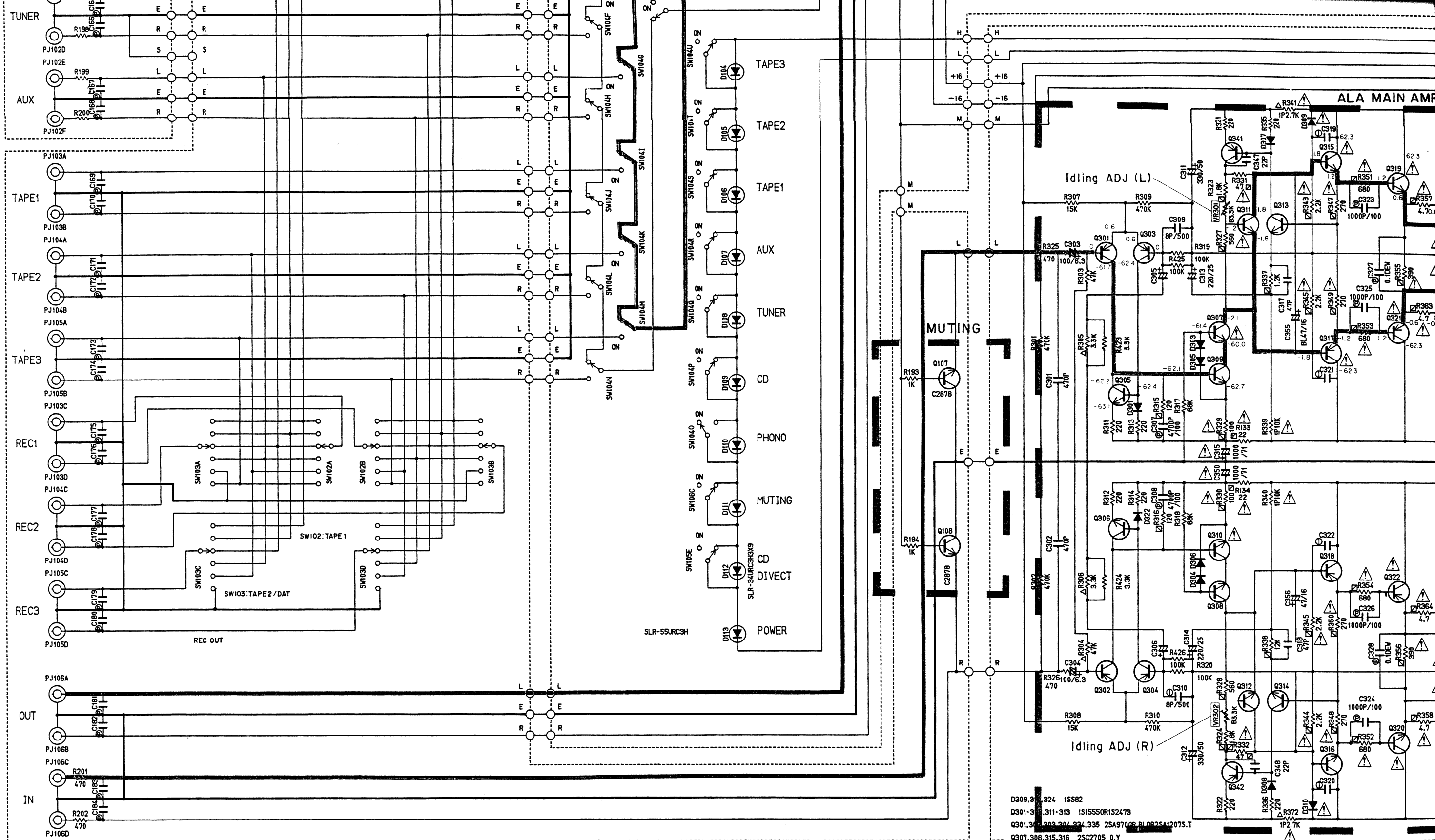
6

7

8

9

10



PIN CONNECTION DIAGRAM OF TRANSISTORS, DIODES AND ICS.

