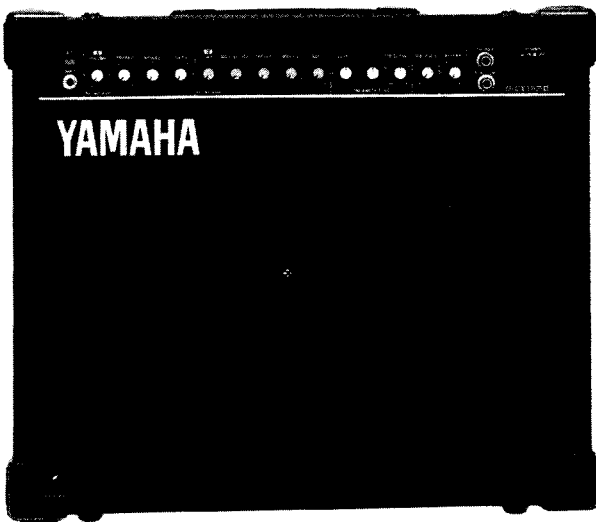


GUITAR AMPLIFIER

G100-112III/112SIII/ 210III/212III/212SIII

Except U.S.

SERVICE MANUAL



G100-112III



G100-212III

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006593

SINCE 1887



YAMAHA

NIPPON GAKKI CO., LTD. HAMAMATSU, JAPAN

'84.4 1.8K-292 回 ㊞ Printed in Japan

SPECIFICATIONS(仕様)

		G100-112III	G100-112SIII*	G100-210III	G100-212III	G100-212SIII*
OUTPUT POWER		100W RMS @10% THD into 8Ω		100W RMS @10% THD into 4Ω		
SPEAKERS		JA3113 12" (30cm) x 2	JA3112 12" (30cm) x 1	JA2529 10" (25cm) x 2	JA3111 12" (30cm) x 2	JA3113 12" (30cm) x 2
INPUT LEVEL/IMPEDANCE	INPUT	-20dB (77.5 mV)/1 MΩ				
	RETURN INPUT	-10dB (245 mV)/20 kΩ				
	POWER AMP INPUT	-				
OUTPUT LEVEL	SPEAKER	100W (8Ω)		100W (4Ω)		
	SEND OUT/PRE OUT (10kΩ)	-10dB (245 mV)				
	DIRECT OUT (10kΩ)	-10dB (245 mV)				
	PHONES (8Ω)	-11dB (218 mV)				
GAIN	Ach (INPUT → SP OUT)	70dB				
	Bch (INPUT → SP OUT)	88dB				
	Ach (INPUT → SEND OUT)	33dB				
	(RETURN INPUT → OUTPUT)	47dB				
NOISE*	Ach (All Volumes at Min.)	-52dB				
	Bch (All Volumes at Min.)	-52dB				
	Ach: VOLUME, TREBLE MIDDLE, BASS at Max.	-42dB				
	Bch: GAIN, M. VOL, TREBLE MIDDLE, BASS at Max.	-24dB				
P.EQ	LEVEL	±15dB				
	Q	0.35 ~ 3.0				
	FREQUENCY	100 ~ 5kHz				
REVERB ACCUTRONICS SPRING (ACCUTRONICS SPRING-TYPE)		4EB3C1B				
POWER REQUIREMENT Japanese model U.S. & Canadian models General model		100V AC50/60Hz 120V AC60Hz 110/130/220/240V AC50/60Hz				
POWER CONSUMPTION Japanese model U.S. & Canadian models General model		90W 180W 250W				
DIMENSIONS	W	543mm (21-3/8")		647mm (25-15/32")		699mm (27-17/32")
	H	470mm (18-1/2")		420mm (16-17/32")		**560mm (22-1/16")
	D	293mm (11-17/32")		293mm (11-17/32")		293mm (11-17/32")
WEIGHT		22.5kg(49lbs 8oz)	25kg(55lbs)	26kg(57lbs 3oz)	29kg(63lbs 13oz)	34.4kg(75lbs 11oz)
STANDARD ACCESSORY		Double Foot SW	Foot SW ***	Double Foot SW		Foot SW ***

• 0 dB is referred to 775 mV rms. *Measured with a 6 dB/oct. filler @12.7 kHz. **Height include Castors. ***Triple Foot SW
 • Specifications subject to change without notice.
 ∴ Models with an "S" suffix feature balanced line outputs and special high-grade speakers

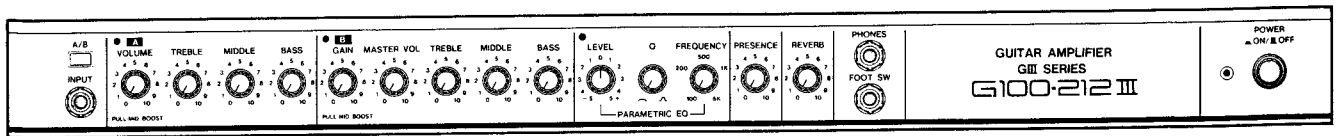
- * 12.7kHz、6dB/oct. フィルターで補正。
- ** キャスター含む。
- 国内向モデルは、G100-112III及びG100-212IIIのみ。
- 仕様および外観は、改良のため予告なく変更することがあります。

LOUDSPEAKER SPECIFICATIONS (スピーカー仕様)

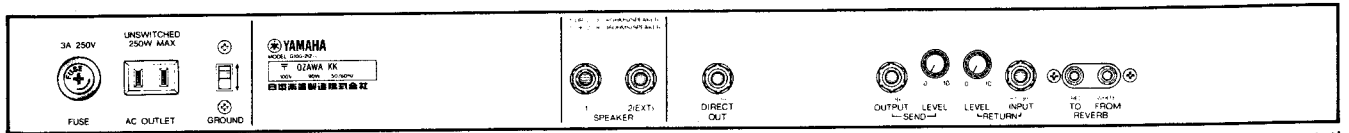
	JA3111	JA3113	JA3112	JA2529
Cone Diameter	12" (30 cm)	12" (30 cm)	12" (30 cm)	10" (25 cm)
Voice Coil Diameter (mm)	52 φ	66 φ	100 φ	52 φ
Magnet Weight (kg)	Ferrite 2.6	← 3.5	← 6.8	← 2.4
Frequency Range (Hz)	45 ~ 7 k	60 ~ 6.5 k	70 ~ 6 k	55 ~ 7 k
Sound Pressure Level 1 m/W (dB)	96	99	101	96
Rated Input* (W)	60	120	120	60
Nominal Impedance (Ω)	8	8	8	8
fo (Hz)	58	65	55	82

