EMX62M
POWERED MIXER

SERVICE MANUAL

EMX62M

• OPTION
RK-88 RACK MOUNT KIT

■ **CONTENTS**

PA 011627

YAMAHA
HAMAMATSU, JAPAN
1,387K-939FT Ⓘ Printed in Japan 2002.03

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 per form 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: This 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 principal-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, therefor, 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.

WARNING: CHEMICAL CONTENT NOTICE!

The solder used in the production of this product contains LEAD. In addition, other electrical / electronic and / or plastic (where applicable) components may also contain traces of chemicals found by the California Health and Welfare Agency (and possibly other entities) to cause cancer and / or birth defects or other reproductive harm.

DO NOT PLACE SOLDER, ELECTRICAL / ELECTRONIC OR PLASTIC COMPONENTS IN YOUR MOUTH FOR ANY REASON WHAT SO EVER!

Avoid prolonged, unprotected contact between solder and your skin! When soldering, do not inhale solder fumes or expose eyes to solder / flux vapor!

If you come in contact with solder or components located inside the enclosure of this product, wash your hands before handling food.

IMPORTANT NOTICE FOR THE UNITED KINGDOM

Connecting the Plug and Cord

WARNING: THIS APPARATUS MUST BE EARTHED

IMPORTANT: The wires in this main lead are coloured in accordance with the following code:

GREEN-AND-YELLOW: EARTH

BLUE: NEUTRAL

BROWN: LIVE

As the colours of the wires in the main lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

The GREEN-and-YELLOW wire must be connected to the terminal in the plug that is marked with the letter E or the safety earth symbol (or coloured GREEN or GREEN-and-YELLOW).

The BLUE wire must be connected to the terminal that is marked with the letter N (or coloured BLACK).

The BROWN wire must be connected to the terminal that is marked with the letter L (or coloured RED).

This applies only to products distributed by Yamaha Kemble Music (U. K.) Ltd.

WARNING

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

SPECIFICATIONS

● General specifications

Maximum output power	135 W/8Ω @0.5% THD at 1 kHz (SPEAKERS OUT) 200 W/4Ω @0.5% THD at 1 kHz (SPEAKERS OUT) 175 mW/40Ω @0.5% THD at 1 kHz (PHONES OUT)	
Frequency response	20 Hz–20 kHz +1 dB, –3 dB @1 W output into 8Ω (SPEAKERS OUT) 20 Hz–20 kHz +1 dB, –3 dB @+4 dB output into 10 kΩ (MAIN OUT, MONITOR OUT, EFFECT OUT)	
Total harmonic distortion	Less than 0.5% @20 Hz–20 kHz, 100 W output into 4Ω (SPEAKERS OUT) Less than 0.3% @20 Hz–20 kHz, +14 dB output into 10 kΩ (MAIN OUT, MONITOR OUT, EFFECT OUT)	
Hum & noise (Average, Rs=150Ω) (with 20 Hz–20 kHz BPF)	–124 dB equivalent input noise, –68 dB residual output noise (SPEAKERS OUT)	
	–88 dB residual output noise (MAIN OUT, MONITOR OUT)	
	–79dB (83 dB S/N) (MAIN OUT, MONITOR OUT)	Master level control: nominal level Channel level controls: minimum
	–69 dB (73 dB S/N) (MAIN OUT, MONITOR OUT)	Master level control: nominal level 1 channel level control: nominal level
	–75 dB (79 dB S/N) (EFFECT OUT)	All channel level controls: minimum
	–69 dB (73 dB S/N) (EFFECT OUT)	1 channel level control: nominal level
Maximum voltage gain	86 dB CH IN (Lo-Z) to SPEAKERS OUT (CH1–4) 66 dB CH IN (Lo-Z) to MAIN OUT, MONITOR OUT (CH1–4) 66 dB CH IN (Lo-Z) to EFFECT OUT (CH1–4) 48 dB CH IN (Lo-Z) to REC OUT (CH1–4) 56 dB CH IN (Hi-Z) to MAIN OUT, MONITOR OUT (CH1–4) 26 dB LINE IN to MAIN OUT (CH5) 26 dB AUX IN to MAIN OUT 22 dB 2TR IN to MAIN OUT 46 dB Super Hi-z IN to MAIN OUT (CH6)	
Crosstalk at 1 kHz	65 dB adjacent input, 65 dB input to output	
Input channel equalization	±15 dB Maximum HIGH 10 kHz shelving * LOW 100 Hz shelving * * Turn over/roll-off frequency of shelving: 3 dB below maximum variable level.	
Meters	5 points LED Meter (–10, –5, 0, +3, +6 dB) MAIN OUT	
Graphic equalizer	7 bands (125, 250, 500, 1k, 2k, 4k, 8k Hz) MAIN OUT ±12 dB Maximum	
Internal digital effect	3 programs (VOCAL REVERB, LARGE HALL, SMALL HALL)	
Phantom power	+15 V (balanced input)	
Limiter	Comp. : THD≥0.5% (SPEAKERS OUT)	
LIMIT indicator	Turn on. : THD≥0.5% (SPEAKERS OUT)	
Protection circuit (Power amp)	POWER switch on/off mute DC detection Temp (Heatsink Temp≥90°C)	
Foot switch (FC5)	DIGITAL EFFECT MUTE : on/off	
Optional accessories	RK-88, FC5	
Power requirement	USA and Canada: 120 V AC 60 Hz Europe: 230 V AC 50 Hz Other: 240 V AC 50 Hz	
Power consumption	110 W	
Dimensions (WxHxD)	482 x 305 x 328 mm	
Weight	12 kg	
Supplied accessories	AC power cord, Owner's Manual	

● Input specificaitons

Input connectors	PAD	Actual load impedance	Nominal impedance	Input level			Connector type
				Sensitivity*1	Nominal level	Max. before cliping	
CH INPUT (Lo-Z) (CH1–4)	OFF	3 kΩ	50–600Ω Mics	–62 dB (0.616 mV)	–50 dB (2.45 mV)	–20 dB (77.5 mV)	XLR-3-31 type*2
	ON		600Ω Lines	–32 dB (19.5 mV)	–20 dB (77.5 mV)	+10 dB (2.45 V)	
CH INPUT (Hi-Z) (CH1–4)	OFF	10 kΩ	50–600Ω Mics	–52 dB (1.95 mV)	–40 dB (7.75 mV)	–10 dB (245 mV)	Phone jack (TRS)*2
	ON		600Ω Lines	–22 dB (61.6 mV)	–10 dB (245 mV)	+20 dB (7.75 V)	
LINE IN (CH5) (1–2)		10 kΩ	600Ω Line	–22 dB (61.6 mV)	–10 dB (245 mV)	+20 dB (7.75 V)	Phone jack*3
Super Hi-Z IN (CH6) (1–2)		470 kΩ	1kΩ	–42 dB (6.16 mV)	–30 dB (24.5 mV)	0 dB (0.775 V)	Phone jack*3
AUX IN		10 kΩ	600Ω Line	–22 dB (61.6 mV)	–10 dB (245 mV)	+20 dB (7.75 V)	Phone jack*3
2TR IN (1–2)		10 kΩ	600Ω Line	–22 dBV (79.4 mV)	–10 dBV (316 mV)	+17.8 dBV (7.76 V)	Phono jack

*1. Sensitivity is the lowest level that can produce an output of +4 dB (1.23 V) or the nominal output level when the unit is set at maximum gain. (All level controls are at maximum position.)
*2. Balanced.
*3. Unbalanced.
- 0 dB= 0.775 Vrms, 0 dBV= 1 Vrms.

● Output specificaitons

Output connectors	Actual source impedance	Nominal impedance	Output level		Connector type
			Nominal	Max. before cliping	
SPEAKERS OUT (1, 2)	0.1Ω	4/8Ω Speaker	40 W/4Ω	200 W/4Ω	Phone jack
MAIN OUT	600Ω	10 kΩ Lines	+4 dB (1.23 V)	+20 dB (7.75 V)	Phone jack
MONITOR OUT	600Ω	10 kΩ Lines	+4 dB (1.23 V)	+20 dB (7.75 V)	Phone jack
EFFECT OUT	600Ω	10 kΩ Lines	+4 dB (1.23 V)	+20 dB (7.75 V)	Phone jack
PHONES OUT	35Ω	40 Ω Phones	33 mW	175 mW	Phone jack
REC OUT (1, 2)	600Ω	10 kΩ Lines	–10 dBV (316 mV)	+10 dBV (3.16 V)	Phono jack

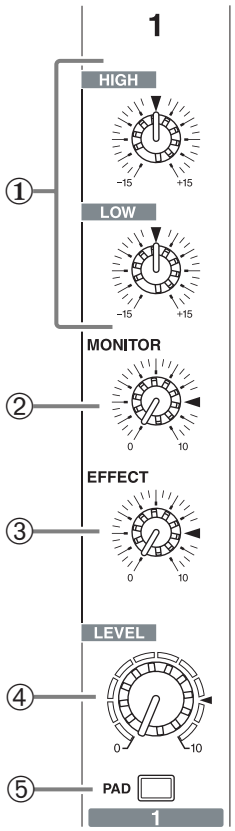
- PHONE JACKS are unbalanced.
- 0 dB= 0.775 Vrms, 0 dBV= 1 Vrms.

■ PANEL LAYOUT

● CONTROL PANEL

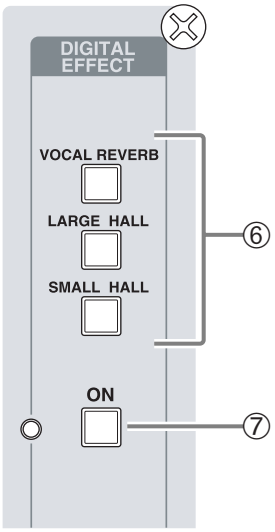
1. CONTROL SECTION

• Channel Control



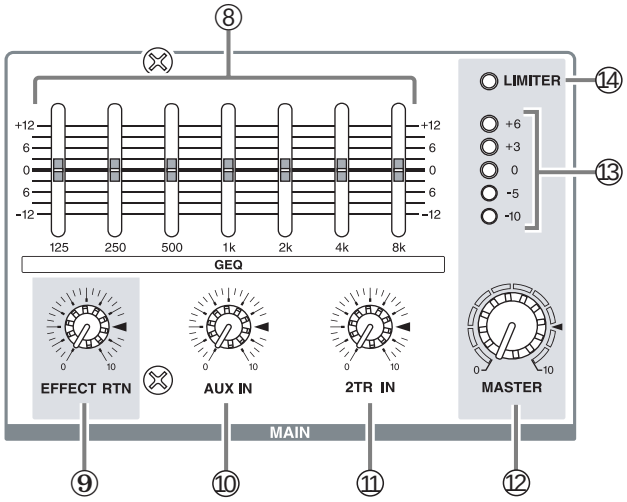
① Equalizer (HIGH, LOW)
② MONITOR control
③ EFFECT control
√ LEVEL control
⑤ PAD switch (CH1-4)

• Digital Effect



≈ EFFECT select switch
Δ ON switch, indicator

• MAIN

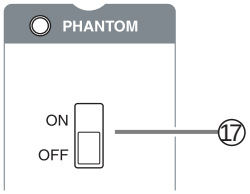


⑧ Graphic Equalizer
⑨ EFFECT RTN control
⑩ AUX IN control
⑪ 2TR IN control
⑫ MASTER control
⑬ Peak Level Indicator
⑭ LIMITER indicator

• MONITOR

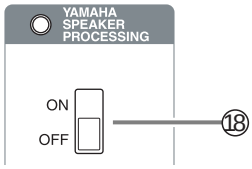
⑮ EFFECT RTN control
⑯ MASTER control

• PHANTOM switch, indicator



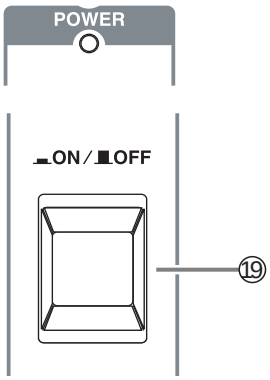
⑰ PHANTOM ON/OFF switch

• YAMAHA SPEAKER PROCESSING



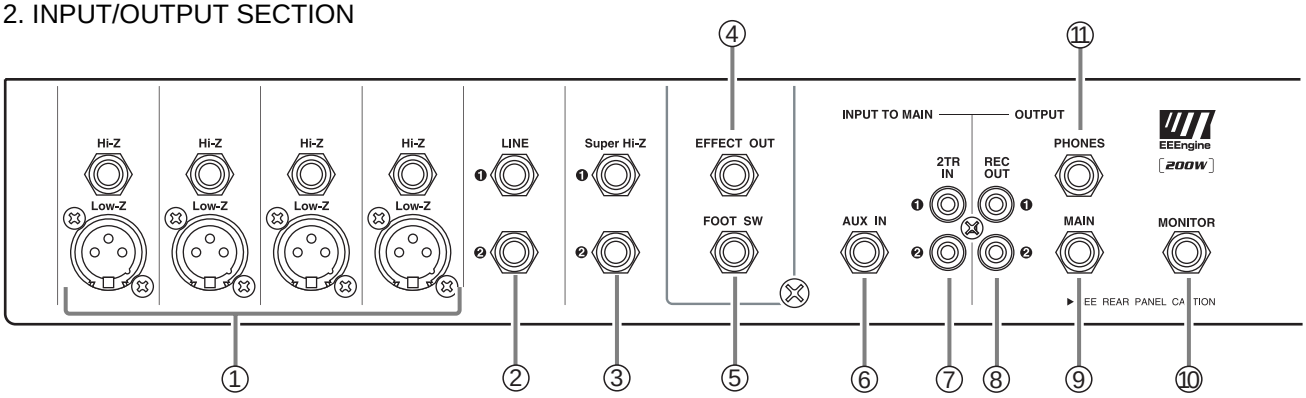
⑱ ON/OFF switch

• POWER switch, indicator



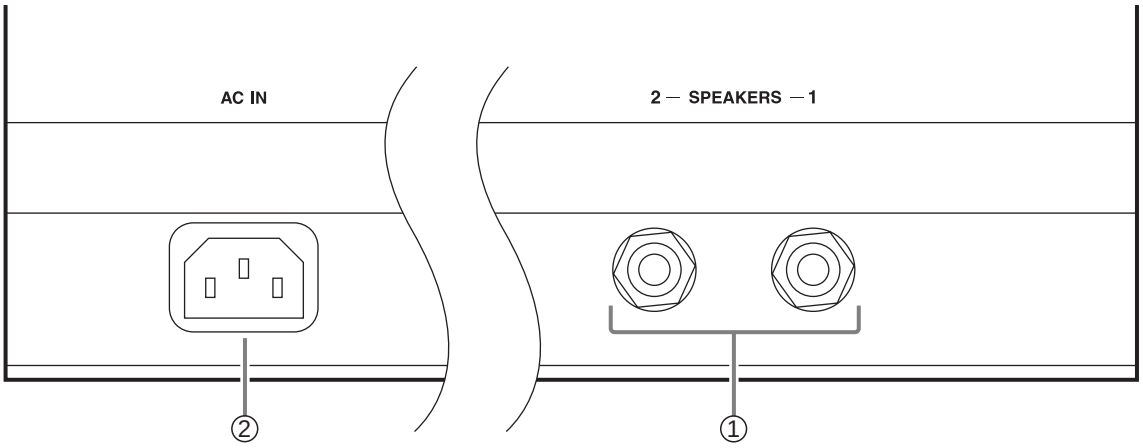
⑲ POWER ON/OFF switch, indicator

2. INPUT/OUTPUT SECTION



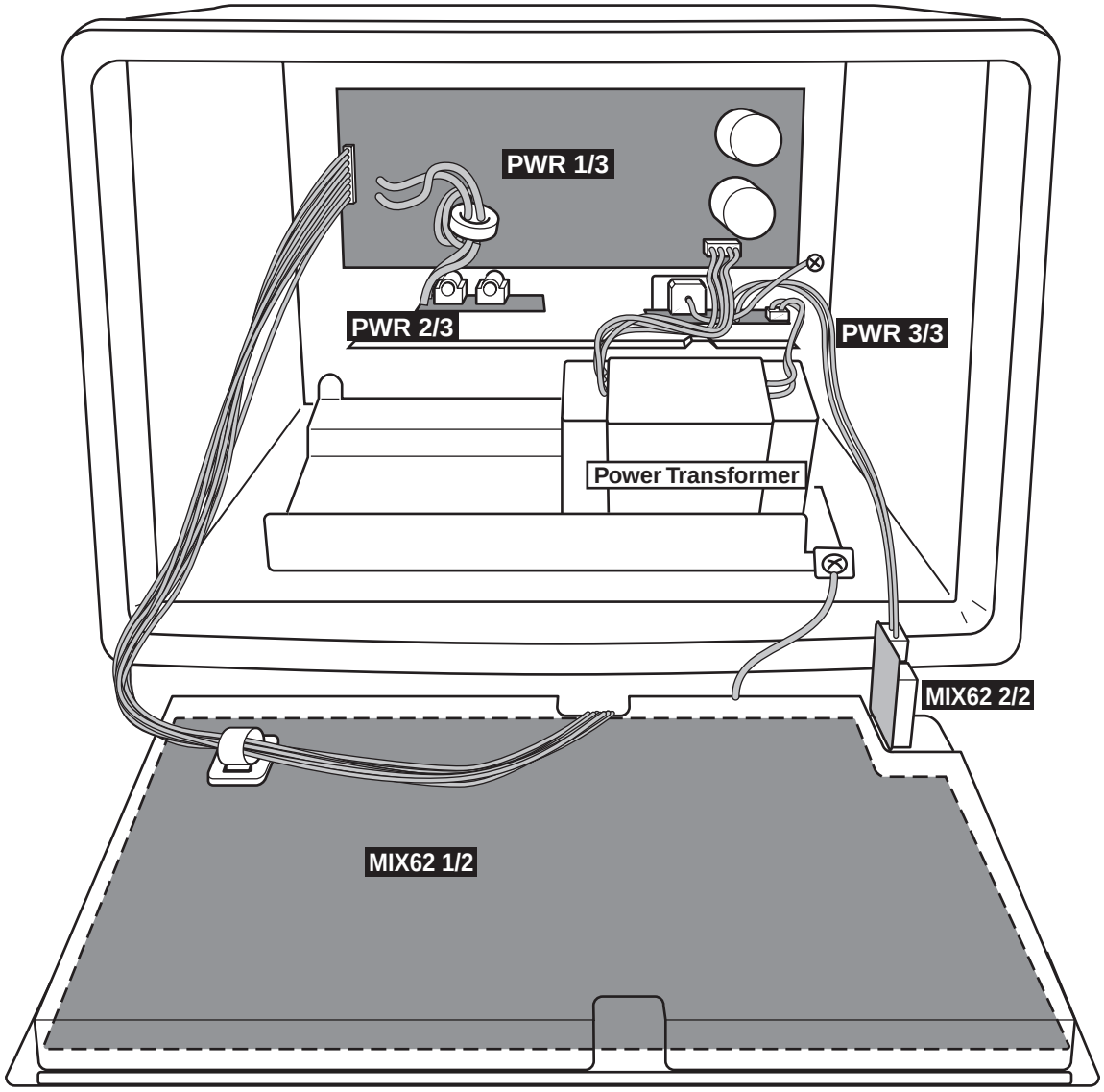
① INPUT terminal (Hi-Z, Low-Z) (CH1-4)
② INPUT terminal (LINE 1, 2) (CH5)
③ INPUT terminal (Super Hi-Z) (CH6)
④ EFFECT OUT terminal
⑤ FOOT SW terminal
⑥ INPUT TO MAIN terminal (AUX IN)
⑦ INPUT TO MAIN terminal (2TR IN)
⑧ OUTPUT terminal (REC OUT)
⑨ OUTPUT terminal (MAIN)
⑩ OUTPUT terminal (MONITOR)
⑪ OUTPUT terminal (PHONES)

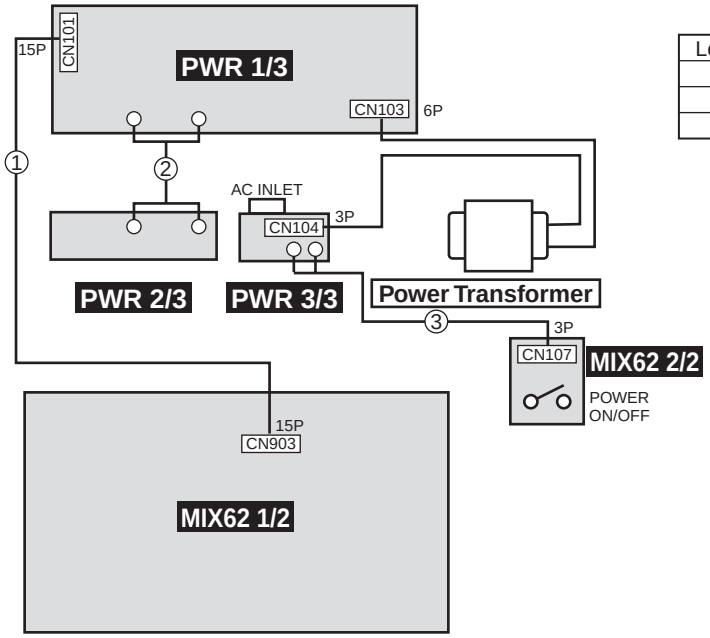
● **REAR PANEL**



① SPEAKERS 1, 2 terminal
② AC IN socket

■ CIRCUIT BOARD LAYOUT & WIRING



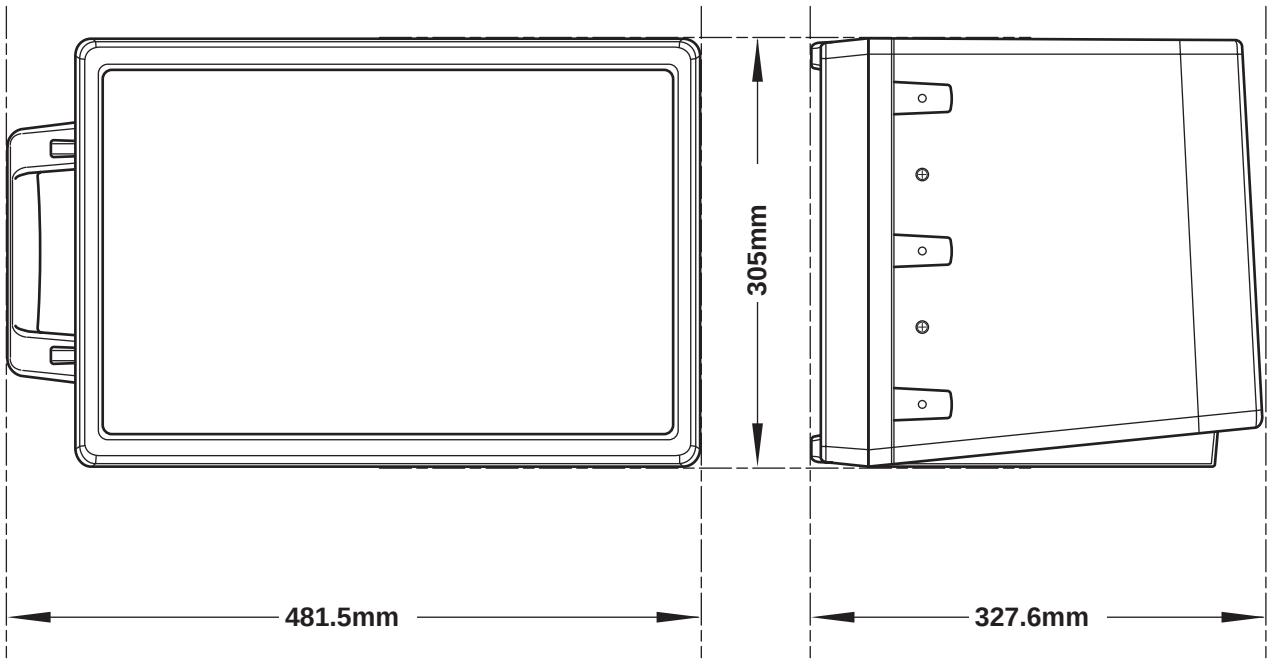


Location	Connector Assembly	Remarks	Parts No.
1	MIX621/2-PWR1/3	2426&2426 14P L=700	(V842610)
2	PWR1/3-PWR2/3	B&B2P	(V828330)
3	PWR3/3-MIX622/2	PSW	V8272900

