

VA-7

V-ARRANGER KEYBOARD

SERVICE NOTES

First edition

Issued by RES

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Specifications

Keyboard: 61 keys, synthesizer action, velocity-sensitive, Aftertouch

Controllers: Tempo/Data dial, D Beam Controller, Bender/Modulation Lever, Touch Controller (Ribbon Controller), Master Volume knob, Keyboard/Accomp Balance knob, M-FX knob (Multi-effect control)

Tone generation:

PCM: 128-voice polyphonic, GM2/GS compatible, 32 multitimbral parts, 3,649 sounds (48MB worth of PCM samples) 116 Drum Sets incl. oriental Drum sets.

VariPhrase: 4 Phrase lines, realtime change of Formant, Pitch and Time Stretch, 48 Factory Phrases (16 MB), 16 User phrases (max. 8 MB in RAM)

Digital effects: Reverb (8 types), Chorus (8 types), Delay (10 types), Parametric EQ, M-FX (DSP, 89 types)

Arranger (automatic accompaniment): 128 Music Styles in ROM, 64 Disk Link Styles from Zip or floppy disk, Disk User style (instant access to one Style on Zip/Floppy disk), 16 Acoustic Styles, 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 Song and Style navigation system on Zip

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

Data storage: Zip drive (IDE/ATAPI), floppy disk drive (2DD/2HD), realtime load from Zip & FDD, File types managed: Styles, Song SMF, User Program, MIDI sets, VariPhrases

Amplification: 25 + 25W output power, 2-way Bass Reflex System

Connections: Output (L/mono, Right), Input (L/mono, Right), VariPhrase Sampling Input & Gain, Sustain, Foot pedal (expression), Foot switch, Foot Controller (FC-7), 2 x Phones

Power Supply: 100V~240 (universal)

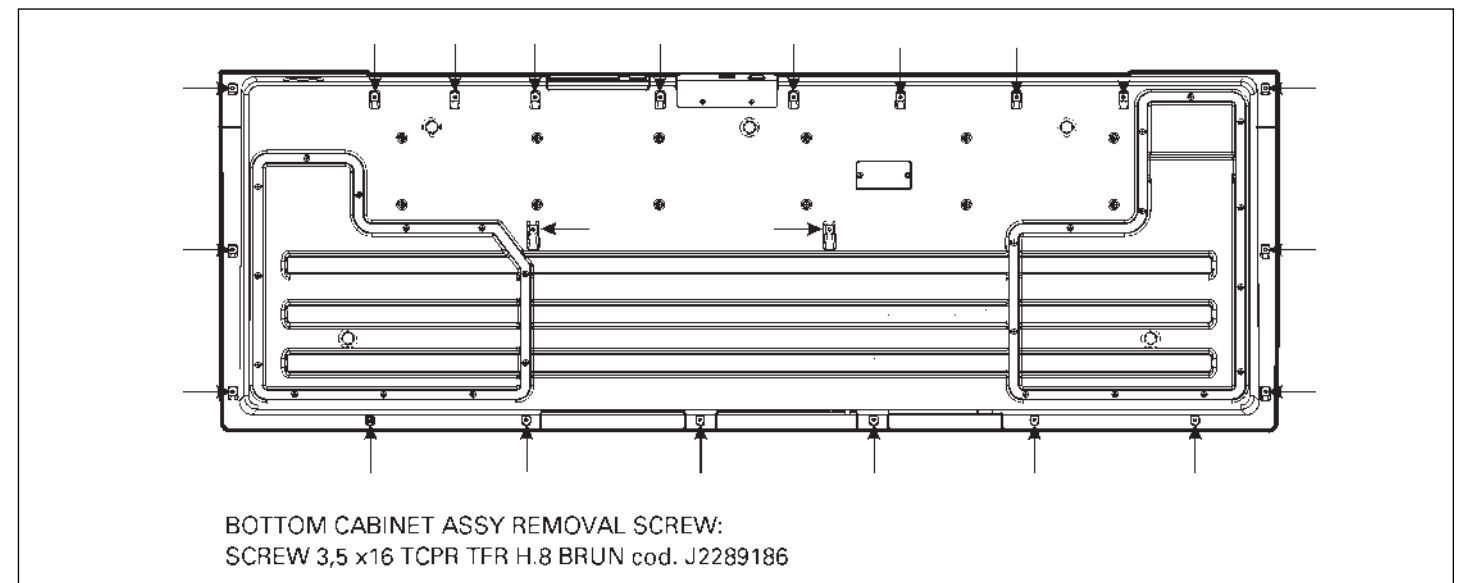
Dimension: 1190(W) x 197 (H) x 406 (D) mm

