

Motion Control Section**●Motion Data (Internal Memory)**

Motions : 2 x 2 sets (SET A, B)
 Maximum Loop Length (Measures) : 8
 Maximum Recording Length (Measures): 99

●Recording Method

Realtime (Loop Recording and One Shot Recording)

●Tempo

20 to 250

Others**●External Storage Device (SmartMedia)****Storage:**

S2M-5 (2M bytes)
 Performances :64 x 32
 Patches :128 x 32
 RPS Patterns :48
 Motion Controls :2 x 4
 System Settings :1

S4M-5 (4M bytes)

Performances :64 x 64
 Patches :128 x 64
 RPS Patterns :48
 Motion Controls :2 x 4
 System Settings :1

●Display

16 characters, 2 lines (backlit LCD)

●Connectors

MIDI connectors (REMOTE KBD IN, IN, OUT)

Output jacks L(MONO) : 1/4 inch phone type
 R : 1/4 inch phone type

External Input jacks

INST/LOWER(MONO) : 1/4 inch phone type
 VOCAL/UPPER : 1/4 inch phone type
 MIC jack : 1/4 inch phone type
 Headphone jack : Stereo 1/4 inch phone type

●Input Level

External Input jacks

INST/LOWER(MONO) : -30dBm -- +4dBm
 VOCAL/UPPER : -30dBm -- +4dBm

MIC jack : -60dBm -- -20dBm

●Input Impedance

External Input jacks

INST/LOWER(MONO) : 24kΩ
 VOCAL/UPPER : 24kΩ

MIC jack : 5kΩ

●Output Impedance

Output jacks

L(MONO) :2.2kΩ
 R :2.2kΩ

Headphone jack :100Ω

●Power Supply

AC117V, AC230V, AC240V

●Power Consumption

17W(AC117V), 17W(AC230V), 17W(AC240V)

●Dimensions

482(W) x 88(D) x 264(H) mm
 19(W) x 3-1/2(D) x 10-7/16(H) inches

●Weight

4.5 Kg/9 lbs 15 oz (except Power cord)

●Accessories

Owner's Manual English :#71122323

Japanese :#71017512

Power Cord 117V :#00894378

230V :#00894389

240VE :#00907001

240VA :#23495124

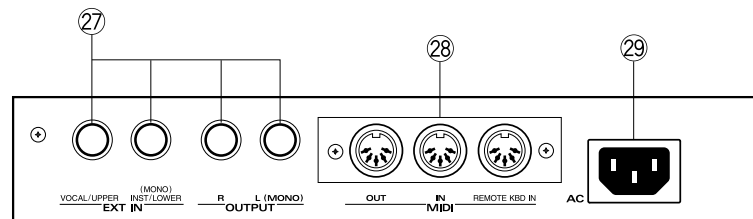
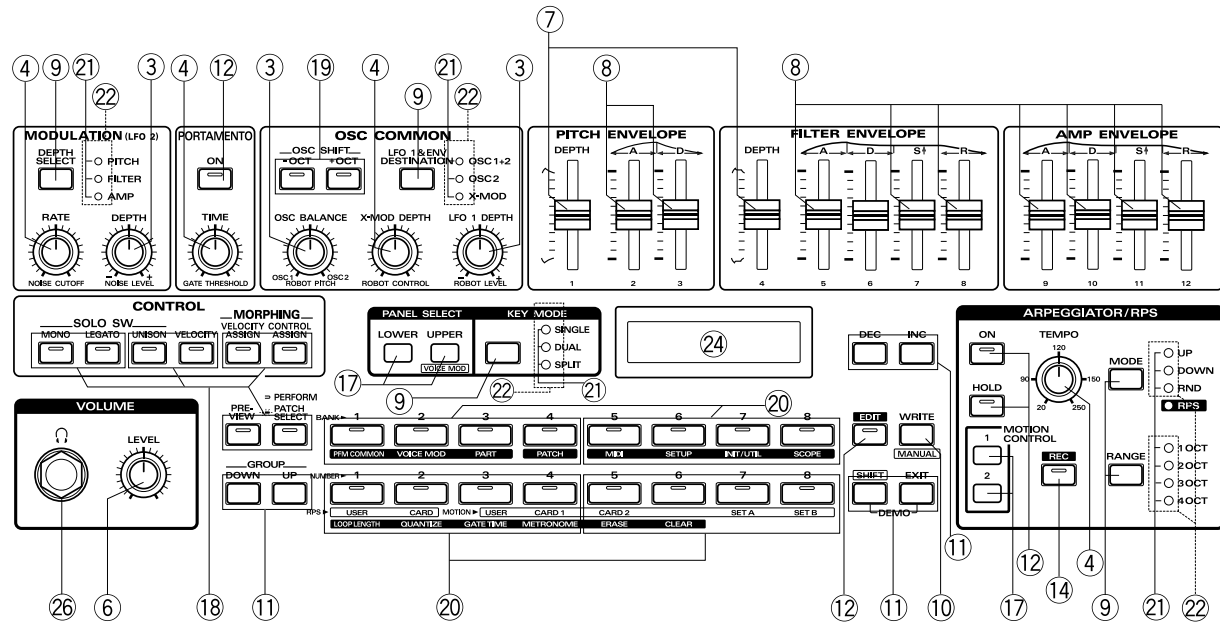
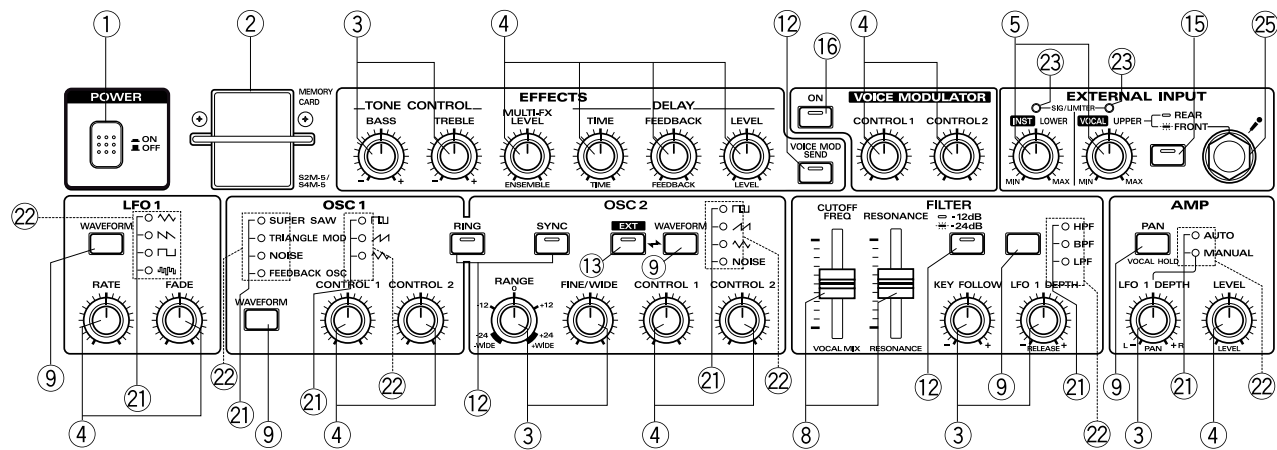
●Options

SmartMedia : S2M-5 (2M bytes)

S4M-5 (4M bytes)

* In the interest of product development, the specifications for this product are subject to change without prior notice.

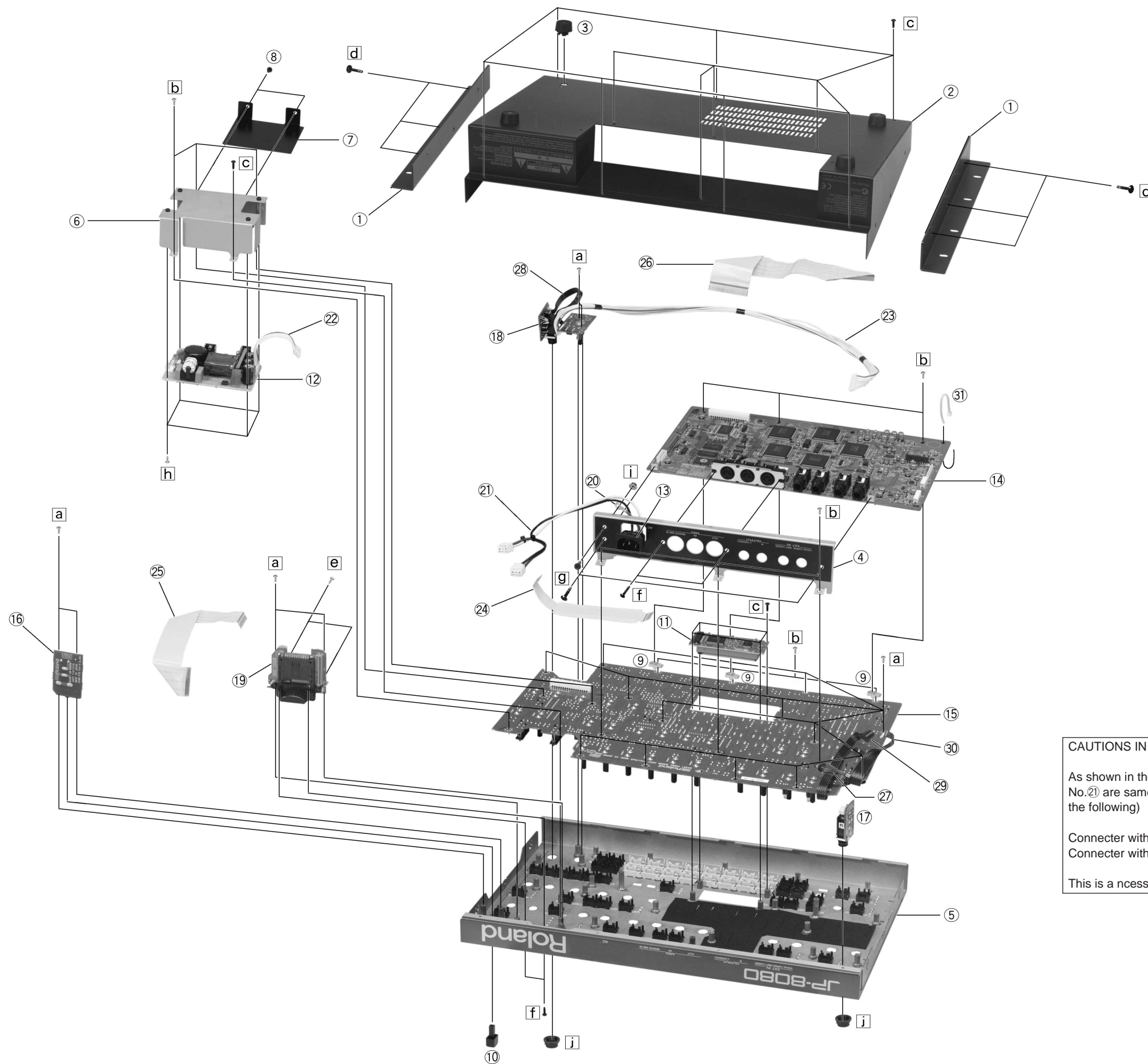
LOCATION OF CONTROLS



[PARTS]

No.	PART No.	PART NAME	Qty.
①	32490595	P S-KEY MX BLK	1
	01453245	PUSH SWITCH SDDL1B1-B2-D-2 TV-5	1
②	01343101	D C-ESCT BX1H BLK	1
	01458756	D C-ESCT HOLDER	1
	01341178	CARD CONECTR CN015S-3013-0	1
③	00231401	U R-KNOB MF270 BLK/LCG	10
	01560601	9M/M ROTARY POT. EVU JFY FL1 B24	10
	(Serial No. earlier than Z**3399)		
	01672945	9M/M ROTARY POT. EVU JDE FL1 B24	10
	(Serial No. Z**3400 or later)		
④	00231401	U R-KNOB MF270 BLK/LCG	17
	01560590	9M/M ROTARY POT. EVU JFU FL1 B24	17
⑤	00231401	U R-KNOB MF270 BLK/LCG	2
	01561045	9M/M ROTARY POT. EVU F2K FL1 A53	2
⑥	00231401	U R-KNOB MF270 BLK/LCG	1
	01674867	12M/M ROTARY POT. EVJ Y15 F02 A24	1
⑦	01561578	J S-KNOB S BLK/LCG	2
	01567056	30M/M SLIDE POT. RS30111Z9 CLICK	2
⑧	01561578	J S-KNOB S BLK/LCG	12
	01567078	30M/M SLIDE POT. RS30111Z9 NON-CLICK	12
⑨	00900189	D S-KEYTOP SX1H BLK	10
	01340290	PTR TACT SWITCH EVQ11A H=5.0	10
⑩	01129767	D S-KEYTOP SX1H DRD	1
	01340290	PTR TACT SWITCH EVQ11A H=5.0	1
⑪	00900190	D S-KEYTOP SX2H BLK	3
	01340290	PTR TACT SWITCH EVQ11A H=5.0	6
⑫	00900145	D S-KEYTOP SD1H BLK	8
	01340290	PTR TACT SWITCH EVQ11A H=5.0	8
	00348490	PTR LED SLR-325VCT31	8
⑬	00900145	D S-KEYTOP SD1H BLK	1
	01340290	PTR TACT SWITCH EVQ11A H=5.0	1
	15029342	LED GL3ED8	1
⑭	01013023	D S-KEYTOP SD1H DRD	1
	01340290	PTR TACT SWITCH EVQ11A H=5.0	1
	00348490	PTR LED SLR-325VCT31	1
⑮	01016867	D S-KEYTOP SD1H LCG	1
	01340290	PTR TACT SWITCH EVQ11A H=5.0	1
	00348490	PTR LED SLR-325VCT31	1
⑯	01016867	D S-KEYTOP SD1H LCG	1
	01340290	PTR TACT SWITCH EVQ11A H=5.0	1
	15029342	LED GL3ED8	1
⑰	01125890	D S-KEYTOP SD1H-A CLR	4
	01232201	TACT SWITCH SKHJGS WITH LED	4
⑱	00900156	D S-KEYTOP SD2H BLK	4
	01340290	PTR TACT SWITCH EVQ11A H=5.0	8
	00348490	PTR LED SLR-325VCT31	8
⑲	00900156	D S-KEYTOP SD2H BLK	1
	01340290	PTR TACT SWITCH EVQ11A H=5.0	2
	15029342	LED GL3ED8	2
⑳	01568356	D S-KEYTOP MD4H LCG	4
	01340290	PTR TACT SWITCH EVQ11A H=5.0	16
	00348490	PTR LED SLR-325VCT31	16
㉑	00899023	PTR LED LNJ282RKRXE	37
㉒	01343090	LED SPACER	11
㉓	15029342	LED GL3ED8	2
	01455901	LED SPACER LH-36-9	2
㉔	01230678	VK-7 DISPLAY COVER	1
	00127378	LCD RCM7044U-1A	1
㉕	22150756	JACK NUT 2	1
	01561034	6.5MM JACK YKB21-5277	1
㉖	22150756	JACK NUT 2	1
	01129145	6.5MM JACK YKB21-5268	1
㉗	13449283	6.5MM JACK HLJ7101-01-3010	4
㉘	13429274	DIN YKF51-5041	1
㉙	01347623	AC INLET NC-176-1.0	1

