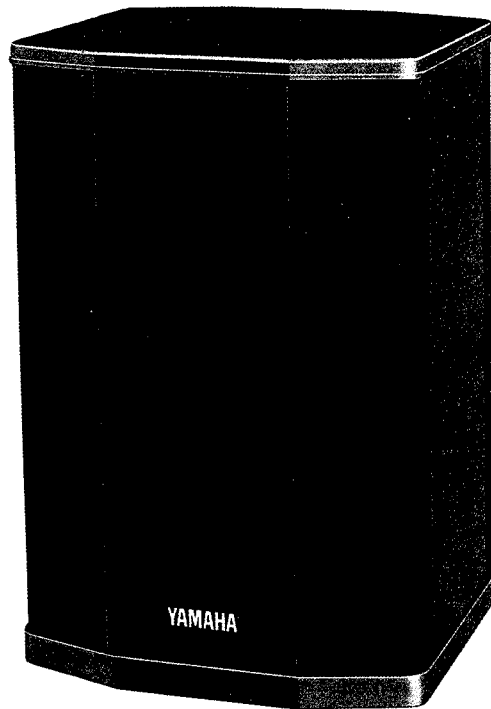


# KEYBOARD AMPLIFIER KA-30

## SERVICE MANUAL



### ■ CONTENTS

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## 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, 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 changes in specification are subject to change without notice or obligation to retrofit. Should any discrepancy appear to exist, please contact the distributor's Service Division.

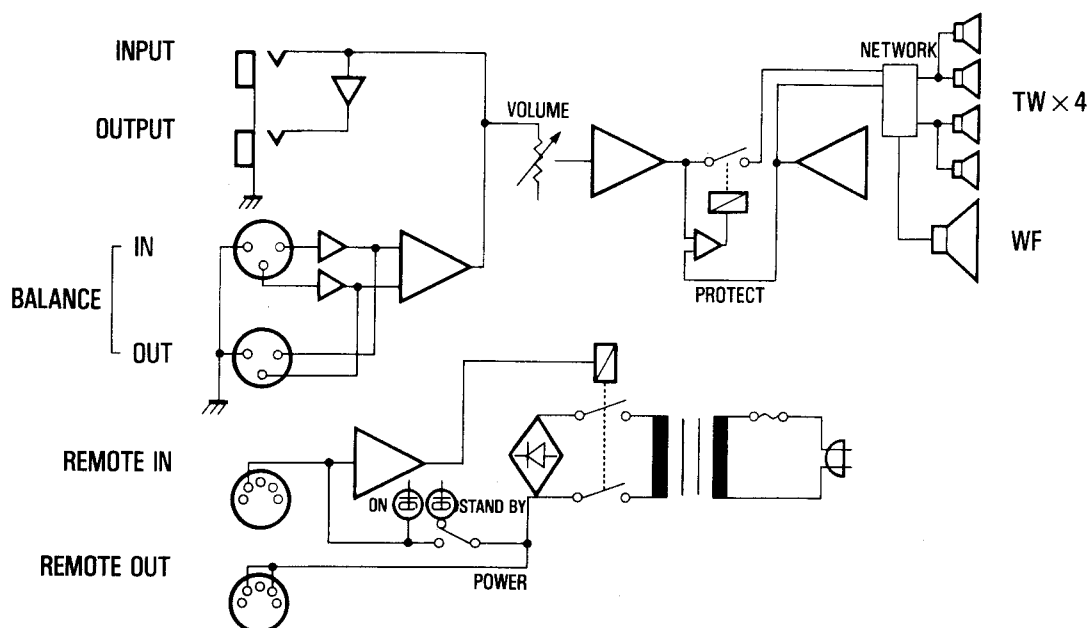
**WARNING:** Static discharges can destroy expensive components. Discharge any static electricity your body may have accumulated by grounding yourself to the ground buss in the unit (heavy gauge black wires connect to this buss).

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

**SPECIFICATIONS**

<b>POWER OUTPUT</b>	250W rms
<b>SPEAKERS</b>	Woofers; 38cm (15") × 1, Tweeter; 11cm (4 <sup>1</sup> / <sub>3</sub> ") × 4
<b>FREQUENCY RESPONSE</b>	30Hz ~ 20kHz
<b>ENCLOSURE</b>	Black Finish Bass Reflection
<b>INPUT SENSITIVITY</b>	- 14dB (150mV Unbalance), + 4dB (1.2V Balance)
<b>INPUT IMPEDANCE</b>	10kΩ
<b>CONTROLS</b>	POWER, VOLUME
<b>CONNECTORS</b>	INPUT (phone jack, Cannon 3 pin jack), OUTPUT (phone jack, Cannon 3 pin jack), REMOTE IN (DIN type 5 pin jack), REMOTE OUT (DIN type 5 pin jack)
<b>INDICATORS</b>	POWER ON (red LED), STAND BY (green LED)
<b>DIMENSIONS (W × H × D)</b>	608 × 939 × 496mm (24" × 37" × 19 <sup>1</sup> / <sub>2</sub> ")
<b>NET WEIGHT</b>	88kg (194 lbs.)
<b>ACCESSORY</b>	15m cables (Signal, Remote each 1)

