

GT-10

**GUITAR
EFFECTS PROCESSOR**

SERVICE NOTES

Issued by RJA

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Roland

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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 “**Saving and Loading Data**” (p. 15) in the Service Notes and save the data. After completing the procedure, restore the backed-up data to the product.

Important Notes on Disassembly

When disassembling, first check and verify the disassembly procedures, then carry out actual disassembly operations. Be especially careful to ensure that the following parts are not lost.

- Jack Bushing (#G2257327R0)
- Insulating Washer 14.5X9.2 (#G2637118R0)
- USB Connector Cap (USBC-1) (#05015034)

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).
- 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).

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.

Main Specifications

GT-10: Guitar Effects Processor

AD Conversion

24-bit + AF method (*)

DA Conversion

24-bit

Sampling Frequency

44.1 kHz

Program Memories

400: 200 (user) + 200 (preset)

Nominal Input Level

INPUT: -10 dBu
RETURN: -10 dBu

Input Impedance

INPUT: 1 M ohm
RETURN: 220 k ohms

Nominal Output Level

OUTPUT: -10 dBu/+4 dBu
SEND: -10 dBu

Output Impedance

OUTPUT: 2 k ohms
SEND: 3 k ohms

Dynamic Range

100 dB or greater (IHF-A)

Digital Output

Coaxial type (conforms to IEC60958)

Display

132 x 64 dots graphic LCD (backlit LCD)
7 segments, 3 characters LED

Connectors

INPUT jack (1/4 inch phone type)
OUTPUT jacks L/MONO, R (1/4 inch phone type)
PHONES jack (Stereo 1/4 inch phone type)
EXT LOOP jacks SEND, RETURN (1/4 inch phone type)
AMP CONTROL jack (1/4 inch phone type)
EXP PEDAL 2/CTL3,4 jack (1/4 inch TRS phone type)
USB connector
DIGITAL OUT jack (coaxial type)
MIDI connectors IN, OUT
DC IN jack

Power Supply

DC 9 V (AC Adaptor: Roland PSB-1U)

Current Draw

800 mA

Dimensions

542 (W) x 272 (D) x 77 (H) mm
21-3/8 (W) x 10-3/4 (D) x 3-1/16 (H) inches
Maximum height:
542 (W) x 272 (D) x 104 (H) mm
21-3/8 (W) x 10-3/4 (D) x 4-1/8 (H) inches

Weight

4.9 kg / 10 lbs 13 oz (excluding AC Adaptor)

Accessories

AC Adaptor (Roland PSB-1U)(#04236101)
Power Code for 120V (#02562456)
for 230V (#01903356)
for 240VA (#03785590)
Euro Converter Plug (#00905234)
Owner's Manual English (#G6027126R0)
Roland Service (Information Sheet)(#*****)

Options

Foot switch: BOSS FS-5U
Dual Foot switch: BOSS FS-6
Expression Pedal: BOSS FV-500L/500H, Roland EV-5
Foot switch Cable: Roland PCS-31(1/4 inch Phone plug (stereo) - 1/4 inch Phone plug (mono) x2)

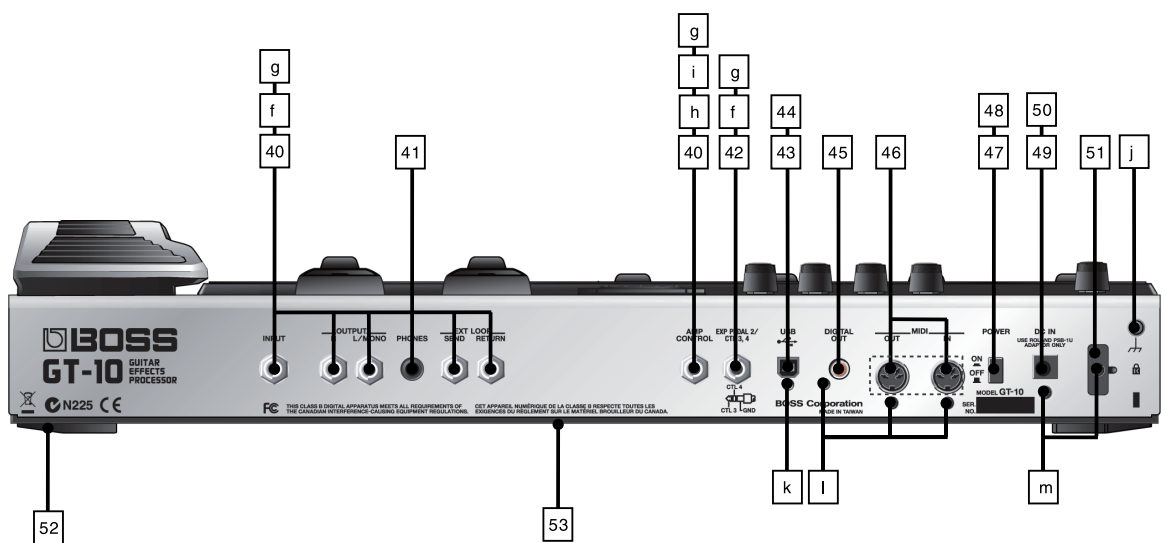
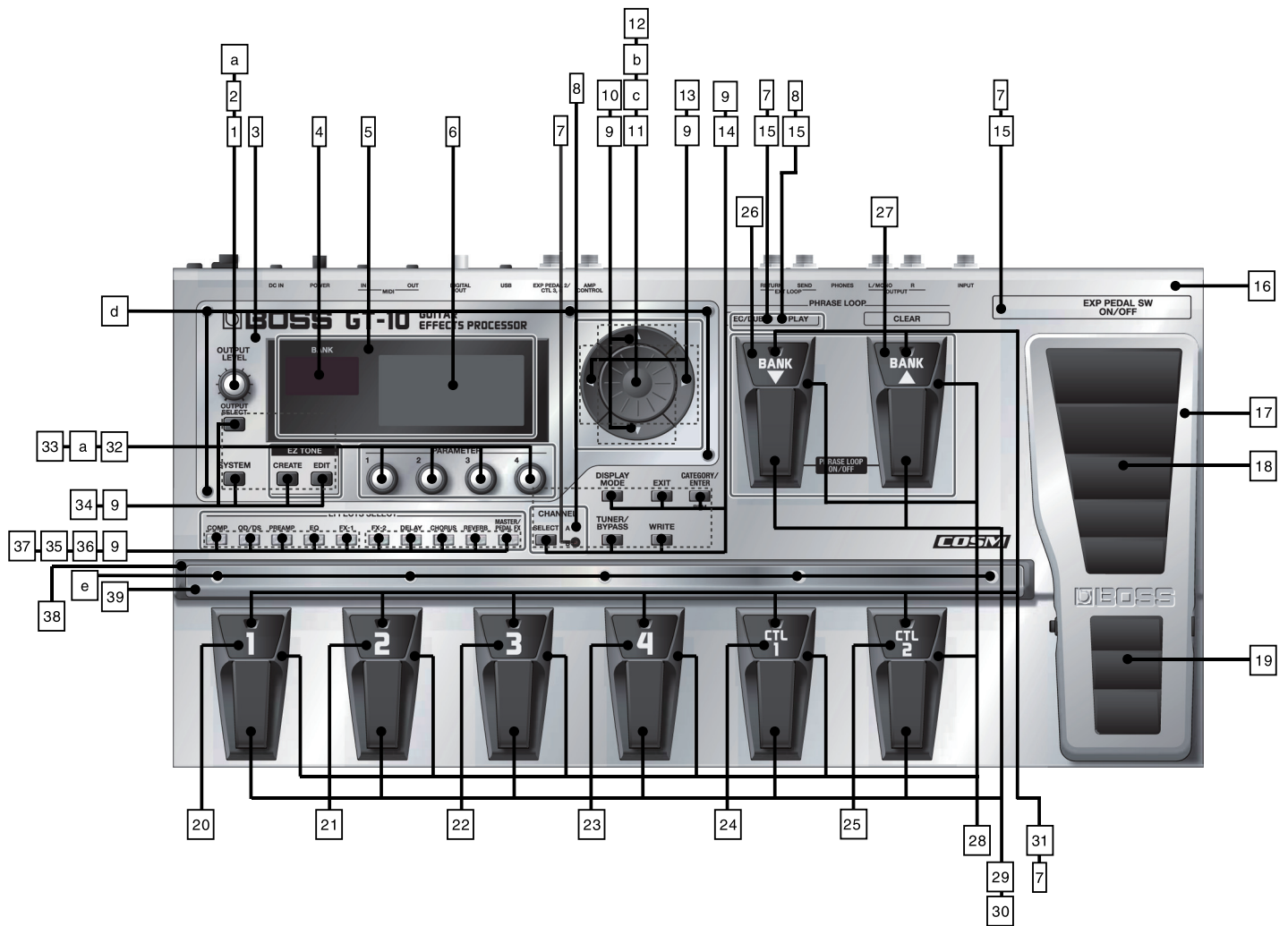
* 0 dBu = 0.775 V_{rms}

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

* **AF method (Adaptive Focus method)**

This is a proprietary method from Roland & BOSS that vastly improves the signal-to-noise (S/N) ratio of the A/D and D/A converters.

Location of Controls



Location of Controls Parts List

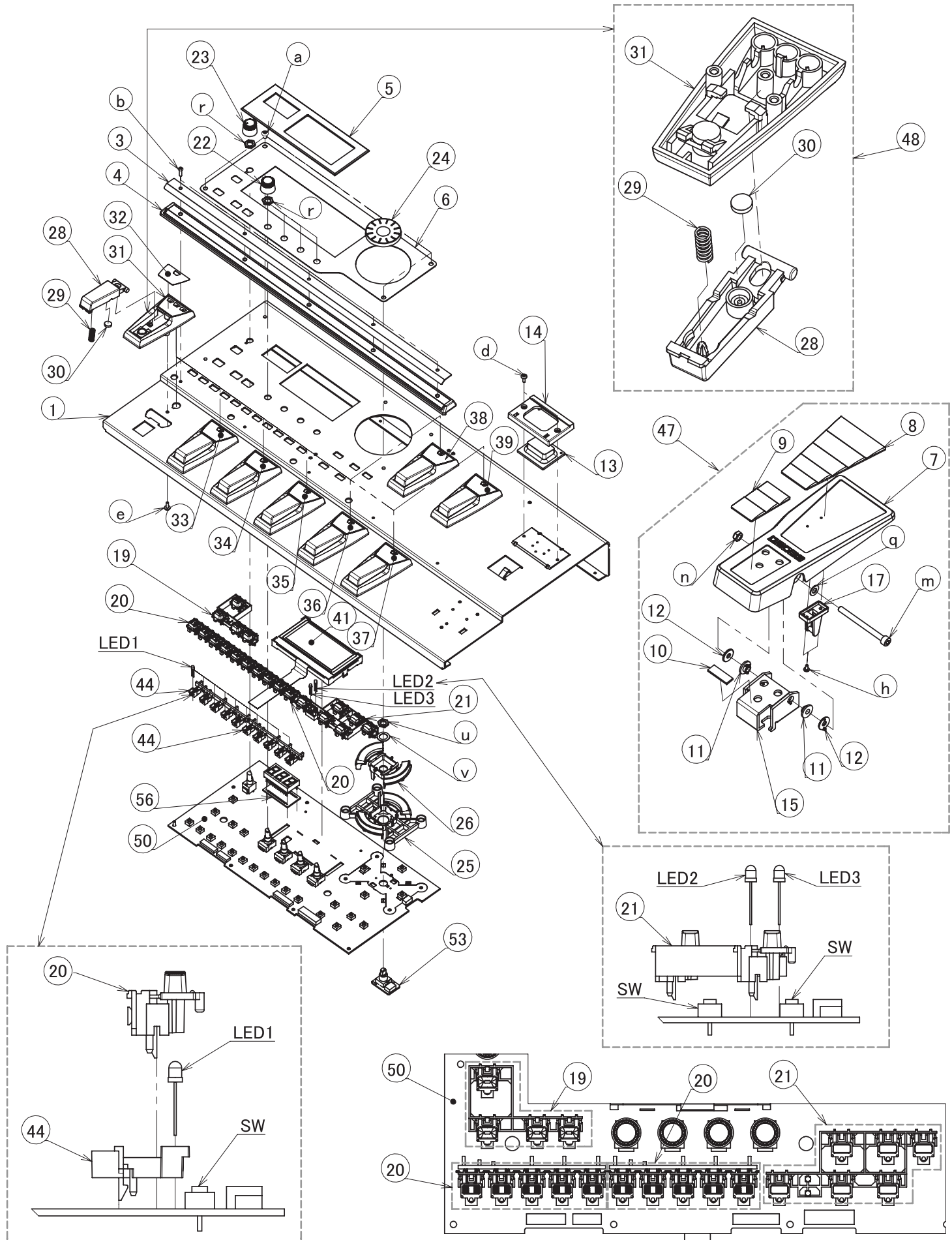
Parts

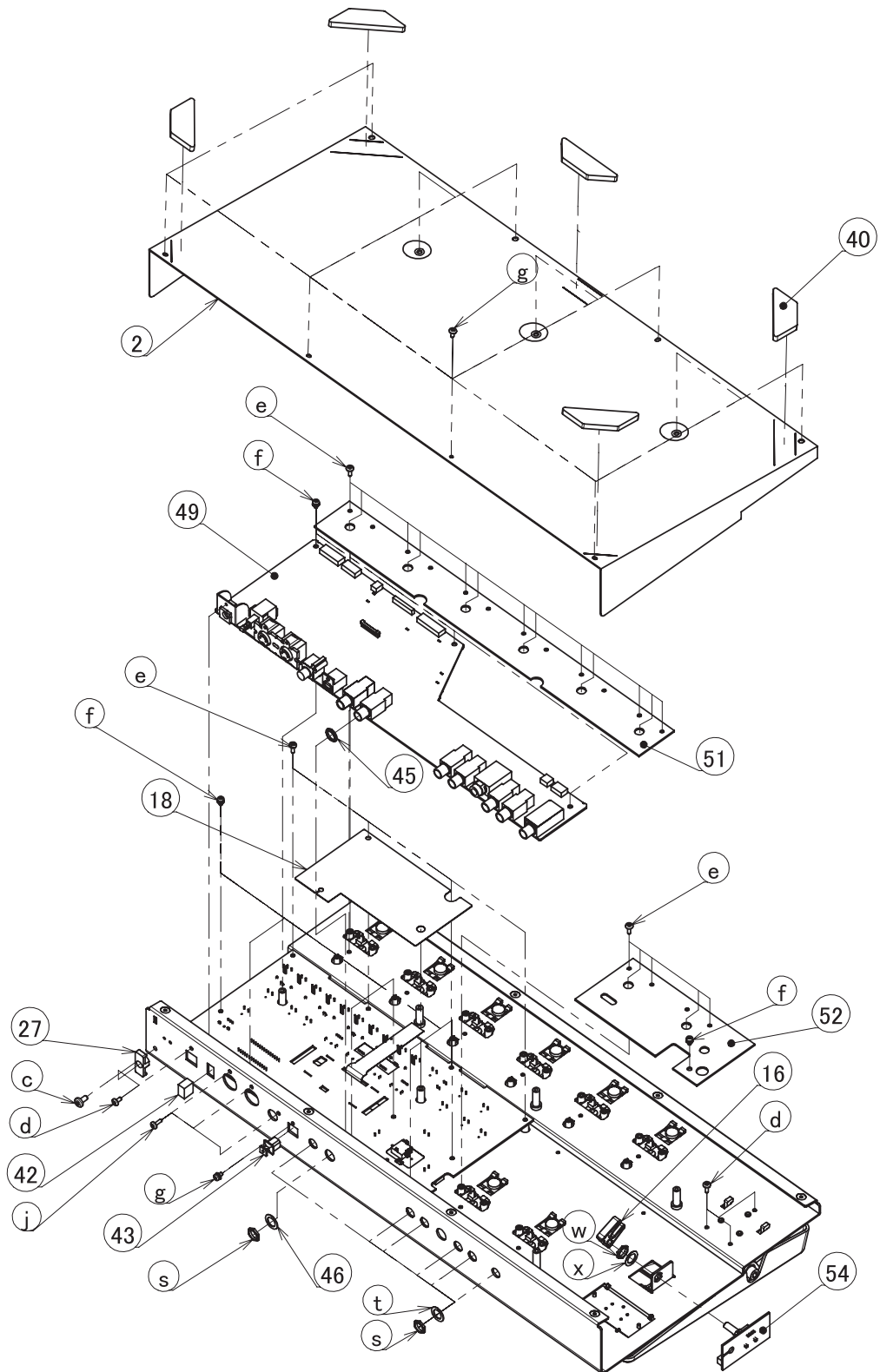
No.	Part Code	Part Name	Description	Q'ty
1	F3229203R0	ROTARY POTENTIOMETER	RD901F-40-15F-B10K-0068	1
2	G2477526R0	R-KNOB	INDEX	1
3	G2527521R0	PANEL		1
4	F5229817R0	8SEG LED	A-553SR-A B/W	1
5	G2567171R0	DISPLAY COVER		1
6	F5229821R0	LCD UNIT W/WIRING	KMC13264-H-00-SPF	1
7	F5229820R0	LED (RED)	L-7104SRT	11
8	F5229818R0	LED (GREEN)	L-7104SGT	2
9	01780101	TACT SWITCH	SKQKABD010	24
10	G2477528R0	CURSOR KEY A		1
11	01905467	ROTARY ENCODER	EVE GC1 F20 24B	1
12	G2477524R0	ENCODER-KNOB LF		1
13	G2477527R0	CURSOR KEY B		1
14	G2497020R0	KEYTOP UNIT		1
15	G2199526R0	LED SPACER	LEDS-2.5(B)	3
16	G2027952R0	TOP COVER		1
17	G2187917R0	VR PEDAL		1
18	G2357313R0	VR PEDAL PLATE M		1
19	G2357314R0	VR PEDAL PLATE S		1
20	G2527523R0	LABEL	(1)	1
21	G2217797R0	LABEL	(2)	1
22	G2217796R0	LABEL	(3)	1
23	G2217795R0	LABEL	(4)	1
24	G2217794R0	LABEL	(CTL 1)	1
25	G2217791R0	LABEL	(CTL 2)	1
26	G2217792R0	LABEL	(BANK DOWN)	1
27	G2217793R0	LABEL	(BANK UP)	1
28	G2497022R0	SW ESCUTCHEON		8
29	03344723	TACT SWITCH	SKQKAKD010	8
30	G2187916R0	SW PEDAL		8
31	G2199527R0	LED SPACER	LEDS-10.5	8
32	F3229187R0	POTENTIOMETER	RV112FF-40B1-15F-0B20K-0057	4
33	G2477525R0	R-KNOB		4
34	G2497021R0	KEYTOP UNIT S		1
35	F5229819R0	LED(RED)	L-7104SURC-E	10
36	G2147913R0	LED SPACER		2
37	G2497019R0	KEYTOP	CLEAR-5H	2
38	G2207422R0	GURD ESCT		1
39	G2237632R0	GUARD PLATE		1
40	03239801	6.5MM JACK	HTJ-064-12I	6
41	04909467	6.5MM JACK(PHONES)	HTJ-064-05A	1
42	03344701	6.5MM JACK	HTJ-064-12DS	1
43	02781101	USB CONNECTOR	YKF45-0020N	1
44	05015034	USB CONNECTOR CAP	USBC-1	1
45	01343723	RCA(PIN) JACK	YKC21-3117(ORANGE)	1
46	13429825	MIDI CONNECTOR	YKF51-5054V	1
47	F3129307R0	SWITCH	SDKLA1-B	1
48	12499175	BUTTON	JSPUE0011A	1
49	04908701	ADAPTOR JACK	KM02018ABM1P	1
50	G2147127R0	DC JACK HOLDER		1
51	22365714	CORD HOOK		1
52	G2357120R0	FOOT	H=5	5
53	G2207423R0	BOTTOM COVER		1

