JAZZ CHORUS
JC-40
GUITAR AMPLIFIER

SERVICE NOTES
Issued by RJA

Table of Contents

Cautionary Notes

Before beginning the procedure, please read through this document. The matters described may differ according to the model.

No User Data

This product cannot save user data. Backing up user data during servicing is not required.

Part Replacement

When replacing components near the power-supply circuit or a heat-generating circuit (such as a circuit provided with a heat sink or including a cement resistor), carry out the procedure according to the instructions with respect to the part number, direction, and attachment position (mounting so as to leave an air gap between the component and the circuit board, etc.).

Parts List

A component whose part code is ******* will not be supplied as a service part because one of the following reasons applies.

- Because it is supplied as an assembled part (under a different part code).
- Because a number of circuit boards are grouped together and supplied as a single circuit board (under a different part code).
- Because supply is prohibited due to copyright restrictions.
- Because reissuance is restricted.
- Because the part is made to order (at current market price).
- Because it is carried in electronic data on the Roland web site.
- Because it is a package or an accessory irrelevant to the function maintenance of the main body.
- Because it can be replaced with an article on the market. (battery or etc.)

Circuit Diagram

In the circuit diagram, “NIU” is an abbreviation for “Not in Use,” and “UnPop” is an abbreviation for “Unpopulated.” They both mean non-mounted components. The circuit board and circuit board diagram show silk-screened indications, but no components are mounted.

Specifications

Roland JC-40: Guitar Amplifier

Rated Power Output

40 W

Nominal Input Level

INPUT L/MONO, R jacks: -10 dBu (1 M ohm)
EFFECT RETURN L/MONO, R jacks: -10 dBu (22 k ohms)
EFFECT RETURN L/MONO only: -10 dBu (11 k ohms)

Speakers

25 cm (10 inches) x 2

Controls

POWER switch
BRI (Bright) Switch
VOLUME knob
TREBLE knob
MIDDLE knob
BASS knob
DISTORTION knob
REVERB knob
SPEED knob
DEPTH knob
VIB/CHORUS switch
EFFECT LOOP switch

Indicator

POWER

Connectors

INPUT L/MONO, R jacks: 1/4-inch phone type
LINE OUT L/MONO, R jacks: 1/4-inch phone type
PHONES jack: Stereo 1/4-inch TRS phone type
FOOT SWITCH (CHORUS VIBRATO, REVERB, DISTORTION) jacks: 1/4-inch phone type
EFFECT LOOP SEND jack: 1/4-inch phone type
EFFECT LOOP RETURN L/MONO, R jacks: 1/4-inch phone type
AC IN jack

Power Consumption

43 W

Dimensions

592 (W) x 251 (D) x 436 (H) mm
23-5/16 (W) x 9-15/16 (D) x 17-3/16 (H) inches

Weight

15.8 kg
34 lbs 14 oz

Accessories

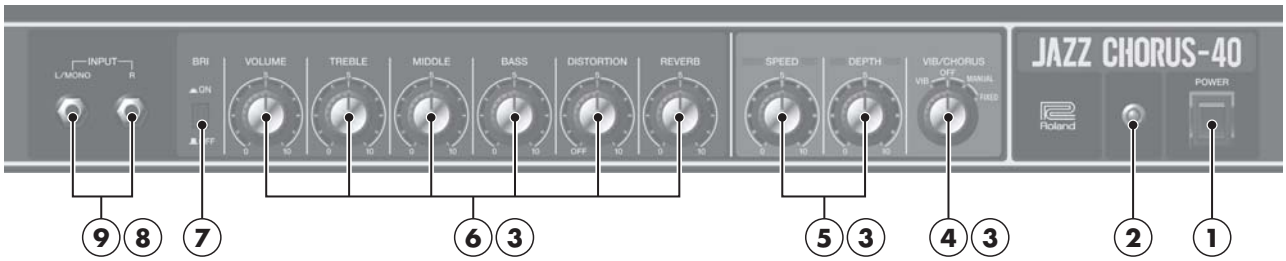
Owner's manual (#5100046052)
Power cord (#5100029165, #5100012292, #00894378, #03450323, #5100013648, #00907001, #00894389, #5100013842)

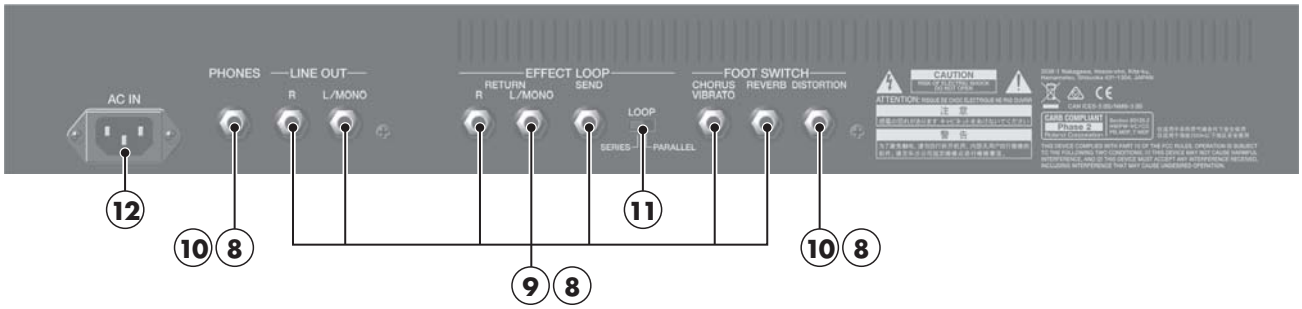
Options (sold separately)

Footswitch (BOSS FS-5L, FS-6, FS-7)

* *0 dBu = 0.775 Vrms*
* *Printed matters will not be supplied after the end of the production. Then, download the electronic file from the Roland web site.*
* *In the interest of product improvement, the specifications and/or appearance of this unit are subject to change without prior notice.*

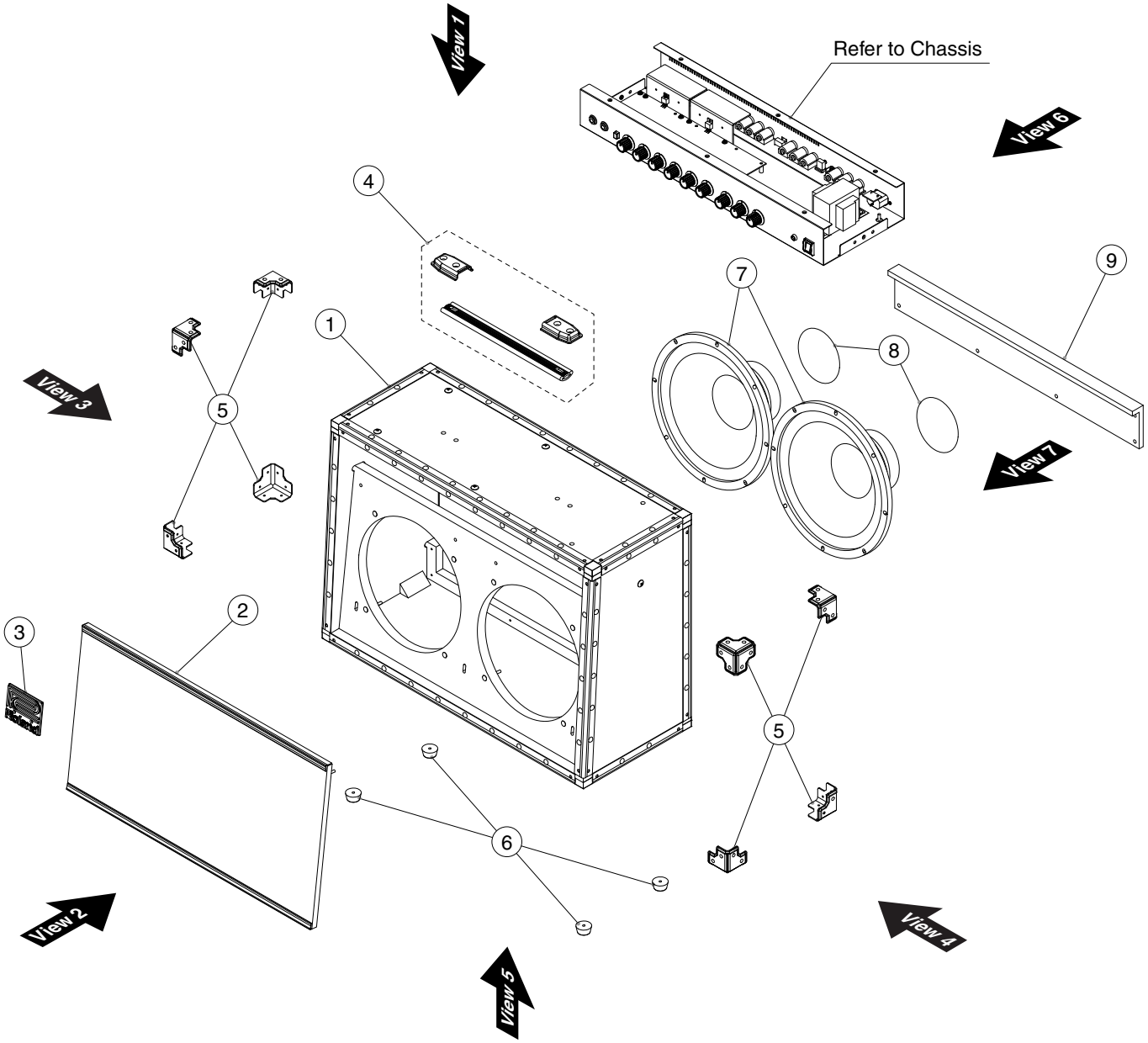
Location of Controls





No.	Part Code	Part Name	Description		Q'ty
1	02897801	SEESAW SWITCH	SDDJE13200 94V-0		1
	5100046595	POWER SW ESCUTCHEON			1
	5100046598	POWER SW CUSHION			2
2	5100048310	LED	L-7113-CW914(S)		1
	5100046599	LED SPACER	LEH5-6T		1
	5100046591	LED ESCUTCHEON			1
3	22485314	JC-KNOB	248-314(22485314R0)		9
4	5100042592	SWITCH	S171EV114GFS2AN17		1
	* *This unit includes the following parts.*				
	********	NUT		attached to Switch	1
	********	WASHER		attached to Switch	1
	********	SPACER		attached to Switch	1
5	5100033433	ROTARY POTENTIOMETER	R0923NOCV1B103FE00A1		2
	* *This unit includes the following parts.*				
	********	VR NUT		attached to VR	2
	********	VR WASHER		attached to VR	2
6	5100037963	ROTARY POTENTIOMETER	R0923NOCH1B103FE00A1		6
	* *This unit includes the following parts.*				
	********	VR NUT		attached to VR	6
	********	VR WASHER		attached to VR	6
7	00125612	KEYTOP (BLK/GRY)			1
	01348745	SWITCH(PUSH)	SPUP192700(400-11034-01-00)		1
8	5100046593	JACK SPACER			11
9	5100024419	6.5MM JACK	PJ-644C-04-EP(610-11020-01-00		9
	* *This unit includes the following parts.*				
	********	JACK NUT		attached to Jack	9
	********	JACK WASHER		attached to Jack	9
10	5100031944	6.5MM JACK	PJ-644C-EP		2
	* *This unit includes the following parts.*				
	********	JACK NUT		attached to Jack	2
	********	JACK WASHER		attached to Jack	2
11	04459978	SLIDE SWITCH	SV70050F-0202-10T-NN		1
12	5100033643	AC INLET(610-11017-08-00)	M1908-B W/ CCC MARK		1

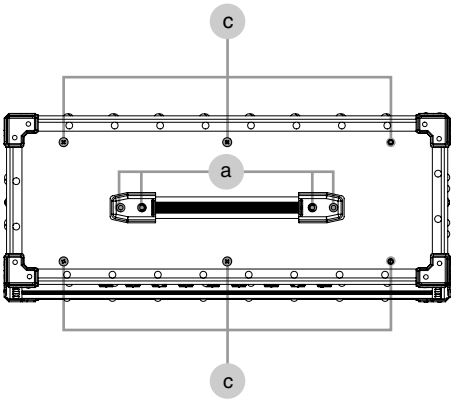
Exploded View (Cabinet)



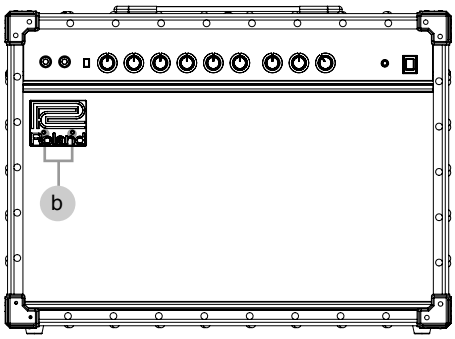
No.	Part Code	Part Name	Description	Q'ty
	5100042788	CABINET ASSY	W/O SPEAKER	1
	* *This unit includes the following parts.*			
1	********	CABINET		
2	********	NET BOARD ASSY		1
3	22510402	BADGE G.AMP 61		1
4	22310207	HANDLE (H40)	231-207 W/ESCUCHEON (2 HOLES)	1
5	22340202	PROTECTION CORNER		8
6	5100046034	RUBBER FOOT	D25*T12 BLK	4
9	********	BACK BOARD		1
7	5100046048	SPEAKER	W1004-057A	2
8	5100046047	LABEL SPEAKER MAGNET		2

Plain View (Cabinet)

