JX-305
GROOVESYNTH

SERVICE NOTES

First Edition

Issued by RJA

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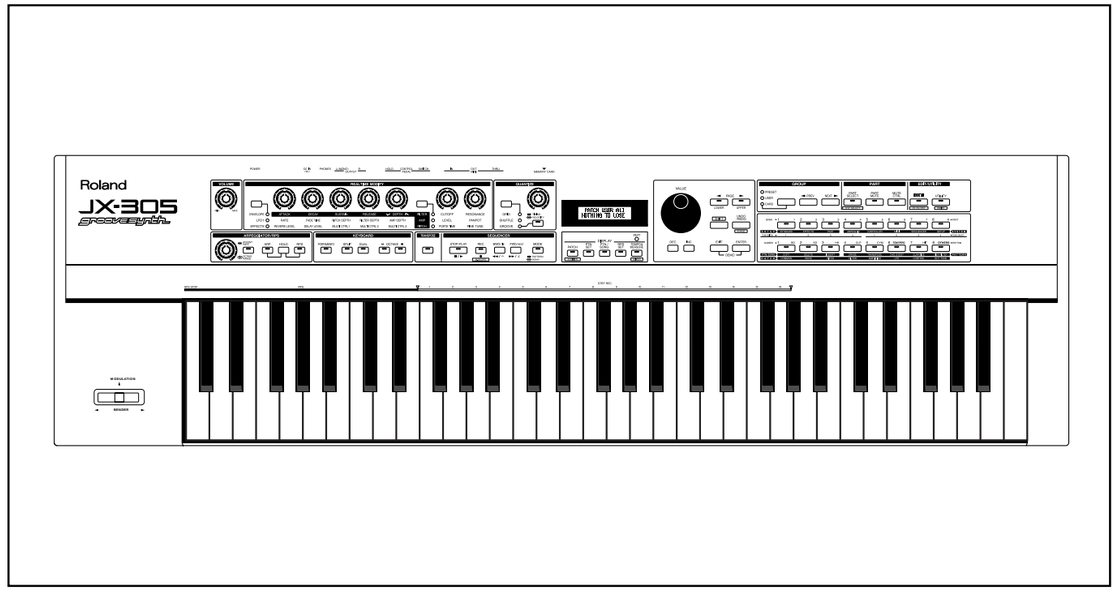


SPECIFICATIONS

JX-305:GROOVESYNTH

● Keyboard
61 keys (with velocity and channel aftertouch)

● Tone Generator

Maximum Polyphony	:64 voices
Parts	:24 parts (8 + RPS:16)
Built-in Effects	:Reverb, Delay, Multi-Effects (24 types)
Patches	:Preset:640 User:256 Card:512
Rhythm Set	:Preset: 32 User: 20 Card: 20

● Sequencer

Tracks	:8 + Mute Ctrl
Songs	:50
Preset Patterns	:274
RPS Patterns	:494
User Patterns	:200 (Maximum)
Card Patterns	:200 (Maximum)
Maximum Note Storage	:approx. 75,000 notes (Internal) :approx. 220,000 notes (2M Card) :approx. 480,000 notes (4M Card)
RPS Set	:60
Pattern Set	:30
Tempo	:20.0 - 240.0
Resolution	:96 ticks per quarter note
Recording Method	:Realtime, Step1, Step2
Quantize	:Grid, Shuffle, Groove (71 types)

● Connectors
Output Jacks (L (MONO), R)
Phones Jack
MIDI Connectors (IN, OUT, THRU)
Pedal Hold Jack
Pedal Control Jack
Pedal Switch Jack
Memory Card Slot

● Display
LCD : 16 characters, 2 lines
Beat LED

● Power Supply
AC Adaptor (DC 9V)

● Current Draw
450 mA

● Output Impedance
2.2 kΩ

● Dimensions
1,011 (W) x 289 (D) x 83 (H) mm
39-13/16 x 11-7 / 16 x 3-5 / 16 inches

● Weight
6.9 kg / 15 lbs 4 oz (Excluding AC Adaptor)

● Accessories

Owner's Manual Set (English)	(PNo.71122389)
Owner's Manual Set (Japanese)	(PNo.71011667)
Card Protector	(PNo.01346312)
AC adaptor	
ACI-100C	(PNo.00905756)
ACI-120C	(PNo.00905767)
ACI-230C	(PNo.01018312)
ACB-230(E)	(PNo.01458278)
ACB-240(A)	(PNo.12449549)

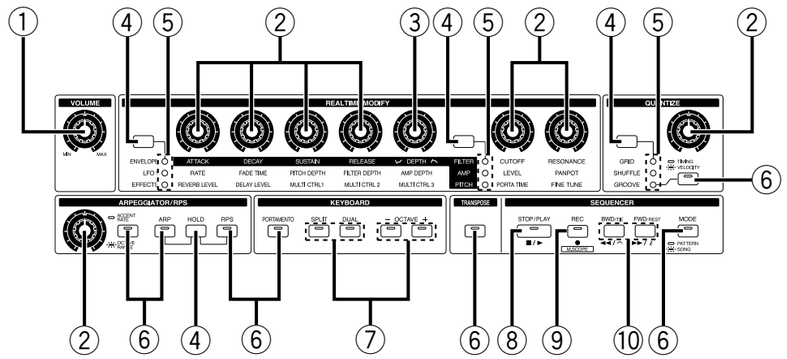
● Options

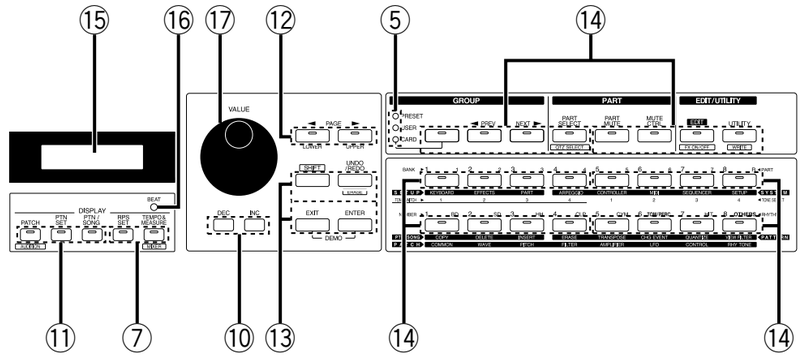
Stereo Headphones	:RH-20/80/120
Pedal Switch	:DP-2/6, BOSS FS-5U
Audio Connection Cable	:PJ-1M
	:PCS-075W/150W/250W
MIDI Cable	:MSC15/25/50
SmartMedia	:S2M-5/S4M-5

Roland 17059943 Printed in Japan AA00 (DP) 1

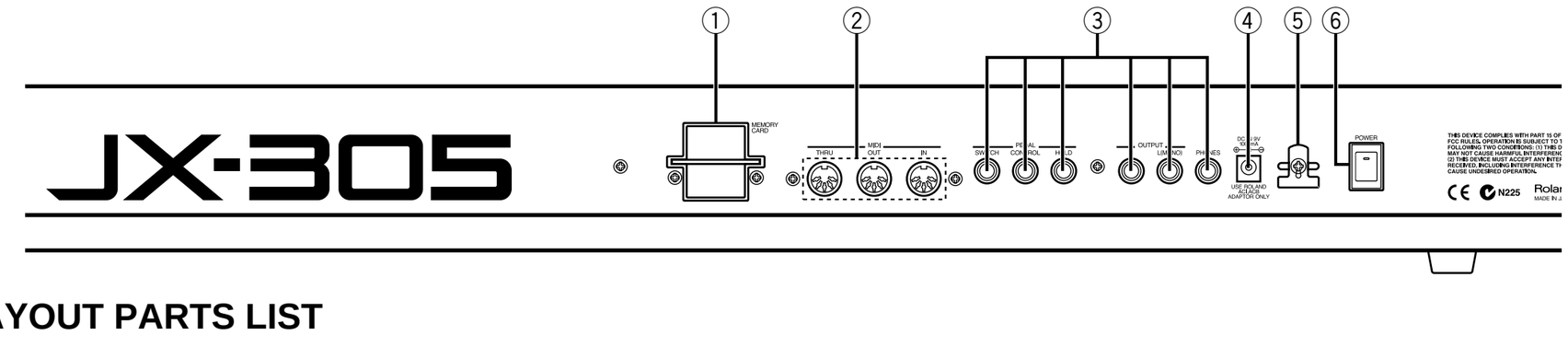
PANEL LAYOUT

FRONT VIEW





REAR VIEW



PANEL LAYOUT PARTS LIST

[FRONT VIEW PARTS LIST]

No.	Part Number	Part Name
@- B	01452301	J R-KNOB SF BLK/LCG
@	01453134	ROTARY POT. EVJY15F01A54
A	01453412	ROTARY POT. EVUJFUFK1B14
B	01565256	ROTARY POT. EVUJFYFK1B14 with CENTER Click
C, E- M	01340290	TACT SW. EVQ11A
D	00899023	LED LNJ282RKRXE
E, F, H, J, K, M	00348490	LED SLR-325VCT31 (RED)
G	00560745	LED SLR-325MCT31 (GREEN)
O	15029342	LED GL3ED8 (2 COLORS)
C	00900189	D S-KEYTOP SX1H BLK
E	00900145	D S-KEYTOP SD1H BLK
F	00900156	D S-KEYTOP SD2H BLK
G	22495277	D S-KEYTOP MD1H BLK
H	01013023	D S-KEYTOP SD1H DRD
I	00900190	D S-KEYTOP SX2H BLK
J	00900167	D S-KEYTOP SD3H BLK
K	22495278	D S-KEYTOP MD2H BLK
L	22495275	D S-KEYTOP MX2H BLK
M	22495272	D S-KEYTOP MD4H BLK
N	01129334	LCD DM1628-0AUB
P	22485303	D R-KNOB L BLK 248-303
	01013223	ENCODER EVQ VEM F01 24B

[REAR VIEW PARTS LIST]

No.	Part Number	Part Name	
@	01343101	D C-ESCT BX1H BLK	
	01341178	CARD CONNECTOR CN015S-3013-0	
A	13429274	MIDI JACK	YKF51-5041
B	00569278	JACK	LGR4609-7000
C	13449720	DC IN	HEC2305-01-250
D	22360712	CORD HOOK	236-712
E	13149125	EST206B	POWER SW

