

EXR-5

INTERACTIVE ARRANGER

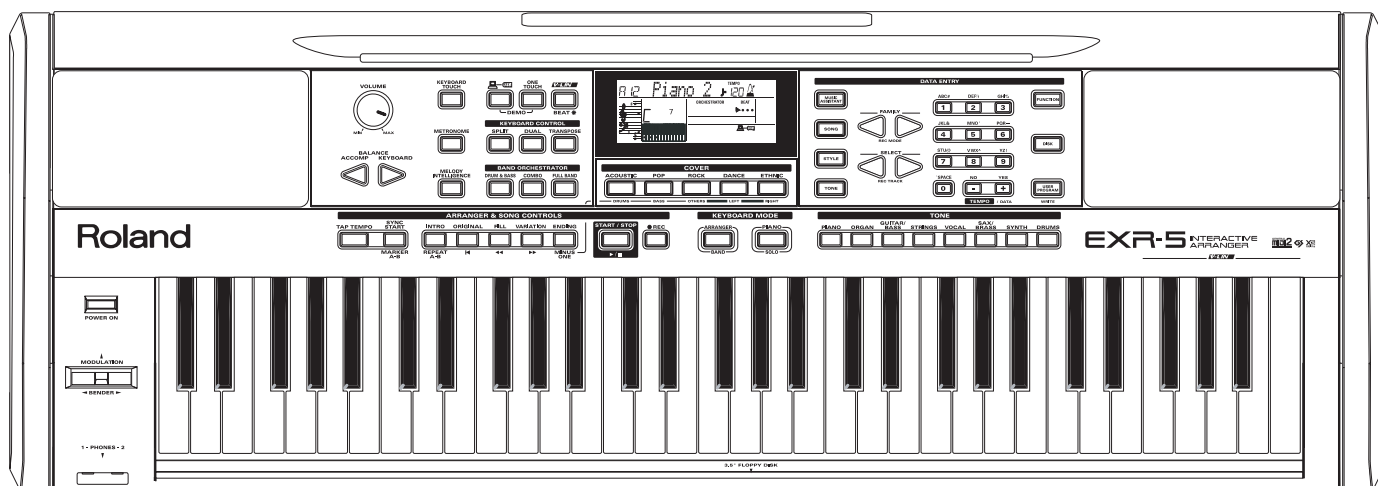
SERVICE NOTES

First edition

Issued by RES

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SPECIFICATIONS

Keyboard: 61 keys, velocity sensitive

Sound source: PCM samples

Max polyphony: 64 voices

Tones: 510 panel sounds + 542 XG compatible voices + 256 GM2 compatible sounds

Drum Kits: 20 Drum Kits, 11 XG-compatible Drum Kits + 9 GM2-compatible Drum Kits

Multitimbral parts: 19

Compatibility: GM2, GS, XG Lite

Display type: New large backlit custom display

Panel controls: VOLUME knob, ACCOMP/KEYBOARD BALANCE buttons, TEMPO/DATA buttons, BENDER/ MODULATION lever, FAMILY buttons, SELECT buttons, numeric buttons [0]~[9], 8 assignable TONE family buttons

Music Styles: 103 Styles in Flash memory (84 factory + 19 changeable)

One Touch: 2 x 84

Orchestrator: 3 levels: Drum&Bass, Combo, Full Band

Style Cover: 5: Acoustic, Pop, Rock, Dance, Ethnic

Songs: Realtime SMF player

16-track Recorder: 4 easy modes (ALL, COUNT-IN, Single, Punch In/Out)

Song Cover: 5: Acoustic, Pop, Rock, Dance, Ethnic

Flash Memory: For Music Styles and Songs

User Programs: 10

Effects: Reverb: 8 types, Chorus: 8 types, Multi-FX: 47 types

Data storage: FDD 3.5" 2HD/2DD (Styles, Songs/SMF, User Programs)

File save & load from PC via USB (Style, Song)

Metronome: Time Signature setting (1/4, 2/4, 3/4, 4/4, 5/4, 6/4, 6/8, 9/8), Volume setting

Other functions: 2 easy modes: Piano/Solo, Arranger/Band, Music Assistant: 126 settings, Split (2 Tones: Split [L] + Main [R]),

Dual (2 Tones: Main + Dual), Melody Intelligence: 18 types, Octave (.4~4), Transpose (-12~12), V-Link

System updates: Yes

Connections: USB: file transfer, MIDI IN, OUT

Outputs: L/Mono, Right (1/4"± phone jacks), Phones 1/2, DC IN (adapter)

Others: Output Power: 10W+10W with "Digital Bass Enhancer", Stereo Speakers: x Ø13cm, Bass Reflex

Power supply: 12V/3.5A

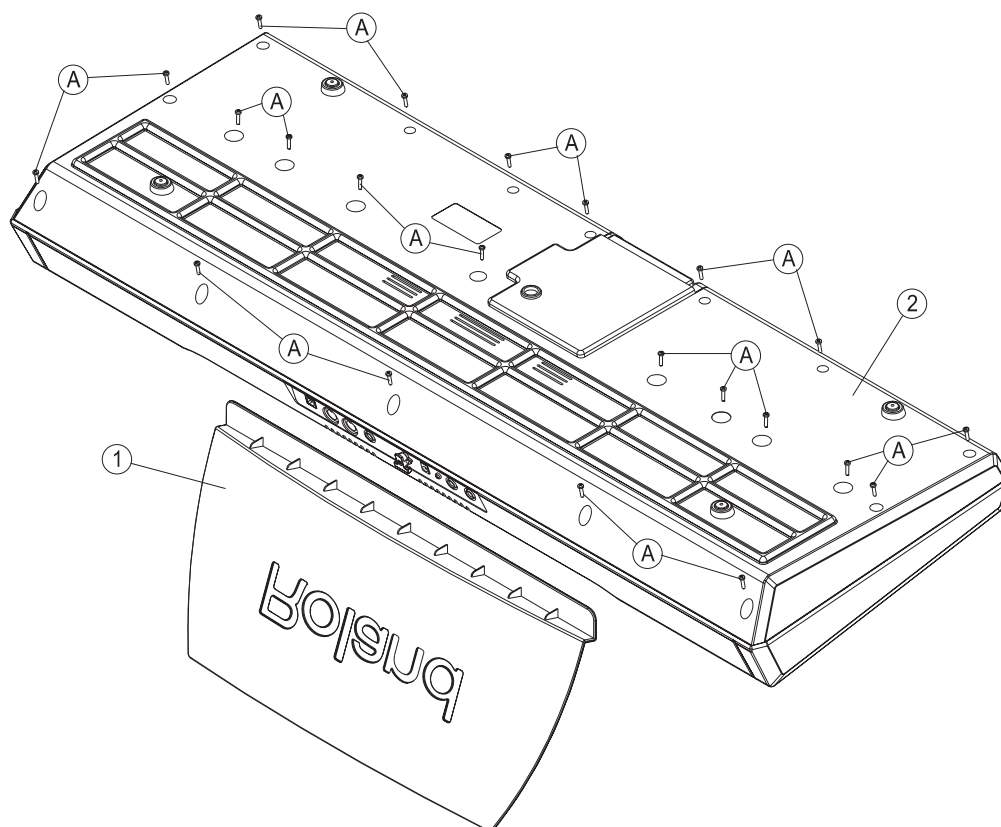
Dimensions: 1020 x 355 x 132 mm

Weight: 8kg

Supplied accessories: Owner's Manual, PSB-4U adapter, music rest, USB cable

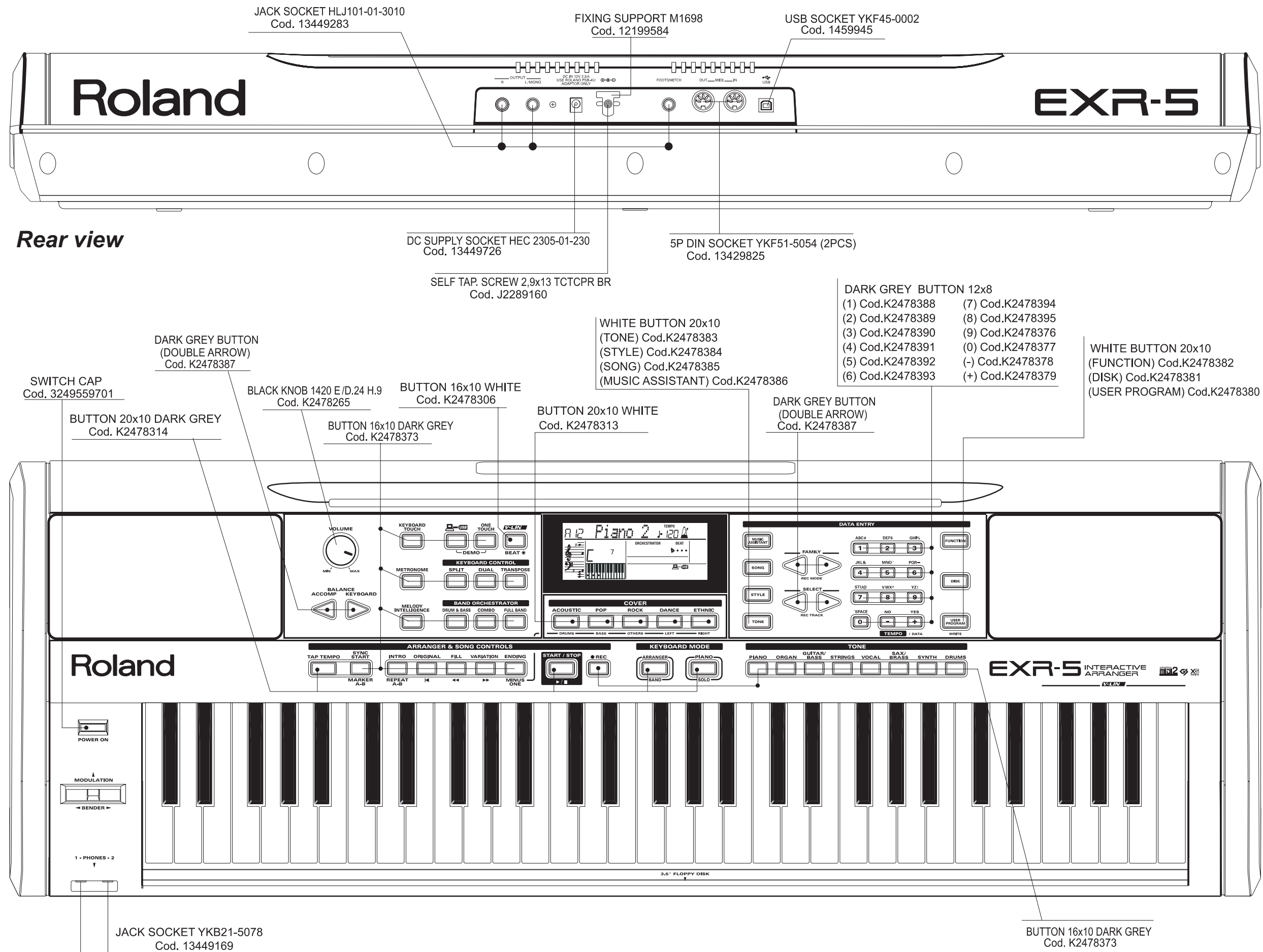
Note: Specifications are subject to change without prior notice.

DISASSEMBLY

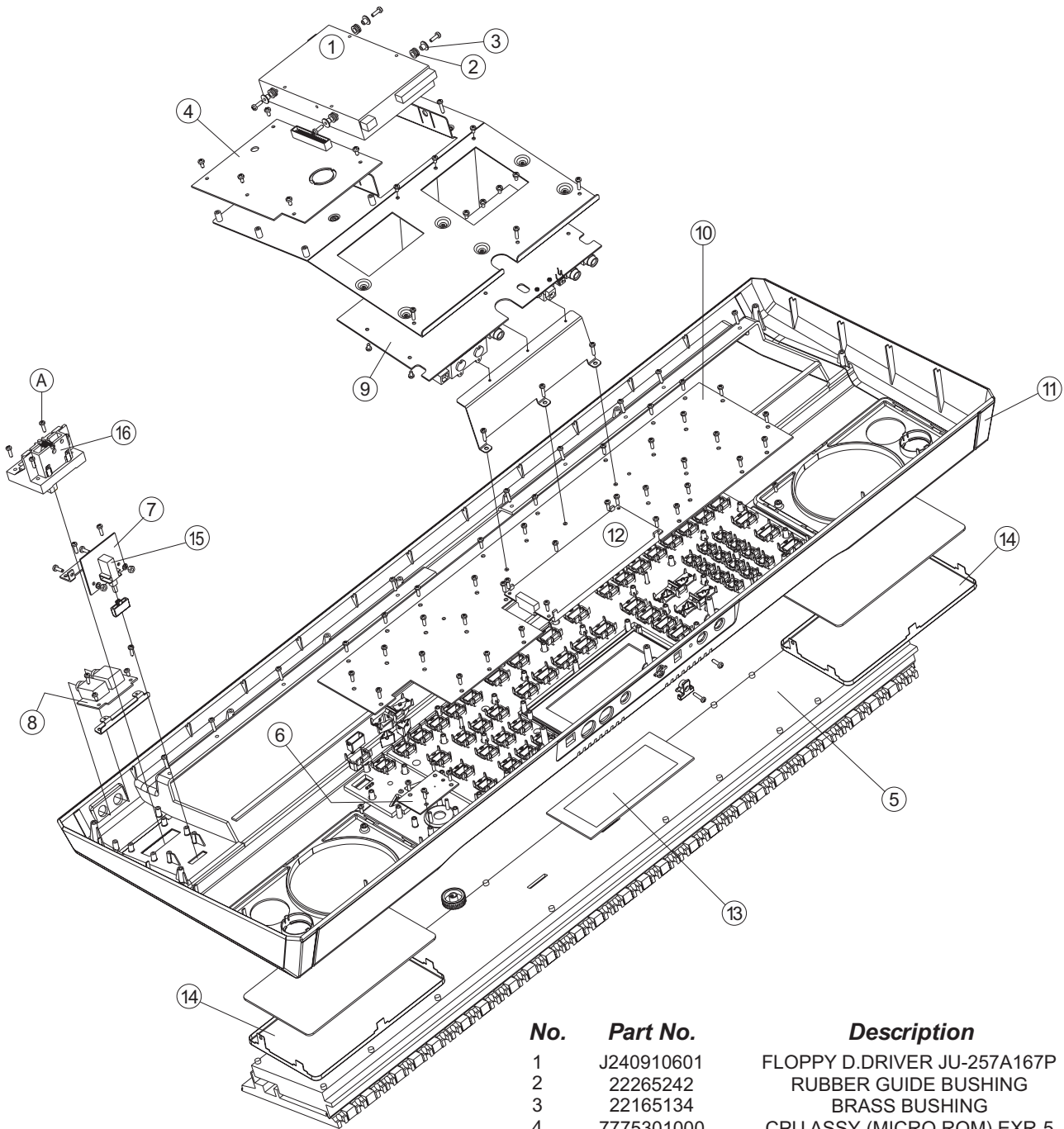


No.	Part No.	Description
1	K2198114	PLASTIC MUSIC REST EXR-5
2	K2018129	BOTTOM CABINET WITH EXR-5
(SCREW)		
A	J2289130	SCREW 2,9x13 TC TC PR TROP