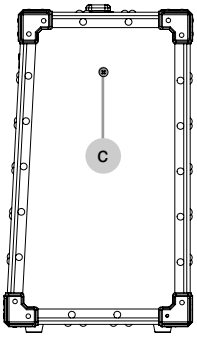
View 1



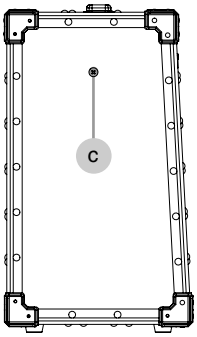
View 2



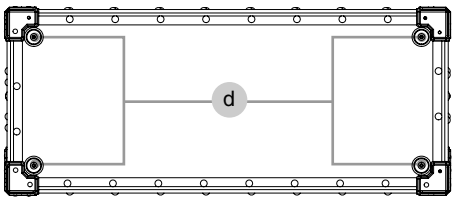
View 3



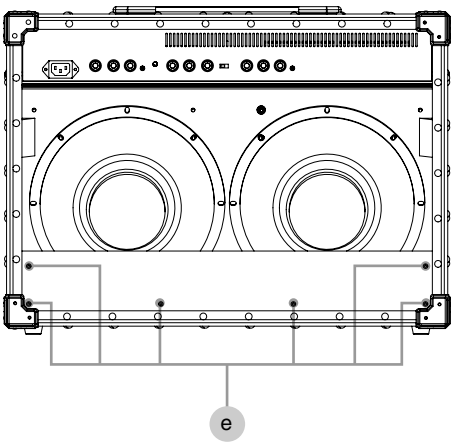
View 4



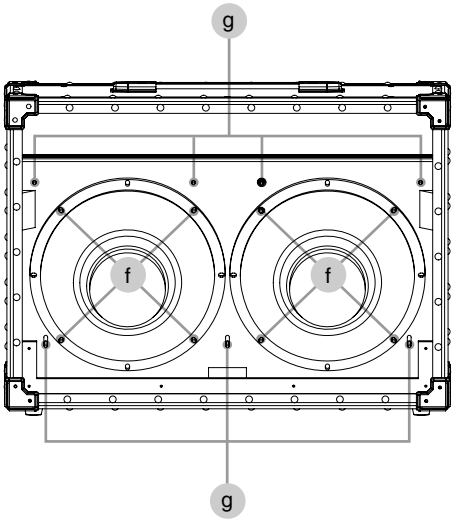
View 5



View 6



View 7



Plain View (Cabinet) Parts List

View 1

No.	Part Code	Part Name	Description	Q'ty
a	40010489	SCREW M5X30	OVAL FE BZC	4
c	40010601	SCREW M5X35	ORIGINAL TRUSS MACHINE FE BZC	6

View 2

No.	Part Code	Part Name	Description	Q'ty
b	5100046058	SCREW 3X14	OVAL TAPPING A ED-BLK	2

View 3, 4

No.	Part Code	Part Name	Description	Q'ty
c	40010601	SCREW M5X35	ORIGINAL TRUSS MACHINE FE BZC	2

View 5

No.	Part Code	Part Name	Description	Q'ty
d	40010689	SCREW 4X25	TRUSS TAPPING A FE BZC	4

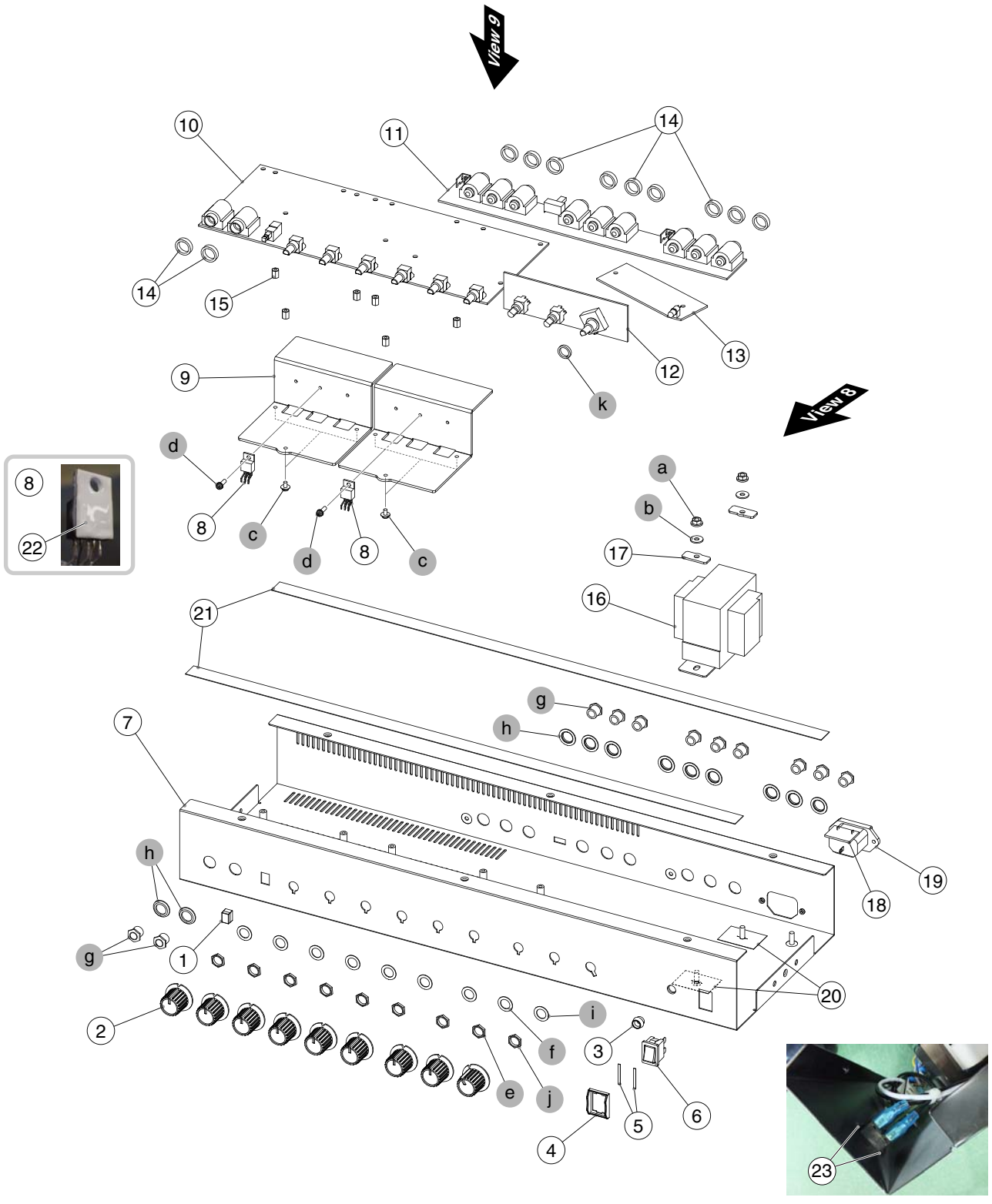
View 6

No.	Part Code	Part Name	Description	Q'ty
e	40010678	SCREW 4X20	TRUSS TAPPING A FE BZC	6

View 7

No.	Part Code	Part Name	Description	Q'ty
f	40560756	FLANGE NUT M4	BZC	8
g	40560756	FLANGE NUT M4	BZC	7
	5100044181	PLAIN WASHER 4.2X10X1	BZC	7
	5100046055	SPRING WASHER 4.4X6.5X1	BZC	7

Exploded View (Chassis)

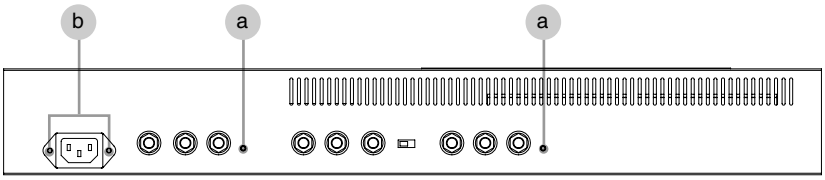


Exploded View (Chassis) Parts List

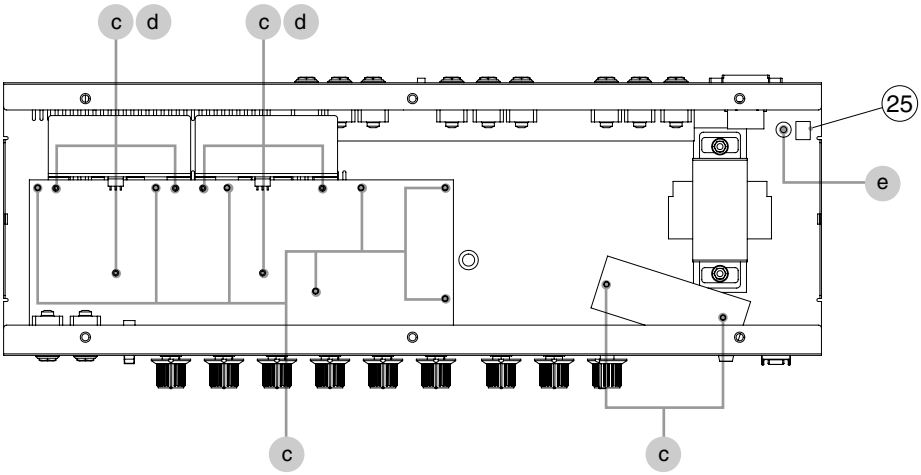
No.	Part Code	Part Name	Description		Q'ty
1	00125612	KEYTOP (BLK/GRY)			1
2	22485314	JC-KNOB	248-314(22485314R0)		9
3	5100046591	LED ESCUTCHEON			1
4	5100046595	POWER SW ESCUTCHEON			1
5	5100046598	POWER SW CUSHION			2
6	02897801	SEESAW SWITCH	SDDJE13200 94V-0		1
7	5100046042	CHASSIS			1
8	5100039123	POWER AMP	TDA2050L-TB5-T		2
9	5100046590	HEATSINK			2
	5100042776	MAIN SHEET ASSY			1
	* *This unit includes the following parts.*				
10	********	MAIN BOARD			1
11	********	JACK BOARD			1
12	********	VOLUME BOARD			1
13	********	PS BOARD			1
18	********	INLET BOARD			1
14	5100046593	JACK SPACER			11
15	22150580	STANDOFF M3-L5.5-H7			6
16	5100016080	POWER TRANS(461-11035-01-00)	PT-AP018 100/117V	for low voltage	1
	5100016081	POWER TRANSFORMER	PT-AP018 230/240V	for high voltage	1
17	5100046592	TRANS PLATE			2
19	5100033643	AC INLET(610-11017-08-00)	M1908-B W/ CCC MARK		1
20	5100046602	ACETATE TAPE	#156A 35X25XT0.25		2
21	5100048346	ACETATE TAPE	NITTO #156A BLACK W20MM 30M		-
22	40342901	SILICONE GREASE	G-746 200G		-
23	40122445	ADHESIVE CEMEDINE SUPER-X	NO.8008 170G/135ML		-
a	40011767	FLANGE HEX NUT M4	FE ZC		2
b	40230023	SPRING WASHER M4	ZC		2
c	40017934	SCREW M3X6	PAN MACHINE W/SW+PW(L) FE ZC		6
d	40013078	SCREW M3X10	PAN MACHINE W/SW FE ZC		2
e	********	VR NUT		attached to VR	8
f	********	VR WASHER		attached to VR	8
g	********	JACK NUT		attached to Jack	11
h	********	JACK WASHER		attached to Jack	11
i	********	NUT		attached to Switch	1
j	********	WASHER		attached to Switch	1
k	********	SPACER		attached to Switch	1

Plain View (Chassis)

View 8



View 9



View 8

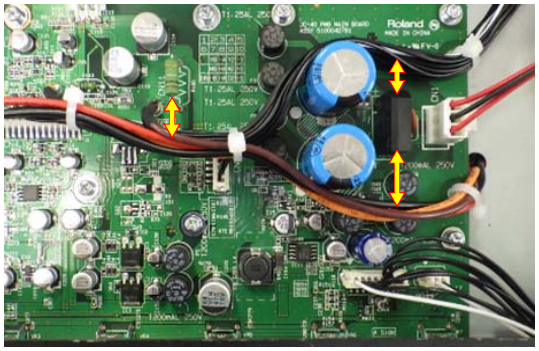
No.	Part Code	Part Name	Description	Q'ty
a	40012945	SCREW M3X6	PAN MACHINE W/SW+PW BZC	2
b	40011112	SCREW 3X10	BINDING TAPTITE B BZC	2

View 9

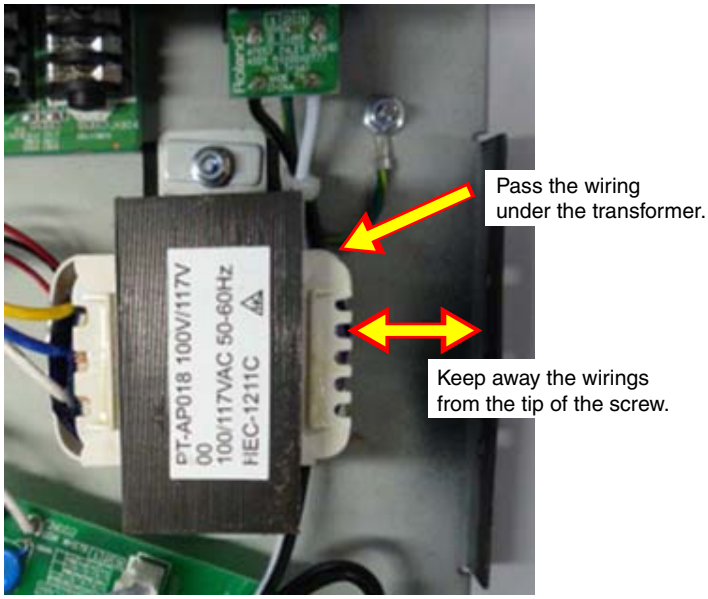
No.	Part Code	Part Name	Description	Q'ty
25	40013812	CAUTION SEAL	IEC #142	1
c	40017934	SCREW M3X6	PAN MACHINE W/SW+PW(L) FE ZC	15
d	22150580	STANDOFF M3-L5.5-H7		6
e	40011889	EXTERNAL TOOTH WASHER M4	FECM	1
	40011767	FLANGE HEX NUT M4	FE ZC	1

Important Notes When Binding Wiring

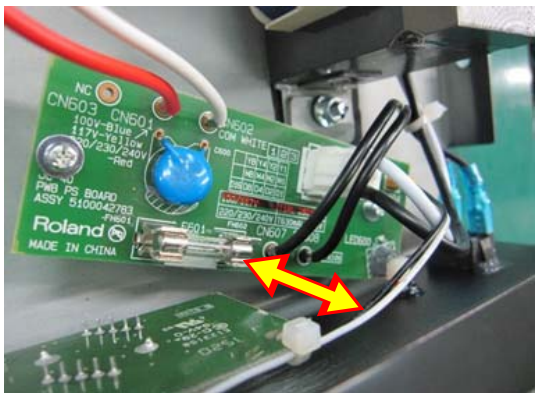
Keep away the wirings shown in the figure below from resistor and diode.