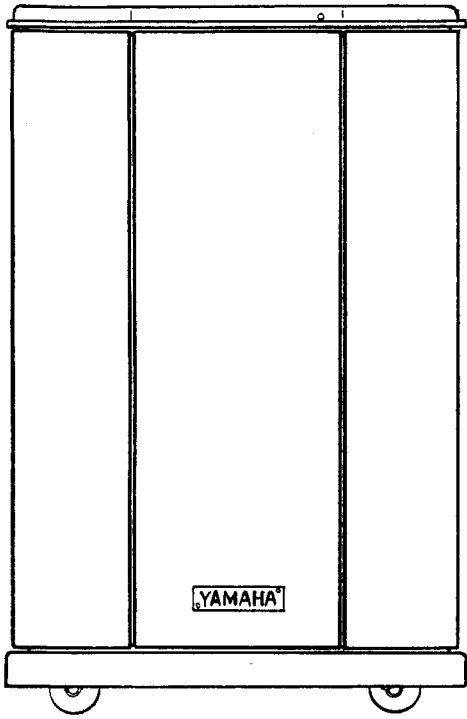
**BLOCK DIAGRAM**



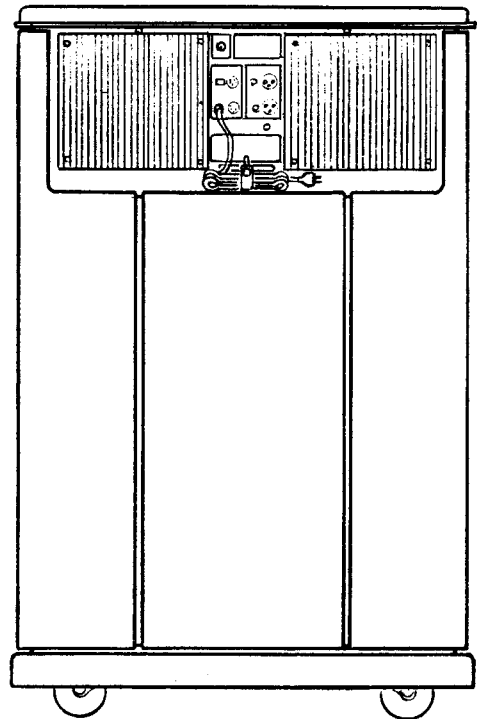
KA-30

■ PANEL LAYOUT

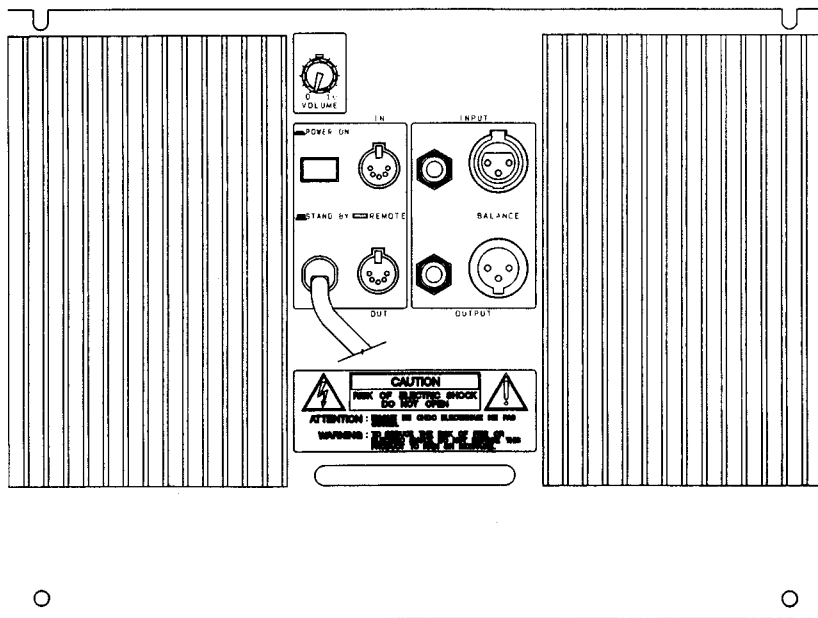
● Front



● Rear

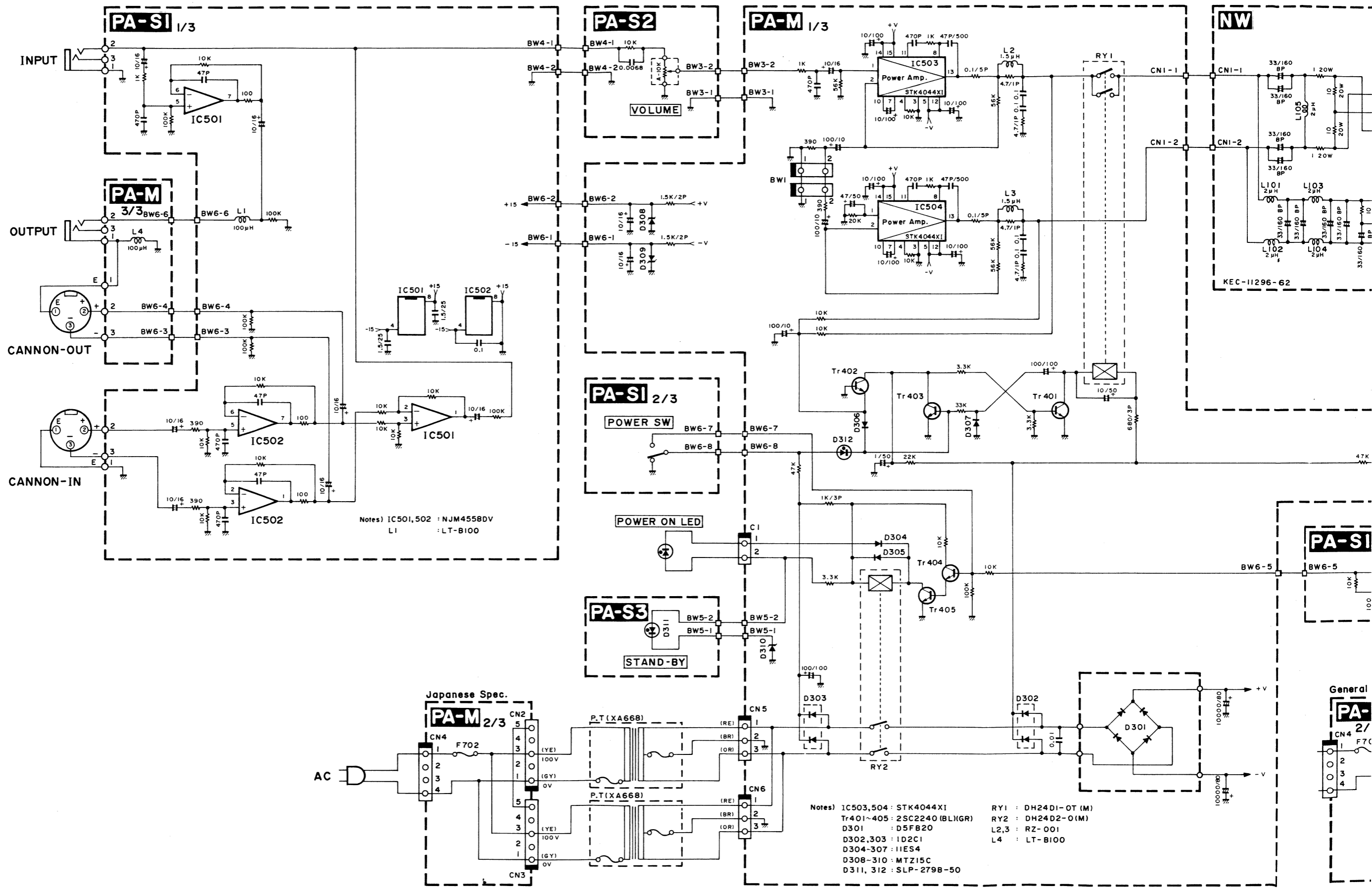


● Rear Panel

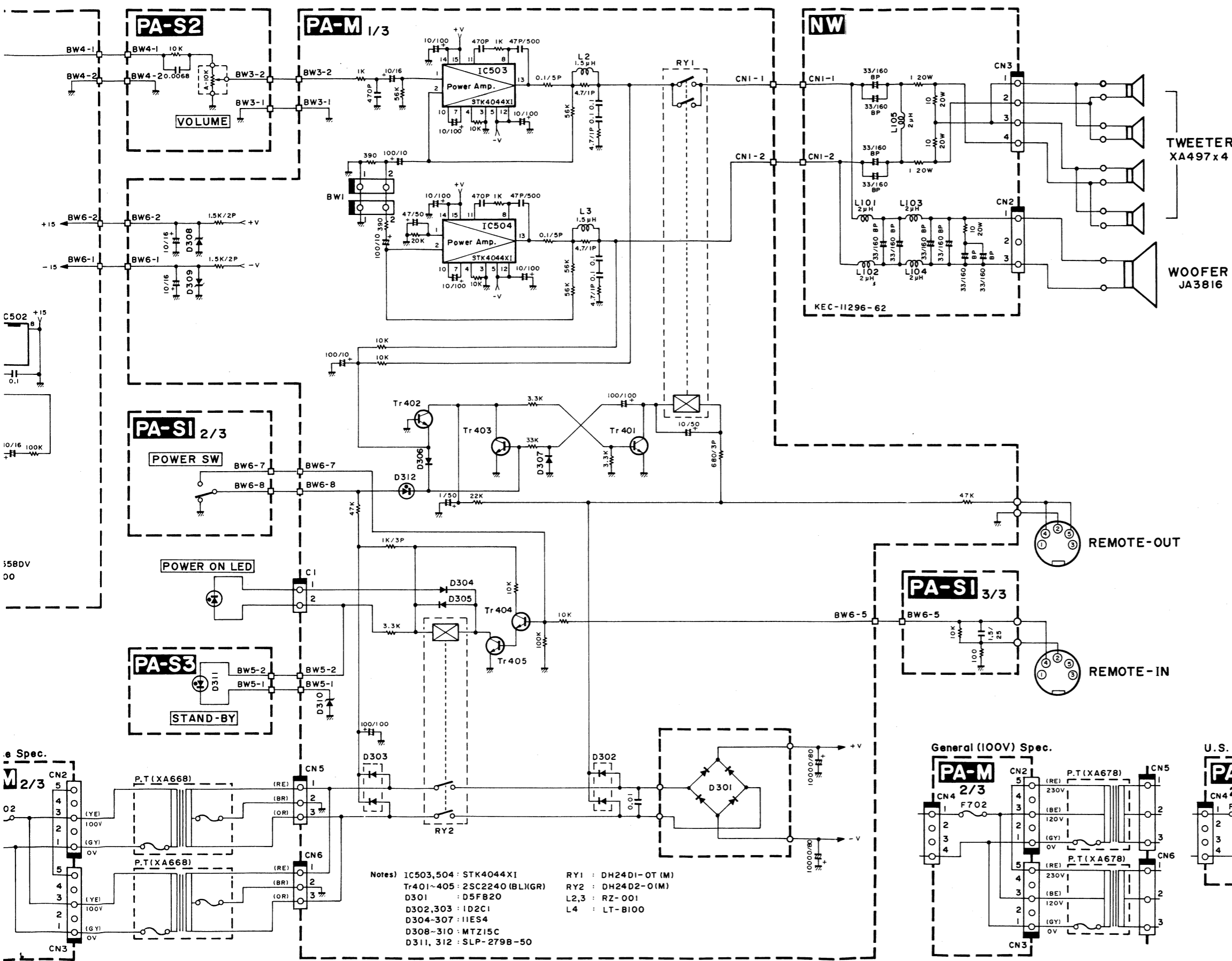


KA-30

KA-30 OVERALL CIRCUIT DIAGRAM



KEC-11278-58



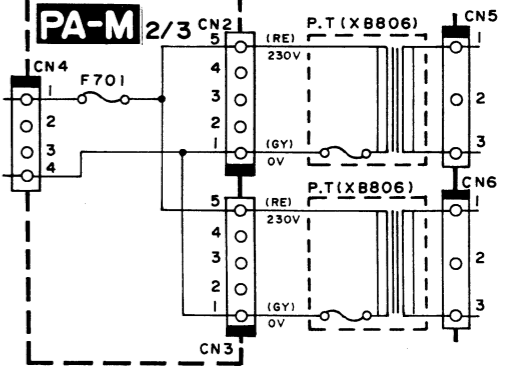
**Fuse**

Fuse No	F701	F702	F703	F704
