

VA-3

V-ARRANGER KEYBOARD

SERVICE NOTES

First edition

Issued by RES

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Specifications

Keyboard: 61 keys, synthesizer action, velocity-sensitive

Controllers: Tempo/Data dial, D Beam Controller, Bender/Modulation Lever, Master Volume knob

Tone generation/PCM: 64-voice polyphonic, GM2/GS compatible, 32 multitimbral parts, 3,641 sounds (20MB worth of PCM samples) 116 Drum Sets incl. oriental Drum sets.

Digital effects: Reverb (8 types), Chorus (8 types), M-FX (DSP 47 types)

Arranger (automatic accompaniment): 64 Music Styles in ROM, 64 Disk Link Styles from floppy disk (incl. 16 Acoustic Styles), Disk User style (instant access to one Style on floppy disk), Style Orchestrator & Morphing, 8-track User Styles Composer, SMF-to-Style Converter

Memories: 128 User Programs, 4 programmable One Touch memories for each Style, 5 Super Tones memories for instant Tone access (with programmable User level)

Display: Backlit VGA Touch Screen (LCD), new graphic user interface with animated icons

Navigation: Virtual band (interactive Easy Routing), automatic and/or via button

Sequencer: Realtime SMF Player (with Minus-One function), Easy 2-track recorder, Song chain mode, 16-track sequencer with extensive editing function, Song Header Post Edit, Lyrics display

Data storage: Floppy disk drive (2DD/2HD), realtime load, File types managed: Styles, Song SMF, User Program, MIDI sets

Amplification: 7 + 7W output power, 2-way Bass Reflex System

Connections: Output (L/mono, Right), Input (L/mono, Right), Sustain/Expression, 2x Phones

Power Supply: ACJ 12V adapter

Dimension: 1016(W) x 182 (H) x 400 (D) mm

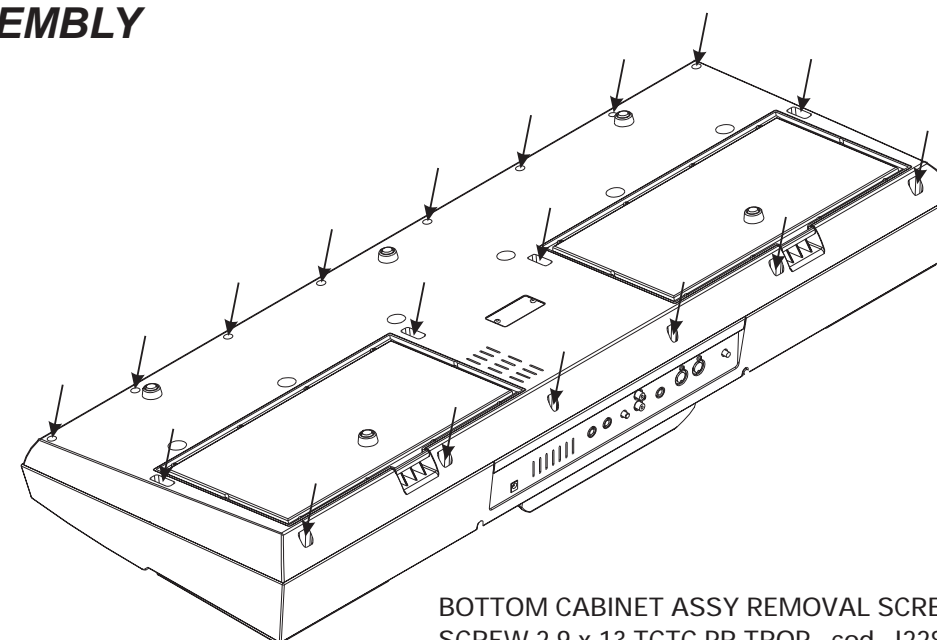
Weight: 9,8 Kg

Accessories: 2 floppy disks with additional Music Styles, User Programs, MIDI Sets & Demo Songs, Owner's Manual

Options: PK-5 Dynamic MIDI Pedal, MSA/MSD/MSE series floppy disks (Roland & third-party), RH-25/50 Headphones, DP-2 Pedal switch, DP-6 Pedal switch (piano type), BOSS FS-5U Foot Switch, EV-5 Expression pedal, BOSS FV-300L Foot Volume/Expression pedal, KC-100/300/500 Keyboard Amplifiers

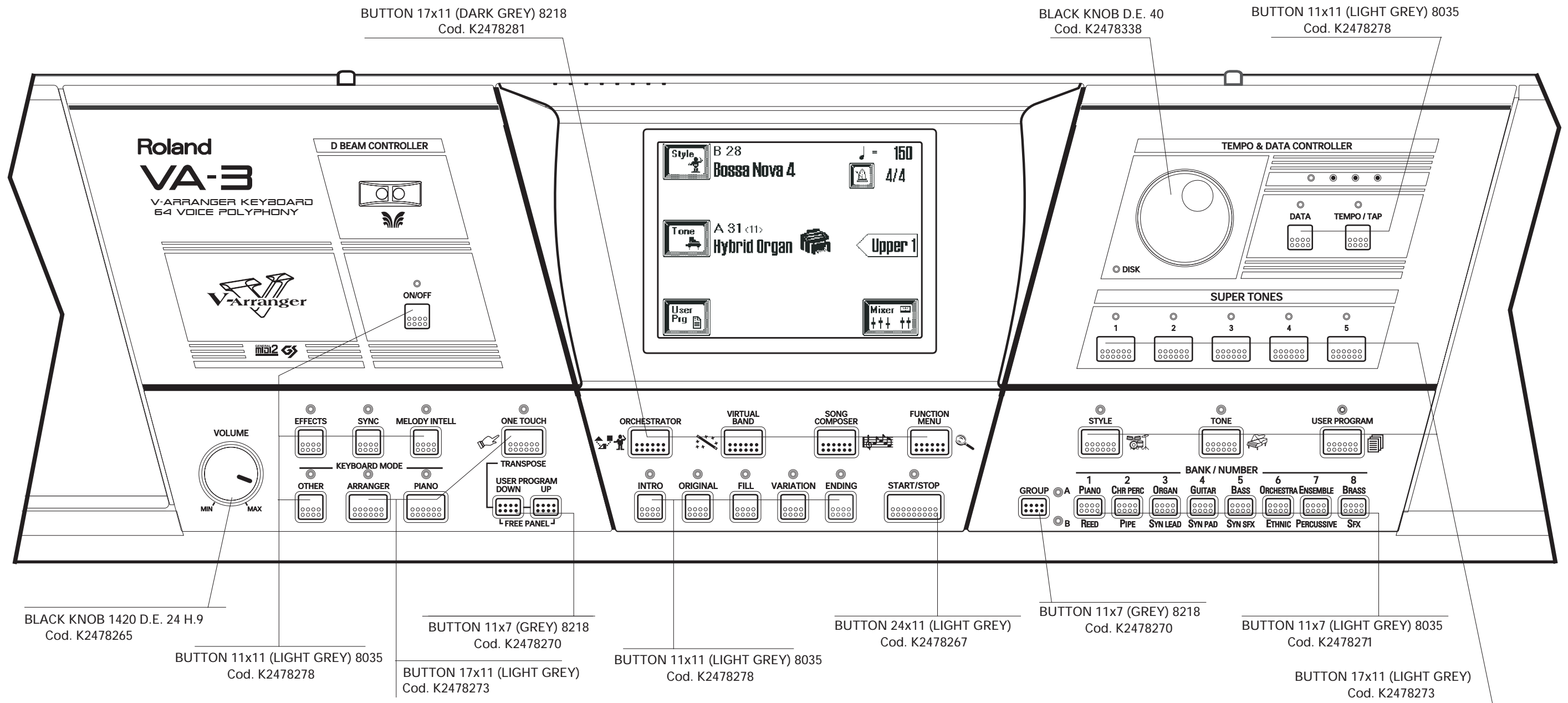
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DISASSEMBLY

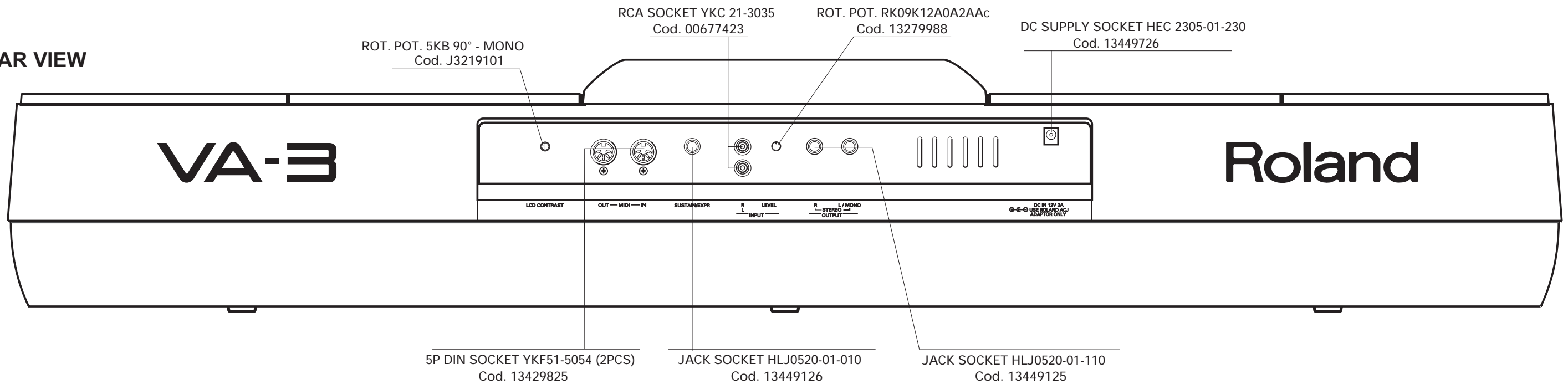


BOTTOM CABINET ASSY REMOVAL SCREW:
SCREW 2,9 x 13 TCTC PR TROP cod. J2289130

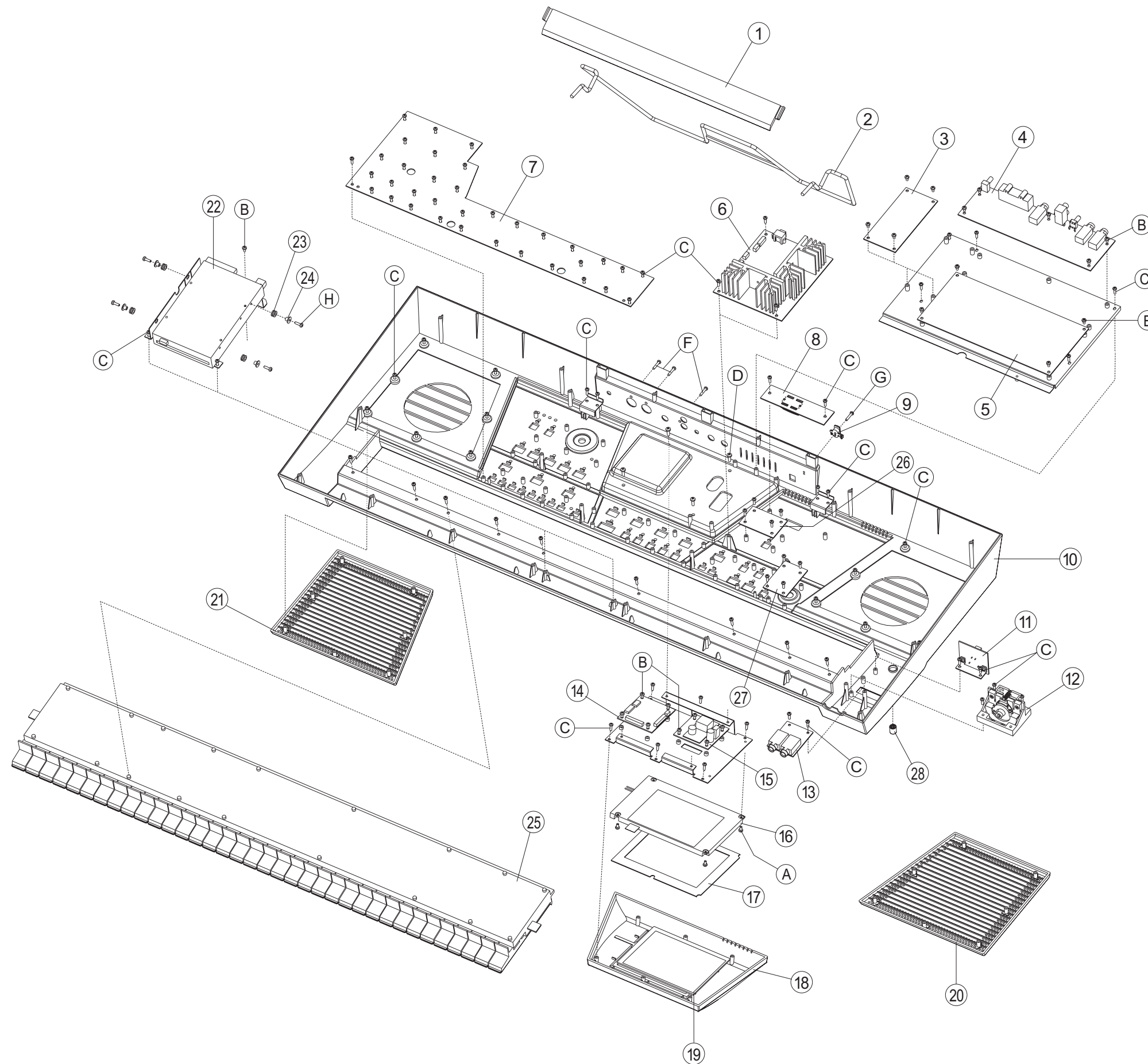
LOCATION OF CONTROLS



REAR VIEW



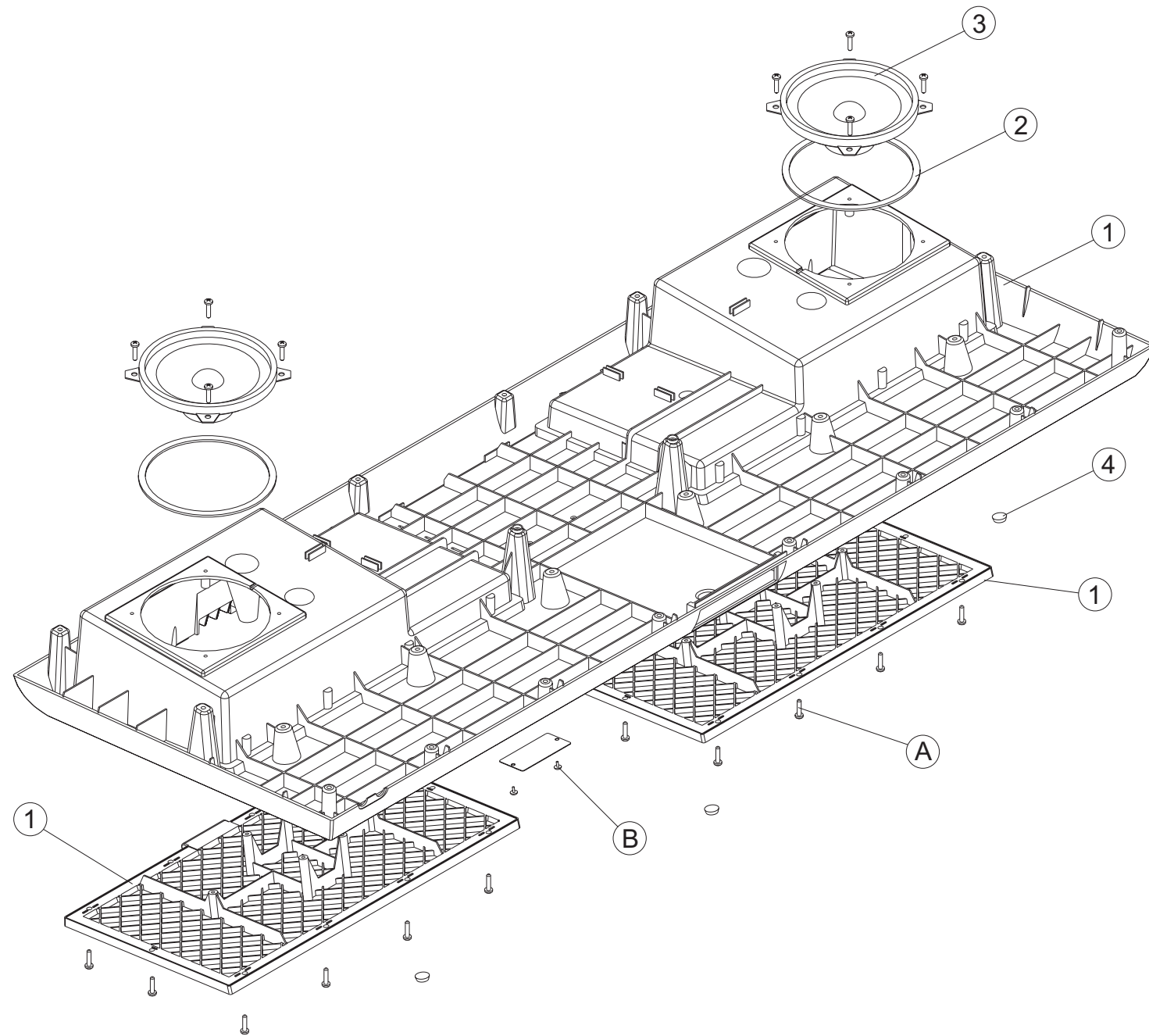
EXPLODED VIEW (TOP)



PART LIST

No.	Part No.	Description
1	22208320	MUSIC SCORE HOLDER
2	K2128126	BLACK MUSIC REST VA-7/VA-5
3	7770711000	XPGS-4 MODULE ASSY
4	7770703000	JACK PCB ASSY
5	7770710001	MAIN PCB ASSY
6	7770702000	POWER & AMPLIFIER PCB ASSY
7	7770704001	CONTROL PCB ASSY
8	7700609000	CONTROL PCB ASSY F / D-BEAM
9	22365708	HOLDER F / POWER SUPPLY CBL
10	7770714000	VARN. + SILKSCR. TOP CABINET
11	7770701000	POWER SWITCH PCB ASSY
12	K3278109	PITCH BENDER 'SW '+CABLE (44) 1C
13	7770707000	PHONES PCB ASSY
14	7770708000	LCD CONTROL PCB ASSY
15	7770709000	INVERTER PCB ASSY
16	J5039108	LIQUID CRYSTAL SP14Q002-A1
17	K224815201	BLACK ANTIDUST PL45N LCD VA-7/ VA-5
18	7770715000	BLACK VARN. COVER F/LCD
19	02126390	TOUCH SCREEN SENSOR EMU601A2MA16
20	K2248157	RIGHT TEMPLATE F/SPEAKER
21	K2248158	LEFT TEMPLATE F/SPEAKER
22	J2409102	FLOPPY D. DRIVER JU-257 A786P
23	22265242	RUBBER GUIDE BUSHING
24	22165134	BRASS BUSHING
25	7626921001	61-KEY KEYBOARD TP/7BA 2ND
26	7770705000	SWITCH D. BEAM PCB ASSY
27	7770706000	VOLUME PCB ASSY
28	K2478266	POWER SWITCH CAP (BLACK) 1420
(SCREW)		
A	J2289111	SELF LOCK. SCREW M3x4 TC TC H.6
B	J2289193	SELF LOCK. SCREW M3x6 TC TC H.6
C	J2289125	SCREW 2,9x10 TC TC PR TROP
D	J2289116	SELF TAP. SCREW 3,5x13 TC TC
E	J2289130	SCREW 2,9x13 TC TC PR TROP
F	J2289118	SCREW 2,9x16 TC TC PR BRUN
G	J2289160	SELF TAP. SCREW 2,9x13 TCTCPR TROP
H	J2289108	SELF LOCK. SCREW M3x10 TCTC H.6

EXPLODED VIEW (BOTTOM)