2SA970 (GR, BL) 2SA1207 (S, T) 2SC2240 (GR, BL) 2SC2909 (S, T) 2SA1048 (Y, GR) 2SA1015 (O, Y) 2SC1815 (O, Y) 2SC2878 (A, B)	2SA1145 (O, Y) 2SC2705 (O, Y)	2SA1306 (O, Y) 2SC3298 (O, Y)	2SC1846 (S) 2SC3964	2SA1301 (R, O) 2SC3280 (R, O) 2SB1162 (Q, S, P) 2SD1717 (Q, S, P)	1S1555 1S2473 1S582 1SR35-100A HZ24-2 HZ16-31 5FB20	1S1133 MTZ6.2B	SLR-55URC3H SLR-34URC3H3	M5220L	NJM2041S C4570HA

PARTS LIST

AX-900/AX-900U

■WARNING

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

• Carbon resistors (1/6W or 1/4W) are not included in the ELECTRICAL PARTS list. For the parts No. of the carbon resistor, refer to p. 21.

■ELECTRICAL PARTS

Ref. No.	Part No.	Description	部 品 名	Remarks	Common Model	Markets	ランク
※	NA 09:23:60	Main Circuit Board	メ イン シ ー ト			J	
※	NA 09:23:70	"	"			R	
※	NA 09:23:80	"	"			U,C	
※	NA 09:23:90	"	"			A	
※	NA 09:24:00	"	"			G,B	
※	FF 06:24:70	Stylole Cap.	470pF 125V 銅 ハ ク ス チ コ ン	C301,302			
	Fi 38:41:00	Ceramic Cap.	0.01 μ F セ ラ コ ン	C346			Δ
	FG 44:41:00	"	0.01 μ F 50V "	C357,363,364		G,B	
	FG 21:12:20	"	22pF 50V "	C347,348			
	FG 21:14:70	"	47pF 50V "	C317,318			
	FU 35:08:00	Mica Cap.	8pF 500V F E マ イ カ コ ン	C309,310			
	FU 35:12:20	"	22pF 500V "	C319~322		J,R,U,A,C	
	FU 35:14:70	"	47pF 500V "	"		G,B	
	FZ 00:46:60	Metalized Mylar Cap.	0.1 μ F 250V M M コ ン	C344			
	FZ 00:63:00	Electrolytic Cap.	47 μ F 16V ブ ラ ッ ク ゲ ー ト コ ン	C355,356			
	FZ 00:54:10	"	100 μ F 6.3V "	C303,304,337			
※	VC 57:43:00	"	1000 μ F 71V オ ー デ ィ オ ケ ミ コ ン	C315,316			
	UJ 11:82:20	"	220 μ F 6.3V ケ ミ コ ン	C305,306			
	UJ 24:93:30	"	3300 μ F 25V ケ ミ コ ン	C338,339			
	UJ 13:72:20	"	22 μ F 16V "	C336			
	UJ 14:74:70	"	47 μ F 25V "	C335			
	UJ 16:53:30	"	0.33 μ F 50V "	C333			
	UJ 16:64:70	"	4.7 μ F 50V "	C334			
	UJ 46:83:30	"	330 μ F 50V "	C311,312			
	UW 84:82:20	"	220 μ F 25V "	C313,314			
	UT 45:31:00	Polypropylene Film Cap.	1000pF 100V ポ リ プ ロ コ ン	C323~326			
	UT 45:34:70	"	4700pF 100V "	C307,308			
	UT 45:34:70	"	4700pF 100V "	C359~362		G,B	
	UT 45:41:00	"	0.01 μ F 100V "	C340,341		A,G,B	
	UT 45:44:70	"	0.047 μ F 100V "	C329~332			
	FA 15:41:00	Mylar Cap.	0.01 μ F 50V マ イ ラ ー コ ン	C345		R,U,A,G,C,B	
	FC 39:44:70	"	0.047 μ F 250V Q P コ ン	C367,368		J	
	FZ 00:06:70	"	0.047 μ F 400V "	"		R,U,C	
	FZ 00:49:40	"	0.1 μ F 50V 銅 リ ー ド マ イ ラ ー コ ン	C327, 328, 351~354			
	FZ 00:55:80	"	0.047 μ F 50V "	C365,366		J	
	GD 90:03:70	Coil, Output	0.91 μ H ア ウ ト プ ッ ト コ イ ル	L301,302			
	HJ 35:52:20	Carbon Resistor	220 Ω 1/4W カ ー ボ ン 抵 抗	R311~314,321,322,335,336			
	HJ 35:71:50	"	15k Ω 1/4W "	R307,308,399			
	HJ 35:71:80	"	18k Ω 1/4W "	R361,395~398			
	HJ 35:73:90	"	39k Ω 1/4W "	R411			
	HJ 35:74:70	"	47k Ω 1/4W "	R303,304,392,393			
	HJ 35:76:80	"	68k Ω 1/4W "	R317,318			
	HJ 35:81:00	"	100k Ω 1/4W "	R394			
	HJ 35:82:20	"	220k Ω 1/4W "	R400,405,406,408			
	HJ 35:83:90	"	390k Ω 1/4W "	R401			
	HJ 35:84:70	"	470k Ω 1/4W "	R301,302,309,310,402~404,407,409			
	HU 57:63:30	Metal Film Resistor	3.3k Ω 1/4W 金 属 皮 膜 抵 抗	R305,306,423,424			
	HU 57:81:00	"	100k Ω 1/4W "	R319,320,425,426			
	HV 45:34:70	Flame Proof Carbon Resistor	4.7 Ω 1/4W 不 燃 化 カ ー ボ ン 抵 抗	R357,358,363,364,369~372,381,382,395,396,414~416			Δ
	HV 45:34:70	"	4.7 Ω 1/4W "	R419,420		G,B	
	HV 45:42:20	"	22 Ω 1/4W "	R333,334			Δ