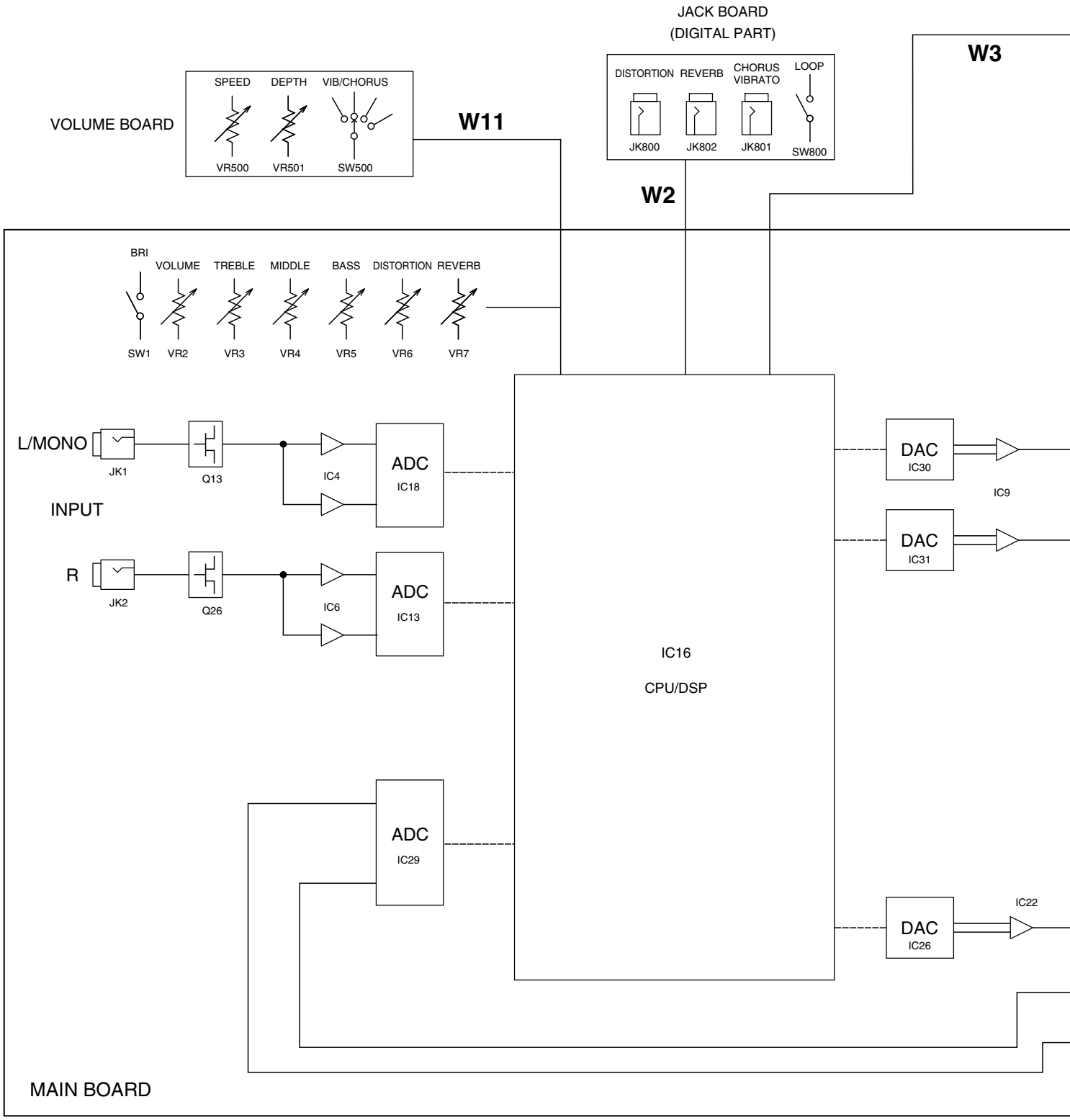
Pass the primary wiring under the transformer so that the wiring does not touch the tip of the screw securing from the side.



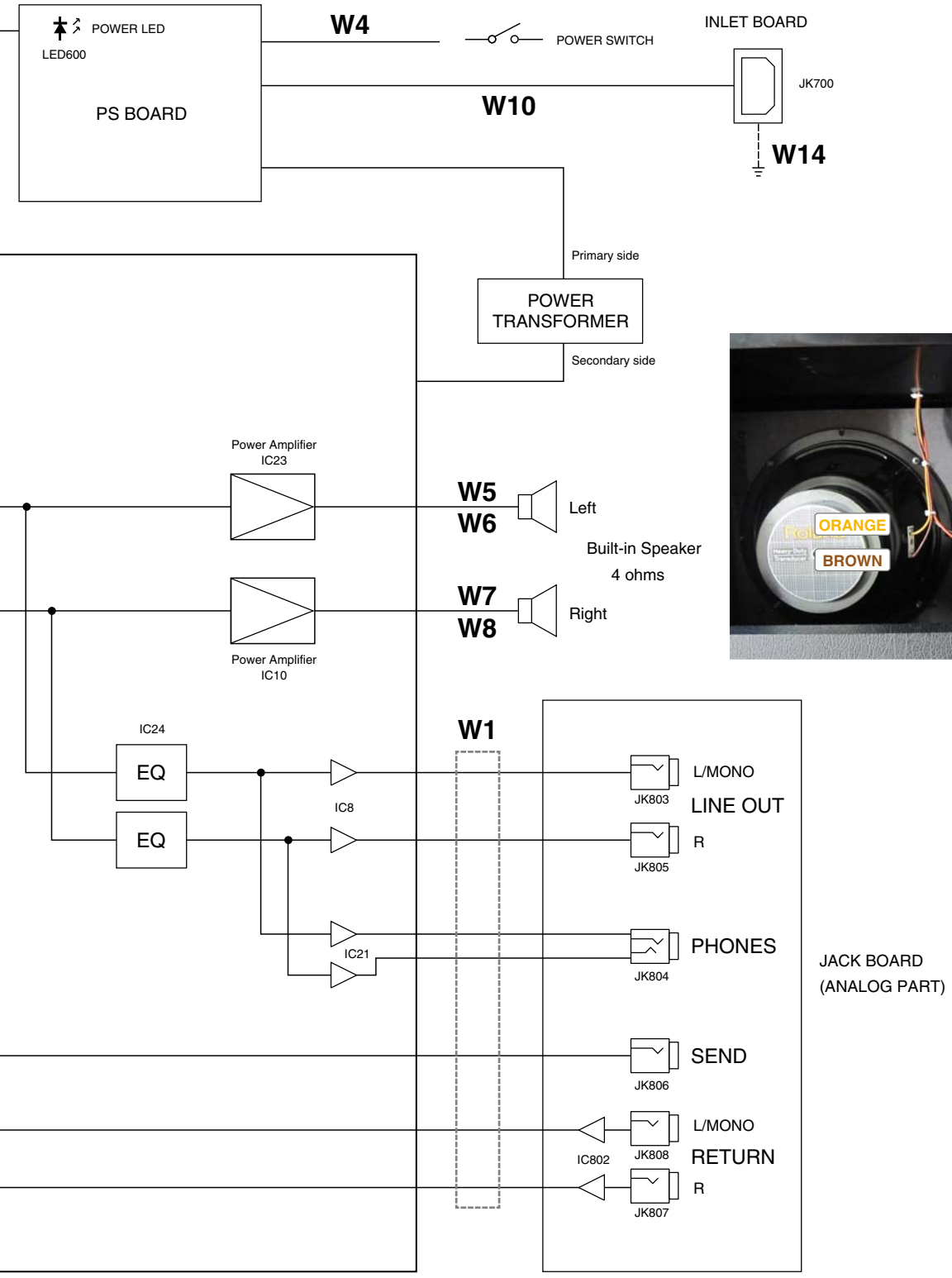
Keep away the LED wiring from the fuse.



Wiring Diagram/Block Diagram



No.	Part Code	Part Name	Description	Q'ty
W1	5100046167	WIRING	1007#28 15X260-PHR-SAN-F	1
W2	5100046168	WIRING	1007#28 7X200-PHR-SAN-F	1
W3	5100046170	WIRING	1007#28 2X230-PHR-SAN-F	1
W4	5100046171	WIRING	W4 (1672#22-BLK)	2
W5	5100046177	WIRING	W5 (1015#22-RED)	1
W6	5100046178	WIRING	W6 (1015#22-BLK)	1
W7	5100046179	WIRING	W7 (1015#22-ORG)	1
W8	5100046188	WIRING	W8 (1015#22-BRN)	1
W10	5100047043	WIRING	W10 (1672#18-BLK/WHT)	1
W11	5100047044	WIRING	1007#28 8X90-PHR-SAN-F	1
W14	5100033985	WIRING	W14	1


POWER LED
LED600
PS BOARD
W4
POWER SWITCH
INLET BOARD
JK700
W10
W14
Primary side
POWER TRANSFORMER
Secondary side
Power Amplifier IC23
W5
W6
Left
Built-in Speaker
4 ohms
W7
W8
Right
Power Amplifier IC10
IC24
EQ
EQ
IC8
IC21
W1
L/MONO
JK803
LINE OUT
R
JK805
PHONES
JK804
SEND
JK806
L/MONO
JK808
RETURN
IC802
R
JK807
JACK BOARD
(ANALOG PART)

ORANGE
BROWN
BLACK
RED

Parts List

Safety Precautions:
The parts marked ⚠ have safety-related characteristics. Use only listed parts for replacement.

Due to one or more of the following reasons, parts with parts code ******** cannot be supplied as service parts.
- Supply is prohibited due to copyright restrictions.
- It is carried in electronic data on the Roland web site.
- The part is made to order (at current market price).
- It can be replaced with an article on the market. (battery or etc.)
- It is a package or an accessory irrelevant to the function maintenance of the main body.
- A number of circuit boards are grouped together and supplied as a single circuit board (under a different part code).
- Reissuance is restricted.
- It is supplied as an assembled part (under a different part code).

Note: The parts marked # are new. (initial parts) The description "Q'ty" means a necessary number of the parts per one product.

CASING						
#		5100042788	CABINET ASSY	W/O SPEAKER		1
CHASSIS						
#		5100046042	CHASSIS			1
#	⚠	5100046590	HEATSINK			2
#		5100046592	TRANS PLATE			2
KNOB, BUTTON						
		22485314	JC-KNOB	248-314(22485314R0)		9
		00125612	KEYTOP (BLK/GRY)			1
SWITCH						
	⚠	02897801	SEESAW SWITCH	SDDJE13200 94V-0		1
		04459978	SLIDE SWITCH	SV70050F-0202-10T-NN		1
		5100042592	SWITCH	S171EV114GFS2AN17		1
		01348745	SWITCH(PUSH)	SPUP192700(400-11034-01-00)		1
JACK, EXT TERMINAL						
		5100031944	6.5MM JACK	PJ-644C-EP		2
		5100024419	6.5MM JACK	PJ-644C-04-EP(610-11020-01-00		9
SPEAKER, BUZZER						
#	⚠	5100046048	SPEAKER	W1004-057A		2
PWB ASSY						
#		5100042776	MAIN SHEET ASSY			1
			* *This unit includes the following parts.*			
#		********	MAIN BOARD			1
#		********	JACK BOARD			1
#		********	VOLUME BOARD			1
#		********	PS BOARD			1
#		********	INLET BOARD			1
IC						
#	⚠	5100039123	POWER AMP	TDA2050L-TB5-T		2
DIODE						
#		5100048310	LED	L-7113-CW914(S)		1
POTENTIOMETER						
		5100033433	ROTARY POTENTIOMETER	R0923NOCV1B103FE00A1		2
		5100037963	ROTARY POTENTIOMETER	R0923NOCH1B103FE00A1		6
FUSE, FUSE HOLDER						
	⚠	03673990	FUSE	5ST 1 1A/250V	for low voltage	1
	⚠	03674001	FUSE	5ST 630MA/250V	for high voltage	1
		5100000592	FUSE HOLDER	FC-201(613-11617-01-00)		2

WIRING, CABLE

#	⚠	5100046171	WIRING	W4 (1672#22-BLK)		2
#		5100046177	WIRING	W5 (1015#22-RED)		1
#		5100046178	WIRING	W6 (1015#22-BLK)		1
#		5100046179	WIRING	W7 (1015#22-ORG)		1
#		5100046188	WIRING	W8 (1015#22-BRN)		1
#	⚠	5100047043	WIRING	W10 (1672#18-BLK/WHT)		1
	⚠	5100033985	WIRING	W14		1
#		5100046167	WIRING	1007#28 15X260-PHR-SAN-F		1
#		5100046170	WIRING	1007#28 2X230-PHR-SAN-F		1
#		5100046168	WIRING	1007#28 7X200-PHR-SAN-F		1
#		5100047044	WIRING	1007#28 8X90-PHR-SAN-F		1

TRANSFORMER

	⚠	5100016080	POWER TRANS(461-11035-01-00)	PT-AP018 100/117V	for low voltage	1
	⚠	5100016081	POWER TRANSFORMER	PT-AP018 230/240V	for high voltage	1

AC INLET, OUTLET

	⚠	5100033643	AC INLET(610-11017-08-00)	M1908-B W/ CCC MARK		1

SCREWS

		40017934	SCREW M3X6	PAN MACHINE W/SW+PW(L) FE ZC		21
		40012945	SCREW M3X6	PAN MACHINE W/SW+PW BZC		2
		40013078	SCREW M3X10	PAN MACHINE W/SW FE ZC		2
		40010489	SCREW M5X30	OVAL FE BZC		4
		40010601	SCREW M5X35	ORIGINAL TRUSS MACHINE FE BZC		8
		40011112	SCREW 3X10	BINDING TAPTITE B BZC		2
#		5100046058	SCREW 3X14	OVAL TAPPING A ED-BLK		2
		40010678	SCREW 4X20	TRUSS TAPPING A FE BZC		6
		40010689	SCREW 4X25	TRUSS TAPPING A FE BZC		4
		40011767	FLANGE HEX NUT M4	FE ZC		3
		40560756	FLANGE NUT M4	BZC		15
#		22150580	STANDOFF M3-L5.5-H7			6
#		5100044181	PLAIN WASHER 4.2X10X1	BZC		7
#		5100046055	SPRING WASHER 4.4X6.5X1	BZC		7
		40230023	SPRING WASHER M4	ZC		2
		40011889	EXTERNAL TOOTH WASHER M4	FECM		1

