AC-90
ACOUSTIC CHORUS

SERVICE NOTES
Issued by RJA

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Roland   **17058507E0**   **Printed in Japan (0400) (SC-MZ)**

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 ******** cannot 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).

Circuit Diagram

In the circuit diagram, "NIU" is an abbreviation for "NOT IN USE." The circuit board and circuit-board diagram show silkscreened indications, but no components are mounted.

Specications

AC-90:Acoustic Chorus
● Rated Power Output
45W + 45W
● 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
Woofer 20 cm (8 inches) x 2
Tweeter 8 cm x 5 cm (3 inches x 2 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 Input Jack (1/4 inch TRS phone type)
MIC/LINE Input Jack (XLR type, 1/4 inch TRS phone type)
AUX IN Jacks (RCA phono type, 1/4 inch phone type)
DI/TUNER OUT Jack (1/4 inch TRS phone type)
LINE OUT Jacks (XLR type, 1/4 inch phone type)

SUB WOOFER OUT Jack (1/4 inch phone type)
PHONES Jack (1/4 inch stereo phone type)
FOOT SWITCH Jack (1/4 inch TRS phone type)
● Power Supply AC
117 V, AC 230 V, AC 240 V (50/60 Hz)
● Power Consumption
30 W
● Dimensions
464 (W) x 303 (D) x 326 (H) mm
18-5/16 (W) x 11-15/16 (D) x 12-7/8 (H)
inches
● Weight
11.7 kg
25 lbs 13 oz

● Accessories

Carrying Case (#SD000999)

Owner's Manual (multi-languages E/G/F/I/S/P/D) (#SD000994)

● Options

Owner's Manual (Japanese/#SD000992)

Foot Switch: BOSS FS-5L (Mute On/Off)

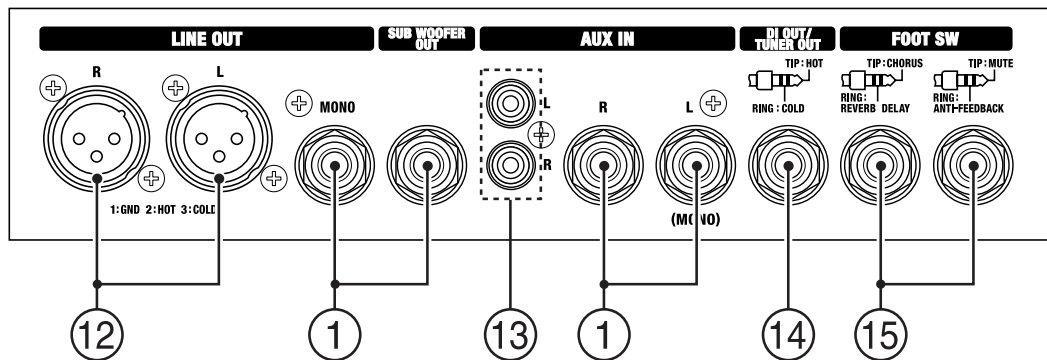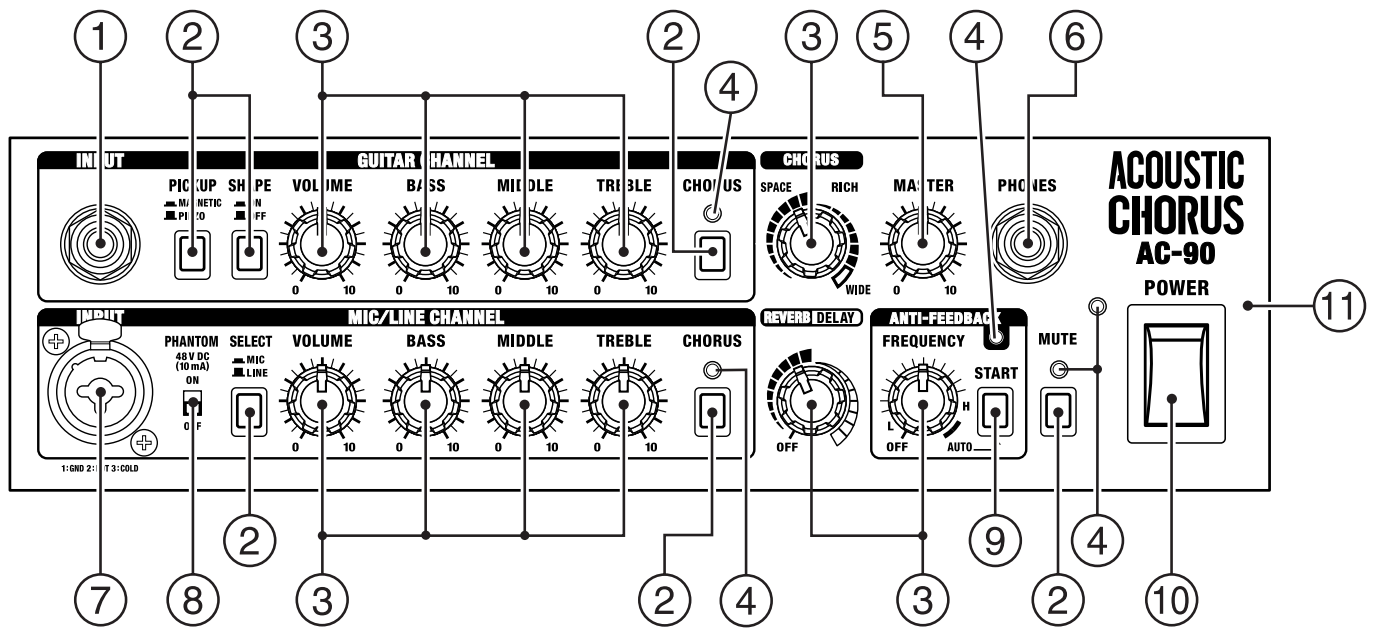   BOSS FS-5U

                            BOSS FS-6

Connection Cable: PCS-31

*   *In the interest of product improvement, the specifications and/ or appearance of
    this unit are subject to change without prior notice.*

Location of Controls

Location of Controls Parts List

No.	Part Code	Part Name	Description	Q'ty
1	13449146	6.5MM JACK	YKB21-5102 (W/SW)	5
	22150756	JACK NUT 2		5
2	SD000099	PUSH SWITCH	ESB64619	6
	SD000082	PUSH BUTTON		6
3	SD000091	POTENTIOMETER	RK09L1140 10KB	11
	40452178	VR WASHER M9		11
	17048630	VR ACCESSORY NUT M9		11
	SD000083	KNOB S		11
4	SD000045	LED(RED)3FAI		5
5	SD000090	POTENTIOMETER	RK0971410 10KBX4	1
	17048651	VR ACCESSORY WASHER M7		1
	H5039521R0	VR ACCESSORY NUT M7		1
	SD000083	KNOB S		1
6	13449169	6.5MM JACK	YKB21-5078	1
	22150756	JACK NUT 2		1
7	01901001	XLR CONNECTER	NCJ9FI-H	1
8	SD000105	SLIDE SWITCH	SSSF021500	1
9	01454723	PUSH SWITCH	ESB64620	1
	SD000082	PUSH BUTTON		1
10	03782367	SEESAW SWITCH	JW-L11RKK	1
	03782323	SW HOLDER	AT-218K	1
11	SD001008	CHASSIS		1
12	00122123	XLR CONNECTER	YKF52-5003N	2
13	13449643	JACK (PIN JACK 2P) WHT/RED	YKC21-3091	1
14	13449145	6.5MM JACK	YKB21-5010	1
	22150756	JACK NUT 2		1
15	13449252	6.5MM JACK	YKB21-5006 (STEREO W/SW)	2
	22150756	JACK NUT 2		2

Exploded View (Cabinet)

Speaker Jack Connection Diagram (Front View)

BLACK(W3)
RED(W3)
ORANGE(W3)
BROWN(W3)

WOOFER
Lch

WOOFER
Rch

⑨

⑩

WHITE(W3)

PURPLE(W3)

TWEETER
Lch

TWEETER
Rch

①

4x ⓖ

2x ⑫

ⓒ x8

②

⑬ ⑭

⑤

⑥

8x ⓐ

8x ⓑ

⑦

ⓓ x2

⑧

③ x4

⑮

⑯ x2

ⓗ x4

Bottom View

⑪ x4

ⓔ x4

ⓕ x4

⑰

ⓕ x3

Rear View

④ x2
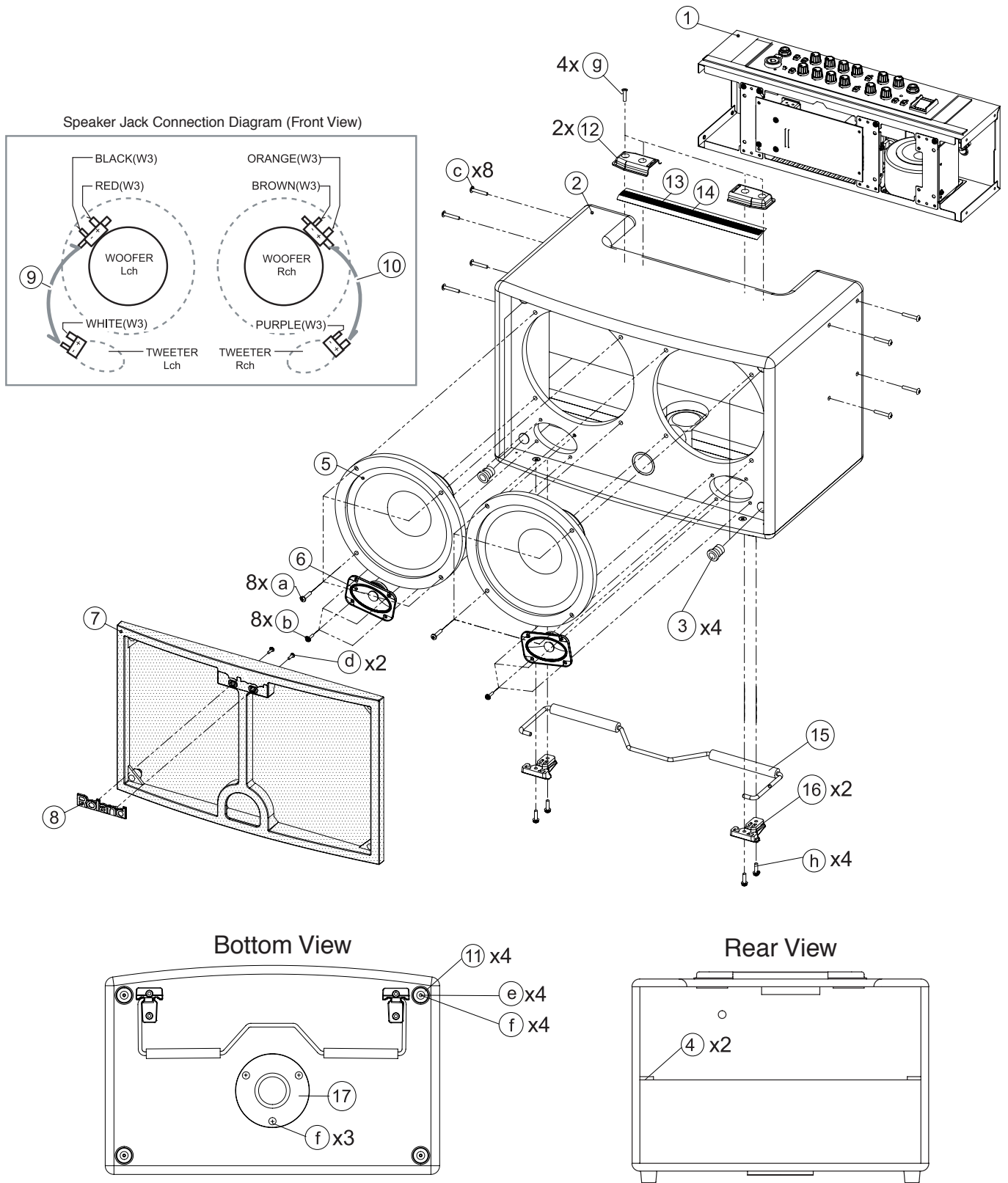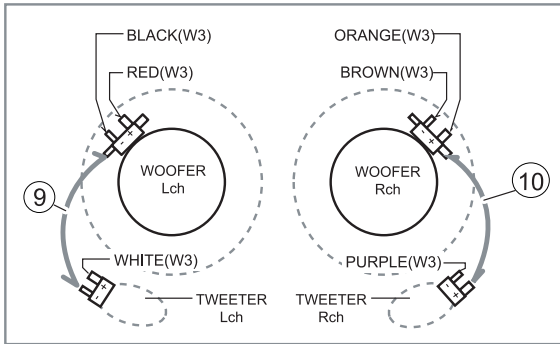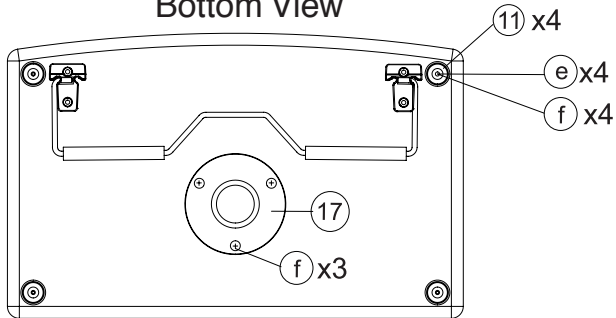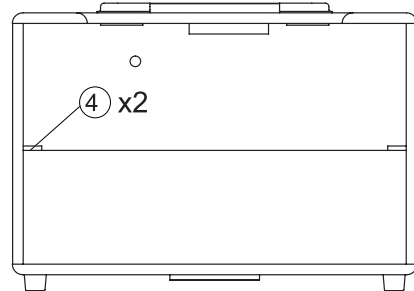
Exploded View (Cabinet) Parts List

