

SP-808 SP-808 Pro groovesampler

SERVICE NOTES

First Edition

Issued by RJA

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**
 - 69.0 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)

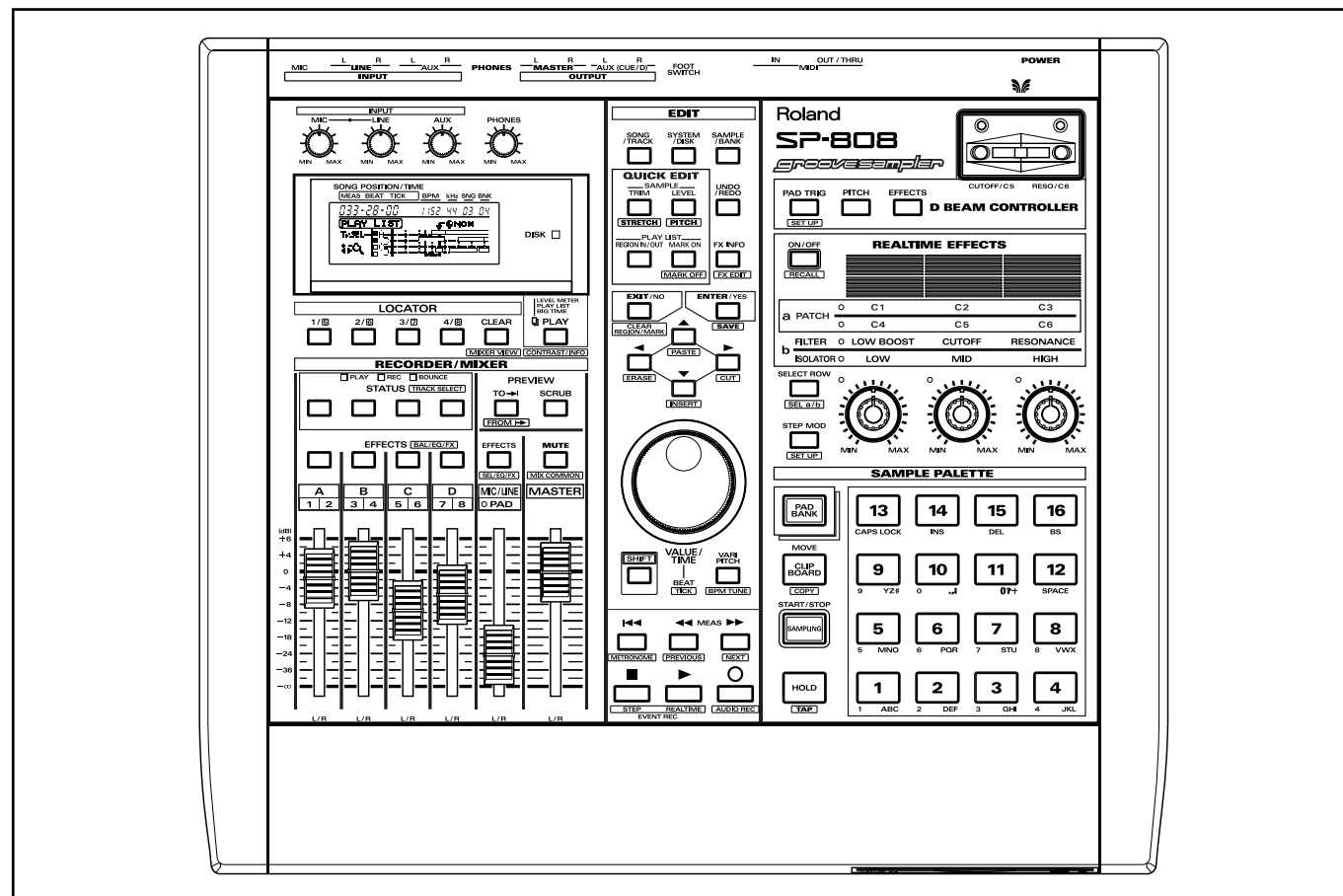
*..Available with SP808-OP1 Multi I/O Expansion is installed.

- 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.

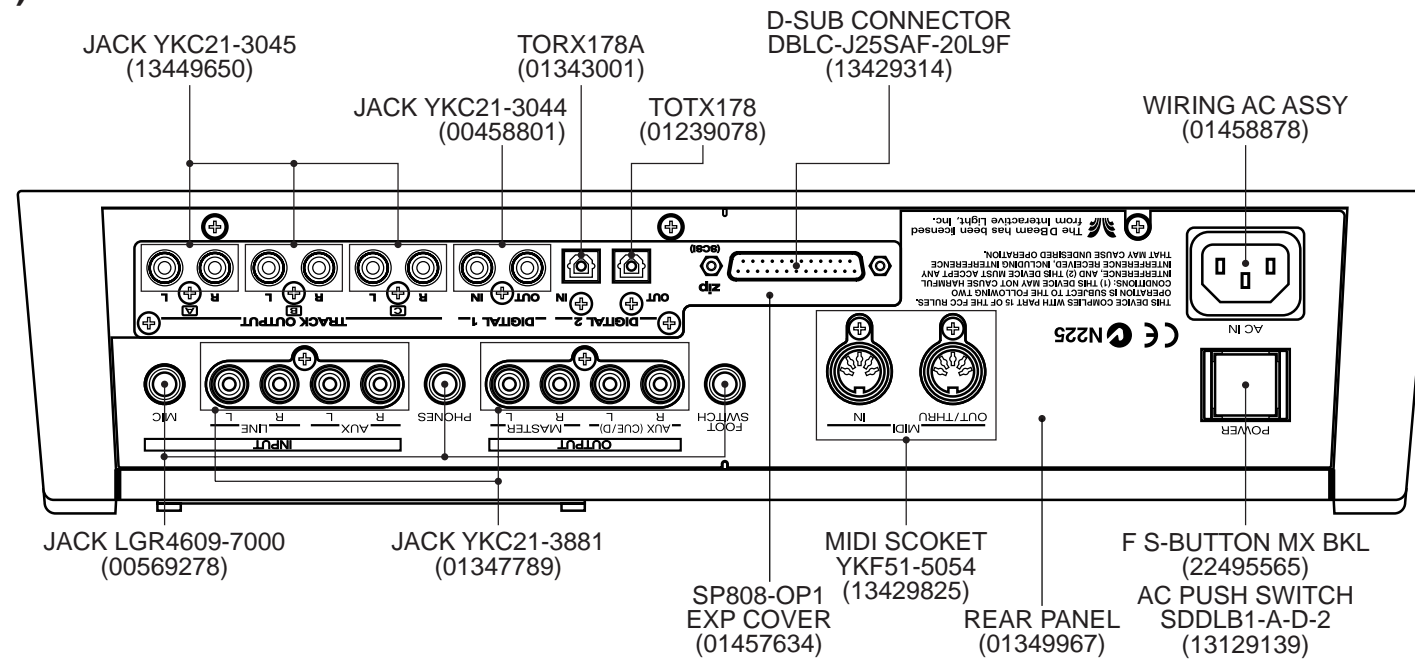
TABLE OF CONTENTS	Page
SP-808/808Pro	
SPECIFICATIONS.....	1
LOCATION OF CONTROLS	2
EXPLODED VIEW.....	3
BLOCK DIAGRAM	4
PARTS LIST	5
TEST MODE	6~8
IDENTIFYING VERSION NUMBER	6~8
CIRCUIT DIAGRAM & BORAD	9~16
IC DATA	17
SP808-OP1	
SPECIFICATIONS	18
INSTALLING THE	18
PARTS LIST.....	19
CIRCUIT DIAGRAM & BOARD	20~21



Copyright © 1998 by ROLAND CORPORATION

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

LOCATION OF CONTROLS (SP-808Pro)



(REAR VIEW)

M R-KNOB MF BLK/RED (01459589)
12M/M ROTARY POT. EVJY95FOIB14 10KB (01452701)

M R-KNOB MF BLK/RED (01459589)
9M/M ROTARY POT. EVUF2KLB14 10KB L=12.5 (01340234)