* Continuous RMS power rating. *RMS連続プログラム。

FRONT PANEL



REAR PANEL



G100-212III (Japanese model)

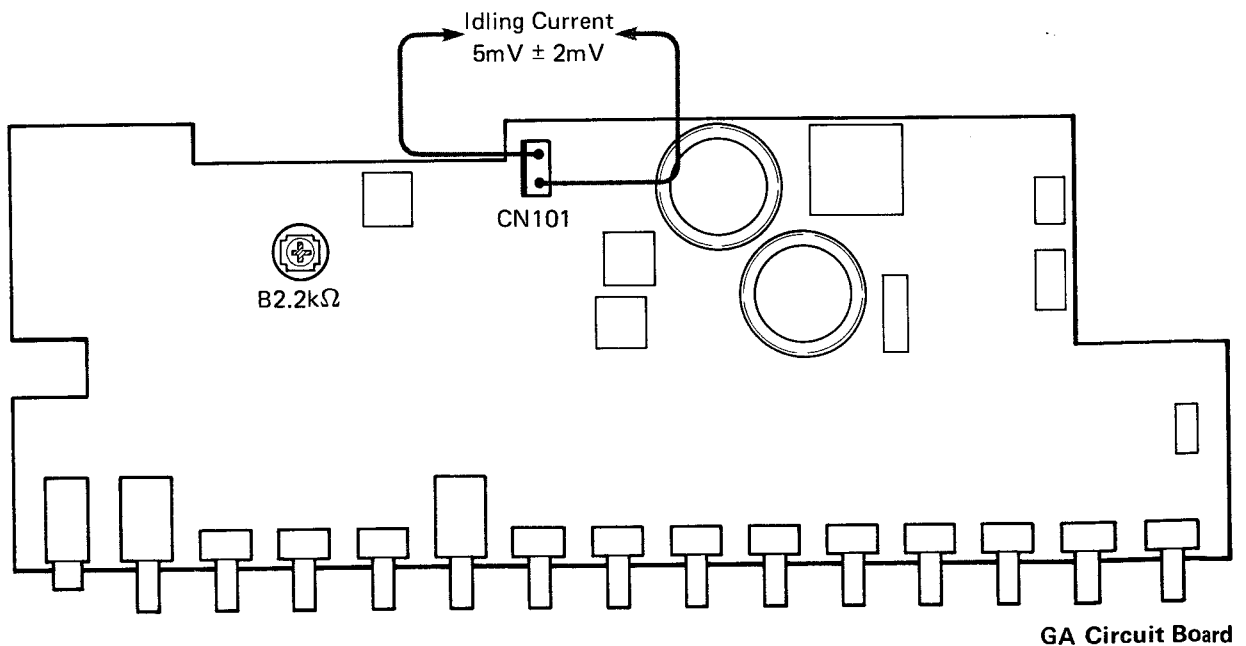
GENERAL ADJUSTMENT

For the measurement, use an AC voltmeter/dB meter with an input impedance of over $100k\Omega$ or the equivalent.

● Idling Current Adjustment

Adjust the pot (B $2.2k\Omega$) so that the voltage across the 1 pin and 2 pin of CN101 is set to $5mV \pm 2mV$.

*Idling current adjustment is necessary after replacing power transistors and/or driver transistors. Be sure to turn the adjustment pot fully counterclockwise before AC is applied.



