

DR-202

Dr.Groove

SERVICE NOTES

First Edition

Issued by RJA

SPECIFICATIONS

DR-202 : Dr.Groove

●Maximum Polyphony

24 Voices

●Number of Tones

256

●Number of Patterns

Preset Patterns : 400

User Patterns : 100

●Number of Songs

20 (1 Demo Song)

●Resolution

96 Ticks / Quarter Note

●Tempo

Quarter Note = 40.0 - 250.0

●Display

LCD (16 Characters x 2 Lines)

●Data Entry Methods

Real-time recording

Step recording

Step Editing

●Number of Pads

13

●Control Knobs

Value

Volume

Low

Instrument Select

Realtime Modify: Cutoff

Resonance

Decay

Effects:

Reverb/Delay

Flanger

●Synchronization

MIDI

●Connectors

Phones Jack (Stereo miniature phone type)

Line Out Jacks (L, R)

MIDI Connector (IN, OUT)

Foot Switch Jack

DC In Jack (DC9V)

●Power Supply

DC9V: Dry Batteries (LR6(AA) type) x6

PSA Adaptor (BOSS PSA-Series: Optional)

●Current Draw

200mA

※Expected battery life under continuous use (These figures will vary depending on the actual conditions of use.)

Alkaline : 8 hours

Carbon : 4 hours

●Dimensions

258.00 (W) X 221.20 (D) X 85.26 (H) mm

●Weights

1100g (including batteries)

●Accessories

Owner's Manual (#71124823)

Dry Batteries (LR6(AA)type)x6 (#*****)

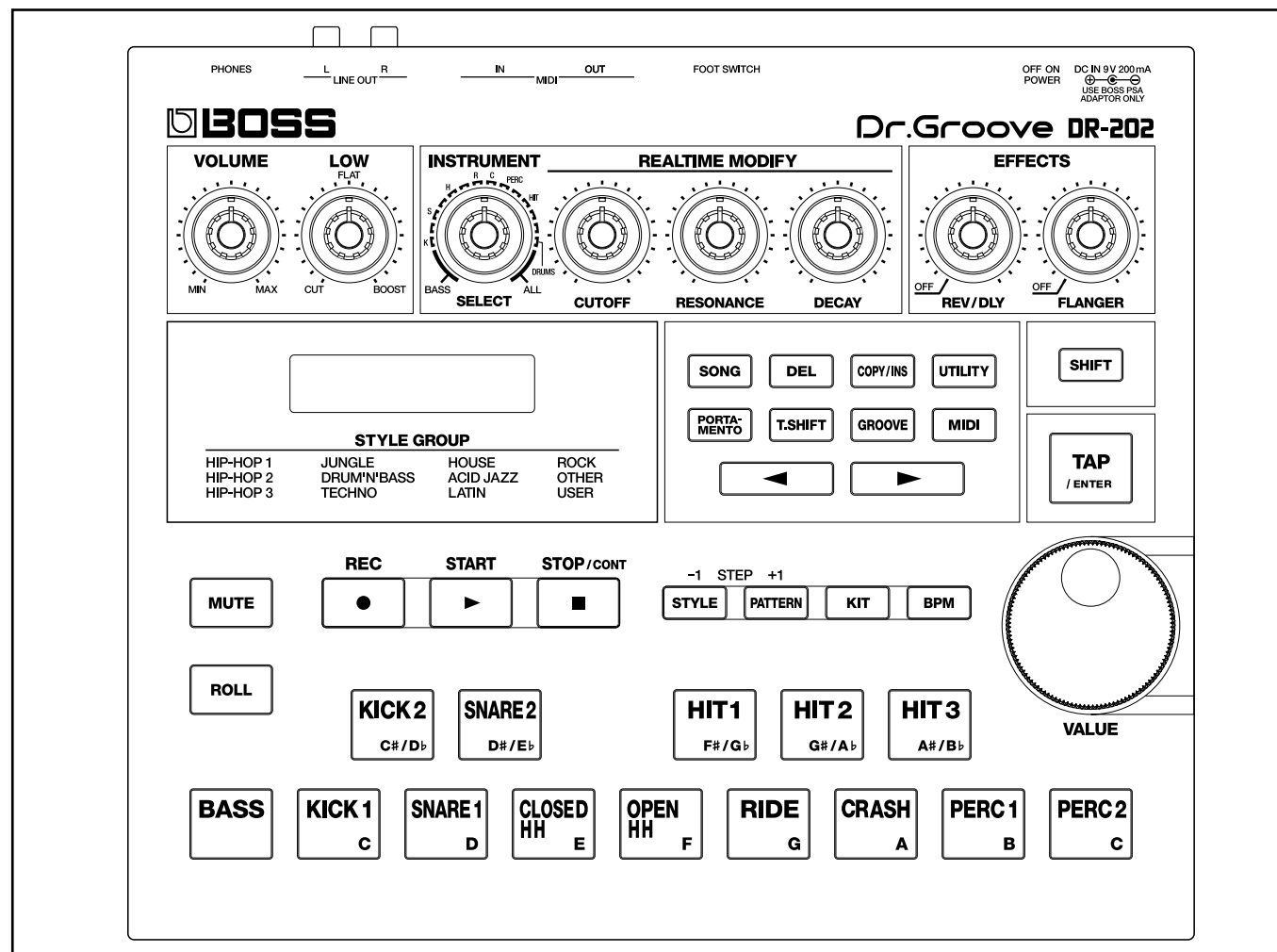
●Options

AC Adaptor PSA-Series, Foot Switch FS-5U

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

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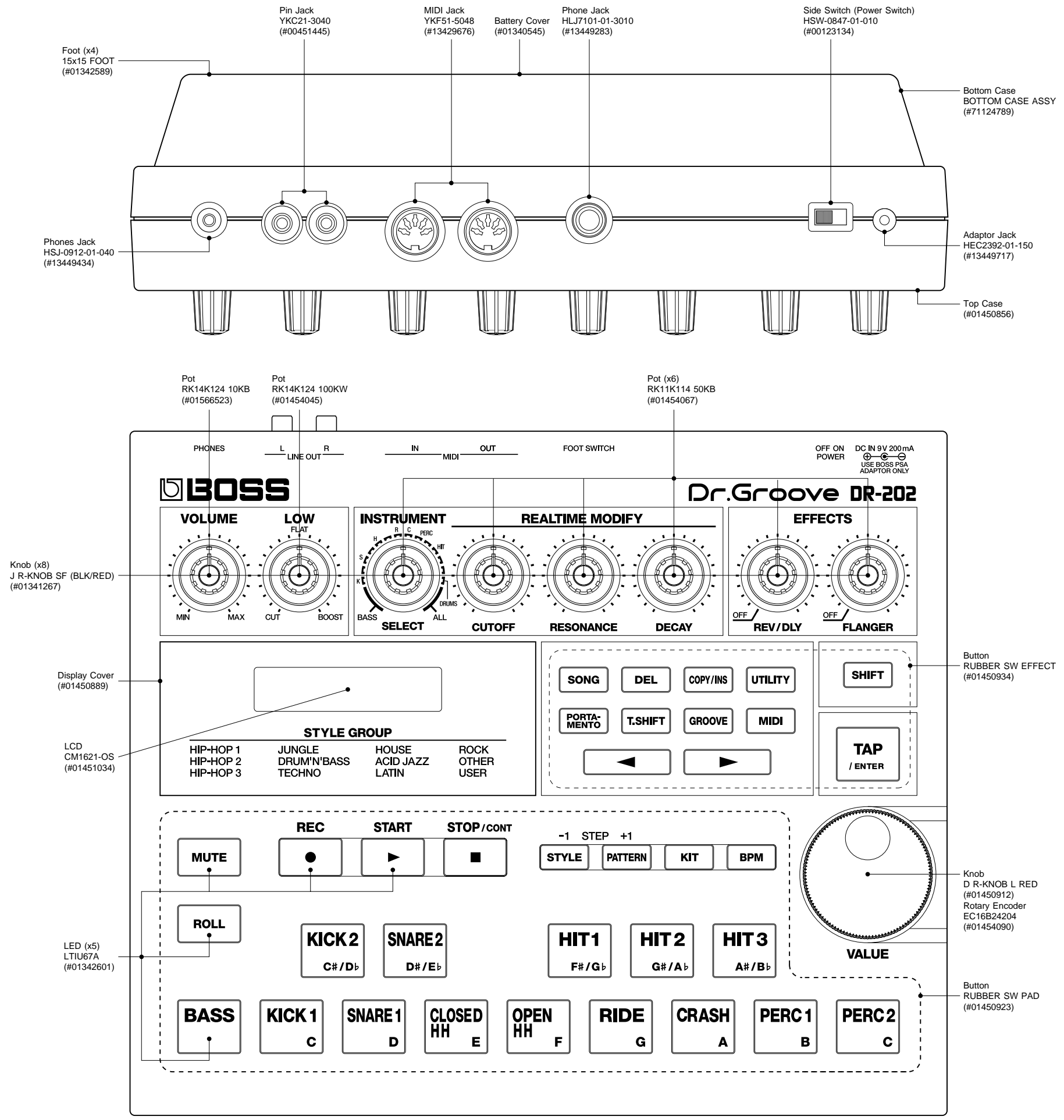
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LOCATION OF CONTROLS



