

AC-60

SERVICE NOTES *Issued by RJA*

TABLE OF CONTENTS

SPECIFICATIONS.....	2	TEST MODE.....	11
LOCATION OF CONTROLS	3	BLOCK DIAGRAM.....	14
LOCATION OF CONTROLS PARTS LIST	3	CIRCCUIT BOARD.....	16
EXPLODED VIEW(CABINET).....	4	CIRCCUIT BOARD.....	18
EXPLODED VIEW PARTS LIST(CABINET)	5	CIRCUIT DIAGRAM(MAIN-PS/PS1 / AMP)	20
EXPLODED VIEW(CHASSIS).....	6	CIRCUIT DIAGRAM(PANEL/JACK).....	22
EXPLODED VIEW PARTS LIST(CHASSIS).....	7	CIRCUIT DIAGRAM(MAIN-DIGITAL).....	24
PARTS LIST.....	8	CIRCUIT DIAGRAM(MAIN-ANALOG/XLR)	26
CHECKING THE VERSION NUMBER.....	11		



Copyright © 2003 ROLAND CORPORATION

All rights reserved. No part of this publication may be reproduced in any form without the written permission of ROLAND CORPORATION.

SPECIFICATIONS

ACOUSTIC CHORUS AC-60 SPECIFICATIONS

Rated Power Output

30W + 30W

Nominal Input Level (1 kHz)

GUITAR Channel: -10 dBu
MIC/LINE Channel: -50 / -10 dBu
AUX IN: -10 dBu

Nominal Output Level (1 kHz)

DI/TUNER OUT: +4 dBu
LINE OUT: +4 dBu
SUB WOOFER OUT: +4 dBu

* 0 dBu = 0.775 Vrms

Speakers

16 cm (6.5 inches) x 2

Controls

(GUITAR Channel)
PICKUP Switch (PIEZO/MAGNETIC)
SHAPE Switch
VOLUME Knob
Equalizer Knobs (BASS, MIDDLE, TREBLE)
CHORUS Switch

(MIC/LINE Channel)
PHANTOM Switch
SELECT Switch (MIC/LINE)
VOLUME Knob
Equalizer Knobs (BASS, MIDDLE, TREBLE)
CHORUS Switch

CHORUS Knob
REVERB/DELAY Knob

(ANTI-FEEDBACK)
FREQUENCY Knob
START Button

MUTE Switch
MASTER Knob
POWER Switch

Indicator

CHORUS (GUITAR Channel, MIC/LINE Channel)
ANTI-FEEDBACK
MUTE
POWER

Connectors

GUITAR Channel Input Jack (1/4" phone type)
MIC/LINE Input Jacks (XLR type, 1/4" phone type)
AUX IN Jacks (RCA phono type, 1/4" phone type)
DI/TUNER OUT Jack (1/4" TRS phone type)
LINE OUT Jacks (XLR type, 1/4" phone type)
SUB WOOFER OUT Jack (1/4" phone type)
PHONES Jack (Stereo 1/4" phone type)
FOOT SWITCH Jacks (1/4" TRS phone type)

Power Supply

AC 117 V, AC 230 V, AC 240 V

Power Consumption

68 W

Dimensions

380 (W) x 270 (D) x 268 (H) mm
15 (W) x 10-11/16 (D) x 10-9/16 (H) inches

Weight

9.8 kg
21 lbs 10 oz

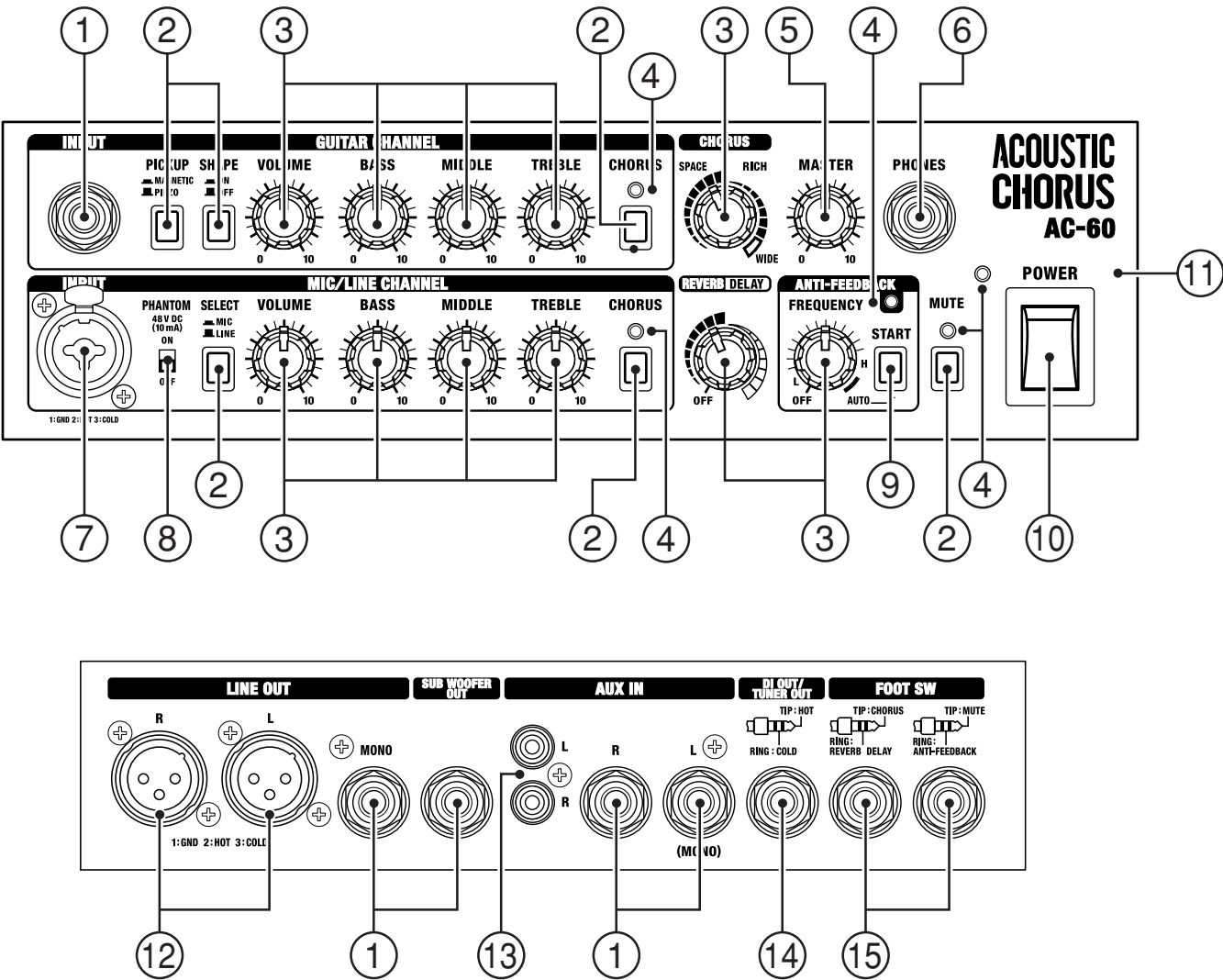
Accessory

Carrying Case(#SD000098)
Owner's Manual ENGLISH(#SD000071)
JAPANESE(#SD000070)