Weight: 16, 5 Kg

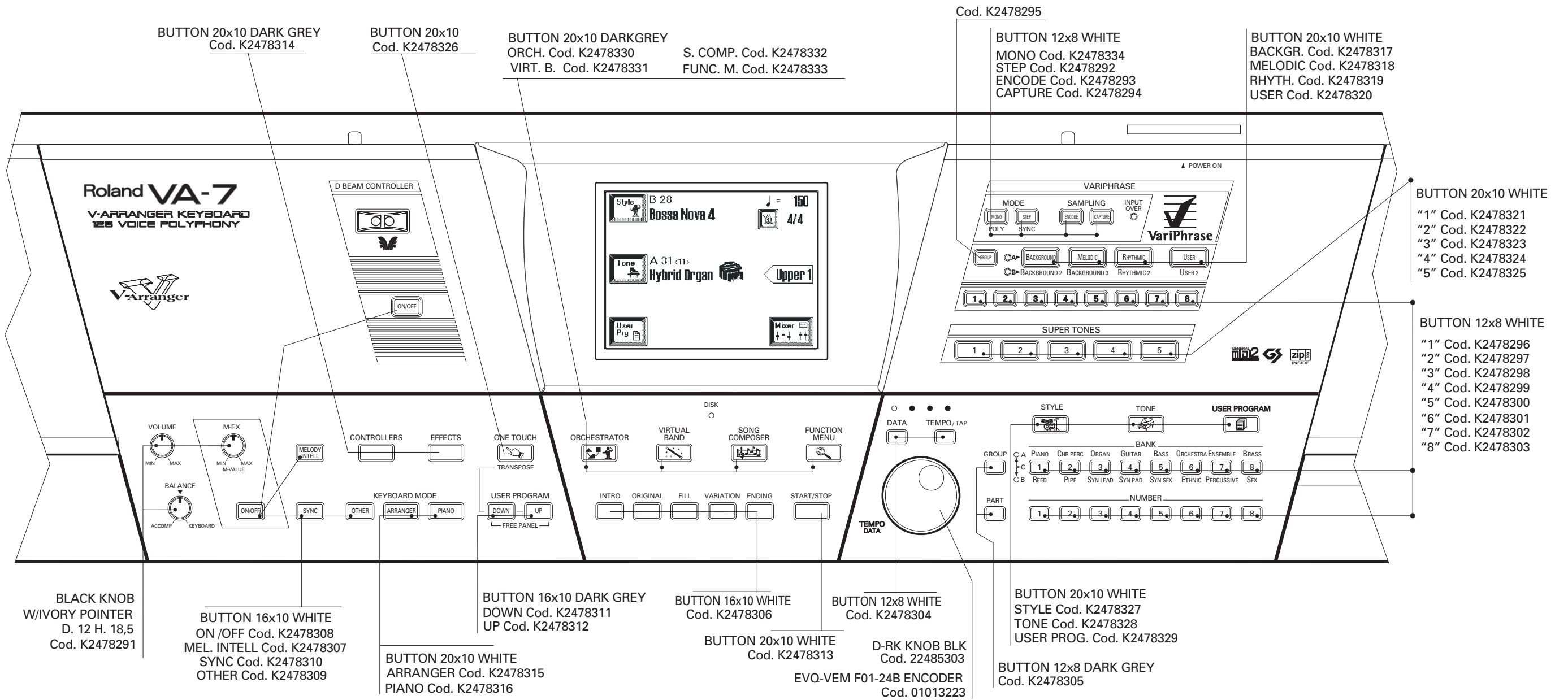
Accessories: See details on page 9

Options: PK-5 Dynamic MIDI Pedal, FC-7 Foot Controller, MSA/MSD/MSE series floppy disks (Roland & third-party), RH-25/50 Headphones, DP-2 Pedal switch, DP-6 Pedal switch (pino type), BOSS FS-5U Foot Switch, EV-5 Expression pedal, BOSS FV-300L Foot Volume/Expression pedal, KC-100/300/500 Keyboard Amplifiers

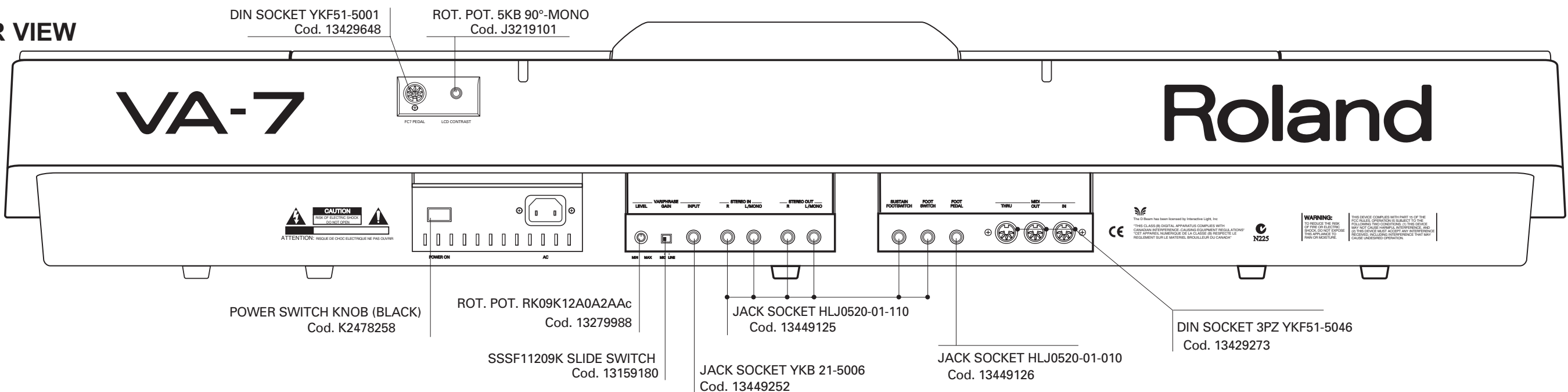
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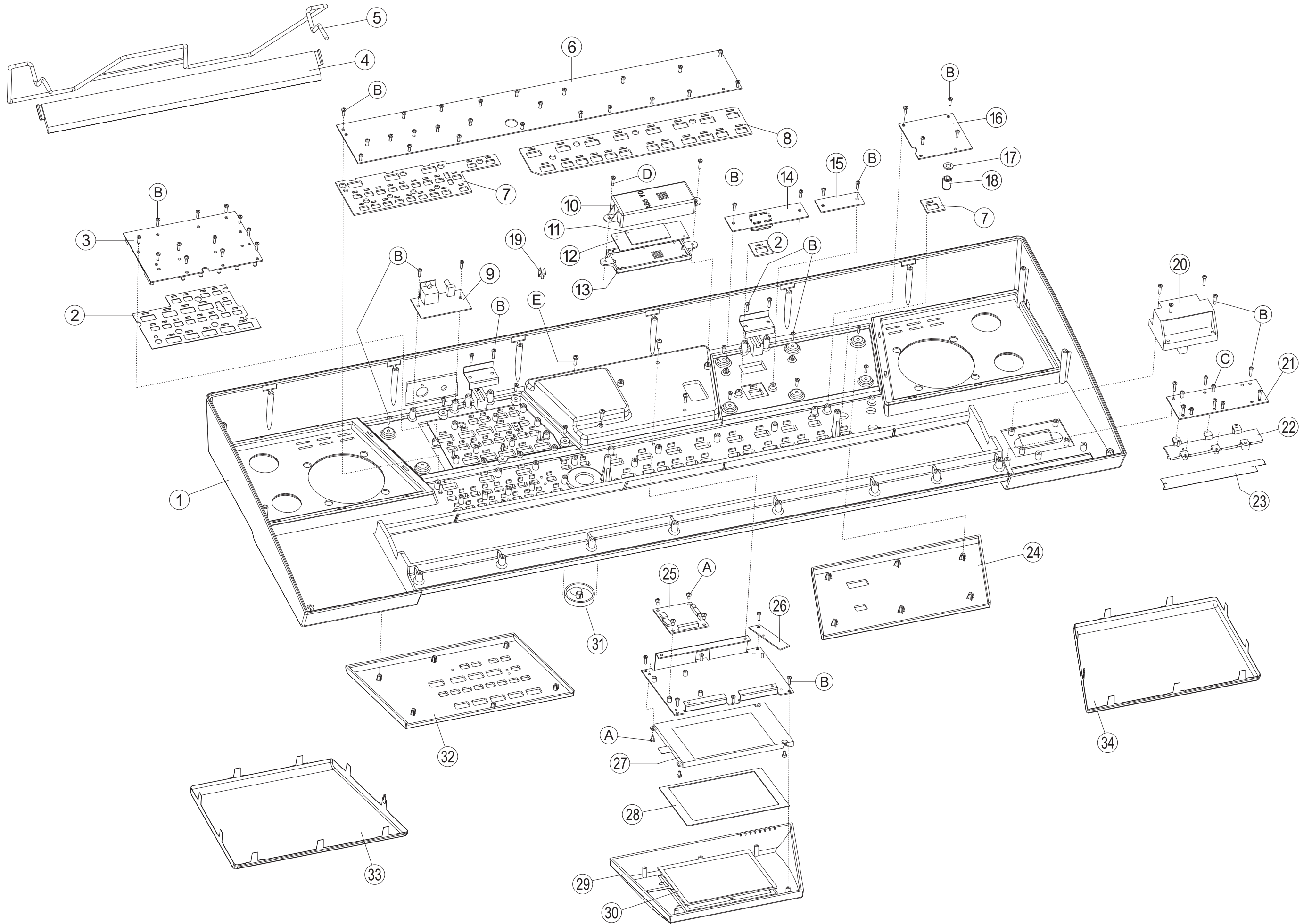
LOCATION OF CONTROLS