PART LIST

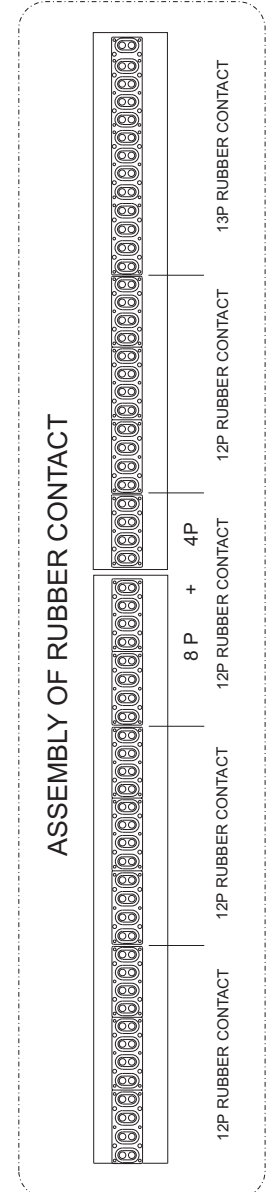
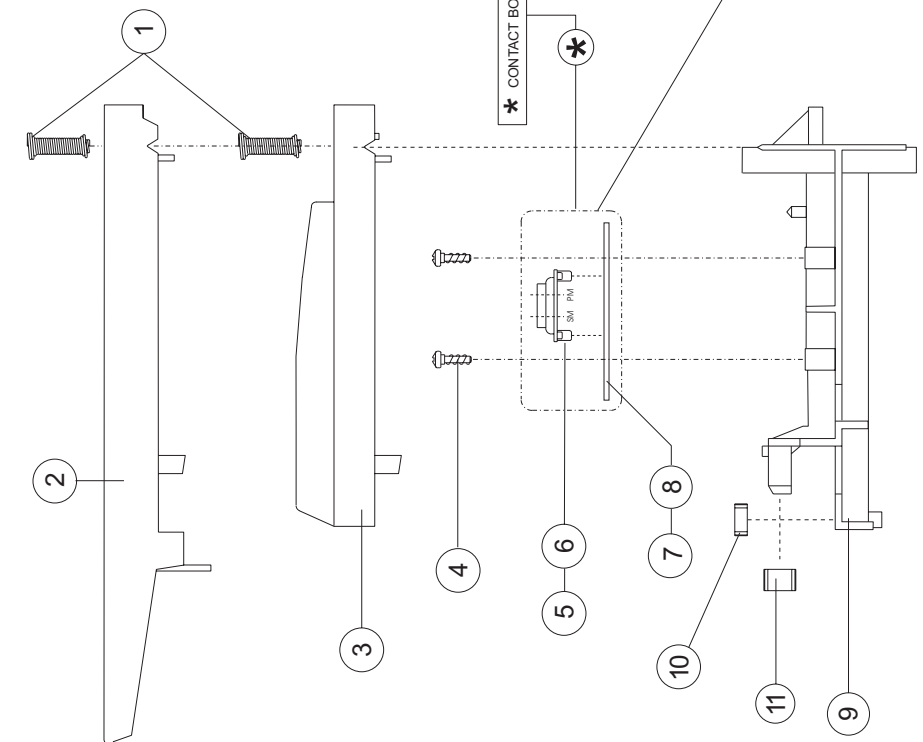
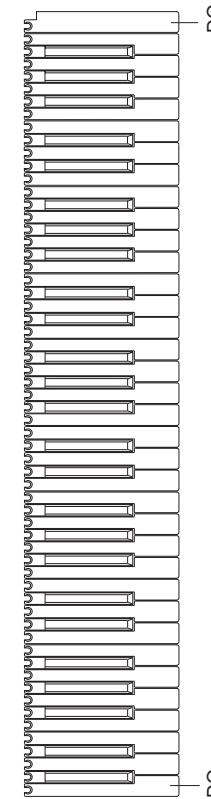
No.	Part No.	Description
1	K2018124	PLASTIC BOTTOM WITH SHUTTER F/SPEAKER
2	K2288106	SPEAKER GASKET 108/120 TH.2
3	K2418119	LOUDSPEAKER 6359/2 4 OHM
4	J2359101	SPACER 3M ART. Sj5012
(SCREW)		
A	J2289186	SCREW 3,5x16 TCPR TFR H.8 BRUN
B	J2159102	PLASTIC RIVET Sr3055

KEYBOARD PARTS LIST

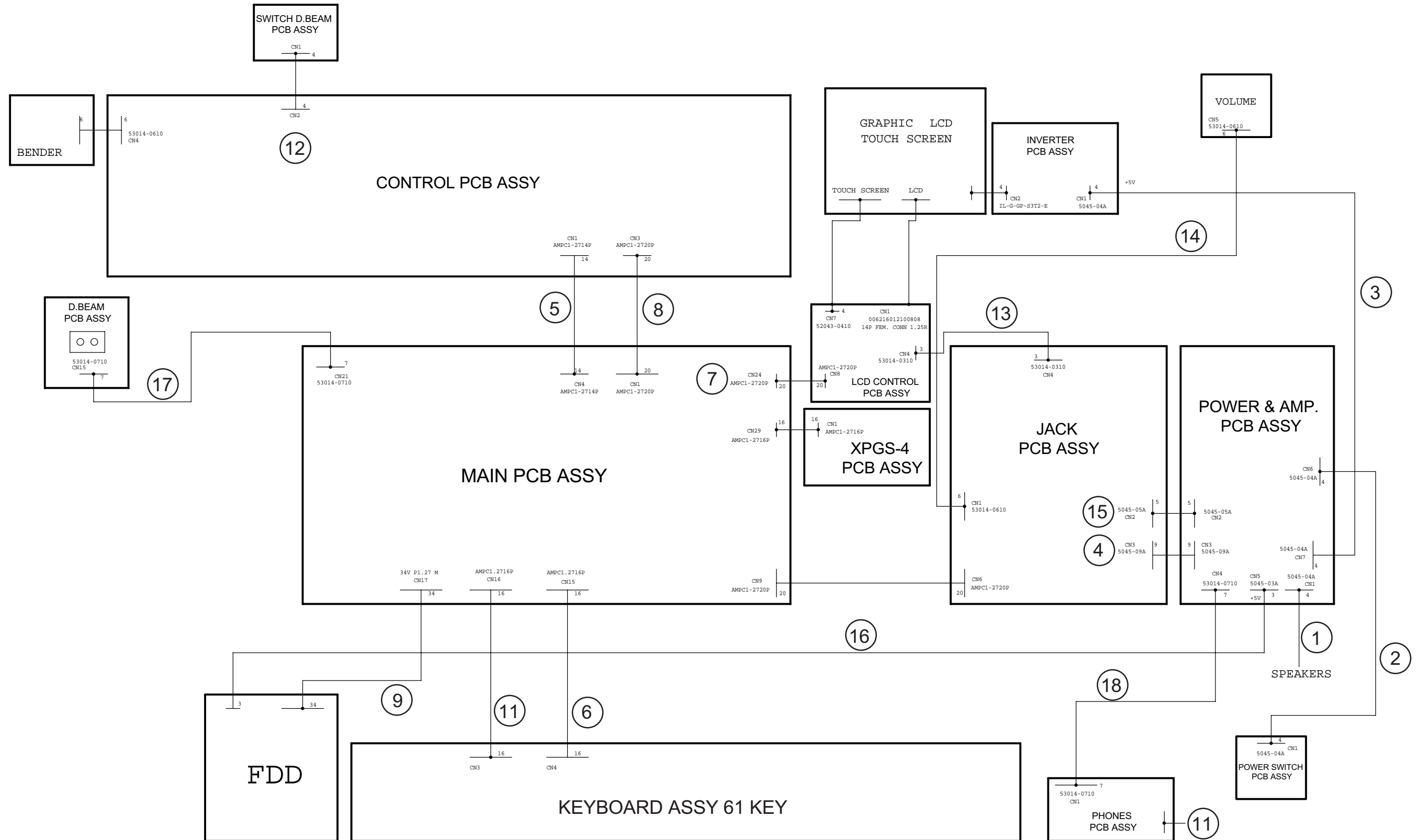
61 KEY KEYBOARD TP/7BA 2ND Code: 7626921001

Nº	PARTS NAME	CODE RJA	Num.
1	DOUBLE HEADED SPRING	22178226	61
	NATURAL KEY C5	J2579123	5
	NATURAL KEY D6	J2579124	5
	NATURAL KEY E7	J2579125	5
	NATURAL KEY F1	J2579126	5
	NATURAL KEY G2	J2579127	5
	NATURAL KEY A3	J2579128	5
	NATURAL KEY B4	J2579129	5
	NATURAL KEY C8	J2579130	1
2	SHARP KEY	22578318	25
3	SCREW 2.9x10 TCTCPR TROP	J2289125	34
4	12P RUBBER CONTACT	2218523802	4
5	13P RUBBER CONTACT	2218523902	1
6	LEFT CONTACT PCB ASSY+RUBBER C. CH.	7624505001	1
7	RIGHT CONTACT PCB ASSY+RUBBER C. CH.	7624504001	1
8	KEYBOARD SUPPORT 61 KEYS	22818746	1
9	ADHESIVE RUBBER 8 x 2.5 x 848	22358151	1
10	RUBBER END STROKE	22158789	61

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




WIRING DIAGRAM



- | | | | | | |
|-------------------|-----------------------------|----------------------|-----------------------------------|----------------------|--------------------------------------|
| 1 K3468205 | 4P CABLE (48/90) W(4PC) | 7 K3468185 | 20P CABLE ASSY (24) -2C | 13 7699415000 | 3P CABLE ASSY (44) -2C P.2 |
| 2 K3468221 | 4P CABLE (66) -2C D/R | 8 K3468224 | 20P CABLE (18) -2C D/R FLAT | 14 7712021000 | 2P COAXIAL CBL ASSY (44) -2C P.2 D/R |
| 3 K3468222 | 4P CABLE (22) R/2V 2C D/D | 9 K3468203 | 34P FLAT CABLE (12) -2C | 15 7712022000 | 2P SHIELDED CBL ASSY (12) -2C D/R |
| 4 K3468171 | 9P CABLE (22) -2C D/R | 10 J3439177 | AWG18 CBL (30) GREEN + FASTON (2) | 16 7770713000 | 3-CABLE ASSY (44) 2G/1R -2C (W4P+3P) |
| 5 K3468223 | 14P FLAT CABLE (16) -2C D/R | 11 7695008001 | 16P FLAT CABLE (26) -2C | 17 7699516000 | 7P CABLE ASSY (20) -2C P.2 |
| 6 K3468189 | 16 FLAT CABLE (16) -2C | 12 7770712000 | 4P CABLE ASSY (18) FLAT | 18 7712023000 | 7P CABLE ASSY (72) -2C P.2 D/R |

PARTS LIST VA-3 (100V/117V/230V/230VE/240VA)

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.

PAB = Power Amp. Board
 JB = Jack Board
 CB = Control Board
 CDB = Control /D-Beam Board
 VB = Volume Board
 IB = Inverter Board
 LB = Left Contact B.
 LCD = LCD Control Board
 MB = Main Board
 SWDB = Switch D-Beam Board
 PB = Phones Board
 RB = Right Contact B.
 PSW = Power switch B.

CASING

#	QTY	PART NUMBER	DESCRIPTION	MODEL NUMBER	Q.ty
#		K2248157	RIGHT TEMPLATE F/SPEAKER	VA-3	1
#		K2248158	LEFT TEMPLATE F/SPEAKER	VA-3	1
		22208320	MUSIC SCORE HOLDER		1
		K2018124	PLASTIC BOTTOM WITH SHUTTER F/SPEAKER		1
#		7770714000	VARN.+SILKSCR. TOP CABINET	VA-3	1
#		7770715000	BLACK VARN. COVER F/LCD	VA-3	1

KNOB BUTTON

#	QTY	PART NUMBER	DESCRIPTION	MODEL NUMBER	Q.ty
		K2478265	BLACK KNOB	1420 E/D. 24 H.9	1
#		K2478338	BLACK KNOB	D.E.40 VA-3	1
		K2478266	POWER SWITCH CAP	(BLACK) 1420	1
		K2478267	BUTTON 24X11	(LIGHT GREY)	1
		K2478270	BUTTON 11X7	(GREY) 8218	3
		K2478271	BUTTON 11X7	(LIGHT GREY) 8035	8
		K2478273	BUTTON 17X11	(LIGHT GREY)	11
		K2478278	BUTTON 11X11	(LIGHT GREY) 8035	12
		K2478281	BUTTON 17X11	(DARK GREY) 8218	4

SWITCH

#	QTY	PART NUMBER	DESCRIPTION	MODEL NUMBER	Q.ty
		01676512	PUSH SWITCH	SDKLA1-B	1
		J3169105	SWITCH	TP-1101A / EVQ-PAE 05 R	39

On POWER SWITCH
SW1=>38 on CB / SW24 on SWDB

JACK, SOCKET

#	QTY	PART NUMBER	DESCRIPTION	MODEL NUMBER	Q.ty
		13449726	DC SUPPLY SOCKET	HEC 2305-01-230	1
		13449252	JACK SOCKET	YKB 21-5006	2
		13449125	JACK SOCKET	HLJ0520-01-110	2
		13449126	JACK SOCKET	HLJ0520-01-010	1
		13429825	5P DIN SOCKET	YKF51-5054 (2PCS)	1
		00677423	RCA SOCKET	YKC 21-3035	1

DISPLAY UNIT

<u>Note</u> :	#	J5039108	LIQUID CRYSTAL	SP14Q002-A1	1
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DISK DRIVE UNIT

<u>Note</u> :	J2409102	FLOPPY D. DRIVER	U-257 A786P	1
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BENDER UNIT

<u>Note</u> :	#	K3278109	PITCH BENDER (SW) + CABLE (44) 1C	1
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SPEAKER

		K2418119	LOUDSPEAKER	6359/2 4 OHM	2
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KEYBOARD ASSY

<u>Note</u> :	7626921001	61 KEY KEYBOARD TP/7BA 2ND	1
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NOTE: For details, refer to KEYBOARD PARTS LIST (Page 4)

PCB ASSY

#	QTY	PART NUMBER	DESCRIPTION	MODEL NUMBER	Q.ty
#		7770702000	POWER & AMPLIFIER PCB ASSY	VA-3	1
		7700609000	CONTROL PCB ASSY F/ D-BEAM		1
#		7770703000	JACK PCB ASSY	VA-3	1
#		7770708000	LCD CONTROL PCB ASSY	VA-3	1
#		7770701000	POWER SWITCH PCB ASSY	VA-3	1
#		7770709000	INVERTER PCB ASSY	VA-3	1
#		7770704001	CONTROL PCB ASSY	VA-3	1
#		7770705000	SWITCH D.BEAM PCB ASSY	VA-3	1
#		7770706000	VOLUME PCB ASSY	VA-3	1
#		7770707000	PHONES PCB ASSY	VA-3	1
<u>Note</u> :	#	E 7770711000	XPGS-4 MODULE ASSY	VA-3	1

#	E	7770710001	MAIN PCB ASSY	VA-3	1
		7624504001	RIGHT CONTACT PCB ASSY W/RUBBER CH.		1
		7624505001	LEFT CONTACT PCB ASSY W/RUBBER CH.		1

IC

		00900901	INVERTER MODULE CXA-M10AL		1
		15229718RI	I.C. PHOTO-COUPLER 6N 137	IC3 on JB	1
#		K525817010	I.C. K525817010 32MBIT (MASK ROM) VA-3	IC19 on MB	1
		K525816310	I.C. K525816310 (MASK ROM)	IC4 on MB	1
		J5159114	I.C. 74 HC 14	IC4 on CB	1
		15169550RI	I.C. 74 HC138	DIP CMOS IC3, 5 on CB	2
		J5159107	I.C. 74 HC574	CMOS IC2 on CB	1
		00232645	I.C. TC7W14F	FLAT IC23 on MB	1
		15259701	I.C. 74 HC 00	FLAT CMOS IC6 on MB	1
		J5259001	I.C. 74 HC 04	FLAT CMOS IC4 on JB	1
		J5259127	I.C. 74 HC 10	FLAT IC29 on MB	1
		K5258109	I.C. 74 HC 74	FLAT CMOS IC8 on MB	1
		J5259102	I.C. 74 HC 273	FLAT CMOS IC40 on MB	1
		J5259128	I.C. 74 HC 393	FLAT IC28 on MB	1
		00343823	I.C. M60205-0601FP	(CUSTOM IC) IC3 on MB	1
		00129278	I.C. SSC1080 FOB	(CUSTOM IC) IC10 on MB	1
		J5259110	I.C. HM62256LFP-7T	FLAT SRAM IC12 on MB	1
		J5259120	I.C. HM5118160CJ-6	FLAT IC21 on MB	1
A		01561945	I.C. FLASH MEM LH28F160S5T-70	IC20 on MB	1
		15199780	I.C. HD63266FP-64A	FDC IC16 on MB	1
		J5259116	I.C. SED1335F0B	(LCD CONTROLLER) IC11 on MB	1
		15259884	I.C. TC7S08F	MOS CMOS IC15 on MB	1
		15259885	I.C. TC7S32F	CMOS IC7, 14, 39 on MB	3
		15259887	I.C. TC7SU04F	FLAT CMOS IC30 on MB	1
		J5169105	I.C. TC7W08	FLAT IC36 on MB	1
		15249104	I.C. TC7S04F	FLAT IC38 on MB	1
		00232634	I.C. TC7W74F	FLAT IC37 on MB	1
		J5259136	I.C. TC 7W34FU	(STANDING) IC43, 44 on MB	2
		15219183	I.C. M51953 AL	(OP AMP) IC5 on MB	1
		15189210	I.C. BA 5218F	(OP AMP) IC2, 9, 18 on JB	3
		15189186	I.C. UPC 4570C	(OP AMP) IC2 on LCD	1
		15289105	I.C. UPC 4570G	(OP AMP) IC7 on JB / IC26, 27, 47 on MB	4
		15189189	I.C. UPC 4570HA	VERT. (OP.AMP.) IC10 on CDB	1
		J5189102	I.C. TD 62593 AP	DIP IC1 on CB	1
		00458312	I.C. NJM 2360M	FLAT IC6 on JB / IC1 on LCD	2
		01451578	I.C. AK4324-VF-E2 DAC	(OP AMP) IC11 on JB	1
		15289117	I.C. NJM 5532MD-TE1	(OP AMP) IC10, 14 on JB	2
		J5199109	I.C. 79L12 TO-92	IC5 on JB	1
		J5259133	I.C. TA7805 AF	IC19 on JB	1
#	A	J5199113	I.C. LM 1085 IT-5.0	IC1 on PAB	1
		J5199111	I.C. TDA 7370 BV	IC2 on PAB	1

TRANSISTOR

		15129114	TRANSISTOR	2SC-1815GR	Q17 on CDB / Q2, 3 on LCD	3
		15119113	TRANSISTOR	2SA-1015 GR	Q1, 4, 5 on LCD	3
		15129136	TRANSISTOR	2SC-2878-A/B	Q2, 3 on JB	2
		15319101	TRANSISTOR	2SC-2412K	Q4, 5, 7, 8 on JB	4
		15319102	TRANSISTOR	2SC2882Y-TEL12	Q1 on JB	1
		15309101	TRANSISTOR	2SA-1037KR	Q6, Q9 on JB / Q7 on MB	3
		15129427	TRANSISTOR	2SC-2235Y	Q16 on CDB	1
		15119163	TRANSISTOR	RN2227	Q1, 2, 3, 4 on CB	4
		J5119104	TRANSISTOR	DTA-114 EK CHIP	Q10 on JB	1
		15129197	TRANSISTOR	DTC-144 WS	Q11 on JB	1
		15329104	TRANSISTOR	2SK-368GR FET CHIP	Q8 on MB	1

DIODE

		15019159RI	DIODE	1N-4148	on CB / on RCB / on LCB	161
		15339105	DIODE	DAN-202K	D5, 6 on JB / D13, 14 on MB	4
		15339108	DIODE	DA-204K	D3, 7 on JK / D2=>8, 16 on MB	9
		00893912	DIODE	SFPB-56	CHIP D2 on JB	2
		15339109	DIODE	DAP 202K	CHIP D12, 15 on MB	2
		15029320RI	LED DIODE	TLHG4401	GREEN D55, 56, 57 on CB	3
		15029284RI	LED DIODE	TLHR4401	RED on CB / D27 on SWDB	28
		01341623	DIODE LED	TLN 201	D216 on CDB	1
		01342578	PHOTO DIODE	TPS 708	D215 on CDB	1
		J5019106	ZENER DIODE	BZX55C 5.1V	D2 on PAB	1
	A	15091172RI	DIODE	BY 251	D2 on PAB	1
		J5019105	DIODE	1N 4002	D1 on PAB	1

RESISTOR

		J3919104	RESISTOR ARRAY	EXB-A10E-103-J	RA1, 2, 6, 7, 8, 9, 10, 15, 27, 28, 29, 30 on MB	12
		J3919107	RESISTOR ARRAY	EXB-V8V-101-JV	RA12, 13, 45 on MB	3

J3919108	RESISTOR ARRAY	EXB-V8V-103-JV	RA3, 4, 5,11, 14, 16, 32, 35, 46 on MB	9
J3919109	RESISTOR ARRAY	EXB-V8V-470-JV	RA17=>26 on MB	10
13819132RI	UNINFL.RES.	100 OHM 0.6W 5%	R2=>9 on CB	8
13819131RI	UNINFL.RES.	10 OHM 0.6W 5%	R2 on PAB / R82 on CDB	2
J3809153	UNINFL.RESISTOR	0.22 0.6W 5%	R1 on LCD	1
J3809134	UNINFL.RES.	27 OHM 0.6W 5%	R10 on CB	1
J3809150	UNINFL.RES.	33 OHM 1/4W 5%	R1=>4 on PB	4
13819302RI	CARBON RESISTOR	150 OHM 1W 10%	R7, 8 on PAB	2
J3809152	OXIDE RESISTOR	0.22 OHM 1W 5%	R39 on JB	1
△ J3809139	OXIDE RESISTOR	2.2 OHM 3W	R1, 11 on PAB	2
01783623	RESIST.	2010 10 OHM1/2W 5%	R89 on JB	1