Options

Foot Switch: BOSS FS-5L (Mute On/Off), BOSS FS-5U
Connection Cable: PCS-31

LOCATION OF CONTROLS

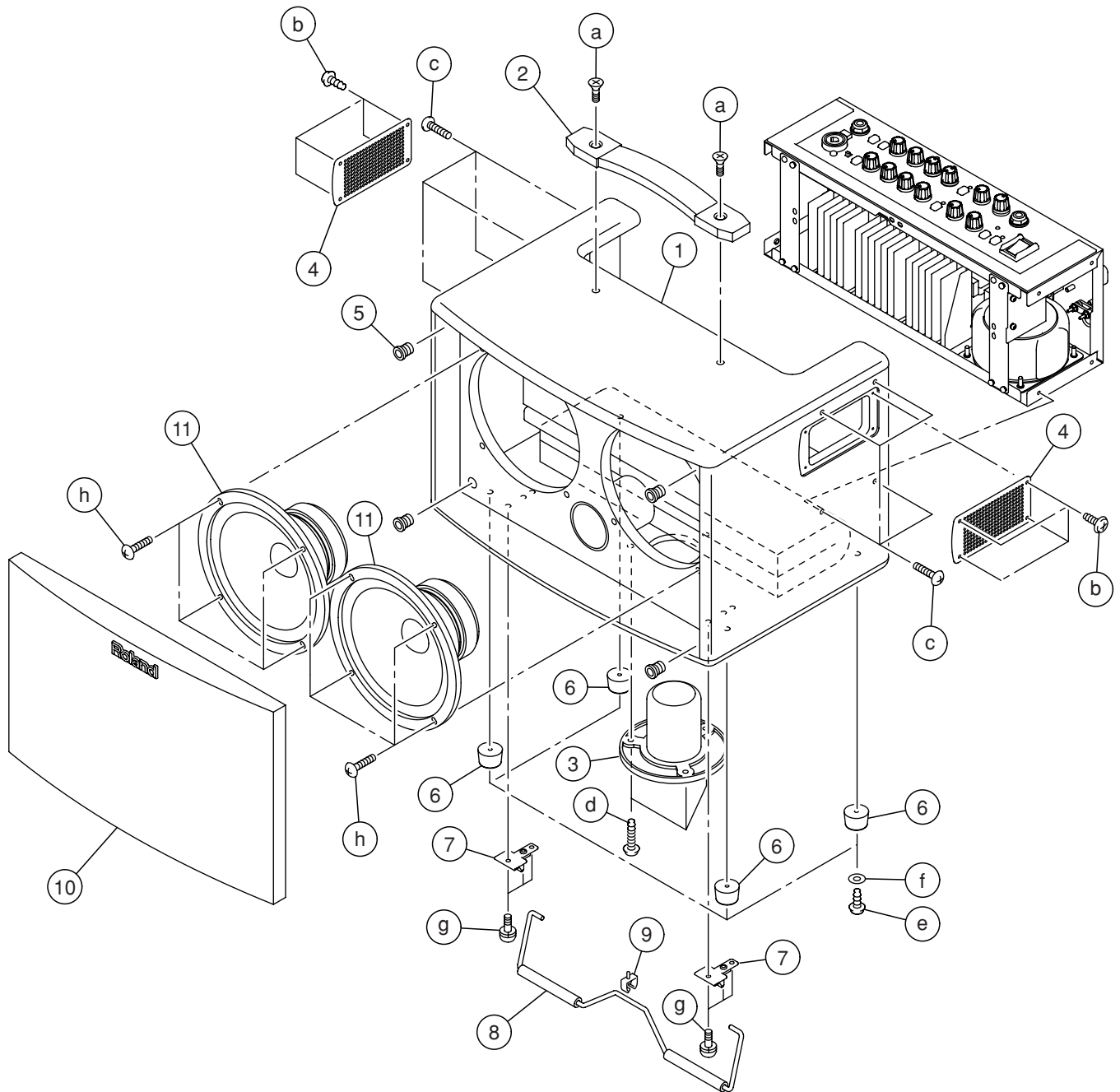


LOCATION OF CONTROLS PARTS LIST

NO.	PART CODE	PART NAME	DESCRIPTION	Q'TY
1	13449146	6.5MM JACK	YKB21-5012 (W/SW)	5
2	SD000099	PUSH SWITCH	ESB64619	6
3	SD000091	POTENTIOMETER	RK09L1140 10KB	11
4	SD000089	LED(RED) 3FAI		5
5	SD000090	POTENTIOMETER	RK0971410 10KBX4	1
6	13449169	6.5MM JACK	YKB21-5078	1
7	01901001	XLR JACK	NCJ9FI-H	1
8	SD000105	SLIDE SWITCH	SSSF021500	1
9	01454723	PUSH SWITCH	ESB64620	1
10	01786012	SEESAW SWITCH	JW-M11RKK	1
	01786045	SW HOLDER	AT-217K	1
11	SD000080	CHASSIS		1
12	00122123	XLR SOCKET	YKF52-5003	2
13	13449643	JACK (PIN JACK 2P) WHT/RED	YKC21-3091	1
14	13449145	6.5MM JACK	YKB21-5010	1
15	13449252	6.5MM JACK	YKB21-5006 (STEREO W/SW)	2

all JACK NUT :SD000042 JACK NUT
all KNOB :SD000083 KNOB S
all BUTTON :SD000082 PUSH BUTTON

EXPLODED VIEW(CABINET)



EXPLODED VIEW PARTS LIST(CABINET)

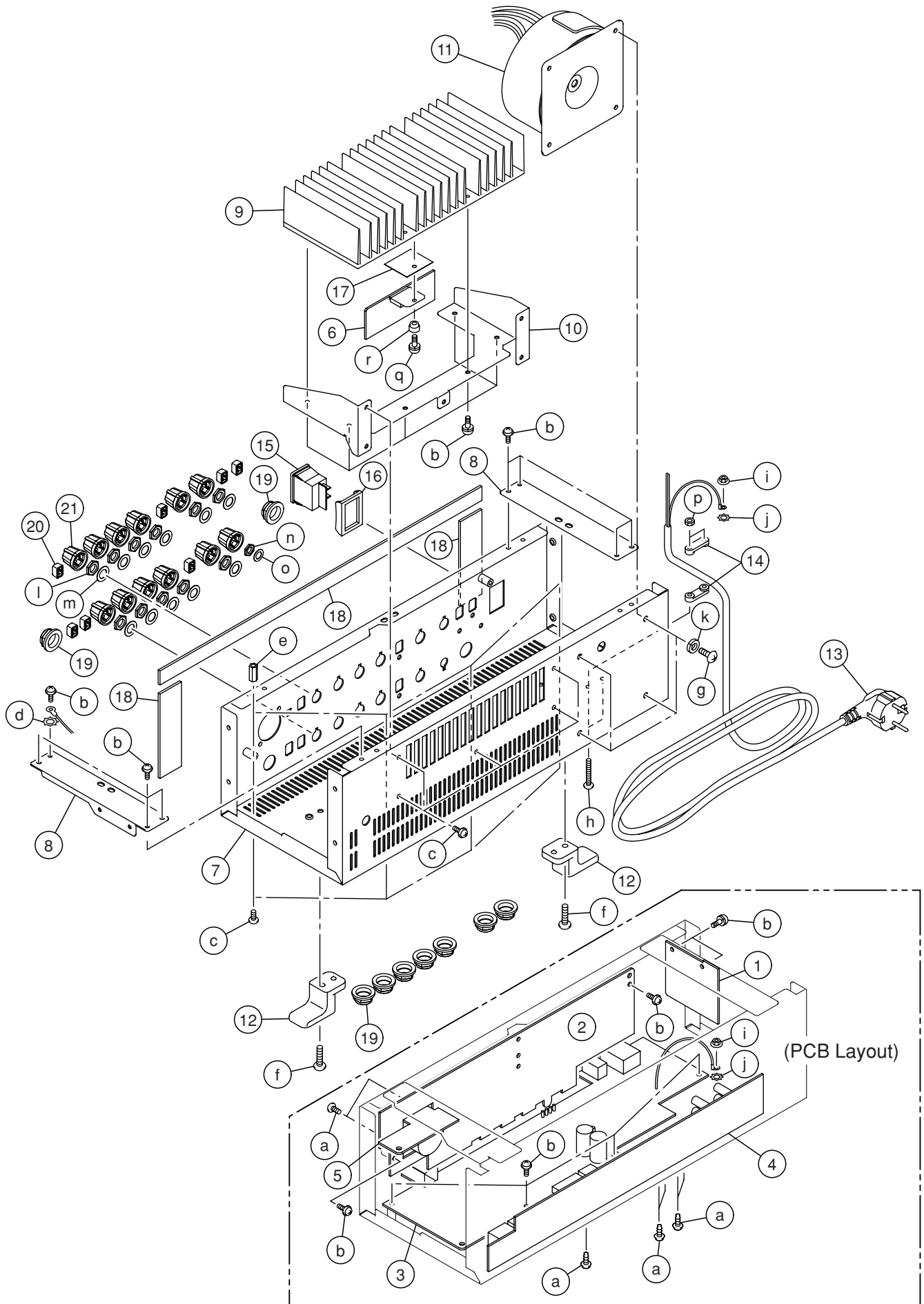
[PARTS]