Screw

No.	Part Code	Part Name	Description	Q'ty
a	H5039521R0	NUT M7		5
b	H5039126	M9 WASHER		1
c	H5039520R0	NUT	M9	1
d	H5049003R0	SCREW M4X4	NI	5
e	H5049004R0	SCREW M3X10.5	NI	5
f	H5039158R0	WASHER M9X14X0.5T NI		6
g	H5039510R0	NUT M9X12X2T NI		7
h	G2257327R0	JACK BUSH		1
i	G2637118R0	INSULATING WASHER	14.5X9.2	1
j	40563989	SCREW 4X8	TAPTITE S BINDING NI	1
k	40342712	SCREW M3X6	PAN MACHINE W/SW+SMALL PW BZC	1
l	40011312	SCREW 3X8	BINDING TAPTITE P BZC	3
m	40019123	SCREW 3X8	BINDING TAPTITE S BZC	2

Exploded View





Exploded View Parts List

Parts

No.	Part Code	Part Name	Description	Q'ty
1	G2027952R0	TOP COVER		1
2	G2207423R0	BOTTOM COVER		1
3	G2237632R0	GUARD PLATE		1
4	G2207422R0	GUARD ESCT		1
5	G2567171R0	DISPLAY COVER		1
6	G2527521R0	PANEL		1
13	G2637107R0	RUBBER SW		1
16	G2147806R0	STAY (POM)		1
18	G2257331R0	INSULATING SHEET		1
19	G2497021R0	KEYTOP UNIT S		1
20	G2497019R0	KEYTOP	CLEAR-5H	2
21	G2497020R0	KEYTOP UNIT		1
22	G2477525R0	R-KNOB		4
23	G2477526R0	R-KNOB	INDEX	1
24	G2477524R0	ENCODER-KNOB LF		1
25	G2477528R0	CURSOR KEY A		1
26	G2477527R0	CURSOR KEY B		1
27	22365714	CORD HOOK		1
14	G2567121	RUBBER SW ESCUTCHEON		1
32	G2527523R0	LABEL	(1)	1
33	G2217797R0	LABEL	(2)	1
34	G2217796R0	LABEL	(3)	1
35	G2217795R0	LABEL	(4)	1
36	G2217794R0	LABEL	(CTL 1)	1
37	G2217791R0	LABEL	(CTL 2)	1
38	G2217792R0	LABEL	(BANK DOWN)	1
39	G2217793R0	LABEL	(BANK UP)	1
40	G2357120R0	FOOT	H=5	5
41	F5229821R0	LCD UNIT W/WIRING	KMC13264-H-00-SPF	1
42	12499175			1
43	05015034	USB CONNECTOR CAP	USBC-1	1
44	G2147913R0	LED SPACER		2
45	G2257327R0	JACK BUSH		1
46	G2637118R0	INSULATING WASHER	14.5X9.2	1
47	75D732B0R1	VR PEDAL UNIT		1
		<i>* This unit includes the following parts.</i>		
7	G2187917R0	VR PEDAL		1
8	G2357313R0	VR PEDAL PLATE M		1
9	G2357314R0	VR PEDAL PLATE S		1
10	G2357111R0	CUSHION R		1
11	G2147874R0	BOLT HOLDER		2
12	G2147898R0	BOLT HOLDER		2
15	G2147909R0	PEDAL HOLDER		1
17	G2147897R0	SHAFT STAY		1
h	H5019115R0	SCREW 3X8	PAN TAPPING B1 BZC	2
m	H5069003R0	BOLT HEX M6X67		1
n	H5069004R0	U-NUT M6	NI	1
q	H5039707R0	WASHER M6	T1NI	1
48	75D732S0R0	SW PEDAL UNIT		
		<i>* This unit includes the following parts.</i>		
31	G2497022R0	SW ESCUTCHEON		8
28	G2187916R0	SW PEDAL		8
29	G2177103R0	SUPPORT SPRING		8
30	G2357109R0	PEDAL FOOT		8
49	75D733M0R0	MAIN BOARD ASSY		1
50	75D733S0R0	SW SHEET ASSY		1
51	75D733S0R0	SW SHEET ASSY		1
52	75D733S0R0	SW SHEET ASSY		1
53	75D733S0R0	SW SHEET ASSY		1
54	75D733S0R0	SW SHEET ASSY		1
56	75D733S0R0	SW SHEET ASSY		1

Screw

No.	Part Code	Part Name	Description	Q'ty
a	H5049003R0	SCREW M4X4	NI	5
b	H5049004R0	SCREW M3X10.5	NI	5
c	40563989	SCREW 4X8	TAPTITE S BINDING NI	1
d	40019123	SCREW 3X8	BINDING TAPTITE S BZC	7
e	40011278	SCREW 3X8	BINDING TAPTITE P FE ZC	28
f	40017934	SCREW M3X6	PAN MACHINE W/SW+PW(L) FE ZC	8
g	40342712	SCREW M3X6	PAN MACHINE W/SW+SMALL PW BZC	12
j	40011312	SCREW 3X8	BINDING TAPTITE P BZC	3
r	H5039521R0	NUT M7		5
s	H5039510R0	NUT M9X12X2T NI		7
t	H5039158R0	WASHER M9X14X0.5T NI		6
u	H5039520R0	NUT	M9	2
v	H5039126	M9 WASHER		2

Important Notes When Disassembling

Guard Against Lost Parts

When disassembling, first check and verify the disassembly procedures, then carry out actual disassembly operations. Be especially careful to ensure that the following parts are not lost.

- Jack Bushing (#G2257327R0)
- Insulating Washer 14.5X9.2 (#G2637118R0)
- USB Connector Cap (USBC-1) (#05015034)

Components Mounted on the SW VR Board

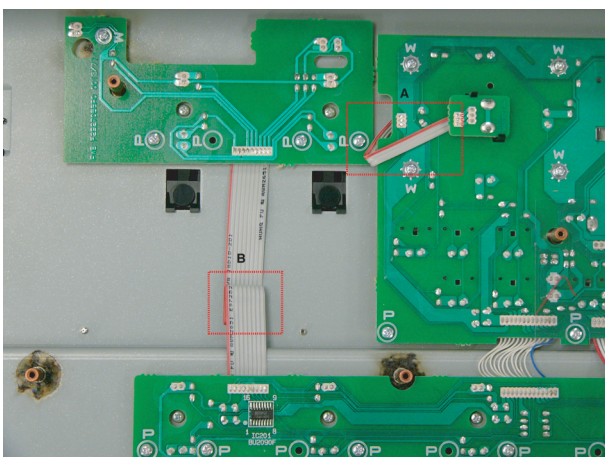
When replacing the LED spacer (#G2147913R0) or keytop unit (#G2497020R0) on the SW VR Board, first detach LED1 or LED2 and LED3 shown in the **Exploded View** (p. 6), then carry out the replacement.

* When mounting the LEDs, be careful to orient the parts correctly.

Modifying the Wiring

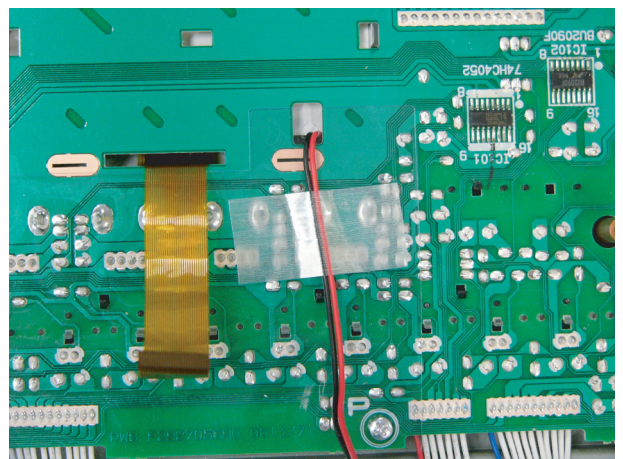
The length of the following ribbon cables differs depending on the production period. If the length is too long, modify the cable as shown below.

- 3-pin ribbon cable between SW VR Board CN105 and ENC (encoder) Board CN501 (**A** in the figure below)
- 9-pin ribbon cable between Pedal Board CN202 and Bank Board CN301 (**B** in the figure below)



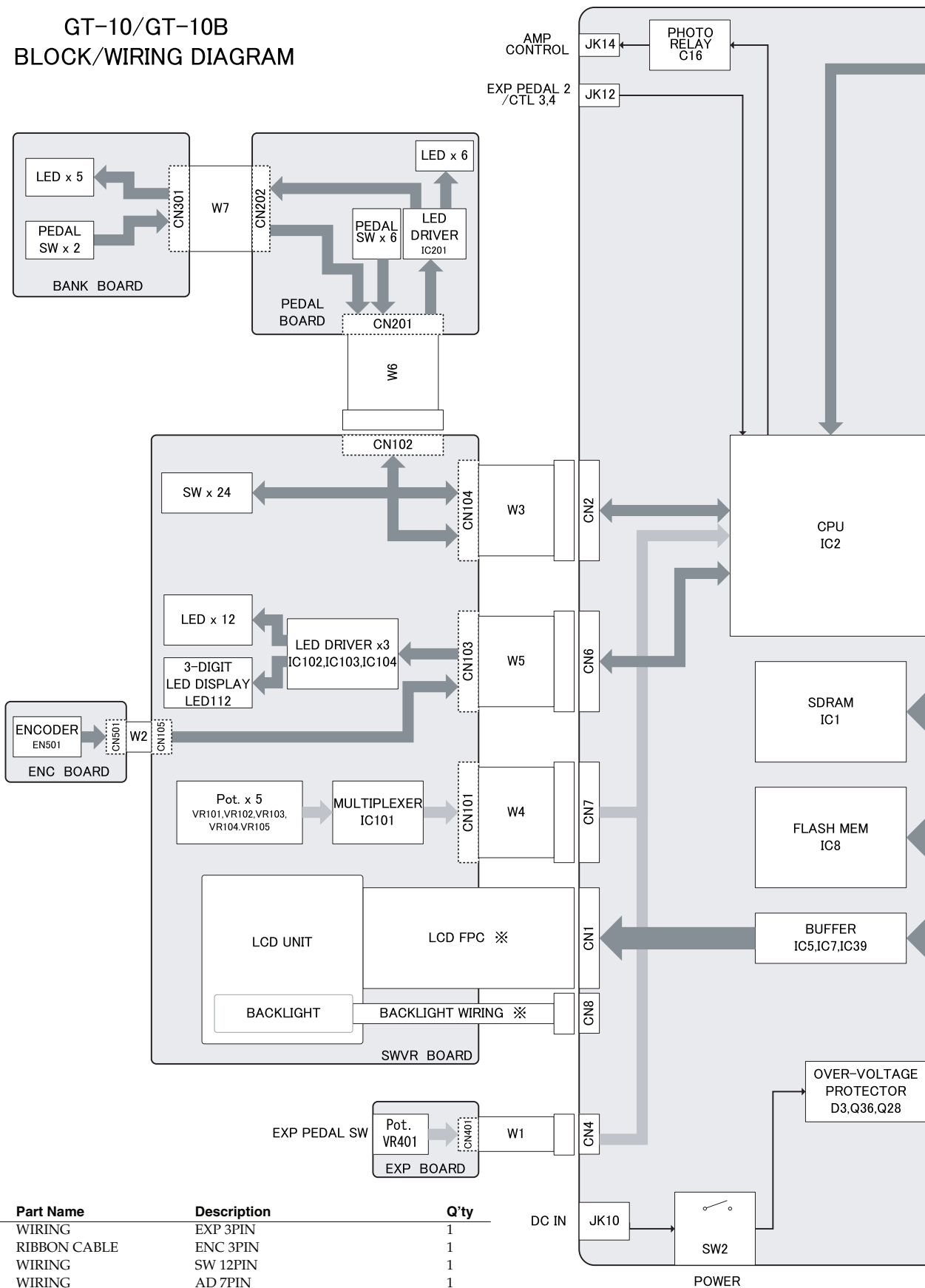
Tape Application

After installing the SW VR Board, use Filament Tape #898 (#40122645) to secure the 2-pin wiring from the LCD unit to the Insulating Sheet (#G2257331R0) as shown in the figure below.



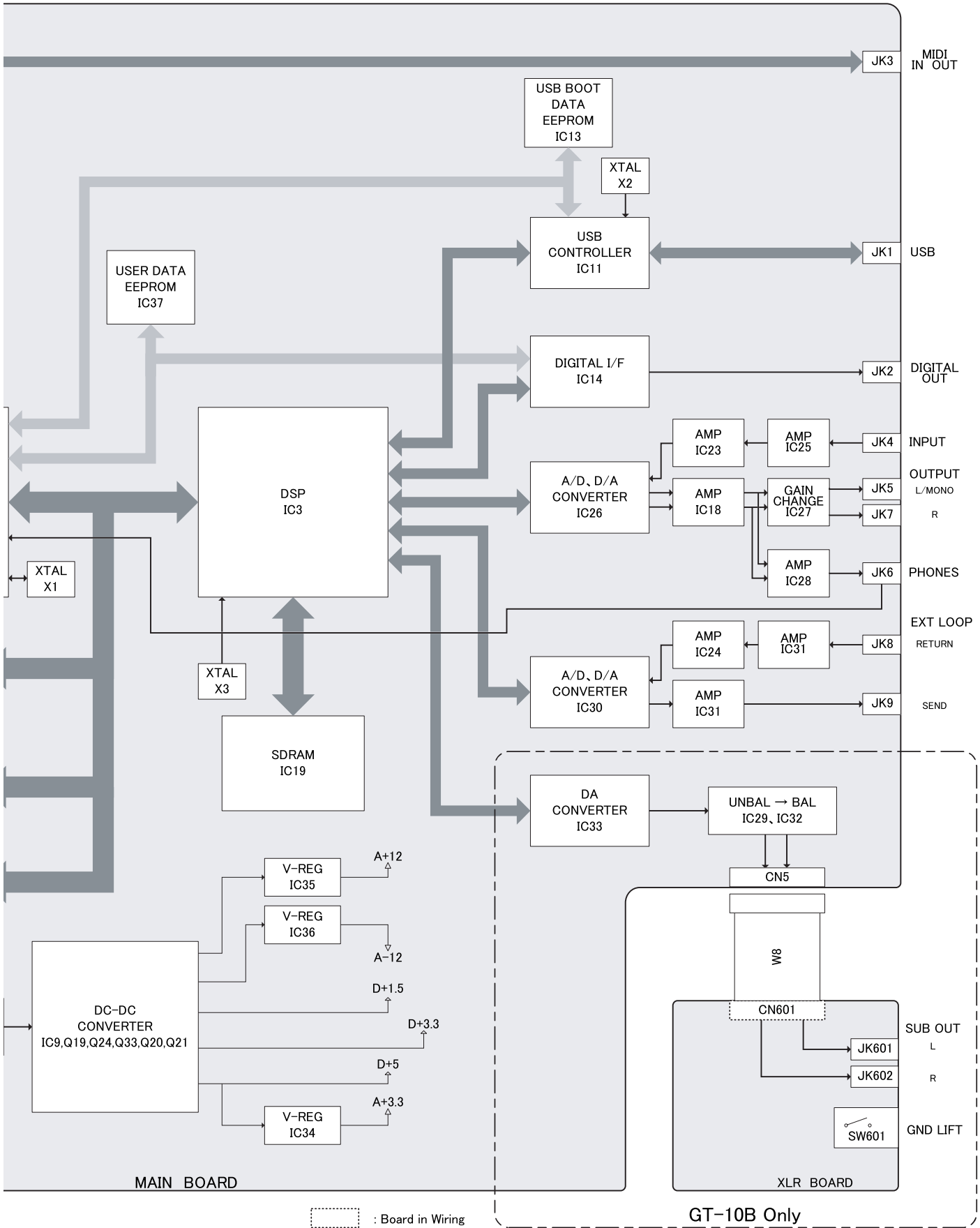
Wiring Diagram Parts List

GT-10/GT-10B
BLOCK/WIRING DIAGRAM



No.	Part Code	Part Name	Description	Q'ty
W1	F3417194R0	WIRING	EXP 3PIN	1
W2	F3417195R0	RIBBON CABLE	ENC 3PIN	1
W3	F3417196R0	WIRING	SW 12PIN	1
W4	F3417197R0	WIRING	AD 7PIN	1
W5	F3417198R0	WIRING	LED 11PIN	1
W6	F3417199R0	WIRING	PEDAL 13PIN	1
W7	F3477081R0	RIBBON CABLE	PEDAL 9PIN	1

* LCD KMC13264-H-00-SPF (#F5229821R0) includes the following LCD UNIT (LCD FPC, BACKLIGHT WIRING.)



Parts List

SAFETY PRECAUTIONS:
The parts marked Δ 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				
	G2207423R0	BOTTOM COVER		1
	G2567171R0	DISPLAY COVER		1
#	G2527521R0	PANEL		1
	G2147909R0	PEDAL HOLDER		1
	G2497022R0	SW ESCUTCHEON		8
	G2187916R0	SW PEDAL		8
	75D73250R0	SW PEDAL UNIT		8
#	G2027952R0	TOP COVER		1
	G2187917R0	VR PEDAL		1
	G2357313R0	VR PEDAL PLATE M		1
	G2357314R0	VR PEDAL PLATE S		1
	75D732B0R1	VR PEDAL UNIT		1
	G2147874R0	BOLT HOLDER		2
	G2147897R0	SHAFT STAY		1
	G2147898R0	BOLT HOLDER		2
	G2177103R0	SUPPORT SPRING		8
	G2357120R0	FOOT	H=5	5
	G2357111R0	CUSHION R		1
	G2357109R0	PEDAL FOOT		8
	G2567121	RUBBER SW ESCUTCHEON		1
KNOB, BUTTON				
	G2477526R0	R-KNOB	INDEX	OUTPUT LEVEL Knob
	G2497019R0	KEYTOP	CLEAR-5H	SW VR Board
	G2477528R0	CURSOR KEY A		SW VR Board
	G2477527R0	CURSOR KEY B		SW VR Board
	G2477524R0	ENCODER-KNOB LF		1
	G2497020R0	KEYTOP UNIT		SW VR Board
	G2497021R0	KEYTOP UNIT S		SW VR Board
	G2477525R0	R-KNOB		PARAMETER Knob
	12499175	BUTTON	JSPUE0011A	1
SWITCH				
	F3129307R0	SWITCH	SDKLAI-B	1
	03344723	TACT SWITCH	SKQKAKD010	SW201, SW202, SW203, SW204, SW205, SW206 on Pedal Board, SW301, SW302 on Bank Board
	01780101	TACT SWITCH	SKQKABD010	SW101, SW102, SW103, SW104, SW105, SW106, SW107, SW108, SW109, SW110, SW111, SW112, SW113, SW114, SW115, SW116, SW117, SW118, SW119, SW120, SW121, SW122, SW123, SW124 on SW VR Board
JACK, SOCKET				
	02781101	USB CONNECTOR	YKF45-0020N	JK 1 on Main Board
	03344701	6.5MM JACK	HTJ-064-12DS	JK12 on Main Board
	03239801	6.5MM JACK	HTJ-064-12I	JK4, JK5, JK7, JK8, JK9, JK10, JK14 on Main Board
	01343723	RCA(PIN) JACK	YKC21-3117(ORANGE)	JK2 on Main Board
	13429825	MIDI CONNECTOR	YKF51-5054V	JK3 on Main Board
DISPLAY UNIT				
	F5229821R0	LCD UNIT W/WIRING	KMC13264-H-00-SPF	1
	F5229817R0	8SEG LED	A-553SR-A B/W	LED112 on SW VR Board
PWB ASSY				
#	75D733M0R0	MAIN BOARD ASSY		1
#	75D733S0R0	SW SHEET ASSY		1