※New Parts (新規部品)

Ref. No.	Part No.	Description	部 品 名	Remarks	Common Model	Markets	ランク
	HV: 45: 44: 70	Flame Proof Carbon Resistor	47Ω 1/4W	不燃化カーボン抵抗	R331,332		△
	HV: 45: 51: 00	"	100Ω 1/4W	"	R329,330		△
	HV: 45: 51: 20	"	120Ω 1/4W	"	R315,316		
	HV: 45: 52: 70	"	270Ω 1/4W	"	R347~350		△
	HV: 45: 53: 90	"	390Ω 1/4W	"	R355,356		△
	HV: 45: 55: 60	"	560Ω 1/4W	"	R327,328		
	HV: 45: 56: 80	"	680Ω 1/4W	"	R351~354		△
	HV: 45: 61: 20	"	1.2kΩ 1/4W	"	R337,338,379,380,383,384		
	HV: 45: 61: 80	"	1.8kΩ 1/4W	"	R323,324,390		
	HV: 45: 62: 20	"	2.2kΩ 1/4W	"	R343~346		△
	HV: 45: 68: 20	"	8.2kΩ 1/4W	"	R377,378		
	HV: 45: 71: 00	"	10kΩ 1/4W	"	R387~389,391		
	HL: 71: 71: 00	Metal Oxide Film Resistor	10kΩ 1W	酸 金 抵 抗	R339,340		△
	HL: 31: 62: 70	"	2.7kΩ 1W	"	R341,342		△
	HL: 32: 34: 70	"	4.7Ω 2W	"	R359,360		△
	HL: 32: 51: 80	"	180Ω 2W	"	R412,413		△
	HL: 32: 52: 70	"	270Ω 2W	"	R417,418		
	HL: 32: 61: 80	"	1.8kΩ 2W	"	R410,421		
	HL: 93: 22: 20	"	0.22Ω 3W	"	R365~368,373~376		△
	VA: 78: 78: 00	Pre-Set Potentiometer	B3.3kΩ	半 固 定 抵 抗	VR301,302		
	iA: 09: 70: 00	Transistor	2SA970 (GR,BL)	ト ラ ン ジ ス タ	Q301~304,334,335		
	iA: 10: 15: 10	"	2SA1015(O,Y)	"	Q341,342		
	iA: 11: 45: 00	"	2SA1145(O,Y)	"	Q317,318		
	iC: 22: 40: 00	"	2SC224Q(GR,BL)	"	Q305,306,313,314,331~333,336~339		
	iC: 18: 15: 20	"	2SC1815(O,Y)	"	Q309,310		
	iC: 27: 05: 00	"	2SC2705(O,Y)	"	Q307,308,315,316		△
	iF: 00: 06: 70	Diode	1S2473	ダ イ オ ード	D301~308,311~313	interchangeable	
	iF: 00: 00: 40	"	1S1555	"	"		
	iF: 00: 14: 00	"	1SS82	"	D309,310,324		△
	iF: 00: 84: 80	"	1SR35-100A	"	D316~319		△
	iF: 00: 19: 40	Zener Diode	HZ24-2	ツェナーダイオード	D321		
	iF: 00: 20: 80	"	HZ16-3L	"	D314,315		
	iH: 00: 11: 30	Diode Bridge	D5FB20	ダイオードブリッジ	D320		△
*	VC: 39: 80: 00	Relay	DC24V	リ レ ー	RY301		△
	KA: 80: 35: 70	Push Switch		プッシュスイッチ	SW302 SPEAKER		
*	VC: 23: 49: 00	Power Switch		パワースイッチ	SW301 POWER		△
	KB: 00: 14: 90	Fuse	10A 250V	ヒ ュ ー ズ	F301	J,R	△
	KB: 00: 13: 90	"	10A 250V	"	"	U,C	△
	KB: 00: 07: 90	"	T4.0A 250V	"	"	A,G,B	△
	KB: 00: 04: 00	"	T5.0A 250V	"	F302	R	△
	LB: 30: 17: 20	Phone Jack		ホ ー ン ジャ ッ ク	JK301		
	CB: 64: 46: 70	Cover	HY-0105	コンデンサーカバー		A,G,B	
	LB: 20: 10: 60	Fuse Holder Pin	YSH403T	ヒューズホルダーピン		A,G,B	
	LB: 20: 19: 70	"	23165081	"		J,R,U,C	
	LB: 60: 42: 80	AC Outlet		A C ア ウ ト レ ッ ト		J,R	△