NO.	PART CODE	PART NAME	DESCRIPTION	Q'TY
1	SD000072	CABINET ASSY		1
		NOTE: "CABINET ASSY" includes the following parts.		
2	SD000035	HANDLE WITH ESCUTHEON		1
3	17055020	STAND ADAPTOR		1
4	SD000074	RADIATION PLATE		2
5	SD000079	CATCH BLK (73)		4
6	SD000078	RUBBER FOOT		4
7	SD000076	STAND HOLDER		2
8	SD000075	STAND		1
9	SD000077	STOPPER		1
10	SD000073	CLOTH FRAME W/LOGO ASSY		1
11	SD000084	SPEAKER (6.5INCH)	377164	2

[SCREW]

NO.	PART CODE	PART NAME	DESCRIPTION	Q'TY
a	SD000104	SCREW M5X20	OVALHEAD MACHINE BZC	2
b	SD000100	SCREW M3.5X12	TRUSS TAPTITE A1 BZC	8
c	40010134	SCREW M4X20	TRUSS MACHINE BZC	8
d	SD000068	SCREW 4X25	TRUSS TAPTITE A1 BZC	3
e	SD000101	SCREW M3X16	BINDING TAPTITE A1 BZC	4
f	SD000096	M3 FLAT WASHER	BZC	4
g	SD000102	SCREW M4X12	BINDING MACHINE W/SW BZC	6
h	SD000019	SCREW 4X25	BINDING MACHINE BZC	8

EXPLODED VIEW(CHASSIS)



Removal of PCB ASSY is performed in following order.

1. AC CORD
2. (PCB ASSY) PS1
3. STAY
4. TRANSFORMER
5. HEATSINK HOLDER
6. (PCB ASSY)XLR BOARD
7. (PCB ASSY)MAIN BOARD
8. (PCB ASSY)JACK BOARD
9. (PCB ASSY)PANEL BOARD

EXPLODED VIEW PARTS LIST(CHASSIS)

[PARTS]

NO	PART CODE	PART NAME	DESCRIPTION	Q'TY
1	SD000088	PCB ASSY COMM/PCB ASSY	PS1 BOARD	1
2	SD000088	PCB ASSY COMM/PCB ASSY	PANEL BOARD	1
3	SD000088	PCB ASSY COMM/PCB ASSY	MAIN BOARD	1
4	SD000088	PCB ASSY COMM/PCB ASSY	JACK BOARD	1
5	SD000088	PCB ASSY COMM/PCB ASSY	XLR BOARD	1
6	SD000088	PCB ASSY COMM/PCB ASSY	AMP BOARD	1
7	SD000080	CHASSIS		1
8	SD000081	STAY		2
9	SD000085	HEAT SINK		1
10	SD000086	HEAT SINK HOLDER		1
11	SD000094	TRANSFORMER 100V /117V		1
11	SD000093	TRANSFORMER 230V /240V		1
12	22360705	CORD HOOK		2
13	SD000095	AC CORD	SP-18E 100V	1
13	SD000014	AC CORD	SP-301 117V	1
13	SD000012	AC CORD	SP-023 230V	1
13	SD000016	AC CORD	SP-60 230VE	1
13	SD000015	AC CORD	SP-502B 240V	1
14	12369410RT	AC CORD HOLDER	1702B	2
15	01786012	SEESAW SWITCH	JW-M11RKK	1
16	01786045	SW HOLDER	AT-217K	1
17	SD000087	INSULATING SHEET	K-10	1
18	SD000108	CHASSIS CUSHION		
19	SD000042	JACK NUT		9
20	SD000082	PUSH BUTTOM		7
21	SD000083	KNOB S		12

[SCREW]

NO	PART CODE	PART NAME	DESCRIPTION	Q'TY
a	40011201	SCREW 3X8	PAN TAPTITE P BZC	7
b	40011423	SCREW M3X6	PAN SEMS FECM	22
c	40011490	SCREW M3X6	PAN MACHINE W/SW BZC	9
d	40011878	M3 EXTERNAL TOOTH WASHER	FECM	1
e	22150518	STANDOFF	HEX.BOSS 5.5X15 M3	4
f	SD000103	SCREW M4X25	PAN PACHINE W/SW BZC	2
g	40230523	SCREW M4X12	BINDING HEAD FE BZC	4
h	40010301	SCREW M3X20	BINDING MACHINE BZC	2
i	40011767	FLANGE HEX NUT M4	FE ZC	2
j	40011889	EXTERNAL TOOTH WASHER M4	FECM	2
k	40347534	WASHER M4	SPRING BZC	4
l	17048630	VR ACCESSORY NUT M9		11
m	SD000107	VR ACCESSORY WASHER M9(T0.3)		11
n	40128923	HEX NUT M7		1
o	17048651	VR ACCESSORY WASHER M7	M7X12X0.5 NO.476	1
p	40011756	FLANGE HEX NUT M3	ZC	2
q	40011445	SCREW M3X10 PAN HEAD SEMS	FE BZC	1
r	SD000038	INSULATING BUSH		1

PARTS LIST

SAFETY PRECAUTIONS:

The parts marked $\triangle$ have safety-related characteristics. Use only listed parts for replacement.

CONSIDERATION ON PARTS ORDRING

When ordering any parts listed in the parts list, please specify the following items in the order sheet.

	QTY	PART NUMBER	DESCRIPTION	MODEL NUMBER
Ex.	10	22575241	Sharp Key	C-20/50
	15	2247017300	Knob (orange)	DAC-15D

Failure to completely fill the above items with correct number and description will result in delayed or even undelivered replacement.

NOTE: The parts marked # are new. (initial parts)

CASING

			Q'ty
#	SD000073	CLOTH FRAME W/LOGO ASSY	1
#	SD000072	CABINET ASSY	1
	NOTE: "CABINET ASSY" includes the following parts.		
	SD000035	HANDLE WITH ESCUTHEON	2
	17055020	STAND ADAPTOR	1
#	SD000074	RADIATION PLATE	2
#	SD000079	CATCH BLK (73)	4
#	SD000078	RUBBER FOOT	4
#	SD000076	STAND HOLDER	2
#	SD000075	STAND	1
#	SD000077	STOPPER	1

CHASSIS

#	SD000081	STAY	2
#	SD000080	CHASSIS	1
	22360705	CORD HOOK	2

KNOB,BUTTON

#	SD000083	KNOB S	12
#	SD000082	PUSH BUTTON	7

SWITCH

#	SD000105	SSSF021500	SLIDE SWITCH	1
$\triangle$	01786012	JW-M11RKK	SEESAW SWITCH	1
#	SD000099	ESB64619	PUSH SWITCH	6
	01454723	ESB64620	PUSH SWITCH	1

JACK,EXT TERMINAL

	00122123	YKF52-5003	XLR SOCKET	JK6,9	2
	01901001	NCJ9FI-H	XLR JACK	JK3	1
	13449643	YKC21-3091	JACK (PIN JACK 2P) WHT/RED	JK5	1
	13449252	YKB21-5006 (STEREO W/SW)	6.5MM JACK	JK11, 401	2
	13449145	YKB21-5010	6.5MM JACK	JK13	1
	13449146	YKB21-5012 (W/SW)	6.5MM JACK	JK1,4,7,12,400	5
	13449169	YKB21-5078	6.5MM JACK	JK2	1

SPEAKER,BUZZER

#	SD000084	377164	SPEAKER (6.5INCH)	2
---	----------	--------	-------------------	---

PWB ASSY

#	SD000088	PCB ASSY COMM/PCB ASSY	(all voltage common)	1
	NOTE: PCB ASSY is include the following parts.			
	*****	PS1 BOARD		1
	*****	PANEL BOARD		1
	*****	MAIN BOARD		1
	*****	JACK BOARD		1
	*****	XLR BOARD		1
	*****	AMP BOARD		1

IC

#	SD000115	MBM29LV400BC-70PFTN	IC(FLASH MEMORY) PROGRAMED	IC6	1
	02897778	S-80130ALMC-JAP-T2	IC (RESET)	IC7	1
# $\triangle$	SD000118	L78L09	IC (REGULATOR)	IC2	1
# $\triangle$	SD000119	L79L09	IC (REGULATOR)	IC3	1
# $\triangle$	SD000117	UPC2933A	IC (REGULATOR)	IC1	1