POTENTIOMETER

00459901	ROT. POT.	10KB 14K 1230	VR1 on VB	1
13299206	TRIMMER POT.	EVND 8AA03B24	VR1 on MB	1
J3219101	ROT.POT.	5KB 90° - MONO	VR1 on JB	1
13279988	ROT.POT.	RK09K12A0A2AAc	VR2 on JB	1

CAPACITOR

15359776	POL.COND.	0805 390P 5%	C48 on JB	1
J3629144	ELECTR.COND.	470UF 16V AX	C3 on CB	1
13639154	ELECTR.COND.-V	1000UF 16V	C48 on CDB	1
J3629122	ELECTR.COND.-V	1000UF 25V	C46 on JB	1
13639661RI	ELECTR.COND.-V	2200UF 25V	C14 on PAB	1
13649662RI	ELECTR.COND.-V	3300UF 25V	C12 on PAB	1
J3629117	ELECTR.COND.-V	4700UF 25V	C13 on PAB	1
J3629103	ELECTR.COND.	100U 25V P5	C17, 18 on PAB / C49, 57, 79, 80, 84, 85 on JB / C69, 70 on MB / C4 on LCD	11
J3629147	ELECTR. COND.	220U 25V P.5	C10 on PAB	1
J3629135	ELECTR. COND.	470U 35V P5	C45 on JB / C2 on IB	2
J3629132	ELECTR.COND.	100U 50V P5	C2, 4 on LCD	2
J3629104	ELECTR.COND.	10U 50V P5	C3, 11 on PAB / C25, 26, 74, 77, 117 on JB	7
J3629154	ELECTR.COND.	3.3U 50V P.5	C113 on JB	1
J3629105	ELECTR.COND.	47U 50V P5	C8 on PAB / C6, 56, 114, 115 on JB / C1, 7, 8, 11 on LCD	9
J3629106	ELECTR.COND.	4.7U 63V P5	C3 on LCD / C108, 109 on JB	3
J5369103	ELECTR. COND. RV2	100U 16V (SMD)	C71 on MB	1
J5369104	ELECTR. COND. RV2	10U 16V (SMD)	C2, 38 on MB	2
# J5369107	ELECTR. COND. RV	330U 16V (SMD)	C232 on MB	1
J5369105	ELECTR. COND. RV3	33U 16V (SMD)	C1, 93, 96, 147, 148, 175, 176, 202, 230 on MB	9
J5369102	ELECTR.COND. RV2	47U 16V SMD	C201, 188 on MB	2
J3629143	ELECTR. COND.	10U 16V H.7	C44, 45 on CDB	2
J3629137	ELECTR. COND.	33U 16V H.7	C2, 5 on CB	2
J3629142	ELECTR. COND.	1U 63V H.7	C43 on CDB	1
13649103J0	UNPOL.COND.	10U 16 P5	C12, 14, 16, 18, 21, 22 on JB	6
00239412	POLYEST.COND.	AMZV0050J 122 0200	C61, 78 on JB	2
00239390	POLYEST.COND.	AMZV0050J 561 0200	C81, 86 on JB	2

INDUCTOR, COIL, FILTER

<<EMI>> 12449382RI	NOISE SUP.	PLT1-R53C	L1 on PAB	1
<<EMI>> 12449370	NOISE SUP.	SBT-0160W	L2, 3 on JB	2
<<EMI>> 12449326	NOISE SUP.	SBT-0460	L4 on JB	1
<<EMI>> J2399101	NOISE SUP.	BL03RN2-R62T2	L1=>6 on PB	6
<<EMI>> 13529187	NOISE SUP.	ELKTR391CA	FL2=>6 on CB	5
<<EMI>> J2399103	CHIP NOISE SUP.	ELKS471FA	FL2=>4, 6 on MB / FL 1, 2, 4, 5 on JB	8
<<EMI>> J2399104	CHIP NOISE SUP.	EXCCL4532U1	L1,7,8,9 on JB / L4=>9,18,39=>42,51,53,55 on MB	18
<<EMI>> 00452034	CHIP NOISE SUP.	BK2125HM102	L21=>38 on MB	18
<<EMI>> 12449355	NOISE SUP.	FBR07H850TB00	L5, 12 on JB	2
<<EMI>> 12449449	INDUCTOR	RCH-875-151K	L11 on JB / L1 on LCD	2

CRYSTAL, RESONATOR

00894023	X-TAL 20 MHZ	MA-406	X1 on MB	1
00894034	X-TAL 16 MHZ	MA-406	X2 on MB	1

ENCODER

01013223	ENCODER	EVQ-VEM F01-24B	ENC1 on CB	1
----------	---------	-----------------	------------	---

CONNECTOR

13419677RI	16P FEM. CONNECTOR AMP 1.27		CN16, 29 on MB / CN4 on RCB / CN3 on LCB	5
13369689RI	20P FEM. CONNECTOR AMP 1.27		CN6 on JB / CN1, 9, 15, 24 on MB	5
J3429122	14P FEM. CONNECTOR AMP 1.27		CN4 on MB / CN1 on CB	2
13379151	14P FEMALE CONN. 1.25 R		CN9 on LCD	1
J3429125	FEMALE CONNECTOR 52043-0410		CN7 on CB	1
13369688RI	4P MALE CONN. P 2.5 M		CN1, 6, 7 on PAB / CN2 on JB / CN1 on IB	6
J3439106	9P MALE CONNECTOR P 2.5 M		CN3 on PAB / CN3 on JB	2
J3439109	5P MALE CONNECTOR P 2.5 M		CN2 on PAB	1
J3439121	6P MALE CONN. P.2 M		CN1 on JB / CN4 on CB	2
J3439143	34P MALE CONN. P. 1.27 M		CN17 on MB	1

J3439123	6P MALE CONN. P. 2 M 90°		CN5 on VB	1
J3439142	3P MALE CONNECTOR P/2.5 M		CN5 on PA	1
J3429120	3P MALE CONNECTOR P.2 M		CN4 on JB / CN4 on LCD	2
J3439148	7P MALE CONNECTOR P.2 M		CN4 on PAB/CN21 on MB/CN15 on CDB/CN1 on PB	4
# J3439178	4P MALE CONNECTOR IL-G-4P-S3T2-E		CN2 on IB	1

WIRING, CABLE

# K3468205	4P CABLE (48/90) W(4PC)		For details refer to "WIRING DIAGRAM" on page 5	1
# K3468221	4P CABLE (66) -2C D/R		"	1
# K3468222	4P CABLE (22) R/2V 2C D/D		"	1
K3468171	9P CABLE (22) -2C D/R		"	1
# K3468223	14P FLAT CABLE (16) -2C D/R		"	1
K3468189	16 FLAT CABLE (16) -2C		"	1
K3468185	20P CABLE ASSY (24) -2C		"	1
# K3468224	20P CABLE (18) -2C D/R FLAT		"	1
K3468203	34P FLAT CABLE (12) -2C		"	1
# J3439177	AWG18 CBL (30) GREEN + FASTON (2)		"	1
7695008001	16P FLAT CABLE (26) -2C		"	1
# 7770712000	4P CABLE ASSY (18) FLAT		"	1
7699415000	3P CABLE ASSY (44) -2C P.2		"	1
7712021000	2P COAXIAL CBL ASSY (44) -2C P.2 D/R		"	1
7712022000	2P SHIELDED CBL ASSY (12) -2C D/R		"	1
# 7770713000	3-CABLE ASSY (44) 2G/1R -2C (W4P+3P)		"	1
7699516000	7P CABLE ASSY (20) -2C P.2		"	1
7712023000	7P CABLE ASSY (72) -2C P.2 D/R		"	1

SCREW

J2289122	SCREW	2.2X6 TC TC BRUN		2
J2289116	SELF TAP.SCREW	3.5X13 TC TC		4
J2289125	SCREW	2.9X10 TC TC PR TROP		86
J2289130	SCREW	2.9X13 TC TC PR TROP		35
J2289160	SELF TAP.SCREW	2.9X13 TCTCPR BR		1
J2289118	SCREW	2.9X16 TC TC PR BRUN		3
J2289108	SELF LOCK.SCREW	M3X10 TCTC H.6		6
J2289147	SELF LOCK.SCREW	M3X12 TCTC H.6		2
J2289111	SELF LOCK.SCREW	M3X4 TCTC H. 6		4
J2289193	SELF LOCK.SCREW	M3X6 TC TC H.6		18
J2289149	SCREW	3X20 TC TFR H.7		4
J2289186	SCREW	3.5X16 TCPR TFR H.8 BRUN		30
J2289113	NUT 3MA H.3			4

PACKING

# K2638249	RIGHT POLYST. END SIDE	VA-3		1
# K2638250	LEFT POLYST. END SIDE	VA-3		1
K2678102	POLYETH. ENVELOPE 25X45			1
K2678105	CARTENE ENVELOPE HD 140X57			1
K2678106	POLYETH.ENVELOPE 40X55			1
# K2618239	OUTER PACKING	VA-3		1

MISCELLANEOUS

J2139102	TOOTHED WASHER I/D 3			4
22165134	BRASS BUSHING			4
K2168107	SPACER F/LED H.8.8 HEX.			31
00453223	LED SPACER H. 7 E.D. 5			2
J2359101	SPACER 3M ART. SJ5012			5
22265242	RUBBER GUIDE BUSHING			4
J2369106	WIRE HOLDER CLAMPING RN04			2
J2159102	PLASTIC RIVET SR3055			2
K2288106	SPEAKER GASKET 108/120 TH.2			2
02126390	TOUCH SCREEN SENSOR EMU601A2MA16			1
K224815201	BLACK ANTIDUST PL45N LCD VA-7/VA-5			1
1342982301	POWER SUPPLY SOCKET HOLDER N°2			1
22365708	HOLDER F/POWER SUPPLY CBL			1
01343089	D-BEAM CONTROLLER ESCT BLK			1

ACCESSORIES

# K2378120	USER PROGRAM/DEMO/STYLES DISK N°1 VA-3			1
# K2378121	USER PROGRAM/DEMO/STYLES DISK N°2 VA-3			1
K2128126	BLACK MUSIC REST VA-7/VA-5			1
K6018109	MIDI GUIDE			1
# K6018411	OWNER'S MANUAL (ENGLISH)	VA-3		1
# K6018415	MIDI IMPLEMENTATION MANUAL	VA-3		1
2244861102	POWER ADAPTOR ACJ 230V 12V 2A SA (230V)			1
2244861401	POWER ADAPTOR ACJ 240VA 12V 2A SA (240VA)			1
2244861201	POWER ADAPTOR ACJ 120V 12V 1.75A SA (117V)			1
2244861002	POWER ADAPTOR ACJ 230VE 12V 2A SA (230VE)			1
2244861301	POWER ADAPTOR ACJ 100T 12V 2A SA (100V)			1

HOW TO SAVE - HOW TO VERSION UP

Since VA-3 has a flash memory for the System Program registration, you can update it by floppy disk.

Items required

VA-3 Software Update Disk (code: 7770717000)
VA-3 Test Update Disk (code: 7770716000)

ATTENTION:

The **Test Program** has not been installed in this instrument (otherwise it would have occupied too much memory).

If you want to install it, you have to load the test program from the VA-3 Test program disk you've been provided with.

WARNING:

Loading the Test Program causes the System Program of your VA-3 to be lost. Therefore every time you want to carry out some checks in your VA-3 and consequently have to install the Test Program, **we strongly recommend** you to make a back-up copy of your VA-3 current System Program, according to the procedure described in the paragraph "How to save the System Version or the Test Program onto Floppy disk".

Of course, once you've completed your tests, you'll have to re-load the System Program (that has been cancelled when installing the Test Program), following the procedure described in the paragraph "How to update the System Version or the Test Program by Floppy disk".

How to visualize the "System Program" version

Turn the instrument on while keeping the [KEYBOARD MODE - PIANO]+[ONE TOUCH]+[INTRO] buttons pressed. The display visualizes:

```
***SYSTEM MENU***
```

```
BANK1: SYSTEM VERSION
BANK2: SYSTEM LOAD
BANK3: SYSTEM SAVE
```

You can check the instrument software version, pressing the [BANK/ NUMBER 1] button. After a few seconds the display shows:

```
VA -3   Virtual Arranger

      Ver. XX . XX
Day  Month  Day no.  Time  Year
CPU Bios Version: Ver. XX . XX
Flash : xxxxxxxx Size : xxxxxxx byte
```

To exit from this screen display, turn the instrument off.

How to save the "System program" or the "Test Program" onto Floppy Disk.

Turn the instrument on while keeping the [KEYBOARD MODE - PIANO]+[ONE TOUCH]+[INTRO] buttons pressed. The display visualizes:

```
***SYSTEM MENU***
```

```
BANK1: SYSTEM VERSION
BANK2: SYSTEM LOAD
BANK3: SYSTEM SAVE
```

Insert a HD formatted floppy disk into the instrument FDD.

You enter the program saving procedure by pressing [BANK/ NUMBER 3]. The display visualizes:

```
***SYSTEM SAVE***
```

```
NUMBER1: CONTINUE
NUMBER2: EXIT
```

Pressing [SUPER TONES 2] you exit the program saving procedure on disk and the system goes back to the main menu.

Pressing [SUPER TONES 1] you go on saving the program on floppy disk. The display visualizes:

```
***SYSTEM SAVE***
```

```
System size [ BYTE ]      XXXXXXXX
Checksum Calculation ..... DONE
System saving .....      XXXXXXXX
ATTENTION !! Do not turn instrument off
```

After a few seconds the display visualizes:

```
***SYSTEM SAVE***
```

```
System size [ BYTE ]      XXXXXXXX
Checksum Calculation ..... DONE
System saving .....      COMPLETED
```

```
<< TURN THE INSTRUMENT AGAIN >>
```

If the program saving procedure has been completed successfully, the writing SYSTEM SAVING COMPLETED is visualized on the display.

Turn the instrument off and on after a few seconds to go back to the main menu.

How to update the System program or the Test program by Floppy disk

Insert the floppy disk containing either the System program (VA-3 System program up disk code 7770717000) or the Test program (VA-3 Test program disk code 7770716000) into the FDD.
Turn the instrument on while keeping the [KEYBOARD MODE - PIANO]+[ONE TOUCH]+[INTRO] buttons pressed. The display visualizes:

```
***SYSTEM MENU***

BANK1: SYSTEM VERSION
BANK2: SYSTEM LOAD
BANK3: SYSTEM SAVE
```

Press the [BANK / NUMBER 2] button
The display shows:

```
***SYSTEM LOAD***

NUMBER1: CONTINUE
NUMBER2: EXIT
```

Press [SUPER TONES 1] button to load the program into the flash ROM.
In case of error, press [SUPER TONES 2] button to go back to the main menu.
The display visualizes:

```
***SYSTEM LOAD***
Program loading ..... -----
Program checking ..... -----
Flash updating ..... -----

<< TURN INSTRUMENT ON AGAIN >>
```

The flash loading operation is completed when the writing "COMPLETED" is displayed.
Turn the instrument off, then turn it on after a few seconds.

TEST MODE

The Test Menu will be displayed, which is divided into two major groups: BANK/NUMBER and SUPER TONES

```
VA-3 test Ver. x x . x x
-BANK/NUMBER-          -SUPER TONES-
1 Switch                1 Flash
2 Encoder               2 Rom Style
3 Adc                   3 Ram
4 Lcd                   4 FDD
5 Led                   5 Audio Test
6 Keyscan
7 Touch screen
8 Midi
DATE: (day) (month) xx xx:xx:xx (year)
```

First group of test => BANK/NUMBER

1. SWITCH test

Press the [BANK/NUMBER1] button, the display shows:

```
SWITCH TEST

XXXX XX XXX
* * * * *
* * * * *
* * * * *
XXXX XX XXX
Press Bank 8 and Bank5 to exit
```

Every time you press a button, you hear a sound.
The name of the button pressed and its status (ON/OFF) is visualized on the display left upper side. The next button to be pressed is shown on the display lower left side. After testing every button, the connected asterisk disappears. At the end, you automatically exit this test and go back to the main menu.

Note: If the test has been already carried out, you can exit pressing the [BANK/NUMBER 8] + [BANK/NUMBER 5] buttons at the same time.

2. ENCODER check

Press the [BANK/NUMBER 2] button, the display shows:

```
TEST ENCODER

ENCODER → XXX

Press Bank 5 to exit
```

In the right upper corner of the display the Encoder XXX value is shown, going from 0 to 255. Turning the encoder rightwards, the value goes up until 255; turning leftwards the value goes to 0.

To exit, press [BANK/NUMBER 5].

3. ADC Check

Press the [BANK/NUMBER 3] button, the display shows:

```
ADC TEST
Bender (0 +/- 127)
Modulation (0 - 127)
D. Beam (0 - 127)
Express xxx
Sustain xxx

Press BANK 5 to exit
```

The LCD visualizes the values of the functions you are testing. These values vary from 0 to +127 or to -127.

To exit, press [BANK/NUMBER 5].

4. LCD Check

Press the [BANK/ NUMBER 4] button, the display shows:

LCD TEST		
Press BANK 1	black	Test
Press BANK 2	white	Test
Press BANK 3	gray	Test
Press BANK 4	normal	Test
Press BANK 6	image	Test
Press BANK5 to exit		

Action:

If you press the [BANK/NUMBER 1] button, the display will be black
 If you press the [BANK/NUMBER 2] button, the display will be white;
 If you press the [BANK/NUMBER 3] button, the display will be gray;
 If you press the [BANK/NUMBER 4] button, the display will show some numbers (normal)
 If you press the [BANK/NUMBER 6] button, the display will show an image

To exit, press [BANK/NUMBER 5].

5. LED Check

Press the [BANK/NUMBER 5] button. The display shows:

LED TEST		
Press BANK 1	All led	ON
Press BANK 2	Sequence	ON
Press BANK5 to exit		

Action:

If you press the [BANK/NUMBER 1] button, all LEDs stay on
 If you press the [BANK/NUMBER 2] button, the LEDs turn on in sequence
 At the end of the sequence they stay all on.

To exit, press [BANK/5].

6. KEYSKAN Check

Press the [BANK/NUMBER 6] button, the display shows:

KEY SCAN TEST	
Key =	C
Velocity =	0/127
Octave =	2
Press BANK5 to exit	

When pressing the keyboard keys, you will hear a piano sound, the display visualizes the name of the key, the velocity value and the number of the octave used.

To exit, press [BANK/5].

7. TOUCH SCREEN Test

Note: to carry out this test, a normal pen is required.
 Press the [BANK/NUMBER 7] button, the display shows:

TOUCH SCREEN TEST	
BANK1 - calibrate	
BANK2 - touch X, Touch Y test	
Press BANK5 to exit	

Pressing BANK/NUMBER 1 you enter the CALIBRATION test;
 Pressing BANK/NUMBER 2 you enter the test of the LCD "darkest area", excluding the 1 mm frame indicated by a lighter color.

To exit, press [BANK/NUMBER 5]

- **Touch Screen X, Y test**

Pressing the [BANK/NUMBER 2] button, the display shows:

Touch X - 1	
Touch Y - 1	
Press BANK5 to exit	

Touch with a pen the upper left corner of the LCD in its darkest area. Pass the pen through the LCD, horizontally first (from the left to the right) and check that the X value goes from 0 to 320. Then repeat the operation from downwards to upwards and check that the Y value goes from 0 to 240. The acceptable variation from these values is +/- 5%.

To exit, press [BANK/NUMBER 5]

- **Touch Screen Test**

Re-selecting [BANK/NUMBER 7], the display visualizes:

TOUCH SCREEN TEST	
BANK1 - Calibrate	
BANK2 - Touch X, Touch Y test	
Press BANK5 to exit	

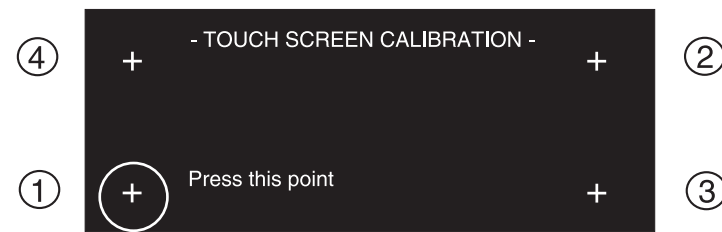
Pressing [BANK/NUMBER 1], the display visualizes:

TOUCH SCREEN TEST	
BANK1 - Exit Calibration	
BANK2 - Confirm Calibration	
Press BANK5 to exit	

Press [BANK/NUMBER 1] to exit the Calibration test;
 Press [BANK/NUMBER 2] to confirm the calibration and carry out the procedure below.
 Press [BANK 5] to exit.