REAR VIEW



EXPLODED VIEW (TOP)



PARTS LIST OF EXPLODED VIEW (TOP)

No.	Part No.	Description
1	7770126000	VARN. + SILK. TOP CABINET
2	K2268166	VIBR. DUMPER F/VARIPH. CONTROL B.
3	7770109000	CONTROL VE-VP1 PCB ASSY
4	22208320	MUSIC SCORE HOLDER
5	K2128126	BLACK MUSIC REST
6	7770104000	CONTROL PCB ASSY
7	K2268165	LEFT VIBRATION DAMPER PL45N
8	K2268164	RIGHT VIBRATION DAMPER PL45N
9	7770102000	FC-7 PCB ASSY
10	K2248127	PROTECTING BOX COVER F/INVERTER
11	00900901	INVERTER MODULE CXA-M10AL
12	7711203000	INVERTER PCB ASSY
13	K2248128	PROTECTING BOX BASE F/INVERTER
14	7700609000	CONTROL PCB ASSY F/D-BEAM
15	7770108000	SWITCH D-BEAMPCB ASSY
16	7770106000	POTENTIOMETER PCB ASSY
17	K2248150	FELT WASHER I/D 7 E/D 13 TH. 1,5
18	K2478291	BLK KNOB W/IVORY POINTER D.12 18,5
19	K2238127	DIFFUSER FOR LED
20	70564101	TURBOLESS PITCH BENDER PBH0201
21	7770107000	RIBBON PCB ASSY
22	K2198105	SENSOR SUPPORT
23	01121790	RIBBON SENSOR
24	7770129000	VARN.+SILK. RIGHT TEMPLATE F/TOP CBNT
25	7770101000	LCD CONTROL PCB ASSY
26	7770125000	TERMISTOR ASSY
27	7711210000	LCD LM320191 (SHARP) ASSY
28	K2248152	BLACK ANTIDUST COVER PL45N LCD
29	7770128000	VARN. COVER F/LCD
30	02126390	TOUCH SCREEN SENSOR EMU601A2MA16
31	22485303	D-RK KNOB BLK
32	7770130000	VARN.+SILK. LEFT TEMPLATE F/TOP CBNT
33	K2248154	LEFT LOUDSPEAKER GRILL (BLACK)
34	K2248153	RIGHT LOUDSPEAKER GRILL (BLACK)

(SCREW)

A	J2289186	SCREW 3,5x16 TCPR TFR H.8 BRUN
B	J2289125	SCREW 2,9x10 TC TC PR TROP
C	J2289193	SELF LOCK. SCREW M3x6 TC TC H.6
D	J2289108	SELF LOCK. SCREW M3x10 TCTC H.6
E	J2289116	SELF TAP. SCREW 3,5x13 TCTC

