

STEREO INTEGRATED AMPLIFIER AX-400/AX-400U

AX-400/
AX-400U

SERVICE MANUAL

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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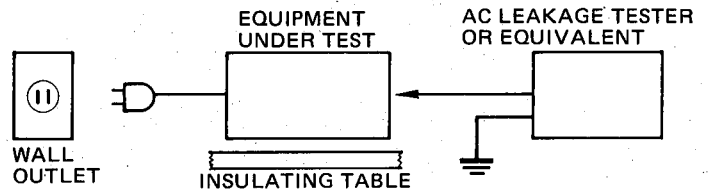
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NIPPON GAKKI CO., LTD. HAMAMATSU, JAPAN
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TO SERVICE PERSONNEL

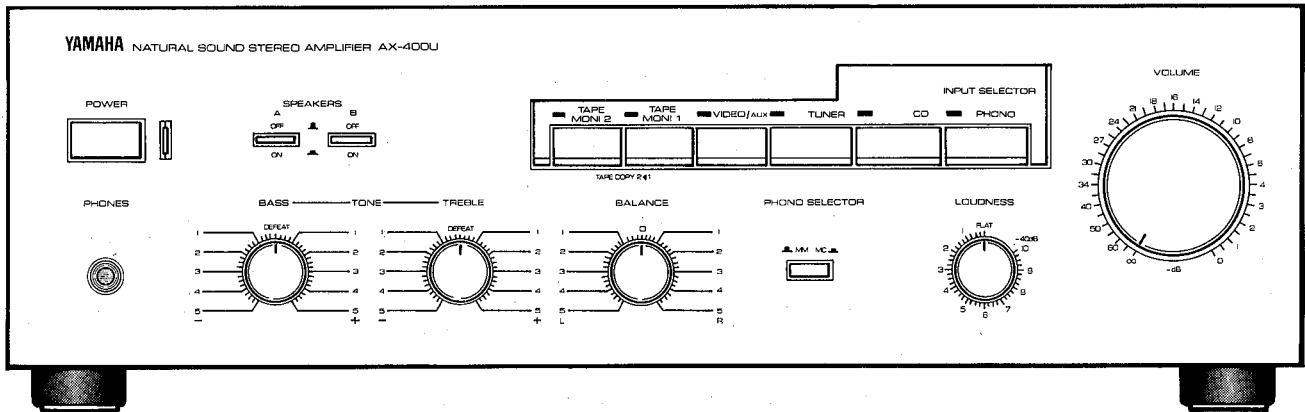
- Critical Components Information.**
Components having special characteristics are marked Δ and must be replaced with parts having specifications equal to those originally installed.
- Leakage Current Measurement (For 120 V Model Only).**
When service has been completed, it is imperative that you verify 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.