Japanese & General (100V)		T10A		
South African & General (200V)	T10A			
U. S. American		Jumper	T5A	T5A
European, British & Australian	T4A			

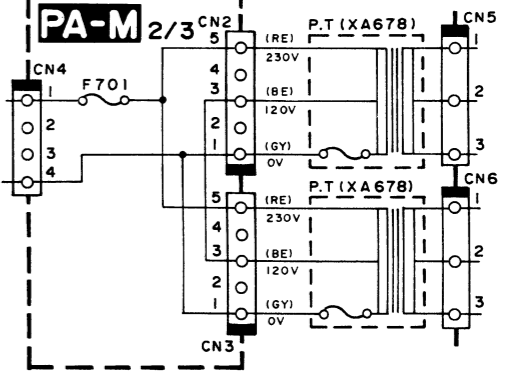
TWEETER  
XA497 x 4

WOOFER  
JA3816

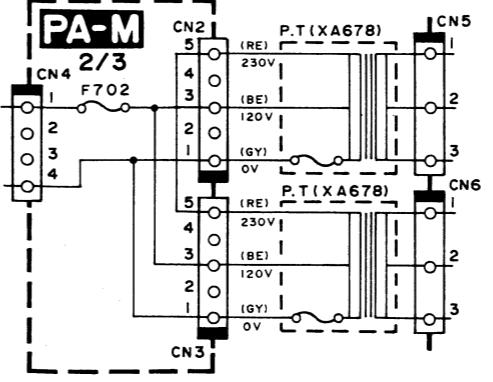
**European, British & Australian Spec.**



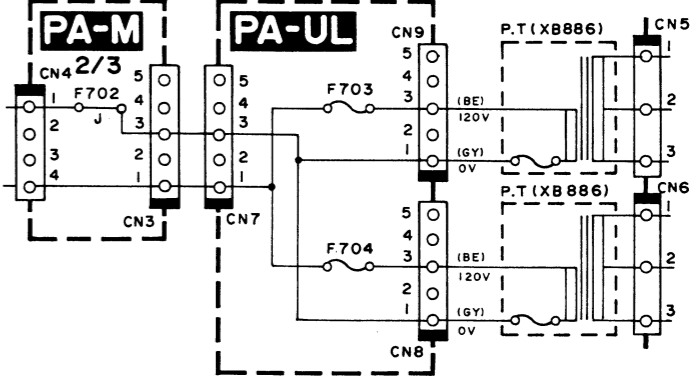
**South African & General (200V) Spec.**