* New Parts (新規部品)

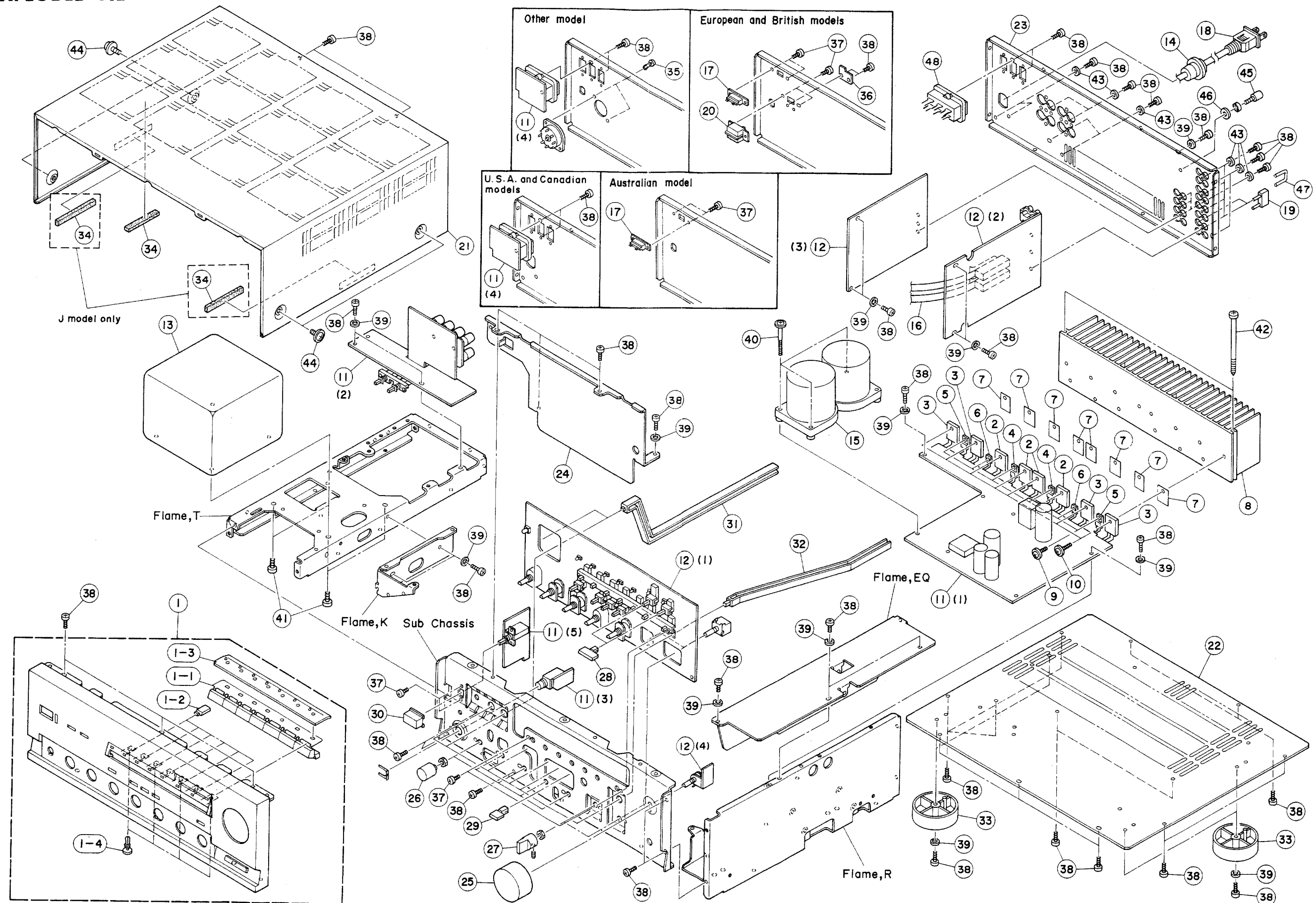
Ref. No.	Part No.	Description	部 品 名	Remarks	Common Model	Markets	ランク
	LB 60 81 70	AC Outlet	A C アウトレット			U,C	
	LA 00 21 40	Lapping Terminal	P=10 2P i-Type i 型ラッピング端子板			R	
	VA 72 53 00	Holder, Cable	3P パラレルケーブルホルダー				
※	VB 22 92 00	Wire Trap	3P ワイヤートラップ				
※	VB 22 94 00	"	5P "				
※	VC 64 26 00	Power Cable	ℓ=230 パワーケーブル			J	
※	VC 64 27 00	"	ℓ=280 "			J	
※	VC 64 28 00	Cable	ℓ=380 平行ケーブル			J	
※	VC 81 44 00	"	ℓ=420 "			J	
※	VC 31 36 00	Speaker Terminal	8P スピーカーターミナル			J,R,U,A,C	
※	VC 72 08 00	"	8P "			G,B	
	BB 07 04 30	Bus Bar	ℓ=145 バスバー		A-1000		
	BB 07 04 20	"	ℓ=100 "		"		
	BB 07 04 10	"	ℓ=55 "		"		
	BB 07 04 40	"	"		"		
※	BB 07 14 10	Ground Plate	アースプレート				
※	BB 07 14 20	"	"				
※	BB 07 14 30	"	"				
	BB 06 95 10	"	ランド金具		A-1060		
※	NA 09 24 10	Function Circuit Board	ファンクションシート			R,U,A,C	
※	NA 09 24 20	"	"			G,B	
※	NA 09 37 90	"	"			J	
	FC 36 51 00	Mylar Cap.	0.1μF 50V マイラーコン	C129,130			
	FC 36 51 20	"	0.12μF 50V "	C135,136,147,148			
	FC 36 31 50	"	1500pF 50V "	C111,112			
	FC 34 35 60	"	5600pF 50V "	C125,126			
	UA 25 36 80	"	6800pF 50V "	C153,154			