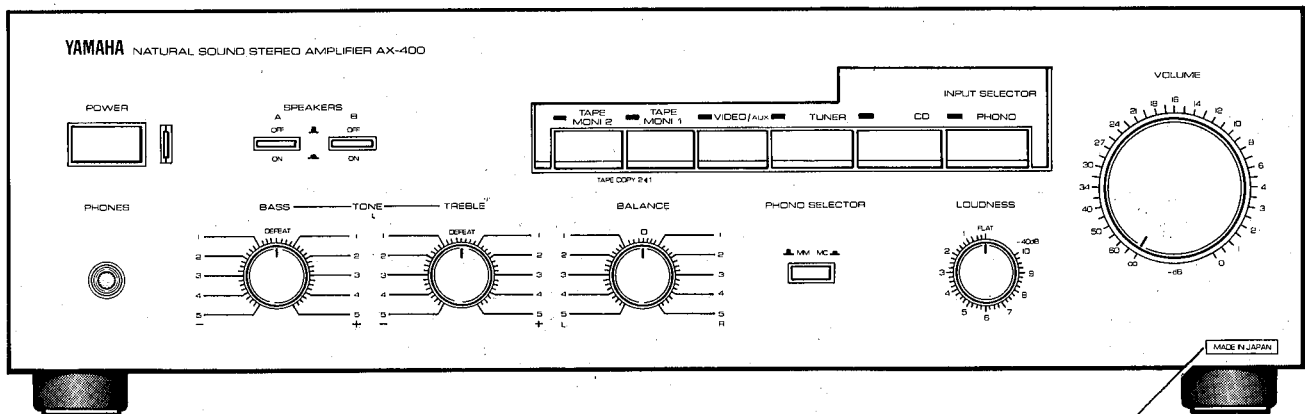


FRONT PANELS

- AX-400U



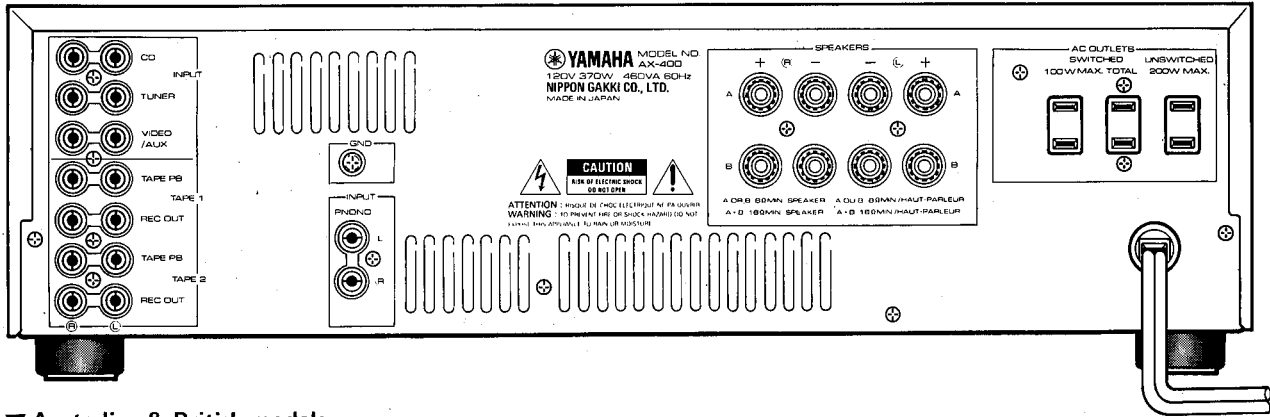
- AX-400



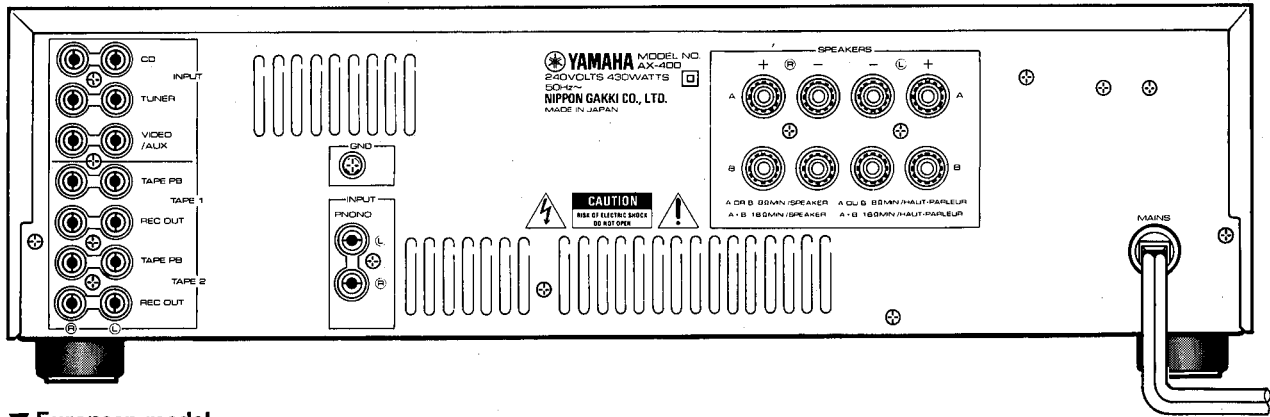
B model only

REAR PANELS

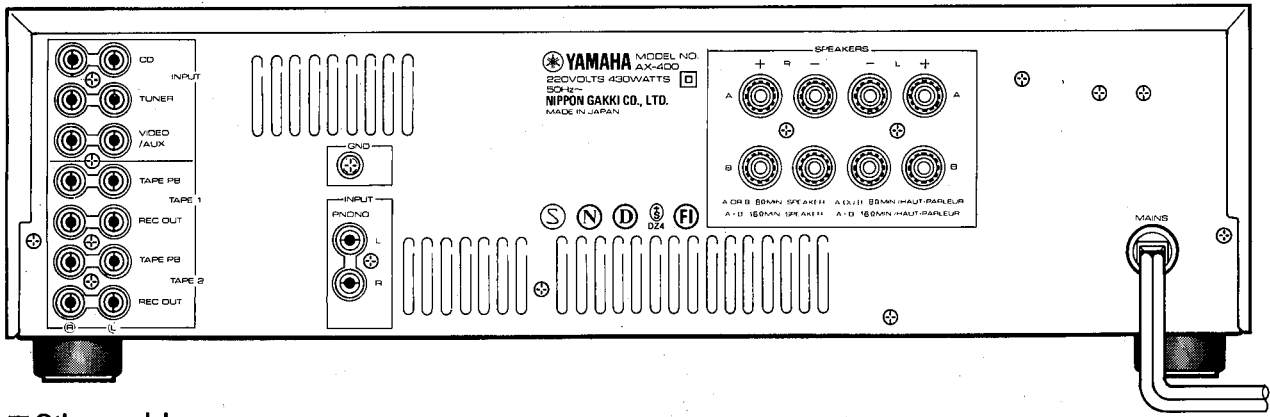
▼ U.S.A. & Canadian models



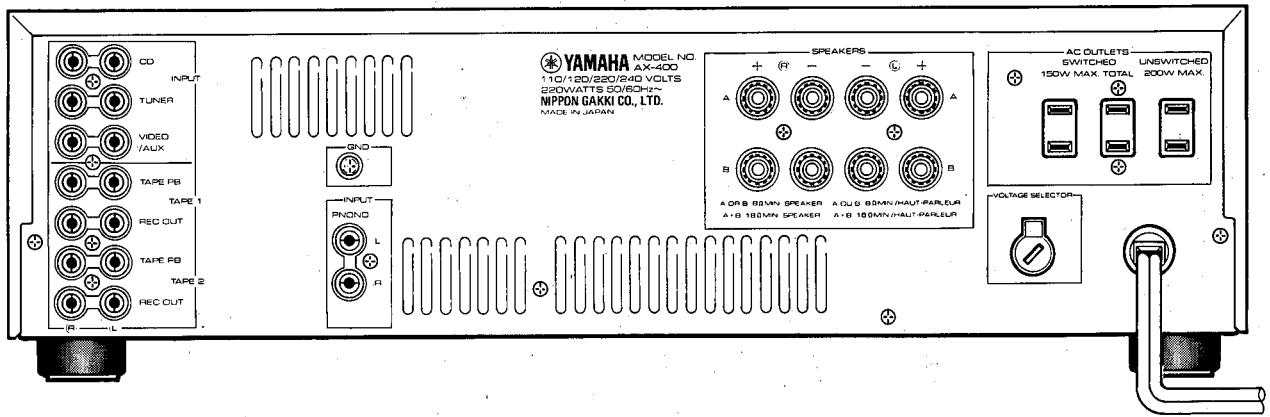
▼ Australian & British models



▼ European model



▼ Other models



SPECIFICATIONS

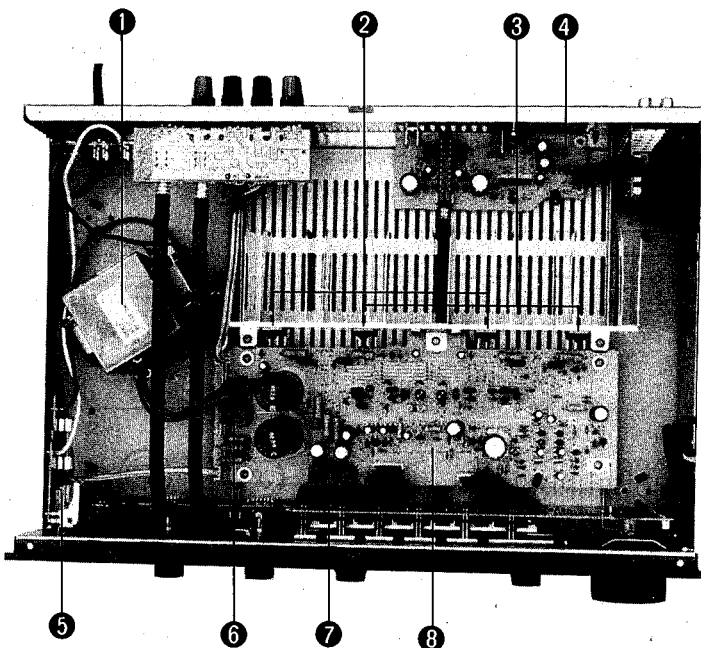
Minimum RMS Output Power Per Channel 20Hz ~ 20kHz, 0.015% THD, 8Ω			55W
Dynamic Power Per Channel (by IHF Dynamic Headroom measuring method)			
8Ω	102W (R)(U)(C)	98W (A)(G)(B)	
6Ω	117W (R)(U)(C)	112W (A)(G)(B)	
4Ω	138W (R)(U)(C)	126W (A)(G)(B)	
2Ω	158W (R)(U)(C)	142W (A)(G)(B)	
DIN Standard Output Power Per Channel 1kHz, 1% THD, 4Ω			70W (G)
Dynamic Headroom 8Ω			2.68dB (R)(U)(C) 2.5dB (A)(G)(B)
IEC Power 1kHz, 0.01% THD, 8Ω			66W (G)
Power Band Width 0.05% THD, 27.5W, 8Ω			10Hz ~ 50kHz
Damping Factor 1kHz, 8Ω			49
Input Sensitivity/Impedance			
Phono MC	160μV/220Ω	25mV/47kΩ	
MM		150mV/30kΩ	
CD etc.			
Input Sensitivity (New IHF)			
Phono MC	23μV	0.33mV	
MM		20mV	
CD etc.			
Maximum-Input Signal (1kHz) 0.02% THD, Phono MC			11mV
			MM 155mV
Output Level/Impedance Rec Out			150mV/470Ω
Headphone Jack Rated Output/Impedance 0.015% THD, RL = 8Ω			0.7V/220Ω
Frequency Response 20Hz ~ 20kHz, CD etc.			±0.5dB
RIAA Equalization Deviation			
Phono MC			±0.8dB
MM			±0.5dB
Total Harmonic Distortion (20Hz ~ 20kHz)			
Phono MC to Rec Out (3V)			0.008%
MM to Rec Out (3V)			0.004%

Intermodulation Distortion CD etc. Rated Output/8Ω			0.015%
Signal to Noise Ratio			
Phono MC (500μV Input Shorted)			76dB
MM (5mV Input Shorted)			92dB
CD etc. (Shorted)			106dB
Signal to Noise Ratio (New IHF)			
Phono MC			75dB
MM			75dB
CD etc.			86dB
Residual Noise (IHF-A-Network)			100μV
Channel Separation (Vol -30dB)			
Phono MC/MM input shorted 1kHz/10kHz			46dB/43dB
CD etc. input 5.1kΩ terminated 1kHz/ 10kHz			67dB/50dB
Tone Control Characteristics			
BASS	boost/cut	turnover frequency	±10dB (at 20Hz) 350Hz
TREBLE	boost/cut	turnover frequency	±10dB (at 20kHz) 3.5kHz
Continuous Loudness Control (Level related equalization)			
Attenuation			-40dB (1kHz)
Gain Tracking Error (0dB ~ -60dB)			3dB
Power Supply			
U.S.A. & Canadian models			AC120V, 60Hz
European model			AC220V, 50Hz
Australian & British models			AC240V, 50Hz
Other model			AC110/120/220/240V, 60/50Hz
Power Consumption			
U.S.A. & Canadian models			370W
Australian, European & British models			430W
Other model			220W
AC Outlet (U) (C) (R) only			
Switched x 2			100W max. (U)(C) 150W max. (R) 200W max.
Unswitched x 1			
Dimension (W x H x D)			435 x 134 x 332 mm (17-1/8 x 5-1/4 x 13-1/16")
Weight			6.2 kg (13 lbs 10 oz)

Specifications are subject to change without notice.