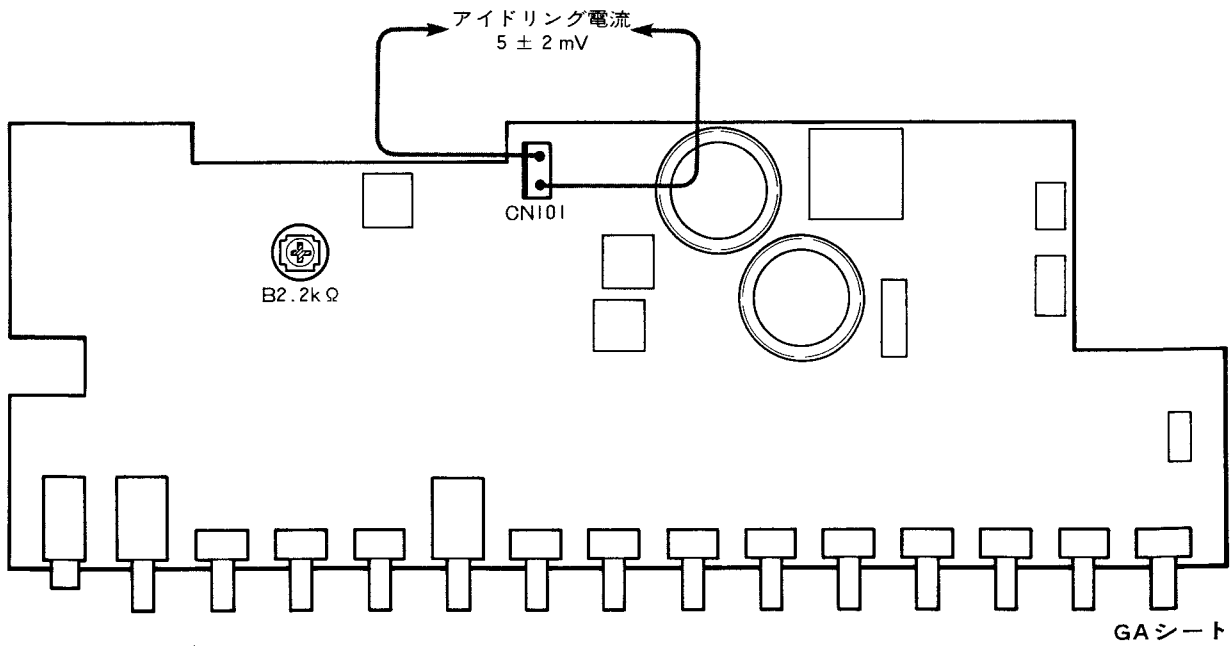
■調整

測定には、入力インピーダンス100kΩ以上のACボルトメーター等を使用してください。

●アイドリング電流の調整

無信号状態において、CN101の1ピン、2ピン間の電圧が、 $5 \pm 2 \text{ mV}$ になるように半固定抵抗(B2.2kΩ)を調整します。

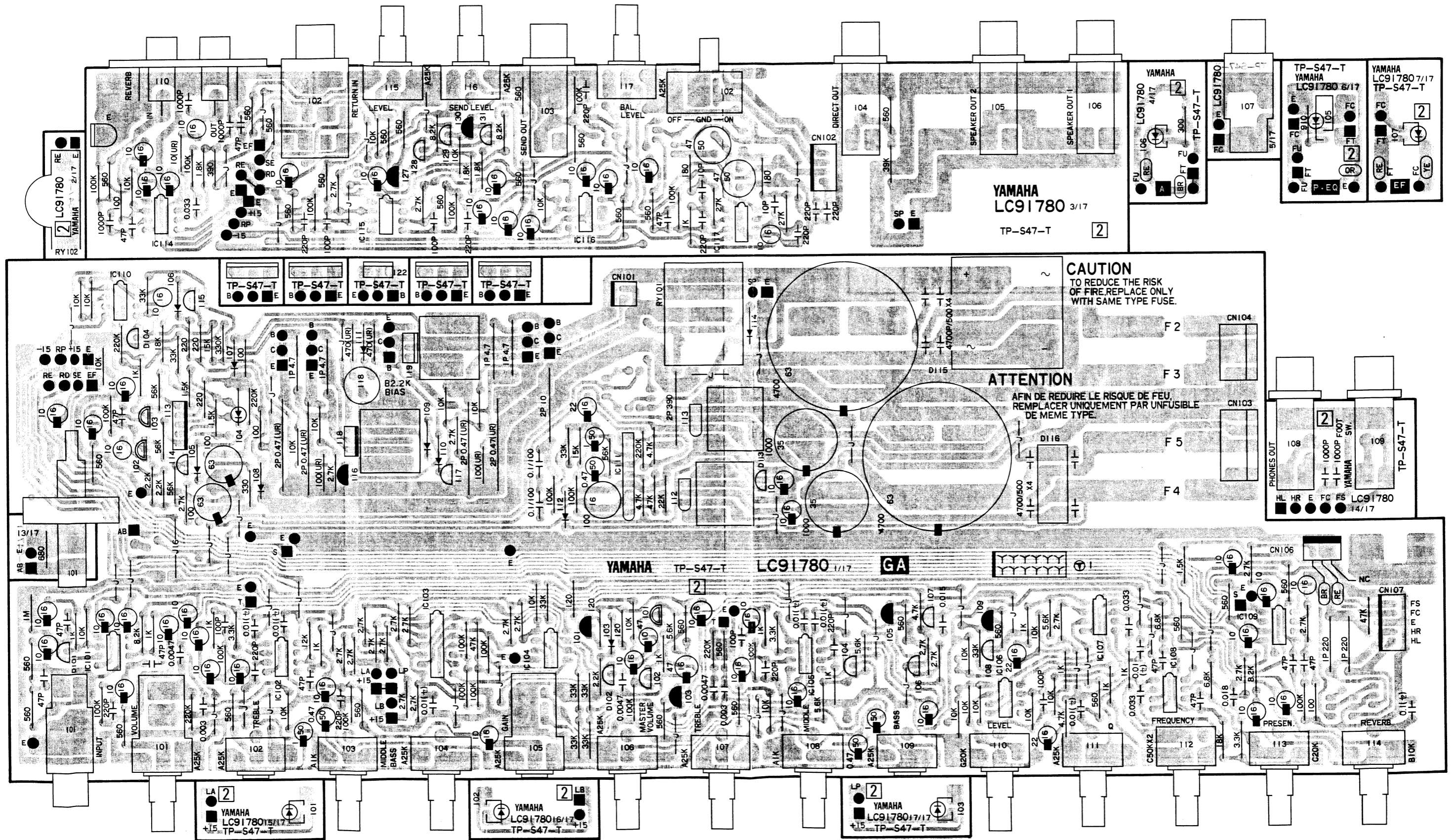
※パワートランジスタ交換時など、調整を最初からやり直す場合は、電源をONにする前に、一度半固定抵抗を反時計方向いっぱいまで廻してください。