LOCATION OF CONTROLS

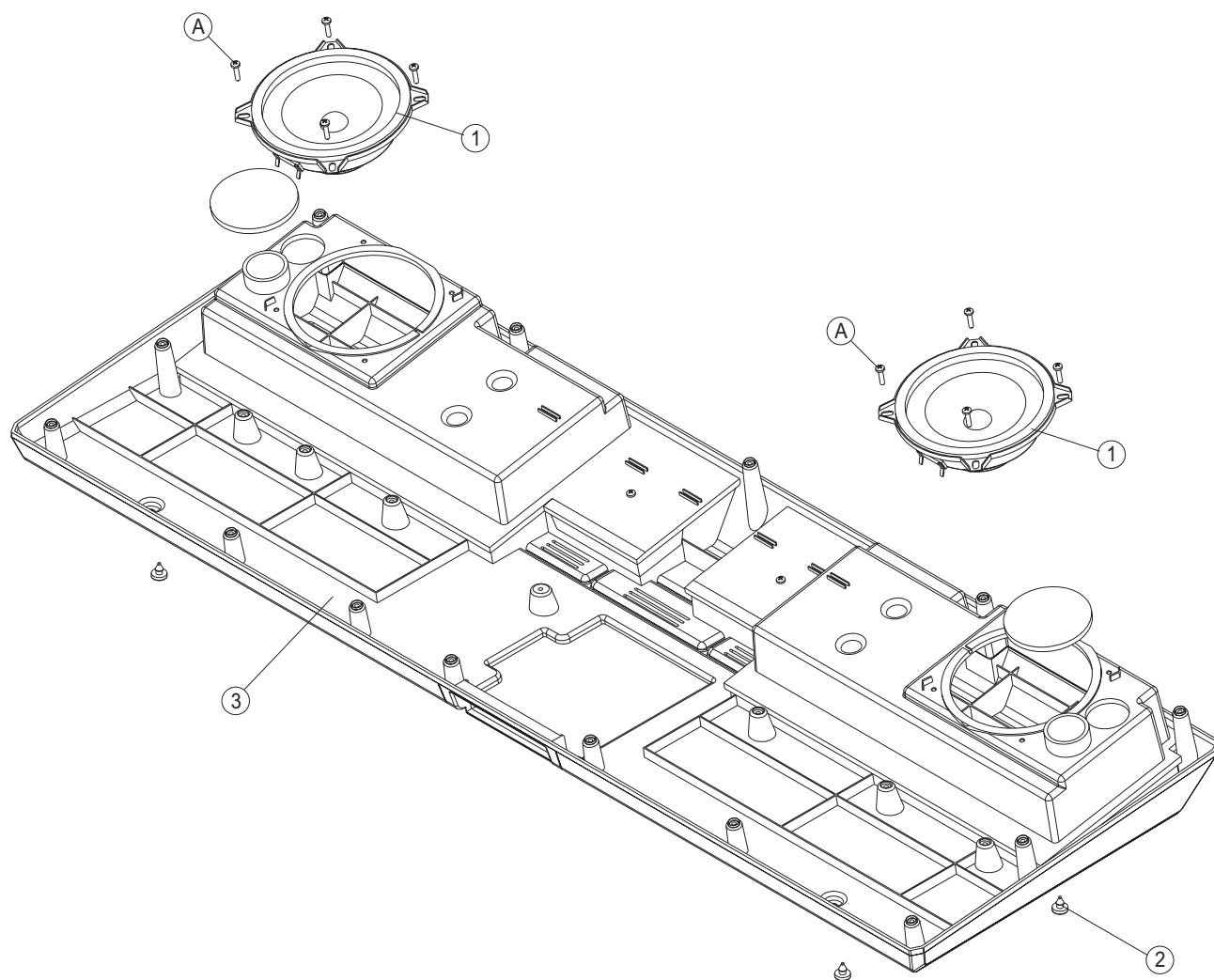


EXPLODED VIEW - TOP



No.	Part No.	Description
1	J240910601	FLOPPY D.DRIVER JU-257A167P
2	22265242	RUBBER GUIDE BUSHING
3	22165134	BRASS BUSHING
4	7775301000	CPU ASSY (MICRO ROM) EXR-5
5	7626921001	61 KEY KEYBOARD TP/7BA 2ND
6	7775305000	VOLUME PCB ASSY EXR-5
7	7775306000	C.S. SWITCH ASSY EXR-5
8	7775304000	HEADPHONE PCB ASSY EXR-5
9	7775302000	JACK SOCKET ASSY EXR-5
10	7775303000	CONTROL PCB ASSY EXR-5
11	7775315000	VARN.+SILK.TOP CBNT EXR-5
12	7775309000	LCD ASSY+CONNECT. EXR-5
13	7775310000	SILKSCREENED PLEXIGLASS EXR-5/3
14	K2248180	RIGHT/LEFT LOUDSPEAKER GRILL EXR-5
15	1676512	PUSH SWITCH SDKLA1-B
16	K3278112	PITCH BENDER SW+CABLE (36)+1C.
(SCREW)		
A	J2289125	SCREW 2,9x10 TC TC PR TROP
B	J2289101	SELF TAP. SCREW 2,9x6 TC TC
C	J2289130	SCREW 2,9x13 TC TC PR TROP
D	J2289108	SELF LOCK. SCREW M3x10 TCTC H.6
E	J2289193	SELF LOCK. SCREW M3x6 TC TC H.6
F	J2289113	NUT 3MA H.3
G	J2139102	TOOTHED WASHER I/D 3

EXPLODED VIEW - BOTTOM



No.	Part No.	Description
1	K2418125	LOUDSPEAKER MM130 4OHM RIF.2313
2	K2358105	PRESSURE RUBBER
3	K2018129	BOTTOM CABINET WITH BOX EXR-5

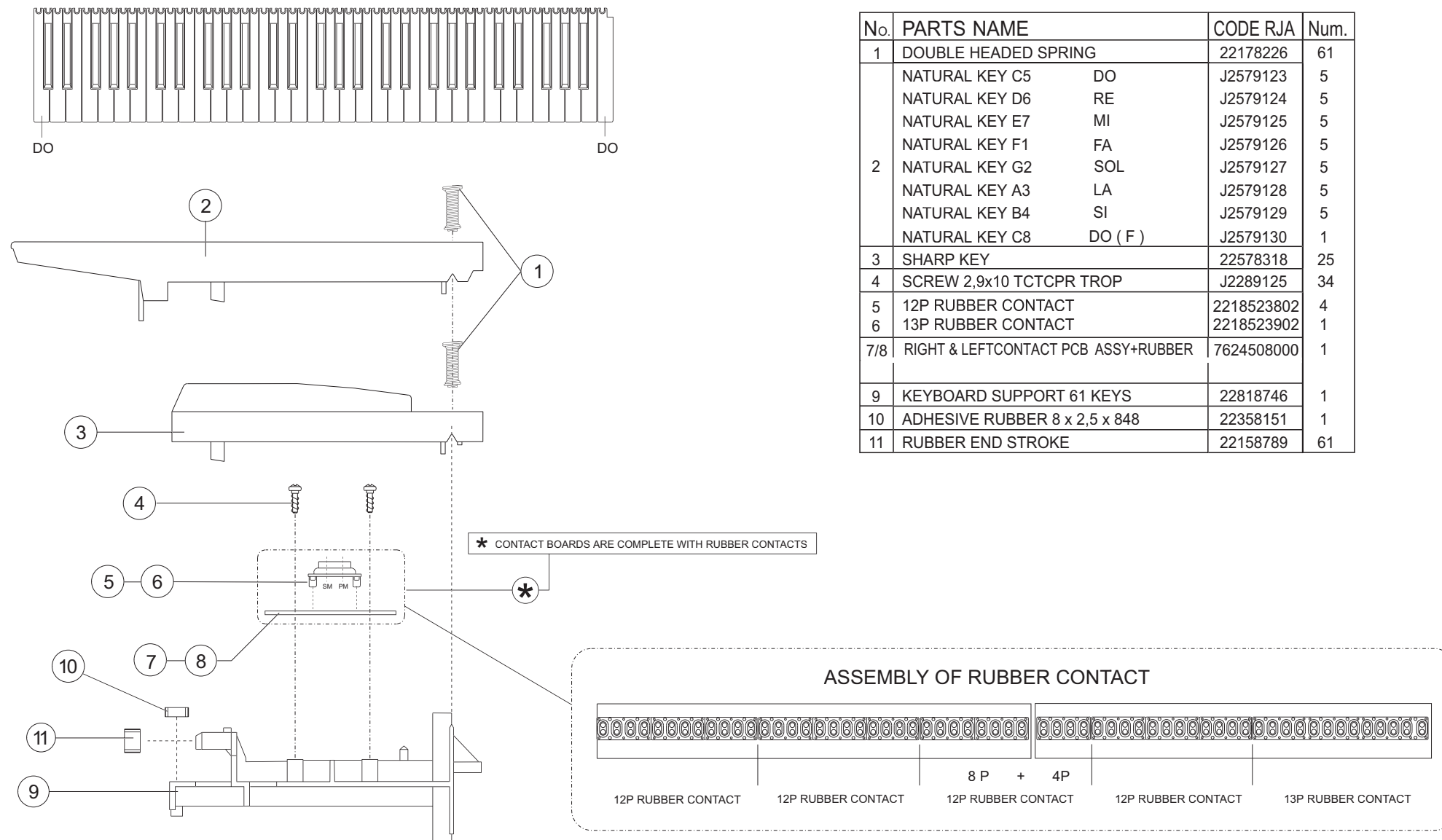
(SCREW)

A	J2289186	SCREW 3,5x16 TCPR TFR H.8 BRUN
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KEYBOARD PARTS LIST


61 KEY TP/7BA 2° KEYBOARD ASSY code 7626921001

No.	PARTS NAME	CODE RJA	Num.
1	DOUBLE HEADED SPRING	22178226	61
2	NATURAL KEY C5 DO	J2579123	5
	NATURAL KEY D6 RE	J2579124	5
	NATURAL KEY E7 MI	J2579125	5
	NATURAL KEY F1 FA	J2579126	5
	NATURAL KEY G2 SOL	J2579127	5
	NATURAL KEY A3 LA	J2579128	5
	NATURAL KEY B4 SI	J2579129	5
	NATURAL KEY C8 DO (F)	J2579130	1
3	SHARP KEY	22578318	25
4	SCREW 2,9x10 TCTCPR TROP	J2289125	34
5	12P RUBBER CONTACT	2218523802	4
6	13P RUBBER CONTACT	2218523902	1
7/8	RIGHT & LEFTCONTACT PCB ASSY+RUBBER	7624508000	1
9	KEYBOARD SUPPORT 61 KEYS	22818746	1
10	ADHESIVE RUBBER 8 x 2,5 x 848	22358151	1
11	RUBBER END STROKE	22158789	61



PARTS LIST

SAFETY PRECAUTIONS :

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

CONSIDERATION 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).

A The parts marked "A " are new (Initial Parts) for RES but already used by RJA

 The parts marked  have Safety - Related characteristics. Use only listed parts for replacement.

<< EMI >> Component for EMC.

Note : Replacement should be made on a unit basis. No replacements available for individual parts. Replacement only be a unit.

MB=Main Board, PHB=Phones Board, JKB=Jack Board, VB=Volume Board, CB=Control Board

CASING

Q.ty

#	K2248187	RIGHT/LEFT LOUDSPEAKER GRILL	EXR-5	2
#	K2198114	PLASTIC MUSIC REST	EXR-5	1
#	K2018129	BOTTOM CABINET WITH BOX	EXR-5	1
#	7775310000	SILKSCREENED PLEXIGLASS	EXR-3/5	1
#	7775315000	VARN.+SILK.TOP CBNT	EXR-5	1

KNOB BUTTON

	K2478265	BLACK KNOB	1420 E/D. 24 H.9	1
	K2478306	BUTTON	16X10 WHITE	1
	K2478313	BUTTON	20X10 WHITE	5
	K2478314	BUTTON	20X10 DARK GREY	4
	K2478373	BUTTON	16X10 DARK GREY	26
	3249559701	SWITCH CAP		1
#	K2478376	DARK GREY BUTTON	12/08 (9)	EXR-5
#	K2478377	DARK GREY BUTTON	12X8 (0)	EXR-5
#	K2478378	DARK GREY BUTTON	12X8 (-)	EXR-5
#	K2478379	DARK GREY BUTTON	12X8 (+)	EXR-5
#	K2478380	WHITE BUTTON	20X10 (USER PROGRAM)	EXR-5
#	K2478381	WHITE BUTTON	20X10 (DISK)	EXR-5
#	K2478382	WHITE BUTTON	20X10 (FUNCTION)	EXR-5
#	K2478383	WHITE BUTTON	20X10 (TONE)	EXR-5
#	K2478384	WHITE BUTTON	20X10 (STYLE)	EXR-5
#	K2478385	WHITE BUTTON	20X10 (SONG)	EXR-5
#	K2478386	WHITE BUTTON	20X10 (MUSIC ASSISTANT)	EXR-5
#	K2478387	DARK GREY BUTTON	(DOUBLE ARROW)	EXR-5
#	K2478388	DARK GREY BUTTON	12X8 (1)	EXR-5
#	K2478389	DARK GREY BUTTON	12X8 (2)	EXR-5
#	K2478390	DARK GREY BUTTON	12X8 (3)	EXR-5
#	K2478391	DARK BUTTON	12X8 (4)	EXR-5
#	K2478392	DARK GREY BUTTON	12X8 (5)	EXR-5
#	K2478393	DARK GREY BUTTON	12X8 (6)	EXR-5
#	K2478394	DARK GREY BUTTON	12X8 (7)	EXR-5
#	K2478395	DARK GREY BUTTON	12X8 (8)	EXR-5

SWITCH

	01676512	PUSH SWITCH	SDKLA1-B		1
	J3169105	SWITCH	TP-1101A / EVQ-PAE 05 R	SW1>61 on CB	61

JACK, SOCKET

	13449283	JACK SOCKET	HLJ7101-01-3010	JK2,4,6 on JKB	3
A	13449169	JACK SOCKET	YKB21-5078	JK9,10 on HPB	2
	13429825	5P DIN SOCKET	YKF51-5054 (2PCS)	JK1 on JKB	1
	01459945	USB SOCKET	YKF45-0002	JK3 on JKB	1

DISPLAY UNIT

#	7775309000	LCD ASSY + CONNECT.		EXR-5	1
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DISK DRIVE UNIT

	J240910601	FLOPPY D.DRIVER	JU-257A167P		1
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BENDER UNIT

#	<u>Note :</u> K3278112	PITCH BENDER SW + CABLE (36)+1C.			1
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SPEAKER

#	K2418125	LOUDSPEAKER	MM.130 4OHM RIF.2313		2
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KEYBOARD ASSY

7626921001 61 KEY KEYBOARD TP/7BA 2ND 1

NOTE: For details, refer to KEYBOARD PARTS LIST (Page 8)

PCB ASSY

#	7775303000	CONTROL PCB ASSY	EXR-5	1
#	7775302000	JACK SOCKET PCB ASSY	EXR-5	1
#	7775304000	HEADPHONE PCB ASSY	EXR-5	1
#	7775305000	VOLUME PCB ASSY	EXR-5	1
#	7775306000	SWITCH PCB ASSY	EXR-5	1
#	7775301000	CPU ASSY (MICRO ROM)	EXR-5	1
#	7624508000	CONTACT PCB 61 KEYS W/RUBBER		1