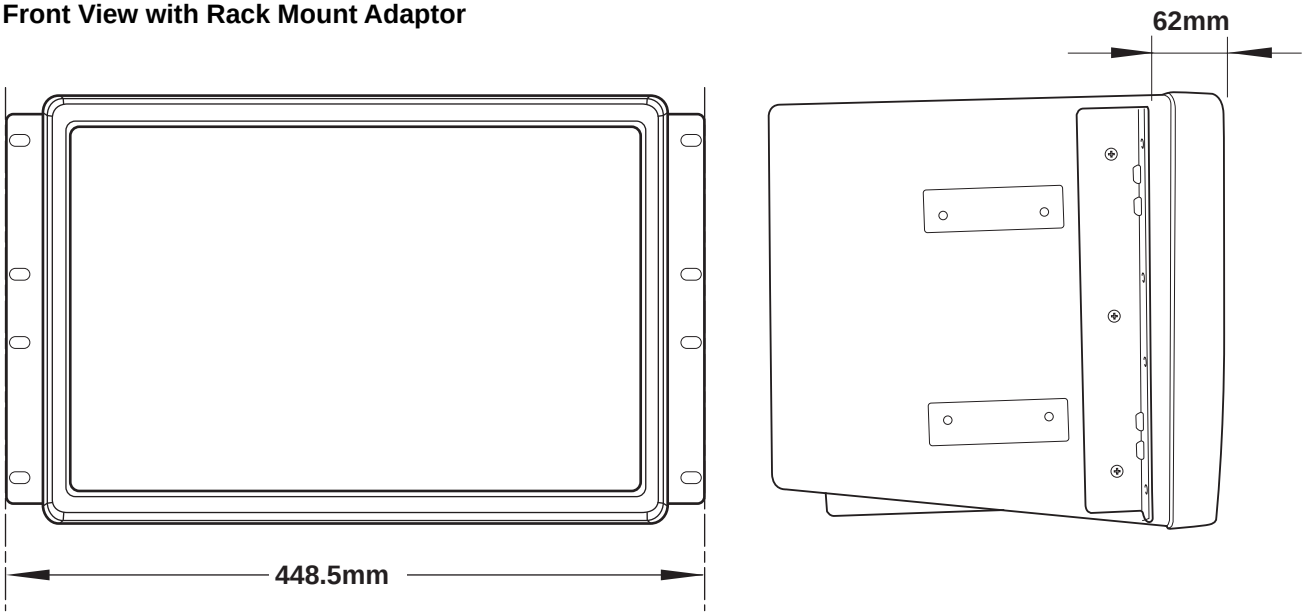
DIMENSIONS

● **Front View**

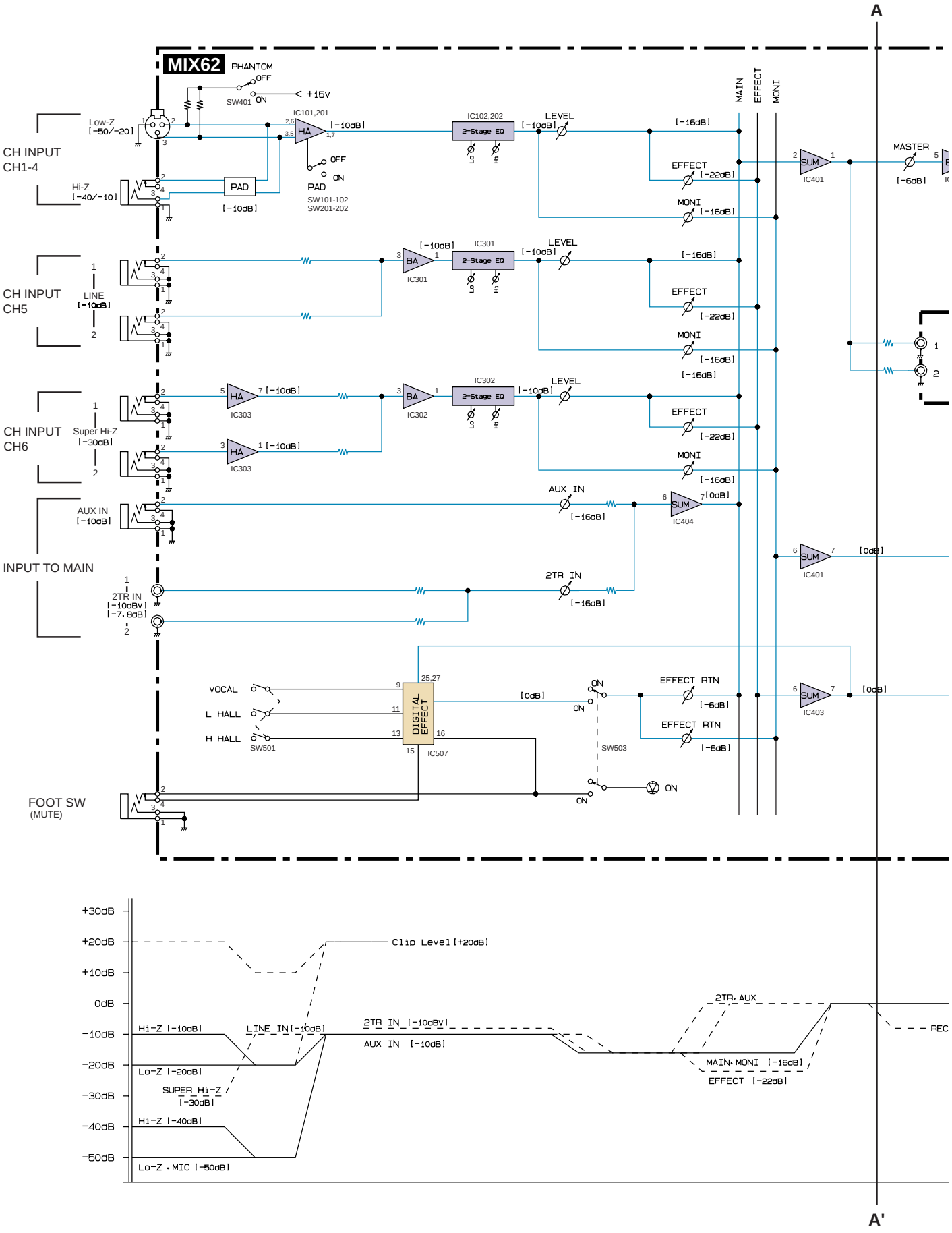
● **Side View**

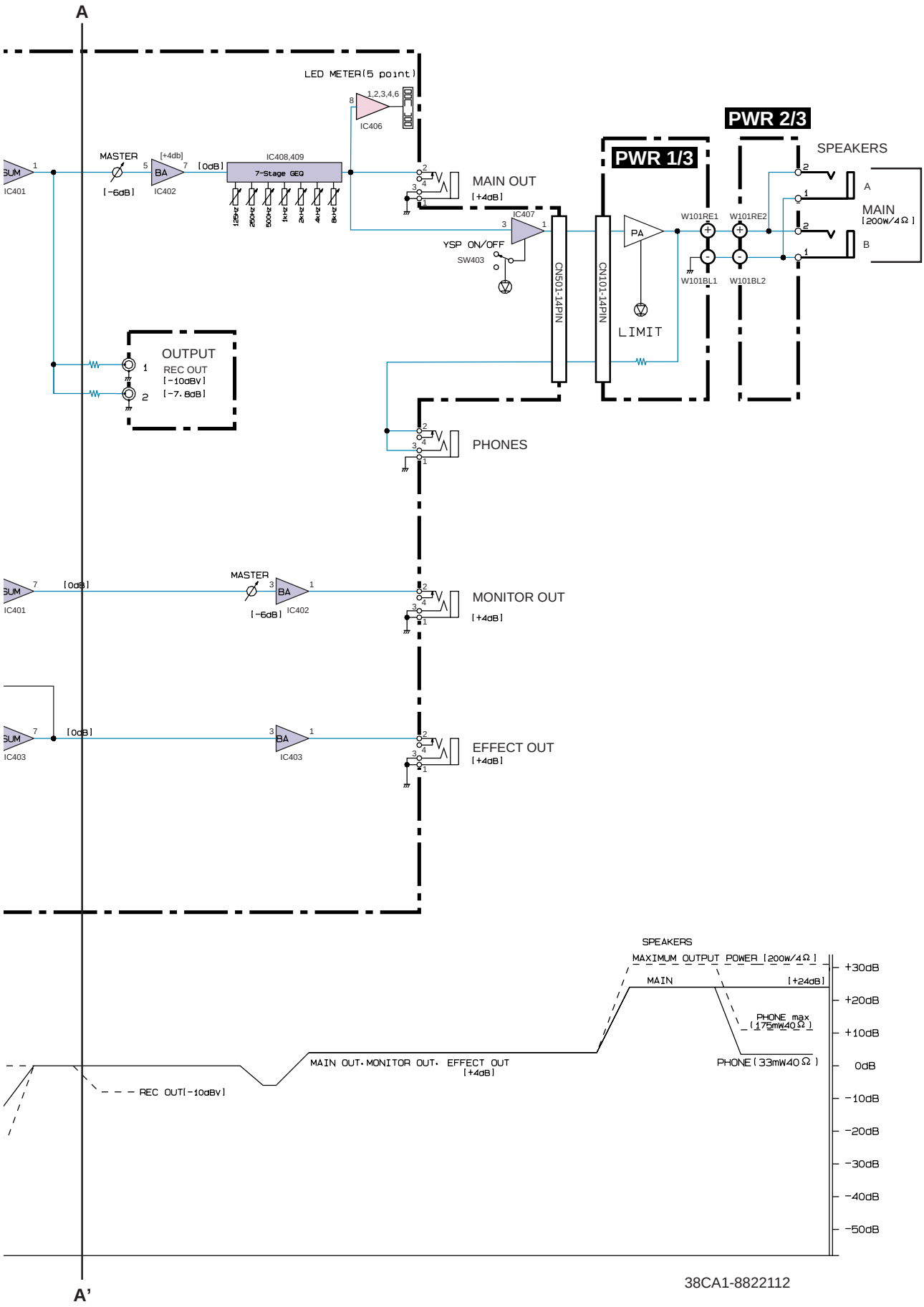


● **Front View with Rack Mount Adaptor**



BLOCK & LEVEL DIAGRAM





38CA1-8822112

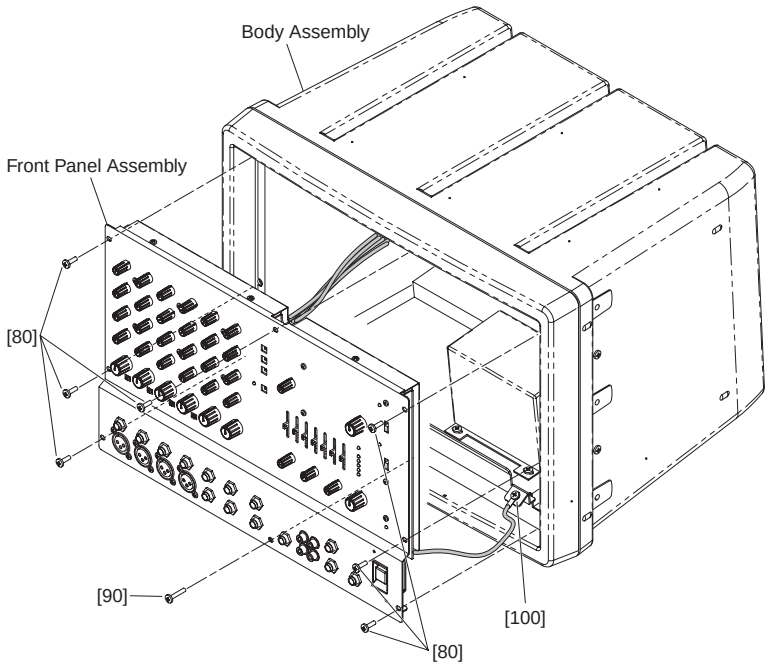
■ DISASSEMBLY PROCEDURE

1. Front Panel Assembly
(Time required: about 3 min)

1-1. Remove the seven (7) screws marked [80] and the screw marked [90]. (Fig.1)

1-2. Hold volume knobs and pull the panel to the front. (Fig.1)

1-3. Remove the screw marked [100]. The front panel assembly can then be removed. (Fig.1)



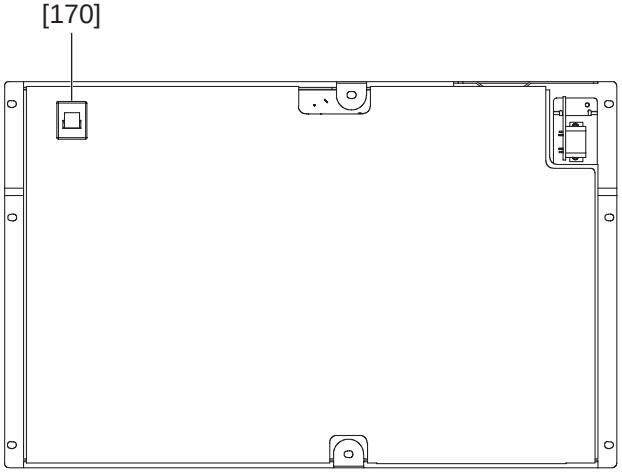
(Fig. 1)

[80]: Bind Head Screw 4.0X12 MFZN2BL (VB132700)
[90]: Bind Head Screw 4.0X20 MFZN2BL (VB403600)
[100]: Bind Head Screw A4.0X8 MFZN2BL (VP156800)

2. MIX62 Circuit Board 1/2
(Time required: about 16 min)

2-1. Remove the front panel assembly. (See Procedure 1)

2-2. Remove the cable from the cord binder marked [170]. (Fig.2)



(Fig. 2)

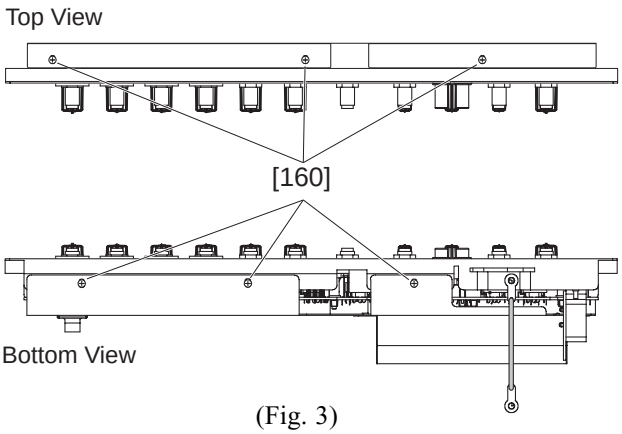
[170]: Cord Binder TS-0708 KSS (VZ765100)

2-3. Remove the six (6) screws marked [160] to remove the shield plate. (Fig.3)

2-4. Remove the fifteen (15) screws marked [40], the nine (9) screws marked [41], and the fourteen (14) hexagonal nuts marked [A]. (Fig.4)

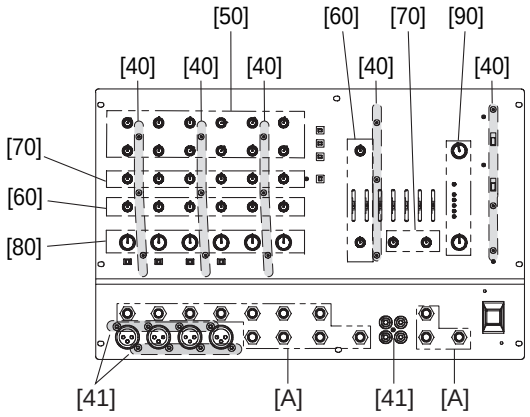
2-5. Remove the twelve (12) knobs marked [50], eight (8) knobs marked [60], the eight (8) knobs marked [70], and the eight (8) knobs marked [80].
The mix62 circuit board 1/2 can then be removed. (Fig.4)

Note: When placing the front panel assembly on the table, take care not to weight the MIX62 circuit board 2/2. (Fig.5)



(Fig. 3)

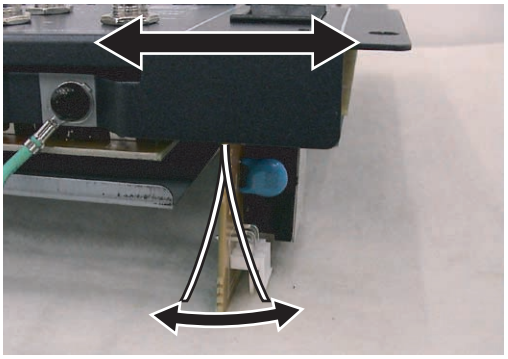
[160] Bind Head Tapping Screw-B 3.0X6 MFZN2BL (EP600230)



(Fig. 4)

[40]: Screw 3X25 MFZNBL (V3289800)
[41]: Bonding Tapping Screw-B 3.0X8 MFZN2BL (VN413300)

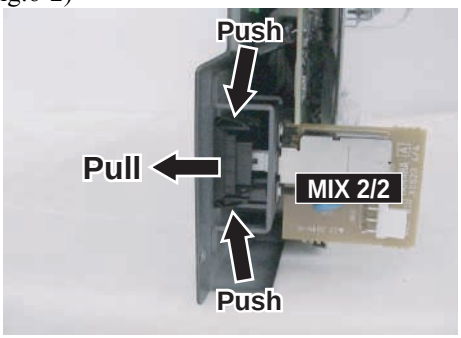
[50]: Knob GREEN/M-GRAY (V6225300)
[60]: Knob L-GRAY/M-GRAY (V6225600)
[70]: Knob BLUE/M-GRAY (V6225400)
[80]: Knob L-GRAY/D-GRAY (V6225700)
[90]: Bind Head Screw 3.0X8 MFZN2BL (VB659000)



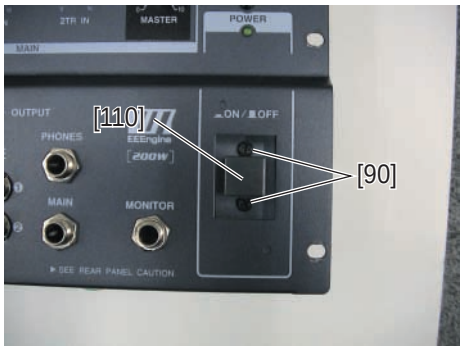
(Fig. 5)

3. MIX62 Circuit Board 2/2 (Time required: about 4 min)

3-1. Remove the front panel assembly. (See Procedure 1)
3-2. Pinch slightly the stopper of the power switch escutcheon with a plyer, and pull it to the front to remove. (Fig.6-1)
3-3. Remove the two (2) screws marked [90]. (Fig.6-2)
3-4. Remove the power switch knob marked [110]. The MIX62 circuit board 2/2 can then be removed. (Fig.6-2)



(Fig. 6-1)



(Fig. 6-2)

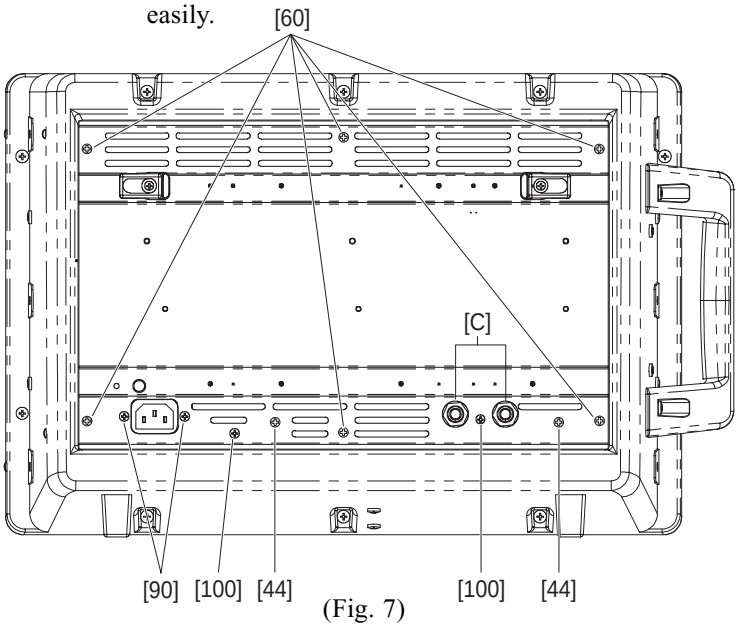
[90]: Bind Head Screw 3.0X8 MFZN2BL (VB659000)

[110]: Power Switch Knob MX12/4 (VU859000)

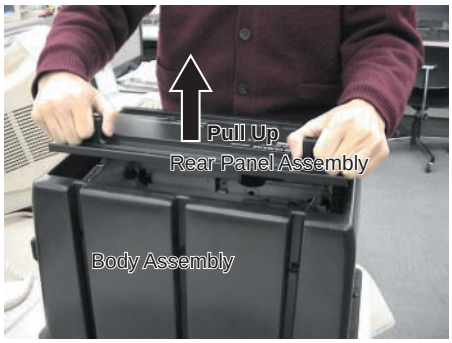
4. Rear Panel Assembly (Time required: about 5 min)

4-1. Remove the front panel assembly. (See Procedure 1)
4-2. Remove the six (6) screws marked [60] and the two (2) screws marked [44]. (Fig.7)
4-3. Hold the cord holder and pull the rear panel to the front to remove. (Fig.8)

Note: When reinstalling, install the rear panel assembly and the front panel assembly in that order to connect the power supply connector easily.



(Fig. 7)



(Fig. 8)

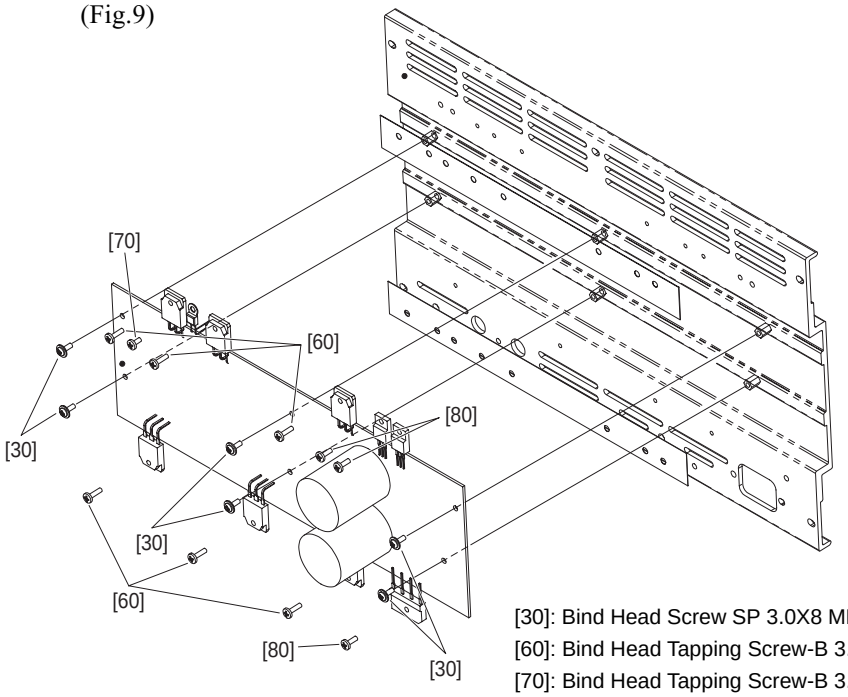
[44]: Bind Head Tapping Screw-B 4.0X8 MFZN2BL (EG340190)
[60]: Bind Head Screw 4.0X12 MFZN2BL (VB132700)
[90]: Bind Head Tapping Screw-B 3.0X12 MFZN2BL (VQ074600)
[100]: Bonding Head Tapping Screw-B 3.0X8 MFZN2BL (VN413300)

5. PWR Circuit Board 2/3
(Time required: about 7 min)

5-1. Remove the rear panel assembly. (See Procedure 4)
5-2. Remove the screw marked [100] and the two (2) hexagonal nuts marked [C]. The PWR circuit board 2/3 can then be removed. (Fig.7)

6. PWR Circuit Board 1/3
(Time required: about 9 min)

6-1. Remove the rear panel assembly. (See Procedure 4)
6-2. Remove the PWR circuit board 2/3. (See Procedure 5)
6-3. Remove the six (6) screws marked [30], the six (6) screws marked [60], the screw marked [70] and the three (3) screws marked [80].
The PWR circuit board 1/3 can then be removed. (Fig.9)

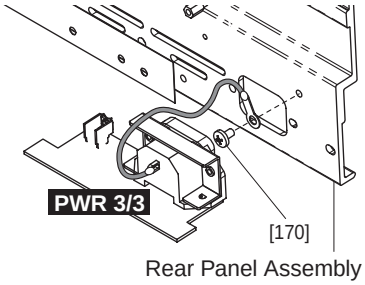


(Fig. 9)

[30]: Bind Head Screw SP 3.0X8 MFZN2Y (EG330290)
[60]: Bind Head Tapping Screw-B 3.0X10 MFZN2BL (EP600140)
[70]: Bind Head Tapping Screw-B 3.0X6 MFZN2BL (EP600230)
[80]: Bind Head Tapping Screw-B 3.0X8 MFZN2BL (EP600190)

7. PWR Circuit Board 3/3
(Time required: about 6 min)

7-1. Remove the rear panel assembly. (See Procedure 4)
7-2. Remove the two (2) screws marked [90] and the screw marked [100]. (Fig.7)
7-3. Remove the screw marked [170]. The PWR circuit board 3/3 can then be removed. (Fig.10)

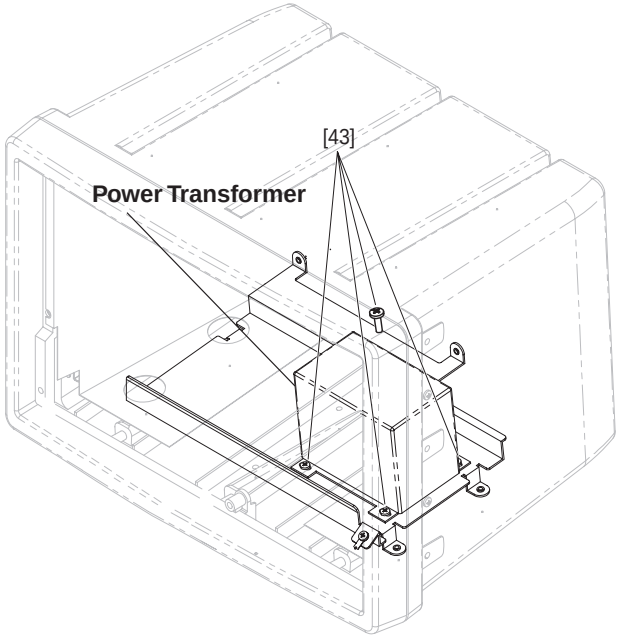


(Fig. 10)

[170]: Bind Head Screw A4.0X6 MFZN2BL (EG340290)

8. Power Transformer (Time required: about 6 min)

8-1. Remove the rear panel assembly. (See Procedure 4)
8-2. Remove the four (4) screws marked [43]. The power transformer can then be removed. (Fig.11)



(Fig. 11)