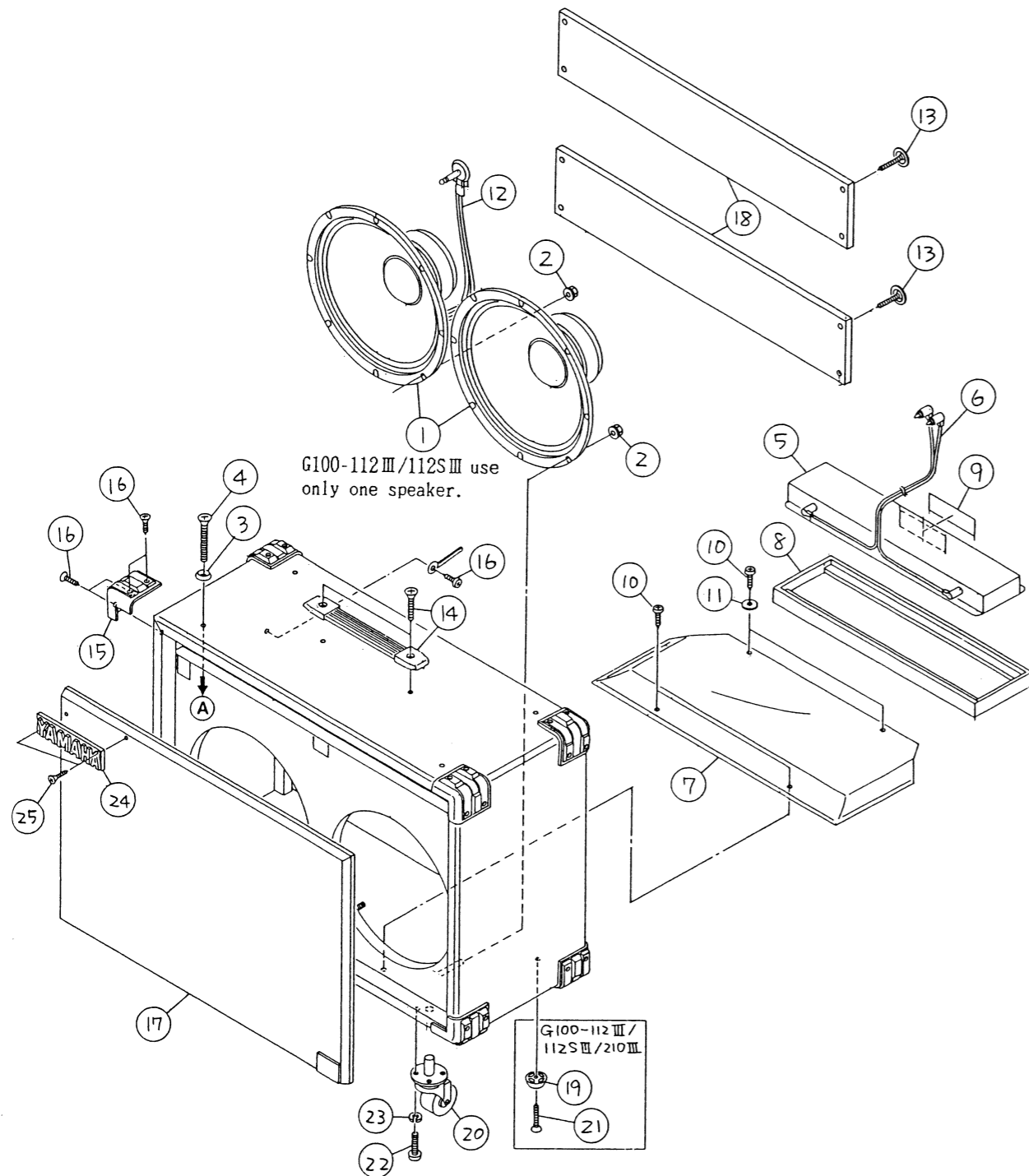
210Ⅲ/212Ⅲ/2125Ⅲ

■ PRINTED CIRCUIT BOARD (Model G100-1125III/2125III)

● Parts side (部品側)



■EXPLODED VIEW(CABINET) [分解図(外装部)]

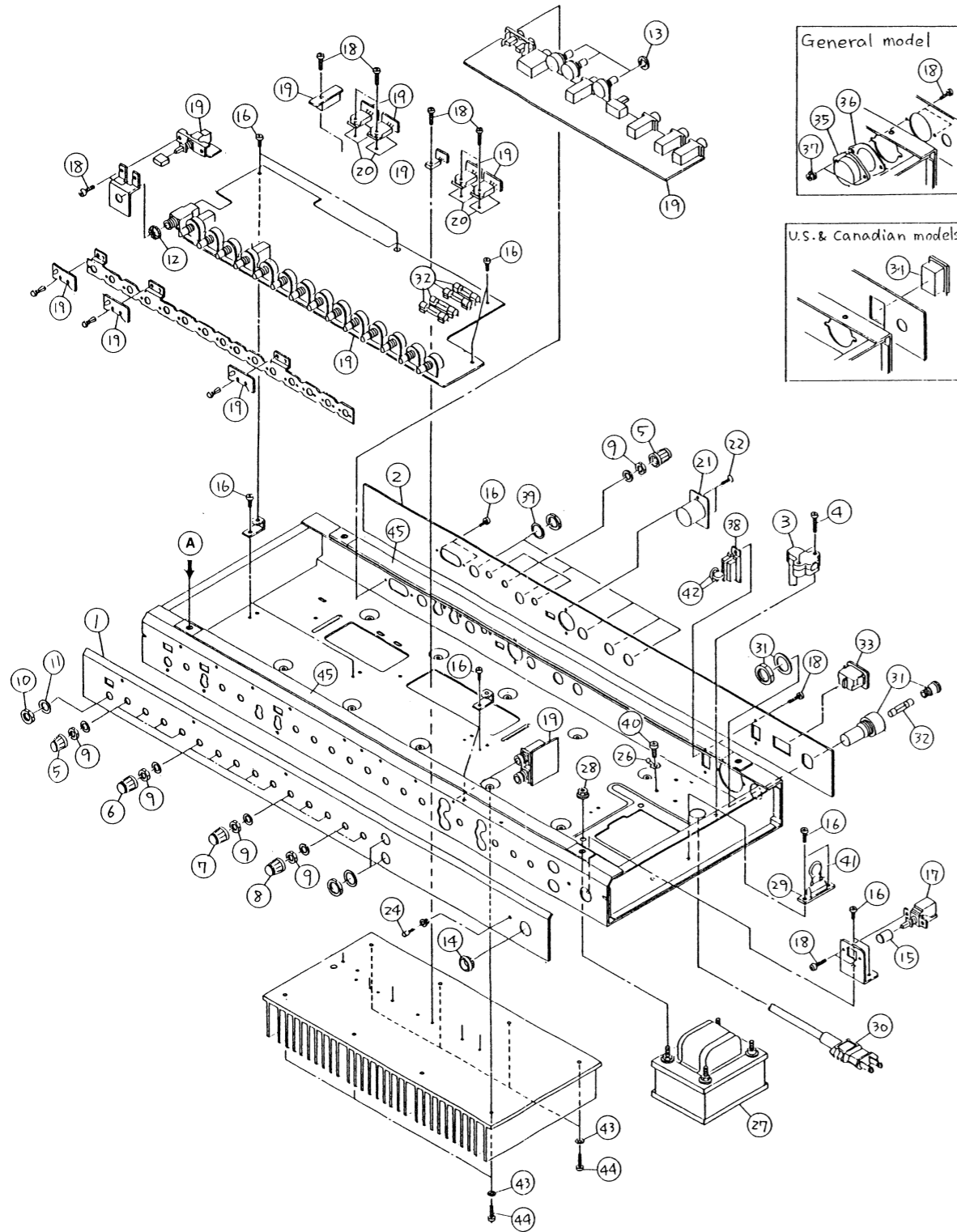


■PARTS LIST(CABINET) [パーツリスト(外装部)]