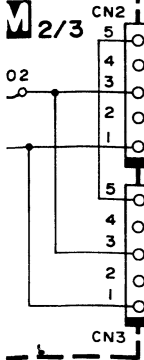
**General (100V) Spec.**



**U.S. American Spec.**



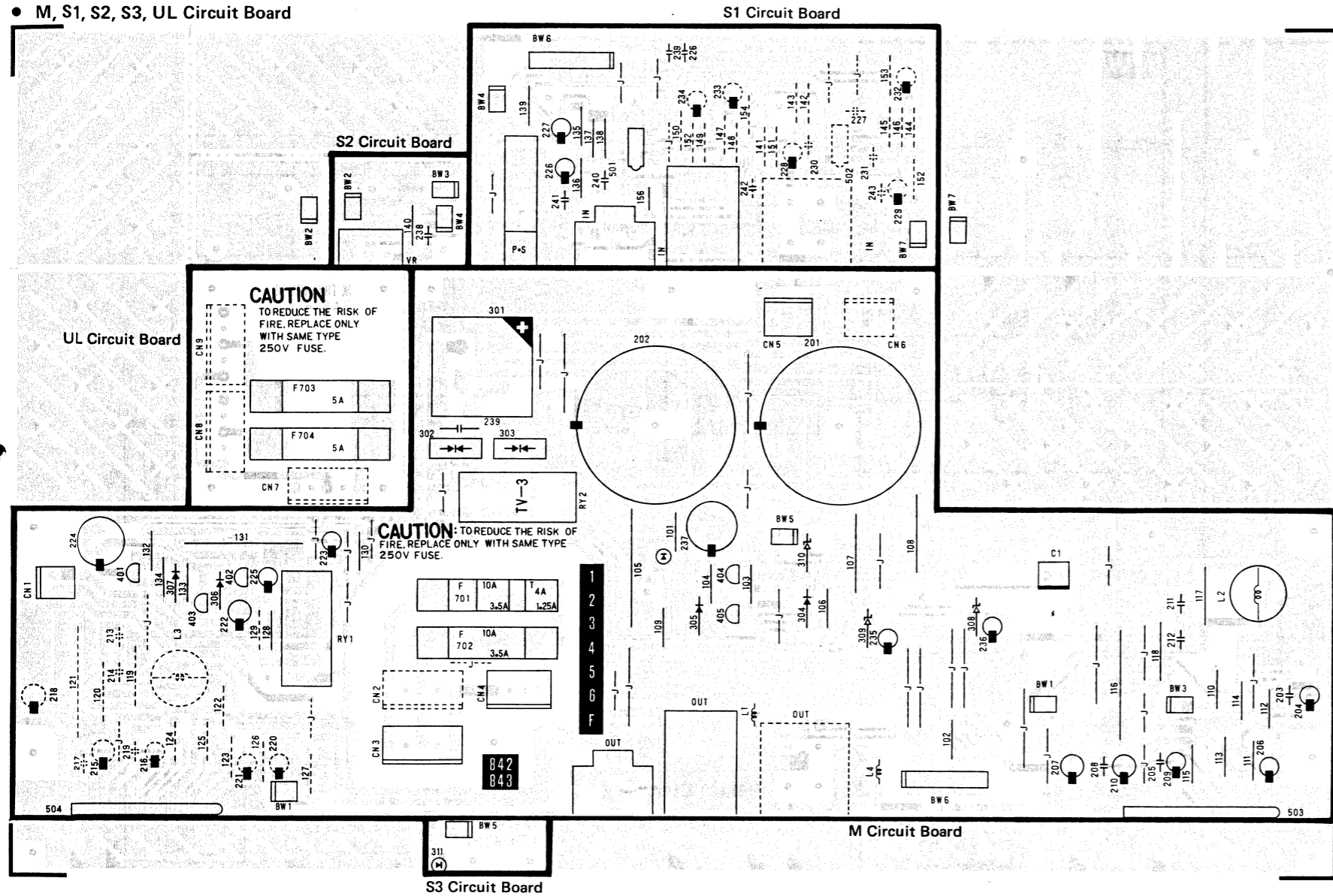
Spec.



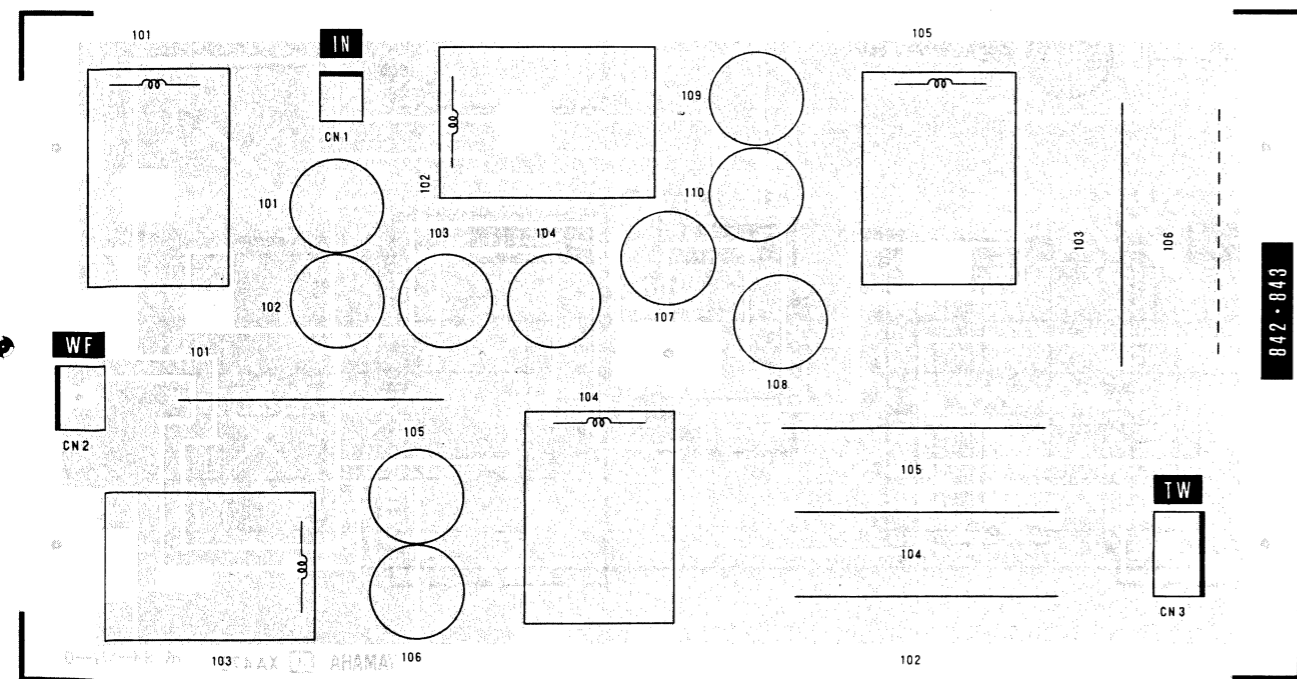
1  
2  
3  
4  
5  
6

**KA-30**  
**■ CIRCUIT BOARDS**

● M, S1, S2, S3, UL Circuit Board



● NW Circuit Board



S1 Circuit Board

S2 Circuit Board

S3 Circuit Board

UL Circuit Board

M Circuit Board

Notes)