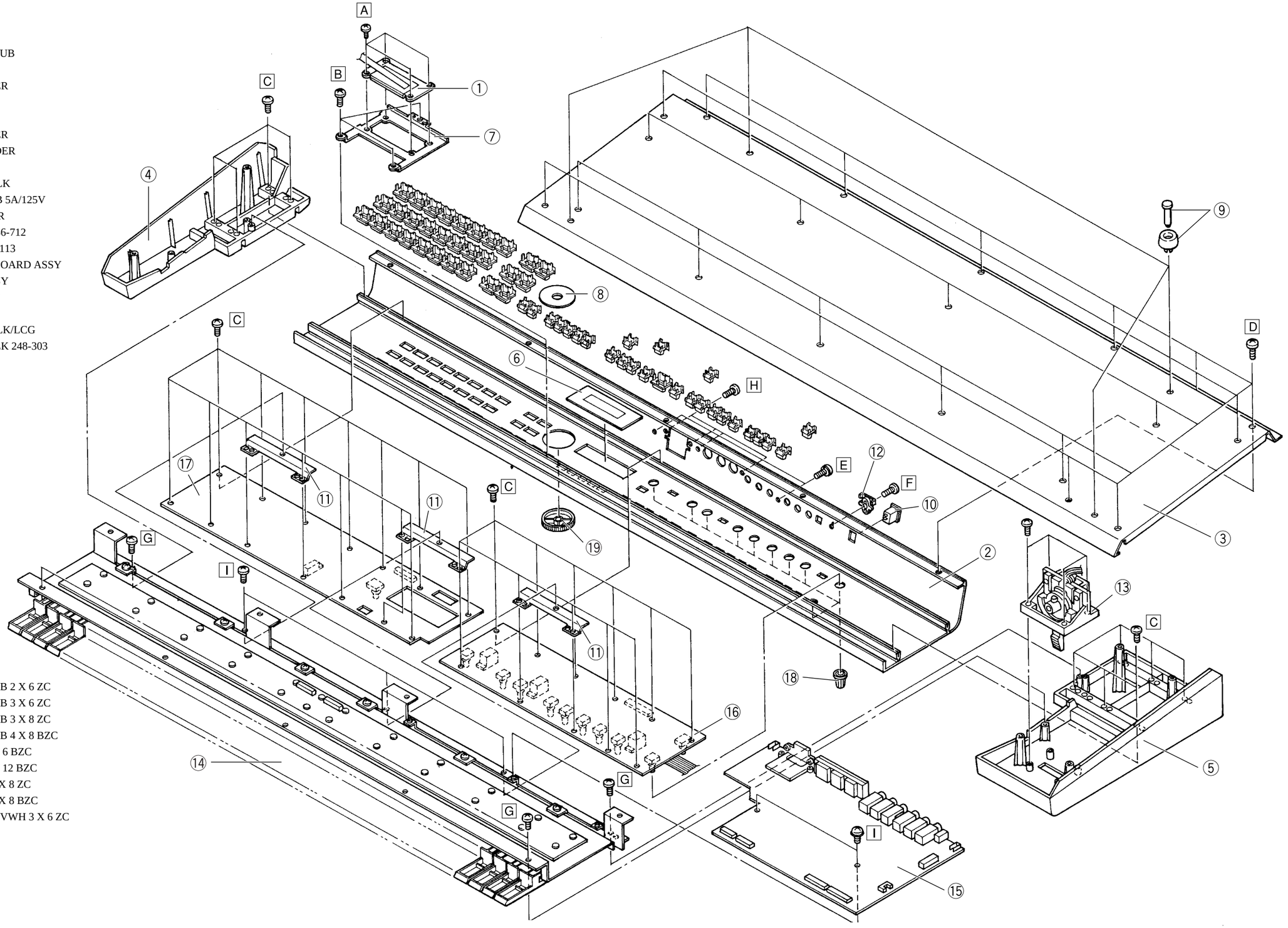
EXPLODED VIEW

[PARTS]

No.	Part No.	Part Name
①	01129334	LCD DM16280AUB
②	01452201	TOP PANEL
③	01452212	BOTTOM COVER
④	01452223	SIDE PANEL R
⑤	01452234	SIDE PANEL L
⑥	01452245	DISPLAY COVER
⑦	01452256	DISPLAY HOLDER
⑧	01455990	DUST COVER
⑨	12359139	FOOT FF-018 BLK
⑩	13149125	AC SW EST206B 5A/125V
⑪	22205900	PANEL HOLDER
⑫	22360712	CORD HOOK 236-712
⑬	71017078	BENDER PB-A0113
⑭	71011689	SK-861-K KEYBOARD ASSY
⑮	71011634	MAIN PWB ASSY
⑯	71011723	PANEL A ASSY
⑰	71017190	PANEL B ASSY
⑱	01452301	J R-KNOB SF BLK/LCG
⑲	22485303	D R-KNOB L BLK 248-303

[SCREW]

No.	Part No.	Part Name
Ⓐ	40011045	Binding Taptight B 2 X 6 ZC
Ⓑ	40011056	Binding Taptight B 3 X 6 ZC
Ⓒ	40011067	Binding Taptight B 3 X 8 ZC
Ⓓ	40011123	Binding Taptight B 4 X 8 BZC
Ⓔ	40011490	Double Sems 3 X 6 BZC
Ⓕ	40011512	Double Sems 3 X 12 BZC
Ⓖ	40011189	Pan Taptight P 3 X 8 ZC
Ⓗ	40011201	Pan Taptight P 3 X 8 BZC
Ⓘ	40239734	Binding Taptight VWH 3 X 6 ZC



PARTS LIST

SAFETY PRECAUTION:
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.

MB : PWB MAIN ASSY
PA : PWB PANEL A ASSY
PB : PWB PANEL B ASSY

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

CASING

	01343101	D C-ESCT BX1H BLK
#	01452201	TOP PANEL
#	01452212	BOTTOM COVER
#	01452223	SIDE PANEL R
#	01452234	SIDE PANEL L
#	01452245	DISPLAY COVER
	12359139	FOOT FF-018BLK
	22360712	CORD HOOK 236-712

CHASSIS

#	01343090	LED SPACER
#	01452256	DISPLAY HOLDER
#	01452323	ENCODER HOLDER
	01455901	LED SPACER LH-36-9
#	01455990	POT DUST COVER
	22205900	PANEL HOLDER

KNOB.BUTTON

	00900145	D S-KEYTOP SD1H BLK
	00900156	D S-KEYTOP SD2H BLK
	00900167	D S-KEYTOP SD3H BLK
	00900189	D S-KEYTOP SX1H BLK
	00900190	D S-KEYTOP SX2H BLK
	01013023	D S-KEYTOP SD1H DRD
#	01452301	J R-KNOB SF BLK/LCG
	22485303	D R-KNOB L BLK 248-303
	22495272	D S-KEYTOP MD4H BLK
	22495275	D S-KEYTOP MX2H BLK
	22495277	D S-KEYTOP MD1H BLK
	22495278	D S-KEYTOP MD2H BLK

SWITCH

	01340290	EVQ11A H=5.0	TACT SW
	13149125	EST206B 5A/125V	POWER SW

JACK

	00569278	LGR4609-7000	STEREO	JK2-7 on MB
	13429274	YKF51-5041	MIDI	JK1 on MB
	13449720	HEC2305-01-250	DC IN	JK8 on MB

DISPLAY UNIT

	01129334	DM1628-0AUB	LCD SHARP

BENDER UNIT

	71017078	PB-A0113

KEYBOARD

#	71011689	SK-861-K KEYBOARD ASSY

PCB ASSY

#	E 71011634	PWB MAIN ASSY	
#	71011723	PWB PANEL A ASSY	
#	71017190	PWB PANEL B ASSY	

IC

	00127490	TC7W08F	DUAL 2in AND	IC29 on MB
	00129278	SSC1080F0B	KEYSCAN	IC4 on MB
	00897078	RA01-005 (TC170C200AF-005)	CUSTOM	IC6 on MB
	00899812	LH28F800SUT-70	FLASH MEMORY BLANK	IC1,7 on MB
#	01342390	UPD23C16000WGY-834-MKH	16M MASK ROM	IC8 on MB
	01342401	LHMN0PNH	64M MASK ROM	IC3 on MB
#	01342978	TC160G22AF-1253	CUSTOM	IC31 on MB
	01344056	SI-8501L	REGULATOR +5V	IC27 on MB
	01347745	TMS418169A-60	16M DRAM	IC2 on MB
	01347756	LH62800K-50	2M DRAM	IC33 on MB
	01451578	AK4324-VF-E2	DAC	IC24 on MB
#	01455878	TC74AC574P	OCT. D-F/F DIP	IC4 on PA,IC1 on PB
#	01456856	BA10358F	DUAL OPAMP SOP	IC37 on MB
#	01564078	HD6437042AE32F	CPU MASK	IC5 on MB
#	01565201	LHMN5KWB	WAVE MASK ROM	IC9 on MB
	15169605	TC74HC4052AP	DUAL 4:1 ANALOG-MPX DIP	IC2 on PA
	15189186	UPC4570C	DUAL OPAMP DIP	IC3 on PA
	15189249	BA10324A	QUAD OPAMP DIP	IC1 on PA
	15199937	M51953BFP-600C	RESET IC	IC26 on MB
	15249104	TC7S04F	INV	IC34 on MB
	15249111	TC7WU04F	TRI. INV	IC16 on MB
	15249125T0	TC74HC32AF	QUAD 2in OR	IC30 on MB
	15259758T0	TC74HC175AF	QUAD D-F/F	IC32 on MB
	15259769T0	TC74HC238AF	3 to 8 DECODER	IC35,36 on MB
	15259778T0	TC74HC245AF	OCT. BUS BUFFER	IC20 on MB
	15259885	TC7S32F	2in OR	IC11 on MB
	15269219H0	HD74LS05FPEL	TTL HEX INV(OPEN DRAIN)	IC19 on MB
	15289105	UPC4570G2	DUAL OPAMP SOP	IC25 on MB
	15289109	M5216FP-600D	DUAL OPAMP SOP	IC23 on MB
	15289125	PC-410T	PHOTO ISOLATOR	IC18 on MB
	15289402	TA78L05F	REGULATOR +5V	IC28 on MB

TRANSISTOR

	00239801	DTA114EU	DIGITAL	Q3,10,14,15 on MB
	00239812	DTC114EU	DIGITAL	Q5 on MB
	00562012	2SC3265-Y	Q13 on MB	
	01121278	2SA1576A		Q1,2,11 on MB
	01121289	2SC4081		Q4,6,7,12,30 on MB
#	01455934	RN1421	DIGITAL	Q23-29 on MB
#	01567867	DTA144WUA	DIGITAL	Q10 on MB
	15329505	DTC314TK	DIGITAL	Q8,9,21,22 on MB

DIODE

	01016101	RD4.7S	ZENER	D2,3 on MB
	15019126	1SS133	SWITCING	
	15339120T0	1SS302	ARRAY	DA1-8 on MB
	15339203	SFPB54	SCHOTKEY	D4 on MB

LED

	00348490	SLR-325VCT31	RED	
	00560745	SLR-325MCT31	GREEN	D28 on PA
	00899023	LNJ282RKRXE	RED LONG LEAD	D8,12,15,23,27,29,38,42,43 on PA,D32-34 on PB
	15029342	GL3ED8	2COLERS	D24 on PB

RESISTOR

#	01011856	RPC05T 0R0 J 0OHM		L3-8, R4,5,7,236,300,310,C7,36,80,87,90 on MB
	01013923	EXBV8V100JV	ARRAY	RA67,9-11,13,25-29 on MB
#	01457145	EXBE10C103J	ARRAY	RA1-5,8,12,14-16 on MB
#	01457156	EXBE10C332J	ARRAY	RA23 on MB
	15399365	RPC10T 470 J	1/10W CHIP	R58,79,203,204 on MB
	15409113	EXBV8V103JV	ARRAY	RA17-19,22 on MB
	00126112	EXBV8V101JV	ARRAY	RA20,21,24 on MB

POTENTIONMETER

#	01453134	EVJY15F01A54 L=12.5	STEREO VR	VR10 on PA
#	01453412	EVUJFUFK1B14 L=12.5		VR1-5,7-9 on PA
#	01565256	EVUJFYFK1B14 L=12.5	CENTER CLICK	VR6 on PA

CRYSTAL

	00901912	MA-406 24.576MHZ		X2 on MB
	01126267	MA-406 7.056MHZ		X1 on MB

ENCODER

	01013223	EVQ VEM F01 24B		EN1 on PB

CAPACITOR

#	01015845	ECHU1H181JB5	FILM CHIP	C127,132 on MB
	01015856	ECHU1H221JB5	FILM CHIP	C144,168 on MB
#	01015890	ECHU1H122JB5	FILM CHIP	C150,171 on MB
#	01349312	GRM39F105Z10PT	CERAMIC CHIP	C166,184,263,266 on MB
#	01349378	TCFGA0J475M8R	TANTALUM CHIP	C79,157,163 on MB
#	01565567	ECHU1C473JB5	FILM CHIP	C254,255 on MB
	13639546M0	ECEA1CKA100B	CHEMICAL(LOW)	C23,110 on MB
	13639550M0	ECEA1CKA101B	CHEMICAL(LOW)	C1 on PA,C2 on PB
	13649210M0	CAPACITOR ECEA1CKN100B	CHEMICAL BIPORLER	C63 on MB

FILTER.BEADS

#	01565578	N1608Z601	BEAD CHIP	L1,2,9-11,13,14-21-26,31 on MB
#	01565589	N1608ZA601	BEAD CHIP	L29,30 on MB
#	01565590	N1608ZA331	BEAD CHIP	L19 on MB
#	01565601	N1608ZA121	BEAD CHIP	L27 on MB
#	01565612	DSS310-93D223S50	FILTER	FL1 on MB
#	01567501	EXC3BB102	BEAD CHIP	L12 on MB
	12449355	FBR07HA850TB00	FERRITE BEAD	L1,2 on PA,L1,2 on PB