EXPLODED VIEW



[PARTS]

No.	PART No.	PART NAME
①	01458778	RACK ANGLE
②	01458712	BOTTOM COVER
③	12359139	FOOT FF-018 BLK
④	01458723	JACK HOLDER
⑤	01458701	TOP PANEL
⑥	01458734	PWR SPLY HOLDER
⑦	01561056	INSULATING SHEET
⑧	40016589	NYLON RIVET NRP-335
⑨	01458745	PWB HOLDER
⑩	32490595	P S-KEY MX BLK
⑪	00127378	LCD RCM7044U-1A
⑫	01451678	SWTNG REG KW1AA265
⑬	01347623	AC INLET NC-176-1.0
⑭	71017534	MAIN BOARD ASSY
⑮	71017556	PANEL BOARD ASSY
⑯	71017578	SW BOARD ASSY
⑰	71017589	MIC BOARD ASSY
⑱	71017590	PHONES BOARD ASSY
⑲	71017567	CARD BOARD ASSY
NOTE: Replacement CARD BOARD ASSY does not include Escutcheon and Holder.		
⑳	01232978	WIRING GND
㉑	01568190	WIRING W1
㉒	01568201	WIRING W2
㉓	01568212	WIRING W3
㉔	01452890	FUJI CARD 14X150-A6.0BBR-P1.25-HBL10
㉕	01568256	FUJI CARD 25X240-A6.0BBR-P1.25-HBL10
㉖	01568267	FUJI CARD 35X220-A6.0BBR-P1.25-HBL10
㉗	01568512	RIBON CABL 3X70-P2.0
㉘	01568534	RIBON CABL 4X90-P2.0
㉙	00789856	RIBON CABL 5X200-P2.0
㉚	01568245	RIBON CABL 7X120-P2.0
㉛	40016512	INSULOK TIE 80M/M T-18S

[SCREW]

a	40011056	BINDING TAPTIGHT B 3*6 ZC (x19)
b	40011067	BINDING TAPTIGHT B 3*8 ZC (x12)
c	40011090	BINDING TAPTIGHT B 3*6 BZC (x16)
d	40011123	BINDING TAPTIGHT B 4*8 BZC (x6)
e	40011278	BINDING TAPTIGHT P 3*8 ZC (x2)
f	40011312	BINDING TAPTIGHT P 3*8 BZC (x4)
g	40011501	SEMS 3*8 BZC (x2)
h	40013056	DOUBLE SEMS(SMALL WASHER) 3*6 ZC (x4)
i	40011745	NUT WITH SPRING WASHER M4 ZC (x1)
j	22150756	JACK NUT 2 (x2)

CAUTIONS IN REPAIRING

As shown in the diagram, the shape of the two connectors of WIRING 1(#01568190) No.㉑ are same. When you repairing, be careful of the combinations of connection.(refer to the following)

Connector with WHITE/BROWN wirings--> SWITCHING REGULATOR KW1AA265
 Connector with BLACK/BROWN wirings--> SWITCH BOARD

This is a necessity for safety standard.

PARTS LIST

SAFETY PRECAUTIONS:

The parts marked Δ have safety-related characteristics. Use only listed parts for replacement.

CONSIDERATIONS ON PARTS ORDERING

When ordering any parts listed in the parts list, please specify the following items in the order sheet.

QTY	PART NUMBER	DESCRIPTION	MODEL NUMBER
Ex. 10	22575241	Sharp Key	C-20/50
15	2247017300	Knob (orange)	DAC-15D

Failure to completely fill the above items with correct number and description will result in delayed or even undelivered replacement.

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

MAIN BOARD ASSY=MB	MIC BOARD ASSY=MIB
PANEL BOARD ASSY=PB	PHONES BOARD ASSY=PHB
SW BOARD ASSY=SB	CARD BOARD ASSY=CB

CASING			
#	01458701	TOP PANEL	
#	01458712	BOTTOM COVER	
#	01230678	DISPLAY COVER	
#	01458723	JACK HOLDER	
#	12359139	FOOT	FF-018 BLK
#	01458778	RACK ANGLE	
CHASSIS			
#	01458734	POWER SUPPLY HOLDER	
#	01561056	INSULATING SHEET	
#	40016589	NYLON RIVET	NRP-335
#	01458745	PWB HOLDER	
#	01458756	D C-ESCT HOLDER	
KNOB,BUTTON			
#	32490595	P S-KEY MX BLK	for Power Switch
#	00231401	U R-KNOB MF270 BLK/LCG	for Rotary VR
#	01561578	J S-KNOB S BLK/LCG	for Slide VR
#	01013023	D S-KEYTOP SD1H DRD	Small,with Lens
#	01125890	D S-KEYTOP SD1H-A CLR	Small,with Lens.Clear
#	01568356	D S-KEYTOP MD4H LCG	Medium,with Lens.quadruple
#	01016867	D S-KEYTOP SD1H LCG	Small,with Lens
#	00900190	D S-KEYTOP SX2H BLK	Small,Double
#	01129767	D S-KEYTOP SX1H DRD	Small
#	00900189	D S-KEYTOP SX1H BLK	Small
#	00900156	D S-KEYTOP SD2H BLK	Small,with Lens.Double
#	00900145	D S-KEYTOP SD1H BLK	Small,with Lens
SWITCH			
#	01340290	TACT SW	EVQ11A H=5.0
#	01232201	TACT SW with Orange LED	SKHJGS
#	01453245	Power SW	SDDL1-B1-D-2 TV-5
JACK,SOCKET			
#	13429274	YKF51-5041	MIDI JACK
#	13449283	HLJ7101-01-3010	1/4 inch Phone Type Jack
#	01561034	YKB21-5277	1/4 inch Phone Type Jack
#	01129145	YKB21-5268	Stereo 1/4 inch Phone Type Jack
DISPLAY UNIT			
#	00127378	LCD UNIT	RCM7044U-1A
POWER SUPPLY UNIT			
#	01451678	Switching Regulator	KW1AA265
PCB ASSY			
#	71017534	MAIN BOARD ASSY	
#	71017556	PANEL BOARD ASSY	
#	71017578	SW BOARD ASSY	
#	71017589	MIC BOARD ASSY	
#	71017590	PHONES BOARD ASSY	
#	71017567	CARD BOARD ASSY	
IC			
#	01016123	HD6413002FP16	CPU
#	00892556	TC170C140AF-003(ESP2)	Custom
#	01122412	TC551001CFL-70L	SRAM
#	01120523	HM514800DJ6Z	DRAM
#	00899812	LH28F800SUT-70	Flash Memory
#	15289714	UPD63200GS-E2	DAC
#	01453256	PCM3001E/T2	AD/DA
#	15269219H0	HD74LS05FPPEL	TTL
#	00127490	TC7W08F	DUAL AND GATE
#	00232634	TC7W74F	D FLIP-FLOP
#	15259758T0	TC74HC175AF	QUAD D FLIP-FLOP
#	15259716T0	TC74HC32AF	QUAD OR GATE
#	15259797T0	TC74HC365AF	HEX BUS BUFFER
#	01341567	TC74VHC163F	SYNCHRONOUS 4-BIT COUNTER
#	15249119	TC74HC245AF	OCTAL BUS TRANSCEIVER
#	15259823T0	TC74HC574AF	OCTAL D FLIP-FLOP
#	15259720T0	TC74HC74AF	DUAL D FLIP-FLOP
#	15259883	TC7S00F	NAND GATE
#	15249104	TC7S04F	INVERTER
#	15249121	TC7W04F	TRIPLE INVERTER

00231878	TC74VHC00F	QUAD NAND GATE	IC30 on MB
00567534	TC74VHC138F	3-TO-8 LINE DECODER	IC16 on MB
00670290	TC74VHC139F	DUAL 2-TO-4 LINE DECODER	IC5 on MB
15289106	M5238AFP-600C	OpAmp	IC14 on MB
15189261	M5218AFP-600E	OpAmp	IC54,56 on MB
15289105	UPC4570G2-T2	OpAmp	IC37,43,44,46,50,51,53,55 on MB
15219157	M5241L-600Y	VCA	IC48 on MB
00344390	TA7805F	+5V Regulator	IC35 on MB
15289123	M51953AFP-600C	Reset IC	IC2,52,67 on MB
15289125	PC-410T	Photo Coupler	IC45,47 on MB
15169596	TC74HC4051AP	8CH ANALOG MULTIPLEXER	IC2,4,6,8,10 on PB
15169542	TC74HC273AP	OCTAL D FLIP-FLOP	IC7 on PB
15169550T0	TC74HC138AP	3-TO-8 LINE DECODER	IC3,13 on PB
15189189	UPC4570HA	OpAmp	IC1,5,9 on PB
15189186	UPC4570C	OpAmp	IC601 on VB
TRANSISTOR			
01121278	2SA1576A		Q3,5,11,14-16 on MB
15319105	2SC3326A		Q26-31 on MB
01121289	2SC4081		Q1,6,8,10,12,13 on MB
15329104	2SK368GR	FET	Q7,9 on MB
15329507	DTA114EK		Q2 on MB
15329533	RN2307		Q17,23 on MB
15329516	DTC114EK		Q4 on MB
15329521	RN1307		Q18 on MB
15129151	2SC1815-GR		Q7-14 on PB
15119170	RN2226		Q1-6,15-22 on PB
DIODE			
15339105	DAN202K		DA13,14,20,22-37 on MB
01121323	DA204U		DA1-8,11,12,21 on MB
15019126	1SS133		D1-59,64-69,71,86-89,147-152,155-161 on PB
LED			
00348490	SLR-325VCT31		D80-83,90,113,117,126,127,146,153,154 on PB
00899023	LNJ282RKRXE		D72-79,114-116,118-125,128-145 on PB
15029342	LED GL3ED8		D60-63,84,85 on PB
RESISTOR			
#	15399952	MCR50JZH470	1/2W
#	01561412	MCR50-J222	1/2W
			R221,222,228,229 on MB
			R166 on MB
RESISTOR ARRAY			
#	15399965	RCE9A103JAG7A	RA11,15,27 on MB
#	00126112	EXBV8V101JV	RA1-3,8,10,12-14,16 on MB
#	00909801	EXBV8V220JV	RA4-7,9,18,20,21,23,25,26 on MB
#	13919140	RGLD8X103J	RA1 on PB
POTENTIOMETER			
#	01560590	EVU JFU FL1 B24	9mm Rotary VR
#	01560601	EVU JFY FL1 B24	9mm Rotary VR with click
#	01672945	EVU JDE FL1 B24	9mm Rotary VR with click
#	(Serial No. Z**3400 or later)		
#	01561045	EVU F2K FL1 A53	9mm Rotary VR
#	01567056	RS3011129 WITH CLICK	30mm Slide VR with click
#	01567078	RS3011129 NON-CLICK	30mm Slide VR
#	01674867	EVJ Y15 F02 A24	12mm Rotary VR.Dual
			VR1-6,9,10,12-15,20,21,25,35,41 on PB
			VR7,8,11,16,17,22-24,26,40 on PB
			VR7,8,11,16,17,22-24,26,40 on PB
			VR43,44 on PB
			VR32,33 on PB
			VR18,19,27-31,34,36-39 on PB
			VR601 on VB
CAPACITOR			
#	15369151S0	16CV100BS	C47 on MB
#	01455845	16CV22NP	C259,C269,C276 on MB
#	15369145S0	16CV47BS	C57,C283,C309,C323 on MB
#	15369163S0	25CV10BS	C293 on MB
#	01340267	25CV100BS	C278-282 on MB
#	15169210S0	50CV1BS	C267,C272 on MB
#	15369212S0	50CV2R2BS	C252,C325 on MB
#	15169214S0	50CV4R7BS	C284 on MB
#	15369105S0	6.3CV100BS	C265 on MB
#	15369152	ECEV1CA100SR	C3,18,23,49,51,70,176,207,210-214,218,242,245,247-249,251,258,260,268,270,274,286,287,295,296,336 on MB
#	13529509	DD106-999F103Z50	C4,13,24,36,50,52 on PB
#	13529132	RPE132-901F104Z50	C1-3,5-12,14-23,25-30,32-35,38,40,46-49,51,53-62,65-69 on PB
#	13639674S0	6.3MV100SWB+T	C39 on PB
#	13649158	ECEA1HKA100B	C31,37,41-45,71,74 on PB,C601-604 on VB
#	13519634M0	ECKR1H102KB5	C501,502 on PHB
INDUCTOR,COIL,FILTER			
#	01455623	N2012Z102T01	L3-10,12,14,15,17 on MB
#	00903167	N2012Z601T02	L1 on MB
#	12449355	FBR07HA850TB00	L1-4 on PB,L401 on MIB,L501,502 on PHB
CRYSTAL			
#	00894034	MA-406 16.000MHz	for CPU
#	01453167	SG-8002DC 67.7376MHz	for ESP
			X1 on MB
			X2 on MB
CONNECTOR			
#	13379151	FFC Connector	IL-FPC-14ST-N
#	13369934	53253-1210	CN1 on MB
#	13369592	B7B-XH-A	CN10 on MB
#	00453467	IL-FPC-25ST-N	CN4 on MB
#	00780990	52045-3510	CN5 on MB,CN201 on CB
#	13369600	52147-0510	CN11 on MB
#	13369602	52147-0710	CN3 on MB
#	13429292	51048-0300	CN6 on MB
#	13429294	51048-0500	CN4 on PB
#	13429296	51048-0700	CN2 on PB
#	01341178	Card Connector	CN3 on PB
#	13369898	B2P3-VH 7A/250V	CN202 on CB
#	13369598	52147-0310	CN301 on SB
#	13429293	51048-0400	CN401 on MIB
			CN501 on PHB,CN602 on VB
WIRING,CABLE			
#	01232978	WIRING GND	
#	01568190	WIRING W1	SB CN301-SW REG CN1-AC INLET
#	01568201	WIRING W2	MB CN4-SW REG CN2
#	01452890	FUJI CARD	MB CN1-LCD unit
#	01568256	FUJI CARD	MB CN5-CB CN201
#	01568267	FUJI CARD	MB CN11-PB CN1
#	00789856	RIBON CABLE	PB CN2-MB CN3
#			14X150-A6.0BBR-P1.25-HBL10
#			25X240-A6.0BBR-P1.25-HBL10
#			35X220-A6.0BBR-P1.25-HBL10
#			5X200-P2.0