M, S1, S2, S3, UL Circuit Board

- Circuit Boards : XA546D
- IC  
 IC501, 502 : NJM4558DV (IG001390)  
 IC503, 504 : STK4044X1 (XA975001)
- Transistor  
 Tr401 ~ 405 : 2SC2240 (BL) (GR)
- Diode  
 D301 : D4BB20  
 302 ~ 303 : 1D2C1  
 304 ~ 307 : 11ES4  
 308 ~ 310 : MTZ15C  
 311 ~ 312 : SLP-279B-50
- Semiconductive Ceramic Cap.  
 ☒ : 半導体セラコン (50V)
- Relay  
 RY1 : DH24D1-0T (M)  
 RY2 : DH24D2-0 (M)·TV-3
- Fuse

Fuse	F702	F703	F704	F705
Market				
Japanese, General 100V	No Use	T10 (A)	No Use	No Use
African, General 200V	T10 (A)	No Use	No Use	No Use
American	No Use	No Use	T5 (A)	T5 (A)
European, British, Australian	T4 (A)	No Use	No Use	No Use

- UL Circuit Board : U.S. American model only
- 842 : KA20  
843 : KA30

NW Circuit Board

- Circuit Board : XA472A0
- Coil  
 L101 ~ 105 : 2μH
- 842 : KA20  
843 : KA30

M, S1, S2, S3, UL Circuit Board  
 C1

Pin No.	Pin Name	Wire Color	Destination
1		GR	LED
2		OR	LED

CN1

Pin No.	Pin Name	Wire Color	Destination
1		OR	NW (CN1-1)
2		WH	NW-VSS (CN1-2)

CN2

Pin No.	Pin Name	Wire Color	Destination
1	0V	GY	Power Transformer
2	—	—	—
3	100V	YE	Power Transformer
4	—	—	—
5	—	—	—

CN2

Pin No.	Pin Name	Wire Color	Destination
1	0V	GY	Power Transformer
2	—	—	—
3	120V	BE	Power Transformer*
4	—	—	—
5	230V	RE	Power Transformer

\* marked : S. African, General

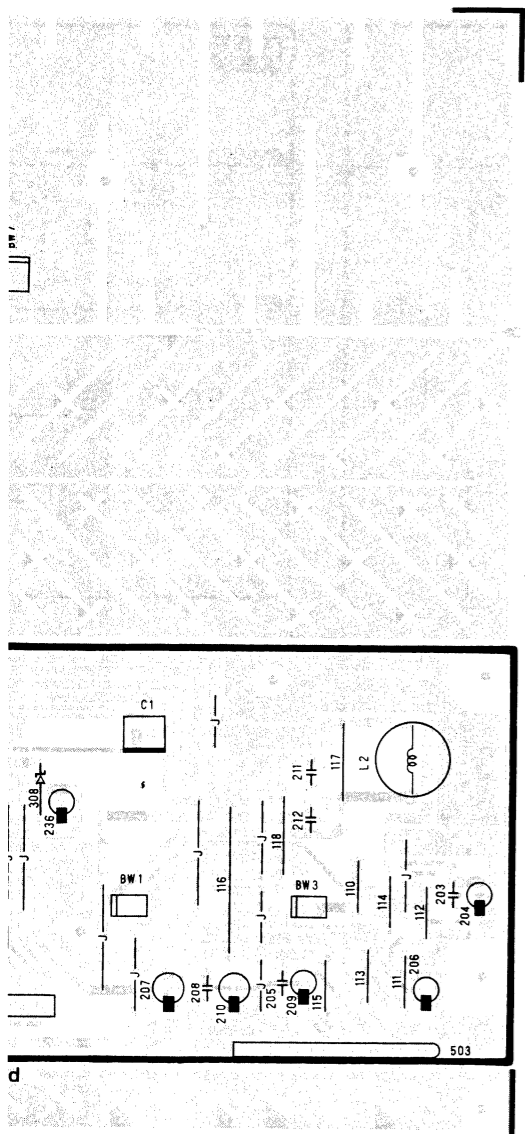
CN3

Pin No.	Pin Name	Wire Color	Destination
1	0V	GY	Power Transformer
2	—	—	—
3	100V	YE	Power Transformer
4	—	—	—
5	—	—	—

CN3

Pin No.	Pin Name	Wire Color	Destination
1	—	OR	PA-UL (CN7-1)
2	—	—	—
3	—	OR	PA-UL (CN7-3)
4	—	—	—
5	—	—	—

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Notes)

M, S1, S2, S3, UL Circuit Board

- Circuit Boards : XA546D
- IC  
IC501, 502 : NJM4558DV (IG001390)  
IC503, 504 : STK4044X1 (XA975001)
- Transistor  
Tr401 ~ 405 : 2SC2240 (BL) (GR)
- Diode  
D301 : D4BB20  
302 ~ 303 : 1D2C1  
304 ~ 307 : 11ES4  
308 ~ 310 : MTZ15C  
311 ~ 312 : SLP-279B-50
- Semiconductive Ceramic Cap.  
Ⓜ : 半導体セラコン (50V)
- Relay  
RY1 : DH24D1-0T (M)  
RY2 : DH24D2-0 (M)·TV-3
- Fuse

Market	Fuse			
	F702	F703	F704	F705
Japanese, General 100V	No Use	T10 (A)	No Use	No Use
African, General 200V	T10 (A)	No Use	No Use	No Use
American	No Use	No Use	T5 (A)	T5 (A)
European, British, Australian	T4 (A)	No Use	No Use	No Use

- UL Circuit Board : U.S. American model only
- 842 : KA20  
843 : KA30

NW Circuit Board

- Circuit Board : XA472A0
- Coil  
L101 ~ 105 : 2μH
- 842 : KA20  
843 : KA30

M, S1, S2, S3, UL Circuit Board

C1

Pin No.	Pin Name	Wire Color	Destination
1		GR	LED
2		OR	LED

CN1

Pin No.	Pin Name	Wire Color	Destination
1		OR	NW (CN1-1)
2		WH	NW-VSS (CN1-2)

CN2

Japanese

Pin No.	Pin Name	Wire Color	Destination
1	0V	GY	Power Transformer
2	-	-	
3	100V	YE	Power Transformer
4	-	-	
5	-	-	

CN2

General, European  
Australian, British,  
S. African

Pin No.	Pin Name	Wire Color	Destination
1	0V	GY	Power Transformer
2	-	-	
3	120V	BE	Power Transformer*
4	-	-	
5	230V	RE	Power Transformer

\* marked : S. African, General

CN3

Japanese

Pin No.	Pin Name	Wire Color	Destination
1	0V	GY	Power Transformer
2	-	-	
3	100V	YE	Power Transformer
4	-	-	
5	-	-	

CN3

U.S. American

Pin No.	Pin Name	Wire Color	Destination
1	-	OR	PA-UL (CN7-1)
2	-	-	
3	-	OR	PA-UL (CN7-3)
4	-	-	
5	-	-	

CN3

General, British  
European, Australian,  
S. African

Pin No.	Pin Name	Wire Color	Destination
1	0V	GY	Power Transformer
2	-	-	
3	120V	BE	Power Transformer
4	-	-	
5	230V	RE	Power Transformer

CN4

Pin No.	Pin Name	Wire Color	Destination
1	AC1	-	AC Cord
2	AC2	-	
3	AC3	-	
4	AC4	-	AC Cord