CONNECTOR

	00904612	52806-1410	FPC	CN4 on MB
	01120578	IL-FPC-26SL-N	FPC	CN5,6 on MB,CN1 on PA,CN1 on PB
	01341178	CN015S-3013-0	CARD	CN11 on MB
	13369605	52147-1010	WIRE TRAP	CN8 on MB
	13379157	IL-FPC-16SL-N	FPC	CN2 on MB
	13379158	IL-FPC-18SL-N	FPC	CN1 on MB
	13429299	51048-1000	CABLE HOLDER	CN2 on PA
	13439351	IL-S-6P-S2L2-EF		CN7 on MB

WIRING.CABLE

	00890401	10X150-P2.0 RIBBON CABLE	PA-MB	
#	01453378	26X550-A6.0BB-P1.25H10	FUJI CARD	PB-MB
#	01454123	WIRING W-1	MB-PWSW	
#	01454134	WIRING W-2	MB-PWSW	
#	01456912	26X250-A6.0BBR-P1.25H10	FUJI CARD	PA-MB
#	01454512	16X200-A6.0BBR-P1.25H10	FUJI CARD	KBD-MB
#	01567389	18X250-A6.0BBR-P1.25-HBL10	FUJI CARD	KBD-MB

SCREW

	40011056	3x6mm BINDING B-TIGHT ZC
	40011067	3x8mm BINDING B-TIGHT ZC
	40011045	2x6mm BINDING B-TIGHT ZC
	40011123	4x8mm BINDING B-TIGHT BZC
	40011189	3x8mm PAN P-TIGHT ZC
	40011201	3x8mm PAN P-TIGHT BZC
	40011490	3x6mm SEMS BZC
	40011512	3x12mm SEMS BZC
#	40239734	3x6mm VWH B-TIGHT ZC

PACKING CASE

#	01564678	PAD L
#	01564689	PAD R
#	01564690	ADAPTOR PAD
#	01564701	CENTER PAD
#	01564667	PACKING CASE
#	40340023	PE FORM BAG 0.5*1160*450

MISCELLANEOUS

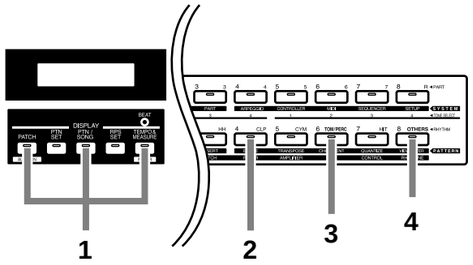
	01450745	QFP HEATSINK	
	12199584	M1698	GROUNDING TERMINAL

ACCESSORIES(Standard)

	71011667	OWNER'S MANUAL SET(JAPANESE)	
	71122389	OWNER'S MANUAL SET(ENGLISH)	
	01346312	CARD PROTECTOR	
⚠	00905756	ACI-100C	AC ADAPTOR 100V(DC9V.1000mA)
⚠	00905767	ACI-120C	AC ADAPTOR 120V(DC9V.1000mA)
⚠	01018312	ACI-230C	AC ADAPTOR 230V(DC9V.1000mA)
# ⚠	01458278	ACB-230E	AC ADAPTOR 230VE(DC9V.1200mA)
⚠	12449549	ACB-240(A)	AC ADAPTOR 240VA(DC9V.1200mA)

IDENTIFYING THE VERSION NUMBER

1. Turn the power on.
2. While holding [PATCH], [PTN/SONG] and [TEMPO & MEASURE], press [NUMBER 4 (CLAP)], [NUMBER 6 (TOM / PERC)], [NUMBER 8 (OTHERS)] in order.



3. The system program version will be displayed.
   Every time press the [NUMBER 8 (OTHERS)], readout on the display changes as follows.

SYSTEM → **CPU** → **DATA**

SYSTEM	CPU	DATA
SYS version=1.00 Bld=100 98/03/20	CPU Version=1.00 Bld=100 98/01/26	DAT Version=1.00 Bld=030 97/09/29

USER DATA SAVE AND LOAD

ƒ You can save the user data to a memory card (= SmartMedia).
Before perform the data saving, you must format a memory card by using the following procedure.

Format a Memory Card (Smart Media)

1. With the power turned off, insert a memory card (2MB (S2M-5) or 4MB (S4M-5)) into the memory card slot.

2. Turn on the power.

3. Press [UTILITY].
   The indicator will light.

4. Press PAGE [<] [>] several times to select "CARD", and press [ENTER].

5. Press PAGE [<] [>] several times to select "FORMAT", and press [ENTER].
   The formatting page will appear.

CARD: Format Are You Sure ?

6. Press [ENTER].
   The following display will appear, and the Format operation will be carried out.

Processing... Keep Power ON !

7. When formatting ends, the following display will appear.

CARD: Format Complete !

To exit the formatting page, press [UTILITY].

Saving the user data (User Backup)

1. Make sure that a memory card is inserted into the memory card slot.

2. Press [UTILITY].
   The indicator will light.

3. Press PAGE [<] [>] several times to select "CARD", and press [ENTER].

4. Press PAGE [<] [>] several times to select "USER BACKUP", and press [ENTER].
   The User Backup page will appear.

```
CARD:User Backup
 Are You Sure ?
```

5. Press [ENTER].
   The following display will appear, and the User Backup operation will be carried out.

```
 Processing...
 Keep Power ON !
```

6. When User Backup has been completed, the following display will appear.

```
CARD:User Backup
   Complete !
```

If you wish to exit the User Backup page, press [UTILITY].

Restoring the Saved Setting Back to Internal Memory (Backup Load)

1. Make sure that a memory card is inserted into the memory card slot.

2. Press [UTILITY].
   The indicator will light.

3. Press PAGE [<] [>] several times to select "CARD", and press [ENTER].

4. Press PAGE [<] [>] several times to select "Backup Load", and press [ENTER].
   The User Backup page will appear.

```
CARD:Backup Load
 Are You Sure ?
```

5. Press [ENTER].
   The following display will appear, and the User Backup operation will be carried out.

```
 Processing...
 Keep Power ON !
```

6. When Backup Load has been completed, the following display will appear.

```
CARD:Backup Load
   Complete !
```

If you wish to exit the User Backup page, press [UTILITY].

FACTORY PRESET

1. Press [UTILITY].
   The indicator will light.

2. Press PAGE [<] [>] several times to select "FACTORY PRESET", and press [ENTER].
   The Factory Preset page will appear.

```
UTILITY:
FACTORY PRESET↔
```

3. Press PAGE [<] [>] several times to select "ALL".

```
FACTORY PRESET:
             ALL →
```

4. Press [ENTER].
   The following display will appear.

```
FACTORY PRESET:
 Are You Sure ?
```

5. Press [ENTER].
   The following display will appear, and the factory data will load.

```
Factory Data Set
ok? ---> [ENTER]
```

NOTE: It take about 1 minute to complete the data loading.
Never turn the power off while this procedure.

6. When Factory Preset ends, the following display will appear, and the system will reboot automatically.

```
  Complete !
```

Upgrading the program memory software version

JX-305 uses the FLASH MEMORY.
These ROMs can be update the program by transferring the data in the upgrading disk (SMF format), through MIDI.

Required Items

- JX-305 Version Up Disk Set (PNo. 17048906)
  (The Version up disk contains the JX-305 program converted into SMF data. Obtain the latest version from the service center.)
- Sequencer (Anything that will play back SMF will do.)
- MIDI cable

Update procedure

1. Connect MIDI OUT of the Sequncer with MIDI IN of the JX-305.

2. Turn the power on while holding down [MUTE CTRL] button, hold on to press [MUTE CTRL], press the [NUMBER 3 (HH)] button.
   Display Shows as follows

```
JX-305 Sys-Verup
Y= ENTER/N= EXIT
```

3. Press the [ENTER] button, then JX-305 check the ROM-ID number.
   And display shows as follows.

```
JX-305 Sys-Verup
Please Send Data
```

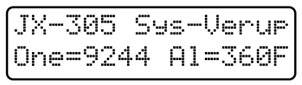
Check to see that the display shows as described above and then playback the SMF data. When the update procedure is in normal operation, BEAT LED will blink.
The file names are as follows.

_000001.mid
_000002.mid
  |
_000016.mid

(For cases where program data volume is small, the file count is less than 16.)
While playing, a check sum appears on the display.

One = **** : Check sum of the each file.
AL = **** : Total.

After the all files has been played, compare the original checksum (described on disk label or Service Information) to the current checksum for discrepancies.



Update procedure is complete.

ƒ After executing update procedure, be sure to perform the Factory Preset data loading.

TEST MODE

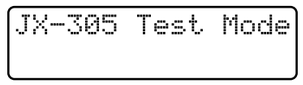
NOTE: Before executing test mode, be sure to backup user data as explained in the section "Saving and Loading user data". And when you execute test mode, the various parameters will be given special settings. After executing test mode, be sure to load the Factory preset data, and the User data.

Required items

MIDI Cable	x1
SmartMedia	x2 (Formatted/Protected)
Foot Pedal (DP-2 etc.)	x2
Expression Pedal (EV-5 etc.)	x1
Monitor Speaker (MA-12 etc.)	x2

Entering the TEST MODE

1. Connect the Monitor Speaker to the OUTPUT of the JX-305.
2. Turn the power on while holding down [ENVELOPE], [PART SELECT] and [PART MUTE].
   You will enter the TEST MODE and the following basic display will appear.



3. Press [ENTER]. TEST MODE will be started.

As a rule, tests are in the order of test number, but you can select the each test items directory by pressing the [BANK 1] to [BANK 8], [NUMBER 1 (BD)] [NUMBER 2 (SD)] [NUMBER 8 (OTHERS)] while pressing [SHIFT] button when LCD displays "JX-305 Test Mode".

Exiting the TEST MODE

When Bender Test ends, the following display appear.

```
Factory Data Set
ok? --->  [ENTER]
```

Press [ENTER] button to load the factory preset data.

NOTE: It takes about 1 minute to complete the data loading.
Never turn the power off while this procedure.

Test Item

The JX-305 has the following 11 items.
Some test items will be started automatically, when the next previous test ends normally.

1. Memory Test [SHIFT] + [BANK 1]
2. MIDI Test [SHIFT] + [BANK 2]
   (Identifying the Program Version)
3. Card Test [SHIFT] + [BANK 3]
4. Pedal Test [SHIFT] + [BANK 4]
5. SW/LED Test [SHIFT] + [BANK 5]
6. A/D Test [SHIFT] + [BANK 6]
7. After Touch Test [SHIFT] + [BANK 7]
8. Sound Test [SHIFT] + [BANK 8]
9. DSP Test [SHIFT] + [NUMBER 1]
10. LCD & Encoder Test [SHIFT] + [NUMBER 2]
11. Bender Test& Factory Data Set [SHIFT] + [NUMBER 8]

- Exiting the each Test item
  Press [ENTER] while holding down [EXIT].
  The test will be suspended and JX-305 return to basic test mode display.

NOTE: When LCD displays "Factory Data Set ok ?" in 11., the test can not be suspended.

1. Memory Test

1-1. Press [ENTER] in the basic test display. Memory Test will be started.
The following display will appear.

```
Prg Dat Usr  RAM
___ ___ ___  ___
```

1-2. When the test of the each device end, display --- will change to "ok" or "NG". If test result are "ok", next test runs automatically.

Troubleshooting for Memory test

Result of Test	Check
Prg NG!	Check IC1 on Main Board
Dat NG !	Check IC8 on Main Board
Usr NG !	Check IC7 on Main Board
RAM NG !	Check IC2 on Main Board

2. MIDI test

When Memory Test ends normally, MIDI Test runs automatically.
(or in the initial display of the test mode, press [BANK 2] while holding down [SHIFT])

2-1. When MIDI test starts, following display appears.

```
JX-305 Test MIDI
Connect      ---
```

2-2. Make a loop with MIDI cable that connects MIDI IN and MIDI OUT.
Does the LCD display "ok" ?