IC

A	15229718RI	I.C. 6N 137	PHOTO-COUPLER	IC2 on JKB	1
	01907778	I.C. HD64F7017F28		IC2 on MB	1
	15169550RI	I.C. 74 HC138	DIP CMOS	IC3 on CB	1
	J5159107	I.C. 74 HC574	CMOS	IC2 on CB	1
	15249111	I.C. TC7WU04 F	FLAT CMOS	IC23 on MB	1
	J5259102	I.C. 74 HC 273	FLAT CMOS	IC48 on MB	1
	00129278	I.C. SSC1080 FOB	(CUSTOM IC)	IC9 on MB	1
	01342978	I.C. TC160G22AF-1253	FLAT	IC3 on MB	1
	J5259120	I.C. HM5118160CJ-6	FLAT	IC18 on MB	1
	01126612	I.C. LC324260AJ60/AS4C256K16E050JCT		IC28 on MB	1
#	J5259160	I.C. AM29F160DB-75EC 16M	FLASH	IC36,37,38 on MB	3
	15199780	I.C. HD63266FP-64A	FLAT	IC8 on MB	1
	01679978	I.C. RA09-002 (XP6)	CUSTOM	IC24 on MB	1
#	J5259161	I.C. M66291GP	USB CONTROLLER	IC39 on MB	1
A	03344445	IC MX3000AS		IC3 on JKB	1
	15259885	I.C. TC7S32F	CMOS	IC7,27 on MB	2
	K5258146	I.C. TC74VHC139F	FLAT	IC1 on MB	1
	15249121	I.C. TC7W04F		IC4 on MB	1
	J5259150	I.C. TC 7W32F	FLAT	IC35 on MB	1
#	J5259162	I.C. TC 74VHCT00AF		IC34 on MB	1
	02340756	I.C. TC7WH32FU	(FLAT)	IC30 on MB	1
	02565212	I.C. SN74LV245A-PW		IC40,44,46 on MB	3
	J5169106	I.C. 74LS04	TTL	IC1 on JKB	1
	15189250	I.C. M5218 AL	(STANDING)	IC5,6,9 on JKB	3
	15189189	I.C. UPC 4570HA VERT.	(OP.AMP.)	IC8 on JKB	1
	J5189102	I.C. TD 62593 AP	DIP	IC1 on CB	1
	15199937	I.C. M51953 BFP	FLAT	IC5 on MB	1
	01451578	I.C. AK4324-VF-E2	DAC	IC31 on MB	1
	15189261	I.C. BA 5218 AFP-600E	FLAT	IC47 on MB	1
	J5199110	I.C. L4940V5		IC7 on JKB	1
	01670890	I.C. PQ3DZ53U	REGULATOR	IC21 on MB	1
	J5259133	I.C. TA7805 AF		IC29 on MB	1
#	J5259163	I.C. LP2950 CZ-3.3		IC10 on JKB	1
	00562601	I.C. LA4705	POWER AMP	IC4 on JKB	1
#	7775307000	I.C. MICRO IC2 CPU EXR-5		IC2 on MB	1
#	7775308000	I.C. FLEX ROM IC26 CPU EXR-5/EXR-3		IC26 on MB	1

TRANSISTOR

	15129114	TRANSISTOR	2SC-1815GR	Q18,6 on JKB	2
	15129136	TRANSISTOR	2SC-2878-A/B	Q2,3,19,20 on JKB	4
	15129602	TRANSISTOR	2SD-667C	Q7 on JKB	1
	15129164	TRANSISTOR	DTC-114ES	Q4,5,17 on JKB	3
	15119163	TRANSISTOR	RN2227	Q2,3 on CB	2
	15119141	TRANSISTOR	DTA-114 ESATP	Q18,6 on JKB	1

DIODE

	15019159RI	DIODE	1N-4148	D15,16 on JB/on CB	185
	15119126	DIODE	1SS-133T REDUCED PITCH	D1,2,3,9,14 on JKB	5
	15339108	DIODE	DA-204K	D1,2 on MB	2
	00019356	DIODE	1SR139-400 T-32	D10,12 on JKB	2
	01905134	SCHOTTKY DIODE	MA7D49	D13 on JKB	1
#	J5019118	LED DIODE	SLI-343DC 3F/UV ORANGE	D9,10,11,12,21,22,23,24,35,36 on CB	11
#	J5019119	LED DIODE	SLA 560EBT XM GREEN	D33 on CB	1
#	J5019120	LED DIODE	SLA 560BBT3F XJ (BLU)	D45 on CB	1

RESISTOR

	J3709119	RESISTOR	4.7K OHM 1/8W 5%		6
	J3919104	RESISTOR ARRAY	EXB-A10E-103-J	RA2,5,10,14,17,22,24,34,38,26,27,28,29 on MB	13
	J3919107	RESISTOR ARRAY	EXB-V8V-101-JV	RA33,40,41,42 on MB	4
	J3919108	RESISTOR ARRAY	EXB-V8V-103-JV	RA8,19,20,21,25 on MB	5
	J3919109	RESISTOR ARRAY	EXB-V8V-470-JV	RA3,4,6,7,9,12,13,15,16,18 on MB	10
	J3919110	RESISTOR ARRAY	EXB-V8V-R00-0V	RA55,56,57,58,59,60 on MB	6
	00126101	RESISTOR ARRAY	EXB-V8V-221-JV	RA36,37,39 on MB	3
	J3919115	RESISTOR ARRAY	EXB-V8V-223-JV	RA30,31,32 on MB	3
	J3809134	UNINFL.RES.	27 OHM 0.6W 5%	R35 on CB	1
	J3809158	ININF. RESISTOR	3.3 0.6W 5%	R33 on CB	1
	J3809150	UNINFL.RES.	33 OHM 1/4W 5%	R5,6,7,8,9,10,11 on CB	8
	J3809156	UNINFL. RES.	47 OHM 0.6W 5%	R1,2,3,4 on HPB	4

J3809139	OXIDE RESISTOR	2.2 OHM 3W	R78,83 on JKB	2
01783623	RESIST. 2010	10 OHM1/2W 5%	R210,89 on MB	2

POTENTIOMETER

00459901	ROT. POT.	10KB 14K 1230	VR1 on VB	1
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CAPACITOR

J3629144	ELCTRL.COND.	470UF 16V AX	C5 on CB	1
13639154	ELECTRL.COND.-V	1000UF 16V	on JKB	1
J3469156	ELECTR. COND.	33U 35V P.5	C26,50,51,60,63,91,97,109 on JKB	8
J3629122	ELECTRL.COND.-V	1000UF 25V	C30,54,42,73 on JKB	4
J3629103	ELECTRL.COND.	100U 25V P5	on JKB	12
J3629104	ELECTRL.COND.	10U 50V P5	C23,28,46,52,67,300,301 on JKB	7
J3629105	ELECTRL.COND.	47U 50V P5	on JKB	1
J3629107	ELECTRL.COND.	1UF 100V P5	C9,6,40 on JKB	3
J5369104	ELECTR. COND. RV2	10U 16V (SMD)	C17,24,127,139,140,148,173,210,277,287,293,294,315,317,318,319,326,328,330 on MB	19
J5369105	ELECTR. COND. RV3	33U 16V (SMD)	C1,13,16,120,290,291,292,348,349,206,323,329 on MB	13
J5369106	ELECTR. COND. RV2	1U 50V (SMD)	C49,302 on MB	2
J3629149	ELECTR.COND.	100U 16V H.7	C4 on CB	1
J3629137	ELECTR. COND.	33U 16V H.7	C2,6,7 on CB	3
13649103J0	UNPOL.COND.	10U 50 P5	C89,96,104,107 on JKB	4

INDUCTOR, COIL, FILTER

<<EMI>>	12449382RI	NOISE SUP.	PLT1-R53C	FL1 on JKB	1
<<EMI>>	12449380	NOISE SUP.	EXC-ELDR25V	L1,2 on HPB	2
<<EMI>>	00452034	CHIP NOISE SUP.	BK2125HM102	on MB	34
<<EMI>>	12449355	NOISE SUP.	FBR07H850TB00	L1,6,8 on JKB	3
<<EMI>>	01340834	FERRITE BEAD	EXCML 20A390	L2,3,4,5 on JKB	4
<<EMI>>	J2399109	NOISE SUP.	ELKE471FA CHIP	FL3 on MB	1

CRYSTAL, RESONATOR

	00901912	X-TAL	24.576 MHZ MA-406	X3 on MB	1
	01340745	XTAL	MA-406 12MHZ	X4 on MB	1
	01126267	X-TAL	7.056 MHZ MA-406	X1 on MB	1
#	J2389104	RESONATOR	CSTLS4M00G53-BO (4MHZ)	X1 on JKB	1

CONNECTOR

	13419677RI	16P FEM. CONNECTOR AMP 1.27		CN8,9 on MB / RIGHT, LEFT Contact B	4
	13369689RI	20P FEM. CONNECTOR AMP 1.27		CN13 on MB	1
	J3429122	14P FEM. CONNECTOR AMP 1.27		CN3 on MB	1
#	J3429129	FEMALE CONNECTOR 18P AMP1,27		CN2 on MB	1
#	J3429130	8P FEMALE CONNECTOR PHR-8 P.2 JST		CN16 on MB / CN5 on CB	2
	13369688RI	4P MALE CONN. P 2.5 M		CN5 on JKB / CN1 on SWITCH B	2
	J3439121	6P MALE CONN. P.2 M		CN3 on JKB	1
	J3439143	34P MALE CONN. P. 1.27 M		CN7 on MB	1
	J3439123	6P MALE CONN. P. 2 M 90		CN2 on VB / CN3 on JKB	1
	J3439142	3P MALE CONNECTOR P/2.5 M		CN2 on JKB	1
	J3439148	7P MALE CONNECTOR P.2 M		CN5 on HPB, CN8 on JKB	2
	J3439184	4P MALE CONNECTOR 90 P.2.5M 5046-04		CN6 on JKB	1
#	J3439189	8P MALE CONNECTOR B8B-PH-K-S P.2 JST		CN5 on CB, CN16 on MB	2

WIRING, CABLE

	K3468221	4P CABLE (66) -2C D/R		From CN5 on JB to CN1 on SWITCH B	1
#	K3468280	4P CABLE (76/50) P.2,5 -1C		From CN6 on JB to SPEAKERS	1
#	K3468281	34P FLAT CABLE (18) + FERRITE -2C D/D		From CN7 on MB to FDD	1
	J3469159	AWG18 CBL (12) GREEN + FASTON (2)			2
#	7775311000	3P CABLE ASSY 2V/1R (24) 3+4P CONNEC.		From CN2 on JKB to FDD	1
#	7775314000	2P CABLE ASSY COAXIAL (24) -2C P.2 D/R		From CN3 on JKB to CN2 on VB	1
	7712023000	7P CABLE ASSY (72) -2C P.2 D/R		From CN5 on HPB to CN8 on JKB	1
#	7775312000	8P CABLE ASSY (40) -2C P.2 JST D/R		From CN16 on MB to CN5 on CB	1
	7771707000	16P CABLE ASSY (28)+ALUM. -2C D/R		From CN9 on MB to RIGHTContact B	1
	7771708000	16P CABLE ASSY (38)+ALUM. -2C D/R		From CN8 on MB to LEFTContact B	1
#	7775313000	18P CABLE ASSY (32) -C1+1 D/D		From CN2 on MB to CN2 on CB	1

AC INLET

	13449726	DC SUPPLY SOCKET	HEC 2305-01-230	JK7 on JKB	1
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SCREW

	J2289122	SCREW	2.2X6 TC TC BRUN		2
	J2289101	SELF TAP.SCREW	2.9X 6 TC TC		9
	J2289102	SELF TAP.SCREW	2.9X10 TC TC		2
	J2289126	SELF TAP.SCREW	2.9X 8 TCTCPRBZ		2
	J2289125	SCREW	2.9X10 TC TC PR TROP		49
	J2289130	SCREW	2.9X13 TC TC PR TROP		37
	J2289160	SELF TAP.SCREW	2.9X13 TCTCPR BR		1
	J2289108	SELF LOCK.SCREW	M3X10 TCTC H.6		7
	J2289193	SELF LOCK.SCREW	M3X6 TC TC H.6		9
	J2289186	SCREW	3.5X16 TCPR TFR H.8 BRUN		8

PACKING

	K2678105	CARTENE ENVELOPE HD 140X57	1
	K2678106	POLYETH.ENVELOPE 4OX55	1
#	K2618298	OUTER PACKING EXR-5	1
#	K2638300	RIGHT POLY. END SIDE EXR-5	1
#	K2638301	LEFT POLY. END SIDE EXR-5	1

MISCELLANEOUS

	J2289113	NUT 3MA H.3	2
	J2139102	TOOTHED WASHER I/D 3	2
	22165134	BRASS BUSHING	4
#	K2268185	RIGHT VIBRATION DAMPER (GREY) EXR-5	1
#	K2268186	LEFT VIBRATION DAMPER (GREY) EXR-5	1
	22265242	RUBBER GUIDE BUSHING	4
	K2358105	PRESSURE RUBBER	4
	J2399107	FERRITE RING CORE FSOB250RT	1
	12199584	FIXING SUPPORT M1698	1
	1342982301	POWER SUPPLY SOCKET HOLDER N2	1
	22365708	HOLDER F/POWER SUPPLY CBL	1

ACCESSORIES

#	K6018533	TONES/STYLES SHEET EXR-3/5	1
#	K6018534	SONGS SHEET EXR-3/5	1
#	K6018535	USB SHEET EXR-3/5	1
#	K6018531	OWNER'S MANUAL (E/F/SP) EXR-3/5	1
#	K6018532	OWNER'S MANUAL (G/IT/D) EXR-3/5	1
#	K2448115	SWITCHING ADAPTER MOD.SA165A-1250U-3(40)	1
#	K3468279	USB CABLE M.2 BLACK EXR-5	1
#	⚠ J3439188	AC CORD 230V FOR ADAPT.SA165A-1250U	1
#	⚠ J3439190	AC CORD 117V FOR ADAPT.SA165A-1250U	1
#	⚠ J3439192	AC CORD 230VE FOR ADAPT.SA165A-1250U	1
#	⚠ J3439191	AC CORD 240VA FOR ADAPT.SA165A-1250U	1

HOW TO SAVE HOW TO VERSION UP

Since EXR-5 has a flash memory for the System Program registration, you can update it by floppy disk.

Items Required:

SOFTWARE UPDATE DISK 1 EXR-5 (Code: 7775316000)

SOFTWARE UPDATE DISK 2 EXR-5 (Code: 7775317000)

HOW TO VISUALIZE THE SOFTWARE VERSION

In order to visualize the instrument's software version, turn the power on while keeping the buttons FUNCTION and 1 pressed at the same time.

The display visualizes:

VER X.XX

To exit, turn the power off.

HOW TO SAVE THE SOFTWARE ON A FLOPPY DISK

NOTE: Use unprotected formatted HD floppy disk

Turn the instrument on while keeping the buttons FUNCTION and 3 pressed. The display visualizes:

Save Sys

Then:

Ins Dsk #1

Insert disk 1 into the Floppy Disk Drive:

When this step is completed, the display visualizes:

Ins Dsk # 2

Insert disk 2 into the floppy disk drive.

When the software saving is completed, the display visualizes:

COMPLETE

The saving procedure is completed. Turn the power off.