#	01568245	RIBON CABLE	7X120-P2.0	PB CN3-MB CN6
#	01568512	RIBON CABLE	3X70-P2.0	PB CN4-MIB CN401
#	01568212	WIRING W3		VB CN601-MB CN10
#	01568534	RIBON CABLE	4X90-P2.0	PHB CN501-VB CN602
AC INLET				
#	△ 01347623	AC INLET	NC-176-1.0	
BATTERY				
	00238990	CR2032	220MAH/3V	
SCREW				
	40011056	BINDING TAPTIGHT B 3*6 ZC		
	40011067	BINDING TAPTIGHT B 3*8 ZC		
	40011090	BINDING TAPTIGHT B 3*6 BZC		
	40011123	BINDING TAPTIGHT B 4*8 BZC		
	40011278	BINDING TAPTIGHT P 3*8 ZC		
	40011312	BINDING TAPTIGHT P 3*8 BZC		
	40011501	SEMS 3*8 BZC		
	40013056	DOUBLE SEMS(SMALL WASHER) 3*6 ZC		
	40011745	NUT WITH SPRING WASHER M4 ZC		
	22150756	JACK NUT 2		
PACKING				
#	01458790	PACKING CASE		
#	01568689	ACCESSORY BOX		
#	01568690	FRONT PAD		
#	01568701	REAR PAD		
#	01670378	MANUAL PAD		
	40236612	VINYL BAG MIRROR MAT	0.5*600*460	
MISCELLANEOUS				
	01346312	CARD PROTECTOR		
	40126812	CAUTION LABEL BARRIER		
	40016512	INSULOK TIE	80M/M T-18S	
	00238956	Battery Holder	CR2032BH	BT1 on MB
#	01567045	LEAF SPRING		on MB
	12199584	GROUNDING TERMINAL	M1698	on MB
#	01458767	POT DUST COVER		
#	01455901	LED SPACER	LH-36-9	for GL3ED8
	01343090	LED SPACER		for LNJ282RKRXE
	01343101	Card Escutcheon	D C-ESCT BX1H BLK	
	40017412	CORD BINDER	NO.11 BLACK	for AC Cord Set 240VE Only
	40014589	WARNING TACK SEAL	102-103	for AC Cord Set 240VE Only
ACCESSORIES(Standard)				
#	71122323	OWNER'S MANUAL SET	English	
#	71017512	OWNER'S MANUAL SET	Japanese	
△	00894367	AC Cord Set 100V	SP18A+IS14VCTF2X0.75	
△	00894378	AC Cord Set 120V	SP301+IS14 SJT18/3	
△	00894389	AC Cord Set 230V	SP22+IS14H05VV-F3G1.0	
△	00907001	AC Cord Set 240VE	KP-610 GTBS-3 KS-31A	
△	23495124	AC Cord Set 240VA	SC-114-J01ES303-10HMA	

IDENTIFYING THE VERSION NUMBER

- (1) Turn the power on while holding down [LFO1 WAVEFORM], [NUMBER 1] and [NUMBER 3].
- (2) The version number appears on the display.
- (3) After checking the number, turn the power off.

SAVING AND LOADING THE USER DATA

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

◆ Format a SmartMedia

- (1) Insert a 2M or 4M SmartMedia (5V type) into the card slot in state of power off.
- (2) Turn the power on.
- (3) Press [EDIT].
- (4) Press [INIT/UTIL]([BANK 7]) several times to select the display of Card.
- (5) Press [DEC] or [INC] several times to select "FORMAT".

Card Menu:	[WRITE] FORMAT
-------------------	---------------------------

- (6) Press [WRITE]. The following display of confirmation appears on the LCD.

Format CARD OK? [WRITE/EXIT]

- (7) Press [WRITE]. The format operation will be carried out.

Formatting 65% oooooo... .

- (8) When formatting ends, "Completed" appears on the LCD.

◆ Saving the user data

- (1) Insert a formatted SmartMedia (5V type) into the card slot in state of power off.
- (2) Turn the power on.
- (3) Press [EDIT].
- (4) Press [INIT/UTIL]([BANK 7]) several times to select the display of Card.
- (5) Press [DEC] or [INC] several times to select "USER->CARD"

Card Menu:	[WRITE] USER->CARD
-------------------	----------------------------------

- (6) Press [WRITE].

- (7) Press [DEC] or [INC] several times to select "ALL".

Type:	[WRITE] ALL
--------------	------------------------

- (8) Press [WRITE]. The following display of confirmation appears on the LCD.

Overwrite CARD OK? [WRITE/EXIT]
--

- (9) Press [WRITE]. The saving the user data operation will be carried out.

- (10) When saving all user data ends, "Completed" appears on the LCD.

◆ Loading the user data

- (1) Insert the SmartMedia which is the data backed up in the "Saving the user data" procedure into the card slot in state of power off.
- (2) Turn the power on.
- (3) Press [EDIT].
- (4) Press [INIT/UTIL]([BANK 7]) several times to select the display of Card.
- (5) Press [DEC] or [INC] several times to select "CARD->USER"

Card Menu:	[WRITE] CARD->USER
-------------------	----------------------------------

- (6) Press [WRITE].

- (7) Press [DEC] or [INC] several times to select "ALL".

Type:	[WRITE] ALL
--------------	------------------------

- (8) Press [WRITE]. The following display of confirmation appears on the LCD.

Overwrite USER OK? [WRITE/EXIT]
--

- (9) Press [WRITE]. The loading the user data operation will be carried out.

- (10) When loading all user data ends, "Completed" appears on the LCD.

FACTORY RESET

- (1) Turn the power on.
- (2) Press [EDIT].
- (3) Press [INIT/UTIL]([BANK 7]) several times to select the display of Factory Reset.



- (4) Press [REC]. The message of confirmation appears on the LCD.



- (5) Press [WRITE] to load the factory setting data.

HOW TO UPDATE THE SOFTWARE

The JP-8080 is equipped with a flash memory allowing updates of the program version from MIDI.
Update disk : 17048696 JP-8080 Ver.UP DISK

◆ WARNING!!

READ THIS BEFORE STARTING THE VERSION UPGRADE:

- (1) The JP-8080 might not start up if mistakes are made in the version upgrade procedure or the power is cut during operation. Always comply with the procedure listed below and PLEASE! never turn off the power during operation.
- (2) The user data area is used as the job memory during the version upgrade. This means that user data will be deleted. Be sure to make a backup copy of the user data before attempting the version upgrade.

◆ NOTICE:

- (1) The software update disk(17048696 JP-8080 Ver.UP DISK) consists of a floppy disk(3.5inch) and a list of Check-sum. Obtain the latest version from the service center.

- (2) The program is converted and saved as Standard MIDI Files(SMF). A sequencer that can play SMF data is required.(e.g. SB-55, XP-50/60/80)

- (3) The file names are as follows.

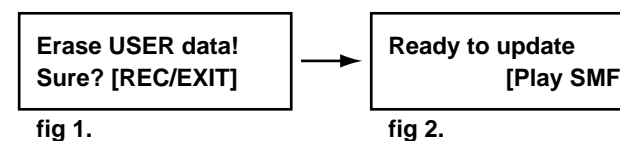
vvv_01.MID	vvv_02.MID	vvv_03.MID	vvv_04.MID
vvv_05.MID	vvv_06.MID	vvv_07.MID	vvv_08.MID
vvv_09.MID	vvv_10.MID	vvv_11.MID	vvv_12.MID
vvv_13.MID	vvv_14.MID		

"vvv" indicates the version number.
For example "102" signifies Version 1.02.

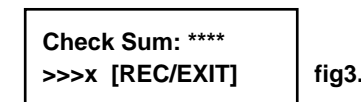
◆ Update procedure

- (1) Connect the sequencer MIDI-OUT and the JP-8080 MIDI-IN terminals with the MIDI cable.
- (2) Turn on the power while holding down the two [WRITE] and [PORTAMENTO ON] buttons.

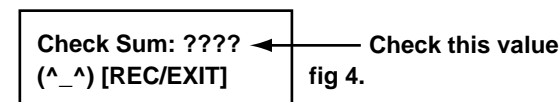
- (3) Press [REC] when the display in Fig.1 appears. You can quit the version upgrade at this point, by pressing [EXIT]. Check that the display in Fig.2 appears.



- (4) Load the file into sequencer. Load in sequence from vvv_01.MID.
- (5) Play the song. Fig.3 appears on the JP-8080 display.

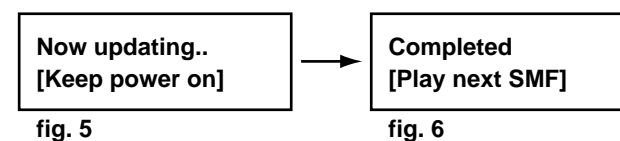


- (6) The check sum appears at the end of the song. Check that it matches the value on the list.



If the value is different, press [EXIT] and repeat steps 5 and 6. (Inquire at your Roland Service center if the value is still wrong after repeating steps 5 and 6 several times.)

- (7) If the value is correct press the [REC] button. Be sure never to cut off the power while the display in Fig.5 appears. When loading one file ends, the display in Fig.6 appears.



- (8) Load the files one at a time, in sequence from vvv_02.MID to vvv_14.MID and repeat steps (5) through (7) from the procedure.
- (9) Once all files have been loaded, the display in Fig.6 appears. Turn the power off and then to make the factory resetting. Reload the user data from backup copy.

Error1) If an error message appears during play of SMF, turn off the power and redo from the beginning.

Error2) In step (7) of this procedure, if "Completed" does not appear within 40 seconds after pressing [REC] or if the message "Can't update!" appears, then the version upgrade is a failure. When this occurs you must replace the main board.

TEST MODE

◆ Tools required

- MIDI cable
- SmartMedia x2 (Formatted / Protected)
- Oscillator (SINE WAVE of 1kHz, 800Hz)
- Oscilloscope
- Headphones
- Monitor Speaker (MA-12 etc.)

◆ Entering the TEST MODE

(1) Insert a card without write protected to card slot previously.

(2) Turn the power on while holding down [FILTER -12dB/-24dB], [FILTER TYPE], [MODULATION(LFO 2) DEPTH SELECT].

(3) Test mode is now set and the memory test starts.

◆ TEST Items

The following 8 tests are available and each test is detailed below. Some test items will start automatically when the previous test item was a pass.

Next test can be selected from pressing [INC].

Previous test can be selected from pressing [DEC].

The tests can be separately selected from the number keys or [SHIFT].

- [NUMBER 1] MEMORY Test
- [NUMBER 2] MIDI Test
- [NUMBER 3] Card Test
- [NUMBER 4] Sw&LED Test
- [NUMBER 5] A/D Test
- [NUMBER 6] LCD Test
- [NUMBER 7] Sound Test
- [NUMBER 8] Input Test
- [SHIFT] FACTORY RESET

◆ Exiting the TEST MODE

(When the test is SW/LED, exit it.)

Press [SHIFT], then "Are You Sure?" is displayed.

Press [WRITE], then display of Factory Reset appears.

Press [WRITE] again to exit the test mode, then factory data will be loaded.

◆ Details of the each test

1. MEMORY Test

(1) When the unit enters the test mode, Memory test starts automatically and checks CPU, DSP, SRAM, and Battery. Is [fig.1] shown on the LCD?

CPU DSP SRAM BAT
OK OK OK OK

[fig.1]

(2) If test results are OK. Memory test ended correctly. And, MIDI Test program runs automatically.

* When there is something wrong, error message appears on the LCD.

MESSAGE	CHECK POINT
CPU NG	IC7 is defective. Replace IC7.
DSP mn	IC17, IC18, IC19, IC20, IC21, IC23, IC24, IC25, IC63, IC64 (Refer to "Error Message in Memory Test" on another page about "mn".)
SRAM NG	IC11, IC13
BAT NG	Replace the battery. (BT1:CR2032)

Check each point according to the error message.

2. MIDI Test

(1) [fig.2] is shown on the LCD.

[2] MIDI Test
MIDI IN WAITING

[fig.2]

(2) Connect MIDI-IN and MIDI-OUT with a MIDI cable. Is "OK" shown on the LCD.

* If "OK" does not indicated, there is some error in MIDI circuit. Check IC47 and IC65 on the MAIN BOARD.

(3) Disconnect MIDI cable connected to MIDI-IN. [fig.3] is shown on the LCD

[2] MIDI Test
REMOTE WAITING

[fig.3]

(4) Connect REMOTE KBD IN and MIDI-OUT with a MIDI cable. Is program version number shown on the LCD?

* If version number does not indicated, there is error in MIDI circuit.

(5) MIDI Test ended correctly. Disconnect MIDI cable, then Card Test program runs automatically.

3. Card Test:

(1) Is [fig.4] shown on the LCD?

[3] Card Test
non-protected ok

[fig.4]

* If [fig4] does not appear on the LCD: [fig.7] shown on the LCD.

[3] Card Test
non-protected NG

[fig.7]

• Check IC41(3pin:XCWR, 6pin:XCRC) on the MAIN BOARD. Is the level of XCWR and XCRC change during the test?

• Check IC40, RA27 on the MAIN BOARD. Is there something wrong with card bus?
• Check IC41(8pin), IC42 on the MAIN BOARD. Is there something wrong with decoder?
• Check IC38(7pin) on the MAIN BOARD. Is the voltage high level?

(2) Remove the card from card slot. [fig.5] is shown on the LCD.

[3] Card Test
protected

[fig.5]

(3) Insert a card with write protected to card slot. Is [fig.6] shown on the LCD?