2-3. When the LCD display "ok", Press [ENTER]. The system program version will be displayed.
And press the [ENTER] again. You can check the program version number of the CPU and Preset Data.

```
JX-305 Test MIDI
SYS Version 1.00
```

[ENTER]

```
JX-305 Test MIDI
CPU Version 1.00
```

[ENTER]

```
JX-305 Test MIDI
DAT Version 1.00
```

2-4. Remove the MIDI cable.
Display shows "Disconnect ok", and then next test run automatically.

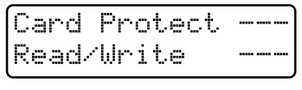
Troubleshooting for MIDI test

Result of Test	Check
No response	Check Q4 Is signal level of the PEDAL change ?
Display remains "on"	Check the condition of connection of L9-12,R47,48

3. Card Test

When MIDI Test ends normally, Card Test runs automatically.
(or in the initial display of the test mode, press [BANK 3] while holding down [SHIFT])

3-1. When Card test starts, the following display appears.



3-2. Insert a card with write protected.
Does the LCD display "ok" ?

3-3. Remove the card once, and insert the card with not write protected.
Does the LCD display "ok" ?

NOTE: When you execute card test mode, the data in card will be lost.
Use the card for test.

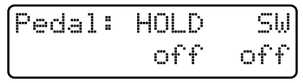
Troubleshooting for Card test

Result of Test	Check
No response	Check IC29 (Pin 1 / 2 / 7) If the Card is inserted, Voltage of IC29 Pin 1 becomes high level.
Protect NG!	Check R18, IC5 Is the voltage of XCWP Low level?
Read / Write NG	Check IC30 (Pin 3 / 6) Is the level of XRE / XWE change during the test?
	Check IC20, RA16 Is there something wrong with card bus ?
	Check IC30 (Pin 8) / IC32 Is there something wrong with decoder Check the IC29 (Pin 3, Write Protect) Is the voltage of XWP High level?

4. Pedal Test

When Card Test ends normally, Pedal Test runs automatically.
(or in the initial display of the test mode, press [BANK 4] while holding down [SHIFT])

4-1. When Pedal test starts, the following display appears.



4-2. Connect the Foot Pedals to the Hold Jack and the Switch Jack.

4-3. Step on the HOLD Pedal. And check that "on" have been displayed.

4-4. Foot off the HOLD Pedal. And check that "off" have been displayed.

4-5. Step on the SWITCH Pedal. And check that "on" have been displayed.

4-6. Foot off the SWITCH Pedal. And check that "off" have been displayed.

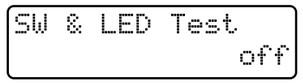
Troubleshooting for Pedal test

Result of Test	Check
No response	Check Q4 Is signal level of the PEDAL change ?
Display remains "on"	Check the condition of connection of L9-12,R47,48

5. SW & LED Test

When Pedal Test ends normally, SW & LED Test runs automatically.
(or in the initial display of the test mode, press [BANK 5] while holding down [SHIFT])

5-1. When SW & LED test starts, the following display appears.
Are All LEDs turn on ?



5-2. Press all buttons one by one. Then each button, names of buttons appear on the display, and sounds.
And buttons that have corresponding LEDs are put out its LEDs.
Press the all buttons for turning off the all LEDs.

- When you press [PLAY] button, press two times. When you press [TEMPO & MEASURE], press three times. And check that the Beat LED turns GREEN and RED and off in order.

Is button name appeared on the display ?
Are all LEDs turn off ?

NOTE: If you press two buttons simultaneously, the LCD display error.

5-3. If test ends normally, press [ENTER] to start next test.

Troubleshooting for SW & LED test

Result of Test	Check
One of the LEDs dose not lit.	Check the condition of connection of LED.
Two or more LEDs do not lit.	Refer to the circuit diagram, check the transistor, buffer (74HC245), or decoder (74HC138) around the LED circuitry.
One of the SWs dose not work.	Check the diode and condition of connection of SW.
TWO or more SWs do not work.	Refer to the circuit diagram, check the decoder and transistor array.
LED stays on.	Check the short circuit of signal lines of LED.

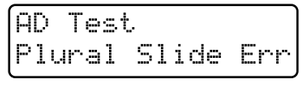
6. AD Test

When SW / LED Test ends normally, AD Test runs automatically.
(or in the initial display of the test mode, press [BANK 6] while holding down [SHIFT].)

6-1. Connect the Expression to the Control Jack.

6-2. When AD test starts, the JX-305 into standby mode.
Move each knob, name and value of the knob are displayed.
Move the all knobs and sliders fully one by one.
(excluding "VOLUME")

NOTE: If you move the knobs and Bender, Modulation, Ctrl Pedal, knobs simultaneously, the LCD display error.



To abort a command, press [BWD] button.

Press on the Control Pedal.

Check that the value changes 0 from 127.
Check the mid value 64 when move Env Depth.

6-3. When test ends, press [ENTER] to start next test.

Troubleshooting for AD test

Result of Test	Check
No response	Inspect the signal path of AS0, AS1, for breaks or short circuit.
Value does not reach the 0 or 127	Check the power supply of the panel
	Check the analog switches (74HC4051:IC2 on PB)
	Inspect the capacitor that is attached to the potentiometer for short circuit
Error result even if move the knob or slider one by one	Inspect the signal path of the potentiometer for short circuit
	Check analog switch whether signal of AN3, AN4 are not corrupted.

7. After Touch Test

When AD Test ends normally, After Touch Test runs automatically.
(or in the initial display of the test mode, press [BANK 7] while holding down [SHIFT])

7-1. When After Touch test starts, the following display appears.

```
AfterTouch Test
```

7-2. Press C7, C4, C2 key firmly one by one.
Check that value increase to 127.

NOTE: If you press the key and Bender,Modulation,Ctrl Pedal, knobs simultaneously, the LCD display error.

```
AD Test
Plural Slide Err
```

To abort a command, press [BWD] button.

7-3. When After Touch test ends, "ok" appears on the display.

7-4. If test ends normally, press [ENTER] to start next test.

Troubleshooting for After Touch test

Result of Test	Check
No response	Check Q30
	Check the condition of connection
Value does not reach the 0 or 127	Check the power supply of Q7
	Check keyboard

8. Sound Test

When After Touch Test ends normally, SOUND Test runs automatically.
(or in the initial display of the test mode, press [NUMBER 1(BD)] while holding down [SHIFT]).

8-1. Rotate the VOLUME knob fully clockwise.

8-2. Connect the Monitor to the OUTPUT Jack of the JX-305, and also connect the Headphone to the PHONES Jack. In the case of you use one Monitor, be sure to insert the opened plug into the another channel of the OUTPUT to obtain the correct wave form.
Verify the waveform being output by the oscilloscope, and check the sound.

8-3. When sound test starts, at first sound output from L ch of MIXOUT and Headphone.
Every time press the [ENTER], output channel is switched.
At first, JX-305 output sine wave from each jacks, and next rectangular wave form is output.

start	OUTPUT /L	sine wave
press [ENTER]	OUTPUT /R	sine wave
:	OUTPUT /L	rectangular wave
:	OUTPUT /R	rectangular wave

Change the connection of the monitor to corresponding jack.
Pitch of the sound is different depends on each jack.

Verify that no undesired sound is heard.
Verify that no undesired waveform or voltage detected.

8-4. When test ends, press [ENTER] to start next test.

Troubleshooting for Sound Test

Result of Test	Check
No sound	Check D/A converter (AK4324;IC24)
Sound is too loud, soft or distorted	Check IC3 on PB, IC23, 25 on MB
	Check around filter circuitry distorted

9. DSP Test

When Sound Test ends normally, DSP Test runs automatically.
(or in the initial display of the test mode, press [NUMBER 1 (BD)] while holding down [SHIFT])

9-1. When DSP test starts, test runs automatically and 7 part are checked.
If test result are OK, "o" appears on the display and if NG, "x" appears on the display.

9-2. If test results is OK, press [ENTER] to start next test.

Troubleshooting for DSP test

Result of Test	Check
"x" displayed	Check IC33 Bleak or etc
	Check IC6 Pin 119-143

10.LCD & Encoder Test

When DSP Test ends normally, LCD test runs automatically.
(or in the initial display of test mode, press [NUMBER 2 (HH)] while holding down [SHIFT]).

10-1. When LCD & Encoder Test starts, all dots of the LCD will light.
Check that the contrast of the LCD changes by rotating the encoder clockwise and counter clockwise.
Check that all LEDs ([BANK 1] Å` [NUMBER 8]) turn on.

10-2. When test ends, press [ENTER].

Troubleshooting for LCD & Encoder Test

Result of Test	Check
One of the dot is not lit	Replace the LCD unit.
Contrast of the LCD is not changed	Check R249 Is PWM waveform input to the QFP side of the R262?
Contrast of the LCD is pale, even if adjust its contrast maximum level.	Check DA7 Is there short in the circuit ?
Contrast of the LCD is dark, even if adjust its contrast minimum level.	If the above check points are normal, replace the LCD unit.
LED dose not change	Check MAIN BOARD IC31 Pin 91, 92 Is pulse generated ?>Check the condition of connection of R29, 30, C96, 97 on the MAIN BOARD

11.Bender test & Factory Data set

When LCD & Encoder Test ends normally, Bender test & Factory Data set runs automatically.
(or in the initial display of the test mode, press [NUMBER 3 (HH)] while holding down [SHIFT])

11-1. When Bender test & Factory Data set starts, the following display appears.

```
Factory Data Set
 [Adjust Bender]
```

11-2. Push the bender lever leftward lightly and then gradually return it to the original position.

11-3. Push the bender lever rightward lightly and then gradually return it to the original position.

11-4. Press [REC] button.
The follow display will appear.

```
Factory Data Set
ok ->Check Value
```

11-5. Are the following values obtained when the bender lever is moved all the way to the left and right ?

level	left	center	right
value	-256	0	256

```
Factory Data Set
BENDER       -256
```

↓

```
Factory Data Set
BENDER       +256
```

NOTE: If you move After Touch , Modulation, Ctrl Pedal, knobs simultaneously, the LCD display error.

```
Factory Data Set
Plural Slide Err
```

To abort a command, press [BWD] button.

When MIN and MAX displayed, The following display will appear.

```
Factory Data Set
BENDER          ok
```

11-6. Set the bender lever to MOD position and then return it to the original position.
Does the MOD value increase from 0 to 127 ?

```
Factory Data Set
MODULATION   +127
```

11-7. Test ends normally, the following display will appear.

```
Factory Data Set
ok? ---> [ENTER]
```

Press [ENTER] button, Factory Data will be loaded.

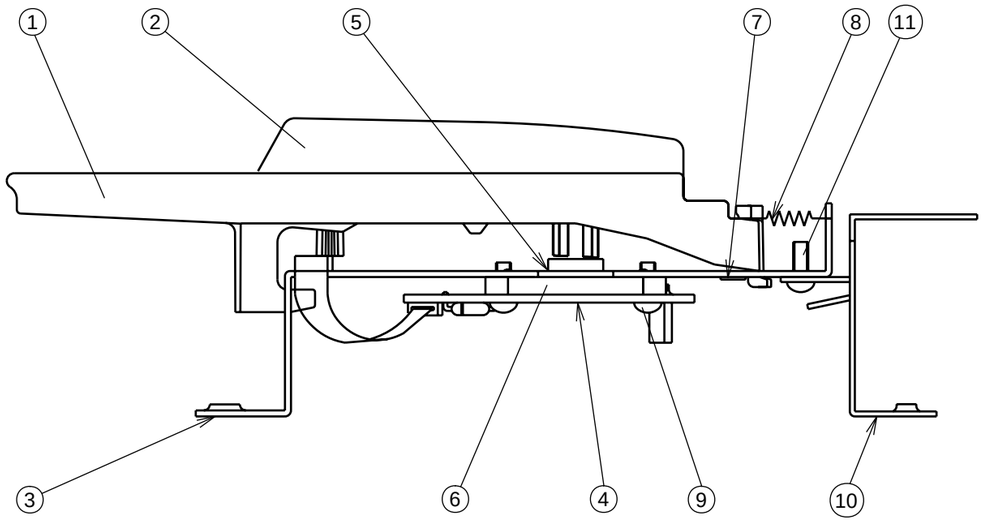
Troubleshooting for the AD Test

Result of Test	Check
No response	Check Q6, 7>Check the condition of connection
Value does not reach the 0 or 127 , -256 or +256	Check the power supply of Q6, 7
If the above check points are normal, replace the Bender unit.	