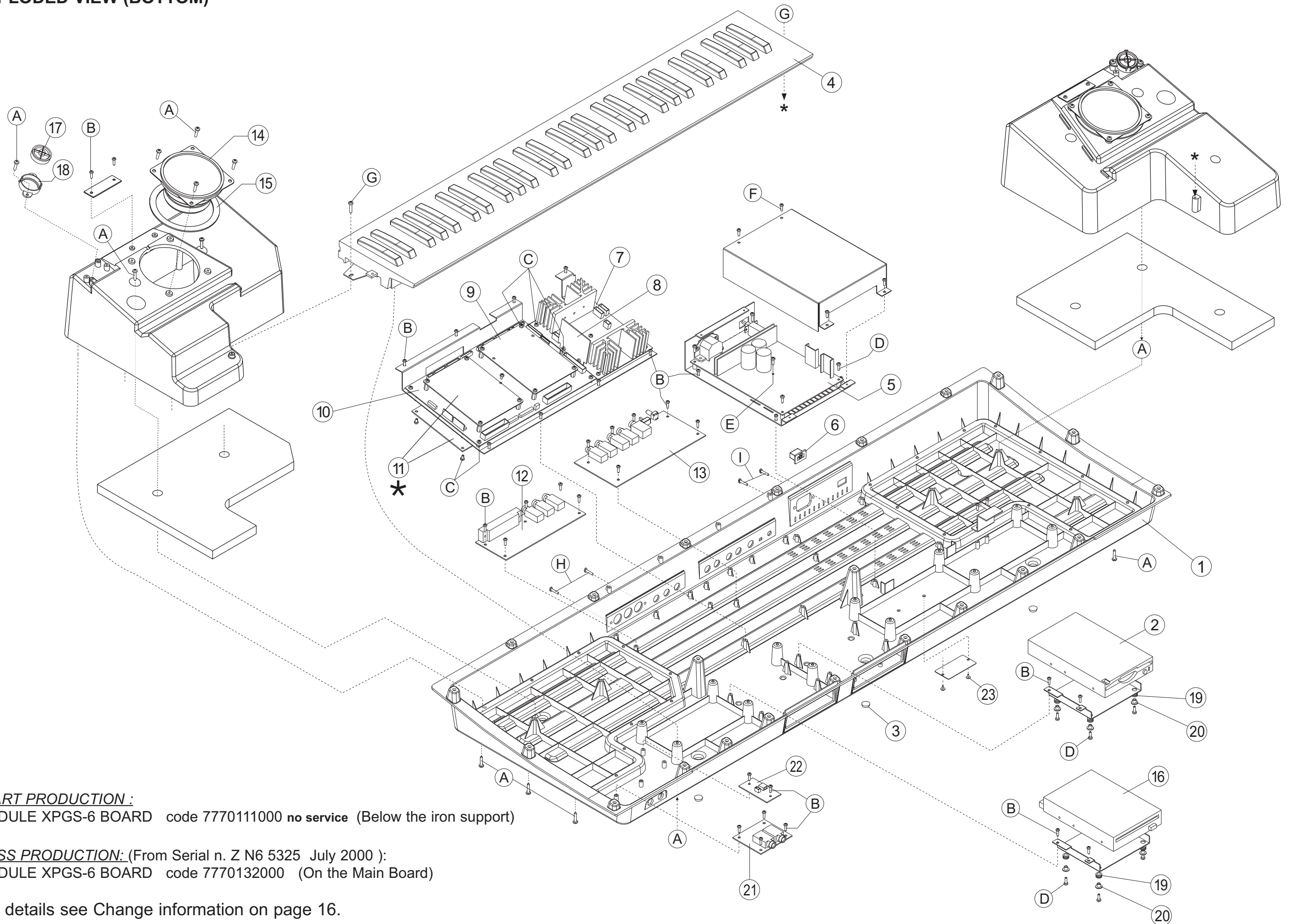
PARTS LIST OF EXPLODED VIEW (BOTTOM)

No.	Part No.	Description
1	7770127000	VARN.+ SILK. BOTTOM CABINET
2	J2409105	ZIP DRIVER IDE
3	J2359101	SPACER 3M ART. SJ5012
4	7700417000	61-KEY KEYBOARD ASSY TP9S-AT
5	K2458145	SWITCHING POWER SUPPLY SWM -80
6	K2478258	POWER SWITCH KNOB (BLACK)
7	7700401000	AMPLIFIER ASSY
8	7770114000	EQUALIZER PCB ASSY
9	7770112000	VARI PHRASE VE-VP1 PCB ASSY
10	7770110001	MAIN-BOARD ASSY
11	7770132000	MODULE XPGS-6 PCB ASSY
12	7770105000	MIDI PCB ASSY
13	7770113000	AUDIO PCB ASSY
14	K2418117	WOOFER SPEAKER D. 90mm
15	K2228103	SPEAKER GASKET 108/88 TH.2
16	J2409102	FLOPPY D. DRIVER JU-257 A786P
17	K2418118	TWEETER SPEAKER W/CABLES
18	K1188130	TWEETER SUPPORT
19	22265242	RUBBER GUIDE BUSHING
20	22165134	BRASS BUSHING
21	7770103000	PHONES PCB ASSY
22	7700420000	BOUNCE- TO - AFTERTOUCH ASSY
23	J2159102	PLASTIC RIVET SR3055

(SCREW)

A	J2289186	SCREW 3,5x16 TCPR TFR H.8 BRUN.
B	J2289125	SCREW 2,9x10 TCTCPR TROP
C	J2289193	SELF LOCK. SCREW M3x6 TC TC H.6
D	J2289108	SELF LOCK. SCREW M3x10 TCTC H.6
E	J2289230	NYLON SCREW M3x12 G030MA012
F	J2289102	SELF TAP. SCREW 2,9x10 TCTC
G	J2289130	SCREW 2,9x13 TCTCPR TROP
H	J2289118	SCREW 2,9x16 TCTCPR BRUN
I	J2289213	SELF TAP. SCREW 3,9x16 TCTC

EXPLODED VIEW (BOTTOM)