[3] Card Test
protected ok

[fig.6]

* If [fig.6] does not appear on the LCD:
[fig.8] is shown on the LCD.

**[3] Card Test
protected NG**

[fig.8]

- Check R99 and IC12(14pin: CWPSNS) on the MAIN BOARD.
Is there voltage of CWPSNS low level?

(4) Sw&LED Test runs automatically.

4. Sw&LED Test

(1) [fig.9] is shown on the LCD.

**[4] Sw&LED Test
(58) oo oo ooo**

[fig.9]

(2) Do all LEDs (except two SIG/LIMITER LEDs) light up ?

- * If error:
- Check LEDs and Transistors on the PANEL BOARD.
 - Check IC3, IC7 and IC13 on the PANEL BOARD.

(3) Press the buttons on the panel one by one.

The count displayed on the LCD decreases as each button is pressed.

- In case of buttons with single color LED : Press the button, then LED turn off.
- In case of buttons with double color LED:
At first, LED lights up orange.
Press the button once, then LED lights up green.
Press the button again, then LED lights up dark green.
Press the button once more, then LED is turned off.
- In case of self-lighting buttons(PANEL SELECT and MOTION CONTROL)
At first, LED lights up red.
Press the button once, then LED's red dims a little.
Press the button again, then LED's red dims *****.
Press the button once more, then LED is turned off.
- In case of buttons without LED:
In case of being no LED nearby:
Press the button, then "o" is turned off on the LCD.
- In case of being some LED nearby (Example:three LEDs):
Press the button, 1st LED is turned off.
Press the button again, 2nd LED is turned off.
Press the button once more, 3rd LED is turned off.

(4) Are all buttons and LEDs working as above?

After pressing all buttons, Is number shown on the LCD now at (0)?

- * If error:
- Check switches, LEDs and Transistors on the PANEL BOARD.
 - Check IC3, IC7 and IC13 on the PANEL BOARD.

(5) If all switches and LEDs are working correctly, A/D Test program runs automatically.

5. A/D Test

(1) [fig.10] is shown on the LCD.

**[5] A/D Test
(41)**

[fig.10]

(2) Move all the rotary volumes (except LEVEL at VOLUME section, INST/LOWER and VOCAL/UPPER at EXTERNAL INPUT section) fully right and fully left.

Move all the sliders fully up and fully down.
The values displayed at the lower right of the LCD change within the ranges listed below as each volume or slider is moved.

Volumes and sliders without center click	:0~127
OSC2 RANGE	:-WIDE~+WIDE
OSC2 FINE/WIDE	:-50~+50
TEMPO	:20~250
Other volumes and sliders with center click	:-64~+63

The count displayed at the lower left of the LCD decreases as each volume or slider is moved.

(3) Do the values displayed at the lower right of the LCD change within the ranges listed above?
Finally, do the count displayed at the lower left of the LCD decrease from (41) to (0)?

- * If error
- Check IC1, IC2, IC4, IC5, IC6, IC8, IC9, IC10 and IC11 on the PANEL BOARD.

(4) A/D Test ended correctly.
LCD Test program runs automatically.

6. LCD Test

(1) [fig.11] is shown on the LCD.

[6] LCD Test

[fig.11]

Press [WRITE], then all dots of LCD are turned off.
Press [WRITE] again, then all dots of LCD are turned on.

(2) Are all dots of LCD turned off correctly?
Are all dots of LCD turned on correctly?

- * If error:
- Check the LCD unit.

(3) Move the slider of FILTER ENVELOPE R from the minimum to the maximum, then LED of number buttons light up in order from [NUMBER 1] to [NUMBER 8], and also the contrast of LCD changes gradually.

(4) Do LEDs of number buttons light up in order from [NUMBER 1] to [NUMBER 8]?
Does the contrast of LCD change gradually?

- * If error:
- Check Q1, IC7(1pin:PWM) on the MAIN BOARD.

(5) Press [NUMBER 7] or [INC], then Sound Test program runs.

7. Sound Test

(1) [fig.12] is shown on the LCD.
Connect the monitor speaker to the OUTPUT jack.
Connect the headphones to PHONES jack.
Raise the volume as needed.

[7] Sound Test

[fig.12]

(2) Press [WRITE], then "L: Saw" is displayed on the LCD.
Check the signal at the OUTPUT L with an oscilloscope.
Check that a sound can be heard from left channels of the monitor speaker and the headphones.

(3) Do triangular waveforms appear on both channels on an oscilloscope?
Can sound from the triangular waveforms be heard on both channels of the monitor speaker and the headphones?

- * If error:
- Check IC31, IC35, IC36(DAC), IC37, IC55 and IC56 on the MAIN BOARD.
 - Check IC601 on the VOLUME BOARD.

- (4) Press [WRITE], then "L: Saw" is displayed on the LCD.
Check the signal at the OUTPUT L with an oscilloscope.
Check that a sound can be heard from left channels of the monitor speaker and the headphones.
- (5) Do sawtooth waveforms appear on left channels on an oscilloscope?
Can sound from the sawtooth waveforms be heard on left channels of the monitor speaker and the headphones?
- * If error:
· Check IC31, IC35, IC36(DAC), IC37, IC55 and IC56 on the MAIN BOARD.
· Check IC601 on the VOLUME BOARD.
- (6) Press [WRITE], then "R: Square" is displayed on the LCD.
Check the signal at the OUTPUT R with an oscilloscope.
Check that a sound can be heard from right channels of the monitor speaker and the headphones.
- (7) Do Square waveforms appear on right channels on an oscilloscope?
Can sound from the Square waveforms be heard on right channels of the monitor speaker and the headphones?
- * If error:
· Check IC31, IC35, IC36(DAC), IC37, IC55 and IC56 on the MAIN BOARD.
· Check IC601 on the VOLUME BOARD.
- (8) Press [WRITE], then "Effect" is displayed on the LCD.
A delay will be applied in order on the center, left and right so check the sound on the left and right channels of the monitor speaker and the headphones.
- (9) Can sounds with a delay be heard from the center, left and right in order?
- * If error:
· Check IC21(DSP), IC64(DRAM) and their connections on the MAIN BOARD.
- (10) Press [WRITE], then "10 Voice" is displayed on the LCD.
10 tones corresponding to the white keys from C4 to E5 will be issued so check the sound on the left and right channels of the monitor speaker and the headphones.
- (11) Can 10 tones corresponding to the white keys from C4 to E5 be heard on the monitor speaker and the headphones?
- * If error:
· Check IC31, IC35, IC36(DAC), IC37, IC55 and IC56 on the MAIN BOARD.
· Check IC601 on the VOLUME BOARD.
- (12) Press [WRITE], then "DRAM1" is displayed on the LCD.
Do(C4), Fa(F4) and Sol(G4) are issued in order. After they are formed a chord, Fa(F4) and So(G4) are stopped.
- (13) Does the output waveform contain noise?
- * If error:
· Check IC18(DSP), IC23(DRAM) and their connections on the MAIN BOARD.
- (14) Press [WRITE], then "DRAM2" is displayed on the LCD.
Do(C5), Fa(F5) and Sol(G5) are issued in order. After they are formed a chord, Fa(F5) and So(G5) are stopped.
- (15) Does the output waveform contain noise?
- * If error:
· Check IC19(DSP), IC24(DRAM) and their connections on the MAIN BOARD.
- (16) Press [WRITE], then "DRAM3" is displayed on the LCD.
Do(C6), Fa(F6) and Sol(G6) are issued in order. After they are formed a chord, Fa(F6) and So(G6) are stopped.

- (17) Does the output waveform contain noise?
- * If error:
· Check IC20(DSP), IC25(DRAM) and their connections on the MAIN BOARD.
- (18) Press [WRITE], then "DRAM0" is displayed on the LCD.
Delay tones are issued in sequence?
- (19) Does the output waveform contain noise?
- * If error:
· Check IC17(DSP), IC63(DRAM) and their connections on the MAIN BOARD.
- (20) Press [WRITE], then "DRAM4" is displayed on the LCD.
Delay tones are issued in sequence?
- (21) Does the output waveform contain noise?
- * If error:
· Check IC21(DSP), IC64(DRAM) and their connections on the MAIN BOARD.

8. Input Test

Raise the VOLUME LEVEL, the INST/LOWER INPUT LEVEL and the VOCAL/UPPER INPUT LEVEL to the maximum.
Connect the OUTPUT L and R of JP-8080 to the oscilloscope.
Set the input range of the oscilloscope for 200mV/div.

NOTE: SINE WAVE (i),(ii),(iii) as in the following explanations are as follows.

Depending on the program version, the value of the SINE WAVE are different.

Versions earlier than 1.03

SINE WAVE (i) :f=1kHz, LEVEL=100mVpp
SINE WAVE (ii) :f=1kHz, LEVEL=500mVpp
SINE WAVE (iii) :f=1kHz, LEVEL=16mVpp

Version 1.04 or later

SINE WAVE (i) :f=800Hz, LEVEL=75mVpp
SINE WAVE (ii) :f=800Hz, LEVEL=500mVpp
SINE WAVE (iii) :f=1kHz, LEVEL=16mVpp

- (1) [fig.13] is shown on the LCD.

[8] Input Test

[fig.13]

Press [WRITE].
[fig.14] is shown on the LCD.

**[8] Input Test
REAR:**

[fig.14]

- (2) Input the SINE WAVE (i) to the INST/LOWER jack and the VOCAL/UPPER jack in rear panel.
Two SIG/LIMITER LEDs of INST/LOWER and VOCAL/UPPER light up green.
The SINE WAVE, the level of which go in two divisions (400mVpp) of the oscilloscope, is displayed on a screen of the oscilloscope.
According as you move the rotary volumes of INST/LOWER and VOCAL/UPPER from the maximum to the minimum, the level of the sine wave on a screen changes by degrees.
- (3) Do Two SIG/LIMITER LEDs of INST/LOWER and VOCAL/UPPER light up green?

* If error:
· Check IC43, IC44, IC53, IC54, CN3 and CN6 on the MAIN BOARD.
· Check D84(LED), D85(LED), CN2 and CN3 on the PANEL BOARD.

(4) Is the sine wave which is proper level displayed on a screen of the oscilloscope?
According to movement of the rotary volumes of INST/LOWER and VOCAL/UPPER, does the level of the sine wave on a screen change by degrees?

- * If error:
- Check IC17(DSP), IC32(AD/DA), IC43, IC44, IC46, IC51 and CN6 on the MAIN BOARD.
 - Check CN3 on the PANEL BOARD.

(5) Press [WRITE].
[fig.15] is shown on the LCD.

**[8] Input Test
REAR: Vocal=**

[fig.15]

(6) Input the SINE WAVE (ii) to the INST/LOWER jack and the VOCAL/UPPER jack in rear panel.
Two SIG/LIMITER LEDs of INST/LOWER and VOCAL/UPPER light up red.
According as you move the rotary volumes of VOCAL/UPPER INPUT LEVEL with range from the maximum to the minimum, the value of "vocal" displayed on the LCD changes with range from 0 to 127.

(7) Do Two SIG/LIMITER LEDs of INST/LOWER and VOCAL/UPPER light up red?

- * If error:
- Check IC43, IC44, IC53, IC54, Q7, Q9, Q15, Q16, Q17, Q18, Q23, CN3 and CN6 on the MAIN BOARD.
 - Check D84(LED), D85(LED), CN2 and CN3 on the PANEL BOARD.

(8) According to movement of the rotary volumes of VOCAL/UPPER, does the value of "vocal" displayed on the LCD change with range from 0 to 127?

- * If error:
- Check IC7(80pin:ESPDAC L), IC17(DSP), IC32(AD/DA), IC43, IC44, IC46, IC48(VCA), IC51 and CN6 on the MAIN BOARD.
 - Check CN3 on the PANEL BOARD.

(9) Press [WRITE].
[fig.16] is shown on the LCD.

**[8] Input Test
FRONT:**

[fig.16]

(10) Input the SINE WAVE (iii) to the MIC jack in front panel.
The SIG/LIMITER LED of VOCAL/UPPER lights up red.
The sine wave is displayed on a screen of the oscilloscope.

(11) Does the SIG/LIMITER LED of VOCAL/UPPER light up red?

- * If error:
- Check IC44, IC50, IC53, IC54, Q7, Q9, Q15, Q16, Q17, Q18, Q23, CN3 and CN6 on the MAIN BOARD.
 - Check D85(LED), CN2 and CN3 on the PANEL BOARD.

(12) Is the sine wave displayed on a screen of the oscilloscope?

- * If error:
- Check IC17(DSP), IC32(AD/DA), IC48(VCA), IC50, IC51 and CN6 on the MAIN BOARD.
 - Check CN3 on the PANEL BOARD.

(13) Input Test ended correctly.
Press [SHIFT] or [INC], then Initialize program runs

9. Initialize
(1) [fig.17] is shown on the LCD.

**Are You Sure?
[EXIT/WRITE]**

[fig.17]

(2) Press [WRITE].
(3) [fig.18] is shown on the LCD.

**Factory Reset
[WRITE]**

[fig.18]

(4) Press [WRITE] again to exit the test mode, then factory data will be loaded.

ERROR MESSAGE FOR MEMORY TEST

· Under normal conditions 'OK' displayed on the LCD.

- ◆ TABLE 1:ERROR MESSAGE of 01 to 0F
- * Error in inter-DSP communications.
- 'x' means wrong inter-DSP communications.

TABLE 1

Msg.	IC17-IC18	IC18-IC19	IC19-IC20	IC20-IC21
01				x
02			x	
03			x	x
04		x		
05		x		x
06		x	x	
07		x	x	x
08	x			
09	x			x
0A	x		x	
0B	x		x	x
0C	x	x		
0D	x	x		x
0E	x	x	x	
0F	x	x	x	x

- ◆ TABLE 2:ERROR MESSAGE of 11 to 4F
- * Defect in DSP. Replace it.
- 'x' means wrong DSP.