IC						
#	△	SD000116	LM4766T	IC (POWER)	IC19	1
		15289154	UPC4072G2-E1	IC (JFET OP)	IC11,IC12,IC13,IC14,IC17,IC21	6
		15289106	M5238AFP-600C	IC (JFET OP AMP)	IC8	1
		02565501	TC220CCA0AF-B01(MR3)	IC (DSP)	IC5	1
		01786667	HD6413006F20	IC (CPU)	IC4	1
		15259863T0	TC74HC4051AF(EL)	IC (CMOS)	IC20	1
		00346445	NJM2100M(TE3)	IC (BIPOLAR OP AMP)	IC9,IC15	2
		01125012	NJM4556AM	IC (BIPOLAR OP AMP)	IC18	1
		02451434	AK4552VT	IC (AD/DA)	IC10,IC16	2
TRANSISTOR						
	△	15119424	2SA-965Y-TPE6	POWER TRANSISTOR	Q23	1
	△	15129427	2SC-2235Y-TPE6	POWER TRANSISTOR	Q2	1
DIODE						
#		SD000089	LED(RED) 3FAI			5
#	△	SD000123	RD47S	ZENNER DIODE	D6	1
#	△	SD000122	1N4007G(P=10MM)	DIODE	D4,D5	2
#	△	02457445	1SS367	DIODE	D20,D21	2
#	△	SD000120	AM152	BRIDGE DIODE	D14	1
#	△	SD000121	FL402	BRIDGE DIODE	D7	1
RESISTOR						
#	△	SD000126	1/2W 4.7	REGISTER	R9,R13	2
#	△	SD000124	2W 0.33	METAL OXIDE REGISTER	R10,R11	2
#	△	SD000125	2W 33	METAL OXIDE REGISTER	R14	1
POTENTIOMETER						
#		SD000091	RK09L1140 10KB	POTENTIOMETER	VR2-12	11
#		SD000090	RK0971410 10KBX4	POTENTIOMETER	VR1	1
CAPACITOR						
#	△	SD000136	EC8472MH	LINE CAPACITER	C21	1
#	△	SD000137	PY17FY472MLO	LINE CAPACITER	C243	1
#	△	SD000135	0.1UF 125VAC	FILM CAPACITER	C11	1
#	△	SD000130	0.47/50 105C	ELECTRIC CAPACITER	C2	1
#	△	SD000132	100/100 105C	ELECTRIC CAPACITER	C5,C6	2
#	△	SD000127	100/100 BP 105C	ELECTRIC CAPACITER	C4	1
#	△	SD000129	100/35 105C	ELECTRIC CAPACITER	C19,C28,C31	3
#	△	SD000133	1000/35 FAI13MM H25MM 105C	ELECTRIC CAPACITER	C29,C25	2
#	△	SD000131	2.2/100 105C	ELECTRIC CAPACITER	C3	1
#	△	SD000128	4.7/50 105C	ELECTRIC CAPACITER	C1	1
#	△	SD000134	4700/50 FAI22MM H55MM 105C	ELECTRIC CAPACITER	C15,C12	2
CRYSTAL,RESONATOR						
#	△	02904134	CX-49G 10MHZ	CRYSTAL	X1	1
	△	02673278	CX-49G 11.2896MHZ	CRYSTAL	X2	1
FUSE,FUSE HOLDER						
#	△	SD000092	5ST 2.5A 250V	FUSE	F1	1
#	△	SD000138	FUSE	MRT 3.15	F3,F2	2
#	△	SD000139	FUSE	MRT 250	F4,F5	2
#	△	SD000140	FUSE	MRT 125	F6	1
#	△	SD000141	FUSE HOLDER	FC-201	F1	2
TRANSFORMER						
#	△	SD000093	TRANSFORMER 230V/240V			1
#	△	SD000094	TRANSFORMER 100V/117V			1
AC CORD ASSY (Installed)						
#	△	SD000095	SP-18E 100V	AC CORD		1
	△	SD000012	SP-023 230V	AC CORD		1
	△	SD000014	SP-301 117V	AC CORD		1
	△	SD000015	SP-502B 240V	AC CORD		1
	△	SD000016	SP-60 230VE	AC CORD		1

SCREWS

	40011756	FLANGE HEX NUT M3	ZC	AC CORD BUSH	2
	SD000068	SCREW 4X25	TRUSS TAPTITE A1 BZC	STAND ADAPTER	3
#	SD000100	SCREW M3.5X12	TRUSS TAPTITE A1 BZC	RADIATION PLATE	8
	40010134	SCREW M4X20	TRUSS MACHINE BZC	CHASSIS	8
	40347534	WASHER M4	SPRING BZC	TRANSFORMER	4
	40011201	SCREW 3X8	PAN TAPTITE P BZC	MIC, LINE OUT, AUX IN	7
	40011423	SCREW M3X6	PAN SEMS FECM	HEAT SINK, PCB, STAY, PS	22
#	SD000103	SCREW M4X25	PAN PACHINE W/SW BZC	AC CORD HOOK	2
	40011490	SCREW M3X6	PAN MACHINE W/SW BZC	STANDOFF, HEAT SINK HOLDER	9
#	SD000104	SCREW M5X20	OVALHEAD MACHINE BZC	HANDLE	2
	17048651	VR ACCESSORY WASHER M7	M7X12X0.5 NO.476	MASTER VR	1
	22150518	STANDOFF	HEX.BOSS 5.5X15 M3	PCB	4
	40011889	EXTERNAL TOOTH WASHER M4	FECM	AC CORD GND, WIRING GND	2
	40011878	M3 EXTERNAL TOOTH WASHER	FECM	STAY	1
	40011767	FLANGE HEX NUT M4	FE ZC	AC CORD GND, WIRING GND	2
	40011445	SCREW M3X10 PAN HEAD SEMS	FE BZC	POWER IC	1
#	SD000096	M3 FLAT WASHER	BZC	RUBBER FOOT	4
#	SD000101	SCREW M3X16	BINDING TAPTITE A1 BZC	RUBBER FOOT	4
#	SD000102	SCREW M4X12	BINDING MACHINE W/SW BZC	STAND HOLDER	6
	SD000019	SCREW 4X25	BINDING MACHINE BZC	SPEAKER	8
	40010301	SCREW M3X20	BINDING MACHINE BZC	AC CORD BUSH	2
	40230523	SCREW M4X12	BINDING HEAD FE BZC	TRANSFORMER	4
	40128923	HEX NUT M7		MASTER VR	1
#	SD000038	INSULATING BUSH		POWER IC	1
	SD000042	JACK NUT			9
	17048630	VR ACCESSORY NUT M9		VR	11
#	SD000107	VR ACCESSORY WASHER M9(T0.3)		VR	11

PACKING

#	SD000097	PACKING CASE			1
---	----------	--------------	--	--	---

MISCELLANEOUS

#	SD000087	INSULATING SHEET	K-10		1
	01786045	SW HOLDER	AT-217K		1
#	SD000085	HEAT SINK			1
#	SD000086	HEAT SINK HOLDER			1
	△ 12369410RT	AC CORD HOLDER	1702B		2
	SD000029	CABLE TIE			1
#	SD000108	CHASSIS CUSHION			
#	△ SD000142	TERMINAL	352-TX119	T3,T2	2

ACCESSORIES (Standard)

#	SD000070	OWNER'S MANUAL	JAPANESE		1
#	SD000071	OWNER'S MANUAL	ENGLISH		1
#	SD000098	CARRYING BAG			1

CHECKING THE VERSION NUMBER

Note TIP: MUTE, RING: ANTI-FEEDBACK for [Foot SW 1].
Note TIP: CHORUS, RING: REVERB/DELAY for [Foot SW 2].

1. Connecting the Foot Switches
- Connect two FS-5U foot switches to [Foot SW 1] using a PCS-31 foot switch cable. Make the FS-5U foot switch connections and settings as shown below.
- FS-5U foot switch polarity setting

Set the [POLARITY] switch to the opposite of the JACK setting.
- Foot switch connector cable connection settings

The PCS-31 foot switch connector cable takes stereo input and splits it into two standard mono signals.

The “white” standard plug carries the [TIP] signal, and the “red” plug carries the signal from the [RING].

Each plug is connected to a separate FS-5U foot switch.

The red and white plugs may be connected to either FS-5U.
2. Panel Settings
- [PICK UP] SW: “PIEZO”

[SELECT] SW: “LINE”

All other switches: “OFF”

All VRs: “MIN”
3. Version Number Display
- After carrying out Steps 1 and 2, hold down the foot switch to which [TIP] (the white plug) is connected and turn on the power.

