GP-10
GUITAR PROCESSOR

SERVICE NOTES
Issued by RJA

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Revise Information

Dec. 16, 2014 p. 21 Corrected errors.

Cautionary Notes

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

Back Up User Data!

User data may be lost during the course of the procedure. Refer to **Data Backup and Restore Operations** (p. 18) in the Service Notes and save the data. After completing the procedure, restore the backed-up data to the product.

Part Replacement

When replacing components near the power-supply circuit or a heat-generating circuit (such as a circuit provided with a heat sink or including a cement resistor), carry out the procedure according to the instructions with respect to the part number, direction, and attachment position (mounting so as to leave an air gap between the component and the circuit board, etc.).

Parts List

A component whose part code is ******** will not 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).
- Because a number of circuit boards are grouped together and supplied as a single circuit board (under a different part code).
- Because supply is prohibited due to copyright restrictions.
- Because reissuance is restricted.
- Because the part is made to order (at current market price).
- Because it is carried in electronic data on the Roland web site.
- Because it is a package or an accessory irrelevant to the function maintenance of the main body.
- Because it can be replaced with an article on the market. (battery or etc.)

Circuit Diagram

In the circuit diagram, “NIU” is an abbreviation for “Not in Use,” and “UnPop” is an abbreviation for “Unpopulated.” They both mean non-mounted components. The circuit board and circuit board diagram show silk-screened indications, but no components are mounted.

Specifications

BOSS GP-10: Guitar Processor

Modeling

Electric guitar:	12 types
Acoustic:	9 types
Bass:	3 types
Guitar synthesizer:	3 types
Poly FX:	5 types

Alternate Tuning

OPEN: D, E, G, A
DROP: D – A
D-MODAL
NASHVILLE
SHIFT: -12 – +12
USER
12-string guitar function

Effects

Preamp: 30 types
FX: 16 types (including OD/DS)
OD/DS: 21 types
Wah: 6 types
Chorus: 3 types
Delay: 10 types
Reverb: 7 types
EQ: 1 type
Noise Suppressor (NS): 1 type

Patch Memory

99

AD Conversion

GK Pickup:	24 bits
GUITAR IN:	24 bits + AF method

DA Conversion

24 bits

Sampling Frequency

44.1 kHz

Nominal Input Level

GUITAR INPUT:	-10 dBu
AUX IN:	-20 dBu

Input Impedance

GUITAR INPUT:	1 MΩ
AUX IN:	27 kΩ

Nominal Output Level

OUTPUT L/MONO, R: -10 dBu
GUITAR OUT: -10 dBu
PHONES: -10 dBu

Output Impedance

OUTPUT L/MONO, R: 2 kΩ
GUITAR OUT: 2 kΩ
PHONES: 44 Ω

Recommended Load Impedance

OUTPUT L/MONO, R: 20 kΩ or greater
GUITAR OUT: 20 kΩ or greater
PHONES: 16 Ω or greater

Pedals

Pedal switch x 4
Expression pedal x 1

Display

16 characters, 2 lines (backlit LCD)

Connectors

GK IN connector: 13-pin DIN type
GUITAR IN jack: 1/4-inch phone type
GUITAR OUT jack: 1/4-inch phone type
OUTPUT (L/MONO, R) jacks: 1/4-inch phone type
PHONES jack: Stereo miniature phone type
AUX IN jack: Stereo miniature phone type
EXP 2/CTL 3, 4: 1/4-inch TRS phone type
USB port: USB type B
DC IN jack

Power Supply

AC adaptor

Current Draw

350 mA

Dimensions

251 (W) x 207 (D) x 71 (H) mm
9-15/16 (W) x 8-3/16 (D) x 2-13/16 (H) inches

Maximum height:
251 (W) x 207 (D) x 93 (H) mm
9-15/16 (W) x 8-3/16 (D) x 3-11/16 (H) inches

Weight (excluding AC adaptor)

1.9 kg
4 lbs 4 oz

Accessories

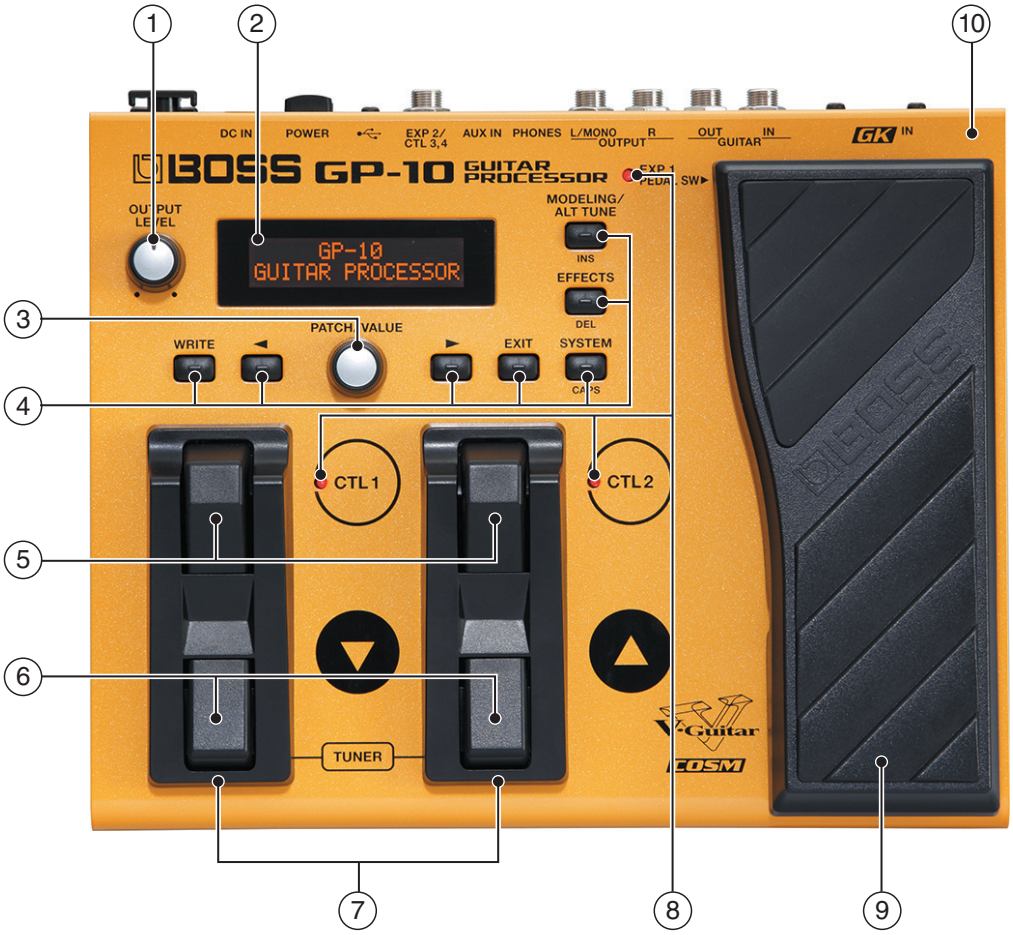
AC adaptor (#********)
Owner's manual (#5100039040)
Leaflet "USING THE UNIT SAFELY" (#********)
Divided pickup (Roland GK-3) (only for GK included model) (#********)
GK cable (3 m, 10 feet) (only for GK included model) (#5100037896)

Options (sold separately)

Divided pickup: Roland GK-3
GK cable: Roland GKC-5 (5 m), GKC-10 (10 m)
GK parallel cable (GK pickup <–> GK connector x 2): Roland GKP-2
Unit selector: Roland US-20
Footswitch: FS-5U
Dual footswitch: FS-6
Expression pedal: Roland EV-5, FV-500L/500H

* *0 dBu = 0.775 Vrms*
* *Printed matters will not be supplied after the end of the production. Then, download the electronic file from the Roland web site.*
* *In the interest of product improvement, the specifications and/or appearance of this unit are subject to change without prior notice.*

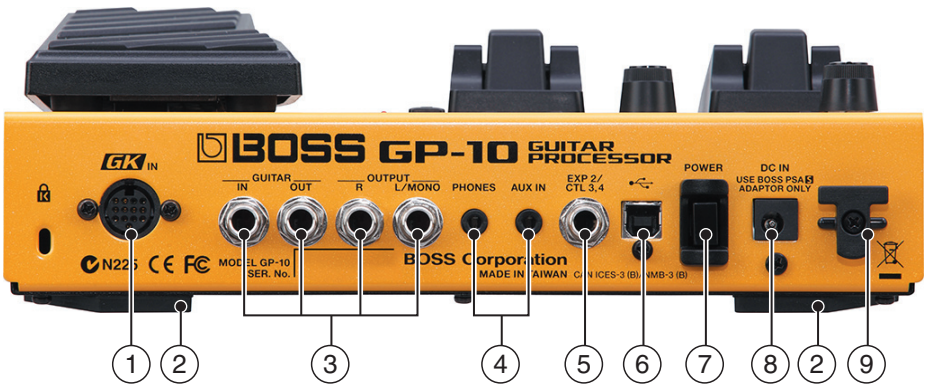
Location of Controls (Front)



Location of Controls (Front) Parts List

No.	Part Code	Part Name	Description	Q'ty
1	5100007869	R-KNOB INDEX	G2477526R1	1
	5100006350	POTENTIOMETER(F3229188R1)	RD901F-40-15F-B50K-00DQ7	1
	40128923	HEX NUT M7	H5039521R0	1
2	5100037970	DISPLAY COVER		1
	5100010065	LCD	PE1602MRT-012-I-Q(F5029425R0)	1
	5100037971	DISPLAY CUSHION		1
3	5100008051	R-KNOB	(G2477525R1)	1
	5100037152	ENCODER	RE111F-40B3-15F-20P	1
	40128923	HEX NUT M7	H5039521R0	1
4	03344945	KEYTOP S	1PC(G2477513R0)	7
	01780101	TACT SWITCH	SKQKABD010	7
5	5100037545	SW PEDAL FRONT		2
	5100003910	PEDAL FOOT H=7.6	(G2357126R0)	2
	04560712	SUPPORT SPRING	(G2177103R0)	2
6	5100037546	SW PEDAL REAR		2
	5100003910	PEDAL FOOT H=7.6	(G2357126R0)	2
	04560712	SUPPORT SPRING	(G2177103R0)	2
7	5100037544	SW PEDAL ESCUTCHEON		2
8	05015956	LED	BL L-7104SRT (F5229820R0)	3
	5100003409	LED SPACER	LEDS-8S	3
9	5100011392	VR PEDAL		1
	5100011395	PEDAL PLATE		1
10	5100037968	TOP COVER		1

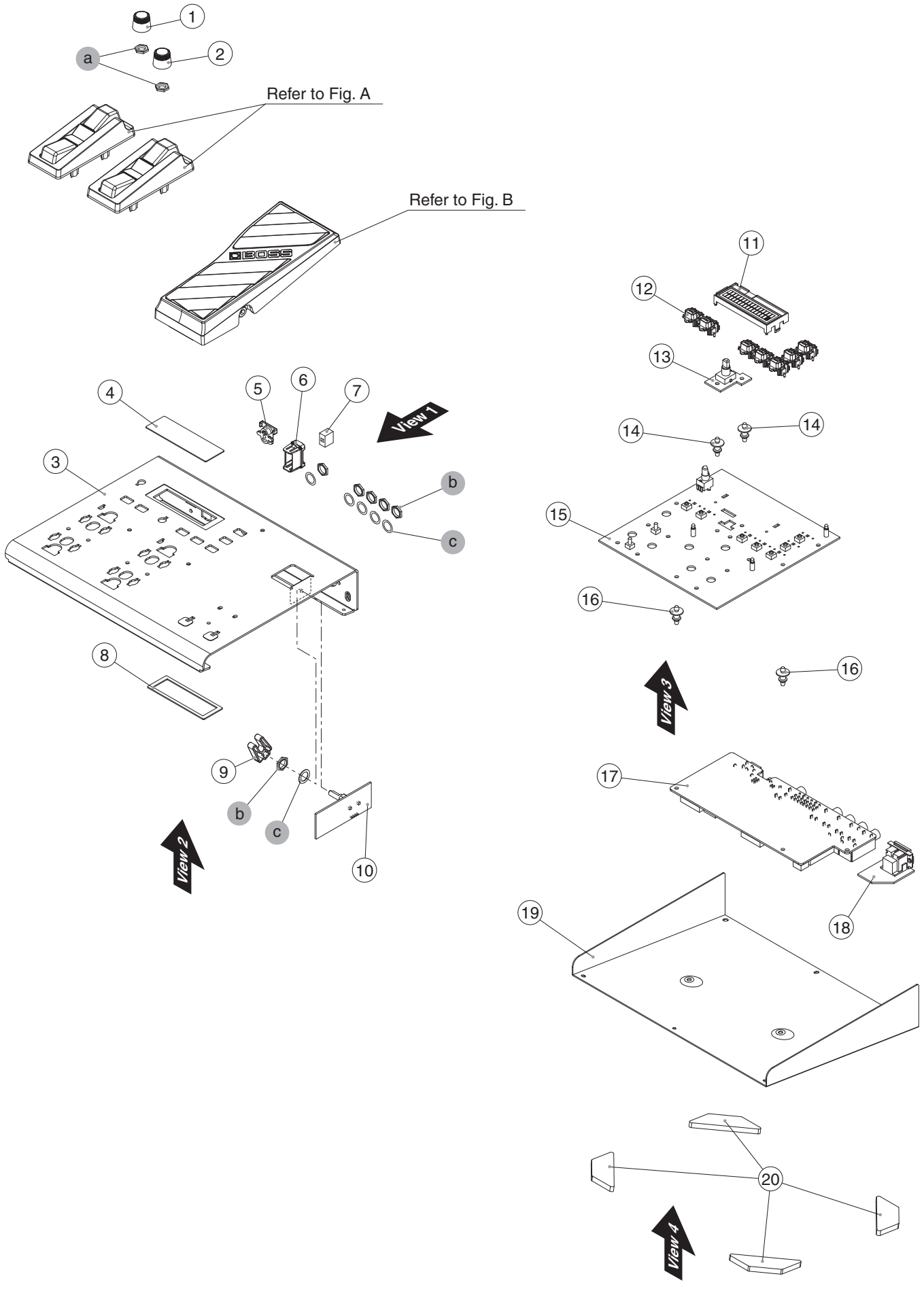
Location of Controls (Rear)



Location of Controls (Rear) Parts List

No.	Part Code	Part Name	Description	Q'ty
1	00564556	DIN CONNECTOR	TCS5093-10-4152	1
2	03344923	FOOT H=5 (G2357120R0)		4
3	5100001342	6.5MM JACK	HTJ-064-12IMP (13449155R1)	4
	5100003918	JACK NUT M9X12X2	NI RTC(H5039510R0)	4
	5100003926	PLAIN WASHER 9X13.5X0.5T	NI(H5039158R0)	4
4	5100006474	3.5MM JACK	HTJ-035-10ABZ(F3439911R0)	2
5	5100034719	6.5MM JACK	HTJ-064-22HSPP	1
	5100003918	JACK NUT M9X12X2	NI RTC(H5039510R0)	1
	5100003926	PLAIN WASHER 9X13.5X0.5T	NI(H5039158R0)	1
6	5100017587	USB CONNECTOR	UBR23-4K5100(F3439933R0)	1
7	5100018071	POWER SW ESCUTCHEON	G2207430R1	1
	12499175	BUTTON	JSPUE0011A	1
	01899989	PUSH SWITCH	SPUP19-2N-LB2	1
8	04908701	ADAPTOR JACK	KM02018ABM1P(F3439875R0)	1
9	22360712	CORD HOOK	236-712	1