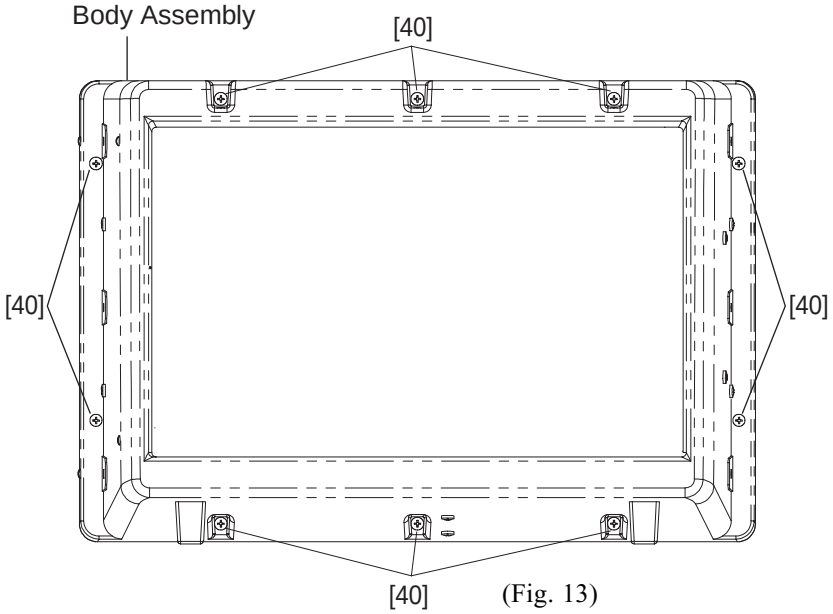
[43]: Bind Head Tapping Screw-B 4.0X8 MFZN2BL (EG340190)

9. Front Frame (Time required: about 6 min)

9-1. Remove the front panel assembly. (See Procedure 1)
9-2. Remove the four (4) screws marked [50] to remove the handle assembly. (Fig.12)
9-3. Remove the ten (10) screws marked [40]. The front frame can then be removed. (Fig.13)

(Fig. 12)

[50]: Bind Head Screw 4.0X16 MFZN2BL (EG340110)



(Fig. 13)

[40]: Bind Head Tapping Screw-P 4.0X30 MFZN2BL (V8322700)

LSI PIN DESCRIPTION

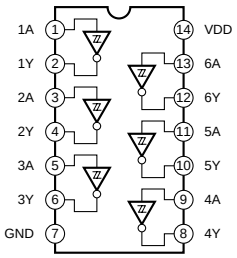
● **YSS234** (XN299A00) Digital Sound Processor

MIX62: IC507

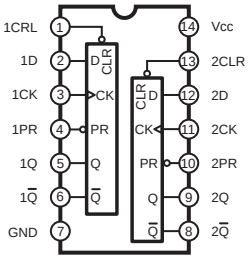
PIN NO.	NAME	I/O	FUNCTION	PIN NO.	NAME	I/O	FUNCTION
1	MD4	I/O	External RAM interface data	33	AVDD	-	DC A+5Vs bus
2	MD3	I/O		34	VDD	-	DC D+5V
3	MD0	I/O		35	TST0	-	DC D+5V
4	MD1	I/O		36	TST1	-	DC D+5V
5	MD2	I/O		37	DOEN	-	DC D+5V
6	MCKO	O	Master clock output	38	SDO1	O	N.C.
7	XO	O	Crystal oscillator connection	39	SDO0	O	N.C.
8	XI	I	Crystal oscillator connection	40	WC	O	N.C.
9	ER0	I	Eary refrection preset select	41	BCO	O	N.C
10	ER1	I		42	MA0	O	External RAM interface address
11	ER2	I		43	MA1	O	
12	REV0	I	Effect select	44	MA2	O	
13	REV1	I		45	MA3	O	
14	REV2	I		46	MA4	O	
15	MUTEN	I	DC D+5V	47	MA5	O	
16	ICN	I	Initial clear	48	MA6	O	
17	PRG	I	DC D+5V	49	MA7	O	
18	MODE	I	Preset mode (H=DC +5V)	50	MA12	O	
19	VSS	-	Ground	51	MA14	O	
20	AVSS	-	Ground	52	VSS	-	Ground
21	CVA	-	N.C.	53	MA10	O	External RAM interface address
22	AORL	O	N.C.	54	MA011	O	
23	AORR	O	N.C.	55	MA09	O	
24	CHL	I	Sample hold capacitor connection	56	MA8	O	
25	AIL	I	Lch ADC input	57	MA13	O	
26	VDD	-	DC D+5V	58	VDD	-	DC D+5V
27	AIR	I	Rch ADC input	59	WEN	I	Write enable
28	CHR	I	Sample hold capacitor connection	60	OEN	I	Output enable
29	AOFL	O	Lch DAC output	61	CEN	I	Chip select
30	AOFR	O	Rch DAC output	62	MD7	I/O	External RAM interface data
31	AVDD	-	DC A+5V	63	MD6	I/O	
32	CVB	I	Rch midpoint voltage	64	MD5	I/O	

■ IC BLOCK DIAGRAM

● **74HC14DT** (X2166A00)
Hex Inverter
MIX62: IC504

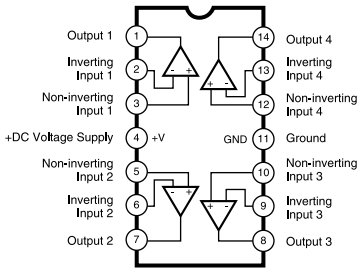


● **74HC74DT** (X2167A00)
Dual D-Type Flip-Flop
MIX62: IC505

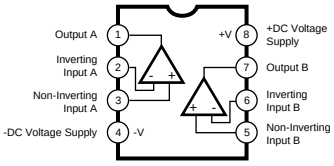


INPUTS				OUTPUTS	
PR	CLR	CLK	D	Q	Q
L	H	X	X	H	L
H	L	X	X	L	H
L	L	X	X	H	H
H	H	↑	H	H	L
H	H	↑	L	L	H
H	H	L	X	Q_0	$\overline{Q}_0$

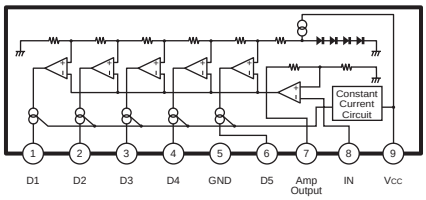
● **NJM2060M (TE2) OP** (XM560A00)
Quad Operational Amplifier
MIX62: IC408, IC409



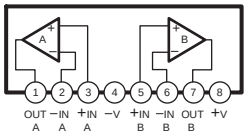
● **NJM2068MD-T1** (XJ553A00)
● **NJM4558MT-1** (IG103520)
● **TL072CPSR** (XV423A00)
Dual Operational Amplifier
MIX62: IC101, IC102, IC201, IC202
IC301, IC302, IC303, IC401
IC402, IC403, IC404, IC407
IC501, IC502, IC503



● **LB1423N** (XZ348A00)
LED Driver
MIX62: IC406



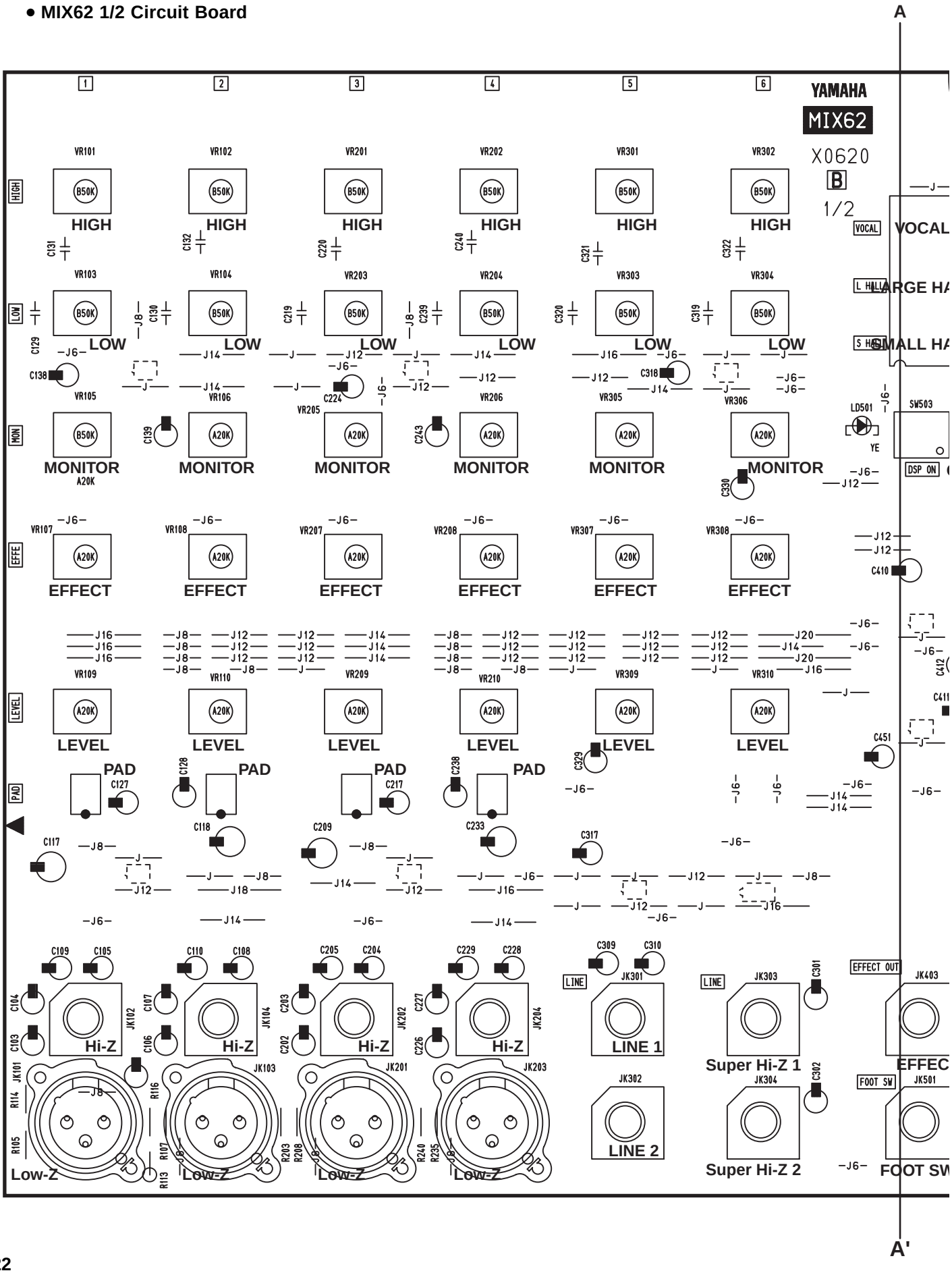
● **NJM4558L-D**(XQ212A00)
OP AMP
PWR 1/3: IC101

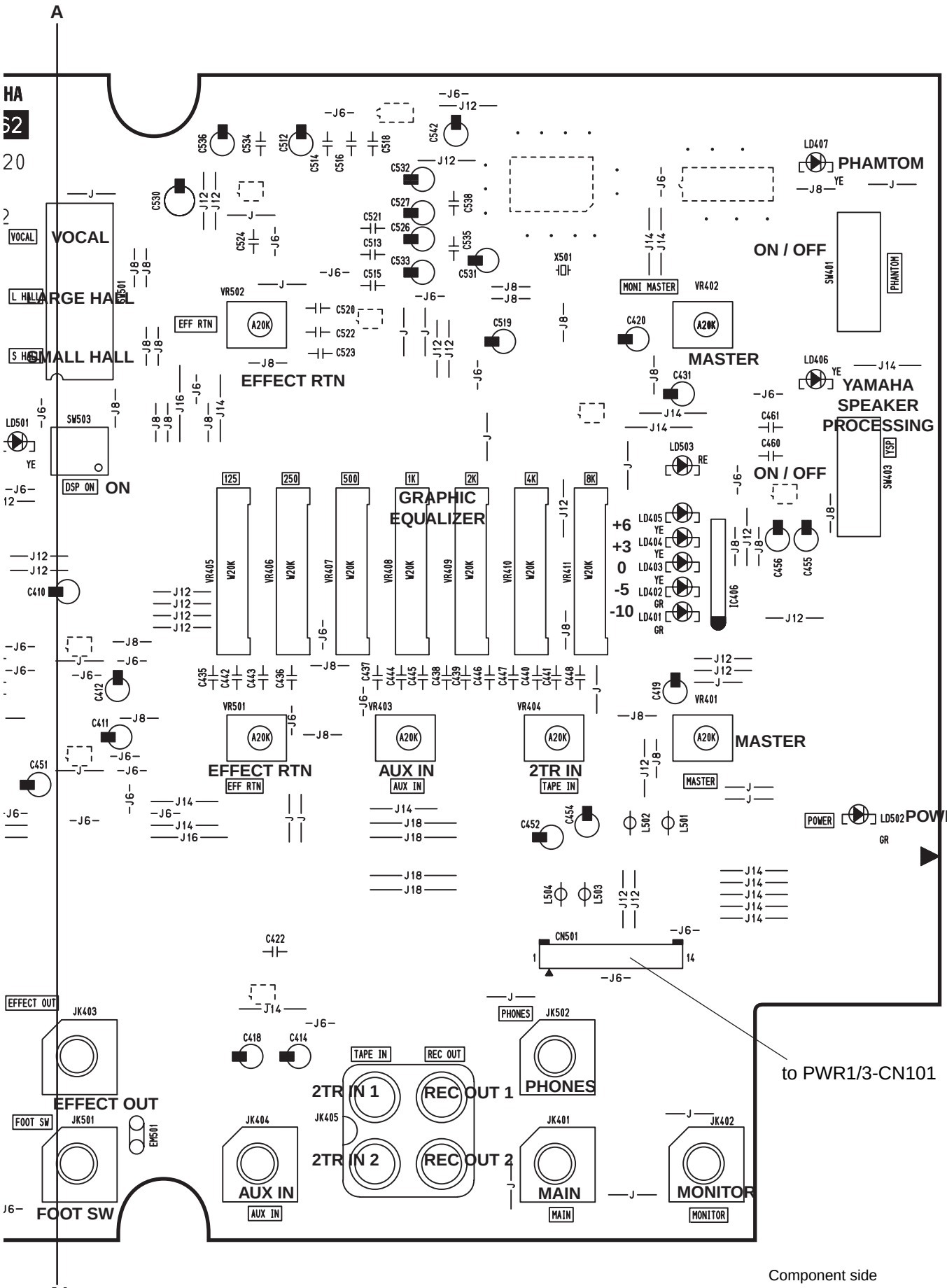


CIRCUIT BOARDS

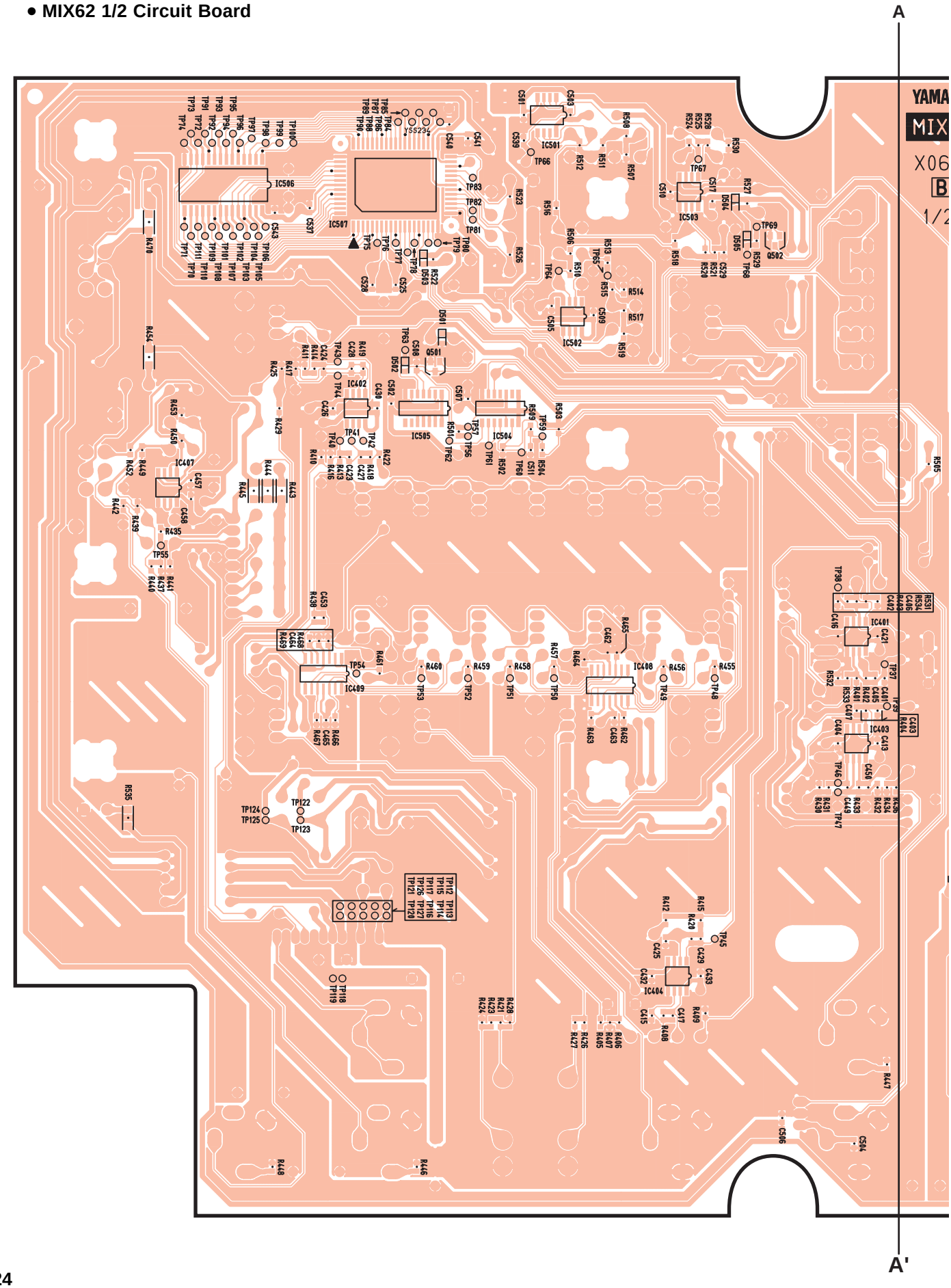
CONTENTS

- **MIX62 1/2 Circuit Board**

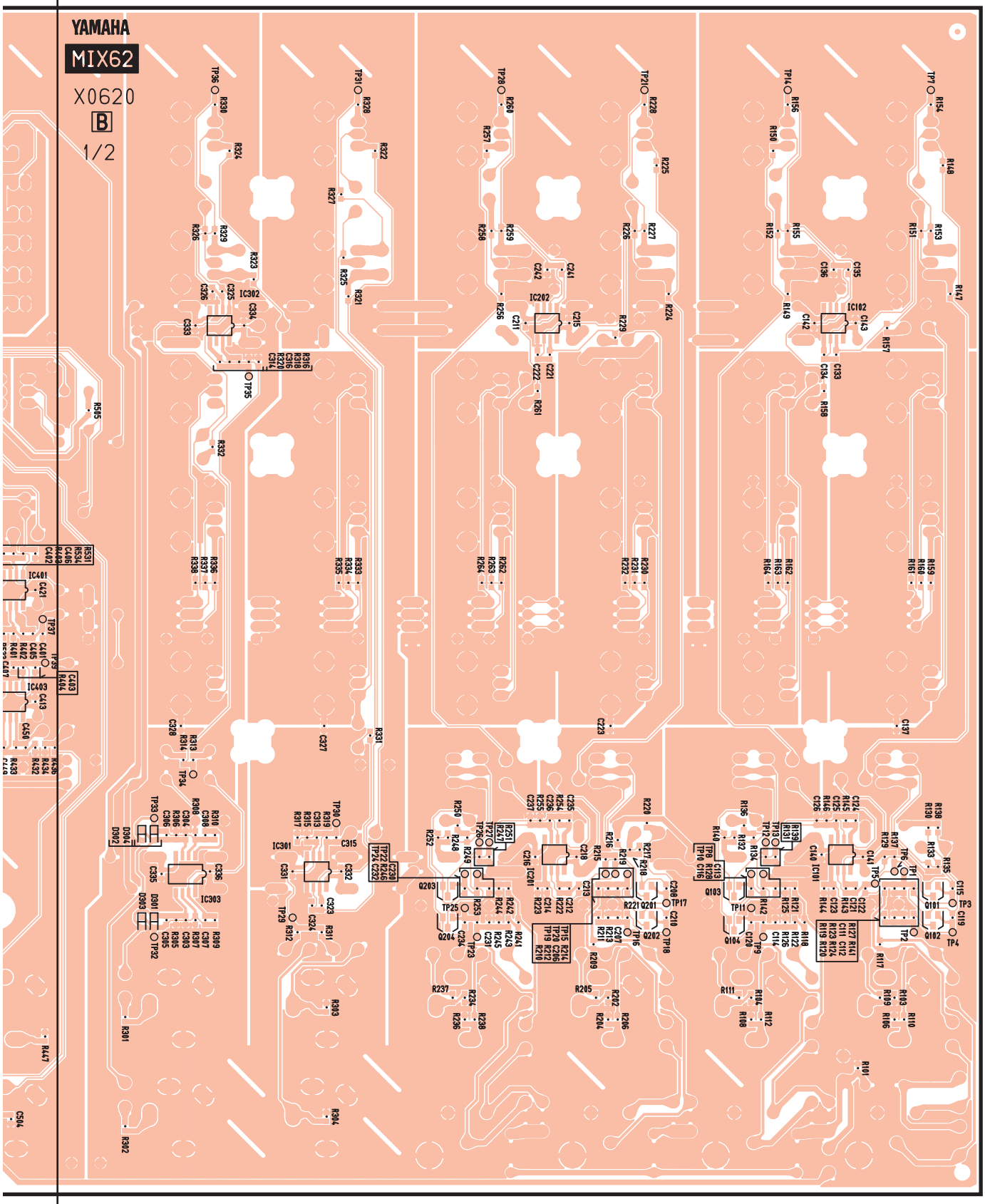



A
A'
VOCAL
LARGE HALL
SMALL HALL
EFFECT RTN
ON
GRAPHIC EQUALIZER
125
250
500
1K
2K
4K
8K
+6
+3
0
-5
-10
PHAMTOM
ON / OFF
MASTER
YAMAHA SPEAKER PROCESSING
ON / OFF
EFFECT RTN
AUX IN
2TR IN
MASTER
POWER
EFFECT OUT
FOOT SW
AUX IN
2TR IN 1
2TR IN 2
REC OUT 1
REC OUT 2
PHONES
MAIN
MONITOR
to PWR1/3-CN101
Component side