Ref. No.	Part No.	Description	部品名	Remarks	Common Model	Markets	ランク
*	DC 84 55 00	Cabinet	外 装 一 式	G100-112Ⅲ			29*
*	DC 84 58 00	"	"	G100-112SⅢ			
*	DC 84 57 00	"	"	G100-210Ⅲ			
*	DC 84 56 00	"	"	G100-212Ⅲ			32*
*	DC 84 59 00	"	"	G100-212SⅢ			
1	JA 31 13 00	Speaker	JA3113	ス ピ ー カ ー	G100-112Ⅲ	J,C,G	240
*	"	"	JA3113A	"	"	U	240
*	"	"	JA3112	"	G100-112SⅢ		
*	"	"	JA2529	"	G100-210Ⅲ	C,G	
*	"	"	JA2529A	"	"	U	
*	"	"	JA3111	"	G100-212Ⅲ	J,C,G	190
*	"	"	JA3111A	"	"	U	
*	"	"	JA3113	"	G100-212SⅢ		
2	EK 80 06 40	Flange Nut	M5 BI	六角フランジナット			010
3	EK 80 00 30	Washer	5φ BI	山型ワッシャー			010
4	EF 35 04 02	Oval Head Screw	5×40 BI	丸皿小ネジ			010
5	JH 00 01 40	Reverb Unit		リバーブユニット			170
6	Mi 80 31 30	Pin Plug Cord	L-type	ピンプラグコード			050
7	CB 81 37 00	Reverb Unit Cover		リバーブユニット収納袋			060
8	CB 81 37 10	Reverb Unit Cushion		リバーブユニット台			030
9	CB 81 44 20	Spacer		スペーサー			010
10	Ei 33 51 26	Binding Head Tapping Screw	3.5×12 BI	バインドタッピングネジ			010
11	EV 20 30 46	Flat Washer	4S BI	平 座 金			010
12	Mi 80 11 00	Phone Plug Cord	L-type	ホーンプラグコード	G100-112Ⅲ/210Ⅲ/212Ⅲ/212SⅢ		050
*	"	"	"	"	G100-112SⅢ		
13	EM 24 02 56	Oval Head Tapping Screw	4×25 Ni	丸皿タッピングネジ			01*
14	NB 82 77 30	Handle Assembly		取 手 Ass'y			060
15	CB 83 18 20	Corner Protector		コーナープロテクター			030
16	ER 33 51 66	Oval Head Wood Screw	3.5×16 BI	丸皿木ネジ			010
*	17	DA 82 38 30	Front Board	前 板 集 成	G100-112Ⅲ		13*
*	"	DA 82 37 80	"	"	G100-112SⅢ		
*	"	DA 82 38 20	"	"	G100-210Ⅲ		
*	"	DA 82 38 40	"	"	G100-212Ⅲ		14*
*	"	DA 82 38 00	"	"	G100-212SⅢ		
*	18	DB 83 09 90	Back Board	裏 板	G100-112Ⅲ/112SⅢ		09*
*	"	DB 83 11 70	"	"	G100-210Ⅲ		
*	"	DB 83 10 80	"	"	G100-212Ⅲ/212SⅢ		09*
19	CB 02 32 00	Foot		ス ペ リ 座	G100-112Ⅲ/112SⅢ/210Ⅲ		010
20	AA 80 16 90	Caster Socket		キャスターソケット	G100-212Ⅲ/212SⅢ		041
21	ER 33 52 56	Oval Head Wood Screw	3.5×25 BI	丸皿木ネジ	G100-112Ⅲ/112SⅢ/210Ⅲ		010
22	ED 35 02 06	Bind Head Screw	5×20 BI	バインド小ネジ	G100-212Ⅲ/212SⅢ		010
23	EV 30 35 06	Spring Lock Washer	5S BI	バネ座金	"		010
24	CB 83 18 30	Name Plate		ネームプレート			030
25	EO 33 01 26	Oval Head Wood Screw	3×12 BI	丸皿木ネジ			010
*	CB 83 17 70	Cover		ビニールカバー	G100-112Ⅲ	J	080
*	CB 83 17 80	"		"	G100-212Ⅲ	J	080

* New Parts (新規部品)