	FC 34 41 00	"	0.01μF 50V "	C105,106,185			
	FC 34 41 80	"	0.018μF 50V "	C123,124			
	FC 34 43 30	"	0.033μF 50V "	C151,152			
	UA 25 43 90	"	0.039μF 50V "	C155,156			
	Ui 91 92 20	Electrolytic Cap.	2200μF 6.3V ケミコン	C117,118			
	UT 46 41 10	Polypropylene Film Cap.	0.011μF 100V ポリプロコン	C115,116			
	UT 46 43 90	"	0.039μF 100V "	C113,114			
	UT 45 21 00	"	100pF 100V "	C137,138,143,144			
	UT 45 22 20	"	220pF 100V "	C109,110,163,164,187,188			
	UT 45 22 20	"	220pF 100V "	C165~184		G,B	
	UT 45 26 80	"	680pF 100V "	C159,160			
	UH 26 52 20	Electrolytic Cap.	0.22μF 50V ケミコン	C133,134			
	UJ 16 53 30	"	0.33μF 50V "	C157,158			
	UH 26 54 70	"	0.47μF 50V "	C149,150			
	UJ 13 71 00	"	10μF 16V "	C107,108,139,140,145,146,189,190			
	UJ 13 72 20	"	22μF 16V "	C191,192			
	UJ 16 71 00	"	10μF 50V "	C127,128			
	UW 83 72 20	"	22μF 16V "	C141,142			
	UK 13 72 20	"	22μF 16V B P コン	C119,120			
	UJ 11 82 20	"	220μF 6.3V ブラックゲートコン	C131,132			
※	VC 78 07 00	"	1000μF 25V ケミコン	C121,122,161,162			
※	VC 25 94 00	Coil	47mH コイル	L103~106			
	VA 98 35 00	"	15μH "	L101,102		G,B	
	VA 98 36 00	"	220μH "	L107,108		G,B	