HOW TO UPDATE THE SOFTWARE

Turn the power on while keeping the buttons FUNCTION and 2 pressed. The display visualizes:

Ins Dsk#1

Insert Disk 1 into the Floppy Disk Drive. Then the display visualizes:

Loading

When this step has been completed, the display visualizes:

Ins Dsk #2

Insert Disk 2 into the Floppy Disk Drive. When the software loading is completed, the display visualizes:

COMPLETE

The flash loading is completed.

Remove Disk 2 from FDD, turn the power off and, after a few seconds, turn it on again while keeping the button USER PROGRAM pressed. This way, the system will carry out the factory set-up automatically.

HOW TO CARRY OUT THE FACTORY SETUP

Turn the instrument on while keeping the button USER PROGRAM pressed. The factory set-up is carried out automatically.

CAUTION !!

When the FACTORY SETUP is carried out, all the user's personal settings will be lost and replaced by factory settings.

TEST MODE

The general test menu has a hierarchical structure. You can get back to each menu page or up to the **MAIN MENU** page. The button **0** (0 = EXIT) allows you to interrupt any test except for:

Rom Test
Ram Test
WR Test

To enter TEST MODE turn the power on while keeping button 1 pressed.

At first, the display visualizes the test software version (i.e.: 1.02)

TEST V. X . XX

After a few seconds, it shows:

P K A M

Pressing the following buttons, you will enter the relative tests.

- 1** Control Panel Test (P1: first step, P2: second step, FDD: third step)
- 2** Keyboard Test
- 3** Audio Test
- 4** Memory Test

CONTROL PANEL TEST

By pressing button 1, the display visualizes:

p1 p2 FD

Press button 1	P1	Control Panel Test
Press button 2	P2	Rear panel test
Press button 3	FD	Floppy Disk

(P1) Control Panel Test

Pressing button 1, you enter the Control panel test and the display visualizes:

Sw Le Lc Be

Pressing the button 1, you select Sw	(SWITCH TEST);
Pressing the button 2, you select Le	(LED TEST);
Pressing the button 3, you select Lc	(LCD TEST);
Pressing button 4, you select Be	(PITCH BENDER TEST);

Press 0 to get back to the main menu.

SWITCH TEST

Pressing button 1, you enter the Switch test:

Press the buttons on the control panel one by one in sequence. The display visualizes the name of the button pressed and you hear a sound.

The switch test ends when all the control panel's buttons have been pressed and the system goes automatically back to the main menu (Sw, Le, Lc, Be).

If you want to exit before pressing all the buttons, you can go back to the main menu (Sw, Le, Lc, Be) by keeping the buttons 1 and 0 pressed at the same time.

LED TEST

Pressing button 2, the display visualizes :



The LEDs light up in sequence. At the end of the sequence they are all on.

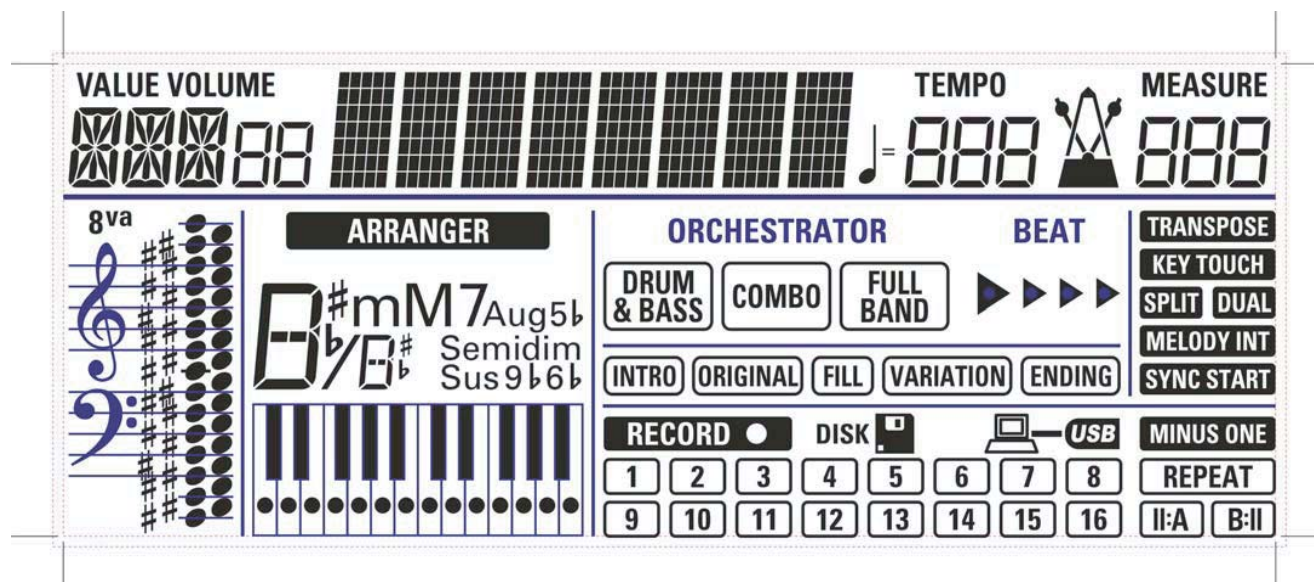
To exit, press button 0 (Exit).

LCD TEST

Pressing button 3, the display visualizes:



Pressing button 1 (ON), the display visualizes:



Press button 0 (Exit) to get back to the previous menu page.

Pressing button 2, the display shows the characters and symbols that are visualized when off.

Press 0 (Exit) twice to go back to the main menu.

PITCH BENDER TEST

Pressing button 4, the display visualizes:

OFF 0

Moving the Pitch Bender lever onwards, the value changes from OFF to ON. When releasing it, the value changes from ON to OFF.

Moving the lever all leftwards, the display visualizes -128; moving the lever all rightwards, the display visualizes 127. Releasing the lever in central position, the display visualizes 0.

Press 0 (Exit) twice to go back to the main menu.

(P2) Rear Panel Test

Go to main menu and press button 2. The display visualizes:

Foot MIDI

Connect a Sustain Pedal (ie.:DP-2) to EXR-5 FOOT SWITCH output.

Press button 1 to select the pedal test. Nothing is visualized on the display.

Press and release the pedal. The display visualizes:

Sus XXX

XXX: ON if the pedal is full pressed; OFF if the pedal is released. Press 0 (Exit).

MIDI Test

Pressing button 2, the display visualizes:

IN < - > OUT

After connecting the Midi cable by short-circuiting the IN / OUT sockets, the display visualizes:

OK (successful connection) or
ER (connection failed).

To exit press button 0 (Exit) then, press button 1

(FD) Floppy Disk Test

Pressing button 3, the display visualizes:

FD TEST

Then:

Insert Disk

Insert an unprotected and formatted HD floppy disk into the floppy disk driver.
After a few seconds the display visualizes:

OK or Er

The system automatically writes and reads the disk.

Wait for the test result before leaving test mode:

OK : if the test is successful;
Disk Error: if there are any writing or reading problems;
WRProt: if a protected disk has been inserted.

Once the test has been completed, extract the disk.

To exit press the button 0 (Exit).

KEYBOARD TEST

Pressing button 2 on the main menu, the display visualizes:

YY XXX

When you press the keys, the display visualizes the number of the key pressed and its velocity value.

YY: Key (from 36 to 96)

XXX: Velocity value

To exit press the button 0 (Exit).

AUDIO TEST

CAUTION: Make sure the instrument is powered by an adaptor SA165A-1250U-3.

Pressing button 3 on the main menu, the display visualizes:

Si Ft Ef

Pressing button 1, the display visualizes:

SINE

Test procedure:

1. Insert a stereo jack into the headphones socket;
2. Put the volume potentiometer at max;
3. Check by an oscilloscope that the signals at the stereo jack have the following values (tolerance +/- 5%):

	LEFT	RIGHT
Amplitude	3,10Vpp	3,30Vpp
Frequency	880Hz	1760Hz

To exit press button 0 (Exit).

NOTE:

The audio test can also be carried out when powering on. In order to do it, turn the instrument on while keeping the button 3 pressed.

Frequency test (FT test)

Pressing button 2 you enter **FT** test. The display visualizes:

f 1 f 2 f 3

Pressing button 1, you hear a sine sound of 100 Hz coming from both right and left loudspeakers and the display visualizes:

100 Hz

To exit press button 0 (Exit).

If you press button 2, you hear a sine sound of 1000 Hz coming from both right and left loudspeakers and the display visualizes:

1000 Hz

To exit press button 0 (Exit).

If you press button 3, you hear a sine sound of 5000 Hz coming from both right and left loudspeakers and the display visualizes:

5000 Hz

To exit press the button 0 (Exit) twice.

Effect Test

On Audio Test menu, pressing button 3, the display visualizes:

REV CHO

Pressing button 1, you select REVERB TEST;
Pressing button 2, you select CHORUS TEST;

Reverb test

Pressing button 1, the display visualizes:

Reverber

You hear a reverberated drum sound from the loudspeakers.

To exit press button 0 (Exit).

Chorus test

Pressing button 2, the display visualizes:

Chorus

You hear a square wave sound with chorus effect coming from the loudspeakers.

To exit press button 0 (Exit) 3 times.

MEMORY TEST

Pressing button 4 on the main menu, the display visualizes:

M1 M2

Pressing button 1, the display visualizes:

Pg Ra FI

Pressing button 1 to enter Pg, the display visualizes:

WAIT

Then, the display visualizes the test result:

Ok: test succeeded
Er: test failed

To exit press button 0 (Exit).

Pressing button 2 (to enter Ra), the display visualizes:

Wait

Then, the display visualizes the test result:

Ok: test succeeded
Er: test failed
FI test is deactivated.

Press 0 to get back to the main menu.

Press button 2, the display visualizes:

Wr Eram

Pressing button 1 (**Wr**), the display visualizes:

Wave Rom

Once the test is completed, the display visualizes the test result:

Ok: test succeeded
Er: test failed

Press 0 to get back to the main menu. Pressing button 2 (**Eram**), the display visualizes:

Eram Test

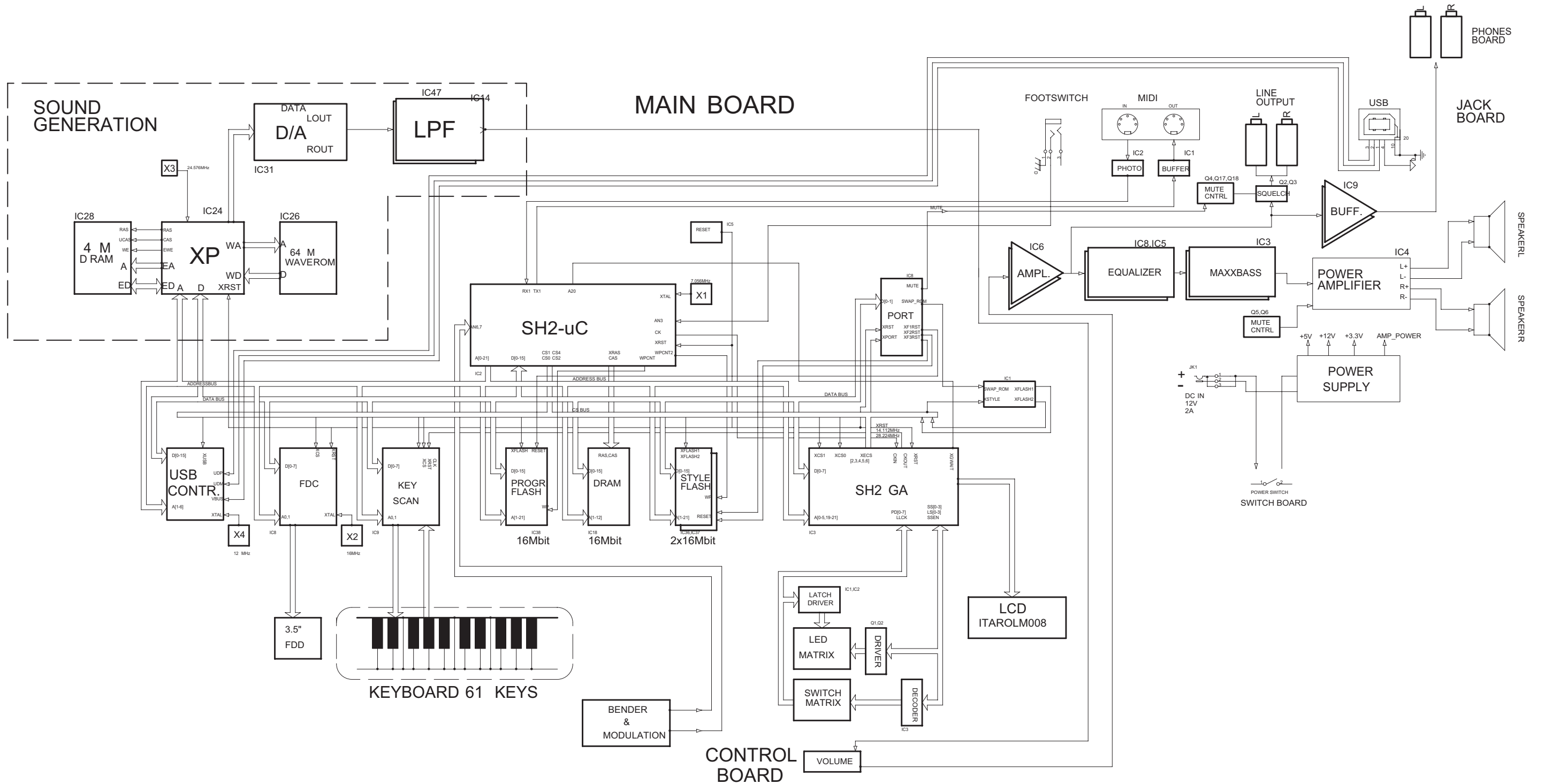
Once the test is completed, the display visualizes the test result:

Ok: test succeeded
Er: test failed

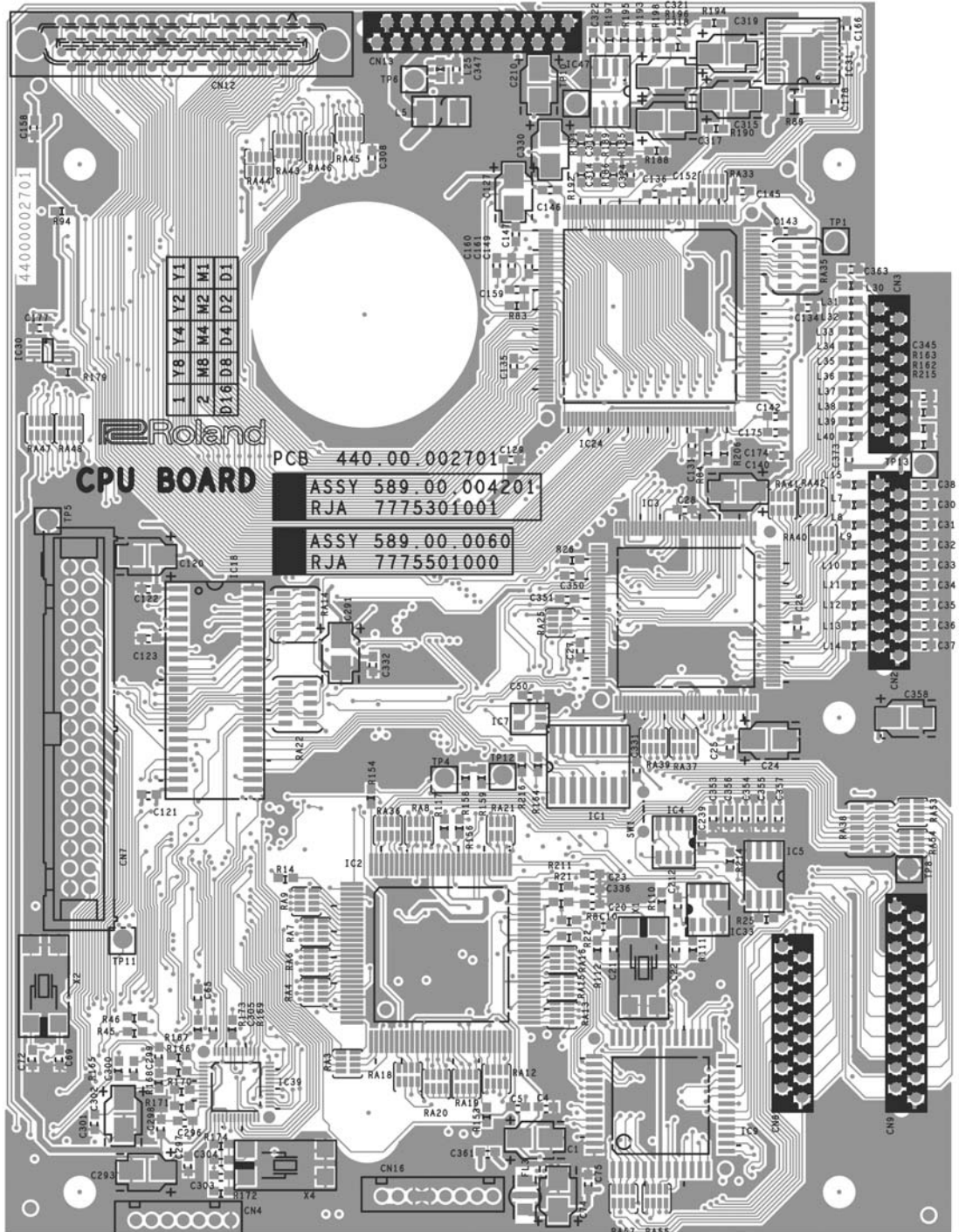
To exit press button 0 (Exit).