KEYBOARD PARTS LIST

JX-305(SK-861-K) PARTS LIST

No.	PARTS No.	PARTS NAME
1	32575349	SK-8 N-KEY CF
	32575348	SK-8 N-KEY EB
	32575350	SK-8 N-KEY D
	32575351	SK-8 N-KEY G
	32575347	SK-8 N-KEY A
	32575353	SK-8 N-KEY C'F'
2	32575355	SK-8 S-KEY
3	********	SK-8 CHASSIS 61P-E ASSY
	22815838	├─SK-8 CHASSIS 61P-C
	22265529	├─SK-861 CUSHION 61KEY B
	32155199	├─SK-8 GUIDE
	01236767	└─SK-861 AFTERTOUCH
4	70890767	SK-8A61 PWB HI-AFT ASSY
	70890778	SK-8A61 PWB LOW ASSY
5	01015134	SK-8A RUBBER SWITCH 12P
	01015145	SK-8A RUBBER SWITCH 13P
6	22205597	SK-8 PCB SPACER 12P
	22205598	SK-8 PCB SPACER 13P
7	00018978	SK-8 STOPPER 12P
	00018989	SK-8 STOPPER 13P
8	40017134	SK-8 SPRING
9	40012256	B ^ C g o C h 3 ~10 ZC
10	00126612	JV-50 KEYBOARD ANGLE
11	40011067	B ^ C g o C h 3 ~8 ZC



KEYBOARD DISASSEMBLY

1. ATTACHING THE PCBs

Required Parts

PARTS No,	PARTS NAME	Qty.
70890767	SK-8A61 PWB HI-AFT ASSY	1
70890778	SK-8A61 PWB LOW ASSY	1
01015134	SK-8A RUBBER SWITCH 12P	4
01015145	SK-8A RUBBER SWITCH 13P	1
22205597	SK-8 PCB SPACER 12P	4
22205598	SK-8 PCB SPACER 13P	1
40012256	BINDING TAPTIGHT B 3x10mm ZC	24

1) First, turn the chassis over on the other side, being careful not to reverse the right and left ends.
Next, as shown in fig. 1, place SPACER 12P (4 pieces) on the chassis from the left end (the bass side of keyboard), aligning them with the posisioning holes provided on the chassis.
(Refer to fig. 2.)
In the same way, place SPACER 13P on the right side of the chassis (the treble side).

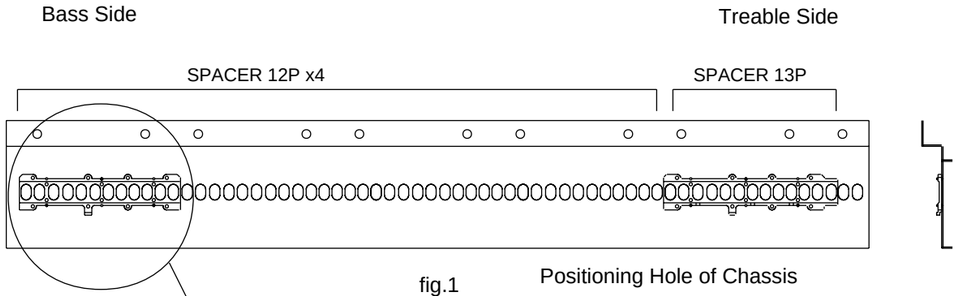


fig.1

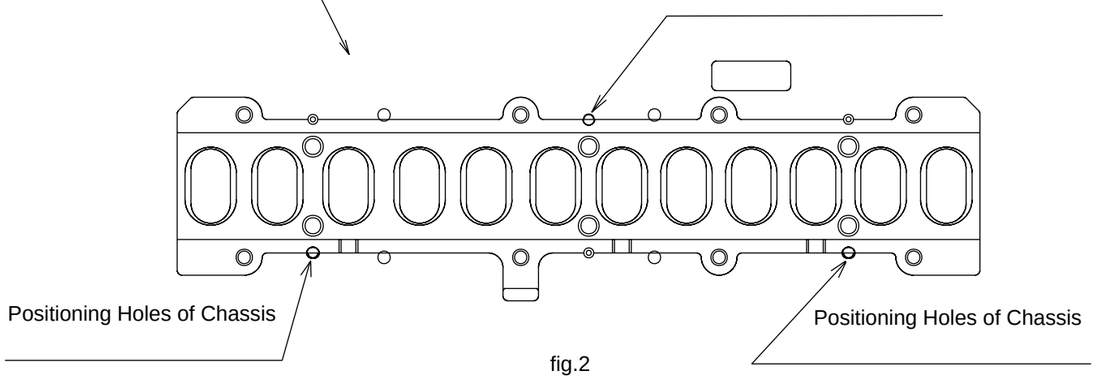


fig.2

2) Next, aligning the positioning bosses of RUBBER SWITCH with the circular holes of SPACER, and as done for the spacer, place four RUBBER SWITCH 12PL, and one RUBBER SWITCH 13P in order, starting on the lower tone side.
In this procedure, make sure that RUBBER SWITCH and SPACER are positioned with their cutout parts and ascape grooves aligned, respectively.
(Refer to fig. 3 and fig. 4.)

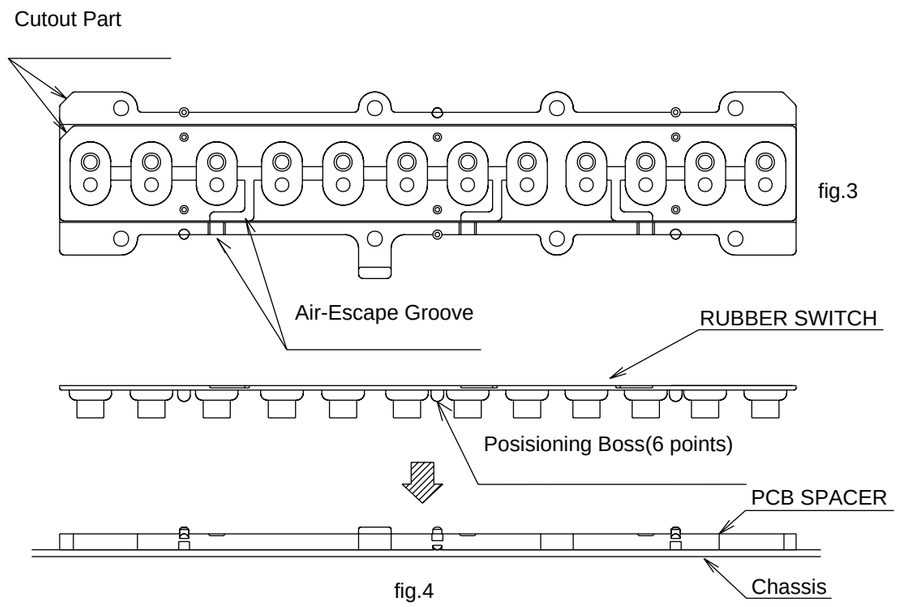


fig.3

fig.4

3) Next, using the cutout part of PCB and the projecting part of SPACER as positioning guide, place PCB so that the positioning pin of SPACER fits into the positioning hole of PCB. (Refer to fig. 5)
As fig. 6 shows, PCBs consist of three boards, "LOW" and "HI".

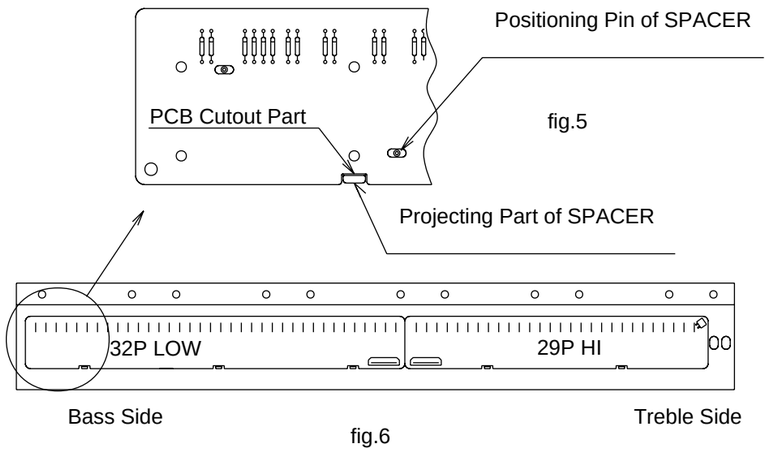


fig.5

fig.6

4) Then, tighten the LOW and HI PCBs with the Tap Tight Screws. First tighten the near-center Screws 1, then the end Screws 2 on the other side. (This order must be followd. Ohterwise the PCBs may not be flush with the Spacers.)
Then tighten the remaining Screws 3 of the LOW and HI PCBs. (For the above, refer to Fig. 7.)
Finally, tighten the Screws in the area adjacent to the LOW and HI PCBs.
Since the PCBs may have been warped by soldering, etc., it is recommended to gently hole down the center and tighten the Screws.

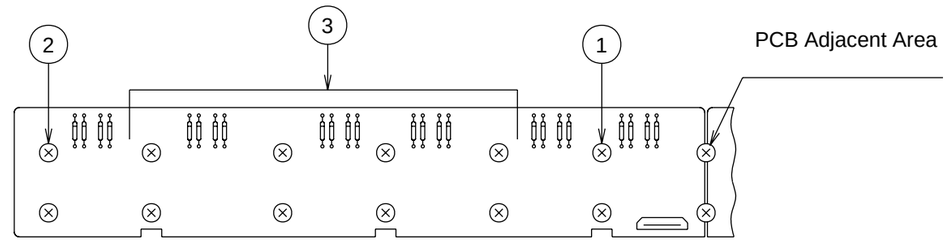


fig.7 (ex. 32P LOW)

2. REMOVAL AND REINSTALLATION OF THE KEYS

Before removing the keys, first take the stopper off the rear side of the chassis, then take away the spring.
When reinstalling the keys, carefully apply the stopper as shown in fig. 8.
Bring the stopper into closs contact with the ends of the white key shafts and press the stopper in the area of the double-coated tape to secure it. (Refer fig. 8.)

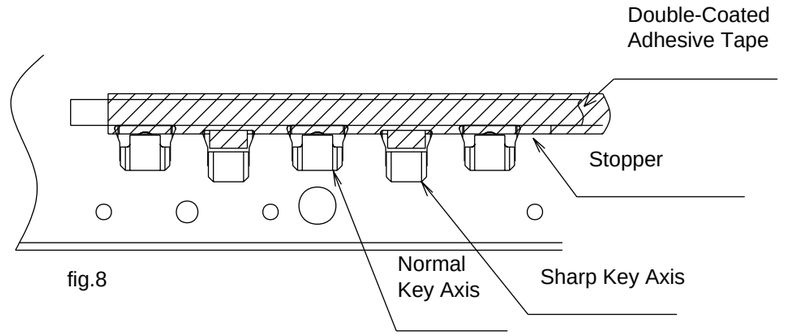


fig.8

Viewed from the rear side of the chassis.