Exploded View



Exploded View Parts List

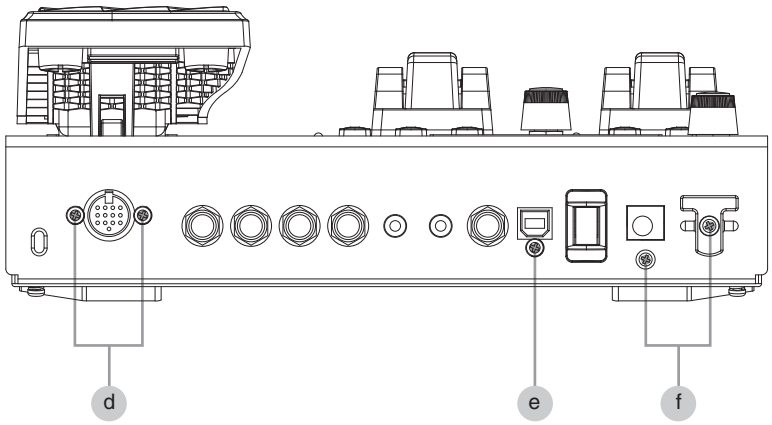
No.	Part Code	Part Name	Description	Q'ty
1	5100007869	R-KNOB INDEX	G2477526R1	1
2	5100008051	R-KNOB	(G2477525R1)	1
3	5100037968	TOP COVER		1
4	5100037970	DISPLAY COVER		1
5	22360712	CORD HOOK	236-712	1
6	5100018071	POWER SW ESCUTCHEON	G2207430R1	1
7	12499175	BUTTON	JSPUE0011A	1
8	5100037971	DISPLAY CUSHION		1
9	03561356	SHAFT STAY	STAY	1
	5100037249	PANEL SHEET ASSY		
	* *This unit includes the following parts.*			
10	********	EXP BOARD		1
13	********	ENC BOARD		1
15	********	PANEL BOARD		1
18	********	GK BOARD		1
11	5100010065	LCD	PE1602MRT-012-I-Q(F5029425R0)	1
12	03344945	KEYTOP S	1PC(G2477513R0)	7
14	5100037401	PCB SPACER	LCA35-3	2
16	5100021018	PWB SPACER	LBC-08-N2W	2
17	5100037248	MAIN BOARD ASSY		1
19	5100037969	BOTTOM COVER		1
20	03344923	FOOT H=5 (G2357120R0)		4
a	40128923	HEX NUT M7	H5039521R0	2
b	5100003918	JACK NUT M9X12X2	NI RTC(H5039510R0)	6
c	5100003926	PLAIN WASHER 9X13.5X0.5T	NI(H5039158R0)	6

Disassembly Procedure

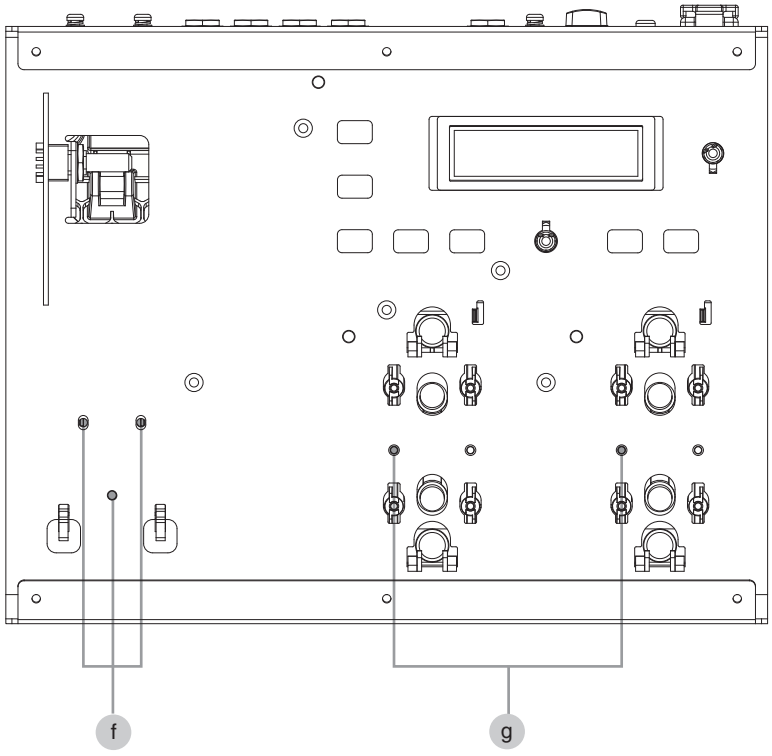
1. Remove all screws **e** (8) in **Plane View (View 4)** (p. 10) and detach the bottom cover.
2. When detaching the VR pedal, remove the bolt **k** in **Exploded View (Fig. B)** (p. 12).

Plane View (View 1, 2)

View 1



View 2



View 1

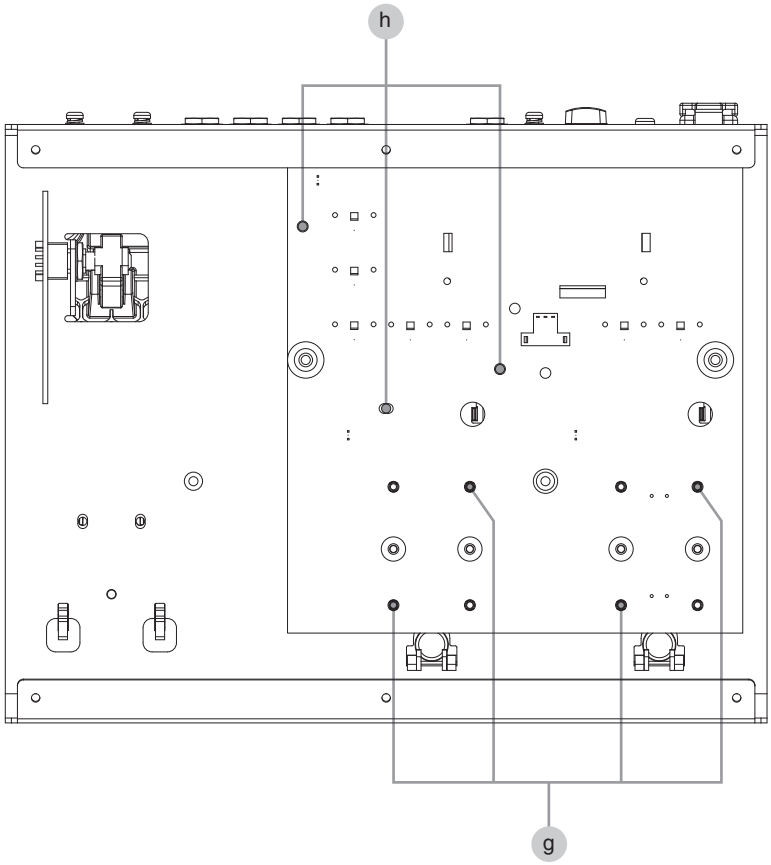
No.	Part Code	Part Name	Description	Q'ty
d	40237101	SCREW M3X8	PAN MACHINE W/SW+SMALL PW BZC	2
e	40342712	SCREW M3X6	PAN MACHINE W/SW+SMALL PW BZC	1
f	40019123	SCREW 3X8	BINDING TAPTITE S BZC	2

View 2

No.	Part Code	Part Name	Description	Q'ty
f	40019123	SCREW 3X8	BINDING TAPTITE S BZC	3
g	40011312	SCREW 3X8	BINDING TAPTITE P FE BZC	2

Plane View (View 3)

View 3

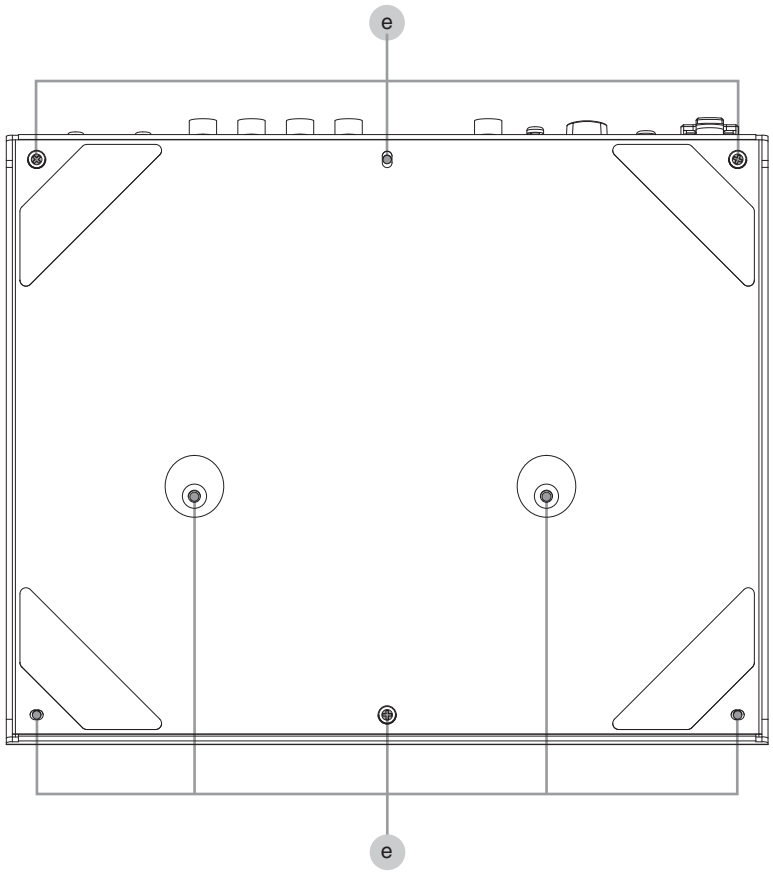


View 3

No.	Part Code	Part Name	Description	Q'ty
g	40011312	SCREW 3X8	BINDING TAPTITE P FE BZC	4
h	40012867	SCREW M3X8	PAN MACHINE W/SW+PW ZC	3

Plane View (View 4)

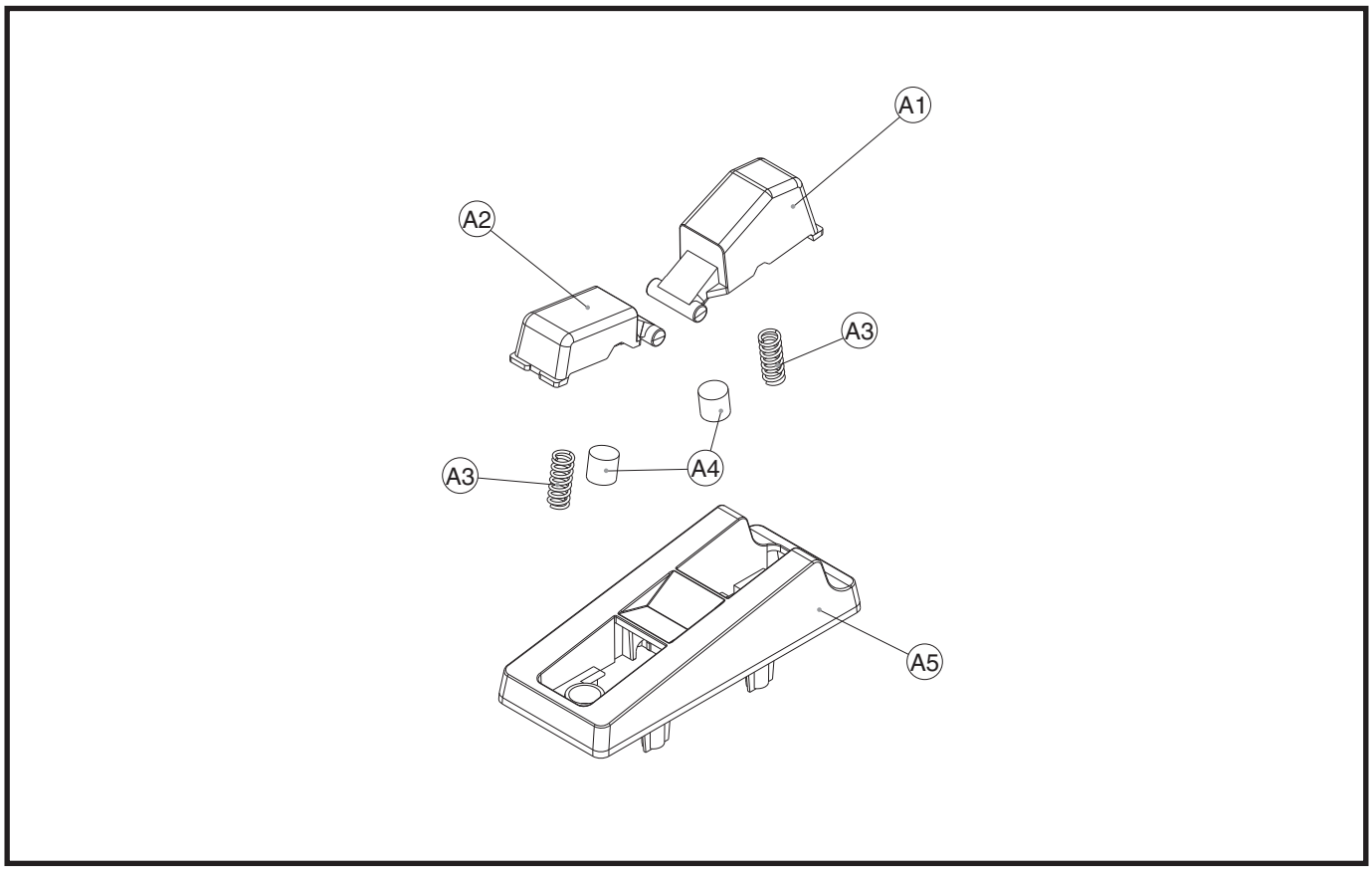
View 4



View 4

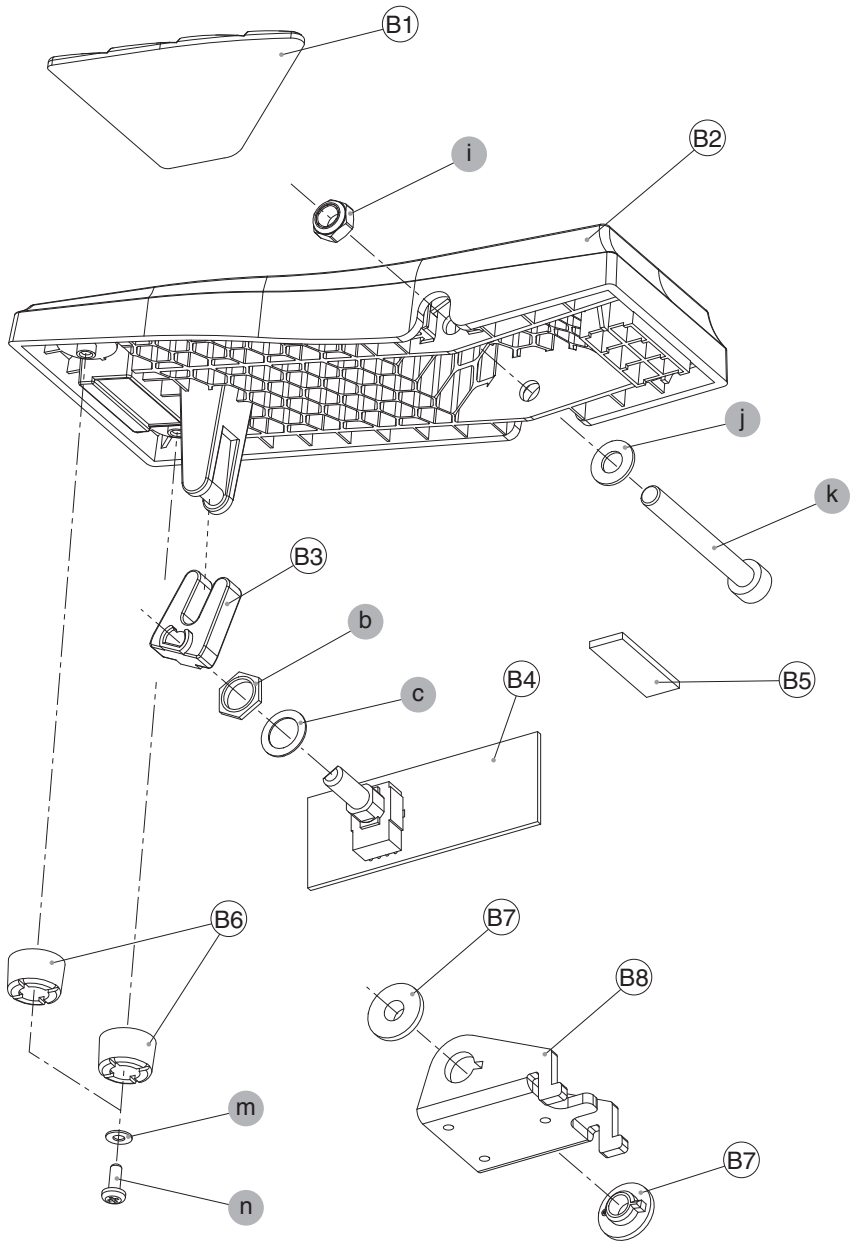
No.	Part Code	Part Name	Description	Q'ty
e	40342712	SCREW M3X6	PAN MACHINE W/SW+SMALL PW BZC	8