Press it again to get back to the main menu. **To exit, turn the power off.**

BLOCK DIAGRAM

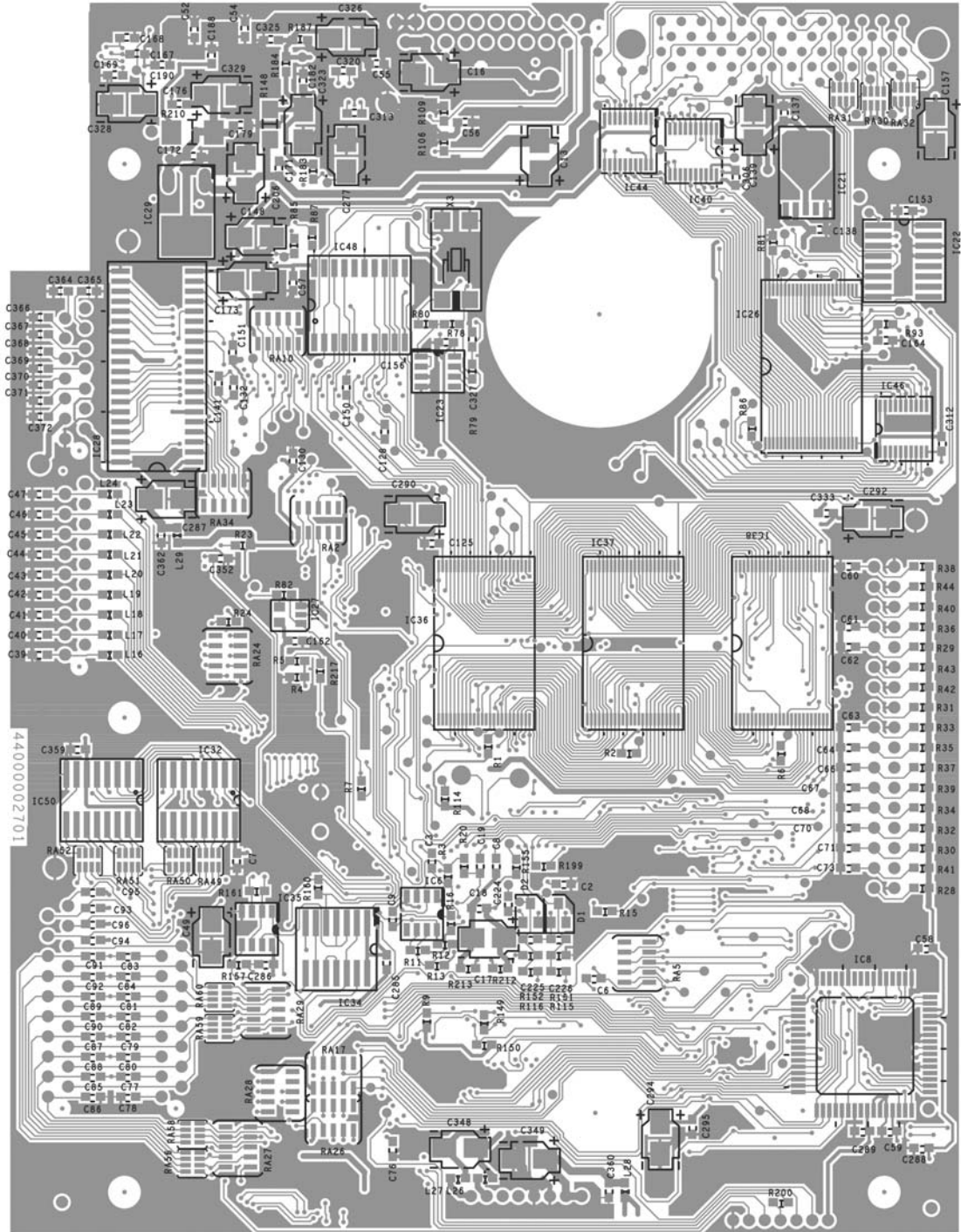


CIRCUIT BOARD (MAIN)



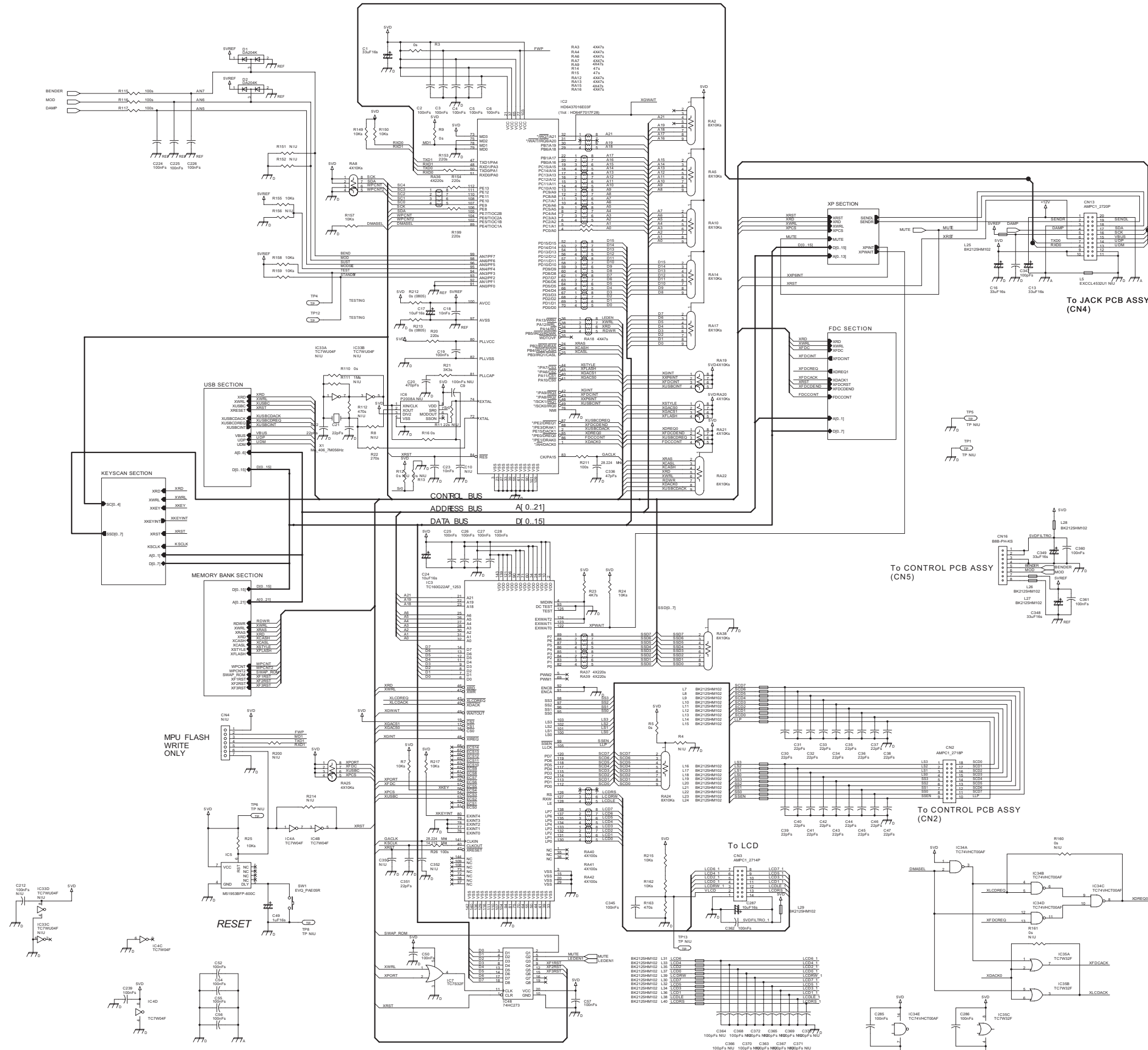
View from component side

CIRCUIT BOARD (MAIN)

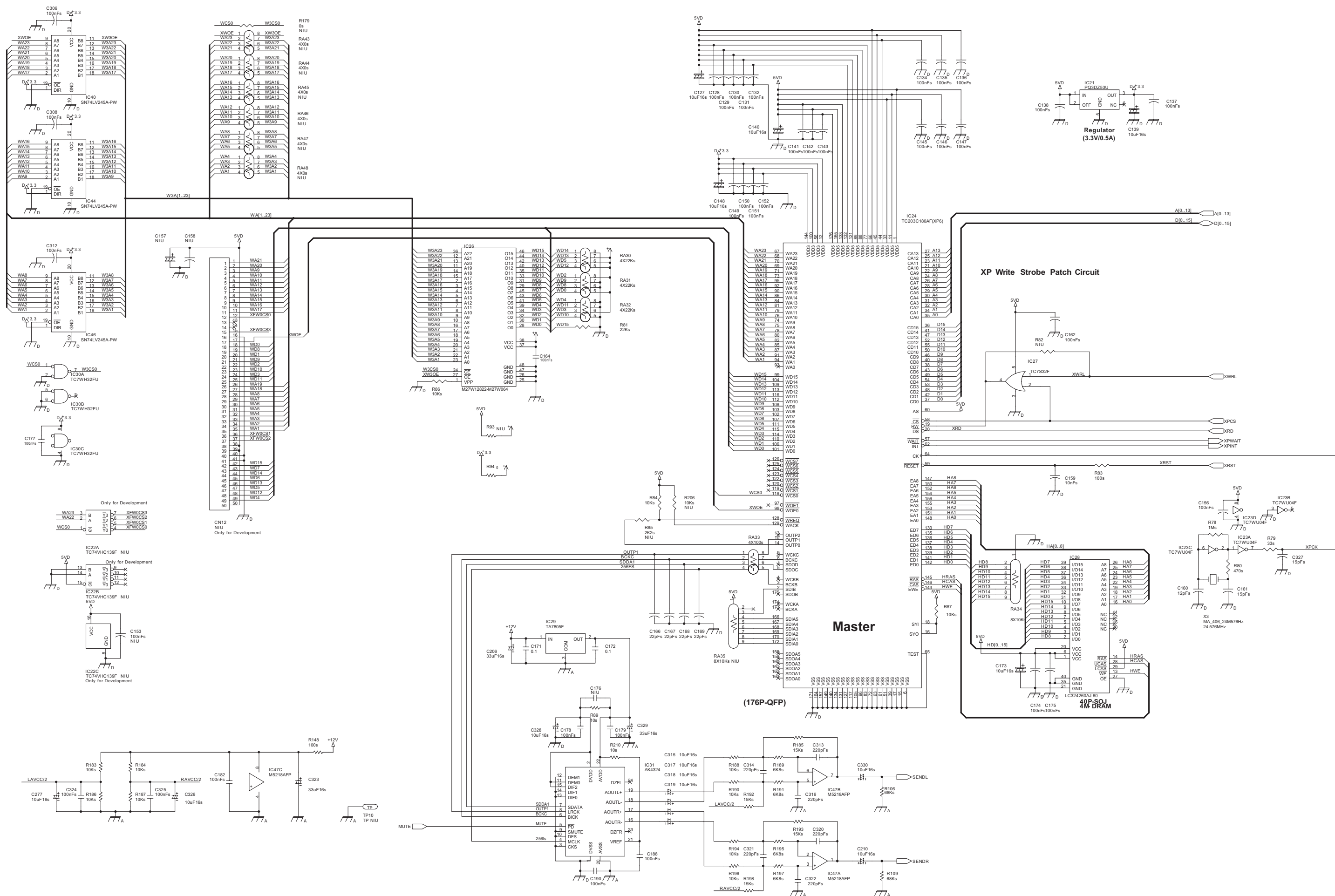


View from solder side

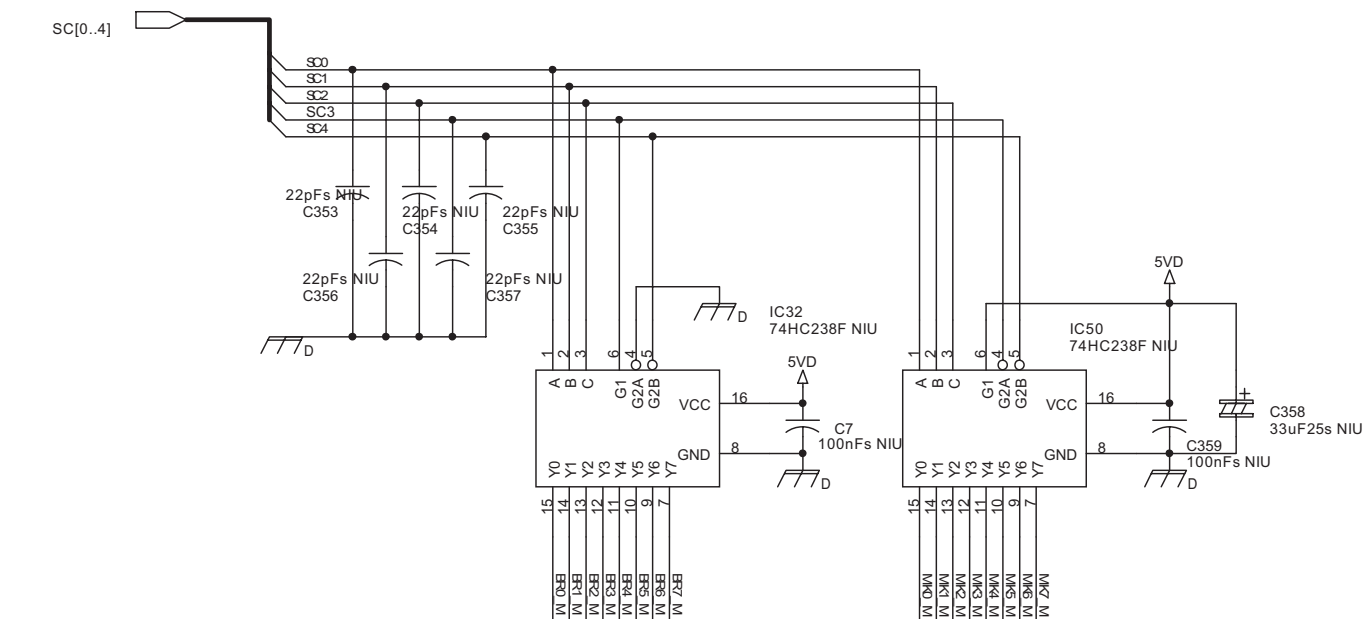
CIRCUIT DIAGRAM (MAIN 1/6)