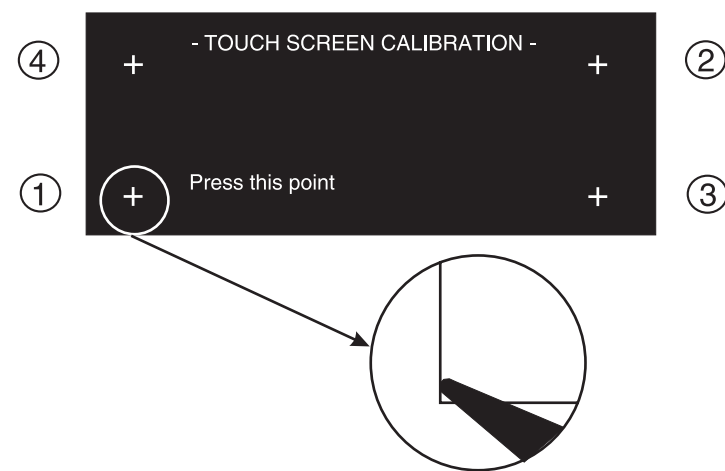
• Touch Screen Calibration

Pressing [BANK/NUMBER 2], the display visualizes:

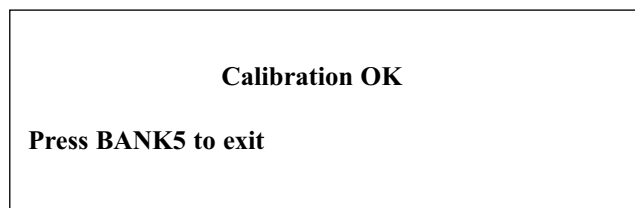


Note: Once you enter the Calibration test, you can not exit unless you carry out the calibration operations.

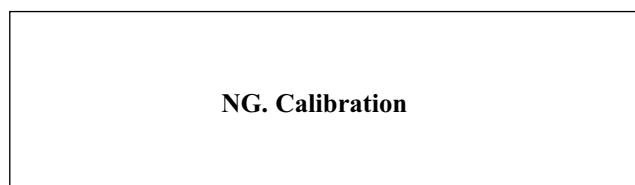
Calibrate the Touch Screen position this way. To perform this test, a normal pen is required. Touch the lower corner of each slit with the pen, according to the numbering shown in the following picture. When the system recognizes the touch, "+" will change into "O".



This way, the writing "Touch Me" will appear to show the correct order, so please follow this indication. During the calibration, do not touch any point except "Touch Me". After touching the four points indicated, the calibration ends and the display will show one of the following writings:



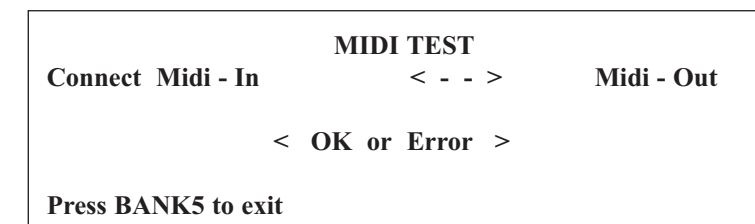
When the calibration fails, the following display will appear.



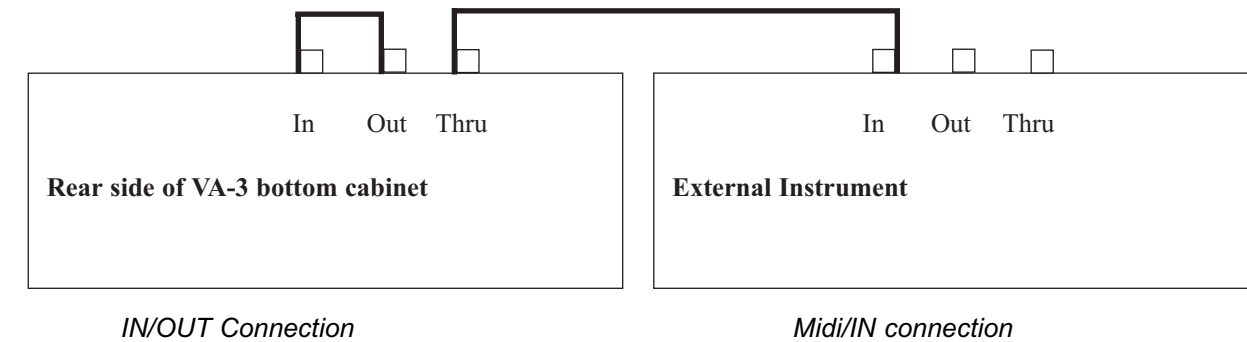
In case of failure, you have to carry out the calibration again. Press the [BANK/NUMBER 5] button to go to the next test.

6 MIDI & THRU test

Pressing [BANK/NUMBER 8] button, the display shows:



How to connect the cables to test the MIDI sockets:



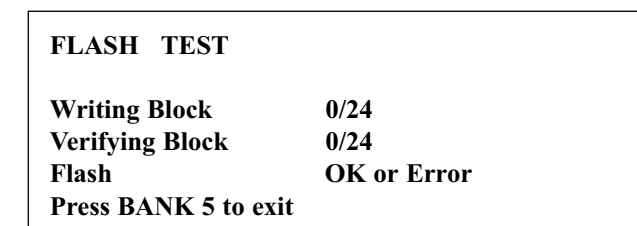
In MIDI test mode, connect the MIDI cables as shown above. Make sure that the writing OK or ERROR appears on the VA-3 display. Test the VA-3 MIDI /Out output, leaving the MIDI/ Out cable inserted and connecting it to the MIDI/ IN socket of an external instrument. If the MIDI/Out socket works, you will hear intermittent sounds coming from the external instrument connected.

To exit, press the [BANK/NUMBER 5].

Second group of test => SUPER TONES

1. FLASH test

Press the [SUPER TONES 1] button, the display shows:



The display visualizes the 24 blocks written and then verified in the flash. OK will be visualized if everything works properly. ERROR will be visualized if there are any anomalies.

To exit, press the [BANK/NUMBER 5].

Note: Check that in the Main Menu an asterisk (*) is present beside the writing "Flash Test" meaning that this test has been already carried out correctly.

2. ROM STYLE Test

Press the [SUPER TONES 2] button, the display shows:

```

ROM STYLE TEST

OK or ERROR

Press BANK 5 to exit

```

To exit, press [BANK/NUMBER 5]

3. RAM Test

Press the [SUPER TONES 3] button, the display shows:

```

RAM TEST

OK or ERROR

Press BANK 5 to exit

```

To exit, press [BANK/NUMBER 5]

4 FDD Test

Press the [SUPER TONES 4] button, the display shows:

```

FDD TEST

Please insert disk

Press BANK 5 to exit

```

If no floppy disk is in the FDD, the message PLEASE INSERT DISK is shown on the bottom of the display. A few seconds after inserting the floppy disk, the display will visualize:

```

FDD TEST

Writing...
Reading...
Verifyng
>>>> OK <<<<
Press BANK 5 to exit

```

If the test is completed successfully, you can exit it when the writing PLEASE EJECT DISK is visualized on the bottom of the display.

If the test fails, the display visualizes one of the following error message: READ ERROR - WRITE ERROR - VERIFYING.

Note: Use a HD formatted floppy disk to perform the test above.
To exit, press [BANK/NUMBER 5]

5 Audio Test

Press the [SUPER TONES 5] button, the display shows:

```

Audio Test

BANK 1 Calibration
BANK 2 Left
BANK 3 Right

Press BANK 5 to exit

```

Pressing "BANK 1 CALIBRATION" you will hear a sine sound of 415 Hz coming out from both Left and Right loudspeakers.

Place the volume potentiometer to MAX position before checking the amplifiers output level.

The sounds coming from the right and left mono channels to the OUT output are mixed and can be adjusted by the Volume potentiometer. The sine wave sounds coming from the right and left channels OUT output will have 415 Hz frequency and 1,8 Vpp. +/- 5% amplitude.

Pressing "BANK 2 LEFT" a sine wave sound comes from the left loudspeaker having 220 Hz frequency and amplitude 1,8 Vpp. +/- 5%.

Pressing "BANK 3 RIGHT" a sine wave sound comes from the right loudspeaker having frequency 220 Hz and amplitude 1,8 Vpp. +/- 5%.

Press [BANK/NUMBER 5] to exit.

CALIBRATION PROCEDURE TO REPLACE THE PITCH BENDER

Load the "System Program" into the instrument. Turn VA-3 on while keeping the [ORCHESTRATOR] button pressed.

After a few seconds, the display will show:

```

PITCH BENDER CALIBRATION

CENTER POSITION

Then Press EFFECTS Key

```

Place the Pitch Bender lever in the middle and press [EFFECTS]. The display visualizes:

```

PITCH BENDER CALIBRATION

ALL LEFT POSITION

Then Press EFFECTS Key

```

Move the Pitch Bender lever completely leftwards and press [EFFECTS]. The display visualizes :

```

PITCH BENDER CALIBRATION

ALL RIGHT POSITION

Then Press EFFECTS Key

```

Move the Pitch Bender lever completely rightwards and press [EFFECTS].

If the calibration has been performed correctly, the system exits the test mode automatically, resets and goes back to the main menu.

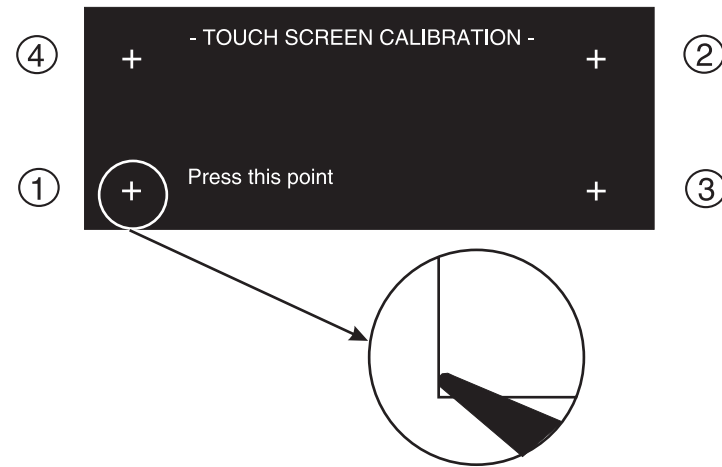
HOW TO ENTER THE TOUCH SCREEN CALIBRATION

Turn the instrument on while keeping the [SONG COMPOSER] button pressed.

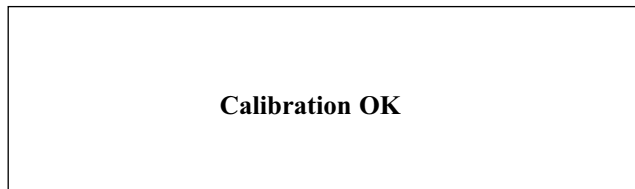
Note: When entered the Calibration test, you cannot exit unless you carry out the calibration operation. To perform this test, a normal pen is required.

Press the left lower corner of each slit with the pen for a few seconds, according to the numbering shown in the following picture.

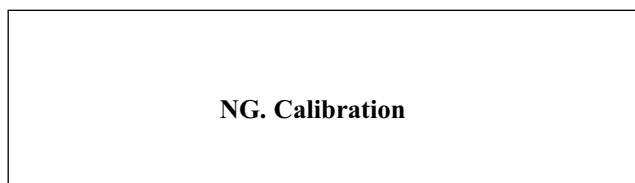
When the system recognizes the touch, + will change into 0.



This way, the writing "Touch me" will appear to show the correct order, so please follow this indication. During the calibration, do not touch any point except "Touch me". After touching the four points, the calibration ends and the display will show one of the following displays:



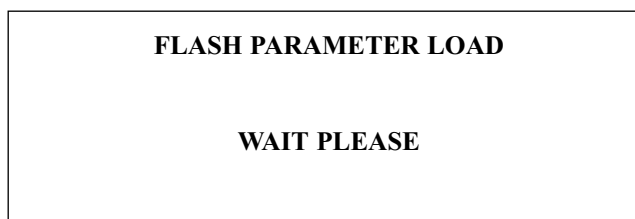
If the calibration fails, the following display appears.



You have to carry out the calibration again. In case of failure, you have to carry out the calibration again.

HOW TO INIZIALIZE THE FLASH AREA

Turn the instrument on while keeping the [MELODY INTELL.] button pressed. After a few seconds, the display shows:

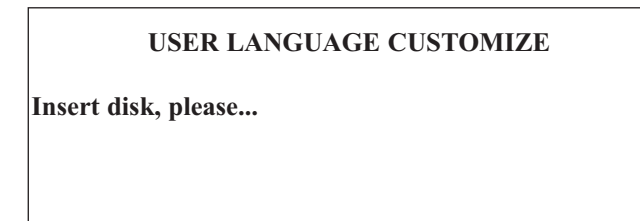


If the loading has been performed correctly, the system exits the test mode automatically, resets and goes back to the main menu.

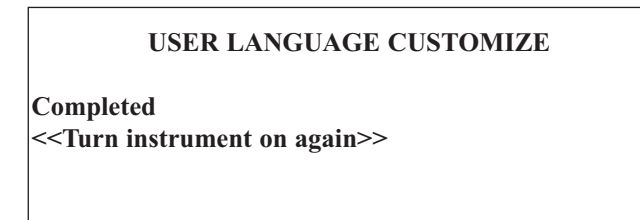
Note: After saving these settings, you have to re-load the VA-3 FACTORY USER PROGRAM and FACTORY MIDI SET.

HOW TO LOAD THE 6th LANGUAGE

Turn the instrument on while keeping the [VIRTUAL BAND] button pressed. The display shows:



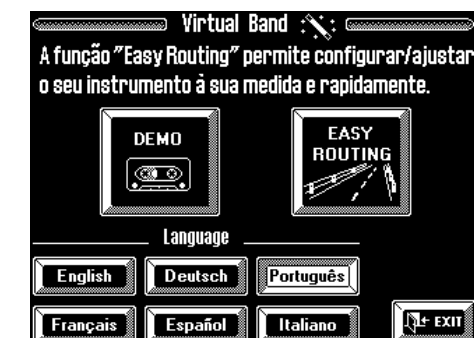
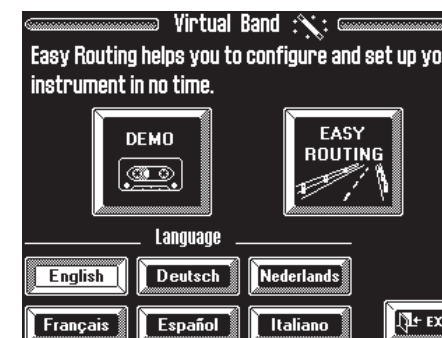
Insert the floppy disk containing the XXXXXXXX.lan file. After a few seconds, the display shows:



Turn the instrument off and on again.

Caution: Loading the 6th language will cause the loss of the Netherlands language.

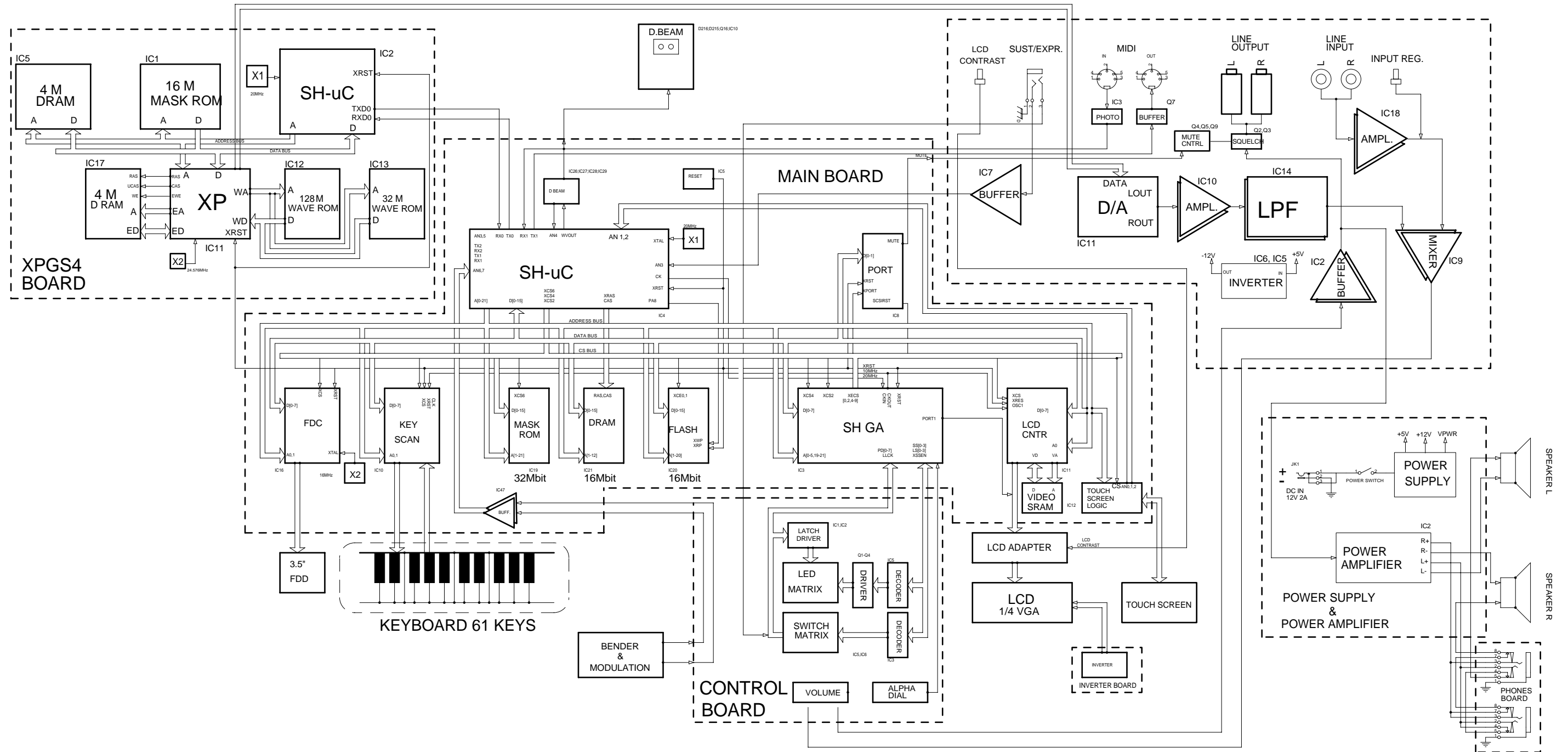
Example:



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 29 30

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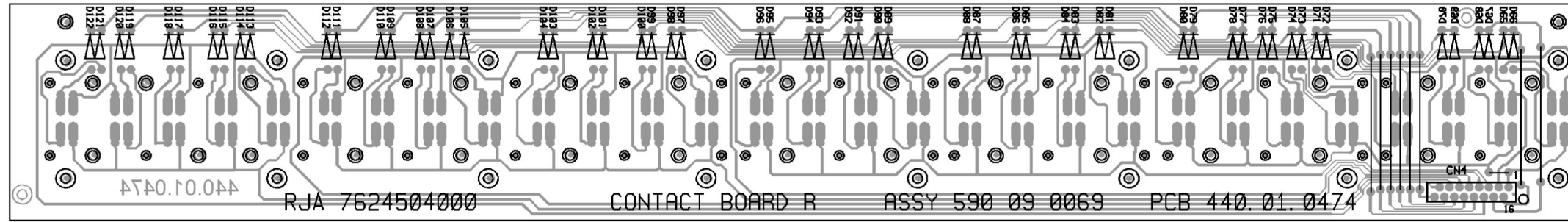
BLOCK DIAGRAM



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 29 30

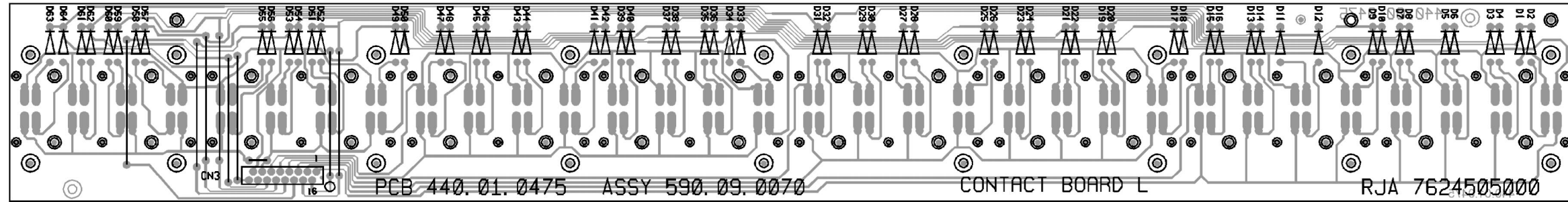
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RIGHT CONTACT PCB ASSY w/RUBBER ASSY 7624504001