MISCELLANEOUS

		22510402	BADGE G.AMP 61			1
		22310207	HANDLE (H40)	231-207 W/ESCUCHEON (2 HOLES)		1
		22340202	PROTECTION CORNER			8
#		5100046591	LED ESCUTCHEON			1
#		5100046595	POWER SW ESCUTCHEON			1
#		5100046034	RUBBER FOOT	D25*T12 BLK		4
#		5100046593	JACK SPACER			11
#		5100046599	LED SPACER	LEH5-6T		1
#		5100046598	POWER SW CUSHION			2
		40013812	CAUTION SEAL	IEC #142		1
#		5100046047	LABEL SPEAKER MAGNET			2
		5100003695	TERMINAL	PCB-12		2
		5100027814	LOCKING CABLE	TIE CV-100V0K		12
#		5100046602	ACETATE TAPE	#156A 35X25XT0.25		2
#		5100048346	ACETATE TAPE	NITTO #156A BLACK W20MM 30M		-
		40342901	SILICONE GREASE	G-746 200G		-
		40122445	ADHESIVE CEMEDINE SUPER-X	NO.8008 170G/135ML		-

ACCESSORIES (Standard)

#		5100046052	OWNER'S MANUAL	MULTILANGUAGE		1
	⚠	03340956	AC CORD SET PSE	100V YA-101/YP-3NB/YC-13	for 100V	1
	⚠	5100029165	AC CORD	115TW 2.5M SP301+IS14 VCTF	for 115VTW	1
	⚠	5100012292	AC CORD SET	117VBL 2.5M 3P DAIKEI 117VBL	for 117VBL	1
	⚠	00894378	AC CORD SET	120V SP301+IS14 SJT18/3	for 117VU, 117VU/CS	1
	⚠	03450323	AC CORD SET	220V YP-36 YC-13D	for 220VCN	1
	⚠	5100013648	AC CORD SET	220VK 10A 3P-3P 2.5M	for 220VK	1
	⚠	00907001	AC CORD SET	240VE SP-62+IS-14	for 230VE	1
	⚠	00894389	AC CORD SET	230V SP22+IS14 H05VV-F3G1.0	for 230VEU	1
	⚠	5100013842	AC CORD SET	240VA 2.5M SAA HIRAKAWA	for 240VA	1

Verifying the Version

Perform verification in the test mode of the next section.

Test Mode

Items Required

- Oscillator
- Noise meter
- Oscilloscope

- FS-5U (x 3)
  or
- FS-5U (x 1), FS-6 (x 1)

* *Set the POLARITY switch and MODE switch as shown below.*

FS-5U

FS-6

- Dummy plug (monaural)
- Audio cables

Entering the Test Mode

1. Connect the FS-5U (or FS-6) to the **FOOT SWITCH CHORUS VIBRATO**, **REVERB** and **DISTORTION** jacks.
2. Set **BRI** on the front panel to **OFF**.
3. Turn all knobs all the way counterclockwise.
4. Adjust the **LOOP** switch on the rear panel to **SERIES**.
5. Hold down the pedal connected to the **CHORUS VIBRATO** jack and turn on the power.
6. When the LED flashes, release the pedal, and then immediately press and release the pedal connected to the **REVERB** jack and the **DISTORTION** jack in this order.
   After the LED flashes several times rapidly, the unit enters the item of **Verifying the Version** in the test mode.

Quitting the Test Mode

Turn off the power.

Skipping Test Items

Test items cannot be skipped.

Verifying the Version

The LED lights up to indicate the version as shown in the table below.

Version	Flashing LED (repeats)
1.00	1 long flash
1.01	1 long flash and 1 short flash
1.02	1 long flash and 2 short flash
1.03	1 long flash and 3 short flash

Press the pedal connected to the **CHORUS VIBRATO** jack to advance to the next test item.

DSP Check

The LED lights up, then after approximately 2 seconds, if the DSP check is OK, the LED goes dark and the execution automatically advances to the next test item.
If the result is not OK, operation stops.

Switch Check

1. Connect the dummy plug to the **INPUT L/MONO** jack.
   The LED lights up.
2. Disconnect the dummy plug.
   The LED goes dark.
3. Connect the dummy plug to the **INPUT R** jack.
   The LED lights up.
4. Disconnect the dummy plug.
   The LED goes dark.
5. Connect the dummy plug to the **PHONES** jack.
   The LED lights up.
6. Disconnect the dummy plug.
   The LED goes dark.
7. Connect the dummy plug to the **RETURN L/MONO** jack.
   The LED lights up.
8. Disconnect the dummy plug.
   The LED goes dark.
9. Adjust the **LOOP** switch to **PARALLEL**.
   The LED lights up.
10. Adjust the **LOOP** switch to **SERIAL**.
    The LED goes dark.
11. Press **BRI** on the front panel to set it to **ON**.
    The LED lights up.
12. Press **BRI** to set it to **OFF**.
    The LED goes dark.
13. Adjust the **VIB/CHORUS** knob to **OFF**.
    The LED lights up.
14. Adjust the **VIB/CHORUS** knob to **MANUAL**.
    The LED goes dark.
15. Adjust the **VIB/CHORUS** knob to FIXED.
    The LED flashes and execution automatically advances to the next test item.

Volume Check

1. Slowly turn the **VOLUME** knob clockwise.
   When the knob is turned slightly, the LED goes dark, when the knob is turned to near the twelve o'clock position, the LED lights up, and when the knob is turned all the way clockwise, the LED flashes.
   * *At this time, sound is heard from the speaker.*
2. In the same way, check the operation of the **TREBLE**, **MIDDLE**, **BASS**, **DISTORTION**, **REVERB**, **SPEED** and **DEPTH** knobs.
   When the checking reaches to the **DEPTH** knob, the LED flashes slowly.
3. Connect the dummy plug to the **INPUT L/MONO** jack.
   The LED lights up and execution automatically advances to the next test item.

Input/Output Check

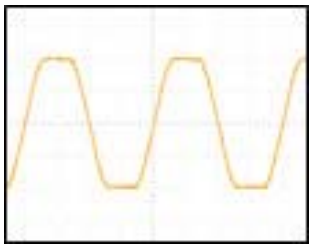
1. Disconnect the speaker wiring from the L and R speaker terminals.
   * *If the speakers are connected, when the **VIB/CHORUS** knob is set to **VIB** on the next step, sound is produced at high volume.*
   * *Be very careful so that the speaker terminals never touch to the other metal portion.*
2. Set the **VIB/CHORUS** knob as shown in the table below, and verify that the output corresponding to the appropriate input can be achieved.

VIB/CHORUS knob	Input jack	Input signal (1 kHz, sine wave)	Output jack	Output value
VIB	INPUT L/MONO	-40 dBm	LINE OUT L/MONO	+7.5±2 dBm
VIB	INPUT R	-40 dBm	LINE OUT R	+7.5±2 dBm
VIB	INPUT L/MONO	-40 dBm	EFFECT LOOP SEND	-1.5±2 dBm
VIB	INPUT R	-40 dBm	EFFECT LOOP SEND	-1.5±2 dBm
OFF	INPUT L/MONO	-40 dBm	EFFECT LOOP SEND	-31.5±2 dBm
OFF	INPUT R	-40 dBm	EFFECT LOOP SEND	-31.5±2 dBm
MANUAL	EFFECT LOOP RETURN L/MONO	-40 dBm	LINE OUT L/MONO	-16±2 dBm
MANUAL	EFFECT LOOP RETURN R	-40 dBm	LINE OUT R	-16±2 dBm
MANUAL	EFFECT LOOP RETURN L/MONO	-40 dBm	PHONES L	-18±2 dBm
MANUAL	EFFECT LOOP RETURN L/MONO	-40 dBm	PHONES R	-22±2 dBm
MANUAL	EFFECT LOOP RETURN R	-40 dBm	PHONES L	-22±2 dBm
MANUAL	EFFECT LOOP RETURN R	-40 dBm	PHONES R	-18±2 dBm
MANUAL	EFFECT LOOP RETURN L/MONO	-10 dBm	PHONES L	(verify that the sound clips)
MANUAL	EFFECT LOOP RETURN R	-10 dBm	PHONES R	(verify that the sound clips)

* *When the sound is input to the **INPUT L/MONO** jack, connect the dummy plug to the **INPUT R** jack, and when the sound is input to the **INPUT R** jack, connect the dummy plug to the **INPUT L/MONO** jack. And also, when the output signal from the **LINE OUT L/MONO** jack is checked, connect the dummy plug to the **LINE OUT R** jack, and when the output signal from the **LINE OUT R** jack is checked, connect the dummy plug to the **LINE OUT L/MONO** jack.*
* *When the output from the **PHONES** jack is checked, connect 33Ω load resistors between L and GND, and between R and GND.*

Speaker Output Check (Reference)

1. Adjust the **VIB/CHORUS** knob to **MANUAL**.
2. Connect a 4Ω load resistor to the L-channel speaker wirings (red and black).
   * *If the resistor can not be prepared, connect the speaker instead.*
3. Connect the noise meter to the L-channel speaker wirings.
4. Connect the oscillator to the **EFFECT LOOP RETURN L/MONO** jack and connect the dummy plug to the **R** jack.
5. Input the following signal to the **EFFECT LOOP RETURN L/MONO** jack.
   RETURN L/MONO:1-kHz sine wave at -40 dBm
6. Verify that the output value of the speaker wirings is +7.5 dBm or higher.
   * *When the value above can not be achieved, change the dummy plug connected to the **RETURN R** jack to the short plug.*
7. Detach the noise meter and connect the oscilloscope.
8. Input the following signal to the **EFFECT LOOP RETURN L/MONO** jack.
   RETURN L/MONO:1-kHz sine wave at -20 dBm
9. Verify that the output waveform from the speaker terminal is distorted as shown in the figure below.