- **MIX62 1/2 Circuit Board**



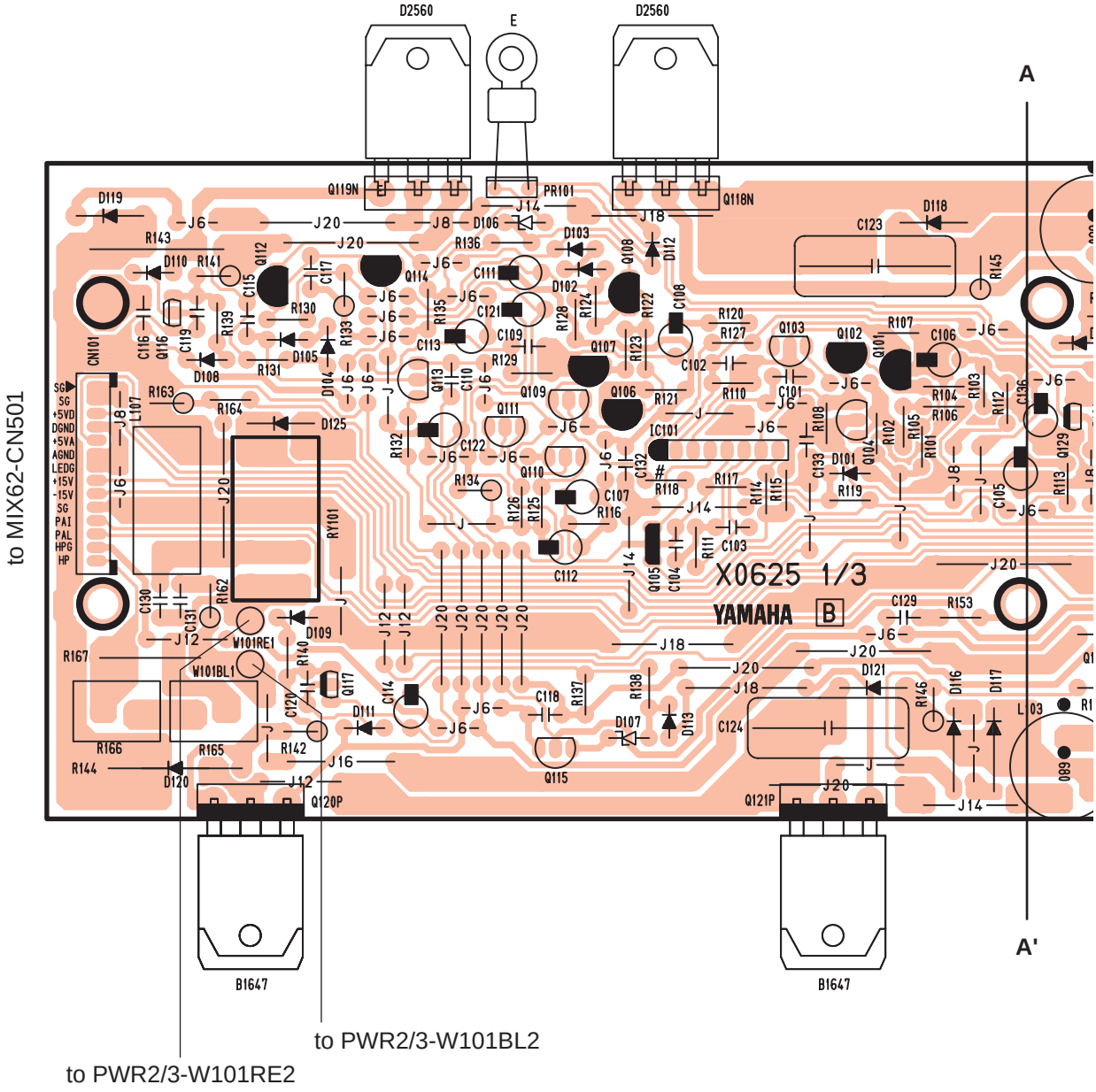
A

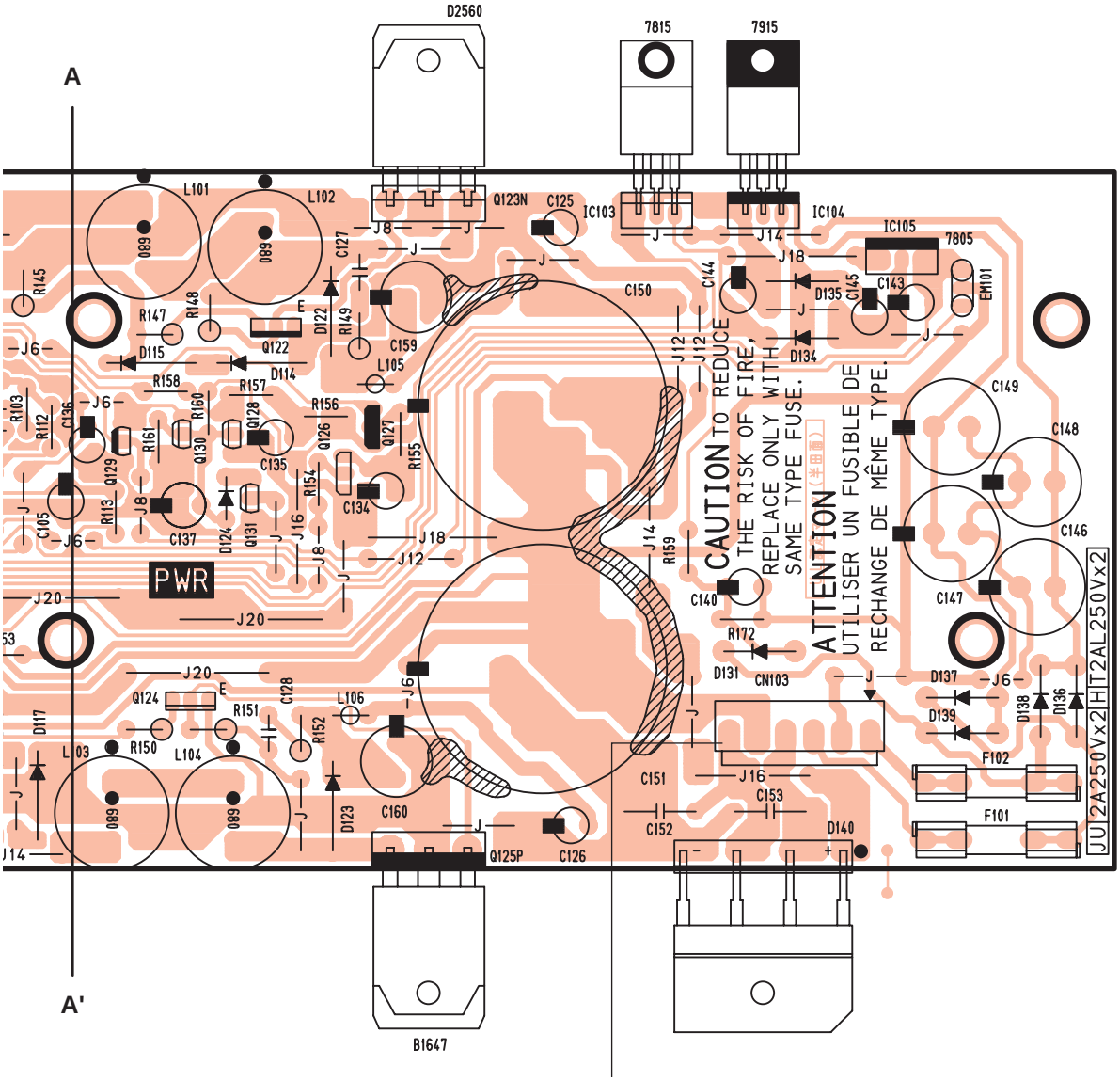


A'

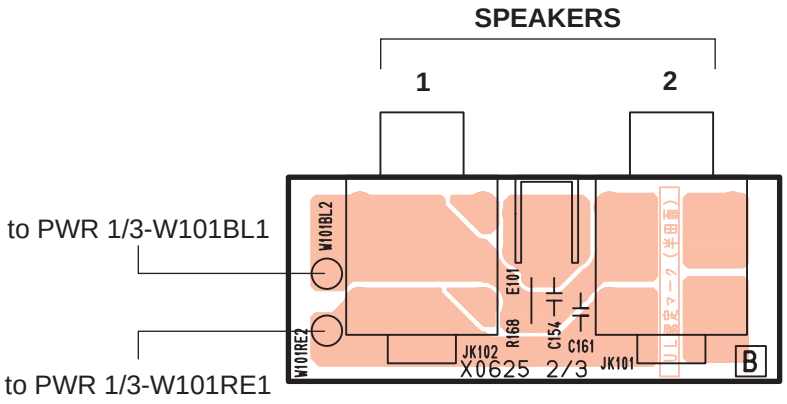
Pattern side

- **PWR 1/3 Circuit Board**

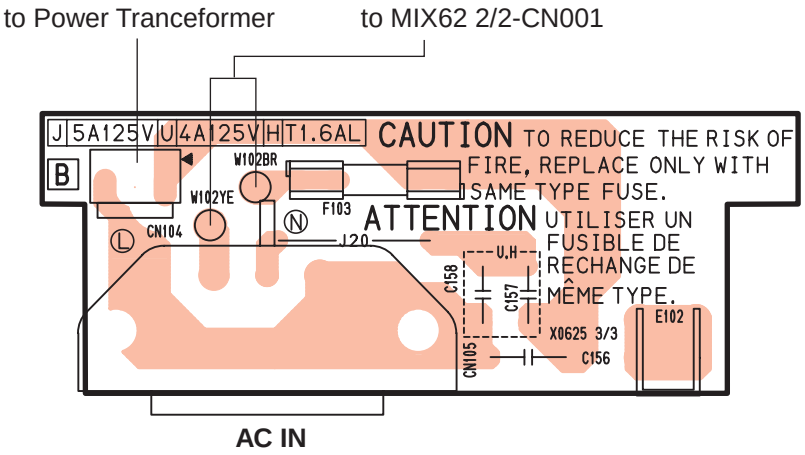



A
A'
D2560
7815
7915
IC103
IC104
IC105
7805
Q123N
Q125P
B1647
PWR
CAUTION TO REDUCE THE RISK OF FIRE, REPLACE ONLY WITH SAME TYPE FUSE.
ATTENTION UTILISER UN FUSIBLE DE RECHANGE DE MÊME TYPE.
JU 2A 250V x2 HT 2AL 250V x2
CN103
F101
F102
to Power Transformer

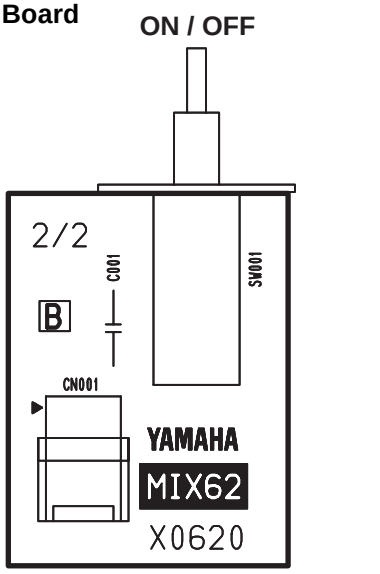
- **PWR 2/3 Circuit Board**



- **PWR 3/3 Circuit Board**

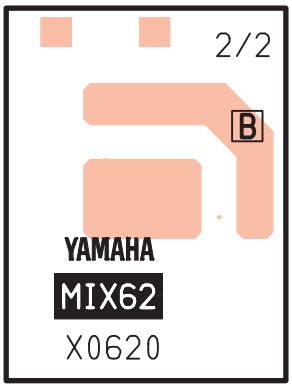


- **MIX62 2/2 Circuit Board**



to PWR 3/3
1Pin-W102YE
2Pin-Non Connect
3Pin-W102BR

Component side



Pattern side

PWR 2/3: 3NA-V826840 ⚠1
PWR 3/3: 3NA-V826840 ⚠1
PMIX62 2/2: 3NA-V826700 ⚠1

INSPECTIONS

0. PREPARATION

(1) Mesuring instruments

- Oscillator (Ballance output type, Output impedance 150Ω)
- Oscilloscope (Input impedance 100kΩ)
- Level meter (Input impedance 100kΩ)
- Distortion Meter

(2) Notes for mesuring

- Noise level must be mesured by using DIN AUDIO FILTER.
- 0dB is equal to 0.775V.

1. Power Indicator Check

Confirm that the power indicator LED lights up while the power is ON.

2. Mixer Check

2.1 Preparation

- Except otherwise indicated, input signal should be 1kHz sine curve and output impedance of signal source should be 150Ω.
- Connect the load of 10kΩ to MAIN OUT, MONITOR OUT, EFFECT OUT and REC OUT terminal and connect the load of 40Ω to PHONES OUT.
- Set each control as follows.

CH INPUT 1-4

EQ (HIGH, LOW) level control:	CENTER
MONITOR level control:	MAX
EFFECT level control:	MAX
LEVEL control:	MAX
PAD switch:	OFF

CH INPUT 5-6

EQ (HIGH, LOW) level control:	CENTER
MONITOR level control:	MAX
EFFECT level control:	MAX
LEVEL control:	MAX

EFFECT

DIGITAL EFFECT ON switch:	OFF

MAIN

GRAPHIC EQUALIZER (7 band) fader:	CENTER
EFFECT RTN level control:	MAX
AUX IN level control:	MAX
2TR IN level control:	MAX
MASTER (MAIN) level control:	MAX

MONITOR

EFFECT RTN level control:	MAX
MASTER (MAIN) level control:	MAX

PHANTOM switch:	OFF
YAMAHA SPEAKER PROCESSING switch:	OFF

2.2 Gain Check

On condition of 2.1, confirm that the output level of each terminal meets the table 2.2-1.

Table 2.2-1 [unit: dBs]

INPUT	INPUT LEVEL	MAIN OUT	MONITOR OUT	EFFECT OUT	REC OUT	PHONES OUT
Low-Z	-62	+4±2	+4±2	+4±2	-13.8±2	+3.4±2
	-32 (PAD ON)					
Hi-Z	-52	+4±2	-	-	-	-
LINE	-22	+4±2	-	-	-	-
Super Hi-Z	-42	+4±2	-	-	-	-
AUX	-22	+4±2	-	-	-	-
2TR	-22	+4±2	-	-	-	-

2.3 Frequency Characteristic Check

At each terminal of the Table 2.2-1, confirm that the output level for 20Hz, 20kHz signal are within +1, -3dB from the level for 1kHz signal.

2.4 EQ Response Characteristic Check

On condition of 2.1, set the LOW, HIGH controls according to the table 2.4-1, and mesure the output level of MAIN OUT and MONITOR OUT.

Then confirm that output level variations from center click position meet the table 2.4-1.

When output level does not meet the table, change the input frequency until the output level meets the table.

If the frequency variation is within ±20% of the rated value, the rusult can be regarded as OK.

Table 2.4-1 [unit: dB]

EQ	VR Setting	INPUT FREQUENCY	RANGE OF VARIATION
HIGH	MAX	10kHz	+12±2
	MIN		-12±2
LOW	MAX	100Hz	+12±2
	MIN		-12±2

2.5 GEQ Response Characteristic Check

On condition of 2.1, set the GEQ faders to MIN or MAX, and mesure the output levels of MAIN OUT and MONITOR OUT.

Then confirm that output level variations from center click position meet the table 2.5-1.

When the output level does not meet the table, change the input frequency until the output level meets the table.

If the frequency variation is within ±20% from the rated value, the result can be regarded as OK.

Table 2.5-1 [unit: dB]

		125	250	500	1k	2k	4k	8k
INPUT FREQUENCY		125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz
Variations	(for fader MAX)	+12±2						
	(for fader MIN)	-12±2						

2.6 LED Meter Check

When the output level of MAIN OUT and MONITOR OUT meets the Table 2.6-1, confirm that the corresponding LED meter starts to light up.

Table 2.6-1 [unit: dBs]

LED	+6	+3	0	-5	-10
OUTPUT LEVEL	+10±2	+7±2	+4±2	-1±2	-6±2.5

2.7 Distortion Rate Check

On condition of 2.1, set the INPUT and MASTER volume for each terminal to nominal position.
Then, confirm that the distortion rate is within 0.3% when the output level is +14dBs. (except REC OUT and PHONES OUT)

2.8 Maximum Output Level Check

At MAIN OUT, MONITOR OUT, EFFECT OUT terminals on condition of 2.7, confirm that the output level of +20dBs can be gained with the distortion rate less than 1%.

2.9 EIN Check

Note: This mesurement should be performed by using DIN AUDIO FILTER.

On condition of 2.1, set the LEVEL control for mesuring channel to maximum and set the LEVEL control for other channels to minimum.
Connect the 150Ω load between the Low-Z and the MIC of input channel, and confirm that the noise level of MAIN OUT is less than -58dB.
However, less than -56dB as for CH6.
If noise level is more than the rated value, find the noise level converted from the input level for each channel.
Then confirm that the noise level is less than -124dB as for CH1-5, and less than -122dB as for CH6.

2.10 Remaining Noise Check

On condition of 2.1, set the LEVEL control of all input channels to minimum.
Set the MASTER control of MAIN and MONITOR to maximum or minimum, and mesure the noise level of MAIN OUT, MONITOR OUT, and EFFECT OUT.
Then, confirm that the noise levels are less than the values shown in the table 2.10-1.

Table 2.10-1 [unit: dBs]

MASTER VR	MAIN OUTPUT(L,R)	MONITOR OUTPUT	EFFECT OUT
MAX	-71	-71	-73
MIN	-88	-88	-

2.11 PHANTOM Check

Connect the 2.7kΩ load between the pin1 and pin2 of Low-Z or MIC, and short-circuit the pin2 and pin3 of them.
Then, confirm that the load voltage is 10±1.5V when the PHANTOM switch is ON.

2.12 DIGITAL EFFECT Check

- Confirm that the ON LED lights up when DIGITAL EFFECT switch is ON, and that the LED goes out when the switch is OFF.
- Apply the music source (vocal etc), and confirm the effect aurally.
- Turn on the DIGITAL EFFECT ON switch, and confirm that sound effect can be switched on or off by using a foot switch.

2.13 Stability Check

Note: This mesurement should be performed with a load resistance connected to power amplifier output. (See 3.1)

- At each input terminal, connect 10pF~0.1μF capacitor in parallel to the load resistance, and confirm that the system works normally without oscillation etc.
- Set all VR and EQ faders to maximum, and confirm that the system works normally. (Especially, does not oscillate when the EQ HIGH is set to maximum)

3. Power Amplifier Check

3.1 Preparation

- INPUT terminal: CH 5 LINE 1
- OUTPUT terminal: SPEAKERS 1
- Load Resistance: 4Ω (more than 200W)
  Except otherwise indicated, the load resistance should be connected only for the power amplifier check.
- Set the LEVEL control of CH1-4, 6 to minimum.
- Except the above, same as the setting of 2.1.

3.2 Power ON Mute Check

Turn on the power and confirm that the mute system is released and the relay is switched on after 2.5±1 seconds.

3.3 Output Terminal D.C. Voltage Check

Ground input terminal and confirm that the D.C. voltage of output terminal is 0±100mV.

3.4 Gain Check

- Apply -26dBs signal into the input terminal and confirm that the output level of 20.0±2.0dBs can be gained.
- Confirm that the same output level can be gained at SPEAKERS 2 output.

3.5 Frequency Response Check

- YAMAHA SPEAKERS PROCESSING Switch OFF
  Apply -26dBs signal into input terminal, and confirm that the output level for 20Hz, 20kHz signal are within +1, -3dB from the level for 1kHz signal.

- YAMAHA SPEAKERS PROCESSING Switch ON
  Apply 70Hz / -26dB signal into input terminal, and confirm that the output level is within 6.5±2dB from the level for 1kHz input with YAMAHA SPEAKERS PROCESSING switch OFF.
  Besides, confirm that the LED lights up when YAMAHA SPEAKERS PROCESSING switch is ON and that LED goes out when the switch is OFF.

3.6 Harmonic Distortion Rate Check

Note: This mesurement should be finished in 30 seconds.

- Apply 1kHz signal into input terminal, and confirm that output level of 200W/4Ω (31.2dBs) can be gained with harmonic distortion rate less than 0.5%.
- Apply 20Hz, 1kHz and 20kHz signal into input terminal, and confirm that output level of 100W/4Ω (28.2dBs) can be gained with harmonic distortion rate less than 0.5%.

3.7 Remaining Noise Check

Set the MASTER (MAIN) to minimum, and confirm that the noise level of output terminal is less than -68dBs.

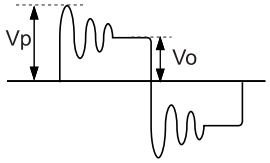
Note: Take care not to be affected by inductive noise.
This mesurement should be performed by using DIN AUDIO FILTER.

3.8 Stability Check

(1) Connect 10pF~0.47μF capacitor in parallel to the 4Ω load resistance and apply rectangle signal of 10kHz/-26dBs.
Then, confirm that overshoot and ringing are as follows.
Overshoot: Vp/Vo ≦ 1.8
Ringing: within 5 waves

(2) Connect 10μH~0.47H inductor in series to the 4Ω load resistance and apply rectangle signal of 10kHz/-26dBs.
Then, confirm that overshoot and ringing meet the same condition as (1).

(3) Remove the 4Ω load resistance and connect only 10pF~0.47μF capacitor as load, and apply rectangle signal of 10kHz/-26dBs.
Then confirm that the system does not oscillate.
Besides, confirm that overshoot and ringing are as follows.
Overshoot: Vp/Vo≦ 2.5
Ringing: within 7 waves



3.9 Protection Circuit Check

- Apply 10Hz signal until output level is saturated, and confirm that the protection circuit works and the relay does not open.
- Apply 1Hz, Vp-p = 6V(8.7dBs) signal, and confirm that the protection circuit starts to work in 2 seconds to cut off the signal.
- Stop applying the input signal, and confirm that the system automatically resumes in 5 seconds.

3.10 PC LIMITER Circuit and LIMITER Circuit Check

Connect 1Ω(±5%, 100W) load and apply -20dBs signal into input terminal.
Mesure the output level and confirm that Vp-p ≦ 20V and the waveform is not a rectangle.

3.11 LIMITER Indicator Check

Apply 1kHz/-10.8dBs signal, and confirm that LIMITER indicator lights up.

3.12 Efficiency Check

Adjust the input level so that the output level of SPEAKER becomes 10V (22.2dBs).
Then confirm that the primary power is 100±20W.

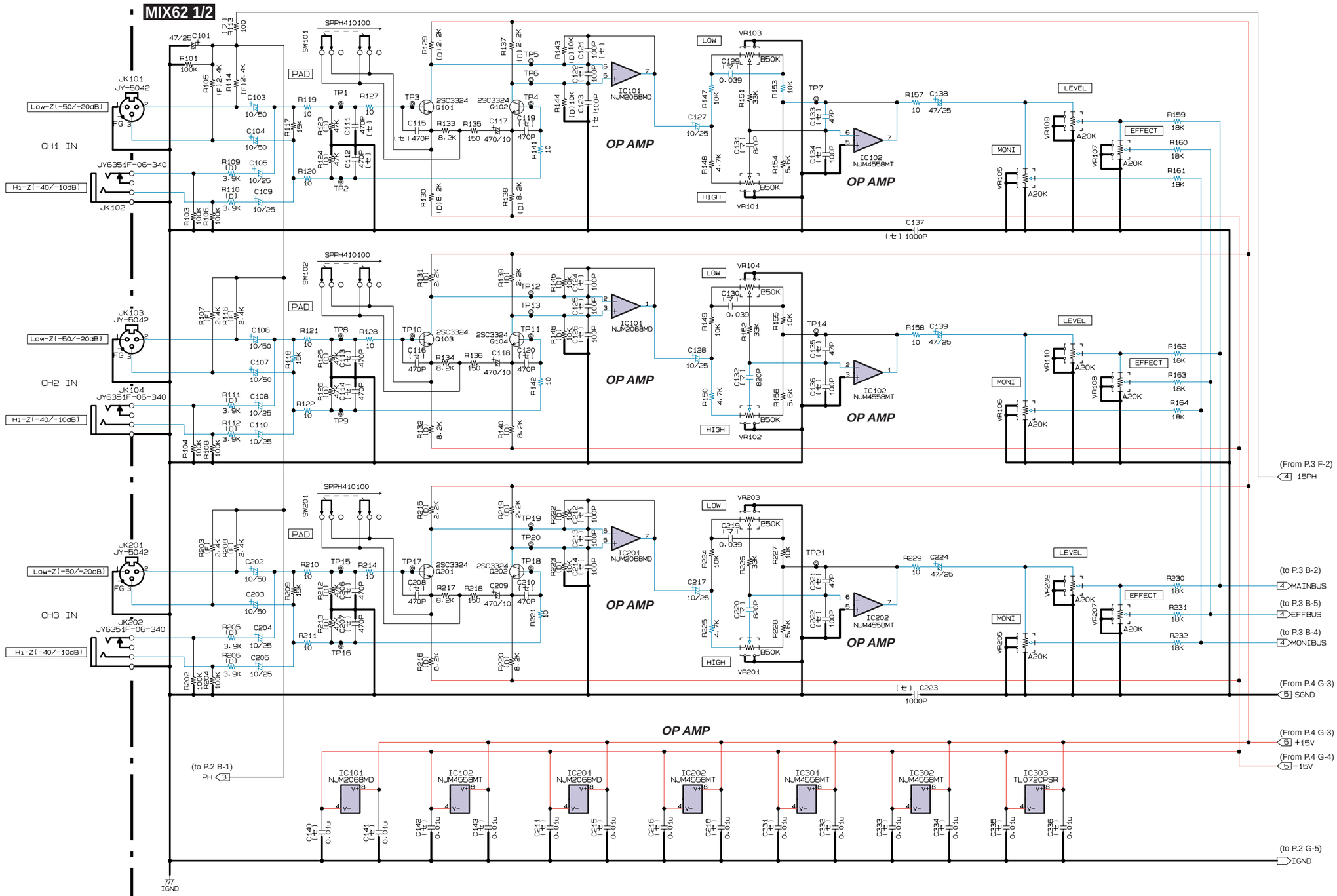
4. Miscellaneous

4.1 Power Supply Voltage Variation

Change the voltage of power supply in the range of ±10%, and confirm that the system works normally.