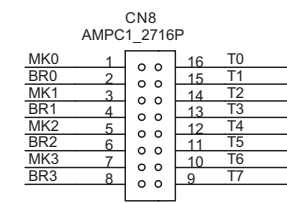
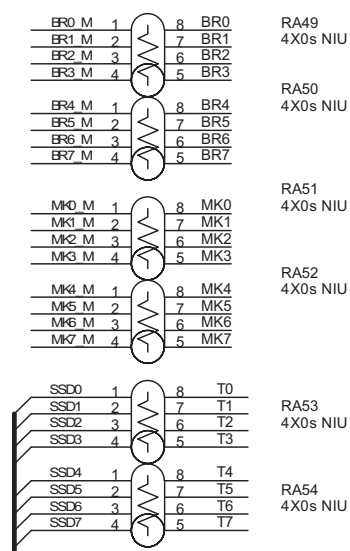
CIRCUIT DIAGRAM (MAIN 2/6 - XP SECTION)



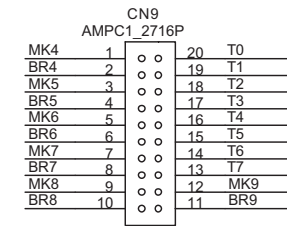
CIRCUIT DIAGRAM (MAIN 3/6 - KEY SECTION)



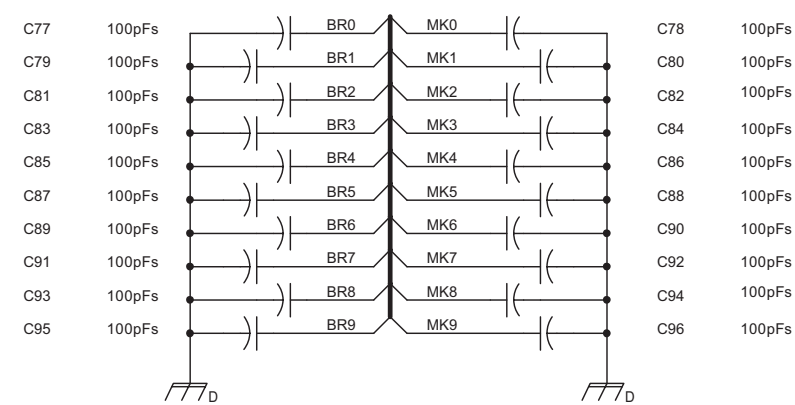
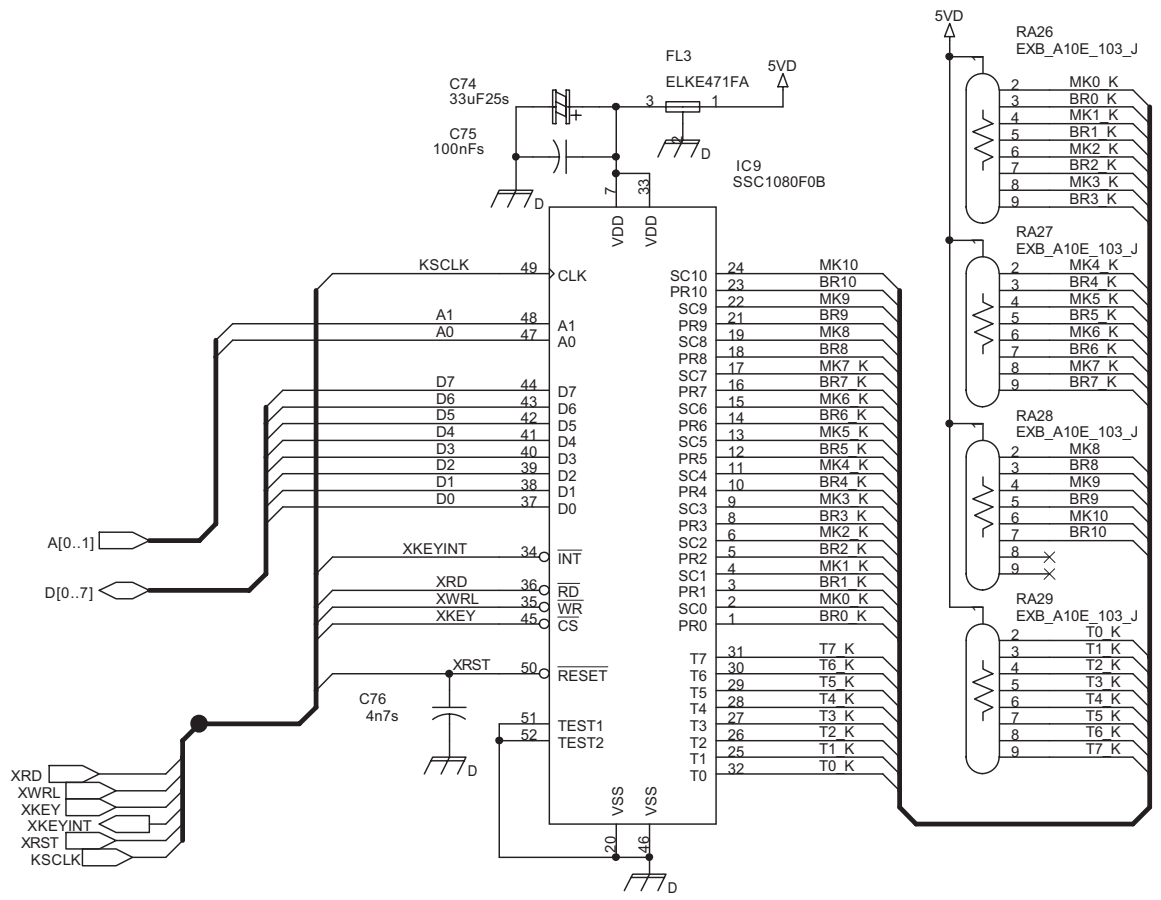
SSD[0..7]