IC					
	02453056	IC (LED DRIVER)	BU2090FS-E2	IC102 on SW VR Board	4
	F5209167	IC (TTL)	74HC4052D	IC101 on SW VR Board	1
DIODE					
	F5229818R0	LED (GREEN)	L-7104SGT	LED113 on SW VR Board, LED305 on Bank Board	2
	F5229819R0	LED (RED)	L-7104SURC-E	LED101, LED102, LED103, LED104, LED106, LED107, LED108, LED109, LED110, LED111 on SW VR Board	10
	F5229820R0	LED (RED)	L-7104SRT	LED105 on SW VR Board, LED201, LED202, LED203, LED204, LED205, LED206 on Pedal Board, LED301, LED302, LED303, LED304 on Bank Board	11
	15019126	SWITCHING DIODE	1SS133 T-77	D101, D102, D103, D104, D105, D106, D107, D108, D109, D110, D111, D112, D113, D114, D115, D116, D117, D118, D119, D120, D121, D122, D123, D124 on SW VR Board, D201, D202, D203, D204, D205, D206 on Pedal Board, D301, D302 on Bank Board	32
RESISTOR					
	13749773T0	CARBON RESISTOR	SR25TRE 101 J	R101, R102, R103, R104, R105, R106, R107, R108, R109, R110, R111, R112, R113, R114, R115, R116, R117, R118, R119, R120, R121, R122, R123, R124, R125, R126, R127, R128, R129, R130, R131, R132, R133, R134, R135 on SW VR Board, R201, R202, R203, R204, R205, R206 on Pedal Board, R301, R302, R303, R304 on Bank Board	45
	13749769T0	CARBON RESISTOR	SR25TRE 680 J	R136 on SW VR Board, R305 on Bank Board	2
POTENTIOMETER					
	F3279782R0	POTENTIOMETER	RK11K1140(10K SPECIAL B-CURVE)	VR401 on EXP Board	1
#	F3229187R0	POTENTIOMETER	RV112FF-40B1-15F-0B20K-0057	VR102, VR103, VR104, VR105 on SW VR Board	4
#	F3229203R0	ROTARY POTENTIOMETER	RD901F-40-15F-B10K-0068	VR101 on SW VR Board	1
CAPACITOR					
#	F3639959R0	CHEMICAL CAPACITOR	SVP220M1CD05M	C109, C112, C116, C117, C118, C119, C121, C124 on SW VR Board	8
	03125023	CERAMIC CAPACITOR	RPER11H103K2M1A01A	C101, C102, C103, C104, C105, C106, C107, C108, C110 on SW VR Board	9
	13529132	CERAMIC CAPACITOR	RPEF11H104Z2M1A01A	C111, C113, C114, C115, C120, C122, C123 on SW VR Board, C201, C204 on Pedal Board	9
ENCODER					
	01905467	ROTARY ENCODER	EVE GC1 F20 24B	EN501 on ENC	1
CONNECTOR					
	F3439890R0	CONNECTOR	A2001WR2-3P	CN4 on Main Board	1
	F3439891R0	CONNECTOR	A2001WR2-2P	CN8 on Main Board	1
	F3439179	CONNECTOR 7P	A2001WR2-7P	CN7 on Main Board	1
	F3439231	CONNECTOR 12P	A2001WR2-12P	CN2 on Main Board	1
	F3439232	CONNECTOR 13P	A2001WR2-13P	CN102 on SW VR Board	1
	F3439166	CONNECTOR	A2001WR2-11P	CN6 on Main Board	1
#	04901667	CONNECTOR	52559-2852	CN1 on Main Board	1
	04908701	ADAPTOR JACK	KM02018ABM1P	JK10 on Main Board	1
	04909467	6.5MM JACK (PHONES)	HTJ-064-05A	JK6 on Main Board	1
WIRING, CABLE					
	F3417194R0	WIRING	EXP 3PIN	CN401 on EXP Board	1
	F3417198R0	WIRING	LED 11PIN	CN103 on SW VR Board	1
	F3417196R0	WIRING	SW 12PIN	CN104 on SW VR Board	1
	F3417199R0	WIRING	PEDAL 13PIN	CN201 on Pedal Board	1
	F3417197R0	WIRING	AD 7PIN	CN101 on SW VR Board	1
	F3417195R0	RIBBON CABLE	ENC 3PIN	CN105 on SW VR Board, CN501 on EXP Board	2
	F3477081R0	RIBBON CABLE	PEDAL 9PIN	CN202 on Pedal Board, CN301 on Bank Board	2

SCREWS				
	H5039707R0	WASHER M6	T1NI	1
	H5069004R0	U-NUT M6	NI	1
	H5039520R0	NUT	M9	2
	G2637118R0	INSULATING WASHER	14.5X9.2	1
	H5069003R0	BOLT HEX M6X67		1
	H5039521R0	NUT M7		5
	H5039510R0	NUT M9X12X2T NI		7
	H5039158R0	WASHER M9X14X0.5T NI		6
	H5019115R0	SCREW 3X8	PAN TAPPING B1 BZC	2
#	H5049003R0	SCREW M4X4	NI	5
#	H5049004R0	SCREW M3X10.5	NI	5
	H5039126	M9 WASHER		2
	40563989	SCREW 4X8	TAPTITE S BINDING NI	1
	40342712	SCREW M3X6	PAN MACHINE W/ SW+SMALL PW BZC	12
	40017934	SCREW M3X6	PAN MACHINE W/SW+PW(L) FE ZC	8
	40019123	SCREW 3X8	BINDING TAPTITE S BZC	7
	40011312	SCREW 3X8	BINDING TAPTITE P BZC	3
	40011278	SCREW 3X8	BINDING TAPTITE P FE ZC	28
PACKING				
#	G2627792R0	PACKING CASE		1
	G2267643R0	PAD L		1
	G2267642R0	PAD R		1
#	G2617330R0	OUTER PACKING CASE		-
MISCELLANEOUS				
	G2527523R0	LABEL	(1)	1
	G2217797R0	LABEL	(2)	1
	G2217796R0	LABEL	(3)	1
	G2217795R0	LABEL	(4)	1
	G2217793R0	LABEL	(BANK UP)	1
	G2217792R0	LABEL	(BANK DOWN)	1
	G2217794R0	LABEL	(CTL 1)	1
	G2217791R0	LABEL	(CTL 2)	1
	05015034	USB CONNECTOR CAP	USBC-1	1
	22365714	CORD HOOK		1
	G2237632R0	GUARD PLATE		1
	G2207422R0	GUARD ESCT		1
	G2257331R0	INSULATING SHEET		1
	G2257332R0	JACK COVER L	MK1, MK3 on Main Board	2
	G2147913R0	LED SPACER	on SW VR Board	2
	G2147127R0	DC JACK HOLDER	MK2 on Main Board	1
	G2147806R0	STAY (POM)		1
	G2637107R0	RUBBER SW		1
#	G2199527R0	LED SPACER	LEDS-10.5	8
#	G2199526R0	LED SPACER	LEDS-2.5(B)	3
#	G2257327R0	JACK BUSH		1
	40122645	FILAMENT TAPE	#898 F6019011	-
ACCESSORIES (Standard)				
#	G6017472R0	OWNER'S MANUAL	JAPANESE	1
#	G6027126R0	OWNER'S MANUAL	ENGLISH	1
#	G6017476R0	LEAFLET PATCH LIST (COPY)	JAPANESE	1
#	G6027130R0	LEAFLET PATCH LIST (COPY)	ENGLISH	1
	40232389	WARRANTY CARD	FOR BOSS JAPAN ONLY	1
△	01903334	AC CORD SET PSE	100V 1.0M FOR PSB-1U	1
△	02562456	AC CORD SET	120V 1.0M (NON POLAR)	1
△	01903356	AC CORD SET	230V 1.0M FOR PSB	1
△	03785590	AC CORD SET	SC-078-NA05 240VA	1
△	04236101	AC ADAPTOR WITHOUT AC CORD	PSB-1U(S) UNIVERSAL	1
△	00905234	EURO CONVERTER PLUG	ECP01-5A	1

Verifying the Version Number

Start up in the Test Mode.

1. Hold down [OUTPUT SELECT] and [SYSTEM] and switch on the power.

* Continue holding down these buttons until **1: VERSION** is displayed on the screen.

2. Press [CATEGORY/ENTER].

The version number (*.** in the figure) and the checksum values (#### in the figure) appear on the screen.

```
TEST 1: VERSION
MODEL:      GT-10
VERSION:    *.* **
TOTAL SUM   #####
PROGRAM SUM #####
USER SUM    #####
(BOOT:V*. ** SUM:#####)
```

TOTAL SUM: The total of the following three items
 PROGRAM SUM: The unit's main program
 USER SUM: User data
 BOOT: The boot program

Unless instructed otherwise, for the checksum, verify the PROGRAM SUM value.

Saving and Loading Data

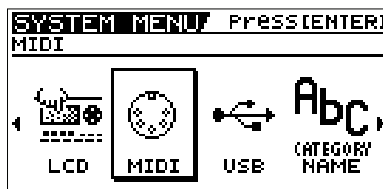
To save user data, you use the bulk dump feature to perform a batch send to an external MIDI device (such as computer sequencer connected via MIDI). Similarly, to load user data back into the unit, you use the bulk load feature to perform a batch receive from the external MIDI device.

NOTE

The setting for PEDAL CALIBRATION at the SYSTEM MENU (or the pedal-calibration setting in **7. INT EXP** (p. 18) in the Test Mode) is not saved.

Sending Parameters to an External MIDI Device (Bulk Dump)

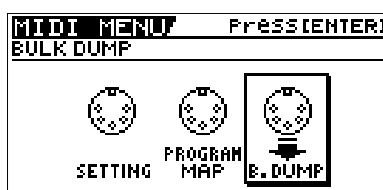
1. Connect the GT-10 to the external MIDI device using MIDI.
2. Put the external MIDI device in standby for receiving MIDI Exclusive (SysEx) data.
3. Press [SYSTEM].
4. Move the cursor to **MIDI** and press [CATEGORY/ENTER].



SYSTEM MENU Press[ENTER]
 MIDI

LCD MIDI USB (CATEGORY NAME)

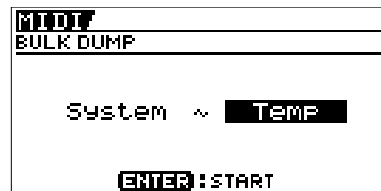
5. Move the cursor to **B.DUMP** and press [CATEGORY/ENTER].



MIDI MENU Press[ENTER]
 BULK DUMP

SETTING PROGRAM MAP B. DUMP

6. Use **System ~ Temp** to select the items to send.



MIDI MENU Press[ENTER]
 BULK DUMP

System ~ TEMP

ENTER:START

7. Press [CATEGORY/ENTER].
 Sending starts. You can cancel this by pressing [EXIT].

Receiving Parameters from an External Device (Bulk Load)

1. Connect the GT-10 to the external MIDI device using MIDI.
2. Send bulk data from the external MIDI device.
 The message **BULK DATA RECEIVING...** is displayed while data is being received.

* No operation on the GT-10 is needed.

* If data is not received, verify that the device ID of the GT-10 is the same as the ID setting used when the bulk dump was carried out.

Performing a Factory Reset

1. With the power off, hold down [CATEGORY/ENTER] and [▶] and switch on the power.
 The message **Force Factory Reset!** is displayed on the screen.
2. Press [WRITE].
 The message **Now initializing...** appears on the screen, and when the displayed value reaches 100%, the Play mode screen appears.
3. Switch off the power.

NOTE

Performing this Factory Reset initializes the system data and user data to the factory defaults. Use a **Sending Parameters to an External MIDI Device (Bulk Dump)** (p. 15) beforehand to save the data.

When you want to initialize only the system data, go to "Chapter 5 -- Making Global Settings" in the owner's manual and refer to the section entitled "Restoring the Factory Settings (Factory Reset)."

Updating the System

You carry out updates of the system by using a computer or the like to play back update-use MIDI data and receiving this data on the GT-10.

1. Using a UM-1 USB-MIDI interface or the like, connect MIDI OUT on the computer to MIDI IN on the GT-10.
2. Hold down [CH SELECT], [DISPLAY MODE], and [WRITE] and switch on the power.
3. The message **SYSTEM UPDATER** is displayed.
4. Wait several seconds until the message **Waiting SMF...** is displayed.
5. On the computer, start the program for sending MIDI data (such as UpdSMF) and send the update-use MIDI data.
 The message **Now Receiving...** is displayed while the data is being received.

* The update takes around 20 minutes.

When the update finishes, the message **Completed** is displayed.

* Refer also to the documentation provided with distribution of the system update file.

System Update Error Messages

If the update fails, a message like the ones shown below is displayed.

Check Sum Error

A problem was found in the checksum value for the received Standard MIDI file (SMF).

Receive Error

The received SMF may have a problem, the MIDI transmission may have been interrupted, or the MIDI cable may be disconnected or have a broken wire.

Flash Write Error

Writing to the flash ROM failed. The peripheral circuitry for the flash ROM may be defective, or the MIDI cable may be disconnected or have a broken wire.

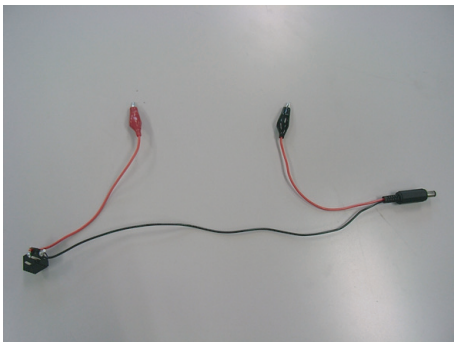
Also, if two asterisks (“**”) are displayed while data is being received, it means that receipt of MIDI data has failed.

* *Stopping partway through and resending also causes two asterisks to be displayed, but this does not signify a problem.*

Test Mode

Items Required

- Expression pedal (Roland EV-5) x 1
- MIDI cable x 1
- USB cable x 1
- Cable with a 1/4-inch phone plug x 1 (having a 33-ohm resistor [1/4 W or more] connected between L channel and ground and between R channel and ground)
- DIGITAL IN-compatible device x 1 (device that converts digital audio signal to analog audio signals: Roland DA-400 or the like)
- Digital audio cable (coaxial) x 1
- Computer x 1
- Headphones x 1 set
- Oscilloscope x 1
- Monitor speaker x 2
- Noise meter x 1
- Tester x 1
- 47-k ohm plug x 1 (having a 47-k ohm resistor connected between the signal line and ground, and having a metal cover [shielding] over the area where the resistor is mounted)
- Dummy plug x 1 (open plug)
- Push/pull force gauge (capable of measurement from 100 g to 1 kg and from 10 kg to 50 kg)
- Cable for measurement of DC IN current consumption

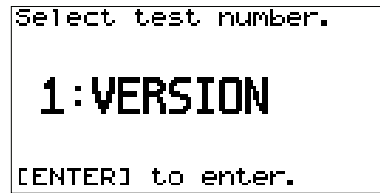


* *Before starting, on the computer, install and set up the folder containing the dedicated USB driver for the GT-10 (GT-10 USB Driver) and the dedicated USB checking software for the GT-10 (USBCheck.exe, the DLL, the settings file, and the like). The GT-10 USB Driver and USBCheck.exe are obtained via Service Network. USBCheck.exe runs only under Windows XP.*

Entering the Test Mode/Selecting Test Items

1. Hold down [OUTPUT SELECT] and [SYSTEM] and switch on the power.

* *Continue holding down the buttons until a screen like the one shown below appears.*



2. Turn the dial to select the test item, then press [CATEGORY/ENTER].

Test Items

Test items in the Test Mode

Screen display	Test description	Page where described
1. VERSION	Version Verification	p. 17
2. DEVICE	Testing of the Peripheral ICs for the CPU and for the DSP	p. 17
3. LCD/ENC	Testing Covering LCD Contrast, Missing LCD Dots, and Encoder Operation	p. 17
4. SW/LED	Testing of Operation Switches and LEDs	p. 18
5. OUTPUT LEV	Testing of the OUTPUT Control	p. 18
6. PARAM KNOB	Testing of the PARAMETER Controls	p. 18
7. INT EXP	Testing of the Expression Pedal and Pedal-calibration Settings	p. 18
8. EXT EXP	Testing of the External Pedal Jack	p. 19
9. MIDI	MIDI Test	p. 19
10. AMP CTRL	Testing of the AMP CONTROL Jack	p. 19
11. USB&D.OUT	Testing of the USB Circuitry and DIGITAL OUT Circuitry	p. 19
12. OUTPUT&MUTE	Testing of SEND, PHONES, OUTPUT L/R, the MUTE Circuitry for each output, and the OUTPUT -10/+4 dB Switching Circuitry	p. 20
13. INPUT	Testing of the INPUT Circuitry	p. 21
14. RETURN	Testing of the RETURN Circuitry and the RETURN Jack Switch	p. 22
15. INPUT NOISE	Testing of Residual Noise and Shock at the Respective Outputs	p. 22
16. LOOP NOISE	Testing of the SEND/RETURN Connection and RETURN Shock	p. 22
17. FACT RESET	Factory Reset	p. 22

Test items outside the Test Mode

Test name	Test description	Page where described
Short check	Testing of AMP CTRL Insulation	p. 22
EXP pedal operation-load test	Testing of Load at Which Movement of the Expression Pedal Starts	p. 23
Muting and Play Mode test	Testing of Muting Circuitry and Verification of Product Startup	p. 23
Current-consumption Test	Verification of Current-consumption Value for DC IN	p. 23

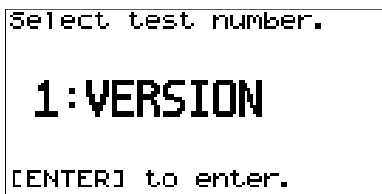
Quitting the Test Mode

Switch off the power.

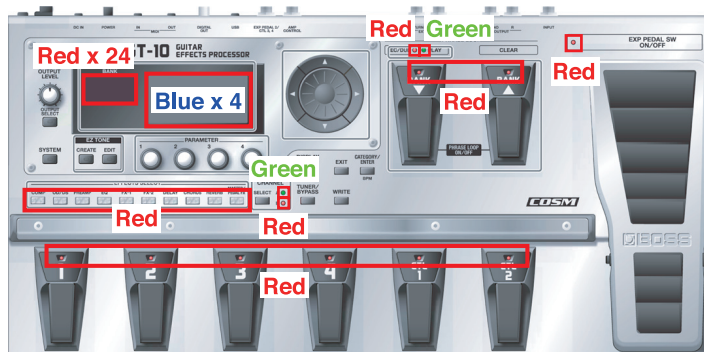
0. Starting the Test Mode

1. Hold down [OUTPUT SELECT] and [SYSTEM] and switch on the power.

* Continue holding down these buttons until a screen like the one shown below appears.

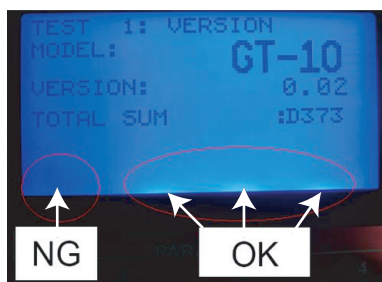


2. Verify that all LEDs light up.
3. Verify that the color of the LEDs is correct.



4. Apply impact and verify that the LEDs and LCD screen do not go dark or disappear.
5. Verify that all 4 backlight LEDs at the bottom of the LCD screen light up.

Example of defective illumination of the LEDs for the LCD-screen backlight



1. VERSION

Version Verification

1. Display 1: VERSION on the screen.
2. Press [CATEGORY/ENTER].
The version number (*.** in the figure) and the checksum values (#### in the figure) appear on the screen.



TOTAL SUM: The total of the following three items
 PROGRAM SUM: The unit's main program
 USER SUM: User data
 BOOT: The boot program

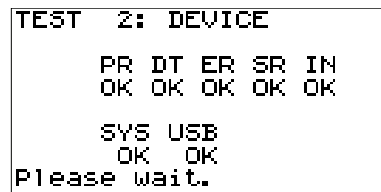
Unless instructed otherwise, for the checksum, verify the PROGRAM SUM value.