EMX62M

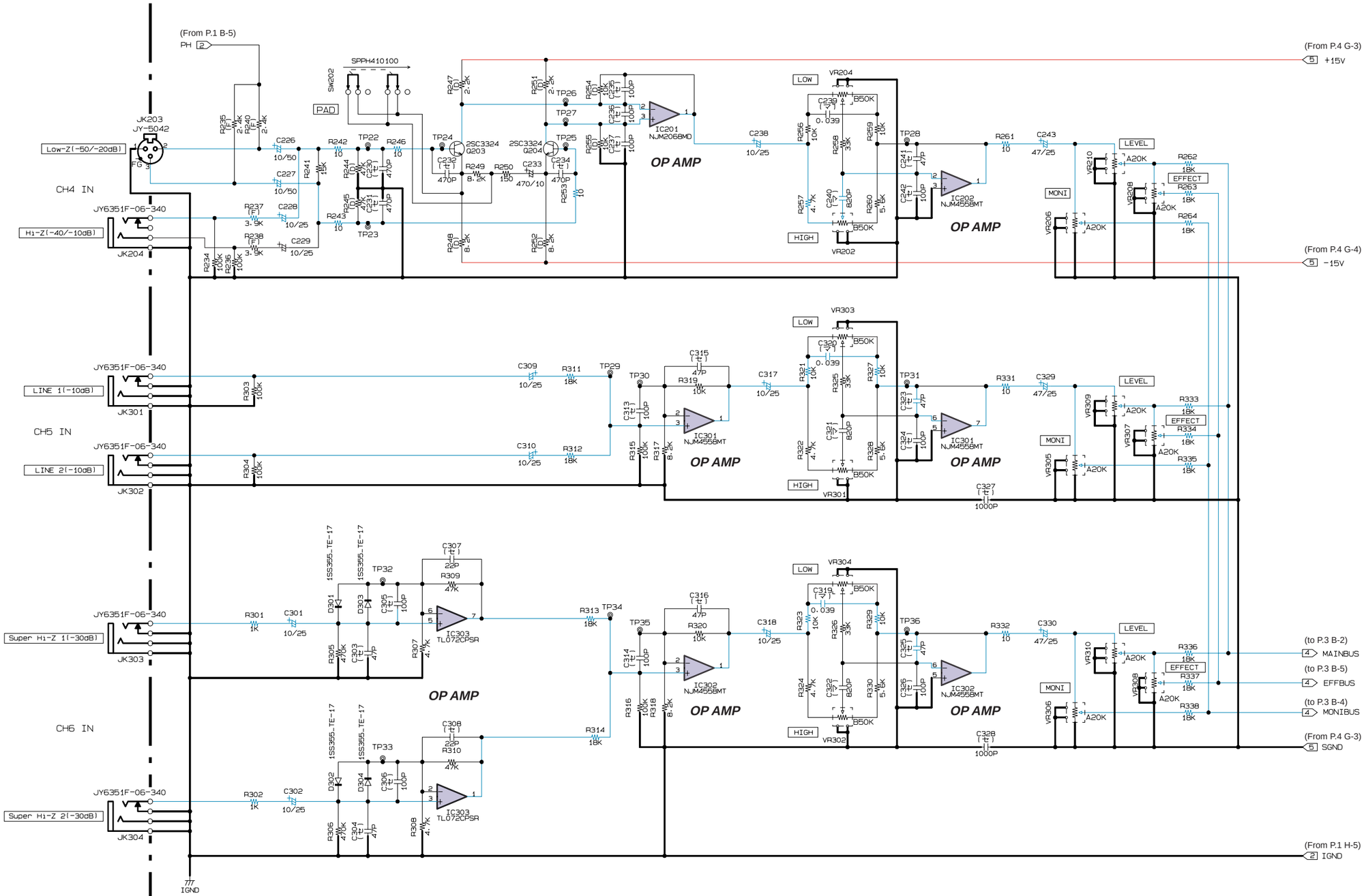
EMX62M OVERALL CIRCUIT DIAGRAM 1/5 (MIX62 1/2 (1/4))



（フ）：Flame Proof Carbon Resistor（不燃化カーボン抵抗）
（マ）：Mylar Capacitor（マイラーコンデンサー）
（セ）：Ceramic Capacitor（セラミックコンデンサー）

38CC1-8822116-2 1

■ EMX62M CIRCUIT DIAGRAM 2/5 (MIX62 1/2 (2/4))

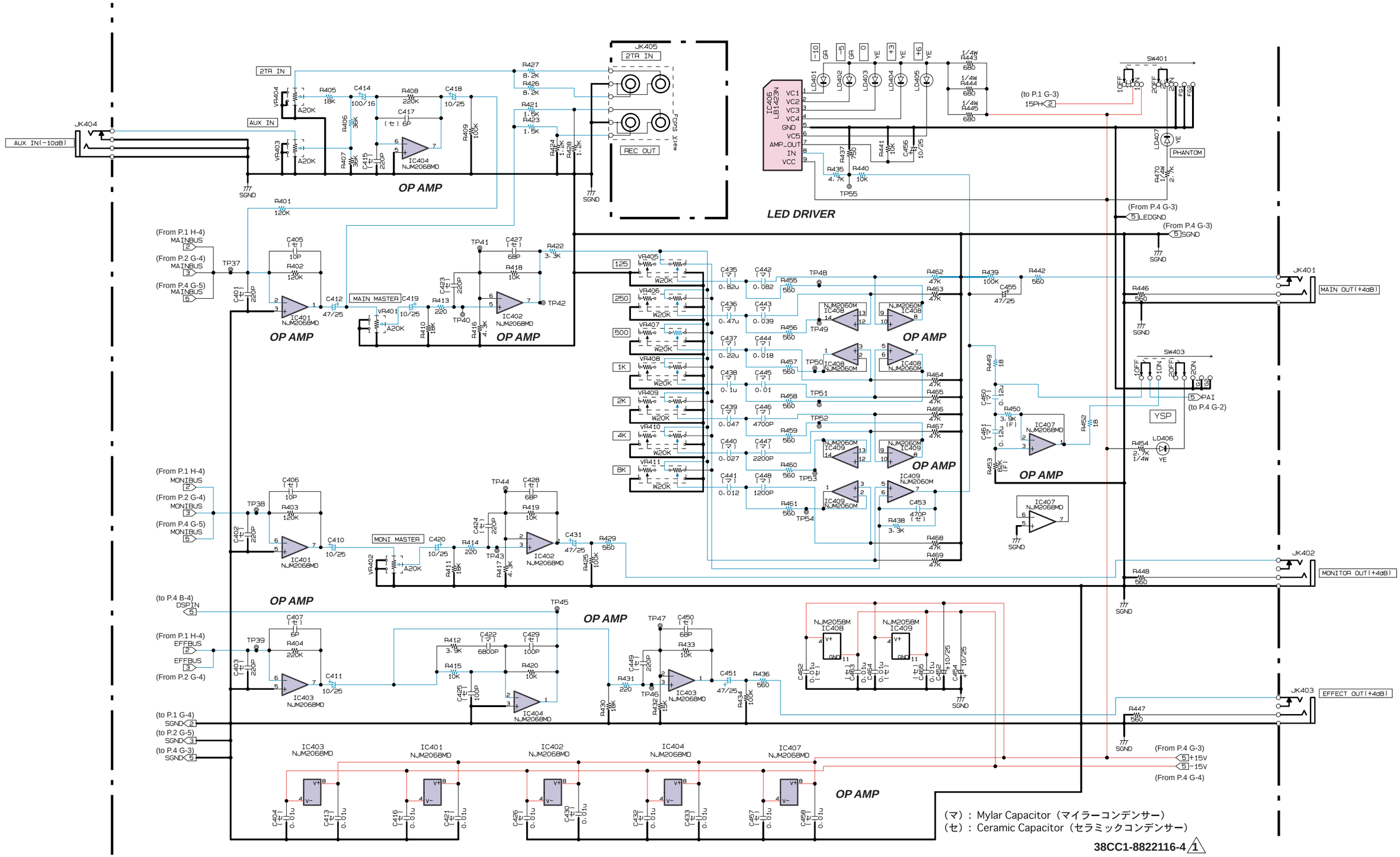


（マ）：Mylar Capacitor（マイラーコンデンサー）
（セ）：Ceramic Capacitor（セラミックコンデンサー）

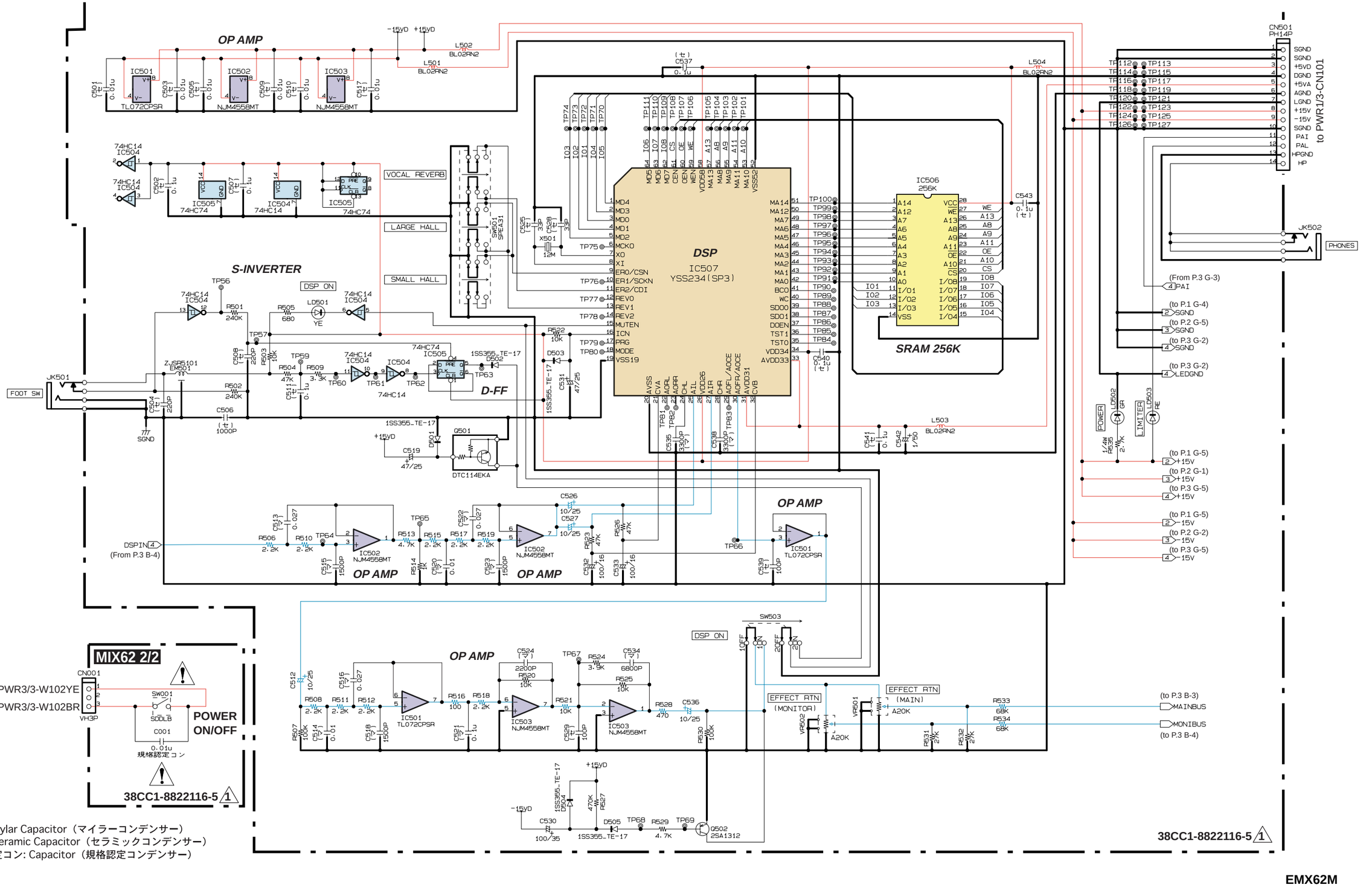
38CC1-8822116-3 1

EMX62M

EMX62M CIRCUIT DIAGRAM 3/5 (MIX62 1/2 (3/4))



■ EMX62M CIRCUIT DIAGRAM 4/5 (MIX62 1/2 (4/4))



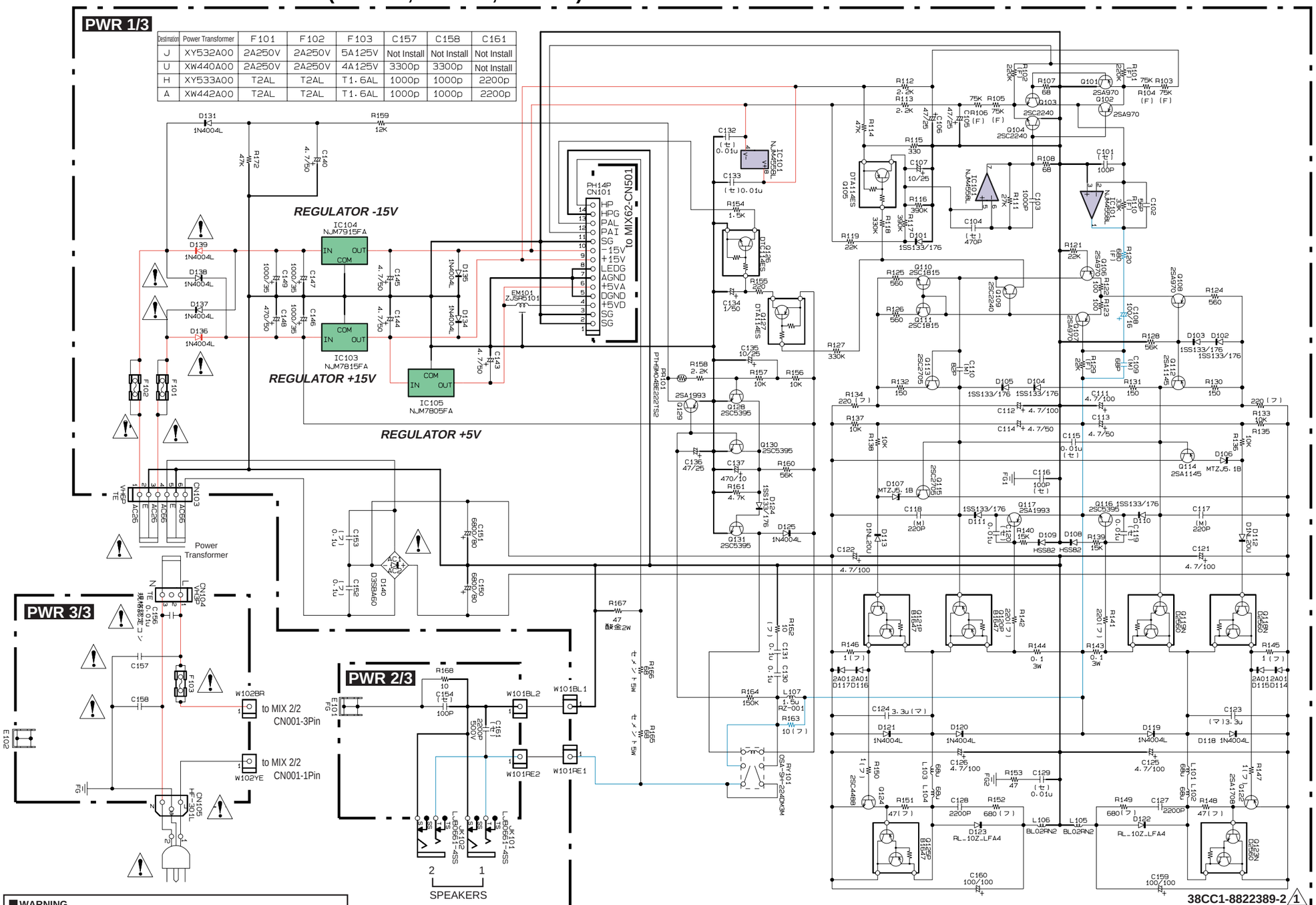
（マ）: Mylar Capacitor（マイラーコンデンサー）
（セ）: Ceramic Capacitor（セラミックコンデンサー）
規格認定コン: Capacitor（規格認定コンデンサー）

EMX62M

■ EMX62M CIRCUIT DIAGRAM 5/5 (PWR1/3, PWR2/3, PWR3/3)

PWR 1/3

Destination	Power Transformer	F101	F102	F103	C157	C158	C161
J	XY532A00	2A250V	2A250V	5A125V	Not Install	Not Install	Not Install
U	XW440A00	2A250V	2A250V	4A125V	3300p	3300p	Not Install
H	XY533A00	T2AL	T2AL	T1.6AL	1000p	1000p	2200p
A	XW442A00	T2AL	T2AL	T1.6AL	1000p	1000p	2200p



■ **WARNING**
Components having special characteristics are maked ⚠ and must be replaced with parts having specification equal to those originally installed.

・Resistor（抵抗）
（フ）: Flame Proof Carbon Resistor（不燃化カーボン抵抗）
（セメント）: Wire Wound Resistor（セメント抵抗）
酸金: Metal Oxide Film Resistor（酸化金属被膜抵抗）

・Capacitor（コンデンサー）
（マ）: Mylar Capacitor（マイラーコンデンサー）
（セ）: Ceramic Capacitor（セラミックコンデンサー）
規格認定コン: Capacitor（規格認定コンデンサー）
（フ）: Polyester Film Capasitor（フィルムコンデンサー）

PWR3/3: 38CC1-8822389-2 1
PWR2/3: 38CC1-8822389-2 1

Note: See parts list for details of circuit board component parts.

- **NJM7815FA** (XD853A00) REGULATOR +15V — PWR1/3: IC103 — 1: OUTPUT 2: COMMON 3: INPUT
- **NJM7915FA** (XD854A00) REGULATOR -15V — PWR1/3: IC104 — 1: OUTPUT 2: INPUT 3: COMMON
- **NJM7805FA** (XJ607A00) REGULATOR +5V — PWR1/3: IC105 — 1: OUTPUT 2: COMMON 3: INPUT
- **D3SBA60** (V8151400) DIODE STACK 4.0A 600V — PWR1/3: D140
- **1SS133, 1SS176, HSS104** (VD631600) DIODE — PWR1/3: D101-105,110,111,124 — 1: ANODE 2: CATHODE
- **MTZ J 5.1B 5.1V** (VG437400) ZENER DIODE — PWR1/3: D106, 107 — 1: ANODE 2: CATHODE
- **1N4004L** (VU801600) DIODE — PWR1/3: D118-121,D125-139 — 1: ANODE 2: CATHODE

EMX 62M
POWERED MIXER

PARTS LIST

RACK MOUNT KIT
RK-88

■ **CONTENTS**

Note) DESTINATION ABBREVIATIONS

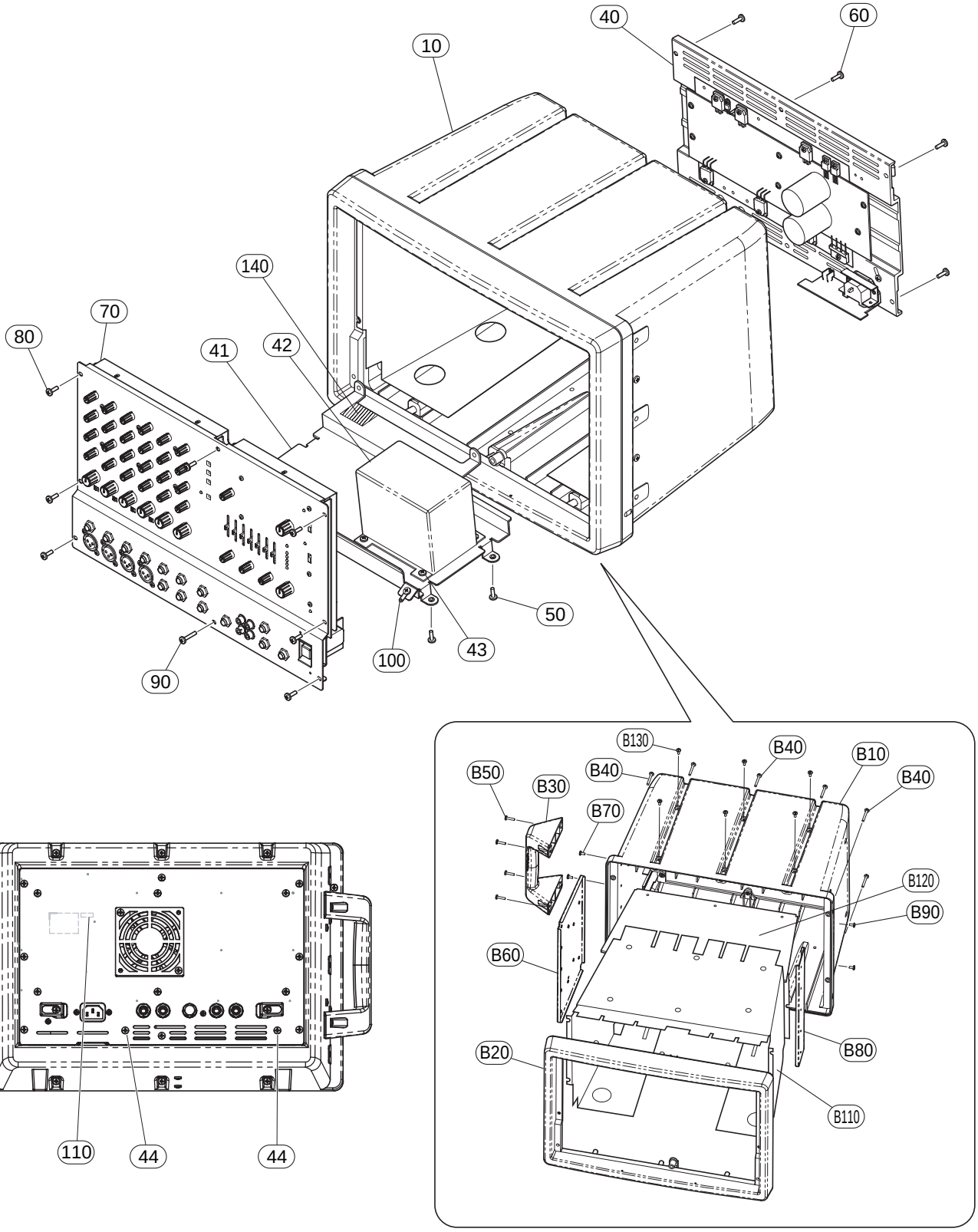
A:	Australian model	M:	South African model
B:	British model	O:	Chinese model
C:	Canadian model	Q:	South-east Asia model
D:	German model	T:	Taiwan model
E:	European model	U:	U.S.A. model
F:	French model	V:	General export model (110V)
H:	North European model	W:	General export model (220V)
I:	Indonesian model	N,X:	General export model
J:	Japanese model	Y:	Export model

■ **WARNING**

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

- The numbers in " QTY " show quantities for each unit.
- The parts with " - - " in " PART NO. " are not available as spare parts.
- The mark " } " in the remarks column indicates that these parts are interchangeable.
- The second letter of the shaded ( ) part number is O, not zero.
- The second letter of the shaded ( ) part number is I, not one.

■ OVERALL ASSEMBLY

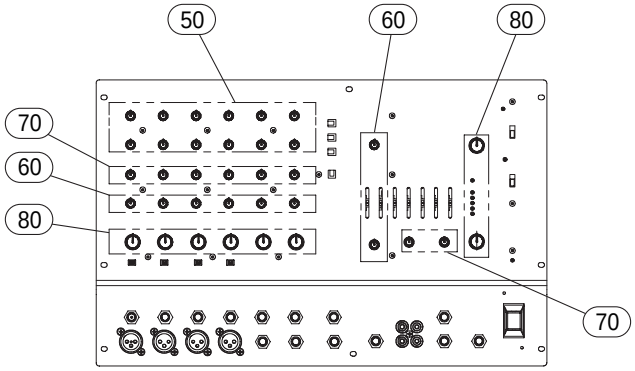


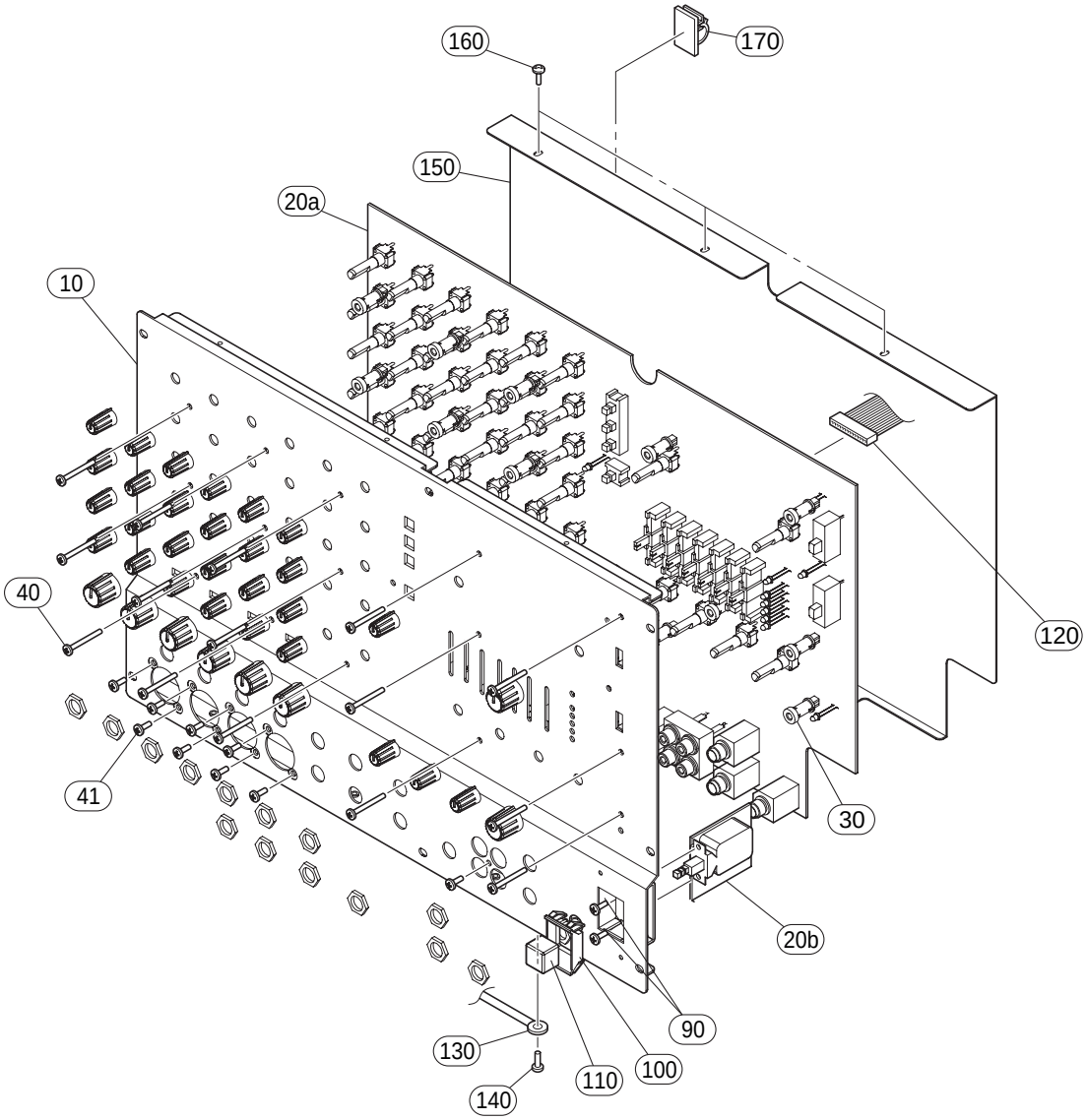
	REF NO.	PART NO.	DESCRIPTION			REMARKS	QTY	RANK
			OVERALL ASSEMBLY					
		--	Overall Assembly	J		J (V833030)		
		--	Overall Assembly	U		U,V (V833040)		
		--	Overall Assembly	H		H,B,W (V833050)		
		--	Overall Assembly	A		A (V833060)		
	10	--	Body Assembly	J COM		(V832150)		
	40	--	Rear Panel Assembly	J		J (V833130)		
	40	--	Rear Panel Assembly	U		U (V833140)		
	40	--	Rear Panel Assembly	H		H (V833150)		
	40	--	Rear Panel Assembly	A		A (V833160)		
*	41	V8150100	Holder, Transformer	FORTE B62				
⚠	42	XW440A00	Power Transformer	UL CSA		U,V		15
⚠	42	XW442A00	Power Transformer	AS		A		15
⚠	42	XY532A00	Power Transformer	A		J		15
⚠	42	XY533A00	Power Transformer	CE		H,B,W		15
	43	EG340190	Bind Head Tapping Screw-B	4.0X8 MFZN2BL			4	01
	44	EG340190	Bind Head Tapping Screw-B	4.0X8 MFZN2BL			2	01
	50	VR138400	Bind Head Tapping Screw-B	4.0X12 MFZN2BL			6	01
	60	VB132700	Bind Head Screw	4.0X12 MFZN2BL			6	01
	70	--	Front Panel Assembly	J COM		(V833170)		
	80	VB132700	Bind Head Screw	4.0X12 MFZN2BL			7	01
	90	VB403600	Bind Head Screw	4.0X20 MFZN2BL				01
	100	VP156800	Bind Head Screw	A4.0X8 MFZN2BL				01
	110	VA039300	Label, Date Code			U		03
	140	--	Insulation Sheet	35X25		(V946180)		
			BODY ASSEMBLY					
		--	Body Assembly	J COM		(V832150)		
*	B10	V8322500	Body Assembly, Sub	J COM				
*	B20	V8322600	Front Frame, Sub	J COM				
*	B30	V8419500	Handle Assembly	J COM				
*	B40	V8322700	Bind Head Tapping Screw-P	4.0X30 MFZN2BL			10	
	B50	EG340110	Bind Head Screw	4.0X16 MFZN2BL			4	01
*	B60	V8396900	Side Plate	LEFT				
	B70	EG340360	Bind Head Screw	4.0X8 MFZN2BL			4	01
*	B80	V8397000	Side Plate	RIGHT				
	B90	EG340360	Bind Head Screw	4.0X8 MFZN2BL			2	01
*	B110	V8183300	Shield Sheet					
*	B120	--	Reinforcement Plate			(V850510)		
	B130	EG340360	Bind Head Screw	4.0X8 MFZN2BL			6	01
			ACCESSORIES					
		V6283900	AC Cord	BS H05VV-F3X0.75		B		
		V6284300	AC Cord	UC SJT		U, V		
		V6284400	AC Cord	E H05VV-FX3 0.75		H, W, A		
		V7240300	AC Cord	J VCTF 0.75X3		J		
		V5290300	Speaker Cable Set	HJ & HJ 5m		J	2	05