Within four seconds after turning on the power, press the switch twice to enter Test mode.

Immediately upon entering Test mode, the GUITAR [CHORUS] LED, MIC/LINE [CHORUS] LED, [ANTI-FEEDBACK] LED, and [MUTE] LED flashes several times, and then the flashing of the LEDs changes to indicate the version number.

Version	1.00	1.01	1.02	1.03	1.04	1.05	1.06
Gt. [CHORUS] LED	○	●	●	○	○	●	○
MIC. [CHORUS] LED	●	○	●	○	●	○	○
[ANTI-FEEDBACK] LED	●	●	○	●	○	○	○

○ : Flashing
● : Off

4. Turning Off the Power

TEST MODE

1. Tools Required

- Headphones:1 (pair)
- FS-5U foot switches (sold separately): 2
- PCS-31 foot switch connector cable (sold separately): 1
- Tester (for measuring voltage)

2. Instructions for Entering Test Mode

Note TIP: MUTE, RING: ANTI-FEEDBACK for [Foot SW 1].
Note TIP: CHORUS, RING: REVERB/DELAY for [Foot SW 2].

1. Connecting the Foot Switches
- Connect two FS-5U foot switches to [Foot SW 1] using a PCS-31 foot switch cable. Make the FS-5U foot switch connections and settings as shown below.
- FS-5U foot switch polarity setting

Set the [POLARITY] switch to the opposite from the JACK setting.
- Foot switch connector cable connection settings

The PCS-31 foot switch connector cable takes stereo input and splits it into two standard mono signals.

The “white” standard plug carries the [TIP] signal, and the “red” plug carries the signal from the [RING].

Each plug is connected to a separate FS-5U foot switch.

The red and white plugs may be connected to either FS-5U.
2. Panel Settings
- [PICK UP] SW: “PIEZO”

[SELECT] SW: “LINE”

All other switches: “OFF”

All VRs: “MIN”



You cannot enter Test mode unless the settings in Step 2 are made correctly.

3. Entering Test Mode
- After carrying out Steps 1 and 2, hold down the foot switch to which [TIP] (the white plug) is connected and turn on the power.

Within four seconds after turning on the power, press the switch twice to enter Test mode.

Immediately upon entering Test mode, the GUITAR [CHORUS] LED, MIC/LINE [CHORUS] LED, [ANTI-FEEDBACK] LED, and [MUTE] LED flashes several times, and then the flashing of the LEDs changes (refer to table of version number indicators).

After this, the LEDs are used to indicate the status of each test; at this time, confirm that the Gt. [CHORUS] LED, MIC. [CHORUS] LED, [ANTI-FEEDBACK] LED, and [MUTE] LED are capable of flashing.

3. Exiting Test Mode

To cancel Test mode, turn off the power.

4. Skipping Tests

You cannot skip tests in Test mode.

5. Test Items

- 1. Display of the Version Number
- 2. DSP Check
- 3. Switch Check
- 4. Volume Check
- 5. Phantom Power Check

6. Test Item Details

1. Display of the Version Number

Version	1.00	1.01	1.02	1.03	1.04	1.05	1.06
Gt. [CHORUS] LED	○	●	●	○	○	●	○
MIC. [CHORUS] LED	●	○	●	○	●	○	○
[ANTI-FEEDBACK] LED	●	●	○	●	○	○	○
○ : Flashing							
● : Off							

Press the foot switch to which [TIP] (the white plug) is connected to stop displaying the version number and advance to the next test.

2. DSP Check

Upon entering this test, the Gt. [CHORUS] LED, MIC. [CHORUS] LED, [ANTI-FEEDBACK] LED, and [MUTE] LED first go off, and then the Gt. [CHORUS] LED, MIC. [CHORUS] LED, [ANTI-FEEDBACK] LED, and [MUTE] LED light up in sequence as the test proceeds.

Test Passed: Gt. [CHORUS] LED, MIC. [CHORUS] LED, [ANTI-FEEDBACK] LED, and [MUTE] LED flash

Test Failed: [MUTE] LED flashes

The procedure does not advance if this test fails.

Press the foot switch to which [TIP] (the white plug) is connected to advance to the next test.

3. Switch Check

Upon entering this test, the Gt. [CHORUS] LED, MIC. [CHORUS] LED, [ANTI-FEEDBACK] LED, and [MUTE] LED go off.

Perform the following operations and confirm the status of the corresponding LEDs.

1.) [PICKUP] SW
Switch from PIEZO to MAGNETIC

Gt. [CHORUS] LED lights

2.) [SHAPE] SW
Switch OFF to ON

MIC. [CHORUS] LED lights

3.) [PHANTOM] SW
Switch OFF to ON

[ANTI-FEEDBACK] LED lights

4.) [SELECT] SW
Switch from LINE to MIC

[MUTE] LED lights

5.) Gt. [CHORUS] SW
Switch OFF to ON

Gt. [CHORUS] LED goes off

6.) MIC. [CHORUS] SW
Switch OFF to ON

MIC. [CHORUS] LED goes off

7.) [START] SW
Press

[ANTI-FEEDBACK] LED goes off

8.) [MUTE] SW
Switch OFF to ON

[MUTE] LED goes off

If this test fails, the [MUTE] LED flashes, and the procedure does not advance to the next test.

If all tests up to this point are passed, the Gt. [CHORUS] LED, MIC. [CHORUS] LED, [ANTI-FEEDBACK] LED, and [MUTE] LED flash.

- 9.) [Foot SW 1] JACK SW
Disconnect the [FOOT SW 1] plug from the AC-60 Gt. [CHORUS] LED, MIC. [CHORUS] LED, [ANTI-FEEDBACK] LED, and [MUTE] LED go off
Connect the [FOOT SW 1] plug to the AC-60 Gt. [CHORUS] LED, MIC. [CHORUS] LED, [ANTI-FEEDBACK] LED, and [MUTE] LED light
- 10.) [Foot SW 1] [TIP] SW
Press the [TIP] (white) foot switch Gt. [CHORUS] LED goes off
- 11.) [Foot SW 1] [RING] SW
Press the [RING] (red) foot switch MIC. [CHORUS] LED goes off
- 12.) [Foot SW 2] JACK SW
Disconnect the [FOOT SW 1] plug from the AC-60 [ANTI-FEEDBACK] LED and [MUTE] LED go off
Connect the plug to [FOOT SW 2] of AC-60 Gt. [CHORUS] LED, MIC. [CHORUS] LED, [ANTI-FEEDBACK] LED, and [MUTE] LED light
- 13.) [Foot SW 2] [TIP] SW
Press the [TIP] (white) foot switch [ANTI-FEEDBACK] LED goes off
- 14.) [Foot SW 2] [RING] SW
Press the [RING] (red) foot switch [MUTE] LED goes off
- 15.) [PHONES] JACK SW
Disconnect the [Foot SW 2] plug from the AC-60 Gt. [CHORUS] LED, MIC. [CHORUS] LED go off
Connect headphone plug to the [PHONES] jack Gt. [CHORUS] LED, MIC. [CHORUS] LED, [ANTI-FEEDBACK] LED, and [MUTE] LED light
Disconnect headphone plug from the [PHONES] jack Gt. [CHORUS] LED, MIC. [CHORUS] LED, [ANTI-FEEDBACK] LED, and [MUTE] LED go off



If the tests are performed in the wrong sequence, or if a test fails, you cannot advance to confirm the items in subsequent tests.

When testing of all switches is completed, the Gt. [CHORUS] LED, MIC. [CHORUS] LED, [ANTI-FEEDBACK] LED, and [MUTE] LED flash.

Connect the PCS-31's plug to the AC-60's [Foot SW 1] jack, then press the foot switch to which [TIP] (the white plug) is connected to advance to the next test.

4. Volume Check

Upon entering this test, the Gt. [CHORUS] LED, MIC. [CHORUS] LED, [ANTI-FEEDBACK] LED, and [MUTE] LED go off.



With some DSPs, oscillation may start on its own when volume controls are adjusted, so sound may be output from the speakers if the speakers are left connected during these tests. The volume level up to the point an individual volume check is completed will vary according to the knob position.

In the sequence given below, turn the volume knob from the MIN to CENTER position, and then to MAX, and confirm that the volume changes accordingly. After checking each knob, be sure to leave it at MAX when proceeding to test the subsequent knob.