Parts

No.	Part Code	Part Name	Description	Q'ty
1	********	CHASSIS ASSY		1
2	SD001004	CABINET ASSY		1
	NOTE: 'CABINET ASSYNOTE' includes the following parts.			
	********	ACOUSTIC FOAM A		1
	********	ACOUSTIC FOAM B		4
	********	ACOUSTIC FOAM C		1
	********	ACOUSTIC FOAM D		2
3	SD000079	CATCH BLK(73)		4
	********	MINI BELT	0.2X90L BLACK	2
4	********	CR-based Rubber Sponge	105X21X5.0mm	2
5	SD001001	SPEAKER FULL RANGE (8")	W0804-435A (8INCH)	2
6	SD001002	SPEAKER TWEETER	T08504-435A	2
7	SD001003	NET BOARD ASSY		1
	NOTE: 'NET BOARD ASSY' includes the following part.			
	********	CLOTH		1
8	SD000719	BADGE	LOGO	1
9	SD001015	WIRING	W1 (BLACK)	1
10	SD001016	WIRING	W2 (ORANGE)	1
	********	LOCKING CABLE TIE		2
11	SD001005	FOOT	D25XT18	4
12	SD000463	HANDLE HOLDER		2
13	SD000462	HANDLE PLATE		1
14	SD000461	HANDLE RUBBER		1
15	SD001006	STAND		1
16	SD001007	STAND HOLDER		2
17	17055020	STAND ADAPTOR		1

Screws

No.	Part Code	Part Name	Description	Q'ty
a	40010356	SCREW M4X20	BINDING BZC	8
b	40012978	SCREW M3x15	PAN MACHINE W/SW+PW BZC	8
c	40010545	SCREW M4X25	TRUSS HEAD SPECIAL FE BZC	8
d	40011323	SCREW 3X10	BINDING TAPTITE P BZC	2
e	40347612	WASHER M4	PLAIN BZC	4
f	40010678	SCREW 4X20	TRUSS TAPPING A FE BZC	7
g	SD000737	SCREW M5X20	OVAL MACHINE BZC	4
h	40126267	SCREW M4X16	PAN MACHINE W/SW+PW BZC	4

Exploded View (Chassis)

Cushion Chassis Attachment (Front Panel)
Affix lined up with the chassis border lines.

ACOUSTIC CHORUS AC-90 POWER

100V
117VU/UC

230VG
230VB
240VA

The direction differs depending on the AC cord specifications.

100VJ
117VU
117VU/CS
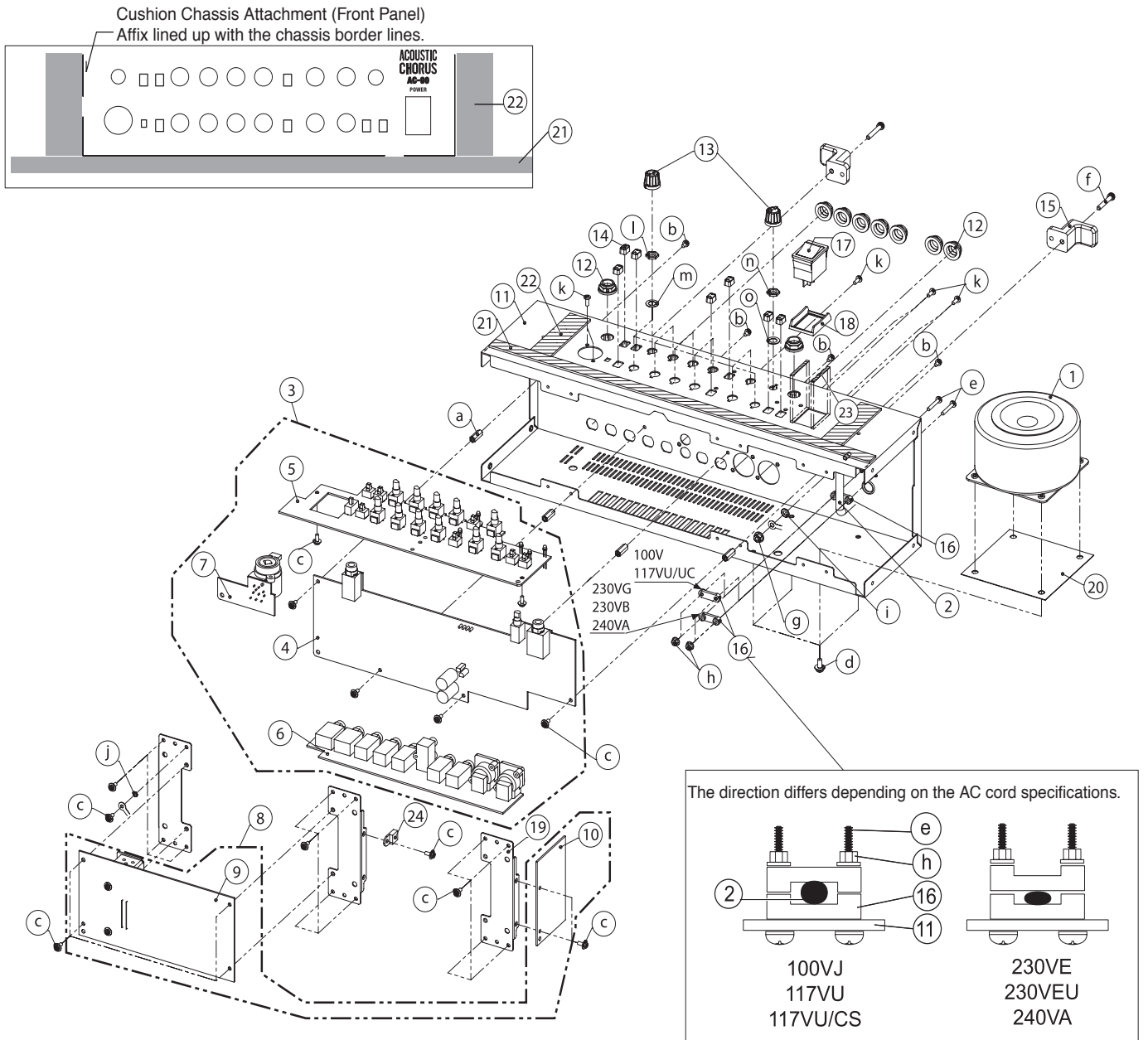
230VE
230VEU
240VA

PS1 Board Fuse Rating Indication

100VJ/117VU/117VUC Specifications

- Use Bel Fuse "5ST 5A 250V."
- Delete the high-voltage fuse rating as shown below.

100/117V	T5AL 250V
~~230/240V~~	~~T3.15AL 250V~~

230VE/230VG/240VA Specifications

- Use Bel Fuse "5ST 3.15A 250V."
- Delete the low-voltage fuse rating as shown below.

~~100/117V~~	~~T5AL 250V~~
230/240V	T3.15AL 250V

Exploded View (Chassis) Parts List

Parts

No.	Part Code	Part Name	Description	Q'ty
1	SD001009	TRANSFORMER	PT-BG435 100V/117V	1
	SD001010	TRANSFORMER	PT-BG435 230V/240V	1
2	SD000177	AC CORD PSE	SP-18A WITH TERMINAL 100V	1
	SD000912	AC CORD ASSY	SP-20 117V(2P)	1
	SD000913	AC CORD ASSY	SP-026A 230V(2P)	1
	SD000914	AC CORD ASSY	SP-61 230VE(2P)	1
	SD000915	AC CORD ASSY	SP-501 240V(2P)	1
3	SD000989	MAIN BOARD ASSY		1
	NOTE: 'MAIN BOARD ASSYNOTE' includes the following parts.			
4	********	MAIN BOARD		1
5	********	PANEL BOARD		1
6	********	JACK BOARD		1
7	********	XLR BOARD		1
8	SD000990	AMP BOARD ASSY		1
	NOTE: 'AMP BOARD ASSY' includes the following parts.			
9	********	AMP BOARD		1
10	********	PS1 BOARD		1
11	SD001008	CHASSIS		1
12	22150756	JACK NUT		9
13	SD000083	KNOB S		12
14	SD000082	PUSH BUTTON		7
15	22360705	CORD HOOK		2
16	12369410RT	AC CORD HOLDER	1702B	2
17	03782367	SEESAW SWITCH	JW-L11RKK	1
18	03782323	SW HOLDER	AT-218K	1
19	SD000182	STAY		3
20	SD001011	TRANS SHEET		1
21	SD001012	CUSHION CHASSIS L		1
22	SD001013	CUSHION CHASSIS S		2
23	SD000853	CUSHION 3x32 HI		2
24	SD000153	CABLE CLAMP	412-PGYL-3	1

Screws

No.	Part Code	Part Name	Description	Q'ty
a	22150518	STANDOFF	HEX.BOSS 5.5X15 M3	4
b	40011490	SCREW M3X6	PAN MACHINE W/SW BZC	4
c	40012867	SCREW M3X8	PAN MACHINE W/SW+PW ZC	25
d	40013012	SCREW M4X10	PAN W SEMS FE BZC	4
e	40010301	SCREW M3X20	BINDING MACHINE BZC	2
f	SD000103	SCREW M4X25	PAN PACHINE W/SW BZC	2
g	40011767	FLANGE HEX NUT M4	FE ZC	1
h	40011756	FLANGE HEX NUT M3	ZC	2
i	40011889	EXTERNAL TOOTH WASHER M4	ZC	1
j	40011878	M3 EXTERNAL TOOTH WASHER	FE CM	1
k	40011101	SCREW 3X8	BINDING TAPTITE B BZC	7
l	17048630	VR ACCESSORY NUT M9		11
m	40452178	VR WASHER M9		11
n	H5039521R0	VR ACCESSORY NUT M7		1
o	17048651	VR ACCESSORY WASHER M7	M7X12X0.5 NO.467	1

1. AC CORD

2. PS1 BOARD

3. AMP BOARD

4. STAY

5. TRANSFORMER

6. XLR BOARD

7. MAIN BOARD

8. JACK BOARD

9. PANEL BOARD

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. • Part supplied only as a component in a complete assembly • Copyright does not permit the part to be supplied • Part is sold commercially