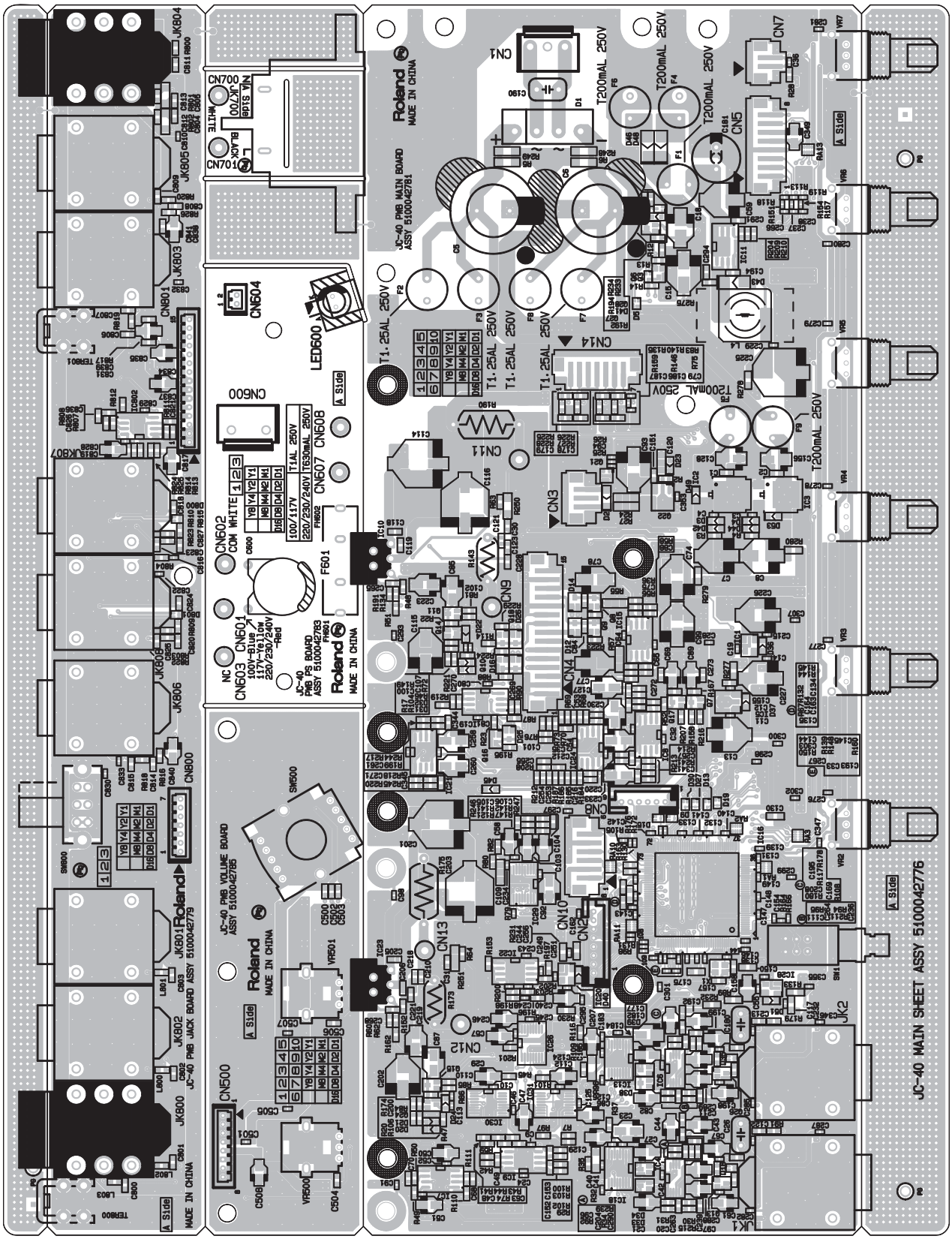


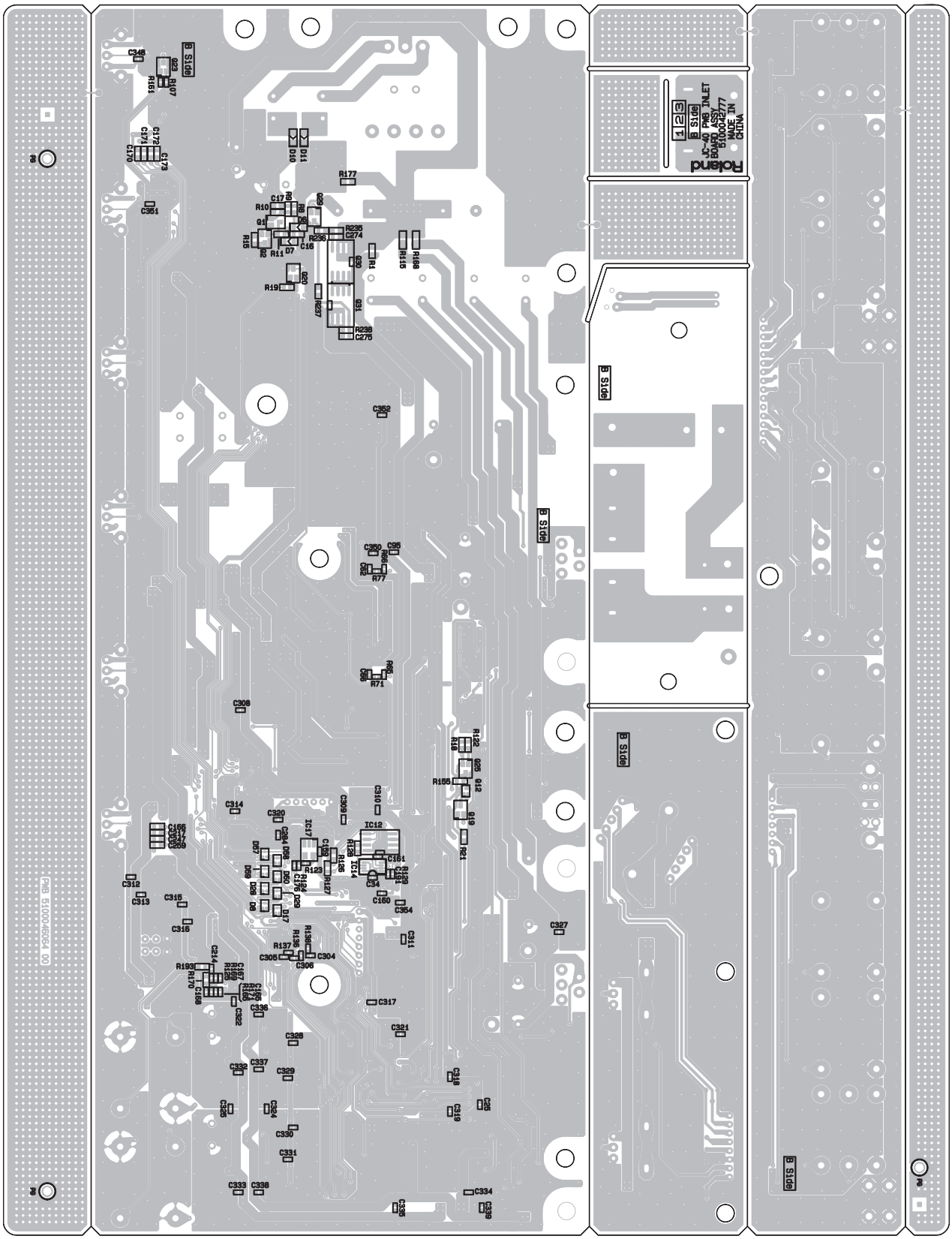
10. For the R-channel speaker wirings, verify in the same way as steps **2** through **9**.
    * *Color of the R-channel speaker wirings are brown and orange.*
    * *Connect the dummy plug to the **EFFECT LOOP RETURN L/MONO** jack and input the signal to the **R** jack.*
11. Detach the oscillator and the oscilloscope.
12. Connect the speakers as they were.

Residual Noise Check (Reference)

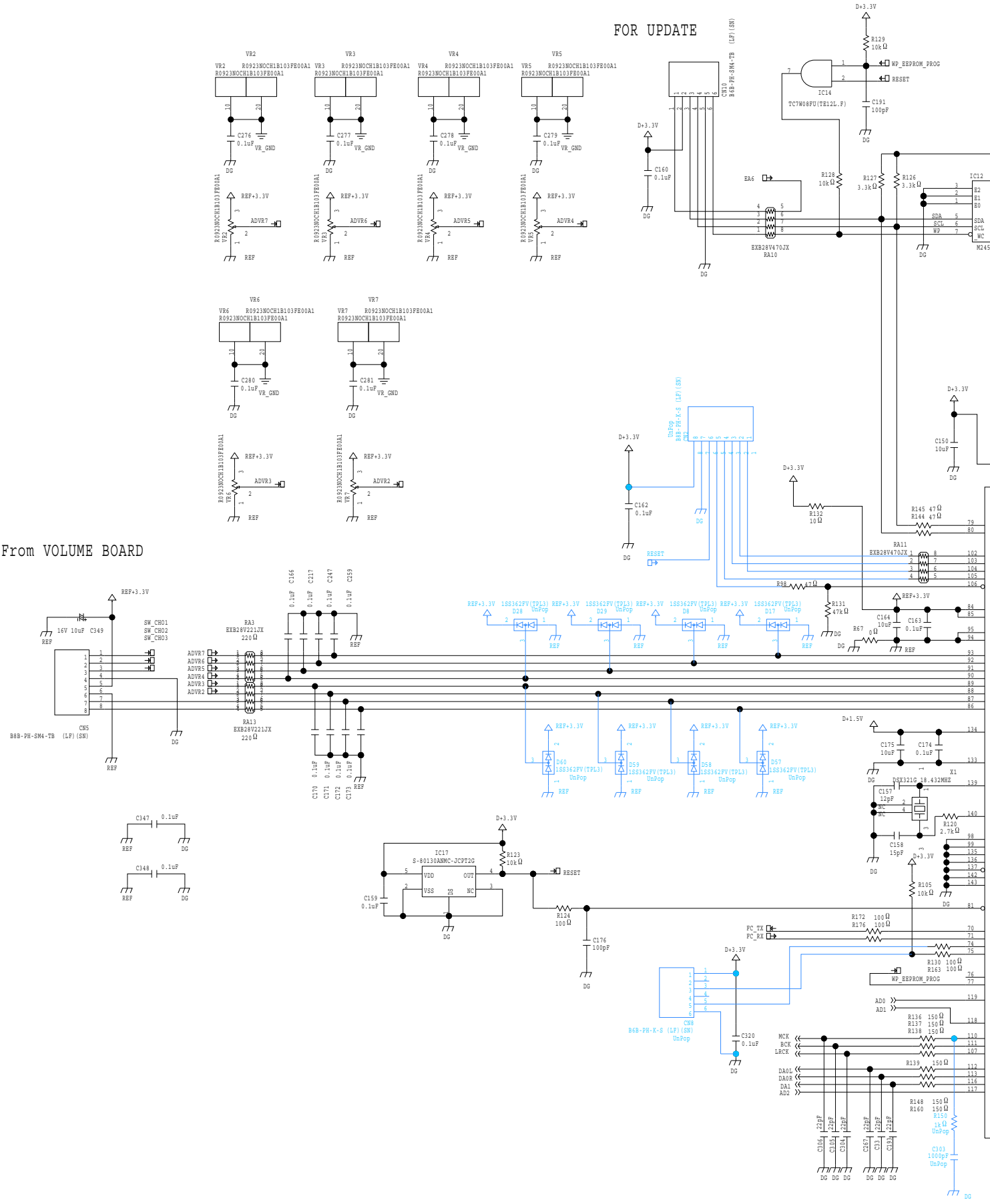
1. Adjust the **VIB/CHORUS** knob to **OFF**.
2. Verify that the residual noise at the **EFFECT LOOP SEND** jack is as follows.
   -65 dBm or lower (DIN-audio)
3. Verify that the residual noises at the **PHONES** jack (L and R) are as follows.
   L: -65 dBm or less (DIN audio)
   R: -65 dBm or less (DIN audio)
4. Verify that the residual noise at the L channel of the speaker is as follows.
   -35 dBm or lower (DIN-audio)
5. Verify that the residual noise at the R channel of the speaker is as follows.
   -35 dBm or lower (DIN-audio)

Circuit Board (Main, Jack, Volume, PS, Inlet Board)



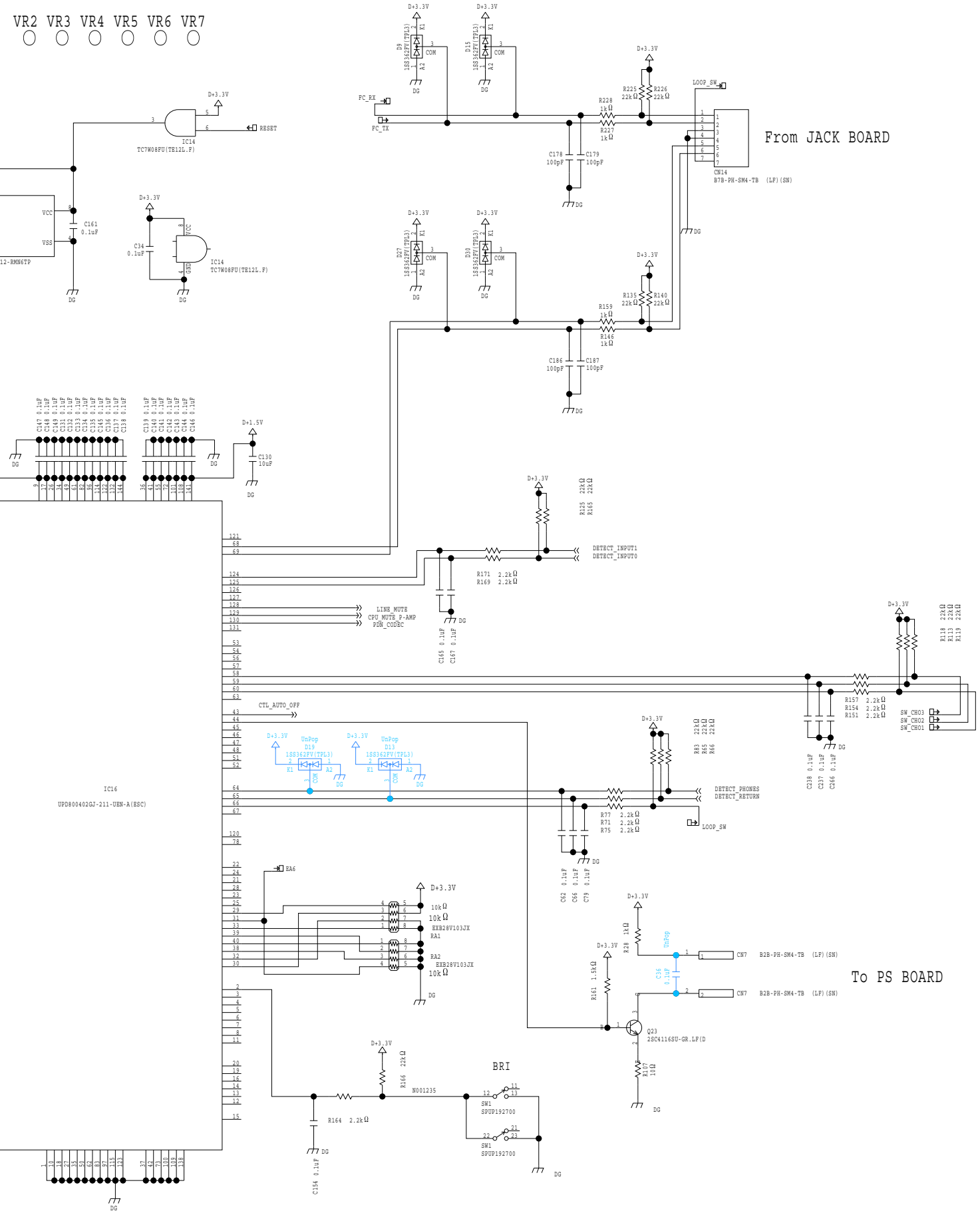

B Side
Roland
JC-40 PWB INLET
MADE IN CHINA
PWB 5100045054 00

Circuit Diagram (Main Board: 1/4)