[MASTER] ▶ [CHORUS] ▶ Gt. [TREBLE] ▶ Gt. [MIDDLE] ▶ Gt. [BASS] ▶ Gt. [VOLUME] ▶ MIC. [VOLUME] ▶ MIC. [BASS] ▶ MIC. [MIDDLE] ▶ MIC. [TREBLE] ▶ [REVERB /DELAY] ▶ [FREQUENCY]

MIN Detected: [ANTI-FEEDBACK] LED and [MUTE] LED go off
CENTER Detected: [ANTI-FEEDBACK] LED lights
MAX Detected: [ANTI-FEEDBACK] LED and [MUTE] LED light

If all tests are passed, the Gt. [CHORUS] LED, MIC. [CHORUS] LED, [ANTI-FEEDBACK] LED, and [MUTE] LED flash.



If there is a failure in this test, you cannot advance to confirm the items in the subsequent test.

Turn the power off.

5. Phantom Power Check

Turn on the power. Set the [MASTER] VR to MIN. There are no particularly specified positions for other knobs and switches.

Use the tester to check the DC voltage between each MIC/LINE CHANNEL [INPUT] XLR terminal.

Set the measurement range on the tester to 50 V or higher.

Put the tester's [COM] (black) probe to the [1:GND] terminal.

1.) [PHANTOM] ON Voltage

Press the [PHANTOM] switch to the ON position.

Put the tester's [+] (red) probe to the [2:HOT] terminal. 44 V to 49 V

Put the tester's [+] (red) probe to the [3:COLD] terminal. 44 V to 49 V

2.) [PHANTOM] OFF Voltage

Press the [PHANTOM] switch so that it is in the OFF position.

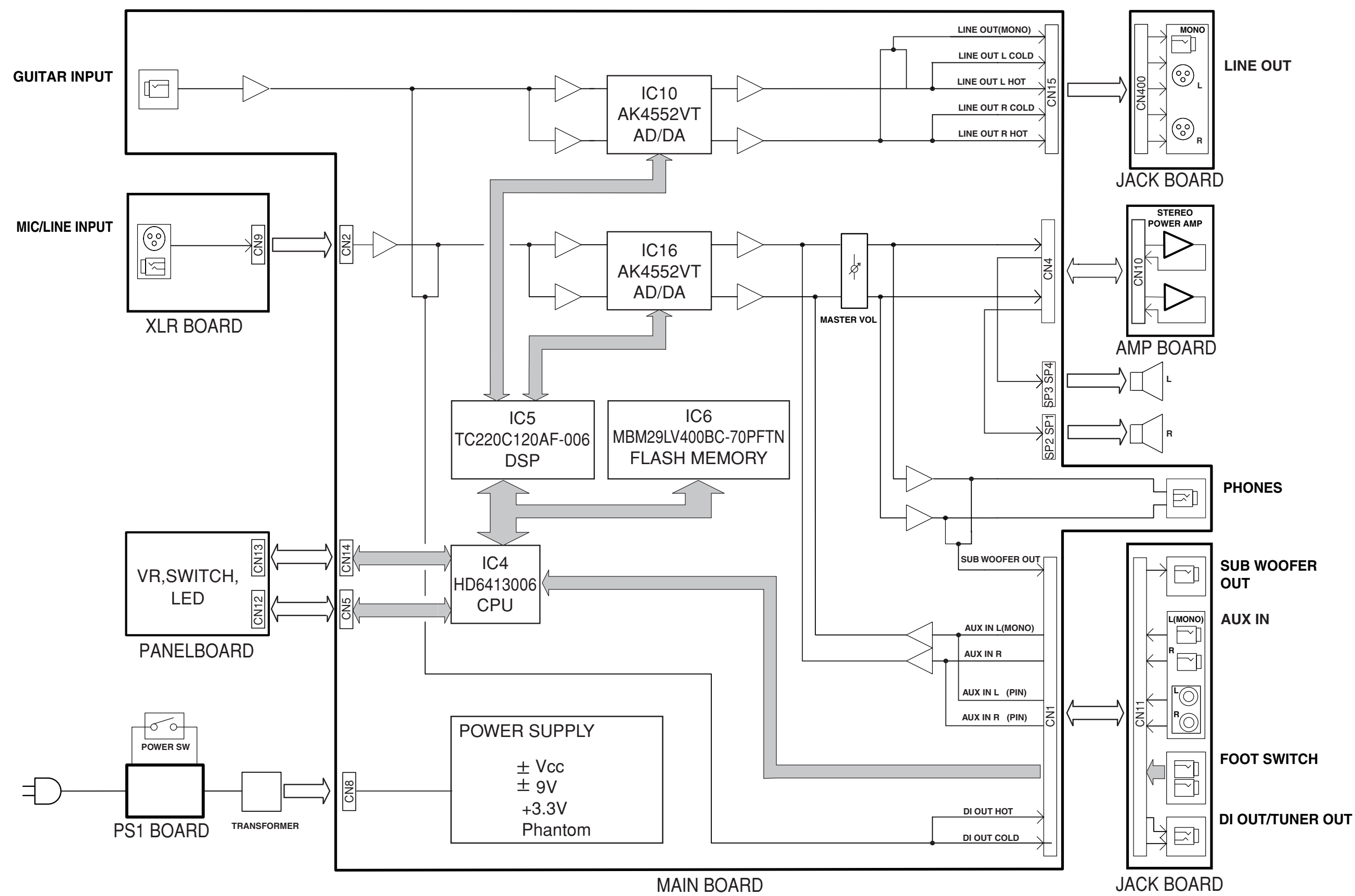
Put the tester's [+] (red) probe to the [2:HOT] terminal. 0 V

Put the tester's [+] (red) probe to the [3:COLD] terminal. 0 V

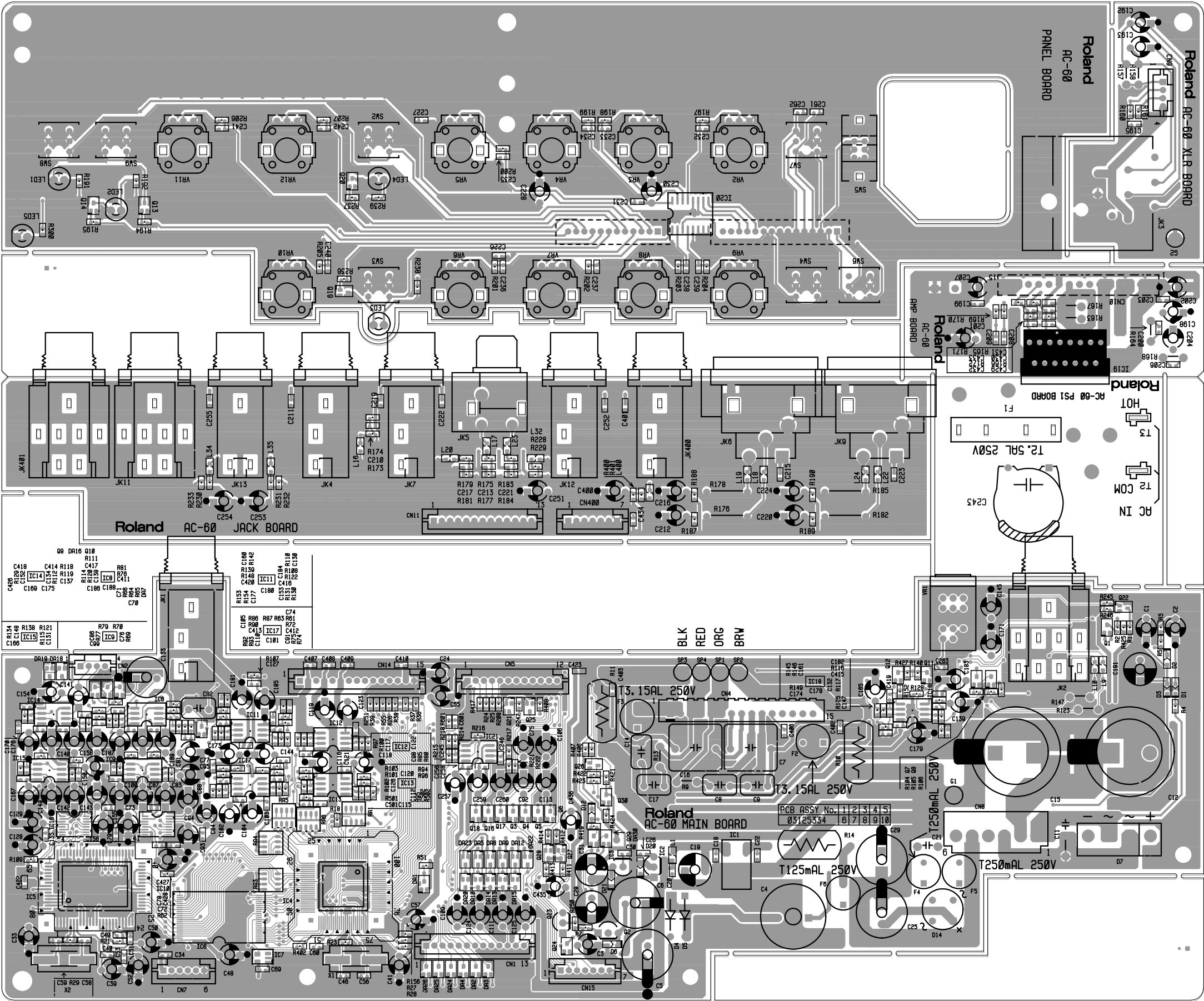
Turn off the power.