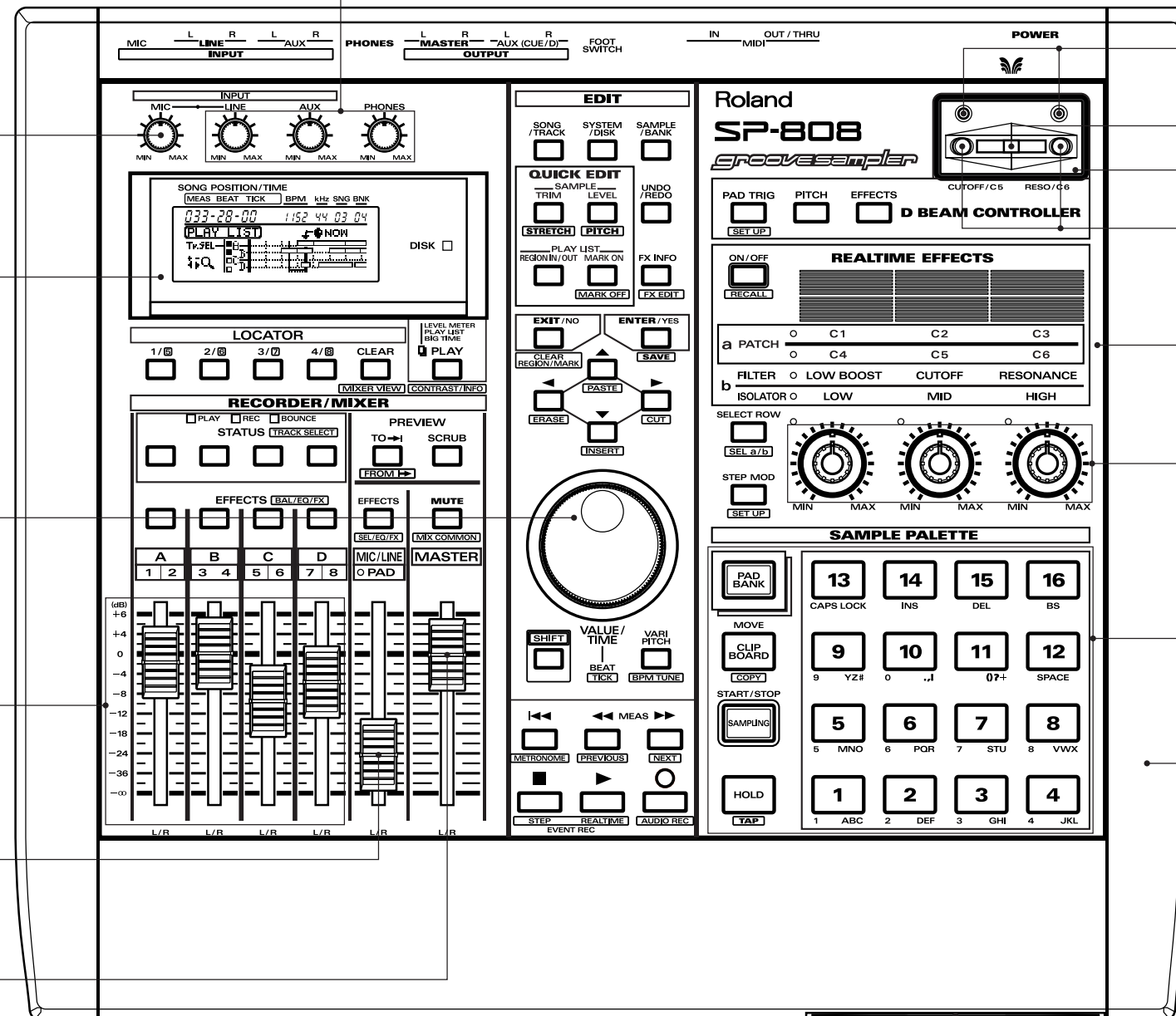
DISPLAY COVER (01348512)
LCD RCM6038T-A (01348490)

D R-KNOB L BLK 248-303 (22485303)
ROTARY ENCODER EC16B24104 (01124478)

U S-KNOB M1 LCG DCG (01349423)
60M/M SLIDE POT. EWA Q1A C10 B54 (01342934)

U S-KNOB M1 MCG/LCG (01459534)
60M/M SLIDE POT. EWA Q1A C10 B54 50KB (01342934)

U S-KNOB M1 RED/LCG (01459545)
60M/M SLIDE POT. EWA Q1A C10 B54 (01342934)



(TOP VIEW)

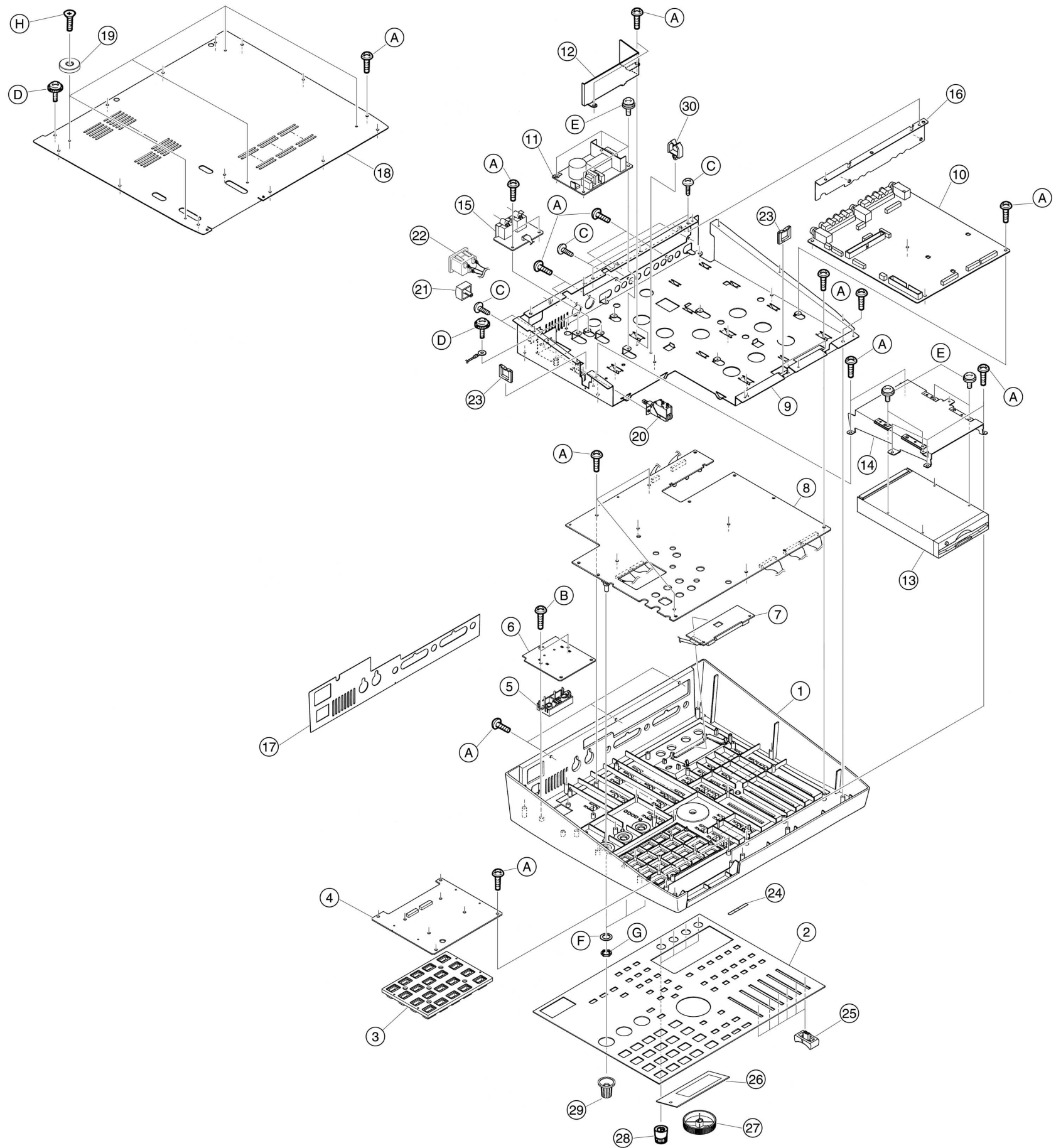
EXPLODED VIEW (SP-808)

[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 SDDL1-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]

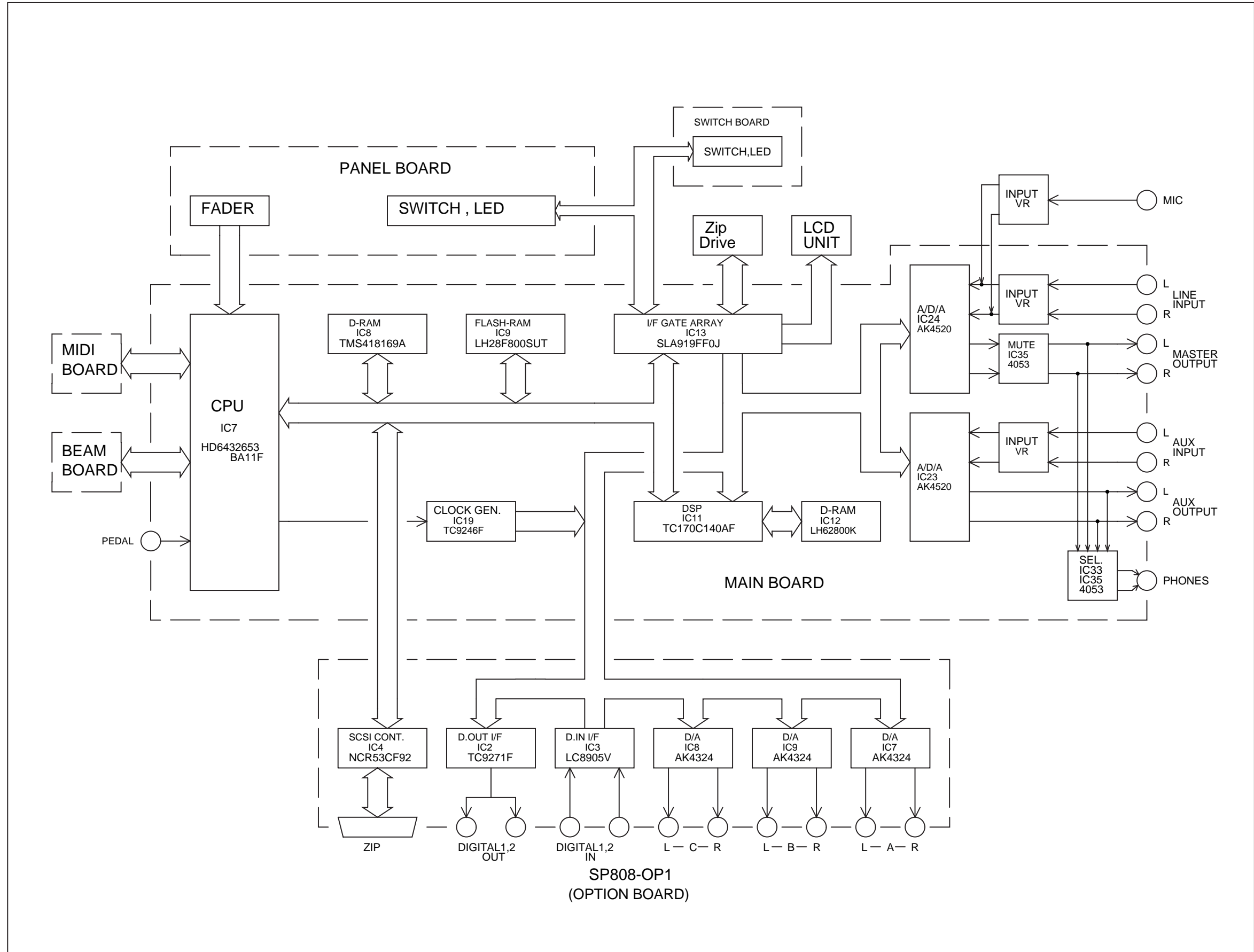
A	40011101	M3x8mm Binding Taptight B BZC
B	40012256	M3x10mm Binding Taptight B ZC
C	40012534	M3x6mm Binding Taptight S BZC
D	*****	M4x8mm LO2 BZC
E	40012945	M3x6mm Pan Machine Screw W/SW+PW BZC
F	*****	M9 SPACER INNER GEAR TYPE
G	*****	M9 NUT THIN TYPE
H	40011156	M3x8mm Flat Taptight B BZC