3. Press [EXIT].
4. Press [CATEGORY/ENTER] to go back to the test-item selection screen.

2. DEVICE

Testing of the Peripheral ICs for the CPU and for the DSP

1. Use the dial to choose 2: DEVICE.
2. Press [CATEGORY/ENTER] to display the screen shown below.



If OK is displayed for all items, execution automatically advances to the next test.

Descriptions of Errors

- PR** Check of DSP (IC3) internal program RAM
An error indicates either an internal defect in the DSP (IC3) or a defective bus connection with the CPU (IC2).
- DT** Check of DSP (IC3) internal data RAM
An error indicates either an internal defect in the DSP (IC3) or a defective bus connection with the CPU (IC2).
- ER** Check of the SDRAM (19) connected to the DSP (IC3)
An error indicates either an internal defect in the SDRAM or a defective connection between the DSP (IC3) and the SDRAM (19).
- SR** Check of the DSP (13) internal sampling-rate converter
An error indicates either an internal defect in the DSP (IC3) or a defective bus connection with the CPU (IC2).
- IN** Check of DSP (13) -> CPU (IC2) interrupt operation
An error indicates a defective interrupt connection (IC3 pin 101) from the DSP (13) to the CPU (IC2).
- SYS** Check of the user data EEPROM (IC37)
An error indicates either a defect in IC37 or a defective connection between IC37 and the CPU (IC2).
- USB** Check of the USB TUSB (IC11) and USB boot data EEPROM (IC13)
An error indicates either a defect in the TUSB (IC11) or EEPROM (IC13), or a defective connection between the TUSB (IC11), EEPROM (IC13), and CPU (IC2).

3. LCD/ENC

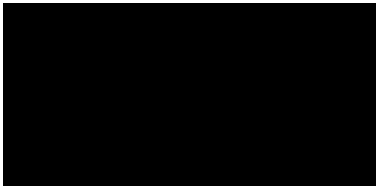
Testing Covering LCD Contrast, Missing LCD Dots, and Encoder Operation

1. Use the dial to choose 3: LCD/ENC.
2. Press [CATEGORY/ENTER] to display the screen shown below.



3. Verify that turning the dial counterclockwise makes the contrast progressively fainter.
4. Verify that turning the dial clockwise makes the contrast progressively deeper.

- Press [▶] to display the screen shown below.



- Verify that the LCD screen has no missing dots.
- Press [▶] to display the screen shown below.

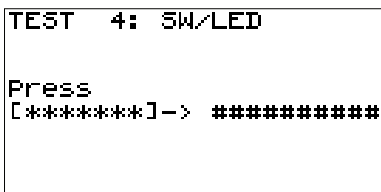


- Verify that the lines on the four sides are unbroken.
- Press [EXIT] to return to the test-item select screen.

4. SW/LED

Testing of Operation Switches and LEDs

- Use the dial to choose **4: SW/LED**.
- Press [CATEGORY/ENTER] to display the screen shown below.

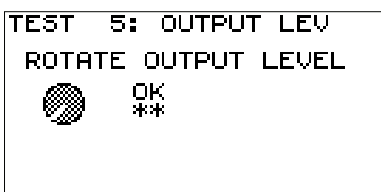


- If ##### appears, verify that the corresponding LED is illuminated.
- Press the button indicated by *****.
* Pressing a wrong button makes the message **NG!** appear.
- If ##### appears, verify that the corresponding LED goes dark.
- Repeat steps **3** through **5**.

When as the final item the LED for **PEDAL 1** goes dark, execution automatically advances to the next test.

5. OUTPUT LEV

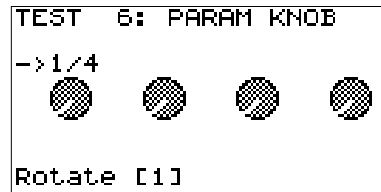
Testing of the OUTPUT Control



- Turn the **OUTPUT LEVEL** control to minimum.
- Turn the **OUTPUT LEVEL** control to maximum.
If **OK** is displayed, execution automatically advances to the next test.

6. PARAM KNOB

Testing of the PARAMETER Controls



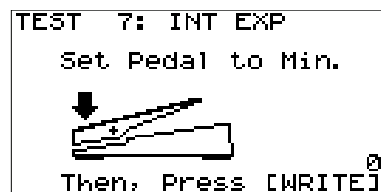
- Turn the **PARAMETER 1** control clockwise by 360 degrees or more.
- Verify that the these values are displayed: **1/4 -> 2/4 -> 3/4 -> 4/4 -> OK**.
- In the same way, successively turn the **PARAMETER 2** through **PARAMETER 4** controls clockwise by 360 degrees or more.
- Verify that the these values are displayed: **1/4 -> 2/4 -> 3/4 -> 4/4 -> OK**.
* Turning too rapidly may cause the correct results to fail to be displayed.
* Turning two or more controls at the same time causes **NG** (not OK) to be displayed. Turn one at a time.

If **OK** is displayed, execution automatically advances to the next test.

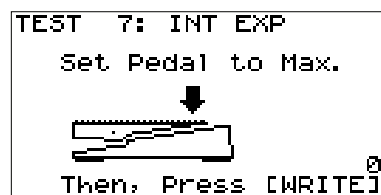
7. INT EXP

Testing of the Expression Pedal and Pedal-calibration Settings

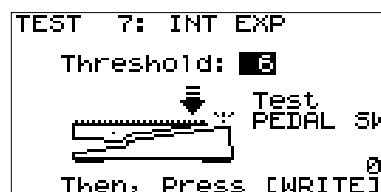
* The CPU A/D value is displayed for identification of defect factors. No special verification is required during the course of the procedures.



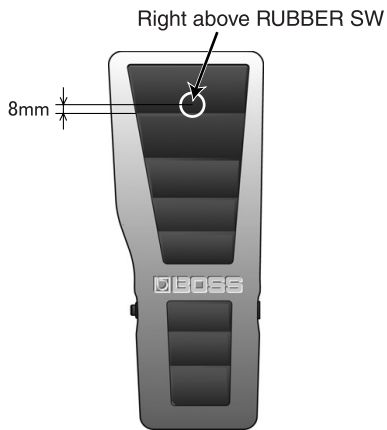
- Depress the heel of the GT-10's expression pedal all the way, then press the [WRITE] button.
- Verify that **OK** is displayed.
- In the same way, depress the toe of the expression pedal all the way, then press the [WRITE] button.



- Verify that **OK** is displayed.
Execution advances to the screen shown below.



5. Apply a load of **25 to 40 kg** to the expression pedal at the location in the figure below.



The expression pedal's LED lights up.

This LED lights up only when the load to the expression pedal is over the value for **Threshold**.

If it fails to light up, operate the dial to adjust the value for **Threshold**. (Initial value: **6**, variable range: **1** through **16**)

Smaller values make the expression pedal switch increasingly easier to actuate, and larger values make the switch progressively more difficult to actuate.

- Press the [WRITE] button.
- Verify that the message **Done** is displayed.
- Pressing the [EXIT] button returns the unit to the test-item selection screen.

* Executing a Factory Reset (**17. FACT RESET** (p. 22)) in the Test Mode initializes the **Threshold** value just described (to a value of **6**).

8. EXT EXP

Testing of the External Pedal Jack

- Use the dial to choose **8: EXT EXP**.
- Pressing [CATEGORY/ENTER] displays the screen shown in the figure below.

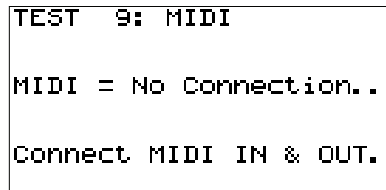


* If no expression pedal is connected, the message **Not Connected** is displayed.

- Connect the EV-5 to the **EXP PEDAL 2** jack.
- * Set the sensitivity control on the EV-5 to **0**.
- Depress the heel of the EV-5 pedal all the way, and verify that **MIN = OK** is displayed.
 - Depress the toe of the EV-5 pedal all the way, and verify that **MAX = OK** is displayed.
 - When the message **Pull out EXP PEDAL.** appears, disconnect the plug for the EV-5. If **OK** is displayed, execution automatically advances to the next test.

9. MIDI

MIDI Test



* When no MIDI cable is connected, the message **No Connection..** is displayed.

- Connect the MIDI IN and MIDI OUT jacks using a MIDI cable.
- When the message **Pull out the cable.** appears, disconnect the plugs for the MIDI cable. If **OK** is displayed, execution automatically advances to the next test.

10. AMP CTRL

Testing of the AMP CONTROL Jack



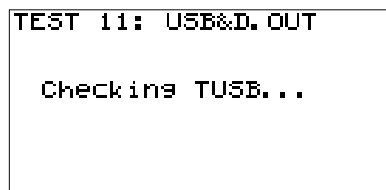
- Connect the dummy plug to the **AMP CONTROL** jack.
- Set the tester to the resistance-measurement mode, and touch the + and - probes respectively to the signal and ground connectors of the dummy plug.
- Verify that the readings on the tester match what is displayed on the LCD screen as shown below.

LCD screen display	Tester
OPEN	Infinite resistance
SHORT	Around 0 ohm

- Press [▶] to advance to the next test.

11. USB&D.OUT

Testing of the USB Circuitry and DIGITAL OUT Circuitry



After a short wait, the message **No Connection..** is displayed.

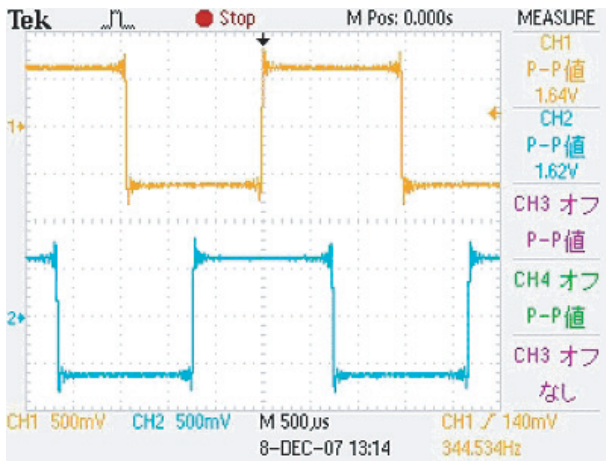
- Connect the left and right audio-output channels of the device capable of digital input to the monitor speakers and the oscilloscope.
- Using a digital audio cable, connect the **DIGITAL OUT** jack on the GT-10 to the DIGITAL IN jack on the device capable of digital input.
- On the computer, start the dedicated USB checking software for the GT-10 (USBCheck.exe).
- Using a USB cable, connect the computer and the USB connector on the GT-10.

The message **CHECK SOUND** is displayed on the GT-10's screen.

The message **VENDER** is displayed in the USB checking software on the computer.

* If the message **No Connection..** does not disappear, a problem is present in the computer's settings, the USB connection, or the USB circuitry in the GT-10.

- Verify that the waveform display on the oscilloscope is like that shown in the figure below.



Upper: left channel, lower: right channel

* The output level may vary according to the device capable of digital input.

- Subject the product to vibration and verify that no noise or other abnormal sound is heard from the monitor speakers.
- Press [▶] to advance to the next test.

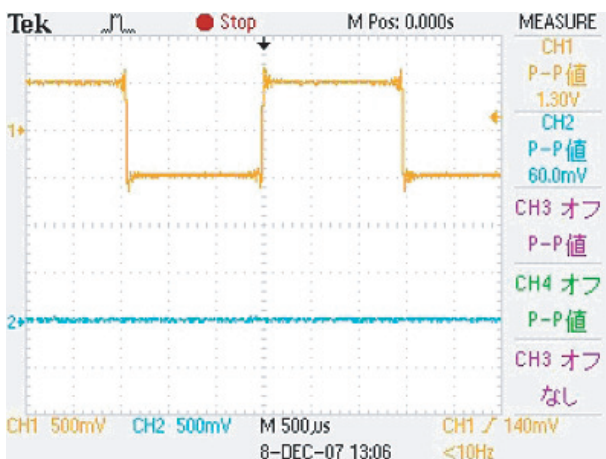
12. OUTPUT&MUTE

Testing of SEND, PHONES, OUTPUT L/R, the MUTE Circuitry for each output, and the OUTPUT -10/+4 dB Switching Circuitry

```
TEST 12: OUTPUT&MUTE
Check OUTPUT
-10dB MUTE
INSERT PHONES
```

SEND Test

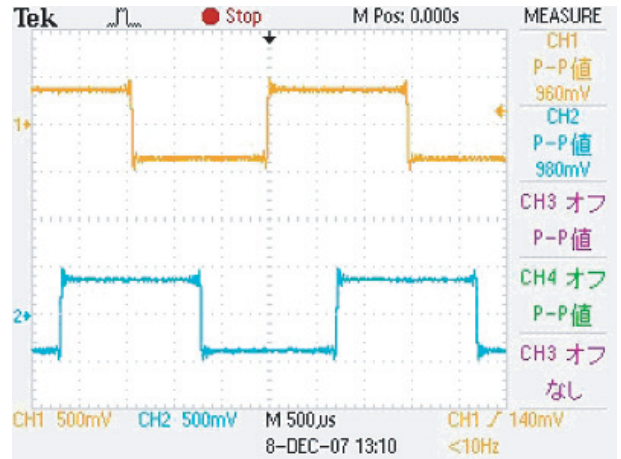
- Using a cable with a 1/4-inch phone plug, connect the **SEND** jack to channel 1 on the oscilloscope and the left-channel monitor speaker.
- Verify that the output waveform display on the oscilloscope is as shown in the figure below, and that no waveform is displayed while **MUTE** is displayed on the screen.



- Verify that the peak value is from 1.25 to 1.35 V.
- Verify that signals are output from the monitor speakers and no noise or other abnormal sound is heard, and that no sound is played while **MUTE** is displayed on the screen.

PHONES Test

- Using a cable with a 1/4-inch stereo phone plug (with 33-ohm load resistor), connect the **PHONES** jack to channel 1 and channel 2 of the oscilloscope and to the left-channel and right-channel monitor speakers.
- Verify that the **INSERT PHONES** message disappears from the screen.
- Verify that the output waveform display on the oscilloscope is what is shown in the figure below, and that no waveform is displayed while **MUTE** is displayed on the screen.



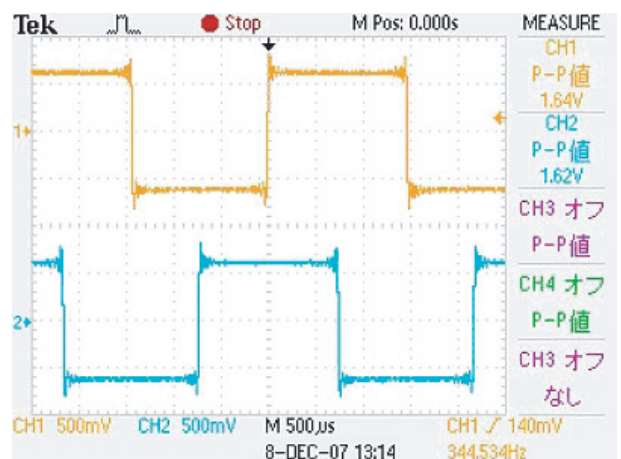
Upper: left channel, lower: right channel

- Verify that the peak value for both the left and right channels is 0.95 to 1.05 V (with 33-ohm load).
- Verify that signals are output from the monitor speakers and no noise or other abnormal sound is heard, and that no sound is played while **MUTE** is displayed on the screen.

* Leave the a 1/4-inch stereo phone plug connected to the PHONES jack on the GT-10.

Testing of OUTPUT L/R and the Monaural Jack Switch

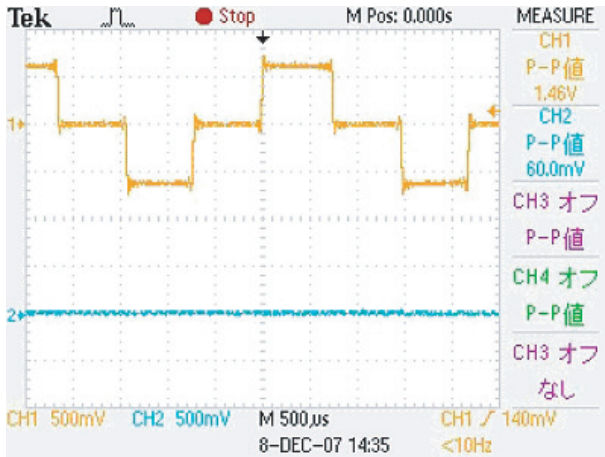
- Using the two cables with 1/4-inch phone plugs, connect the **OUTPUT L** and **R** jacks to channel 1 and channel 2 of the oscilloscope and to the left-channel and right-channel monitor speakers.
- Verify that the output waveform display on the oscilloscope is what is shown in the figure below, and that no waveform is displayed while **MUTE** is displayed on the screen.



Upper: left channel, lower: right channel

- Verify that the peak value for both the left and right channels is 1.55 to 1.75 V.
- Verify that signals are output from the monitor speakers and no noise or other abnormal sound is heard, and that no sound is played while **MUTE** is displayed on the screen.
- Detach the plug from the **OUTPUT R** jack.

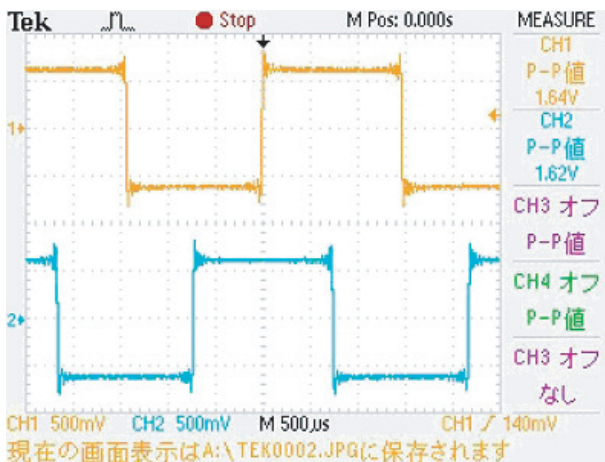
6. Verify that the output waveform display on the oscilloscope is what is shown in the figure below, and that no sound is played while **MUTE** is displayed on the screen.



7. Verify that the previous waveform display reappears when the plug is reinserted into the **OUTPUT R** jack.

OUTPUT -10 dB/+4 dB Switching Test

- Using the two cables with 1/4-inch phone plugs, connect the **OUTPUT L** and **R** jacks to channel 1 and channel 2 of the oscilloscope and to the left-channel and right-channel monitor speakers.
- Verify that the on-screen display of **-10 dB** changes to **+4 dB** when the 1/4-inch stereo phone plug is unplugged from the **PHONES** jack.
- Verify that the output waveform display on the oscilloscope is what is shown in the figure below, and that no waveform is displayed while **MUTE** is displayed on the screen.



Upper: left channel, lower: right channel

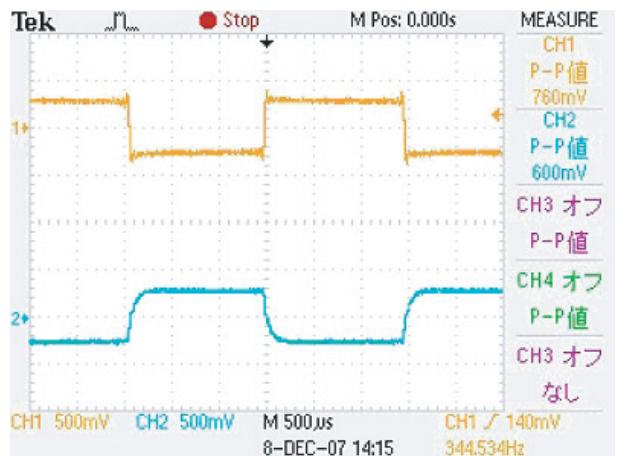
- Verify that the peak value for both the left and right channels is **1.55** to **1.75 V** (substantially the same as before the plug was unplugged from the **PHONES** jack).
- Verify that signals are output from the monitor speakers and no noise or other abnormal sound is heard, and that no sound is played while **MUTE** is displayed on the screen.
- Press [▶] to advance to the next test.