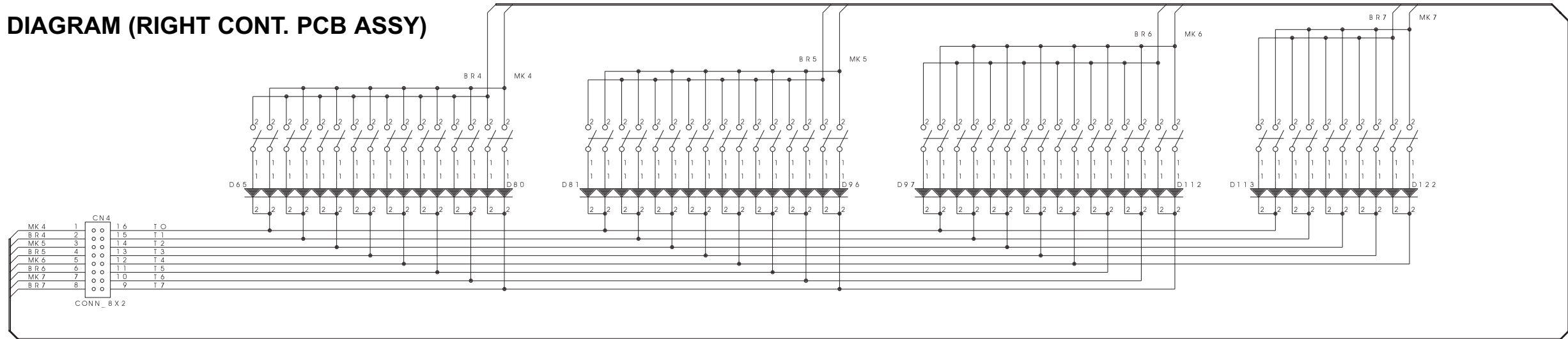
View from component side

LEFT CONTACT PCB ASSY w/RUBBER ASSY 7624505001

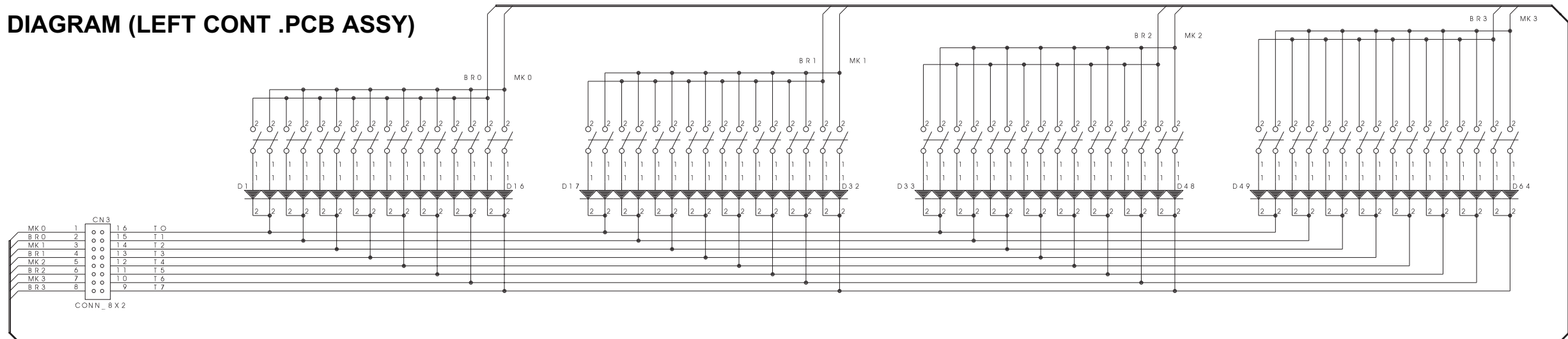


View from component side

CIRCUIT DIAGRAM (RIGHT CONT. PCB ASSY)



CIRCUIT DIAGRAM (LEFT CONT. PCB ASSY)



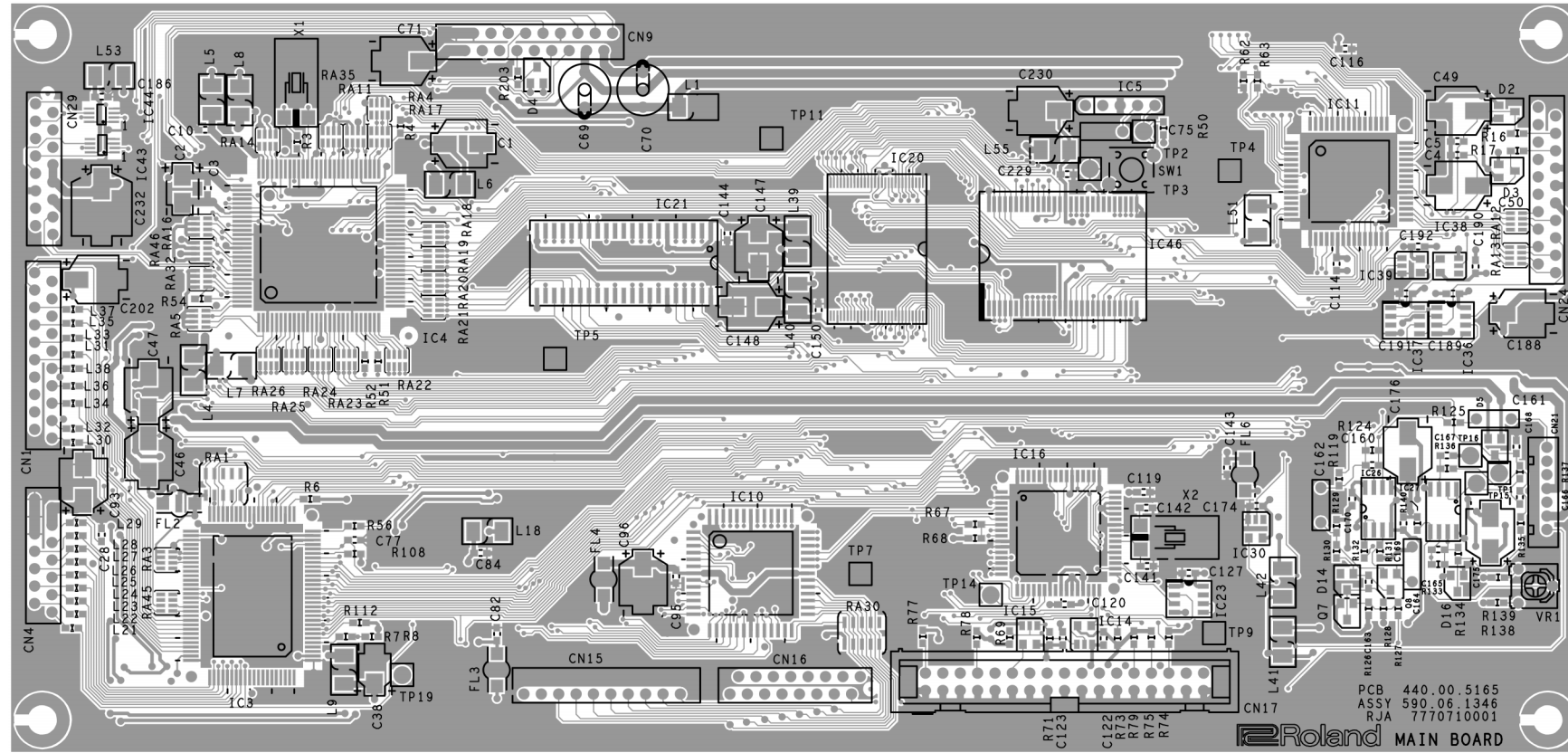
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30

E MAIN PCB ASSY

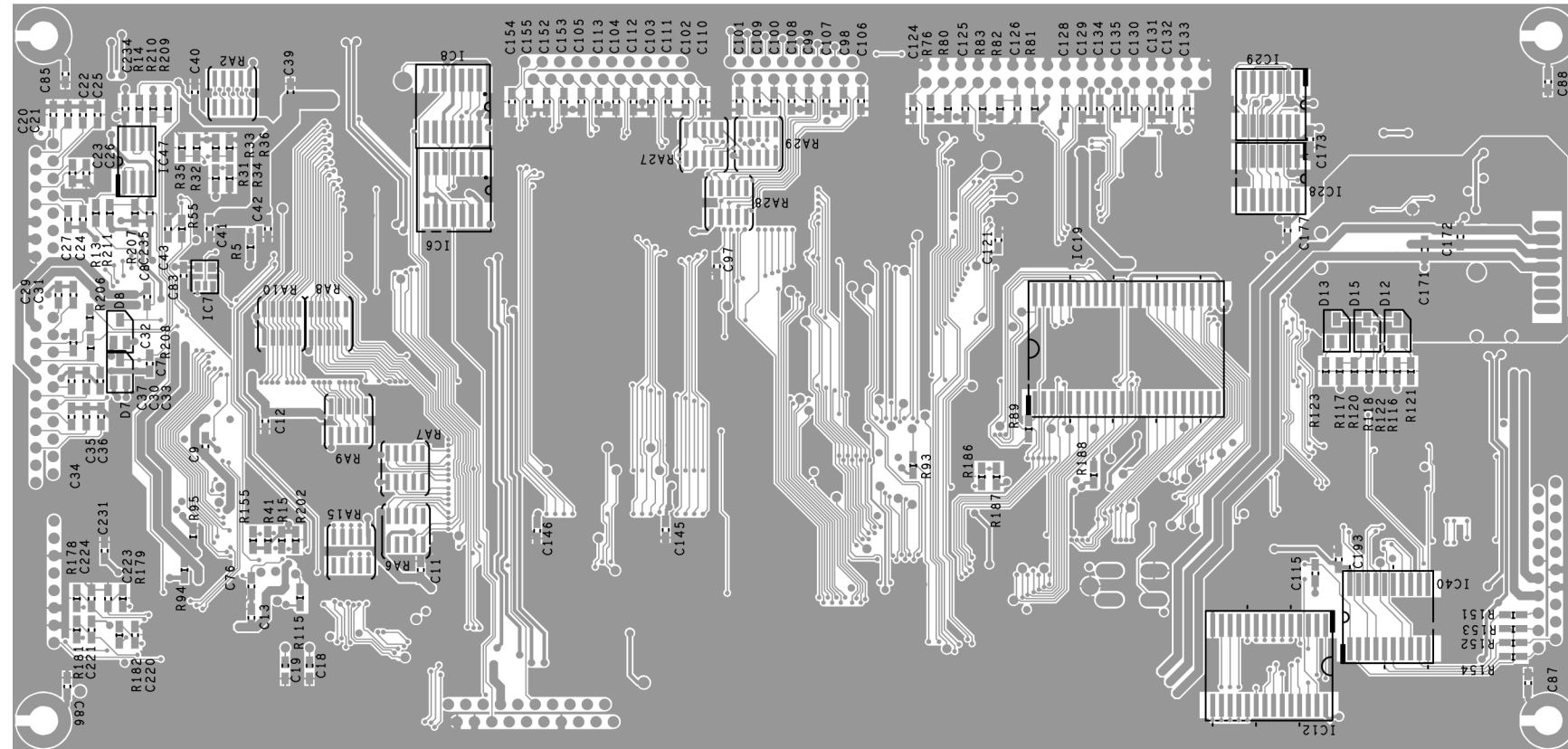
ASSY 7770710001

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View from component side



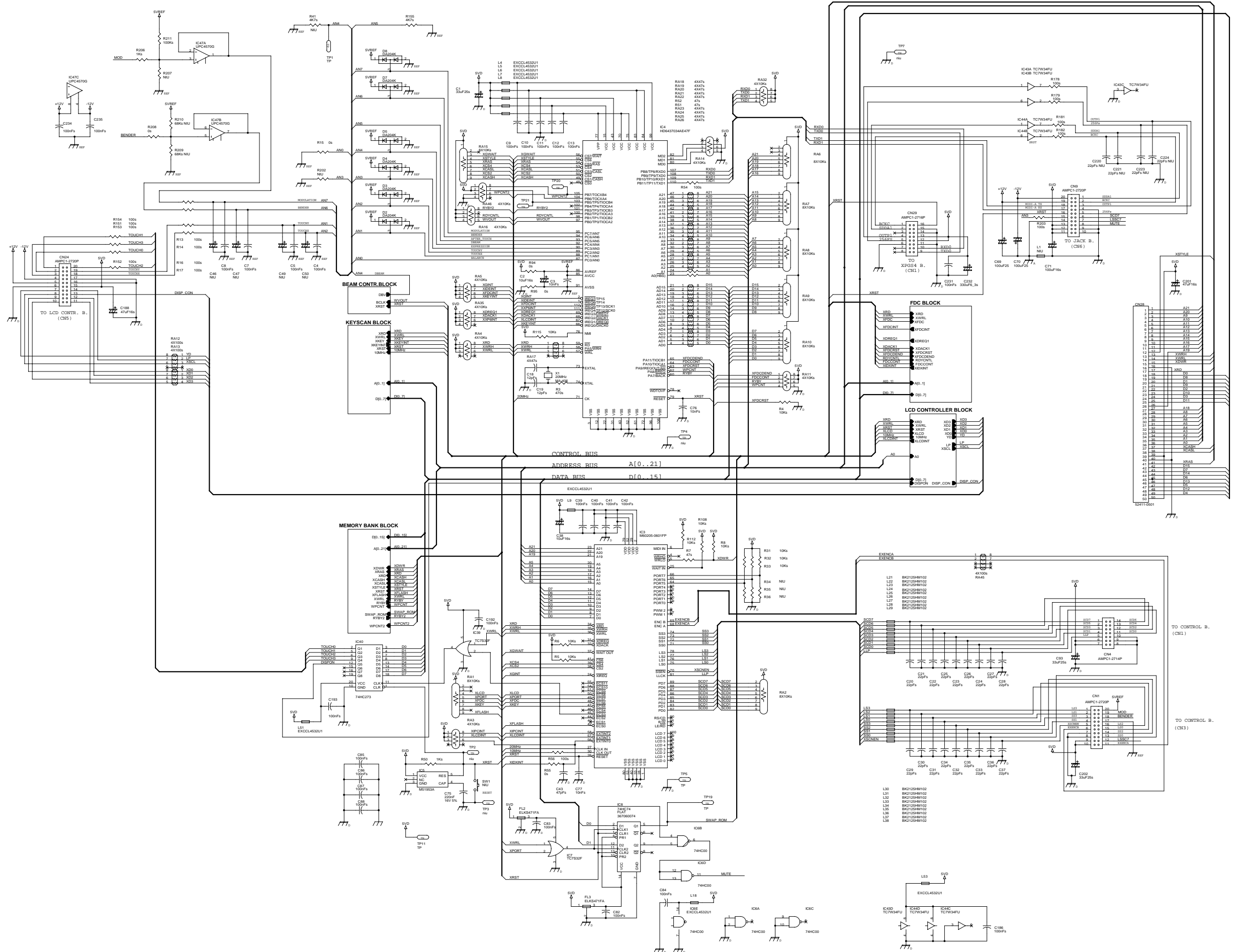
View from solder side



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 29 30

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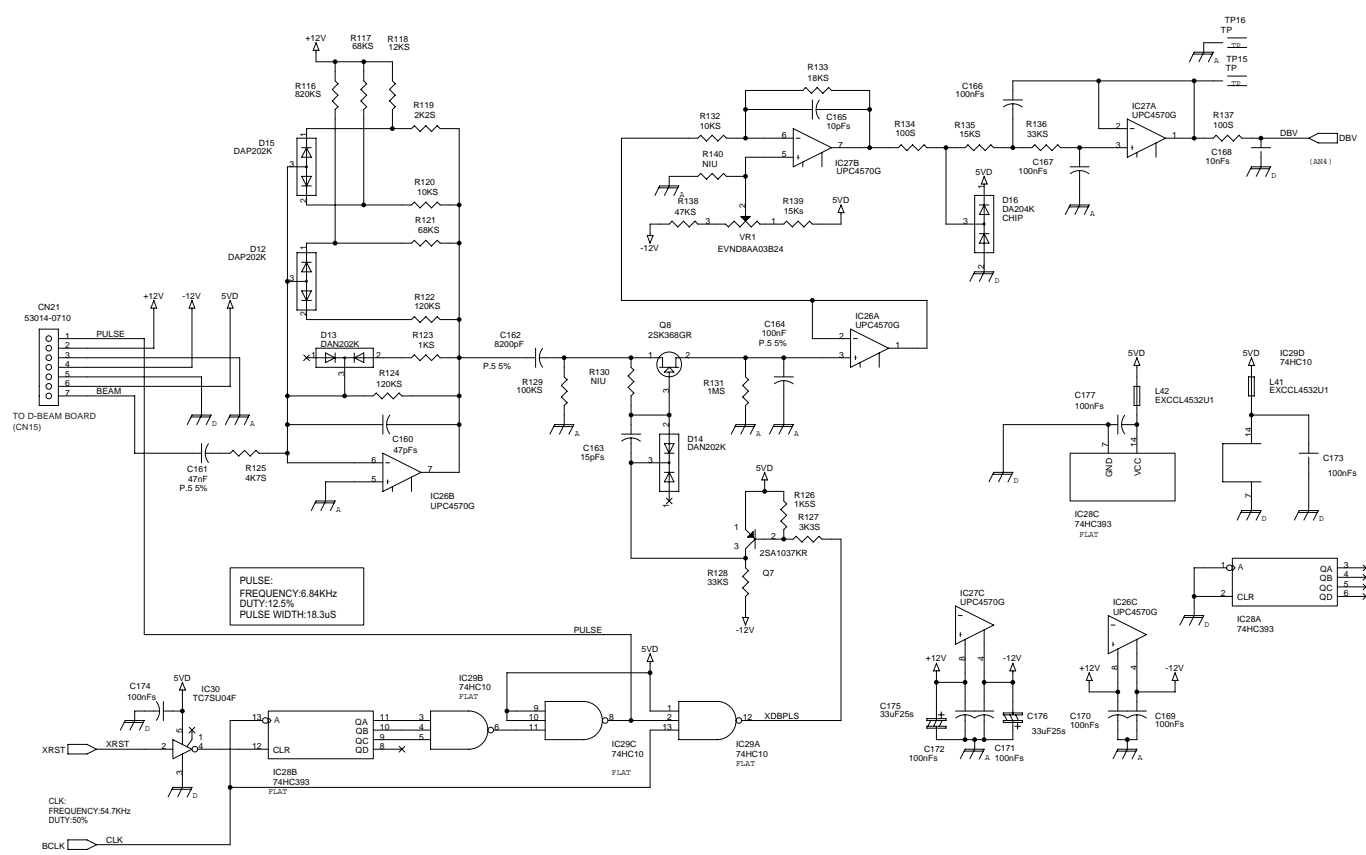
CIRCUIT DIAGRAM (MAIN PCB ASSY)



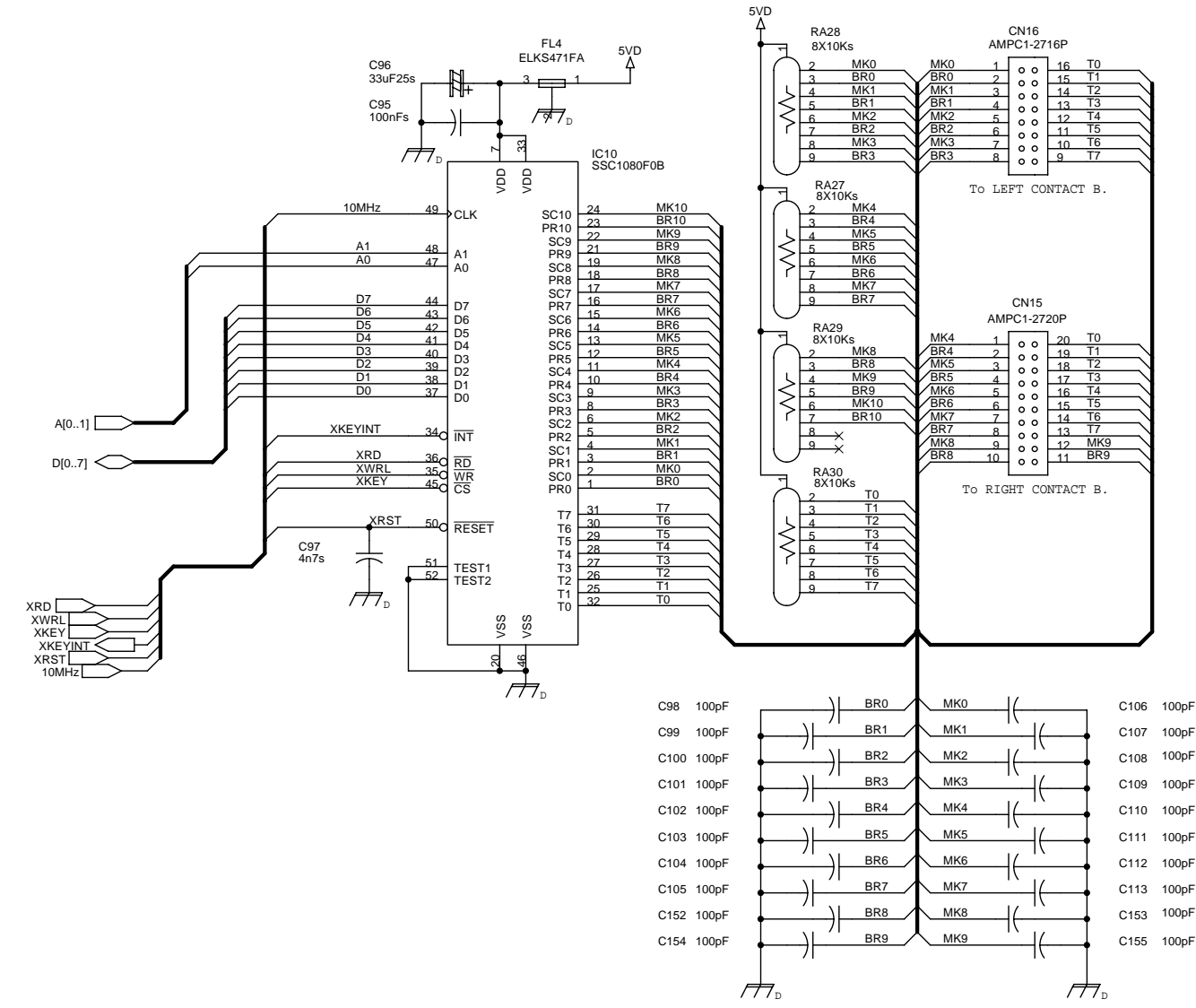
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30