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 BLOCK DIAGRAM

B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
Q
R
S
T
U



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

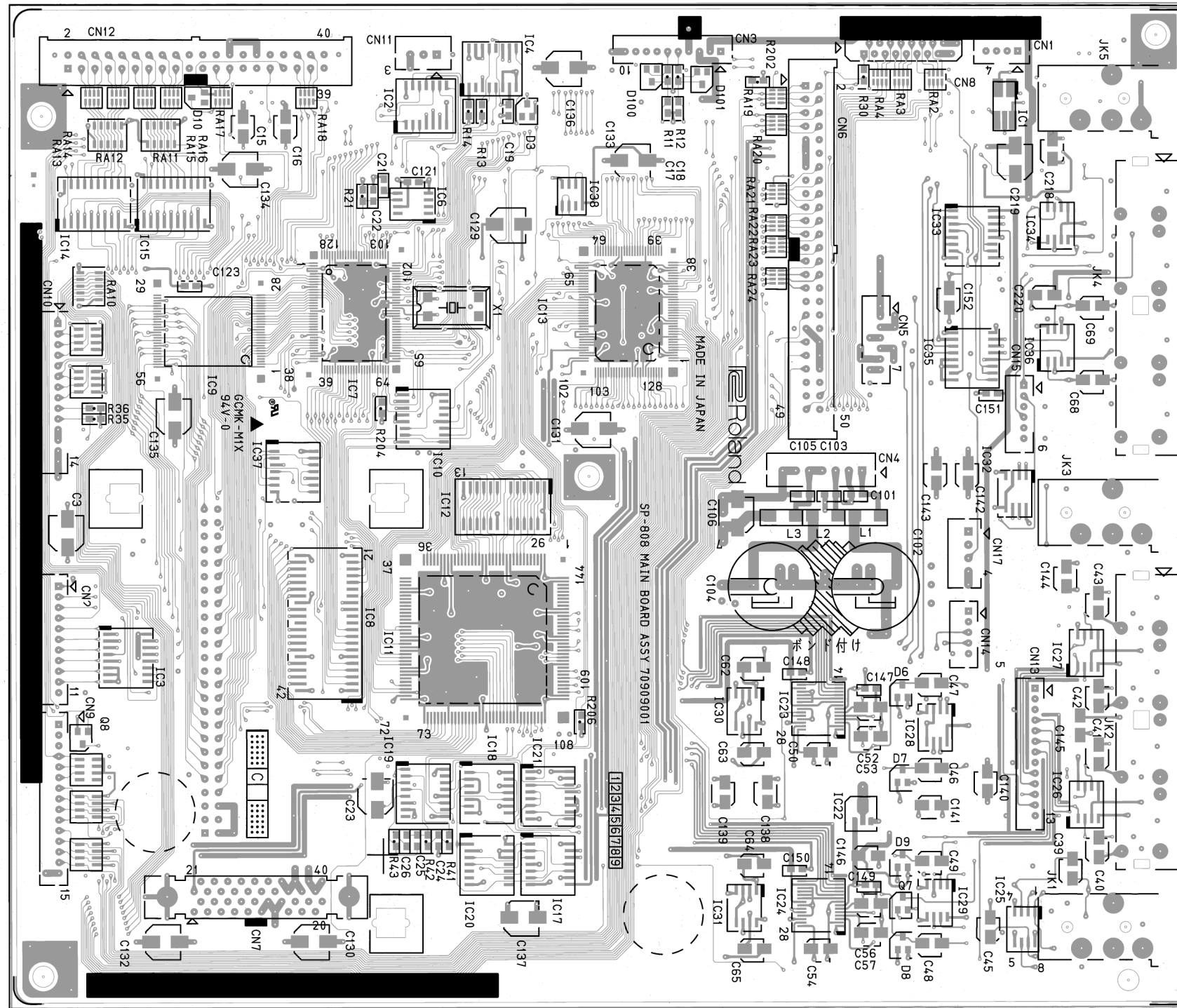
1. Insert the VER.UP Zip disk into the Zip drive of the SP-808.
2. Turn on the SP-808.
3. The screen displays the prompt "Update System? (Y/N)". Press [ENTER?/YES] button.
4. When the upgrading procedure completes, the disk will be ejected.
5. Turn off the SP-808.

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 CIRCUIT BOARD

B MAIN BOARD ASSY (70909001)

C
D
E
F
G
H
I
J
K
L
M
N
O
P
Q
R
S
T
U

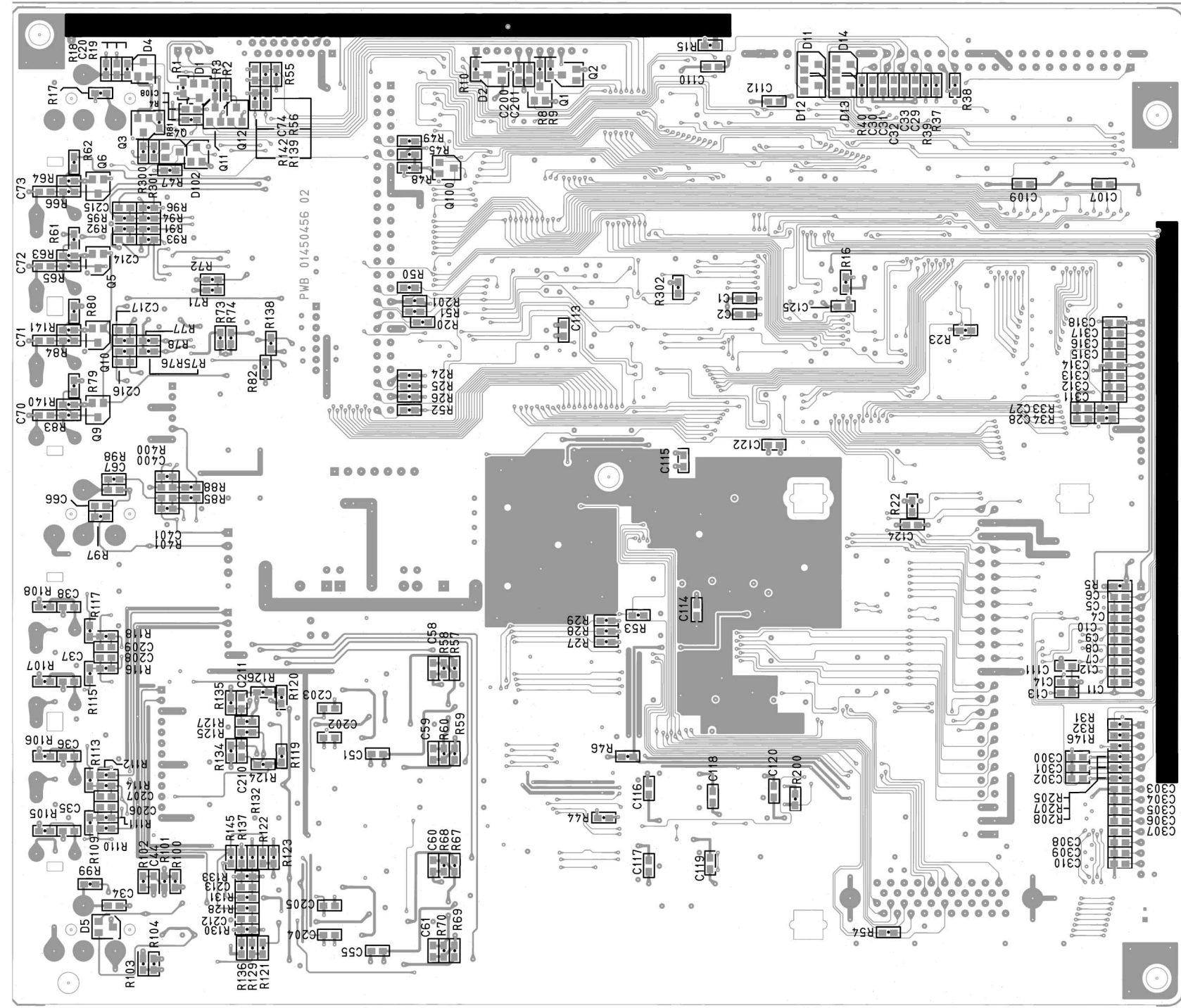


View from component side.