13. INPUT

Testing of the INPUT Circuitry

```
TEST 13: INPUT
Check INPUT
Connect SEND to INPUT.
```

- Using the two cables with 1/4-inch phone plugs, connect the **OUTPUT L** and **R** jacks to channel 1 and channel 2 of the oscilloscope and to the left-channel and right-channel monitor speakers.
- Using a cable with a 1/4-inch phone plug, connect the **SEND** jack and the **INPUT** jack.
- Verify that the output waveform display on the oscilloscope is what is shown in the figure below.



Upper: left channel, lower: right channel

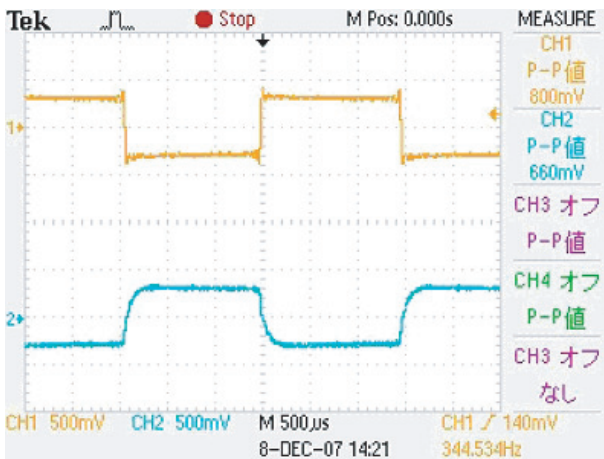
- Verify that the peak value is from **0.65** to **0.80 V** for the left channel and from **0.55** to **0.65 V** for the right channel.
- Verify that signals are output from the monitor speakers and no noise or other abnormal sound is heard.
- Press [▶] to advance to the next test.

14. RETURN

Testing of the RETURN Circuitry and the RETURN Jack Switch

```
TEST 14: RETURN
Check RETURN
```

- Using the two cables with 1/4-inch phone plugs, connect the **OUTPUT L** and **R** jacks to channel 1 and channel 2 of the oscilloscope and to the left-channel and right-channel monitor speakers.
- Verify that the output waveform display on the oscilloscope is what is shown in the figure below.



Upper: left channel, lower: right channel

- Verify that the peak value is from **0.75 to 0.90 V for the left channel and from 0.60 to 0.70 V for the right channel**.
- Verify that signals are output from the monitor speakers and no noise or other abnormal sound is heard.
- Insert a dummy jack (open plug) into the **RETURN** jack and verify that the sound and waveform disappear.
- Press [▶] to advance to the next test.

15. INPUT NOISE

Testing of Residual Noise and Shock at the Respective Outputs

```
TEST 15: INPUT NOISE
Check INPUT Noise
[WRITE] to SHOCK Noise
```

- Insert a 47-k ohm plug into the **INPUT** jack.
- Connect the left channel of the **PHONES** jack and the noise meter using a cable with a 1/4-inch stereo phone plug (with 33-ohm load resistor), and verify that the noise level is **-96 dBu** or less (**DIN audio**).
- Connect the right channel of the **PHONES** jack and the noise meter using a cable with a 1/4-inch stereo phone plug (with 33-ohm load resistor), and verify that the noise level is **-96 dBu** or less (**DIN audio**).
- Connect the **OUTPUT L** jack and the noise meter using a cable with a 1/4-inch stereo phone plug, and verify that the noise level is **-89 dBu** or less (**DIN audio**).

- Connect the **OUTPUT R** jack and the noise meter using a cable with a 1/4-inch stereo phone plug, and verify that the noise level is **-89 dBu** or less (**DIN audio**).
- Using the two cables with 1/4-inch phone plugs, connect the **OUTPUT L** and **R** jacks to the left- and right-channel monitor speakers.
- Press the [WRITE] button and verify that the **Check INPUT Noise** message displayed changes to **Check SHOCK Noise**.
- Verify that the noise sound played by the monitor speakers is free of any problem.
- Subject the unit to vibration and verify that no abnormal sound is heard from the speaker.
- Press [▶] to advance to the next test.

16. LOOP NOISE

Testing of the SEND/RETURN Connection and RETURN Shock

```
TEST 16: LOOP NOISE
Check LOOP Noise
[WRITE] to SHOCK Noise
```

- Insert a 47-k ohm plug into the **INPUT** jack.
- Make sure that nothing is inserted into the **RETURN** jack.
- Connect the **OUTPUT L** jack and the noise meter using a cable with a 1/4-inch phone plug, and verify that the noise level is **-88 dBu** or less (**DIN audio**).
- Connect the **OUTPUT R** jack and the noise meter using a cable with a 1/4-inch phone plug, and verify that the noise level is **-88 dBu** or less (**DIN audio**).
- Using the two cables with 1/4-inch phone plugs, connect the **OUTPUT L** and **R** jacks to the left- and right-channel monitor speakers.
- Press the [WRITE] button and verify that the **Check LOOP Noise** message displayed changes to **Check SHOCK Noise**.
- Verify that the noise sound played by the monitor speakers is free of any problem.
- Subject the unit to vibration and verify that no abnormal sound is heard from the speakers.
- Press [▶] to advance to the next test.

17. FACT RESET

Factory Reset

* Unless instructed otherwise, do not execute a Test Mode Factory Reset. Pressing [EXIT] performs no Factory Reset.



Executing the Factory Reset in the Test Mode (**17. FACT RESET**) initializes the threshold value for pedal calibration (to a value of **6**). When you have executed **17. FACT RESET**, go to **7. INT EXP PEDAL** and make the setting for pedal calibration.

Short Check

Testing of AMP CTRL Insulation

- Switch off the power.
- Touch the tester to the ground for the **AMP CTRL** jack and to the chassis ground (a screw section on the chassis) and verify that no conduction occurs.

EXP Pedal Operation-load Test

Testing of Load at Which Movement of the Expression Pedal Starts

* The power does not need to be on.

1. Depress the heel of the expression pedal all the way.
2. Apply a load near the tip of the expression pedal and verify that the pedal begins to move at a load within the range of **500 to 700 g**.

* If the load value is outside the range of **500 to 700 g**, adjust by turning **BOLT HEX M6X67 (#H5069003R0)**. If the bolt has been overtightened, first loosen it, then adjust by tightening it while measuring the load. Never quit adjustment while the bolt is in a loosened state.

Muting and Play Mode Test

Testing of Muting Circuitry and Verification of Product Startup

1. Using the two cables with 1/4-inch phone plugs, connect the **OUTPUT L** and **R** jacks to the left- and right-channel monitor speakers.
2. Connect headphones to the **PHONES** jack.
3. Verify that no abnormal noise is heard from the monitor speakers or headphones at the moment the power is switched on.
4. Verify that the unit starts up in the Play mode.
5. Verify that no abnormal noise is heard from the monitor speakers or headphones at the moment the power is switched off.

Current-consumption Test

Verification of Current-consumption Value for DC IN

1. Hold down [OUTPUT SELECT] and [SYSTEM] and switch on the power.

* Continue holding down these buttons until a screen like the one shown below appears.

```
Select test number.

1:VERSION

[ENTER] to enter.
```

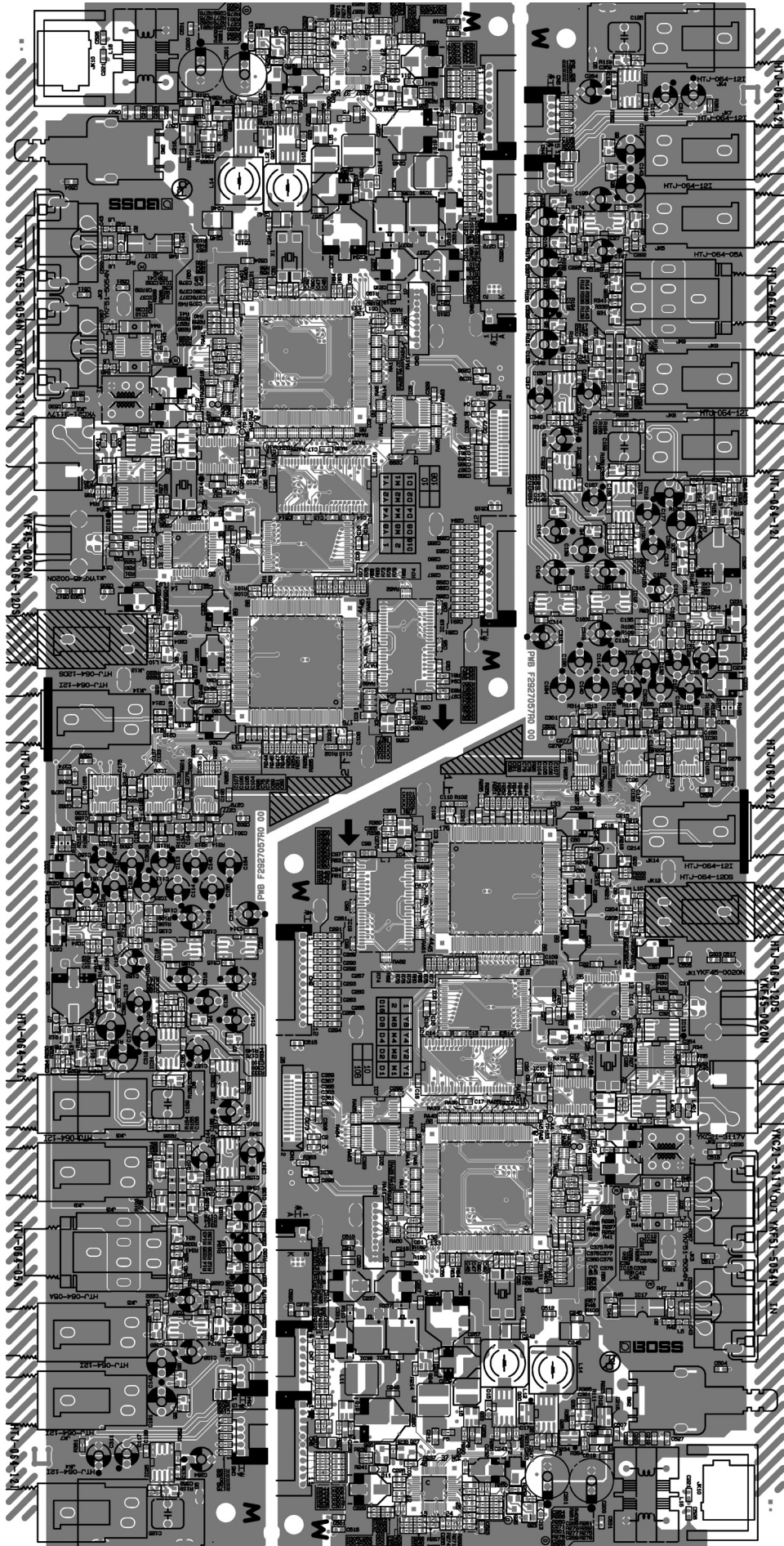
2. Verify that all LEDs light up.
- * For which LEDs light up, refer to step **3** in "**0. Starting the Test Mode**."
3. Connect the cable for measurement of DC IN current consumption to the **DC IN** connector on the GT-10, then connect the AC adaptor.



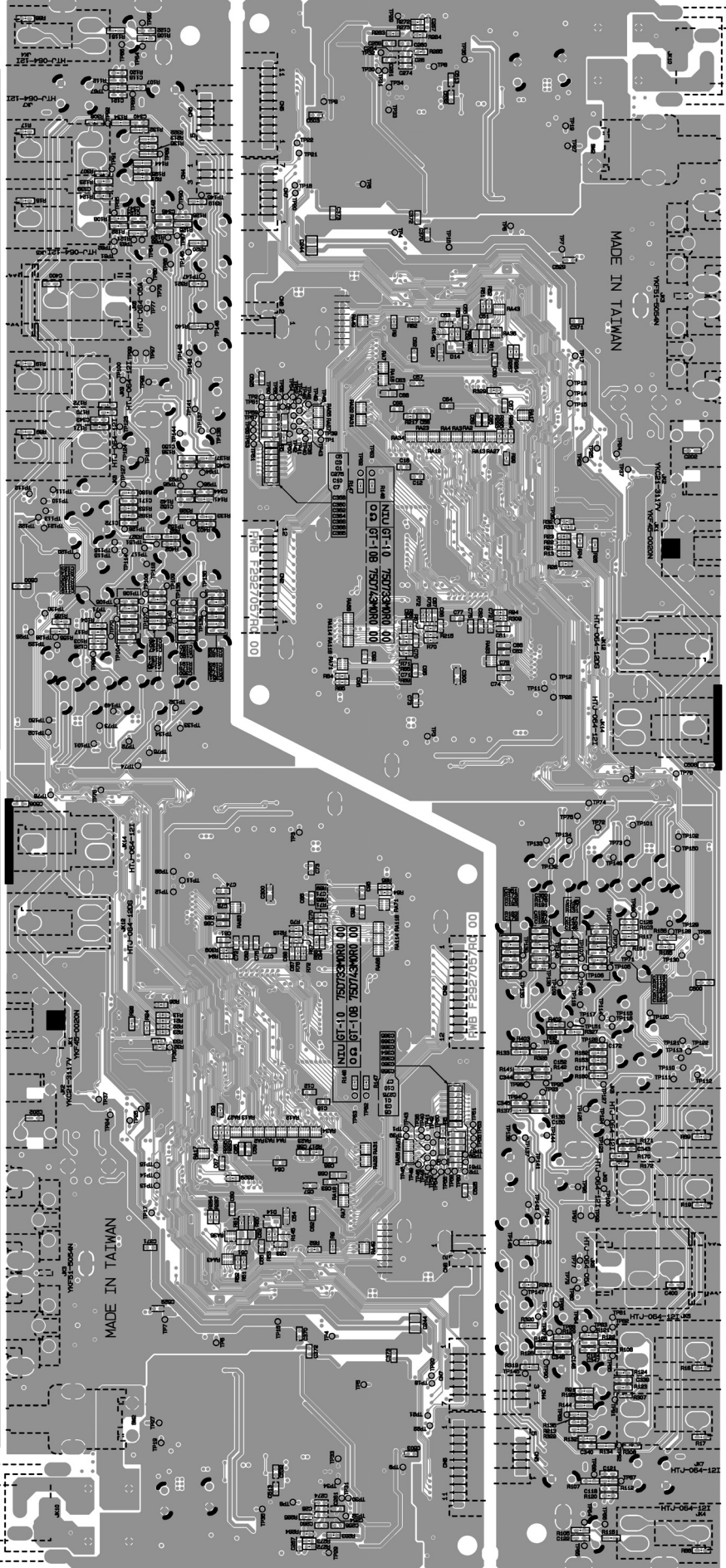
* The photograph mentioned above is connection example of GT-10B, but the connection method is the same in the case of GT-10.

4. Verify that the current-consumption value is from **550 to 620 mA**.

Circuit Board (Main Board)