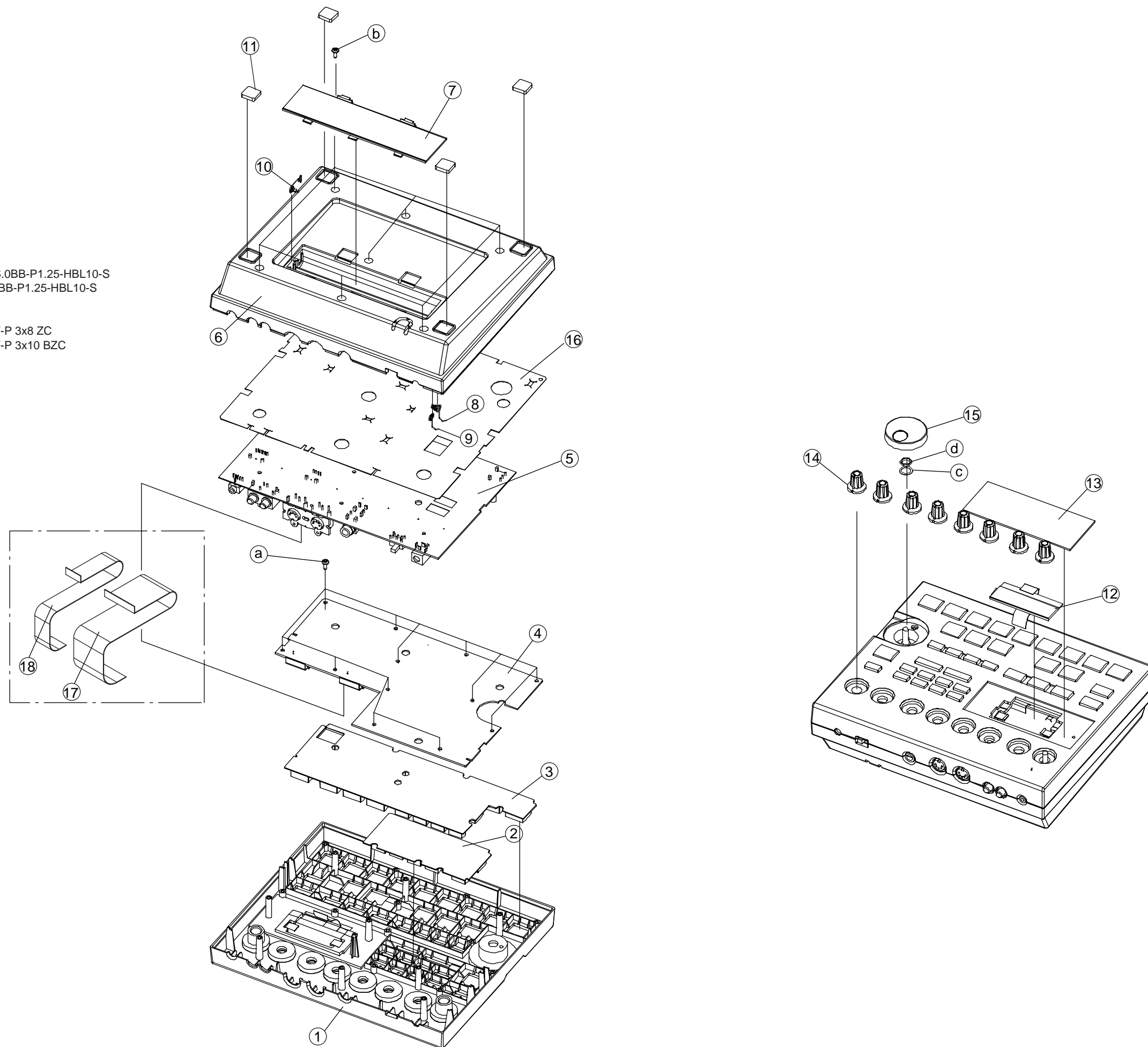
EXPLODED VIEW

[PARTS]

No.	PART No.	PART NAME
①	01450856	TOP CASE
②	01450934	RUBBER SW EFFECT
③	01450923	RUBBER SW PAD
④	71010823	SW BOARD ASSY
⑤	71010812	MAIN BOARD ASSY
⑥	71124789	BOTTOM CASE ASSY
⑦	01340545	BATTERY COVER
⑧	01450901	BATTERY TERMINAL (-)
⑨	01450890	BATTERY TERMINAL (+)
⑩	01562290	BATTERY TERMINAL (+/-)
⑪	01342589	15x15 FOOT
⑫	01451034	LCD UNIT CM1621-OS
⑬	01450889	DISPLAY COVER
⑭	01341267	J R-KNOB SF(BLK/RED)
⑮	01450912	D R-KNOB L RED
⑯	01562356	SHIELD SHEET
⑰	01561489	FUJI CARD(16P) 16x160-A6.0BB-P1.25-HBL10-S
⑱	01561490	FUJI CARD(8P) 8x160-A6.0BB-P1.25-HBL10-S

[SCREW]