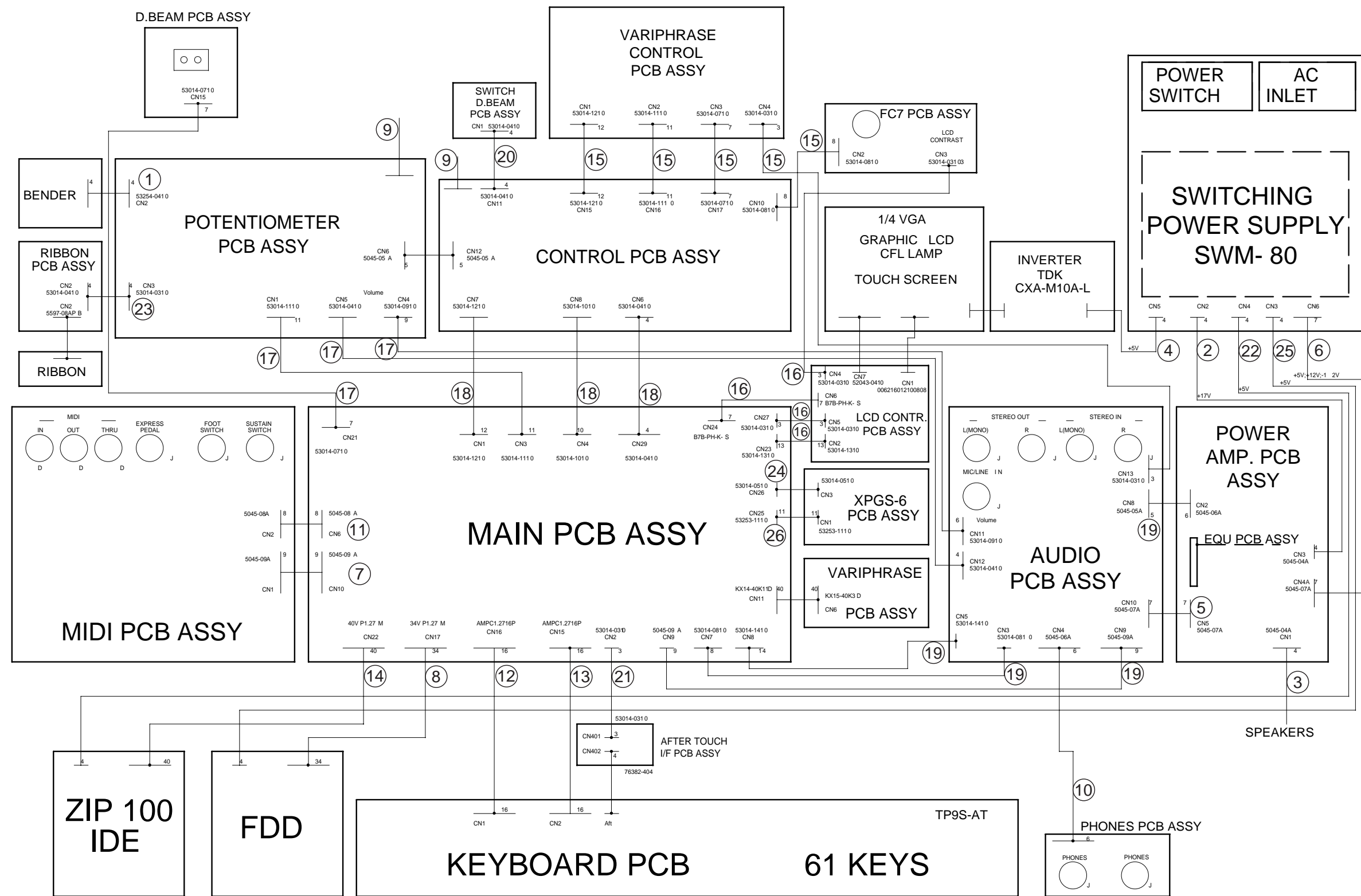


START PRODUCTION :
 MODULE XPGS-6 BOARD code 7770111000 no service (Below the iron support)

MASS PRODUCTION: (From Serial n. Z N6 5325 July 2000):
 MODULE XPGS-6 BOARD code 7770132000 (On the Main Board)

For details see Change information on page 16.