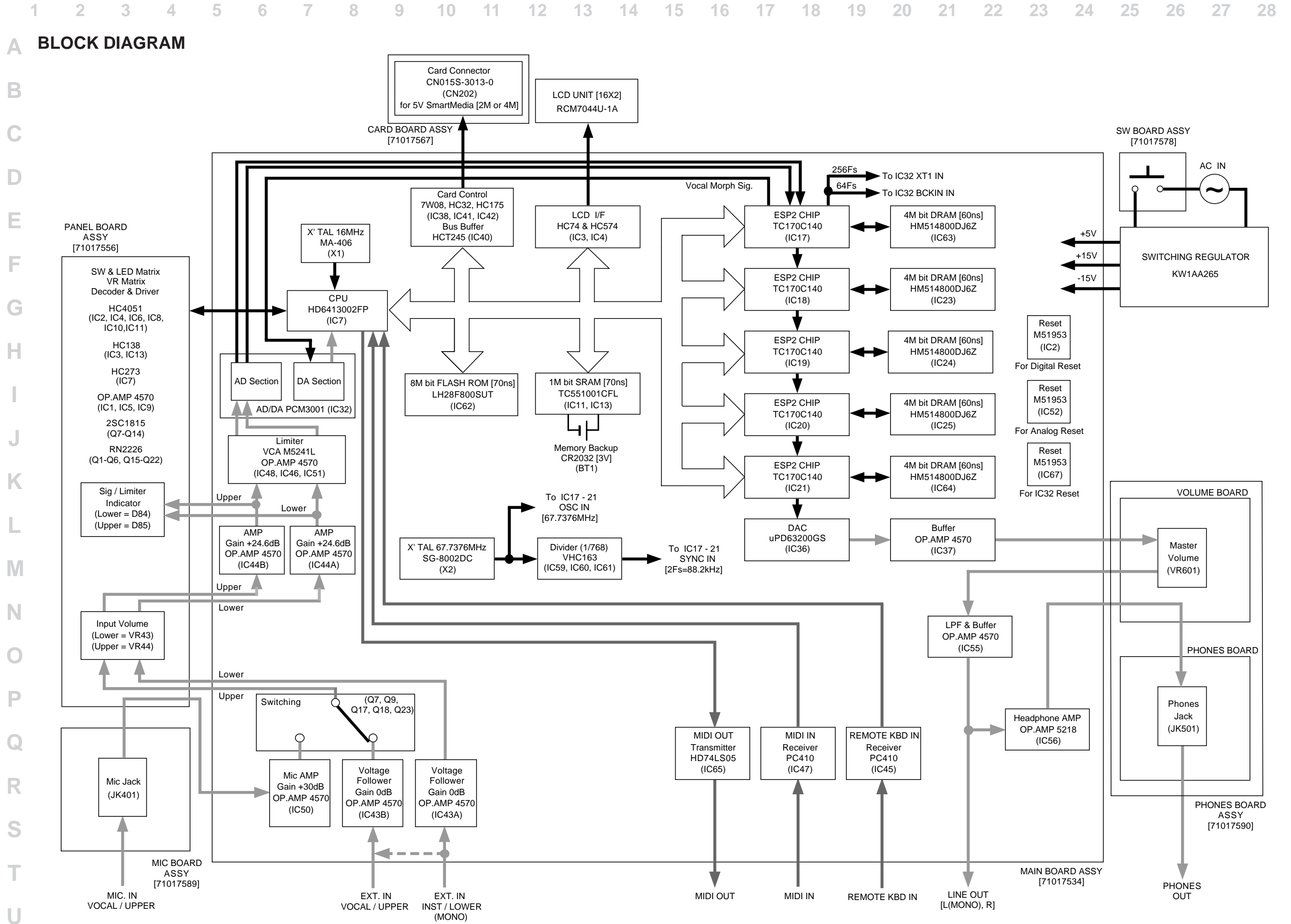
TABLE 2 * is 1,2,3 or 4.

Msg.	IC17	IC18	IC19	IC20	IC21	
*1	x					
*2		x				
*3	x	x				
*4			x			
*5	x		x			
*6		x	x			
*7	x	x	x			
*8				x		
*9	x			x		
*A		x		x		
*B	x	x		x		
*C			x	x		
*D	x		x	x		
*E		x	x	x		
*F	(x)	(x)	(x)	(x)	x	(all or IC21)

- ◆ TABLE 3:ERROR MESSAGE of 31 to 3F
- * Defect in DRAM. Check the DRAM and its bus.
- 'x' means wrong DRAM.

TABLE 3

Msg.	IC63	IC23	IC24	IC25	IC64	
31	x					
32		x				
33	x	x				
34			x			
35	x		x			
36		x	x			
37	x	x	x			
38				x		
39	x			x		
3A		x		x		
3B	x	x		x		
3C			x	x		
3D	x		x	x		
3E		x	x	x		
3F	(x)	(x)	(x)	(x)	x	(all or IC64)

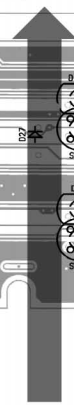
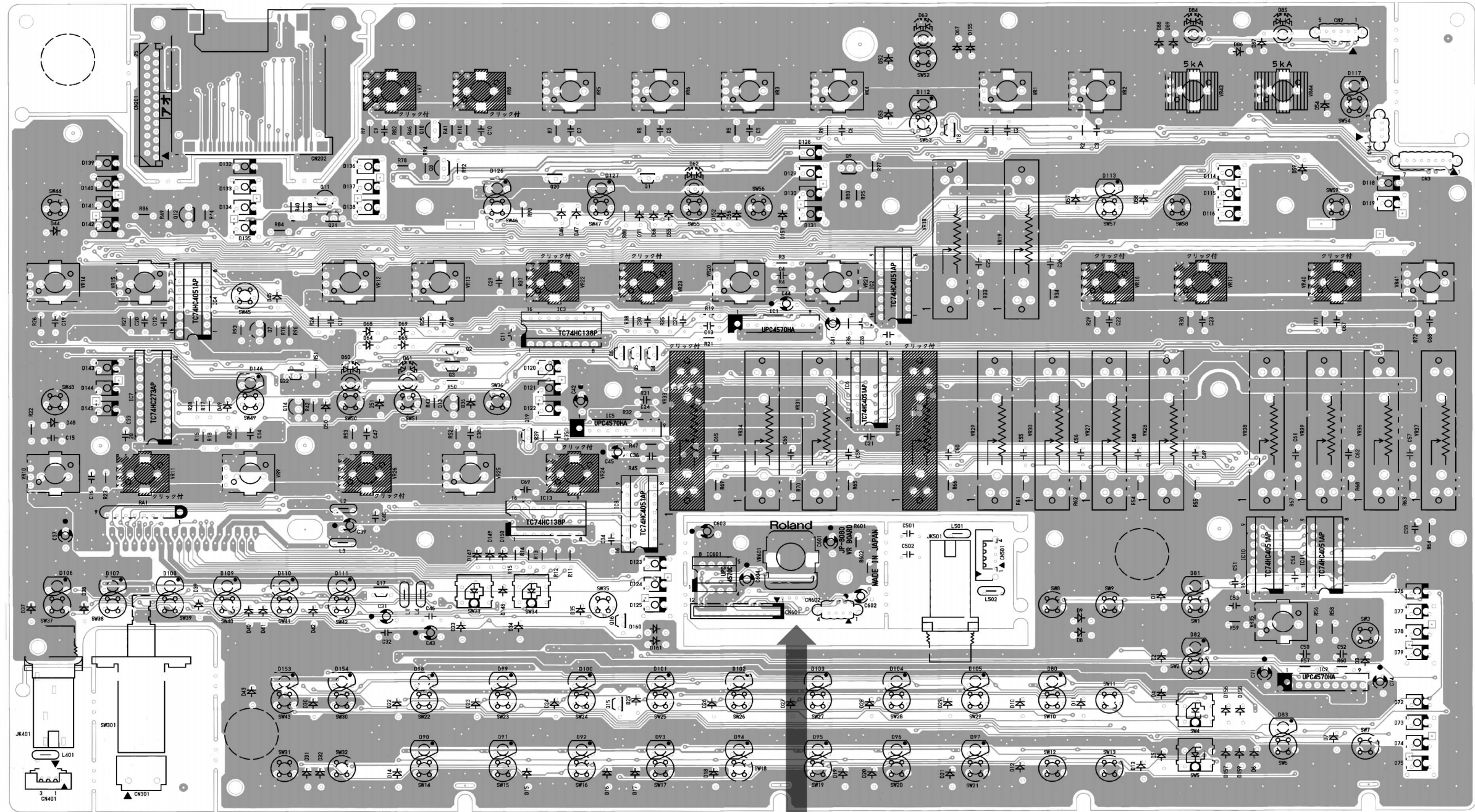


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28

A PANEL BOARD ASSY (71017556)/CARD BOARD ASSY (71017567)/
MIC BOARD ASSY (71017589)/SW BOARD ASSY (71017578)/
B PHONES BOARD ASSY (71017590)

CARD BOARD ASSY
(71017567)

PANEL BOARD ASSY
(71017556)



MIC BOARD ASSY
(71017589)

SW BOARD ASSY
(71017578)

PHONES BOARD ASSY
(71017590)

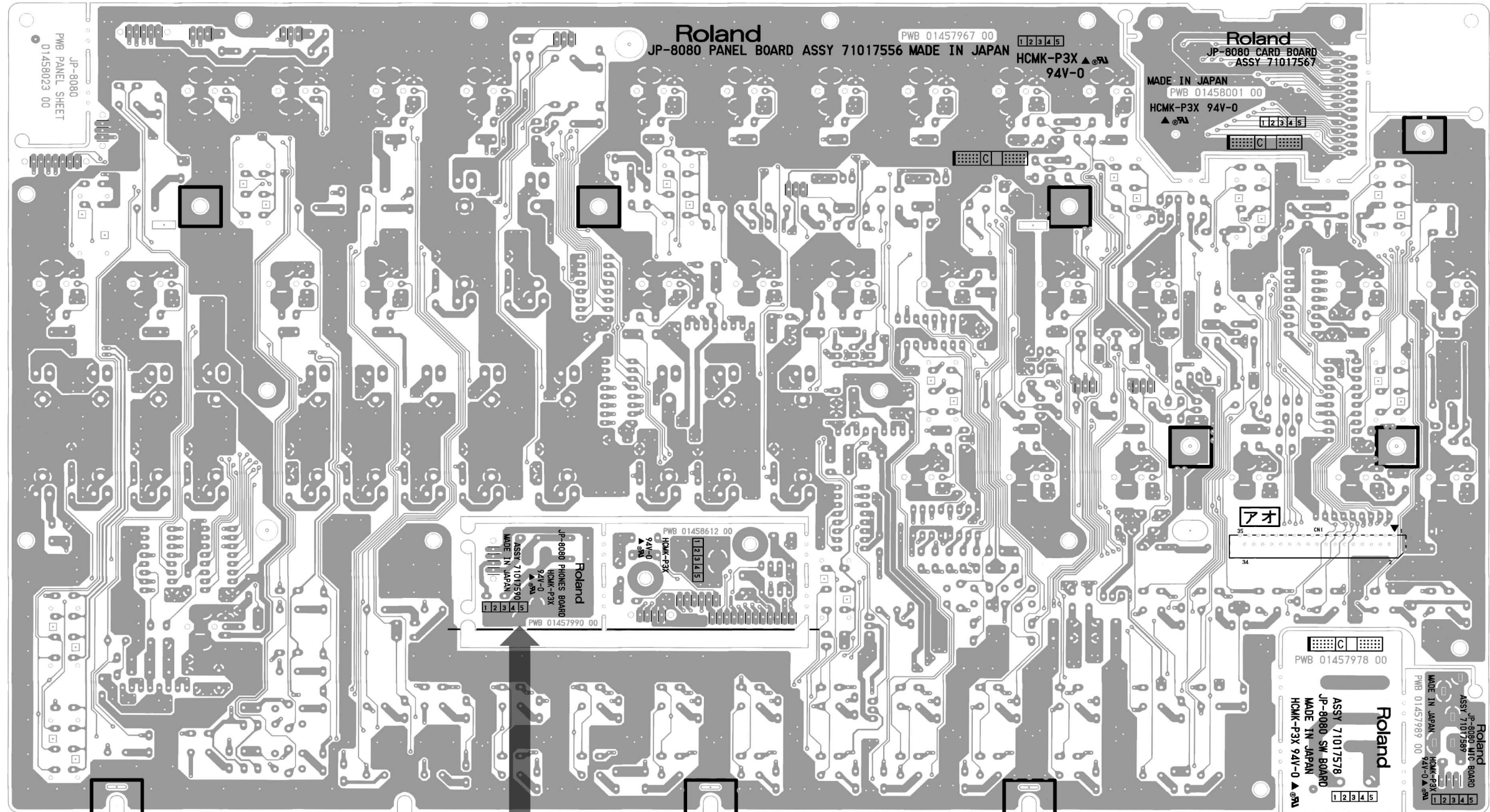
View from component side

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

A PANEL BOARD ASSY (71017556)/CARD BOARD ASSY (71017567)/
MIC BOARD ASSY (71017589)/SW BOARD ASSY (71017578)/
B PHONES BOARD ASSY (71017590)

PANEL BOARD ASSY
(71017556)

CARD BOARD ASSY
(71017567)



PHONES BOARD ASSY
(71017590)

SW BOARD ASSY
(71017578)