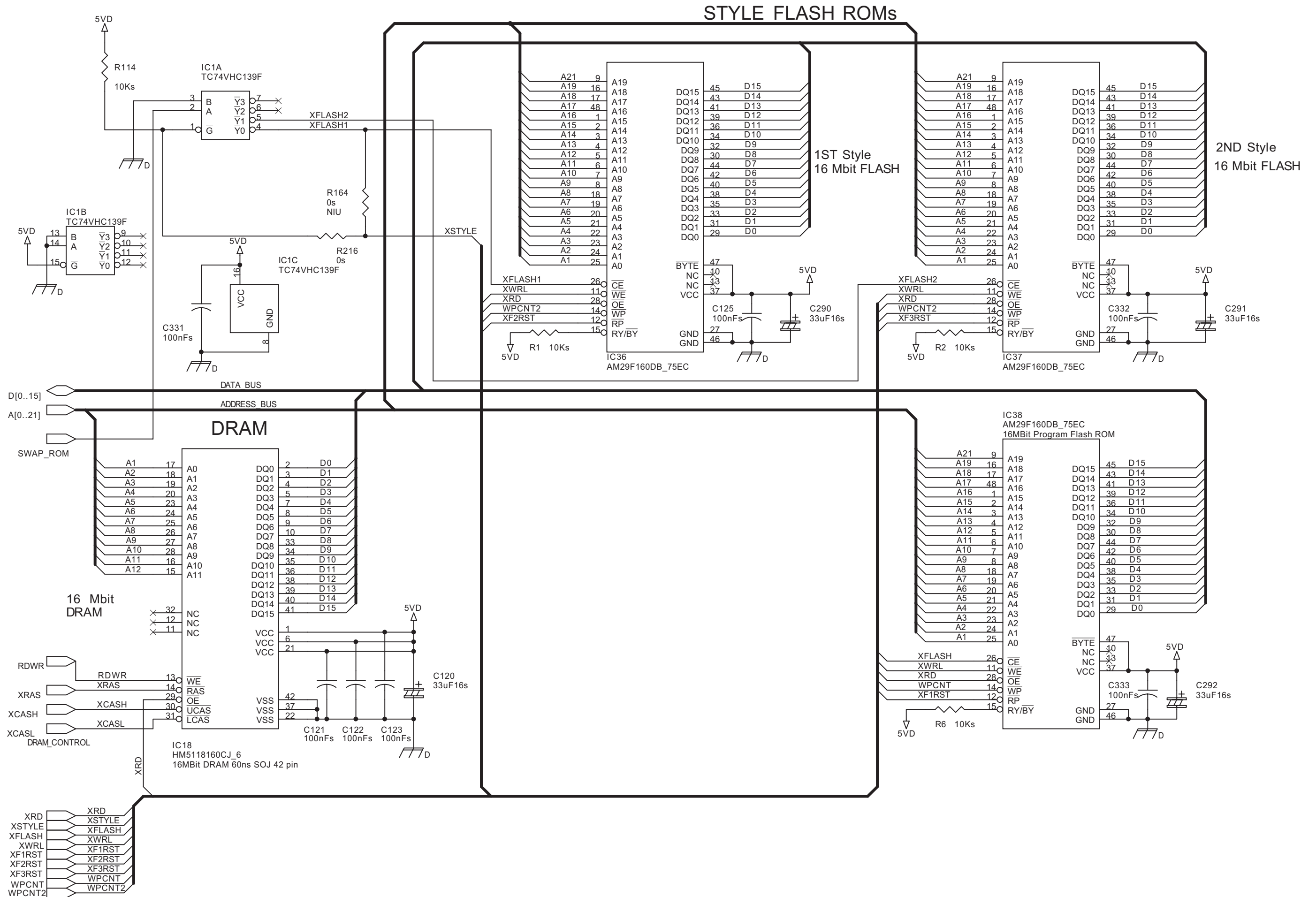
To LEFT CONTACT PCB Assy



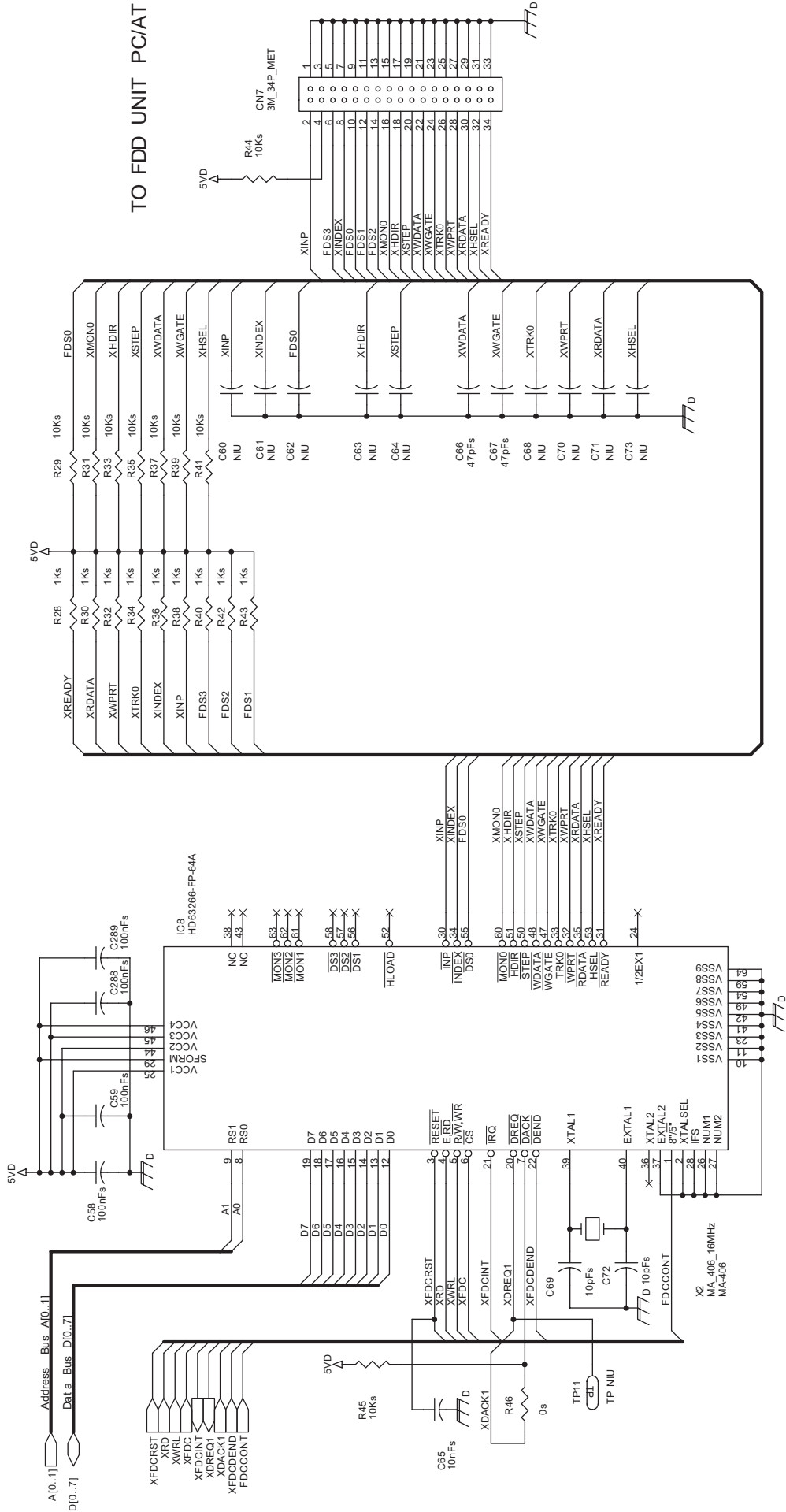
To RIGHT CONTACT PCB Assy



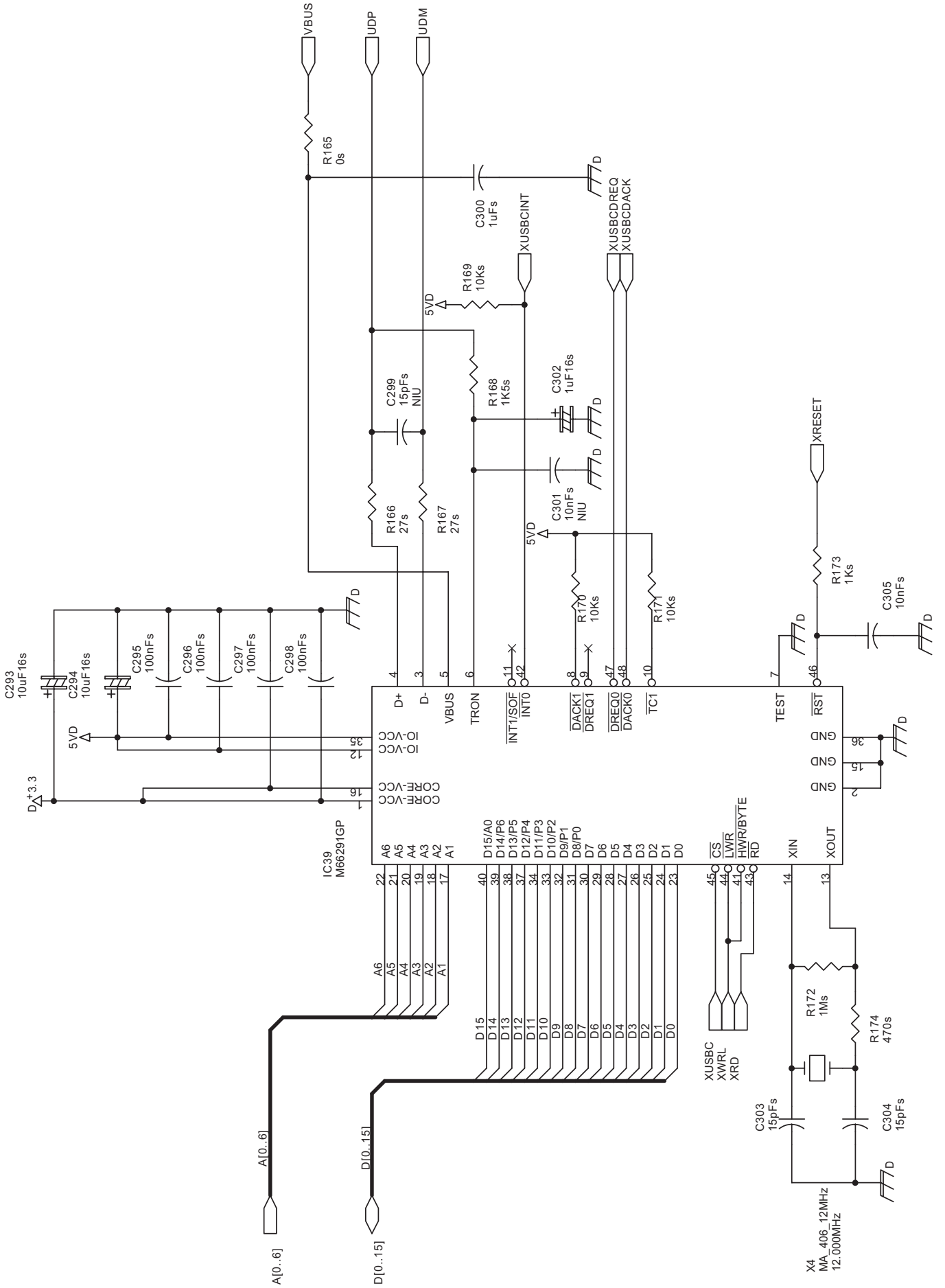
CIRCUIT DIAGRAM (MAIN 4/6 - MEMORY SECTION)



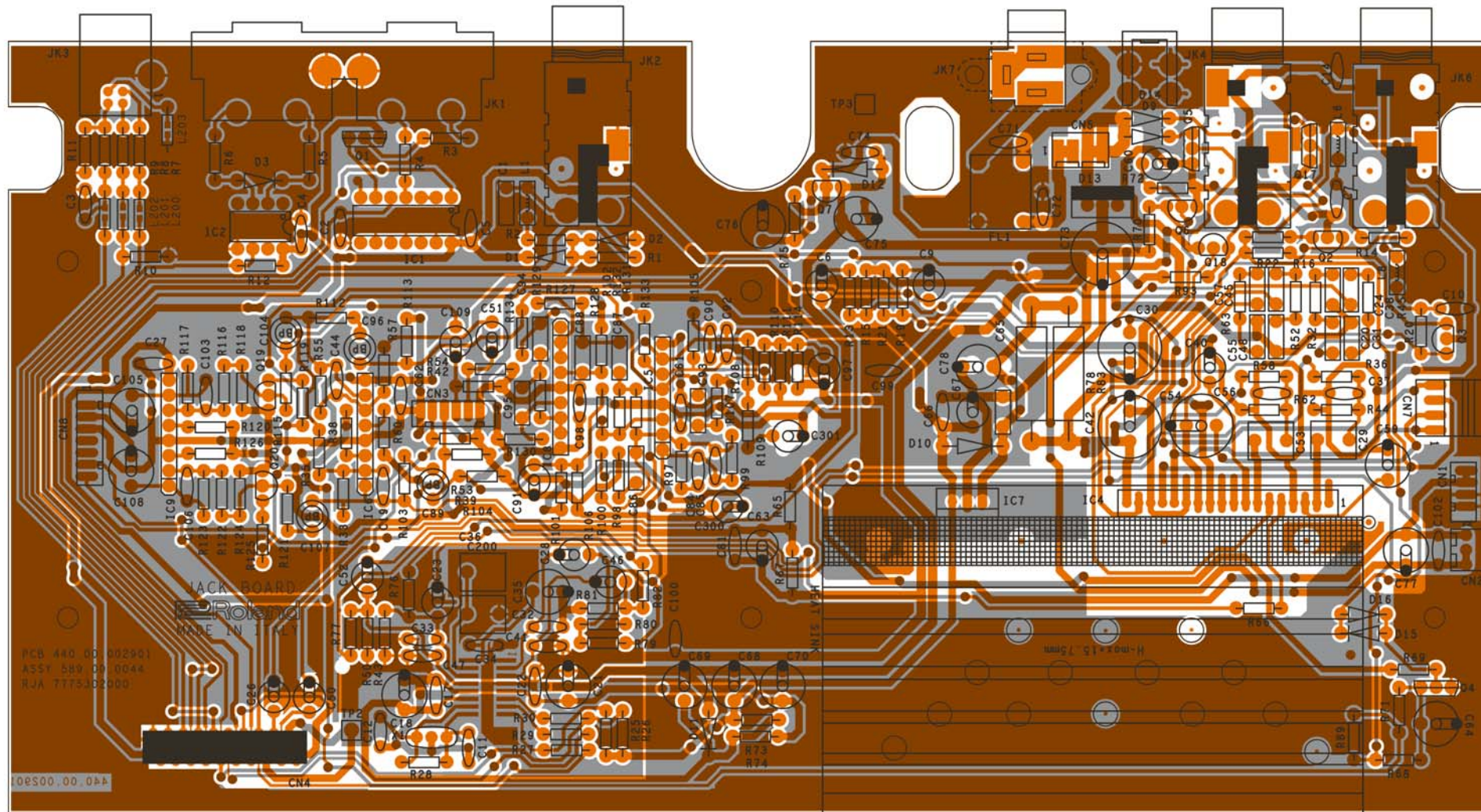
CIRCUIT DIAGRAM (MAIN 5/6 - FDC SECTION)



CIRCUIT DIAGRAM (MAIN 6/6 - USB SECTION)

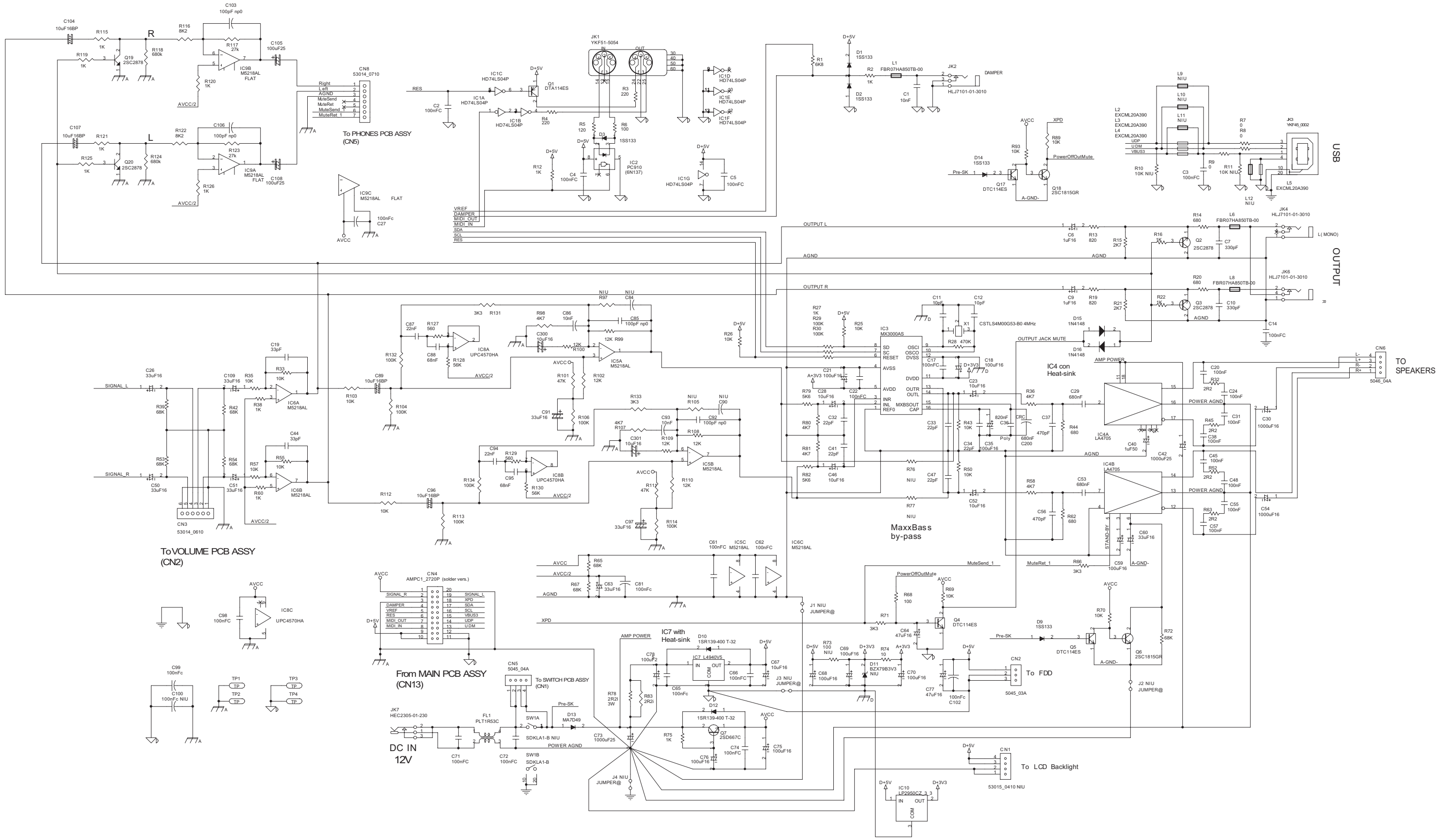


CIRCUIT BOARD (JACK)

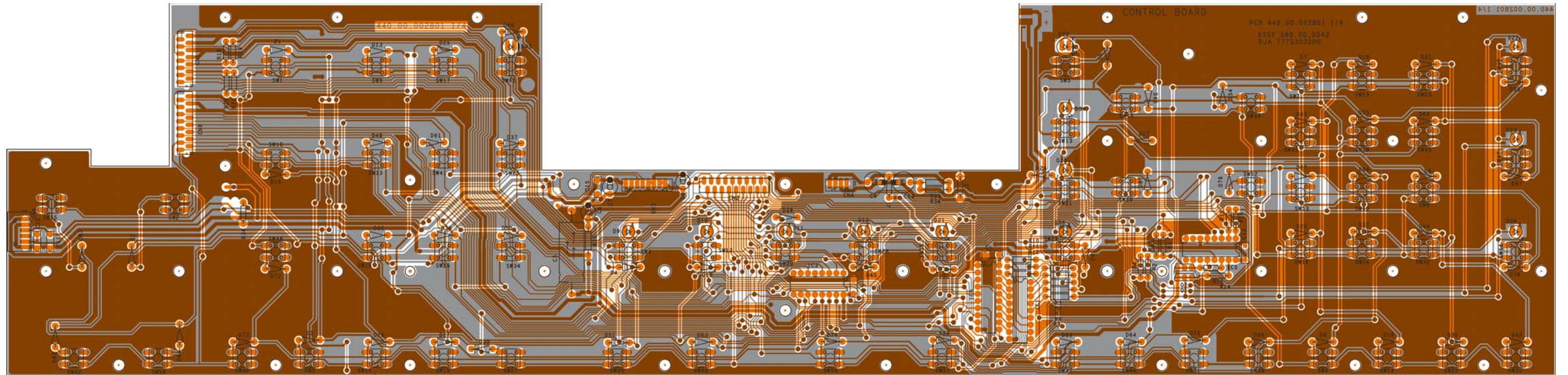


View from component side

CIRCUIT DIAGRAM (JACK)