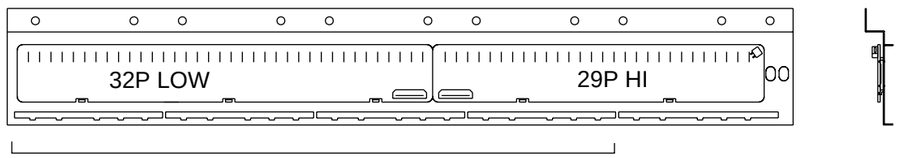
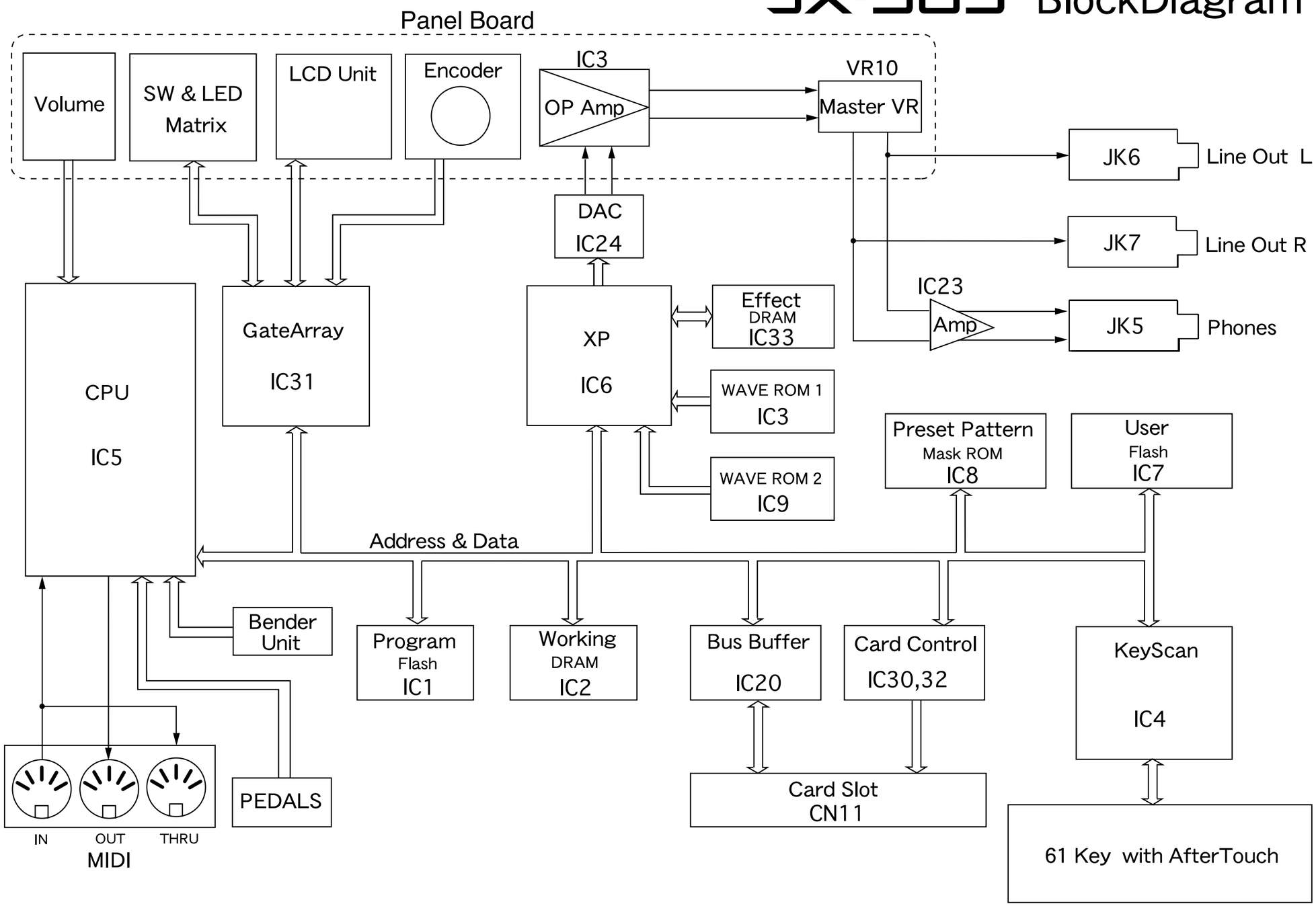


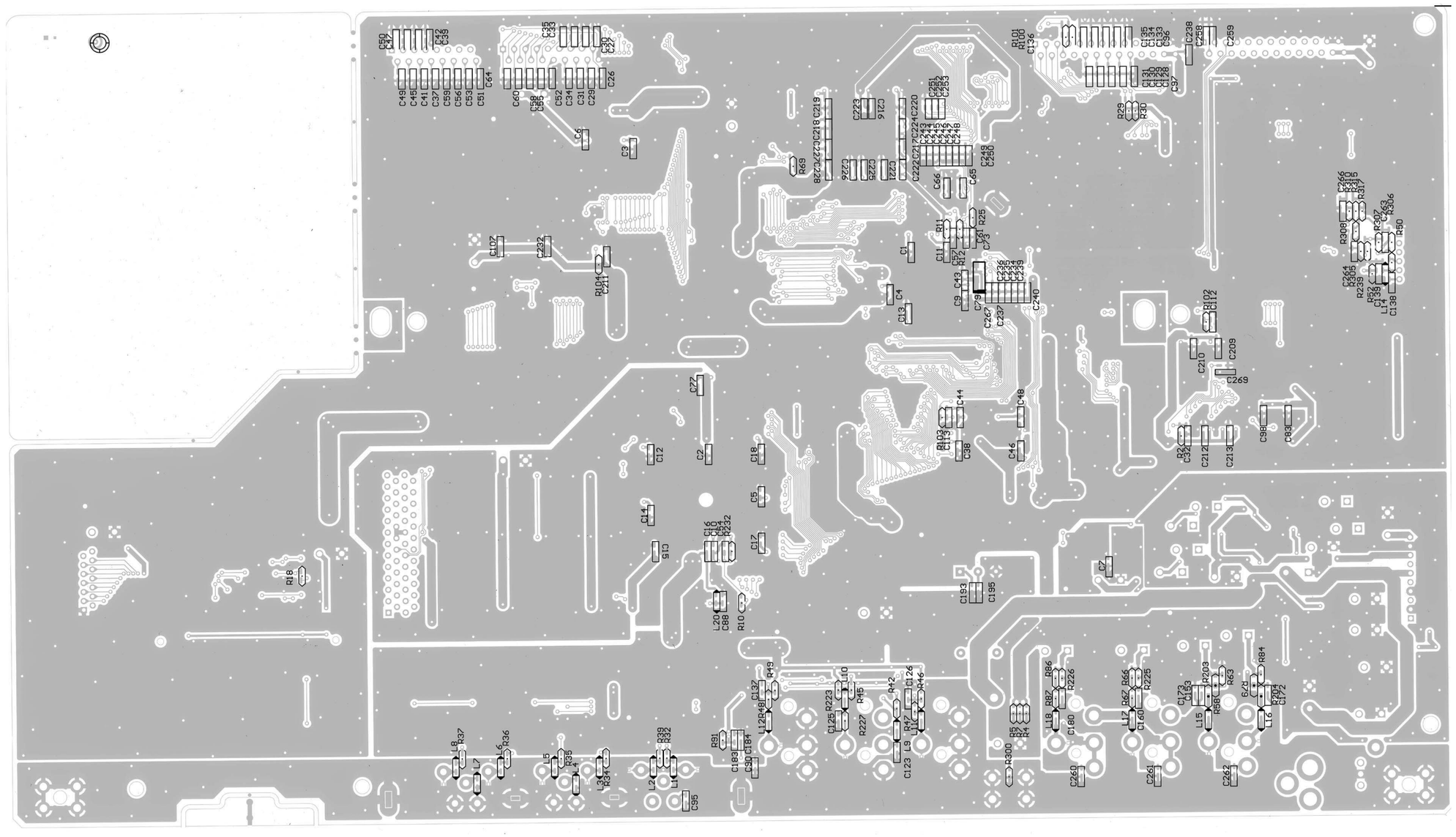
fig.9

BLOCK DIAGRAM



CIRCUIT BOARD (MAIN)

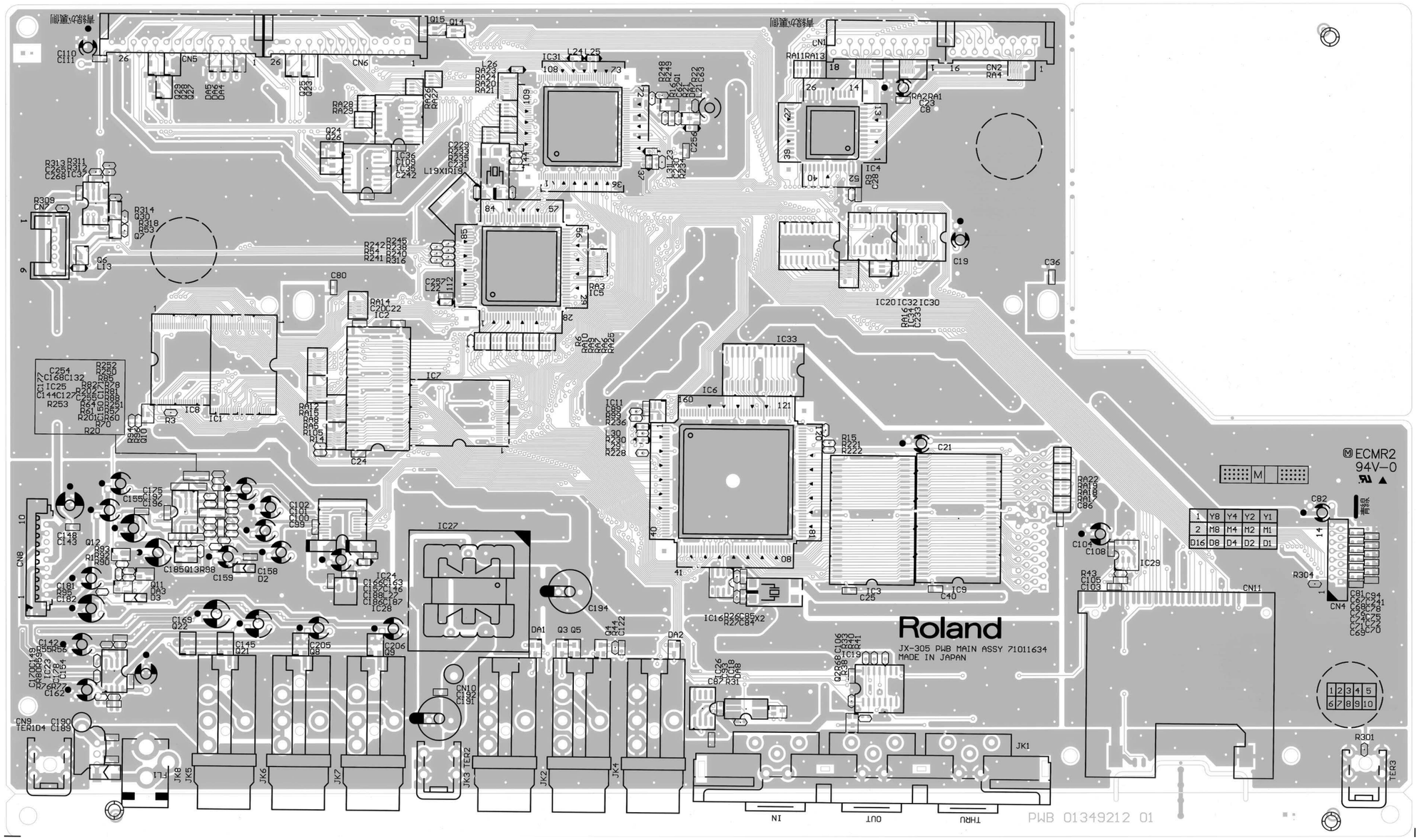
ASSY 71011634



View from foil side.