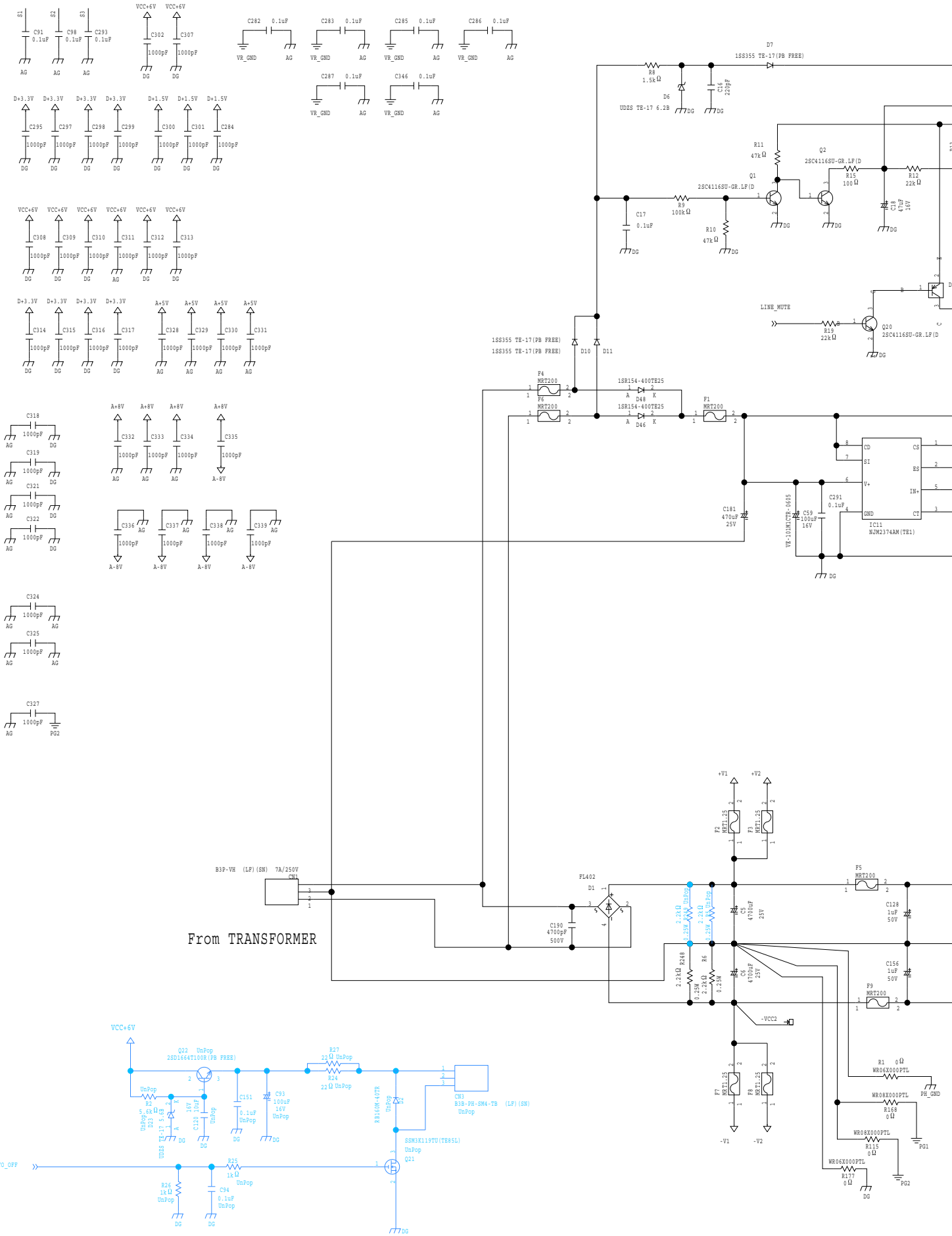


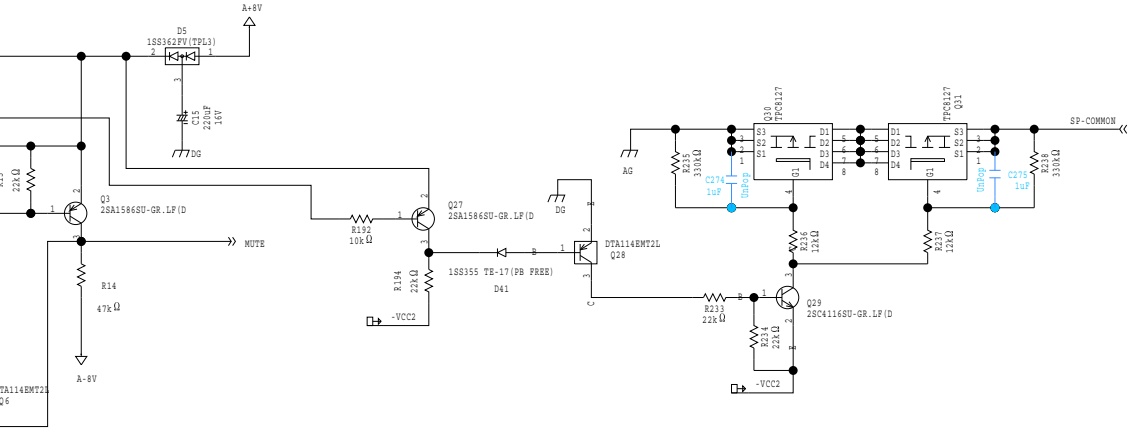
VR Layout

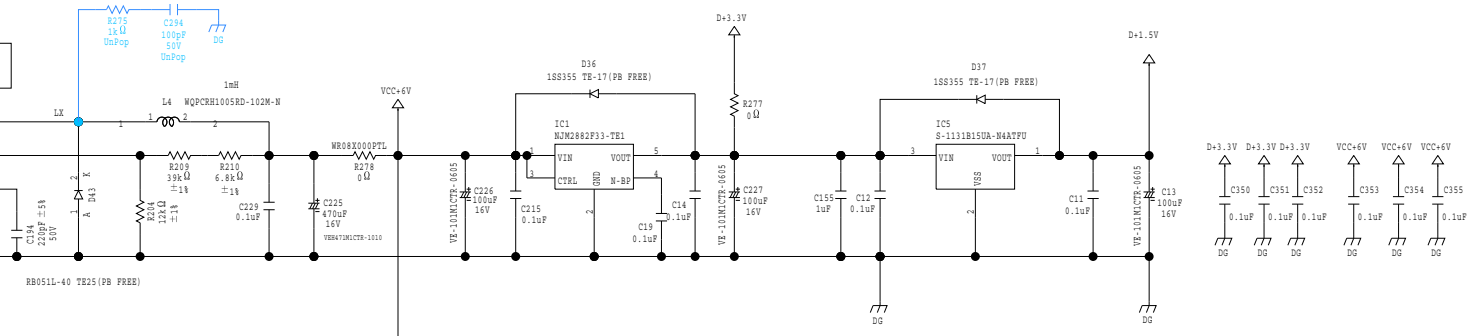
VR2 VR3 VR4 VR5 VR6 VR7

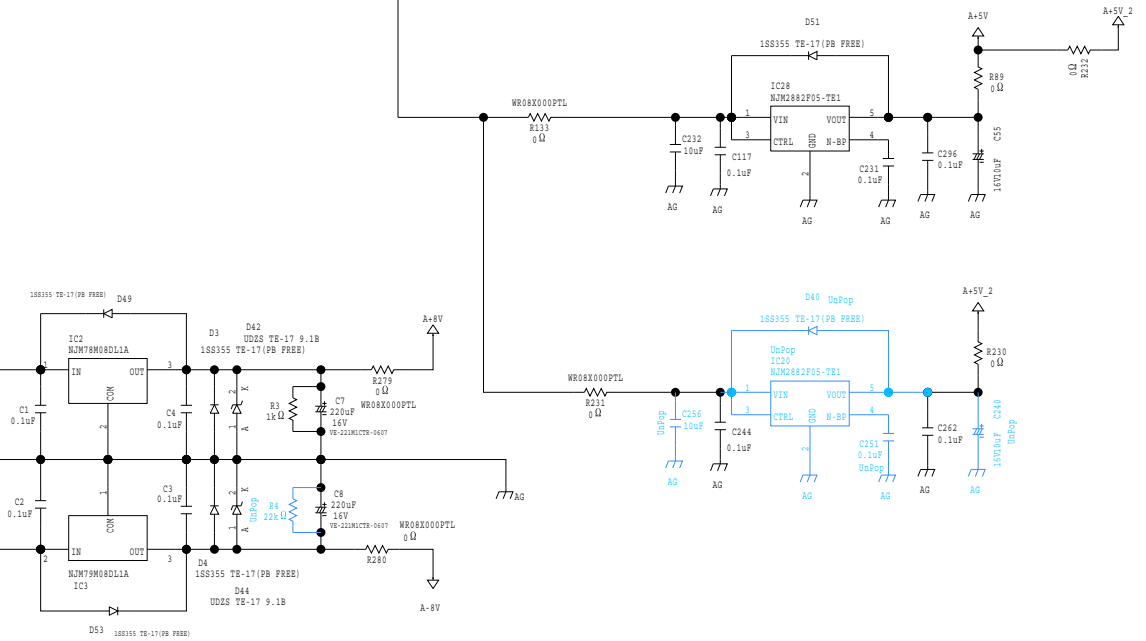


Circuit Diagram (Main Board: 2/4)



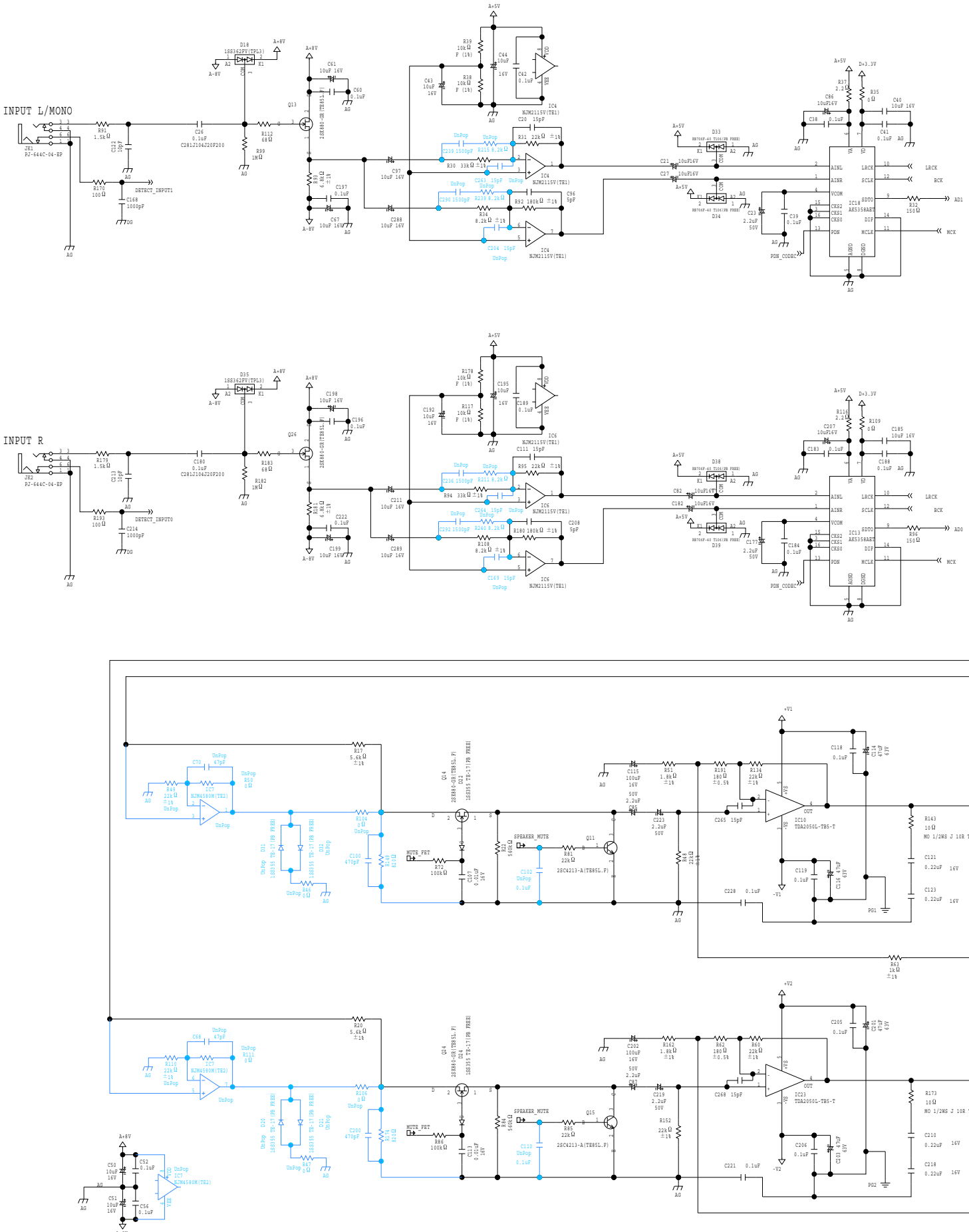

A+8V
D5
1SS362PV(TPL3)
C15
220uF
16V
DG
Q3
2SA1586SU-GR.LF(D
MUTE
R14
47kΩ
A-8V
R192
10kΩ
Q27
2SA1586SU-GR.LF(D
R194
22kΩ
-VCC2
1SS355 TE-17(PB FREE)
D41
DTA114EMT2L
Q28
R233
22kΩ
Q29
2SC4116SU-GR.LF(D
R234
22kΩ
-VCC2
Q30
TPC8127
Q31
TPC8127
SP-COMMON
R235
330kΩ
C274
1uF
UnPop
R236
12kΩ
R237
12kΩ
C272
1uF
R238
330kΩ

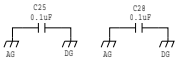

R275
1kΩ
UnPop
C294
100pF
50V
UnPop
DG
1mH
L4 WQPCRH1005RD-102M-N
LX
R209
39kΩ ±1%
R210
6.8kΩ ±1%
R234
12kΩ ±1%
D43
C229
0.1uF
C225
470uF
16V
VE847M1CTR-1010
WR08X000PTL
R278
0Ω
VCC+6V
VE-101MCTR-0605
C226
100uF
16V
D36
1SS355 TE-17(PB FREE)
IC1
NJM2882F33-TE1
VIN
VOUT
CTRL
GND
N-BP
C215
0.1uF
C14
0.1uF
C19
0.1uF
D+3.3V
R277
0Ω
C227
100uF
16V
D37
1SS355 TE-17(PB FREE)
IC5
S-1131B15UA-N4ATFU
VIN
VOUT
VSS
C155
1uF
C12
0.1uF
C11
0.1uF
D+1.5V
C13
100uF
16V
D+3.3V D+3.3V D+3.3V
C350
C351
C352
VCC+6V VCC+6V VCC+6V
C353
C354
C355
0.1uF
DG
RB051L-40 TE25(PB FREE)

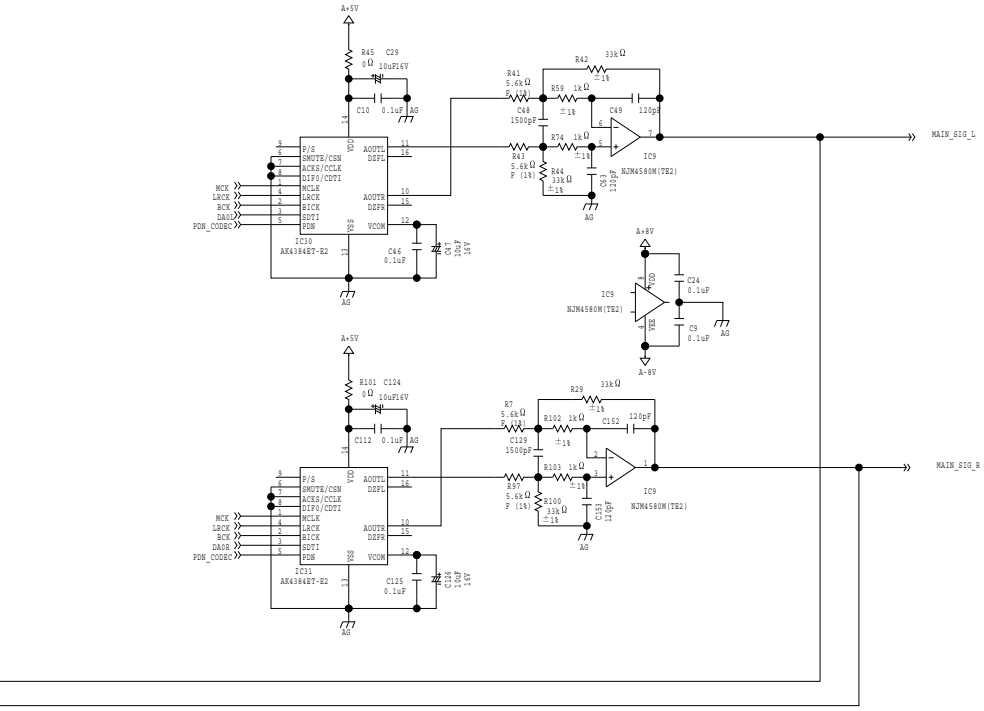

D51
1SS355 TE-17(PB FREE)
A+5V
A+5V_2
R89
0Ω
R232
0Ω
WR08X000PTL
R133
0Ω
IC28
NJM2882F05-TE1
VIN
VOUT
CTRL
GND
N-BP
C232
10uF
C117
0.1uF
C231
0.1uF
C296
0.1uF
C55
16VDuF
AG
D40 UnPop
1SS355 TE-17(PB FREE)
UnPop
IC20
NJM2882F05-TE1
R230
0Ω
R231
0Ω
C256
10uF
C244
0.1uF
C251
0.1uF
UnPop
C262
0.1uF
C240
16VDuF
UnPop

1SS355 TE-17(PB FREE)
D49
IC2
NJM78M08DL1A
IN
OUT
COM
C1
0.1uF
C4
0.1uF
C2
0.1uF
C3
0.1uF
NJM79M08DL1A
IC3
D53
1SS355 TE-17(PB FREE)
D3
D42
UDZS TE-17 9.1B
1SS355 TE-17(PB FREE)
A+8V
R279
0Ω
R3
1kΩ
C7
220uF
16V
VE-221M1CTR-0607
WR08X000PTL
R4
22kΩ
UnPop
C8
220uF
16V
VE-221M1CTR-0607
WR08X000PTL
R280
0Ω
D4
1SS355 TE-17(PB FREE)
D44
UDZS TE-17 9.1B
A-8V
AG

Circuit Diagram (Main Board: 3/4)



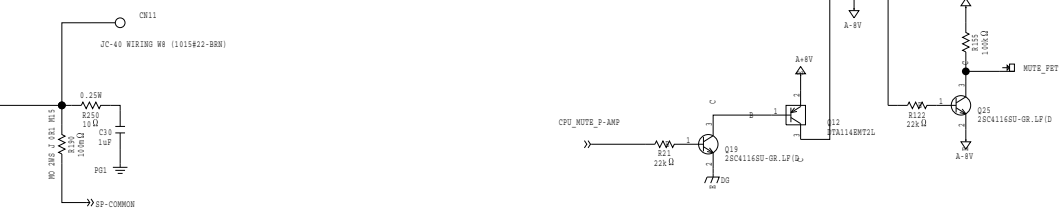




JC-40 WIRING W7 (1015#22-ORG)

CN9

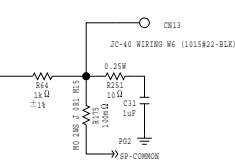
SPEAKER RIGHT



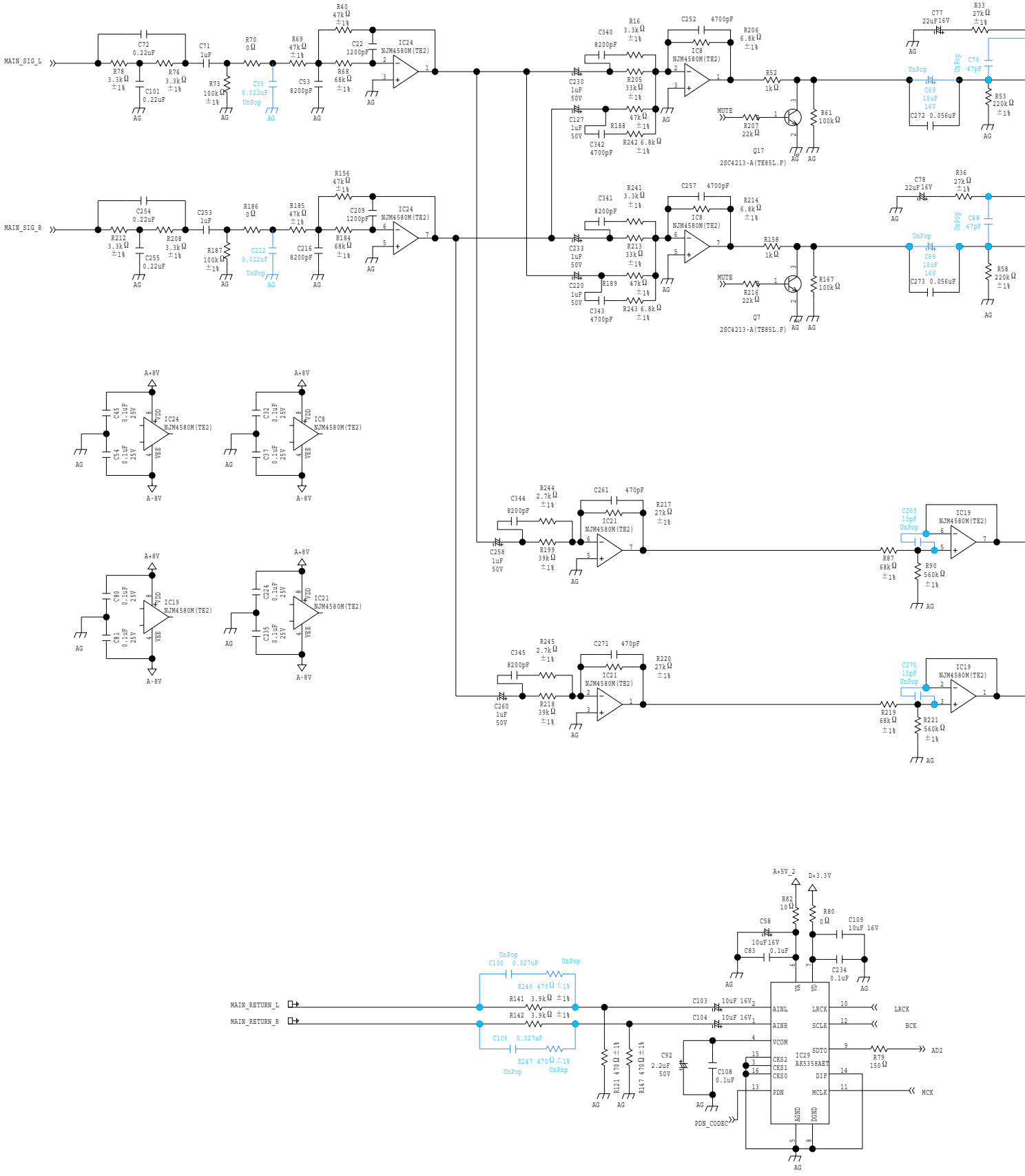
CN12

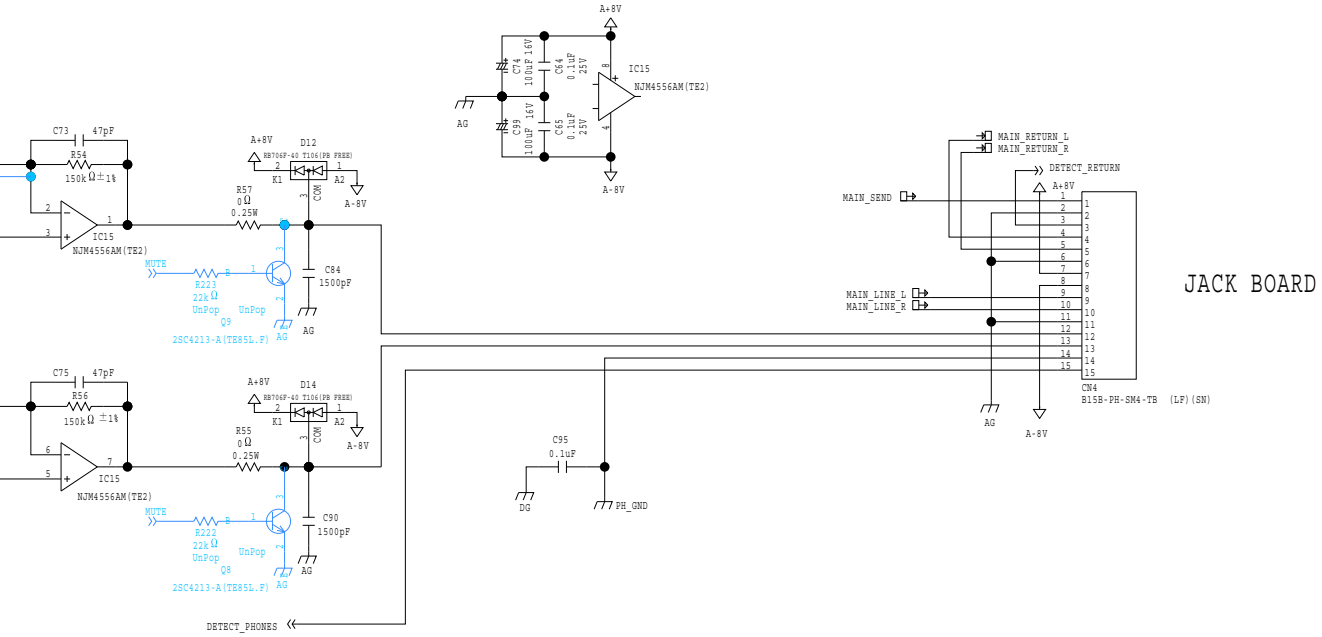
JC-40 WIRING W5 (1015#22-RED)

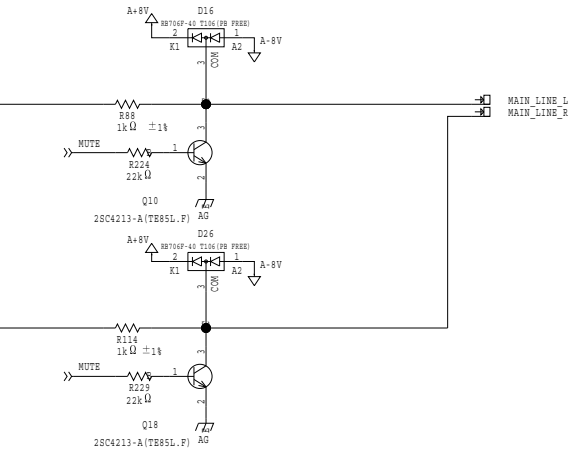
SPEAKER LEFT

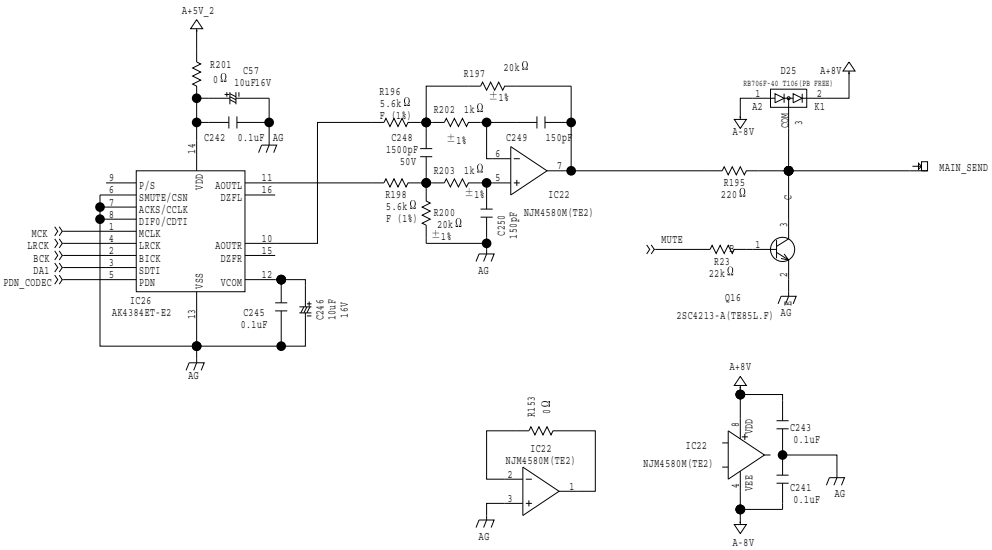


Circuit Diagram (Main Board: 4/4)

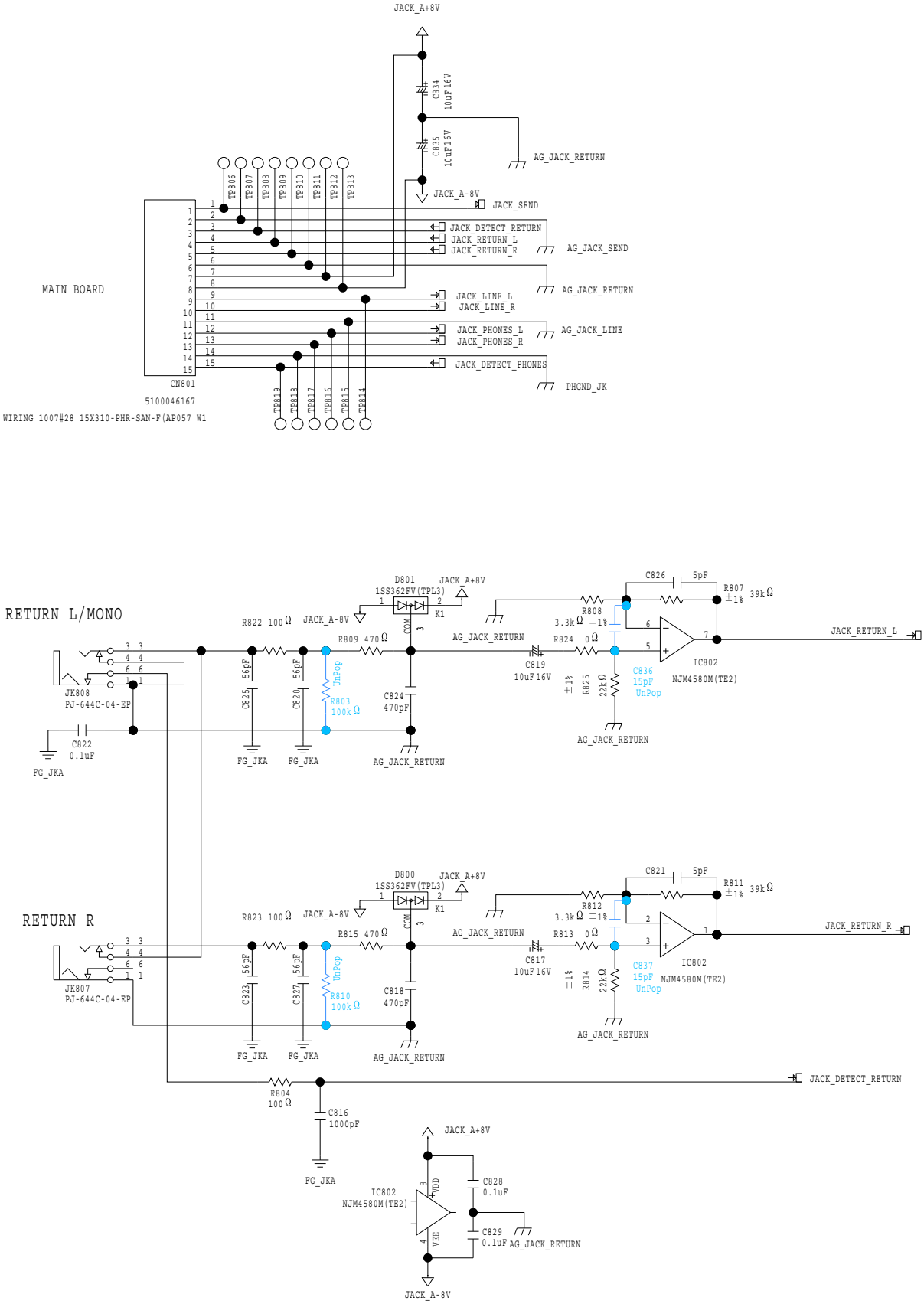


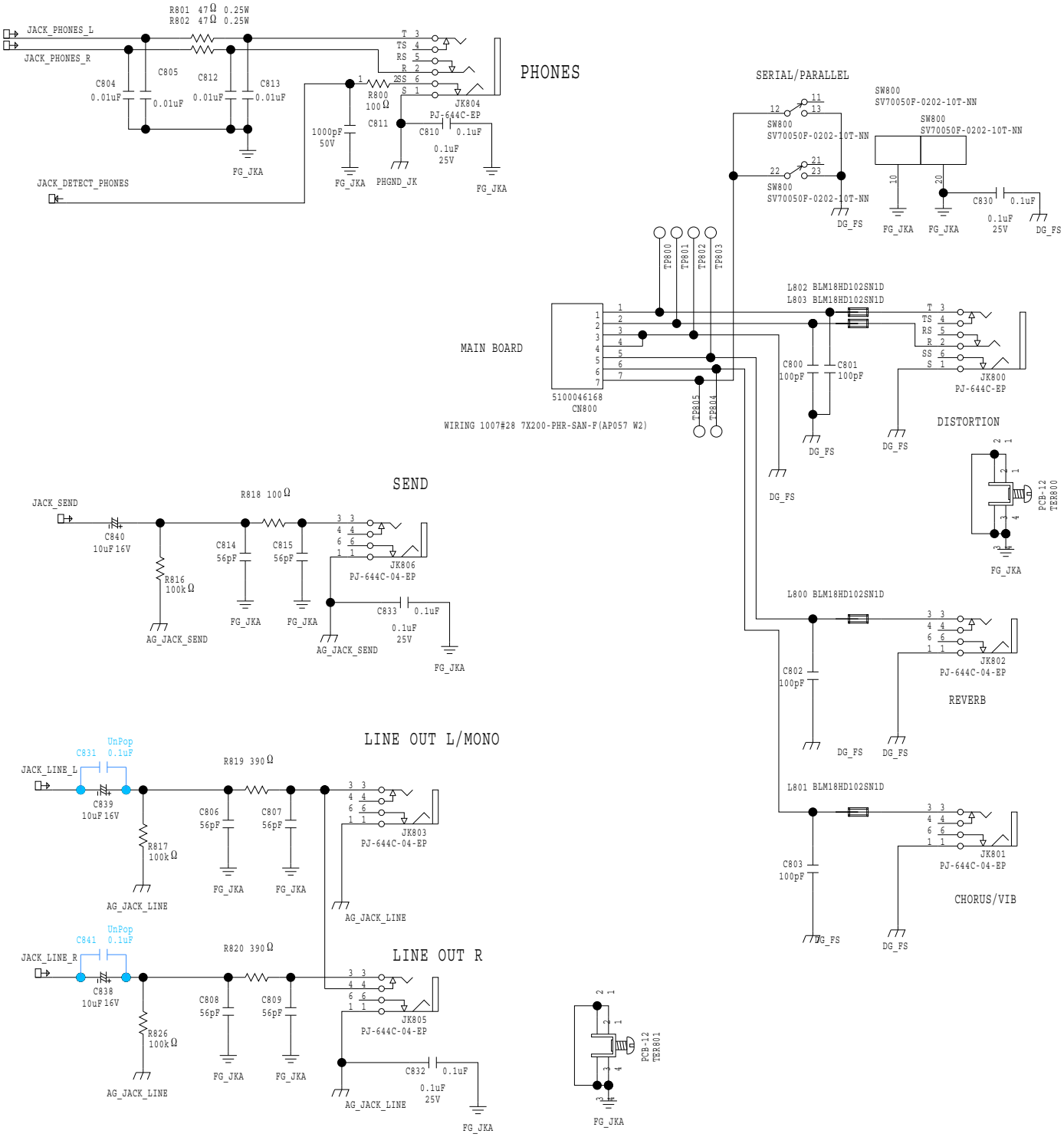

A+8V
IC15
NJM4556AM(TE2)
C74 100uF 16V
C54 0.1uF 25V
C55 0.1uF 25V
C53 100uF 16V
AG
A-8V
C73 47pF
R54 150kΩ ±1%
R57 0Ω 0.25W
D12
RB706F-40 T106(PB FREE)
K1
A2
COM
MUTE
R223 22kΩ
UnPop
Q9
2SC4213-A(TE85L.F)
C84 1500pF
C75 47pF
R56 150kΩ ±1%
R55 0Ω 0.25W
D14
C90 1500pF
R222 22kΩ
Q8
DETECT_PHONES
C95 0.1uF
DG
PH_GND
MAIN_RETURN_L
MAIN_RETURN_R
DETECT_RETURN
MAIN_SEND
MAIN_LINE_L
MAIN_LINE_R
CN4
B15B-PH-SM4-TB (LF)(SN)
JACK BOARD


D16
R88 1kΩ ±1%
MUTE
R224 22kΩ
Q10
2SC4213-A(TE85L.F)
D26
R114 1kΩ ±1%
R229 22kΩ
Q18
MAIN_LINE_L
MAIN_LINE_R


A+5V_2
R201 0Ω
C57 10uF16V
C242 0.1uF
IC26
AK4384ET-E2
P/S
SMUTE/CSN
ACKS/CCLK
DIF0/CDTI
MCLK
LRCK
BICK
SDTI
PDN
VDD
VSS
AOUTL
DZFL
AOUTR
DZFR
VCOM
C245 0.1uF
C246 10uF 16V
MCK
LRCK
BCK
DA1
PDN_CODEC
R196 5.6kΩ F (1%)
R197 20kΩ ±1%
R202 1kΩ ±1%
C248 1500pF 50V
C249 150pF
R203 1kΩ ±1%
R198 5.6kΩ F (1%)
R200 20kΩ ±1%
C250 110pF
IC22
NJM4580M(TE2)
D25
R195 220Ω
MAIN_SEND
MUTE
R23 22kΩ
Q16
2SC4213-A(TE85L.F)
R153 0Ω
C243 0.1uF
C241 0.1uF

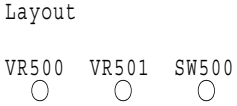
Circuit Diagram (Jack Board)

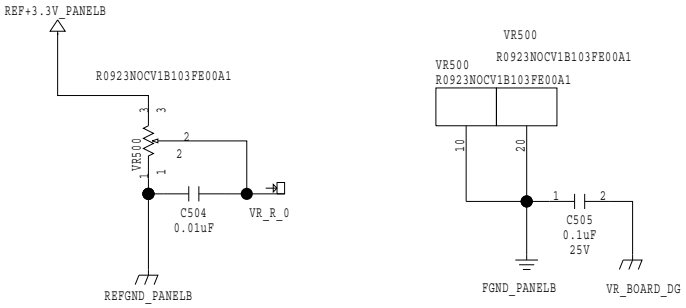


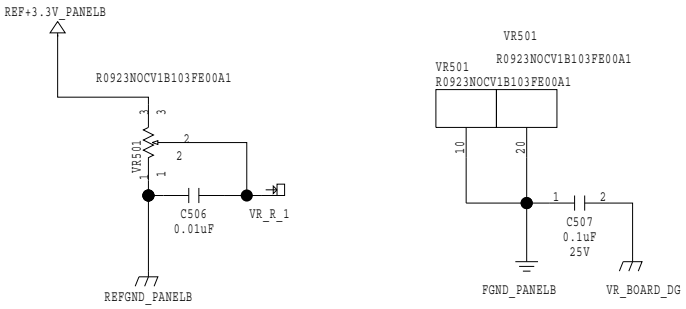

PHONES
JACK_PHONES_L
JACK_PHONES_R
JACK_DETECT_PHONES
R801 47Ω 0.25W
R802 47Ω 0.25W
C804 0.01uF
C805 0.01uF
C812 0.01uF
C813 0.01uF
R800 100Ω
C811 1000pF 50V
C810 0.1uF 25V
JK804 PJ-644C-EP
FG_JKA
PHGND_JK
SERIAL/PARALLEL
SW800 SV70050F-0202-10T-NN
C830 0.1uF 25V
DG_FS
MAIN BOARD
5100046168 CN800
WIRING 1007#28 7X200-PHR-SAN-F(AP057 W2)
TP800
TP801
TP802
TP803
TP804
TP805
L802 BLM18HD102SN1D
L803 BLM18HD102SN1D
C800 100pF
C801 100pF
JK800 PJ-644C-EP
DISTORTION
PCB-12 TER800
SEND
JACK_SEND
R818 100Ω
C840 10uF 16V
R816 100kΩ
C814 56pF
C815 56pF
JK806 PJ-644C-04-EP
C833 0.1uF 25V
AG_JACK_SEND
L800 BLM18HD102SN1D
C802 100pF
JK802 PJ-644C-04-EP
REVERB
L801 BLM18HD102SN1D
C803 100pF
JK801 PJ-644C-04-EP
CHORUS/VIB
LINE OUT L/MONO
JACK_LINE_L
UnPop C831 0.1uF
C839 10uF 16V
R819 390Ω
R817 100kΩ
C806 56pF
C807 56pF
JK803 PJ-644C-04-EP
AG_JACK_LINE
LINE OUT R
JACK_LINE_R
UnPop C841 0.1uF
C838 10uF 16V
R820 390Ω
R826 100kΩ
C808 56pF
C809 56pF
JK805 PJ-644C-04-EP
C832 0.1uF 25V

Circuit Diagram (Volume Board)

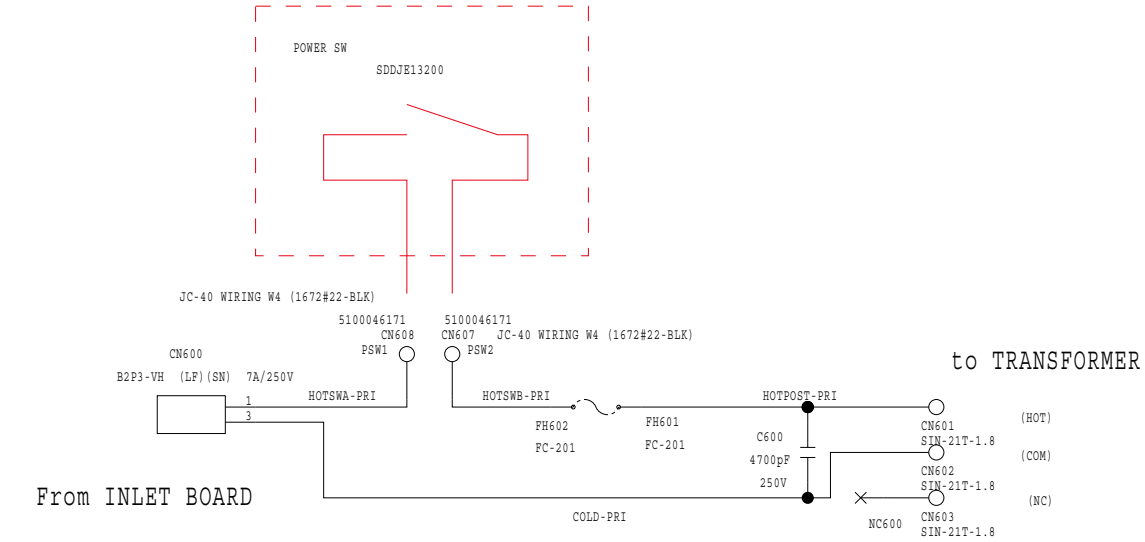
Layout

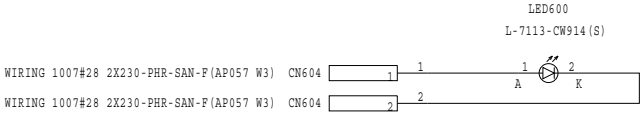






Circuit Diagram (PS Board)





Circuit Diagram (Inlet Board)