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

CASING

	SD000719	BADGE	LOGO	NET BOARD		1
#	SD001005	FOOT	D25XT18			4
#	SD001004	CABINET ASSY				1
	NOTE: 'CABINET ASSY' includes the following parts.					
	********	ACOUSTIC FOAM A				1
	********	ACOUSTIC FOAM B				4
	********	ACOUSTIC FOAM C				1
	********	ACOUSTIC FOAM D				2
	SD000079	CATCH BLK(73)				4
	********	MINI BELT	0.2X90L BLACK			2
	********	CR-based Rubber Sponge	105X21X5.0mm			2
⚠	SD000463	HANDLE HOLDER				2
⚠	SD000462	HANDLE PLATE				1
⚠	SD000461	HANDLE RUBBER				1
# ⚠	SD001003	NET BOARD ASSY				1
	NOTE: 'NET BOARD ASSY' includes the following parts.					
	********	CLOTH				1
#	SD001006	STAND				1
	17055020	STAND ADAPTOR				1
# ⚠	SD001007	STAND HOLDER				2

CHASSIS

#	SD001008	CHASSIS				
⚠	22360705	CORD HOOK				2
	SD000182	STAY				3

KNOB, BUTTON

	SD000083	KNOB S				12
	SD000082	PUSH BUTTON				7

SWITCH

	SD000105	SLIDE SWITCH	SSSF021500			1
⚠	03782367	SEESAW SWITCH	JW-L11RKK			1
	01454723	PUSH SWITCH	ESB64620			1
	SD000099	PUSH SWITCH	ESB64619			6

JACK, EXT TERMINAL

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

SPEAKER, BUZZER

# ⚠	SD001001	SPEAKER FULL RANGE	W0804-435A (8INCH)			2
# ⚠	SD001002	SPEAKER TWEETER	T08504-435A			2

PWB ASSY

#	⚠	SD000990	AMP BOARD ASSY			1
			NOTE: 'AMP BOARD ASSY' includes the following part.			
		********	PS1 BOARD		NOTE: excluding the fuse.	1
#	⚠	SD000989	MAIN BOARD ASSY			1
			NOTE: 'MAIN BOARD ASSY' includes the following parts.			
		********	MAIN BOARD			1
		********	PANEL BOARD			1
		********	JACK BOARD			1
		********	XLR BOARD			1

DIODE

	SD000045	LED (RED) 3FAI			5

FUSE, FUSE HOLDER

⚠	03670512	FUSE	5ST 5-R 5A/250V		1
⚠	03673801	FUSE	5ST 3.15 3.15A/250V	for 230V/240V	1

POTENTIOMETER

	SD000091	POTENTIOMETER	RK09L1140 10kB	VR2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12	11
	SD000090	POTENTIOMETER	RK0971410 10kBX4	VR1	1

WIRING, CABLE

#		SD001014	WIRING	W3 (SPEAKER)	SPEAKER	1
#	⚠	SD001016	WIRING	W2 (ORANGE)	Rch FULL RANGE SPEAKER-TWEETER	1
#	⚠	SD001015	WIRING	W1(BLACK)	Lch FULL RANGE SPEAKER-TWEETER	1

TRANSFORMER

#	⚠	SD001010	TRANSFORMER	PT-BG435 230V/240V	for 230V/240V	1
#	⚠	SD001009	TRANSFORMER	PT-BG435 100V/117V	for 100V/117V	1

AC CORD ASSY (Installed)

⚠	SD000914	AC CORD ASSY	SP-61 230VE(2P)	for 230VE	1
⚠	SD000915	AC CORD ASSY	SP-501 240V(2P)	for 240VA	1
⚠	SD000912	AC CORD ASSY	SP-20 117V(2P)	for 117VU	1
⚠	SD000177	AC CORD PSE	SP-18A WITH TERMINAL 100V	for 100VJ	1
⚠	SD000913	AC CORD ASSY	SP-026A 230V(2P)	for 230VEU	1

SCREWS

40011756	FLANGE HEX NUT M3	ZC	AC CORD	2
40010678	SCREW 4X20	TRUSS TAPPING A FE BZC	FOOT, STAND	7
40010545	SCREW M4X25	TRUSS HEAD SPECIAL FE BZC	CHASSIS	8
40347612	WASHER M4	PLAIN BZC	FOOT	4
40013012	SCREW M4X10	PAN W SEMS FE BZC	TRANSFORMER	4
SD000103	SCREW M4X25	PAN PACHINE W/SW BZC	AC CORD HOOK	2
40012867	SCREW M3X8	PAN MACHINE W/SW+PW ZC	PCB, STAY, CABLE CLAMP	25
40012978	SCREW M3X15	PAN MACHINE W/SW+PW BZC	TWEETER	8
40126267	SCREW M4X16	PAN MACHINE W/SW+PW BZC	STAND HOLDER	4
40011490	SCREW M3X6	PAN MACHINE W/SW BZC	CHASSIS	4
SD000737	SCREW M5X20	OVALHEAD MACHINE BZC	HANDLE	4
17048651	VR ACCESSORY WASHER M7	M7X12X0.5 NO.476	VR1	1
22150518	STANDOFF	HEX.BOSS 5.5X15 M3		4
40011889	EXTERNAL TOOTH WASHER M4	FECM	W7 GND	1
40011878	M3 EXTERNAL TOOTH WASHER	FECM	W10 GND	1
40011767	FLANGE HEX NUT M4	FE ZC	W7 GND	1
40011323	SCREW 3X10	BINDING TAPTITE P BZC	Roland BADGE	2
40011101	SCREW 3X8	BINDING TAPTITE B BZC	JK5, JK6, JK9, JK3	7
40010301	SCREW M3X20	BINDING MACHINE BZC	AC CORD	2
40010356	SCREW 4X20	BINDING BZC	FULLRANGE SPEAKER	8
22150756	JACK NUT 2			9
H5039521R0	VR ACCESSORY NUT M7		VR1	1
17048630	VR ACCESSORY NUT M9		VR2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12	11
40452178	VR WASHER M9		VR2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12	11

PACKING

#		SD001000	CUSHION PAD	(DH NO.:604-AC-90)		1
		SD000518	BOTTOM PAD			8
#		SD000998	PACKING CASE			1

MISCELLANEOUS

#		SD001013	CUSHION	CHASSIS S	CHASSIS	2
#		SD001012	CUSHION	CHASSIS L	CHASSIS	1
		03782323	SW HOLDER	AT-218K		1
		SD000153	CABLE CLAMP	412-PGYL-3	STAY	1
		SD000853	CUSHION	3X32 HI	CHASSIS	2
	⚠	12369410RT	AC CORD HOLDER	1702B		2
		SD000079	CATCH BLACK (73)			4
#	⚠	SD001011	TRANS SHEET		TRANSFORMER	1

ACCESSORIES (Standard)

#		SD000994	OWNER'S MANUAL	E/G/F/I/S/P/D	1
#		SD000999	CARRYING BAG		1

Verifying the Version Number

- The TIP: MUTE, RING: ANTI-FEEDBACK foot switch is indicated as [Foot SW 1].
- The TIP: CHORUS, RING: REVERB/DELAY foot switch is indicated as [Foot SW 2].
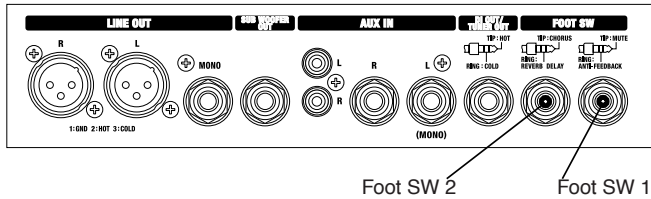
Foot SW 2   Foot SW 1

1. Foot Switch Settings and Connections
   Connect two FS-5U foot switches to [Foot SW 1] using a PCS-31 foot-switch cable.
   - Set the [POLARITY] switch on the FS-5U foot switches to the setting opposite that of the jack.
   - Connect the standard plugs to the respective FS-5U foot switches.
   * The PCS-31 foot-switch connection cable is a stereo to standard x 2 adapter cable.
   * On the standard plug, "white" is [TIP] and "red" is [RING].
   * You can connect the white and red sides to either FS-5U unit.

2. Panel Settings
   [PICKUP] switch: PIEZO
   [SELECT] switch: LINE
   All other switches: OFF
   All volume knobs: MIN
   * The unit will not enter the Test mode unless the panel settings in 2 above are made correctly.

3. Displaying the Version Number
   - With the settings in 1 and 2 above made, hold the [TIP] (white) foot switch hold down and switch on the power.
     After turning on the power, depressing the foot switch twice within 4 seconds makes the unit enter the Test mode.
   * Immediately after the unit enters the Test mode, the following LEDs flash several times (for approximately 2 seconds).
   * The LEDs are used for verifying passing or failing of the inspection tests.
     GUITAR channel [CHORUS] LED
     MIC/LINE channel [CHORUS] LED
     [ANTI-FEEDBACK] LED
     [MUTE] LED
   - After that, the [ANTI-FEEDBACK] and [MUTE] LEDs light up as a display to identify the AC-90.
   - Depressing the [TIP] (white) foot switch once while in this state makes the LEDs flash to indicate the software version.

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

●: flashing／—: dark

4. After verifying the version, to quit the Test mode, switch off the power.

Test Mode

1. Items Required

- Headphones -- 1 set
- Boss FS-5U foot switches (sold separately) -- 2
- Roland PCS-31 foot-switch connection cable (sold separately)) -- 1
- Tester (for measuring voltage)
- Boss DI-1 (only when inspecting the signal level)
- Level meter (only when inspecting the signal level)
- Signal generator (only when inspecting the signal level)

2. Entering the Test Mode

Follow steps 1 through 3 of Verifying the Version Number.

3. Quitting the Test Mode

Switch off the power.

4. Skipping

No skipping of items in the Test mode is possible.

5. Test Items

6. Details of the Test Items

1. Version Display

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/—: dark

- Depressing the [TIP] (white) foot switch displays the version, after which execution advances to the next test item.

2. DSP Test (Automatic Determination)

- When the test is begun, the following LEDs go dark temporarily.
GUITAR channel [CHORUS] LED
MIC/LINE channel [CHORUS] LED
[ANTI-FEEDBACK] LED
[MUTE] LED
- As testing progresses, the following LEDs light up sequentially.
GUITAR channel [CHORUS] LED
MIC/LINE channel [CHORUS] LED
[ANTI-FEEDBACK] LED
- Test OK (pass): The following LEDs flash.
GUITAR channel [CHORUS] LED
MIC/LINE channel [CHORUS] LED
[ANTI-FEEDBACK] LED
[MUTE] LED
- Test not OK (fail): The [MUTE] LED flashes.
  * *When the test is failed, advancing to the next test items is not possible.*
- Depressing the [TIP] (white) foot switch makes execution advance to the next test item.

3. Switch Test

When the test is begun, the following LEDs go dark.
GUITAR channel [CHORUS] LED
MIC/LINE channel [CHORUS] LED
[ANTI-FEEDBACK] LED
[MUTE] LED

Carry out operations in the sequence shown below and check the status of the corresponding LEDs.

1. [PICKUP] switch
Changing the [PICKUP] switch from PIEZO to MAGNETIC makes the GUITAR channel [CHORUS] LED light up.

2. [SHAPE] switch
Changing the [SHAPE] switch from OFF to ON makes the MIC/LINE channel [CHORUS] LED light up.

3. [PHANTOM] switch
Changing the [PHANTOM] switch from OFF to ON makes the [ANTI-FEEDBACK] LED light up.

4. [SELECT] switch
Changing the [SELECT] switch from LINE to MIC makes the [MUTE] LED light up.

5. GUITAR channel [CHORUS] switch
Changing the GUITAR channel [CHORUS] switch from OFF to ON makes the GUITAR channel [CHORUS] LED go dark.

6. MIC/LINE channel [CHORUS] switch
Changing the MIC/LINE channel [CHORUS] switch from OFF to ON makes the MIC/LINE channel [CHORUS] LED go dark.

7. [START] switch
Pressing the [START] switch makes the [ANTI-FEEDBACK] LED go dark.

8. [MUTE] switch
Changing the [MUTE] switch from OFF to ON makes the [MUTE] LED go dark.
   * *If any of the inspection tests up to this point is failed, the [MUTE] LED flashes and execution cannot advance to the next test.*
- If all inspection tests are passed, the following LEDs flash.
GUITAR channel [CHORUS] LED
MIC/LINE channel [CHORUS] LED
[ANTI-FEEDBACK] LED
[MUTE] LED

9. [Foot SW 1] jack switch
- Detaching the plug from [Foot SW 1] on the AC-90 makes the following LEDs go dark.
GUITAR channel [CHORUS] LED
MIC/LINE channel [CHORUS] LED
[ANTI-FEEDBACK] LED
[MUTE] LED
- Inserting a plug into [Foot SW 1] on the AC-90 makes the following LEDs light up.
GUITAR channel [CHORUS] LED
MIC/LINE channel [CHORUS] LED
[ANTI-FEEDBACK] LED
[MUTE] LED

10. [Foot SW 1] [TIP] switch
Depressing the [TIP] (white) foot switch makes the GUITAR channel [CHORUS] LED go dark.

11. [Foot SW 1] [RING] switch
Depressing the [RING] (red) foot switch makes the MIC/LINE channel [CHORUS] LED go dark.

12. [Foot SW 2] jack switch
- Detaching the plug from [Foot SW 1] on the AC-90 makes the [ANTI-FEEDBACK] and [MUTE] LEDs go dark.
- Inserting a plug into [Foot SW 2] on the AC-90 makes the following LEDs light up.
  GUITAR channel [CHORUS] LED
  MIC/LINE channel [CHORUS] LED
  [ANTI-FEEDBACK] LED
  [MUTE] LED

13. [Foot SW 2] [TIP] switch
  Depressing the [TIP] (white) foot switch makes the [ANTI-FEEDBACK] LED go dark.

14. [Foot SW 2] [RING] switch
  Depressing the [RING] (red) foot switch makes the [MUTE] LED go dark.

15. [PHONES] jack switch
- Detaching the plug from [Foot SW 2] on the AC-90 makes the GUITAR channel and MIC/LINE channel [CHORUS] LEDs go dark.
- Inserting headphones into [PHONES] makes the following LEDs light up.
  GUITAR channel [CHORUS] LED
  MIC/LINE channel [CHORUS] LED
  [ANTI-FEEDBACK] LED
  [MUTE] LED
- Detaching the headphones plug inserted into [PHONES] makes the following LEDs go dark.
  GUITAR channel [CHORUS] LED
  MIC/LINE channel [CHORUS] LED
  [ANTI-FEEDBACK] LED
  [MUTE] LED

  * *If an error is made in the inspection-test sequence, or of a test is failed, execution cannot advance to the next test.*
- When all switch testing are completed, the following LEDs flash.
  GUITAR channel [CHORUS] LED
  MIC/LINE channel [CHORUS] LED
  [ANTI-FEEDBACK] LED
  [MUTE] LED
- Insert a PCS-31 plug into [Foot SW 1] on the AC-90 and depress the [TIP] (white) foot switch to make execution advance to the next inspection test.
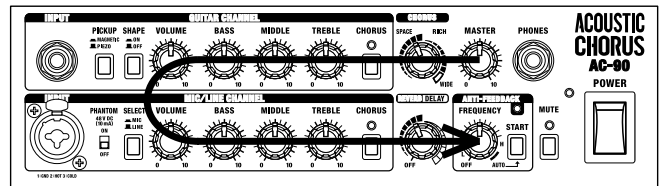
4. Volume Control Test

When the volume-control test is begun, the following LEDs go dark.
GUITAR channel [CHORUS] LED
MIC/LINE channel [CHORUS] LED
[ANTI-FEEDBACK] LED
[MUTE] LED
- Operating the volume knob makes self-oscillation by the DSP start, and audio is output from the speakers.
- Until the inspection test for a single volume control ends, the volume level changes according to the position of the control knob.
- In testing the volume controls, verify the change from minimum to center and from center to maximum, and be sure to go on to testing of the next volume knob while leaving the first one at maximum.

- Perform testing of the volume controls in this sequence: [MASTER] => [CHORUS] => GUITAR channel [TREBLE] => GUITAR channel [MIDDLE] => GUITAR channel [BASS] => GUITAR channel [VOLUME] => MIC/LINE channel [VOLUME] => MIC/LINE channel [BASS] => MIC/LINE channel [MIDDLE] => MIC/LINE channel [TREBLE] => [REVERB/DELAY] => [FREQUENCY].

- When the "minimum" setting of the volume control is detected, the [ANTI-FEEDBACK] and [MUTE] LEDs go dark.
- When the "center" setting of the volume control is detected, the [ANTI-FEEDBACK] LED lights up.
- When the "maximum" setting of the volume control is detected, the [ANTI-FEEDBACK] and [MUTE] LEDs light up.

  * *If a failed test occurs before inspection of the volume controls finishes, execution cannot advance to testing of the next volume control.*
- When the tests for all volume controls have been passed, the following LEDs flash.
  GUITAR channel [CHORUS] LED
  MIC/LINE channel [CHORUS] LED
  [ANTI-FEEDBACK] LED
  [MUTE] LED
- Switch off the power.

5. Phantom Voltage Test

- Switch on the power.
- Adjust the [MASTER] volume knob to minimum.
- The settings of the other switches and volume controls are unspecified (not relevant).
- Using the tester, check the DC voltage between each MIC/LINE channel [INPUT] XLR terminal.
- Set the measurement range on the tester to 50 V or higher.
- Bring [COM] (black) on the tester into contact with the [1: GND] terminal.

1. [PHANTOM] OFF Voltage

- Set the [PHANTOM] switch to OFF.
- Bring the tester's [+] probe (red) into contact with the [2: HOT] connector and verify that the voltage is near 0 V.
- Bring the tester's [+] probe (red) into contact with the [3: COLD] connector and verify that the voltage is near 0 V.

2. [PHANTOM] ON Voltage

- Set the [PHANTOM] switch to ON.
- Bring the tester's [+] probe (red) into contact with the [2: HOT] connector and verify that a voltage of 44 to 49 V is output.
- Bring the tester's [+] probe (red) into contact with the [3: COLD] connector and verify that a voltage of 44 to 49 V is output.

6. Signal-level Test (Testing in PCB State)

The Test mode is used in the signal-level inspection testing.

1. Foot-switch Connections

Connect two FS-5U foot switches to [Foot SW 1] using a PCS-31 foot-switch cable.

The settings and connections for the FS-5U foot switch are as shown below.

- Set the [POLARITY] switch on the FS-5U foot switches to the setting opposite that of the jack.
- Foot-switch connection cable connection
  The PCS-31 foot-switch connection cable is a stereo to standard x 2 adapter cable.
  On the standard plug, "white" is [TIP] and "red" is [RING].
  Connect the standard plugs to the respective FS-5U foot switches.
  You can connect the white and red sides to either FS-5U unit.

2. Panel Settings

[PICKUP] switch:PIEZO
[SELECT] switch:LINE
All other switches:OFF
All VR (volume) controls:MIN

  * *The unit will not enter the Test mode unless the settings described above are made correctly.*

3. Entering the Test Mode

With the settings in the **2**'s state, hold the [TIP] (white) foot switch hold down and switch on the power.

- Depressing the foot switch twice within 4 seconds after powerup makes the unit enter the Test mode.
- Immediately after the unit enters the Test mode, the following LEDs flash several times.
  GUITAR channel [CHORUS] LED
  MIC/LINE channel [CHORUS] LED
  [ANTI-FEEDBACK] LED
  [MUTE] LED
- After that, the [ANTI-FEEDBACK] and [MUTE] LEDs light up as a display to identify the AC-90.

  * *The LEDs are used to confirm whether inspection tests are passed or failed, so verify that the following LEDs are able to flash.*
  GUITAR channel [CHORUS] LED
  MIC/LINE channel [CHORUS] LED
  [ANTI-FEEDBACK] LED
  [MUTE] LED
- When holding down [TIP] (white) FOOOT SWITCH once, the LEDs start toflash to indicate its software version.
  During indicating the version, when holding down [RING](red) foot switchonce, GUITAR[CHORUS] LEDs light up, and then the unit entersSingal-level Test Mode.

4. Oscillator Signal Levels

During GUITAR channel input: (mono phones input)
1 kHz sine wave of -10 dBu

During MIC/LINE channel input:(using DI-1)
1 kHz sine wave of -10.6 dBu

- DI-1 use: Signal-level adjustment at balance input and DI-1 input
- DI-1 settings: POWER=AUTO, ATT = 0 dB, ø = NOR, GND = NOR

  * *0 dBu = 0.775 Vrms*

5. AC-90 Settings

- Panel Settings
[PICKUP] switch:	PIEZO
[SELECT] switch:	LINE
All other switches:	OFF
MASTER volume:	MAX
All other volume knobs:	MIN
- Verify that the specified levels are output at the points indicated on the "**Circuit Diagram (Main Board: Analog, XLR Board)**" (p. 26).
- When you have finished inspection at all test point, switch off the power. This completes the inspection-test procedure.

7. Signal-level Test (Testing in Product State)

This is for testing the signal levels at the respective output connectors while in normal state.

Perform this when verification of the output-connector levels is required.

The Test mode is used in the signal-level inspection testing.

1. Foot-switch Connections

Connect two FS-5U foot switches to [Foot SW 1] using a PCS-31 foot-switch cable.

The settings and connections for the FS-5U foot switch are as shown below.

- Set the [POLARITY] switch on the FS-5U foot switches to the setting opposite that of the jack.
- Foot-switch connection cable connection
  The PCS-31 foot-switch connection cable is a stereo to standard x 2 adapter cable.
  On the standard plug, "white" is [TIP] and "red" is [RING].
  Connect the standard plugs to the respective FS-5U foot switches.
  You can connect the white and red sides to either FS-5U unit.

2. Panel Settings

[PICKUP] switch:	PIEZO
[SELECT] switch:	LINE
All other switches:	OFF
All VR (volume) controls:	MIN

*   *The unit will not enter the Test mode unless the settings described above are made correctly.*

3. Entering the Test Mode

With the settings in the **2**'s state, hold the [TIP] (white) foot switch hold down and switch on the power.

- Depressing the foot switch twice within 4 seconds after powerup makes the unit enter the Test mode.
- Immediately after the unit enters the Test mode, the following LEDs flash several times.
  GUITAR channel [CHORUS] LED
  MIC/LINE channel [CHORUS] LED
  [ANTI-FEEDBACK] LED
  [MUTE] LED
- After that, the [ANTI-FEEDBACK] and [MUTE] LEDs light up as a display to identify the AC-90.

*   *The LEDs are used to confirm whether inspection tests are passed or failed, so verify that the following LEDs are able to flash.*
    GUITAR channel [CHORUS] LED
    MIC/LINE channel [CHORUS] LED
    [ANTI-FEEDBACK] LED
    [MUTE] LED

- When holding down [TIP](white) FOOOT SWITCH once, the LEDs start to flash to indicate its software version.
  During indicating the version, when holding down [RING](red) foot switch once, GUITAR[CHORUS] LEDs light up, and then the unit enters Singal-level Test Mode.

4. Oscillator Signal Levels

During GUITAR channel input:	1 kHz sine wave of -10 dBu
During MIC/LINE channel input:	1 kHz sine wave of -10.6 dBu

- DI-1 use: Signal-level adjustment at balance input and DI-1 input
- DI-1 settings: POWER=AUTO, ATT = 0 dB, ø = NOR, GND = NOR

*   *0 dBu = 0.775 Vrms*

5. AC-90 Settings

- Panel Settings

[PICKUP] switch:	PIEZO
[SELECT] switch:	LINE
All other switches:	OFF
MASTER volume:	MAX
All other volume knobs:	MIN

6. Output-level Confirmation

With a dummy load resistor connected to the output jacks according to the following table, check the signal level at each end of the dummy resistor.

* *The values shown are a rough guide. Actual values are subject to volume-production fluctuations. (Approx. +/-1.5 dBu with respect to the values in the table below)*

* *For the dummy load resistor, use the plug indicated under "Connection plug" in the table below, and connect the resistor between the output-connector signal line and ground.*

Output connector	Dummy load resistor value	Connection plug	Output level during GUITAR input	Output level during MIC input
DI OUT TIP	680 Ω (1/2 W)	STEREO standard	-8 dBu	-8 dBu
DI OUT RING	680 Ω (1/2 W)	STEREO standard	-8 dBu	-8 dBu
SUB WOOFER OUT (MASTER VR: MAX)	47 kΩ (1/2 W)	MONO standard	-11.5 dBu	-11.5 dBu
LINE OUT (MONO)	47 kΩ (1/2 W)	MONO standard	-8 dBu	-8.5 dBu
LINE OUT L (HOT)	680 Ω (1/2 W)	XLR	-10.5 dBu	-10.5 dBu
LINE OUT L (COLD)	680 Ω (1/2 W)	XLR	-10.5 dBu	-10.5 dBu
LINE OUT R (HOT)	680 Ω (1/2 W)	XLR	-10.5 dBu	-10.5 dBu
LINE OUT R (COLD)	680 Ω (1/2 W)	XLR	-10.5 dBu	-10.5 dBu
PHONES L	100 Ω (1/2 W)	STEREO standard	-1.0 dBu	-1.0 dBu
PHONES R	100 Ω (1/2 W)	STEREO standard	-1.0 dBu	-1.0 dBu

When inspection testing is finished, switch off the power.

Block Diagram/Wiring Diagram

JACK BOARD

GUITAR INPUT

LINE OUT(MONO)
LINE OUT L COLD
LINE OUT L HOT
LINE OUT R COLD
LINE OUT R HOT HOT

IC10
AK4552VT
AD/DA

CN15
W11
CN400
MONO
L
R
LINE OUT

MIC/LINE INPUT

CN9
W10
CN2

IC16
AK4552VT
AD/DA

MASTER VOL

CN4
W9

STEREO
POWER AMP

CN2
CN1

W1
W3
W2

Lch WOOFER
Lch TWEETER
Rch WOOFER
Rch TWEETER

AMP BOARD

XLR BOARD
W8

CHASSIS GND

IC5
TC220C120AF-006
DSP

IC6
S29AI004D70TFI020
FLASH MEMORY

PHONES

SUB WOOFER OUT OUT

SUB WOOFER
OUT

VR,SWITCH,LED
CN13
W14
CN14
CN12
W12
CN5

IC4
HD6413006
CPU

PANEL BOARD

AUX IN L(MONO)
AUX IN R
AUX IN L (PIN)
AUX IN R (PIN)

CN1
W13
CN11

L(MONO)
R

AUX IN

POWER SW
W4
W4

POWER SUPPLY
±Vcc
±12V
+3.3V
PHANTOM

CN8

FOOT SWITCH

DI OUT HOT
DI OUT COLD

DI OUT/TUNER OUT

PS1 BOARD
TRANSFORMER
W7

MAIN BOARD

CHASSIS GND

JACK BOARD

No.	PART CODE	PART NAME	DESCRIPTION	QTY
W1	SD001015	WIRING W1	BLACK(1P)	1
W2	SD001016	WIRING W2	ORANGE(1P)	1
W3	SD001014	WIRING W3	(6P)	1
W4	********	WIRING W4	BLACK(1P)	2
W7	********	WIRING W7	BLACK(1P)	1
W8	********	WIRING W8	BLACK(1P)	1
W9	********	WIRING W9	(13P)	1
W10	********	WIRING W10	(4P)	1
W11	********	WIRING W11	(8P)	1
W12	********	WIRING W12	(12P)	1
W13	********	WIRING W13	(13P)	1
W14	********	WIRING W14	(15P)	1

Circuit Board (Main, XLR Board)
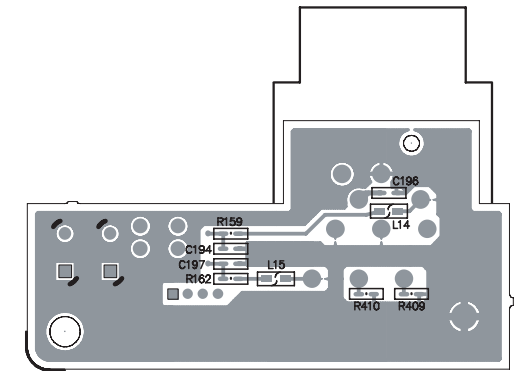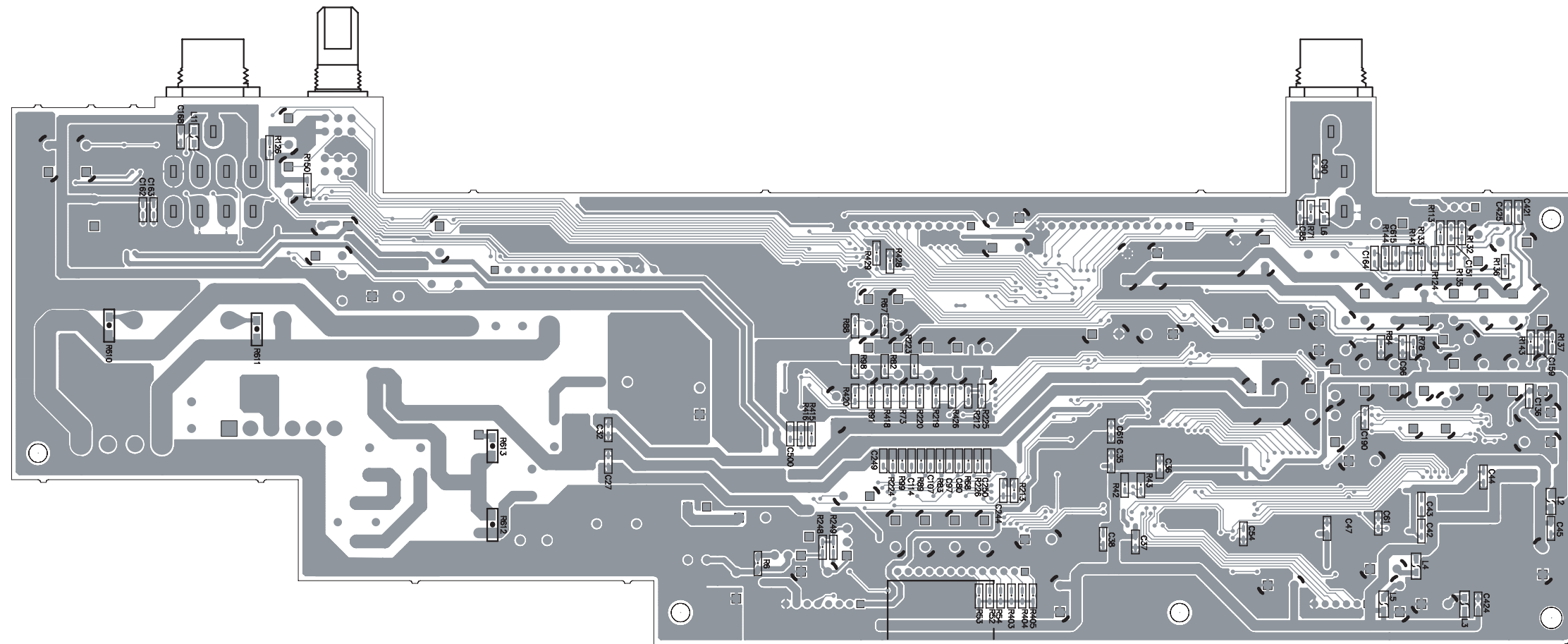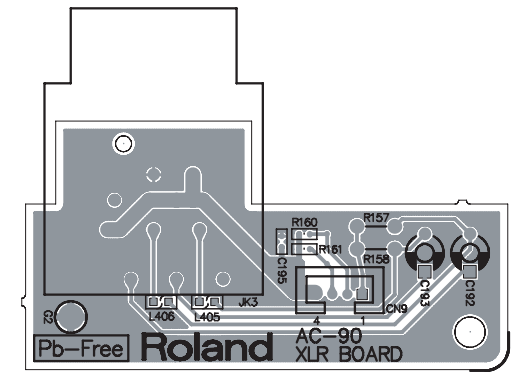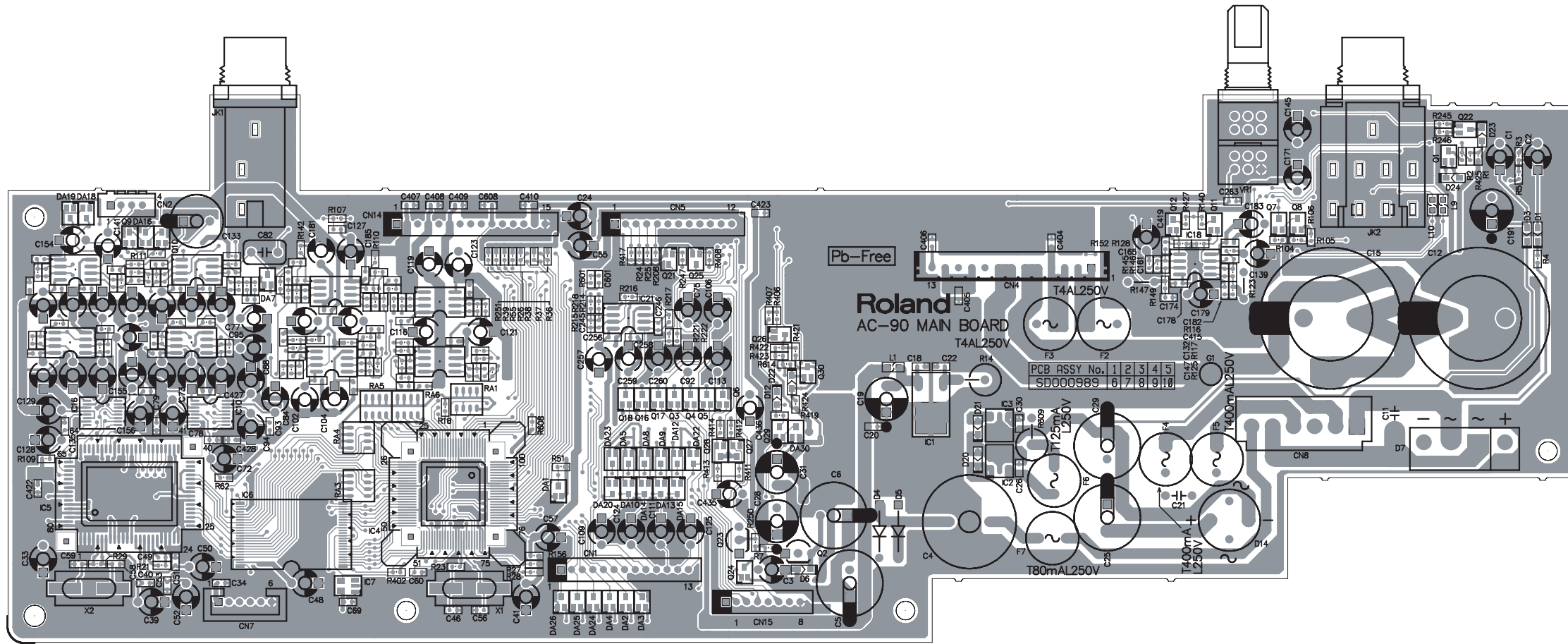
Circuit Diagram (Main Board: Digital)

Circuit Diagram (Main Board: Analog, XLR Board)

GUITAR

XLR BOARD

MIC/LINE

PHONES

MASTER
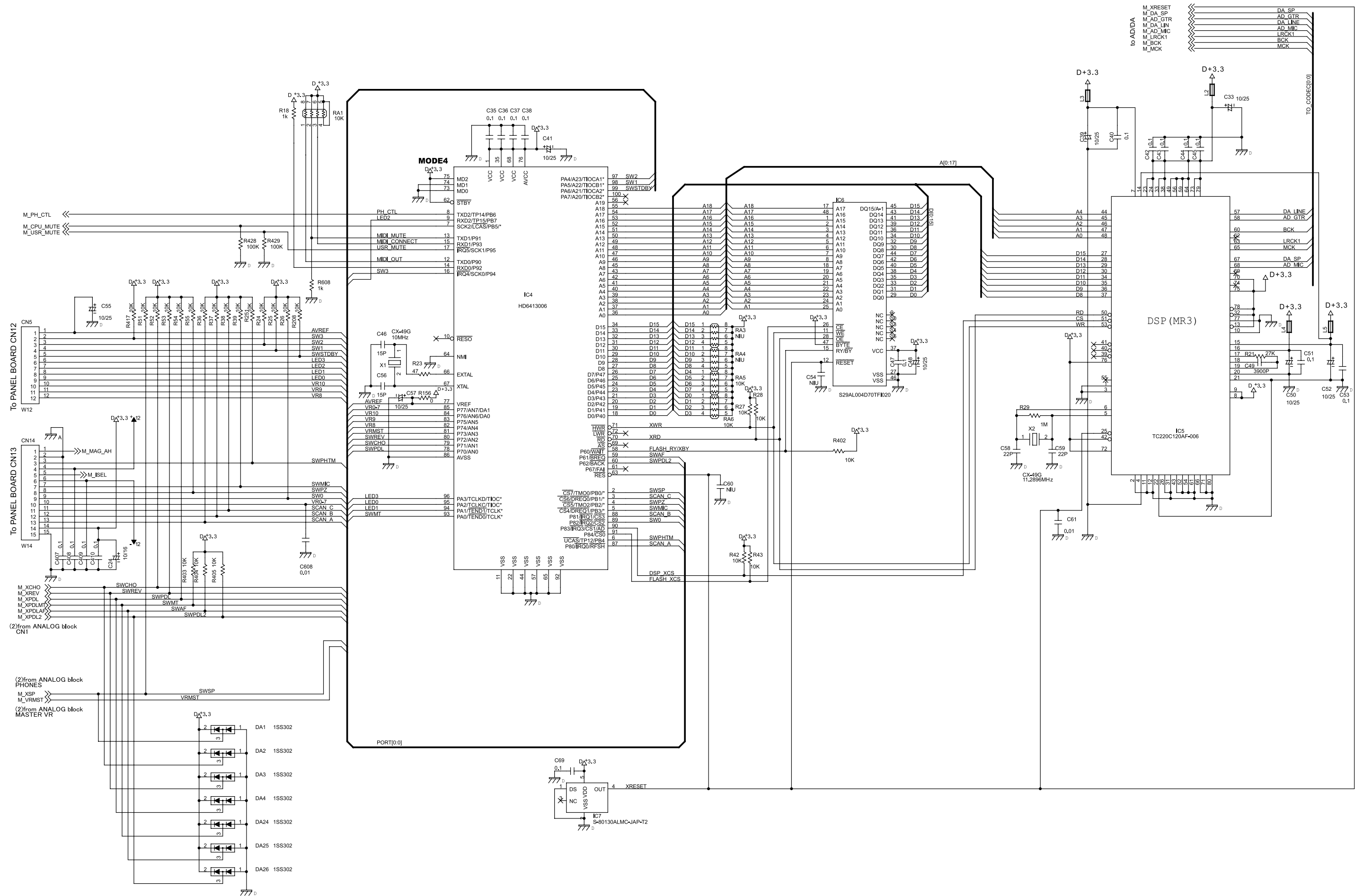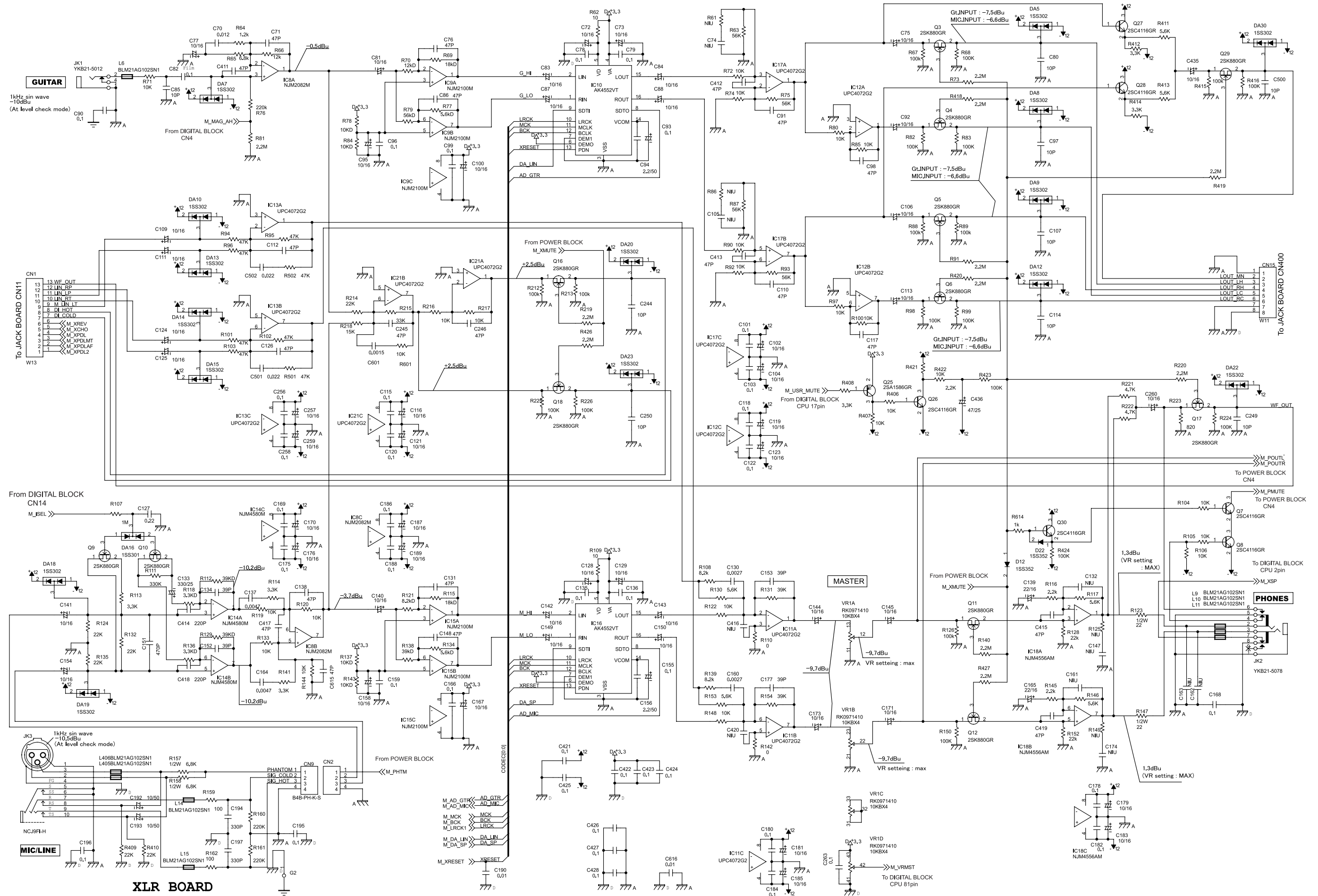
Circuit Diagram (Main Board: Power Supply)

M_XMUTE
To ANALOG BLOCK

R2 10
C1 4.7/50
C191 10/50
A

R425 10
R1 47K

R3 100K
R5 22K
Q1 2SC4116GR
D24 NIU
A

D1 1SS352
C2 1/50
D3 1SS352
R4 1K

M_CPU_MUTE
From DIGITAL BLOCK
CPU 7pin
R247 3.3K
Q21 2SA1586GR
R245 10K
R246 10K
-12
Q22 2SC4116GR
D 3.3
D23 1SS352
-12

Q2 2SC2235Y
M_PHTM
To ANALOG BLOCK
XLR BOARD

AC24.8V
F7 MRT80mAL 250V
C4 KME 100/100BP

D4 1N4007G
D5 1N4007G
C5 100/100
R6 15K
D6 RD47S
C6 100/100
C3 2.2/100
R7 100K
R248 100K
R249 100K
2SA965Y Q23
Q24 DTC114EUA
R250 47K

M_PH_CTL
From DIGITAL BLOCK
CPU 8pin

+VCC/−VCC

VPP/VNN	-15%	Rated Power	no signal input	+15%
-5%	16.5(16.1)	19.4	22.9	26.3
0	17.3	20.4	24.1	27.7
+5%	18.2	21.4	25.3	29.1(29.6)

+VCC1

F2 MRT4AL 250V

CN8
1 2 3 4 5 6
B6P-VH

C11 EC8472MH

D7 FL402
G1

C12 4700/50
R610 10k

C15 4700/50
R611 10K

F3 MRT4AL 250V

−VCC1

CN4
1 2 3 4 5 6 7 8 9 10 11 12 13
B13B-EH
To Amp Board CN1

M_POUTR
M_POUTL
M_PMUTE

C406 0.1
C404 0.1
C405 0.1

+VCC2/−VCC2

VCC2	-15%	Rated Power	no signal input	+15%
-5%	13.5(13.2)	15.9	18.7	21.5
0	14.2	16.7	19.7	22.7
+5%	14.9	17.5	20.7	23.8(24.3)

+VCC2

F6 MRT 125mAL 250V
R609 39 3W MOF
R14 39 3W MOF
IC1 UPC2933AT
IN GND OUT
100mA
L1 BLM21AG102SN1
D 3.3
C22 0.1
C18 0.1
C19 100/35
C20 0.1

IC2 NJM78L12UA
IN GND OUT
30mA → 90mA (PHONES)
+12

F4 MRT 400mAL 250V
C21 EC8472MH
D14 AM152
F5 MRT 400mAL 250V

C25 2200/25
R612 10k
C29 2200/25
R613 10k

C26 0.1
C30 0.1

C27 0.1
C32 0.1

C28 100/35
D20 1SS367
C31 100/35
D21 1SS367
-12
A

IC3 NJM79L12UA
IN COM OUT
30mA ← 90mA (PHONES)

−VCC2

Circuit Board (Jack Board)
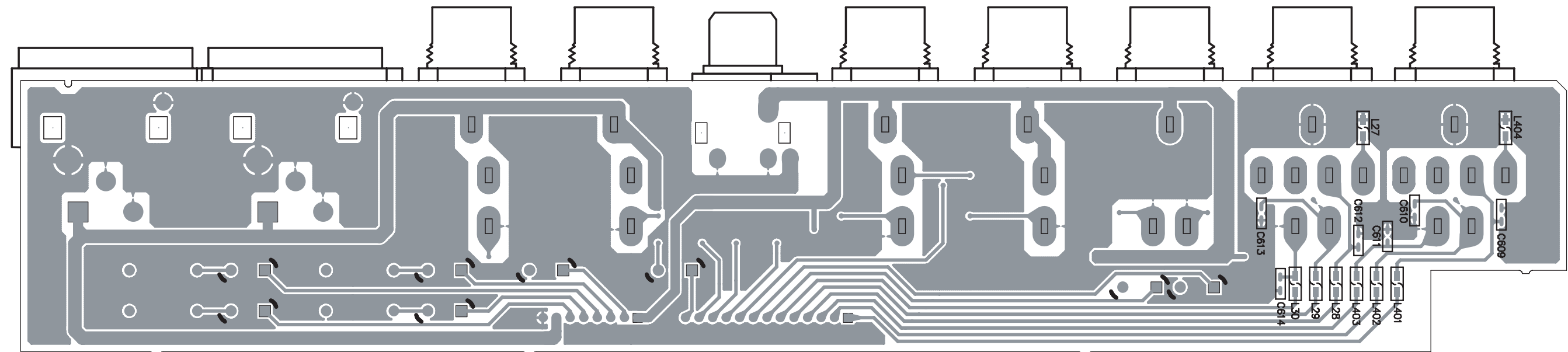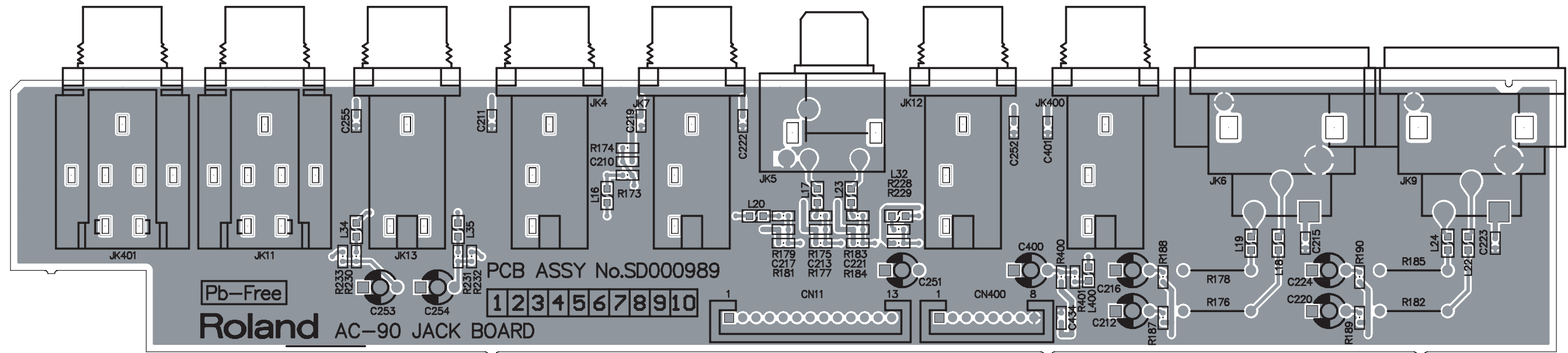
Circuit Diagram (Jack Board)
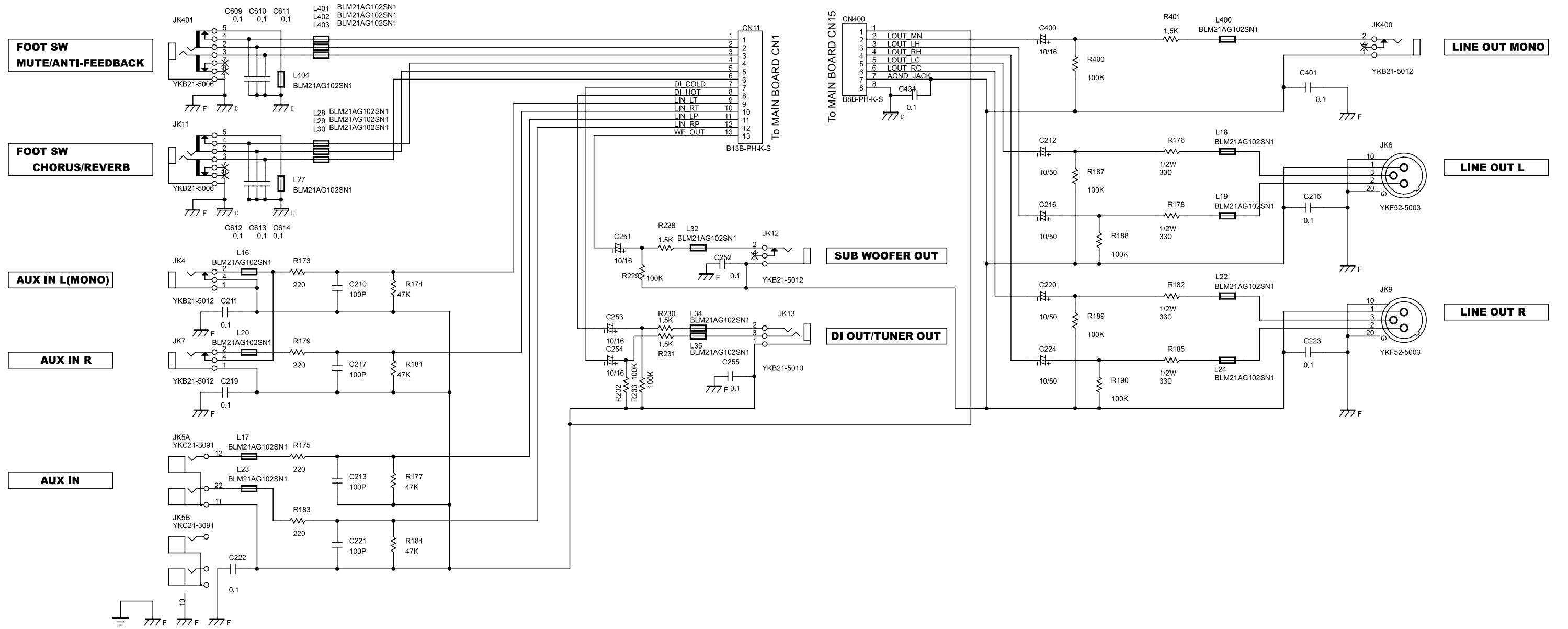
Circuit Board (Panel Board)
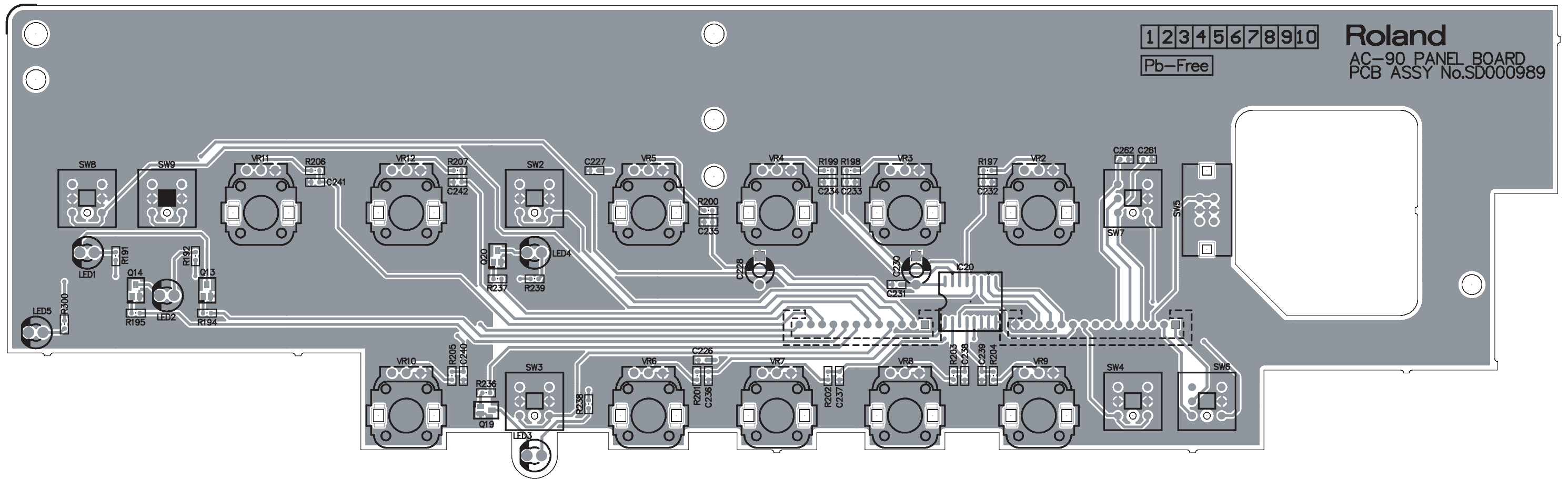
Circuit Diagram (Panel Board)

D +3.3 R191 1K L-34HDSL LED1 Q13 R194
2SC4116GR 47K
MUTE

D +3.3 R192 1K L-34HDSL LED2 Q14 R195
2SC4116GR 47K
ANTI FEEDBACK

D +3.3 R238 1K L-34HDSL LED3 Q19 R236
2SC4116GR 47K
Gt. CHO

D +3.3 R239 1K L-34HDSL LED4 Q20 R237
2SC4116GR 47K
MIC CHO

D +3.3 R300 1K L-34HDSL LED5
POWER

CN12
P_AVREF 1
P_SW3 2
P_SW2 3
P_SW1 4
P_SWSTB 5
P_LED3 6
P_LED2 7
P_LED1 8
P_LED0 9
P_VR10 10
P_VR9 11
P_VR8 12
B12B-PH-K-S
To MAIN BOARD CN5

IC20
TC74HC4051AF
3 COM 7 4 P_VR7
6 5 P_VR6
5 1 P_VR5
12 2 P_VR4
VCC 3 P_VR3
13 15 P_VR2
14 P_VR1
GND 10 13 P_VR0
C 9 P_SCAN_C
B 10 P_SCAN_B
A 11 P_SCAN_A
VEE INH 6

D +3.3 16 C230 10/25 C231 0.1

P_VR[0:7]

C226 0.1 C227 0.1

VR2A RK09L1140 10KB R197 100 P_VR0 P_VR1 C232 NIU
VR3A RK09L1140 10KB R198 100 P_VR2 C233 NIU
VR4A RK09L1140 10KB R199 100 P_VR3 C234 NIU
VR5A RK09L1140 10KB R200 100 P_VR4 C235 NIU
VR6A RK09L1140 10KB R201 100 P_VR5 C236 NIU
VR7A RK09L1140 10KB R202 100 P_VR6 C237 NIU
VR8A RK09L1140 10KB R203 100 P_VR7 C238 NIU
VR9A RK09L1140 10KB R204 100 P_VR8 C239 NIU
VR10A RK09L1140 10KB R205 100 P_VR9 C240 0.1
VR11A RK09L1140 10KB R206 100 P_VR10 C241 0.1
VR12A RK09L1140 10KB R207 100 C242 0.1
C228 10/25

Mic.Volume Mic.Bass Mic.Middle Mic.Treble Gt.Treble Gt.Middle Gt.Bass Gt.Volume CHORUS ANTI FEEDBACK FREQUENCY REVERB/DELAY

CN13
P_MAG_AH 1
P_MAG_AC 2
P_SWPHTM 3
P_PLUS 4
P_ISEL 5
P_MINUS 6
P_SWMIC 7
P_SWPZ 8
P_SW0 9
P_VR0-7 10
P_SCAN_C 11
P_SCAN_B 12
P_SCAN_A 13
14
15
B15B-PH-K-S
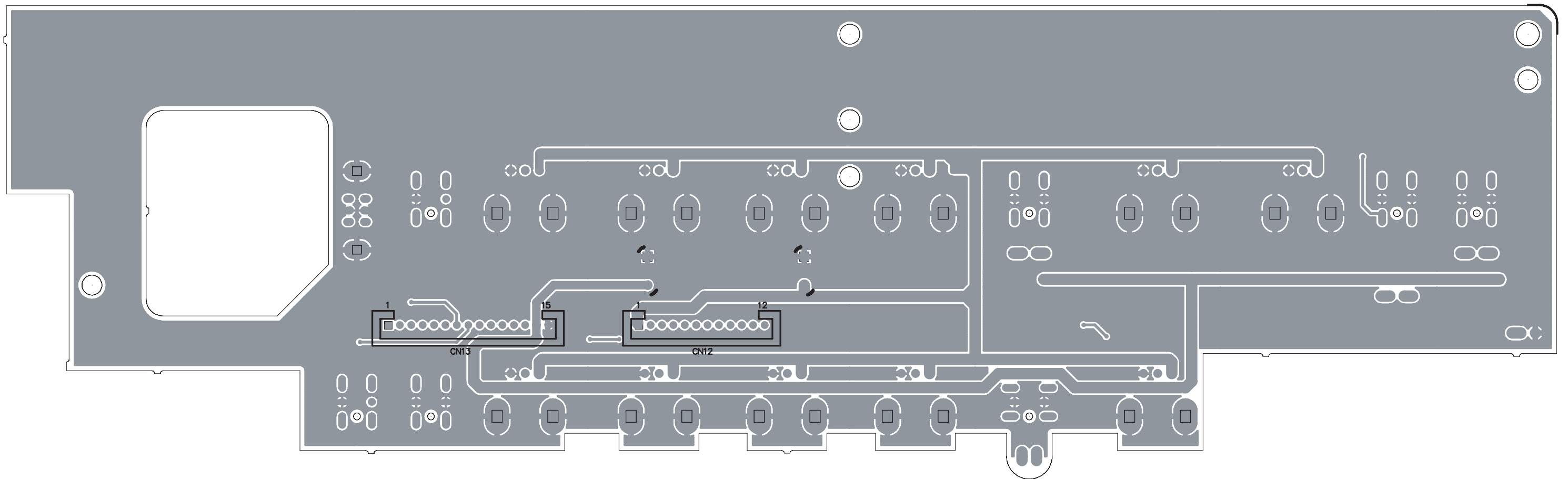To MAIN BOARD CN14

D +3.3

C261 0.1 C262 0.1

SW5C SSSF021500
SW5A SSSF021500 SW5B SSSF021500
PHANTOM

SW8A ESB64619 SW8B ESB64619
MUTE

SW7A ESB64619 SW7B ESB64619
LINE/MIC

SW6A ESB64619 SW6B ESB64619
PIEZO/MAGNETIC

SW2A ESB64619 SW2B ESB64619
Mic.Cho

SW3A ESB64619 SW3B ESB64619
Gt.Cho

SW4A ESB64619 SW4B ESB64619
SHAPE

SW9A ESB64620 SW9B ESB64620
ANTI FEEDBACK AUTO

Circuit Board (PS1 Board)

Circuit Diagram (PS1 Board)

	FUSE1
100/117V	5ST 5AL 250V
230/240V	5ST 3.15AL 250V

POWER SW
JW-L11RKK

W4   W4

100V
117V
230V
240V

WP1   WP2

TER1
PT1870502   1

TER2
PT1870502   1

FUSE1

C46
PA224-L

R19
1M 1/2W

FL1
ELF17N030A

1   4

2   3

TER3
PT1870502   1

TER4
PT1870502   1

TER5
PT1870502

Transformer

1
2
3
4
5
6

100/117V only

PS1 BOARD

Circuit Board (Amp Board)

Roland
AC—90 AMP BOARD
PCB ASSY No.SD000990
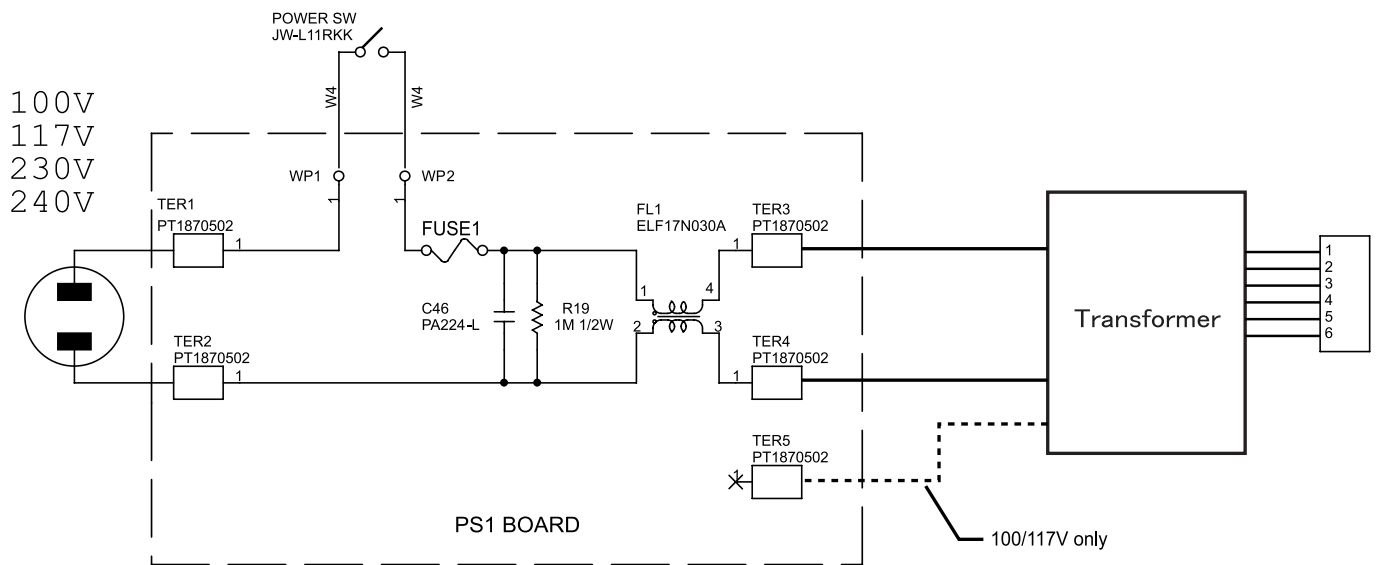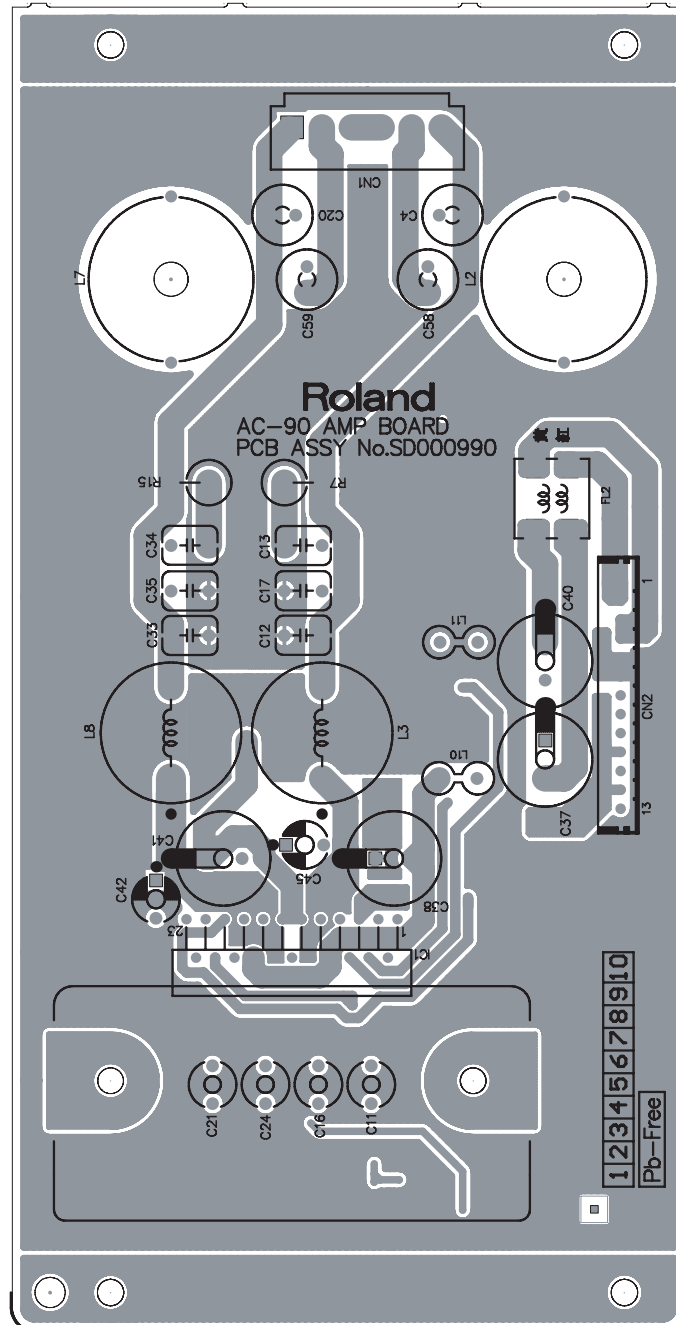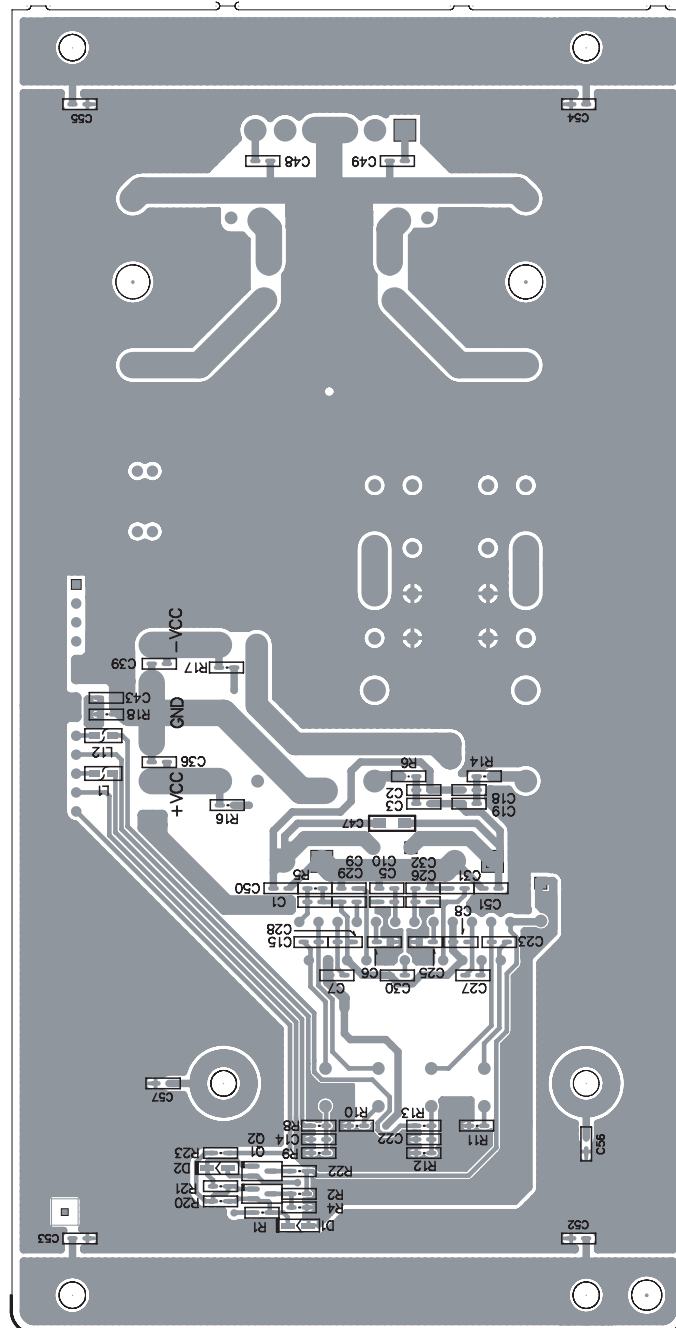
Circuit Diagram (Amp Board)

for P.IC Analog for P. IC Digital

R16 10
L10 EXCELDR35V
C36 0,1
C37 470uF/35V
C38 470uF/35V
C50 0,1
C47 0,1
C45 47uF/63V
C39 0,1
C40 470uF/35V
C41 470uF/35V
C51 0,1
R17 10
L11 EXCELDR35V

R1 5,6k
D1 UDZS 5,6B
R2 5,6k
R20 100k
Q1 DTA114EUA
R4 5,6k
R21 100k
R22 10
D2 1SS352
Q2 2SC4116GR
C42 47/16

R23 22k

FL2 SHO-301

CN2
+VCC1
+VCC1
-VCC1
-VCC1
POWER GND
POWER GND
SPEAKER GND
SPEAKER GND
Main Sig R
AGND
Main Sig L
AGND
Mute Control

From POWER BLOCK CN4

B13B-EH
R18 NIU
C43 0,1

L1 BLM21AG102SN1
L12 BLM21AG102SN1

R8 3,9k
R9 5,6k
C14 220p
R10 5,6k
C11 10/50NP
C16 10/50NP
C15 220p

R11 5,6k
C21 10/50NP
R12 5,6k
C22 220p
C24 10/50NP
C23 220p

R13 3,9k

R5 30k
C1 0,1
C8 0,1
C7 0,1
C9 0,1
C5 0,1
C10 0,1

IC1 TDA8920BJ

IN1P
IN1M
VDDA1
VSSA1
OSC
MODE
VDDP1
VSSP1
SGND1
SGND2
BOOT1 9
OUT1 10
BOOT2 15
OUT2 14
IN2P
IN2M
VDDA2
VSSA2
PROT
VSSD
STABI
VDDP2
VSSP2

C26 0,1

C27 0,1
C28 0,1
C29 220p
C30 0,1
C31 0,1
C32 0,1

C2 220p
C3 220p
C6 0,015
R6 10
L3 998AMF-134
C12 0,68/50
C13 0,22/50
C17 0,22/50

C18 220p
C19 220p
C25 0,015
R14 10
L8 998AMF-134
R15 22 3W
C33 0,68/50
C34 0,22/50
C35 0,22/50

R7 22 3W

C4 6,8/50NP
C58 6,8/50NP
L2 0,18mH

C48 0,015
C49 0,015

C20 6,8/50NP
C59 6,8/50NP
L7 0,18mH

CN1 B6P-VH
Lch Woofer Sig 6 6
Lch Tweeter Sig 5 5
Lch GND 4 4
Rch GND 3 3
Rch Tweeter Sig 2 2
Rch Woofer Sig 1 1

RED
BLACK
WHITE
ORANGE
BROWN
PURPLE

Lch Woofer Nonclip-Fullpower +24dbm/40W @4ohm LOAD
Lch Tweeter 4ohm
Rch Woofer Nonclip-Fullpower +24dbm/40W @4ohm LOAD Reversed phase against Lch
Rch Tweeter 4ohm Reversed phase against Lch

C52 0,1
C53 0,1
C54 0,1
C55 0,1

C56 NIU
C57 NIU

MEMO

Roland