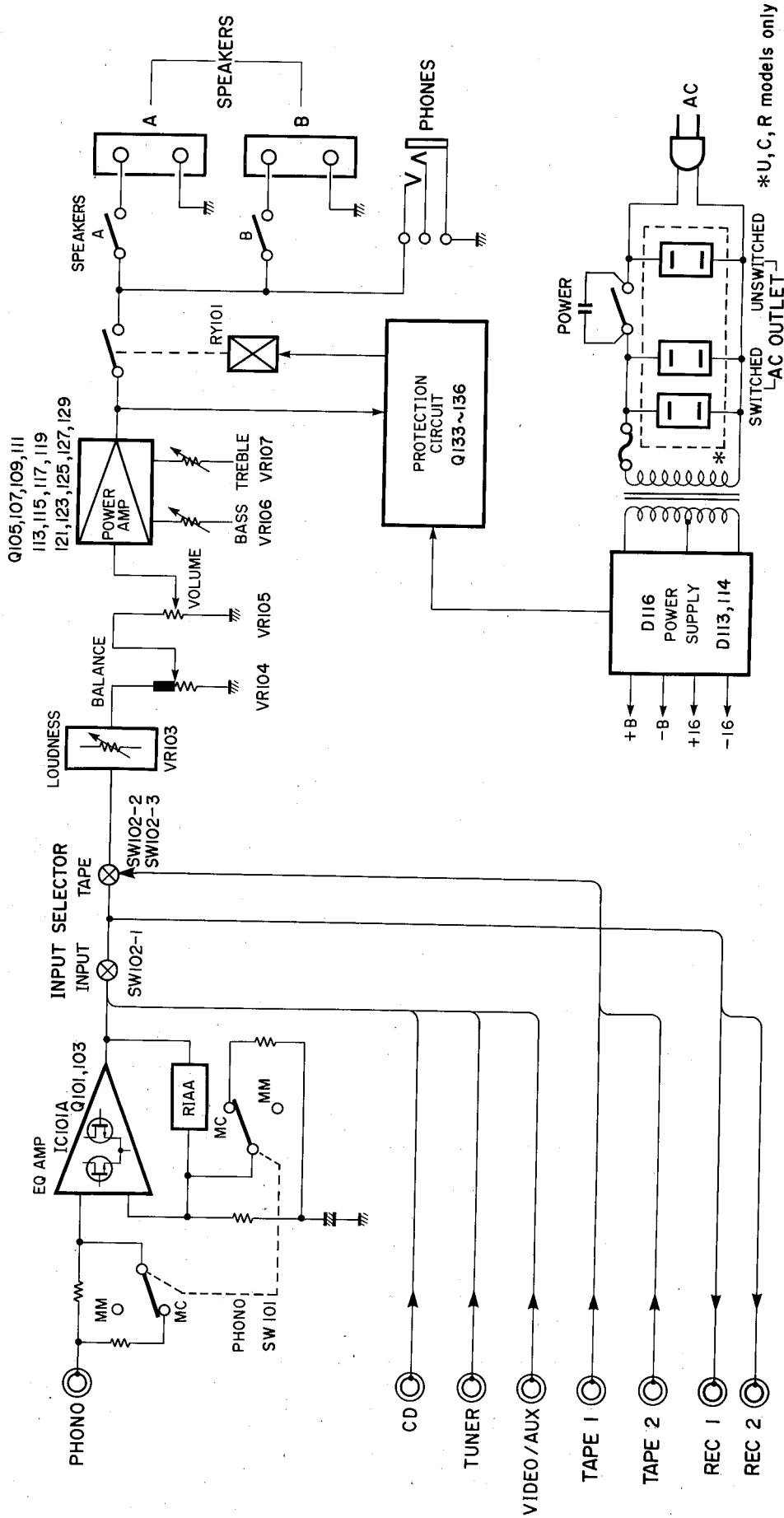
- (U) U.S.A. model (B) British model
 (C) Canadian model (G) European model
 (A) Australian model (R) Other model

INTERNAL VIEW



- ① POWER TRANSFORMER
 U.S.A. model: XB797003
 Canadian model: XB800003
 Australian & British models: XB798003
 European model: XB799003
 Other model: XB796002
- ② POWER TRANSISTOR: 2SA1265 (R, O)
- ③ POWER TRANSISTOR: 2SC3182 (R, O)
- ④ EQ AMP SECTION
- ⑤ POWER SWITCH: TV-4
- ⑥ DIODE BRIDGE: 4D4B1
- ⑦ RELAY: DH24D2-0TM or JR2A-DC24V or G5R-2232P
- ⑧ MAIN CIRCUIT BOARD (1)

■ BLOCK DIAGRAM



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DISASSEMBLY PROCEDURES

(Remove parts in disassembly order as numbered.)

1. Removal of Top Cover

- a. Remove 5 screws (①) in Fig. 1, and slide the Top Cover back.

2. Removal of Front Panel

- a. Remove 6 screws (②) in Fig. 1, and pull the Front Panel forward.

3. Removal of Bottom Cover

- a. Remove 7 screws (③) in Fig. 1.

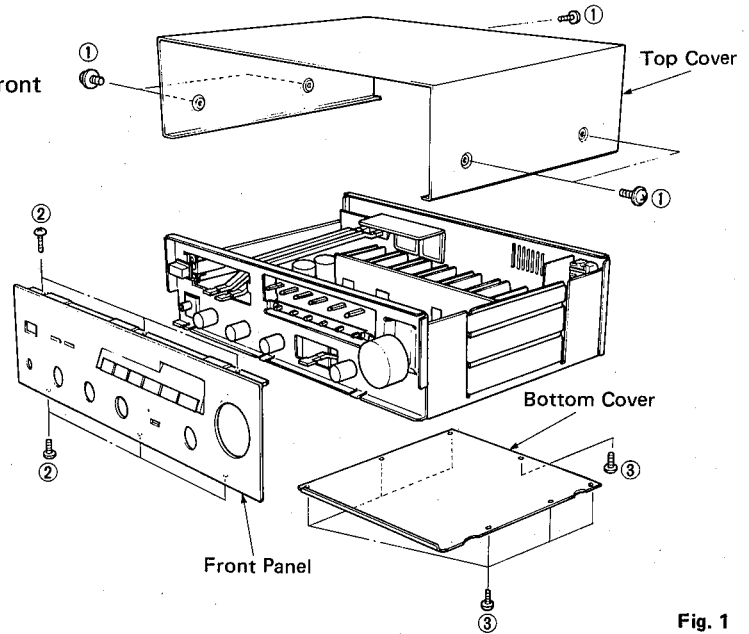


Fig. 1

ADJUSTMENTS

• IDLING CURRENT ADJUSTMENT

When replacing the power and drive transistors, adjust idling current. After the power has been turned on, age about 5 minutes in non loaded condition. Adjust VR101 (Lch) and VR102 (Rch) so that the voltage across the terminals of R201 and R202 come to $10\text{mV} \pm 2\text{mV DC}$.

Test points		Adjustment points	Test points
Lch	Across the terminals of R201 (TP1 - TP2)	VR101	$10\text{mV} \pm 2\text{mV DC}$
Rch	Across the terminals of R202 (TP3 - TP4)	VR102	$10\text{mV} \pm 2\text{mV DC}$