*: New Parts

RANK: Japan only

■ FRONT PANEL ASSEMBLY



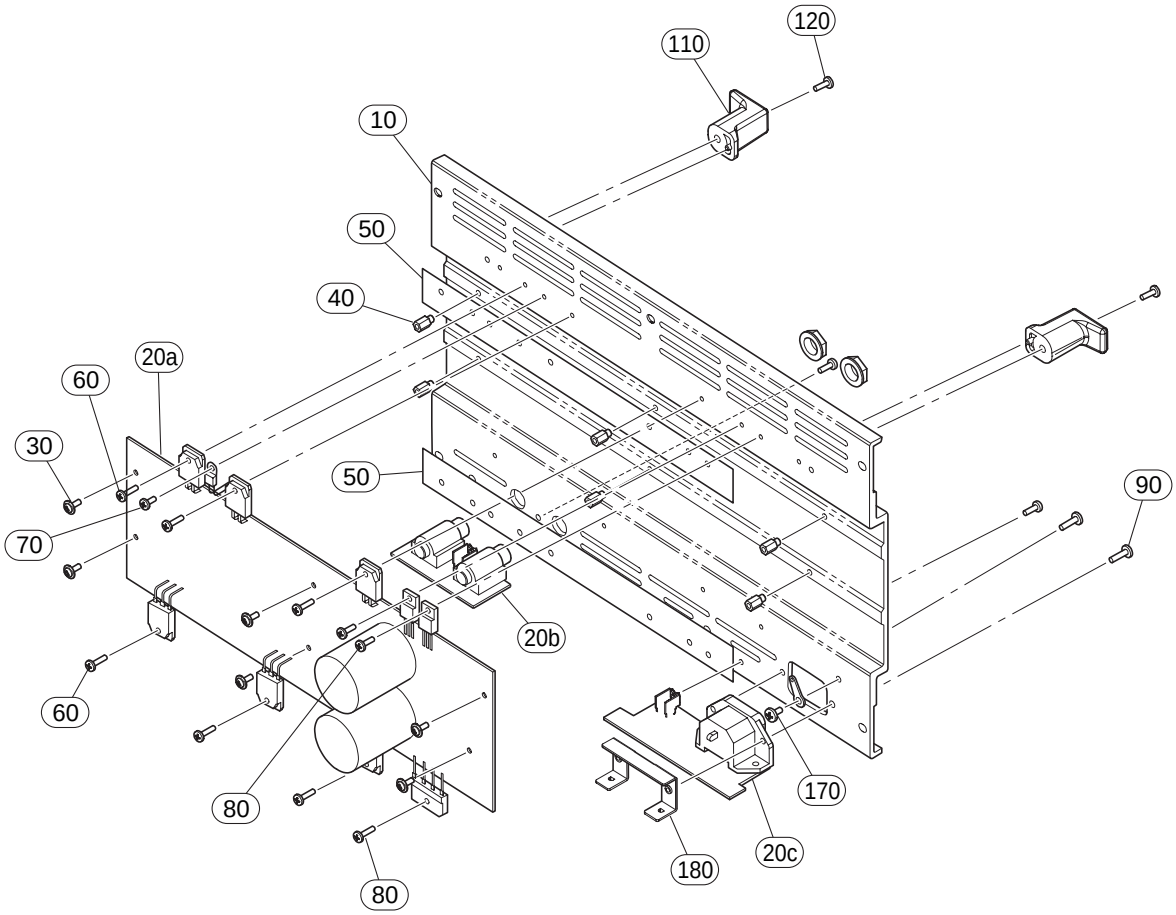


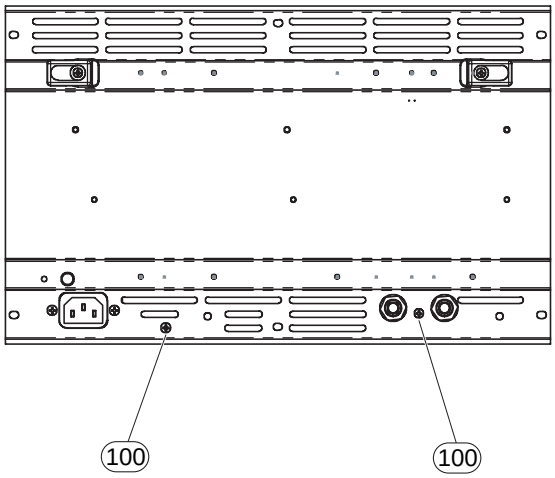
	REF NO.	PART NO.	DESCRIPTION			REMARKS	QTY	RANK
			FRONT PANEL ASSEMBLY					
		--	Front Panel Assembly	J COM		(V833170)		
*	10	V8332700	Front Panel					
*	20a	AAX33320	Circuit Board	MIX62 1/2		(V826700)		
*	20b	AAX33330	Circuit Board	MIX62 2/2		(V826700)		
	30	V3291600	PCB Support	NEW NIFCO BL			15	01
	40	V3289800	Screw	3X25 MFZNBL		HIGH (CH1-6), LOW(CH1-6)	15	01
	41	VN413300	Bonding Tapping Screw-B	3.0X8 MFZN2BL		EFFECT(CH1-6),	9	01
	50	V6225300	Knob	GREEN/M-GRAY		EFFECT RTN	12	01
	60	V6225600	Knob	L-GRAY/M-GRAY		(MONITOR,MAIN)	8	01
	70	V6225400	Knob	BLUE/M-GRAY		MONITOR(CH1-6), AUX IN, 2TR IN	8	01
	80	V6225700	Knob	L-GRAY/D-GRAY		LEVEL (CH1-6), MASTER (MONITOR, MAIN)	8	01
	90	VB659000	Bind Head Screw	3.0X8 MFZN2BL			2	01
	100	VU859100	Escutcheon, Power Switch	MX12/4				02
	110	VU859000	Power Switch Knob	MX12/4				01
	120	--	Connector Assembly	2426&2426 14P 700L		POWER ON/OFF		
	130	--	Wiring Assembly	GND		(V842610)		
	140	VP156800	Bind Head Screw	A4.0X8 MFZN2BL		(V827280)		01
*	150	V8412800	Shield Plate					
	160	EP600230	Bind Head Tapping Screw-B	3.0X6 MFZN2BL			6	01
	170	VZ765100	Cord Binder	TS-0708 KSS				02

*: New Parts

RANK: Japan only

■ REAR PANEL ASSEMBLY





	REF NO.	PART NO.	DESCRIPTION			REMARKS	QTY	RANK
			REAR PANEL ASSEMBLY					
		--	Rear Panel Assembly	J		J (V833130)		
		--	Rear Panel Assembly	U		U (V833140)		
		--	Rear Panel Assembly	H		H (V833150)		
		--	Rear Panel Assembly	A		A (V833160)		
*	10	V8332200	Rear Panel	J		J		
*	10	V8332300	Rear Panel	U		U		
*	10	V8332400	Rear Panel	H		H		
*	10	V8332500	Rear Panel	A		A		
*	20a	AAX32940	Circuit Board	PWR B62 1/4		J,U (V826840)		
*	20a	AAX32950	Circuit Board	PWR B62 1/4		H,A (V826860)		
*	20b	AAX32960	Circuit Board	PWR B62 2/4		J,U (V826840)		
*	20b	AAX32970	Circuit Board	PWR B62 2/4		H,A (V826860)		
*	20c	AAX32990	Circuit Board	PWR B62 4/4		J (V826840)		
*	20c	AAX33000	Circuit Board	PWR B62 4/4		U (V826850)		
*	20c	AAX33010	Circuit Board	PWR B62 4/4		H,A (V826860)		
	30	EG330290	Bind Head Screw	SP 3.0X8 MFZN2Y			6	01
	40	VV086500	Support	H=7.4 B=5.5			6	01
*	50	V8476500	Insulation Sheet				2	
	60	EP600140	Bind Head Tapping Screw-B	3.0X10 MFZN2BL			6	01
	70	EP600230	Bind Head Tapping Screw-B	3.0X6 MFZN2BL				01
	80	EP600190	Bind Head Tapping Screw-B	3.0X8 MFZN2BL			3	01
	90	VQ074600	Bind Head Tapping Screw-B	3.0X12 MFZN2BL			2	01
	100	VN413300	Bonding Tapping Screw-B	3.0X8 MFZN2BL			2	01
	110	V4773400	Holder, Cord				2	
	120	VR138400	Bind Head Tapping Screw-B	4.0X12 MFZN2BL			2	01
	170	EG340290	Bind Head Screw	A4.0X6 MFZN2BL				01
*	180	V8098800	Angle Bracket, AC Inlet					

*: New Parts

RANK: Japan only

■ ELECTRICAL PARTS

	REF NO.	PART NO.	DESCRIPTION			REMARKS	QTY	RANK
			ELECTRICAL PARTS					
*		AAX33320	Circuit Board	MIX62 1/2		(V826700)(X0620B0)		
*		AAX33330	Circuit Board	MIX62 2/2		(V826700)(X0620B0)		
*		AAX32940	Circuit Board	PWR B62 1/3		J, U (V826840)(X0625B0)		
*		AAX32950	Circuit Board	PWR B62 1/3		H, A (V826860)(X0625B0)		
*		AAX32960	Circuit Board	PWR B62 2/3		J, U (V826840)(X0625B0)		
*		AAX32970	Circuit Board	PWR B62 2/3		H, A (V826860)(X0625B0)		
*		AAX32990	Circuit Board	PWR B62 3/3		J (V826840)(X0625B0)		
*		AAX33000	Circuit Board	PWR B62 3/3		U (V826850)(X0625B0)		
*		AAX33010	Circuit Board	PWR B62 3/3		H, A (V826860)(X0625B0)		
*		AAX33320	Circuit Board	MIX62 1/2		(V826700)(X0620B0)		
*		AAX33330	Circuit Board	MIX62 2/2		(V826700)(X0620B0)		
*		VU860700	Button	CD-GRAY/WHITE		VOCAL REVERB, LARGE HALL, SMALL HALL, EFFECT ON	4	01
		VV307300	LED Spacer				10	01
*		V4467500	Button	CD-GRAY/WHITE		PAD (CH1-4)	4	01
	20	--	Jumper Wire	0.60		(VV29140)		
	30	--	Jumper Wire	0.60 TP		(V829020)		
⚠	C001	V6113500	Electrolytic Cap.	1000P 400V J.U.C.S				
	C101	UR847470	Electrolytic Cap.	47.00 25.0V				01
	C103	VV488800	Electrolytic Cap. LLM	10.00 50.0V				01
	C104	VV488800	Electrolytic Cap. LLM	10.00 50.0V				01
	C105	UR847100	Electrolytic Cap.	10.00 25.0V				01
	C106	VV488800	Electrolytic Cap. LLM	10.00 50.0V				01
	C107	VV488800	Electrolytic Cap. LLM	10.00 50.0V				01
	C108	UR847100	Electrolytic Cap.	10.00 25.0V				01
	-110	UR847100	Electrolytic Cap.	10.00 25.0V				01
	C111	UX062470	Ceramic Capacitor (chip)	470P 50V J				
	-116	UX062470	Ceramic Capacitor (chip)	470P 50V J				
	C117	UR828470	Electrolytic Cap.	470.00 10.0V				01
	C118	UR828470	Electrolytic Cap.	470.00 10.0V				01
	C119	UX062470	Ceramic Capacitor (chip)	470P 50V J				
	C120	UX062470	Ceramic Capacitor (chip)	470P 50V J				
	C121	UX062100	Ceramic Capacitor (chip)	100P 50V J				01
	-126	UX062100	Ceramic Capacitor (chip)	100P 50V J				01
	C127	UR847100	Electrolytic Cap.	10.00 25.0V				01
	C128	UR847100	Electrolytic Cap.	10.00 25.0V				01
	C129	UA954390	Mylar Capacitor	0.0390 50V J				01
	C130	UA954390	Mylar Capacitor	0.0390 50V J				01
	C131	VV190000	Mylar Capacitor	820P 50V J				01
	C132	VV190000	Mylar Capacitor	820P 50V J				01
	C133	UX061470	Ceramic Capacitor (chip)	47P 50V J				
	C134	UX062100	Ceramic Capacitor (chip)	100P 50V J				01
	C135	UX061470	Ceramic Capacitor (chip)	47P 50V J				
	C136	UX062100	Ceramic Capacitor (chip)	100P 50V J				01
	C137	UX063100	Ceramic Capacitor (chip)	1000P 50V K				01
	C138	UR847470	Electrolytic Cap.	47.00 25.0V				01
	C139	UR847470	Electrolytic Cap.	47.00 25.0V				01
	C140	UX064100	Ceramic Capacitor (chip)	0.0100 50V K				01
	-143	UX064100	Ceramic Capacitor (chip)	0.0100 50V K				01
	C202	VV488800	Electrolytic Cap. LLM	10.00 50.0V				01
	C203	VV488800	Electrolytic Cap. LLM	10.00 50.0V				01
	C204	UR847100	Electrolytic Cap.	10.00 25.0V				01
	C205	UR847100	Electrolytic Cap.	10.00 25.0V				01
	C206	UX062470	Ceramic Capacitor (chip)	470P 50V J				
	-208	UX062470	Ceramic Capacitor (chip)	470P 50V J				
	C209	UR828470	Electrolytic Cap.	470.00 10.0V				01
	C210	UX062470	Ceramic Capacitor (chip)	470P 50V J				
	C211	UX064100	Ceramic Capacitor (chip)	0.0100 50V K				01
	C212	UX062100	Ceramic Capacitor (chip)	100P 50V J				01
	-214	UX062100	Ceramic Capacitor (chip)	100P 50V J				01
	C215	UX064100	Ceramic Capacitor (chip)	0.0100 50V K				01
	C216	UX064100	Ceramic Capacitor (chip)	0.0100 50V K				01
	C217	UR847100	Electrolytic Cap.	10.00 25.0V				01
	C218	UX064100	Ceramic Capacitor (chip)	0.0100 50V K				01
	C219	UA954390	Mylar Capacitor	0.0390 50V J				01
	C220	VV190000	Mylar Capacitor	820P 50V J				01
	C221	UX061470	Ceramic Capacitor (chip)	47P 50V J				
	C222	UX062100	Ceramic Capacitor (chip)	100P 50V J				01

*: New Parts

RANK: Japan only

	REF NO.	PART NO.	DESCRIPTION			REMARKS	QTY	RANK
	C223	**UX063100**	Ceramic Capacitor (chip)	1000P 50V K				01
	C224	**UR847470**	Electrolytic Cap.	47.00 25.0V				01
	C226	**VV488800**	Electrolytic Cap. LLM	10.00 50.0V				01
	C227	**VV488800**	Electrolytic Cap. LLM	10.00 50.0V				01
	C228	**UR847100**	Electrolytic Cap.	10.00 25.0V				01
	C229	**UR847100**	Electrolytic Cap.	10.00 25.0V				01
	C230	**UX062470**	Ceramic Capacitor (chip)	470P 50V J				
	-232	**UX062470**	Ceramic Capacitor (chip)	470P 50V J				
	C233	**UR828470**	Electrolytic Cap.	470.00 10.0V				01
	C234	**UX062470**	Ceramic Capacitor (chip)	470P 50V J				
	C235	**UX062100**	Ceramic Capacitor (chip)	100P 50V J				01
	-237	**UX062100**	Ceramic Capacitor (chip)	100P 50V J				01
	C238	**UR847100**	Electrolytic Cap.	10.00 25.0V				01
	C239	**UA954390**	Mylar Capacitor	0.0390 50V J				01
	C240	**VV190000**	Mylar Capacitor	820P 50V J				01
	C241	**UX061470**	Ceramic Capacitor (chip)	47P 50V J				
	C242	**UX062100**	Ceramic Capacitor (chip)	100P 50V J				01
	C243	**UR847470**	Electrolytic Cap.	47.00 25.0V				01
	C301	**UR847100**	Electrolytic Cap.	10.00 25.0V				01
	C302	**UR847100**	Electrolytic Cap.	10.00 25.0V				01
	C303	**UX061470**	Ceramic Capacitor (chip)	47P 50V J				
	C304	**UX061470**	Ceramic Capacitor (chip)	47P 50V J				
	C305	**UX062100**	Ceramic Capacitor (chip)	100P 50V J				01
	C306	**UX062100**	Ceramic Capacitor (chip)	100P 50V J				01
	C307	**UX061220**	Ceramic Capacitor (chip)	22P 50V J				01
	C308	**UX061220**	Ceramic Capacitor (chip)	22P 50V J				01
	C309	**UR847100**	Electrolytic Cap.	10.00 25.0V				01
	C310	**UR847100**	Electrolytic Cap.	10.00 25.0V				01
	C313	**UX062100**	Ceramic Capacitor (chip)	100P 50V J				01
	C314	**UX062100**	Ceramic Capacitor (chip)	100P 50V J				01
	C315	**UX061470**	Ceramic Capacitor (chip)	47P 50V J				
	C316	**UX061470**	Ceramic Capacitor (chip)	47P 50V J				
	C317	**UR847100**	Electrolytic Cap.	10.00 25.0V				01
	C318	**UR847100**	Electrolytic Cap.	10.00 25.0V				01
	C319	**UA954390**	Mylar Capacitor	0.0390 50V J				01
	C320	**UA954390**	Mylar Capacitor	0.0390 50V J				01
	C321	**VV190000**	Mylar Capacitor	820P 50V J				01
	C322	**VV190000**	Mylar Capacitor	820P 50V J				01
	C323	**UX061470**	Ceramic Capacitor (chip)	47P 50V J				
	C324	**UX062100**	Ceramic Capacitor (chip)	100P 50V J				01
	C325	**UX061470**	Ceramic Capacitor (chip)	47P 50V J				
	C326	**UX062100**	Ceramic Capacitor (chip)	100P 50V J				01
	C327	**UX063100**	Ceramic Capacitor (chip)	1000P 50V K				01
	C328	**UX063100**	Ceramic Capacitor (chip)	1000P 50V K				01
	C329	**UR847470**	Electrolytic Cap.	47.00 25.0V				01
	C330	**UR847470**	Electrolytic Cap.	47.00 25.0V				01
	C331	**UX064100**	Ceramic Capacitor (chip)	0.0100 50V K				01
	-336	**UX064100**	Ceramic Capacitor (chip)	0.0100 50V K				01
	C401	**UX062220**	Ceramic Capacitor (chip)	220P 50V J				01
	-403	**UX062220**	Ceramic Capacitor (chip)	220P 50V J				01
	C404	**UX064100**	Ceramic Capacitor (chip)	0.0100 50V K				01
	C405	**UX061100**	Ceramic Capacitor (chip)	10P 50V D				01
	C406	**UX061100**	Ceramic Capacitor (chip)	10P 50V D				01
*	C407	**UX060600**	Ceramic Capacitor (chip)	6P 50V C				
	C410	**UR847100**	Electrolytic Cap.	10.00 25.0V				01
	C411	**UR847100**	Electrolytic Cap.	10.00 25.0V				01
	C412	**UR847470**	Electrolytic Cap.	47.00 25.0V				01
	C413	**UX064100**	Ceramic Capacitor (chip)	0.0100 50V K				01
	C414	**UR838100**	Electrolytic Cap.	100.00 16.0V				01
	C415	**UX062220**	Ceramic Capacitor (chip)	220P 50V J				01
	C416	**UX064100**	Ceramic Capacitor (chip)	0.0100 50V K				01
*	C417	**UX060600**	Ceramic Capacitor (chip)	6P 50V C				
	C418	**UR847100**	Electrolytic Cap.	10.00 25.0V				01
	-420	**UR847100**	Electrolytic Cap.	10.00 25.0V				01
	C421	**UX064100**	Ceramic Capacitor (chip)	0.0100 50V K				01
	C422	**UA953680**	Mylar Capacitor	6800P 50V J				01
	C423	**UX062220**	Ceramic Capacitor (chip)	220P 50V J				01
	C424	**UX062220**	Ceramic Capacitor (chip)	220P 50V J				01
	C425	**UX062100**	Ceramic Capacitor (chip)	100P 50V J				01
	C426	**UX064100**	Ceramic Capacitor (chip)	0.0100 50V K				01

*: New Parts

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REF NO.	PART NO.	DESCRIPTION			REMARKS	QTY	RANK
C427	**UX061680**	Ceramic Capacitor (chip)	68P 50V J				01
C428	**UX061680**	Ceramic Capacitor (chip)	68P 50V J				01
C429	**UX062100**	Ceramic Capacitor (chip)	100P 50V J				01
C430	**UX064100**	Ceramic Capacitor (chip)	0.0100 50V K				01
C431	**UR847470**	Electrolytic Cap.	47.00 25.0V				01
C432	**UX064100**	Ceramic Capacitor (chip)	0.0100 50V K				01
C433	**UX064100**	Ceramic Capacitor (chip)	0.0100 50V K				01
C435	**UA655820**	Mylar Capacitor	0.8200 50V J				01
C436	**UA655470**	Mylar Capacitor	0.4700 50V J				01
C437	**UA655220**	Mylar Capacitor	0.2200 50V J				01
C438	**V5868900**	Mylar Capacitor	0.1 50V J				
C439	**UA954470**	Mylar Capacitor	0.0470 50V J				01
C440	**UA954270**	Mylar Capacitor	0.0270 50V J				01
C441	**UA954120**	Mylar Capacitor	0.0120 50V J				
C442	**UA954820**	Mylar Capacitor	0.0820 50V J				01
C443	**UA954390**	Mylar Capacitor	0.0390 50V J				01
C444	**UA954180**	Mylar Capacitor	0.0180 50V J				01
C445	**UA954100**	Mylar Capacitor	0.0100 50V J				01
C446	**UA953470**	Mylar Capacitor	4700P 50V J				01
C447	**UA953220**	Mylar Capacitor	2200P 50V J				01
C448	**UA953120**	Mylar Capacitor	1200P 50V J				01
C449	**UX062220**	Ceramic Capacitor (chip)	220P 50V J				01
C450	**UX061680**	Ceramic Capacitor (chip)	68P 50V J				01
C451	**UR847470**	Electrolytic Cap.	47.00 25.0V				01
C452	**UR847100**	Electrolytic Cap.	10.00 25.0V				01
C453	**UX062470**	Ceramic Capacitor (chip)	470P 50V J				
C454	**UR847100**	Electrolytic Cap.	10.00 25.0V				01
C455	**UR847470**	Electrolytic Cap.	47.00 25.0V				01
C456	**UR847100**	Electrolytic Cap.	10.00 25.0V				01
C457	**UX064100**	Ceramic Capacitor (chip)	0.0100 50V K				01
C458	**UX064100**	Ceramic Capacitor (chip)	0.0100 50V K				01
C460	**UA655120**	Mylar Capacitor	0.1200 50V J				01
C461	**UA655120**	Mylar Capacitor	0.1200 50V J				01
C462	**UX064100**	Ceramic Capacitor (chip)	0.0100 50V K				01
-465	**UX064100**	Ceramic Capacitor (chip)	0.0100 50V K				01
C501	**UX064100**	Ceramic Capacitor (chip)	0.0100 50V K				01
C502	**UX145100**	Ceramic Capacitor (chip)	0.1000 25V Z				01
C503	**UX064100**	Ceramic Capacitor (chip)	0.0100 50V K				01
C504	**UX062220**	Ceramic Capacitor (chip)	220P 50V J				01
C505	**UX064100**	Ceramic Capacitor (chip)	0.0100 50V K				01
C506	**UX063100**	Ceramic Capacitor (chip)	1000P 50V K				01
C507	**UX145100**	Ceramic Capacitor (chip)	0.1000 25V Z				01
C508	**UX062220**	Ceramic Capacitor (chip)	220P 50V J				01
C509	**UX064100**	Ceramic Capacitor (chip)	0.0100 50V K				01
C510	**UX064100**	Ceramic Capacitor (chip)	0.0100 50V K				01
C511	**UX145100**	Ceramic Capacitor (chip)	0.1000 25V Z				01
C512	**UR847100**	Electrolytic Cap.	10.00 25.0V				01
C513	**UA954270**	Mylar Capacitor	0.0270 50V J				01
C514	**UA954100**	Mylar Capacitor	0.0100 50V J				01
C515	**UA953150**	Mylar Capacitor	1500P 50V J				01
C516	**UA954270**	Mylar Capacitor	0.0270 50V J				01
C517	**UX064100**	Ceramic Capacitor (chip)	0.0100 50V K				01
C518	**UA953150**	Mylar Capacitor	1500P 50V J				01
C519	**UR847470**	Electrolytic Cap.	47.00 25.0V				01
C520	**UA954100**	Mylar Capacitor	0.0100 50V J				01
C521	**V5868900**	Mylar Capacitor	0.1 50V J				
C522	**UA954270**	Mylar Capacitor	0.0270 50V J				01
C523	**UA953150**	Mylar Capacitor	1500P 50V J				01
C524	**UA953220**	Mylar Capacitor	2200P 50V J				01
C525	**UX061330**	Ceramic Capacitor (chip)	33P 50V J				
C526	**UR847100**	Electrolytic Cap.	10.00 25.0V				01
C527	**UR847100**	Electrolytic Cap.	10.00 25.0V				01
C528	**UX061330**	Ceramic Capacitor (chip)	33P 50V J				
C529	**UX062100**	Ceramic Capacitor (chip)	100P 50V J				01
C530	**UR858100**	Electrolytic Cap.	100.00 35.0V				01
C531	**UR847470**	Electrolytic Cap.	47.00 25.0V				01
C532	**UR838100**	Electrolytic Cap.	100.00 16.0V				01
C533	**UR838100**	Electrolytic Cap.	100.00 16.0V				01
C534	**UA953680**	Mylar Capacitor	6800P 50V J				01
C535	**UA953330**	Mylar Capacitor	3300P 50V J				01