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 MAIN BOARD ASSY (70909001)

B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
Q
R
S
T
U

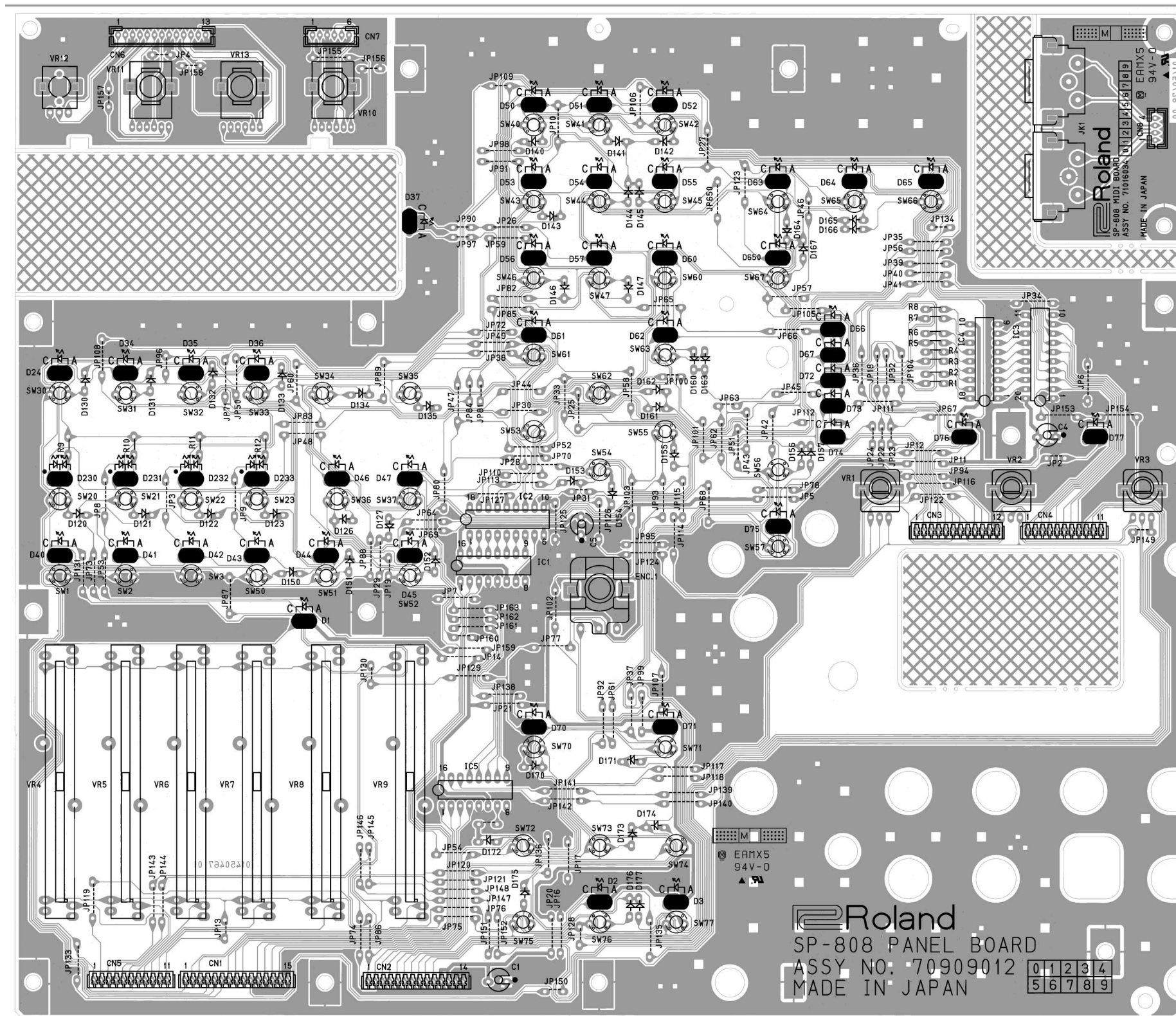


View from foil side.

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)

B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
Q
R
S
T
U



← MIDI BOARD ASSY (71016034)

↑
PANEL BOARD ASSY (70909012)

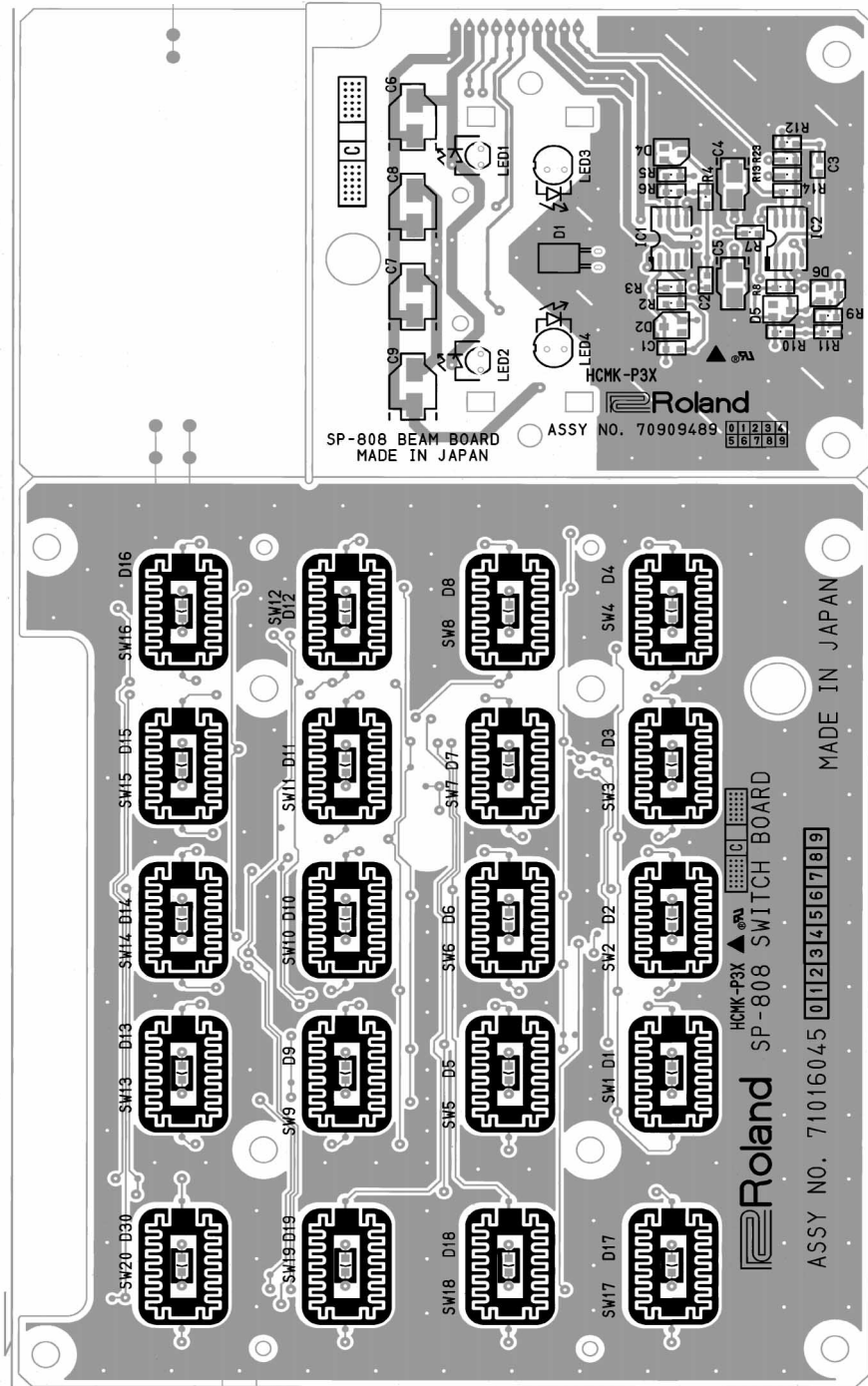
Roland
 SP-808 PANEL BOARD
 ASSY NO: 70909012
 MADE IN JAPAN

0	1	2	3	4
5	6	7	8	9

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

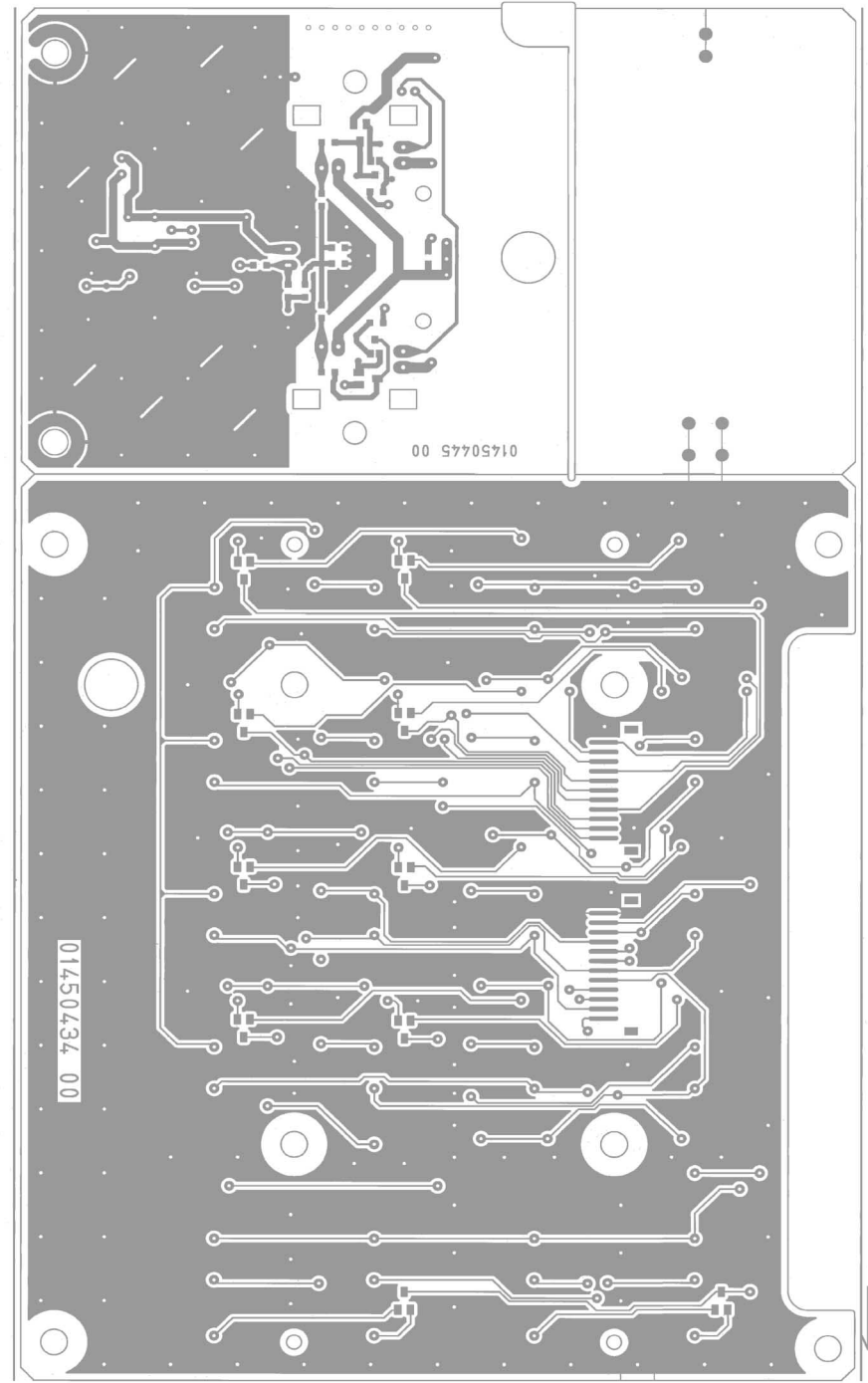
A SW BOARD ASSY (71016045) / BEAM BOARD ASSY (70909489)