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CIRCUIT DIAGRAM (MAIN PCB ASSY/ Beam Control. Block)



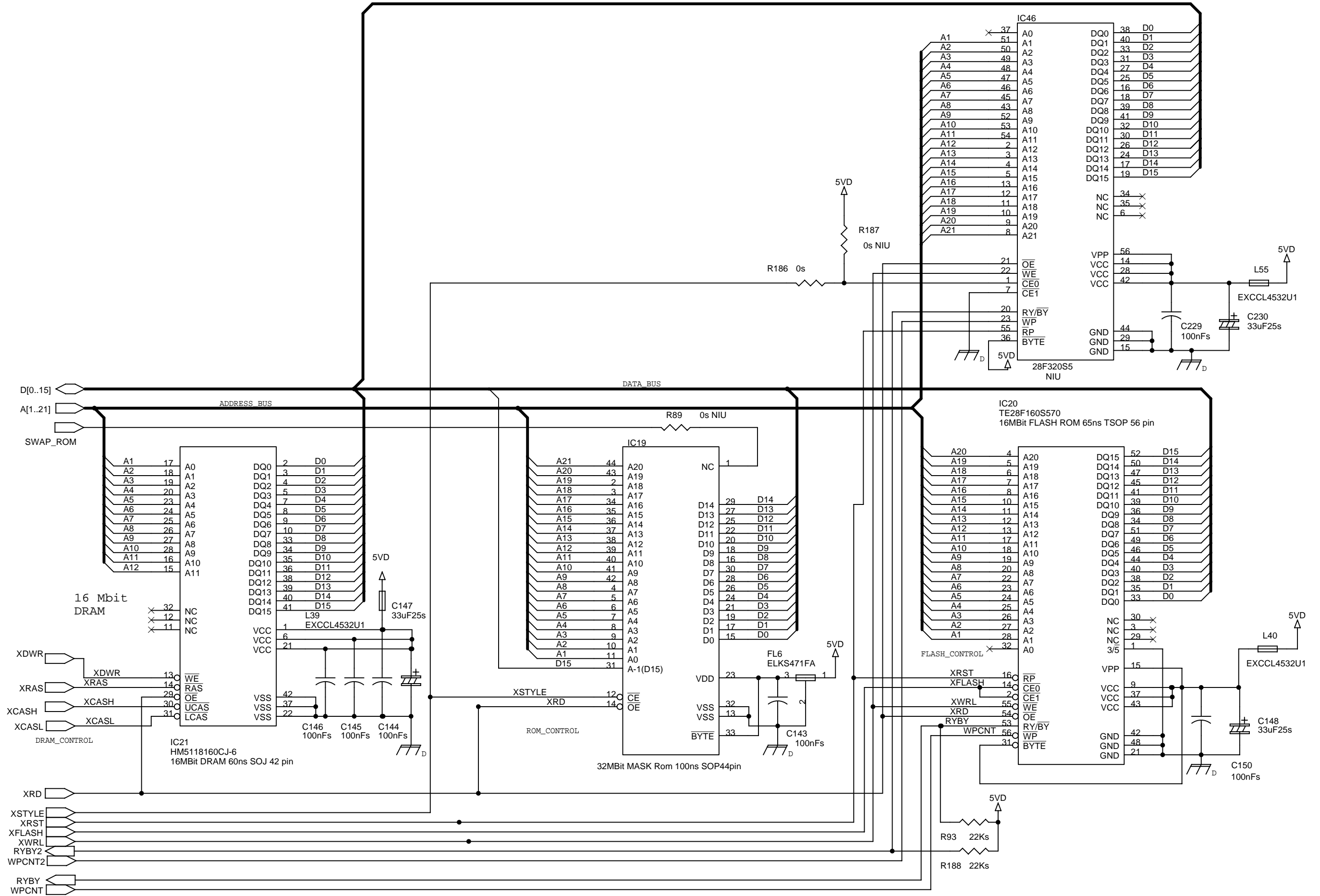
CIRCUIT DIAGRAM (MAIN PCB ASSY/ Keyscan Block)



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 29 30

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CIRCUIT DIAGRAM (MAIN PCB ASSY/ Memory Bank Block)

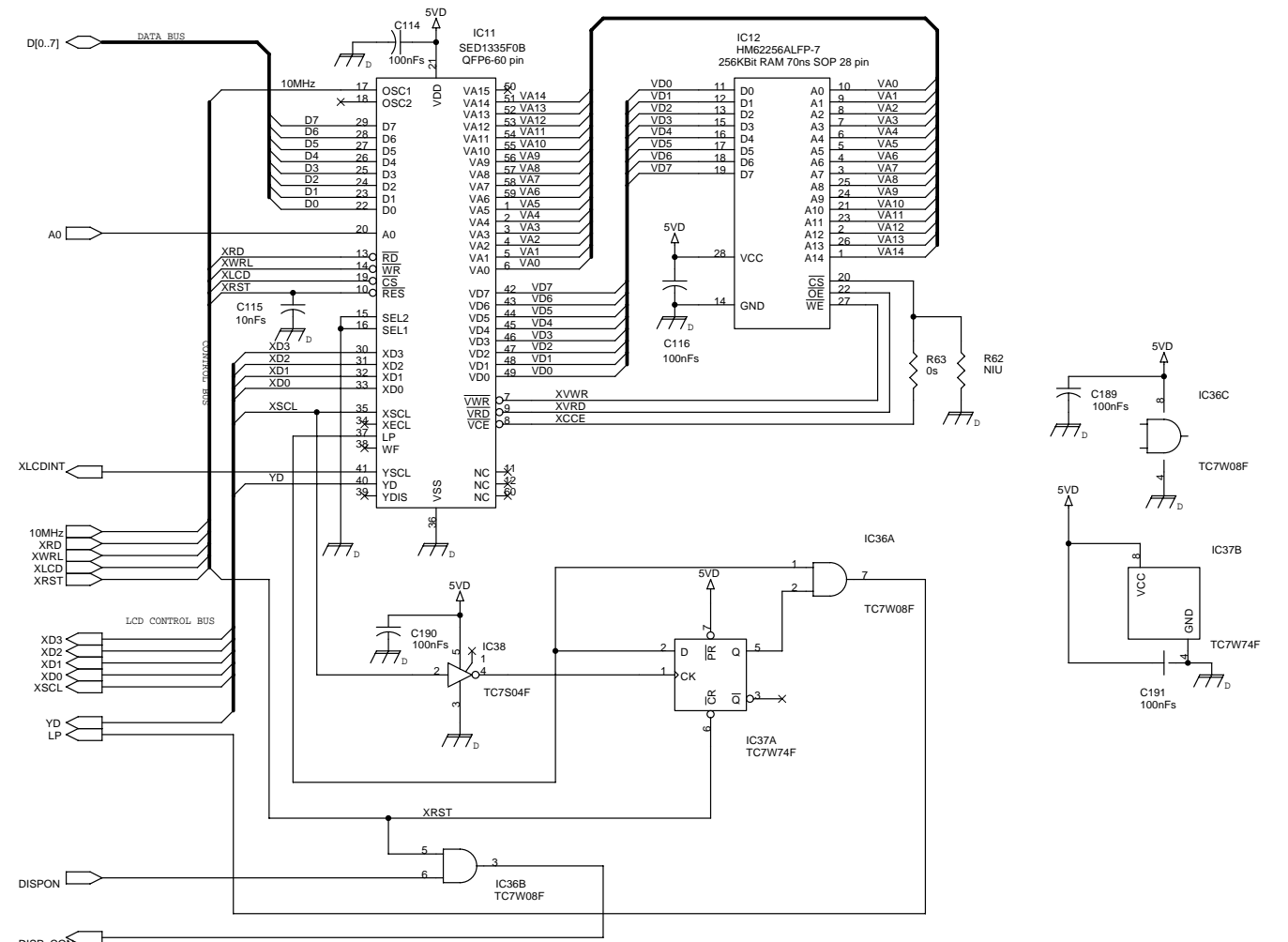
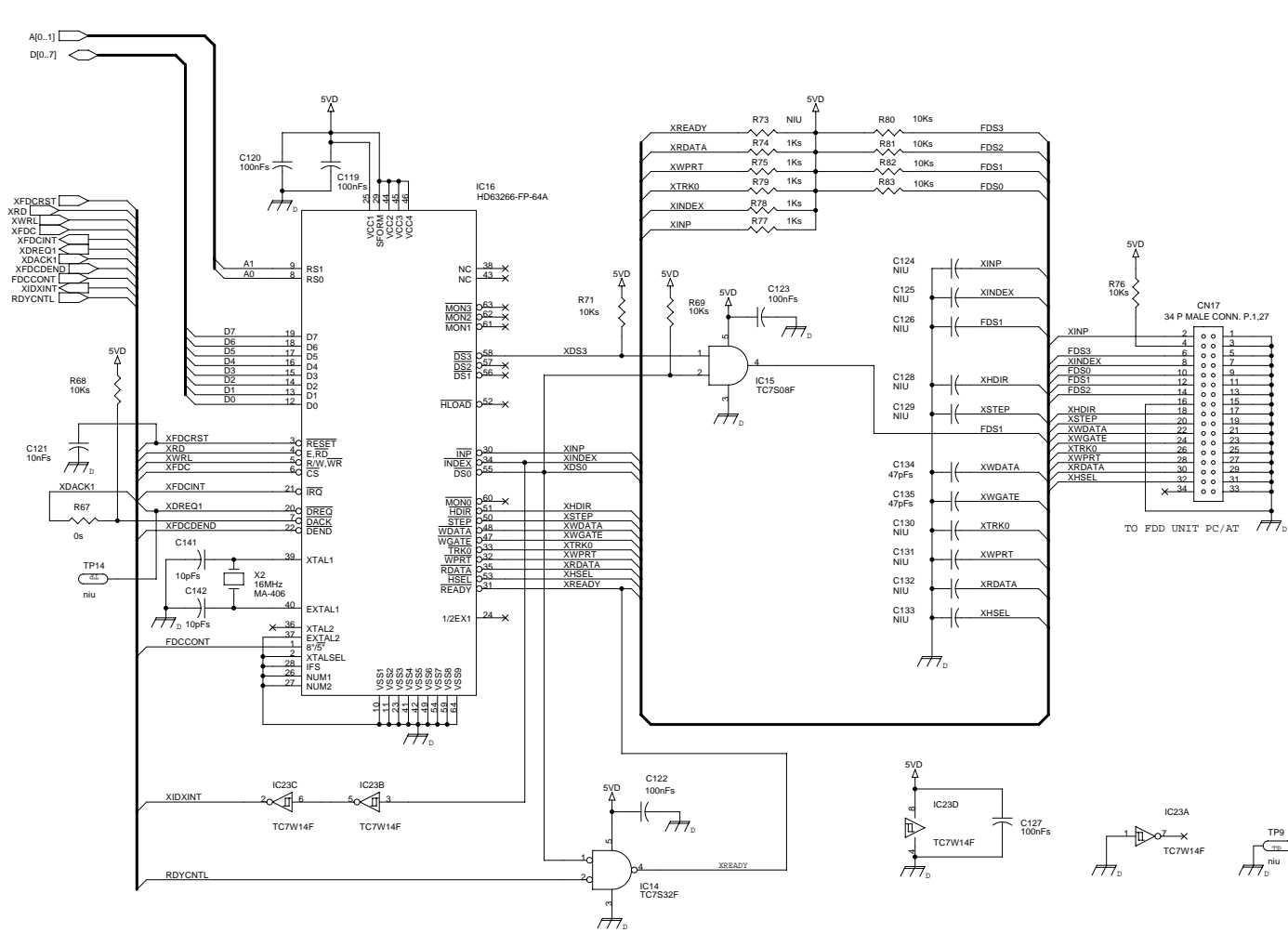


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CIRCUIT DIAGRAM (MAIN PCB ASSY/ FDC Block)

CIRCUIT DIAGRAM (MAIN PCB ASSY/ LCD Contr. Block)



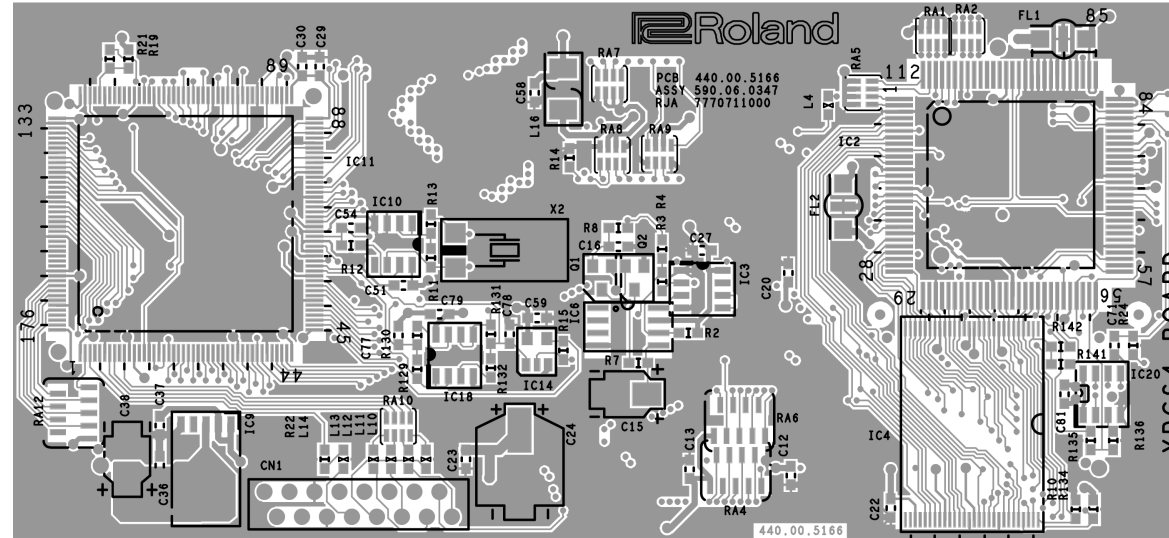
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30

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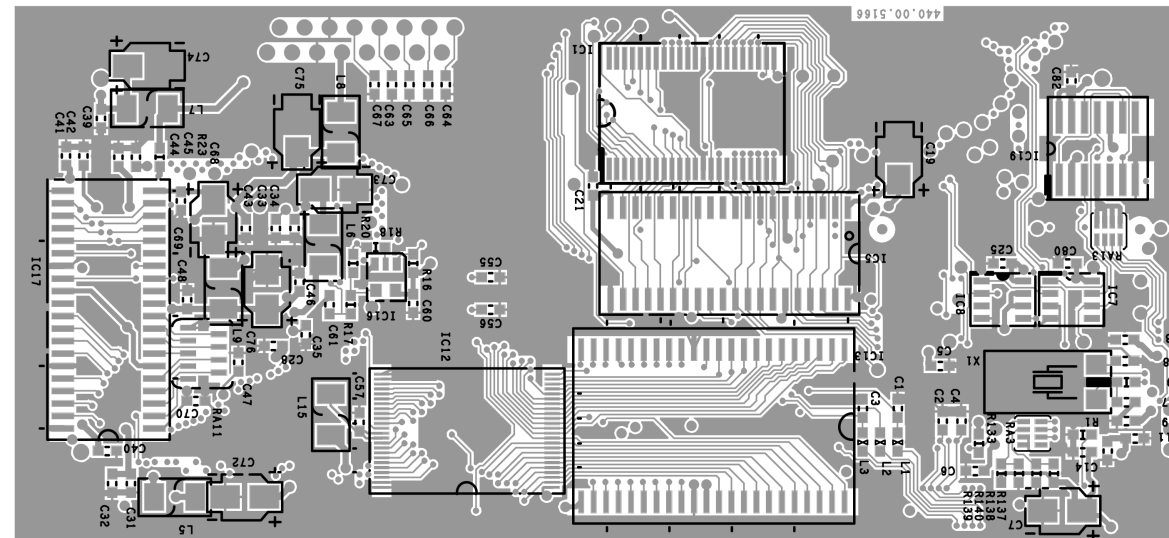
E **MODULE XPGS-4 PCB ASSY** ASSY 7770711000