CN5

Pin No.	Pin Name	Wire Color	Destination
1		RE	Power Transformer
2		BR	Power Transformer
3		OR	Power Transformer

CN6

Pin No.	Pin Name	Wire Color	Destination
1		RE	Power Transformer
2		BR	Power Transformer
3		OR	Power Transformer

CN7

U.S. American

Pin No.	Pin Name	Wire Color	Destination
1		OR	PA-M (CN3-1)
2	-	-	
3		OR	PA-M (CN3-3)
4	-	-	
5	-	-	

CN8

U.S. American

Pin No.	Pin Name	Wire Color	Destination
1	0V	GY	Power Transformer
2	-	-	
3	120V	BE	Power Transformer
4	-	-	

CN9

U.S. American

Pin No.	Pin Name	Wire Color	Destination
1	0V	GY	Power Transformer
2	-	-	
3	120V	BE	Power Transformer
4	-	-	

NW Circuit Board  
CN1

Pin No.	Pin Name	Wire Color	Destination
1		OR	PA-M (CN1-1)
2	VSS	WH	PA-M-VSS (CN1-2)

CN3

Pin No.	Pin Name	Wire Color	Destination
1		BR	Tweeter
2		GR	Tweeter
3		RE	Tweeter
4		WH	Tweeter

CN2

Pin No.	Pin Name	Wire Color	Destination
1		YE	Woofer
2	-	-	
3	VSS	WH	Woofer

2NA-VB31150  $\Delta$  : M, S1, S2, S3, UL CIRCUIT BOARD  
2NA-VA31350  $\Delta$  : NW CIRCUIT BOARD



# PARTS LIST

## DESTINATION ABBREVIATIONS

I : Japanese model	A : Australian model
U : U.S.A. model	E : European model
C : Canadian model	D : West German model
X : General model	B : British model
M : South African model	I : Indonesian model
H : North European model	

### ● Electrical Parts

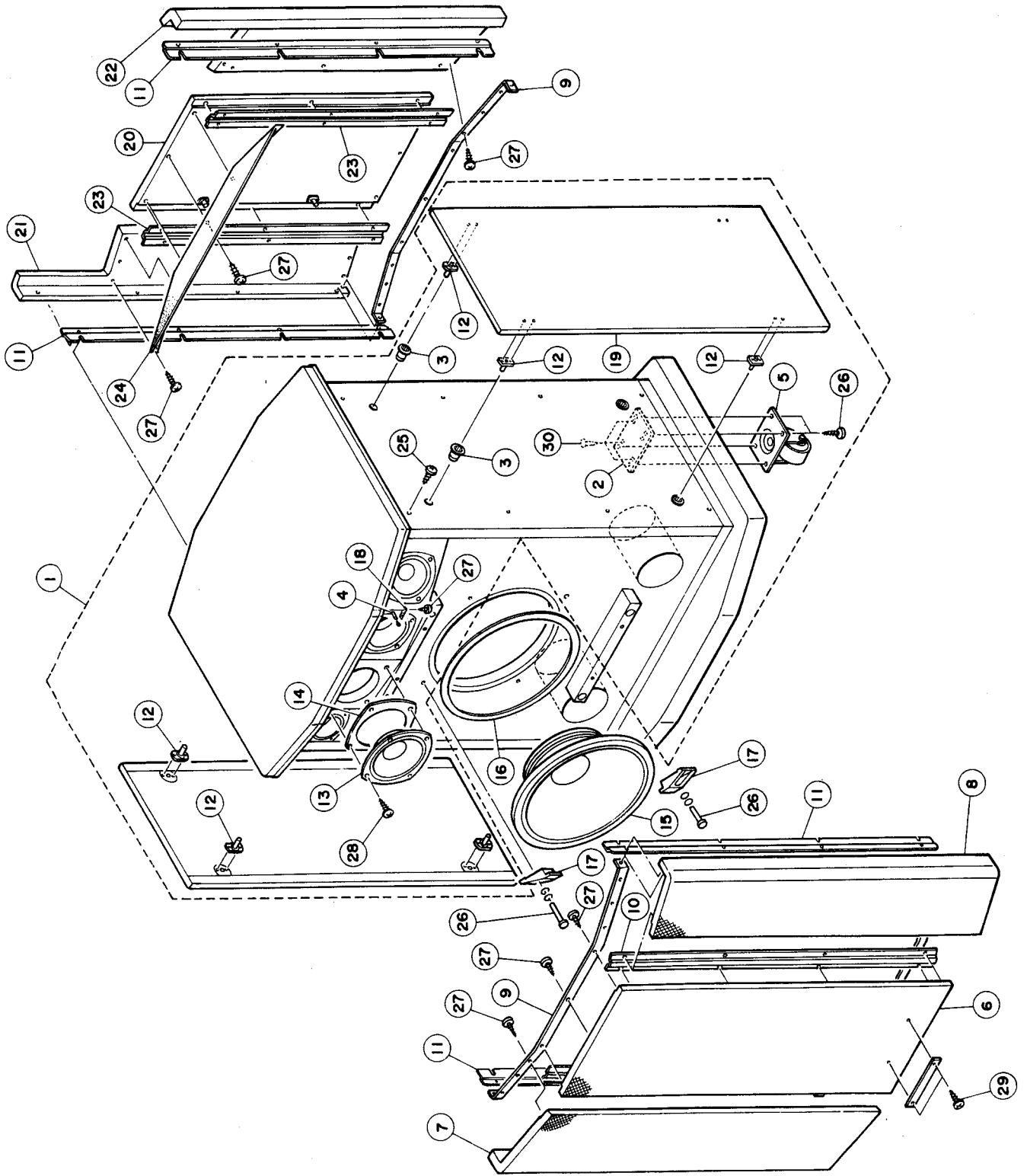
Ref. No.	Part No.	Description	部品名	Remarks	ランク	
* * * * *	VB447800 VB447700 VB447600 VB447500 VB447400	Amplifier Unit Amplifier Unit Amplifier Unit Amplifier Unit Amplifier Unit	アンブユニット アンブユニット アンブユニット アンブユニット アンブユニット	J X U M E, B, A	64	
* * * *	VB311500 VB311700 VB311600 VB311800	Circuit Board Circuit Board Circuit Board Circuit Board	M, S1, S2, S3 M, S1, S2, S3, UL M, S1, S2, S3 M, S1, S2, S3	M, S1, S2, S3シート M, S1, S2, S3, ULシート M, S1, S2, S3シート M, S1, S2, S3シート	J, X U M, X E, B, A	
* * * * * * *	IG001390 XA975001 IC224000 VB481900 IH001130	IC IC Transistor Diode Diode Stack	NJN4558DV STK4044-11 100W 2SC2240 GR, BL 11ES4	IC IC トランジスタ ダイオード ダイオードスタック	OP AMP.	03 12 03 01 05
* * * * * * *	VB493200 IF008920 IF004530 HL713470 HL335680	Diode Stack Zener Diode LED Metal Oxide Resistor Metal Oxide Resistor	1D2C1 MTZ15C 15V SLP-279B-50 GR 4.7Ω 1W K 680Ω 3W K	ダイオードスタック ツェナーダイオード LED 酸化金抵抗 酸化金抵抗	2A 200V	01 01 02 01 01
* * * * * * *	HL316330 HL336100 HM552100 HS311030 FH611470	Metal Oxide Resistor Metal Oxide Resistor Wire Wound Resistor Rotary Pot. Ceramic Cap.	3.3KΩ 1W K 1KΩ 3W K 0.1Ω 5W K A10K EWH-14A5 47p 500V K	酸化金抵抗 酸化金抵抗 セラメタリ抵抗 ロータリーVR セラコンSL		01 01 01 03 01
* * * * * * *	VA302600 UJ297100 UJ798100 FZ007010 FZ007280	Ceramic Cap. Electrolytic Cap. Electrolytic Cap. Electrolytic Cap. Semiconductive Cera. Cap.	0.01μ 500V P 10μ 100V 100μ 100V 10000μ 80V 0.1μ 50V Z	セラコン (E) セラミコン ケミコン ケミコン 半導体セラコン		01 01 02 09 01
* * * * * * *	GD900470 GE300120 VB312200 LB101420 VB312100	Coil Coil Push Switch Phone Jack DIN Jack	100μ SPUN12 S-G4112 5P M0100	空芯コイル 空芯コイル プッシュスイッチ フーンジャック DINジャック		01 01 02 03 03
* * * * * * *	LB302320 LB302340 KC001940 VB308500 VB378400	XLB Connector XLB Connector Relay Relay Fuse	XLB-3-3 XLB-3-3 DH2TU24VDC 24V DC DH24D2-0(M) T10A 250V	キャノンコネクタ キャノンコネクタ リレー リレー ヒューズ	J, X, M	07 06 05 06 02
* * * * * * *	KB002590 KB000780 LB918020 LB932020 LB932030	Fuse Fuse Base Post Connector Base Post Connector Base Post Connector	T5A 250V T4A 250V XH-1 type 2P 2P VH 3P	ヒューズ ヒューズ ベースツキポスト VHコネクタ ベースポスト	U E, B, A	02 01 01 01
* * * * * * *	LB932040 LB932050 LB201530 VA313600	Base Post Connector Base Post Connector Fuse Holder Circuit Board	VH 4P VH 5P PC-FH1 NW	ベースポスト ベースポスト ヒューズホルダ NWシート		01 01 01
* * * * * * *	HM593100 HM594100 VB268800 GD301760 LB932020	Wire Wound Resistor Wire Wound Resistor Electrolytic Cap. Coil Base Post Connector	1Ω 20W 10Ω 20W 33μ 160V 2mm 2P	セメント抵抗 セメント抵抗 B P ケミコン ネットワークコイル VHコネクタ		03 03 05 06 01
* * * * * * *	LB932030 LB932040 VB499700 VB500100 VC535800 IF003190	Base Post Connector Base Post Connector AC Cord AC Cord AC Cord LED	VH 3P VH 4P SLC-26UR5 RE	ベースポスト ベースポスト 電源コード 電源コード 電源コード LED	J X, M, E, B, A U	01 01 05 02
* * * * * *	XA668001 XA678003 XB886001 XB806001	Power Transformer Power Transformer Power Transformer Power Transformer		電源トランス 電源トランス 電源トランス 電源トランス	J X, M U E, B, A	16 16 16 16