B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
Q
R
S
T
U



← BEAM BOARD ASSY (70909489) →

← SW BOARD ASSY (71016045) →



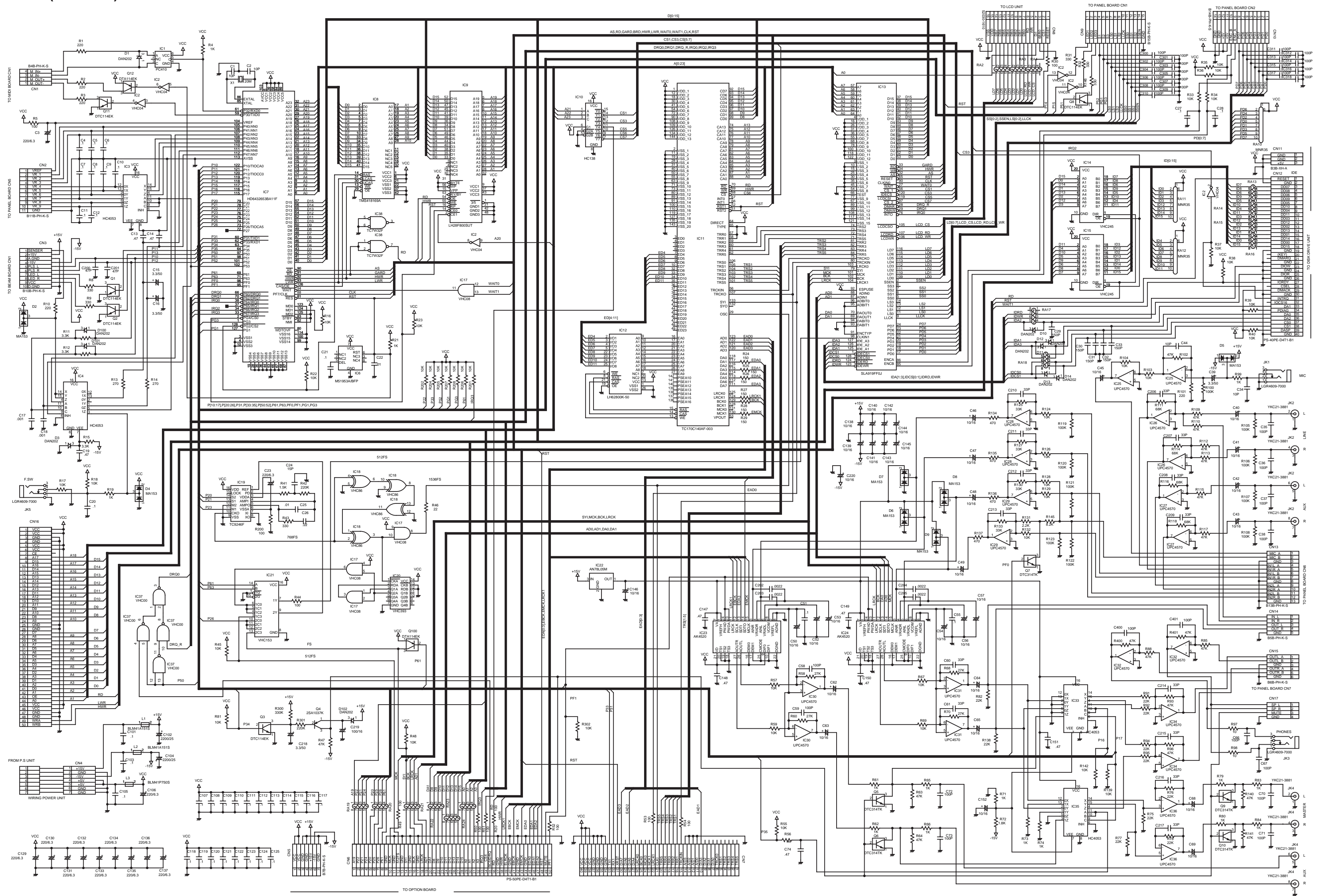
View from component side.

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 29 30 31 32 33 34 35 36 37 38 39 40 41 42

A CIRCUI DIAGRAM

B MAIN BOARD ASSY (70909001)

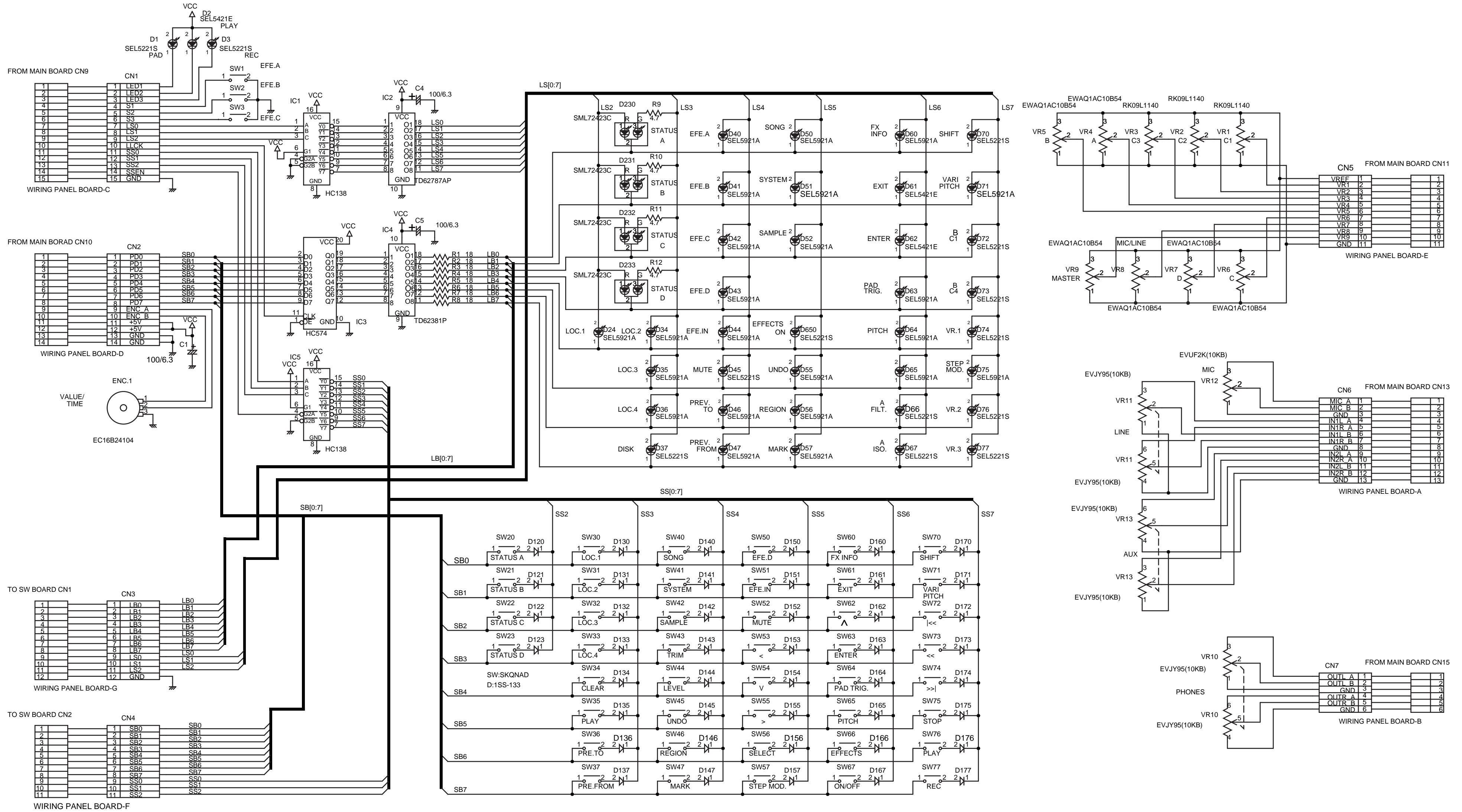


Z

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 29 30 31 32 33 34 35 36 37 38 39 40 41 42

PANEL BOARD ASSY (70909012)

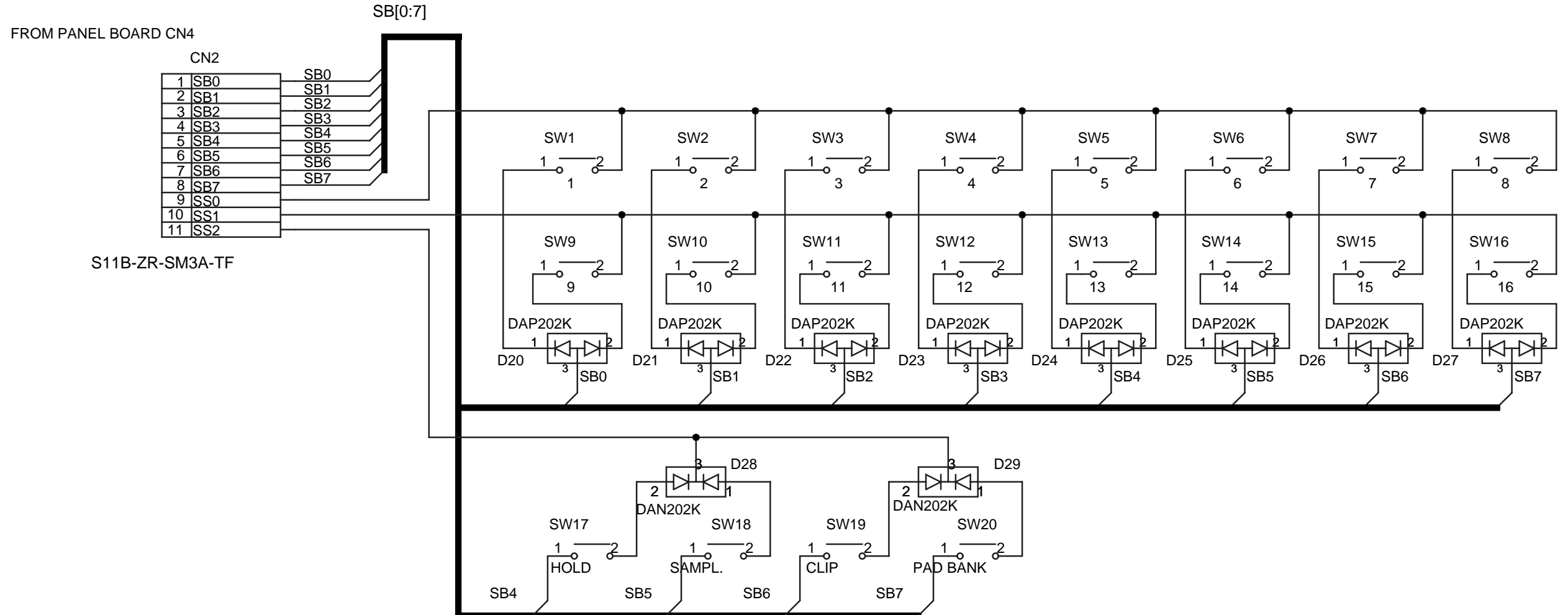
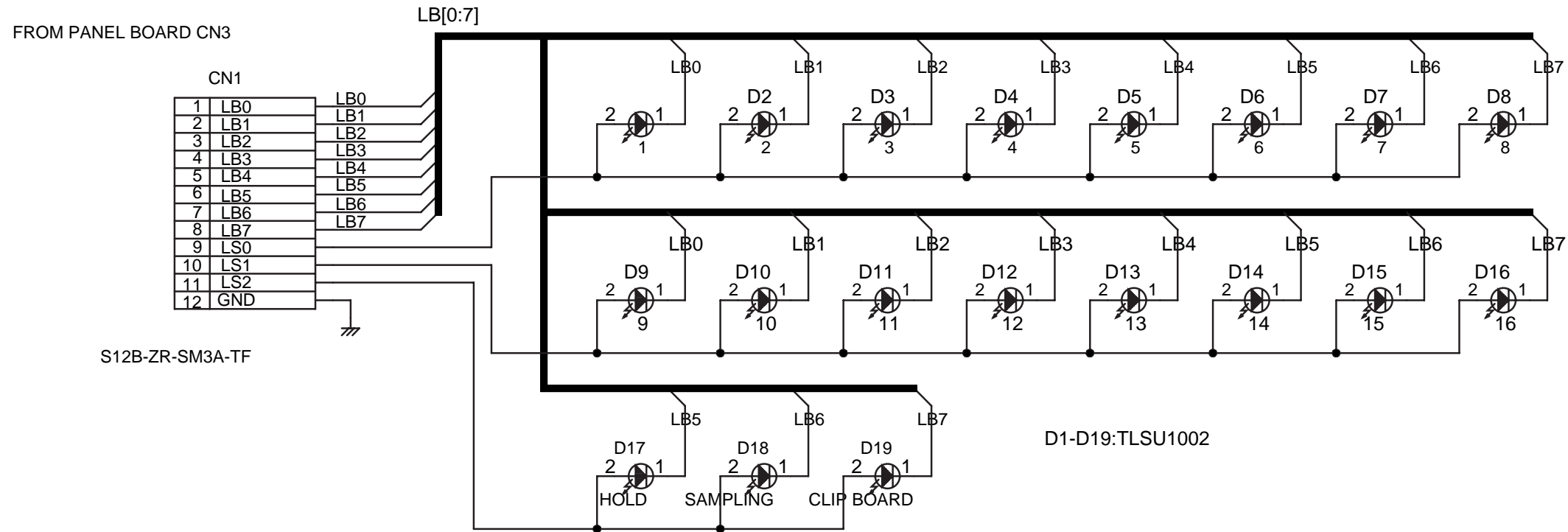
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
Q
R
S
T
U
V
W
X
Y
Z



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)

B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
Q
R
S
T
U

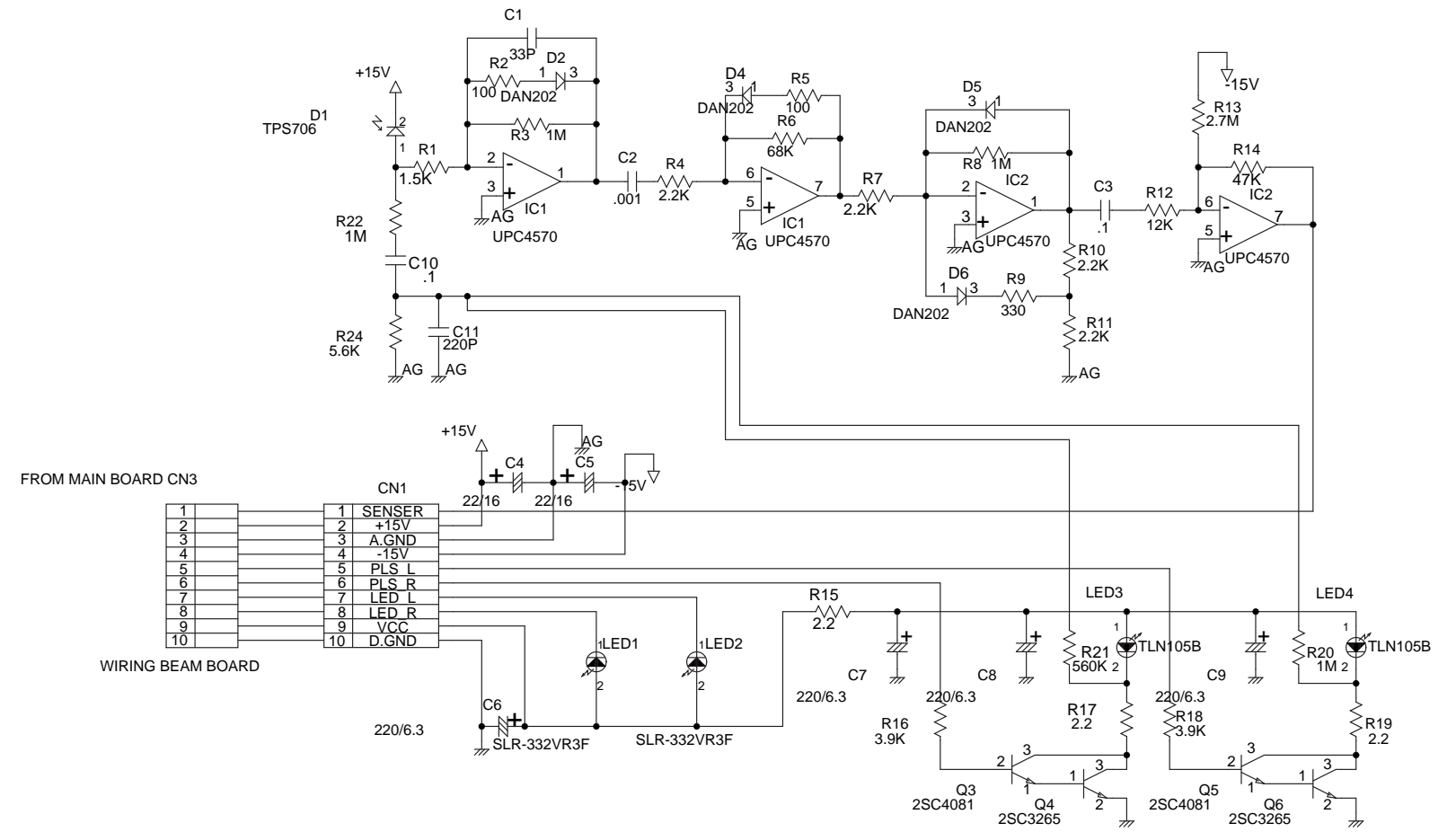
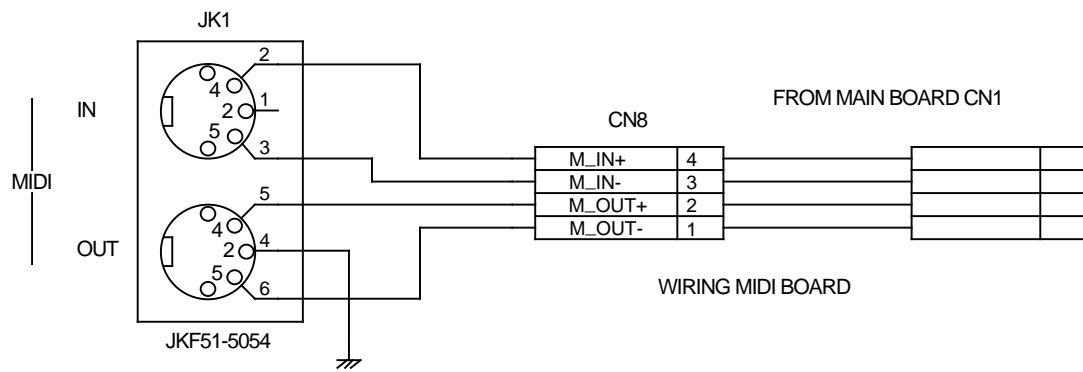


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28

A MIDI BOARD ASSY (71016034)

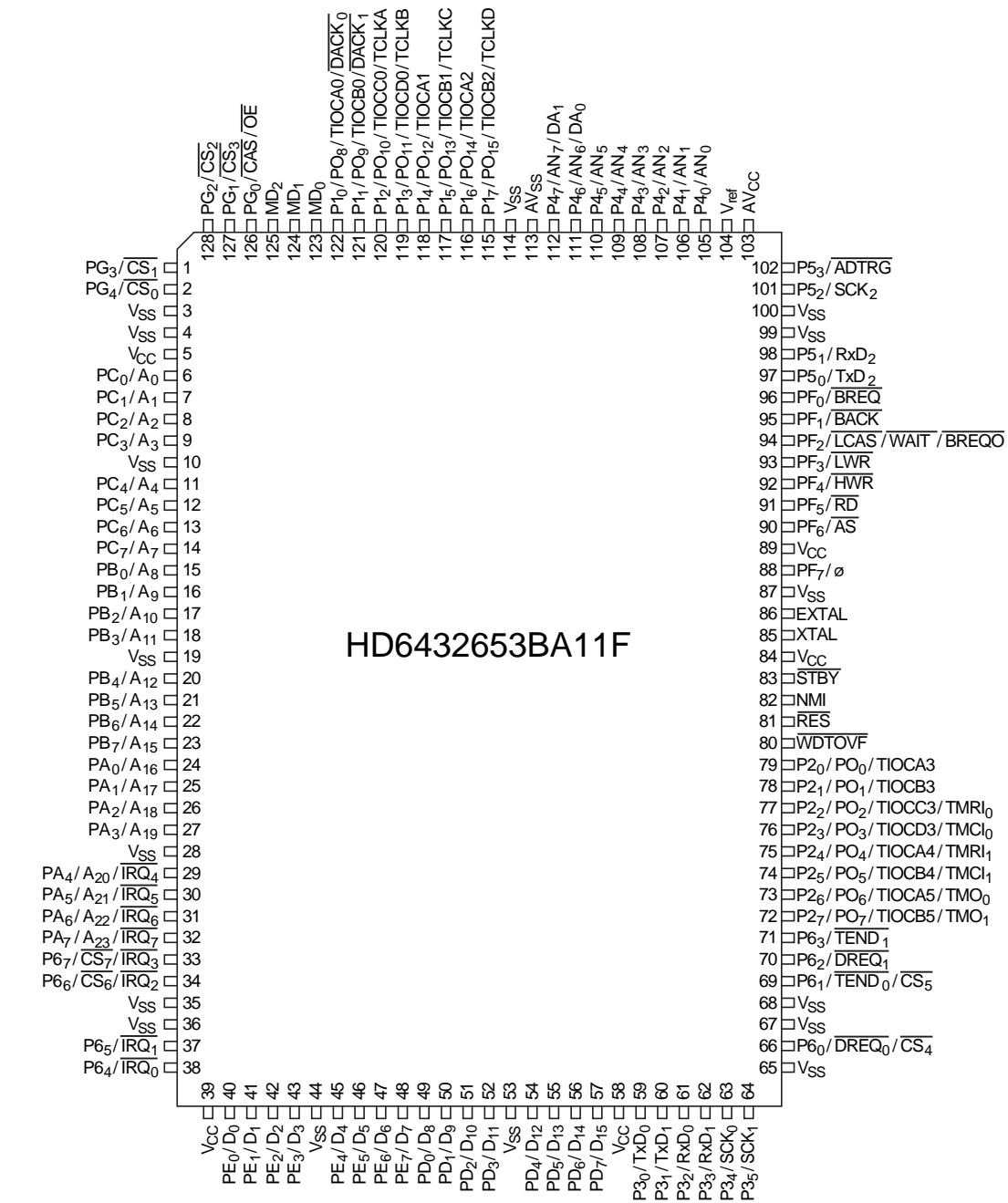
BEAM BOARD ASSY (70909489)

B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
Q
R
S
T
U

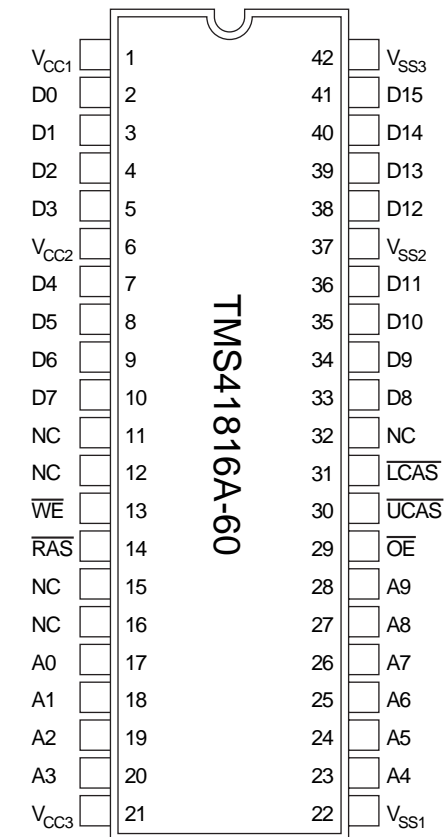


IC DATA

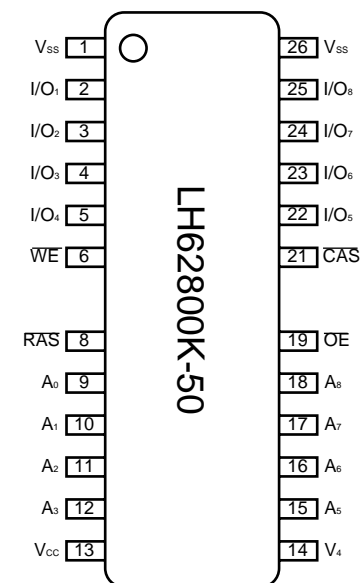
CPU
HD6432653BA11F (01340201)
IC7 on MB



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

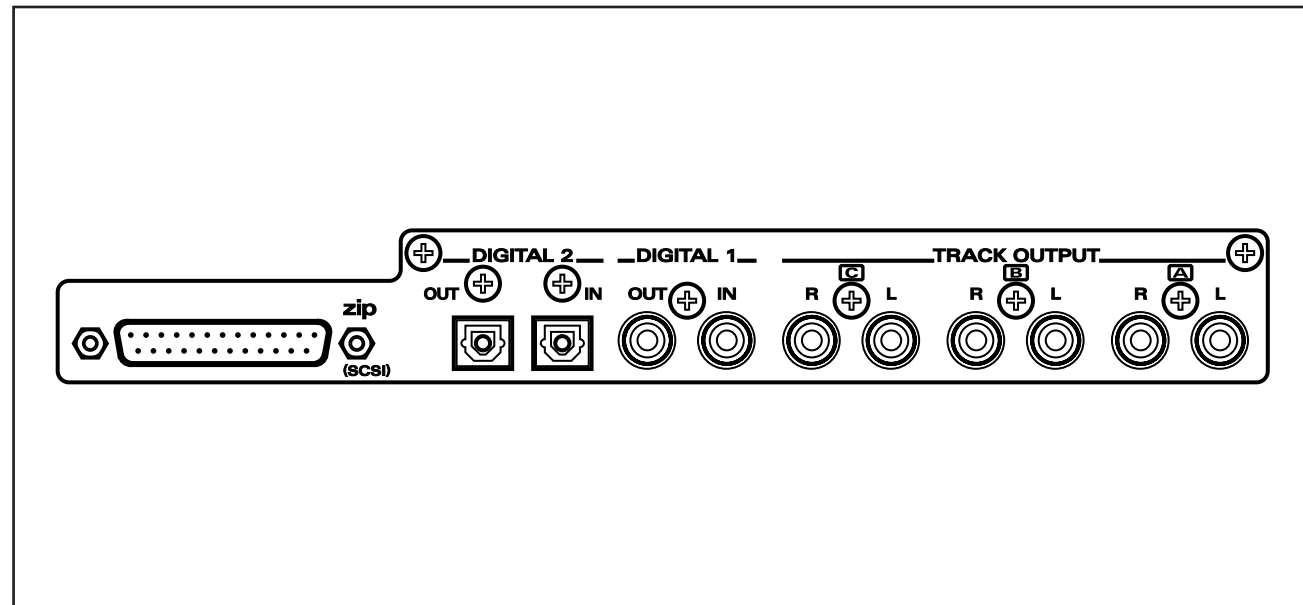


4M DRAM
LH62800K-50 (01347756)
IC12 on MB



SP808-OP1

MULTI I/O EXPANSION BOARD FOR SP-808



SPECIFICATIONS

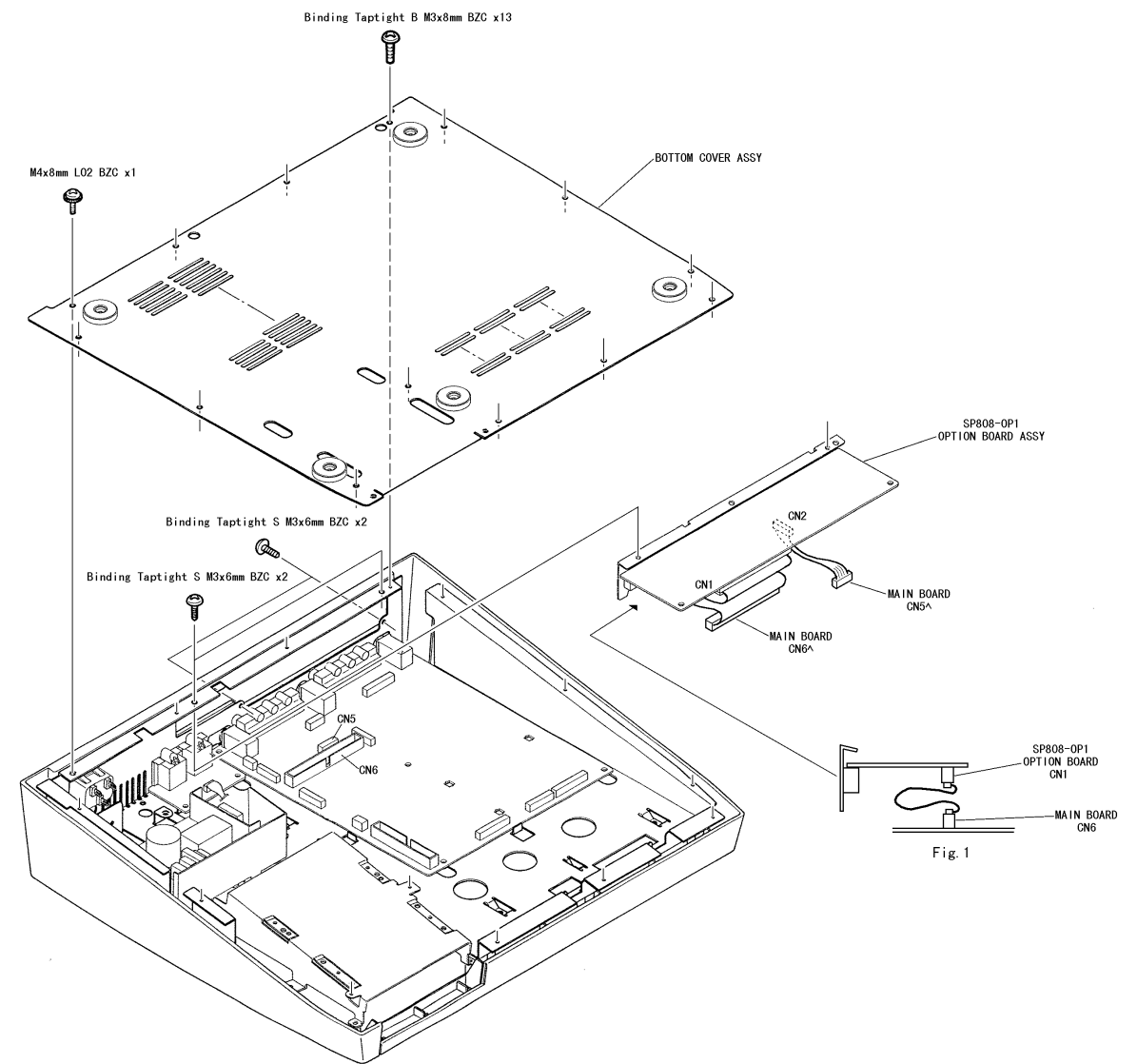
SP808-OP1

● 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 Δ 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

#	Part Number	Description	Model Number
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)
#	01452601	WIRING OPTION-B	Between CN2 to MB(CN5)

TRANSFORMER

12449615	PT-10244-615	PULSE TRANS	T1
----------	--------------	-------------	----

CHASSIS

#	01457634	EXP COVER	
---	----------	-----------	--

MISCELLANEOUS

#	01561623	UC-300287 L=10	EMI GASKET
---	----------	----------------	------------

PACKING

#	01456334	PACKING CASE	
---	----------	--------------	--

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 CIRCUIT BOARD

B SP808-OP1 OPTION BOARD ASSY (70909501)

C

D

E

F

G

H

I

J

K

L

M

N

O

P

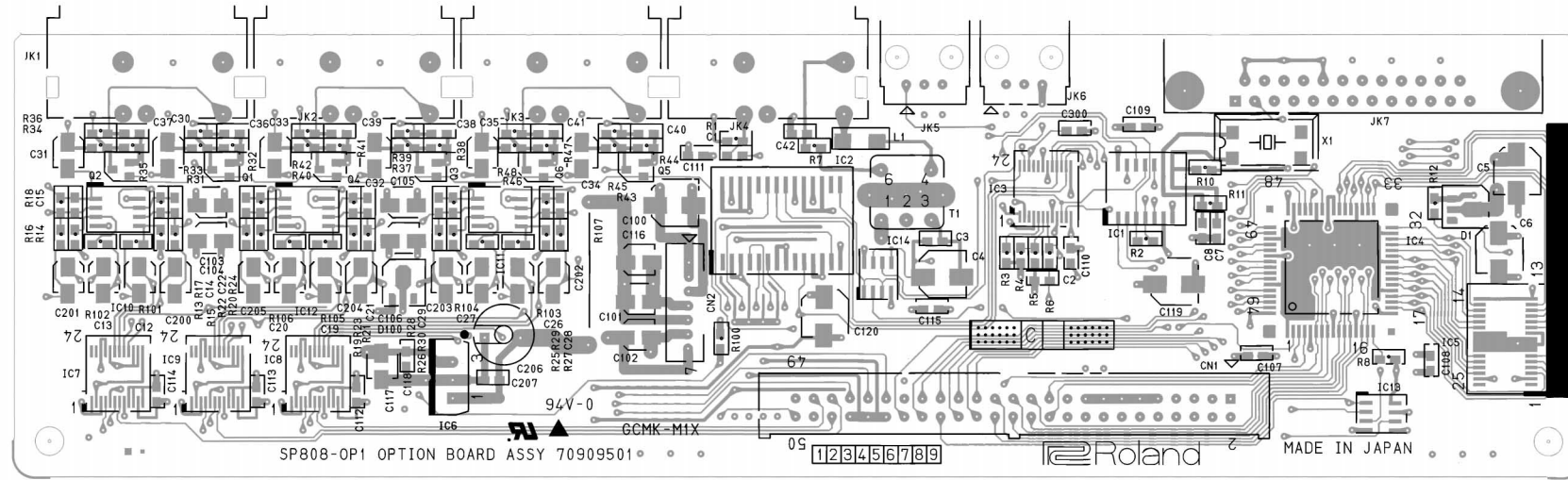
Q

R

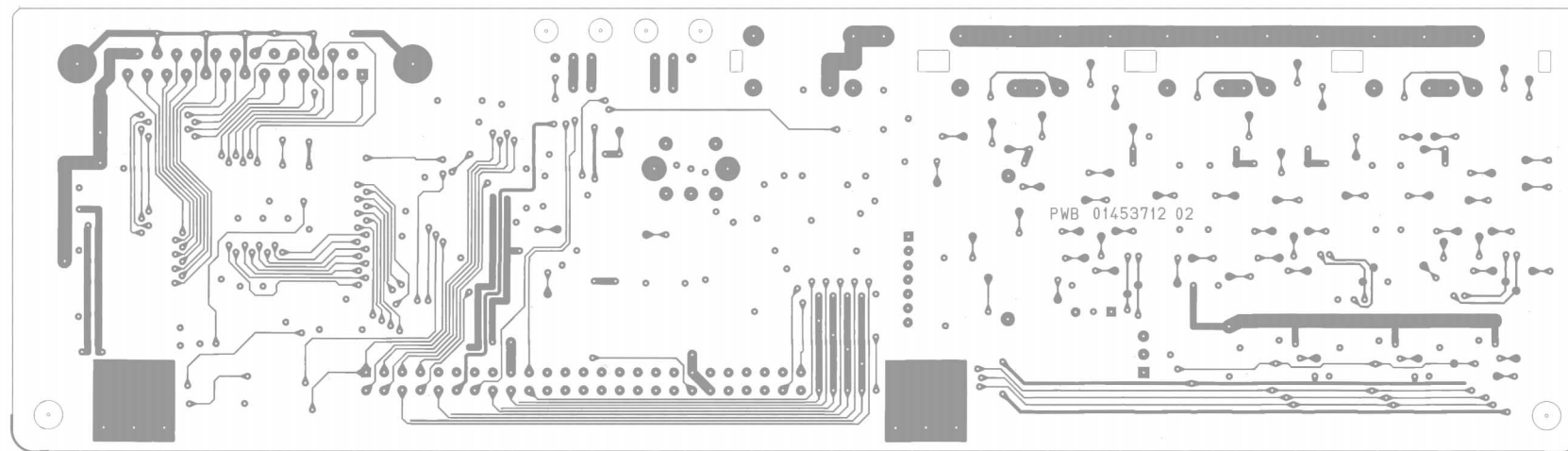
S

T

U



View from component side.



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 CIRCUIT DIAGRAM

B SP808-OP1 OPTION BOARD ASSY (70909501)

C
D
E
F
G
H
I
J
K
L
M
N
O
P
Q
R
S
T
U