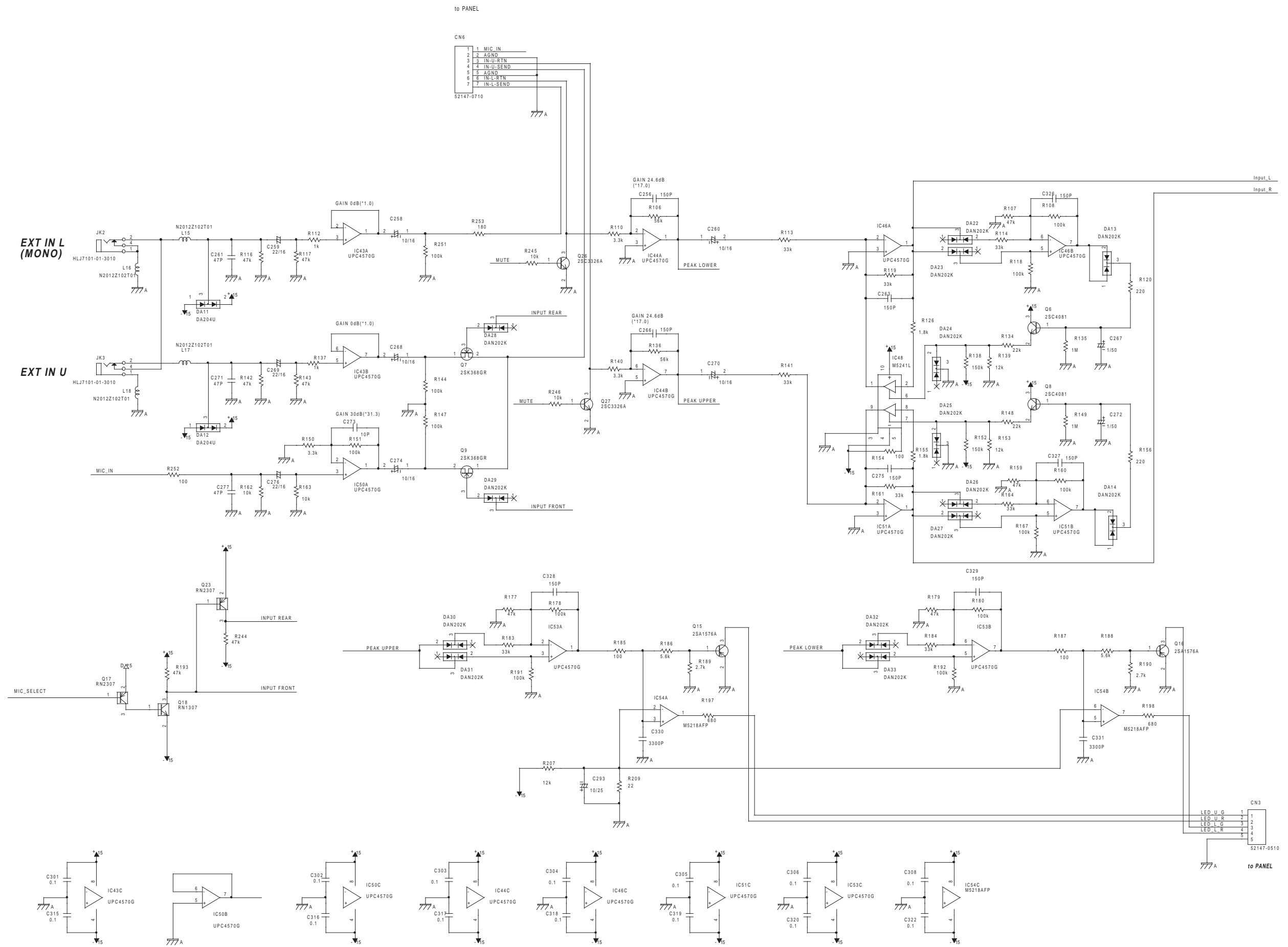
MIC BOARD ASSY
(71017589)

View from foil side

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

A INPUT BLOCK

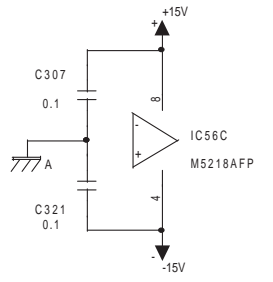
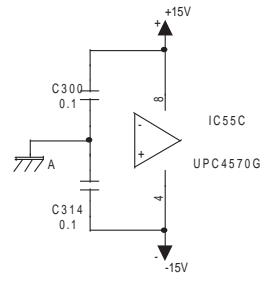
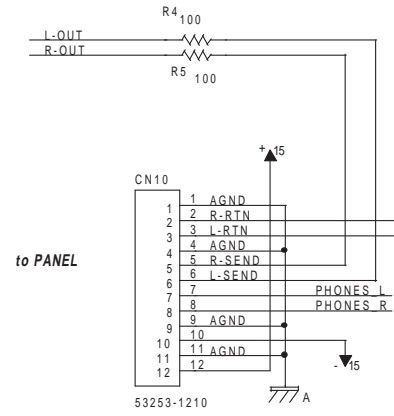
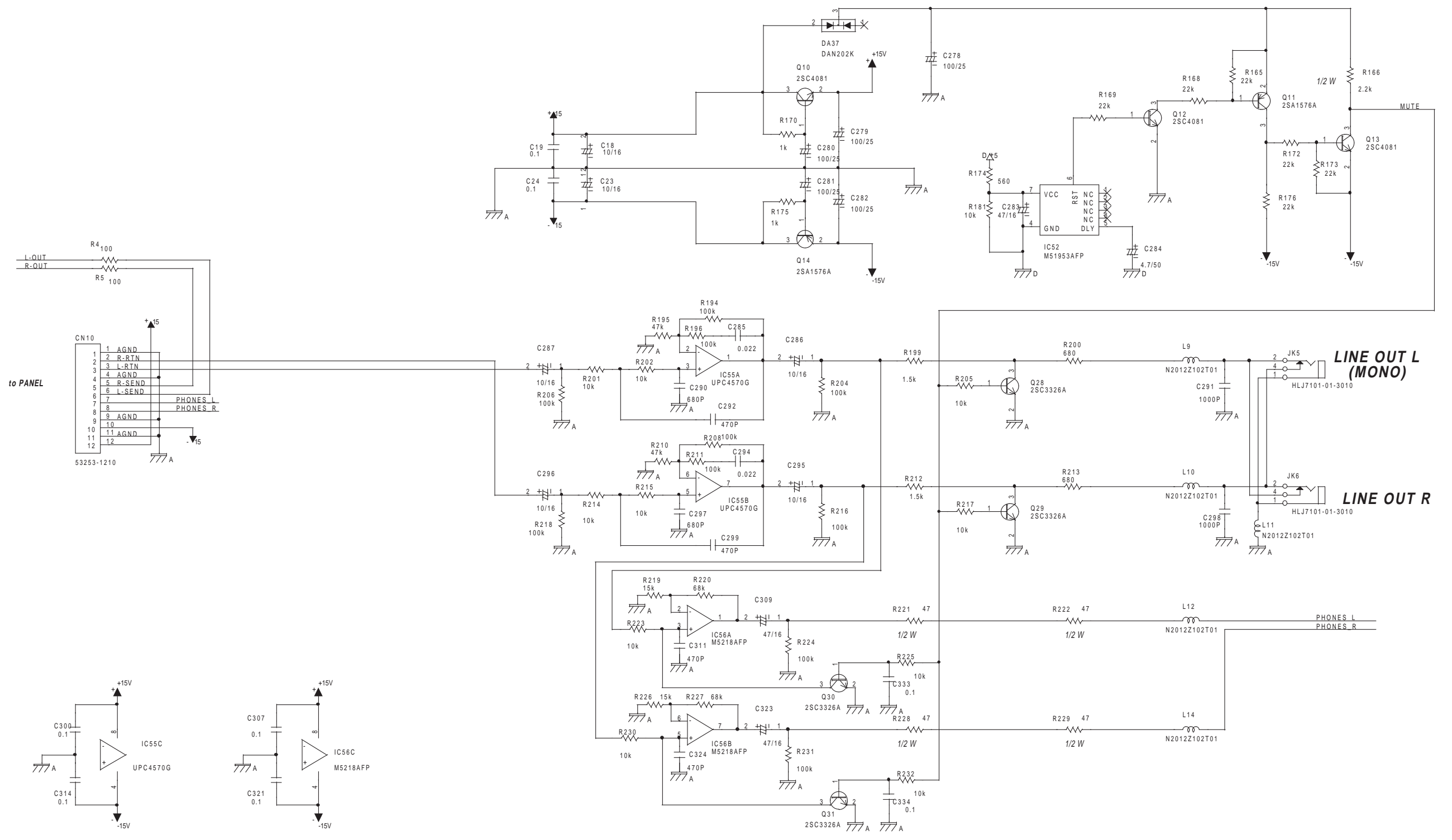
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
Q
R
S
T
U



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

A OUTPUT BLOCK

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



LINE OUT L (MONO)