Exploded View (Fig. A)



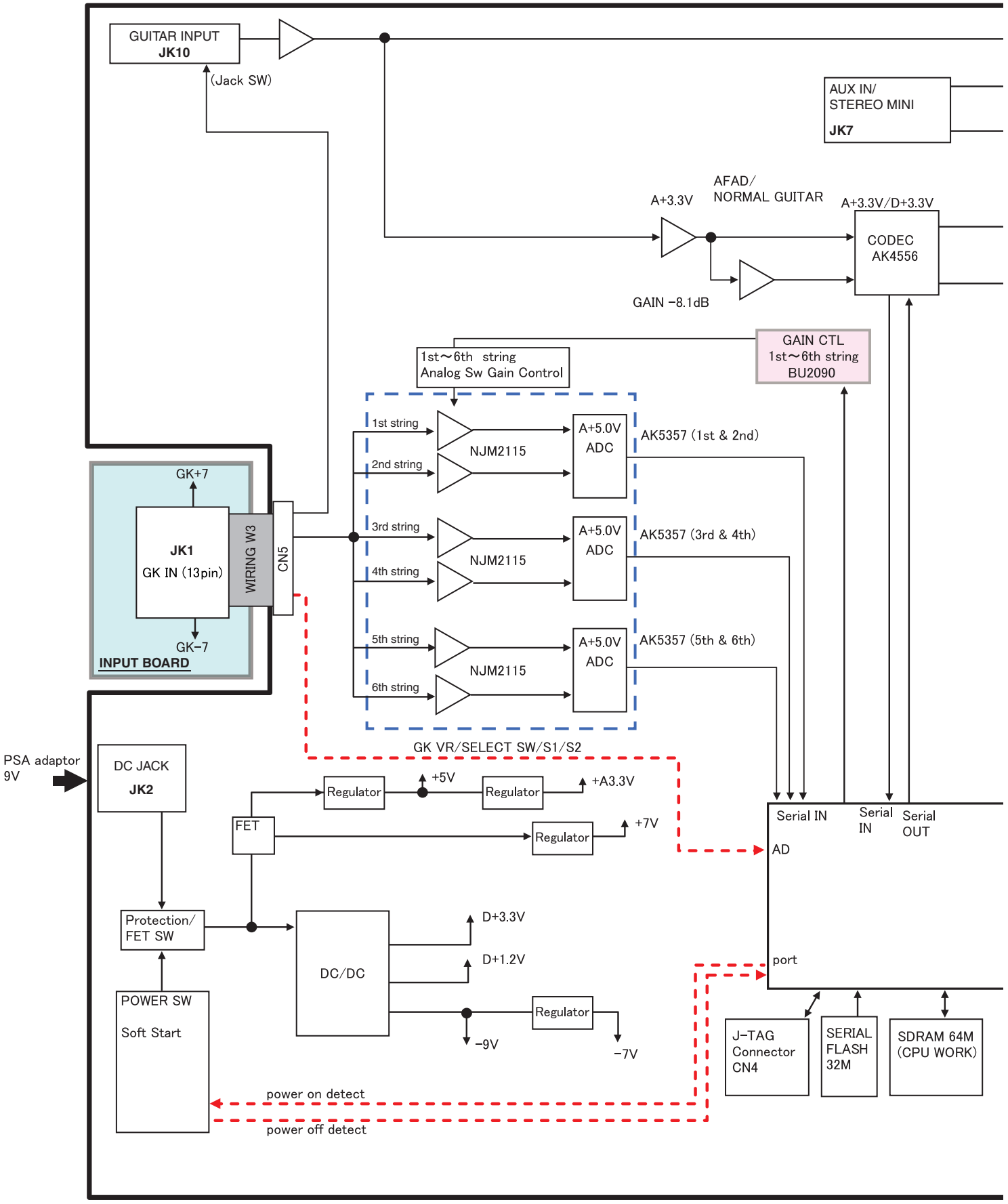
No.	Part Code	Part Name	Description	Q'ty
A1	5100037545	SW PEDAL FRONT		1
A2	5100037546	SW PEDAL REAR		1
A3	04560712	SUPPORT SPRING	(G2177103R0)	2
A4	5100003910	PEDAL FOOT H=7.6	(G2357126R0)	2
A5	5100037544	SW PEDAL ESCUTCHEON		1

Exploded View (Fig. B)

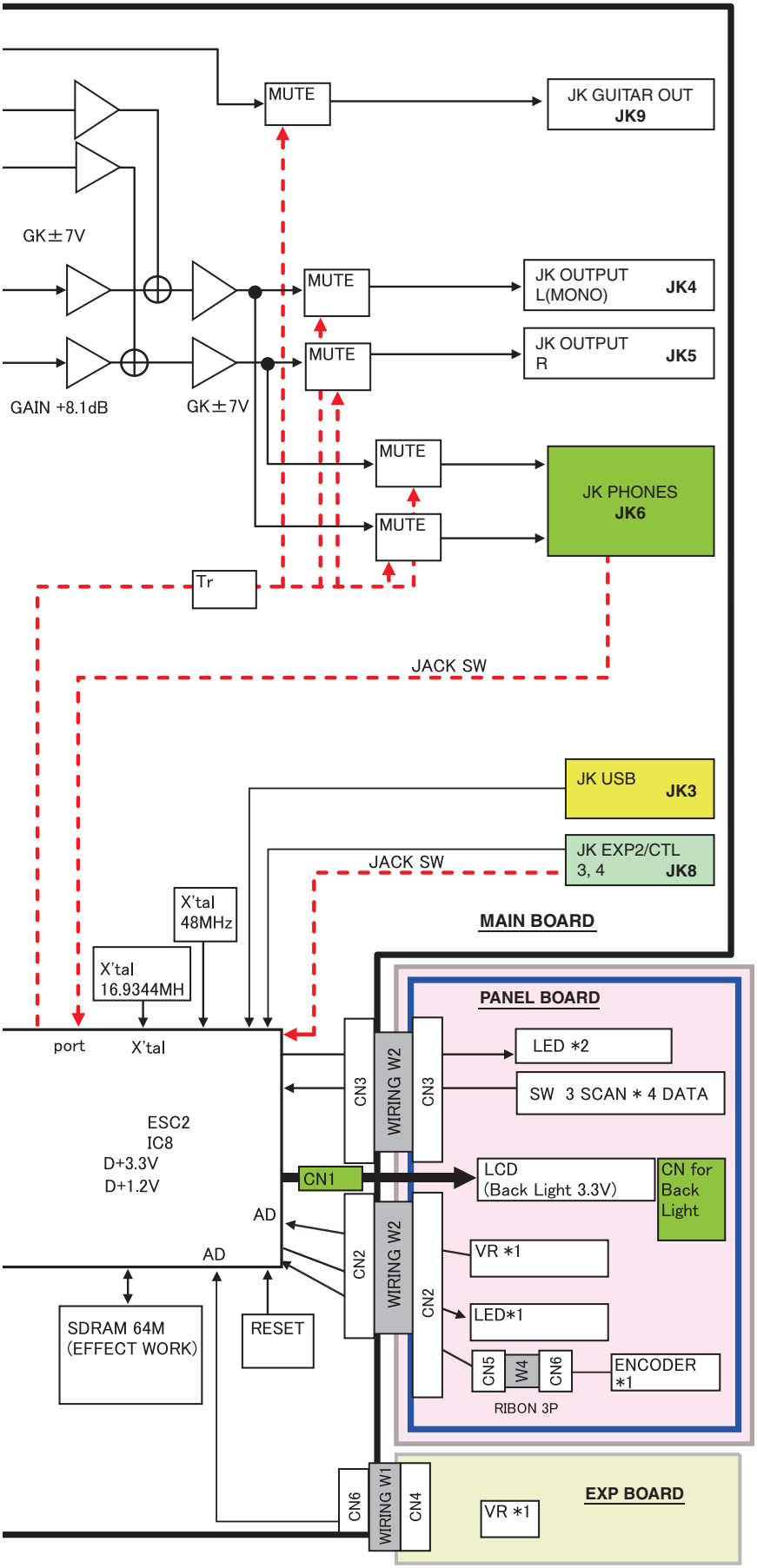


No.	Part Code	Part Name	Description	Q'ty
B1	5100011395	PEDAL PLATE		1
B2	5100011392	VR PEDAL		1
B3	03561356	SHAFT STAY	STAY	1
	5100037249	PANEL SHEET ASSY		1
	* *This unit includes the following parts.*			
B4	********	EXP BOARD		1
	********	PANEL BOARD	Refer to **Exploded View** (p. 6).	1
	********	GK BOARD	Refer to **Exploded View** (p. 6).	1
	********	ENC BOARD	Refer to **Exploded View** (p. 6).	1
B5	04560601	CUSHION	R (G2357111)	1
B6	5100012831	REAR CUSHION		2
B7	04560634	BOLT HOLDER	(G2147874)	2
B8	5100011394	PEDAL HOLDER		1
b	5100003918	JACK NUT M9X12X2	NI RTC(H5039510R0)	1
c	5100003926	PLAIN WASHER 9X13.5X0.5T	NI(H5039158R0)	1
i	04560590	U-NUT M6	BZC	1
j	04560589	WASHER	M6 T1 (H5039122)	1
k	5100012929	HEX BOLT M6X50	HALF THREAD BZC	1
m	40127023	PLAIN WASHER 3X8X0.5	ZC	2
n	40011278	SCREW 3X8	BINDING TAPTITE P FE ZC	2

Wiring Diagram/Block Diagram



No.	Part Code	Part Name	Description	Q'ty
W1	5100037384	WIRING	W1 (EXP)	1
W2	5100037393	WIRING	W2 (PANEL)	2
W3	5100037394	WIRING	W3 (INPUT)	1
W4	5100037395	WIRING	3P L=55X5X5 P=2.0	1



Parts List

Safety Precautions:
The parts marked ⚠ 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.
- Supply is prohibited due to copyright restrictions.
- It is carried in electronic data on the Roland web site.
- The part is made to order (at current market price).
- It can be replaced with an article on the market. (battery or etc.)
- It is a package or an accessory irrelevant to the function maintenance of the main body.
- A number of circuit boards are grouped together and supplied as a single circuit board (under a different part code).
- Reissuance is restricted.
- It is supplied as an assembled part (under a different part code).

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

CASING

#	5100037968	TOP COVER		1
#	5100037969	BOTTOM COVER		1

KNOB, BUTTON

	5100008051	R-KNOB	(G2477525R1)	1
	5100007869	R-KNOB INDEX	G2477526R1	1
	03344945	KEYTOP S	1PC(G2477513R0)	7
	12499175	BUTTON	JSPUE0011A	1

SWITCH

	01780101	TACT SWITCH	SKQKABD010	7
	03344723	TACT SWITCH	SKQKAKD010	4
	01899989	PUSH SWITCH	SPUP19-2N-LB2	1

JACK, EXT TERMINAL

	5100006474	3.5MM JACK	HTJ-035-10ABZ(F3439911R0)	2
	5100001342	6.5MM JACK	HTJ-064-12IMP (13449155R1)	4
#	5100034719	6.5MM JACK	HTJ-064-22HSPP	1
	04908701	ADAPTOR JACK	KM02018ABM1P(F3439875R0)	1
	00564556	DIN CONNECTOR	TCS5093-10-4152	1
	5100017587	USB CONNECTOR	UBR23-4K5100(F3439933R0)	1

DISPLAY UNIT

	5100010065	LCD	PE1602MRT-012-I-Q(F5029425R0)	1

PWB ASSY

#	5100037248	MAIN BOARD ASSY		1
#	5100037249	PANEL SHEET ASSY		1
	* *This unit includes the following parts.*			
	********	PANEL BOARD		1
	********	GK BOARD		1
	********	EXP BOARD		1
	********	ENC BOARD		1

DIODE

	05015956	LED	BL L-7104SRT (F5229820R0)	3

POTENTIOMETER

	01016167	11M/M ROTARY POTENTIOMETER	RK11K1140AFG 10KX1	1
	5100006350	POTENTIOMETER(F3229188R1)	RD901F-40-15F-B50K-00DQ7	1
#	5100037152	ENCODER	RE111F-40B3-15F-20P	1

WIRING, CABLE

#	5100037395	WIRING	3P L=55X5X5 P=2.0	1
#	5100037384	WIRING	W1 (EXP)	1
#	5100037393	WIRING	W2 (PANEL)	2
#	5100037394	WIRING	W3 (INPUT)	1

SCREWS

	40342712	SCREW M3X6	PAN MACHINE W/SW+SMALL PW BZC		9
	40237101	SCREW M3X8	PAN MACHINE W/SW+SMALL PW BZC		2
	40012867	SCREW M3X8	PAN MACHINE W/SW+PW ZC		3
	40011278	SCREW 3X8	BINDING TAPTITE P FE ZC		2
	40011312	SCREW 3X8	BINDING TAPTITE P FE BZC		6
	40019123	SCREW 3X8	BINDING TAPTITE S BZC		5
	5100012929	HEX BOLT M6X50	HALF THREAD BZC		1
	40128923	HEX NUT M7	H5039521R0		2
	5100003918	JACK NUT M9X12X2	NI RTC(H5039510R0)		6
	04560590	U-NUT M6	BZC		1
	40127023	PLAIN WASHER 3X8X0.5	ZC		2
	5100003926	PLAIN WASHER 9X13.5X0.5T	NI(H5039158R0)		6
	04560589	WASHER	M6 T1 (H5039122)		1

MISCELLANEOUS

	5100003910	PEDAL FOOT H=7.6	(G2357126R0)		4
	5100011394	PEDAL HOLDER			1
	5100011395	PEDAL PLATE			1
	5100037545	SW PEDAL FRONT			2
	5100037546	SW PEDAL REAR			2
	5100011392	VR PEDAL			1
	5100018071	POWER SW ESCUTCHEON	G2207430R1		1
	5100037544	SW PEDAL ESCUTCHEON			2
	04560634	BOLT HOLDER	(G2147874)		2
	03129878	DC JACK HOLDER			1
#	5100037970	DISPLAY COVER			1
	22360712	CORD HOOK	236-712		1
	03344923	FOOT H=5 (G2357120R0)			4
	5100003409	LED SPACER	LEDS-8S		3
#	5100037401	PCB SPACER	LCA35-3		2
	5100021018	PWB SPACER	LBC-08-N2W		2
	03561356	SHAFT STAY	STAY		1
	04560712	SUPPORT SPRING	(G2177103R0)		4
	04560601	CUSHION	R (G2357111)		1
#	5100037971	DISPLAY CUSHION			1
	5100012831	REAR CUSHION			2
	5100007870	INSULOK TIE	YJ-80 V2 (H5319102R0)		1

ACCESSORIES (Standard)

⚠	*********	AC ADAPTOR	PSA-100S	for 100V	1
⚠	*********	AC ADAPTOR	PSA-120ZS	for 117VBL	1
⚠	*********	AC ADAPTOR	PSA-120S	for 117VU, 117VU/CS	1
⚠	*********	AC ADAPTOR	PSA-220S	for 220VCNR	1
⚠	*********	AC ADAPTOR	PSA-230ES ERP	for 230VE	1
⚠	*********	AC ADAPTOR	PSA-230S ERP	for 230VEU	1
⚠	*********	AC ADAPTOR	PSA-240S	for 240VA	1
	5100037896	GK CABLE 3M (GKC-3)		(for GP-10GK)	1
	5100038924	OWNER'S MANUAL	JAPANESE		1
	5100039040	OWNER'S MANUAL	MULTILANGUAGE		1

* *AC adaptors whose part codes are indicated as ******** are not supplied. Please purchase an article.*

Verifying the Version

1. Hold down **WRITE** and switch on the power.
   Continue to hold down **WRITE** until **GP-10 GUITAR PROCESSOR** appears.
   After a short wait, the version information is displayed.
2. Switch off the power.

