

# VG-99

## V-Guitar System

## SERVICE NOTES

### Issued by RJA

### Table of Contents

Cautionary Notes .....	2	Circuit Board (Main Board: 1/3) .....	27
Specifications .....	2	Circuit Board (Main Board: 2/3) .....	28
Location of Controls .....	4	Circuit Board (Main Board: 3/3) .....	29
Location of Controls Parts List .....	5	Circuit Diagram (Main Board: CPU) .....	30
Exploded View .....	6	Circuit Diagram (Main Board: DSP) .....	32
Exploded View Parts List .....	8	Circuit Diagram (Main Board: AD/DA) .....	34
Block Diagram/Wiring Diagram .....	10	Circuit Diagram (Main Board: Power) .....	36
Disassembly Procedure .....	12	Circuit Board (Panel, SW/VR, Jack, XLR, GK, In/Out Board: 1/2) .....	38
Parts List .....	16	Circuit Board (Panel, SW/VR, Jack, XLR, GK, In/Out Board: 2/2) .....	40
Checking the Version Number .....	19	Circuit Diagram (Panel Board:1/2) .....	42
Users Data Save and Load .....	19	Circuit Diagram (Panel Board:2/2, Jack, In/Out, SW/VR, XLR, GK) .....	44
Factory Reset Instructions .....	19		
System Update Instructions .....	19		
Test Mode .....	20		



**Copyright © 2007 ROLAND CORPORATION**

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

**Roland**

17058514E0

Printed in Japan (0370) (SC-KWS)

## Cautionary Notes

Before beginning the procedure, please read through this document. The matters described may differ according to the model.

### Note on Disassembly

Confirm the disassembly procedure before disassembling the unit.  
Please take particular care not to misplace the following components during disassembly.

- SPRING (**Exploded View** (p. 6) **24**)
- SPRING 2 (**Exploded View** (p. 6) **25**)
- INSULATING WASHER (**Location of Controls** (p. 4) **a**, **Exploded View** (p. 6) **h**)
- JACK BUSH (**Location of Controls** (p. 4) **a**, **Exploded View** (p. 6) **g**)

### Back Up User Data!

User data may be lost during the course of the procedure. Refer to “**Users Data Save and Load**” (p. 19) in the Service Notes and save the data. After completing the procedure, restore the backed-up data to the product.

### Parts List

A component whose part code is \*\*\*\*\* cannot be supplied as a service part because one of the following reasons applies.

- Because it is supplied as an assembled part (under a different part code).

### Circuit Diagram

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

## Specifications

### VG-99: V-Guitar System

#### AD Conversion

24 bits + AF method

#### DA Conversion

24 bits

#### Sampling Frequency

44.1 kHz

#### Program Memories

400: 200 (User) + 200 (Preset)

#### Nominal Input Level

GUITAR INPUT: -10 dBu

#### Input Impedance

GUITAR INPUT: 2.2 M ohms

#### Nominal Output Level

MAIN OUT: -10 dBu

SUB OUT (XLR): +4 dBu

GUITAR OUT: -10 dBu

#### Output Impedance

MAIN OUT: 1 k ohm

SUB OUT (XLR): 600 ohms

#### Dynamic Range

100 dB or greater (IHF-A)

### Controls

#### <Top Panel>

OUTPUT LEVEL knob  
 Function knobs x 6 (F1-F6)  
 BALANCE knob  
 PATCH LEVEL knob  
 V-LINK button  
 DIRECT PATCH buttons x 5 (1-5)  
 CONTROL buttons x 2 (1, 2)  
 COSM GUITAR MODELING TYPE buttons x 2 (A, B)  
 COSM GUITAR ALTERNATE TUNING button  
 POLY FX A/B buttons x 2 (A, B)  
 FX buttons x 2 (A, B)  
 COSM AMP buttons x 2 (A, B)  
 MIXER buttons x 2 (A, B)  
 DELAY/REVERB button  
 DYNAMIC button  
 CHAIN button  
 CONTROL ASSIGN button  
 NAME/KEY/BPM button  
 Function buttons x 6 (F1-F6)  
 EXIT button  
 WRITE button  
 PAGE buttons x 2 (Left, Right)

GUITAR to MIDI button  
 SYSTEM button  
 GLOBAL button  
 TUNER button  
 CATEGORY button  
 PATCH/VALUE dial  
 Power switch

**[D BEAM]**

D Beam Controller  
 PITCH button  
 FILTER button  
 ASSIGNABLE button

**[RIBBON CONTROLLER]**

Ribbon Controller  
 PITCH button  
 FILTER button  
 ASSIGNABLE button

**<Rear Panel>**

Ground Lift switch (SUB OUT)

**Display**

240 x 64 dots graphic LCD (with backlit)

**Connectors****<Top Panel>**

GK IN connector (13-pin DIN type)

**<Rear Panel>**

GUITAR INPUT jack (1/4" phone type)  
 GUITAR OUTPUT jack (1/4" phone type)  
 SUB OUT jacks x 2 (L, R) (XLR type)  
 MAIN OUT jacks x 2 (L/MONO, R) (1/4" phone type)  
 PHONES jack (Stereo 1/4" phone type)  
 DIGITAL OUT jack (Coaxial type, conforms to IEC60958-3)  
 EXP PEDAL jack (1/4" TRS phone type)  
 CTL 3,4 jack (1/4" TRS phone type)  
 USB connector (B type)  
 RRC2 IN connector (RJ45 type)  
 MIDI connectors x 2 (IN, OUT) (5-pin DIN type)  
 DC IN jack

**Power Supply**

AC Adaptor (PSB-1U)

**Current Draw**

1.3 A

**Dimensions**

384.0 (W) x 218.0 (D) x 93.5 (H) mm

15-1/8 (W) x 8-5/8 (D) x 3-11/16 (H) inches

\* EIA-5U rack mount type; optional rack mount adaptor RAD-99

**Weight**

2.1 kg / 4 lbs 11 oz (excluding AC Adaptor)

**Accessories**

OWNER'S MANUAL SET ENGLISH (#73234234)

Owner's Manual English (#\*\*\*\*\*)

Patch List Japanese/English (#\*\*\*\*\*)

VG-99 Software CD-ROM (#04238090)

GK cable (5 m) (#02128556)

USB cable (#03237578)

RRC2 cable (#04564978)

AC adaptor (PSB-1U) (#04236101)

AC Cord for 117 VU, 117 VUC (#02562456)

for 230 V E, 230 V EU (#01903356)

for 240 V A (#03785590)

Knob Bolt x 4 (#73780734)

Ferrite-Core x 1 (#04891890)

Roland Service (information sheet) (#\*\*\*\*\*)

**Options**

Divided Pickup: GK-3

MIDI Foot Controller: FC-300

Foot Switch: BOSS FS-5U/6

Expression Pedal: EV-5, BOSS FV-500L/500H

GK Cable: GKC-10/5/3

Unit Selector: US-20

GK Parallel Box: GKP-4

Rack Mount Adaptor: RAD-99

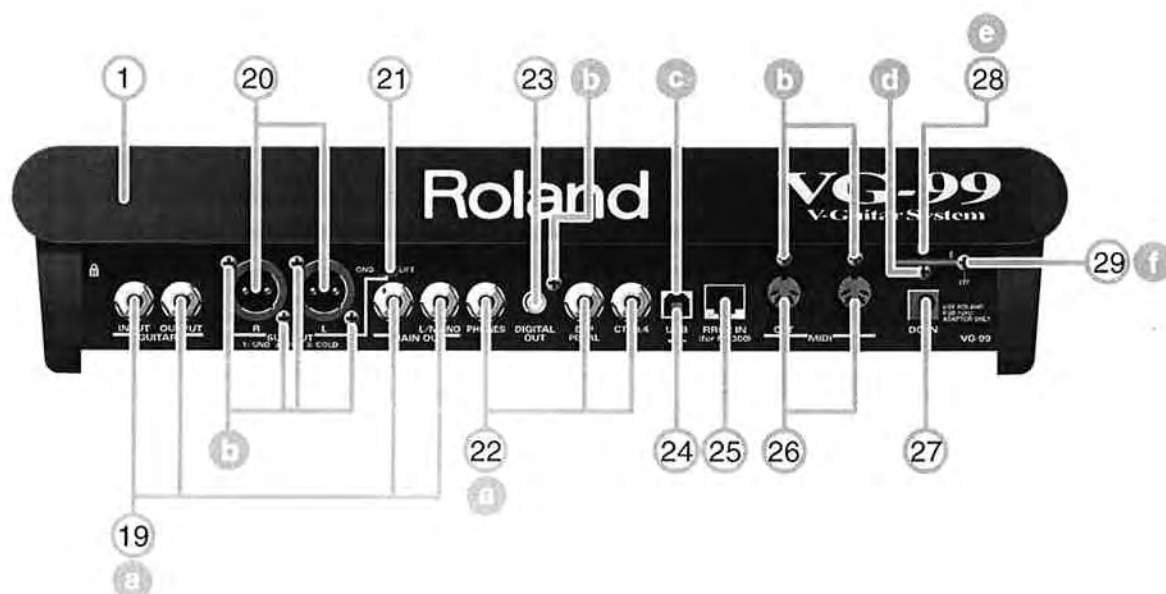
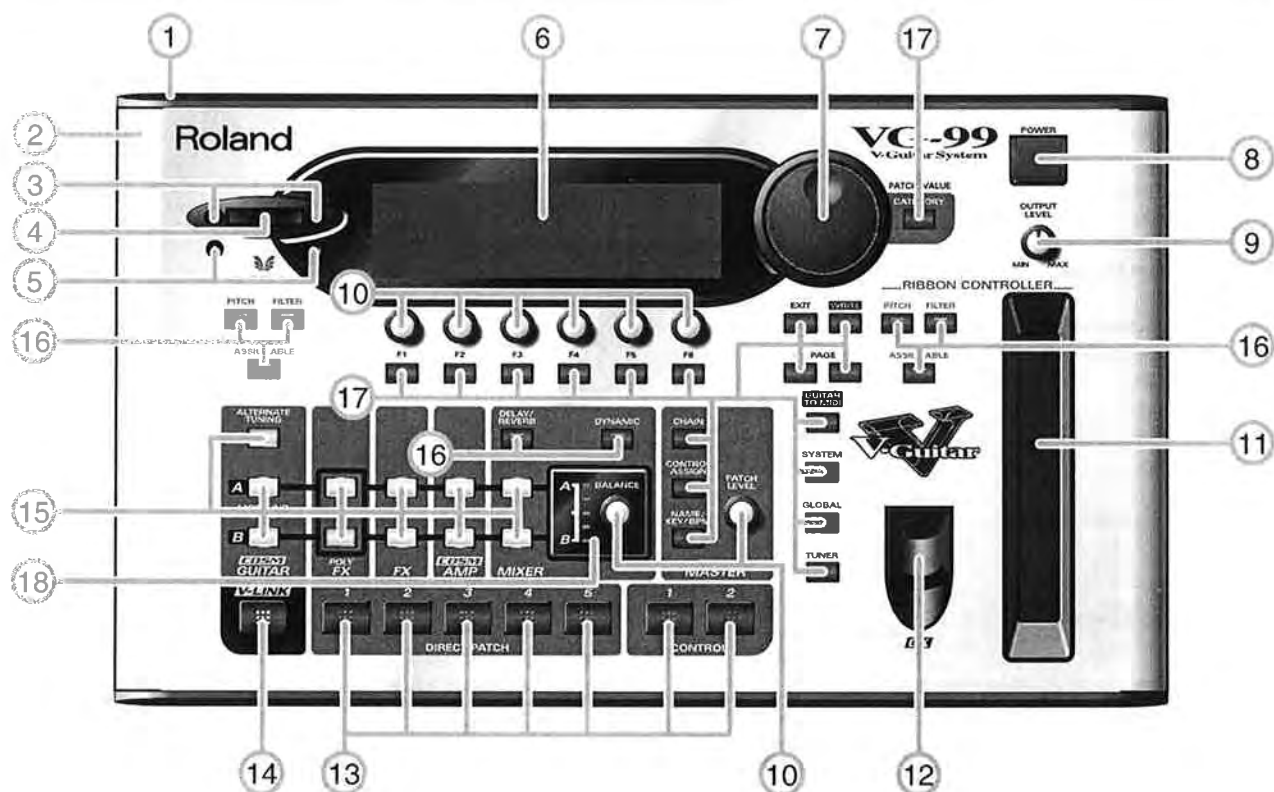
Pad Stand: PDS-10

Foot Switch Cable: PCS-31

\* 0 dBu = 0.775 V rms

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

## Location of Controls



## Location of Controls Parts List

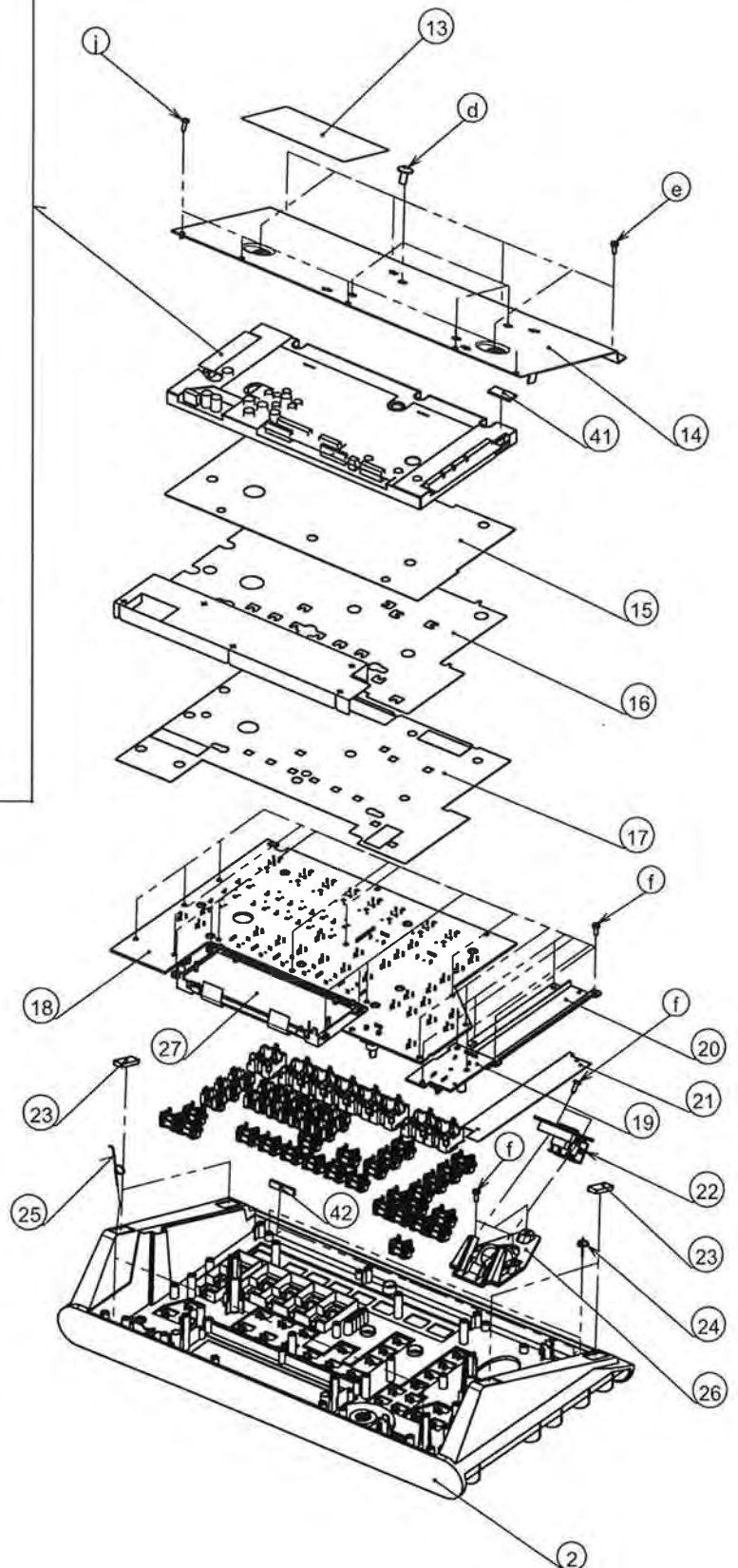
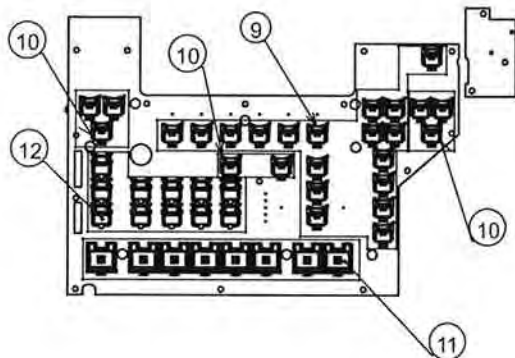
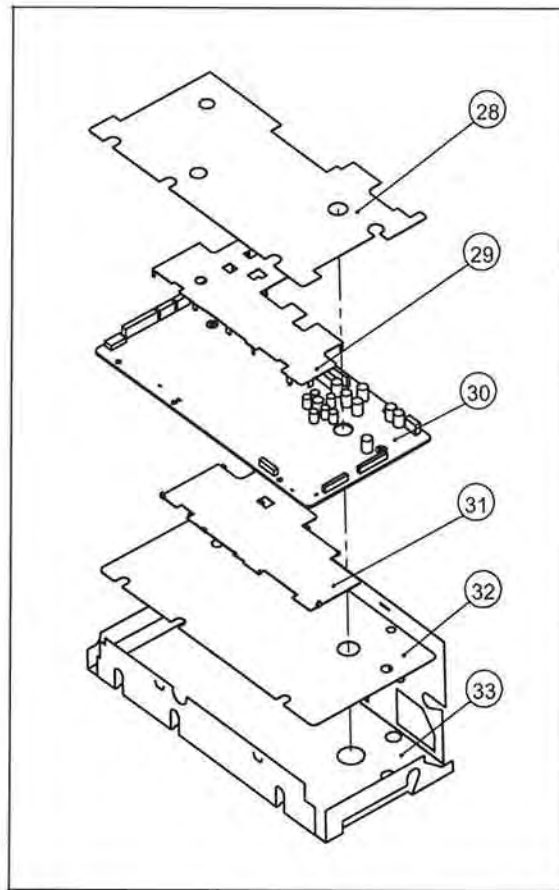
### Parts