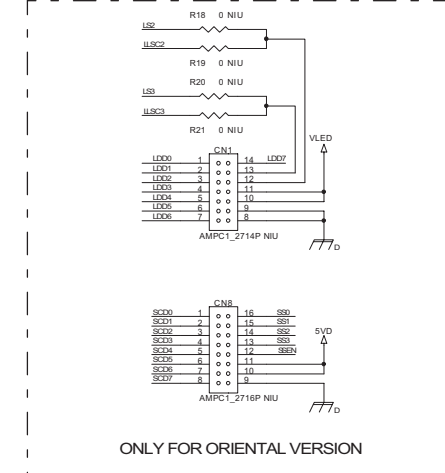
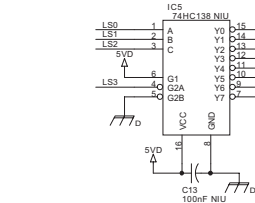
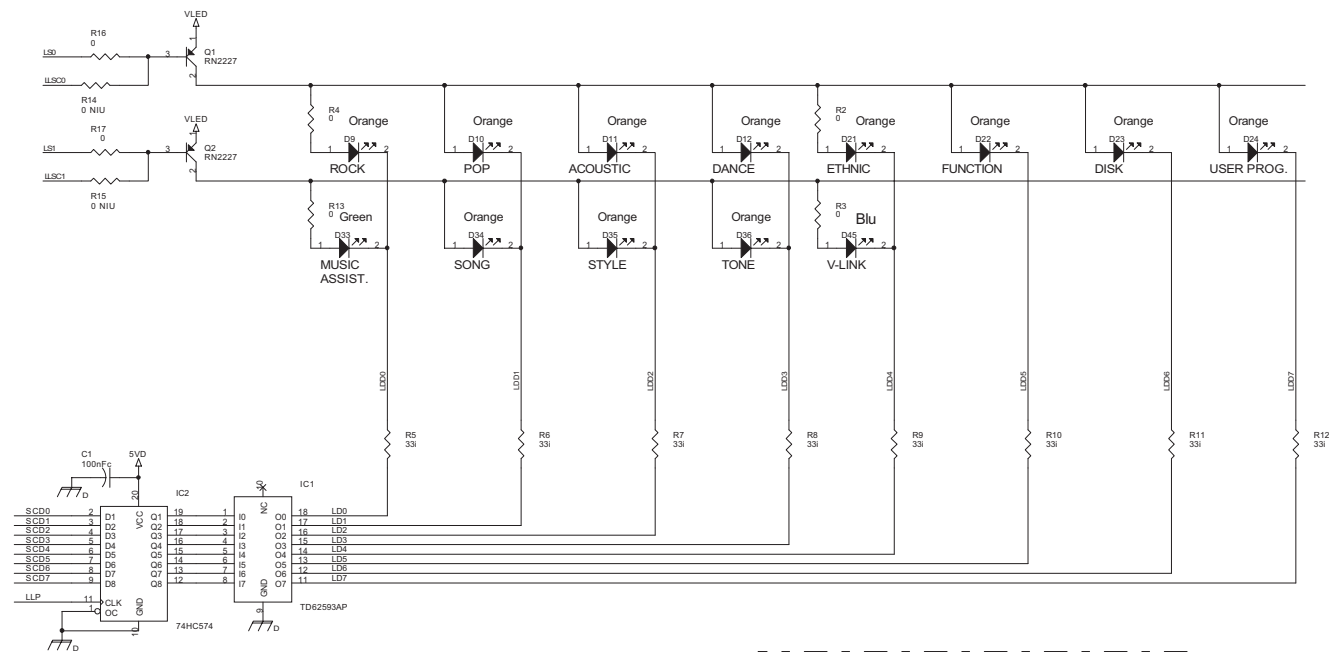
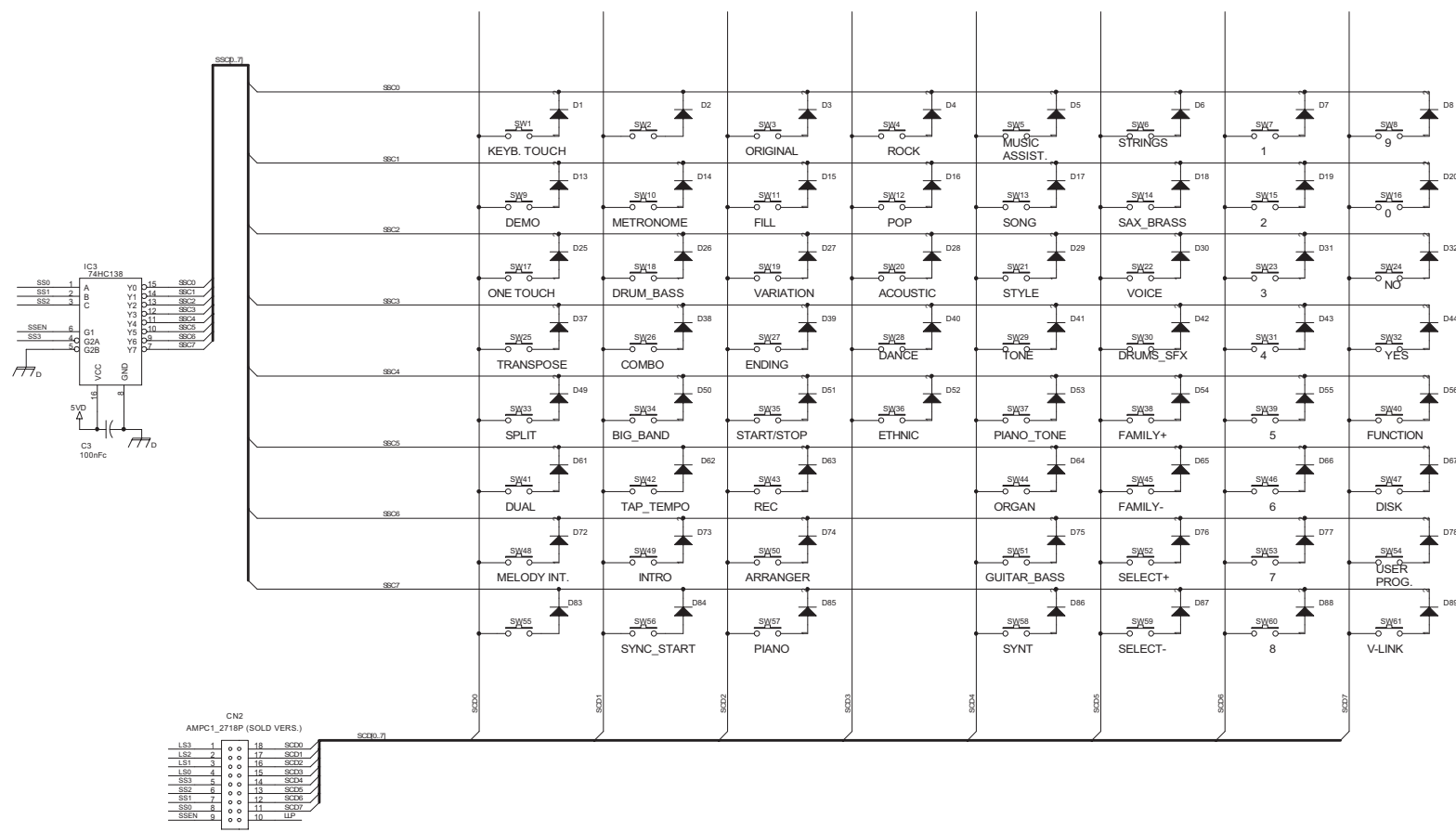


CIRCUIT BOARD (CONTROL)



View from component side

CIRCUIT DIAGRAM (CONTROL)



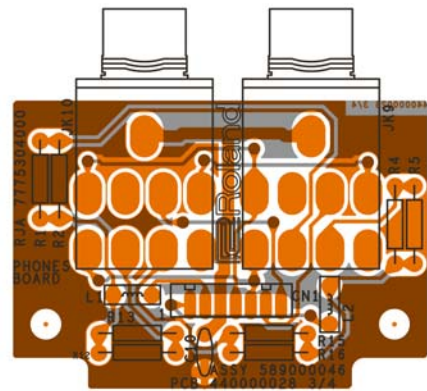
To MAIN PCB ASSY (CN2)

To MAIN PCB ASSY (CN16)

To PITCH BENDER

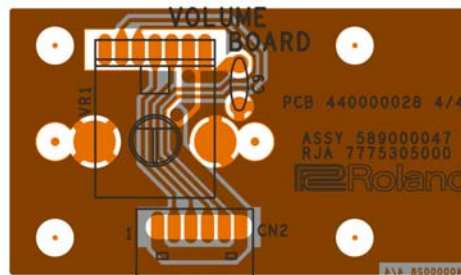
To LCD Backlight

CIRCUIT BOARD (PHONES)



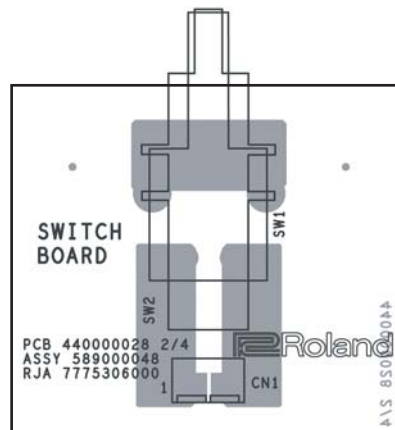
View from component side

CIRCUIT BOARD (VOLUME)



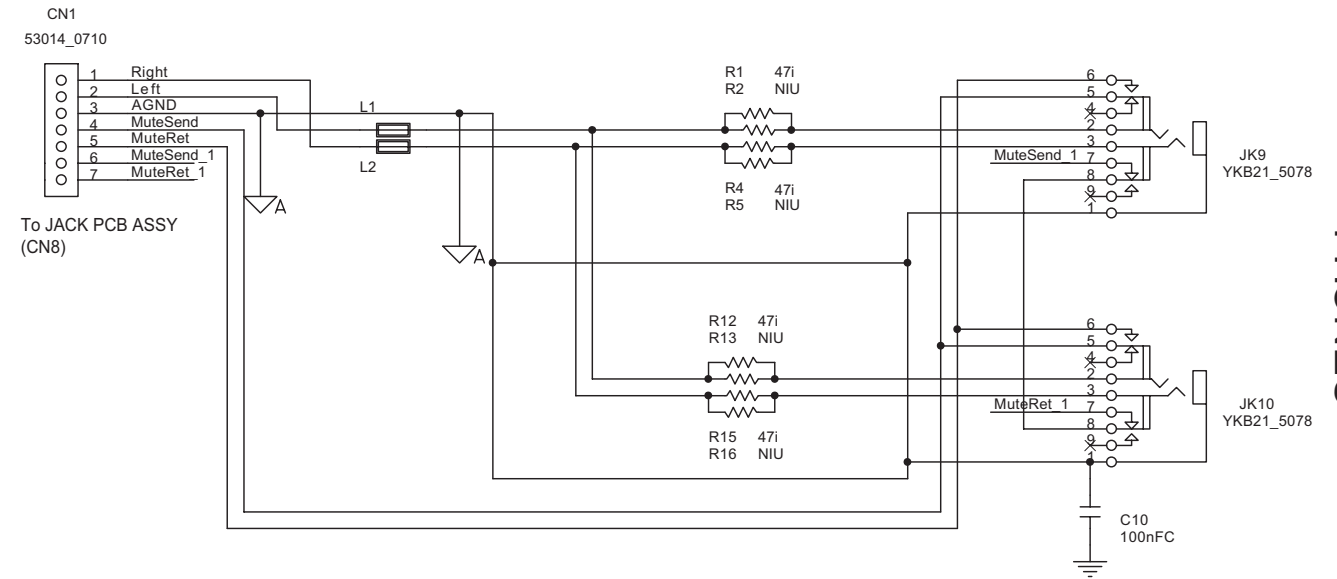
View from component side

CIRCUIT BOARD (SWITCH)



View from component side

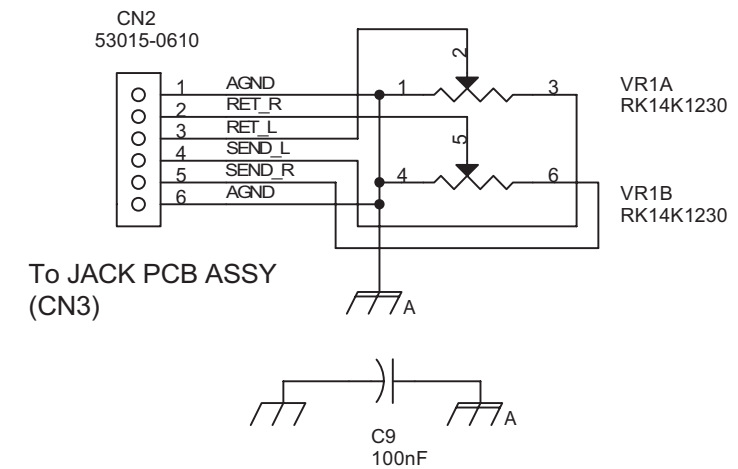
CIRCUIT DIAGRAM (PHONES)



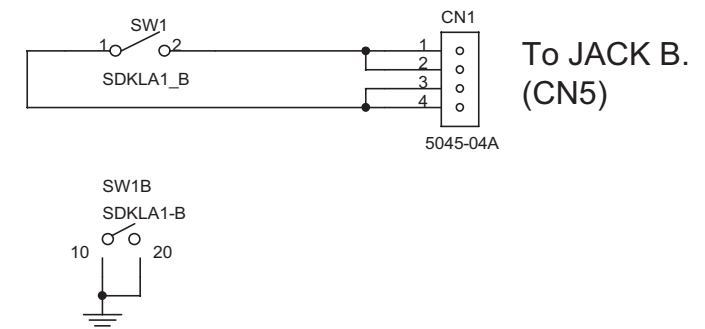
PHONES

CIRCUIT DIAGRAM (VOLUME)

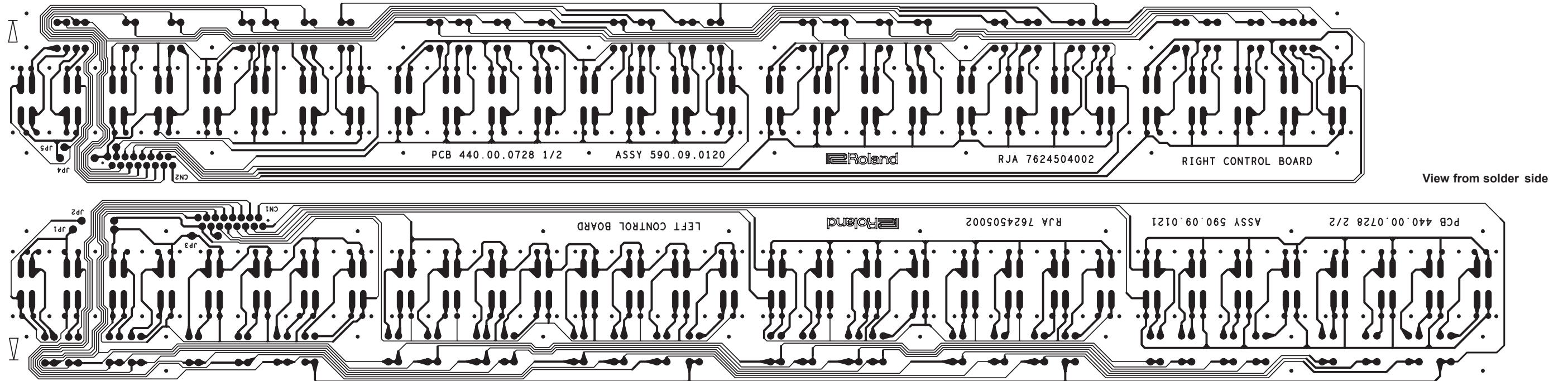
MASTER VOLUME



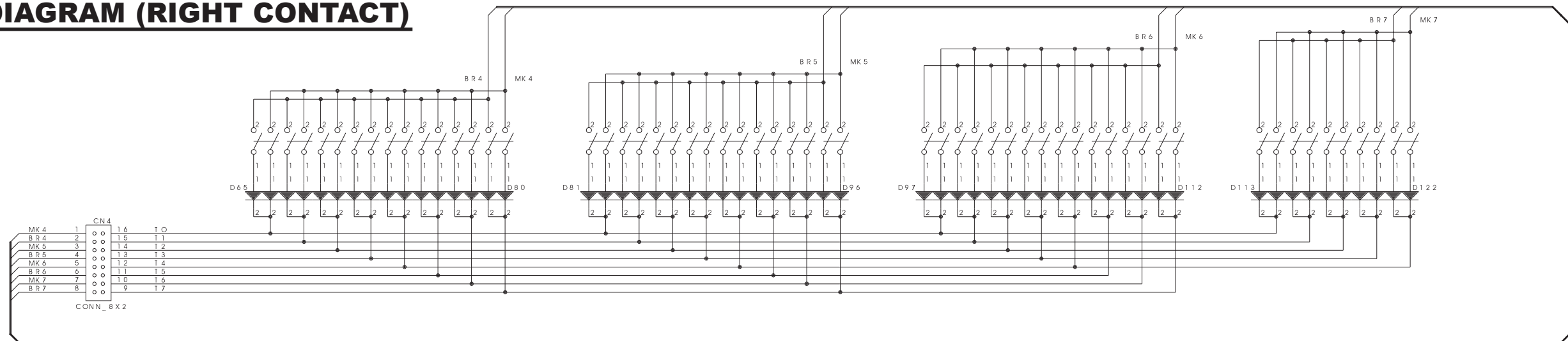
CIRCUIT DIAGRAM (SWITCH)



CIRCUIT BOARD (RIGHT - LEFT CONTACT w/RUBBER)



CIRCUIT DIAGRAM (RIGHT CONTACT)



CIRCUIT DIAGRAM (LEFT CONTACT)