Ⓐ	40011278	BINDING HEAD TAP TIGHT-P 3x8 ZC
Ⓑ	40011323	BINDING HEAD TAP TIGHT-P 3x10 BZC
Ⓒ	*****	M9 WASHER
Ⓓ	*****	M9 NUT



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

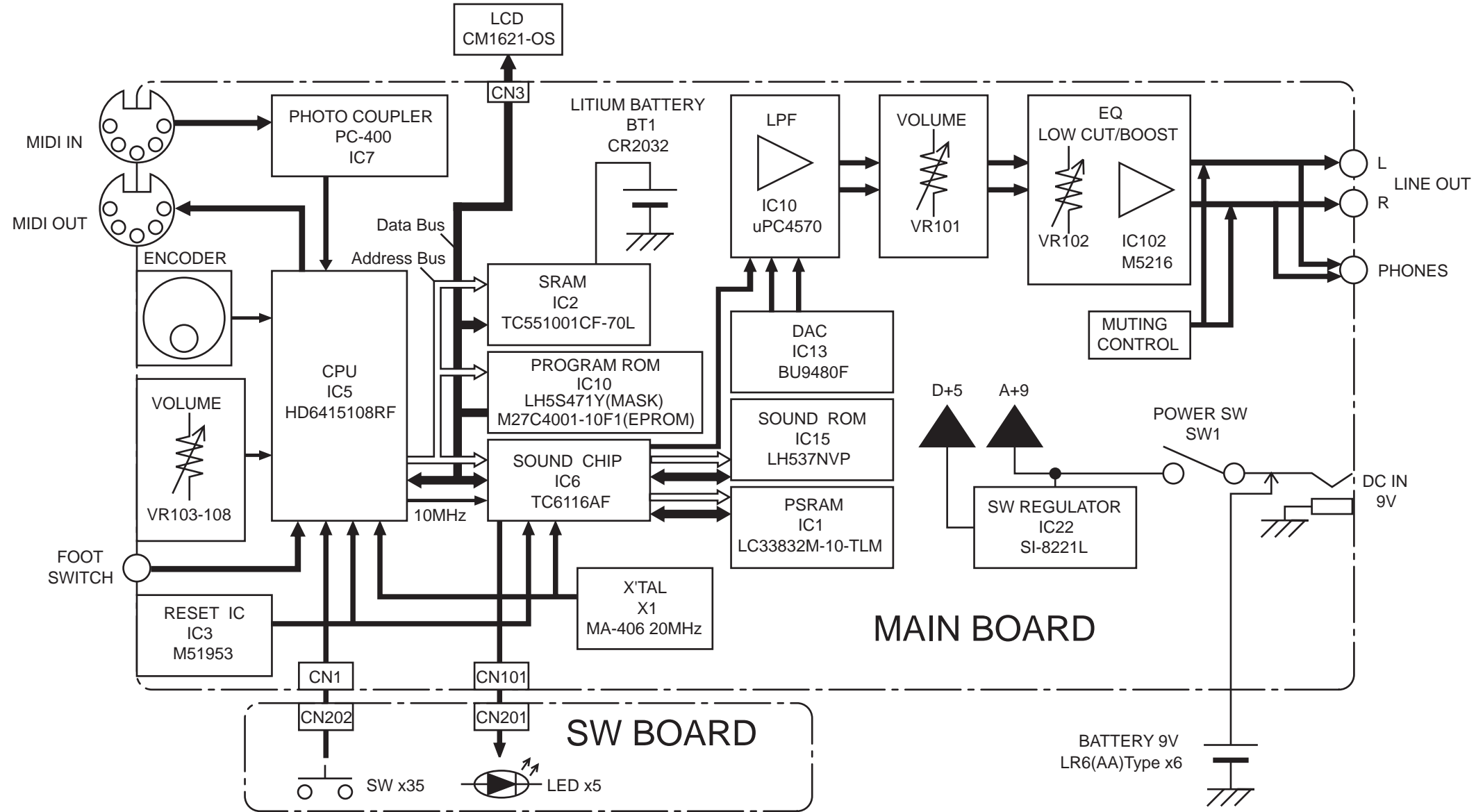
R

S

T

U

DR-202 Block Diagram



PARTS LIST

<p>SAFETY PRECAUTIONS: The parts marked Δ have safety-related characteristics. Use only listed parts for replacement.</p>	<p style="text-align: center;">CONSIDERATIONS ON PARTS ORDERING</p> <p><i>When ordering any parts listed in the parts list, please specify the following items in the order sheet.</i></p> <table border="1"> <thead> <tr> <th>QTY</th> <th>PART NUMBER</th> <th>DESCRIPTION</th> <th>MODEL NUMBER</th> </tr> </thead> <tbody> <tr> <td>Ex. 10</td> <td>22575241</td> <td>Sharp Key</td> <td>C-20/50</td> </tr> <tr> <td>15</td> <td>2247017300</td> <td>Knob (orange)</td> <td>DAC-15D</td> </tr> </tbody> </table> <p><i>Failure to completely fill the above items with correct number and description will result in delayed or even undelivered replacement.</i></p>	QTY	PART NUMBER	DESCRIPTION	MODEL NUMBER	Ex. 10	22575241	Sharp Key	C-20/50	15	2247017300	Knob (orange)	DAC-15D
QTY	PART NUMBER	DESCRIPTION	MODEL NUMBER										
Ex. 10	22575241	Sharp Key	C-20/50										
15	2247017300	Knob (orange)	DAC-15D										

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

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

CASING			
#	01450856	TOP CASE	
#	71124789	BOTTOM CASE ASSY	
NOTE: Replacement BOTTOM CASE ASSY includes the following parts.			
#	*****	BOTTOM CASE	
#	01450890	BATTERY TERMINAL (+)	for ALKALINE BATTERY
#	01450901	BATTERY TERMINAL (-)	for ALKALINE BATTERY
#	01562290	BATTERY TERMINAL (+/-)	for ALKALINE BATTERY
#	01340545	BATTERY COVER	
#	01450889	DISPLAY COVER	
#	01342589	15x15 FOOT	
KNOB, BUTTOM			
	01341267	J R-KNOB SF(BLK/RED)	VOLUME.LOW.INSTRUMENT SELECT.CUTOFF. RESONANCE.DECAY.REV/DLY.FLANGER
#	01450912	D R-KNOB L RED	VALUE
#	01450923	RUBBER SW PAD	MUTE.ROLL.BASS.REC.START.STOP/CONT.STYLE. PATTERN.KIT.BPM.KICK2.SNARE2.HIT1.HIT2.HIT3. KICK1.SNARE1.CLOSE.H.OPEN.H.RIDE.CRASH.PERC1.PERC2 SONG.DEL.COPY/INS.UTILITY.PORTAMENT.T/SHIFT. GROOVE.MIDI.<.>.SHIFT.TAP/ENTER
#	01450934	RUBBER SW EFFECT	
SWITCH			
	00123134	HSW-0847-01-010	POWER SWITCH SW1 on MB
JACK, SOKET			
	13449717	HEC2392-01-150	AC ADAPTOR JACK JK2 on MB
	13429676	YKF51-5048	MIDI JACK JK1 on MB
	00451445	YKC21-3040	PIN JACK JK101 on MB
	13449434	HSJ-0912-01-040	MINI STEREO JACK JK102 on MB
	13449283	HLJ7101-01-3010	PHONE JACK JK103 on MB
DISPLAY UNIT			
#	01451034	CM1621-OS	LCD UNIT
PCB ASSY			
#	71010812	MAIN BOARD ASSY	
#	71010823	SW BOARD ASSY	
IC			
#	15199776	HD6415108RF10	CPU IC5 on MB
#	01672178	LH5S471Y (Ver.1.00)	MASK ROM (PROGRAMMED) IC10 on MB
#	00781745	M27C4001-10F1	EPROM (BLANK) IC10 on MB
#	15239229	TC6116AF(GP-4)	CUSTOM IC (SOUND ROM) IC6 on MB
#	01561089	LH537NVP	MASK ROM (WAVE ROM) IC15 on MB
#	01122412	TC551001CF-70L	SRAM IC2 on MB
#	00126867	LC33832M-10-TLM	PSRAM IC1 on MB
#	01340789	BU9480F	D/A CONVERTER IC13 on MB
#	00232645	TC7W14F	CMOS IC27 on MB
#	15259887	TC7SU04F	CMOS IC4 on MB
#	15259883	TC7S00F	CMOS IC11 on MB
#	15249104	TC7S04F	CMOS IC20 on MB
#	15259885	TC7S32F	CMOS IC21 on MB
#	15249121	TC7W04F	CMOS IC8.IC26 on MB
#	15249112	TC7W32F	CMOS IC25 on MB
#	00458034	TC75S51F	CMOS OP AMP IC24 on MB
#	15289154	UPC4072G2-E1	FET OP AMP IC23 on MB
#	15289109	M5216FP-600D	BIPOLAR OP AMP IC102 on MB
#	15289105	UPC4570G2-T2	BIPOLAR OP AMP IC101 on MB
#	00122978	SI-8221L	SWITCH REGULATOR IC IC22 on MB
#	15289123	M51953AFP-600C	RESET IC IC3 on MB
#	15289124	PC-400	PHOTO COUPLER IC7 on MB
TRANSISTOR			
	15309101	2SA1037KR	Q105 on MB
	15319108	2SC-3324GR	Q101.Q102 on MB
	15329503	DTA124EK	Q1 on MB
	15329514	DTC343TK	Q106.Q107 on MB
	15329521	RN1307	Q108-Q112 on MB