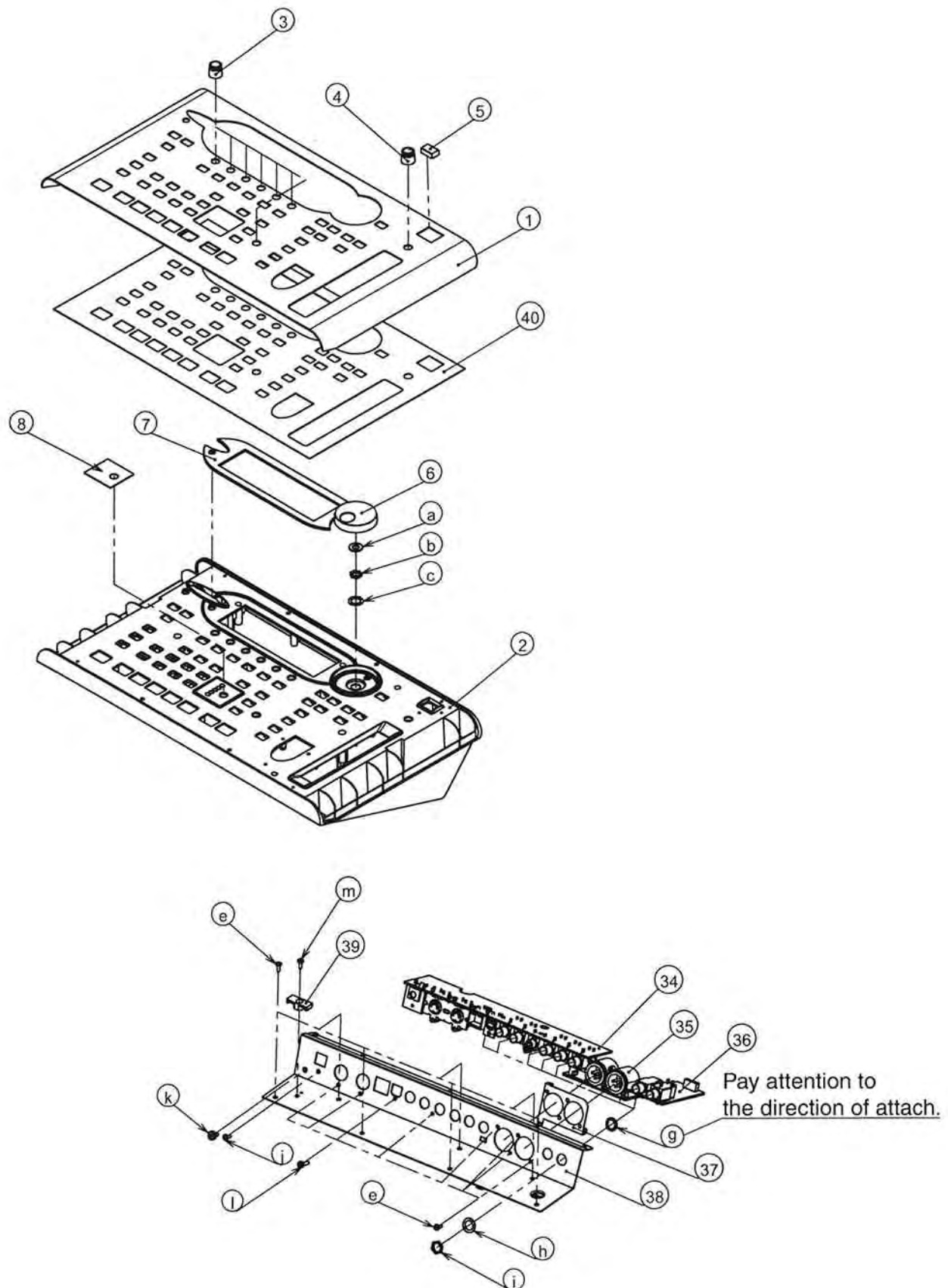
No.	Part Code	Part Name	Description	Q'ty
1	04238167	CASE		1
2	04238145	PANEL		1
	04561612	PANEL ADHESIVE TAPE		1
3	03126134	LED (INFRARED)	TLN233 (F)	2
	02678990	LED SPACER	LH-5S-6.5	2
4	04458778	PHOTO DI	TPS616 (F)	1
	02905256	LED SPACER	LH-3-7	1
5	04121334	LED	L-7104PBD-A	2
	03348156	LED SPACER	LH-3-10	2
6	04237989	LCD	F-51851GNFQJ-LW-AAN	1
	04238189	DISPLAY COVER		1
7	01905467	ROTARY ENCODER	EVE GC1 F20 24B	1
	* The ROTARY ENCODER includes the following parts.			
	*****	ENCODER NUT		
	*****	ENCODER WASHER		1
	F2477101	DR-KNOB		1
	40782156	PLASTIC WASHER	M6 NN-0612-08	1
8	04563434	PUSH SWITCH	ESB33133	1
	04238134	KEYTOP	S-KEY POWER	1
9	02455234	12M/M ROTARY POTENTIOMETER	EVJY15F02B14	1
	04238745	R-KNOB	INDEX	1
10	04128323	POTENTIOMETER	RV112FF-40B1-15F-0B20K	8
	04238112	R-KNOB		8
11	02452467	RIBBON SENSOR		1
	01900489	SENSOR HOLDER		1
12	73234201	GK BOARD ASSY		1
	04238190	GK ESCUTCHEON		1
13	01343478	TACT SWITCH	SKQNAED010	7
	01904112	LED (RED)	SLR-342VCT32 N.P.Q RANK	7
	01783923	N S-KEYTOP	MD1H	7
14	01343478	TACT SWITCH	SKQNAED010	1
	04121334	LED	L-7104PBD-A	1
	01783923	N S-KEYTOP	MD1H	1
15	01343478	TACT SWITCH	SKQNAED010	11
	04458767	LED	SLI-343YYT32	11
	03126867	D S-KEYTOP	SX1H-B CLR	11
16	01343478	TACT SWITCH	SKQNAED010	8
	01904112	LED (RED)	SLR-342VCT32 N.P.Q RANK	8
	00900145	D S-KEYTOP	SD1H BLK	8
17	01343478	TACT SWITCH	SKQNAED010	18
	00900189	D S-KEYTOP	SX1H BLK	18
18	01904112	LED (RED)	SLR-342VCT32 N.P.Q RANK	5
	04238212	SUB DISPLAY COVER		1
19	03239801	6.5MM JACK	HTJ-064-12I	4
20	04564190	XLR CONNECTOR	JY-5032A X 030	2
21	03016956	SLIDE SWITCH	SSSU121700	1
22	03234456	6.5MM JACK	HTJ-064-12D	3
23	03230689	RCA (PIN)	YKC21-3486	1
24	02781101	USB CONNECTOR	YKF45-0020N	1
25	04129090	RRC2 JACK	C20EB0-6011-R	1
26	13429676	MIDI CONNECTOR	YKF51-5048N (TWIN)	1
27	13449717	ADAPTOR JACK	HEC2392-01-150	1
	03129878	DC JACK HOLDER	(DR-670)	1
28	22365714	CORD HOOK		1
29	04238223	REAR PANEL		1

### Screws

No.	Part Code	Part Name	Description	Q'ty
a	04671090	JACK BUSH		7
	03014912	INSULATING JACK WASHER	M9X14.5X0.5	7
	*****	HEX NUT M9	(included in Phones Jack)	7
b	40011312	SCREW 3X8	BINDING TAPTITE P BZC	7
c	40011490	SCREW M3X6	PAN MACHINE W/SW BZC	1
d	40012534	SCREW 3X6	BINDING TAPTITE S FE BZC	1
e	40019123	SCREW 3X8	BINDING TAPTITE S BZC	1
f	40679656	SCREW 4X8	BINDING TAPTITE S NI	1

## Exploded View





## Exploded View Parts List

### Parts

No.	Part Code	Part Name	Description	Q'ty
1	04238145	PANEL		1
2	04238167	CASE		1
3	04238112	R-KNOB		8
4	04238745	R-KNOB	INDEX	1
5	04238134	KEYTOP	S-KEY POWER	1
6	F2477101	DR-KNOB		1
7	04238189	DISPLAY COVER		1
8	04238212	SUB DISPLAY COVER		1
9	00900189	D S-KEYTOP	SX1H BLK	18
10	00900145	D S-KEYTOP	SD1H BLK	8
11	01783923	N S-KEYTOP	MD1H	8
12	03126867	D S-KEYTOP	SX1H-B CLR	11
13	40678723	CAUTION LABEL		1
14	04238178	BOTTOM COVER		1
15	04783734	INSULATING SHEET	MAIN	1
18	73234189	PANEL BOARD ASSY	(SW BOARD + VR BOARD)	1
		* The PANEL BOARD ASSY includes the following parts.		
16	*****	PANEL SHIELD SHEET		1
17	*****	PANEL INSULATING SHEET		1
19	*****	SW/VR BOARD ASSY		1
	04564990	WIRING	RIBBON CABLE 5X80-P2.5	1
20	01900489	SENSOR HOLDER		1
21	02452467	RIBBON SENSOR		1
22	73234201	GK BOARD ASSY		1
23	04561634	FOOT	23X8.3 T3	4
24	04675812	SPRING	FRONT	2
25	04890601	SPRING 2	REAR	2
26	04238190	GK ESCUTCHEON		1
27	04237989	LCD	F-51851GNFQJ-LW-AAN	1
30	73788790	MAIN BOARD ASSY	W/SHIELD (EXCEPT 117V)	1
		* The MAIN BOARD ASSY W/SHIELD (#73788790) includes the following parts.		
28	*****	TOP INSULATING SHEET		1
29	*****	TOP SHIELD COVER		1
31	*****	BOTTOM SHIELD COVER		1
32	*****	BOTTOM INSULATING SHEET		1
33	*****	MAIN SHIELD SHEET		1
41	*****	SHIELD CUSHION	RFSG-015100 L=20	1
30	73788834	MAIN BOARD ASSY	WO/SHIELD (117V ONLY)	1
		* The MAIN BOARD ASSY WO/SHIELD (#73788834) includes the following parts.		
29	*****	TOP SHIELD COVER		1
31	*****	BOTTOM SHIELD COVER		1
34	73234190	JACK BOARD ASSY		1
35	73455323	XLR BOARD ASSY		1
36	73455334	IN/OUT BOARD ASSY		1
37	04783723	CANNON SHIELD		1
	04679567	WIRING	W8 (1P-L30)	2
38	04238223	REAR PANEL		1
39	22365714	CORD HOOK		1
40	04561612	PANEL ADHESIVE TAPE		1
42	40782234	SPRING CUSHION		2

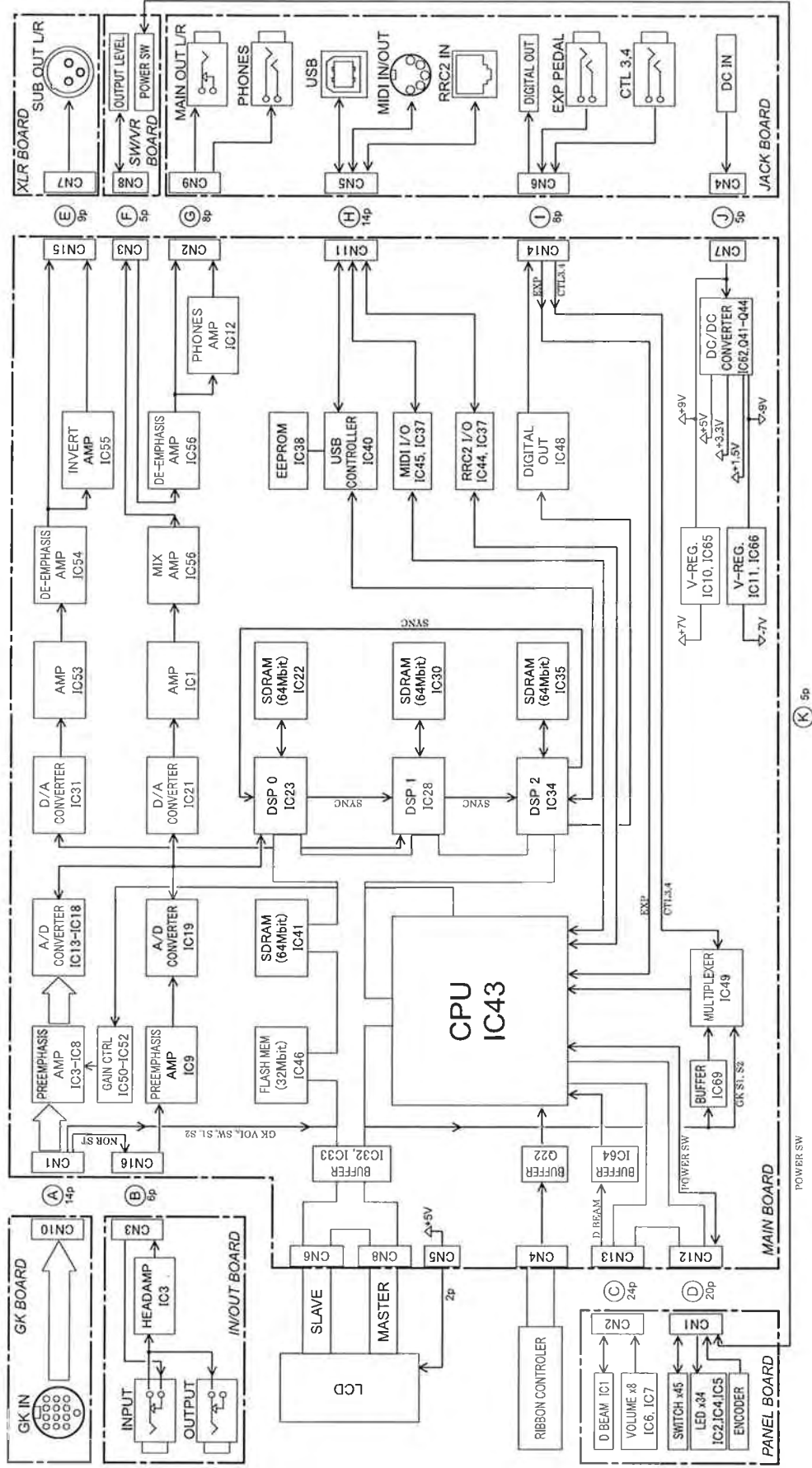
### Screws

No.	Part Code	Part Name	Description	Q'ty
a	40782156	PLASTIC WASHER	M6 NN-0612-08	1
b	*****	ENCODER NUT	included in ROTARY ENCODER (#01905467)	1
c	*****	ENCODER WASHER	included in ROTARY ENCODER (#01905467)	1
d	40679645	SCREW M5X10	TRUSS MACHINE BZC	4
e	40011312	SCREW 3X8	BINDING TAPTITE P BZC	20
f	40011278	SCREW 3X8	BINDING TAPTITE P FE ZC	36
g	04671090	JACK BUSH		7
h	03014912	INSULATING JACK WASHER	M9X14.5X0.5	7
i	*****	HEX NUT M9	(included in Phones Jack)	7
j	40012534	SCREW 3X6	BINDING TAPTITE S FE BZC	6
k	40679656	SCREW 4X8	BINDING TAPTITE S NI	1
l	40011490	SCREW M3X6	PAN MACHINE W/SW BZC	1
m	40019123	SCREW 3X8	BINDING TAPTITE S BZC	1