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	REF NO.	PART NO.	DESCRIPTION			REMARKS	QTY	RANK
	C536	UR847100	Electrolytic Cap.	10.00 25.0V				01
	C537	UX145100	Ceramic Capacitor (chip)	0.1000 25V Z				01
	C538	UA953330	Mylar Capacitor	3300P 50V J				01
	C539	UX062100	Ceramic Capacitor (chip)	100P 50V J				01
	C540	UX145100	Ceramic Capacitor (chip)	0.1000 25V Z				01
	C541	UX145100	Ceramic Capacitor (chip)	0.1000 25V Z				01
	C542	UR866100	Electrolytic Cap.	1.00 50.0V				01
	C543	UX145100	Ceramic Capacitor (chip)	0.1000 25V Z				01
	CN001	LB933030	Base Post Connector	VH- 3P SE				01
	CN501	VV067400	Connector Base Post	M2426XX 14P TE				
	D301	VT332900	Diode	1SS355 TE-17				01
	-304	VT332900	Diode	1SS355 TE-17				01
	D501	VT332900	Diode	1SS355 TE-17				01
	-505	VT332900	Diode	1SS355 TE-17				01
	EM501	VV056900	Noise Filter	ZJSR5101-223TA				01
	IC101	XJ553A00	IC	NJM2068MD-T1		OP AMP		02
	IC102	IG103520	IC	NJM4558M(T1)		OP AMP		03
	IC201	XJ553A00	IC	NJM2068MD-T1		OP AMP		02
	IC202	IG103520	IC	NJM4558M(T1)		OP AMP		03
	IC301	IG103520	IC	NJM4558M(T1)		OP AMP		03
	IC302	IG103520	IC	NJM4558M(T1)		OP AMP		03
*	IC303	XV423A00	IC	TL072CPSR		OP AMP		
	IC401	XJ553A00	IC	NJM2068MD-T1		OP AMP		02
	-404	XJ553A00	IC	NJM2068MD-T1		OP AMP		02
	IC406	XZ348A00	IC	LB1423N		LED DRIVER		02
	IC407	XJ553A00	IC	NJM2068MD-T1		OP AMP		02
*	IC408	XM560A00	IC	NJM2060M(TE2)OP		OP AMP		
*	IC409	XM560A00	IC	NJM2060M(TE2)OP		OP AMP		
*	IC501	XV423A00	IC	TL072CPSR		OP AMP		
	IC502	IG103520	IC	NJM4558M(T1)		OP AMP		03
	IC503	XJ553A00	IC	NJM2068MD-T1		OP AMP		02
*	IC504	X2166A00	IC	74HC14DT		S-INVERTER		
*	IC505	X2167A00	IC	74HC74DT		DFF		
	IC506	XR115A00	IC	UPD43256BGU-70L		SRAM 256K		08
	IC507	XN299A00	IC	YSS234(SP3)		DSP		11
	JK101	V6127200	XLM Connector	JY-5042		Low-Z (CH1)		03
	JK102	V2886000	Phone Jack	JY-6351J-06-340		Hi-Z (CH1)		02
	JK103	V6127200	XLM Connector	JY-5042		Low-Z (CH2)		03
	JK104	V2886000	Phone Jack	JY-6351J-06-340		Hi-Z (CH2)		02
	JK201	V6127200	XLM Connector	JY-5042		Low-Z (CH3)		03
	JK202	V2886000	Phone Jack	JY-6351J-06-340		Hi-Z (CH3)		02
	JK203	V6127200	XLM Connector	JY-5042		Low-Z (CH4)		03
	JK204	V2886000	Phone Jack	JY-6351J-06-340		Hi-Z (CH4)		02
	JK301	V2886000	Phone Jack	JY-6351J-06-340		LINE 1 (CH5)		02
	JK302	V2886000	Phone Jack	JY-6351J-06-340		LINE 2 (CH5)		02
	JK303	V2886000	Phone Jack	JY-6351J-06-340		Super Hi-Z 1 (CH6)		02
	JK304	V2886000	Phone Jack	JY-6351J-06-340		Super Hi-Z 2 (CH6)		02
	JK401	V2886000	Phone Jack	JY-6351J-06-340		OUTPUT MAIN		02
	JK402	V2886000	Phone Jack	JY-6351J-06-340		OUTPUT MONITOR		02
	JK403	V2886000	Phone Jack	JY-6351J-06-340		EFFECT OUT		02
	JK404	V2886000	Phone Jack	JY-6351J-06-340		AUX IN		02
	JK405	V4807600	Pin Jack	RJ-1130A-01-0320A		2TR IN 1, 2TR IN 2, REC OUT 1, REC OUT 2		03
	JK501	V2886000	Phone Jack	JY-6351J-06-340		FOOT SW		02
	JK502	V2886000	Phone Jack	JY-6351J-06-340		PHONES		02
	L501	GE300670	Ferrite Bead	BL02RN2-R62T4				02
	-504	GE300670	Ferrite Bead	BL02RN2-R62T4				02
*	LD401	V8840200	LED	L34GD-TNB5/13.6		-10		
*	LD402	V8840200	LED	L34GD-TNB5/13.6		-5		
*	LD403	V8840400	LED	L34YD-TNB5/13.6		0		
*	LD404	V8840400	LED	L34YD-TNB5/13.6		+3		
*	LD405	V8840400	LED	L34YD-TNB5/13.6		+6		
*	LD406	V8840400	LED	L34YD-TNB5/13.6		YSP		
*	LD407	V8840400	LED	L34YD-TNB5/13.6		PHANTOM		
*	LD501	V8840400	LED	L34YD-TNB5/13.6		DSP ON		
*	LD502	V8840200	LED	L34GD-TNB5/13.6		POWER		
*	LD503	V8840100	LED	L34HD-TNB5/13.6		LIMITER		
*	Q101	V7421700	Transistor (chip)	2SC2SC3324 GR,BL				
*	-104	V7421700	Transistor (chip)	2SC2SC3324 GR,BL				
*	Q201	V7421700	Transistor (chip)	2SC2SC3324 GR,BL				

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	REF NO.	PART NO.	DESCRIPTION			REMARKS	QTY	RANK
*	-204	V7421700	Transistor (chip)	2SC2SC3324 GR,BL				
	Q501	VV655400	Digital Transistor	DTC114EKA TP				01
*	Q502	V7421800	Transistor	2SA2SA1312 GR,BL				
	R101	RG008100	Carbon Resistor (chip)	100K 0.1 J				
	R103	RG008100	Carbon Resistor (chip)	100K 0.1 J				
	R104	RG008100	Carbon Resistor (chip)	100K 0.1 J				
	R105	V2440200	Metal Film Resistor	2.4K 1/4 F				01
	R106	RG008100	Carbon Resistor (chip)	100K 0.1 J				
	R107	V2440200	Metal Film Resistor	2.4K 1/4 F				01
	R108	RG008100	Carbon Resistor (chip)	100K 0.1 J				
*	R109	RF356390	Carbon Resistor (chip)	3.9K D 1608				
*	-112	RF356390	Carbon Resistor (chip)	3.9K D 1608				
	R113	VV276800	Flame Proof C. Resistor	100 1/4 J				01
	R114	V2440200	Metal Film Resistor	2.4K 1/4 F				01
	R116	V2440200	Metal Film Resistor	2.4K 1/4 F				01
*	R117	RG007150	Carbon Resistor (chip)	15K 0.1 J				
*	R118	RG007150	Carbon Resistor (chip)	15K 0.1 J				
	R119	RG004100	Carbon Resistor (chip)	10 0.1 J				
	-122	RG004100	Carbon Resistor (chip)	10 0.1 J				
*	R123	RF357470	Carbon Resistor (chip)	47.0K D 1608				
*	-126	RF357470	Carbon Resistor (chip)	47.0K D 1608				
	R127	RG004100	Carbon Resistor (chip)	10 0.1 J				
	R128	RG004100	Carbon Resistor (chip)	10 0.1 J				
*	R129	RF356220	Carbon Resistor (chip)	2.2K D 1608				
*	R130	RF356820	Carbon Resistor (chip)	8.2K D 1608				
*	R131	RF356220	Carbon Resistor (chip)	2.2K D 1608				
*	R132	RF356820	Carbon Resistor (chip)	8.2K D 1608				
	R133	RG006820	Carbon Resistor (chip)	8.2K 0.1 J				
	R134	RG006820	Carbon Resistor (chip)	8.2K 0.1 J				
*	R135	RG005150	Carbon Resistor (chip)	150 0.1 J				
*	R136	RG005150	Carbon Resistor (chip)	150 0.1 J				
*	R137	RF356220	Carbon Resistor (chip)	2.2K D 1608				
*	R138	RF356820	Carbon Resistor (chip)	8.2K D 1608				
*	R139	RF356220	Carbon Resistor (chip)	2.2K D 1608				
*	R140	RF356820	Carbon Resistor (chip)	8.2K D 1608				
	R141	RG004100	Carbon Resistor (chip)	10 0.1 J				
	R142	RG004100	Carbon Resistor (chip)	10 0.1 J				
	R143	RF357100	Carbon Resistor (chip)	10.0K D 1608				01
	-146	RF357100	Carbon Resistor (chip)	10.0K D 1608				01
	R147	RG007100	Carbon Resistor (chip)	10K 0.1 J				
	R148	RG006470	Carbon Resistor (chip)	4.7K 0.1 J				
	R149	RG007100	Carbon Resistor (chip)	10K 0.1 J				
	R150	RG006470	Carbon Resistor (chip)	4.7K 0.1 J				
	R151	RG007330	Carbon Resistor (chip)	33K 0.1 J				
	R152	RG007330	Carbon Resistor (chip)	33K 0.1 J				
	R153	RG007100	Carbon Resistor (chip)	10K 0.1 J				
	R154	RG006560	Carbon Resistor (chip)	5.6K 0.1 J				
	R155	RG007100	Carbon Resistor (chip)	10K 0.1 J				
	R156	RG006560	Carbon Resistor (chip)	5.6K 0.1 J				
	R157	RG004100	Carbon Resistor (chip)	10 0.1 J				
	R158	RG004100	Carbon Resistor (chip)	10 0.1 J				
	R159	RG007180	Carbon Resistor (chip)	18K 0.1 J				
	-164	RG007180	Carbon Resistor (chip)	18K 0.1 J				
	R202	RG008100	Carbon Resistor (chip)	100K 0.1 J				
	R203	V2440200	Metal Film Resistor	2.4K 1/4 F				01
	R204	RG008100	Carbon Resistor (chip)	100K 0.1 J				
*	R205	RF356390	Carbon Resistor (chip)	3.9K D 1608				
*	R206	RF356390	Carbon Resistor (chip)	3.9K D 1608				
	R208	V2440200	Metal Film Resistor	2.4K 1/4 F				01
*	R209	RG007150	Carbon Resistor (chip)	15K 0.1 J				
	R210	RG004100	Carbon Resistor (chip)	10 0.1 J				
	R211	RG004100	Carbon Resistor (chip)	10 0.1 J				
*	R212	RF357470	Carbon Resistor (chip)	47.0K D 1608				
*	R213	RF357470	Carbon Resistor (chip)	47.0K D 1608				
	R214	RG004100	Carbon Resistor (chip)	10 0.1 J				
*	R215	RF356220	Carbon Resistor (chip)	2.2K D 1608				
*	R216	RF356820	Carbon Resistor (chip)	8.2K D 1608				
	R217	RG006820	Carbon Resistor (chip)	8.2K 0.1 J				
*	R218	RG005150	Carbon Resistor (chip)	150 0.1 J				
*	R219	RF356220	Carbon Resistor (chip)	2.2K D 1608				

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	REF NO.	PART NO.	DESCRIPTION			REMARKS	QTY	RANK
*	R220	**RF356820**	Carbon Resistor (chip)	8.2K D 1608				
	R221	**RG004100**	Carbon Resistor (chip)	10 0.1 J				
	R222	**RF357100**	Carbon Resistor (chip)	10.0K D 1608				01
	R223	**RF357100**	Carbon Resistor (chip)	10.0K D 1608				01
	R224	**RG007100**	Carbon Resistor (chip)	10K 0.1 J				
	R225	**RG006470**	Carbon Resistor (chip)	4.7K 0.1 J				
	R226	**RG007330**	Carbon Resistor (chip)	33K 0.1 J				
	R227	**RG007100**	Carbon Resistor (chip)	10K 0.1 J				
	R228	**RG006560**	Carbon Resistor (chip)	5.6K 0.1 J				
	R229	**RG004100**	Carbon Resistor (chip)	10 0.1 J				
	R230	**RG007180**	Carbon Resistor (chip)	18K 0.1 J				
	-232	**RG007180**	Carbon Resistor (chip)	18K 0.1 J				
	R234	**RG008100**	Carbon Resistor (chip)	100K 0.1 J				
	R235	**V2440200**	Metal Film Resistor	2.4K 1/4 F				01
	R236	**RG008100**	Carbon Resistor (chip)	100K 0.1 J				
*	R237	**RF356390**	Carbon Resistor (chip)	3.9K D 1608				
*	R238	**RF356390**	Carbon Resistor (chip)	3.9K D 1608				
	R240	**V2440200**	Metal Film Resistor	2.4K 1/4 F				01
*	R241	**RG007150**	Carbon Resistor (chip)	15K 0.1 J				
	R242	**RG004100**	Carbon Resistor (chip)	10 0.1 J				
	R243	**RG004100**	Carbon Resistor (chip)	10 0.1 J				
*	R244	**RF357470**	Carbon Resistor (chip)	47.0K D 1608				
*	R245	**RF357470**	Carbon Resistor (chip)	47.0K D 1608				
	R246	**RG004100**	Carbon Resistor (chip)	10 0.1 J				
*	R247	**RF356220**	Carbon Resistor (chip)	2.2K D 1608				
*	R248	**RF356820**	Carbon Resistor (chip)	8.2K D 1608				
	R249	**RG006820**	Carbon Resistor (chip)	8.2K 0.1 J				
*	R250	**RG005150**	Carbon Resistor (chip)	150 0.1 J				
*	R251	**RF356220**	Carbon Resistor (chip)	2.2K D 1608				
*	R252	**RF356820**	Carbon Resistor (chip)	8.2K D 1608				
	R253	**RG004100**	Carbon Resistor (chip)	10 0.1 J				
	R254	**RF357100**	Carbon Resistor (chip)	10.0K D 1608				01
	R255	**RF357100**	Carbon Resistor (chip)	10.0K D 1608				01
	R256	**RG007100**	Carbon Resistor (chip)	10K 0.1 J				
	R257	**RG006470**	Carbon Resistor (chip)	4.7K 0.1 J				
	R258	**RG007330**	Carbon Resistor (chip)	33K 0.1 J				
	R259	**RG007100**	Carbon Resistor (chip)	10K 0.1 J				
	R260	**RG006560**	Carbon Resistor (chip)	5.6K 0.1 J				
	R261	**RG004100**	Carbon Resistor (chip)	10 0.1 J				
	R262	**RG007180**	Carbon Resistor (chip)	18K 0.1 J				
	-264	**RG007180**	Carbon Resistor (chip)	18K 0.1 J				
	R301	**RG006100**	Carbon Resistor (chip)	1.0K 0.1 J				
	R302	**RG006100**	Carbon Resistor (chip)	1.0K 0.1 J				
	R303	**RG008100**	Carbon Resistor (chip)	100K 0.1 J				
	R304	**RG008100**	Carbon Resistor (chip)	100K 0.1 J				
	R305	**RG008470**	Carbon Resistor (chip)	470K 0.1 J				
	R306	**RG008470**	Carbon Resistor (chip)	470K 0.1 J				
	R307	**RG006470**	Carbon Resistor (chip)	4.7K 0.1 J				
	R308	**RG006470**	Carbon Resistor (chip)	4.7K 0.1 J				
	R309	**RG007470**	Carbon Resistor (chip)	47K 0.1 J				
	R310	**RG007470**	Carbon Resistor (chip)	47K 0.1 J				
	R311	**RG007180**	Carbon Resistor (chip)	18K 0.1 J				
	-314	**RG007180**	Carbon Resistor (chip)	18K 0.1 J				
	R315	**RG008100**	Carbon Resistor (chip)	100K 0.1 J				
	R316	**RG008100**	Carbon Resistor (chip)	100K 0.1 J				
	R317	**RG006820**	Carbon Resistor (chip)	8.2K 0.1 J				
	R318	**RG006820**	Carbon Resistor (chip)	8.2K 0.1 J				
	R319	**RG007100**	Carbon Resistor (chip)	10K 0.1 J				
	-321	**RG007100**	Carbon Resistor (chip)	10K 0.1 J				
	R322	**RG006470**	Carbon Resistor (chip)	4.7K 0.1 J				
	R323	**RG007100**	Carbon Resistor (chip)	10K 0.1 J				
	R324	**RG006470**	Carbon Resistor (chip)	4.7K 0.1 J				
	R325	**RG007330**	Carbon Resistor (chip)	33K 0.1 J				
	R326	**RG007330**	Carbon Resistor (chip)	33K 0.1 J				
	R327	**RG007100**	Carbon Resistor (chip)	10K 0.1 J				
	R328	**RG006560**	Carbon Resistor (chip)	5.6K 0.1 J				
	R329	**RG007100**	Carbon Resistor (chip)	10K 0.1 J				
	R330	**RG006560**	Carbon Resistor (chip)	5.6K 0.1 J				
	R331	**RG004100**	Carbon Resistor (chip)	10 0.1 J				
	R332	**RG004100**	Carbon Resistor (chip)	10 0.1 J				

*: New Parts

RANK: Japan only

	REF NO.	PART NO.	DESCRIPTION			REMARKS	QTY	RANK
	R333	**RG007180**	Carbon Resistor (chip)	18K 0.1 J				
	-338	**RG007180**	Carbon Resistor (chip)	18K 0.1 J				
*	R401	**RG008120**	Carbon Resistor (chip)	120K 0.1 J				
*	-403	**RG008120**	Carbon Resistor (chip)	120K 0.1 J				
	R404	**RG008220**	Carbon Resistor (chip)	220K 0.1 J				
	R405	**RG007180**	Carbon Resistor (chip)	18K 0.1 J				
*	R406	**RG007360**	Carbon Resistor (chip)	36K 0.1 J				
*	R407	**RG007360**	Carbon Resistor (chip)	36K 0.1 J				
	R408	**RG008220**	Carbon Resistor (chip)	220K 0.1 J				
	R409	**RG008100**	Carbon Resistor (chip)	100K 0.1 J				
	R410	**RG007180**	Carbon Resistor (chip)	18K 0.1 J				
	R411	**RG007180**	Carbon Resistor (chip)	18K 0.1 J				
*	R412	**RG006390**	Carbon Resistor (chip)	3.9K 0.1 J				
	R413	**RG005220**	Carbon Resistor (chip)	220 0.1 J				
	R414	**RG005220**	Carbon Resistor (chip)	220 0.1 J				
	R415	**RG007100**	Carbon Resistor (chip)	10K 0.1 J				
*	R416	**RG006430**	Carbon Resistor (chip)	4.3K 0.1 J				
*	R417	**RG006430**	Carbon Resistor (chip)	4.3K 0.1 J				
	R418	**RG007100**	Carbon Resistor (chip)	10K 0.1 J				
	-420	**RG007100**	Carbon Resistor (chip)	10K 0.1 J				
	R421	**RG006150**	Carbon Resistor (chip)	1.5K 0.1 J				
	R422	**RG006330**	Carbon Resistor (chip)	3.3K 0.1 J				
	R423	**RG006150**	Carbon Resistor (chip)	1.5K 0.1 J				
*	R424	**RG006120**	Carbon Resistor (chip)	1.2K 0.1 J				
	R425	**RG008100**	Carbon Resistor (chip)	100K 0.1 J				
	R426	**RG006820**	Carbon Resistor (chip)	8.2K 0.1 J				
	R427	**RG006820**	Carbon Resistor (chip)	8.2K 0.1 J				
*	R428	**RG006120**	Carbon Resistor (chip)	1.2K 0.1 J				
	R429	**RG005560**	Carbon Resistor (chip)	560 0.1 J				
	R430	**RG007180**	Carbon Resistor (chip)	18K 0.1 J				
	R431	**RG005220**	Carbon Resistor (chip)	220 0.1 J				
*	R432	**RG007150**	Carbon Resistor (chip)	15K 0.1 J				
	R433	**RG007100**	Carbon Resistor (chip)	10K 0.1 J				
	R434	**RG008100**	Carbon Resistor (chip)	100K 0.1 J				
	R435	**RG006470**	Carbon Resistor (chip)	4.7K 0.1 J				
	R436	**RG005560**	Carbon Resistor (chip)	560 0.1 J				
*	R437	**RG005750**	Carbon Resistor (chip)	750 0.1 J				
	R438	**RG006330**	Carbon Resistor (chip)	3.3K 0.1 J				
	R439	**RG008100**	Carbon Resistor (chip)	100K 0.1 J				
	R440	**RG007100**	Carbon Resistor (chip)	10K 0.1 J				
	R441	**RG007100**	Carbon Resistor (chip)	10K 0.1 J				
	R442	**RG005560**	Carbon Resistor (chip)	560 0.1 J				
*	R443	**RG205680**	Carbon Resistor (chip)	680 1/4 J				
*	-445	**RG205680**	Carbon Resistor (chip)	680 1/4 J				
	R446	**RG005560**	Carbon Resistor (chip)	560 0.1 J				
	-448	**RG005560**	Carbon Resistor (chip)	560 0.1 J				
*	R449	**RG004180**	Carbon Resistor (chip)	18 0.1 J				
*	R450	**RF356390**	Carbon Resistor (chip)	3.9K	D 1608			
*	R452	**RG004180**	Carbon Resistor (chip)	18 0.1 J				
*	R453	**RF357820**	Carbon Resistor (chip)	82.0K	D 1608			
*	R454	**RG206270**	Carbon Resistor (chip)	2.7K 1/4 J				
	R455	**RG005560**	Carbon Resistor (chip)	560 0.1 J				
	-461	**RG005560**	Carbon Resistor (chip)	560 0.1 J				
	R462	**RG007470**	Carbon Resistor (chip)	47K 0.1 J				
	-469	**RG007470**	Carbon Resistor (chip)	47K 0.1 J				
*	R470	**RG206270**	Carbon Resistor (chip)	2.7K 1/4 J				
*	R501	**RG008240**	Carbon Resistor (chip)	240K 0.1 J				
*	R502	**RG008240**	Carbon Resistor (chip)	240K 0.1 J				
	R503	**RG007100**	Carbon Resistor (chip)	10K 0.1 J				
	R504	**RG007470**	Carbon Resistor (chip)	47K 0.1 J				
	R505	**RG005680**	Carbon Resistor (chip)	680 0.1 J				
	R506	**RG006220**	Carbon Resistor (chip)	2.2K 0.1 J				
	R507	**RG008100**	Carbon Resistor (chip)	100K 0.1 J				
	R508	**RG006220**	Carbon Resistor (chip)	2.2K 0.1 J				
	R509	**RG006330**	Carbon Resistor (chip)	3.3K 0.1 J				
	R510	**RG006220**	Carbon Resistor (chip)	2.2K 0.1 J				
	-512	**RG006220**	Carbon Resistor (chip)	2.2K 0.1 J				
	R513	**RG006470**	Carbon Resistor (chip)	4.7K 0.1 J				
	R514	**RG006100**	Carbon Resistor (chip)	1.0K 0.1 J				
	R515	**RG006220**	Carbon Resistor (chip)	2.2K 0.1 J				