WIRING DIAGRAM

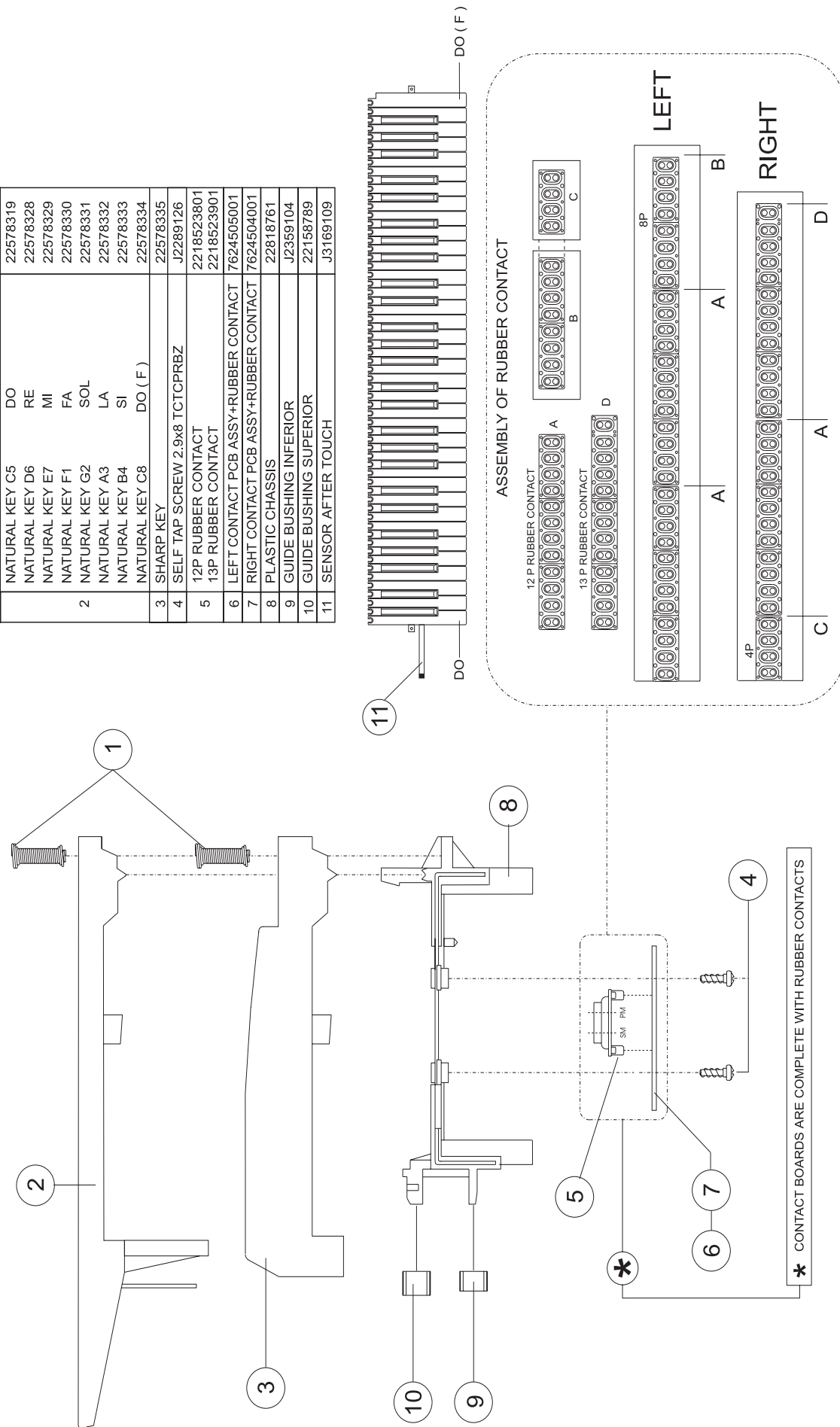


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|----------|----------|------------------------------|-----------|------------|------------------------------|-----------|------------|-------------------------------------|
| 1 | 00783234 | BENDER CABLE (35) (W4PC P.2) | 10 | 7697212001 | 6P CABLE (64) -2C | 19 | 7770120000 | WIRING ASSY (W/4 CABLE ASSY) |
| 2 | K3468155 | 4P CABLE 2R/2N (28) 2C D/R" | 11 | 7697220001 | 8P CABLE (32) -2C | 20 | 7698907000 | 4P CABLE ASSY (6) -2C P.2 |
| 3 | K3468217 | 4P CABLE (72/96) -1C 4PC | 12 | 7695108001 | 16P FLAT CABLE (24) -2C | 21 | 7699415000 | 3P CABLE ASSY (44) -2C P.2 |
| 4 | K3468218 | 4P CABLE (72) -2C D/D | 13 | 7697223001 | 16P FLAT CABLE (38) -2C | 22 | 7770121000 | 3P CABLE ASSY 2V/1R (38) -2C 4P D/R |
| 5 | K2468106 | 7P CABLE (12) -2C D/R | 14 | K3468220 | 40P FLAT CABLE CM.18 -2C D/D | 23 | 7770122000 | 4P CABLE ASSY (32) 2C P.2 D/R |
| 6 | K3468219 | 7P CABLE (32) -2C D/R | 15 | 7770116000 | WIRING ASSY (W/5 CABLE ASSY) | 24 | 7770123000 | 5P CABLE ASSY (12) -2C P.2 D/R |
| 7 | K3468171 | 9P CABLE (22) -2C D/R | 16 | 7770118000 | WIRING ASSY (W/4 CABLE ASSY) | 25 | 7770124000 | 3P CABLE ASSY 2N/1R (54) -2C 4P D/D |
| 8 | K3468198 | 34P FLAT CABLE (18) -2C | 17 | 7770117000 | WIRING ASSY (W/5 CABLE ASSY) | 26 | 7700424000 | 11P CABLE ASSY (12) -2C P.2 |
| 9 | J3469143 | 1P CONN. AWG18 (10) - YELLOW | 18 | 7770119000 | WIRING ASSY (W/3 CABLE ASSY) | | | |

KEYBOARD PARTS LIST

61 KEY TP9S/AT KEYBOARD ASSY code 7700417000

No.	PARTS NAME	CODE
1	KEY SPRING	22178233
	NATURAL KEY C5	22578319
	NATURAL KEY D6	22578328
	NATURAL KEY E7	22578329
	NATURAL KEY F1	22578330
	NATURAL KEY G2	22578331
	NATURAL KEY A3	22578332
	NATURAL KEY B4	22578333
	NATURAL KEY C8	22578334
3	SHARP KEY	22578335
4	SELF TAP SCREW 2.9x8 TCTCPBZ	J2289126
5	12P RUBBER CONTACT	2218623801
	13P RUBBER CONTACT	2218623901
6	LEFT CONTACT PCB ASSY+RUBBER CONTACT	7624505001
7	RIGHT CONTACT PCB ASSY+RUBBER CONTACT	7624504001
8	PLASTIC CHASSIS	22818761
9	GUIDE BUSHING INFERIOR	J2359104
10	GUIDE BUSHING SUPERIOR	22158789
11	SENSOR AFTER TOUCH	J3169109



PARTS LIST VA-7 (100V/117V/230V/230VE/240VA)

SAFETY PRECAUTIONS :

The parts marked Δ 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

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

<< EMI >> Component for EMC.

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

AB = Audio Board	LB = Left Contact B.
AFT = Bounce to AFT B.	LCD = LCD Control Board
AMPB = Amplifier Board	MB = Main Board
CB = Control Board	MIDI = Midi Board
CVP = Control Vairphrase B.	PAB = Power Amp. Board
DBM = D-Beam Board	PB = Potentiometer Board
EQ B = Equalizer Board	PHB = Phones Board
FC7 = FC7 Board	RB = Right Contact B.
IB = Inverter Board	

CASING

#	DESCRIPTION	Q.ty
7770126000	VARN.+SILK. TOP CBNT VA-7	1
7770127000	VARN.+SILK. CONDUCTIVE BOTTOM CBNT VA-7	1
7770128000	VARN. COVER F/LCD VA-7	1
7770129000	VARN.+SILK. RIGHT TEMPLATE F/TOP CBNT	1
7770130000	VARN.+SILK. LEFT TEMPLATE F/TOP CBNT	1
02126390	TOUCH SCREEN SENSOR EMU601A2MA16	1
K2248153	RIGHT LOUDSPEAKER GRILL (BLACK) VA-7	1
K2248154	LEFT LOUDSPEAKER GRILL (BLACK) VA-7	1
K2128126	BLACK MUSIC REST VA-7	1
22208320	MUSIC SCORE HOLDER	1