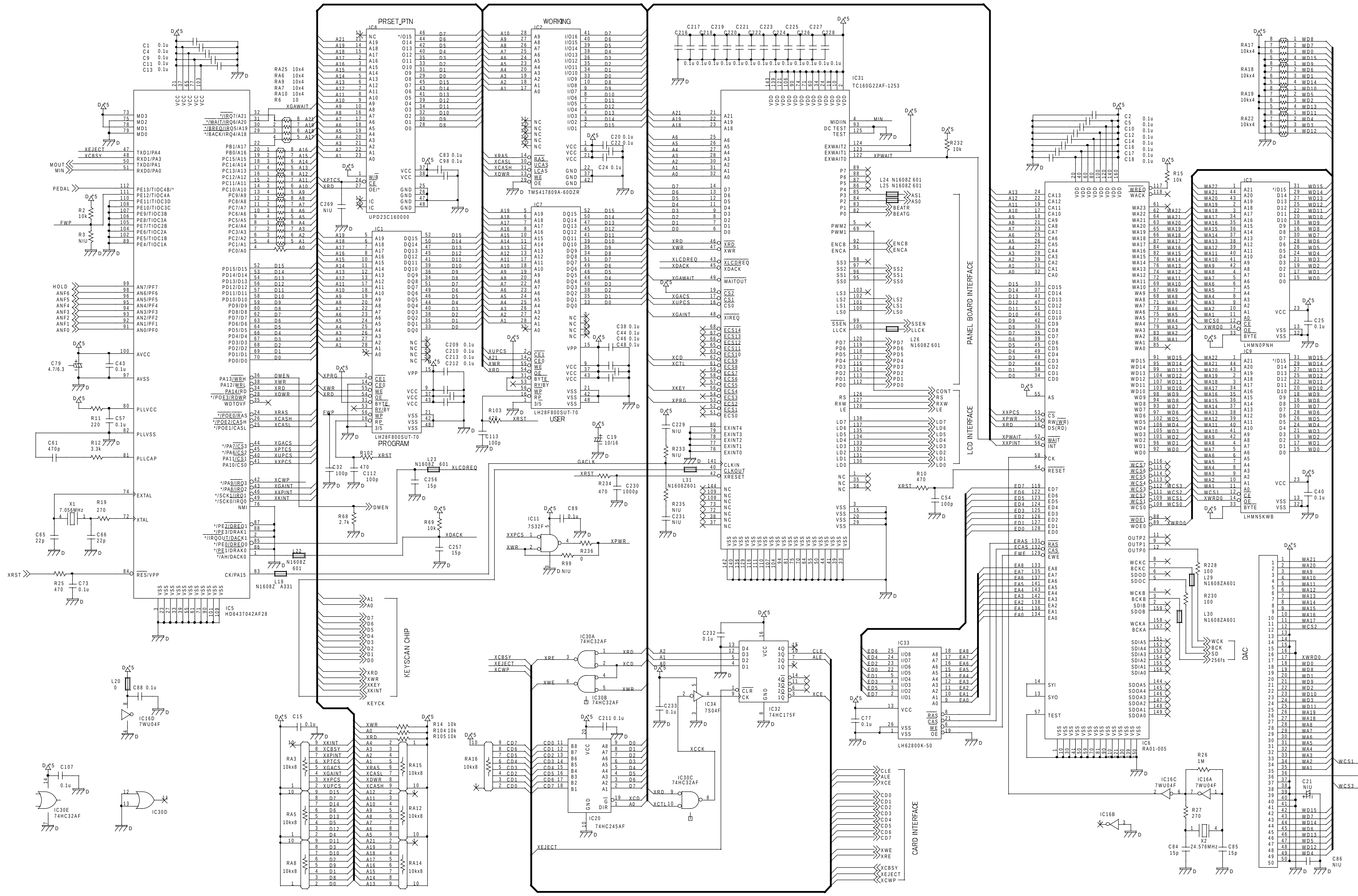
CIRCUIT BOARD (MAIN)

ASSY 71011634

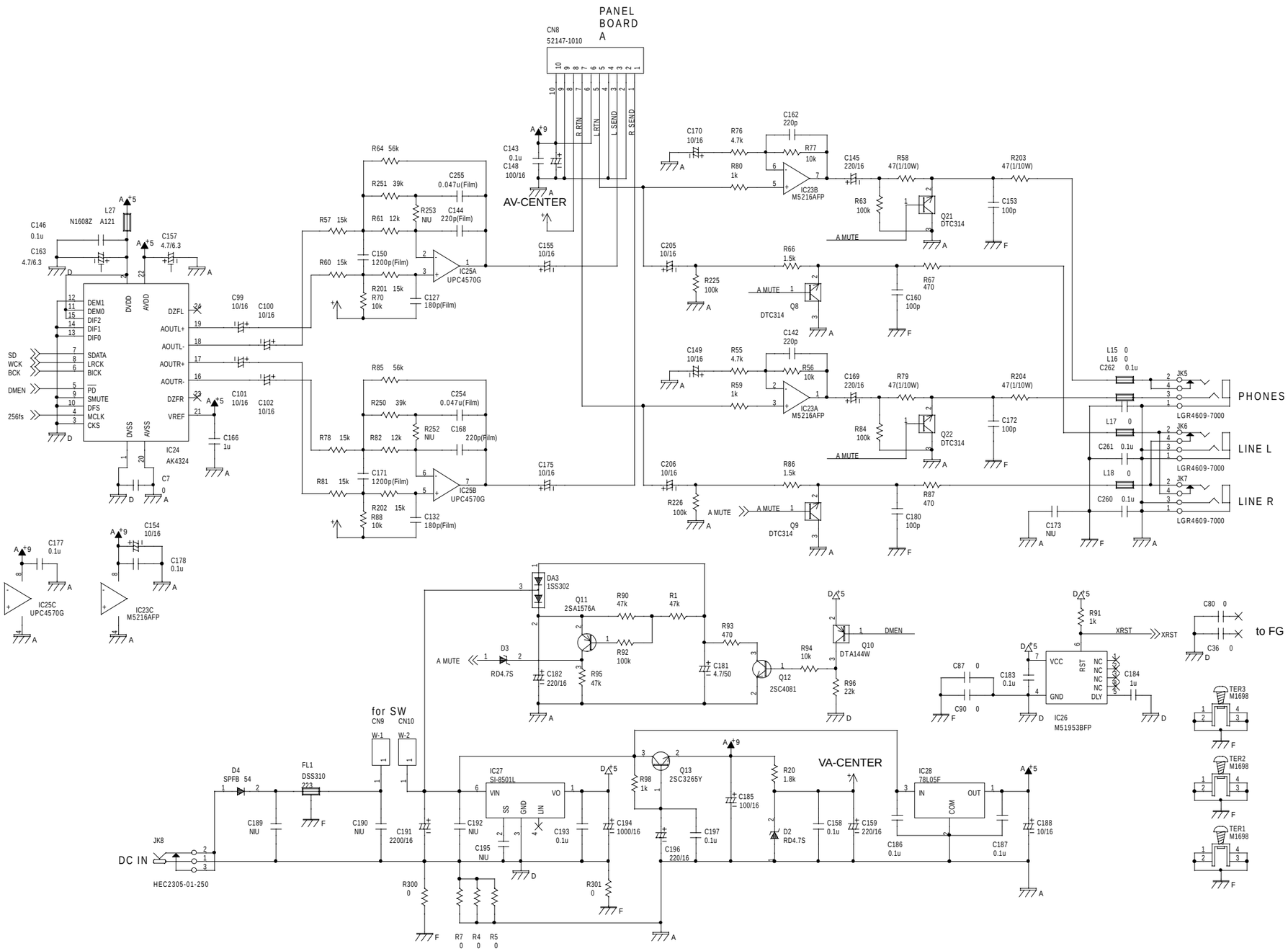


View from components side.

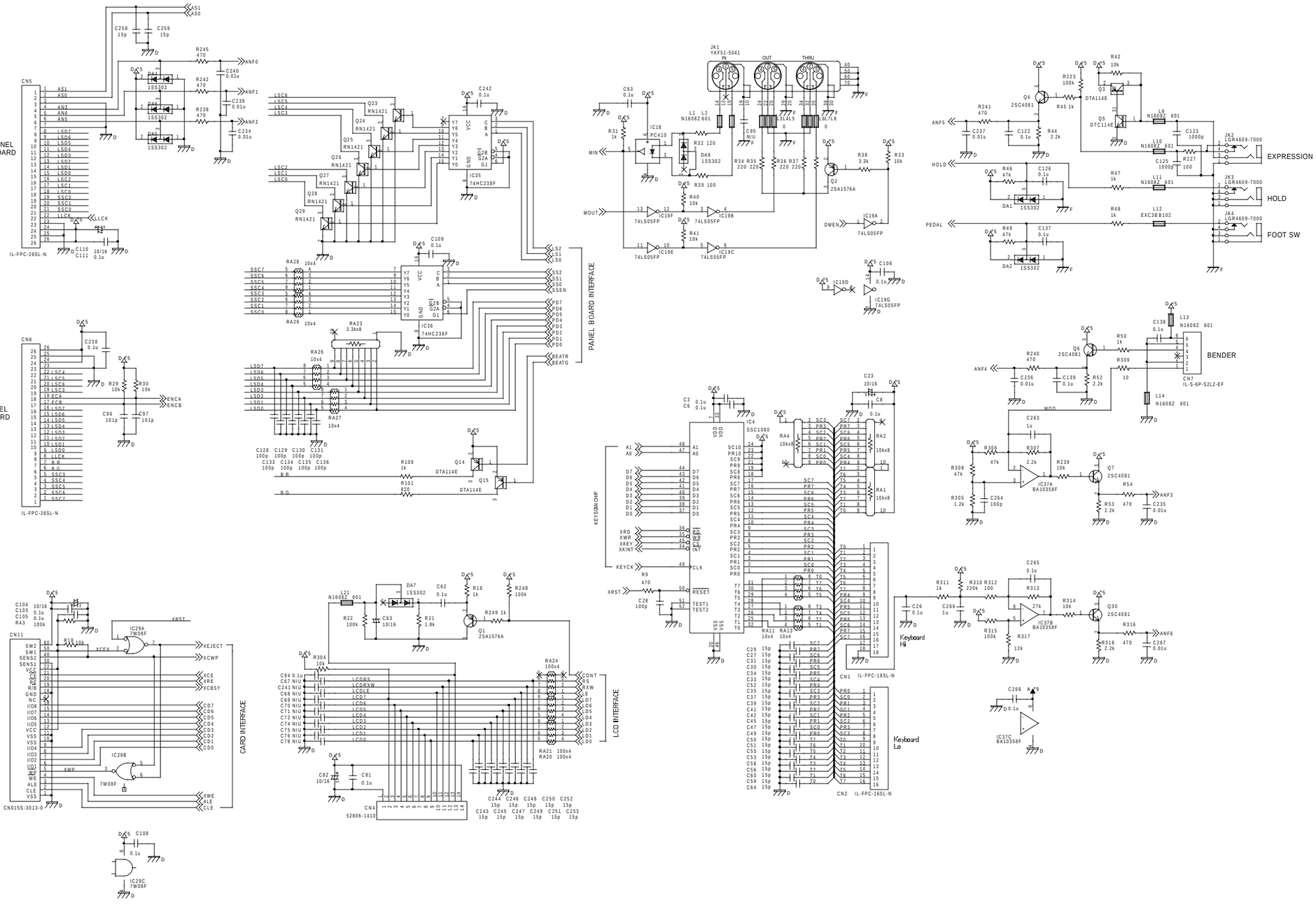
CIRCUIT DIAGRAM (DIGITAL)



CIRCUIT BOARD (SND_PWR)