*: New Parts

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	REF NO.	PART NO.	DESCRIPTION			REMARKS	QTY	RANK
	R516	**RG005100**	Carbon Resistor (chip)	100 0.1 J				
	R517	**RG006220**	Carbon Resistor (chip)	2.2K 0.1 J				
	-519	**RG006220**	Carbon Resistor (chip)	2.2K 0.1 J				
	R520	**RG007100**	Carbon Resistor (chip)	10K 0.1 J				
	-522	**RG007100**	Carbon Resistor (chip)	10K 0.1 J				
	R523	**RG007470**	Carbon Resistor (chip)	47K 0.1 J				
*	R524	**RG006390**	Carbon Resistor (chip)	3.9K 0.1 J				
	R525	**RG007100**	Carbon Resistor (chip)	10K 0.1 J				
	R526	**RG007470**	Carbon Resistor (chip)	47K 0.1 J				
	R527	**RG008470**	Carbon Resistor (chip)	470K 0.1 J				
	R528	**RG005470**	Carbon Resistor (chip)	470 0.1 J				
	R529	**RG006470**	Carbon Resistor (chip)	4.7K 0.1 J				
	R530	**RG008100**	Carbon Resistor (chip)	100K 0.1 J				
	R531	**RG007270**	Carbon Resistor (chip)	27K 0.1 J				
	R532	**RG007270**	Carbon Resistor (chip)	27K 0.1 J				
	R533	**RG007680**	Carbon Resistor (chip)	68K 0.1 J				
	R534	**RG007680**	Carbon Resistor (chip)	68K 0.1 J				
*	R535	**RG206270**	Carbon Resistor (chip)	2.7K 1/4 J				
⚠ *	SW001	**V8996200**	Push Switch	SFDLB11P7U-YL		POWER ON/OFF		
	SW101	**V6962600**	Push Switch			PAD (CH1)		02
	SW102	**V6962600**	Push Switch			PAD (CH2)		02
	SW201	**V6962600**	Push Switch			PAD (CH3)		02
	SW202	**V6962600**	Push Switch			PAD (CH4)		02
	SW401	**V3483200**	Slide Switch	SS001P022BQcPA6		PHANTOM ON/OFF		03
	SW403	**V3483200**	Slide Switch	SS001P022BQcPA6		YSP ON/OFF		03
	SW501	**VU804900**	Push Switch	SPEA31MC16-YL		VOCAL REVERB, LARGE HALL, SMALL HALL		05
	SW503	**VU805000**	Push Switch	SPEA12MC15-YL		DSP ON		03
*	VR101	**V8264700**	Rotary Variable Resistor	B 50.0K XV09213P		HIGH (CH1)		
*	VR102	**V8264700**	Rotary Variable Resistor	B 50.0K XV09213P		HIGH (CH2)		
*	VR103	**V8264700**	Rotary Variable Resistor	B 50.0K XV09213P		LOW (CH1)		
*	VR104	**V8264700**	Rotary Variable Resistor	B 50.0K XV09213P		LOW (CH2)		
*	VR105	**V8264600**	Rotary Variable Resistor	A 20.0K XV09213P		MONITOR (CH1)		
*	VR106	**V8264600**	Rotary Variable Resistor	A 20.0K XV09213P		MONITOR (CH2)		
*	VR107	**V8264600**	Rotary Variable Resistor	A 20.0K XV09213P		EFFECT (CH1)		
*	VR108	**V8264600**	Rotary Variable Resistor	A 20.0K XV09213P		EFFECT (CH2)		
*	VR109	**V8264600**	Rotary Variable Resistor	A 20.0K XV09213P		LEVEL (CH1)		
*	VR110	**V8264600**	Rotary Variable Resistor	A 20.0K XV09213P		LEVEL (CH2)		
*	VR201	**V8264700**	Rotary Variable Resistor	B 50.0K XV09213P		HIGH (CH3)		
*	VR202	**V8264700**	Rotary Variable Resistor	B 50.0K XV09213P		HIGH (CH4)		
*	VR203	**V8264700**	Rotary Variable Resistor	B 50.0K XV09213P		LOW (CH3)		
*	VR204	**V8264700**	Rotary Variable Resistor	B 50.0K XV09213P		LOW (CH4)		
*	VR205	**V8264600**	Rotary Variable Resistor	A 20.0K XV09213P		MONITOR (CH3)		
*	VR206	**V8264600**	Rotary Variable Resistor	A 20.0K XV09213P		MONITOR (CH4)		
*	VR207	**V8264600**	Rotary Variable Resistor	A 20.0K XV09213P		EFFECT (CH3)		
*	VR208	**V8264600**	Rotary Variable Resistor	A 20.0K XV09213P		EFFECT (CH4)		
*	VR209	**V8264600**	Rotary Variable Resistor	A 20.0K XV09213P		LEVEL (CH3)		
*	VR210	**V8264600**	Rotary Variable Resistor	A 20.0K XV09213P		LEVEL (CH4)		
*	VR301	**V8264700**	Rotary Variable Resistor	B 50.0K XV09213P		HIGH (CH5)		
*	VR302	**V8264700**	Rotary Variable Resistor	B 50.0K XV09213P		HIGH (CH6)		
*	VR303	**V8264700**	Rotary Variable Resistor	B 50.0K XV09213P		LOW (CH5)		
*	VR304	**V8264700**	Rotary Variable Resistor	B 50.0K XV09213P		LOW (CH6)		
*	VR305	**V8264600**	Rotary Variable Resistor	A 20.0K XV09213P		MONITOR (CH5)		
*	VR306	**V8264600**	Rotary Variable Resistor	A 20.0K XV09213P		MONITOR (CH6)		
*	VR307	**V8264600**	Rotary Variable Resistor	A 20.0K XV09213P		EFFECT (CH5)		
*	VR308	**V8264600**	Rotary Variable Resistor	A 20.0K XV09213P		EFFECT (CH6)		
*	VR309	**V8264600**	Rotary Variable Resistor	A 20.0K XV09213P		LEVEL (CH5)		
*	VR310	**V8264600**	Rotary Variable Resistor	A 20.0K XV09213P		LEVEL (CH6)		
*	VR401	**V8264600**	Rotary Variable Resistor	A 20.0K XV09213P		MASTER (MAIN)		
*	VR402	**V8264600**	Rotary Variable Resistor	A 20.0K XV09213P		MASTER (MONITOR)		
*	VR403	**V8264600**	Rotary Variable Resistor	A 20.0K XV09213P		AUX IN		
*	VR404	**V8264600**	Rotary Variable Resistor	A 20.0K XV09213P		2TR IN		
	VR405	**VV044600**	Slide Variable Resistor	RS20H11KD017-YL		125		03
	VR406	**VV044600**	Slide Variable Resistor	RS20H11KD017-YL		250		03
	VR407	**VV044600**	Slide Variable Resistor	RS20H11KD017-YL		500		03
	VR408	**VV044600**	Slide Variable Resistor	RS20H11KD017-YL		1k		03
	VR409	**VV044600**	Slide Variable Resistor	RS20H11KD017-YL		2k		03
	VR410	**VV044600**	Slide Variable Resistor	RS20H11KD017-YL		4k		03
	VR411	**VV044600**	Slide Variable Resistor	RS20H11KD017-YL		8k		03
*	VR501	**V8264600**	Rotary Variable Resistor	A 20.0K XV09213P		EFFECT RTN (MAIN)		

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	REF NO.	PART NO.	DESCRIPTION		REMARKS	QTY	RANK
*	VR502	**V8264600**	Rotary Variable Resistor	A 20.0K XV09213P	EFFECT RTN (MONITOR)		
	X501	**QU007700**	Ceramic Resonator	12M CSA12.0MTZ			03
*		**AAX32940**	Circuit Board	PWR B62 1/3	J, U (V826840)(X0625B0)		
*		**AAX32950**	Circuit Board	PWR B62 1/3	H, A (V826860)(X0625B0)		
*		**AAX32960**	Circuit Board	PWR B62 2/3	J, U (V826840)(X0625B0)		
*		**AAX32970**	Circuit Board	PWR B62 2/3	H, A (V826860)(X0625B0)		
*		**AAX32990**	Circuit Board	PWR B62 3/3	J (V826840)(X0625B0)		
*		**AAX33000**	Circuit Board	PWR B62 3/3	U (V826850)(X0625B0)		
*		**AAX33010**	Circuit Board	PWR B62 3/3	H, A (V826860)(X0625B0)		
		--	Wiring Assembly	SGND	(V676790)		
		--	Jumper Wire	0.60 TP	(V829020)		
		--	Jumper Wire	0.60	(VV29140)		
		VV319600	Fuse Holder	CQ-05CT			01
	C101	**VZ353500**	Ceramic Capacitor-SL	100P 50V J			01
	C102	**VZ353300**	Ceramic Capacitor-SL	56P 50V J			01
	C103	**VZ353900**	Ceramic Cap.-B	1000P 50V K			01
	C104	**VZ353800**	Ceramic Cap.-B	470P 50V K			01
	C105	**UR847470**	Electrolytic Cap.	47.00 25.0V			01
	C106	**UR847470**	Electrolytic Cap.	47.00 25.0V			01
	C107	**UR847100**	Electrolytic Cap.	10.00 25.0V			01
	C108	**UR838100**	Electrolytic Cap.	100.00 16.0V			01
	C109	**FU451680**	Mica Capacitor	68P 500V J			01
	C110	**FU451820**	Mica Capacitor	82P 500V J			01
	C111	**UR896470**	Electrolytic Cap.	4.7 100.0V			
	C112	**UR896470**	Electrolytic Cap.	4.7 100.0V			
	C113	**UR866470**	Electrolytic Cap.	4.70 50.0V			01
	C114	**UR866470**	Electrolytic Cap.	4.70 50.0V			01
	C115	**VZ354000**	Ceramic Capacitor-F	0.0100 50V Z			01
	C116	**VZ353500**	Ceramic Capacitor-SL	100P 50V J			01
	C117	**FU452220**	Mica Capacitor	220P 500V J			02
	C118	**FU452220**	Mica Capacitor	220P 500V J			02
	C119	**VZ354000**	Ceramic Capacitor-F	0.0100 50V Z			01
	C120	**VZ354000**	Ceramic Capacitor-F	0.0100 50V Z			01
	C121	**UR896470**	Electrolytic Cap.	4.7 100.0V			
	C122	**UR896470**	Electrolytic Cap.	4.7 100.0V			
	C123	**VV082200**	Polyester Film Cap.	3.3000 100V M			03
	C124	**VV082200**	Polyester Film Cap.	3.3000 100V M			03
	C125	**UR896470**	Electrolytic Cap.	4.7 100.0V			
	C126	**UR896470**	Electrolytic Cap.	4.7 100.0V			
	C127	**VZ354300**	Ceramic Capacitor-E	0.0022 500 M			01
	C128	**VZ354300**	Ceramic Capacitor-E	0.0022 500 M			01
	C129	**VZ354000**	Ceramic Capacitor-F	0.0100 50V Z			01
	C130	**VZ354600**	Monolithic Ceramic Cap.	0.10 50V Z			01
	C131	**VZ354600**	Monolithic Ceramic Cap.	0.10 50V Z			01
	C132	**VZ354000**	Ceramic Capacitor-F	0.0100 50V Z			01
	C133	**VZ354000**	Ceramic Capacitor-F	0.0100 50V Z			01
	C134	**UR866100**	Electrolytic Cap.	1.00 50.0V			01
	C135	**UR847100**	Electrolytic Cap.	10.00 25.0V			01
	C136	**UR847470**	Electrolytic Cap.	47.00 25.0V			01
	C137	**UR828470**	Electrolytic Cap.	470.00 10.0V			01
	C140	**UR866470**	Electrolytic Cap.	4.70 50.0V			01
	C143	**UR866470**	Electrolytic Cap.	4.70 50.0V			01
	-145	**UR866470**	Electrolytic Cap.	4.70 50.0V			01
	C146	**V5482000**	Electrolytic Cap.	1000 35.0V			
	C147	**V5482000**	Electrolytic Cap.	1000 35.0V			
	C148	**VV714300**	Electrolytic Cap.	470 50.0V			01
	C149	**V5482000**	Electrolytic Cap.	1000 35.0V			
	C150	**V8349500**	Electrolytic Cap.	6800 80V			08
	C151	**V8349500**	Electrolytic Cap.	6800 80V			08
	C152	**VV082300**	Polyester Film Cap.	0.1000 250V M			01
	C153	**VV082300**	Polyester Film Cap.	0.1000 250V M			01
	C154	**VZ353500**	Ceramic Capacitor-SL	100P 50V J			01
⚠	* C156	**V8099100**	Capacitor	0.01 400V J.U.C.S			
⚠	C157	**V6113500**	Capacitor	1000P 400V J.U.C.S	H, A		01
⚠	C157	**V6185400**	Capacitor	3300P 400V J.U.C.S	U		01
⚠	C158	**V6113500**	Capacitor	1000P 400V J.U.C.S	H, A		01
⚠	C158	**V6185400**	Capacitor	3300P 400V J.U.C.S	U		01
	C159	**V5307900**	Electrolytic Cap.	100 100.0V			
	C160	**V5307900**	Electrolytic Cap.	100 100.0V			

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		REF NO.	PART NO.	DESCRIPTION			REMARKS	QTY	RANK
		C161	VZ354300	Ceramic Capacitor-E	0.0022 500 M		H		01
		CN101	VV067400	Connector Base Post	M2426XX 14P TE				
		CN103	LB932060	Base Post Connector	VH- 6P TE				01
		CN104	LB932030	Base Post Connector	VH- 3P TE				01
⚠		CN105	V5817000	AC Inlet	HF-301L				
		D101	VD631600	Diode	1SS133,176,HSS104				01
		-105	VD631600	Diode	1SS133,176,HSS104				01
		D106	VG437400	Zener Diode	MTZ J 5.1B 5.1V				01
		D107	VG437400	Zener Diode	MTZ J 5.1B 5.1V				01
		D108	VQ469600	Diode	HSS82				01
		D109	VQ469600	Diode	HSS82				01
		D110	VD631600	Diode	1SS133,176,HSS104				01
		D111	VD631600	Diode	1SS133,176,HSS104				01
		D112	VN478200	Diode	D1NL20U				01
		D113	VN478200	Diode	D1NL20U				01
		D114	VV082000	Diode	2A01				01
		-117	VV082000	Diode	2A01				01
		D118	VU801600	Diode	1N4004L 26				01
		-121	VU801600	Diode	1N4004L 26				01
		D122	V4096300	Diode	RL 10Z LFA4				01
		D123	V4096300	Diode	RL 10Z LFA4				01
		D124	VD631600	Diode	1SS133,176,HSS104				01
		D125	VU801600	Diode	1N4004L 26				01
		D131	VU801600	Diode	1N4004L 26				01
⚠		D134	VU801600	Diode	1N4004L 26				01
⚠		-139	VU801600	Diode	1N4004L 26				01
⚠	*	D140	V8151400	Diode Stack	D3SBA60 4.0A 600V				
		E101	VV075700	Terminal Plate					01
		E102	VV075700	Terminal Plate					01
		EM101	VV056900	Noise Filter	ZJSR5101-223TA				01
⚠		F101	VV070600	Fuse	TDS 2A 250V J/U/C		J, U		01
⚠		F101	VV071500	Fuse	TSD 2A 250V SEMKO		H, A		01
⚠		F102	VV070600	Fuse	TDS 2A 250V J/U/C		J, U		01
⚠		F102	VV071500	Fuse	TSD 2A 250V SEMKO		H, A		01
⚠		F103	VV071000	Fuse	TDS 4A 125V J/U/C		U		01
⚠		F103	VV071400	Fuse	TSD 1.6A 250V SEMK		H, A		01
⚠		F103	VZ897900	Fuse	TDS 5A 125V J/U/C		J		01
		IC101	XQ212A00	IC	NJM4558L-D		OP AMP		03
		IC103	XD853A00	IC	NJM7815FA		REGULATOR +15V		03
		IC104	XD854A00	IC	NJM7915FA		REGULATOR -15V		03
		IC105	XJ607A00	IC	NJM7805FA		REGULATOR +5V		02
	*	JK101	V8102300	Phone Jack	STJACK LJB0661		SPEAKERS 1		
	*	JK102	V8102300	Phone Jack	STJACK LJB0661		SPEAKERS 2		
		L101	V0030700	Coil	LHL16NB680K				04
		-104	V0030700	Coil	LHL16NB680K				04
		L105	GE300670	Ferrite Bead	BL02RN2-R62T4				02
		L106	GE300670	Ferrite Bead	BL02RN2-R62T4				02
		L107	VR150900	Coil	RZ-001 21MM				02
		PR101	VL965100	Positive Thermistor	PTH9M04BE222TS2				04
		Q101	IA097030	Transistor	2SA970 GR,BL				01
		Q102	IA097030	Transistor	2SA970 GR,BL				01
		Q103	IC224030	Transistor	2SC2240 GR,BL				01
		Q104	IC224030	Transistor	2SC2240 GR,BL				01
		Q105	VD678500	Digital Transistor	DTA114ES				01
		Q106	IA097030	Transistor	2SA970 GR,BL				01
		-108	IA097030	Transistor	2SA970 GR,BL				01
		Q109	IC224030	Transistor	2SC2240 GR,BL				01
		Q110	IC1815M0	Transistor	2SC1815 Y,GR				01
		Q111	IC1815M0	Transistor	2SC1815 Y,GR				01
		Q112	VE198700	Transistor	2SA1145 O,Y				01
		Q113	VE198800	Transistor	2SC2705 O,Y				01
		Q114	VE198700	Transistor	2SA1145 O,Y				01
		Q115	VE198800	Transistor	2SC2705 O,Y				01
		Q116	V2797700	Transistor	2SC5395 E,F				01
		Q117	V2797600	Transistor	2SA1993 E,F				01
		Q118N	VV081700	Pair Transistor	B1647/D2560				08
		Q119N	VV081700	Pair Transistor	B1647/D2560				08
		Q120P	VV081700	Pair Transistor	B1647/D2560				08
		Q121P	VV081700	Pair Transistor	B1647/D2560				08
		Q122	VP872600	Transistor	2SA1708 S,T				01

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REF NO.	PART NO.	DESCRIPTION			REMARKS	QTY	RANK
Q123N	**VV081700**	Pair Transistor	B1647/D2560				08
Q124	**VP872700**	Transistor	2SC4488 S,T				01
Q125P	**VV081700**	Pair Transistor	B1647/D2560				08
Q126	**VD678700**	Digital Transistor	DTC114ES				01
Q127	**VD678500**	Digital Transistor	DTA114ES				01
Q128	**V2797700**	Transistor	2SC5395 E,F				01
Q129	**V2797600**	Transistor	2SA1993 E,F				01
Q130	**V2797700**	Transistor	2SC5395 E,F				01
Q131	**V2797700**	Transistor	2SC5395 E,F				01
R101	**VV313500**	Metal Film Resistor	220K 1/4 F				01
R102	**VV313500**	Metal Film Resistor	220K 1/4 F				01
R103	**HB027750**	Metal Film Resistor	75.0K 1/4 F				
-106	**HB027750**	Metal Film Resistor	75.0K 1/4 F				
R107	**HF454680**	Carbon Resistor	68.0 1/4 J				01
R108	**HF454680**	Carbon Resistor	68.0 1/4 J				01
R110	**VV066000**	Metal Film Resistor	33K 1/4 F				01
R111	**HF457270**	Carbon Resistor	27.0K 1/4 J				01
R112	**HF456220**	Carbon Resistor	2.2K 1/4 J				01
R113	**HF456220**	Carbon Resistor	2.2K 1/4 J				01
R114	**HF457470**	Carbon Resistor	47.0K 1/4 J				01
R115	**HF455330**	Carbon Resistor	330.0 1/4 J				01
R116	**HF458390**	Carbon Resistor	390.0K 1/4 J				01
R117	**HF458390**	Carbon Resistor	390.0K 1/4 J				01
R118	**HF458330**	Carbon Resistor	330.0K 1/4 J				01
R119	**HF457220**	Carbon Resistor	22.0K 1/4 J				01
R120	**VV312800**	Metal Film Resistor	680.0 1/4 F				01
R121	**HF457220**	Carbon Resistor	22.0K 1/4 J				01
R122	**HF455100**	Carbon Resistor	100.0 1/4 J				01
R123	**HF455100**	Carbon Resistor	100.0 1/4 J				01
R124	**HF455560**	Carbon Resistor	560.0 1/4 J				01
-126	**HF455560**	Carbon Resistor	560.0 1/4 J				01
R127	**HF458330**	Carbon Resistor	330.0K 1/4 J				01
R128	**HF457560**	Carbon Resistor	56.0K 1/4 J				01
R129	**VV312900**	Metal Film Resistor	22K 1/4 F				01
R130	**HF455150**	Carbon Resistor	150.0 1/4 J				01
-132	**HF455150**	Carbon Resistor	150.0 1/4 J				01
R133	**VV313800**	Flame Proof C. Resistor	220.0 1/4 J				01
R134	**VV313800**	Flame Proof C. Resistor	220.0 1/4 J				01
R135	**HF457100**	Carbon Resistor	10.0K 1/4 J				01
-138	**HF457100**	Carbon Resistor	10.0K 1/4 J				01
R139	**HF457150**	Carbon Resistor	15.0K 1/4 J				01
R140	**HF457150**	Carbon Resistor	15.0K 1/4 J				01
R141	**VV313800**	Flame Proof C. Resistor	220.0 1/4 J				01
R142	**VV313800**	Flame Proof C. Resistor	220.0 1/4 J				01
R143	**VR412900**	Metal Film Resistor	0.10 3W J				01
R144	**VR412900**	Metal Film Resistor	0.10 3W J				01
R145	**VV557800**	Flame Proof C. Resistor	1.0 1/4 J				01
-147	**VV557800**	Flame Proof C. Resistor	1.0 1/4 J				01
R148	**VV313700**	Flame Proof C. Resistor	47.0 1/4 J				01
R149	**VV313900**	Flame Proof C. Resistor	680.0 1/4 J				01
R150	**VV557800**	Flame Proof C. Resistor	1.0 1/4 J				01
R151	**VV313700**	Flame Proof C. Resistor	47.0 1/4 J				01
R152	**VV313900**	Flame Proof C. Resistor	680.0 1/4 J				01
R153	**HF454470**	Carbon Resistor	47.0 1/4 J				01
R154	**HF456150**	Carbon Resistor	1.5K 1/4 J				01
R155	**HF455220**	Carbon Resistor	220.0 1/4 J				01
R156	**HF457100**	Carbon Resistor	10.0K 1/4 J				01
R157	**HF457100**	Carbon Resistor	10.0K 1/4 J				01
R158	**HF456220**	Carbon Resistor	2.2K 1/4 J				01
R159	**HF457120**	Carbon Resistor	12.0K 1/4 J				01
R160	**HF457560**	Carbon Resistor	56.0K 1/4 J				01
R161	**HF456470**	Carbon Resistor	4.7K 1/4 J				01
R162	**VV058500**	Flame Proof C. Resistor	10.0 1/4 J				01
R163	**VV058500**	Flame Proof C. Resistor	10.0 1/4 J				01
R164	**HF458150**	Carbon Resistor	150.0K 1/4 J				01
R165	**V4996300**	Wire Wound Resistor	68.0 5W K				
R166	**V4996300**	Wire Wound Resistor	68.0 5W K				
R167	**V4566800**	Metal Oxide Film Resistor	47 2W J				
R168	**HF454100**	Carbon Resistor	10.0 1/4 J				01
R172	**HF457470**	Carbon Resistor	47.0K 1/4 J				01

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	REF NO.	PART NO.	DESCRIPTION			REMARKS	QTY	RANK
	RY101	**VV315400**	Relay	DC OSA-SH-224DM3M				06
	W101	**--**	Connector Assembly	B&B2P		(V828330)		
	W101a	**V3225000**	Ferrite Core	FR25/15/12-D40				03
*	W102	**V8272900**	Connector Assembly	PSW				
⚠		**XW440A00**	Power Transformer	UL CSA		U		15
⚠		**XW442A00**	Power Transformer	AS		A		15
⚠		**XY532A00**	Power Transformer	A		J		15
⚠		**XY533A00**	Power Transformer	CE		H		15

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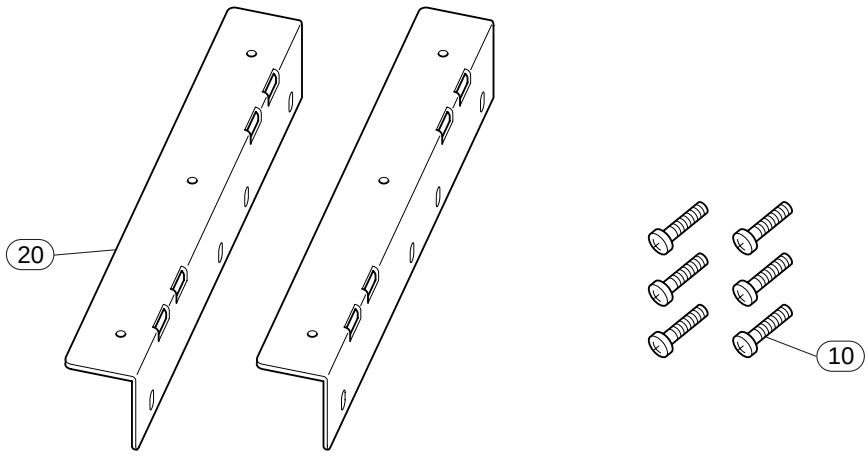
■ RK-88 RACK MOUNT KIT



REF NO.	PART NO.	DESCRIPTION			REMARKS	QTY	RANK
		RACK MOUNT KIT			RK-88		
10	**VB132700**	Bind Head Screw	4.0X12 MFZN2BL			6	01
20	**--**	Rack Angle			(V840830)	2	

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