KNOB BUTTON

22485303	D-RK KNOB BLK	1
K2478291	BLACK KNOB W/IVORY POINTER D.12 H.18.5	3
K2478258	POWER SWITCH KNOB (BLACK)	1
K2478334	BUTTON 12X8 WHITE (MONO)	1
K2478292	BUTTON 12X8 WHITE (STEP)	1
K2478293	BUTTON 12X8 WHITE (ENCODE)	1
K2478294	BUTTON 12X8 WHITE (CAPTURE)	1
K2478295	BUTTON 12X8 DARK GREY (GROUP)	1
K2478296	BUTTON 12X8 WHITE (1)	3
K2478297	BUTTON 12X8 WHITE (2)	3
K2478298	BUTTON 12X8 WHITE (3)	3
K2478299	BUTTON 12X8 WHITE (4)	3
K2478300	BUTTON 12X8 WHITE (5)	3
K2478301	BUTTON 12X8 WHITE (6)	3
K2478302	BUTTON 12X8 WHITE (7)	3
K2478303	BUTTON 12X8 WHITE (8)	3
K2478304	BUTTON 12X8 WHITE	2
K2478305	BUTTON 12X8 DARK GREY	2
K2478306	BUTTON 16X10 WHITE	5
K2478307	BUTTON 16X10 WHITE (MELODY INTELL)	1
K2478308	BUTTON 16X10 WHITE (ON/OFF)	2
K2478309	BUTTON 16X10 WHITE (OTHER)	1
K2478310	BUTTON 16X10 WHITE (SYNC)	1
K2478311	BUTTON 16X10 DARK GREY (DOWN)	1
K2478312	BUTTON 16X10 DARK GREY (UP)	1
K2478313	BUTTON 20X10 WHITE	1
K2478314	BUTTON 20X10 DARK GREY	2
K2478315	BUTTON 20X10 WHITE (ARRANGER)	1
K2478316	BUTTON 20X10 WHITE (PIANO)	1
K2478317	BUTTON 20X10 WHITE (BACKGROUND)	1
K2478318	BUTTON 20X10 WHITE (MELODIC)	1
K2478319	BUTTON 20X10 WHITE (RHYTHMIC)	1
K2478320	BUTTON 20X10 WHITE (USER)	1
K2478321	BUTTON 20X10 WHITE (1)	1
K2478322	BUTTON 20X10 WHITE (2)	1
K2478323	BUTTON 20X10 WHITE (3)	1
K2478324	BUTTON 20X10 WHITE (4)	1
K2478325	BUTTON 20X10 WHITE (5)	1
K2478326	BUTTON 20X10 WHITE (ONE TOUCH)	1
K2478327	BUTTON 20X10 WHITE (STYLE)	1
K2478328	BUTTON 20X10 WHITE (TONE)	1
K2478329	BUTTON 20X10 WHITE (USER PROGRAM)	1
K2478330	BUTTON 20X10 DARKGREY (ORCHESTRATOR)	1
K2478331	BUTTON 20X10 DARK GREY (VIRTUAL BAND)	1
K2478332	BUTTON 20X10 DARK GREY (SONG COMPOS.)	1
K2478333	BUTTON 20X10 DARK GREY (FUNCTION M.)	1

SWITCH

J3169105	SWITCH	TP-1101A / EVQ-PAE 05 R	SW1=>23, 42, 44, 45=>62 on CB / SW25=>41, SW65=>69 on CVP / SW43 on PB / SW24 on CDBM	67
13159180	SLIDE SWITCH	SSSF11209K	SW1 on AB	1

JACK, SOCKET

13449252	JACK SOCKET	YKB 21-5006	YK1, 2 on PHB / YK6 on AB	3
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13449125	JACK SOCKET	HLJ0520-01-110	YK2, 3, 4, 5 on AB / YK2, 3 on MIDI	6
13449126	JACK SOCKET	HLJ0520-01-010	YK4 on MIDI	1
13429273	DIN SOCKET	3PZ YKF51-5046	YK5 on MIDI	1
13429648	DIN SOCKET	YKF51-5001	YK3 on FC7	1

DISPLAY UNIT

<i>Note:</i>	7711210000	LCD LM320191(SHARP) ASSY	E-600	1
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DISK DRIVE UNIT

<i>Note:</i>	J2409102	FLOPPY D. DRIVER	JU-257 A786P	1
<i>Note:</i> #	J2409105	ZIP DRIVER	IDE	1

BENDER UNIT

<i>Note:</i>	70564101	TURBOLESS PITCH BENDER	PBH0201	1
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SPEAKER

K2418117	WOOFER SPEAKER	D.90 MM		2
K2418118	TWEETER SPEAKER	W/CABLES		2

KEYBOARD ASSY

7700417000	61-KEY KEYBOARD ASSY	TP9S-AT		1
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NOTE: For details, refer to KEYBOARD PARTS LIST (Page 7)

POWER SUPPLY UNIT

<i>Note:</i> #	K245814501	SWITCHING POWER SUPPLY	SWM-80	1
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PCB ASSY

	7700401000	AMPLIFIER ASSY	EM-2000	1
	7700420000	BOUNCE-TO-AFTERTOUCH ASSY		1
	7700609000	CONTROL PCB ASSY	F/ D-BEAM	1
	7711203000	INVERTER PCB ASSY		1
#	7770101000	LCD CONTROL PCB ASSY	VA-7	1
#	7770102000	FC-7 PCB ASSY	VA-7	1
#	7770103000	PHONES PCB ASSY	VA-7	1
#	7770104000	CONTROL PCB ASSY	VA-7	1
#	7770105000	MIDI PCB ASSY	VA-7	1
#	7770106000	POTENTIOMETER PCB ASSY	VA-7	1
#	7770107000	RIBBON PCB ASSY	VA-7	1
#	7770108000	SWITCH D-BEAM PCB ASSY	VA-7	1
#	7770109000	CONTROL VE-VP1 PCB ASSY	VA-7	1
#	7770125000	TERMISTOR ASSY	VA-7	1
<input checked="" type="checkbox"/>	#	7770132000	MODULE XPGS-6 PCB ASSY	VA-7
<input checked="" type="checkbox"/>	#	7770112000	VARIPHRASE VE-VP1 PCB ASSY	VA-7
#	7770113000	AUDIO PCB ASSY	VA-7	1
#	7770114000	EQUALIZER PCB ASSY	VA-7	1
<input checked="" type="checkbox"/>	#	7770110001	MAIN BOARD PCB ASSY	VA-7
	7624504001	RIGHT CONTACT PCB ASSY	W/RUBBER CH.	1
	7624505001	LEFT CONTACT PCB ASSY	W/RUBBER CH.	1