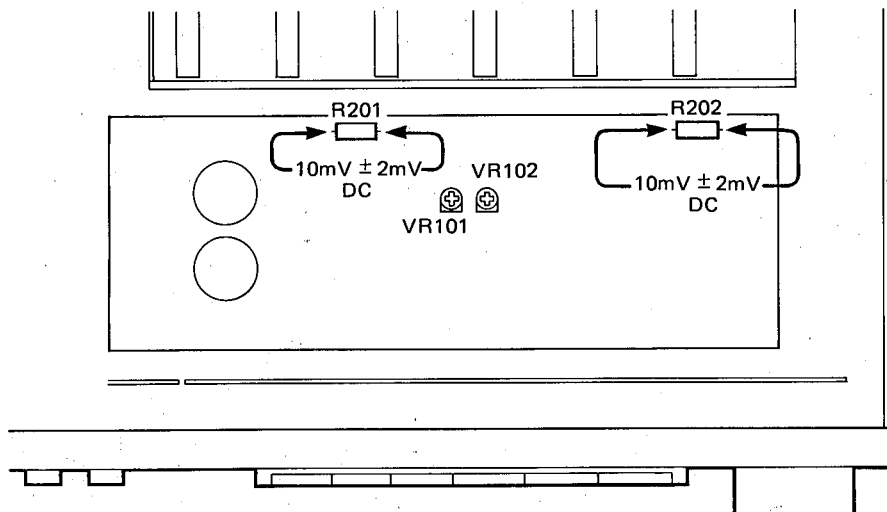
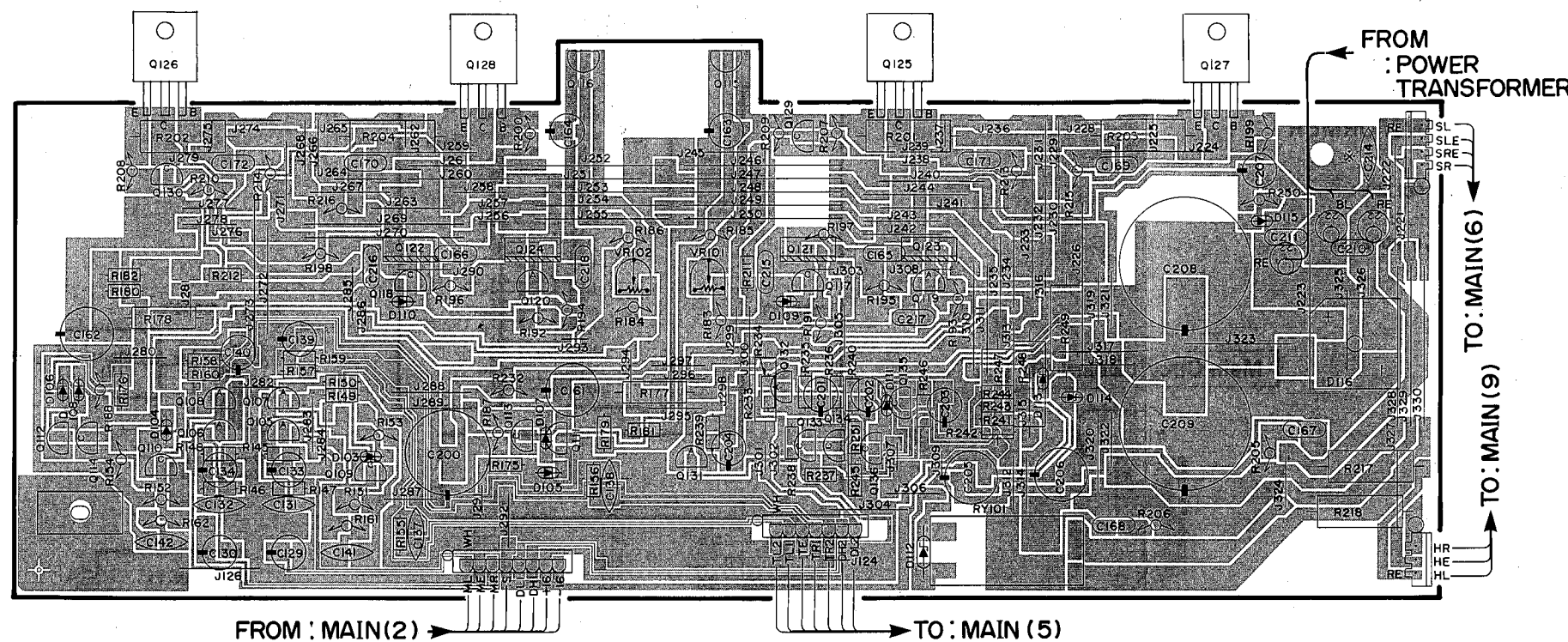


Fig. 2

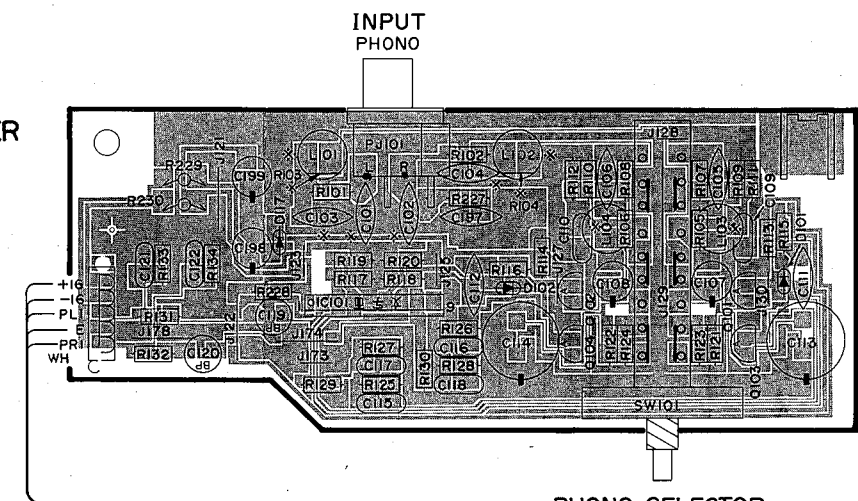
PRINTED CIRCUIT BOARD (Pattern side)

Note) 文字面 : Component side

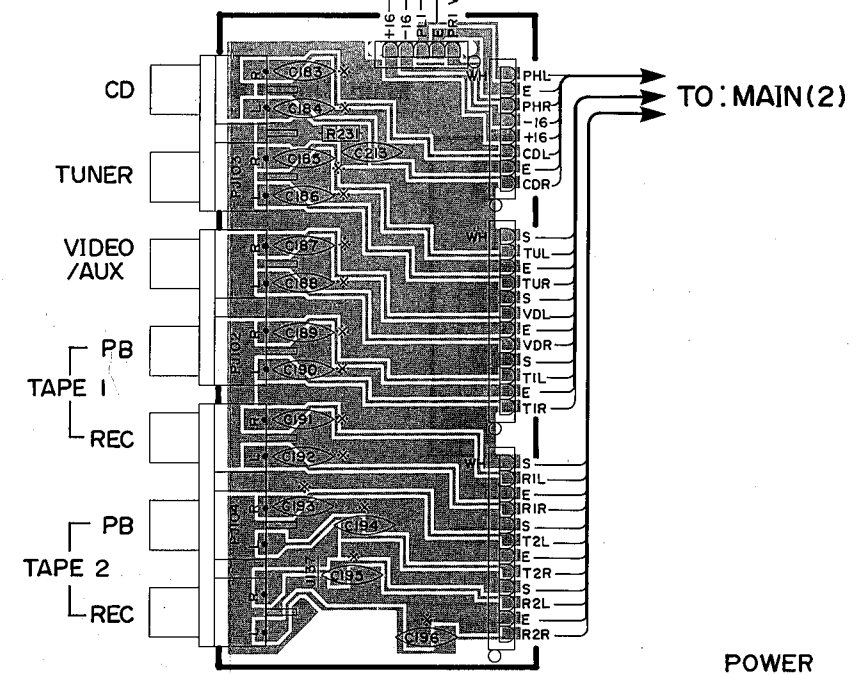
Main Circuit Board (1)



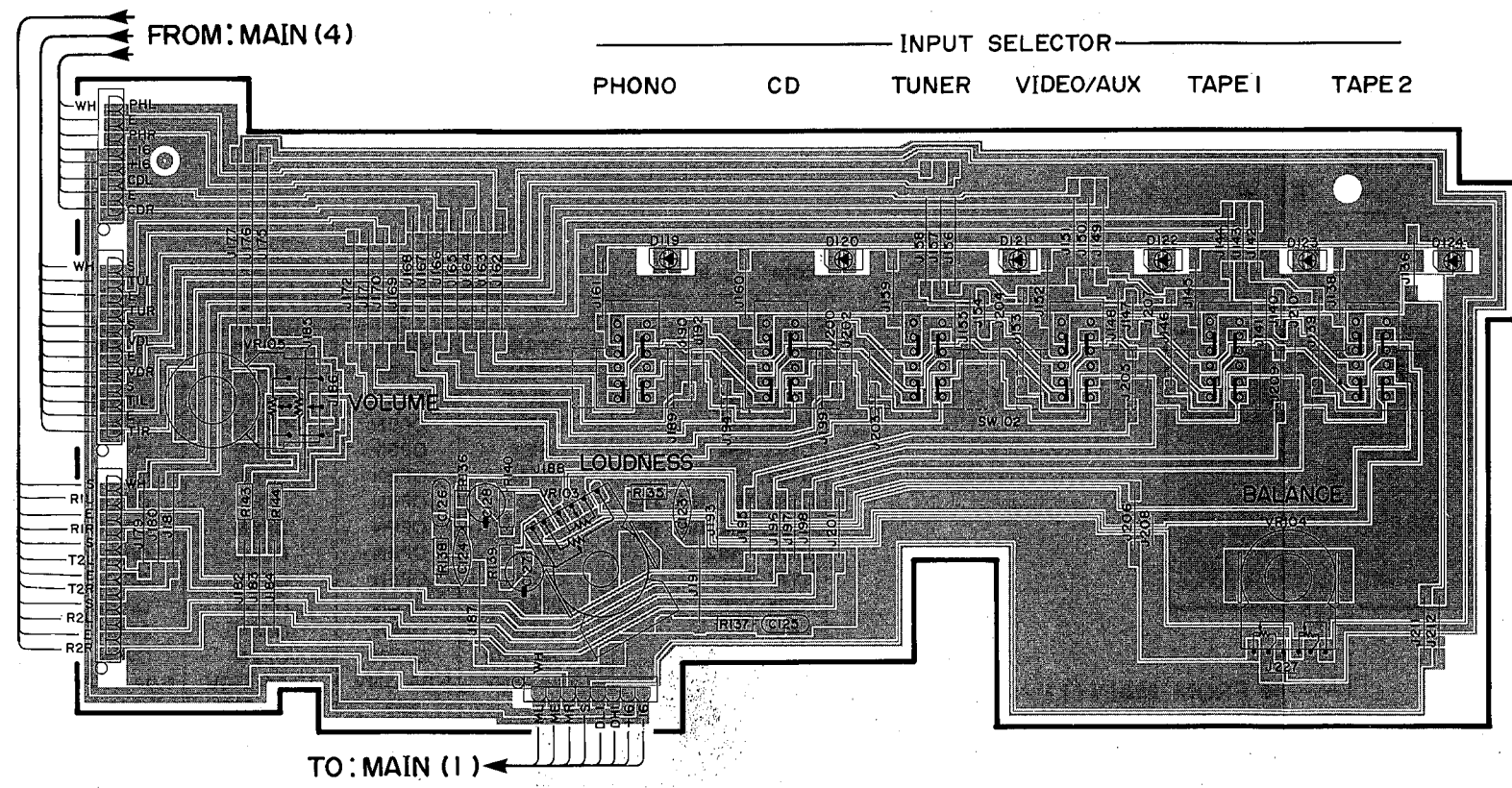
Main Circuit Board (3)



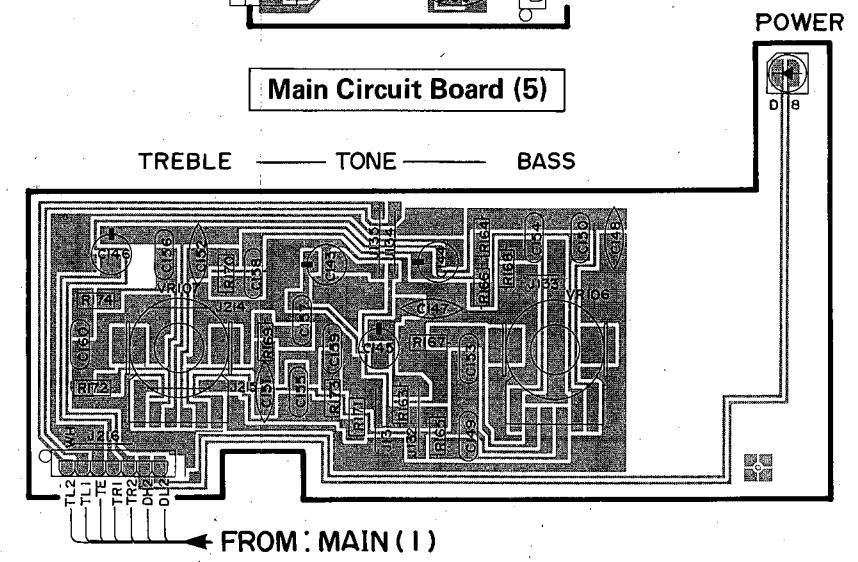
Main Circuit Board (4)



Main Circuit Board (2)



Main Circuit Board (5)



1

2

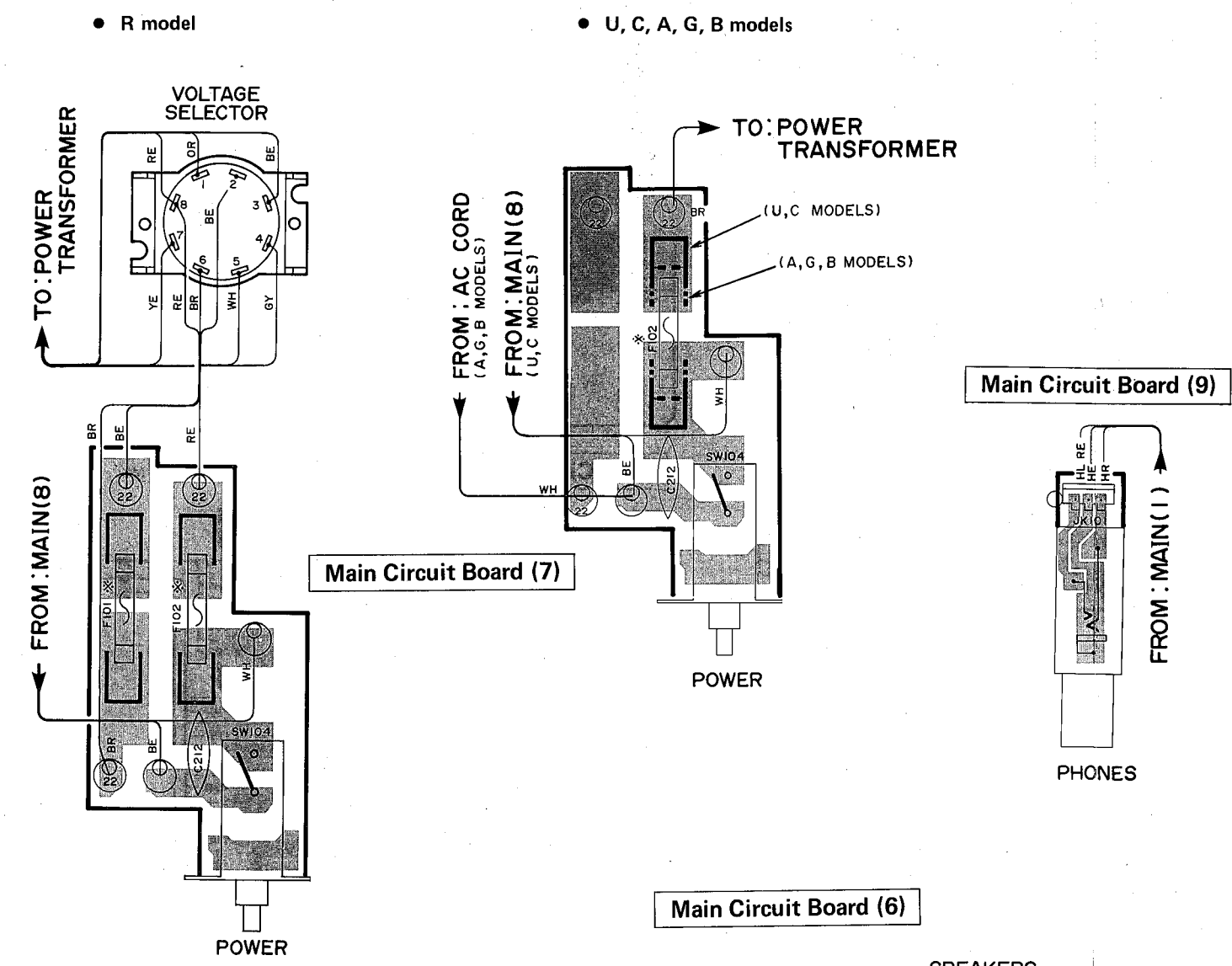
3

4

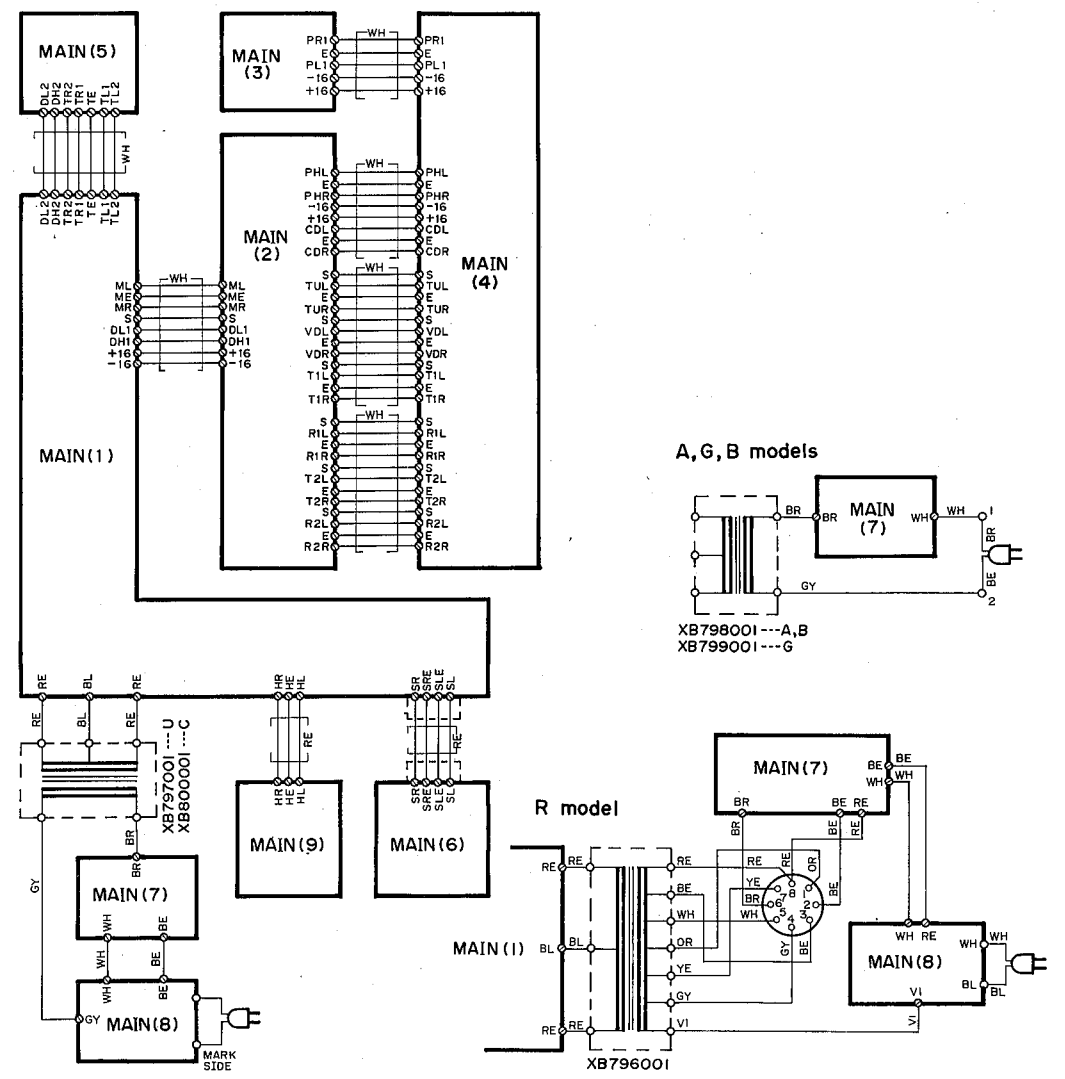
5

6

PRINTED CIRCUIT BOARD (Pattern side)



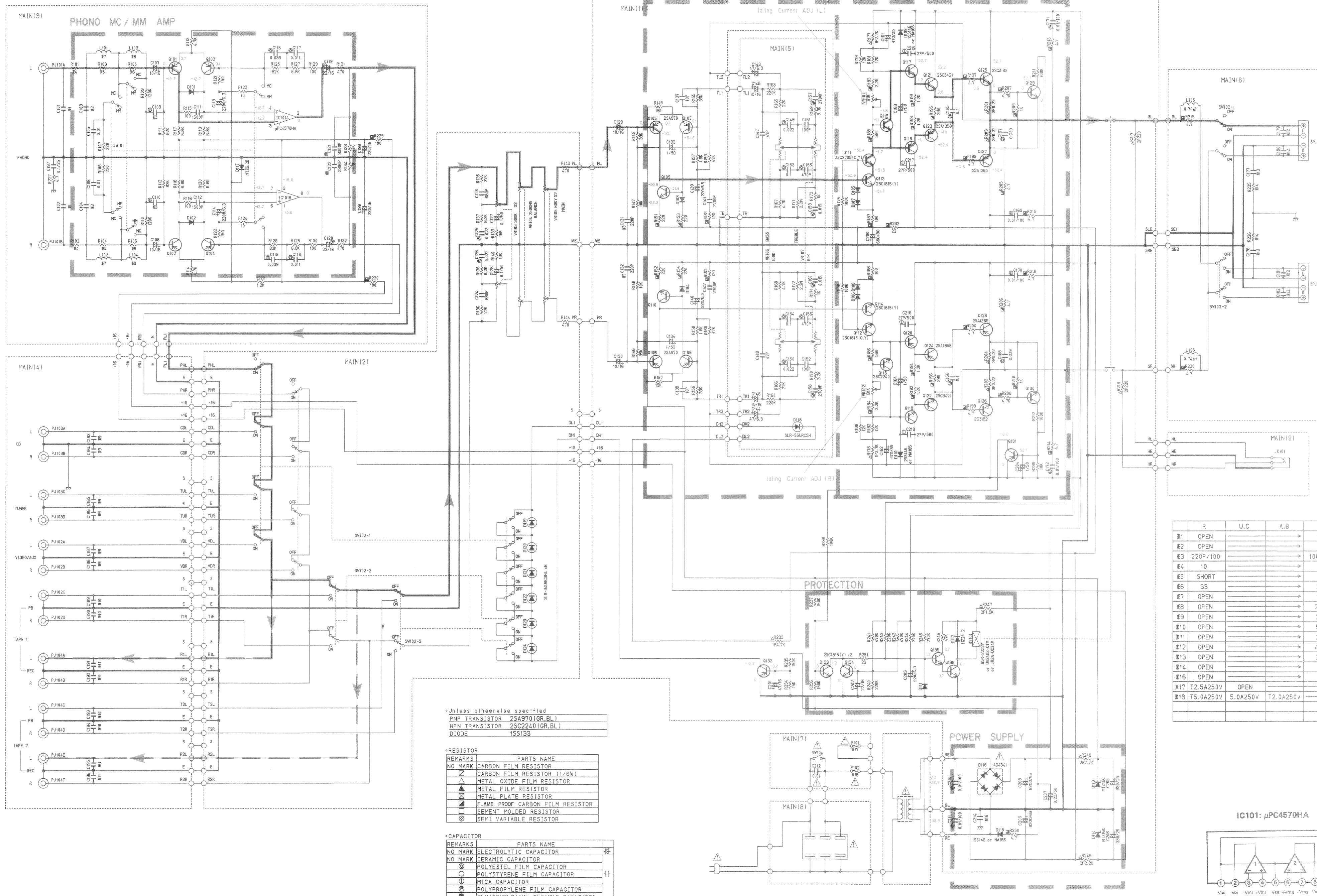
WIRING



Note) * marked

	R	U	A, B	C	G
C101, 102	OPEN	OPEN	OPEN	OPEN	100P
C103, 104	OPEN	OPEN	OPEN	OPEN	47P
R103, 104	SHORT	SHORT	SHORT	SHORT	33
L101, 102	OPEN	OPEN	OPEN	OPEN	15μH
L103, 104	OPEN	OPEN	OPEN	OPEN	220μH
C183 ~ 188	OPEN	OPEN	OPEN	OPEN	220P
C189, 190, 193, 194	OPEN	OPEN	OPEN	OPEN	560P
C191, 192, 195, 196	OPEN	OPEN	OPEN	OPEN	270P
C179 ~ 182	OPEN	OPEN	OPEN	OPEN	4700P
C177, 178	OPEN	OPEN	OPEN	OPEN	0.022
R225, 226	OPEN	OPEN	OPEN	OPEN	4.7
C214	OPEN	OPEN	OPEN	OPEN	0.01
F101	T2.5A 250V	OPEN	OPEN	OPEN	OPEN
F102	T5.0A 250V	5.0A 250V	T2.0A 250V	5.0A 250V	T2.0A 250V
MAIN (8)	SET	SET	NON SET	SET	NON SET

SCHEMATIC DIAGRAM



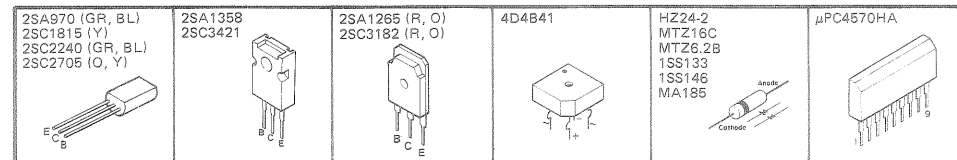
*Unless otherwise specified
 PNP TRANSISTOR 2SA970 (GR, BL)
 NPN TRANSISTOR 2SC2240 (GR, BL)
 DIODE 1SS133

*RESISTOR

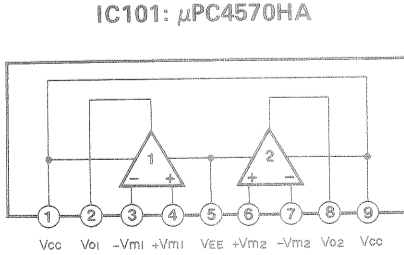
REMARKS	PARTS NAME
NO MARK	CARBON FILM RESISTOR
□	CARBON FILM RESISTOR (1/6W)
△	METAL OXIDE FILM RESISTOR
▲	METAL FILM RESISTOR
⊠	METAL PLATE RESISTOR
■	FLAME PROOF CARBON FILM RESISTOR
□	SEMIMENTAL RESISTOR
⊗	SEMI VARIABLE RESISTOR