■EXPLODED VIEW(AMP.UNIT)〔分解図(アンプユニット)〕



■PARTS LIST(AMP.UNIT)〔パーツリスト(アンプユニット)〕

Ref. No.	Part No.	Description	部品名	Remarks	Common Model	Markets	ランク
* 1	AA 83 10 80	Front Panel	フロントパネル	G100-112Ⅲ			060
* "	AA 83 10 90	"	"	G100-112SⅢ			
* "	AA 83 11 20	"	"	G100-210Ⅲ			
* "	AA 83 11 00	"	"	G100-212Ⅲ			060
* "	AA 83 11 10	"	"	G100-212SⅢ			
* 2	AA 83 05 10	Rear Panel	リアパネル	G100-112Ⅲ		J	060
* "	AA 83 05 20	"	"	"		U	
* "	AA 83 05 30	"	"	"		C	
* "	AA 83 05 40	"	"	"		G	
* "	AA 83 05 60	"	"	G100-112SⅢ		U	
* "	AA 83 05 70	"	"	"		C	
* "	AA 83 05 80	"	"	"		G	
* "	AA 83 06 80	"	"	G100-210Ⅲ		U	
* "	AA 83 06 90	"	"	"		C	
* "	AA 83 07 00	"	"	"		G	
* "	AA 83 05 90	"	"	G100-212Ⅲ		J	070
* "	AA 83 06 00	"	"	"		U	
* "	AA 83 06 10	"	"	"		C	
* "	AA 83 06 20	"	"	"		G	
* "	AA 83 06 40	"	"	G100-212SⅢ		U	
* "	AA 83 06 50	"	"	"		C	
* "	AA 83 06 60	"	"	"		G	
3	CB 81 37 70	Cord Push	コード押え				010
4	ED 33 02 06	Bind Head Screw	3×20 BI	バインド小ネジ			010
5	CB 83 08 30	Knob	Green/Black	ツマミ			010
6	CB 83 08 90	"	Blue/Black	"			010
7	CB 81 59 40	"	Ivory/Black	"			020
8	CB 83 08 60	"	Red/Black	"			010
9	EV 10 07 00	Hexagonal Nut	7S BI	特殊六角ナット			010
10	LX 20 00 60	"	9S	"			010
11	LX 20 00 10	Plain Washer	9S	特殊平座金			010
12	AA 80 58 20	Spacer	9S	スペーサー			010
13	EV 41 00 70	Toothed Lock Washer	A7S BI	歯付座金			010
14	CB 81 92 00	Switch Escutcheon		スイッチエスカッション			020
15	CB 82 53 80	Push Button	Black	プッシュボタン			010
16	Ei 33 00 66	Bind Head Tapping Screw	3×6 BI	バインドタッピングネジ			010
17	KA 80 36 10	Power Switch		電源スイッチ			030
18	ED 33 01 06	Bind Head Screw	3×10 BI	バインド小ネジ			010
* 19	NA 81 34 80	Circuit Board, GA	#91790	G A シート	G100-112Ⅲ/212Ⅲ	J	340
* "	NA 81 34 90	"	"	"	G100-112Ⅲ/210Ⅲ/212Ⅲ	U, C	
* "	NA 81 35 00	"	"	"	"	G	
* "	NA 81 34 60	"	#91780	"	G100-112SⅢ/212SⅢ	U, C	
* "	NA 81 34 70	"	"	"	"	G	
20	iL 00 06 80	Mica Insulator		マイカベース			010
21	LB 30 11 00	Cannon Connector		キャノンソケット	G100-112SⅢ/212SⅢ		
22	EM 13 00 86	Oval Head Tapping Screw	3×8 Ni	丸皿タッピングネジ	"		
23	Ei 13 01 06	Bind Head Tapping Screw	3×10 Ni	バインドタッピングネジ			010
24	iF 00 13 10	LED	TLR-102KB	L E D			020
25	LA 00 03 00	Ground Lug	5φ	アースラグ		U, C	
26	LA 00 36 90	"	4φ	歯付アースラグ			010
* 27	GA 83 38 10	Power Transformer		電源トランス		J	170
* "	GA 83 39 00	"		"		U, C	
* "	GA 83 40 10	"		"		G	

*New Parts (新規部品)

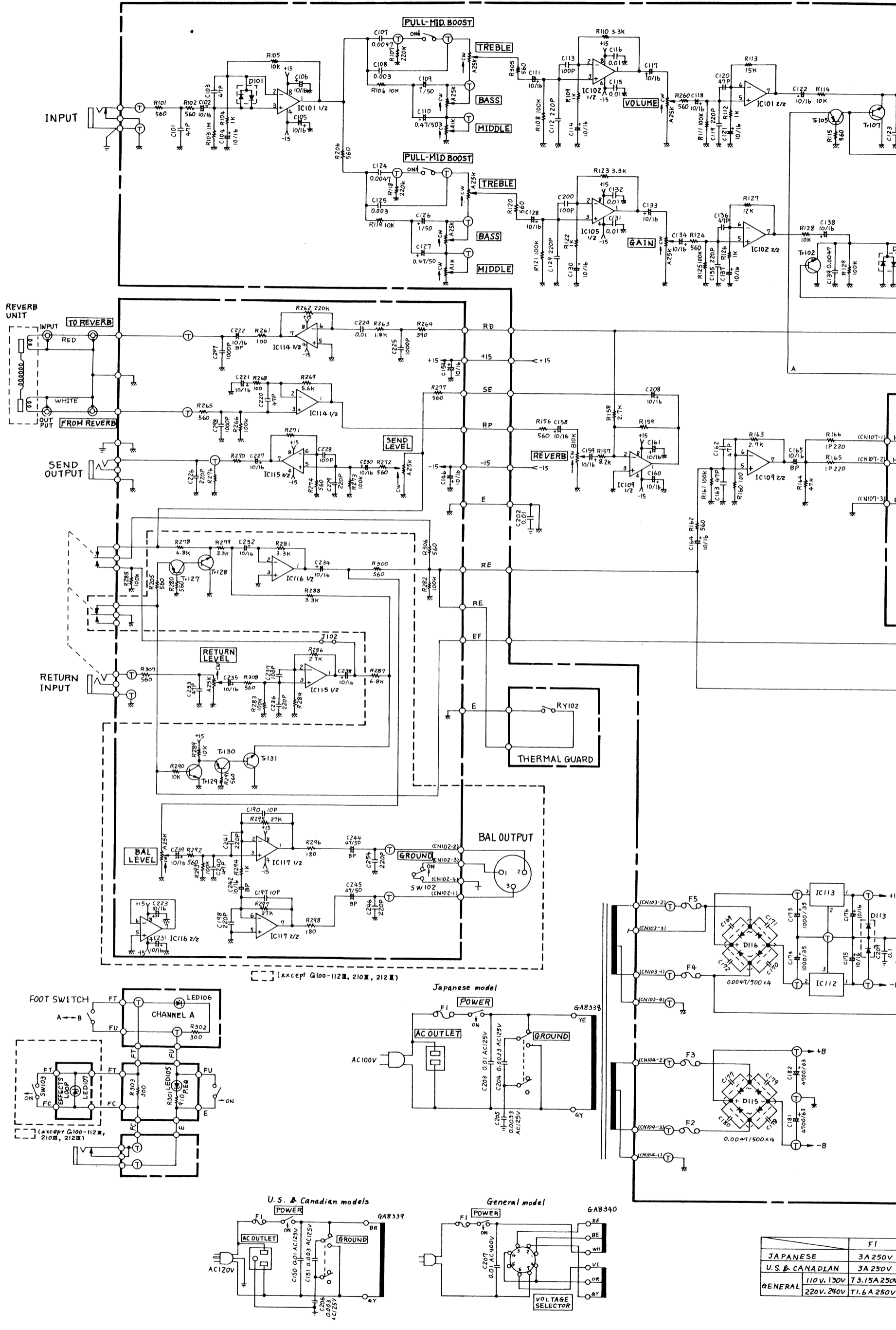
■PARTS LIST(ELECTRICITY) [パーツリスト(電気部)]