This concludes the tests.

BLOCK DIAGRAM

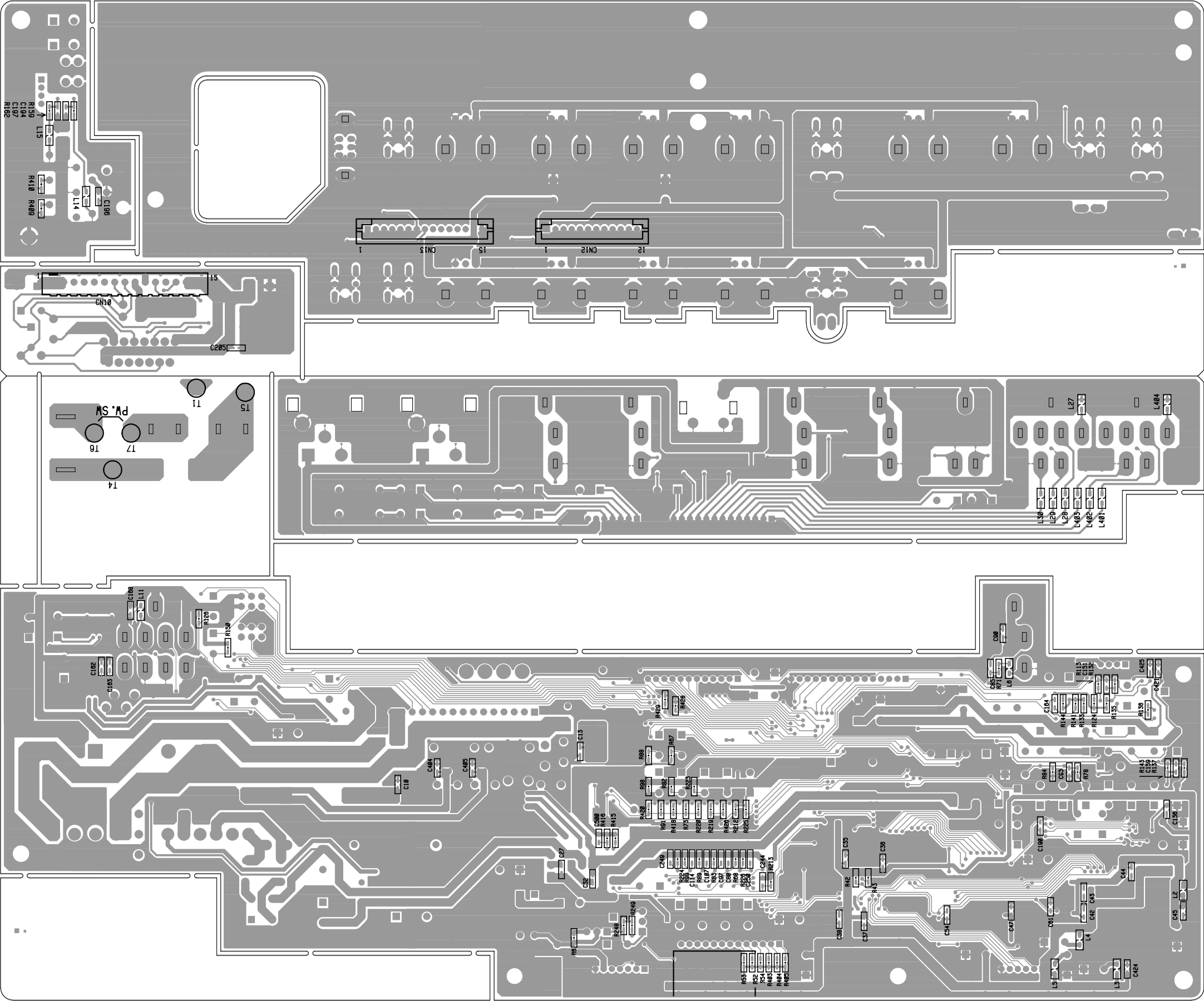


CIRCCUIT BOARD



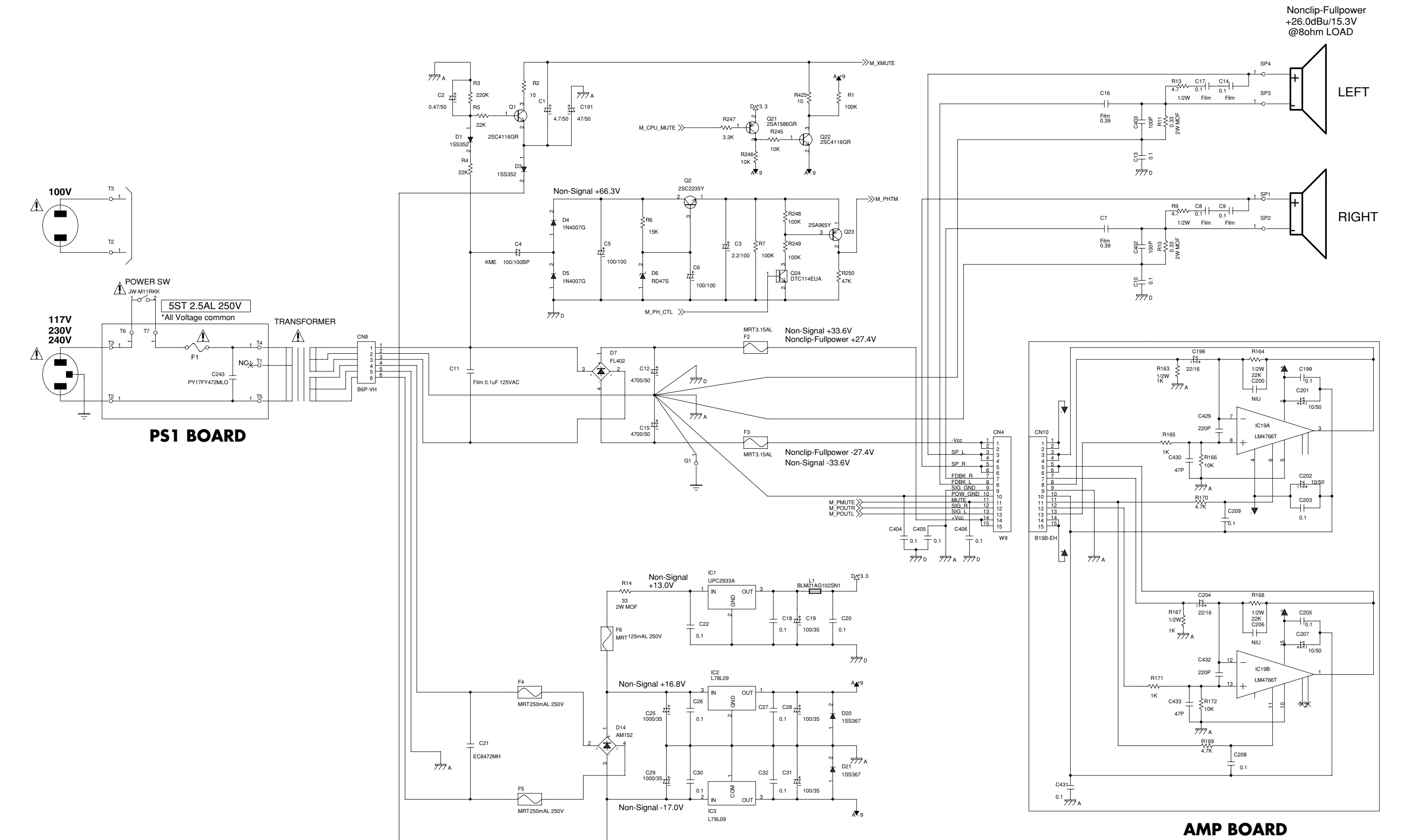
View from components side

CIRCCUIT BOARD