\* : New Parts (NR)

ランク : Japan Only

# KA-30

## • Overall Assembly



KA-30

● Overall Assembly

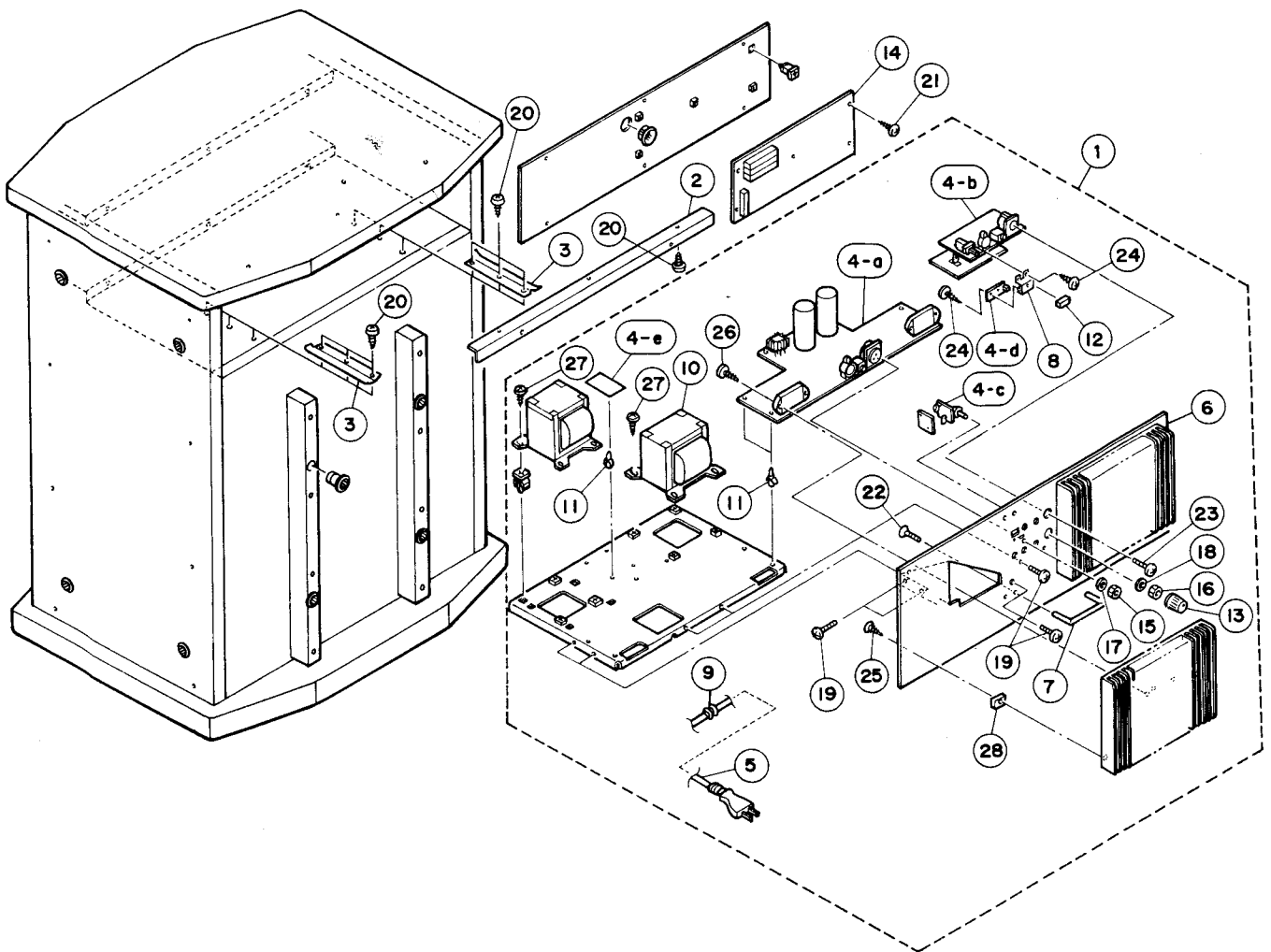
Ref. No.	Part No.	Description	部品名	Remarks	ランク
1	VB431100	Overall Assembly	キーボードアンプ外装		
2	VB428500	Angle Bracket	受け金具		04
3	CB603920	Holder	ホルダー		02
4	CB049680	Holder	LEDホルダー		05
5	VB441800	Caster	キャスター		08
6	VB427500	Grille Panel Assembly	ケリルハネルC集成前	Front	
7	VB428800	Grille Panel Assembly	ケリルハネルL集成前	Front	
8	VB428900	Grille Panel Assembly	ケリルハネルR集成前	Front	
9	VB426600	Angle Bracket	グリル金具A		06
10	VB426700	Angle Bracket	グリル金具B		07
11	VB426900	Angle Bracket	グリル金具C		06
12	VB441700	Bushing	ブッシュ		01
13	XA497001	Speaker	スピーカー		09
14	VB374700	Packing	パッキン		01
15	JA381800	Speaker	スピーカー	JA3816	
16	VB509000	Packing	パッキン		
17	VC081800	Holder	SP取付金具		
18	AA059270	Holder	LED取付金具		03
19	VB431700	Side Grille Assembly	サイドケリルハネル集成		
20	VB427700	Grille Panel Assembly	ケリルハネルC集成後	Rear	
21	VB452500	Grille Panel Assembly	ケリルハネルL集成後	Rear	
22	VB771700	Grille Panel Assembly	ケリルハネルR集成後	Rear	
23	VB426800	Angle Bracket	グリル金具B(裏)		06
24	VB451800	Grille Panel Cover	グリルパネルカバー		08
25	EA340306	Pan Head Screw	ナベ小ネジ	PACK	01
26	EA360352	Pan Head Screw	ナベ小ネジ		01
27	EI335126	Bind Tapping Screw	ハイントタビソクネジ	PACK	01
28	EH340160	Truss Tapping Screw	トラスタビソクネジ		01
29	E0330126	Flat Tapping Screw	皿タビソクネジ	PACK	01
30	E0040206	Flat Tapping Screw	皿タビソクネジ	PACK	01