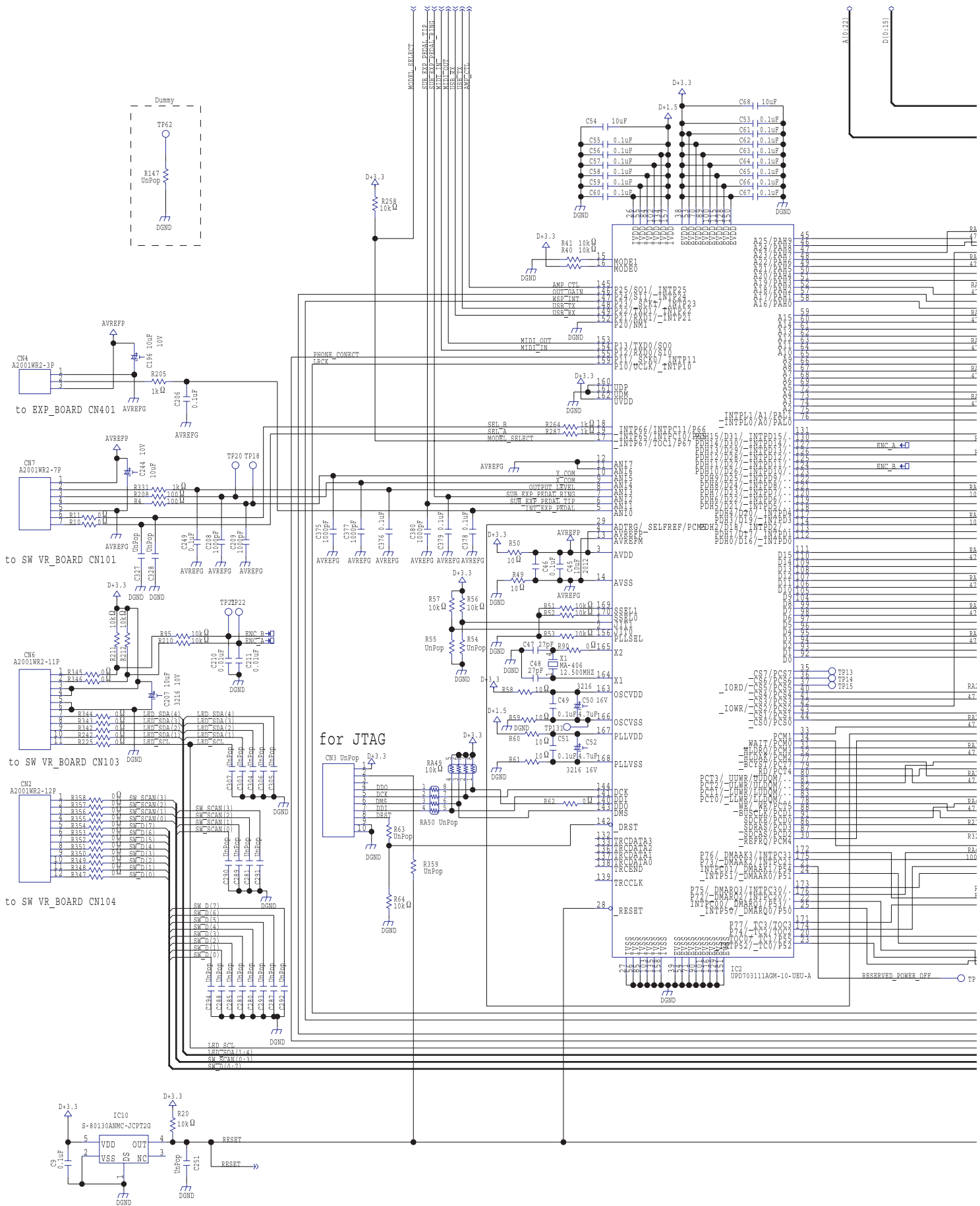
GT-10B MAIN SHEET ASSY 75D743M0R0

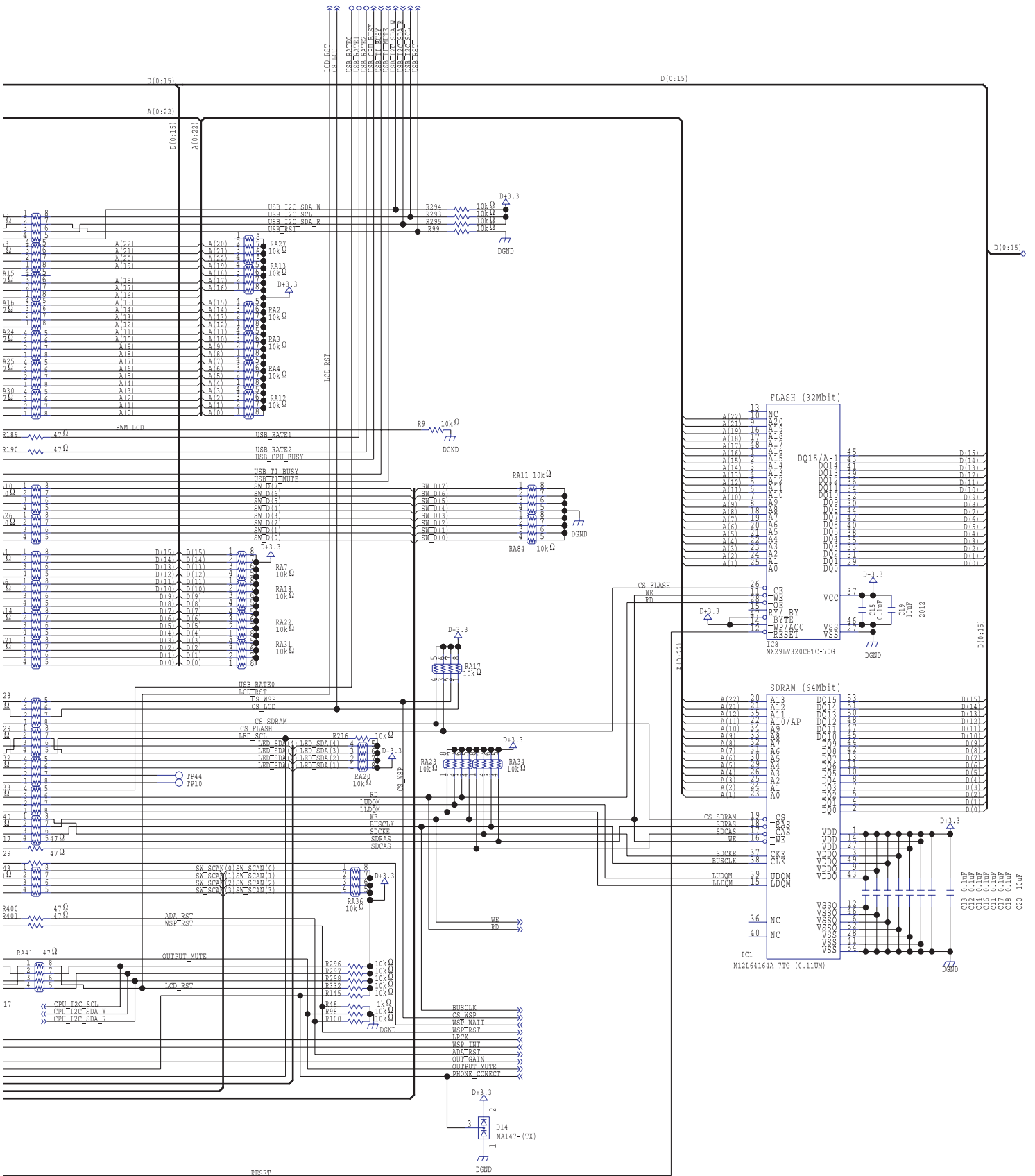


PWB F2927057R0 00

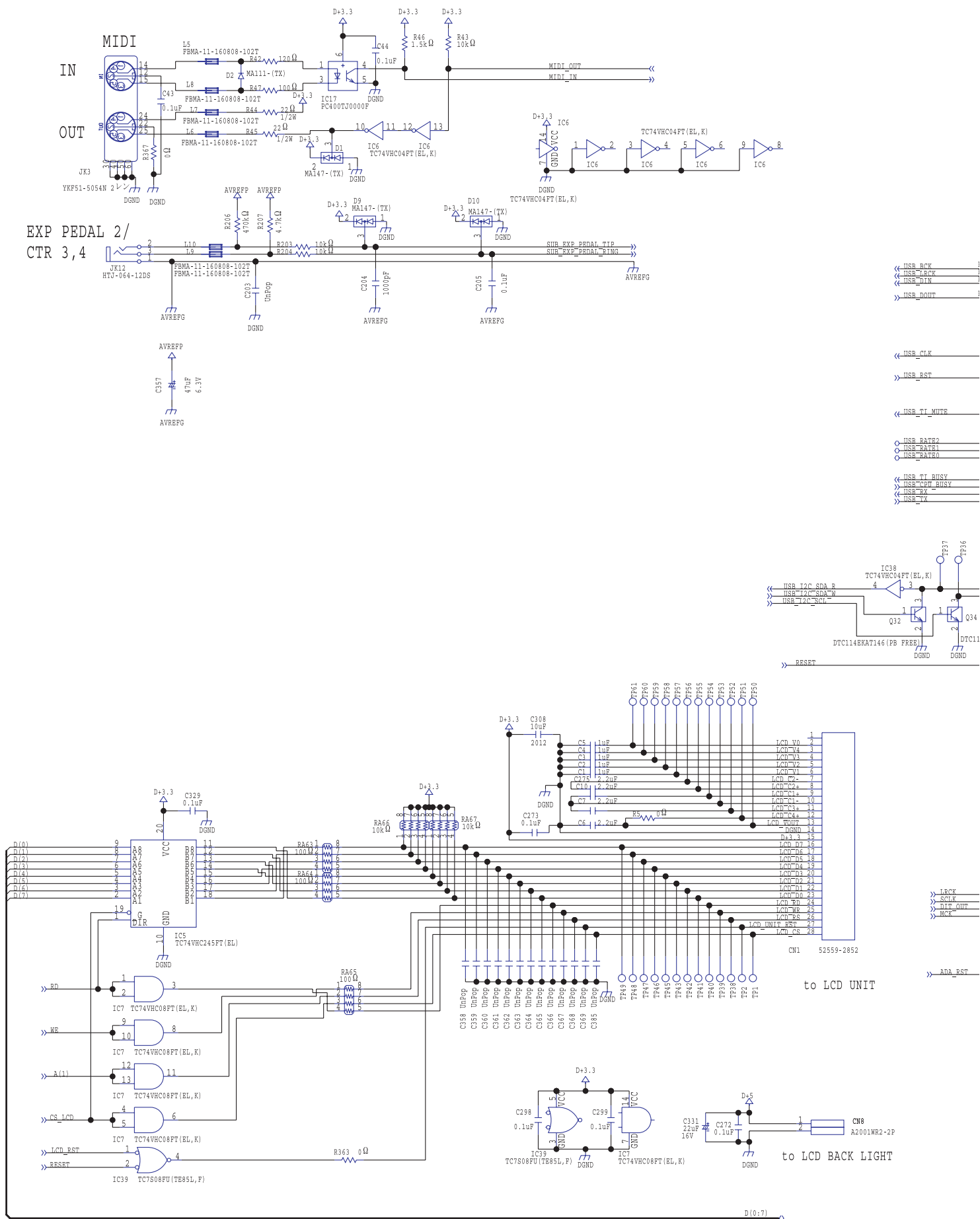
PWB F2927057R0 00

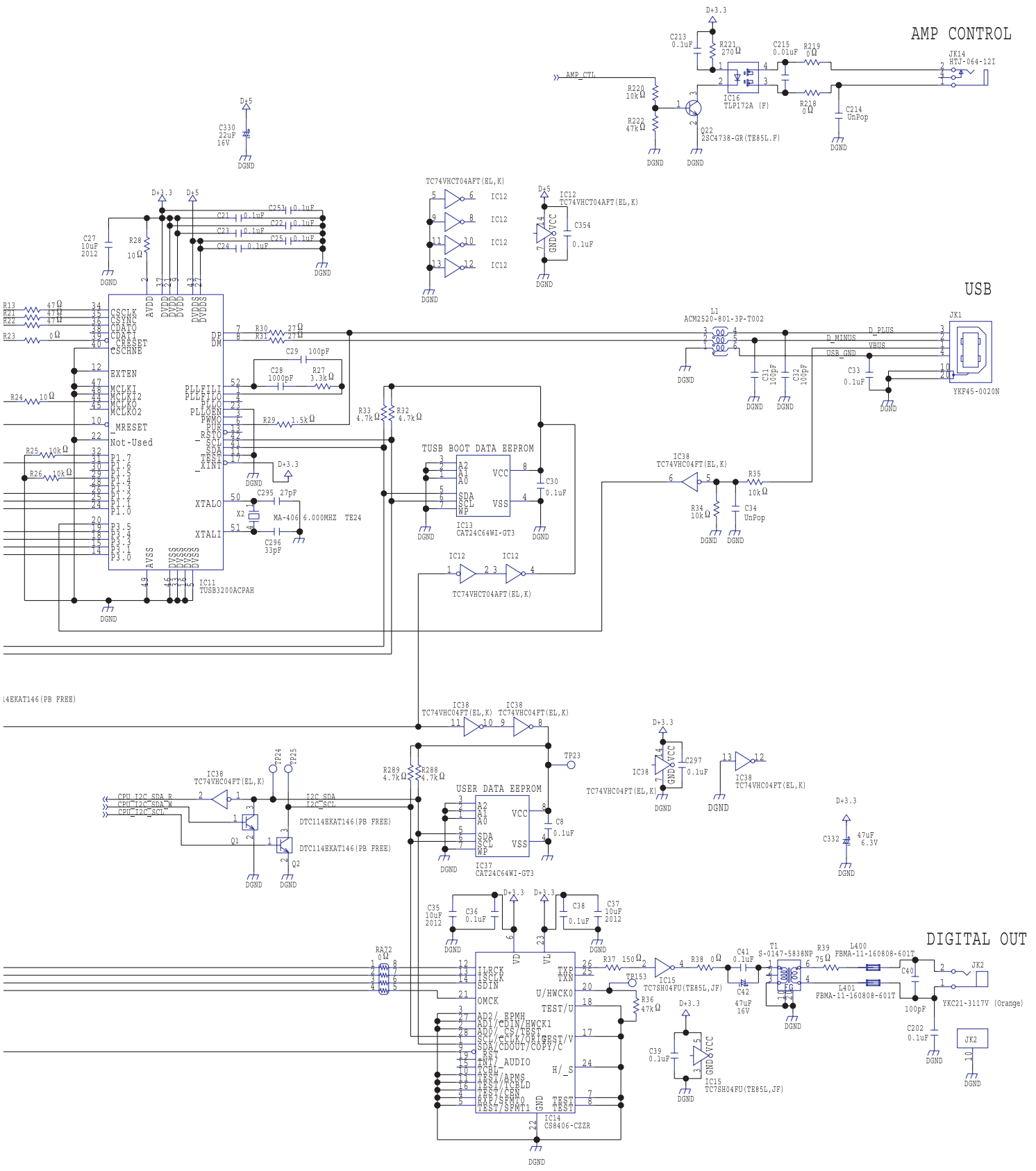
Circuit Diagram (Main Board: 1/5)



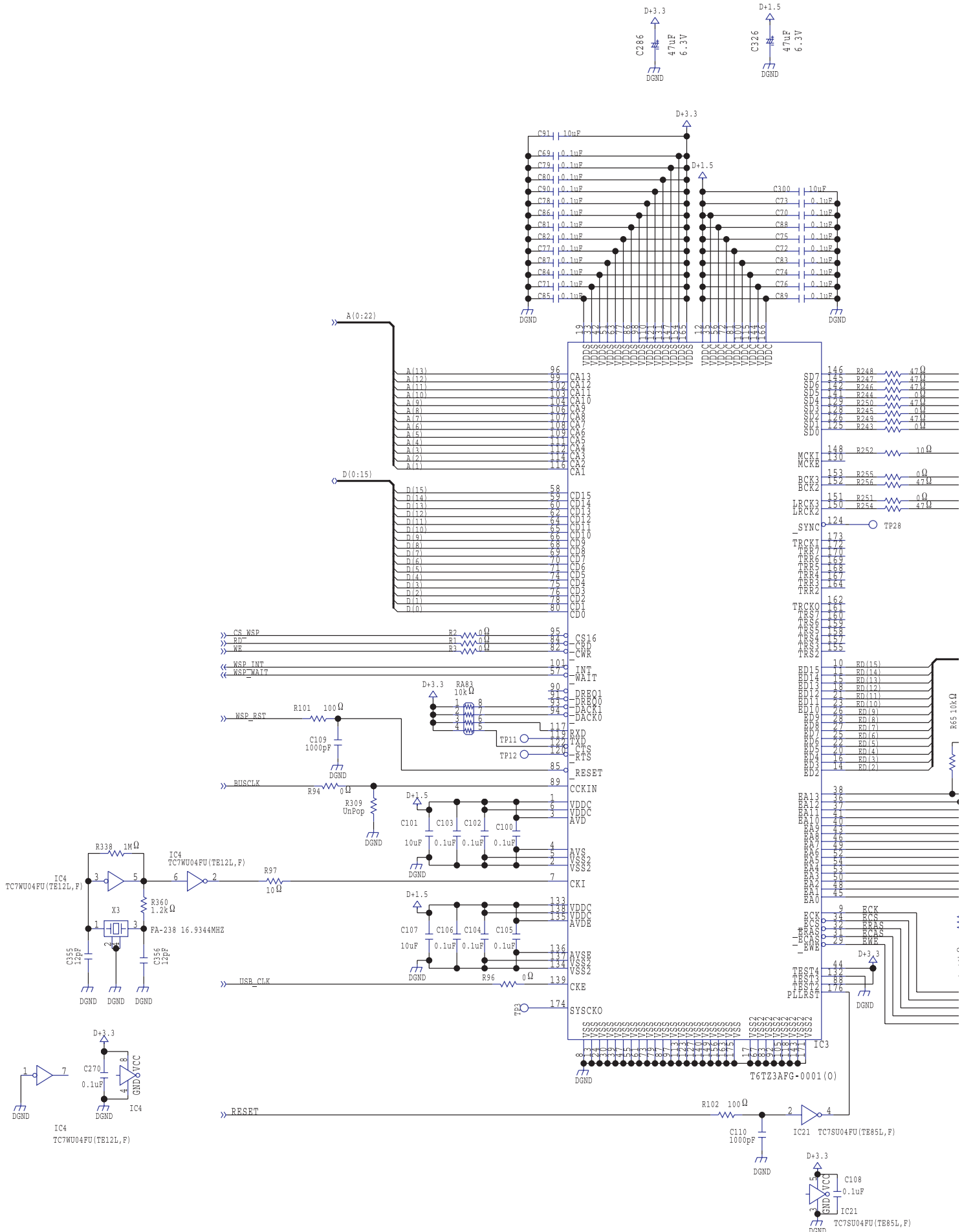


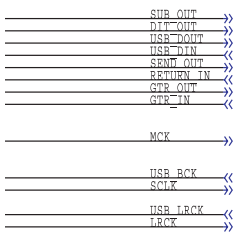
Circuit Diagram (Main Board: 2/5)





Circuit Diagram (Main Board: 3/5)

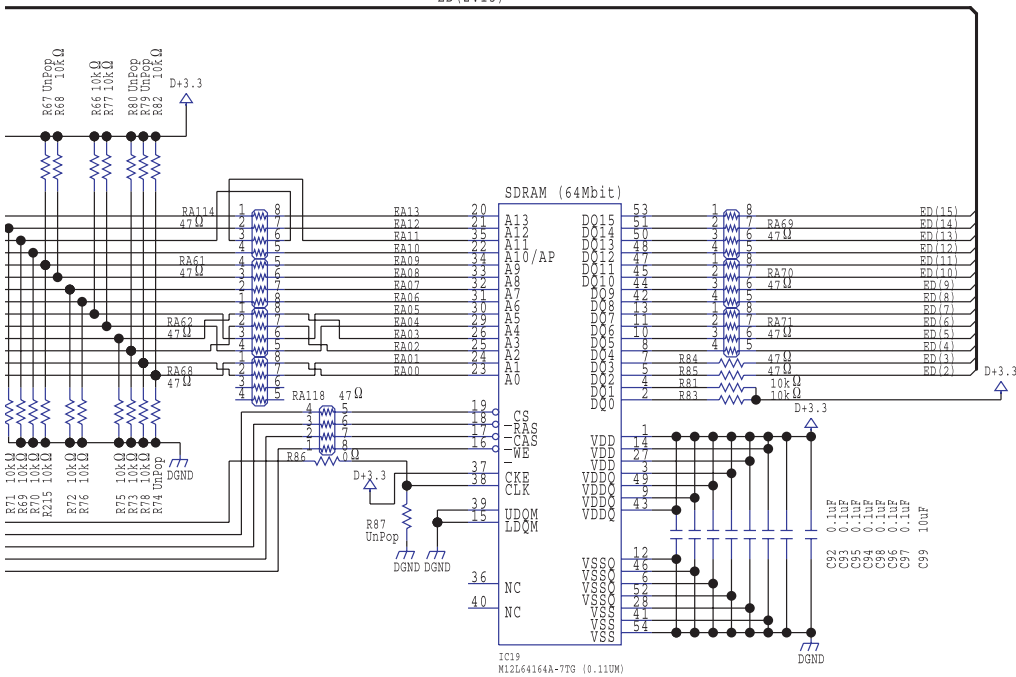




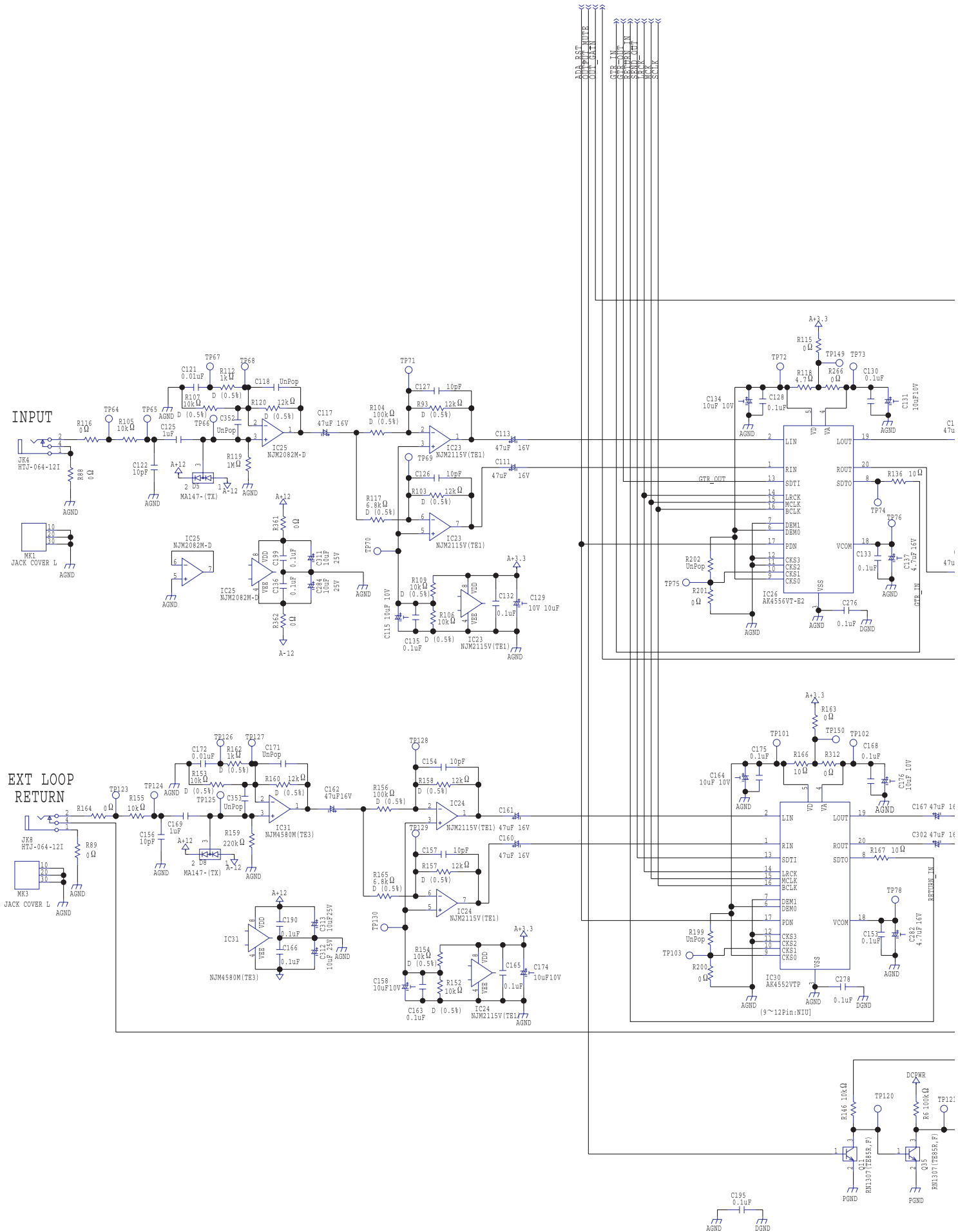
The value of resistor R252 varies according to the production period.
The respective serial numbers are indicated below.