Ref. No.	Part No.	Description	部 品 名	Remarks	Common Model	Markets	ランク
※	NA 81 34 80	Circuit Board, GA	#91790	G A シ ー ト	G100-112Ⅲ 210Ⅲ 212Ⅲ	J	340
※	NA 81 34 90	"	"	"	"	U,C	
※	NA 81 35 00	"	"	"	"	G	
※	NA 81 34 60	"	#91780	"	G100-112SⅢ 212SⅢ	U,C	
※	NA 81 34 70	"	"	"	"	G	
	FC 02 51 00	Mylar Film Cap.	0.1μF 100V	マイラーコン			021
	FH 22 34 70	Ceramic Cap	4700pF 500V	セラコン			010
	FZ 00 41 10	Semiconductive Ceramic Cap.	0.1μF 16V	半導体セラコン			010
	FZ 00 29 20	Electrolytic Cap.	4700μF 63V	ケミコン			070
	UK 13 71 00	Bipolar Electrolytic Cap.	10μF 16V	B P ケミコン			010
※	UK 13 81 00	"	100μF 16V	"			020
※	UK 36 74 70	"	47μF 50V	"	G100-112SⅢ 212SⅢ		
	HL 31 34 70	Metal Oxide Film Resistor	4.7Ω 1W	酸化金属皮膜抵抗			010
	HL 31 52 20	"	220Ω 1W	"			010
	HL 32 22 20	"	0.22Ω 2W	"			010
	HL 32 41 00	"	10Ω 2W	"			010
	HL 32 53 90	"	390Ω 2W	"			010
	HV 35 51 00	Flame Proof Carbon Resistor	100Ω	不燃化カーボン抵抗			010
	HV 35 61 80	"	1.8kΩ	"			010
	HS 31 23 40	Variable Resistor	A25kΩ	可変抵抗器	TREBLE, BASS, M. VOL. Q SEND LEVEL, RETURN LEVEL, BAL. LEVEL		030
	HS 31 21 00	"	B10kΩ	"	REVERB		030
	HS 31 23 50	"	A1kΩ	"	MIDDLE		030
	HS 31 23 60	"	C20kΩ	"	PRESENCE		030
	HS 31 23 70	"	G20kΩ	"	EQ LEVEL		030
	HS 31 15 00	"	C50kΩ × 2	"	FREQUENCY		040
	HS 31 14 60	Variable Resistor with SW	A25kΩ	"	VOLUME, GAIN		050
	HT 41 00 30	Semi Variable Resistor	B2.2kΩ	半固定抵抗			020
	iA 08 14 00	Transistor	2SA814(O, Y)	トランジスタ			040
	iA 09 79 10	"	2SA979(F)	"			030
	iA 09 99 10	"	2SA999(E, F)	"			030
	iB 06 88 00	"	2SB688(R, O)	"			050
	iC 16 24 00	"	2SC1624(O, Y)	"			040
	iC 19 53 50	"	2SC1953(O, R, S, T)	"			030
	iC 22 40 00	"	2SC2240(GR, BL)	"			030
	iC 23 20 10	"	2SC2320(E, F)	"			030
	iC 28 78 00	"	2SC2878(A, B)	"			030
	iD 06 67 00	"	2SD667(C, D)	"			030
	iD 07 18 00	"	2SD718(R, O)	"			050
	iE 10 26 10	FET	2SK246(GR)	F E T			030
	iF 00 06 70	Diode	1S2473	ダイオード			010
	iF 00 51 20	"	MC931	"			010
	iH 00 07 20	"	W03B	"			010
	iH 00 09 70	"	1S2371A	"			030
	iH 00 11 30	"	D5FB20	"			050
	iF 00 56 90	Zener Diode	RD16EB1	ツェナーダイオード			010
	iF 00 11 90	LED	TLR124	L E D			020
	iF 00 61 90	"	LTZ-R17	"			010
	iG 00 13 90	IC	NJM4558DV	I C			030
	iG 03 61 00	"	NJM2901	"			050
	iG 04 25 00	"	NJM4556	"			040
	iG 03 48 00	"	TA7317P	"			040
	iG 06 39 10	"	μPC7815A	"			050
	iG 06 92 00	"	NJM2041DD	"			050

※ New Parts (新規部品)