※New Parts (新規部品)

Ref. No.	Part No.	Description	部 品 名	Remarks	Common Model	Markets	ランク
	HL 72 41 00	Metal Oxide Film Resistor	10Ω 2W 酸金抵抗	R101,102			
	HV 45 51 00	Flame Proof Carbon Resistor	100Ω 1/4W 不燃化カーボン抵抗	R133,134			
	HV 45 34 70	"	4.7Ω 1/4W "	R207,208			
※	VC 23 63 00	Potentiometer	16k×2 可変抵抗器	VR102			
※	VC 23 64 00	"	20k×2 "	VR103,104			
※	VC 23 66 00	"	250KMN "	VR106			
※	VC 23 67 00	"	300k×2 "	VR105			
※	VC 36 98 00	"	60KY×2 "	VR101			
	iA 09 70 00	Transistor	2SA970(GR,BL) トランジスタ	Q101~104			
	iX 60 42 00	"	2SC2878(A,B) "	Q105~108			
	iF 00 34 50	Diode	1SS133 ダイオード	D101,102			
	iX 60 80 20	Zener Diode	MTZ6.2B ツェナーダイオード	D103			
	iF 00 42 70	LED	SLR-55URC3H L E D	D113			
	iF 00 87 30	"	SLR-34URC3H3 "	D104~112			
※	XB 24 70 01	IC	μPC4570HA I C	IC103,104			
	iG 09 20 00	"	M5220L "	IC101			
	iG 07 69 00	"	NJM2041S "	IC102			
※	VC 23 56 00	Push Switch	7 プッシュスイッチ	SW104			
※	VC 17 67 00	"	4-2NS "	SW106			
※	VC 23 59 00	"	4-2S "	SW108			
※	VC 24 55 00	"	2-2NS "	SW110			
※	VC 23 61 00	"	2-2S "	SW107,109			
※	VC 23 62 00	"	6-2NS "	SW105			
※	VC 36 99 00	"	SPUF 6-2 "	SW101			
	KA 90 10 70	Remote Switch	リモートスイッチ	SW102,103			
	LB 20 22 90	Pin Jack	2P ピンジャック	PJ101			
	LB 20 26 10	"	2P "	PJ102			
	LB 40 10 30	"	4P "	PJ103~107			
	VA 72 55 00	Holder, Cable	5P パラレルホルダー				
	VA 72 57 00	"	7P "				
	VA 72 58 00	"	8P "				
	VA 72 62 00	"	12P "				
	VA 72 53 00	"	3P "				

※New Parts (新規部品)

■ EXPLODED VIEW



MECHANISM PARTS

Note) φ : Diameter

Ref. No.	Part No.	Description	部 品 名	Remarks	Common Model	Markets	ランク
* 1	NB 63:99:20	Panel Unit	パ ネ ル ユ ニ ッ ト	Black		R,A,G,B	
* "	NB 63:99:30	"	"	Silver		R,A,G,B	
* "	NB 64:06:60	"	"	Black		U,C	
* "	NB 64:06:70	"	"	Silver		U,C	
* "	NB 64:09:20	"	"	Black		J	
* "	NB 64:09:30	"	"	Silver		J	
* 1-1	NB 63:99:90	Button Ass'y	ボ タ ン Ass'y	Silver			
* "	NB 64:00:00	"	"	Black			
* 1-2	CB 66:07:40	Lens	レ ン ズ				
* 1-3	AA 63:17:10	Flame,SW	フ レ ー ム ス イ ッ チ				
* 1-4	CB 60:56:20	Plastic Rivet	プ ラ ス チ ッ ク リ ベ ッ ト				
* 2	iX 60:81:10	Transistor	ト ラ ン ジ ス タ	Q325,326,329,330	Inter-changeable		△
* "	iX 60:81:30	"	"	"			△
* 3	iX 60:81:20	"	"	Q323,324,327,328	Inter-changeable		△
* "	iX 60:81:40	"	"	"			△
* 4	iX 60:81:50	"	"	Q321,322			△
* 5	iX 60:81:60	"	"	Q319,320			△
* 6	VC 39:81:00	"	"	Q311,312	Inter-changeable		△
* "	VC 40:77:00	"	"	"			△
* 7	VC 65:78:00	Sheet	放 熱 シ ー ト	Inter-changeable			
* "	VC 39:72:00	"	デ ン カ シ ー ト				
* 8	BA 09:58:90	Heat Sink	放 熱 板				
* 9	EK 33:00:30	Cup Screw	3×10 FCRM3-BI	カ ッ プ ス ク リ ュ (Bタイ)			
* 10	EK 36:50:50	BW Head Tapping Screw	3×14 FCRM3-BI	BWヘッドタッピングネジ			
* 11	NA 09:23:60	Main Circuit Board	メ イ ン シ ー ト			J	
* "	NA 09:23:70	"	"			R	
* "	NA 09:23:80	"	"			U,C	
* "	NA 09:23:90	"	"			A	
* "	NA 09:24:00	"	"			G,B	
* 12	NA 09:24:10	Function Circuit Board	フ ァ ン ク シ ョ ン シ ー ト			R,U,A,C	
* "	NA 09:24:20	"	"			G,B	
* "	NA 09:37:90	"	"			J	
* 13	XB 77:90:01	Power Transformer	電 源 ト ラ ン ス			J	△
* "	XB 78:00:02	"	"			R	△
* "	XB 78:10:02	"	"			U	△
* "	XB 78:20:02	"	"			A	△
* "	XB 78:30:02	"	"			G,B	△
* "	XB 78:40:02	"	"			C	△
* 14	CB 62:01:90	Cord Stopper	CM-22B	コ ー ド ス ト ッ パ ー		R,A,G,B	
* "	CB 62:02:00	"	CM-22C	"		U,C	
* 15	VC 23:81:00	Electrolytic Cap Set	22000μF 71V	ケ ミ コ ン セ ッ ト			△
* 16	VC 40:03:00	Remote Rotary Switch		リ モ ー ト ロ ー タ リ ー ス イ ッ チ			
* 17	LA 00:29:50	Terminal Board	2P	中 継 端 子 台		A,G,B	
* 18	VC 61:44:00	Power Cord	12A 125V 2.2m	電 源 コ ー ド		J	△
* "	MG 00:16:30	"	6A 250V 2m	"		R	△
* "	MG 00:22:20	"	10A 125V 1.98m	"	Inter-changeable	U,C	△
* "	MG 00:23:70	"	10A 125V 2m	"		U,C	△
* "	MG 00:09:20	"	7.5A 250V 2.5m	"		A	△
* "	MG 00:14:90	"	7.5A 250V 2.5m	"	Inter-changeable	A	△
* "	MG 00:23:10	"	7.5A 250V 2m	"		A	△
* "	MG 00:16:20	"	2.5A 250V 2m	"		G,B	△
* 19	LB 10:18:90	Short Plug		シ ョ ー ト プ ラ グ			
* 20	KA 40:12:60	Slide Switch	SS-12	ス ラ イ ド ス イ ッ チ		G,B	△