Virus Check

Before connecting your computer to the GP-10, carry out a virus check on the GP-10. If it has been infected by a virus, format it after obtaining permission from the end user. For the formatting procedure, refer to **Performing a Factory Reset** (p. 18).

Data Backup and Restore Operations

User data (user patches and system parameters) is saved by sending it (bulk dump) as MIDI data to a computer on which a MIDI sequencer program is installed.
The amount of data to be backed up is approximately 120 k-bytes.

Items Required

- Computer
- USB cable
- MIDI sequencer program (Cakewalk Sonar or the like)
- UpdSMF.exe (obtained via Service Information No. 102333.)

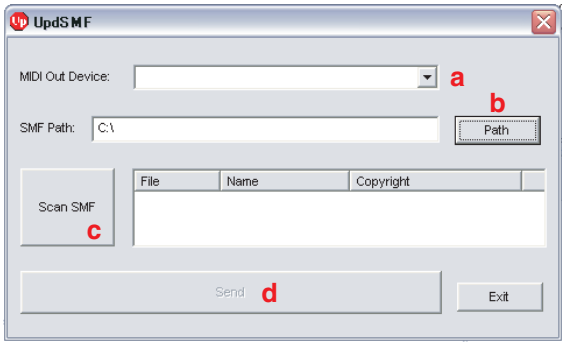
* *Install these software on the computer.*

- GP-10_USERDATA_RQ.mid (obtained via Service Net)

* *Copy the SMF described above to a folder on the computer.*

Data Backup

1. Use the USB cable to connect the connector on the GP-10 and the computer.
2. Switch on the power to the GP-10 and the computer.
3. On the computer, run UpdSMF.exe.



4. Click the drop-down menu (**a**) and select **GP-10**.
5. Click **Path** (**b**), then select the folder where you copied **GP-10_USERDATA_RQ.mid**.
6. Click **Scan SMF** (**c**). The SMF in the folder you selected in step **5** is displayed.
7. Start the MIDI sequencer program, then start recording.
8. Return to the UpdSMF.exe and select **GP-10_USERDATA_RQ.mid**, then click **Send** (**d**).
   GP-10_USERDATA_RQ.mid is sent to the GP-10, and the GP-10 which received it returns the data to the computer.
   The data is recorded on the MIDI sequencer program.

   * *Progress is not displayed on the GP-10. To monitor the progress, check the display in the MIDI sequencer program you're using.*
9. When the data sending from the GP-10 has finished, stop the recording and save the recorded data as a SMF file.

Data Restore Operations

1. Use the USB cable to connect the connector on the GP-10 and the computer.
2. Switch on the power to the GP-10 and the computer.
3. Start the MIDI sequencer program on the computer.
4. Play back the recorded data (SMF). The data is sent to the GP-10
   When the MIDI sequencer program finishes sending data to the GP-10, the data-restore operation is completed.

   * *Progress is not displayed on the GP-10. To monitor the progress, check the display in the MIDI sequencer program you're using.*

Performing a Factory Reset

1. Switch on the power.
2. Press **SYSTEM** several times to select **Factory Reset**.
3. Turn the **PATCH/VALUE** knob to specify the range to reset to the factory-default setting.

Settings value	Settings reset
SYSTEM + PATCH	System parameters settings + User patches settings
PATCH	User patches settings
SYSTEM	System parameters settings

4. Press **WRITE**.
   ARE YOU SURE ? is displayed.
5. To execute the factory reset, press **WRITE**. To cancel it, press **EXIT**.
   When the display returns to the initial screen, the factory reset has finished.

Updating the System

Items Required

- AC adaptor (PSA-series device)
- Computer (running Windows 7)
- USB cable
- Update file (obtained via Service Net)

- GP-10 USB driver

* *Obtain this from the following web pages, and install it on the computer just described.*
http://www.roland.co.jp
http://www.roland.com

Procedure

1. Unarchive the update file, prepare the following files on the computer.
   - GP10_UPD.BIN
   - ROMINFO.TXT
2. Connect the AC adaptor to the GP-10.
3. Hold down ◄ and ► and switch on the power.
   GP-10 Updater is displayed on the GP-10 screen.
4. Connect the computer to the ⇐ connector.
   Connected. is displayed on the GT-10 screen.
   The folder named **GP10_UPD** appears on the computer's screen.
5. Copy the update files to the **GP10_UPD**.
   - GP10_UPD.BIN
   - ROMINFO.TXT
6. End the USB connection and disconnect the USB cable.
   [WRITE] to start is displayed on the GT-10's screen.
7. Press **WRITE**.
   The **EXP 1 PEDAL SW** LED flashes and the update starts.
   When the update has finished, **Completed. Please Power Off** is displayed and the **EXP 1 PEDAL SW** LED goes dark.
8. Switch off the power.

Test Mode

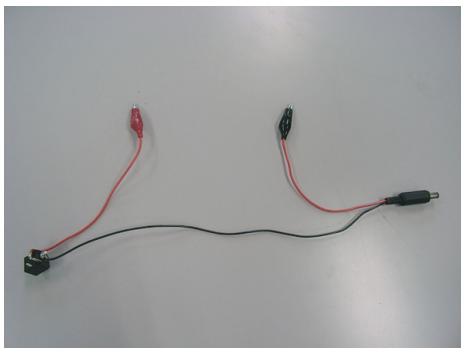
Items Required

- AC adaptor (PSA-series device)
- Guitar equipped with a GK-3
- GK cable
- Computer
- USB cable
- Short plug (standard monaural)
- Oscilloscope
- Expression pedal (EV-5)
- Amp-equipped monitor speakers
- Signal generator
- Noise Meter
- Tester

- GP-10 USB driver

* *Obtain this from the following web pages, and install it on the computer just described.*
http://www.roland.co.jp
http://www.roland.com

- Cable for measurement of DC IN current consumption



Entering the Test Mode

1. Connect an AC adaptor.
   When performing **03:CURRENT CHK** (p. 20), connect the cable for measurement of DC IN current consumption between the unit and AC adaptor.
2. Adjust the **OUTPUT LEVEL** knob to minimum.
3. Hold down **WRITE** and **MODELING/ALT TUNE** and switch on the power.

   * *Continue to hold down **WRITE** and **MODELING/ALT TUNE** until the character is displayed on the screen.*

   When the unit enters the Test mode, the test-item selection screen (*** SELECT PAGE ***) appears.

Quitting the Test Mode

Switch off the power.

Selecting Test Items

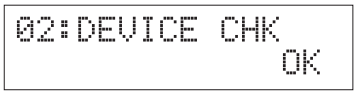
1. Turn the **PATCH/VALUE** knob or press ◄ or ► to select the test item at the test-item selection screen.
2. Press **WRITE**.

Test Items

01:VERSION

The version information is displayed at the lower line of the screen.
Hold down **WRITE** and press **EXIT** to return to the test-item selection screen.

02:DEVICE CHK



The operation of each device is tested automatically.
If a problem is found, the test stops and the location of the problem is displayed on the screen.
When the procedure is completed properly, **OK** appears and execution automatically returns to the test-item selection screen.

03:CURRENT CHK

* *This test requires connecting a current-consumption measurement tool between the GT-10 and the AC adaptor. Switch off the power before entering this test item, then enter this test item again after connecting the current-consumption measurement tool.*

1. Verify that three LEDs (**CTL1**, **CTL2** and **EXP 1 PEDAL SW**) on the panel are lighted.
2. Use the USB cable to connect the ⇐ connector and the computer.
3. Connect the GK-3 to the **GK IN** connector.
4. Verify that the current-consumption is from **240** to **290 mA**.
5. Hold down **WRITE** and press **EXIT** to return to the test-item selection screen.
6. Disconnect the USB cable and the GK-3.

04:USB CHECK

1. Use the USB cable to connect the ⇐ connector and the computer.
2. Verify that **UNPLUG USB** is displayed, disconnect the USB cable.

After **OK** is displayed, execution automatically returns to the test-item selection screen.

05:ENC/LCD CHK

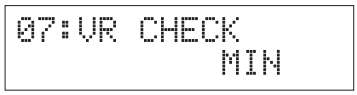
1. Turn the **PATCH/VALUE** knob clockwise one click at a time, and verify that the value displayed on the screen increases by one unit at a time and the screen contrast also becomes progressively deeper.
2. After the on-screen value reaches **16**, turn the knob counterclockwise one click at a time, and verify that the value displayed on the screen decreases by one unit at a time and the screen contrast also becomes progressively lighter.
   After the on-screen value reaches **1**, **OK** is displayed briefly and execution automatically returns to the test-item selection screen.

06:SW/LED CHK

Working in sequence, press the buttons displayed on the screen.
When pressing **MODELING/ALT TUNE**, **CTL1** or **CTL2**, verify that the corresponding LED also goes dark.
Sequence: MODELING/ALT TUNE (LED: EXP 1 PEDAL SW dark) –> EFFECTS –> SYSTEM –> EXIT –> ► –> ◄ –> WRITE –> CTL1 (LED: dark) –> CTL2 (LED: dark) –> ▼ –> ▲

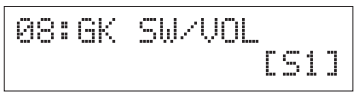
After **OK** is displayed, execution automatically returns to the test-item selection screen.

07:VR CHECK



1. Turn the **OUTPUT LEVEL** knob clockwise until it is close to centered, and verify that the screen display changes to **MID**.
2. Turn the **OUTPUT LEVEL** knob all the way clockwise, and verify that the screen display changes to **MAX**.
   After **OK** is displayed, execution automatically returns to the test-item selection screen.

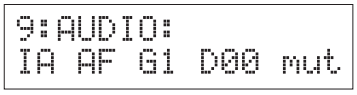
08:GK SW/VOL



* *Before connecting the GK-3, turn the GK volume on the GK-3 all the way clockwise and adjust the selector switch to* ***MIX****.*

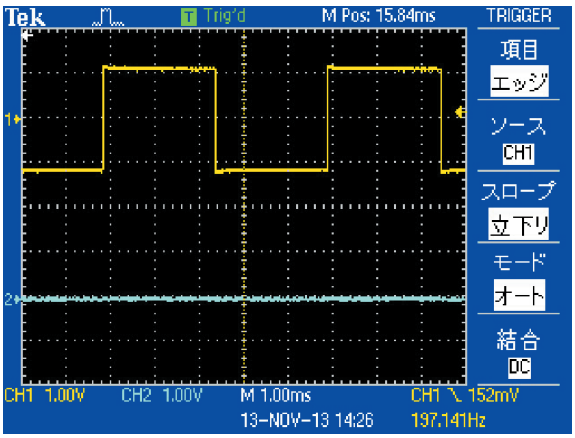
1. Connect the GK-3 to the **GK IN** connector.
2. Working in sequence, switch the GK-3 buttons displayed on the screen.
   Sequence: DOWN/S1 –> UP/S2
3. Working in sequence, switch the GK-3 selector switches displayed on the screen.
   Sequence: GUITAR –> GK –> MIX
4. Turn the GK volume counterclockwise slowly.
   Verify that on-screen display in the sequence of ~~MIN –> MID –> MAX~~ MAX –> MID –> MIN.
5. Turn the GK volume clockwise slowly.
   After on-screen display in the sequence of ~~MAX –> MID –> MIN~~ MIN –> MID –> MAX, the display automatically returns to the test-item selection screen.

09:AUDIO

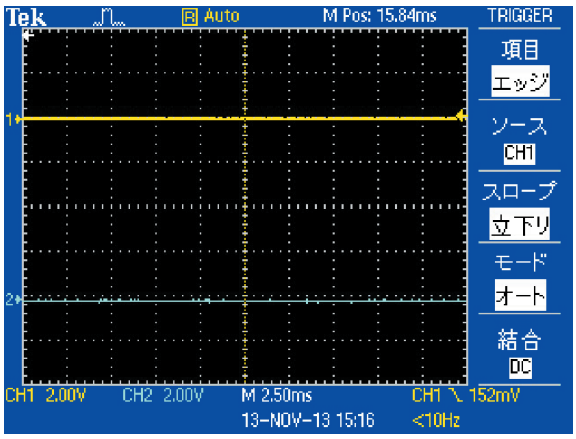


Verification of GUITAR OUT waveform

1. Adjust the **OUTPUT LEVEL** knob to maximum.
2. Connect a signal generator to the normal input connector on the GK-3, set the selector switch on the GK-3 to MIX, and input a signal like the one shown below.
   200-Hz, 2.0 Vp-p, rectangular wave
3. Connect the GK-3 to the **GK IN** connector.
4. Connect the oscilloscope to the **GUITAR OUT** jack.
   Oscilloscope settings: 1.0 V/1.00 msec
5. Verify that signal like the one shown below is output.
   GUITAR OUT: 2.0 Vp-p±0.5 V

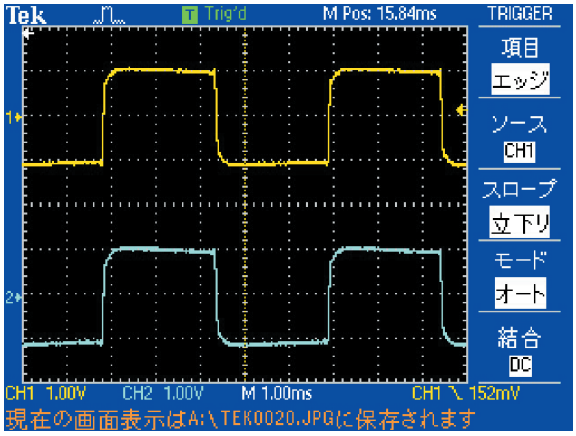


6. Insert the short plug (standard monaural) to the **GUITAR IN** jack and verify that no signal is output from the **GUITAR OUT** jack.



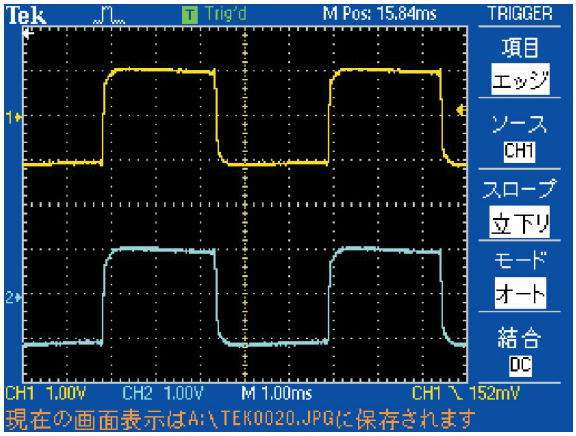
Verification of OUTPUT L/MONO and R waveform

7. Connect the oscilloscope to the **OUTPUT L/MONO** and **R** jacks.
   Oscilloscope settings: 1.0 V/1.00 msec
8. Verify that signals like the ones shown below are output.
   OUTPUT L/MONO, R: 2.0 Vp-p±0.5 V



Verification of PHONES L/R waveform

9. Connect the oscilloscope to the **PHONES** jack.
   Oscilloscope settings: 1.0 V/1.00 msec
10. Verify that signals like the ones shown below are output.
    PHONES L/R: 2.0 Vp-p±0.5 V

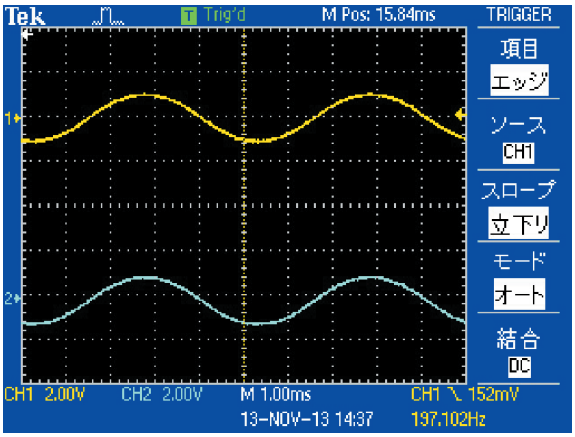


Verification of AF-AD waveform

11. Input a signal like the one shown below to the normal input connector on the GK-3.
200-Hz, 2.0 Vp-p, sine wave

12. Connect the oscilloscope to the **OUTPUT L/MONO** and **R** jacks.
Oscilloscope settings: 2.0 V/1.00 msec

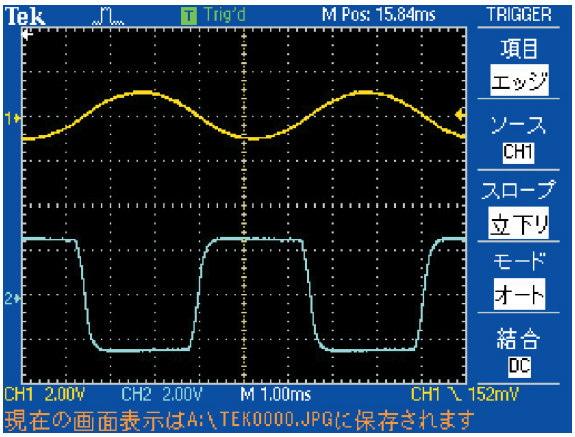
13. Verify that signals like the ones shown below are output.
OUTPUT L/MONO, R: 2.2 Vp-p±0.5 V



14. Press ► to move the flashing cursor on the screen to **AF**.

15. Turn the **PATCH/VALUE** knob counterclockwise to change the screen display to **af**.

16. Verify that signals like the ones shown below are output.
OUTPUT L/MONO: 2.2 Vp-p±0.5 V
OUTPUT R: 6.0 Vp-p±0.5 V



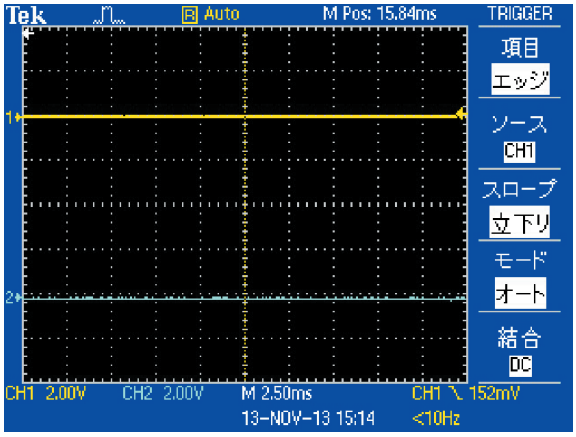
17. Turn the **PATCH/VALUE** knob clockwise to change the screen display to **AF**.

Verification of MUTE operation

18. Press ► to move the flashing cursor on the screen to **mut**.

19. Turn the **PATCH/VALUE** knob clockwise to change the screen display to **MUT**.

20. Verify that no signals are output.



21. Turn the **PATCH/VALUE** knob counterclockwise to change the screen display to **mut**.

Verification of GK IN input

22. Disconnect the plug from the normal input connector on the GK-3. (Allow only input from the GK pickup.)

23. Adjust the selector switch on the GK-3 to MIX.

24. Play each string from the 6th to the 1st in sequence and verify that signals are output from **OUTPUT L/MONO** and **R** as shown in the following chart.

Strings	Output channel
6	R
5	L
4	R
3	L
2	R
1	L

25. Press ◄ or ► to move the flashing cursor on the screen to **G1**.

26. Turn the **PATCH/VALUE** knob clockwise to change the **G1** display on the screen to **G2**, **G3**, and **G4**, and verify that the input guitar sound simultaneously becomes louder.

* *Note that **G3** and **G4** are about the same level.*

27. Connect the oscilloscope to the **PHONES** jack and repeat steps **24** through **26**.

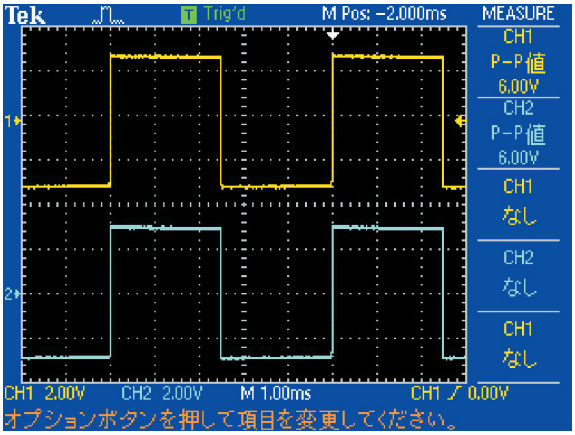
28. Detach the guitar equipped with the GK-3 from the **GK IN** connector.

Verification of AUX IN input

29. Connect the signal generator to the **AUX IN** (L/R) jacks and input a signal like the one shown below.
200 Hz, 2.0 Vp-p, rectangular wave

30. Connect the oscilloscope to the **OUTPUT L/MONO** and **R** jacks.
Oscilloscope settings: 2.0 V/1.00 msec

31. Verify that signals like the ones shown below are output.
OUTPUT L/MONO: 6.0 Vp-p±0.5 V
OUTPUT R: 6.0 Vp-p±0.5 V



Verification of EXP 2/CTL 3, 4 jack

32. Connect the EV-5 to the **EXP 2/CTL 3,4** jack.
EXP2:*** is displayed on the upper line of the screen.

```
9:AUDIO:EXP2:***
IA AF G1 D00 mut
```

33. Depress the toe of the EV-5, and verify that **127** appears on the screen.

34. Depress the heel of the EV-5, and verify that **000** appears on the screen.

35. Detach the EV-5.

36. Hold down **WRITE** and press **EXIT** to return to the test-item selection screen.

10:SHOCK GK

```
10:SHOCK GK
 EJECT GK & AUX
```

1. Disconnect the cable connected to the **GK** connector and **AUX IN** (L/R) jacks.

2. Connect the monitor speakers to the **OUTPUT L/MONO** and **R** jacks.

3. Verify that no abnormal noise is heard from the monitor speakers.

4. Drop the GP-10 from a height of about 10 centimeters, and verify that no abnormal noise is heard from the monitor speakers.

5. Connect the noise meter to the **OUTPUT L/MONO** and **R** jacks.

6. Verify that the noise levels are at the following values.
OUTPUT L/MONO: -45 dBm or less (DIN audio)
OUTPUT R: -45 dBm or less (DIN audio)

7. Connect the noise meter to the **PHONES** jack.

8. Verify that the noise levels are at the following values.
PHONES L: -45 dBm or less (DIN audio)
PHONES R: -45 dBm or less (DIN audio)

9. Hold down **WRITE** and press **EXIT** to return to the test-item selection screen.

11:SHOCK GTRIN

```
11:SHOCK GTRIN
```

1. Connect the monitor speakers to the **OUTPUT L/MONO** and **R** jacks.

2. Verify that no abnormal noise is heard from the monitor speakers.

3. Drop the GP-10 from a height of about 10 centimeters, and verify that no abnormal noise is heard from the monitor speakers.

4. Connect the noise meter to the **OUTPUT L/MONO** and **R** jacks.

5. Verify that the noise levels are at the following values.
OUTPUT L/MONO: -56 dBm or less (DIN audio)
OUTPUT R: -56 dBm or less (DIN audio)

6. Hold down **WRITE** and press **EXIT** to return to the test-item selection screen.

12:CALIBRATION

```
12:CALIBRATION
Set EXP1 to MIN
```

1. Depress the heel side of the expression pedal all the way and press **WRITE**.
A screen like the one shown below is displayed.

```
12:CALIBRATION
Set EXP1 to MAX
```

2. Depress the toe side of the expression pedal all the way and press **WRITE**.
A screen like the one shown below is displayed.

```
12:CALIBRATION
             SENS
```

3. Forcefully depress the toe.
Verify that the **EXP 1 PEDAL SW** LED lights up.

4. Forcefully depress the toe again.
Verify that the **EXP 1 PEDAL SW** LED goes dark.
After **OK** is displayed, execution automatically returns to the test-item selection screen.

13:FACT RESET

```
13:FACT RESET
Are You Sure ?
```

1. Press **WRITE**.

2. A screen like the one shown below appears and press **WRITE**.

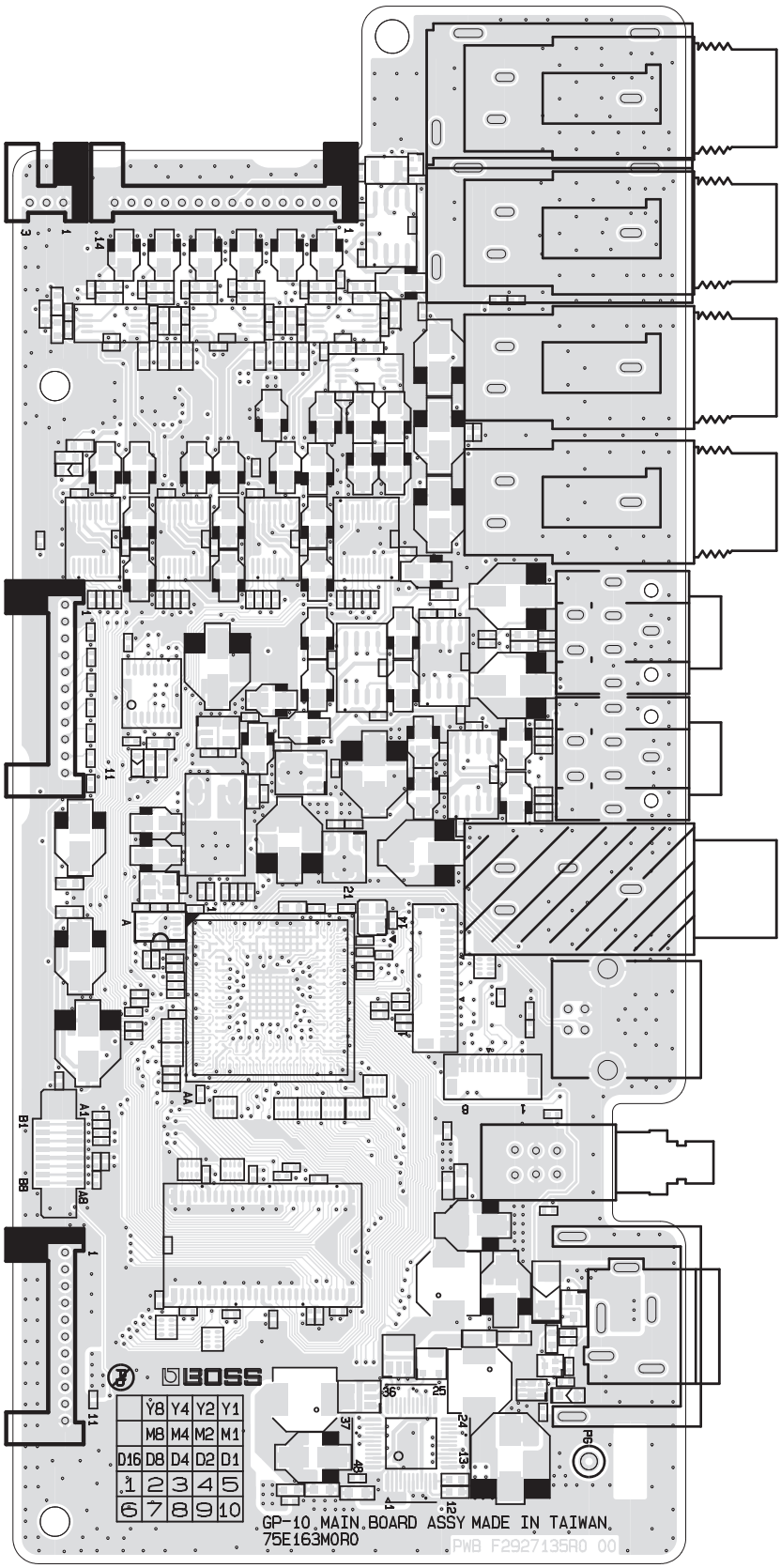
```
13:FACT RESET
Push [WRITE]
```

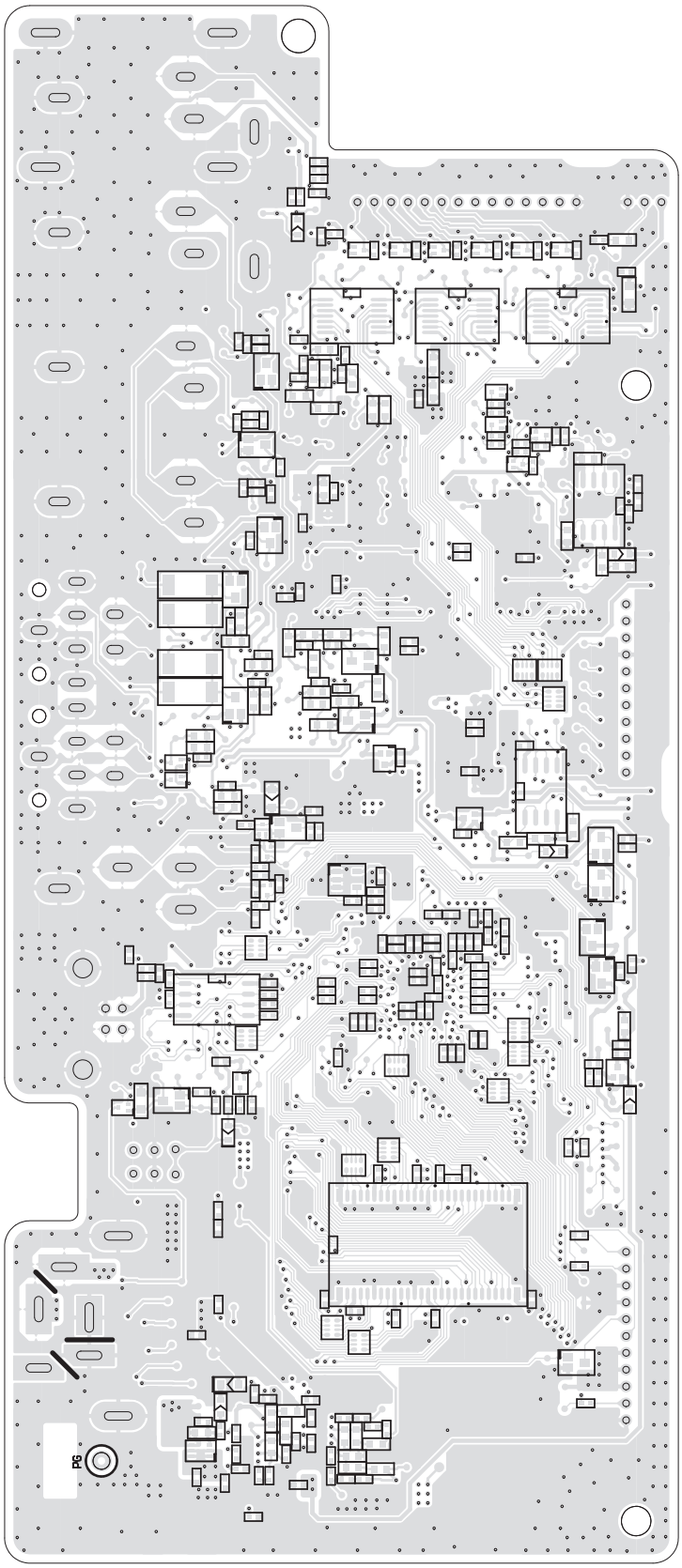
A factory reset is executed.

```
13:FACT RESET
EXECUTING...
```

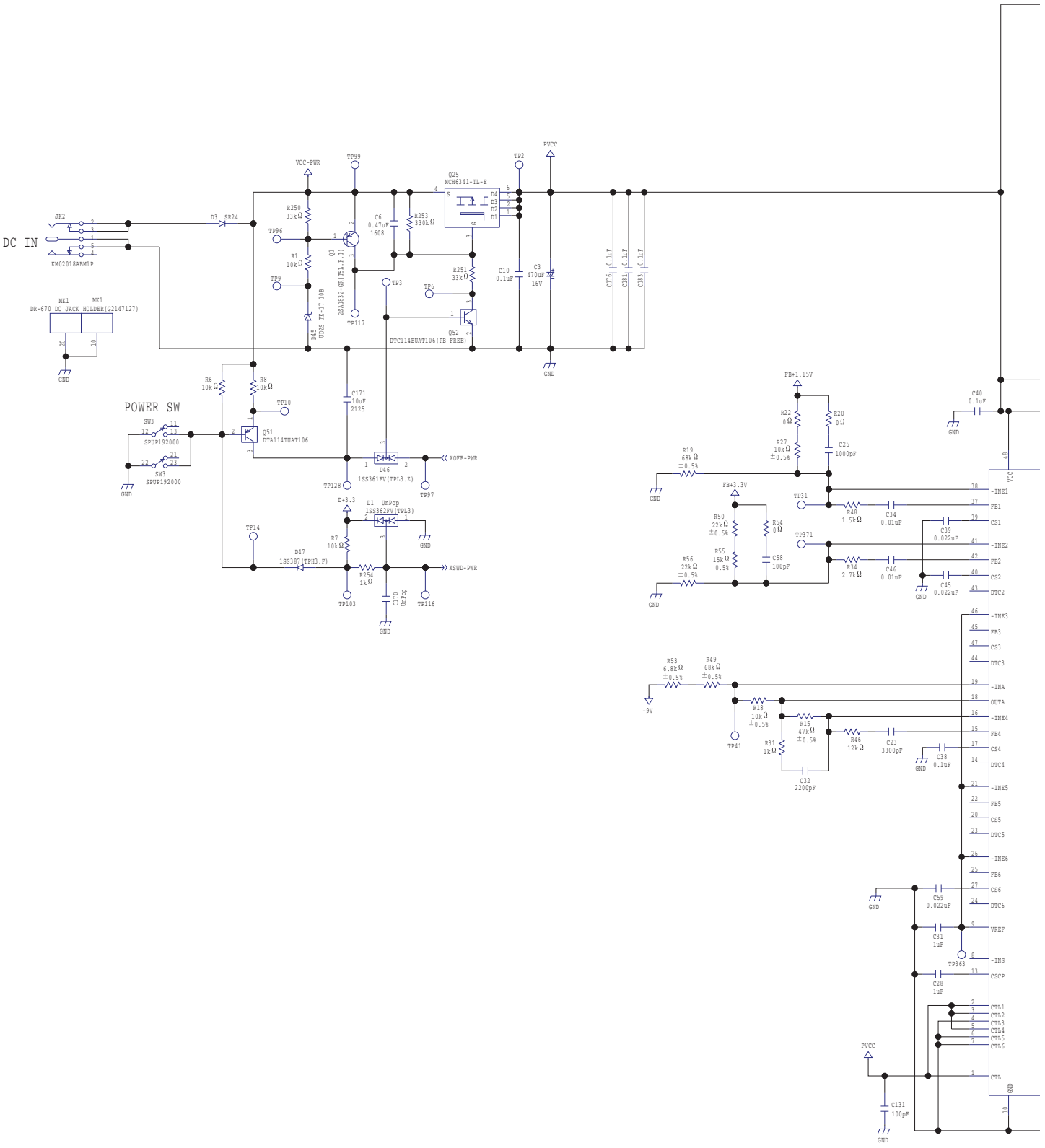
When the procedure is completed properly, **OK** appears and execution automatically returns to the test-item selection screen.

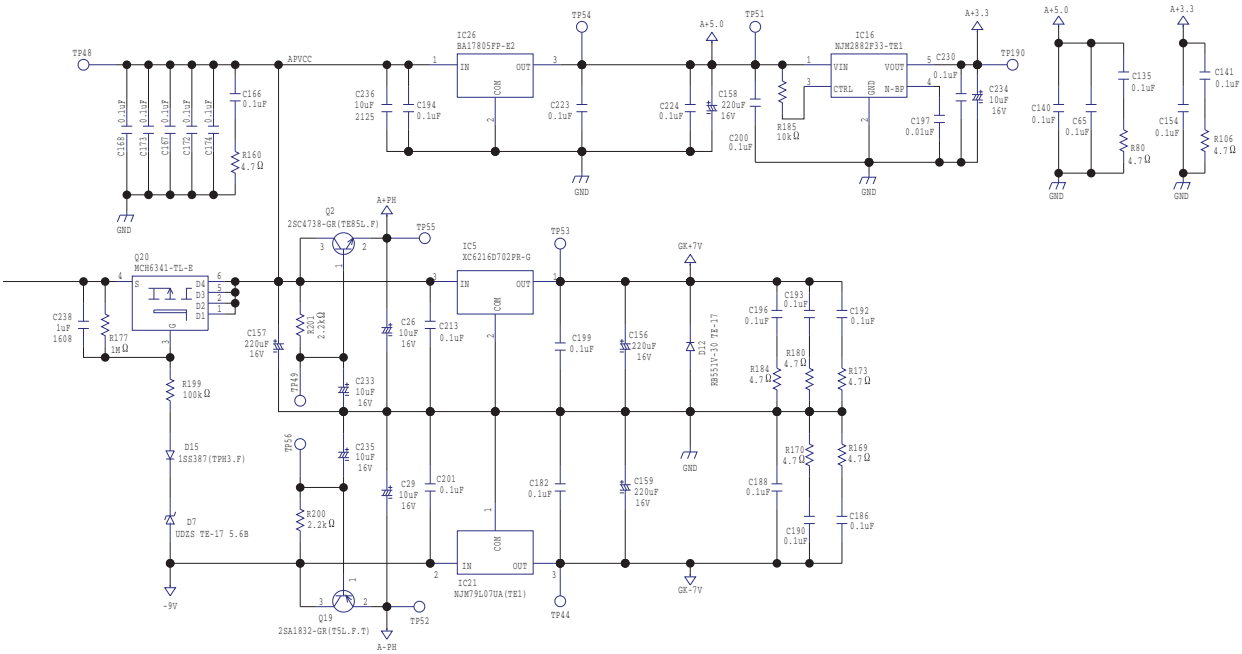
Circuit Board (Main Board)

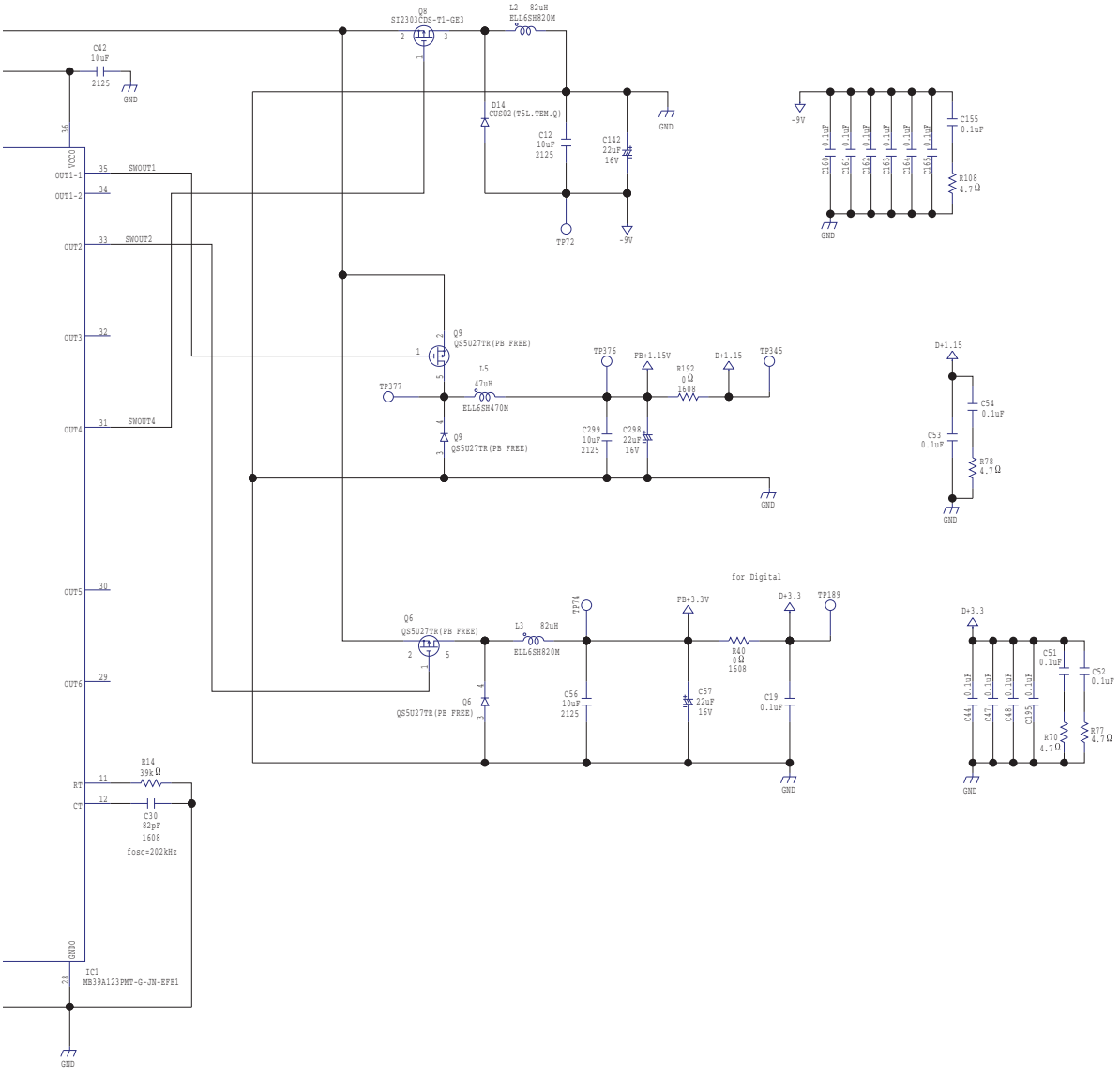



PG

Circuit Diagram (Main Board: 1/4)

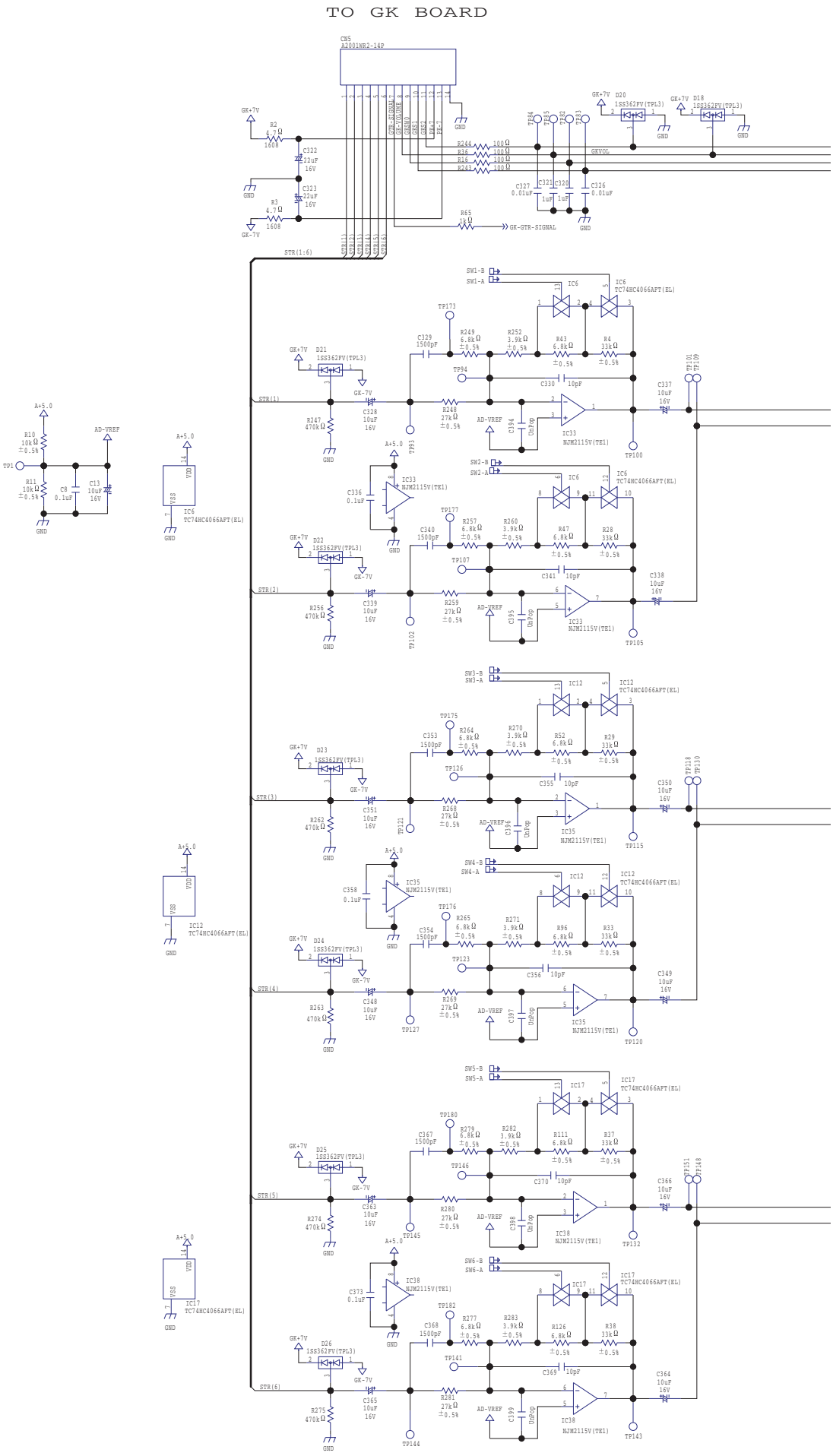


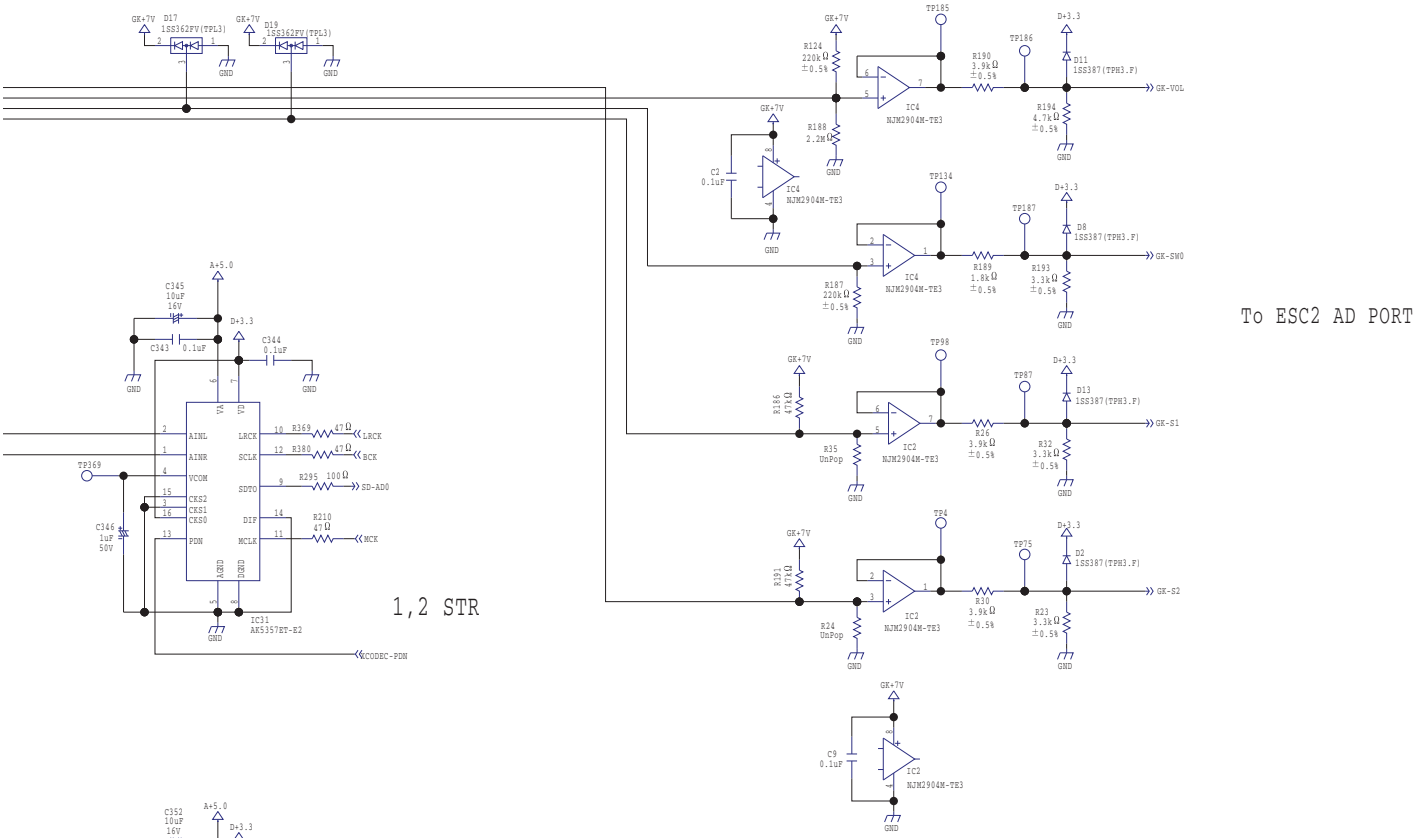

TP48
APVCC
IC26
BA17805FP-E2
TP54
A+5.0
TP51
IC16
NJM2882F33-TE1
A+3.3
TP190
Q2
2SC4738-GR(TE85L,F)
A+PH
TP55
Q20
MCH6341-TL-E
IC5
XC6216D702PR-G
TP53
GK+7V
D15
1SS387(TPH3.F)
D7
UDZS TE-17 5.6B
-9V
TP56
TP49
R200
2.2kΩ
Q19
2SA1832-GR(T5L,F,T)
TP52
A-PH
IC21
NJM79L07UA(TE1)
TP44
GK-7V
GND


Q8
SI2303CDS-T1-GE3
L2 82uH
ELL6SH820M
D14
CUS02(T5L,TEM,Q)
TP72
-9V
VCC0
OUT1-1
OUT1-2
OUT2
OUT3
OUT4
OUT5
OUT6
SWOUT1
SWOUT2
SWOUT4
Q9
QS5U27TR(PB FREE)
L5
47uH
ELL6SH470M
TP376
FB+1.15V
D+1.15
TP345
TP377
Q6
L3 82uH
TP74
FB+3.3V
D+3.3
TP189
for Digital
R14
39kΩ
C30
82pF
fosc=202kHz
GNDO
IC1
MB39A123PMT-G-JN-EFE1
GND

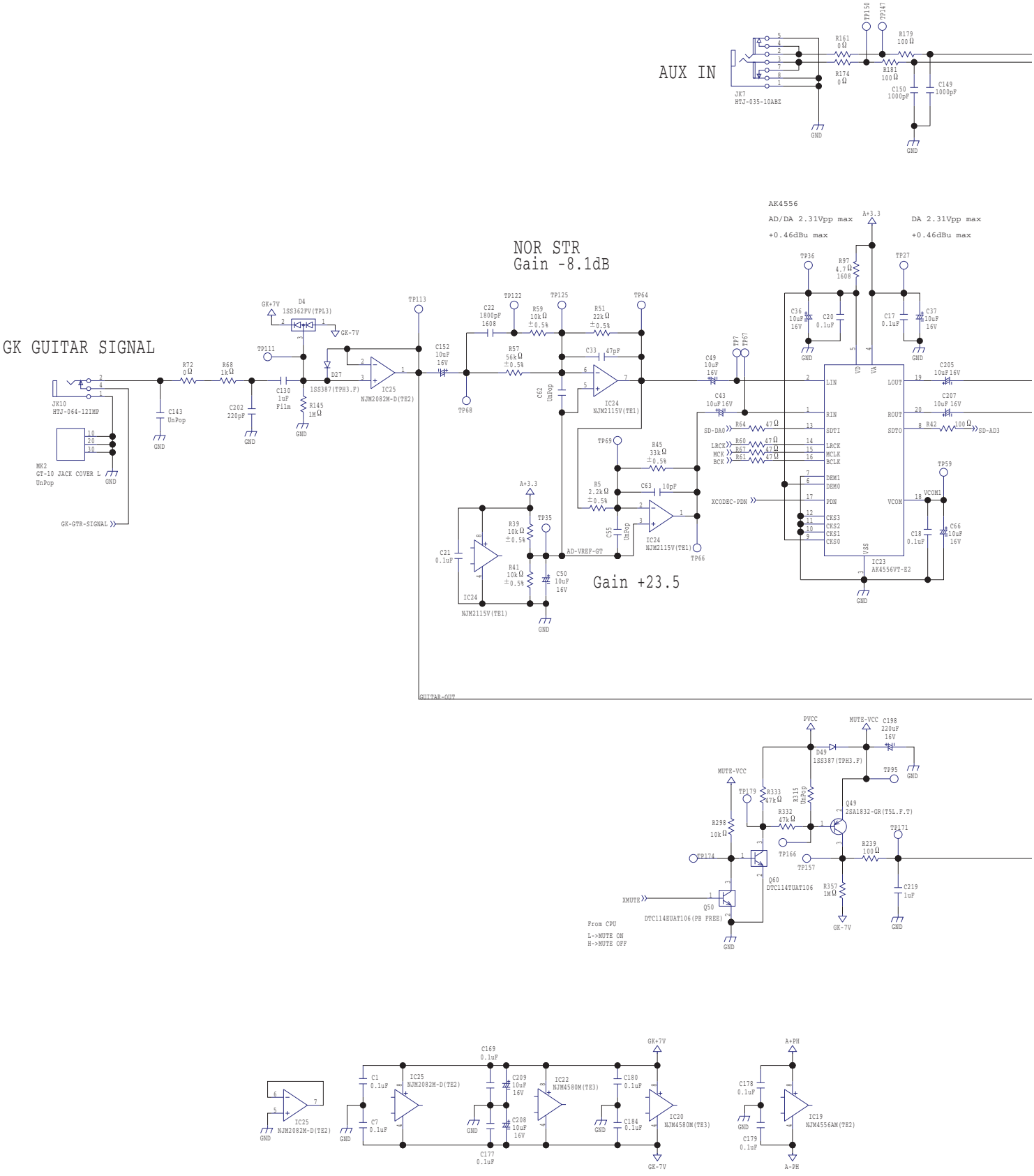
Circuit Diagram (Main Board: 2/4)

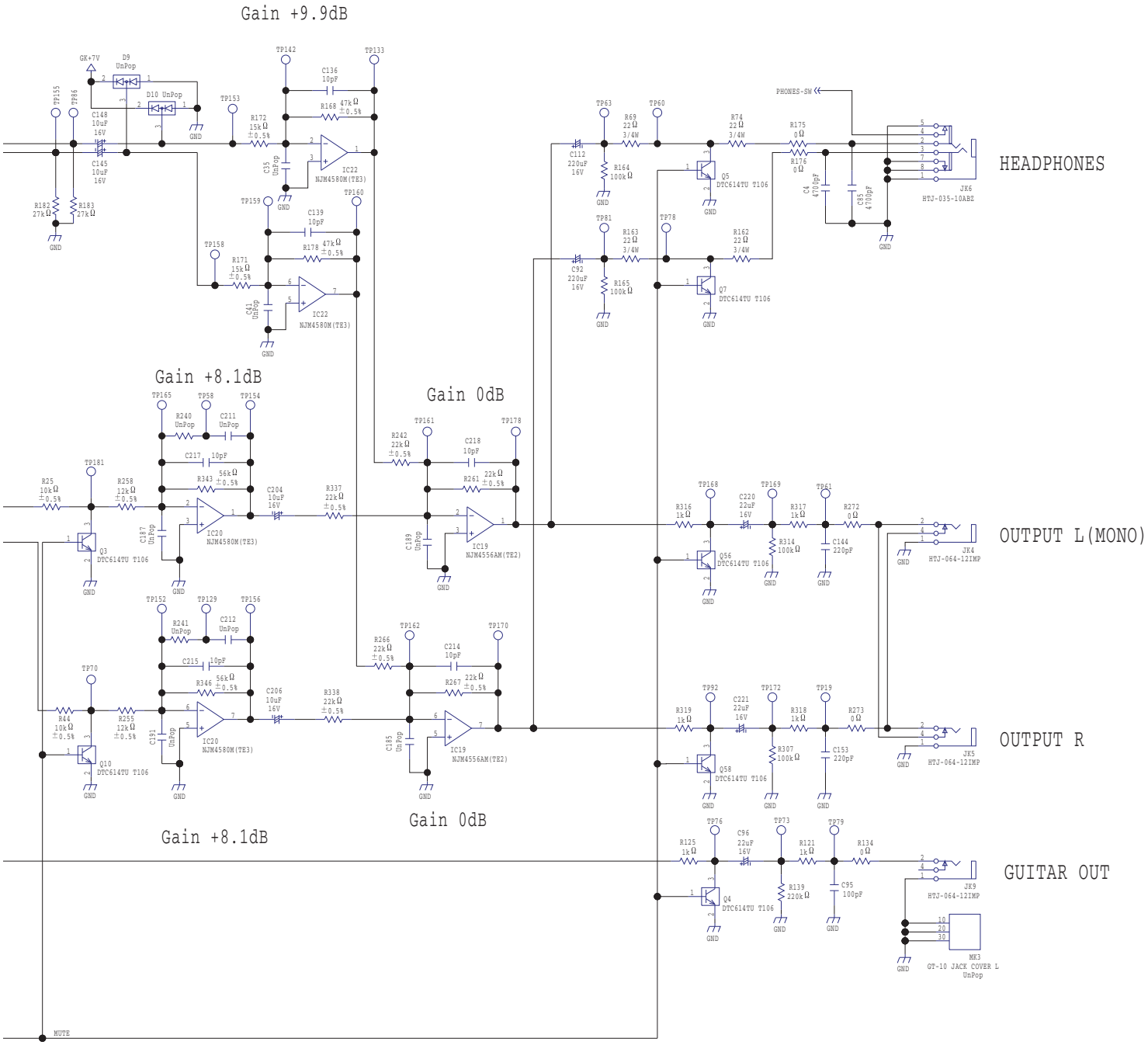
```
GAIN 1 : -16.8dB
GAIN 2 : -8.0dB
GAIN 3 : +2.7dB
GAIN 4 : +4.2dB
```



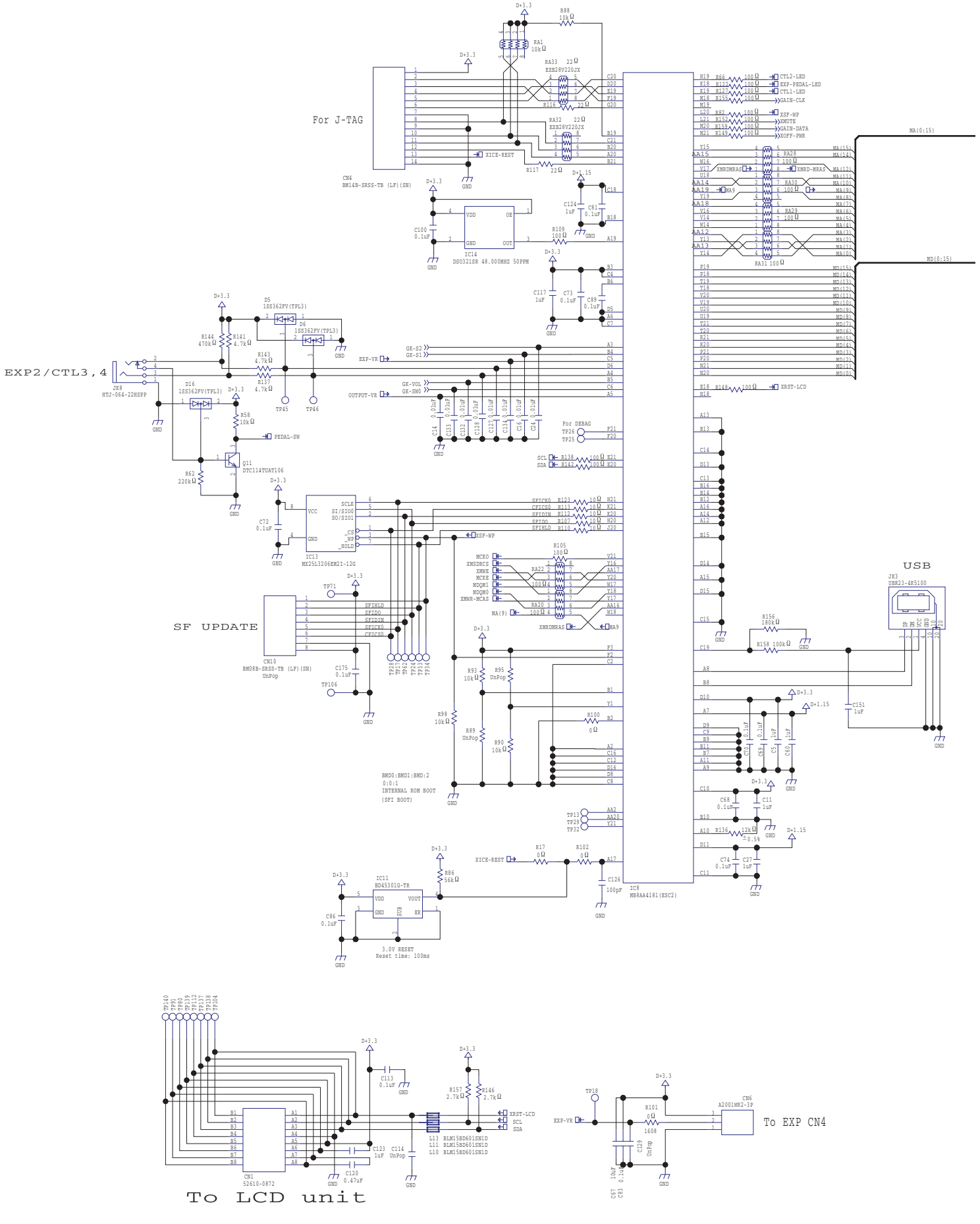

GK-VOL
GK-SW0
GK-S1
GK-S2
To ESC2 AD PORT
1,2 STR
3,4 STR
5,6 STR
XCODEC-PDN
SD-AD0
SD-AD1
SD-AD2
LRCK
BCK
MCK
GAIN-DATA
GAIN-CLK
IC31 AK5357ET-E2
IC37 AK5357ET-E2
IC40 AK5357ET-E2
IC18 BU2090FS-E2

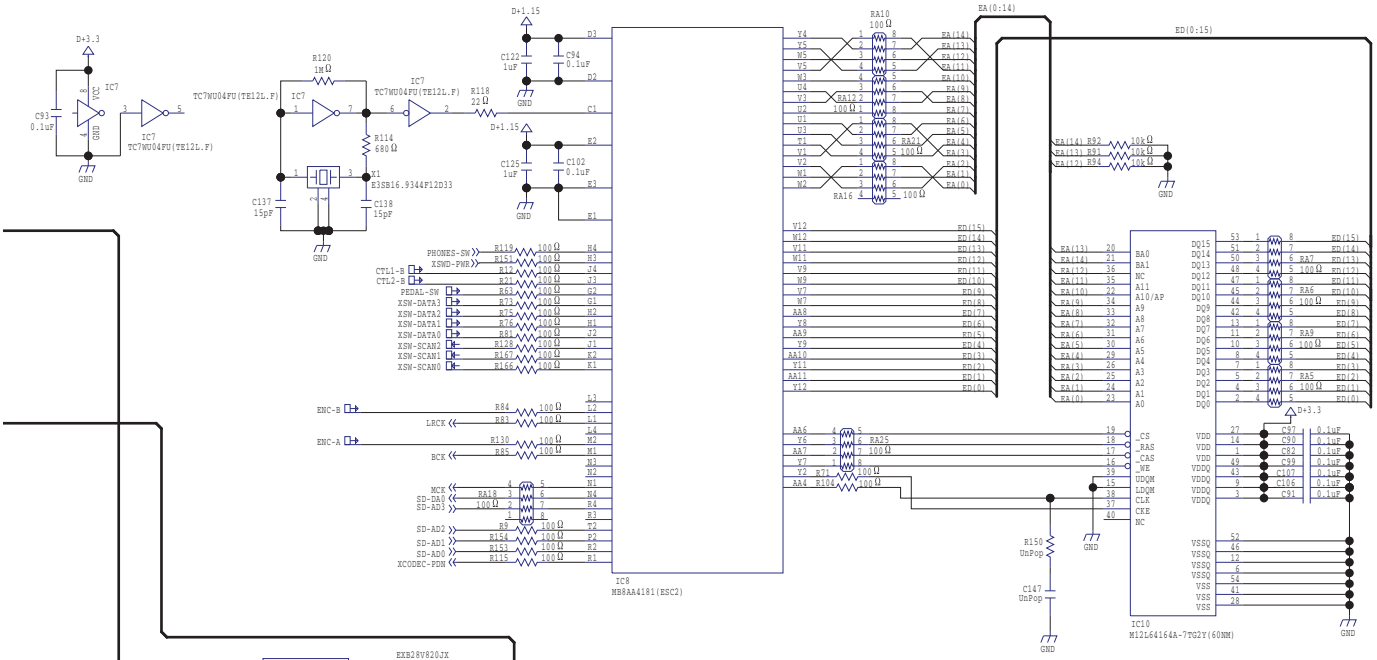
Circuit Diagram (Main Board: 3/4)



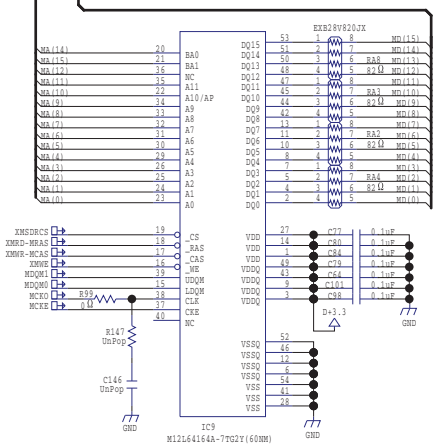

Gain +9.9dB
Gain +8.1dB
Gain 0dB
Gain 0dB
Gain +8.1dB
HEADPHONES
OUTPUT L(MONO)
OUTPUT R
GUITAR OUT
MUTE

Circuit Diagram (Main Board: 4/4)

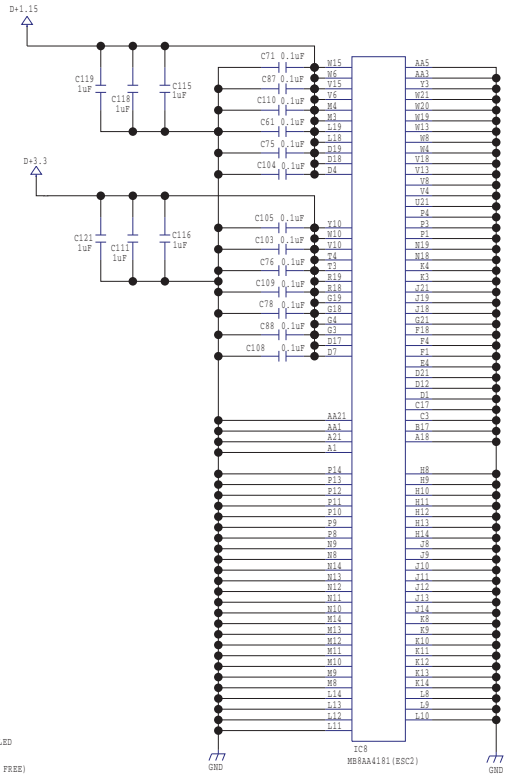


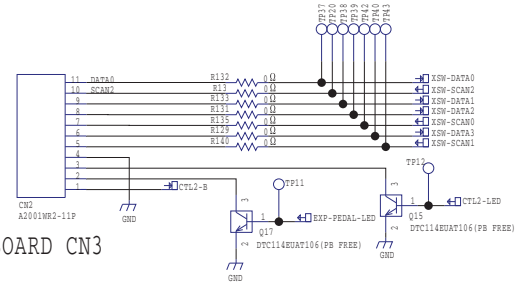


EFFECT RAM
64Mbit

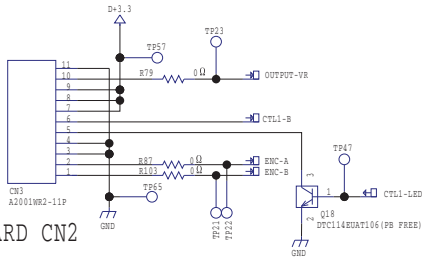


CPU WORK RAM
64Mbit



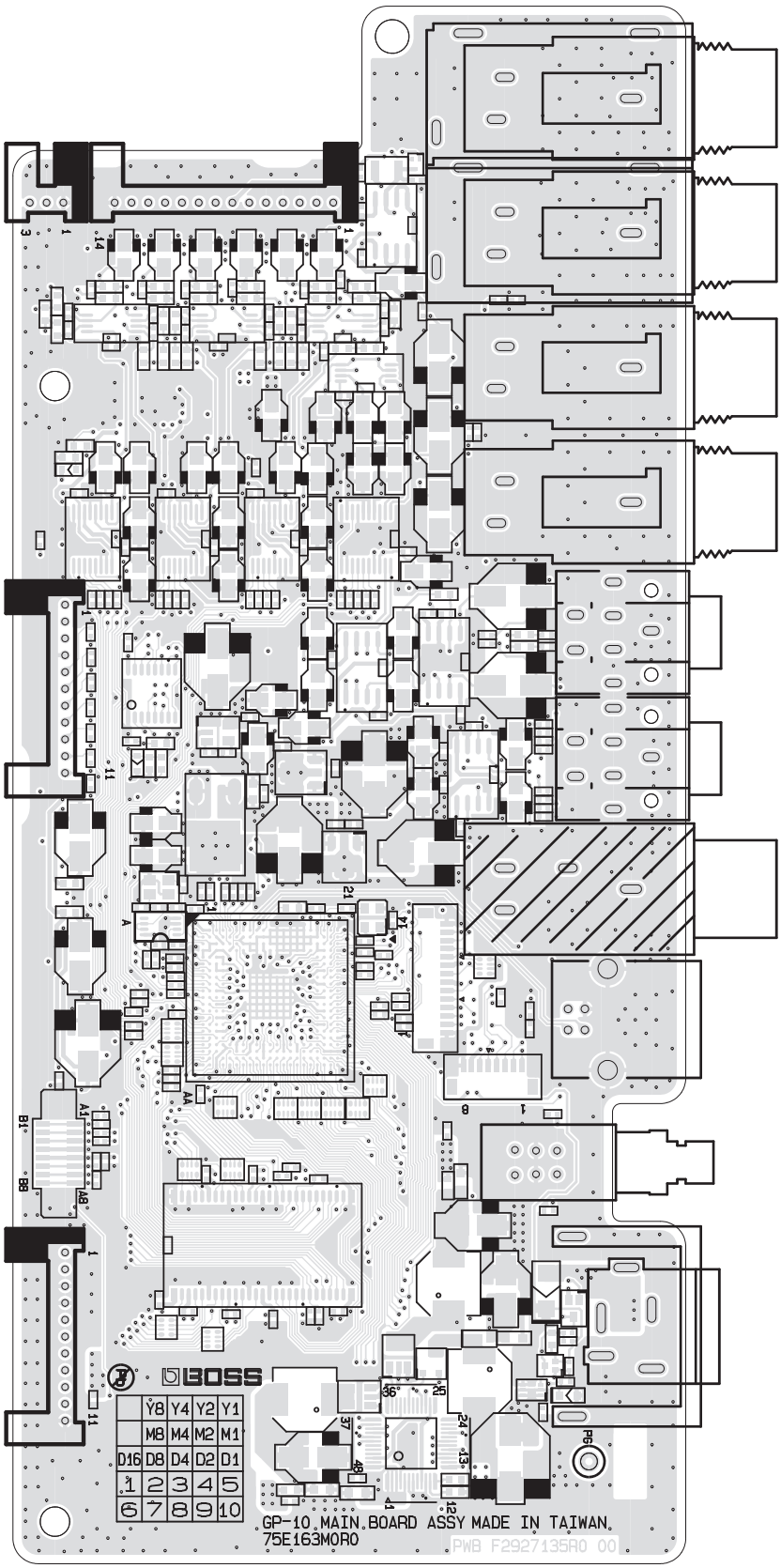


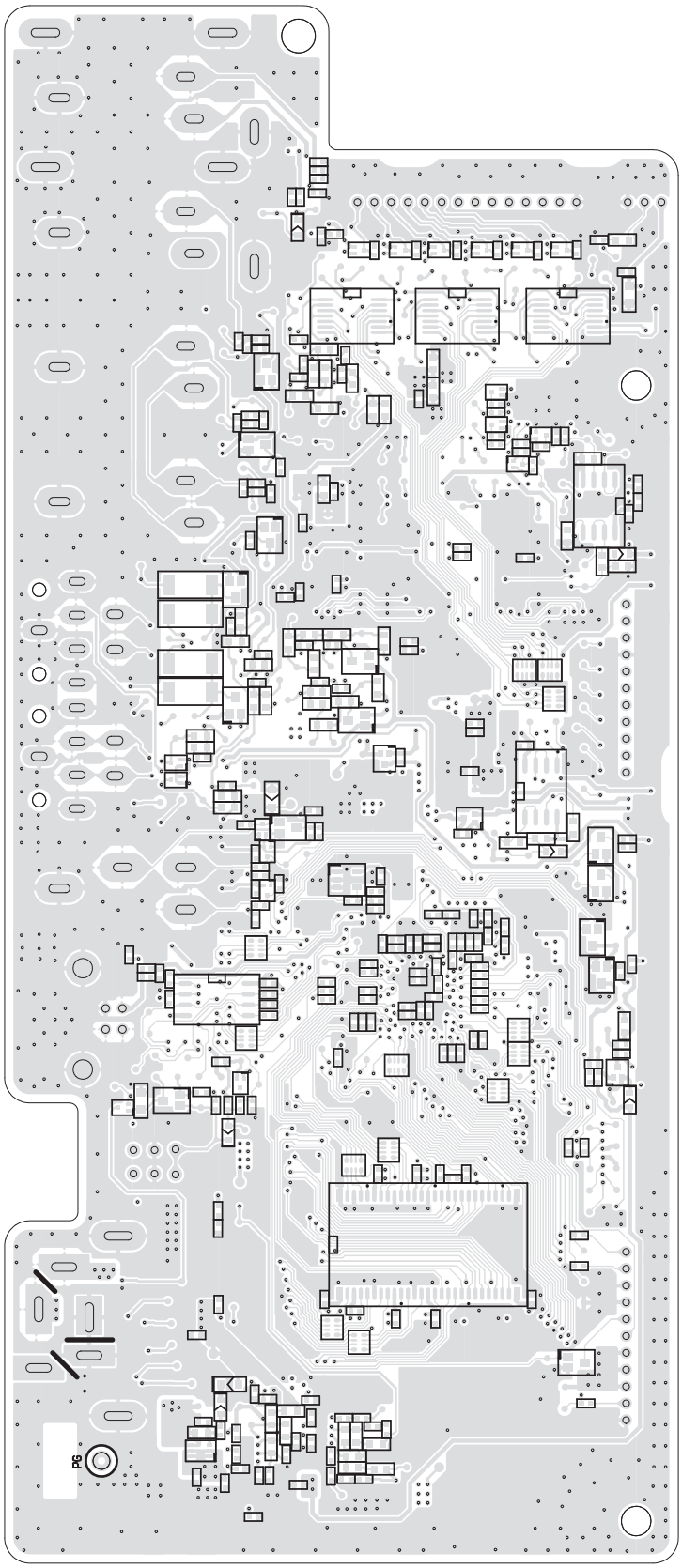
TO PANEL BOARD CN3



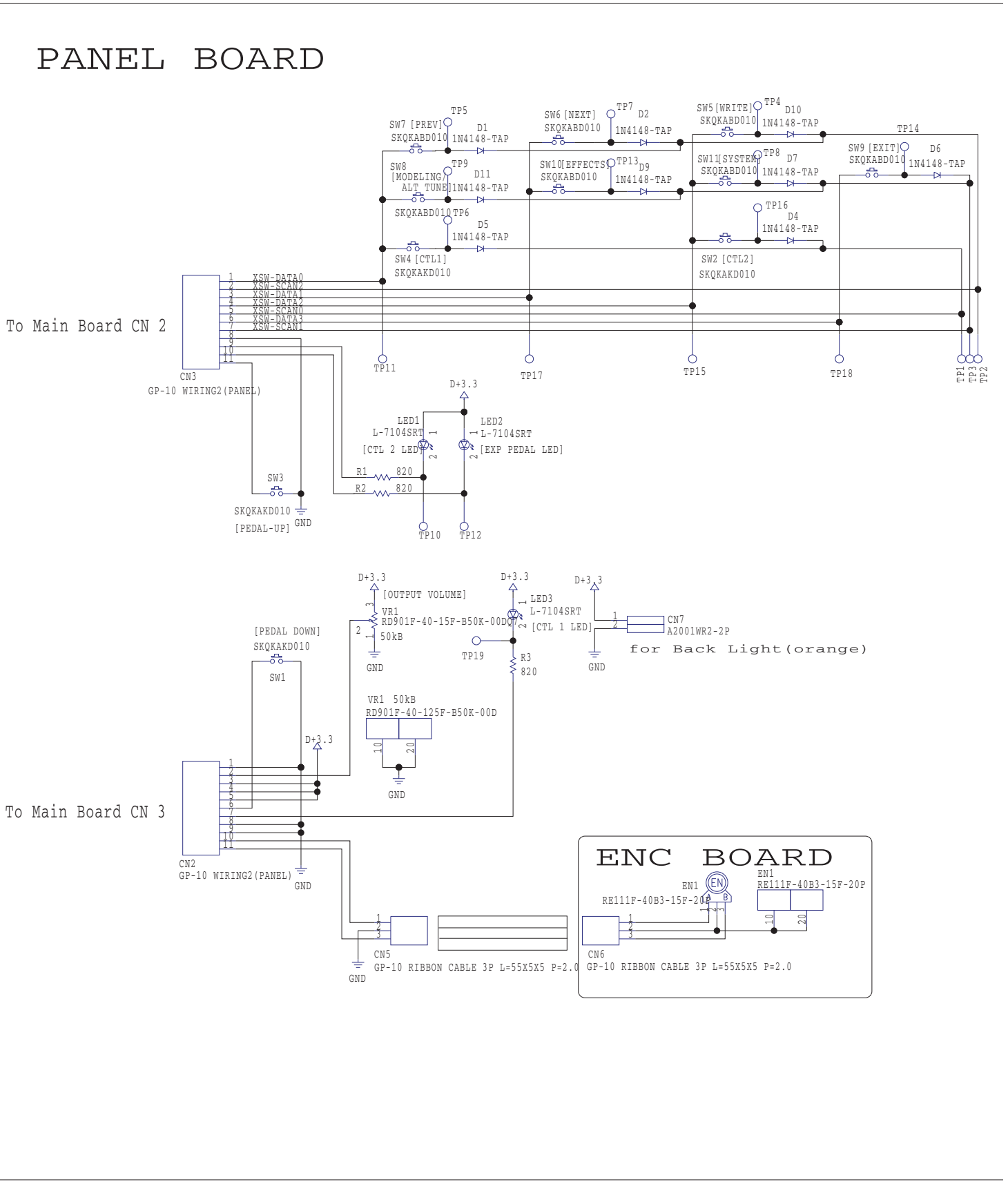
TO PANEL BOARD CN2

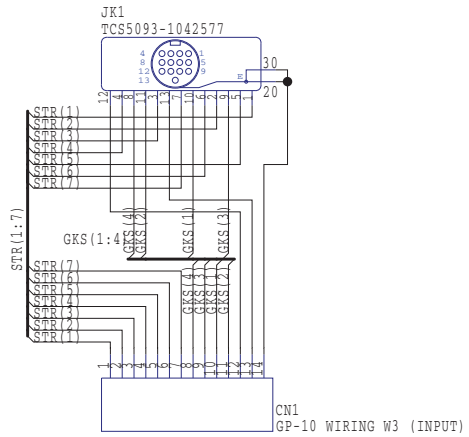
Circuit Board (Panel, GK, Exp, Enc Board)





Circuit Diagram (Panel, GK, Exp, Enc Board)

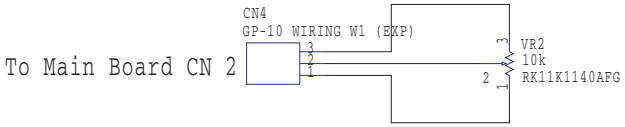




To Main Board CN 6

GK BOARD

EXP BOARD



To Main Board CN 2