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

View from component side



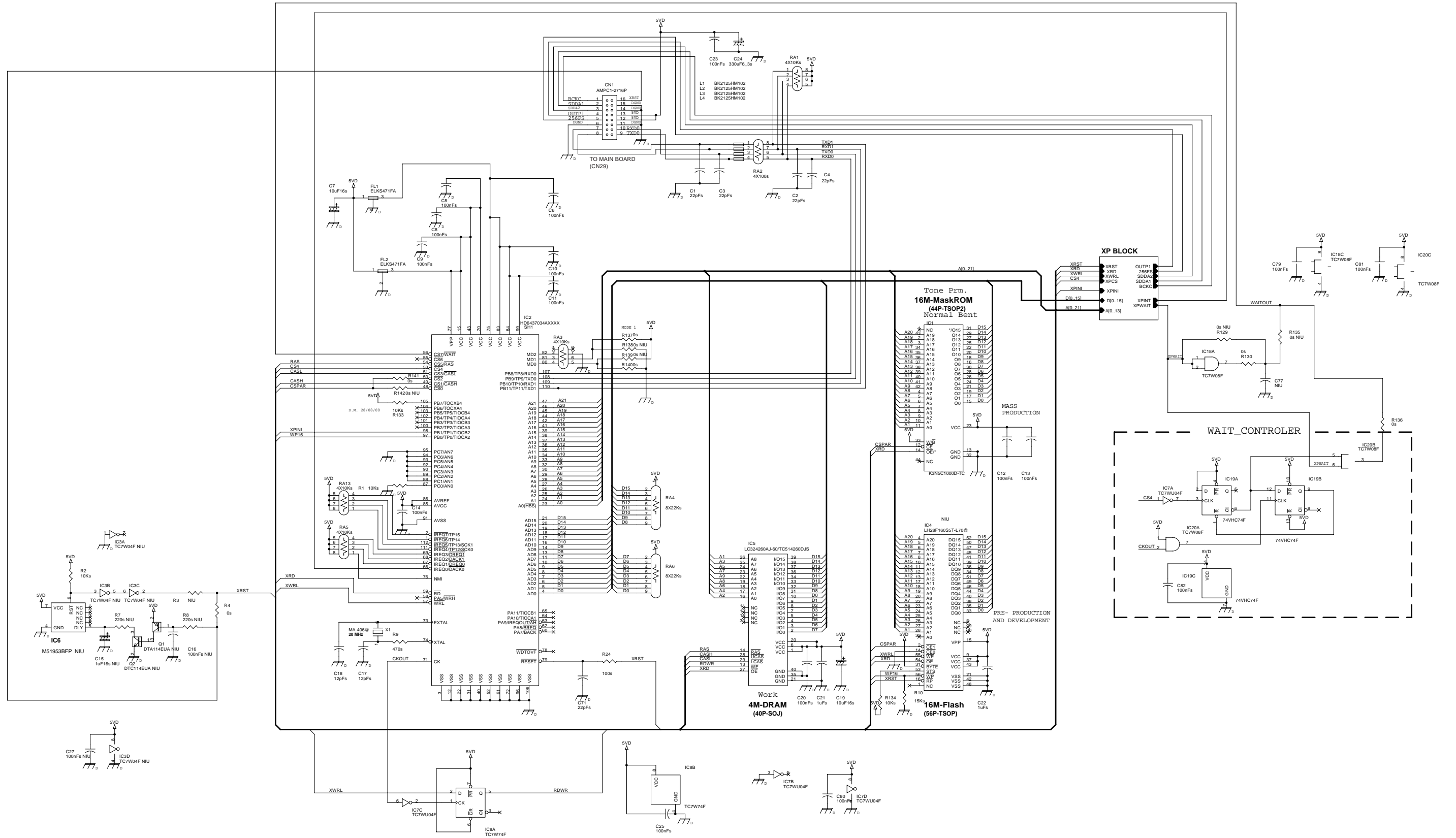
View from solder side



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 29 30

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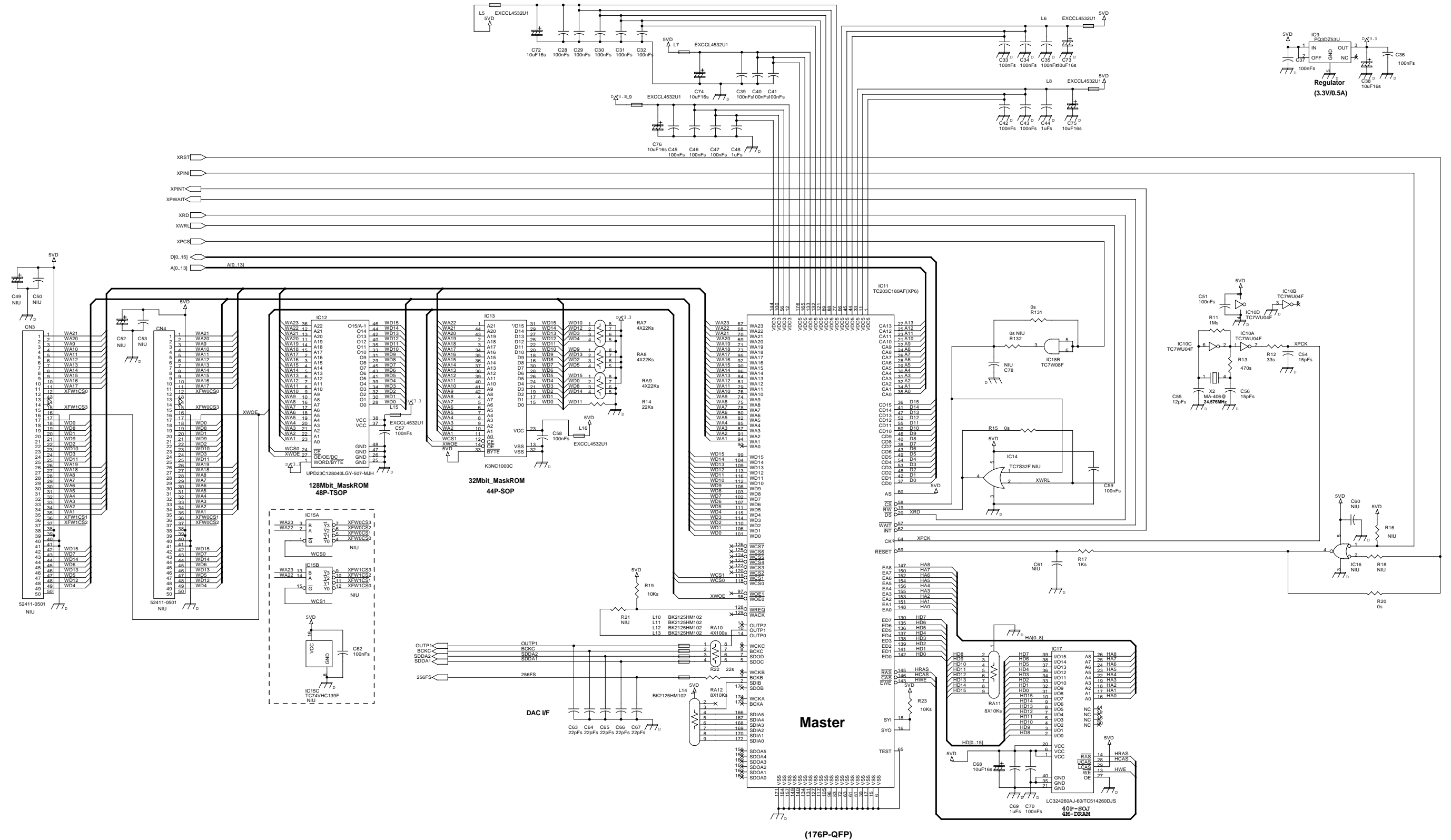
CIRCUIT DIAGRAM (XPGS-4 PCB ASSY/ Section 1)



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 29 30

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CIRCUIT DIAGRAM (XPGS-4 PCB ASSY/ Section 2)



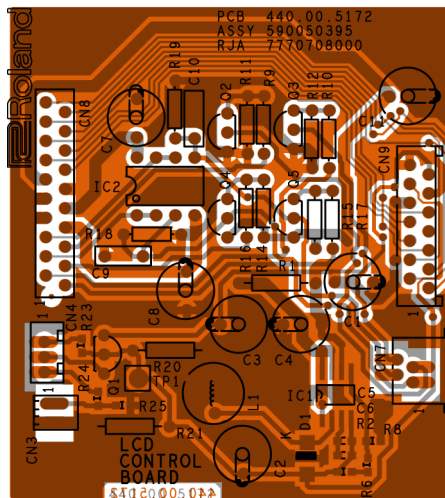
(176P-QFP)

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 29 30

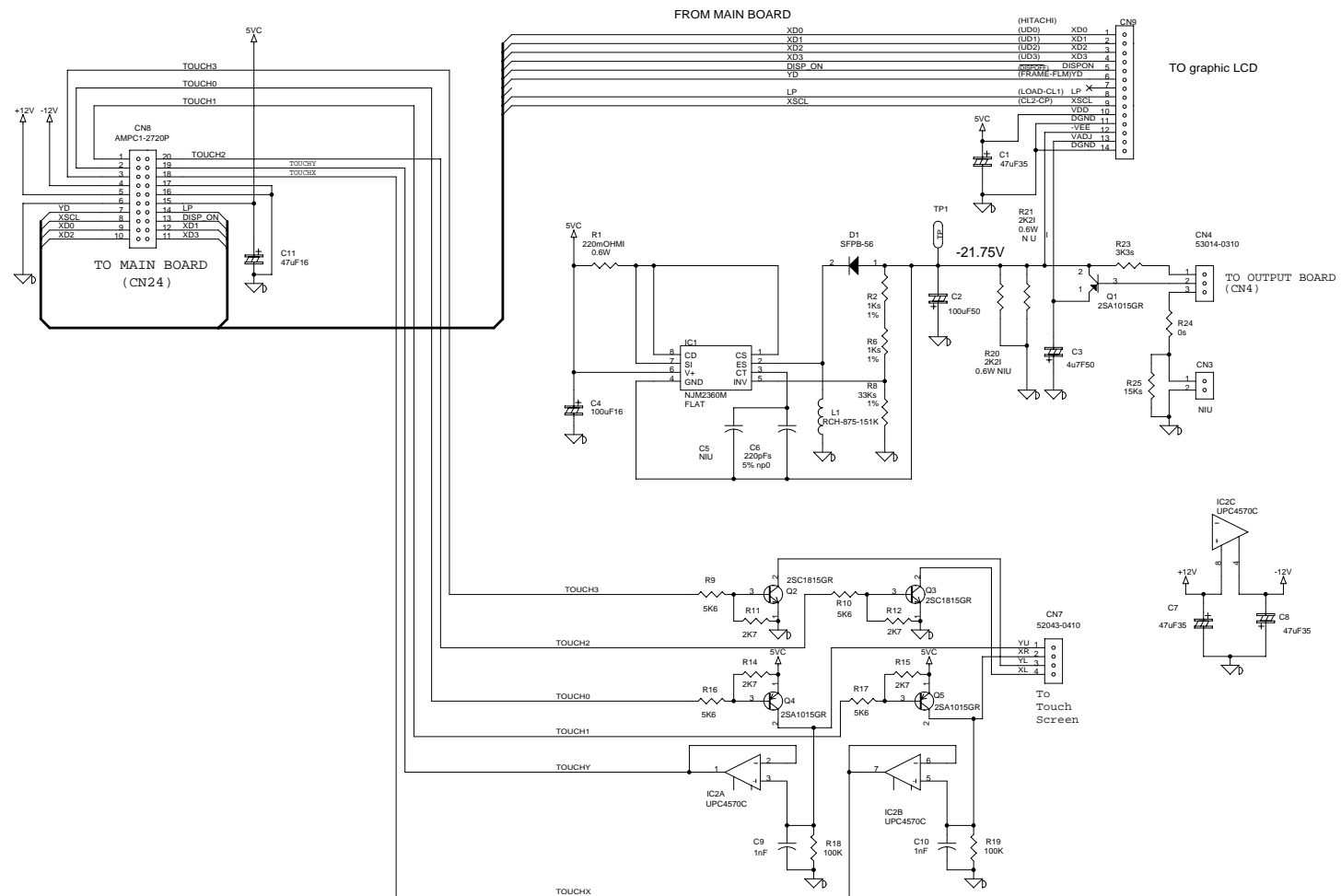
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LCD CONTROL PCB ASSY & CIRCUIT DIAGRAM

ASSY 7770708000

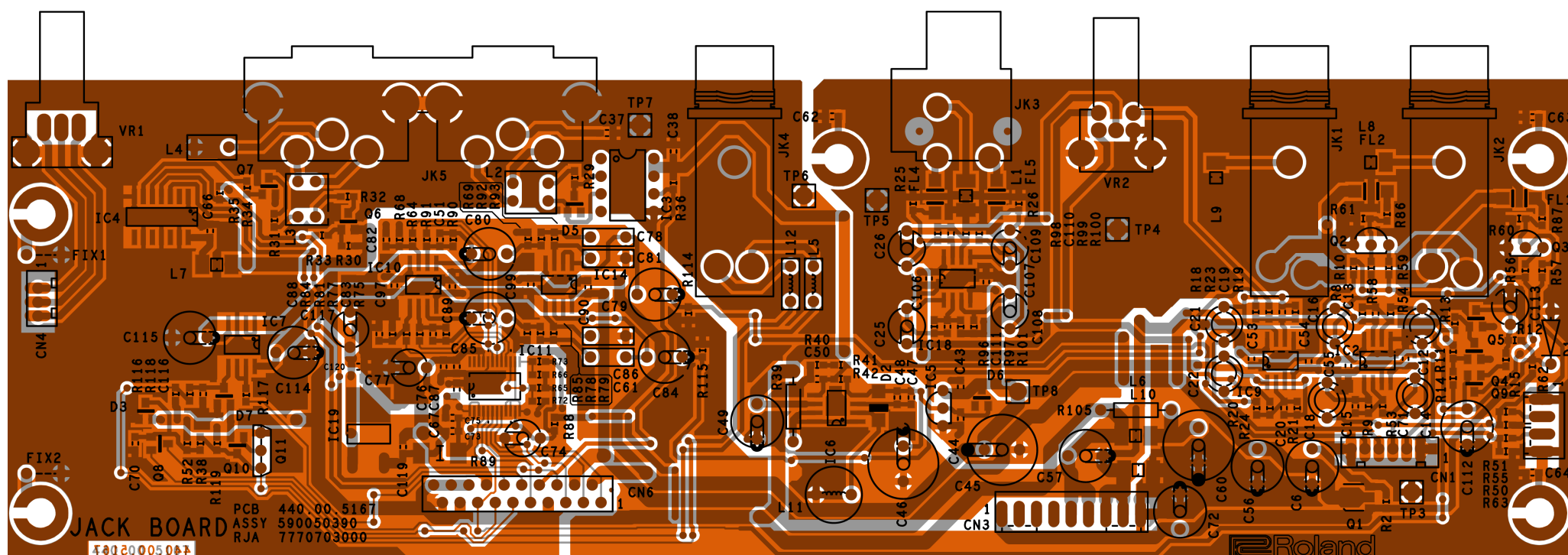


View from component side



JACK PCB ASSY

ASSY 7770703000

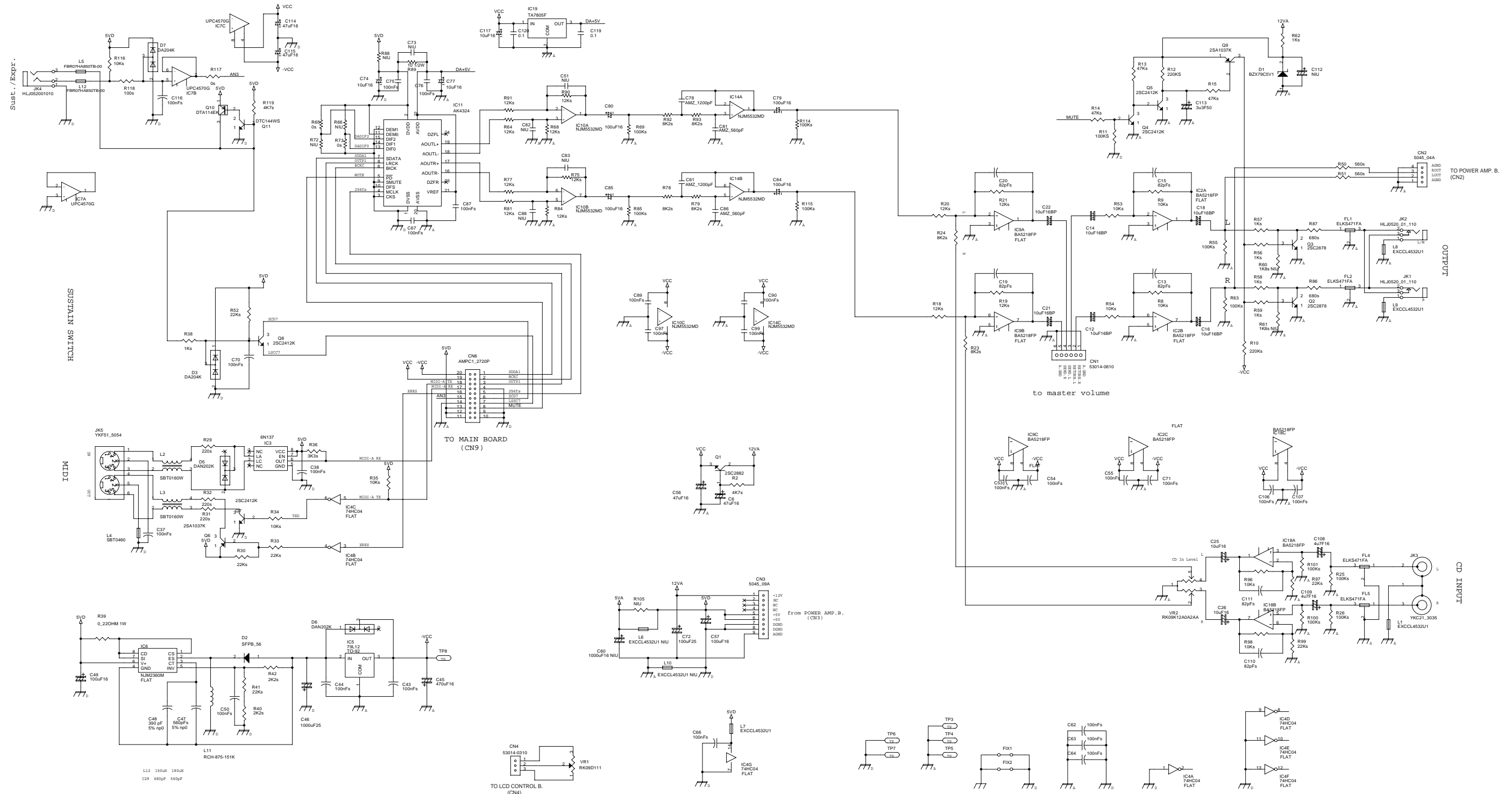


View from component side

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 29 30

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CIRCUIT DIAGRAM (JACK PCB ASSY)

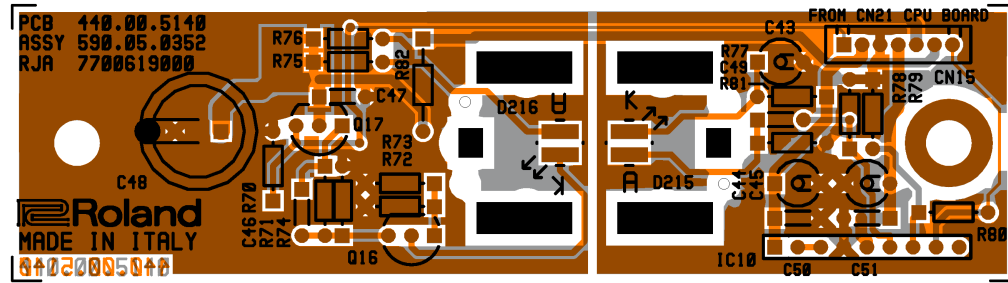


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30

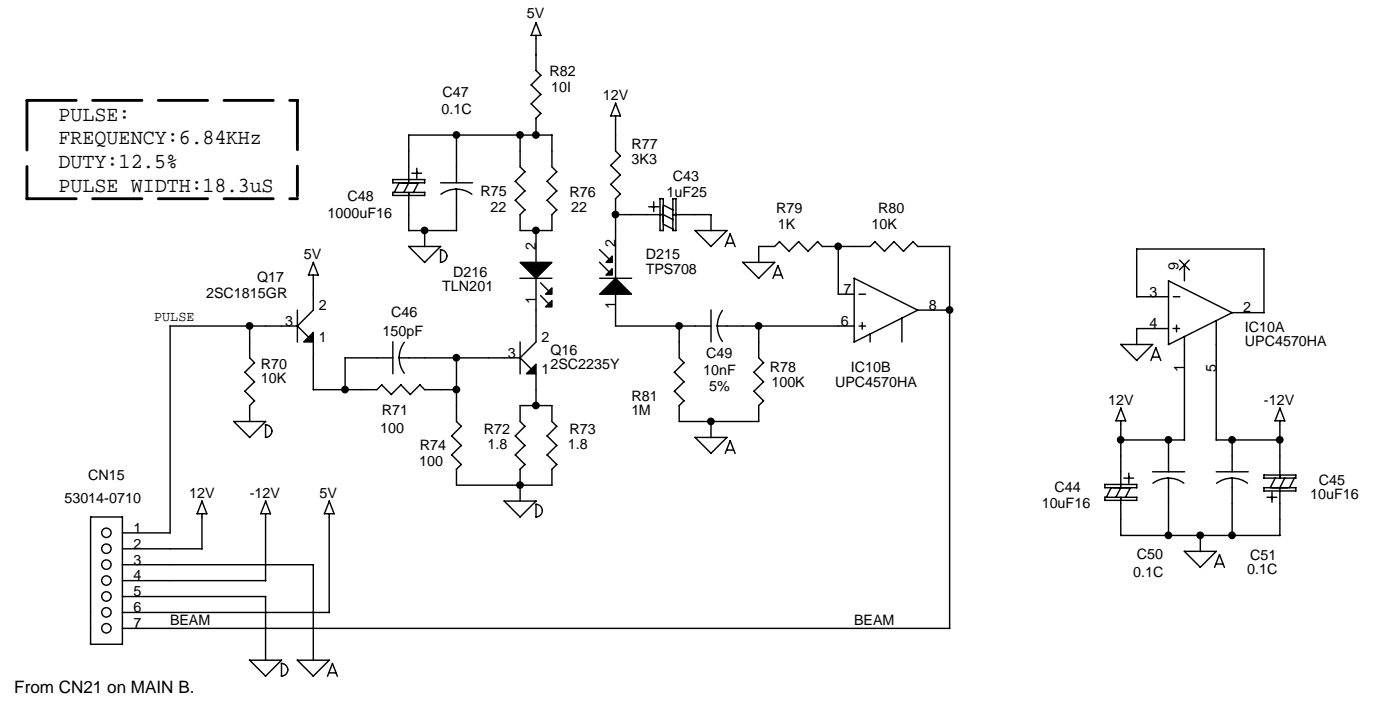
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CONTROL PCB ASSY F/ D-BEAM & CIRCUIT DIAGRAM