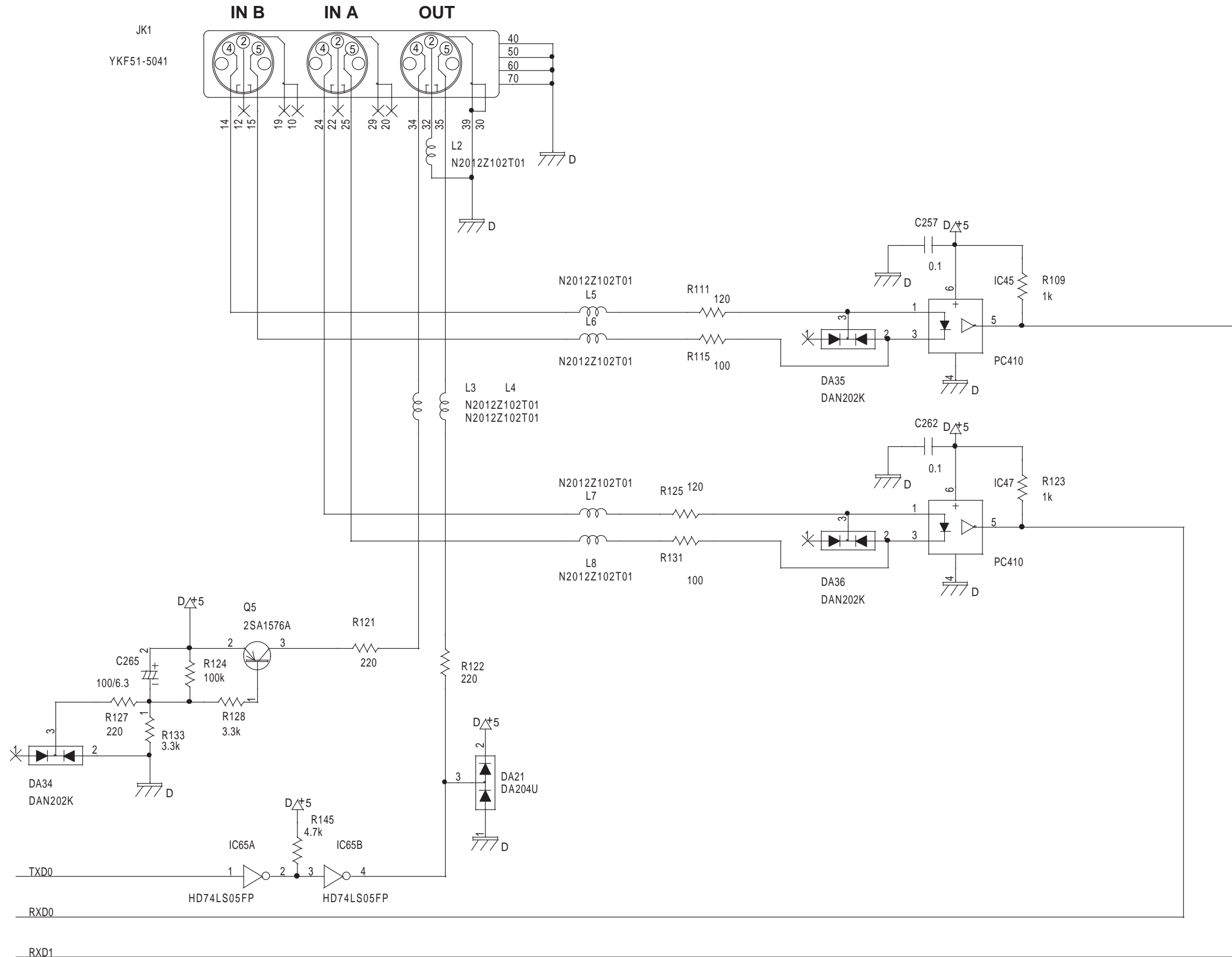
LINE OUT R

PHONES L
PHONES R

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

A MIDI BLOCK

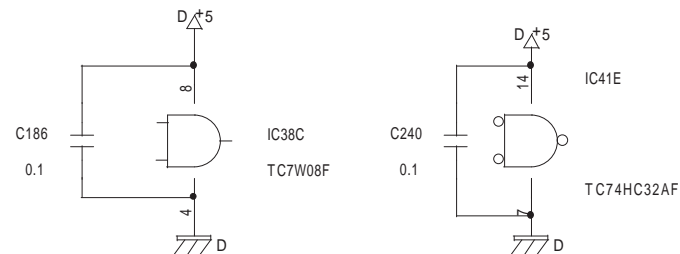
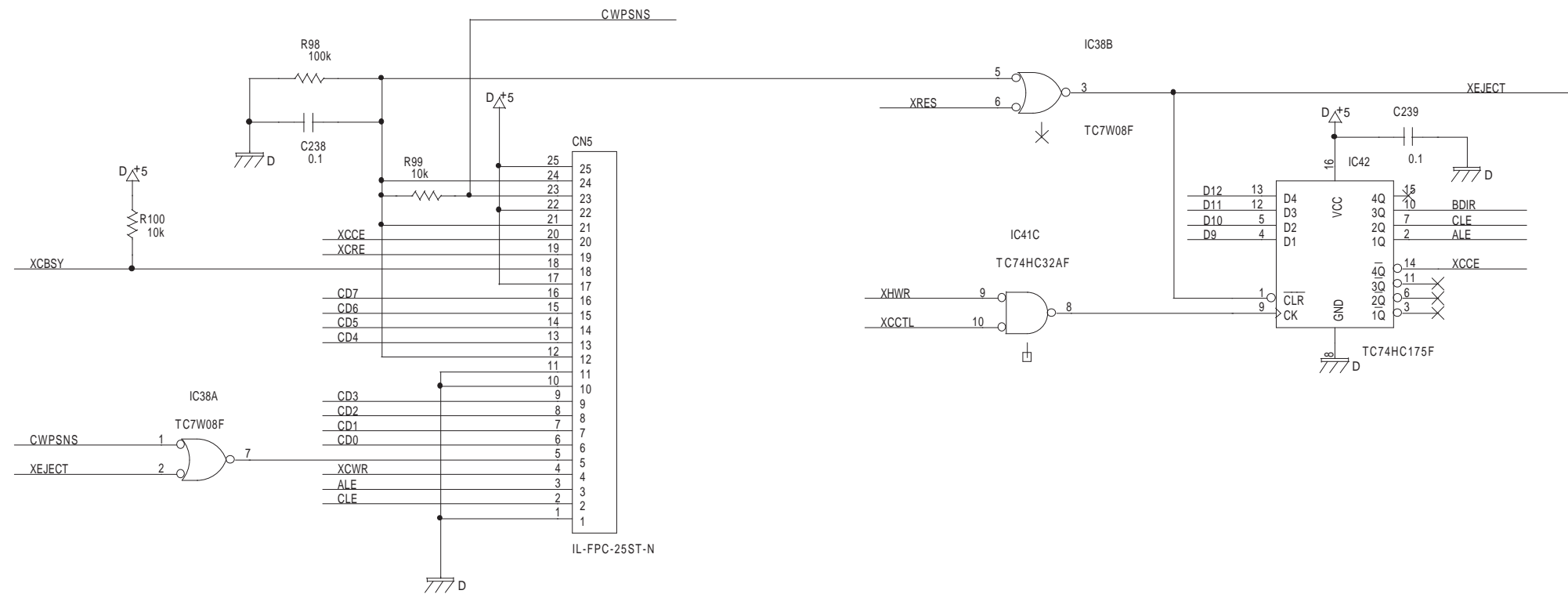
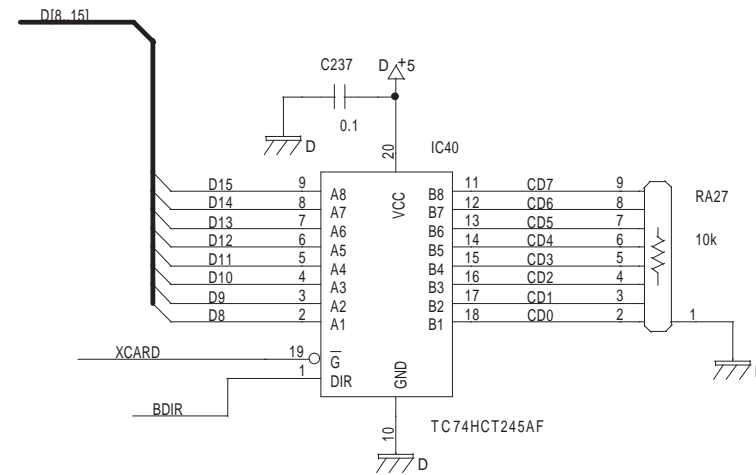
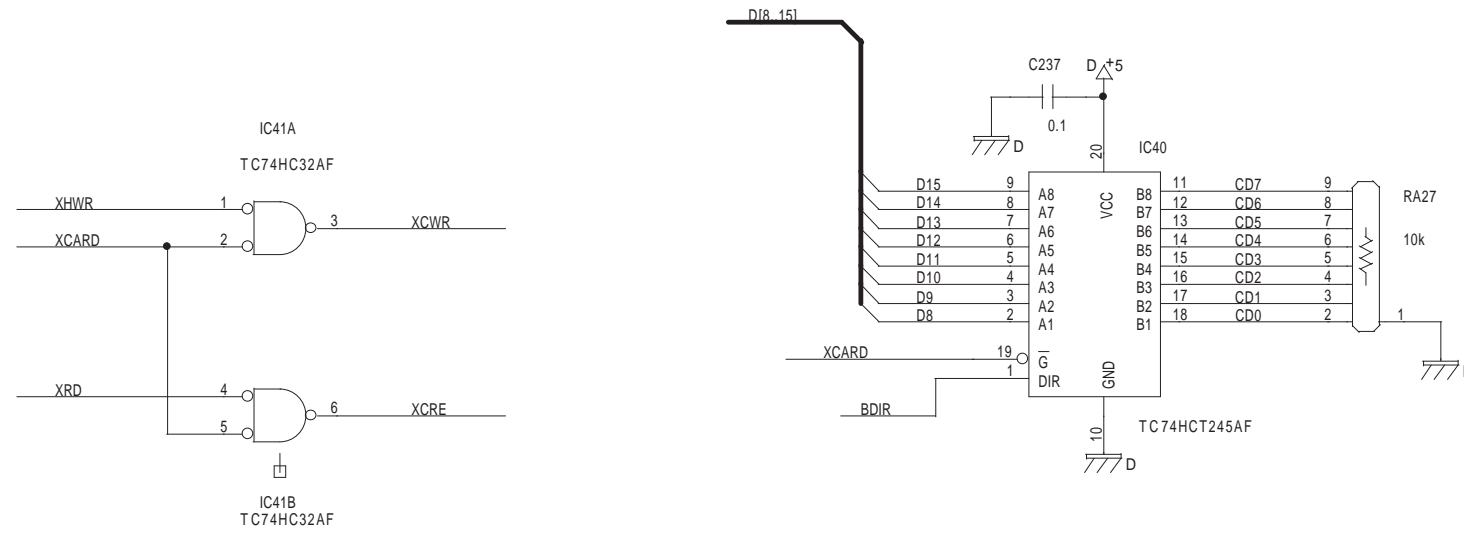
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
Q
R
S
T
U



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

A CARD BLOCK

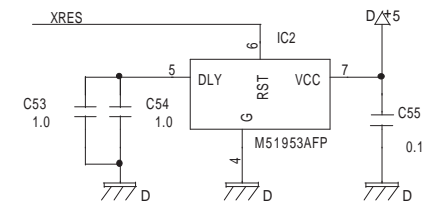
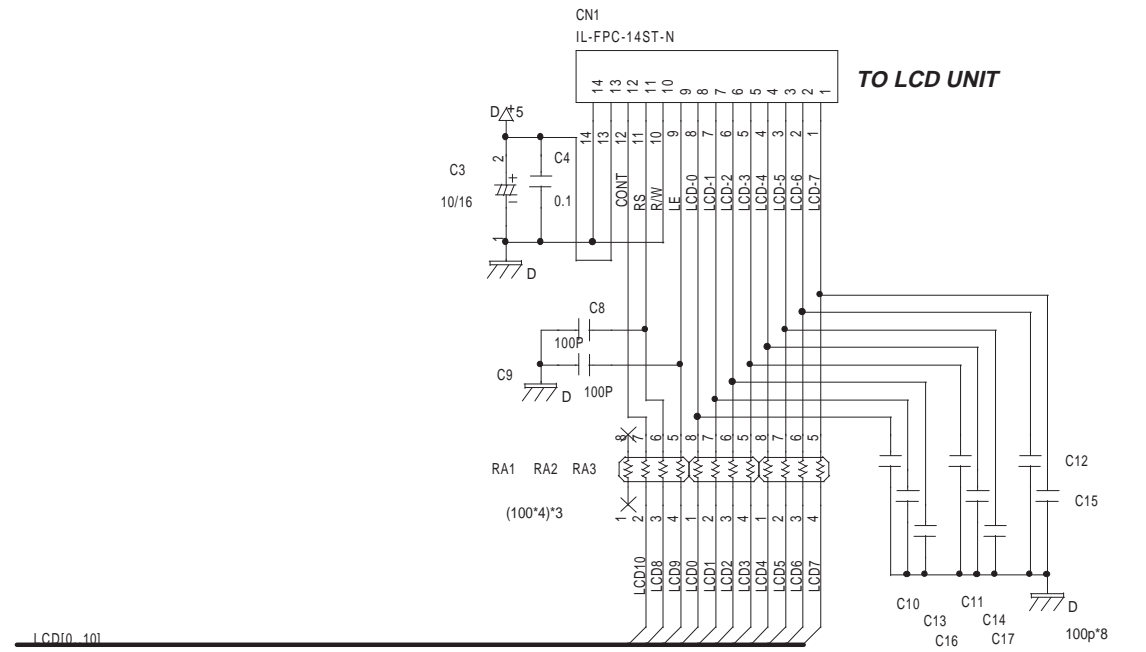
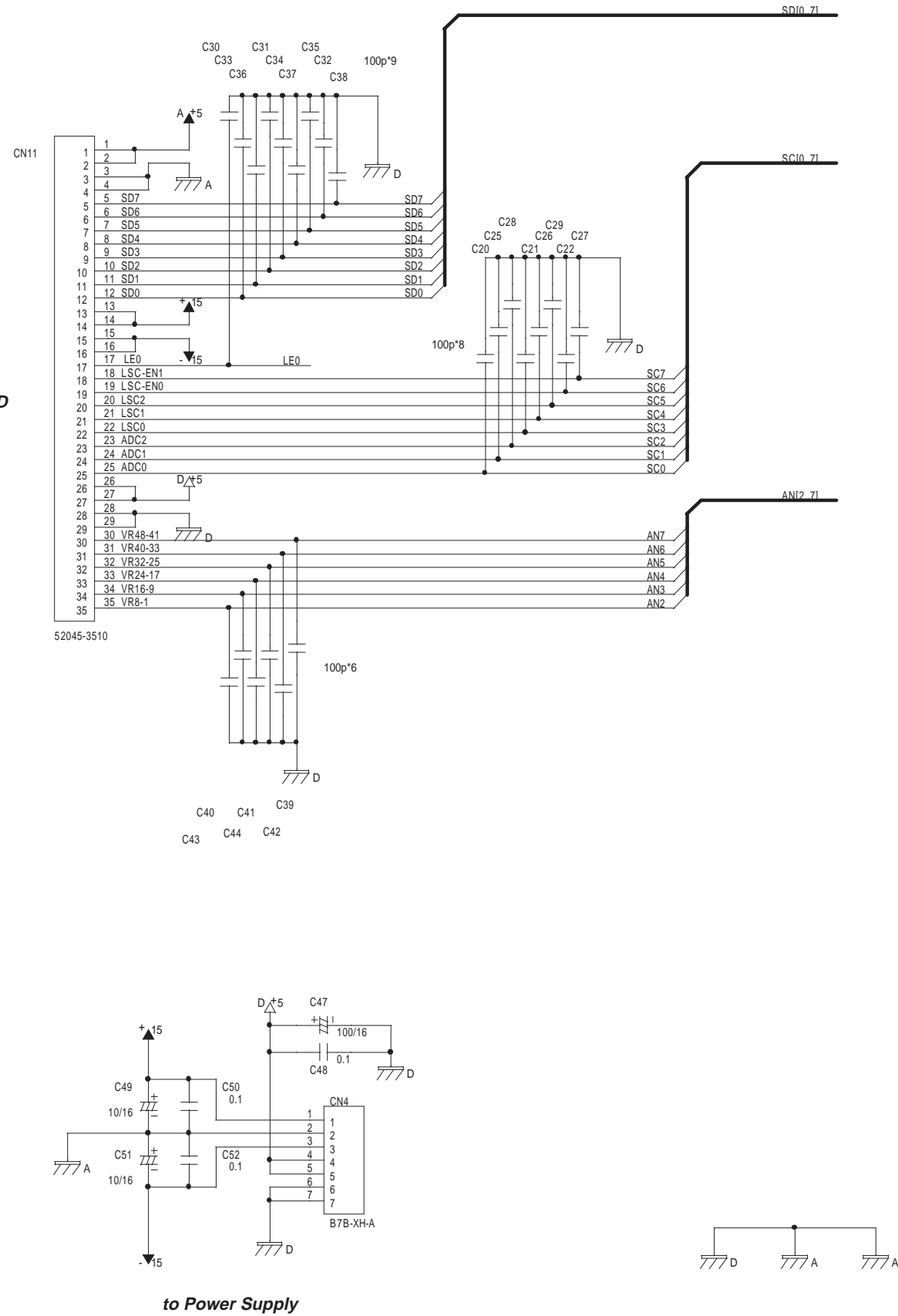
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
Q
R
S
T
U



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

A CN BLOCK

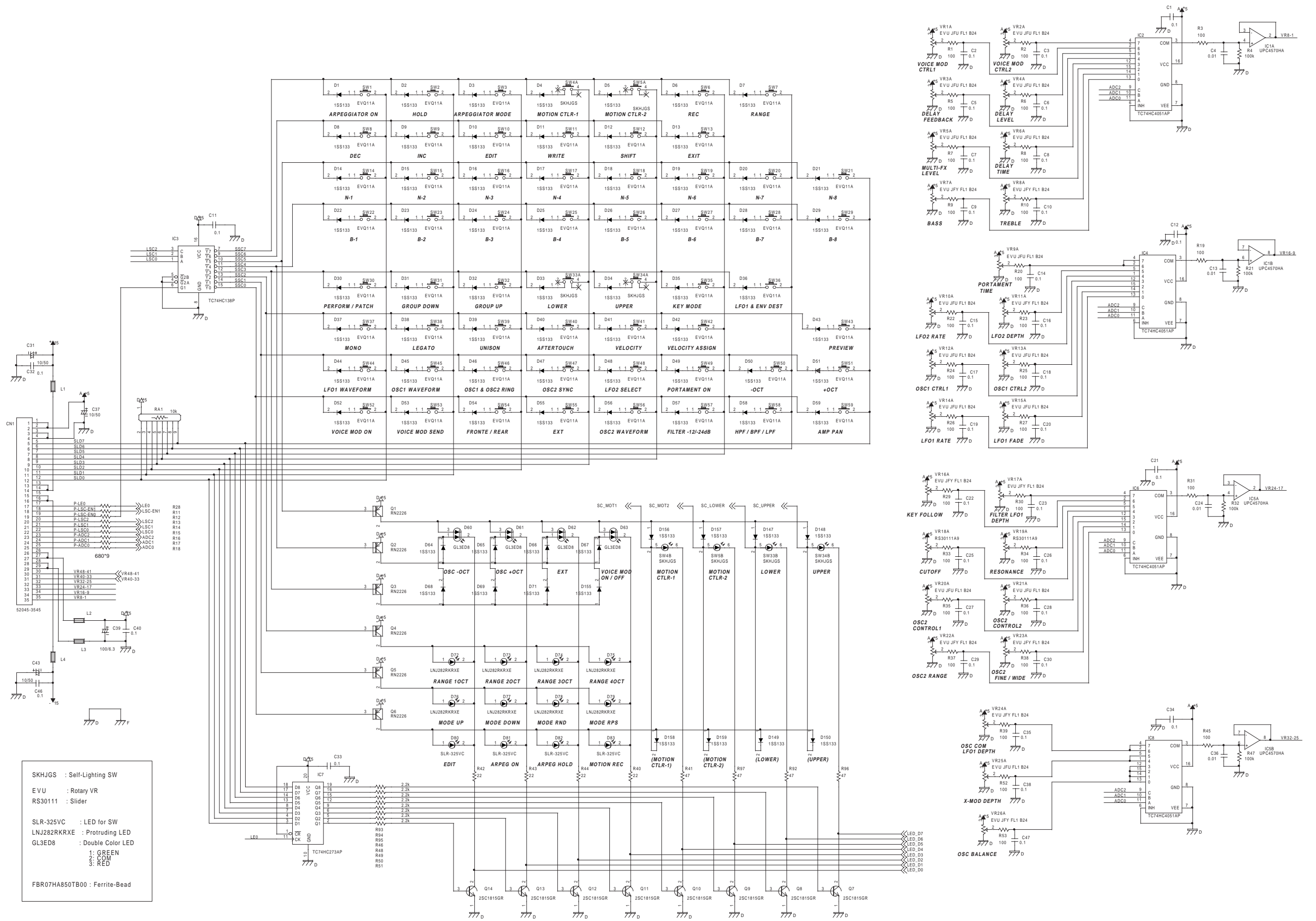
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
Q
R
S
T
U