DIODE			
	15339412	U1BC44	D4.D5 on MB
	15339119T0	1SS352	D2 on MB
	15339121	1SS301	DA1 on MB.DA201-DA216 on SB
	15339120T0	1SS302	DA2.DA3 on MB
	01342601	LT1U67A	D233-D237 on SB
RESISTOR			
	01344723	MCR25 JZH J 220	22 OHM 1/4W
	15399965	RCE9A103JAG7A	RESISTOR ARRAY
	15399983	RCE9A473JA	RESISTOR ARRAY
#	01126201	EXBV8V332JV	RESISTOR ARRAY
#	00126101	EXBV8V221JV	RESISTOR ARRAY
#	00126112	EXBV8V101JV	RESISTOR ARRAY
CAPACITOR			
#	01564123	10MV220HC	CHEMICAL C31 on MB
#	01564145	16MV10HC	CHEMICAL C26.C50.C101.C106.C107.C112.C113.C118.C122.C132. C134.C139.C140 on MB
#	01564156	16MV47HC	CHEMICAL C102.C108.C128.C130 on MB
#	00341901	16MV470HC	CHEMICAL C30.C32 on MB
#	01564167	50MV1HC	CHEMICAL C23 on MB
#	13619809N0	TPDN1V2R2K8S	TANTALUM C115.C117 on MB (S/No. Z**7300-UP)
#	01564189	6.3MV100HC	CHEMICAL C7.C13.C22.C121 on MB
#	01564190	6.3MV47HC	CHEMICAL C9 on MB
POTENTIOMETER			
#	01566523	RK14K124 10KB	VR101 on MB
#	01454045	RK14K124 100KW	VR102 on MB
#	01454067	RK11K114 50KB	VR103-VR108 on MB
ENCODER			
#	01454090	EC16B24204(L=25)	EN1 on MB
FILTER			
	00891689	SBT-0260TF	EMI FILTER
	12449467	ACB3216M-600-T	BEADS INDUCTOR
			L3-L6.L101-L105 on MB
			L1.L2 on MB
CRYSTAL,RESONATOR			
	00894023	MA-406 20.000MHz	X'TAL X1 on MB
CONNECTOR			
	13379152	IL-FPC-16ST-N	CN1 on MB
	13379149	IL-FPC-8ST-N	CN101 on MB
	13379157	IL-FPC-16SL-N	CN202 on SB
#	01454101	IL-FPC-8SL-N	CN201 on SB
	00904612	52806-1410	for LCD CN3 on MB
WIRING,CABLE			
#	01561489	16x160-A6.0BB-P1.25-HBL10-S	FUJI CARD(16P)
#	01561490	8x160-A6.0BB-P1.25-HBL10-S	FUJI CARD(8P)
BATTERY			
Δ	12569249	CR2032 220MAH/3V	LITHIUM BATTERY BT1 on MB
SCREW			
	40011278	BINDING HEAD TAP TIGHT-P 3x8 ZC	
	40011323	BINDING HEAD TAP TIGHT-P 3x10 BZC	
	*****	M9 NUT	for ROTARY ENCODER
	*****	M9 WASHER	for ROTARY ENCODER
MISCELLANEOUS			
#	01562356	SHIELD SHEET	
#	01450890	BATTERY TERMINAL (+)	for ALKALINE BATTERY
#	01450901	BATTERY TERMINAL (-)	for ALKALINE BATTERY
#	01562290	BATTERY TERMINAL (+/-)	for ALKALINE BATTERY
	12189815	BH-32	BATTERY TERMINAL
	13429553	100-032-000	IC SOCKET for EPROM (IC10) on MB
PACKING			
#	01562345	PACKING CASE	
#	01564756	PAD L	for PACKING
#	01670345	PAD R	for PACKING
ACCESSORIES			
#	71125067	OWNER'S MANUAL SET	JAPANESE
#	71124823	OWNER'S MANUAL SET	ENGLISH
	40232389		(JAPAN ONLY)
	40121767		(JAPAN ONLY)
Δ	*****	LR6G/2ST	ALKALINE BATTERY
OPTIONS			
Δ	*****	AC Adaptor PSA-100G	100V
Δ	*****	AC Adaptor PSA-120	120V
Δ	*****	AC Adaptor PSA-230G	230V
Δ	*****	AC Adaptor PSA-240	240VA

TEST MODE/IDENTIFYING VERSION NUMBER

●Preparing for TEST MODE

Equipment: Oscilloscope, Noise Meter, Stabilized PowerSupply, Amplifier, Speaker, Headphone, FS-5U

*Following procedures are not necessary when you just want to identify the version number. Just plug in the PSA Adaptor to the adaptor jack of the unit.

1. Connect Amplifier, Speaker, Oscilloscope, and Noise Meter to the LINE OUT jacks (L/R) of the unit.
2. Connect the MIDI IN and MIDI OUT jacks with a single MIDI cable.
3. Connect the FS-5U to the FOOT SWITCH jack.
4. Turn the POWER Switch OFF and connect the power supply (+9.0V) to the ADAPTOR jack.

●IDENTIFYING VERSION NUMBER/ENTERING TEST MODE

1. Turn the power ON while holding down [REC] and [START] button.

The version number will be shown on the display as in Fig.1.

If Fig.2 shows up on the display, keep on holding [REC] and [START] button down, and press [ENTER]button.

The FACTORY RESET will then be executed and the display will change to Fig.1.

After a few seconds, the sign on the display will disappear, entering the TEST MODE.

Notice that all the LED's of [MUTE], [ROLL], [BASS], [REC], [START] are lit at this time.

```
+-----+
|DR-202 Dr.Groove|
|Version 1.00    |
+-----+
```

Fig.1

```
+-----+
|System Error !  |
|Push ENTER key  |
+-----+
```

Fig.2

1) LCD CONTRAST CHECK

1. After the Version Number sign disappears, all the dots on the LCD show up.
Notice that the display gradually turns dark.

2) SWITCH CHECK

1. After the LCD display becomes most dark, Fig.3 will appear.
Turn the VOLUME knob to MAX.

```
+-----+
|Push SONG      |
|               |
+-----+
```

Fig.3

2. Press the pads in the following order.

As you press the pad, you will hear a snare drum sound, while the name of the pad to be pressed next will be shown on the display.

Also, make sure that the LED turns off when pressing [MUTE], [ROLL], [BASS], [REC], and [START].

[SONG] → [DEL] → [COPY/INS] → [UTILITY] → [PORTAMENTO] → [T.SHIFT] → [GROOVE] → [MIDI] → [<] → [>]
→ [SHIFT] → [TAP/ENTER] → [MUTE] → [ROLL] → [BASS] → [REC] → [START] → [STOP/CONT] → [STYLE] →
[PATTERN] → [KIT] → [BPM] → [KICK2] → [SNARE2] → [HIT1] → [HIT2] → [HIT3] → [KICK1] → [SNARE1] →
[CLOSED HH] → [OPEN HH] → [RIDE] → [CRASH] → [PERC1] → [PERC2] → [FOOT SW]

✳For [FOOT SW], press FS-5U connected to the unit.

3) VOLUME CHECK

1. When the Switch Check ends normally, Fig.4 appears on the display.

```
+-----+
|VR CHECK      |
|Turn INST SELECT|
+-----+
```

Fig.4

2. Turn the volume knobs from MIN to MAX in the order listed below.

[INSTRUMENT SELECT] → [CUTOFF] → [RESONANCE] → [DECAY] → [REV/DLY] → [FLANGER]

When each knob's value is checked from MIN to MAX, Fig.5 appears on the display, followed by Fig.4 showing which knob to be checked next after a few seconds.

```
+-----+
|VR INST SELECT |
|OK !           |
+-----+
```

Fig.5

✳If the volume pot is at MIN or MAX position before checking, turn it to the center first, then to both MIN and MAX.

It doesn't matter whether you start from MIN or MAX.

4) ENCODER CHECK

1. When the Volume Check ends normally, the upper part of Fig.6 will be shown on the display.

```
+-----+
|Turn VALUE    |
|>>> +01      |
+-----+
```

Fig.6

2. The lower part of Fig.6 will appear by turning the Encoder.

Notice that the direction you turn and the number of clicks match the sign on the display.

The check ends when you turn the dial 5 clicks or more clockwise and both counter-clockwise.

5) SOUND CHECK

1. When the Encoder Check ends normally, Fig.7 appears on the display with a sine wave output.

```
+-----+
|SOUND CHECK   |
|              |
+-----+
```

Fig.7

2. The test mode end.
Turn the power off.

●VOLTAGE DECREASING CHECK

1. Turn the power ON, and set the stabilized power supply's voltage to +5.5V. When Fig.8 appears on the display, it means that the unit is normal.
If not, please check IC23 and the circuit around it.
After you have checked Fig.8 on the display, turn off the unit's power.
Then set the Stabilized power supply's voltage back to +9.0V.

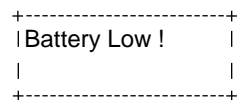


Fig.8

●MUTE AND OUTPUT WAVEFORM CHECK

1. Turn the VOLUME knob to the MAX position.
Turn ON the power while pressing down both [KICK2] and [SNARE2] button. Fig.7 will appear on the display.
2. If any sound over -80 dBm in JIS-A (IHF) mode on noise meter comes out immediately after the power ON, it is No Good.
Please check the circuit around muting.
3. Notice that the volume level gradually increases.
4. Make sure that no wave form appears on the oscilloscope, when the VOLUME knob is at the MIN position.
5. Turn the VOLUME knob to the MAX position, the LOW knob to the FLAT, and see if the proper sine wave (-26.0(±1.5) dBm, 130(±2) Hz) appears in JIS-A (IHF) mode on noise meter and oscilloscope.
6. Turn the VOLUME knob to the MAX position, the LOW knob to the CUT, and see if the proper sine wave (-32.0(±1.5) dBm, 130(±2) Hz) appears in JIS-A (IHF) mode on noise meter and oscilloscope.
7. Turn the VOLUME knob to the MAX position, the LOW knob to the BOOST, and see if the proper sine wave (-20.0(±1.5) dBm, 130(±2) Hz) appears in JIS-A (IHF) mode on noise meter and oscilloscope.
8. Turn OFF the power.

●RESIDUAL NOISE AND PLAYING CHECK

1. Turn the power ON without pressing any pads.
After a few moments, Fig.9 appears on the display.
2. Turn the VOLUME knob to the MIN position, the LOW knob to the FLAT, and measure the residual noise without pressing any pad. The noise level should be under -78.0 dBm for both LINE OUT L and R, measured with noise meter in JIS-A (IHF) mode.

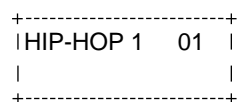


Fig.9

3. PLAYING CHECK

Connect the headphones and press the [START] button, when Fig.9 is on the display.

4. Turn the VOLUME knob to the MAX position. Make sure that the sound from the headphones or the monitor speakers is not distorted. Also make sure that you don't hear any noise from the both output.
5. Lift up the unit to about 10cm height. Drop it for 2 or 3 times add a shock and see if the pattern stops or the note skips will not occur.
6. If the pattern is played correctly, press the [STOP] button and turn the power OFF.

●RESIDUAL NOISE AND PLAYING CHECK

1. Connect the stabilized power supply (+9.0V) to the BATTERY TERMINAL's(+) and (-), then turn the power ON.
2. When you see Fig.9 on the display, turn the power OFF.
This is the end of the test.

ERROR MESSAGE

1. There would be an error when Fig.10-14 appears on the display. Please check the related part and repair.
Be sure to BULK DUMP the data before removing the Lithium Battery or examining the circuit upon repairing.
2. If Fig.10 appears:
-> BULK DUMP the data first, then exchange the Lithium Battery.
If the alert sign still keeps showing up, please check the circuits around BATTERY.

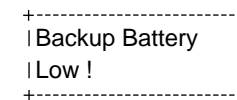


Fig.10

3. If Fig.11 appears:
-> Check whether the MIDI IN and OUT jacks are connected by a single MIDI cable.
If the alert sign still appears, please check the circuits around MIDI.



Fig.11

4. If Fig.12 appears:
-> This sign appears when 2 or more switches are pressed at the same time.
If the sign appears when pressing only one Switch, please check the Diodes in the SW scanning line.

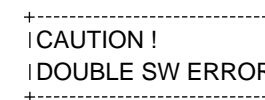


Fig.12

5. If Fig.13 or Fig.14 appears:

-> Please check the circuits around what is shown in the alert sign.

```

+-----+
| CAUTION ! |
| WAVE ROM ERROR |
+-----+

```

Fig.13

```

+-----+
| CAUTION ! |
| SRAM ERROR ! |
+-----+

```

Fig.14

FACTORY PRESET

1. Turn on the power while pressing down [MUTE] and [ROLL] button at the same time.
Keep pressing both [MUTE] and [ROLL] button until the following appears on the display.

```

+-----+
| Factory Reset |
| Mode=All |
+-----+

```

↑
The type of Factory Preset

2. Select the type of Factory Reset by turning the VALUE DIAL.

You can choose from the following 4 types.

- All : Resets all the parameters of this unit to factory
- Song Pattern : Resets Songs and Patterns to factory presets
- Kit : Resets Drum Kits to factory presets setting.
- Utility MIDI : Resets parameters for UTILITY and MIDI

3. Press [TAP/ENTER] button when you have chosen the Reset type.

```

+-----+
| Are You Sure ? |
| Yes No |
+-----+

```

Fig.15

4. Press [TAP/ENTER] button again to execute the Factory Preset. When you wish to quit the Factory Preset, move the cursor to "No" and press [TAP/ENTER] button.

```

+-----+
| DR-202 Dr.GROOVE |
| Please wait |
+-----+

```

5. It will automatically return to the start up display.

DATA SAVE & LOAD

NOTE: Make sure to use Device ID number "17" for each device, when executing Data Save or Data Load.

●DATA SAVE

1. Press [MIDI]button , and the display will change to the MIDI MODE.
* It will not change to the MIDI MODE while playing Song or Pattern.
2. Select MIDI SYSTEM EXCLUSIVE parameter by pressing the RIGHT cursor button.

```

+-----+
| MIDI SYS EXCLUS |
| DEVICE ID=17 |
+-----+

```

3. Select Device ID number by turning the VALUE dial.

●DATA SAVE

1. Connecting DR-202 MIDI OUT socket and sequencer MIDI IN socket through the MIDI cable.

NOTE:Use a sequencer having exclusive information receive and record capability.

2. Press [MIDI] button , and the display will change to the MIDI MODE.

* It will not change to the MIDI MODE while playing Song or Pattern.

```

+-----+
| MIDI CHANNEL |
| DRUM=10 |
+-----+

```

3. Select MIDI BULK DUMP parameter by pressing the RIGHT cursor button.

4. Select the type of data transmission by turning the VALUE dial.

```

+-----+
| MIDI BULK DUMP |
| TX All |
+-----+

```

5. Set the sequencer ready to record and start the recording.

Press [TAP/ENTER] button to start transmission, and the following message appears on the display.

```

+-----+
| MIDI BULK DUMP |
| TX All... |
+-----+

```

6. The transmission ends after awhile, and the following message appears on the display and soon return to the MIDI BULK DUMP parameter screen.

Stop the sequencer recording when the following message appears on the display.

```

+-----+
| MIDI BULK DUMP |
| TX FINISH |
+-----+

```

●DATA LOAD

1. Connecting DR-202 MIDI IN socket and sequencer MIDI OUT socket through the MIDI cable.

2. Set the sequencer ready to record and start the playing.

NOTE: You cannot DATA LOAD while playing Song or Pattern, or while MIDI DATA SAVE is in action.

3. The reception ends, and the following message appears on the display.

```

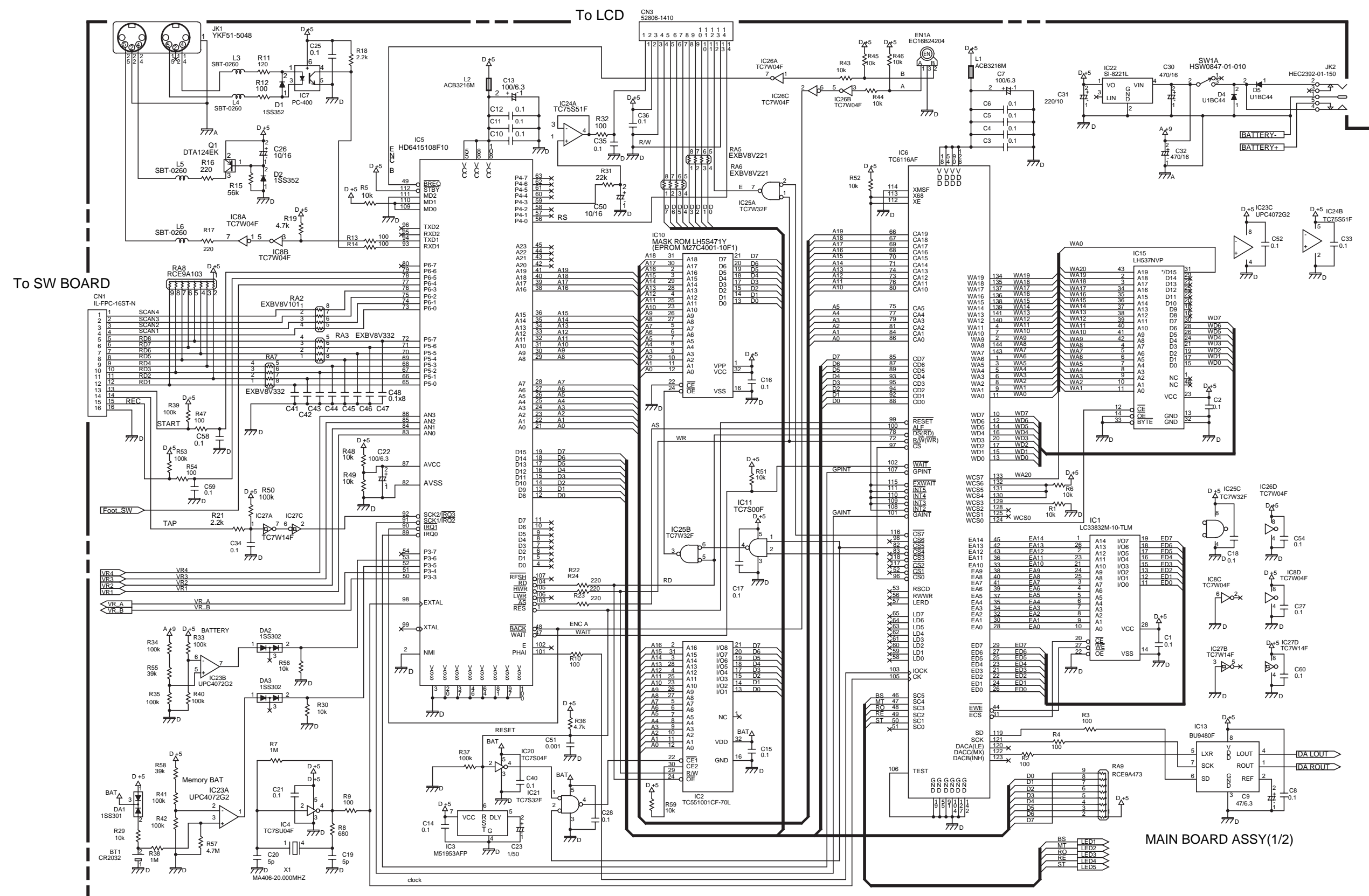
+-----+
| MIDI BULK LOAD |
| FINISH |
+-----+

```


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 MAIN BOARD ASSY (1/2)

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



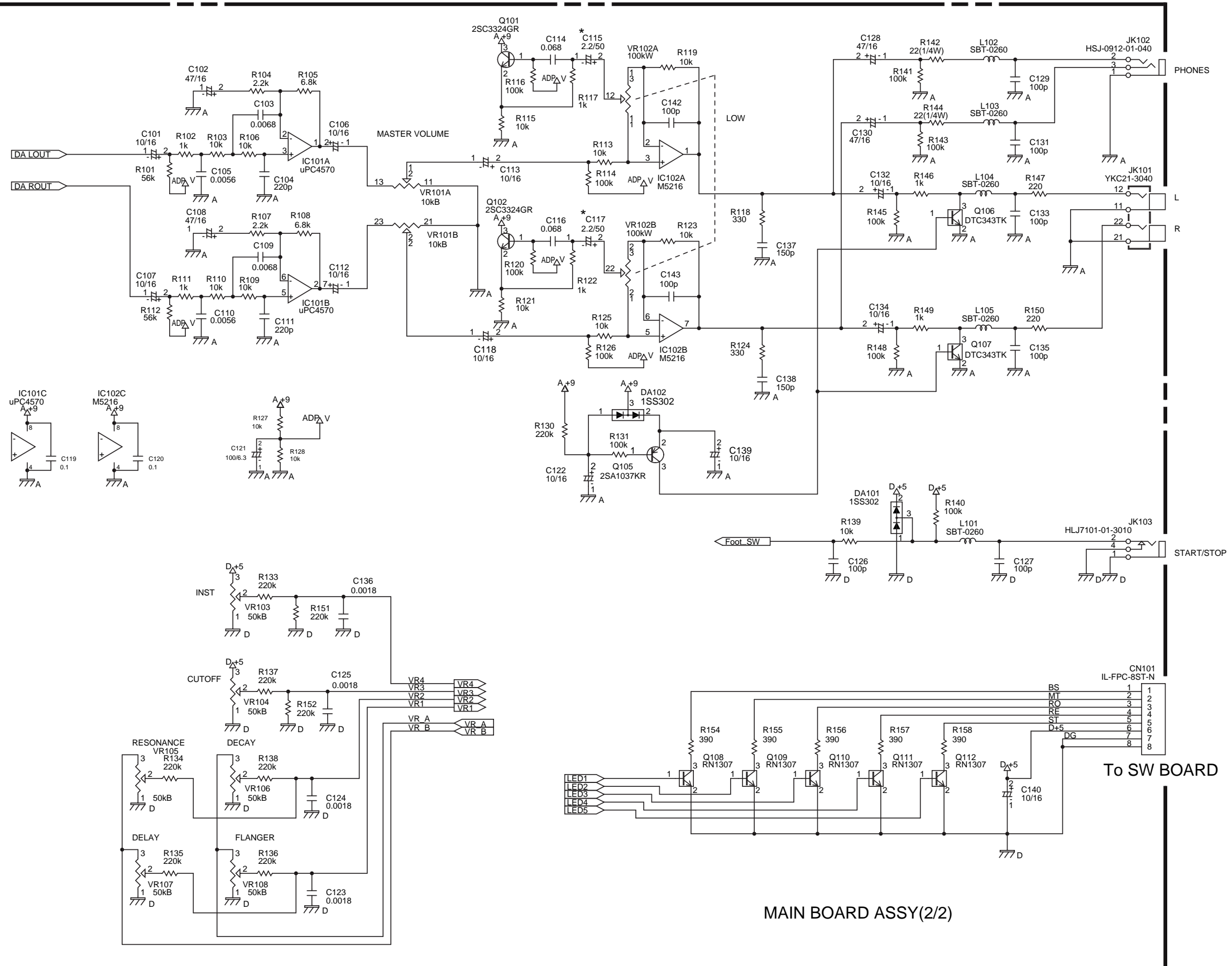
MAIN BOARD ASSY (1/2)

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 (2/2)

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

*C115, C117
TANTALUM CAPACITOR 2.2/35
(S/No. Z**7300-UP)



MAIN BOARD ASSY(2/2)

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 (71010812)

C

D

E

F

G

H

I

J

K

L

M

N

O

P

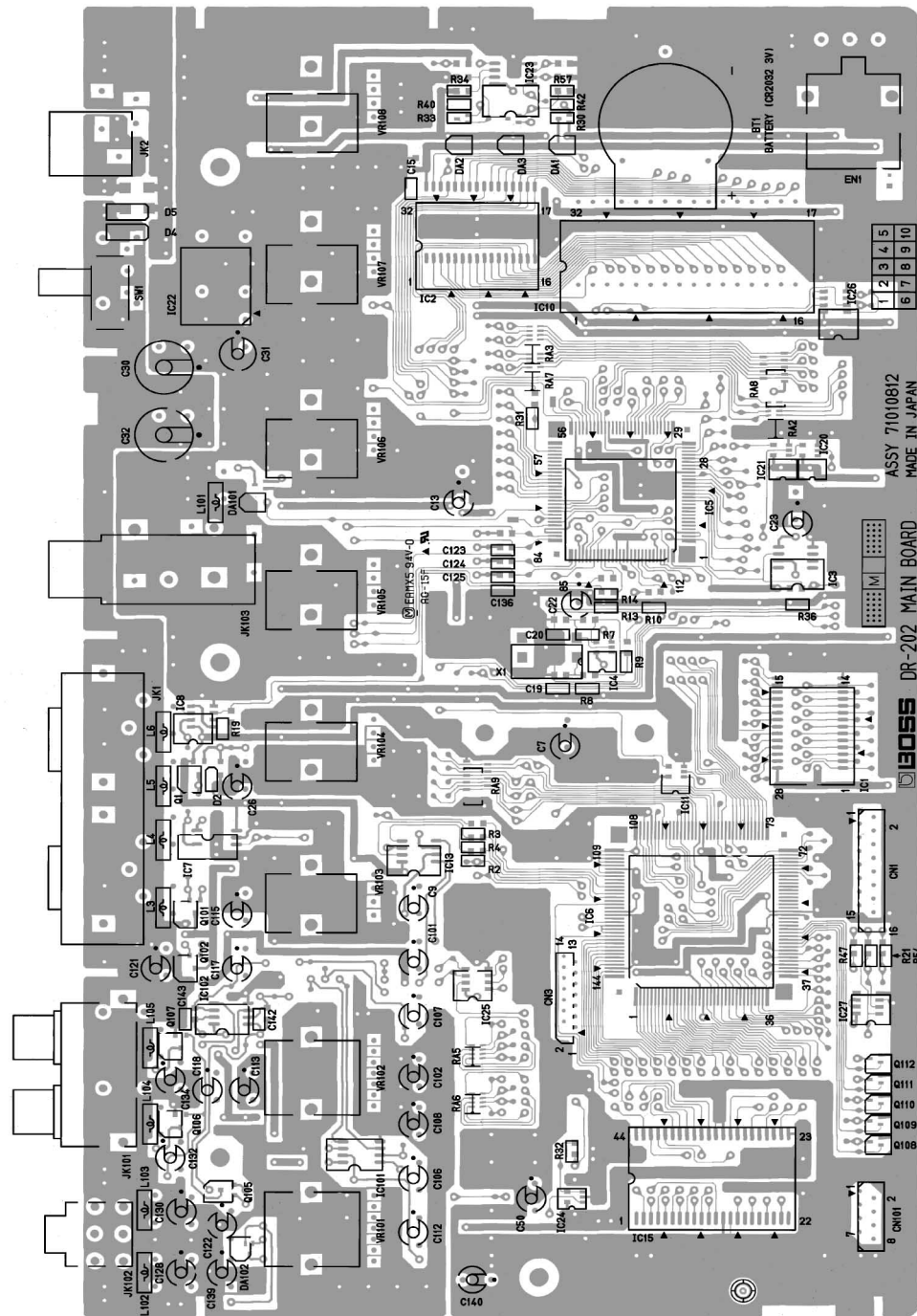
Q

R

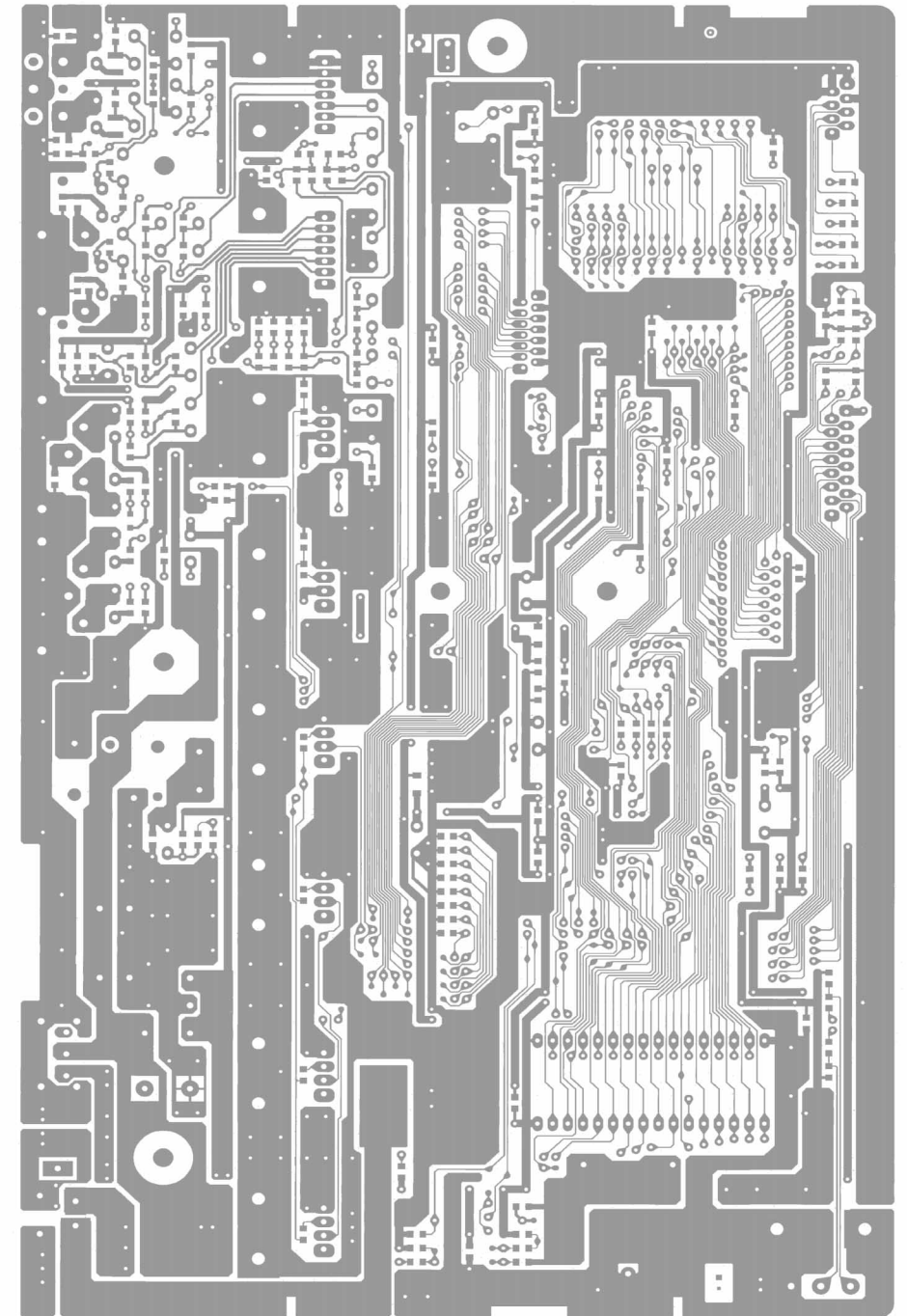
S

T

U



View from component side.

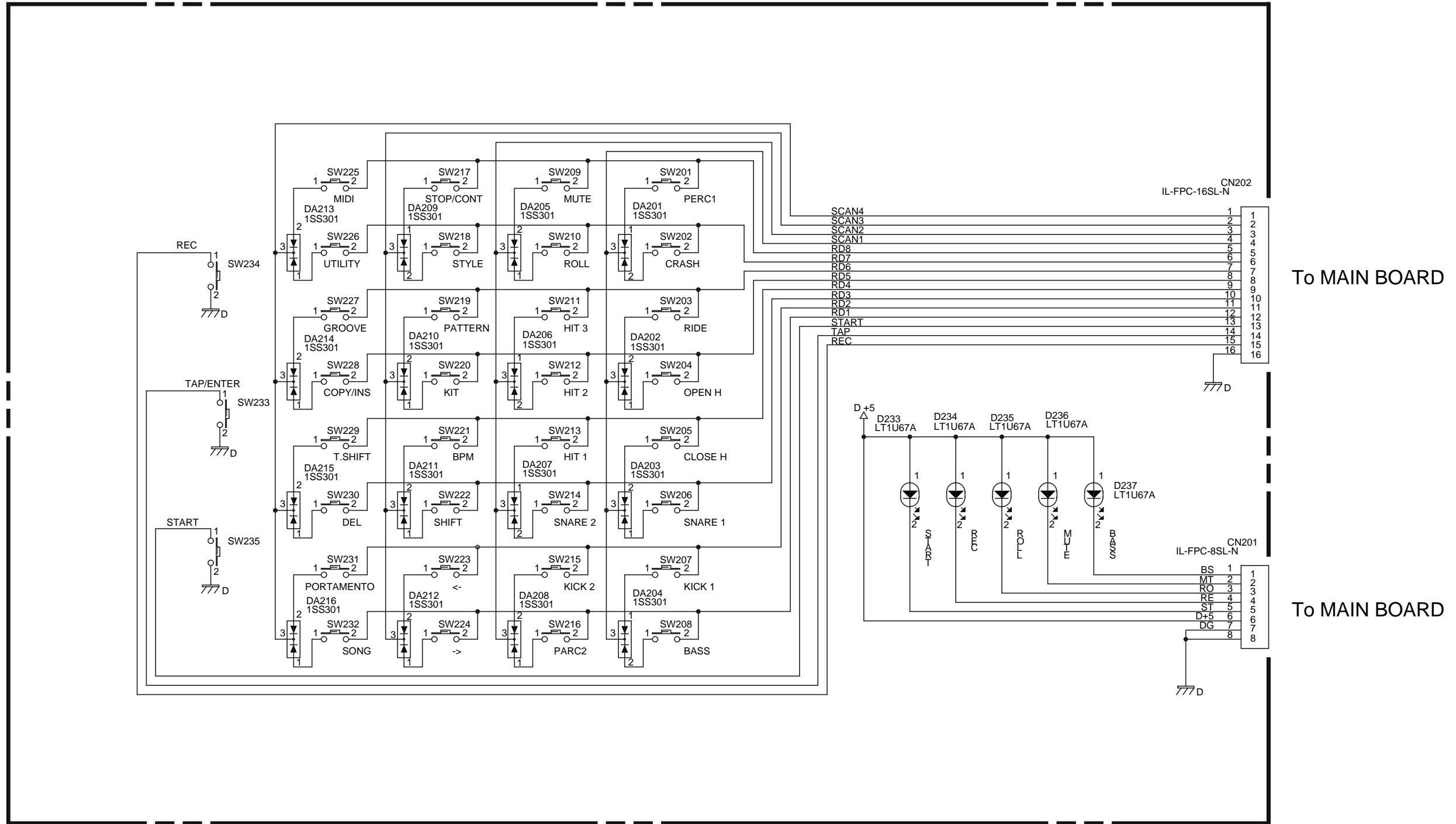


View from foil side.

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 SW BOARD ASSY

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

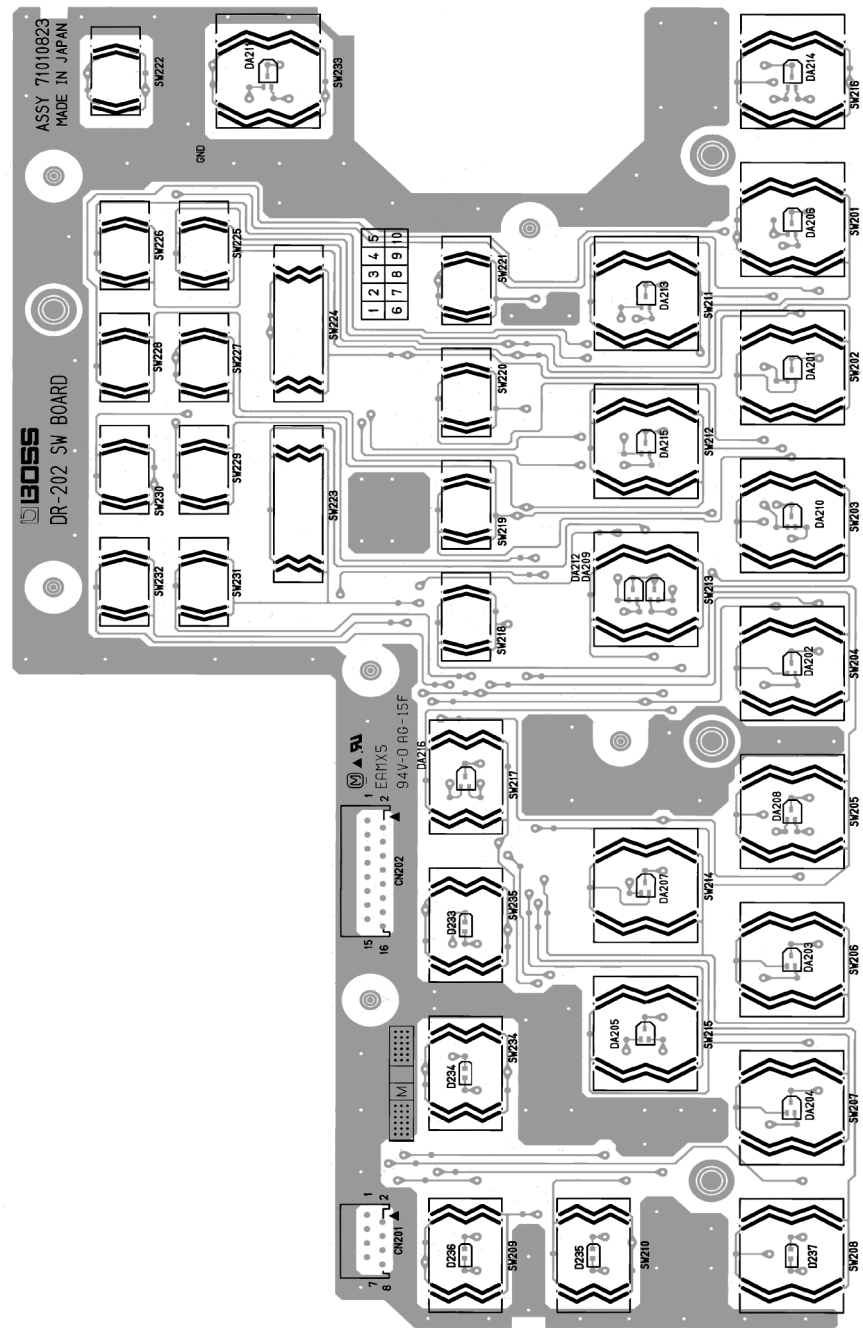


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28

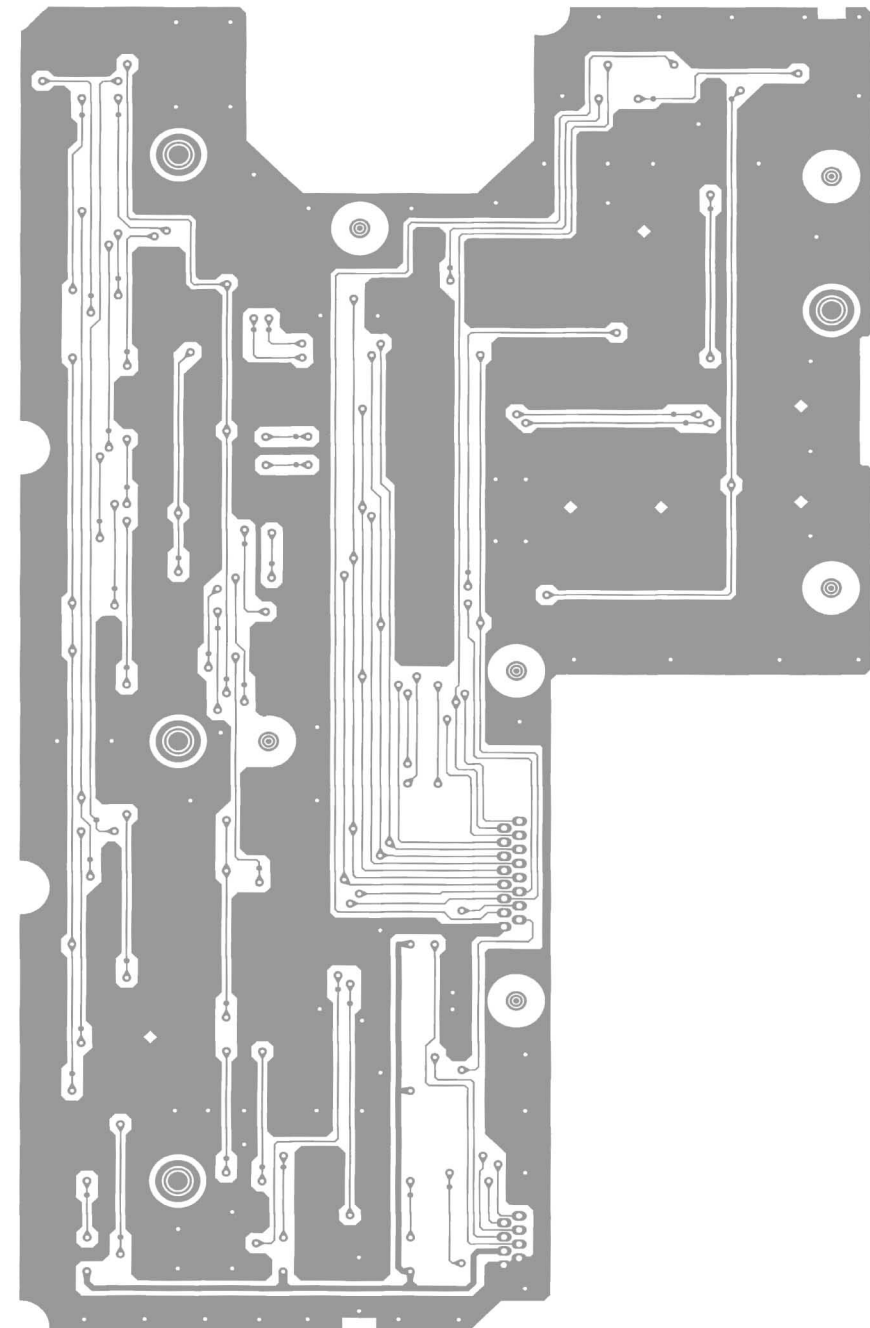
A CIRCUIT BOARD

B SW BOARD ASSY (71010823)

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.