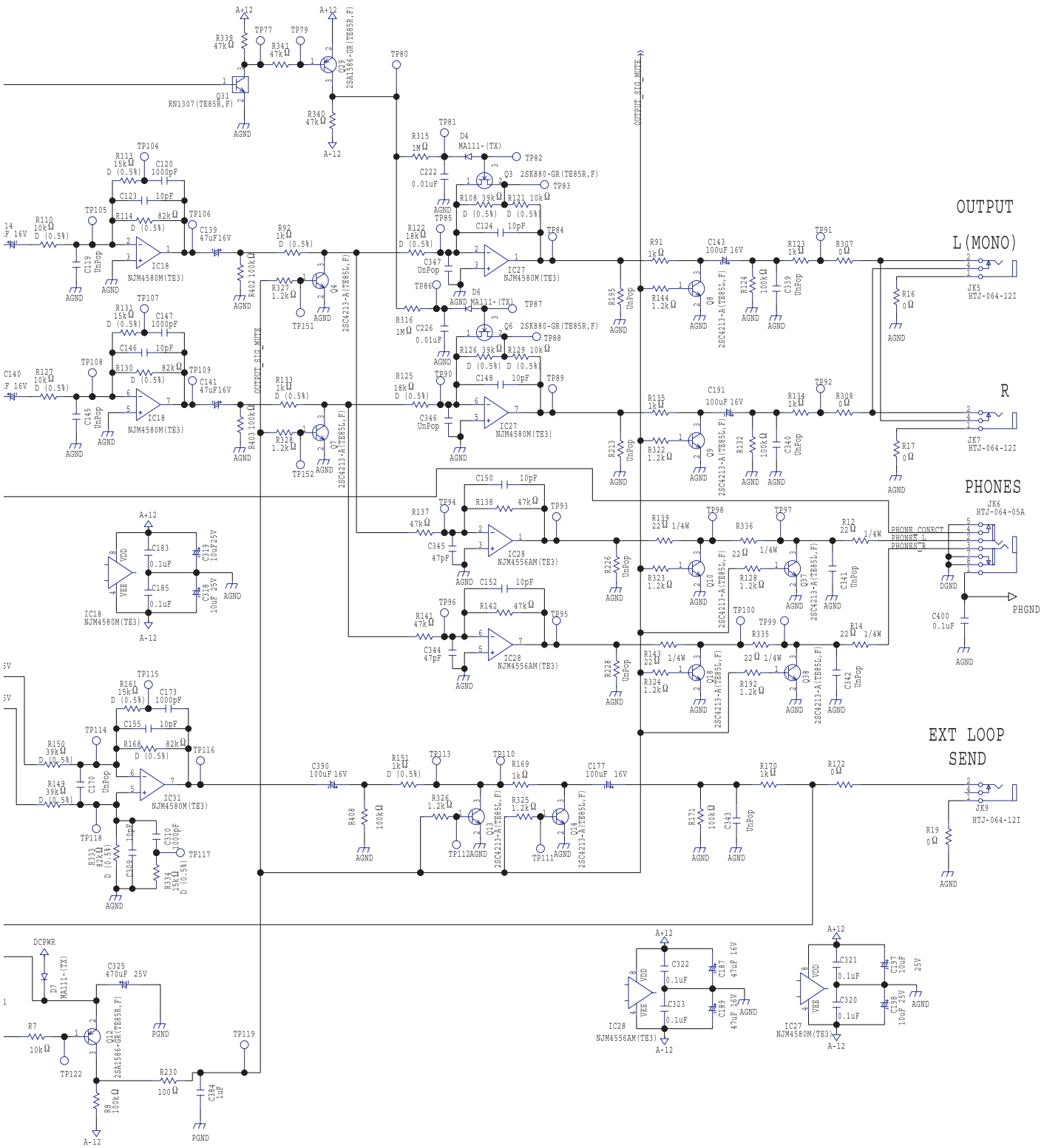
ZW78199 or earlier: 10 ohms
ZW88200 or later: 47 ohms

ED (2:15)

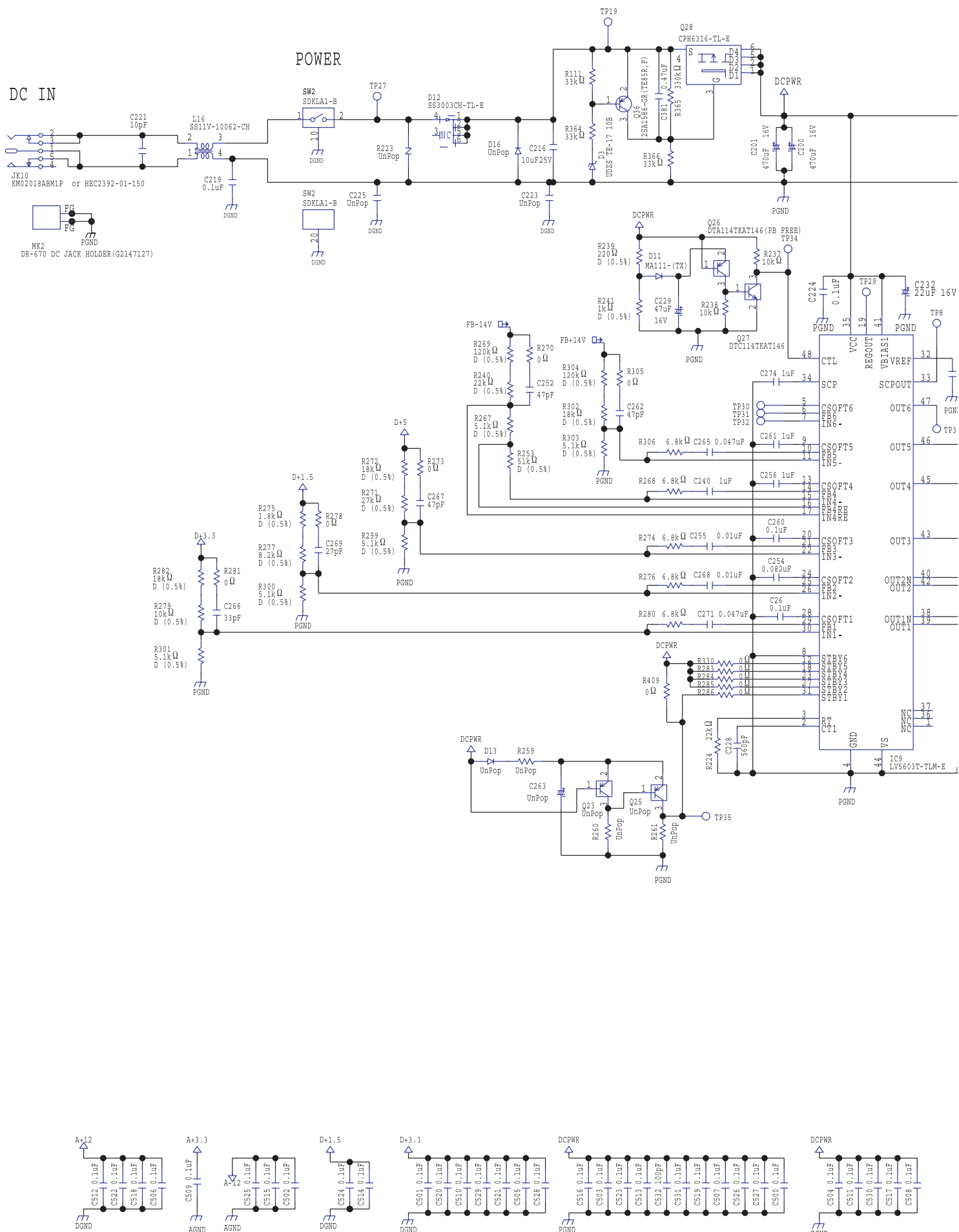


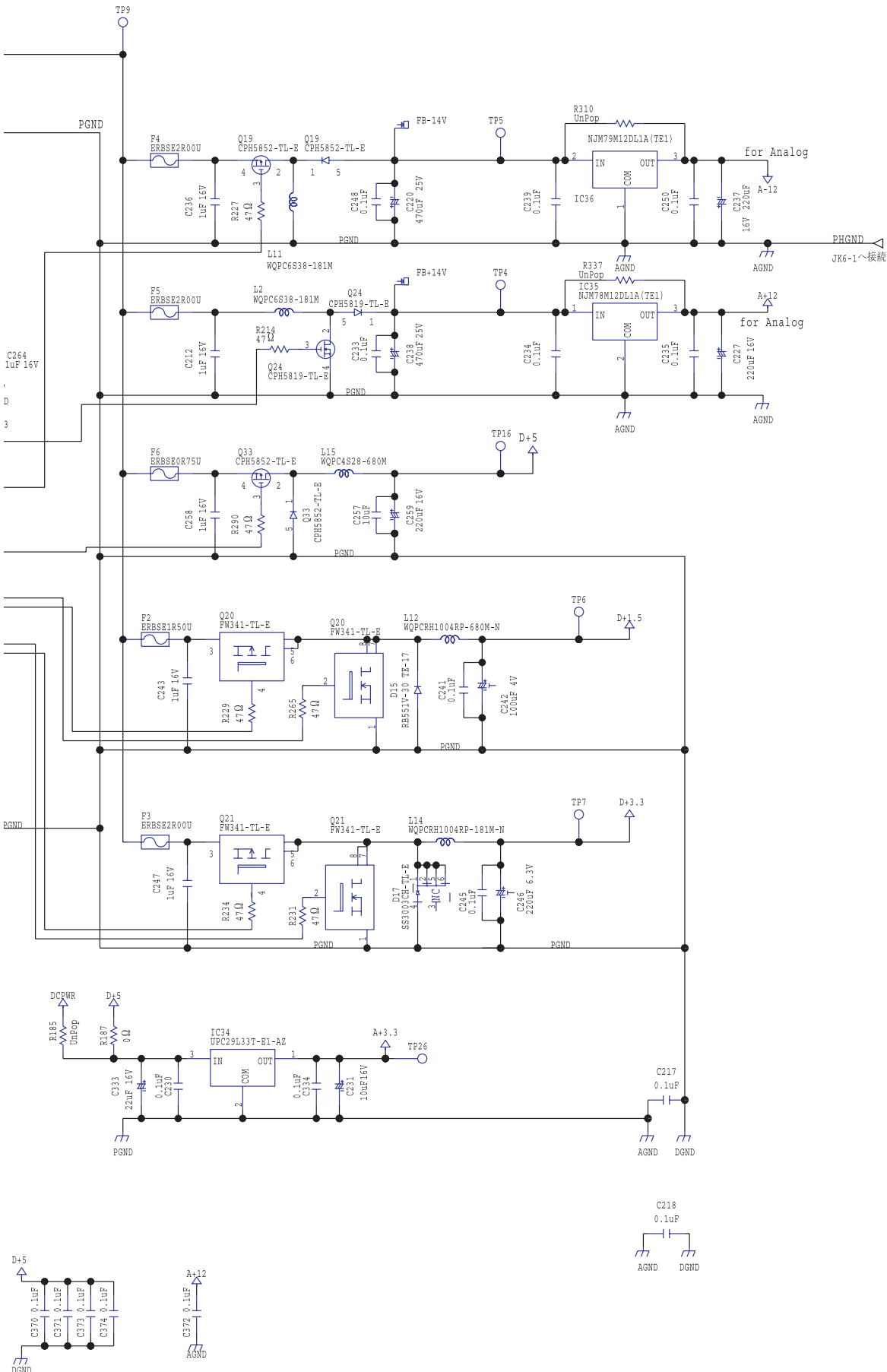
Circuit Diagram (Main Board: 4/5)



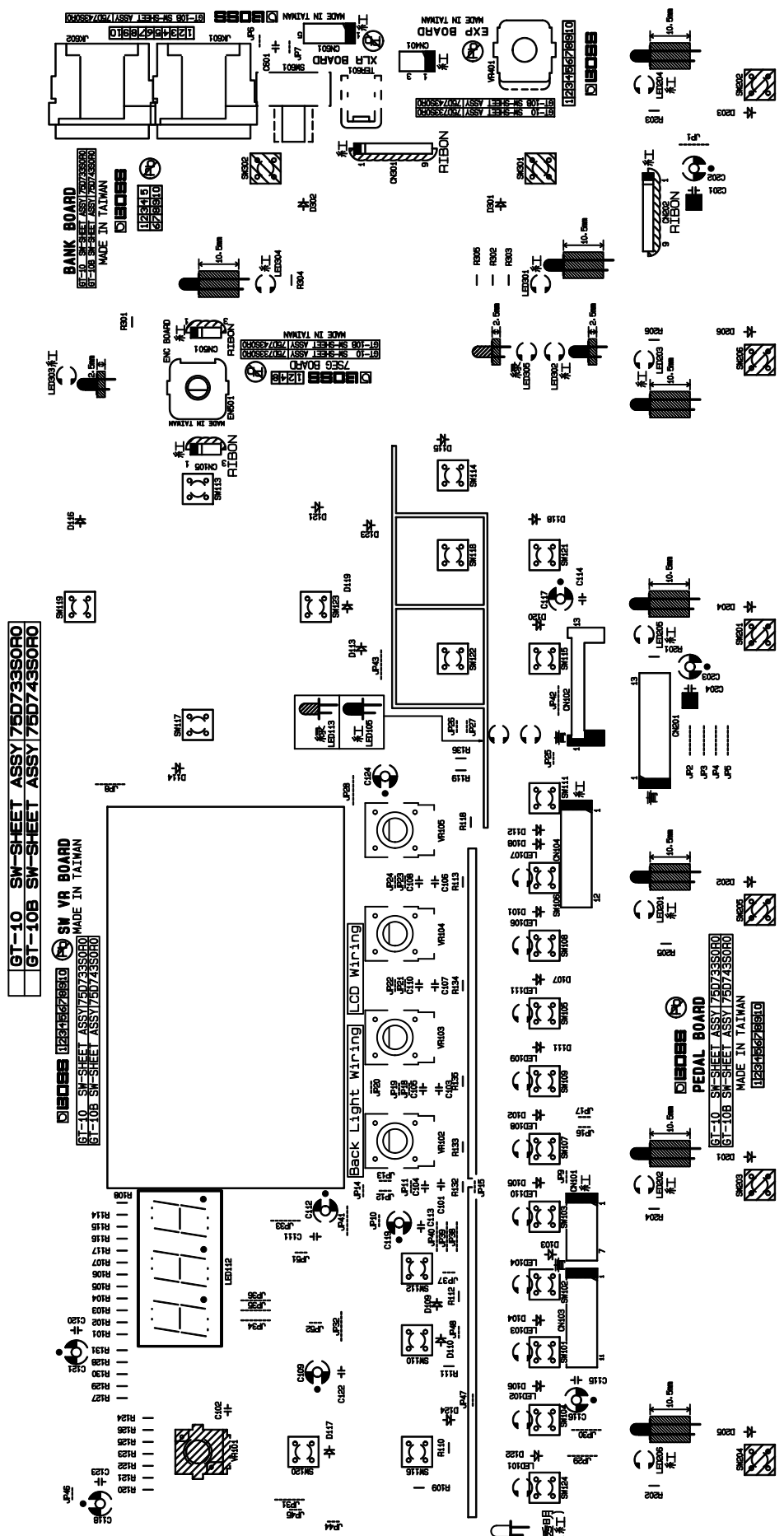


Circuit Diagram (Main Board: 5/5)