ランク : Japan only

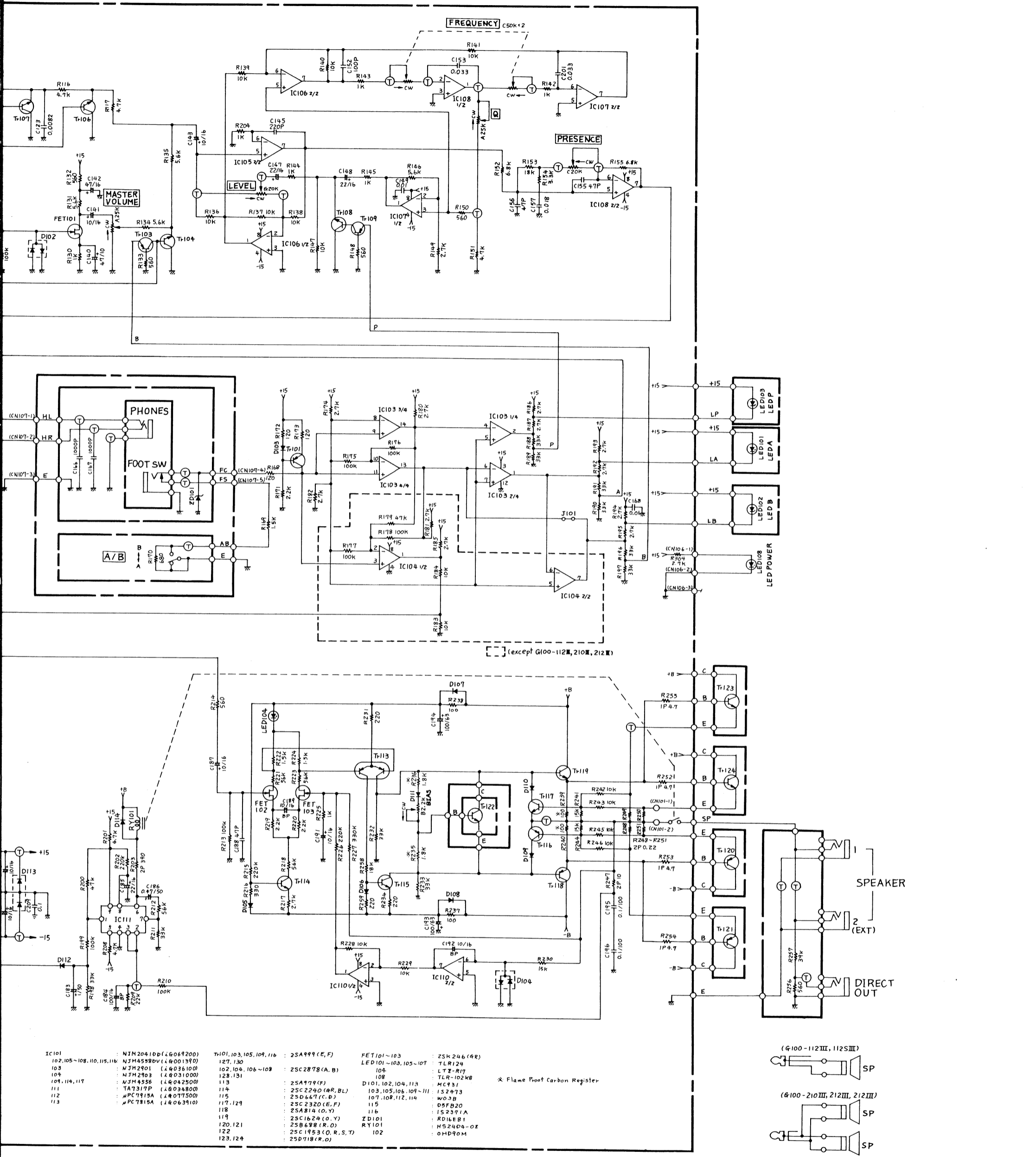
SCHEMATIC DIAGRAM (総回路図)



- WIRE COLOR ABBREVIATIONS**
- BL ▶ Black OR ▶ Orange VI ▶ Violet BE ▶ Blue
 - BR ▶ Brown YE ▶ Yellow GR ▶ Gray SB ▶ Sky Blue
 - RE ▶ Red GR ▶ Green WH ▶ White PK ▶ Pink

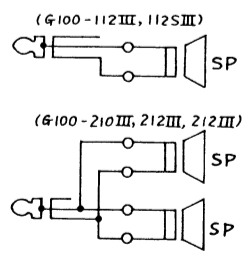
* Schematic diagram is subject to change without notice.
 ※本回路図は標準回路図です。改良のため予告なく変更することがあります。

	F1
JAPANESE	3A 250V
U.S. & CANADIAN	3A 250V
GENERAL	110V, 130V T3.15A 250V 220V, 240V T1.6A 250V



(except G100-112III, 210III, 212III)

IC101	NIN2041DD (46069200)	T-101, 103, 105, 109, 116	2SA999 (E, F)	FET101-103	2SK246 (GR)
102, 105-108, 110, 115, 116	NJM4558DV (46001380)	127, 130		LED101-103, 105-107	TLR124
103	NJM2901 (46036100)	102, 109, 106-108	2SC2878 (A, B)	104	LTZ-R17
104	NJM2903 (46031000)	128, 131		108	TLR-102KB
109, 114, 117	NJM4356 (46042500)	113	2SA179 (F)	D101, 102, 104, 113	MC931
111	TA7317P (46034800)	114	2SC2240 (AR, BL)	103, 105, 106, 109-111	1S2473
112	μPC7915A (46077500)	115	2SD667 (C, D)	107, 108, 112, 114	W03B
113	μPC7815A (46063910)	117, 129	2SC2320 (C, F)	115	D5FB20
		118	2SA814 (O, Y)	119	1S2371A
		120, 121	2SC1624 (O, Y)	ZD101	RD16EB1
		122	2SB698 (R, O)	RY101	HS2404-OE
		123, 124	2SC1953 (O, R, S, T)	102	0HD90M
			2SD718 (R, O)		



	JAPANESE	U. S.	CANADIAN	GENERAL
G100-112III	JA3113	JA3113A	JA3113	JA3113
112SIII	—	JA3112	JA3112	JA3112
210III	—	JA2529A x 2	JA2529 x 2	JA2529 x 2
212III	JA3111 x 2	JA3111A x 2	JA3111 x 2	JA3111 x 2
212SIII	—	JA3113 x 2	JA3113 x 2	JA3113 x 2

	J101	J102	R159	R270	R271	R274	R276	R282	R284	R285	R303	R306
G100-112SIII/212SIII	X	X	1.8k	1k	J	X	1.8k	X	560	X	X	X
G100-112III/210III/212III	O	O	560	560	2.7k	O	100k	O	2.7k	O	O	O

O: Installed
X: Not installed

F1	F2, F3	F4, F5
3A250V	4A250V	1A250V
3A250V	4A250V	1A250V
T3.15A250V	T3.15A250V	T500mA250V
T1.6A250V	T3.15A250V	T500mA250V