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

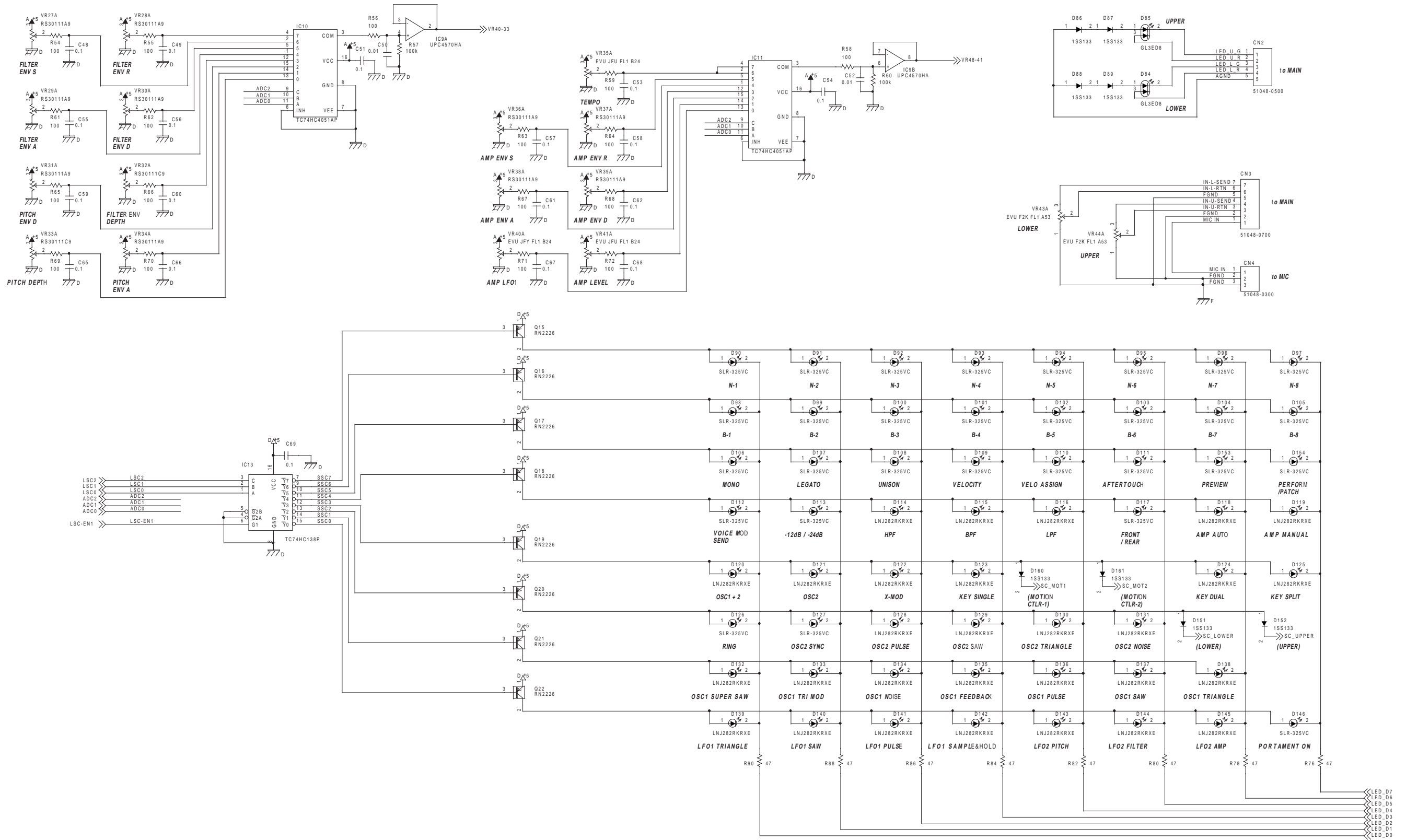
A PANEL & OTHERS

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



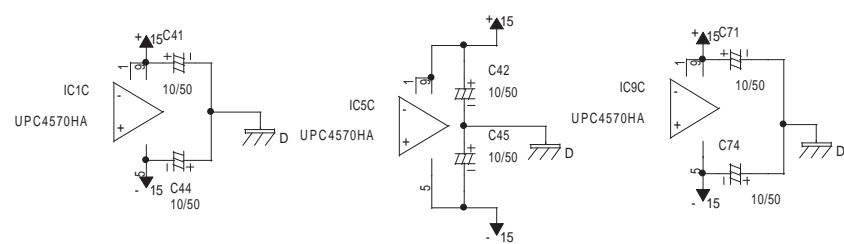
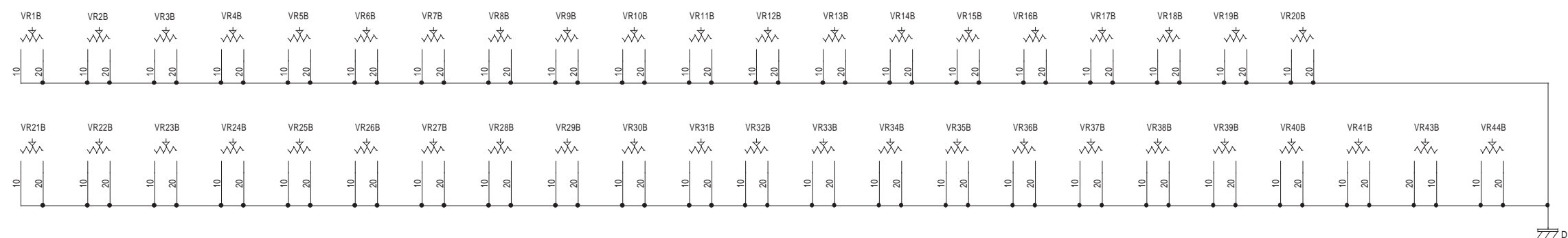
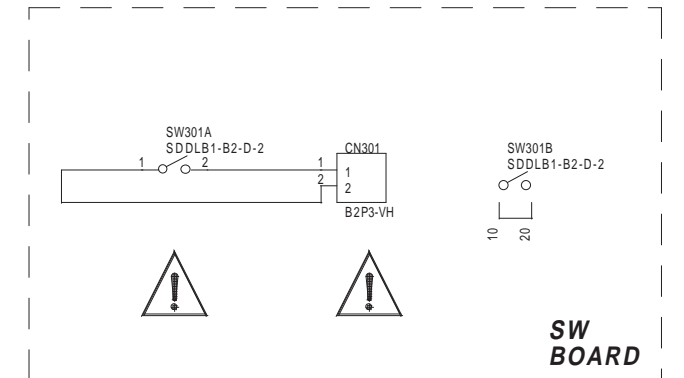
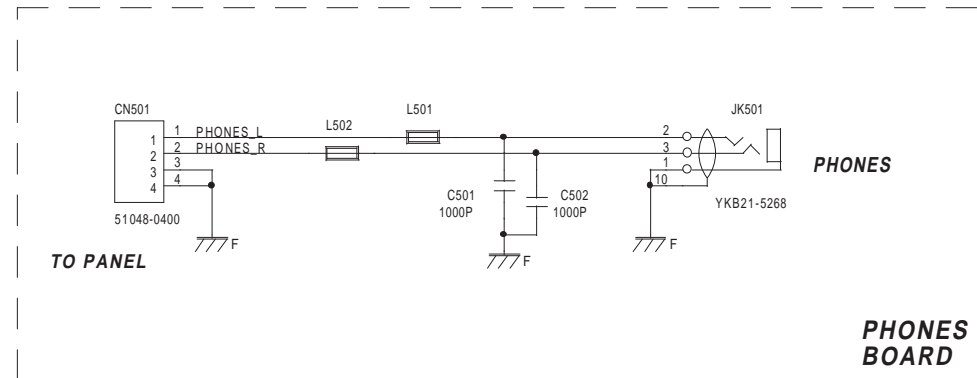
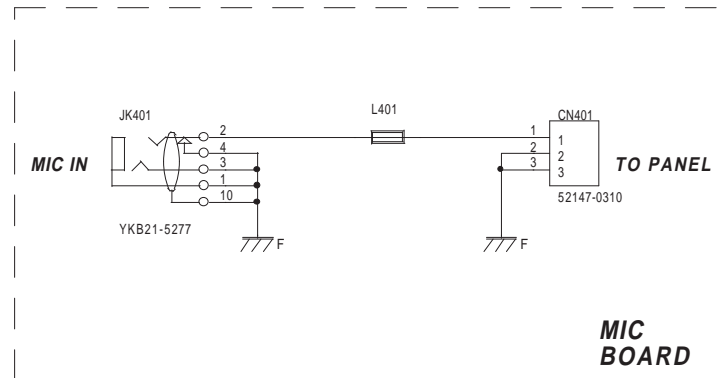
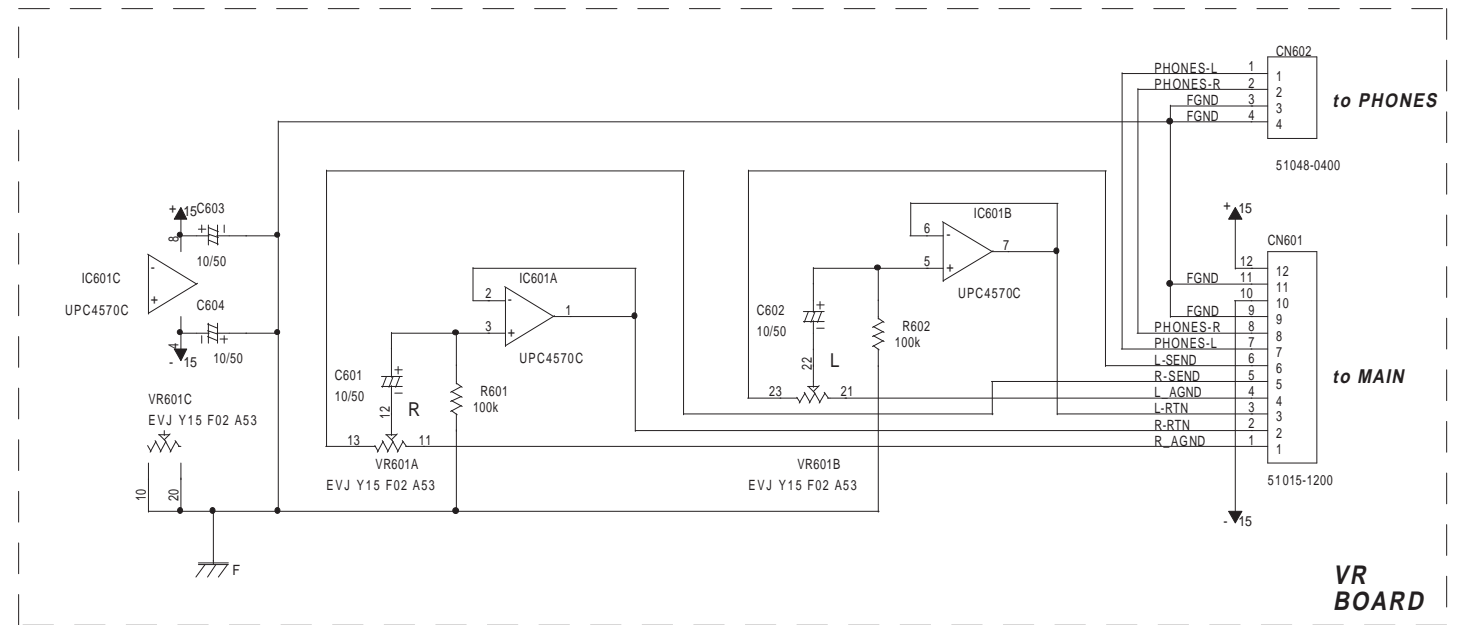
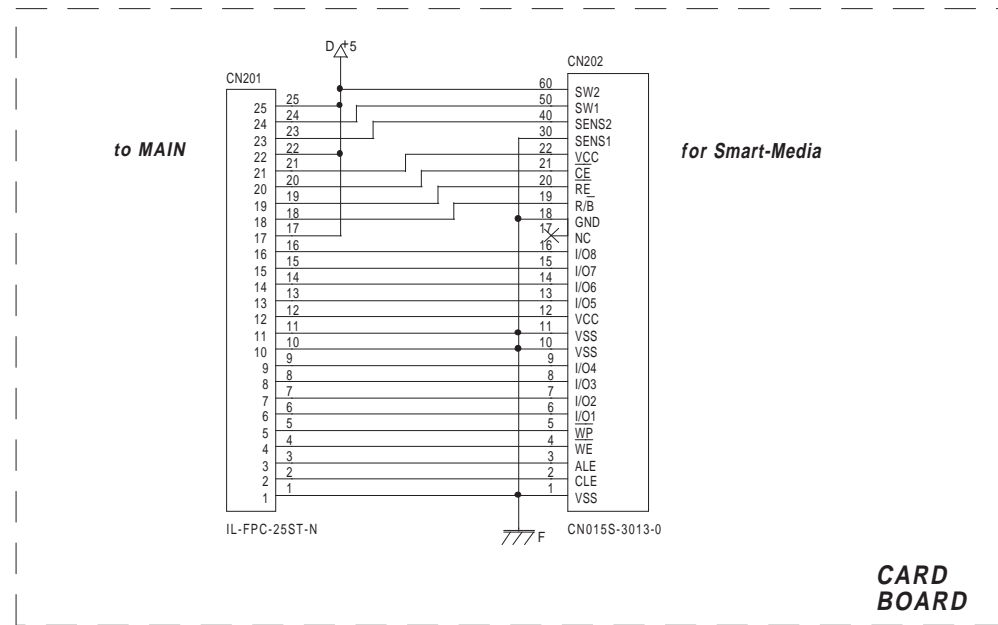
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28

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



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

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



Name	Parts Code
JP-8080 PANEL BOARD ASSY	71017556
JP-8080 CARD BOARD ASSY	71017567
JP-8080 SW BOARD ASSY	71017578
JP-8080 MIC BOARD ASSY	71017589
JP-8080 PHONES BOARD ASSY	71017590