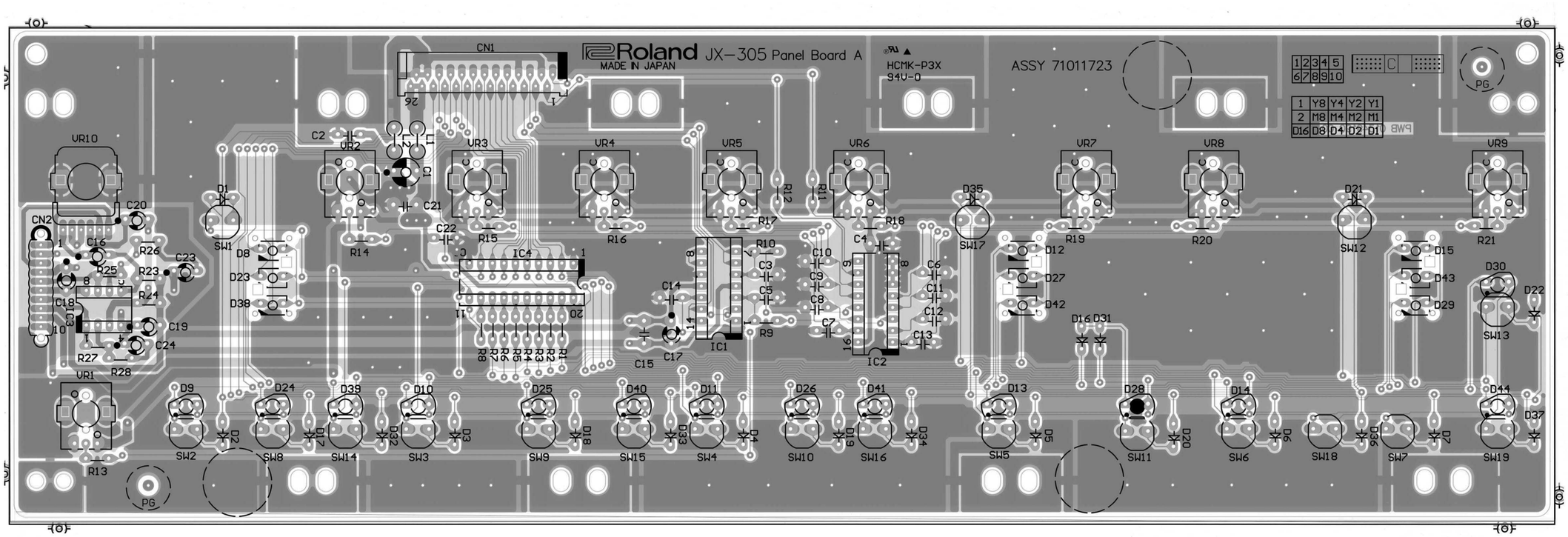


CIRCUIT DIAGRAM (INTERFACE)



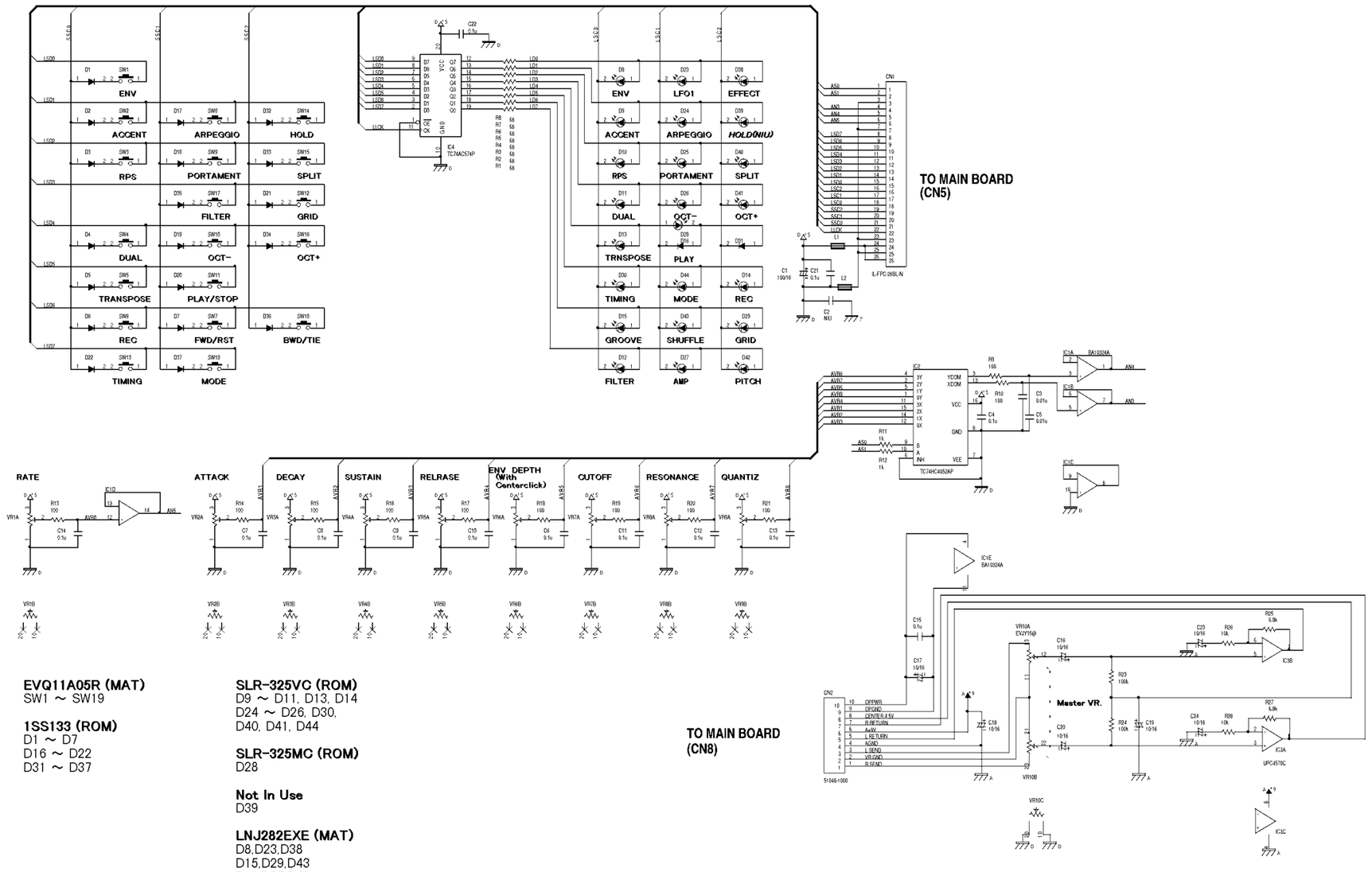
CIRCUIT BOARD (PANEL A)

ASSY 71011723



View from components side.

CIRCUIT DIAGRAM (PANEL A)



EVQ11A05R (MAT)
SW1 ～ SW19

1SS133 (ROM)
D1 ～ D7
D16 ～ D22
D31 ～ D37

SLR-325VC (ROM)
D9 ～ D11, D13, D14
D24 ～ D26, D30,
D40, D41, D44

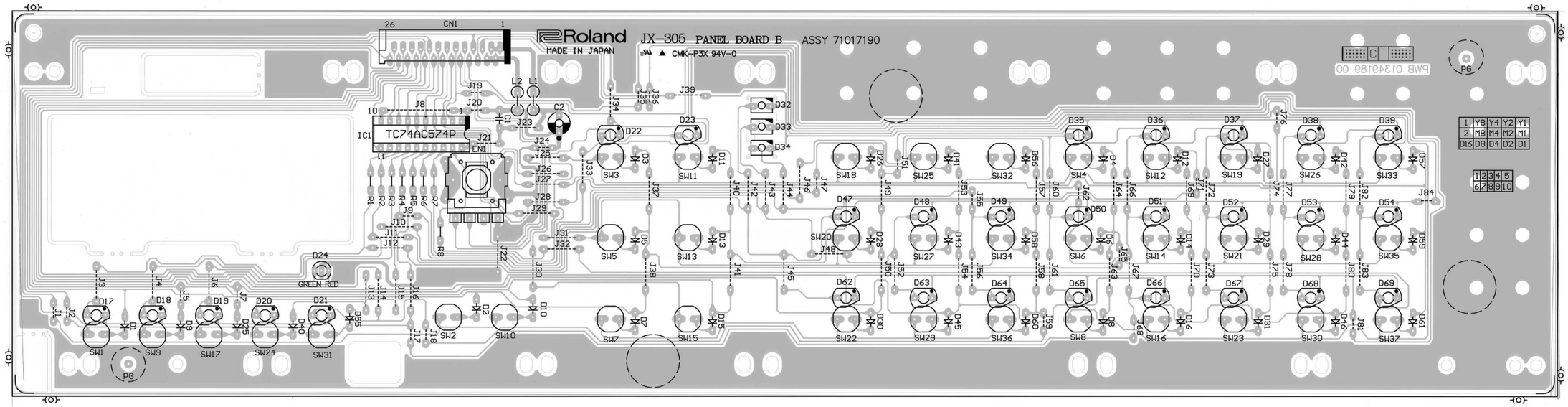
SLR-325MC (ROM)
D28

Not In Use
D39

LNJ282EXE (MAT)
D8,D23,D38
D15,D29,D43
D12,D27,D42

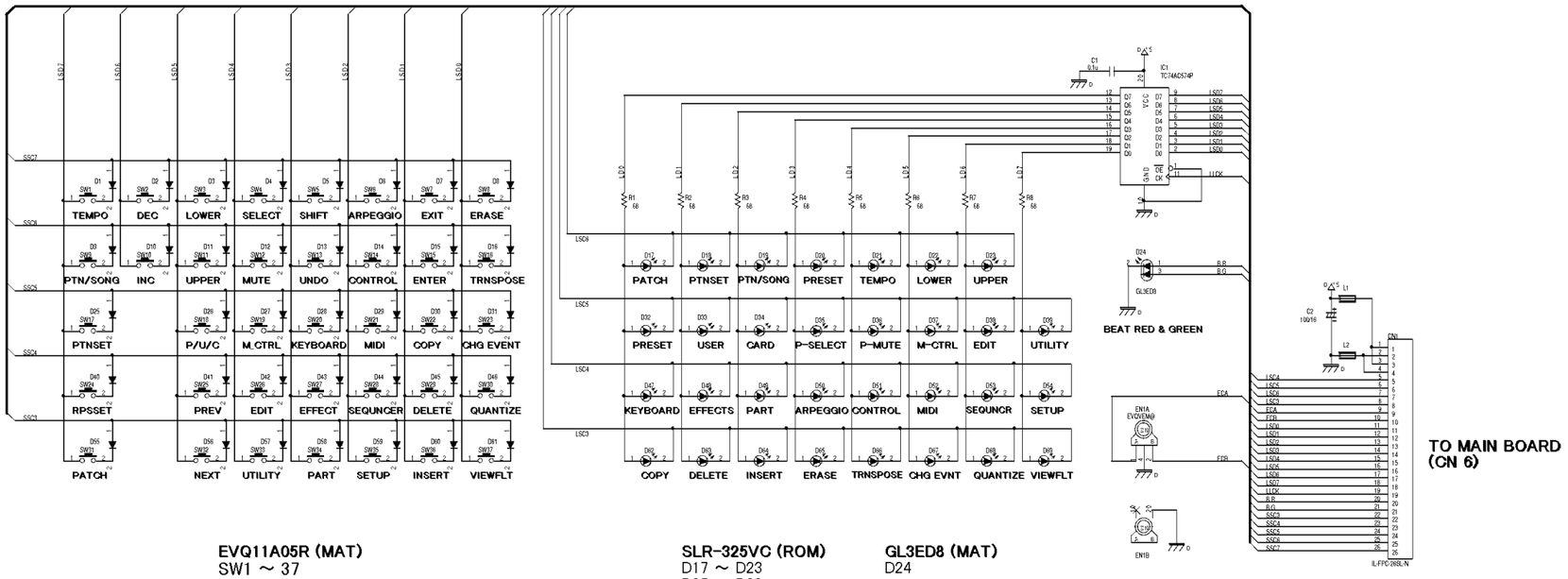
CIRCUIT BOARD (PANEL B)

ASSY 71017190



View from components side.

CIRCUIT DIAGRAM (PANELB)



EVQ11A05R (MAT)
SW1 ～ 37

1SS133 (ROM)
D1 ～ D16
D25 ～ D31
D40 ～ D46
D55 ～ D61

SLR-325VC (ROM)
D17 ～ D23
D35 ～ D39
D47 ～ D54
D62 ～ D69

GL3ED8 (MAT)
D24

LNJ232RXE (MAT)
D32 ～ D34