\* : New Parts (NR)

ランク : Japan only

# KA-30

## • Amplifier Unit



● Amplifier Unit

Ref. No.	Part No.	Description	部品名	Remarks	ランク
* 1	VB447800	Amplifier Unit	アンブユニット	J	64
* 1	VB447700	Amplifier Unit	アンブユニット	X	
* 1	VB447600	Amplifier Unit	アンブユニット	U	
* 1	VB447500	Amplifier Unit	アンブユニット	M	
* 1	VB447400	Amplifier Unit	アンブユニット	E, B, A	
* 2	VB433100	Holder	アンブ取付金具		
* 3	VB432800	Angle	アンブ押え金具		
* 4	VB311500	Circuit Board M, S1, S2, S3	M, S1, S2, S3シート	J, X	
* 4	VB311700	Circuit Board M, S1, S2, S3, UL	M, S1, S2, S3, ULシート	U	
* 4	VB311600	Circuit Board M, S1, S2, S3	M, S1, S2, S3シート	M, X	
* 4	VB311800	Circuit Board M, S1, S2, S3	M, S1, S2, S3シート	E, B, A	
* 4-a		Circuit Board M	Mシート		
* 4-b		Circuit Board S1	S1シート		
* 4-c		Circuit Board S2	S2シート		
* 4-d		Circuit Board S3	S3シート		
* 4-e		Circuit Board UL	ULシート		
* 5	VB499700	AC Cord	電源コード	U	05
* 5	VB500100	AC Cord	電源コード	J	
* 5	VC535800	AC Cord	電源コード	X, M, E, B, A	
* 6	VB510600	Amplifier Panel	アンブパネル	U	
* 6	VB510500	Amplifier Panel	アンブパネル	J, X, M, E, B, A	15
* 7	VB432700	Handle	把手	U	
* 8	VB431500	Angle	LE D金具		
* 9	CB032840	Cord Strain Relief SR-5N-4	コードストッパー	J, X, M, E, B, A	
* 9	CB811230	Cord Strain Relief SR-6N-4	コードストッパー	U	02
* 10	XA668001	Power Transformer	電源トランス	J	16
* 10	XA678003	Power Transformer	電源トランス	X, M	
* 10	XB886001	Power Transformer	電源トランス	U	
* 10	XB806001	Power Transformer	電源トランス	E, B, A	
* 11	CB039700	Support KGLS-3NS	サポート		
* 12	VA098700	Knob OR	ノブ		01
* 13	CB100120	Knob BL	ツマミ		01
* 14	VA313600	Circuit Board NW	NWシート		01
* 15	EV103126	Hexagonal Nut φ 12 ZMC2BL	六角ナット	PACK	
* 16	EV100706	Hexagonal Nut φ 7 ZMC2BL	特殊六角ナット	PACK	01
* 17	VB441300	Flat Washer 12X16 0.5 ZMC2Y	特殊平座金		01
* 18	VB441400	Flat Washer 7X12 0.5 ZMC2Y	特殊平座金		01
* 19	ED340086	Bind Head Screw 4.0X8 FCM3BL	バインド小ネジ	PACK	01
* 20	EI035146	Bind Tapping Screw 3.5X14 ZMC2Y	ハイントタッピングネジ	PACK	01
* 21	EHO40148	Truss Tapping Screw 4.0X14 ZMC2Y	トラスタッピングネジ		01
* 22	EB040086	Flat Head Screw 4.0X8 ZMC2Y	皿小ネジ	PACK	01
* 23	EA330086	Pan Head Screw 3.0X8 ZMC2BL	ナベ小ネジ	PACK	01
* 24	EJ030086	Pan Tapping Screw 3.0X8 ZMC2Y	ナベタッピングネジ	PACK	01
* 25	E0330086	Flat Tapping Screw 3.0X8 FCM3BL	皿タッピングネジ	PACK	01
* 26	EI030166	Bind Tapping Screw 3.0X16 ZMC2Y	ハイントタッピングネジ	PACK	01
* 27	EI340086	Bind Tapping Screw 4.0X8 ZMC2BL	ハイントタッピングネジ	PACK	01
* 28	VC465600	Nut	四角ナット		

\* : New Parts (NR)

# YAMAHA MUSIKINSTRUMENTE

DIN A4: 9  
DIN A3:  
DIN A2: 2  
DIN A1:

TYP: KF 30  
LFDNR: 162  
VORRAT:

PREIS SCHALTPLÄNE :  
PREIS GESAMTANLEITUNG:

HZ:

PRODUKTION: