

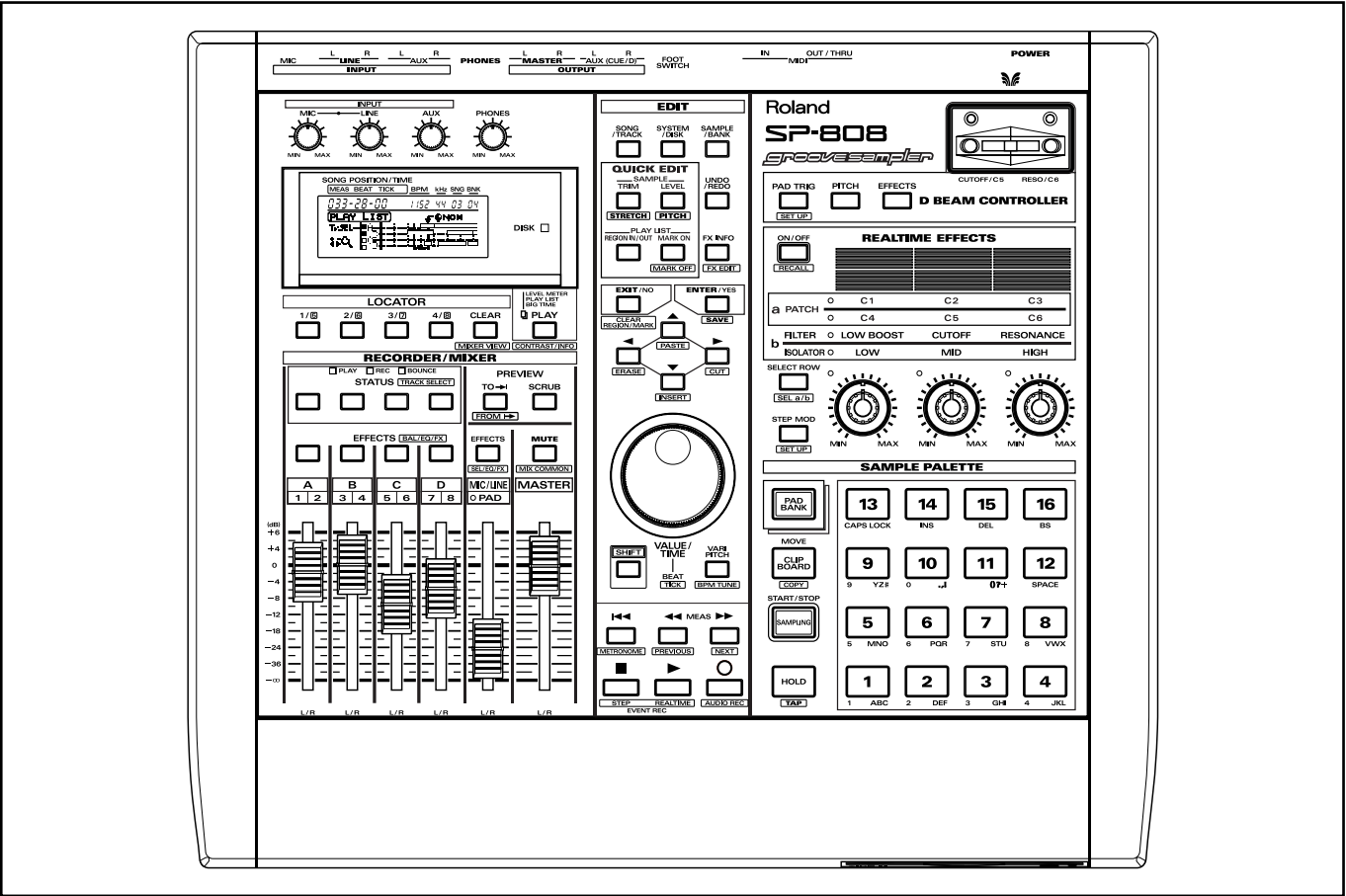
SP-808
SP-808 Pro
groovesampler

SERVICE NOTES

First Edition

Issued by RJA

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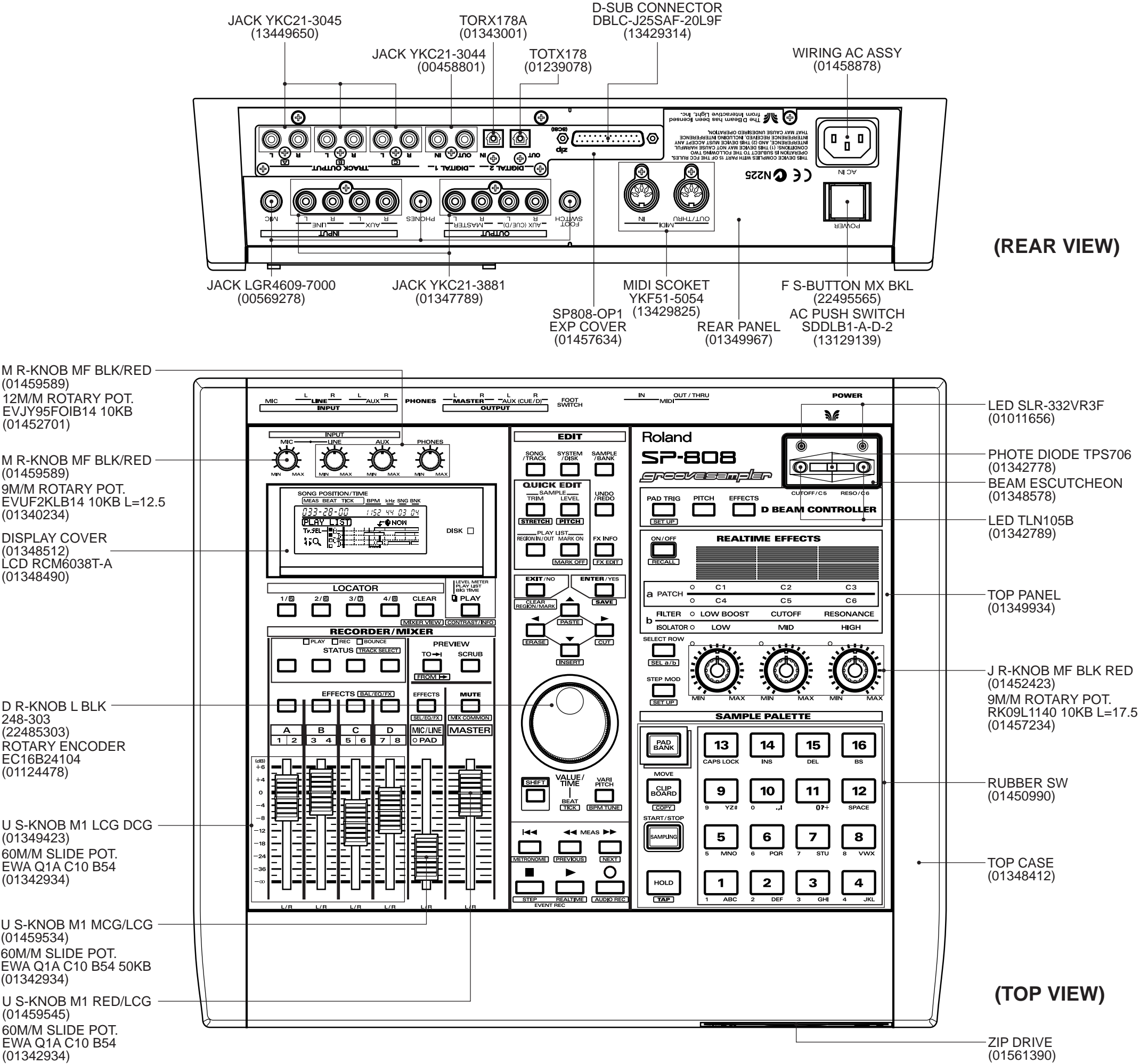
SPECIFICATIONS

- **SP-808:Groove Sampler**
 - **Audio Data Format**
 - SP-808 Original Format (R-DAC)
 - **Maximum Polyphony**
 - Stereo x 4 (Total)
 - **Number of Tracks**
 - Stereo Track x 4
 - **Simultaneous Recordable Tracks**
 - One stereo pair of tracks
 - **Sample rate**
 - Zip disk 100 M Bytes
 - **Sampling (Recording) Time**
 - 46 min. approx. (Sampling rate: 44.1 kHz, Monaural)
 - 64 min. approx. (Sampling rate: 32.0 kHz, Monaural)
 - *Varies by Vari-pitch status and other conditions
 - **Signal Processing**
 - A/D Conversion: 20 bits, 64 times oversampling
 - D/A Conversion: 20 bits, 128 times oversampling
 - Internal Processing: 24 bits (Digital Mixer section)
 - **Internal Memory**
 - System Setup: 1
 - **Zip disk**
 - Song: 64
 - Sample Bank: 64
 - Sample: 1024
 - Effects Patch: 99 Presets, 99 Users
 - **Track Recording Method**
 - Event Recording (Real time, Step)
 - Audio Recording
 - **Phrase Event Memory**
 - Approx. 2000 Phrase Events per song
 - **Channel Equalizer**
 - 3-band Parametric x 5 (Tracks A-D, Input)
 - **MIDI Sync Method**
 - Master: MIDI Clock, MTC & MMC
 - Slave: MTC & MMC
 - **Frequency Response**
 - 44.1 kHz: 10 Hz~21 kHz (+0/-3 dB)
 - 32.0 kHz: 10 Hz~15 kHz (+0/-3 dB)
 - **Nominal Input Level**
 - Mic: -50~-20 dBu
 - Line In, AUX In: -10~+4 dBu
 - **input Impedance**
 - Mic: 100 k ohms
 - Line, AUX In: 47 k ohms
 - **Nominal Output Level**
 - AUX Send, Master Out: -10 dBu
 - **Output Impedance**
 - AUX Send, Master Out: 2 k ohms
 - Headphones: 10 ohms
 - **Recommended Load Impedance**
 - AUX Send, Master Out: 10 k ohms or greater
 - Headphones: 4~600 ohms
 - **SN Ratio**
 - AUX Send, Master Out: 92 dB (Line, A/D~D/A, IHF-A, typ.)
 - **Display**
 - 68.0 x 25.0 mm (backlit LCD)
 - **Connectors**
 - Mic Input Jack (1/4 inch phone type)
 - Line Input Jacks, L, R (RCA phono type)
 - AUX Input Jacks, L, R (RCA phono type)
 - Master Output Jacks, L, R (RCA phono type)
 - AUX Output Jacks, L, R (RCA phono type)
 - Headphones Jack (Stereo 1/4 inch phone type)
 - Footswitch Jack (1/4 inch phone type)
 - MIDI Connectors (In, Out/Thru)
 - *..Available with SP808-OP1 Multi I/O Expansion is installed.
- SCSI Connector (25-pin D-SUB type)
Coaxial Digital In Connector
Coaxial Digital Out Connector
Optical Digital In Connector
Optical Digital Out Connector
Track Direct Out x 3, L, R (RCA phono type)
- **Power Supply**
 - AC117V, 230V, 240V
 - **Power Consumption**
 - 21W
 - **Dimension**
 - 394 (W) x 343 (D) x 99 (H) mm/ 15-9/16 (W) x 13-9/16 (D) x 3-15/16 (H) inches
 - **Weight**
 - 4.3 kg/ 9 lbs 8 oz (excluding SP808-OP1)
 - **Accessories**
 - OWNER'S MANUAL SET ENGLISH (#71018090)
 - AC CORD 120V (#00894378)
 - AC CORD 230V (#00894389)
 - AC CORD 230V (#00907001)
 - AC CORD 240V (#23495124)
 - DEMO ZIP DISK (#71125467)
 - **Options**
 - Multi I/O Expansion SP808-OP1

(0 dBu = 0.775 V rms)

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

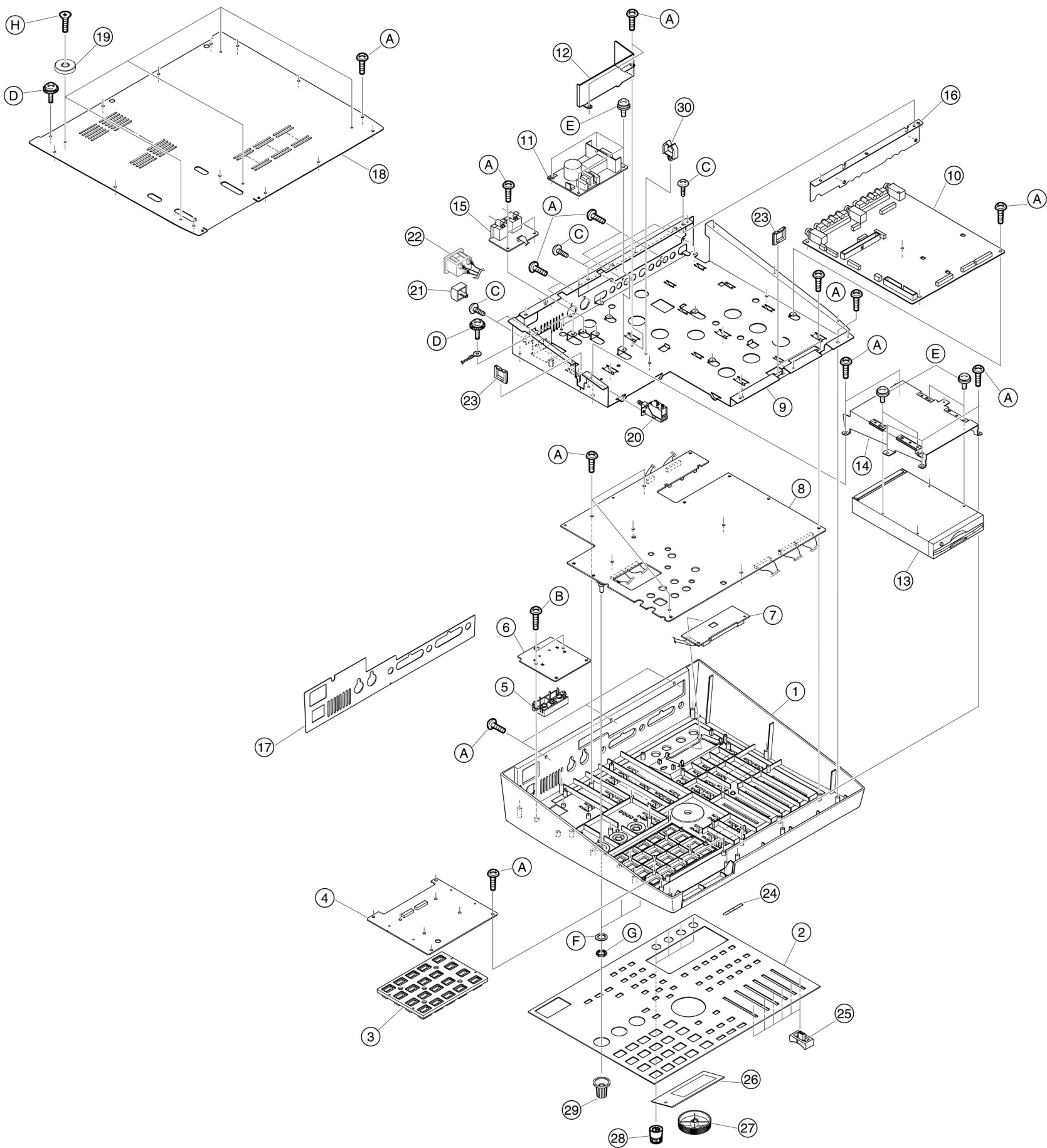
LOCATION OF CONTROLS (SP-808Pro)



EXPLODED VIEW (SP-808)

[PARTS]		
No.	PART No.	PART NAME
①	01348412	TOP CASE
②	01349934	TOP PANEL
③	01450990	RUBBER SW
④	71016045	SWITCH BOARD
⑤	01348578	BEAM ESCUTCHEON
⑥	70909489	BEAM BOARD
⑦	01348490	LCD UNIT RCM6038T-A
⑧	70909012	PANEL BOARD
⑨	01348501	SUB CHASSIS
⑩	70909001	MAIN BOARD
⑪	01127590	SWITCHING REGULATOR A1KW1AA240
⑫	01458678	SHIELD PANEL
⑬	01561390	ZIP DRIVE JU-811T03
⑭	01457178	HD HOLDER
⑮	71016034	MIDI BOARD
⑯	01348545	EXP COVER (SP-808 only)
⑰	01349967	REAR PANEL
⑱	01348590	BOTTOM COVER
⑲	22355160	FOOT D25
⑳	13129139	AC PUSH SWITCH SDDL B1-A-D-2 TV-5 5A/250V
㉑	22495565	BUTTON F S-BUTTON MX BLK (POWER)
㉒	01458878	WIRING AC ASSY
㉓	00902790	CORD BUSHING EDS-1208U for AC CORD
㉔	17048436	STATUS SEAL 04484-202
㉕	01349423	KNOB U S-KNOB M1 LCG/DCG (TRACK)
	01459534	KNOB U S-KNOB M1 MCG/LCG (PAD)
	01459545	KNOB U S-KNOB M1 RED/LCG (MASTER)
㉖	01348512	DISPLAY COVER
㉗	22485303	KNOB D R-KNOB L BLK (VALUE)
㉘	01459589	KNOB M R-KNOB MF BLK/RED (INPUT)
㉙	01452423	KNOB J R-KNOB MF BLK/RED (EFFECTS)
㉚	01561323	HOOK CLAMP UAMS-09-0

[SCREW]		
(A)	40011101	M3x8mm Binding Taptight B BZC
(B)	40012256	M3x10mm Binding Taptight B ZC
(C)	40012534	M3x6mm Binding Taptight S BZC
(D)	*****	M4x8mm LO2 BZC
(E)	40012945	M3x6mm Pan Machine Screw W/SW+PW BZC
(F)	*****	M9 SPACER INNER GEAR TYPE
(G)	*****	M9 NUT THIN TYPE
(H)	40011156	M3x8mm Flat Taptight B BZC



12345678910111213141516171819202122232425262728

A

BLOCK DIAGRAM

B

C

D

E

F

G

H

I

J

K

L

M

N

O

P

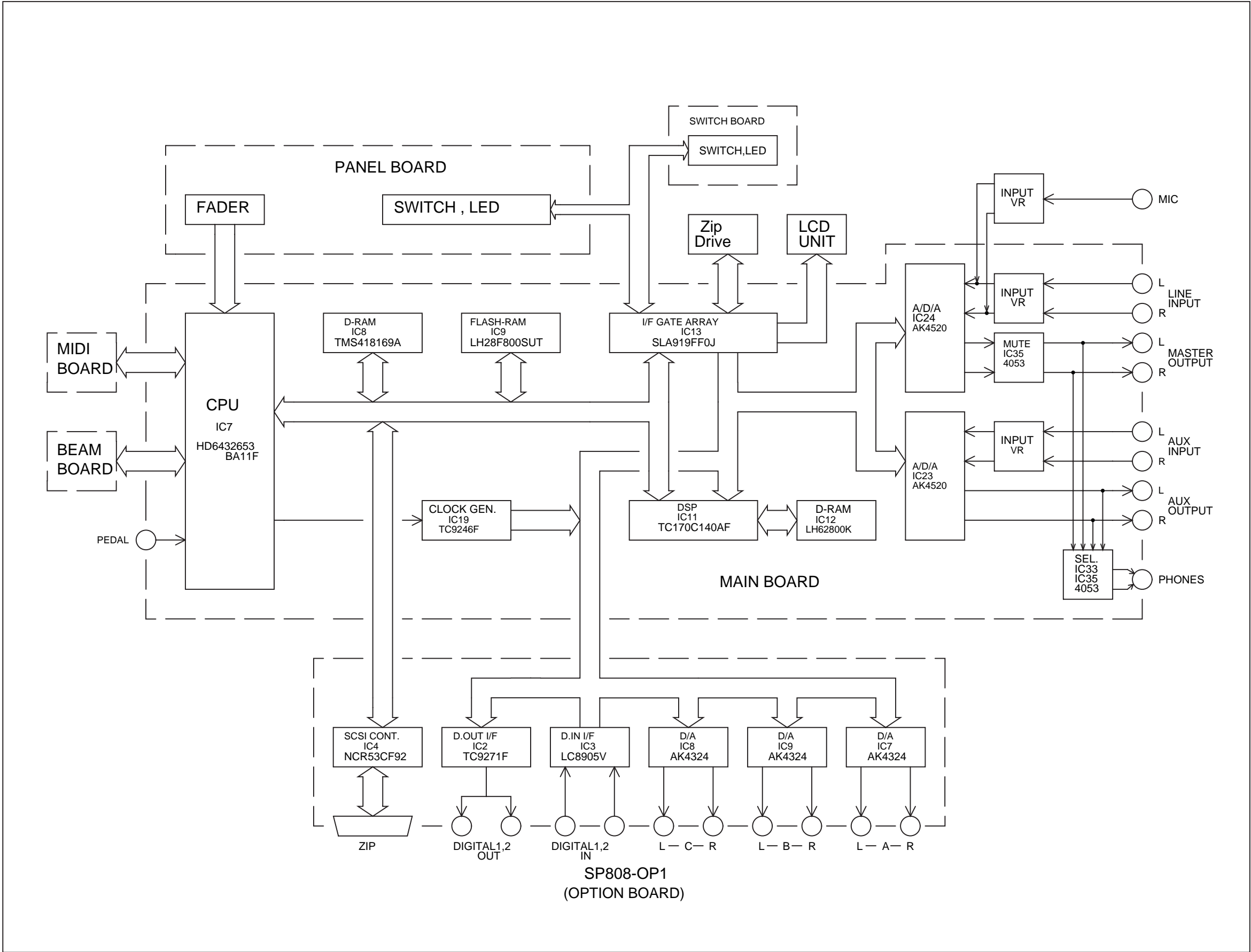
Q

R

S


T

U



PARTS LIST

SAFETY PRECAUTIONS:

The parts marked  have safety-related characteristics.

Use only listed parts for replacement.

CONSIDERATIONS ON PARTS ORDERING

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)

Warning! : There is the possibility that you will burn your hands when you touch Power Supply parts soon after the power supply is turned off.

Note: Consider about the natural environment carefully before through the old lithium battery away when you exchange to the new one.

MB → MAIN BOARD, SB → SW BOARD, SW → SWITCHING REGULATOR

CASING

#

01348412

TOP CASE

NOTE: The TOP CASE does not include the following seal.
Plaese order them separately, if necessary.

#

01348590

BOTTOM COVER

NOTE: The BOTTOM COVER does not include the following label.
Please order them separately, if necessary.

#

01349934

TOP PANEL

#

01348512

DISPLAY COVER

#

01349967

REAR PANEL

#

01457178

HD HOLDER

#

01458678

SHIELD PANEL

#

01348545

EXP COVER

*SP-808 only

#

01348501

SUB CHASSIS

#

01348578

BEAM ESCUTCHEON

40238545

CAUTION LABEL SHOCK HAZARD & ICES

#

17048436

STATUS SEAL 04484-202

#

40126812

CAUTION LABEL BARRIER (100V/117V only)

NOTE: The SUB CHASSIS does not include the following label.
Please order them separately, if necessary.

KNOB, BUTTOM

#

22495565

F S-BUTTON MX BLK

POWER EFFECTS

#

01452423

J R-KNOB MF BLK/RED

INPUT VALUE

#

01459589

M R-KNOB MF BLK/RED

TRACK

#

22485303

D R-KNOB L BLK 248-303

MIC/LINE

#

01349423

U S-KNOB M1 LCG/DCG

MASTER

#

01459534

U S-KNOB M1 MCG/LCG

#

01459545

U S-KNOB M1 RED/LCG

SWITCH

#

01450990

RUBBER SW

TACT SWITCH

#

00894656

SKQNAD

AC PUSH SWITCH

#

13129139

SDDL B1-A-D-2 TV-5 5A/250V

JACK, SOKET

#

01347789

YKC21-3881

RCA(PIN)

JK2,JK4 on MB

#

00569278

LGR4609-7000

6.5MM JACK

JK1,JK3,JK5 on MB

#

13429825

YKF51-5054

MIDI SOCKET

JK1 on MIDI Board

DISPLAY UNIT

#


01348490

RCM6038T-A

LCD UNIT

NOTE: Replacement DISPLAY UNIT should be made on a unit basis.
No replacements available for individual parts. Replacement only by a unit.

ZIP DRIVE




01561390

JU-811T03

NOTE: Replacement ZIP DRIVE should be made on a unit basis.
No replacements available for individual parts. Replacement only by a unit.

PCB ASSY



70909001

MAIN BOARD

#

70909012

PANEL BOARD

NOTE: Replacement PANEL BOARD includes the following parts.

00340690

FOOT ZULEN XCK040

#

71016045

SWITCH BOARD

#

71016034


MIDI BOARD

#

70909489

BEAM BOARD

POWER SUPPLY



01127590

A1KW1AA240

SWITCHING REGULATOR

NOTE: Replacement POWER SUPPLY (SWITCHING REGULATOR) should be made on a unit basis.
No replacements available for individual parts. Replacement only by a unit.

IC

#

01340201

HD6432653BA11F

CPU

IC7 on MB

#

00892556

TC170C140AF-003 (ESP2)

CUSTOM DSP

IC11 on MB

#

01231334

SLA919FF0J

CUSTOM GATE ARRAY

IC13 on MB

#

01347756

LH62800K-50

4M DRAM

IC12 on MB

#

01347745

TMS418169A-60

16M DRAM

IC8 on MB

#

00899812

LH28F800SUT-70

FLASH MEMORY

IC9 on MB

#

01238101

AK4520AVF-E2

AD/DA

IC23,IC24 on MB

#

15169556T0

TC74HC574AP

CMS

IC3 on MB

#

15259865T0

TC74HC4053AF(EL)

CMOS

IC3,IC4,IC33,IC35 on MB

#

00893967

TC74VHC153F(EL)

CMOS

IC21 on MB








#

15249112

TC7W32F(T1E12L)

CMOS

IC38 on MB

	15259738T0	TC74HC138AF(EL)	CMOS	IC10 on MB
	00564545	TC74VHC04F(EL)	CMOS	IC2 on MB
	00236845	TC74VHC245F(EL)	CMOS	IC14,IC15 on MB
	00893978	TC74VHC393F(EL)	CMOS	IC20 on MB
	00231878	TC74VHC00F(EL)	CMOS	IC37 on MB
	00231890	TC74VHC08F(EL)	CMOS	IC17 on MB
	01340212	TC74VHC86F(EL)	CMOS	IC18 on MB
	15289105	UPC4570G2-T2	BIPOLAR OP AMP	IC25-IC32,IC34,IC36 on MB
	15199286	AN78L05M-(E1)	REGULATOR IC	IC1,IC2 on Beam Board
	00564690	TC9246F(ELP)	PLL	IC22 on MB
	15289123	M51953AFP-600C	RESET IC	IC19 on MB
	15169550T0	TC74HC138AP	CMOS	IC6 on MB
	00019112	TD62381P	TRANSISTOR ARRAY	IC1,IC5 on PB
	15149150	TD62787AP	TRANSISTOR ARRAY	IC4 on PB
				IC2 on PB
OPTICAL DEVICE				
#	15289125	PC-410T	PHOTO COUPLER	IC1 on MB
	01342778	TPS706	PHOTO DIODE	D1 on Beam Board
	00560756	SEL5221S TP15	LED (RED)	D1,D3,D37,D45,D66,D67,D70, D72,D73,D74,D76,D77,D650 on PB
	00676423	SEL5421E TP15	LED (GREEN)	D2,D61,D62 on PB
	01239856	SEL5921A TP15	LED (ORANGE)	D24,D34-D36,D40-D44,D46,D47,D50-D52, D55-D57,D60,D63-D65,D71,D75 on PB
	01239867	SML72423C TP15	LED (RED/GREEN)	D230-D233 on PB
#	01342789	TLN105B	LED	LED3,LED4 on Beam Board
	01011656	SLR-332VR3F	LED (RED)	LED1,LED2 on Beam Board
#	01450401	TLSU1002(LM/TPX1)	LED	D1-D19 on SB
TRANSISTOR				
	15309101	2SA1037KR T146	PNP	Q4 on MB
	15329507	DTA114EKT146	PNP	Q12,Q100 on MB
	15329516	DTC114EKT146	NPN	Q1-Q3,Q8,Q11 on MB
	15329505	DTC314TKT146	NPN	Q5,Q6,Q7,Q9,Q10 on MB
	00562012	2SC3265-Y(TE85R)	NPN	Q4,Q6 on Beam Board
	01121289	2SC4081 T106 QRS.	NUN	Q3,Q5 on Beam Board
DIODE				
	15019126	1SS133 T-77	SWITCHING DIODE	D120-D123,D130-D137,D140-D147, D150-D157,D160-D167,D170-D177 on PB
	15339105	DAN202K T146	DIODE ARRAY	D1,D3,D10-D14,D100-D102 on MB
	15339103	MA153-(TX)	DIODE ARRAY	D2,D4,D5,D6 on Beam Board
	15339105	DAN202K T146	DIODE ARRAY	D2,D4-D9 on MB
	15339109	DAP202K T146	DIODE ARRAY	D28,D29 on SW/ D20-D27 on SW
RESISTOR				
	00126101	EXB8V8V221JV	R-ARRAY	RA2,RA3,RA4,RA13-RA24 on MB
	00120823	MNR35 J5 J 103	R-ARRAY	RA10,RA11,RA12 on MB
POTENTIOMETER				
#	01340234	EVU F2K1B14 10KB L=12.5	9MM ROTARY POT.	VR12 on PB
#	01457234	RK09L1140 10KB L=17.5	9MM ROTARY POT.	VR1,VR2,VR3 on PB
#	01452701	EVJ Y95F01B14 10KB	12MM ROTARY POT.	VR10,VR11,VR13 on PB
#	01342934	EWA Q1AC10B54 50KB	60MM SLIDE POT.	VR4-VR9 on PB
CAPACITOR				
#	01458234	ECEA1EPZ222	CHEMICAL	C102,C104 on MB
#	01564778	RV2016V100M7Z-R	CHEMICAL	C40-C43,C45-C50,C52-C54,C56,C57, C62-C65,C68,C69,C138,C140-C145, C152,C220 on MB
	15369151S0	16CV100BS	CHEMICAL	C219 on MB
#	15369213S0	50CV3R3BS	CHEMICAL	C15,C16,C39,C218 on MB
#	01347778	6.3CV220BS	CHEMICAL	C3,C23,C106,C129-C137 on MB
	13639698	ECEA0JKS101B	CHEMICAL	C6-C9 on Beam Board
	15369143S0	16CV22BS	CHEMICAL	C1,C4,C5 on PB C4,C5 on Beam Board
INDUCTOR, COIL, FILTER				
#	12449401	BLM41A151SPT	FERRITE BEAD	L1,L2 on MB
#	01458667	BLM41P750S	FERRITE BEAD	L3 on MB
CRYSTAL, RESONATOR				
	00894023	MA-406 20.000MHZ TE24	X'TAL	X1 on MB
ROTARY ENCODER				
	01124478	EC16B24104 L=15	ROTARY ENCODER	ENC.1 on PB
CONNECTOR				
#	01450412	S11B-ZR-SM3A-TF	CONNECTOR	CN2 on SB
#	01450423	S12B-ZR-SM3A-TF	CONNECTOR	CN1 on SB
	13369515	B5B-PH-K-S JST	CONNECTOR	CN14 on MB
	13369502	B13B-PH-K-S JST	CONNECTOR	CN13 on MB
	13369541	B10B-PH-K-S JST	CONNECTOR	CN3 on MB
	13369565	B11B-PH-K-S JST	CONNECTOR	CN2 on MB
	13369563	B14B-PH-K-S JST	CONNECTOR	CN10 on MB
	13369562	B15B-PH-K-S JST	CONNECTOR	CN9 on MB
	13369595	B3B-XH-A JST	CONNECTOR	CN1 on MB
	13369567	B4B-PH-K-S JST	CONNECTOR	CN1 on MB
	13369566	B6B-PH-K-S JST	CONNECTOR	CN15 on MB
	13369503	B7B-PH-K-S JST	CONNECTOR	CN5 on MB
	13429192	PS-40PE-D4T1-B1-K	CONNECTOR	CN12 on MB
	13369551	PS-50PE-D4T1-B1-K	CONNECTOR	CN6 on MB
	13369793	52030-1610	FFC/FFC	CN8 on MB
WIRING CABLE				
#	01450712	WIRING ZIP-A		CN12 on MB
#	01450723	WIRING ZIP-B		CN11 on MB
#	01450634	WIRING PANEL BOARD-A		Between MB(CN13) to PB(CN6)
#	01450645	WIRING PANEL BOARD-B		Between MB(CN15) to PB(CN7)
#	01450656	WIRING PANEL BOARD-C		Between MB(CN9) to PB(CN1)
#	01450667	WIRING PANEL BOARD-D		Between MB(CN10) to PB(CN2)
#	01450678	WIRING PANEL BOARD-E		Between MB(CN11) to PB(CN5)
#	01450689	WIRING PANEL BOARD-F		Between SB(CN2) to PB(CN4)
#	01450690	WIRING PANEL BOARD-G		Between SB(CN1) to PB(CN3)
#	01450567	WIRING BEAM BOARD		Between MB(CN3) to Beam Board(CN1)
#	01450556	WIRING MIDI BOARD		Between MB(CN1) to MIDI Board(CN8)
# 	01450601	WIRING POWER UNIT		CN4 on PS
# 	01458878	WIRING AC ASSY		
SCREW				
	40012945	M3x6mm Pan Machine Screw W/SW+PW BZC		
	40012534	M3x6mm Binding Taptight S BZC		
	40011101	M3x8mm Binding Taptight B BZC		
	40011156	M3x8mm Flat Taptight B BZC		
	40012256	M3x10mm Binding Taptight B ZC		
	*****	M4x6mm LC2 BZC		
	*****	M9 NUT THIN TYPE		
	*****	M9 SPACER INNER GEAR TYPE		
PACKING				
#	01348601	PACKING CASE		
#	01561523	PACKING PAD	for PACKING	
#	01562434	ACCESSORIES PAD	for PACKING	
MISCELLANEOUS				
#	01561323	UAMS-09-0	HOOK CLAMP	
#	01454234	LH-3-6	LED SPACER	
	22355160	D25	FOOT	
	00902790	EDS-1208U	CORD BUSHING	
	40126812	CAUTION LABEL BARRIER (100V/117V only)		
	40238545	CAUTION LABEL SHOCK HAZARD & ICES		
ACCESSORIES(Standard)				
#	70908956	OWNER'S MANUAL SET	JAPANESE	
#	71018090	OWNER'S MANUAL SET	ENGLISH	
# 	00894367	AC CORD SET 100V	SP18A+IS14 VCTF2X0.75	
# 	00894378	AC CORD SET 120V	SP301+IS14 SJT18/3	
# 	00894389	AC CORD SET 230V	SP22+IS14 H05VV-F3G1.0	
# 	00907001	AC CORD SET 240VE	KP-610,GTBS-3T 3-31A	
# 	23495124	AC CORD SET 240VA	SC-114-J01 ES303-10HMA	
#	71125467	DEMO ZIP DISK		
	40232334		(JAPAN ONLY)	

TEST MODE

Tools required

SP-808
Audio devices: CD player, DAT, audio signal generator,
amplifier, speaker, headphones
Foot pedal: DP-2 or equivalent
Oscilloscope
Zip drive
*Additional devices to test SP808-OP1

CD player or the like having "COAXIAL" and "OPTICAL"
output capability
DAT or the like having "COAXIAL" and "OPTICAL" input
capability
Zip drive (SCSI TYPE)
Cables (SCSI/COAXIAL/OPTICAL)

●Verifying version

While in the test mode, the top of the screen displays the CPU
software version and the system software version in the
format shown below:
1.00 1.000
Left: CPU version; right: system version

●Entering the test mode

1. While holding STATUS (track D) and EFFECT (track D)
buttons under RECORDER/MIXER, turn on POWER
switch. See Note: in step 4 below.
2. When "CHECK SP808-OP1 .." appears at the center of the
screen, release the buttons.
3. Test options will be displayed. Among the test options
shown below, options 1. LCD to 4. Switch are displayed on
the initial screen.
4. If the option board, SP808-OP1 is installed, "OP-1"
appears on the upper right-side of the screen.
Note: When the Zip drive is to be used during test, connect it
before turning on the SP-808. Set Termination to "ON"
and SCSI ID to "6".
5. As mentioned before, the top of the LCD screen display
shows the CPU software version (at the left) and the
system software version (at the right).

LCD display	Test option
1. LCD	LCD contrast 1
2. LCD Contrast	LCD contrast 2
3. LED	LED check
4. Switch	Switch check
5. Encoder	VALUE dial check
6. Fader	Fader potentiometer check
7. Pot	Rotary potentiometer check
8. Beam	Beam check
9. Foot SW	Foot switch check
10. MIDI	MIDI check
11. Zip	Zip drive check
12. SCSI	SCSI check (only when option board, SP808-OP1 is installed)
13. Analog I/O	Analog inputs/outputs check
14. Digital I/O	Digital inputs/outputs check (only when option board, SP808- OP1 is installed)
15. Initialize	System data initialization

To select a test option, use the cursor buttons [▲] and [▼] to
move the cursor [>] on the leftmost of the screen to the test
option. Then, press the [ENTER/YES] button. After the test,
the screen exits to the menu screen.

●Test description

1. LCD check
1.1 When this option is selected, the LCD displays "Push
>] KEY" at the center of the screen.
1.2 Press the [>] button blinking in green. The all dots on
the LCD will be turned on.
Press the [>] button again. The all dots will be turned
off.

- 1.3 If necessary, press the button to repeat turning on/off of
the dots.

To exit the test, press the RECORD button (●) blinking in
red.

2. LCD contrast check
2.1 When this option is selected, the LCD displays
"CONTRAST = 5" on the bottom of the screen.
2.2 Turn the VALUE/TIME dial and verify changes in
contrast.
When the dial has successfully changed the value
"CONTRAST = ***" from 0 to 15, the center area of the
screen displays "LCD OK !!".

To exit the test, press the RECORD button (●)

3. LED check
3.1 When this option is selected, the LCD displays "Push
[<<] [>>] KEY" and all LEDs are turned on.
3.2 Press MEAS [>>] button. All LEDs are turned off except
for "DISK".
3.3 Press MEAS [>>] button repeatedly. The remaining
LEDs are turned on one by one, from the upper left one.
Note: The STATUS LED first lights in red and then in green
at the second press of the MEAS button.
3.4 When all the LEDs are turned on and kept on, the
center area of the screen displays "LED OK !".

To exit the test, press the RECORD button (●).

4. Switch check
4.1 When this option is selected, the right-hand area of the
screen displays "067" and "*****" just below the figures.
4.2 Press and hold a button. The "*****" is replaced with the
button name or the button symbol.
The graphic image on the screen shows the approx.
location of the button being held down. If all LEDs are
blinking, you are pressing two buttons.

- 4.3 Turn on the remaining buttons one by one. When all the
buttons have been pressed, the upper-right area of the
screen displays "** SW OK !!".

To exit the test, press the RECORD button (●)

5. Encoder check
5.1 When this option is selected, the LCD displays graphic
which moves left and right as the VALUE dial is turned
counter-clockwise and clockwise, and associated
"Value: ***" reading just below it.
5.2 Verify that reading "Value: ***" changes from 0 to 100
as the VALUE dial is turned.
When the reading covers this range, the upper-left area
of the screen displays "OK !!".

To exit the test, press the RECORD button (●).

6. Fader check
6.1 When this option is selected, the left-hand area of the
screen displays graphics representing 6 faders.
6.2 These graphic faders move from bottom to the top as
the corresponding fader is slid up and down.
6.3 When the fader successfully moves its full travel range,
"OK" is displayed above and below the corresponding
graphic fader on the screen.
6.4 Repeat the steps 6.2 and 6.3 for the remaining faders.
When all the faders pass the test, "OK !" is displayed
at the center of the screen.

To exit the test, press the RECORD button (●).

7. Rotary potentiometer check
7.1 When this option is selected, the LCD displays graphics
representing 3 REALTIME EFFECT potentiometers.

7.2 Turn a potentiometer from MIN to MAX and verify that
the corresponding graphic potentiometer also turns.

- 7.3 When the potentiometer successfully moves its travel range, "OK" is displayed to the left and right of the corresponding graphic potentiometer.
- 7.4 Repeat the steps 7.2 and 7.3 for the remaining pots. When all the pots pass the test, "*** OK ! ***" is displayed on the top of the screen.

To exit the test, press the RECORD button (●).

8. Beam check

Test conditions:

Clear space around the SP-808 at least 30 cm in all directions.

The distance between the SP-808 and large flat surfaces such as ceiling and wall must be at least 50 cm.

Do not place the SP-808 under the direct sunlight.

Remember that the SP-808 beam controller has wider directivity and yet high sensitivity.

- 8.1 When this option is selected, the left-hand area of the screen displays graphics representing a rotary potentiometer and a value "L: 0" above it.
- 8.2 Position your hand about 50 cm above the beam controller and then slowly lower the hand. The reading "L: *" increases from 0 and the potentiometer on the screen turns clockwise.
- 8.3 As your hand reaches at a distance approx. 10 cm above the beam, the reading "L: *" reaches the maximum value 127. The screen displays "L: OK !!". Now, check the right beam.
- 8.4 The right-hand side of the screen displays "R: **", and status of the right beam.
- 8.5 Repeat the action described in step 8.2 and verify that "R: *" changes from 0 to 127. The "R: OK !!" is displayed when the test is successful.

To exit the test, press the RECORD button (●).

9. Foot switch check

- 9.1 Connect a foot pedal (e.g. DP-2) to the SP-808.

- 9.2 When this test option is selected, the screen displays "[OFF] 0".
- 9.3 Depress the foot pedal, the "[OFF] 0" will change to "[ON] 127". The center area of the screen will display "*** OK !!".

To exit the test, press the RECORD button (●).

10. MIDI check

- 10.1 Hook up MIDI IN and OUT sockets of the SP-808 through a MIDI cable.
- 10.2 When this test option is selected, the screen displays "MIDI THRU", "IN->OUT".
- 10.3 Press [UNDO/REDO] button. The screen displays "OUT->IN" and will show "OK" in the [] located at the bottom of the screen when the MIDI circuit passes the test. Otherwise, it will display [NG !!].

To exit the test, press the RECORD button (●).

11. Zip drive check

- 11.1 When this test option is selected, the screen displays the prompt "Insert Zip Disk".
- 11.2 Insert the Zip disk into the Zip drive. The disk is automatically checked, and when OK, the message "IDE CHECK OK !!" will appear on the screen in several minutes. And the disk will be ejected.
- Note : that this test will not modify the contents of the disk so that the user data is kept unchanged.

To exit the test, press the RECORD button (●).

12. SCSI check

- 12.1 Connect an external Zip drive to the SP-808. Set Termination to "ON" and SCSI ID to "6".

- 12.2 Turn on the Zip drive and insert a Zip disk.

- 12.3 Select the SISI check option. The LCD displays the message "NOW Checking ..." for a moment. When the SCSI is working, the screen will display "SCSI CHECK OK !!".

Error message:

- 1) "CHECK SP808-OP1 !!": communication error between the option board meaning that the option board is not correctly installed or IC4 (NCR53CF92) or associated circuitry is defective.
- 2) "SCSI NG !! (NO DRIVE)": communication error between Zip drive; or the Zip drive is defective.

To exit the test, press the RECORD button (●).

13. Analog I/O check

- 13.1 When this test option is selected, the screen displays "FS = 32.0 kHz". Proceed to the following steps:

a. AUX INPUT -> MASTER OUT check

- 1) Turn INPUT, AUX control to MAX, connect the audio frequency oscillator outputs to INPUT AUX.
- 2) Connect the oscilloscope to OUTPUT MASTER. Set the oscillator to sine wave, 1 kHz, 620 mVpp. (Keep this setting through tests in this section.) The oscilloscope should display approx. 8 Vpp waveform.

b. MUTE

- 1) Press the LOCATOR [4/(8)] button.
- 2) The "Mute: OFF" indication on the upper-right side of the screen changes to "Mute: ON".
- 3) When the waveform on the oscilloscope disappears upon "Mute: ON", the muting circuit is working.

c. LINE INPUT -> AUX OUTPUT check

- 1) Turn INPUT, LINE control to MAX, connect the outputs (sine) from the oscillator to INPUT, LINE.
- 2) Connect the oscilloscope to OUTPUT AUX. The oscilloscope should read approx. 8 Vpp sine waveform.

d. Sampling frequency changeover

- 1) While in step 3) in para. c above, press LOCATOR [3/(7)] button.
- 2) The frequency reading on the upper-left area of the screen changes from "Fs = 32.0 kHz" to "Fs = 44.1 kHz". The waveform on the scope should not change.

e. SP808-OP1 (option board) TRACK OUTPUT check

- This is to check analog output from the option board, if installed.
- 1) The screen displays "PARA-A". The LOCATOR [1/(5)] button cycles "PARA-A" -> "PARA-B" -> "PARA-C".
 - 2) The destination of the input coming through INPUT LINE is determined as indicated on the screen upon pressing of LOCATOR [1/(5)] button.
 - 3) Connect the scope to the output terminal specified in step 1) above. The scope will show approx. 8 Vpp waveform.

f. Headphones check

- 1) Connect the audio frequency oscillator to INPUT AUX and headphones to HEADPHONES. The screen displays "PHONE" and "MASTER" under it. The LOCATOR [2/(6)] button cycles "MASTER" -> "AUX" -> "M+A" -> "OFF". The output to the headphones also changes as indicated.
- 2) The sounds are output to the headphones in "MASTER" or "M+A" mode.

- 3) Connect the audio frequency oscillator to INPUT LINE. This time, sounds are output to the headphones in "AUX" or "M+A" mode.

To exit the test, press the RECORD button (●).

14. Digital I/O check
- The left-hand side of the screen displays "IN: -----".
The LOCATOR [1/(5)] button toggles between "IN: ---- "
and "IN:COAX" or "IN: OPT".

Checking procedure

- a. Digital input
- 1) Connect the COAXIAL output from the CD player to
SP-808 DIGITAL 1 and OPTICAL output to DIGITAL
2.
2) Connect the headphones to SP-808.
3) Leave the CD player turned off. The LCD displays
"Unlock".
4) Turn on the CD player. "Unlock" changes to
"Locked".
5) Play the CD player and verify the sounds through the
headphones.
6) Press the LOCATOR [1/(5)] button repeatedly and
verify the "Locked" is kept displayed.
- b. DIGITAL output check
- 1) Connect DIGITAL 1 output from SP-808 to COAXIAL
input of the DAT, and DIGITAL 2 output to OPTICAL
input of the DAT. Provide means to monitor DAT
digital input signals.
2) Connect the headphones to the DAT.
3) Verify that the DAT is reproducing CD sounds.
Also check DAT DIGITAL inputs by toggling between
COAXIAL and OPTICAL.

To exit the test, press the RECORD button (●).

15. Initialize
- If the system parameters in the flash memory are
destroyed or the parameters are to be returned to the
factory settings, follow the procedure described below.

When the initialize screen is selected, press
[UNDO/REDO] button. The system parameters such as
system common, system MIDI and system beam
controller are initialized.

To exit the test, press the RECORD button (●).

●Exiting the test mode

Simply turn off the SP-808.

FLASH MEMORY FAILURE

If the flash memory (IC9 of the main board) becomes failure
either in terms of software or hardware, the following message
appears on the screen.

<< EMERGENCY >>
SYSTEM is BROKEN !
Please consult quali -
fied Roland Service.

When this message appears, proceed to the following version
upgrading procedure.
If the contents of the flash memory are not restored, replace the
memory with new one; the same message will appear. Retry the
version upgrading procedure.

SP-808 SYSTEM SOFTWARE UPDATE USING THE SMF

The latest system software of the SP-808 is stored to the floppy
disk named "SP-808 UPDATE DISK VER.1.01 SMF" as the
standard MIDI file format (SMF format).

Check the following SMF's included to the floppy disk.

SP-808 UPDATE DISK
Sp808#1.MID
Sp808#2.MID
Sp808#3.MID
Sp808#4.MID
Sp808#5.MID
Sp808#6.MID
Sp808#7.MID
Sp808#8.MID

Here's what to do to update the system software of your SP-
808.

1. Connect a MIDI cable between two connectors; MIDI OUT
connector of the MIDI Sequencer that can play back SMF
data, and MDI IN connector of SP-808.
It is convenient to use the MIDI Sequencer such as a SB-55
sound brush that can play back some SMF's continuously.
2. While holding down [STATUS (TRACK SELECT)] and
[EFFECTS (BAL/EQ/FX)] , turn on the SP-808 power. MIDI
update screen is displayed.
3. Check the message "waiting MIDI... " is appeared on the
display.
Play back the SMF data in order the number 1 to 8.
While the data is being received "Receiving.. (x/8)" is
displayed and the pad indicator (PAD) blinks. ("x" is the SMF
data number being received.)
4. When all of SMF data is received "Update System? (Y/N)" is
appeared on the display. Press [ENTER/YES].

Note : Never turn the power off while the message "** KEEP
POWER ON *" is being displayed.

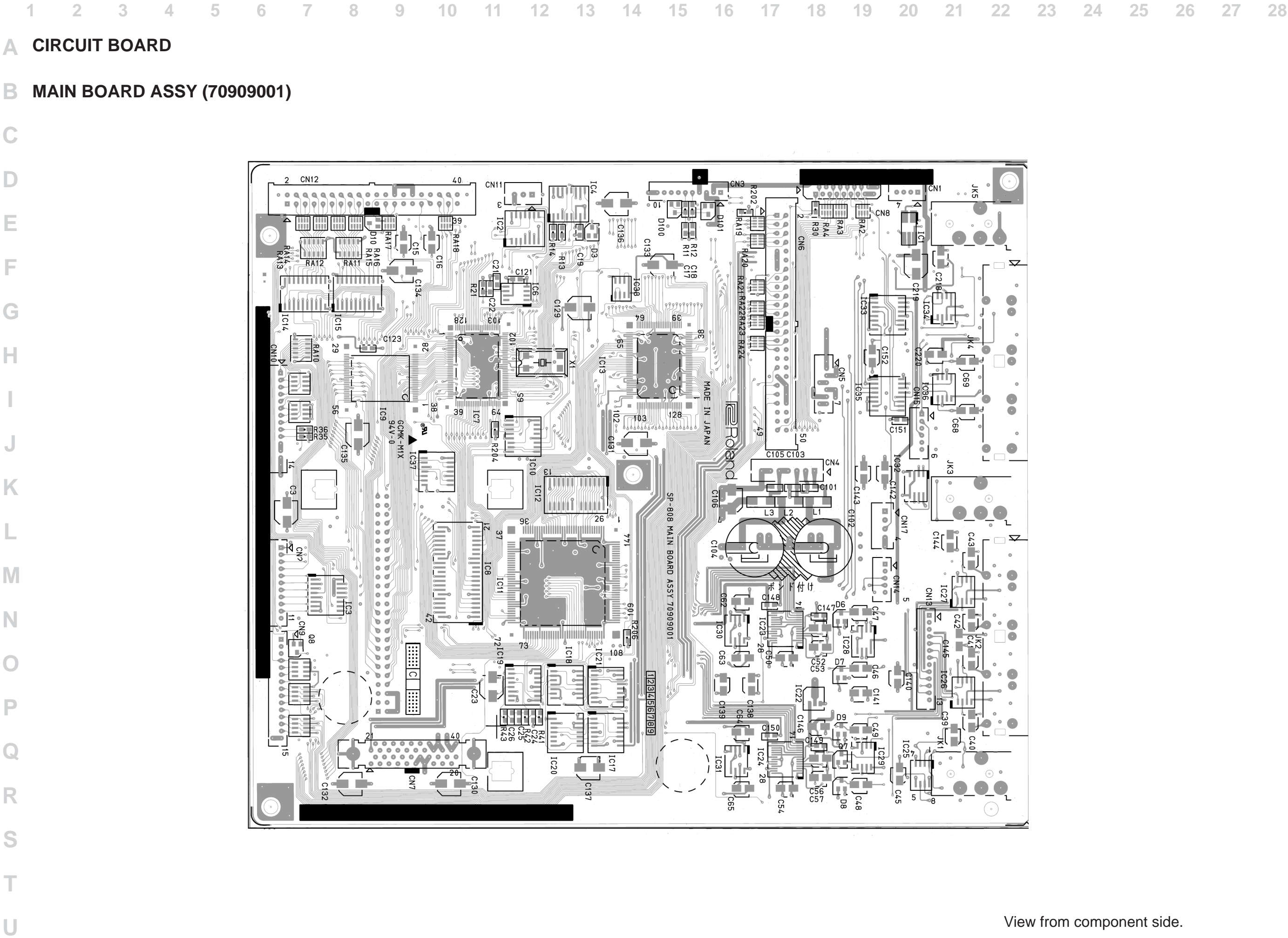
5. When "Update Complete" and "You may TURN OFF" are
appeared on the display, turn the power off and turn it on
again.
Now complete the update SP-808 system software.

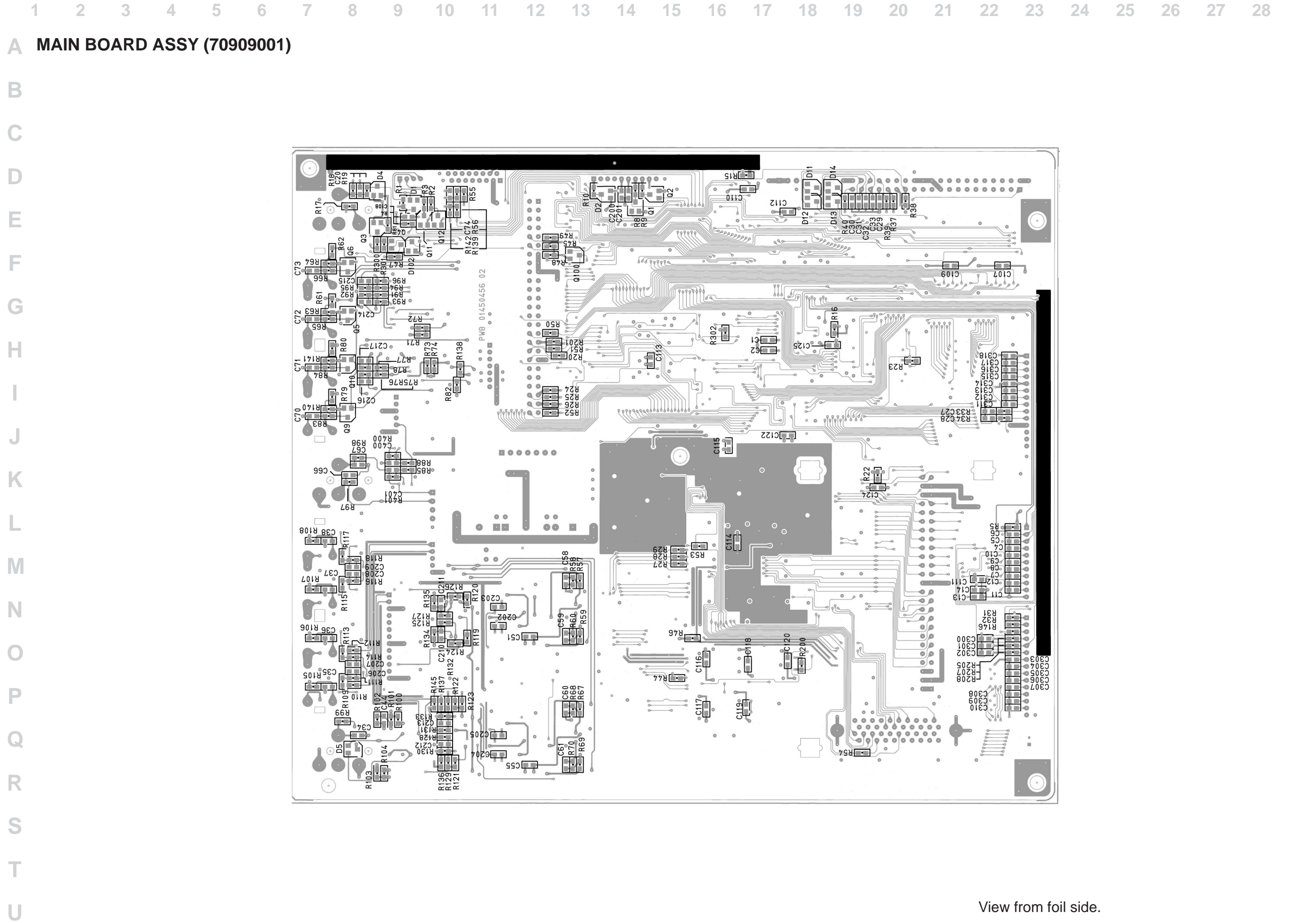
SP-808 SYSTEM SOFTWARE UODATE USING THE ZIP DISK

By using the Zip disk of No. 17048912, the SP-808 can be
upgraded.

●Procedure

1. Insert the VER.UP Zip disk into the Zip drive of the SP-808.
2. Turn on the SP-808.
3. The screen displays the prompt "Update System? (Y/N)".
Press [ENTER?/YES] button.
4. When the upgrading procedure completes, the disk will be
ejected.
5. Turn off the SP-808.



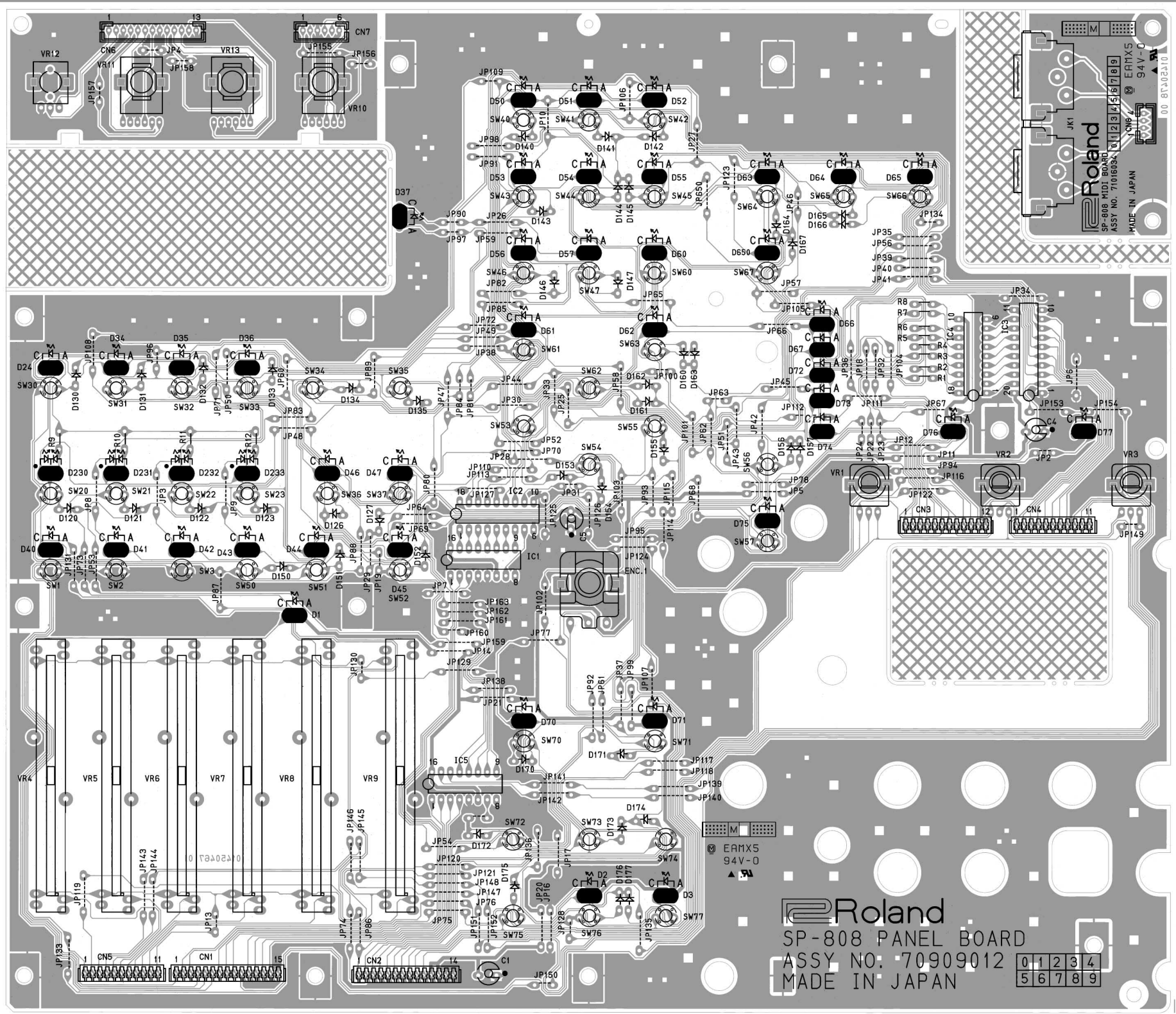


View from foil side.

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28

A PANEL BOARD ASSY (70909012) / MIDI BOARD ASSY (71016034)

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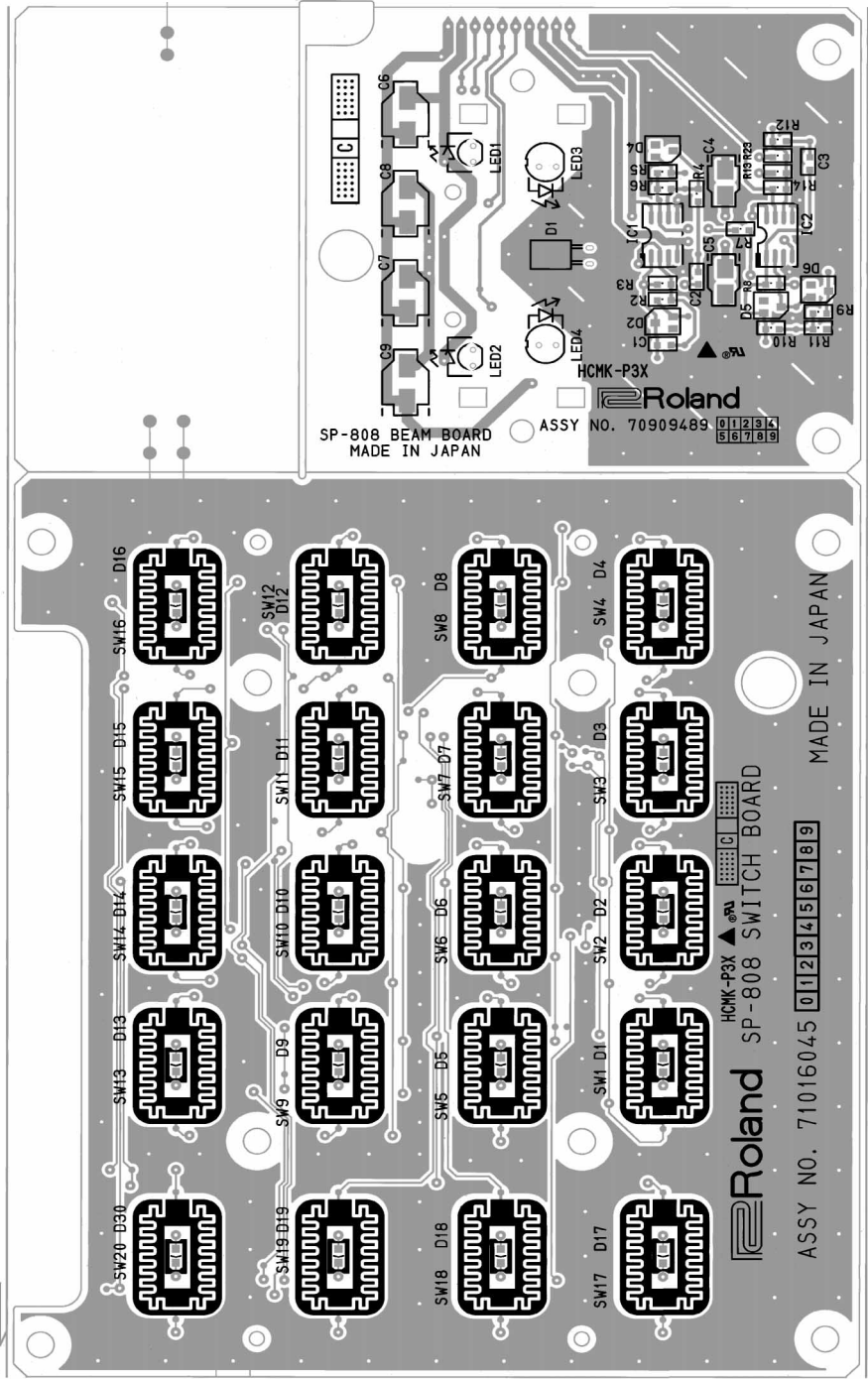
← MIDI BOARD ASSY (71016034)

↑
PANEL BOARD ASSY (70909012)

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28

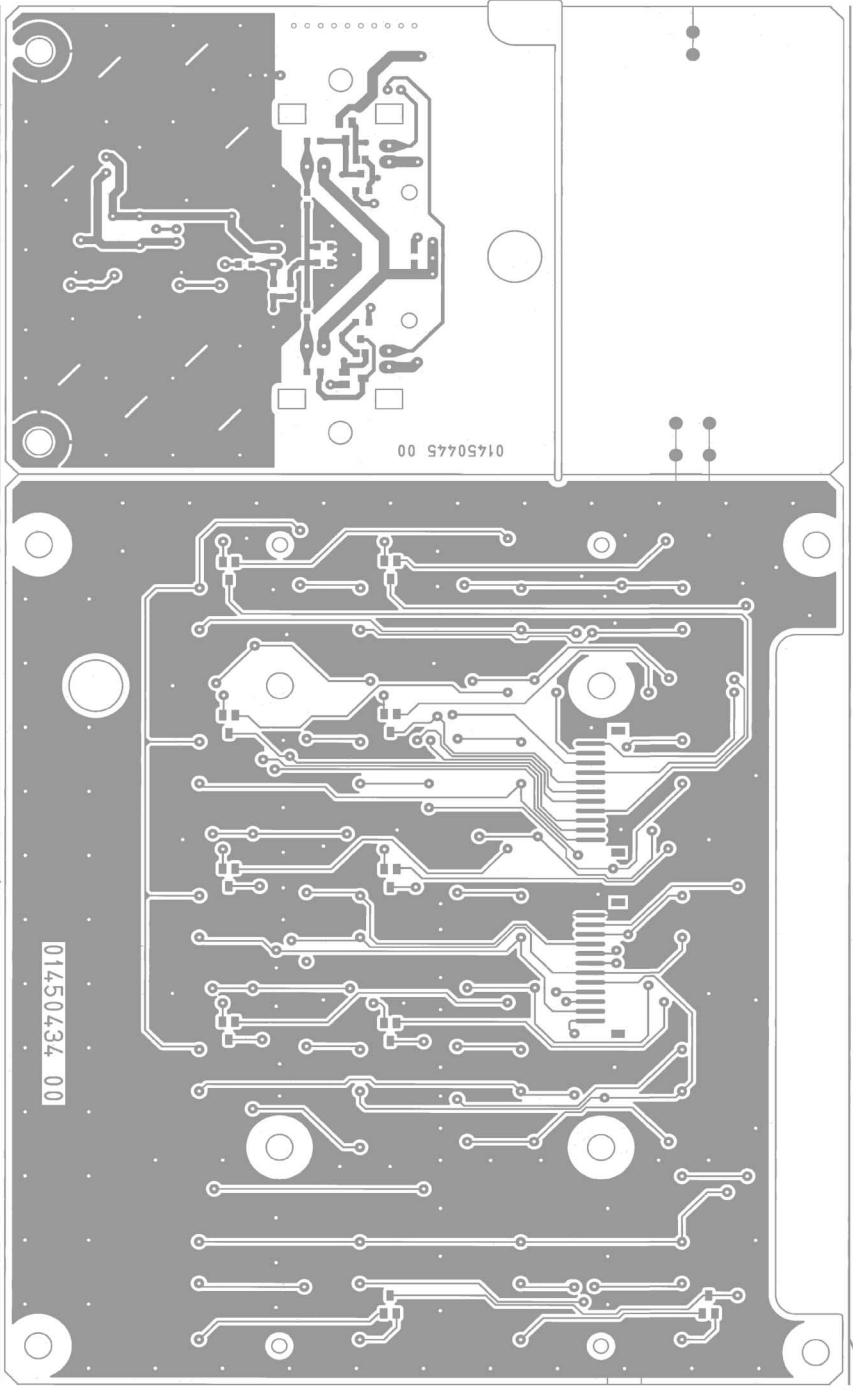
A SW BOARD ASSY (71016045) / BEAM BOARD ASSY (70909489)

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← BEAM BOARD ASSY (70909489) →

← SW BOARD ASSY (71016045) →



View from component side.

View from foil side.

MAIN BOARD ASSY (70909001)



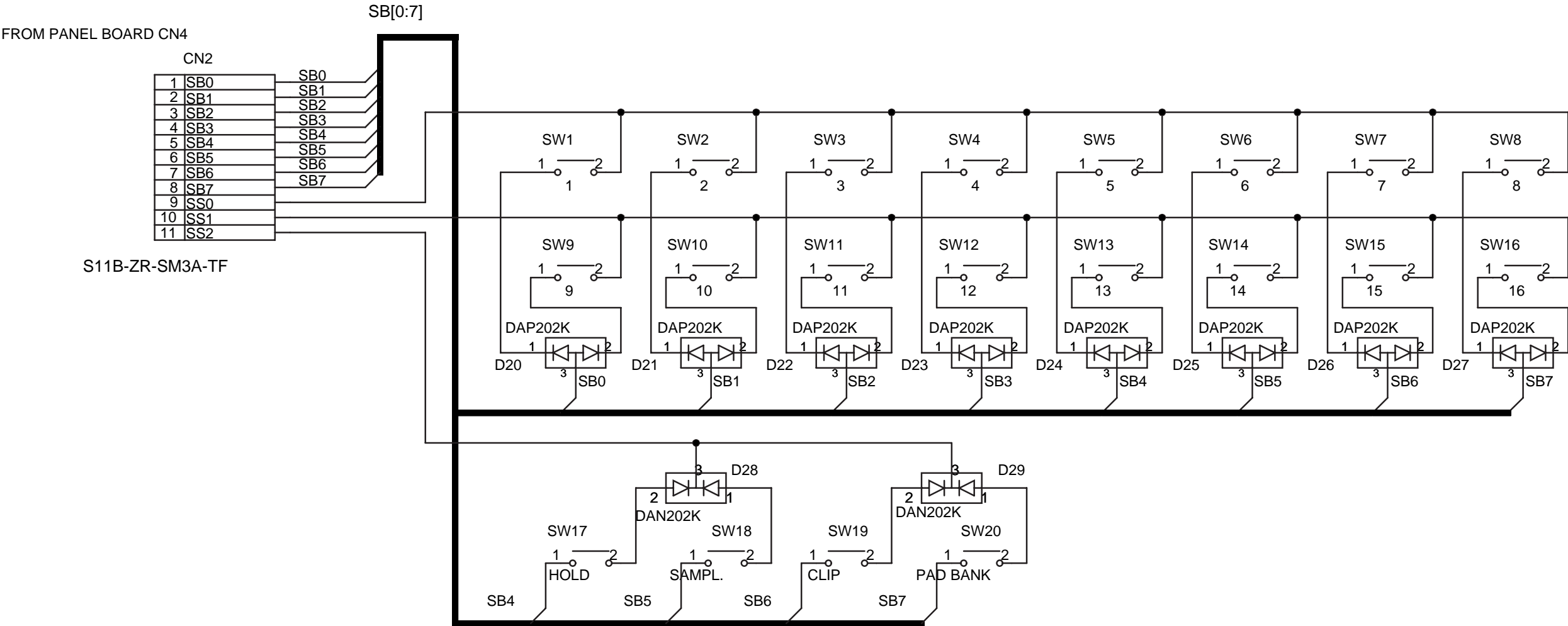
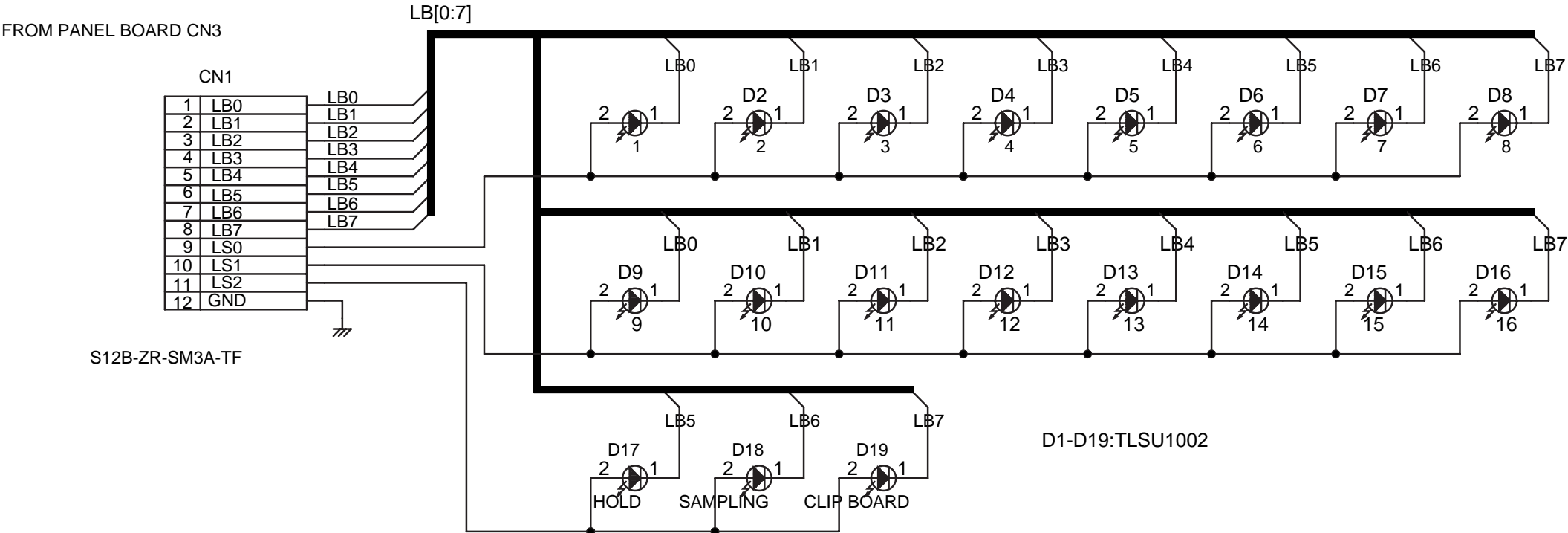
A PANEL BOARD ASSY (70909012)



1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28

A SWITCH BOARD ASSY (71016045)

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MIDI BOARD ASSY (71016034)

BEAM BOARD ASSY (70909489)

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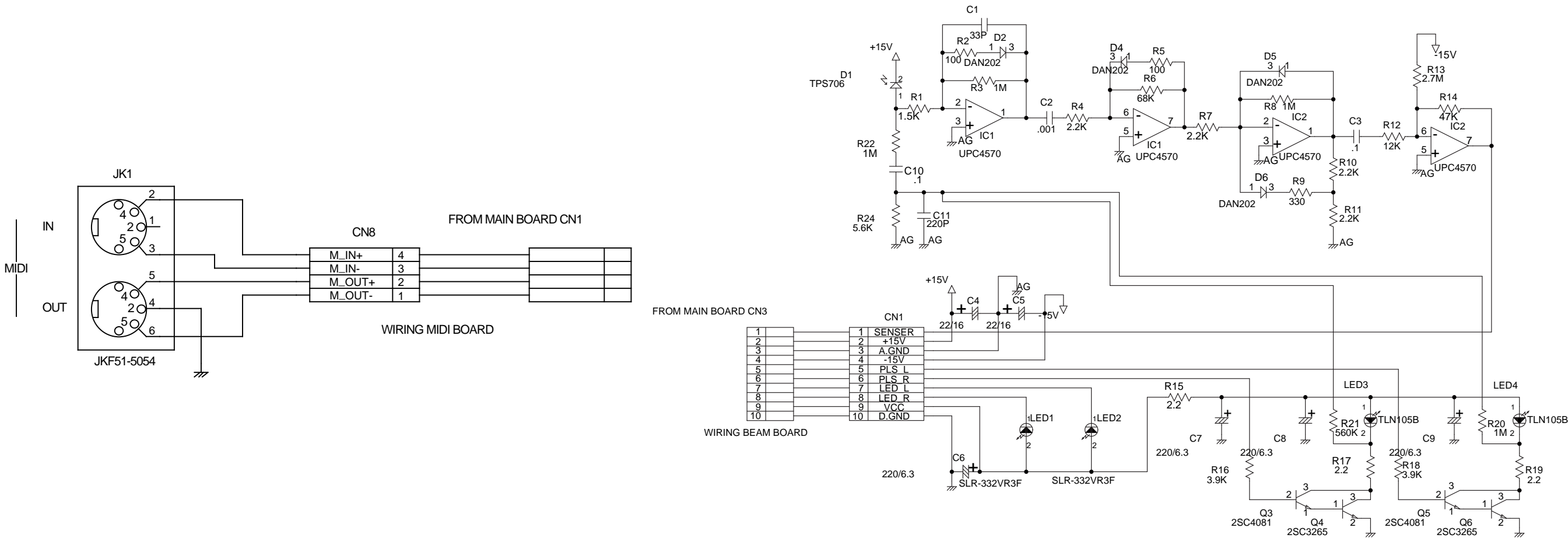
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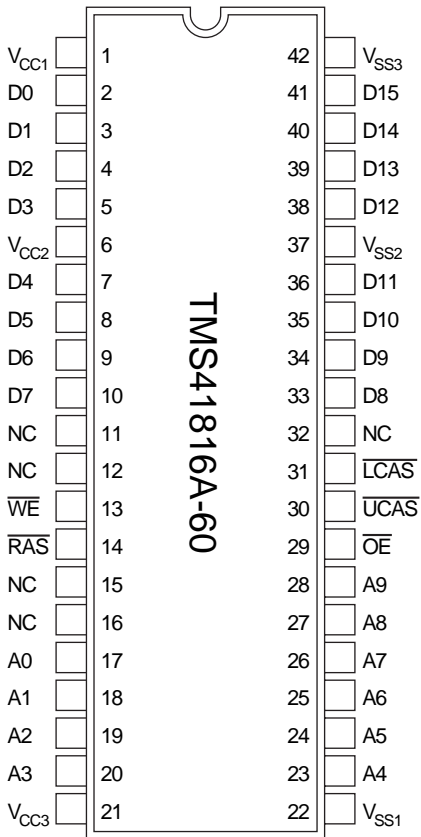
IC DATA

CPU
HD6432653BA11F (01340201)
IC7 on MB



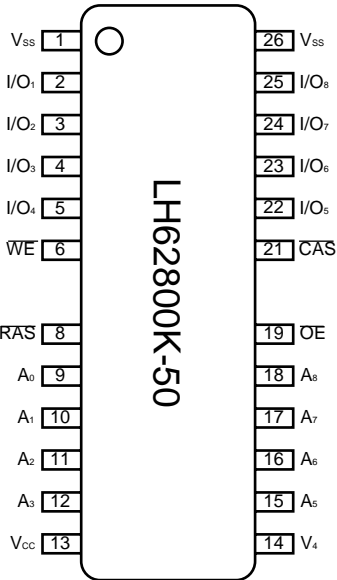
HD6432653BA11F

16M DRAM
TMS41816A-60 (01347745)
IC8 on MB



TMS41816A-60

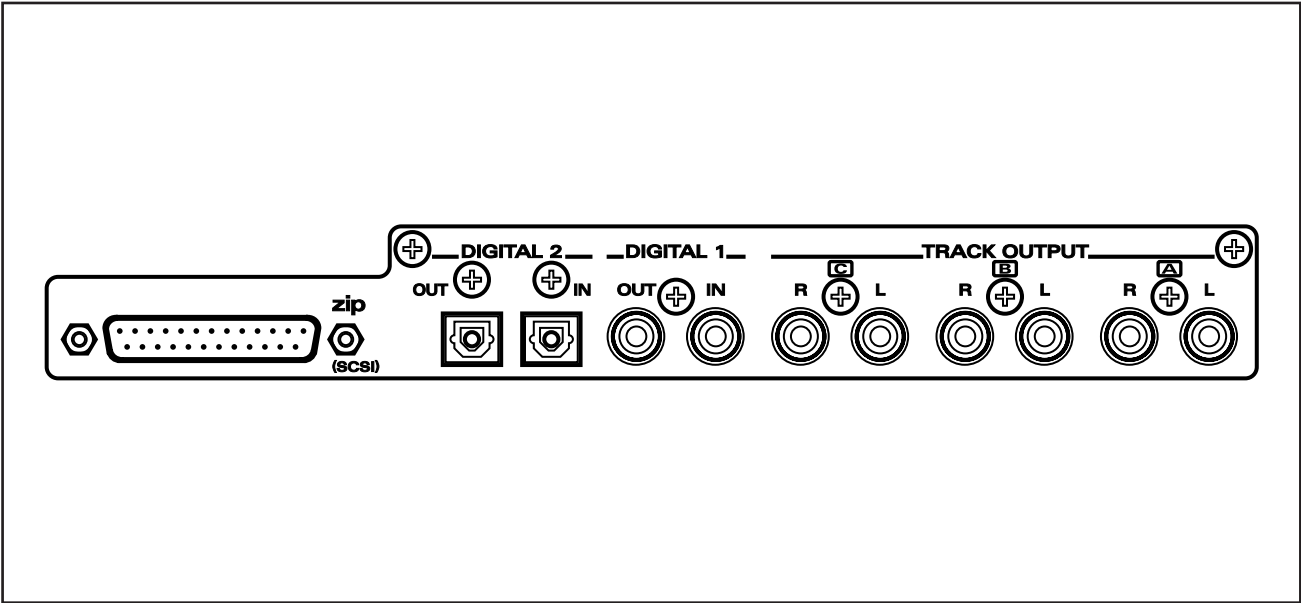
4M DRAM
LH62800K-50 (01347756)
IC12 on MB



LH62800K-50

SP808-OP1

MULTI I/O EXPANSION BOARD FOR SP-808

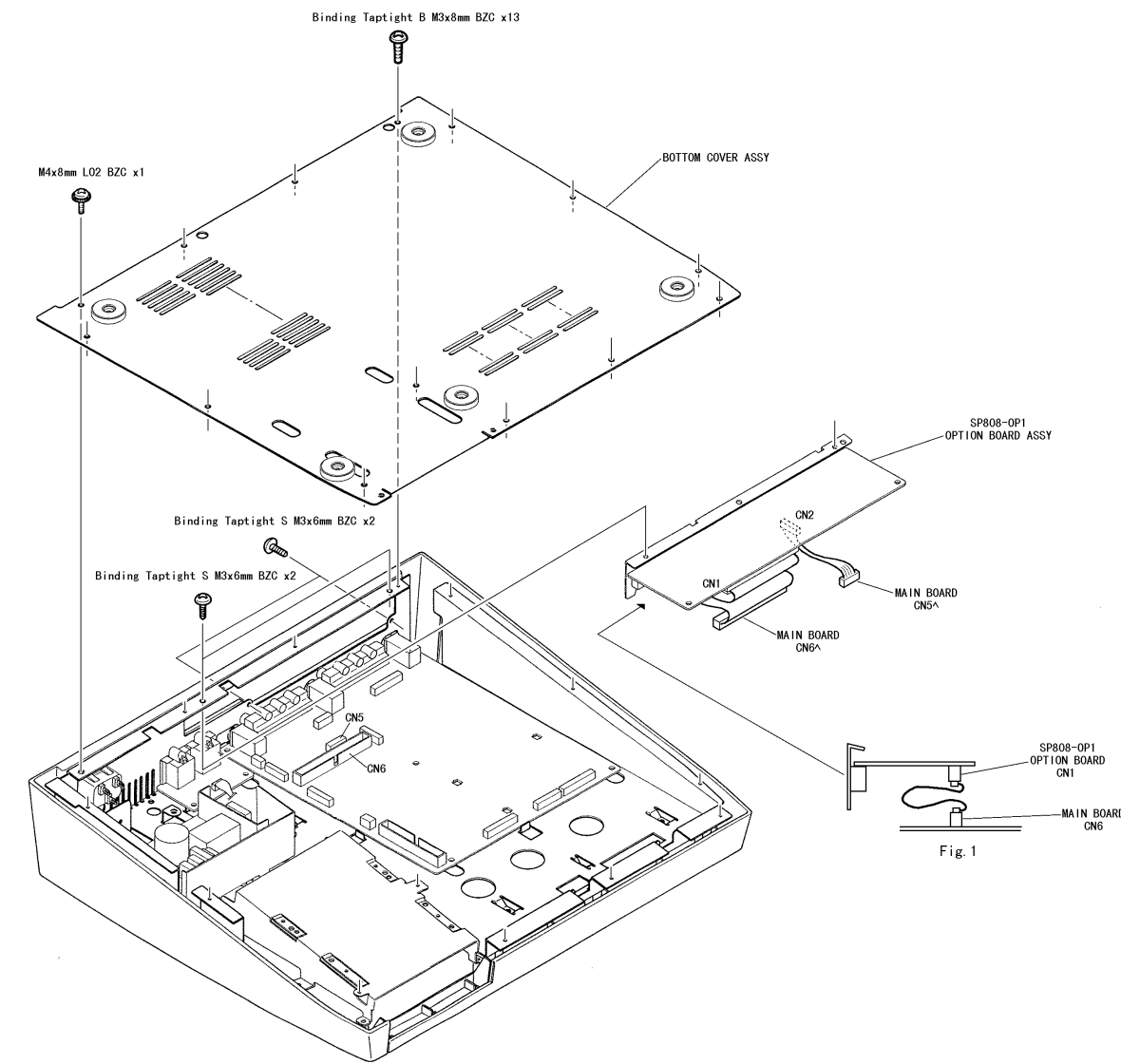


SPECIFICATIONS

- SP808-OP1**
- **SP808-OP1 Multi I/O Expansion Board**
 - *SCSI Connector (25-pin D-SUB type)
 - *Coaxial Digital In Connector
 - *Coaxial Digital Out Connector
 - *Optical Digital In Connector
 - *Optical Digital Out Connector
 - *Track Direct Out x 3, L, R (RCA phono type)


INSTALLING THE SP808-OP1

1. Turn off the SP-808. Remove all connecting cables from the SP-808.
2. Place the SP-808 upside down. Remove the bottom cover.
3. Remove the EXP cover from the SP-808.
4. Plug in SP808-OP1 connector, with a length of the flat cable bent, into the SP-808 main board connector. See Fig. 1.
5. Screw-lock the SP808-OP1.
6. Attach and secure the SP-808 bottom cover.
7. Enter the test mode: holding down STATUS (track D) and EFFECTS (track D) buttons of RECORDER/MIXER, turn on the SP-808. Verify that upper-right area of the screen displays "OP-1".
8. Turn off the SP-808.



PARTS LIST

SAFETY PRECAUTIONS:

The parts marked  have safety-related characteristics.

Use only listed parts for replacement.

CONSIDERATIONS ON PARTS ORDERING

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)

Warning! : There is the possibility that you will burn your hands when you touch Power Supply parts soon after the power supply is turned off.

MB → MAIN BOARD					
PCB ASSY					
#	E	70909501	SP808-OP1 OPTION BOARD ASSY		
JACK SOCKET					
#		13449650	YKC21-3045 (DUAL)	PIN JACK	JK1.JK2.JK3
		00458801	YKC21-3044 PIN O/O	PIN JACK	JK4
		13429314	DBLC-J25SAF-20L9F	D-SUB	JK7
IC					
		00893356	NCR53CF92	SIO	IC4
		01451578	AK4324-VF-E2	DAC	IC7.IC8.IC9
		15249111	TC7WU04F(TE12L)	CMOS	IC14
		15249112	TC7W32F(TE12L)	CMOS	IC13
		15259706T0	TC74HCU04AF(EL)	CMOS	IC1
		15289105	UPC4570G2-T2	BIPOLAR OP AMP	IC10.IC11.IC12
		15199137	AN7805F	REGULATOR	IC6
		00893990	BH9595FP TP	SCSI ACTIVE TERMINATOR	IC5
		00121078	TC9271F(ELP)	DIGITAL IF TRANSMITTER	IC2
		01124378	LC8905V-TLM	DIGITAL IF RECEIVER	IC3
OPTICAL DEVICE					
		01343001	TORX178A	DIGITAL IN(OPTICAL)	JK5
		01239078	TOTX178	DIGITAL OUT (OPTICAL)	JK6
TRANSISTOR					
		15329505	DTC314TKT146	NPN	Q1-Q6
DIODE					
		00673789	SB20-03P-TD	SCHOTTKY DIODE	D1
RESISTOR					
#		01564645	ERG3SJ390H	MTL.OXIDE RESISTOR	R107
CAPACITOR					
		15369142S0	16CV10BS	CHEMICAL	C12.C13.C19.C20.C26.C27.C30-C35. C101-C106.C116.C117.C200-C205
		15369105S0	6.3CV100BS	CHEMICAL	C4.C5.C6
		01347778	6.3CV220BS	CHEMICAL	C110.C119.C120
		13639551	ECA1CM221B	CHEMICAL	C206

FILTER				
	01458667	BLM41P750S	FERRITE BEAD	L1
CONNECTOR				
	13369851	PS-50PE-D4T1-B1-K	CONNECTOR	CN1
WIRING CABLE				
#	01452590	WIRING OPTION-A		Between CN1 to MB(CN6) Between CN2 to MB(CN5)
#	01452601	WIRING OPTION-B		
TRANSFORMER				
	12449615	PT-10244-615	PULSE TRANS	T1
CHASSIS				
#	01457634	EXP COVER		
MISCELLANEOUS				
#	01561623	UC-300287 L=10	EMI GASKET	
PACKING				
#	01456334	PACKING CASE		

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A CIRCUIT BOARD

B SP808-OP1 OPTION BOARD ASSY (70909501)

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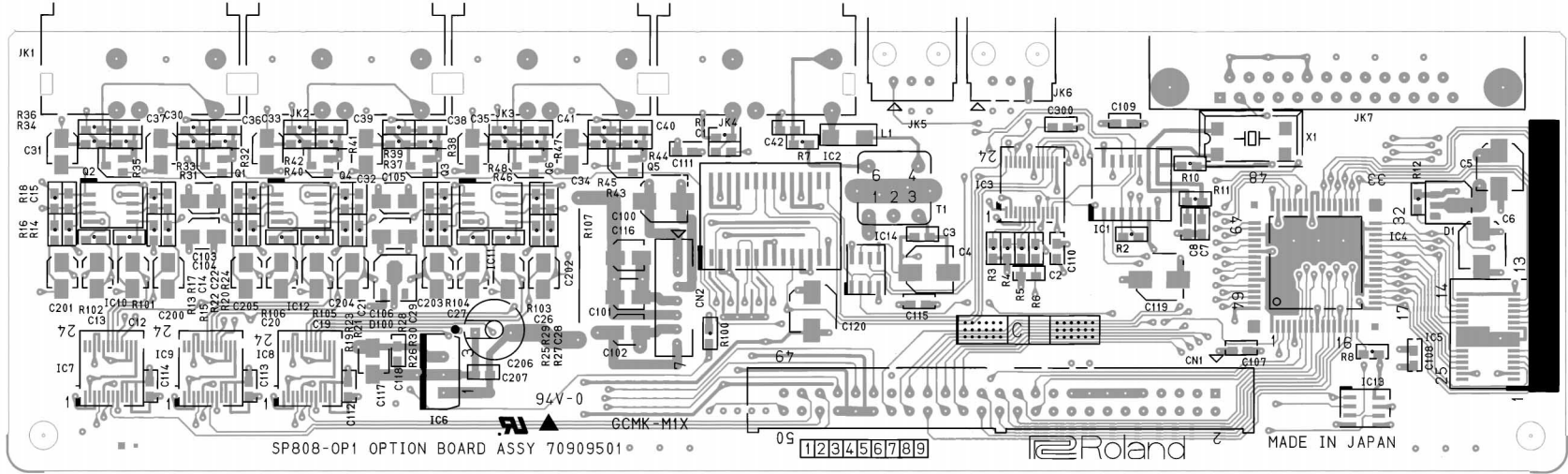
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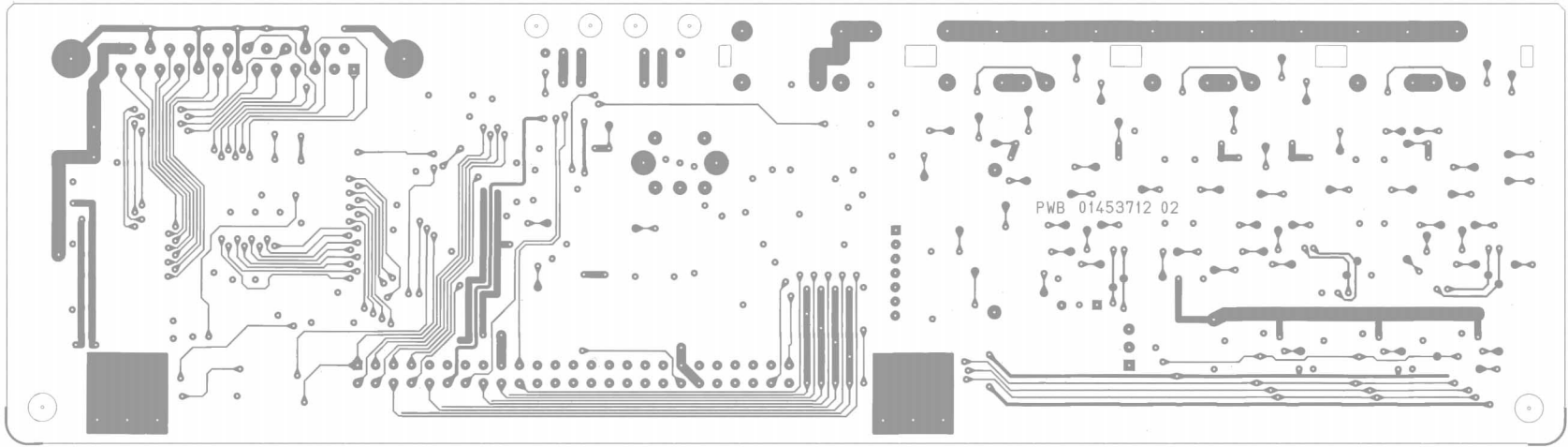
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View from component side.



View from foil side.

SP808-OP1 OPTION BOARD ASSY (70909501)