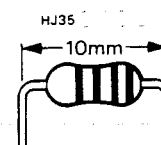
*New Parts (新規部品)

*New Parts (新規部品)

Parts List for Carbon Resistor

Value	1/4W Type Part No.	1/6W Type Part No.	Value	1/4W Type Part No.	1/6W Type Part No.
1.0 Ω	HJ353100	※	12K Ω	HJ357120	HF857120
1.8 "	HJ353180	※	15 "	HJ357150	HF857150
2.2 "	HJ353220	HF853220	18 "	HJ357180	HF857180
3.3 "	HJ353330	HF853330	22 "	HJ357220	HF857220
4.7 "	HJ353470	HF853470	27 "	HJ357270	HF857270
5.6 "	HJ353560	HF853560	33 "	HJ357330	HF857330
10 "	HJ354100	HF854100	39 "	HJ357390	HF857390
15 "	HJ354150	HF854150	47 "	HJ357470	HF857470
22 "	HJ354220	HF854220	56 "	HJ357560	HF857560
27 "	HJ354270	HF854270	68 "	HJ357680	HF857680
33 "	HJ354330	HF854330	82 "	HJ357820	HF857820
39 "	HJ354390	HF854390	91 "	HJ357910	HF857910
47 "	HJ354470	HF854470	100 "	HJ358100	HF858100
56 "	HJ354560	HF854560	120 "	HJ358120	HF858120
68 "	HJ354680	HF854680	150 "	HJ358150	HF858150
82 "	HJ354820	HF854820	180 "	HJ358180	HF858180
100 "	HJ355100	HF855100	220 "	HJ358220	HF858220
110 "	HJ355110	HF855110	270 "	HJ358270	HF858270
120 "	HJ355120	HF855120	330 "	HJ358330	HF858330
150 "	HJ355150	HF855150	390 "	HJ358390	HF858390
160 "	HJ355160	※	470 "	HJ358470	HF858470
180 "	HJ355180	HF855180	560 "	HJ358560	HF858560
220 "	HJ355220	HF855220	680 "	HJ358680	HF858680
270 "	HJ355270	HF855270	820 "	HJ358820	HF858820
330 "	HJ355330	HF855330	1.0M Ω	HJ359100	HF859100
390 "	HJ355390	HF855390	1.2 "	HJ359120	※
470 "	HJ355470	HF855470	1.5 "	HJ359150	HF859150
510 "	※	HF855510	1.8 "	HJ359180	HF859180
560 "	HJ355560	HF855560	2.2 "	HJ359220	HF859220
680 "	HJ355680	HF855680	3.3 "	HJ359330	HF859330
820 "	HJ355820	HF855820	3.9 "	HJ359390	※
910 "	HJ355910	HF855910	4.7 "	HJ359470	※
1.0K Ω	HJ356100	HF856100			
1.2 "	HJ356120	HF856120			
1.5 "	HJ356150	HF856150			
1.8 "	HJ356180	HF856180			
2.0 "	HJ356200	HF856200			
2.2 "	HJ356220	HF856220			
2.4 "	HJ356240	HF856240			
2.7 "	HJ356270	HF856270			
3.0 "	HJ356300	HF856300			
3.3 "	HJ356330	HF856330			
3.6 "	HJ356360	HF856360			
3.9 "	HJ356390	HF856390			
4.7 "	HJ356470	HF856470			
5.1 "	HJ356510	HF856510			
5.6 "	HJ356560	HF856560			
6.8 "	HJ356680	HF856680			
8.2 "	HJ356820	HF856820			
9.1 "	HJ356910	HF856910			
10 "	HJ357100	HF857100			

1/4W Type



1/6W Type