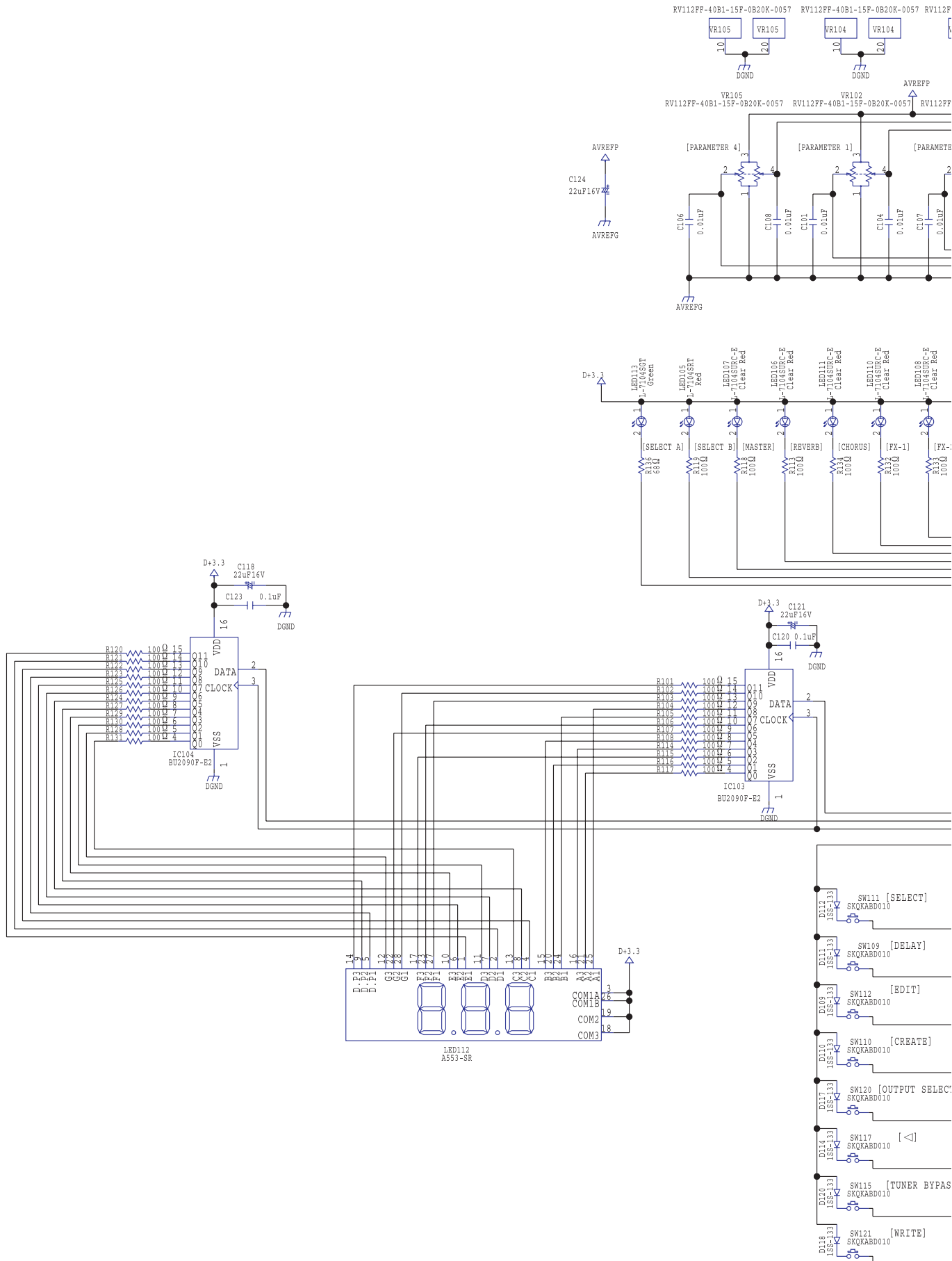


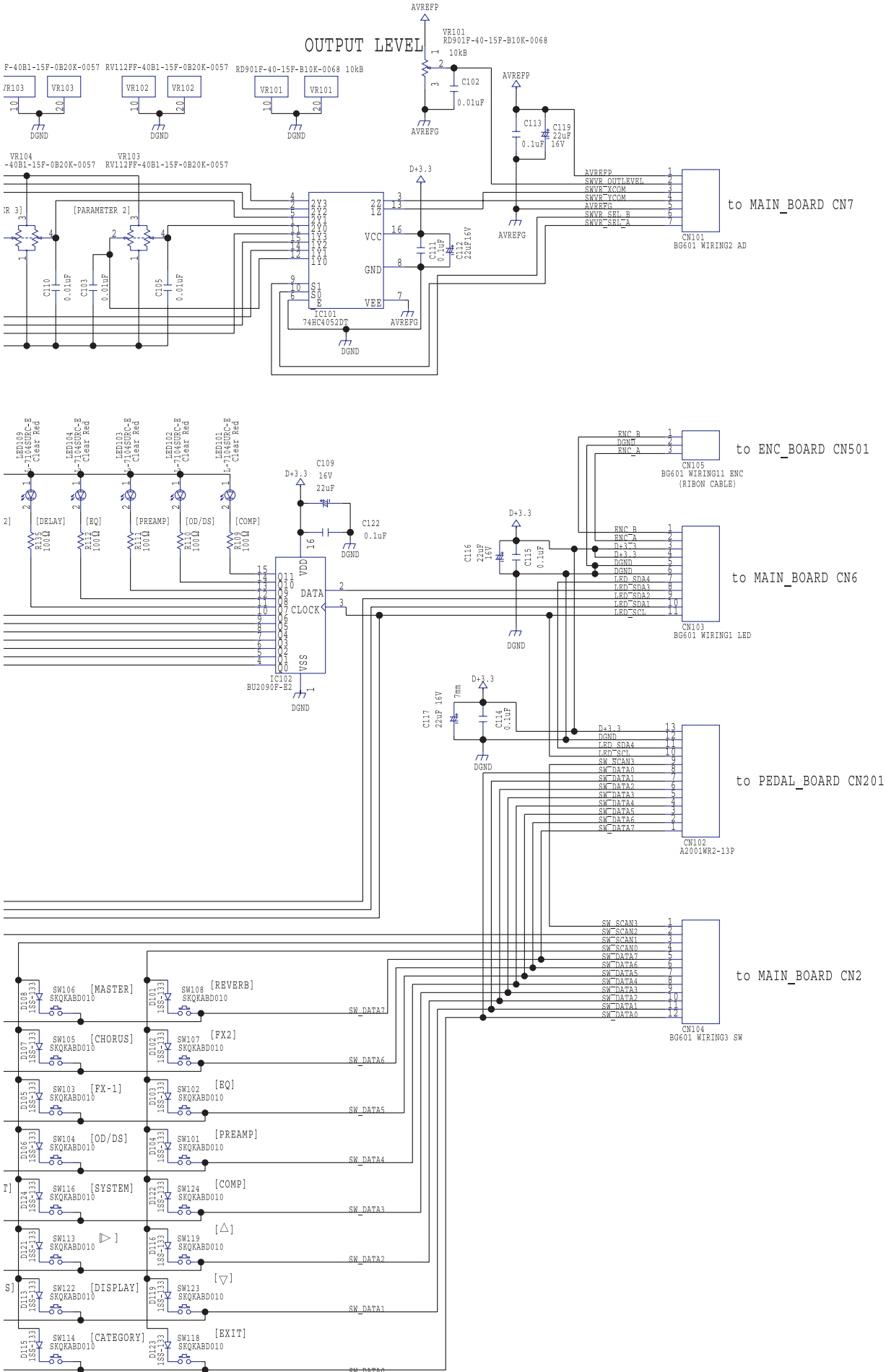


Circuit Board (SW VR, Pedal, Bank, ENC, EXP Board)

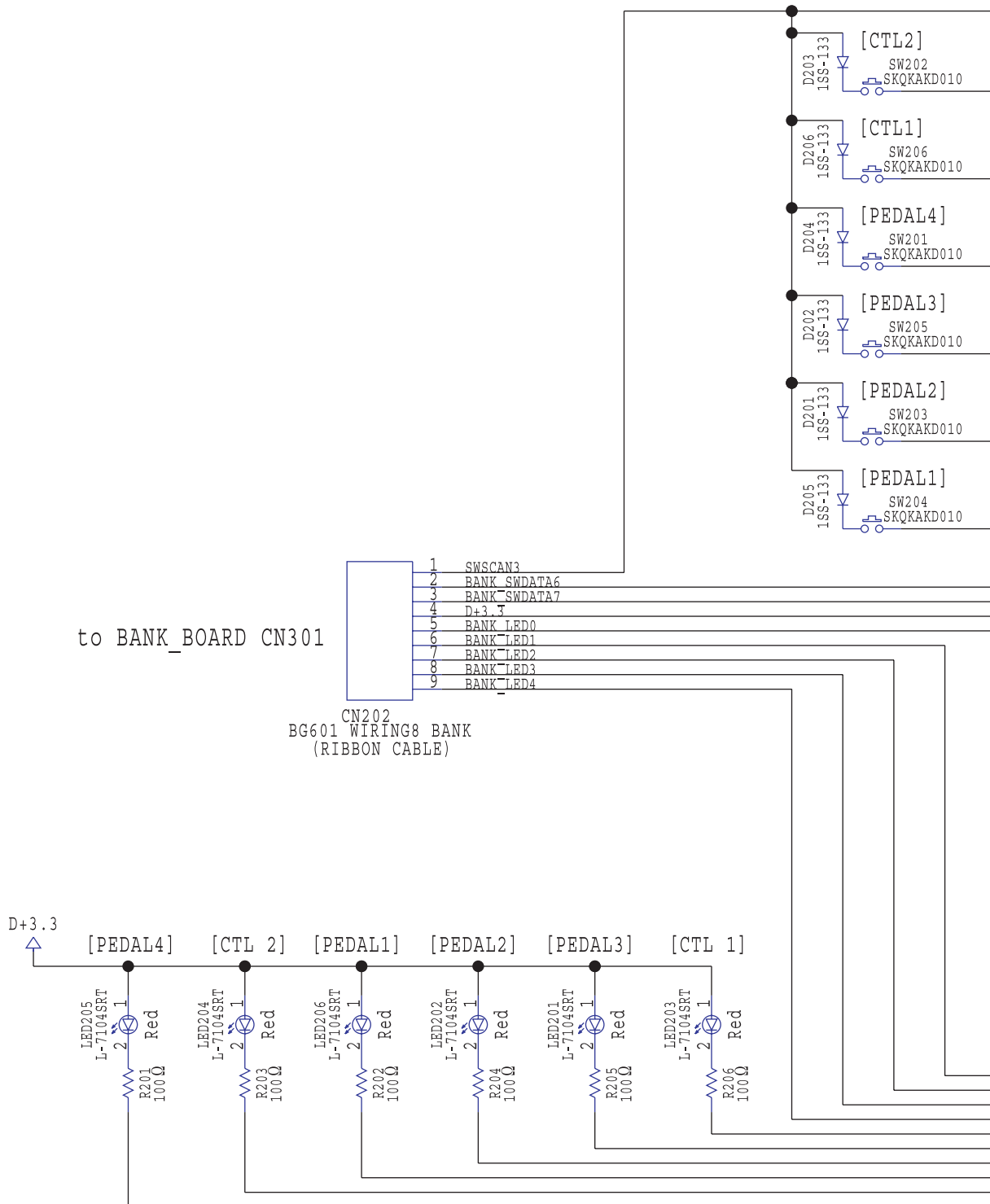


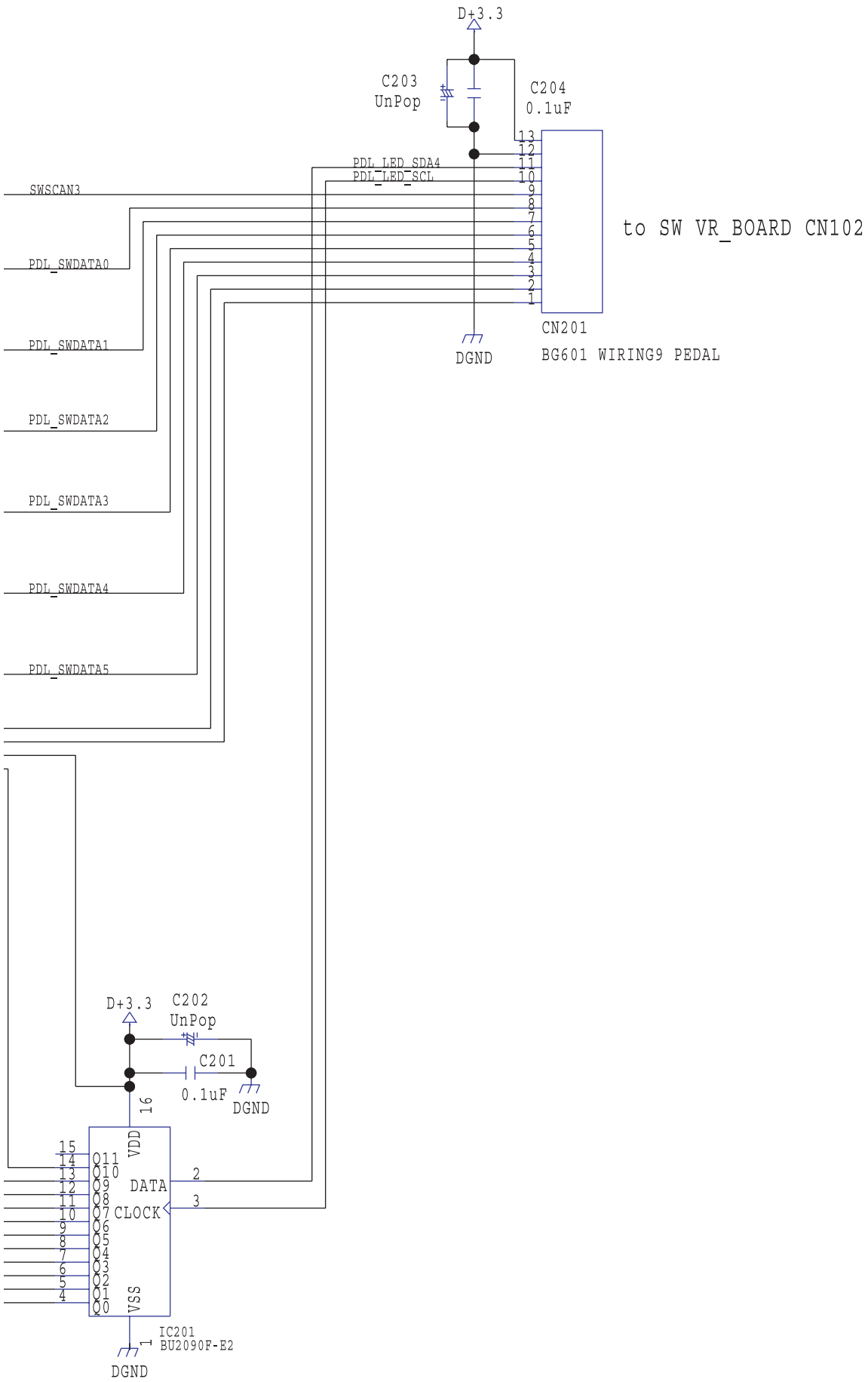
Circuit Diagram (SW VR Board)



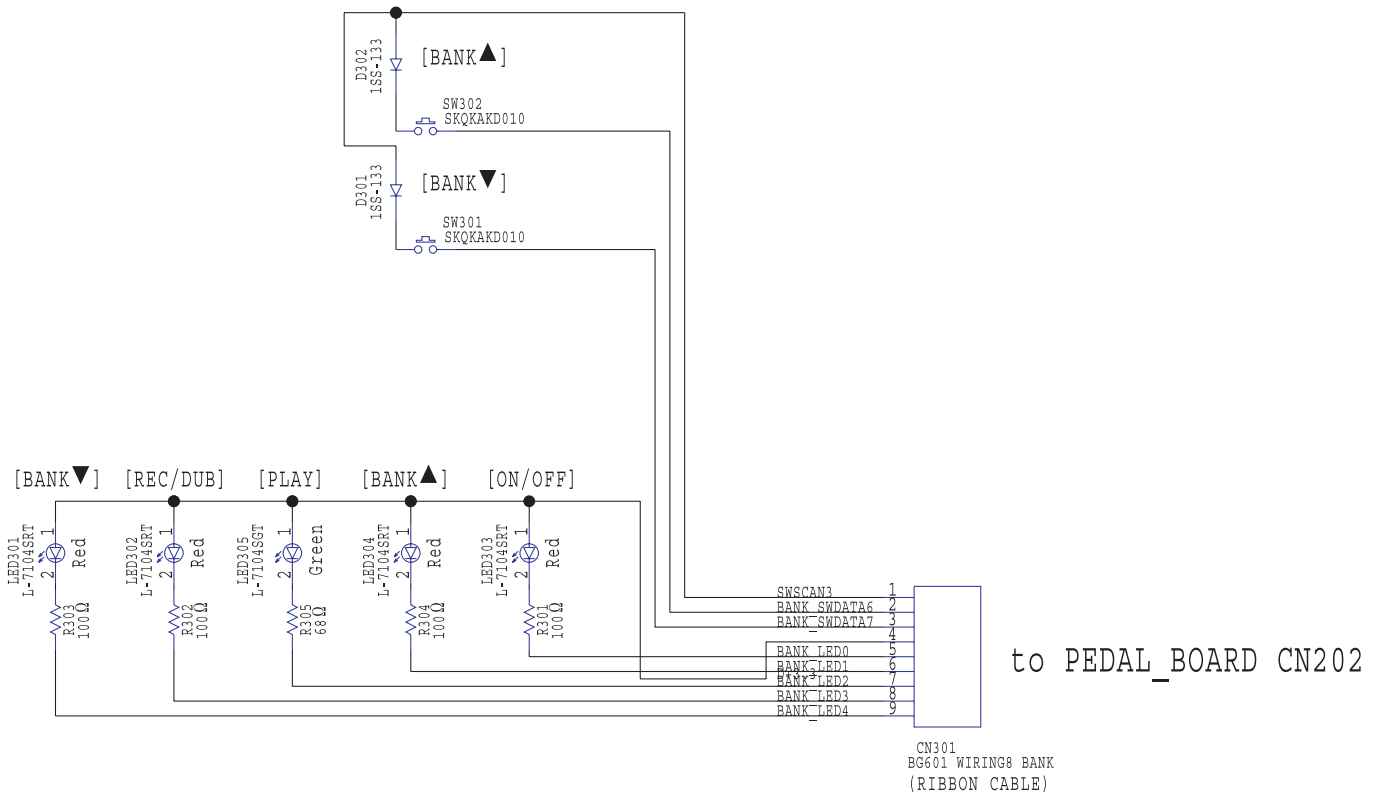


Circuit Diagram (Pedal Board)



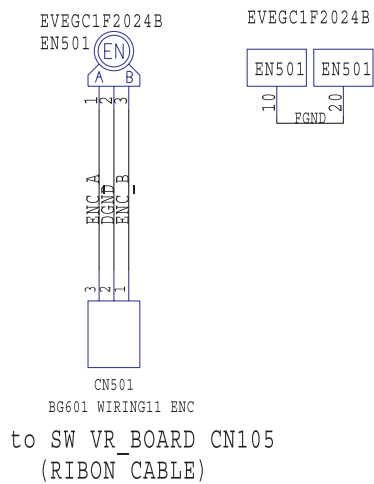


Circuit Diagram (Bank Board)



Circuit Diagram (ENC Board)

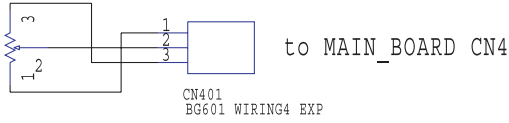
ROTARY ENCODER



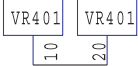
Circuit Diagram (EXP Board)

EXP PEDAL

VR401
RK11K1140AFG 10kB

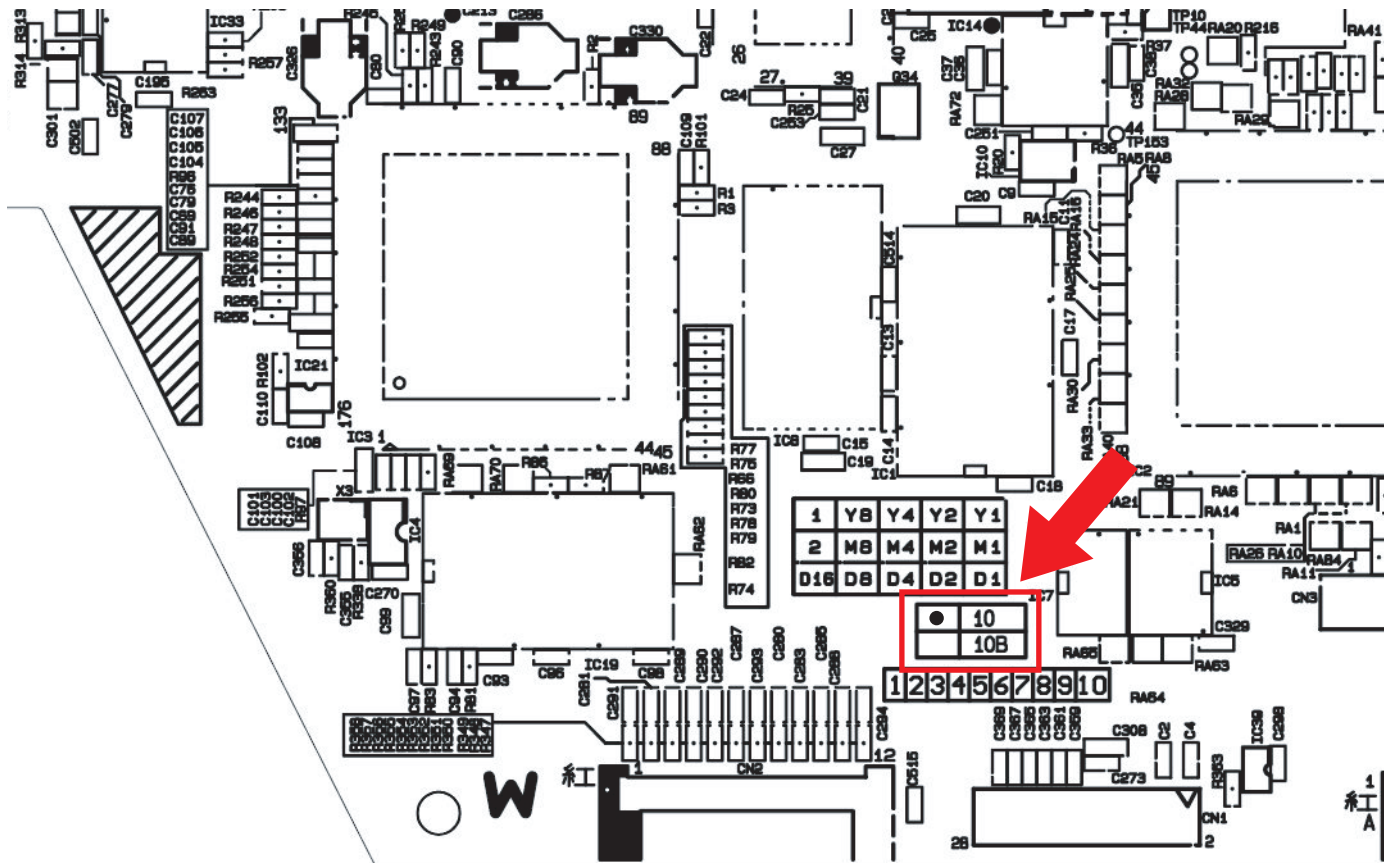


RK11K1140AFG



Determination of Main Board Model

The Main Board Assy for both the GT-10 and the GT-10B uses the same bare circuit board, but the mounted components are different. To distinguish between the two, examine the model identification field on the circuit board.



MEMO