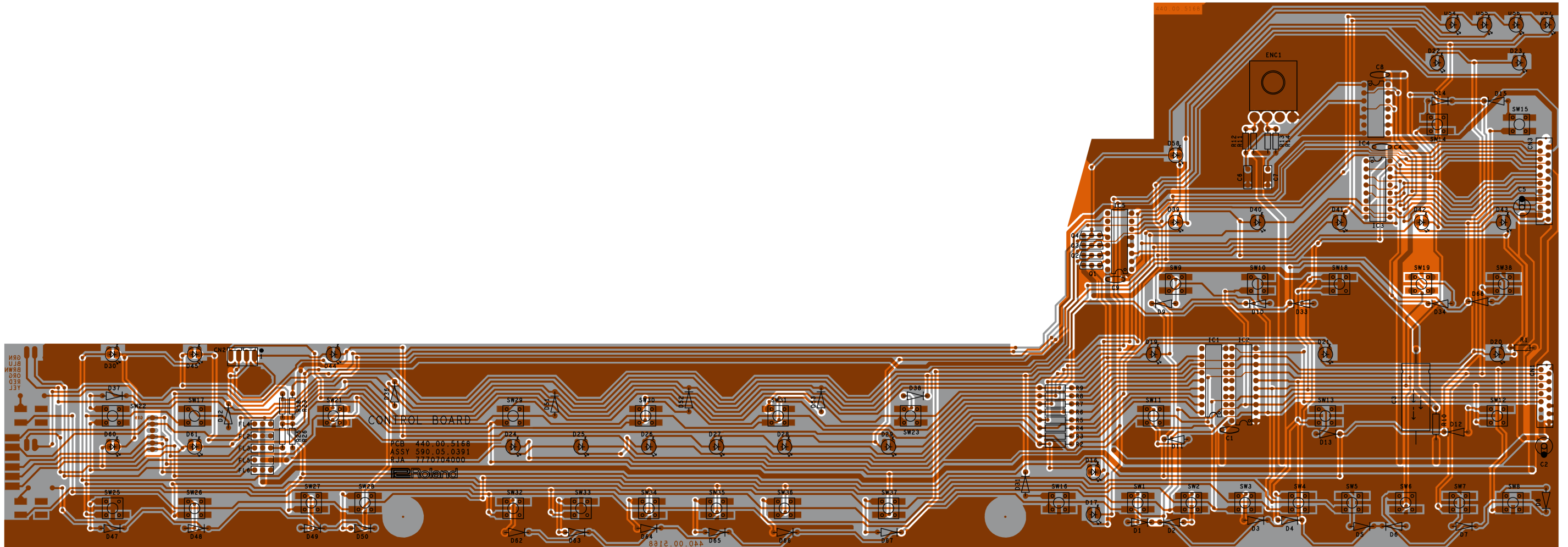
ASSY 7700609000



View from component side



CONTROL PCB ASSY ASSY 7770704001

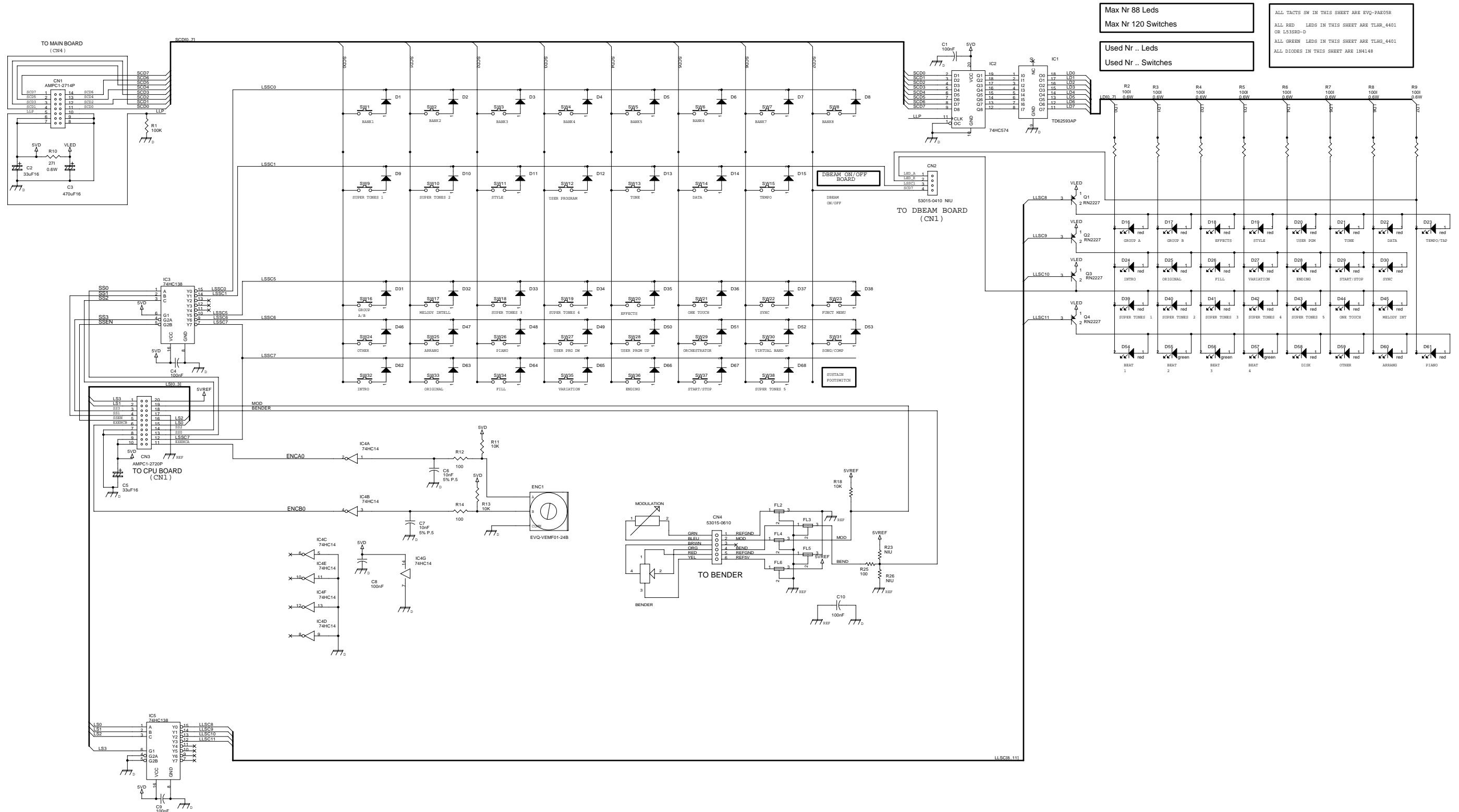


View from component side

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 29 30

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CIRCUIT DIAGRAM (CONTROL PCB ASSY)



Max Nr 88 Leds
Max Nr 120 Switches

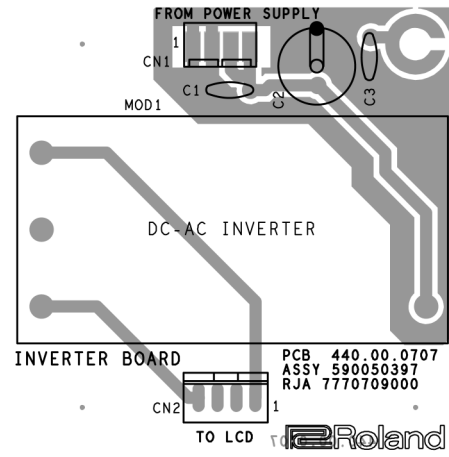
Used Nr .. Leds
Used Nr .. Switches

ALL TACTS SW IN THIS SHEET ARE EVQ-PAR05R
ALL RED LEDS IN THIS SHEET ARE TLIR_4401 OR L53SRD-D
ALL GREEN LEDS IN THIS SHEET ARE TLIR_4401
ALL DIODES IN THIS SHEET ARE 1N4148

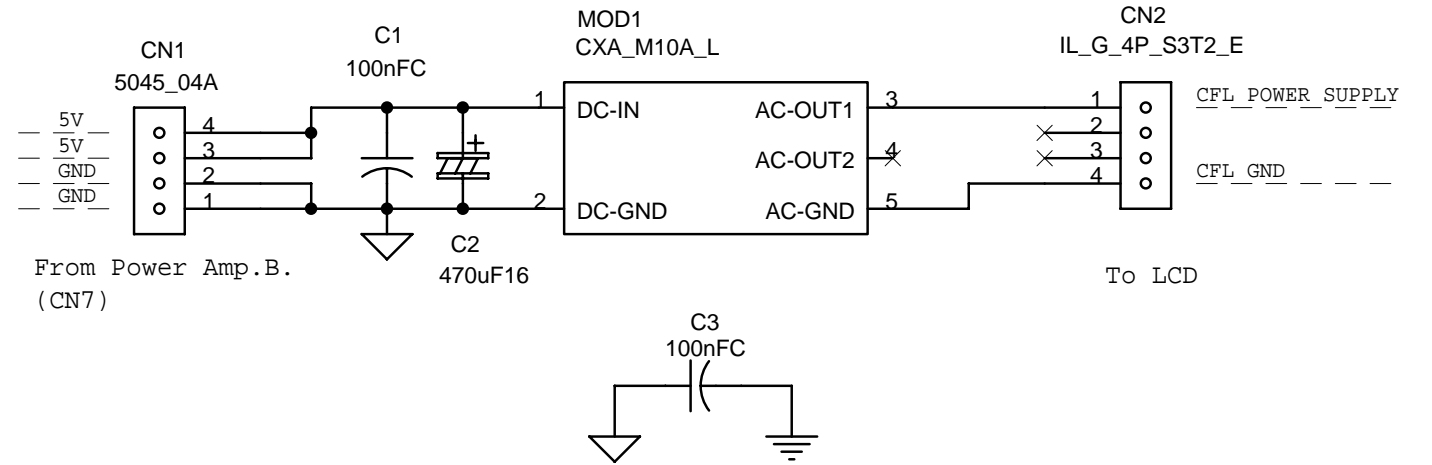
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30

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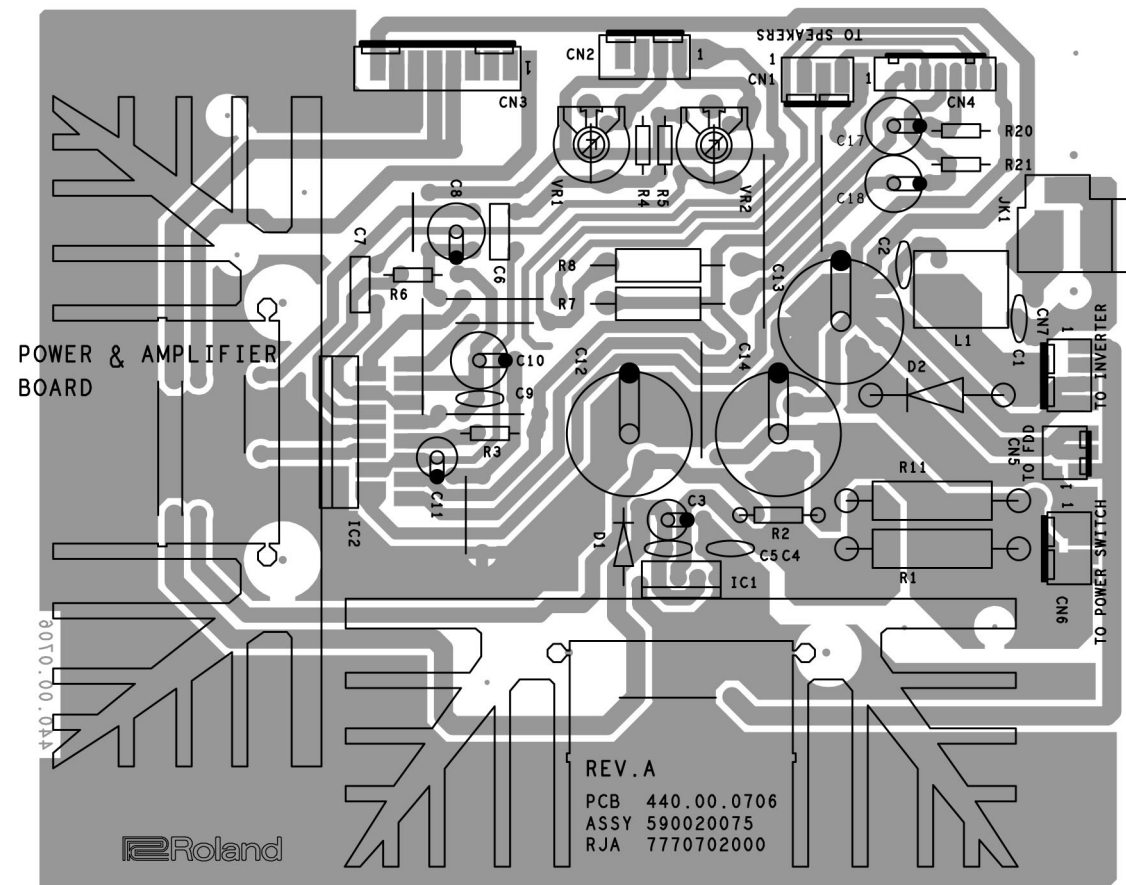
INVERTER PCB ASSY & CIRCUIT DIAGRAM
ASSY 7770709000



View from component side



POWER & AMP. PCB ASSY ASSY 7770702000

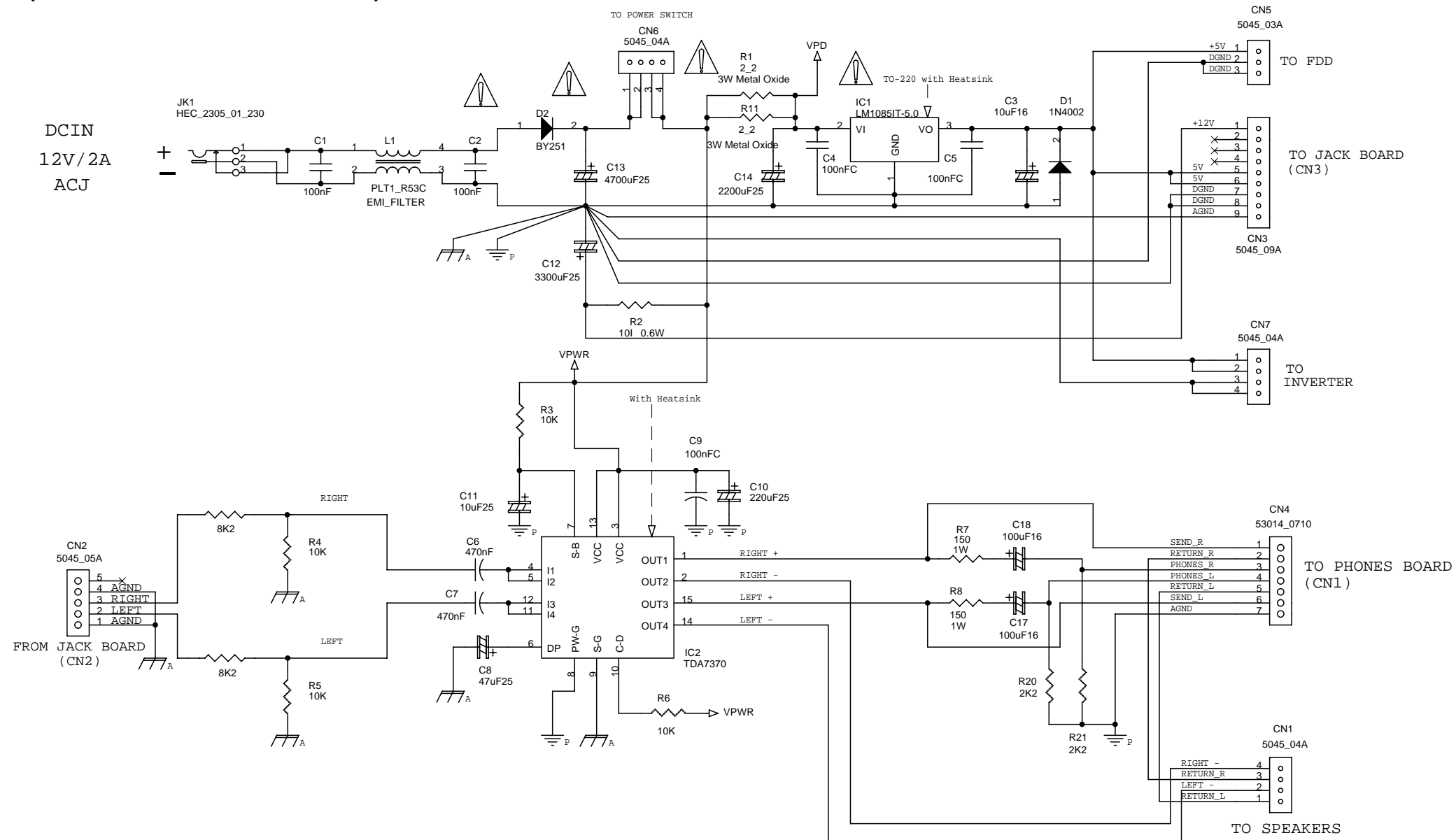


View from component side

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 29 30

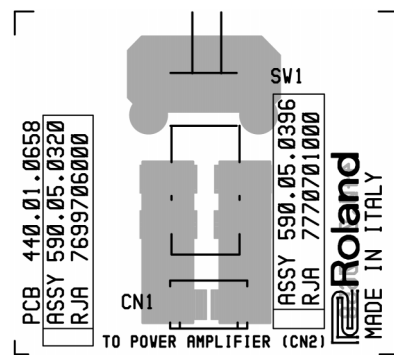
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CIRCUIT DIAGRAM (POWER & AMP. PCB ASSY)

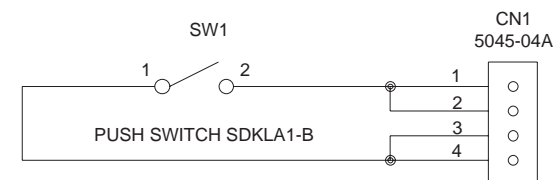


POWER SWITCH PCB ASSY & CIRCUIT DIAGRAM

ASSY 7770701000



View from component side

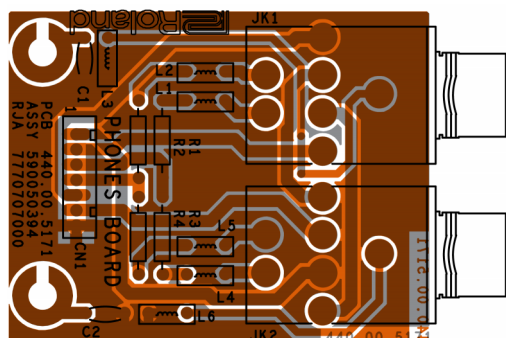


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30

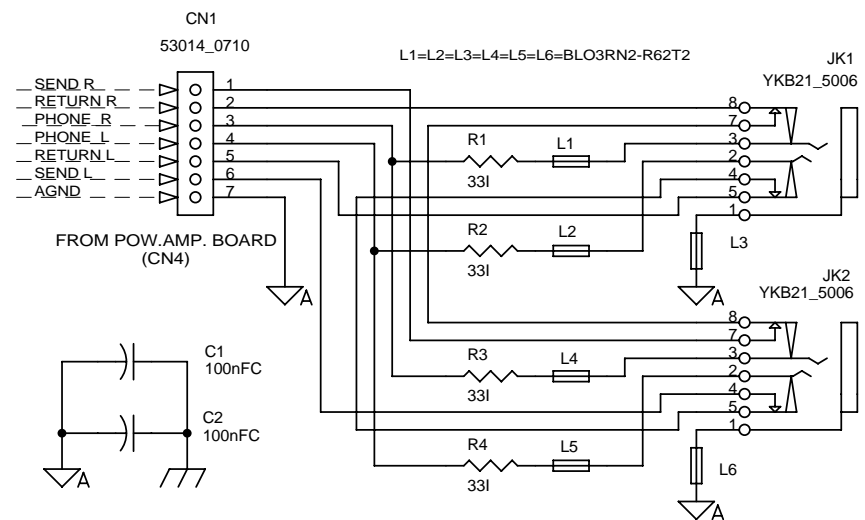
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PHONES PCB ASSY & CIRCUIT DIAGRAM

ASSY 7770707000

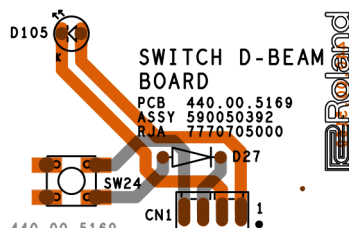


View from component side

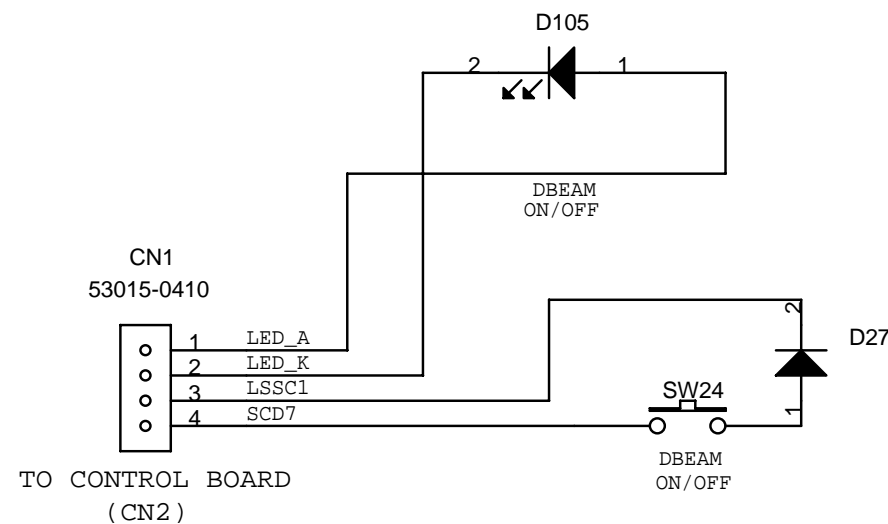


SWITCH D-BEAM PCB ASSY & CIRCUIT DIAGRAM

ASSY 7770705000

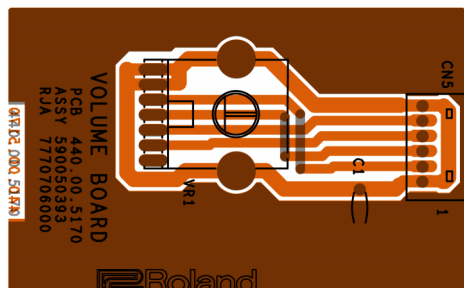


View from component side



VOLUME PCB ASSY & CIRCUIT DIAGRAM

ASSY 7770706000



View from component side