*CAPACITOR

REMARKS	PARTS NAME
NO MARK	ELECTROLYTIC CAPACITOR
NO MARK	CERAMIC CAPACITOR
⊙	POLYESTER FILM CAPACITOR
⊖	POLYSTYRENE FILM CAPACITOR
Ⓞ	MICA CAPACITOR
Ⓢ	POLYPROPYLENE FILM CAPACITOR
●	SEMICONDUCTIVE CERAMIC CAPACITOR



	R	U.C	A.B	G
№1	OPEN			100P
№2	OPEN			47P
№3	220P/100			100P/100
№4	10			33
№5	SHORT			470
№6	33			2.2K
№7	OPEN			15μh
№8	OPEN			220μh
№9	OPEN			220P
№10	OPEN			560P
№11	OPEN			270P
№12	OPEN			4700P
№13	OPEN			0.022
№14	OPEN			4.7
№16	OPEN			0.01
№17	T2.5A250V	OPEN		
№18	T5.0A250V	5.0A250V	T2.0A250V	



* All voltages are measured with a 10MΩ/DC electric volt meter.
 * 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.

PARTS LIST

AX-400/AX-400U

■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.17.

■ELECTRICAL PARTS

Ref. NO.	Part No.	Description	部 品 名	Remarks	Common Model	Markets	ランク
※	NA 09 27 10	Main Circuit Board	メ イン シ ー ト			R	
※	NA 09 27 20	〃	〃			U	
※	NA 09 27 30	〃	〃			A,B	
※	NA 09 27 40	〃	〃			G	
※	NA 09 27 50	〃	〃			C	
	Fi 41 41 00	Ceramic Cap.	セ ラ コ ン	C212		R,U,A,C,B	Δ
	VA 98 53 00	〃	〃	〃		G	Δ
	FG 21 11 00	〃	〃	C137,138			
	FG 21 14 70	〃	〃	C147,148			
	FG 21 14 70	〃	〃	C103,104		G	
	FG 21 21 00	〃	〃	C151,152			
	FG 21 21 00	〃	〃	C101,102		G	
	FG 21 22 20	〃	〃	C183~188		G	
	FG 21 22 70	〃	〃	C191,192,195,196		G	
	FG 11 25 60	〃	〃	C189,190,193,194		G	
	FG 21 26 80	〃	〃	C123,124			
	FG 21 31 50	〃	〃	C111,112			
	FG 71 32 70	〃	〃	C141,142			
	FG 21 34 70	〃	〃	C179~182		G	
	FG 44 41 00	〃	〃	C105,106			
	FG 44 41 00	〃	〃	C214		G	
	FG 44 42 20	〃	〃	C177,178		G	
	FU 35 12 70	Mica Cap.	FE マ イ カ コ ン	C215~218			
	FZ 00 41 30	Semiconductive Ceramic Cap.	半 導 体 セ ラ コ ン	C197			
	FA 15 32 70	Mylar Cap	マ イ ラ ー コ ン	C157,158			
	UA 25 24 70	〃	〃	C155,156			
	FA 15 41 50	〃	〃	C159,160			
	FA 15 41 10	〃	〃	C117,118			
	FA 15 42 20	〃	〃	C125,126,149,150			
	FA 15 43 90	〃	マ イ ラ ー コ ン	C115,116,167,168			
	FA 15 33 30	〃	〃	C121,122			
	UJ 11 74 70	Electrolytic Cap.	ケ ミ コ ン	C143,144			
	UJ 13 71 00	〃	〃	C107,108,129,130,145,146			
	UJ 13 72 20	〃	〃	C202			
	UJ 13 74 70	〃	〃	C201			
	UJ 11 82 20	〃	〃	C139,140,198,199,203			
	UJ 16 51 00	〃	〃	C127,128			
	UJ 16 52 20	〃	〃	C207			
	UH 26 61 00	〃	〃	C133,134,163,164,204			
	UT 45 21 00	Polypropylene Film Cap.	ポ リ プ ロ コ ン	C109,110		G	
	UT 45 22 20	〃	〃	〃		R,U,A,C,B	
	UT 45 22 20	〃	〃	C131,132			
	UT 45 41 00	〃	〃	C169~172,210,211			
	VC 42 65 00	Electrolytic Cap.	ブ ロ ッ ク ケ ミ コ ン	C208,209			
	UK 13 72 20	〃	BP コ ン	C119,120			
	UW 81 92 20	〃	ケ ミ コ ン	C113,114			
	UW 84 83 30	〃	〃	C205,206			
	UW 85 84 70	〃	〃	C161,162			
	UW 88 86 80	〃	〃	C200			
	GD 90 06 80	Coil	空 芯 コ イ ル	L105,106			
	VA 98 35 00	〃	〃	L101,102		G	
	VA 98 36 00	〃	〃	L103,104		G	

※New Parts (新規部品) NR

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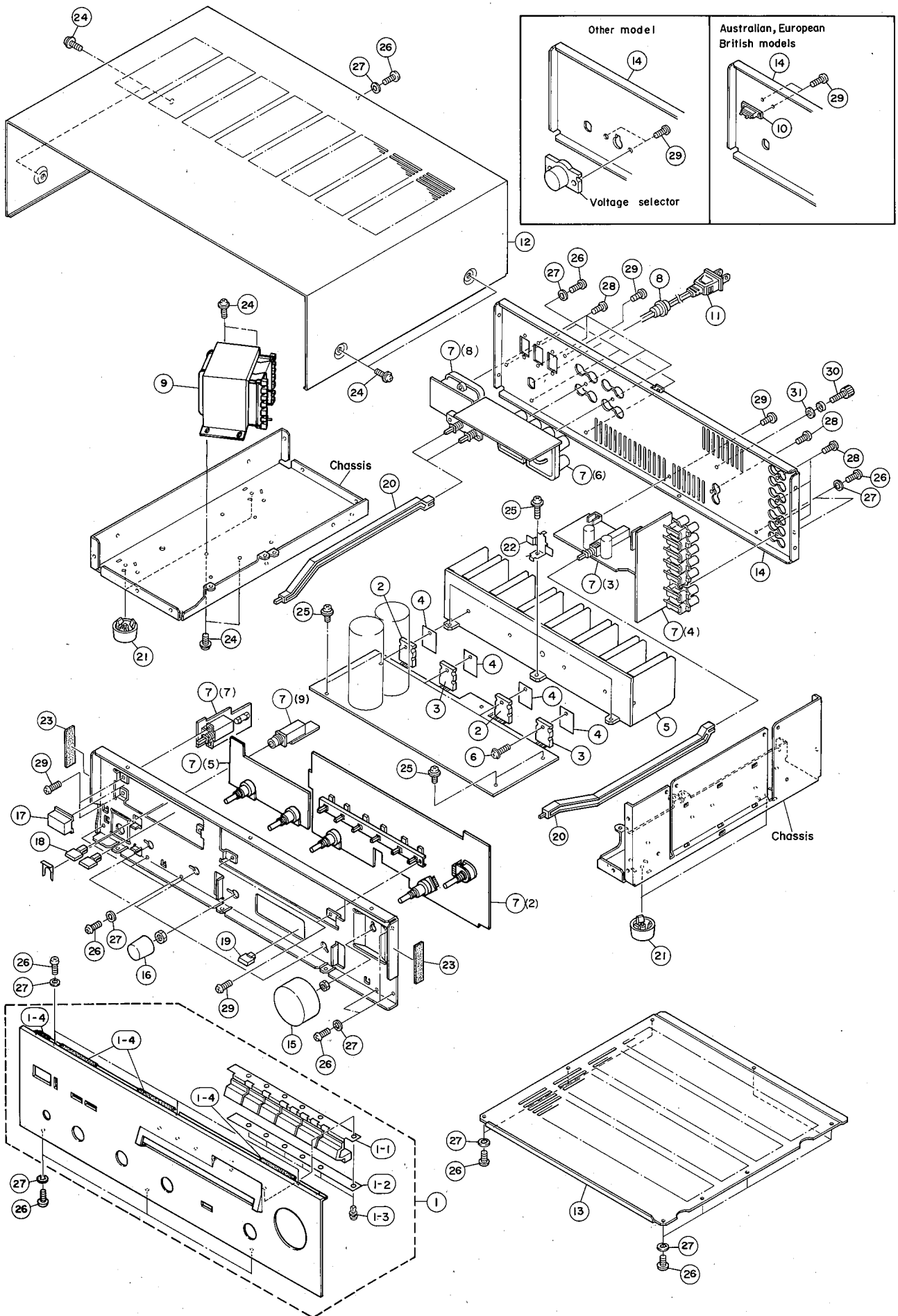
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Ref. NO.	Part No.				Description	部 品 名		Remarks	Common Model	Markets	ランク
	HL	31	62	70	Metal Oxide Film Resistor	2.7KΩ	1W	酸 金 抵 抗	R177,178		
	HL	32	52	20	//	220Ω	2W	//	R217,218		
	HL	32	61	50	//	1.5KΩ	2W	//	R247		
	HL	32	62	20	//	2.2kΩ	2W	酸 金 抵 抗	R248,249		
	HL	31	64	70	//	4.7kΩ	1W	//	R233		
	HL	93	22	20	//	0.22Ω	3W	//	R201~204		
	HV	45	34	70	Flame Proof Carbon Resistor	4.7Ω	1/4W	不燃化カーボン抵抗	R197~200,205,206,213~216,219,220,250		
	HV	45	42	20	//	22Ω	1/4W	//	R232		
	HV	45	51	00	//	100Ω	1/4W	//	R187,188,229,230		
	HV	45	51	20	//	120Ω	1/4W	//	R161,162		
	HV	45	52	20	//	220Ω	1/4W	//	R151~154		
	HV	45	53	90	//	390Ω	1/4W	//	R195,196		
	HV	45	55	60	//	560Ω	1/4W	//	R185,186		
	HV	45	61	00	//	1kΩ	1/4W	//	R209,210		
	HV	45	61	20	//	1.2kΩ	1/4W	//	R191~194		
	HV	45	62	20	//	2.2kΩ	1/4W	//	R183,184		
	HV	45	64	70	//	4.7kΩ	1/4W	//	R207,208		
	VA	78	76	00	Pre-Set Potentiometer	BI kΩ		半 固 定 抵 抗	VR101,102		
※	VC	23	71	00	Potentiometer	250kMN		可 変 抵 抗 器	VR104		
※	VC	23	72	00	//	80k特		//	VR107		
※	VC	23	73	00	//	100k特		//	VR106		
※	VC	29	74	00	//	300k特		//	VR103		
※	VC	36	97	00	//	60kY x 2		//	VR105		
	iA	09	70	00	Transistor	2SA970(GR, BL)		ト ラ ン ジ ス タ	Q101~108,119,120,131,132		
	iC	18	15	20	//	2SC1815(Y)		//	Q113,114,133,134		
	iC	22	40	00	//	2SC2240(GR, BL)		//	Q109,110,115~118,129,130,135,136		
	iC	27	05	00	//	2SC2705(O, Y)		//	Q111,112		
	iX	60	35	80	//	2SA1358		//	Q123,124		
					//	2SC3421		//	Q121,122		
	iF	00	19	40	Zener Diode	HZ24-2		ツェナーダイオード	D112		
	iF	00	86	40	//	MTZ16C		//	D113,114		
					//	MTZ6.2B		//	D117		
	iF	00	34	50	Diode	ISS133		ダ イ オ ー ド	D101~108,111		
					//	ISS146		//	D109,110,115		
	iH	00	11	60	Diode Bridge	4D4B4I		ダイオードブリッジ	D116		△
	iF	00	42	70	LED(Red)	SLR-55URC3H	L E D		D118		
※	VC	40	76	00	//	SLR-34URC3H4		//	D119~124		
	XB	24	70	01	IC	μPC4570HA	I C		IC101		
	KC	00	19	40	Relay	DH24D2-OTM	リ レ		RY101		
	KC	00	20	00	//	JR2A-DC24V		//	//	Interchangeable	
	VC	27	86	00	//	G5R-2232P		//	//		
※	VC	23	79	00	Push Switch	6-4		プッシュスイッチ	SW102		
※	VC	36	99	00	//	6-2		//	SW101		
※	VC	37	25	00	//	SPUF2-2		//	SW103		
※	VC	40	97	00	Power Switch	TV-4		パワースイッチ	SW104		△

※New Parts (新規部品) NR

EXPLODED VIEW



MECHANISM PARTS

Note) φ : Diameter

AX-400/
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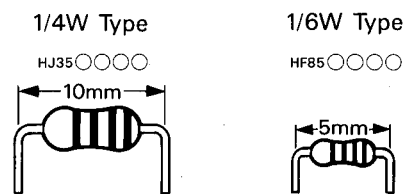
ReF. NO.	Part No.	Description	部 品 名	Remarks	Common Model	Markets	ランク
※	I NB 64 01 40	Panel Unit	パネ ル ユ ニ ッ ト	Black		R, A, G, B	
※	// NB 64 01 50	//	//	Silver		R, A, G, B	
※	// NB 64 05 50	//	//	Black		U, C	
※	// NB 64 05 60	//	//	Silver		U, C	
	I-1 CB 65 91 90	Button, Input	ボ タ ン イ ン プ ッ ト	Black			
	// CB 65 92 00	//	//	Silver			
	I-2 AA 63 22 00	Spacer	ス ペ ー サ				
	I-3 CB 09 96 00	Plastic Rivet	プ ラ ス チ ッ ク リ ベ ッ ト				
	I-4 CB 08 50 50	Tape	防 振 テ ー プ				
	2 iX 60 32 40	Transistor	2SA1265(R,O)	ト ラ ン ジ ス タ	Q127, 128		
	3 iX 60 32 50	//	2SC3182(R,O)	//	Q125, 126		
※	4 VC 65 75 00	Sheet	防 熱 シ ー ト				
※	5 BA 09 55 80	Heat Sink	防 熱 板				
	6 EK 33 00 20	BW Head Tapping Screw	3x14 ZMC2-BI	B W ヘ ッ ド タ ッ ピ ン グ ネ ジ			
※	7 NA 09 27 10	Main Circuit Board	メ イ ン シ ー ト			R	
※	// NA 09 27 20	//	//			U	
※	// NA 09 27 30	//	//			A, B	
※	// NA 09 27 40	//	//			G	
※	// NA 09 27 50	//	//			C	
	8 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	
※	9 XB 79 60 01	Power Transformer		電 源 ト ラ ン ス		R	△
※	// XB 79 70 01	//		//		U	△
※	// XB 79 80 01	//		//		A, B	△
※	// XB 79 90 01	//		//		G	△
※	// XB 80 00 01	//		//		C	△
	10 LA 00 29 50	Terminal Board	2P	中 継 端 子 台		A, G, B	
	11 MG 00 09 20	Power Cord	7.5A 250V 2.5m	電 源 コ ー ド		A	△
	// MG 00 14 90	//	7.5A 250V 2.5m	//		A	△
	// MG 00 23 10	//	7.5A 250V 2m	//		A	△
	// MG 00 16 20	//	2.5A 250V 2m	//	Interchangeable	G, B	△
	// MG 00 16 30	//	6A 250V 2m	//		R	△
	// MG 00 22 20	//	10A 125V 1.98m	//		U, C	△
※	12 AA 63 13 00	Top Cover		ト ッ プ カ バ ー	Black		
※	// AA 63 13 10	//		//	Silver		
	13 AA 63 13 20	Bottom Cover		ボ ト ム カ バ ー			
※	14 AA 63 13 80	Rear Panel		リ ア パ ネ ル		R	
※	// AA 63 13 90	//		//		U, C	
※	// AA 63 14 00	//		//		G	
※	// AA 63 14 10	//		//		A, B	
	15 BA 09 65 40	Knob		ツ マ ミ	Black VOLUME		
	// BA 09 24 30	//		//	Silver //		
※	16 CB 66 00 60	//		//	Black Tone, Balance, Loudness		
※	// CB 66 00 70	//		//	Silver //		
	17 CB 66 08 10	Button		ボ タ ン	Black POWER		
	// CB 66 08 00	//		//	Silver //		
	18 CB 66 07 90	//		//	Black SPEAKERS		
	// CB 66 07 80	//		//	Silver //		
	19 CB 65 92 70	//		//	Black PHONO SELECTOR		
	// CB 65 92 80	//		//	Silver //		
	20 CB 65 93 10	Rod		ロ ッ プ			
	21 CB 62 07 30	Leg		脚			
	22 BB 07 09 60	TR Pusher		TR プ ッ シ ャ ー			

※New Parts (新規部品) NR

Parts List for Carbon Resistor

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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			



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YAMAHA