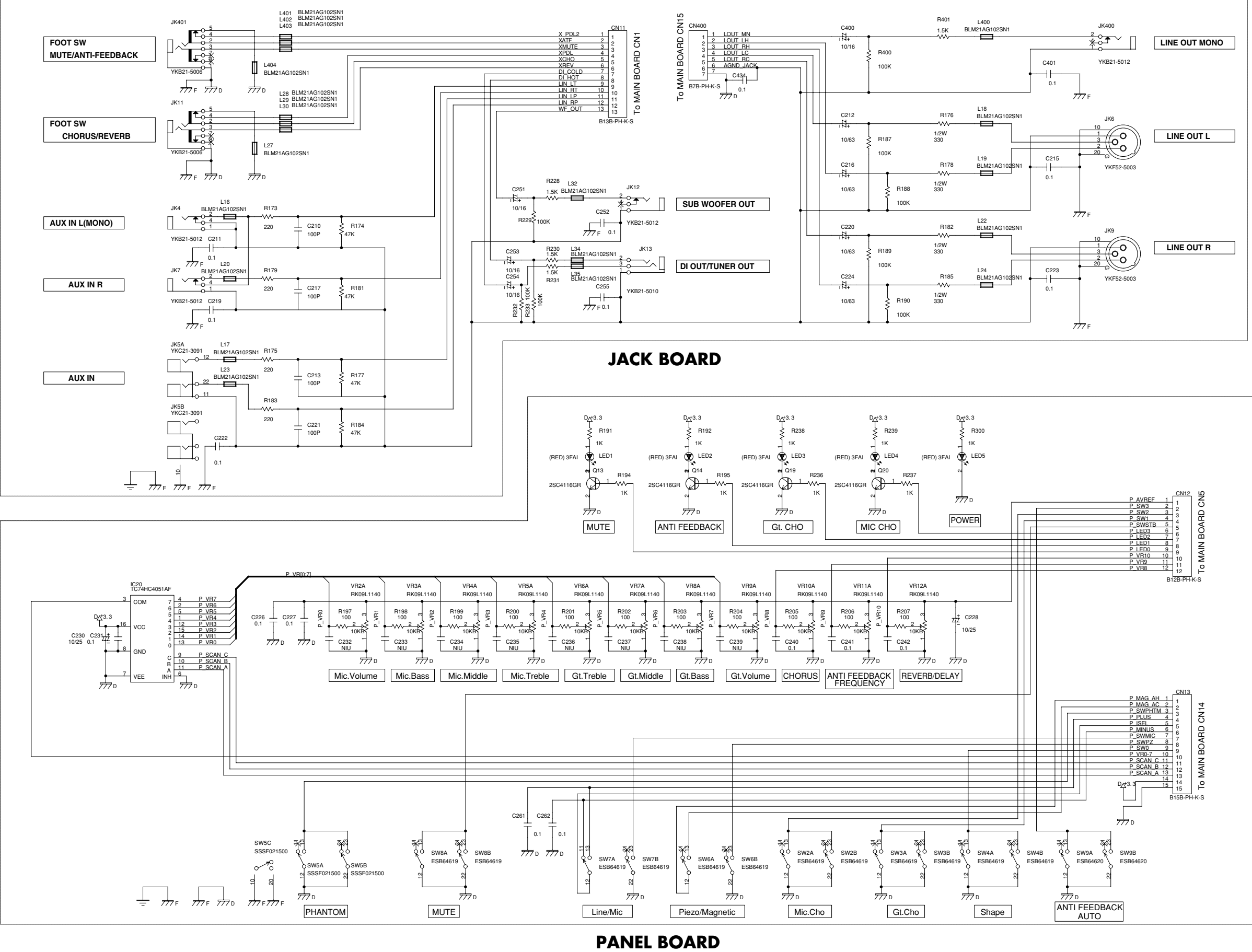


View from foil side

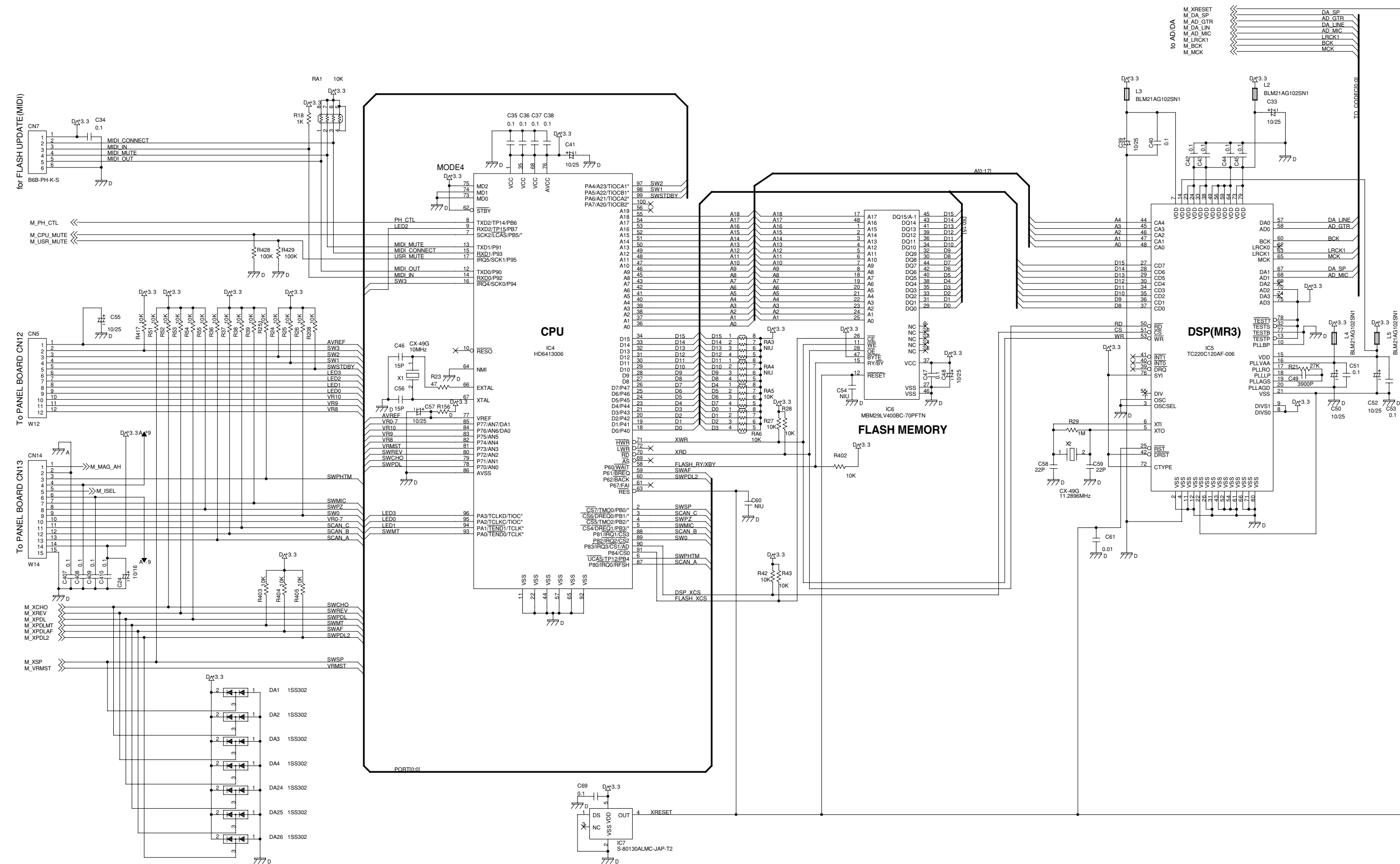
CIRCUIT DIAGRAM(MAIN-PS/PS1/AMP)



CIRCUIT DIAGRAM(PANEL/JACK)



2425



26