## Block Diagram/Wiring Diagram



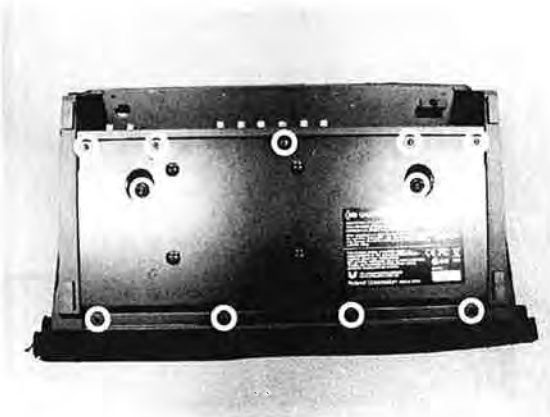
No.	Part Code	Part Name	Description	Q'ty
A	02344134	WIRING	14X150-42.0-PT-IR-PT-IR-F	1
B	04672223	WIRING	W4 (6P-1.00 W/SHIELD)	1
C	04562312	WIRING	FWR-P=1.00-K-24-50	1
D	04234578	WIRING	FWR-P=1.00-K-20-50	1
E	04672212	WIRING	W3 (9P-1.00)	1
F	04564923	WIRING	W1 (9P-1.00)	1
G	02343534	WIRING	8X100-T2 G-PT-IR-PT-IR-F	1
H	04676556	WIRING	W6 (14P-1.50)	1
I	04672234	WIRING	W5 (8P-1.00 W/SHIELD)	1
J	04564945	WIRING	W2 (6P-1.50 REVERSE)	1
K	04564990	WIRING	RIBBON CABLE 5X80-P2.5	1

\* WIRING RIBBON CABLE 5X80-P2.5 (04564990) is included in PANEL BOARD ASSY (0733-34189).

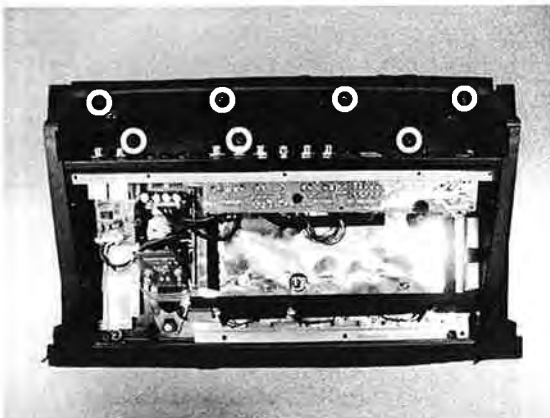
## Disassembly Procedure

### Removing the Main Board

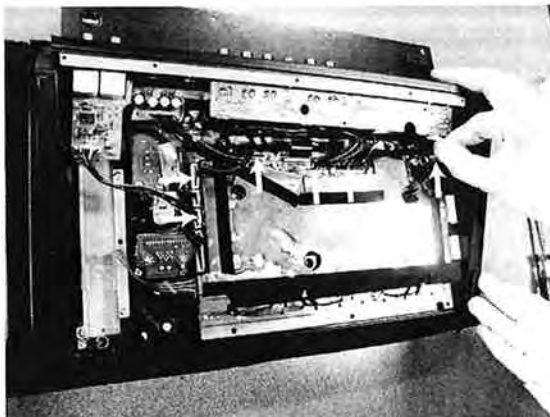
1. Remove the 11 screws from the Bottom Chassis (Exploded View (p. 6), e: 6 screws, j: 5 screws).



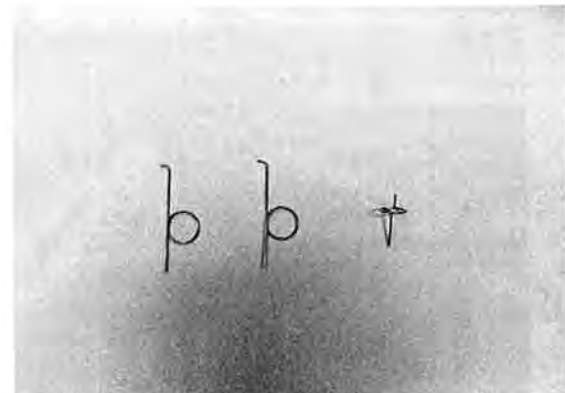
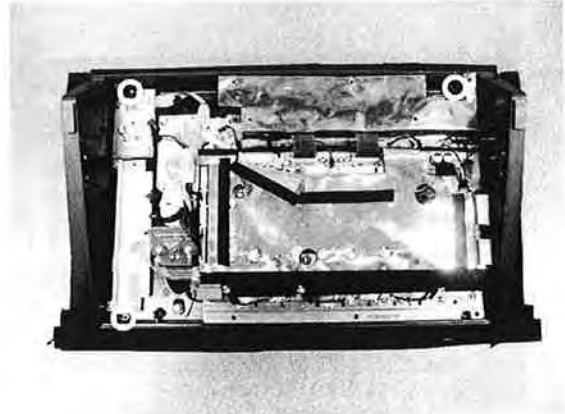
2. Remove the 7 screws from the Rear Chassis (Exploded View (p. 6), e: 7 screws).



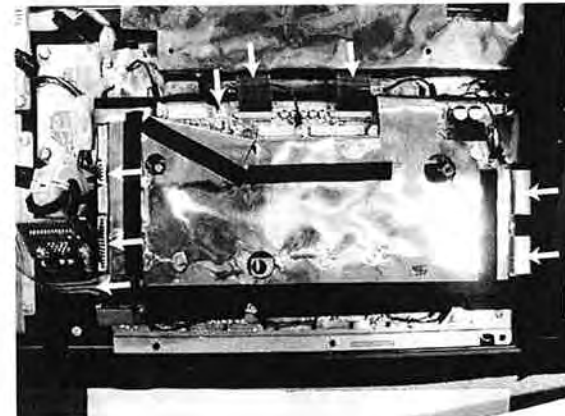
3. Disconnect the 6 wiring from the connectors on the Main Board.



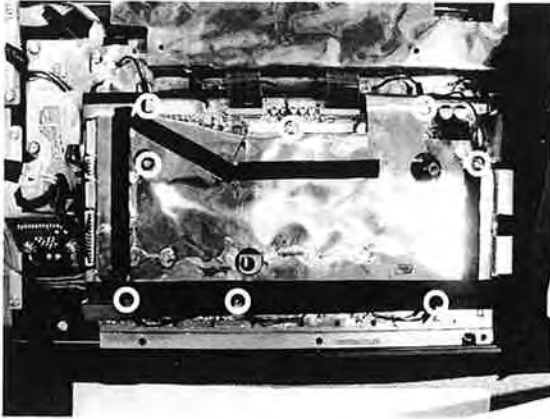
4. Remove the 3 springs (Exploded View (p. 6), 24: 1 spring, 25: 2 springs).



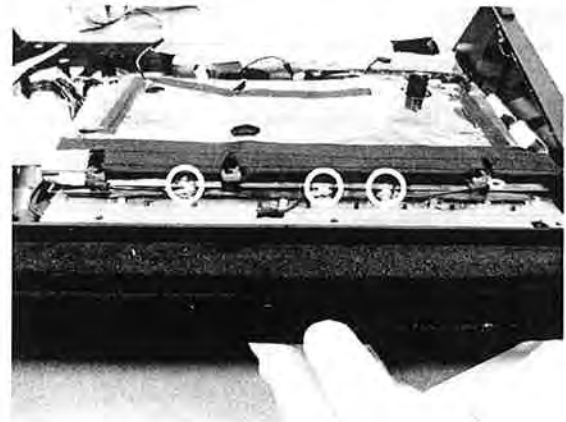
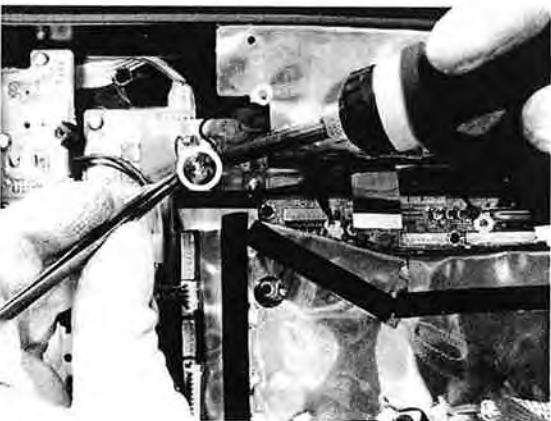
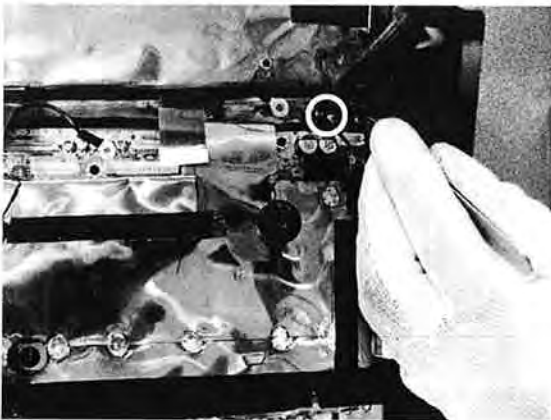
5. Remove the 3 wirings, 2 BAN cards, 1 ribbon cable, and 2 LCD flat cables.



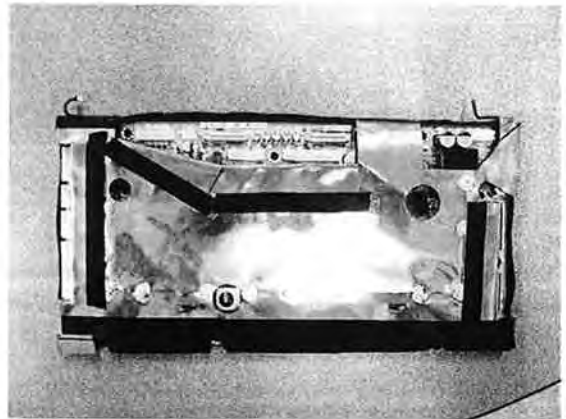
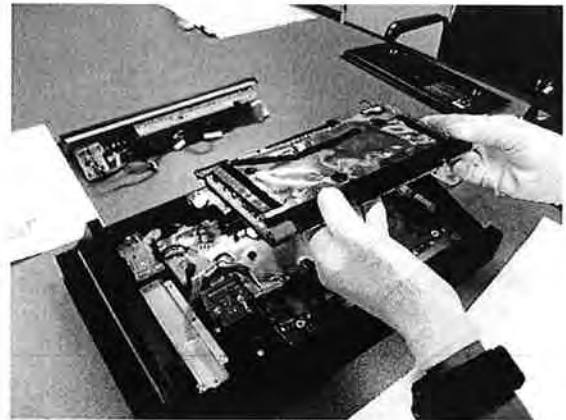
6. Remove the 8 screws from the Main Board.



7. Remove the soldering at the 5 points indicated.



8. Remove the Main Board.

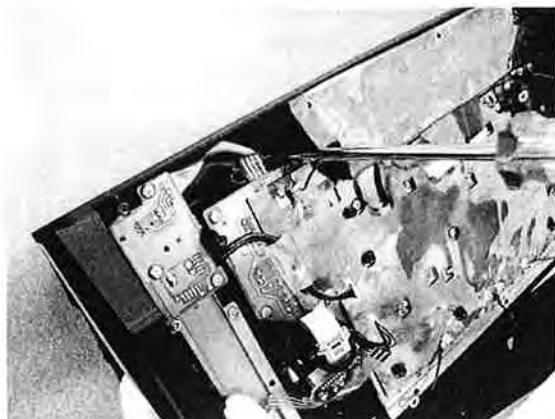


## Removing the Panel Board

1. Remove the Main board (refer to **Removing the Main Board** (p. 12)).
2. Remove the Main Insulating Sheet (**Exploded View** (p. 6) 15).



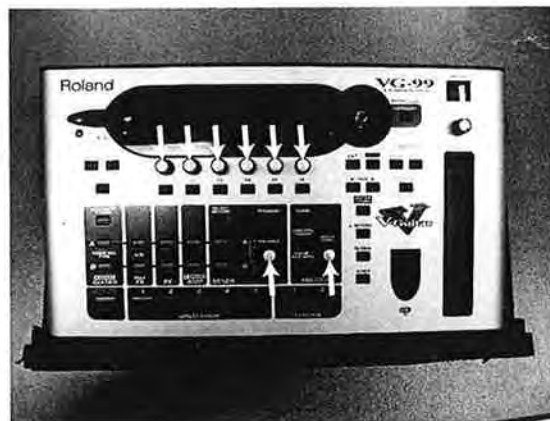
3. Insert a screwdriver into the reverse side of the top panel to remove the encoder knob (**Exploded View** (p. 6) 6).



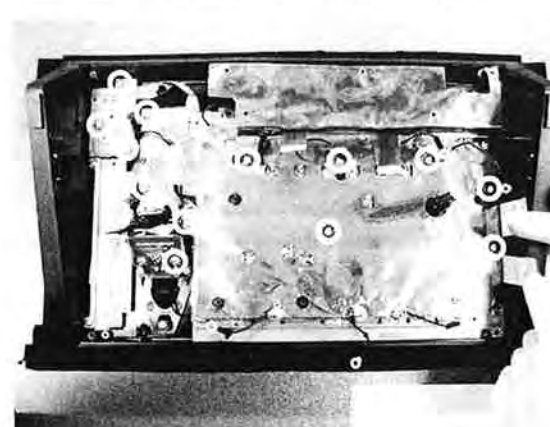
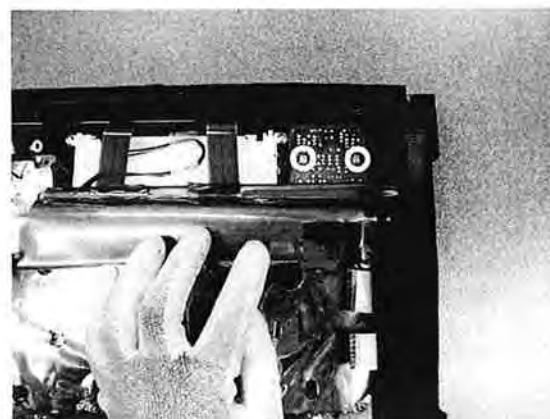
4. Remove the encoder washers (**Exploded View** (p. 6) a, b, c).



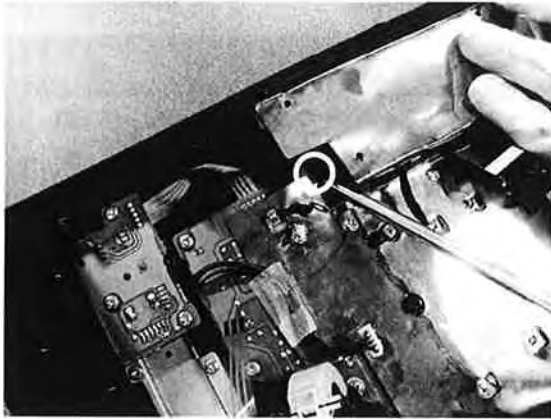
5. Remove the 9 screws from the Top Panel (**Exploded View** (p. 6) 3: 8 screws, 4: 1 screw).



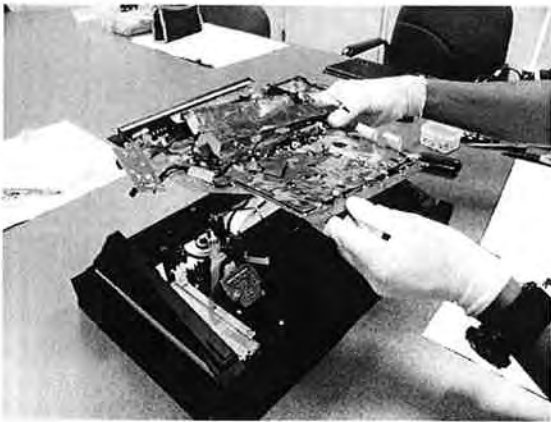
6. Remove the 15 screws from the Panel Board and GK Board (**Exploded View** (p. 6) f).



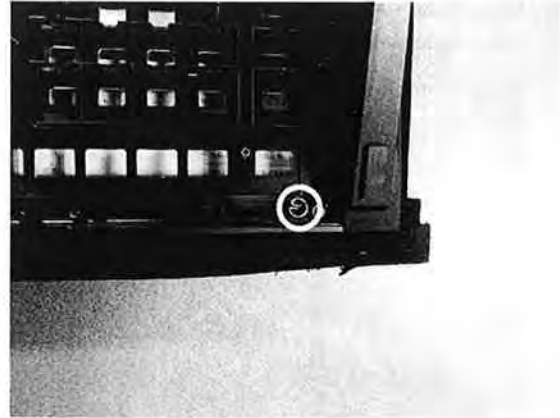
\* The screw hole in the picture below is not used.



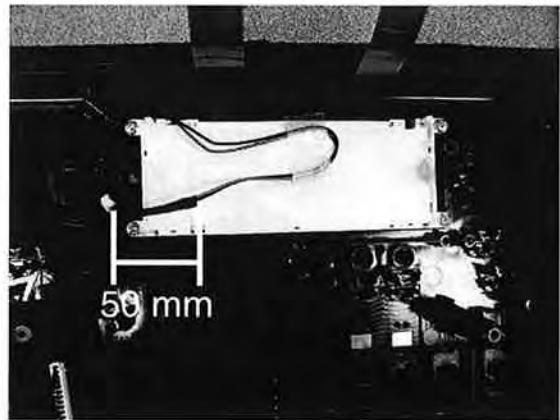
**7. Remove the Panel Board.**



\* Take care not to lose or misplace the screws located beneath the Panel Board (Exploded View (p. 6) 24: 1 screw).



\* When replacing the LCD unit, wrap the wiring with tape (#40122612).



## Parts List

**SAFETY PRECAUTIONS:**

The parts marked  $\Delta$  have safety-related characteristics. Use only listed parts for replacement.

Due to one or more of the following reasons, parts with parts code \*\*\*\*\* cannot be supplied as service parts.

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

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

**CASING**

#	04238178	BOTTOM COVER	1
#	04238167	CASE	1
#	04238189	DISPLAY COVER	1
#	04238190	GK ESCUTCHEON	1
#	04238145	PANEL	1
#	04238223	REAR PANEL	1
#	04238212	SUB DISPLAY COVER	1

**CHASSIS**

	03129878	DC JACK HOLDER	1
	01900489	SENSOR HOLDER	1

**KNOB, BUTTON**

	03126867	D S-KEYTOP	SX1H-B CLR	11
	00900189	D S-KEYTOP	SX1H BLK	18
	00900145	D S-KEYTOP	SD1H BLK	8
#	04238134	KEYTOP	S-KEY POWER	1
	01783923	N S-KEYTOP	MD1H	8
	F2477101	DR-KNOB		1
#	04238745	R-KNOB	INDEX	1
#	04238112	R-KNOB		8

**SWITCH**

	03016956	SLIDE SWITCH	SSSU121700	SW48 on XLR Board	1
	01343478	TACT SWITCH	SKQNAED010	SW1, SW2, SW3, SW4, SW5, SW6, SW7, SW8, SW9, SW10, SW11, SW12, SW14, SW15, SW16, SW17, SW19, SW20, SW21, SW22, SW23, SW24, SW25, SW26, SW27, SW28, SW29, SW30, SW31, SW32, SW33, SW34, SW35, SW36, SW37, SW38, SW39, SW40, SW41, SW42, SW43, SW44, SW45, SW46, SW47 on Panel Board	45
#	04563434	PUSH SWITCH	ESB33133	SW49 on SW / VR Board	1

**JACK, EXT TERMINAL**

	13429676	MIDI CONNECTOR	YKF51-5048N (TWIN)	JK4 on Jack Board	1
	02781101	USB CONNECTOR	YKF45-0020N	JK6 on Jack Board	1
	03230689	RCA (PIN)	YKC21-3486	JK9 on Jack Board	1
	00564556	DIN	TCS5093-10-4152	JK14 on GK Board	1
	04564190	XLR CONNECTOR	JY-5032A X 030	JK10, JK11 on XLR Board	2
	03239801	6.5MM JACK	HTJ-064-12I	JK13, JK15 on Jack Board, JK1, JK2 on In/Out Board	4
	03234456	6.5MM JACK	HTJ-064-12D	JK7, JK8, JK12 on Jack Board	3
	13449717	ADAPTOR JACK	HEC2392-01-150	JK3 on Jack Board	1
#	04129090	RRC2 JACK	C20EB0-6011-R		1

**DISPLAY UNIT**

#	04237989	LCD	F-51851GNFQJ-LW-AAN	1
---	----------	-----	---------------------	---

**PWB ASSY**

#	73234189	PANEL BOARD ASSY	(SW BOARD + VR BOARD)	1
#	73234201	GK BOARD ASSY		1
#	73455334	IN/OUT BOARD ASSY		1
#	73234190	JACK BOARD ASSY		1
#	73788790	MAIN BOARD ASSY	W/SHIELD (EXCEPT 117V)	1
#	73788834	MAIN BOARD ASSY	WO/SHIELD (117V ONLY)	1
#	73455323	XLR BOARD ASSY		1



<b>DIODE</b>					
#	03126134	LED (INFRARED)	TLN233(F)	LED11, LED1 on Panel Board	2
	01904112	LED (RED)	SLR-342VCT32 N.P.Q RANK	LED3, LED4, LED9, LED14, LED18, LED22, LED24, LED26, LED27, LED28, LED29, LED30, LED31, LED32, LED33, LED34, LED35, LED36, LED37, LED38 on Panel Board	20
	04458767	LED	SLI-343YYT32	LED5, LED6, LED8, LED12, LED13, LED15, LED16, LED19, LED20, LED23, LED25 on Panel Board	11
#	04121334	LED	L-7104PBD-A	LED2, LED7, LED10 on Panel Board	3
	04458778	PHOTO DI	TPS616 (F)	Q6 on Panel Board	1
<b>POTENTIOMETER</b>					
#	04128323	POTENTIOMETER	RV112FF-40B1-15F-0B20K	VR1, VR2, VR3, VR4, VR5, VR6, VR7, VR8 on Panel Board	8
	02455234	12M/M ROTARY POTENTIOMETER	EVJY15F02B14	VR9 on SW / VR Board	1
<b>ENCODER</b>					
	01905467	ROTARY ENCODER	EVE GC1 F20 24B	EN1 on Panel Board	1
<b>WIRING, CABLE</b>					
#	04564923	WIRING	W1 (5P-L100)		1
#	04564945	WIRING	W2 (5P-L50 REVERSE)		1
#	04672212	WIRING	W3 (9P-L100)		1
#	04672223	WIRING	W4 (6P-L100 W /SHIELD)		1
#	04672234	WIRING	W5 (8P-L100 W /SHIELD)		1
#	04674656	WIRING	W6 (14P-L50)		1
#	04679567	WIRING	W8 (1P-L30)	Refer to p. 8, No. 37	2
#	04562312	WIRING	FWR-P=1.00-K-24-50		1
#	04234578	WIRING	FWR-P=1.00-K-20-50		1
	02343534	WIRING	8X100-P2.0-PHR-PHR-F		1
	02344134	WIRING	14X150-P2.0-PHR-PHR-F		1
#	04564990	WIRING	RIBBON CABLE 5X80-P2.5		1
<b>PICK UP, SENSOR</b>					
	02452467	RIBBON SENSOR			1
<b>SCREWS</b>					
#	40679645	SCREW M5X10	TRUSS MACHINE BZC		4
	40011490	SCREW M3X6	PAN MACHINE W /SW BZC		1
	03014912	INSULATING JACK WASHER	M9X14.5X0.5		7
#	40679656	SCREW 4X8	BINDING TAPTITE S NI		1
	40012534	SCREW 3X6	BINDING TAPTITE S FE BZC		6
	40019123	SCREW 3X8	BINDING TAPTITE S BZC		1
	40011278	SCREW 3X8	BINDING TAPTITE P FE ZC		36
	40011312	SCREW 3X8	BINDING TAPTITE P BZC		20
#	40782156	PLASTIC WASHER	M6 NN-0612-08		1
<b>PACKING</b>					
#	04561656	UPPER PAD			1
#	04561645	LOWER PAD			1
#	04238712	PACKING UPPER			1
#	04675801	PACKING LOWER			1
<b>MISCELLANEOUS</b>					
#	02678990	LED SPACER	LH-5S-6.5		2
	02905256	LED SPACER	LH-3-7		1
	03348156	LED SPACER	LH-3-10		2
#	04561634	FOOT	23X8.3 T3		4
#	40678723	CAUTION LABEL			1
#	04675812	SPRING	FRONT		2
#	04890601	SPRING 2	REAR		2
	22365714	CORD HOOK			1
#	04671090	JACK BUSH			7
#	04561612	PANEL ADHESIVE TAPE			1
#	04783723	CANNON SHIELD			1
#	04783734	INSULATING SHEET	MAIN		1
#	40782234	SPRING CUSHION			2



## ACCESSORIES (Standard)

△	04236101	AC ADAPTOR WITHOUT AC CORD	PSB-1U(S) UNIVERSAL		1
△	01903334	AC CORD SET PSE	100V 1.0M FOR PSB-1U	for 100V	1
△	02562456	AC CORD SET	120V 1.0M (NON POLAR)	for 117VU, 117VCS	1
△	01903356	AC CORD SET	230V 1.0M FOR PSB	for 230VE, 230VEU	1
△	00905234	EURO CONVERTER PLUG	ECP01-5A	for 230VE	1
△	03785590	AC CORD SET	SC-078-NA05 240VA	for 240VA	1
	02128556	ORIGINAL CNECT CORD	C-13A-T(=GKC-5)		1
	03237578	USB CONNECT CORD	YAF11-1118 2M CERTIFIED		1
#	04564978	RRC2 CABLE	3M		1
#	73234245	OWNER'S MANUAL SET	JAPANESE		1
	* The OWNER'S MANUAL SET JAPANESE includes the following parts.				
#	*****	OWNER'S MANUAL	JAPANESE		1
#	*****	PATCH LIST	LAEFLET	JAPANESE/ENGLISH	1
#	04238090	CD EDITOR			1
#	73234234	OWNER'S MANUAL SET	ENGLISH		1
	* The OWNER'S MANUAL SET ENGLISH includes the following parts.				
#	*****	OWNER'S MANUAL	ENGLISH		1
#	*****	PATCH LIST	LAEFLET	JAPANESE/ENGLISH	1
#	04238090	CD EDITOR			1
	40232334	WARRANTY CARD	MOCHIKOMI JAPAN ONLY		1
#	73780734	SCREW SET		4 pcs/set	1
#	04891890	FERRITE-CORE	RFC-6BK		1

## Checking the Version Number

1. Simultaneously hold down [<PAGE] and [NAME/KEY/BPM] and turn on the power.

\* Continue to hold down [<PAGE] and [NAME/KEY/BPM] until the TRADEMARK NOTICE appears in the screen.

This starts up Test mode.

The version number and checksum are displayed in the screen.

(Example)

```
-----
TEST  0:  VERSION
Firmware : Version 1.01  CheckSum BFD3
UserData  :              CheckSum ****
-----
```

## Users Data Save and Load

The unit's data can be saved to an external MIDI device (e.g., a MIDI-connected computer sequencer) using the Bulk Dump function to transfer all parameters to the external device in a single transmission.

Using the Bulk Load function, data stored on an external device (e.g., a MIDI-connected computer sequencer) can be returned to the unit, with all parameters received in a single transmission.

\* Alternatively, data can be saved and loaded via a USB connection using the Windows or Mac version of the "VG-99 Librarian" software.

## Transmitting Parameters to an External Device (Bulk Dump)

1. Connect the VG-99 and the external device using a MIDI connection.
2. Put the external device on standby to receive MIDI exclusive data.
3. Press [SYSTEM].
4. Press [<PAGE] or [PAGE>] to open Page 1.
5. Press [F6 MIDI].
6. Press [<PAGE] or [PAGE>] to open Page 8 (MIDI/BULKDUMP).
7. Press [F1 CHECK], [F2 SEL ↓], or [F2 SEL ↑] to select the parameters to be transmitted.
8. Press [F6 DUMP].  
Transmission then begins.  
You may cancel the operation by pressing [EXIT].

## Receiving Parameters from an External Device (Bulk Load)

1. Connect the VG-99 and the external device using a MIDI connection.
  2. Transmit the bulk data from the external device.
- \* No particular operation of the VG-99 is necessary.  
"SYSTEM EXCLUSIVE MESSAGE RECEIVING..." is displayed during reception of the data.
- \* If the data is not received, check the VG-99's device ID (to confirm whether or not the ID is the same as that set during the bulk dump).

## Factory Reset Instructions

1. Press [SYSTEM].
2. Press [<PAGE] or [PAGE>] to open Page 3.
3. Press [F1 F.RST].
4. Press [F1 CHECK], [F2 SEL ↓], or [F2 SEL ↑] to select the parameters to be reset.
5. Press [F6 CHECK].
6. After reconfirming, press [WRITE].  
Factory Reset begins.  
When the procedure is finished, the Play screen returns to the display.

## System Update Instructions

This procedure updates the VG-99's system using a computer or other such device to play back the MIDI data for update, which is then received by the VG-99.

### Required Items

- VG-99 Update CD-ROM (#17041918)
- PC (Windows XP/2000)
- Software Sequencer: UpdSMF.exe  
(Refer to Service Information #102333.)

### System Update Procedure

1. Connect the computer's MIDI OUT to the VG-99's MIDI IN (use a UM-1 USB MIDI interface or equivalent device).
  2. Simultaneously hold down [<PAGE] and [CATEGORY] and turn on the power.  
"SYSTEM UPDATER Please wait..." appears in the display.
  3. Wait several seconds until "Waiting SMF..." is displayed.
  4. Start up the application for transmitting MIDI data on the computer (e.g., UpdSMF), and transmit the MIDI data for update.  
"Now Receiving..." is displayed while receiving data.
- \* The update takes approximately 30 minutes.  
When the update is finished, "Complete!" appears in the display.

### System Update Error Messages

The following error messages appear when there is a failure in the update.

#### Check Sum Error

There is a problem with the SMF received. Alternatively, the MIDI cable may be damaged.

#### Flash Write Error

There was a failure in writing the data to the Flash ROM. There may be a problem in the Flash ROM's peripheral circuitry.

Furthermore, failure in reception is also indicated by an asterisk ("\*") appearing in two places.

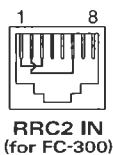
\* Two asterisks are also displayed when transmission is stopped while in progress and the data retransmitted from the beginning, but this presents no problem.

## Test Mode

### Required Items

The following items are required in executing Test mode.

- DA-400 or monitor speaker equipped with Digital Input (e.g., DS-90)
- Guitar with GK-3 or GK-2A installed
- FS-6 (or FS-5U x 2)  
Have the foot switch or foot switches connected to CTL3, 4 beforehand.  
FS-6: Set the MODE switch to MOMENTARY side.  
Set the POLARITY switch to the left side.
- FS-5U: Set the POLARITY switch to the jack side.
- EV-5  
Connect to **EXP PEDAL** beforehand, and set the MINIMUM volume to 0.
- PC (Windows XP) with VG-99 USB driver (Roland VG-99 Driver) and USB checker software (USBCheck.exe) installed.  
Obtain the Roland VG-99 Driver and USBCheck.exe from **Service Information No.102588**.  
Note that USBCheck.exe runs only on Windows XP.
- Tester
- Oscilloscope
- Oscillator
- Noise Meter
- Monitor speakers
- GK cable
- PCS-31
- MIDI cable
- USB cable
- Audio cable with phone plug (mono)
- Audio cable with phone plug (stereo)
- Audio cable with XLR connector
- Audio cable with RCA phono plug
- Open plug
- RRC2 Test jig  
Produce LAN cable processed as described below.



Short pin 1 and pin 3,  
pin 2 and pin 6.

### Entering Test Mode

Simultaneously hold down the [<PAGE] button and [NAME/KEY/BPM] button and turn on the power.

- \* Continue to hold down the [<PAGE] and [NAME/KEY/BPM] buttons until the TRADEMARK NOTICE is displayed.

### Exiting Test Mode

Turn off the power.

### Skipping Tests

To advance to the next test: [EXIT] + [> PAGE]

To return to the previous test: [EXIT] + [< PAGE]

To directly select a test item:

After turning on the power with the [EXIT] button and [NAME/KEY/BPM] button held down, rotate the [PATCH/VALUE] dial to select a test item.

### Test Item

0. Test Mode Startup (p. 20)
  1. SDRAM Test (p. 20)
  2. WSP Test (p. 20)
  3. LCD CONTRAST Test (p. 20)
  4. LCD PATTERN Test (p. 21)
  5. SW/LED Test (p. 21)
  6. KNOB Test (p. 21)
  7. D BEAM Test (p. 21)
  8. RIBBON Test (p. 21)
  9. CTL 3/4 Test (p. 21)
  10. EXP PEDAL Test (p. 21)
  11. MIDI Test (p. 21)
  12. RRC2 Test (p. 21)
  13. GK VOL/SW Test (p. 22)
  14. OUTPUT Test (p. 22)
  15. GK INPUT Test (p. 24)
  16. GUITAR INPUT/OUTPUT Test (p. 25)
  17. USB Test (p. 25)
  18. NOISE Test (p. 26)
  19. GND LIFT Test (p. 26)
  20. Ending TEST MODE (p. 26)
- Ready Product Sound Production Test (p. 26)

### 0. Test Mode Startup

1. Simultaneously hold down the [<PAGE] button and [NAME/KEY/BPM] button and turn on the power.  
\* Continue to hold down the [<PAGE] and [NAME/KEY/BPM] buttons until the TRADEMARK NOTICE is displayed.

Test mode starts up.

2. Confirm the version and checksum.
3. Confirm that all LEDs are lit.
4. Press the [PAGE>] button to advance to the next test.

### 1. SDRAM Test

The test results are displayed automatically; if the unit passes the test, the procedure automatically advances to the next test.

### 2. WSP Test

The test results are displayed automatically; if the unit passes the test, the procedure automatically advances to the next test.

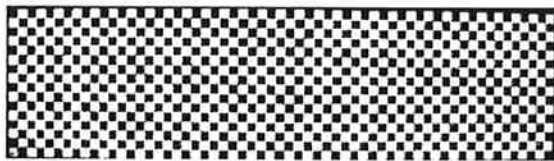
### 3. LCD CONTRAST Test

1. Slowly rotate the [PATCH/VALUE] dial clockwise.
2. Confirm that the contrast value and screen brightness increase.
3. Slowly rotate the [PATCH/VALUE] dial counterclockwise.
4. Confirm that the contrast value and screen brightness decrease.
5. Press the [PAGE>] button to advance to the next test.

#### 4. LCD PATTERN Test

The entire screen automatically lights.

1. Confirm that no dots are missing.
2. Press the [PAGE>] button.  
The following screen pattern is displayed.



3. Confirm that no part of the pattern is missing and that there are no erroneously lit dots.
4. Press the [PAGE>] button to advance to the next test.

#### 5. SW/LED Test

1. Press the switch indicated in the LCD.  
\*\*\*NG\*\*\* is displayed if the incorrect switch is pressed.
2. For switch including LED, confirm that the LED goes off when the switch is pressed.
3. Press the last switch ([CATEGORY] button).
4. Confirm that the LEDs indicated in the LCD are lit (7 LEDs).  
When the test is completed, the procedure automatically advances to the next test.

#### 6. KNOB Test

1. Rotate the knob indicated in the LCD clockwise.
2. Confirm that the display changes as follows: 1/4 -> 2/4 -> 3/4 -> 4/4 -> OK.
3. Repeat Steps 1 and 2.  
When the test is completed, the procedure automatically advances to the next test.

#### 7. D BEAM Test

1. Hold your hand approximately 60 cm above the D Beam emitter and press the [WRITE] button.
2. Confirm that **LOW (10 cm)** is indicated in the LCD.
3. In similar fashion, hold your hand approximately 10 cm above the D Beam emitter and press the [WRITE] button.
4. Confirm that the following is indicated in the LCD.  
**D BEAM = V: \*\*\* (0-127)**  
**H: \*\*\* (0-127)**
5. Move your hand up and down above the D Beam.
6. Confirm that the value indicated in the LCD changes in a range from **D BEAM = V: 0 to 127**.
7. In similar fashion, move your hand left and right above the D Beam.
8. Confirm that the value indicated in the LCD changes in a range from **D BEAM = H: 0 to 127**.
9. Press the [PAGE>] button to advance to the next test.

#### 8. RIBBON Test

1. While pressing the lower end of the Ribbon Controller, press the [WRITE] button.
2. Confirm that **Press Top of RIBBON** is indicated in the LCD.
3. While pressing the upper end of the ribbon controller, press the [WRITE] button.
4. Confirm that **RIBBON = \*\*\* (0-127)** is indicated in the LCD.
5. Slide the finger pressing on the Ribbon Controller from the upper end to the lower end of the controller.
6. Confirm that the value indicated in the LCD changes in a range from **RIBBON = 0 to 127**.
7. Press the [PAGE>] button to advance to the next test.

#### 9. CTL 3/4 Test

1. Press and release the FS-5U connected to the Tip, or the B pedal of FS-6, and confirm that the following appears in the LCD.  
When pressed: **CTL 3 = --**  
When released: **CTL 3 = OK**
2. Press and release the FS-5U connected to the Ring, or the A pedal of FS-6, and confirm that the following appears in the LCD.  
When pressed: **CTL 4 = --**  
When released: **CTL 4 = OK**

When the test is completed, the procedure automatically advances to the next test.

#### 10. EXP PEDAL Test

1. Press down fully on the heel end of the EV-5 and confirm that the following appears in the LCD.  
**MIN = OK**  
**MAX = \*\***
2. Press down fully on the toe end of the EV-5 and confirm that the following appears in the LCD.  
**MIN = OK**  
**MAX = OK**
3. When **Pull Out EXP PEDAL.** is indicated, disconnect the EV-5.  
The procedure automatically advances to the next test.

#### 11. MIDI Test

1. Connect the MIDI IN and MIDI OUT connectors with a MIDI cable and confirm that the following appears in the LCD.  
**MIDI = OK**
2. When **Pull Out the cable.** is indicated, disconnect the MIDI cable.  
The procedure automatically advances to the next test.

#### 12. RRC2 Test

1. Connect the RRC2 test jig to the RRC2 jack.
2. Confirm that the following appears in the LCD.  
**RRC2 = OK**
3. Disconnect the RRC2 test jig.

### 13. GK VOL/SW Test

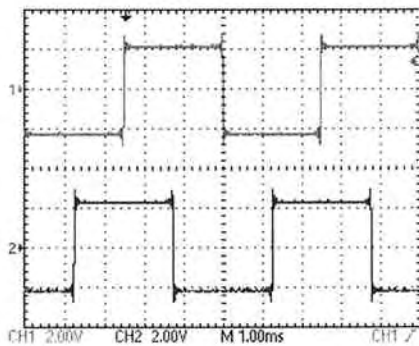
1. Connect the GK-3 (or GK-2A) to **GK IN** and confirm that the following appears in the LCD.  
With a GK-3: **GK TYPE = GK-3**  
With a GK-2A: **GK TYPE = GK-2A**
2. Set the GK-3's (or GK-2A) GK VOL to the minimum setting and confirm that the following appears in the LCD.  
**VOL MIN = OK**
3. Set the GK-3's (or GK-2A's) GK VOL to the maximum setting and confirm that the following appears in the LCD.  
**VOL MAX = OK**
4. Press the GK-3's (or GK-2A's) S1 and confirm that the following appears in the LCD.  
**SW S1 = OK**
5. Press the GK-3's (or GK-2A's) S2 and confirm that the following appears in the LCD.  
**SW S2 = OK**
6. Disconnect the GK-3 (or GK-2A).  
The procedure automatically advances to the next test.

### 14. OUTPUT Test

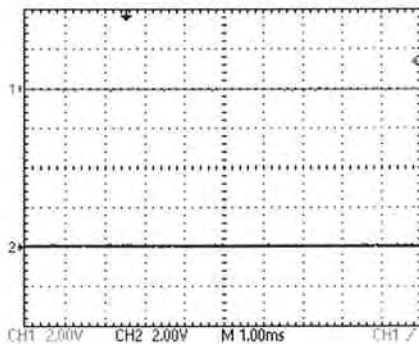
**DIGITAL OUT (when using a DA-400)**

1. Connect **DIGITAL OUT** on the rear panel to the DA-400's **DIGITAL IN**.
2. Connect the DA-400's **ANALOG OUT** to an oscilloscope.
3. Confirm the output waveform is as shown in the following.

When **MUTE = --/OFF**



When **MUTE = ON/--**



4. Disconnect the plug from **DIGITAL OUT**.

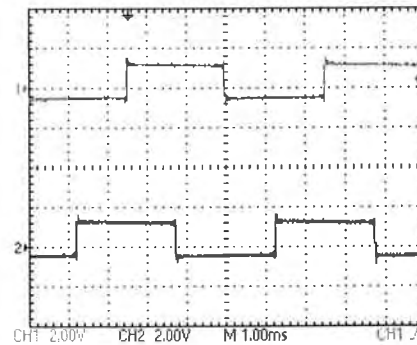
**DIGITAL OUT (when using monitor speaker equipped with digital input)**

1. Connect **DIGITAL OUT** on the rear panel to the monitor speaker's **DIGITAL IN**.
2. Confirm that the sound from the monitor speaker is produced or muted as indicated by the **MUTE ON/OFF** shown in the display.

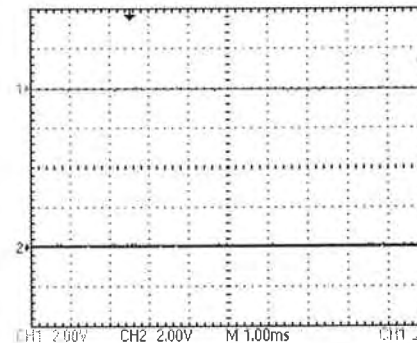
### PHONES

1. Connect the **PHONES** to the oscilloscope.  
\* Set the **OUTPUT LEVEL** to maximum.
2. Press the **[MUTE 2]** button.
3. Confirm the output waveform output is as shown in the following.

When **MUTE = --/OFF**



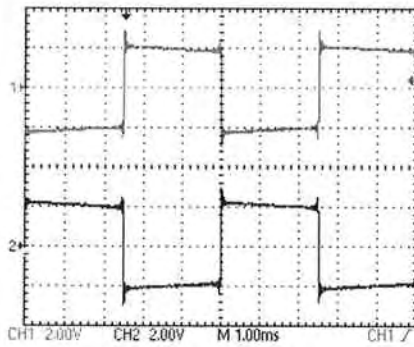
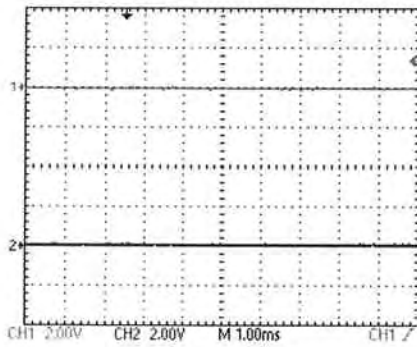
When **MUTE = ON/--**



4. Press the **[MUTE1]** button to advance to the next test.

**SUB OUT L**

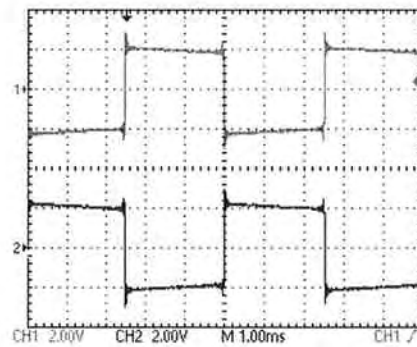
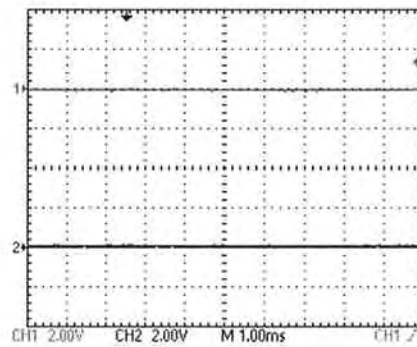
1. Connect **SUB OUT L (HOT, COLD)** to the oscilloscope.
2. Confirm the output waveform output is as shown in the following.

When **MUTE = -/OFF**When **MUTE = ON/-**

3. Press the [MUTE1] button to advance to the next test.

**SUB OUT R**

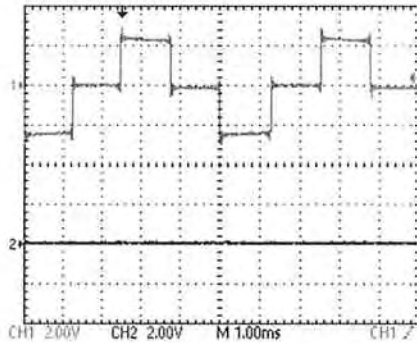
1. Connect **SUB OUT R (HOT, COLD)** to the oscilloscope.
2. Confirm the output waveform is as shown in the following.

When **MUTE = -/OFF**When **MUTE = ON/-**

3. Press the [MUTE1] button to advance to the next test.

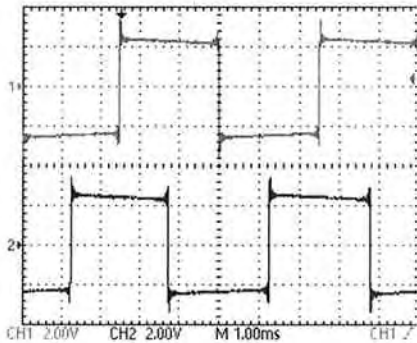
## MAIN OUT L/R

1. Connect **MAIN OUT L** to the oscilloscope.
2. Confirm the output waveform is as shown in the following.

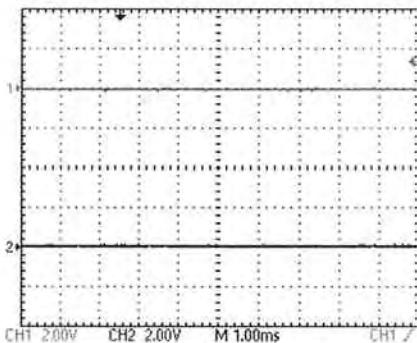


3. Connect **MAIN OUT R** to the oscilloscope (leaving the L connected as is).
4. Confirm the output waveform is as shown in the following.

When **MUTE = -/OFF**

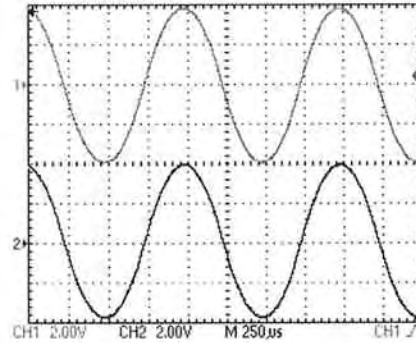


When **MUTE = ON/-**



5. Press the [SIN1] button.  
A sine wave is output.
6. Connect the oscilloscope to **MAIN OUT L** and **R**.

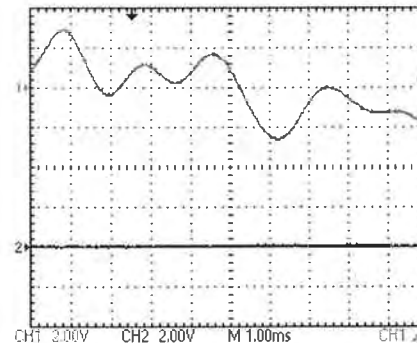
7. Confirm the output waveform is as shown in the following.



8. Confirm that there is no distortion in the waveform.
9. Rotate **OUTPUT LEVEL** from the maximum level to minimum and then back to maximum.
10. Confirm that the output waveform changes smoothly in accordance with the knob's rotation, that the waveform disappears at the minimum output level setting, and that output is at maximum at the maximum output level setting.
11. Press the [PAGE>] button to advance to the next test.

## 15. GK INPUT Test

1. Connect a guitar with GK pickup (GK-3 or GK-2A) installed to **GK-IN**. Set the SELECT SW of GK pickup to **GK**.
2. Connect the oscilloscope to **MAIN OUT L** and **R**.
3. Play the guitar's 1st string.
4. Confirm that the waveform of GK1 (the 1st string) is output from **MAIN OUT L** and not from **MAIN OUT R** (waveforms other than the 1st string are output).



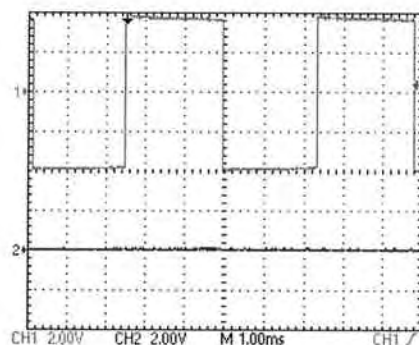
The gain for **MAIN OUT L** automatically switches from 1 to 5.

5. Confirm that at all gains there is no great change in the height of wave.
6. Press the [PAGE>] button.
7. Repeat steps 3-6 for GK2, GK3, GK4, GK5, and GK6.
8. Set the GK PICKUP SELECT switch to **GUITAR**.
9. Repeat steps 3-6 for GK GT.

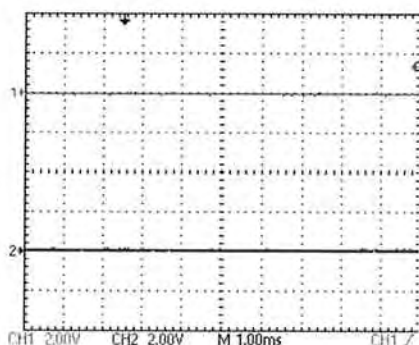
## 16. GUITAR INPUT/OUTPUT Test

1. Connect the oscilloscope to the GUITAR OUTPUT.
2. Input a rectangular wave at 200 Hz, 8.0 V p-p (+15.0 dBu) to the GK-3's (or GK-2A's) GUITAR INPUT.
3. Confirm that the output level from GUITAR OUTPUT is at 8.0 V p-p (+15.0 dBu  $\pm$  1.0 dBu).
4. Confirm the output waveform from GUITAR OUTPUT is as shown in the following.

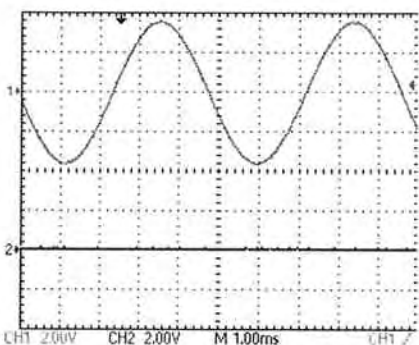
When **MUTE = --/OFF**



When **MUTE = ON/--**



5. Connect an oscillator to the VG-99's GUITAR INPUT and input a sine wave at 200 Hz, +10.0 dBu.
6. Confirm that the output waveform from GUITAR OUTPUT is as shown in the following, regardless of the **MUTE ON/OFF** status indicated in the LCD.



7. Disconnect the plugs from GUITAR INPUT and OUTPUT, and press [PAGE>].

## 17. USB Test

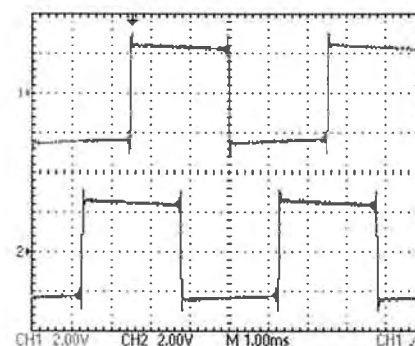
1. Connect the PC to the VG-99's USB connector.
2. Start up the USB checker application on the PC.
3. Confirm that the following appears in the LCD.

MODE = VENDER (MIDI + AUDIO)

TUSB = OK

MIDI = OK

4. Connect the oscilloscope to **MAIN OUT L** and **R** and confirm the output waveform is as shown in the following.

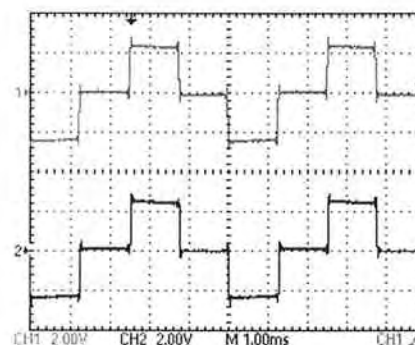


5. Press the [GENE] button.
6. Confirm that the following appears in the LCD.

MODE = GENERIC (AUDIO)

TUSB = OK

7. Confirm that the output waveform from **MAIN OUT L** and **R** is as shown in the following.





## 18. NOISE Test

1. Disconnect any device or item connected to GK IN and/or GUITAR IN.
2. Set **OUTPUT LEVEL** to maximum.
3. Connect a noise meter to each of the jacks indicated in the following table and measure the noise levels.

**TYPE1 (DSP MUTE) Noise Level (DIN AUDIO-RMS)**

Jack	Passing Value
PHONES L	equal or less than -84.0 dBu
PHONES R	equal or less than -84.0 dBu
SUB OUT L (HOT)	equal or less than -98.0 dBu
SUB OUT L (COLD)	equal or less than -98.0 dBu
SUB OUT R (HOT)	equal or less than -98.0 dBu
SUB OUT L (COLD)	equal or less than -98.0 dBu
MAIN OUT L	equal or less than -96.0 dBu
MAIN OUT R	equal or less than -96.0 dBu

4. Press the [GK] button.
5. In similar fashion, measure the noise levels for each of the jacks indicated in the following table.

**TYPE2 (GK 1-6ST) Noise Level (DIN AUDIO)**

Jack	Passing Value
MAIN OUT L	equal or less than -82.0 dBu
MAIN OUT R	equal or less than -82.0 dBu

6. Subject the VG-99 to shock and confirm that no odd or improper sounds are output from the monitor speaker.
7. Press the [GTR] button.
8. As before, measure the noise levels for each of the jacks indicated in the following table.

**TYPE3 (NOR ST) Noise Level (DIN AUDIO)**

Jack	Passing Value
MAIN OUT L	equal or less than -82.0 dBu
MAIN OUT R	equal or less than -82.0 dBu

9. Subject the VG-99 to shock and confirm that no odd or improper sounds are output from the monitor speaker.
10. Press the [PAGE>] button to advance to the next test.

## 19. GND LIFT Test

1. Clip a tester to Pin 1 of **SUB OUT L** (XLR connector) and the chassis (screw).
2. Confirm current flow when the **GND LIFT** switch is set to **GND**, and that no current flows with the switch set to **LIFT**.
3. Press the [PAGE>] button to advance to the next test.

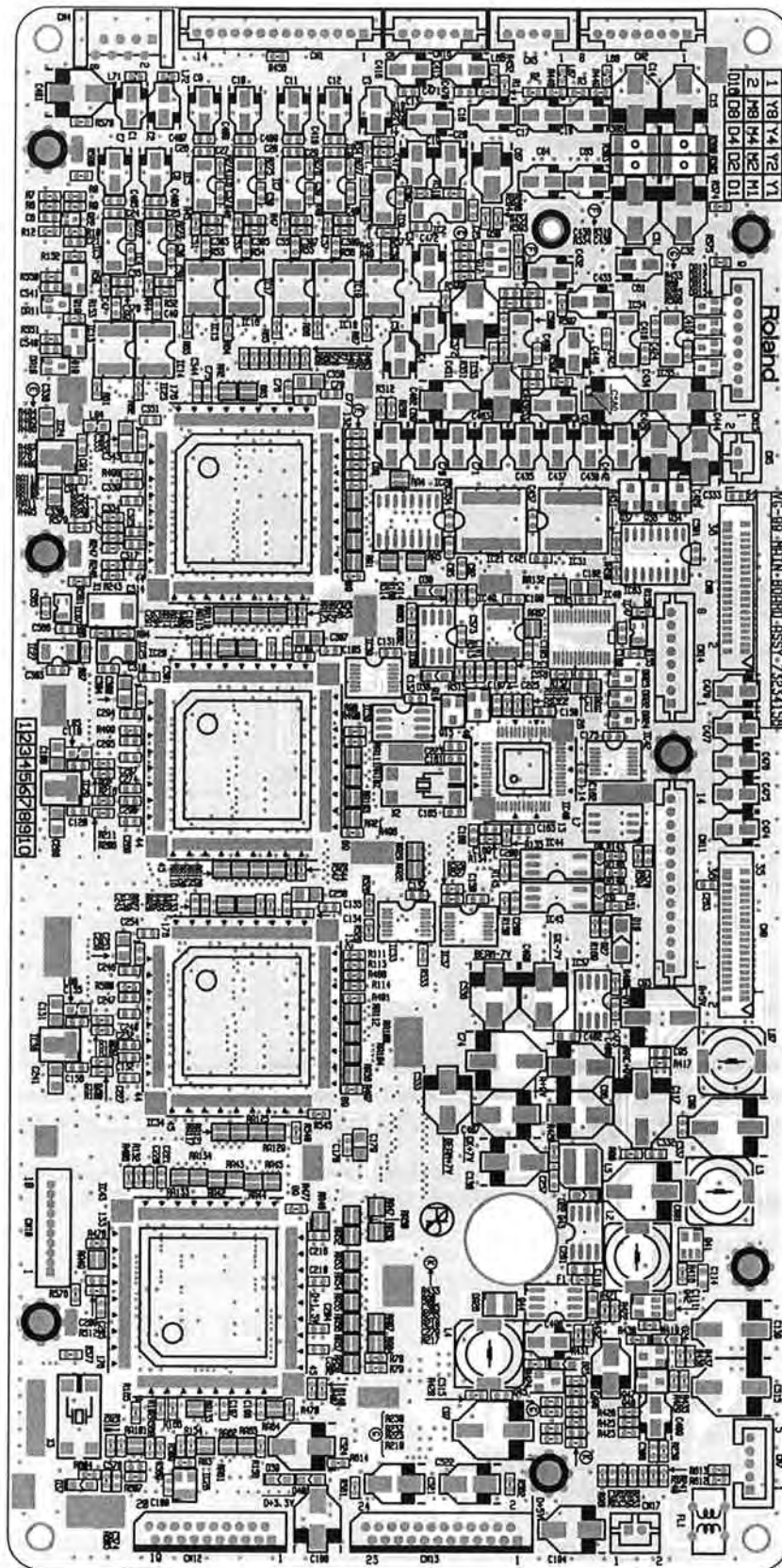
## 20. Ending TEST MODE

Confirm that **The End** appears in the display, then switch off the power.

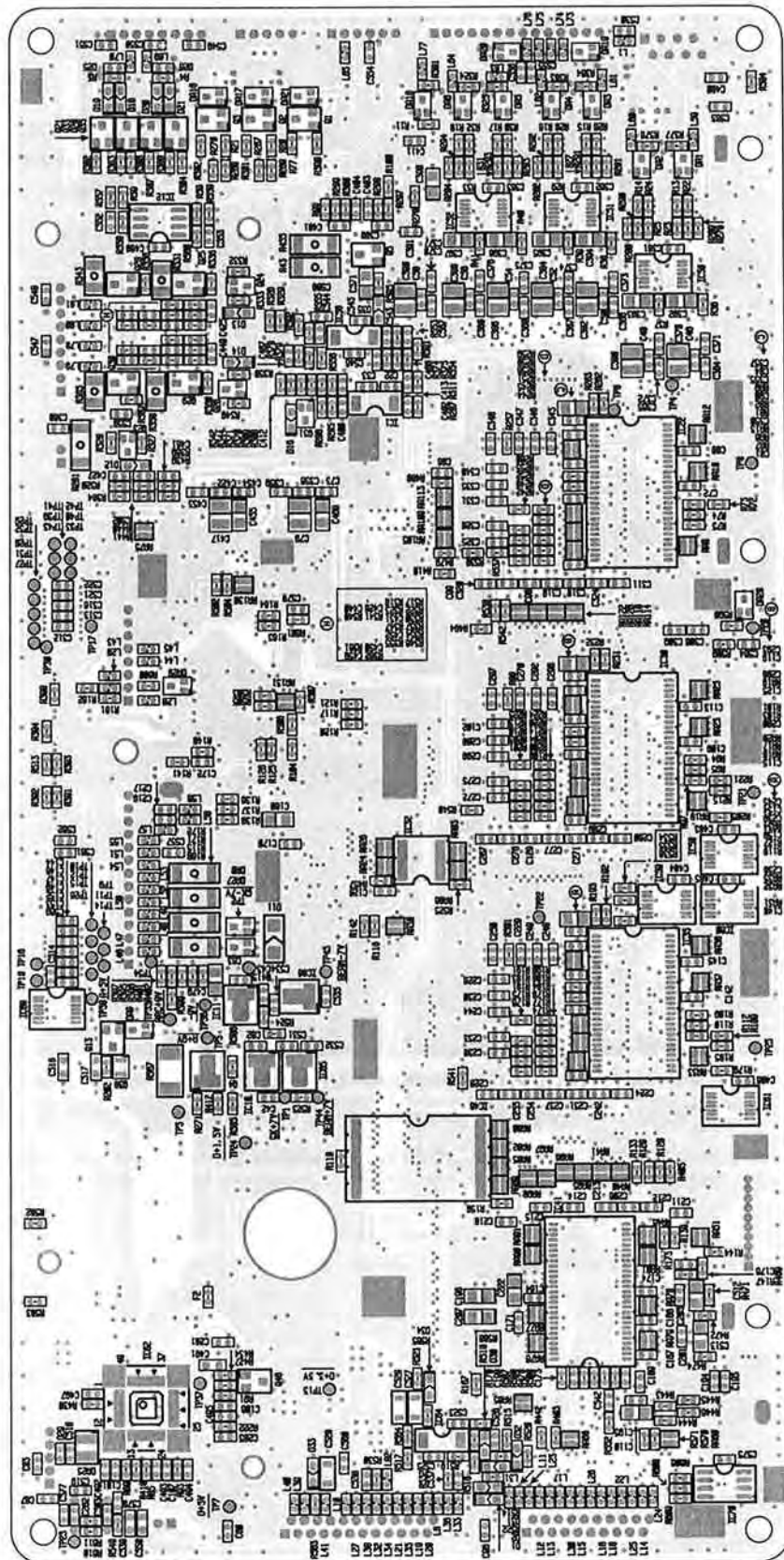
## Ready Product Sound Production Test

1. Turn on the power.
2. Confirm that **001:ST+TWIN** is indicated in the display.
3. Connect guitar with GK pickup to **GK IN**.
4. Play the guitar strings in sequence, and confirm that the sound from each string is output from **MAIN OUT L/R** or **PHONES** and that no odd or improper sounds are output.
5. Switch off the power.

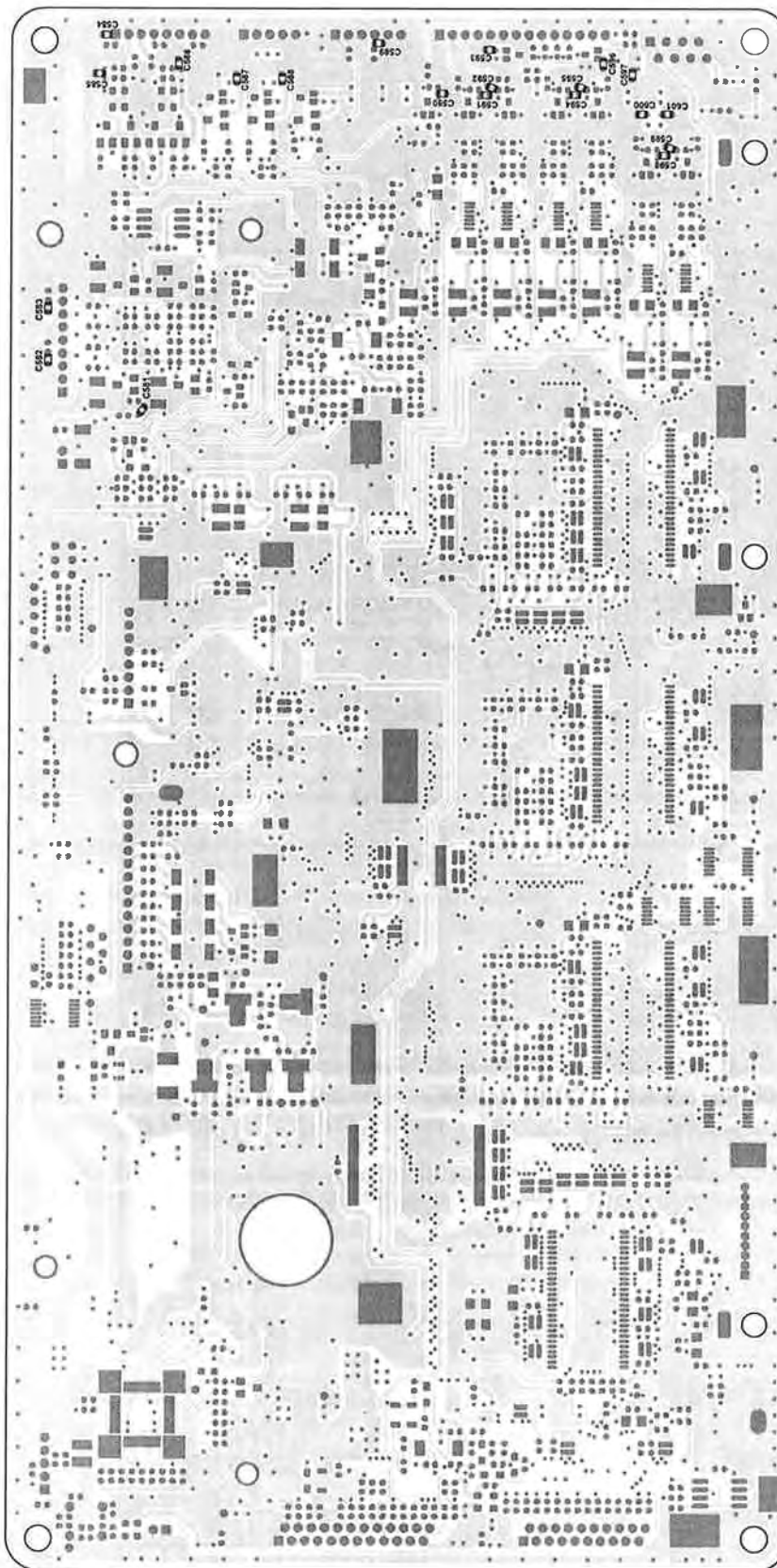
# Circuit Board (Main Board: 1/3)



## Circuit Board (Main Board: 2/3)

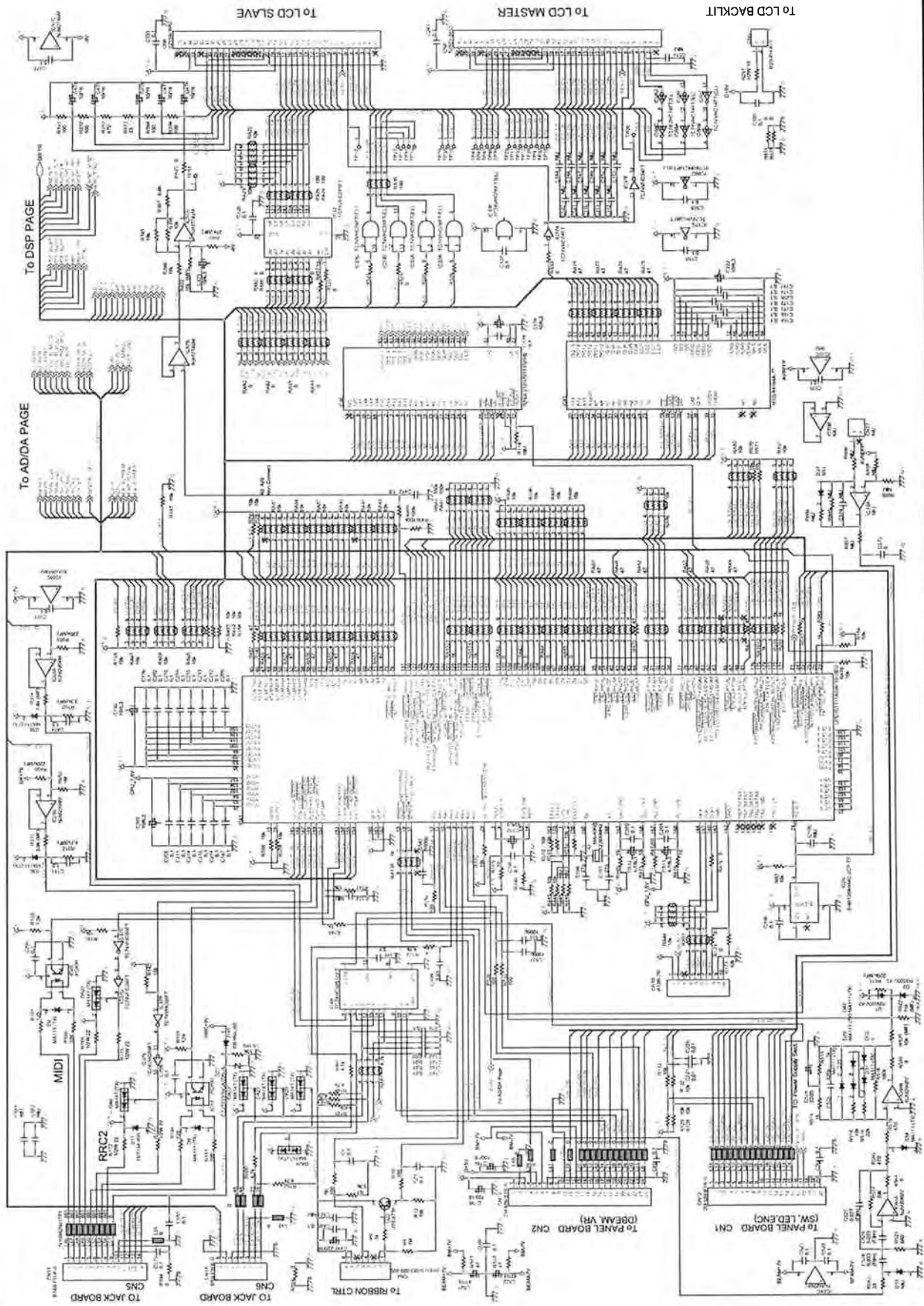


## Circuit Board (Main Board: 3/3)



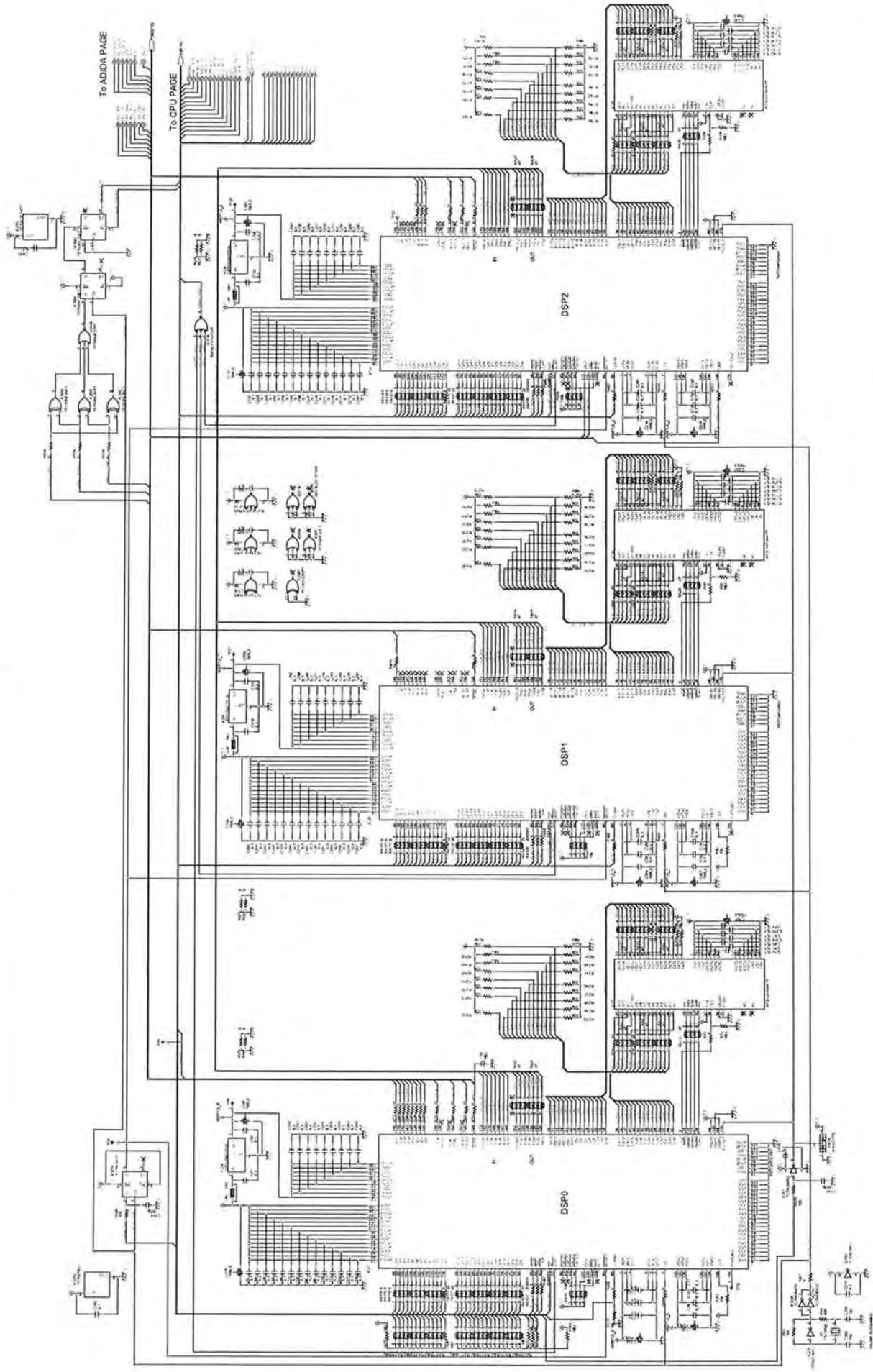
Parts without silk  
are around here.

# Circuit Diagram (Main Board: CPU)

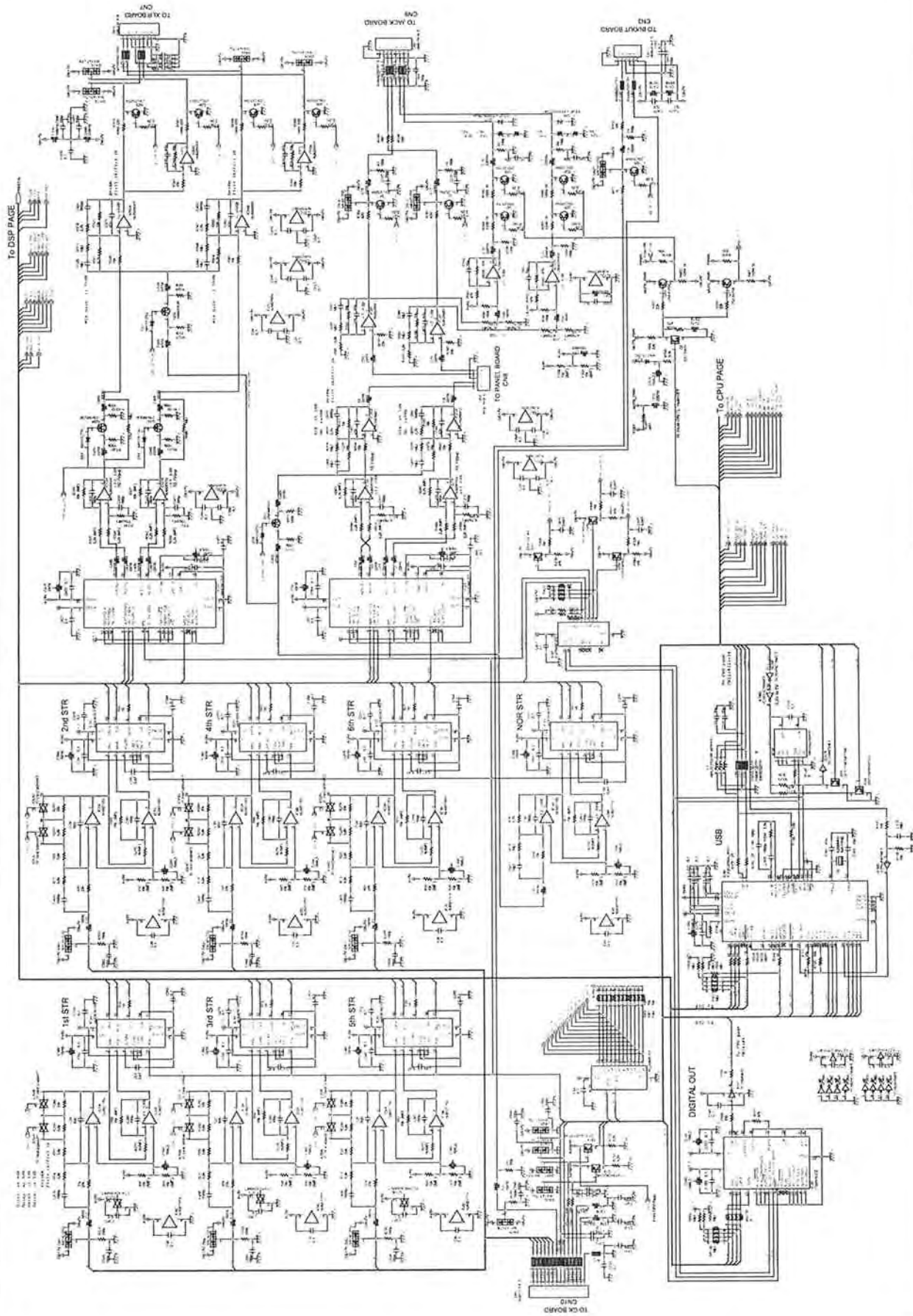




# Circuit Diagram (Main Board: DSP)



# Circuit Diagram (Main Board: AD/DA)

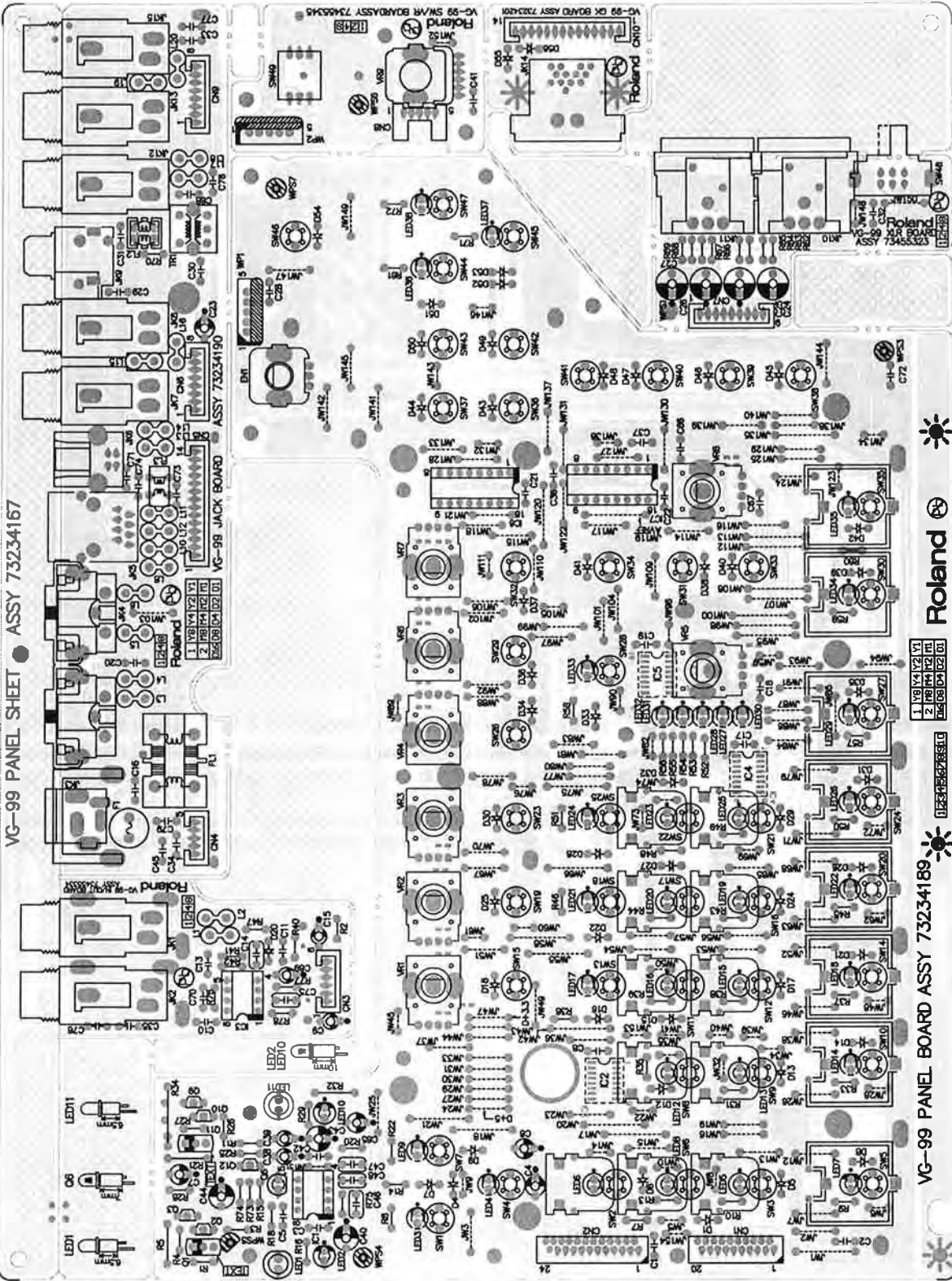


## 37

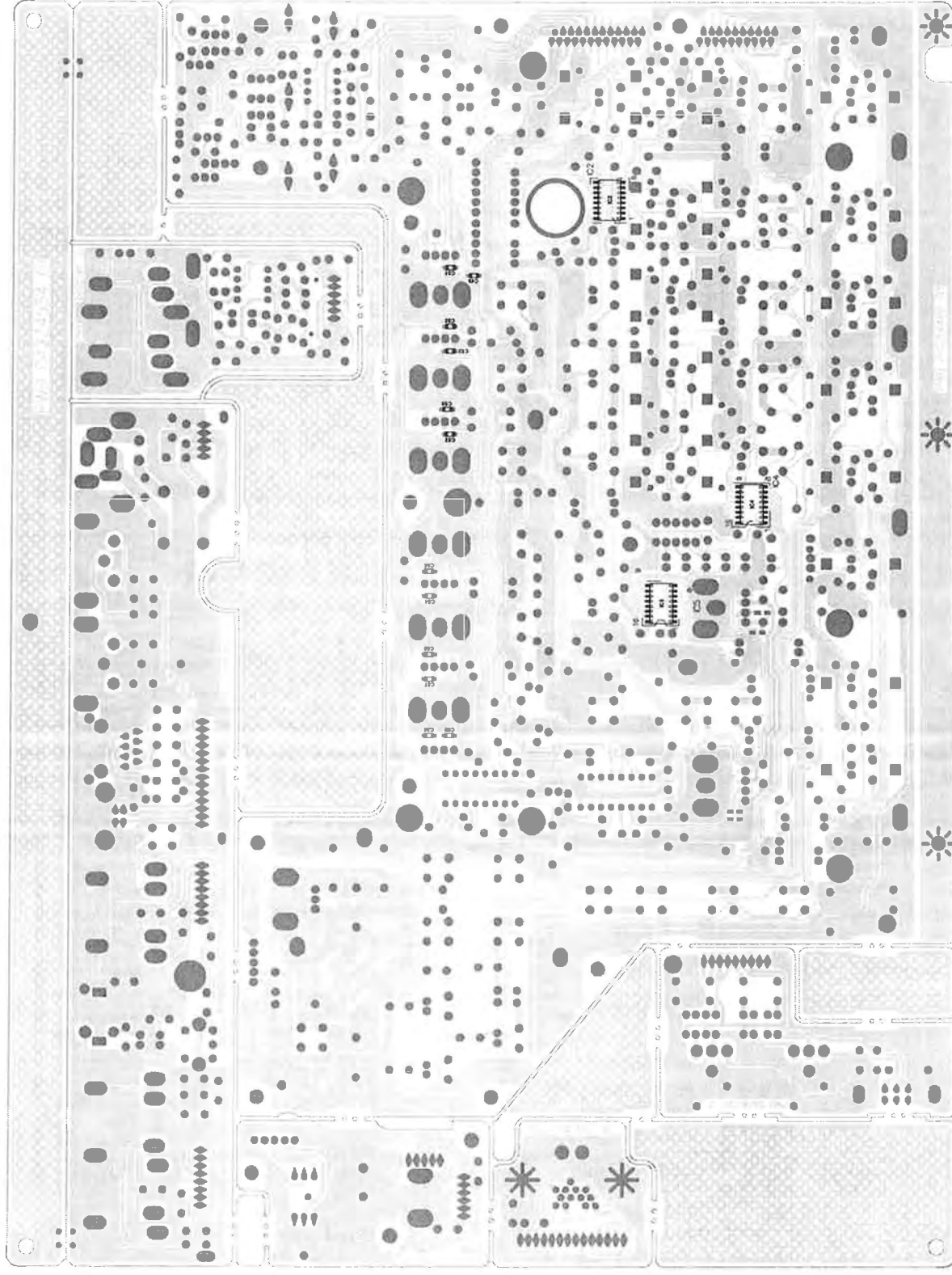




Circuit Board (Panel, SW/VR, Jack, XLR, GK, In/Out Board: 1/2)

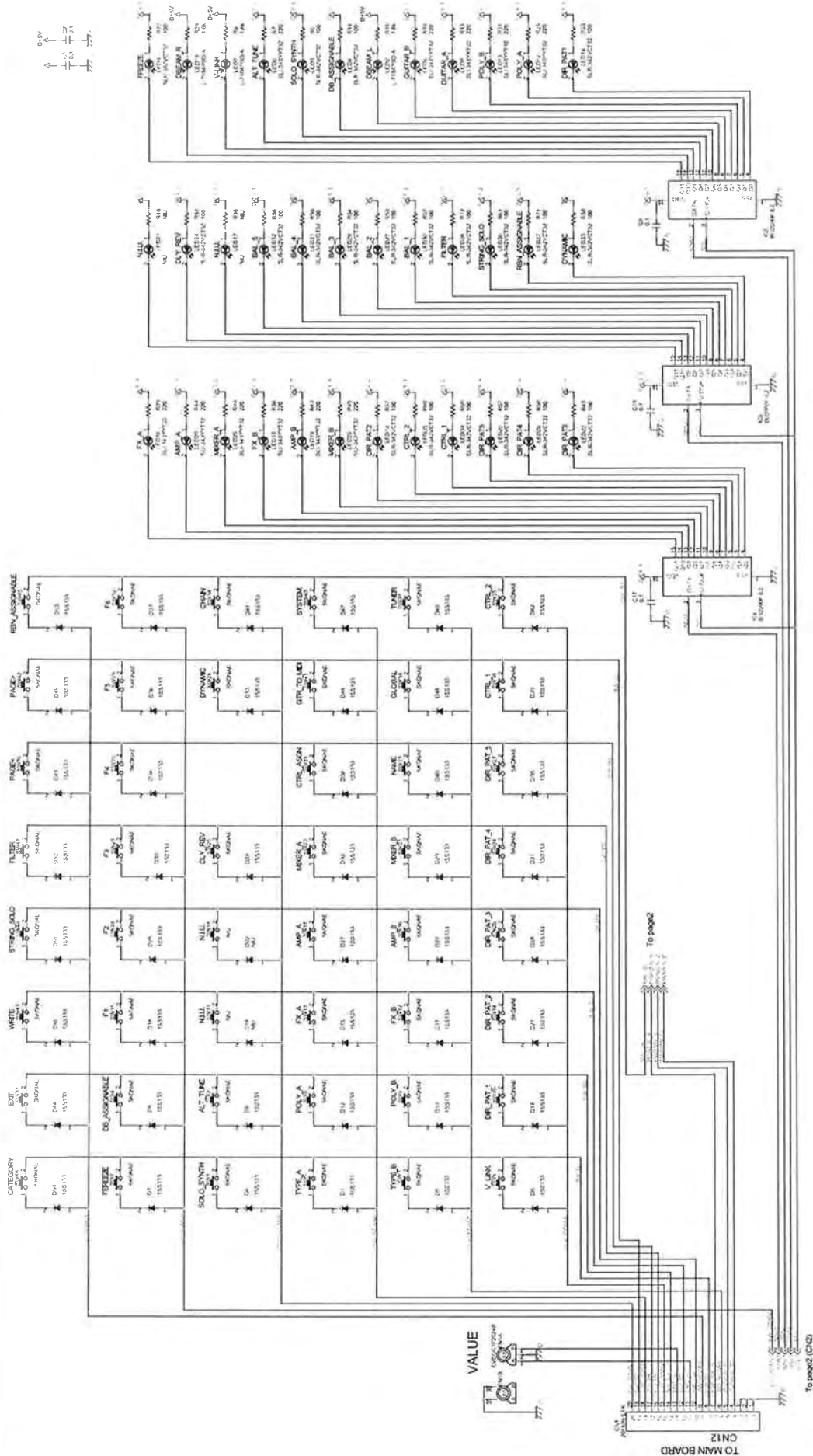


**Circuit Board (Panel, SW/VR, Jack, XLR, GK, In/Out Board: 2/2)**

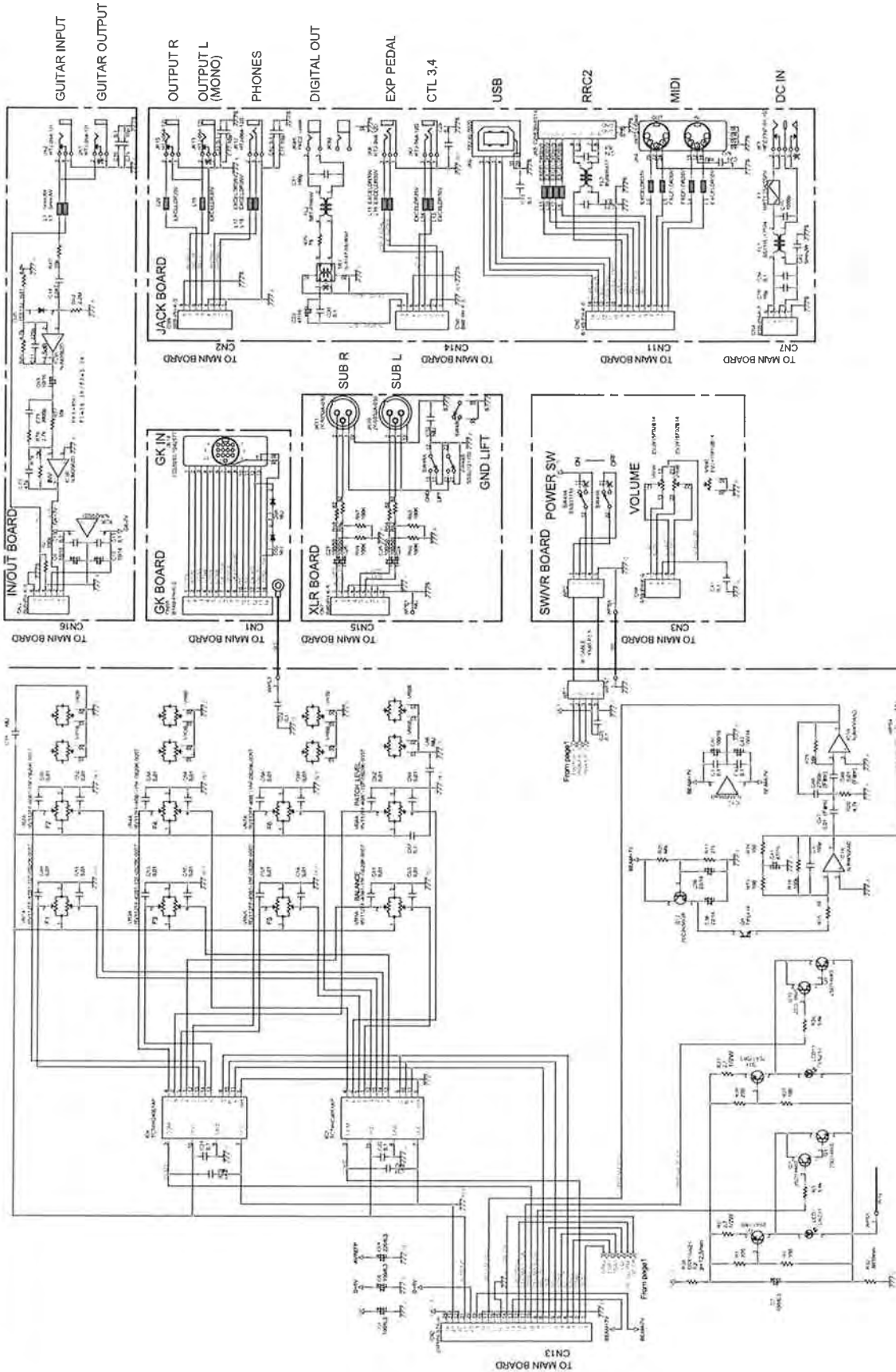


Parts without silk  
are around here.

# Circuit Diagram (Panel Board:1/2)



# Circuit Diagram (Panel Board:2/2, Jack, In/Out, SW/VR, XLR, GK)







---

# MEMO

 Roland®

---

**17058514E0**

UPC



Serial Number



(00) 0 0000