IC

	00900901	INVERTER MODULE	CXA-M10AL	on IB	1
	15229718RI	I.C. PHOTO-COUPLER	6N 137	IC6 on MIDI	1
#	K525816410	I.C. K525816410	64M	IC19 on MB	1
#	K525816310	I.C. K525816310	(MASK ROM)	IC4 on MB	1
	J5159114	I.C.. 74 HC 14		IC11 on CB	1
	15169550RI	I.C. 74 HC138	DIP CMOS	IC7, 8, 9, 10 on CB	4
	J5159107	I.C. 74 HC574	CMOS	IC6 on CB	1
	00232645	I.C. TC7W14F	FLAT	IC23 on MB	1
	15259701	I.C. 74 HC 00	FLAT CMOS	IC6 on MB	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
	00788356	I.C. M38881M2-058FP		IC13 in MB	1
	J5259110	I.C. HM62256LFP-7T	FLAT SRAM	IC12 on MB	1
	J5259120	I.C. HM5118160CJ-6	FLAT	IC21 on MB	1
#	J5259137	I.C. TE28F160S570	FLASH	IC20 on MB (Blank)	1
	15199780	I.C. HD63266FP-64A	FDC	IC16 on MB	1
	J5259116	I.C.SED1335F0B	(LCD CONTROLLER)	IC11 on MB	1
	15159113	I.C. 4051 BCP	CMOS	IC4 on PB	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	IC22, 37 on MB	2
	J5169105	I.C. TC7W08F	FLAT	IC36 on MB	1
	15249104	I.C. TC7S04F	FLAT	IC38 on MB	1
	00232634	I.C. TC7W74F		IC37 on MB	1
	00236845	I.C. TC 74VHC245F		IC31, 32 on MB	2
#	J5259136	I.C. TC 7W34FU		IC41, 42, 43, 44 on MB	4
	15169334	I.C. 74 LS 05 N		IC5 on MIDI	1
	15219183	I.C. M51953 AL	(STANDING)	IC5 on MB	1
	15189251	I.C. M5218 P	(OP AMP)	IC1, 2 on PB	2

15189210	I.C. BA 5218	(OP AMP)	IC9, 15, 16 on AB	3
15189186	I.C. UPC 4570C	(OP AMP)	IC3 on PB / IC1, 3 on EQB / IC2 on LCD	4
15289105	I.C. UPC 4570G	(OP AMP)	IC8, 12 on AB / IC1, 26, 27 on MB	5
15189189	I.C. UPC 4570HA VERT.	(OP.AMP.)	IC10 on DBM	1
15199904	I.C. M51953 BL	(STANDING)	IC5, 6 on AB	2
J5189102	I.C. TD 62593 AP	DIP	IC5 on MB	1
00458312	I.C. NJM 2360M	FLAT	IC1 on LCD	1
01451578	I.C. AK4324-VF-E2	DAC	IC11 on AB	1
#	01780112	I.C. AK4522-VF CEM	AD/DA	IC4 on AB
#	15289117	NJM 5532MD-TE1	OP AMP	IC7, 10, 14 on AB
	15199286	I.C. AN78L05M	FLAT (REG.R)	IC2 on AB
#	J5259133	I.C. TA7805 AF		IC3 on AB
Δ	J5199101	I.C. TDA 7350	(POWER AMP)	IC6, 7 on AMP.B
#	7770115000	I.C. IDE		IC33 on MB (Programmed)

TRANSISTOR

15119155RI	TRANSISTOR	BC/560-B	Q5 on AB / Q9 on MIDI / Q1 on AMP.B	3
15119154RI	TRANSISTOR	BC/549-B	Q2 on AMP.B / Q12=>35 on CB / Q1, 3 MIDI	17
15129114	TRANSISTOR	2SC-1815GR	Q1, 2, 3 on LCD / Q3, 17 on DBM	4
15119113	TRANSISTOR	2SA-1015 GR	Q4, 5 on LCD	2
15319101	TRANSISTOR	2SC-2412K	Q1, 2, 4, 6, 7 on AB	5
15309101	TRANSISTOR	2SA-1037KR	Q7 on MB	1
15129427	TRANSISTOR	2SC-2235Y	Q16 on DBM	1
15139124	TRANSISTOR	2SK-363 GR FET	Q3 on AB	1
15119163	TRANSISTOR	RN2227	Q1=>11, 26 on CB	12
15329104	TRANSISTOR	2SK-368GR FET CHIP	Q8 on MB	1

DIODE

15019159RI	DIODE	1N-4148	on CB / on CVP / D54 on PB / D1, 2, 3, 4, 7 on MIDI / D1=>64 on LB / D65=>122 on RB / D2 on AMP.B / D27 on SW DBM	209
15339105	DIODE	DAN-202K	D13, 14 on MB / D1 on AB	3
15339108	DIODE	DA-204K	D4 on AB / D1=>8, 16 on MB	10
00893912	DIODE	SFPB-56 CHIP	D1 on LCD	1
15339109	DIODE	DAP 202K CHIP	D12, 15 on MB	2
#	J5339102	DIODE	RB706F-40T106	D1 on AB
	15029320RI	LED DIODE	TLHG4401 - GREEN	D87, 147, 148, 149, 169 on CB
	01341623	DIODE LED	TLN 201	D216 on DBM
	01342578	PHOTO DIODE	TPS 708	D215 on DBM
#	J5029111	LED DIODE	L-59SRSGW-CC	D36=>43, 60=>67, 84, 85 on CB
#	J5029112	LED DIODE	5 L-53 SRD-D / RED	D89,143, 146, 150, 171, 179 on CB / all on CVP
#	J5029113	LED DIODE	5 L-53 SED / ORANGE	D88, D170, D90, 91, 138 =>142, 126, 172,127 =>132, 173 on CB / D129 on PB / D105 on SWDBM / D122, 123 on CVP
	J5019106	ZENER DIODE	BZX55C 5.1V	D1, 3 on PB / D10 on MB
	J5019116	DIODE TRANSIL	BZW04-5V8B	D3 on RB
	J5019105	DIODE	1N 4002	D3 on AB / D1 on AMP.B

RESISTOR

J3919104	RESISTOR ARRAY	EXB-A10E-103-J	RA1, 2, 6=>10, 15, 27, 28, 29, 30, 31 on MB	13
J3919107	RESISTOR ARRAY	EXB-V8V-101-JV	RA12, 13, 44, 45 on MB	4
J3919108	RESISTOR ARRAY	EXB-V8V-103-JV	RA3, 4, 5, 11, 14, 16, 32, 33, 35 on MB	9
J3919109	RESISTOR ARRAY	EXB-V8V-470-JV	RA17=>26 on MB	10
J3919111	RESISTOR ARRAY	EXB-V8V-391-JV	RA34 on MB	1
#	J3919112	RESISTOR ARRAY	EXB-A10E-102-J	on MB
#	J3919114	RESISTOR ARRAY	EXB-V8V-330-JV	RA37, 38, 40, 41 on MB
	13819132RI	UNINFL.RES.	100 OHM 0.6W 5%	R1, 2, 4, 5 on PB
	13819131RI	UNINFL.RES.	10 OHM 0.6W 5%	R51, 52 on AB / R82 on DBB
	J3809155	UNINFL.RESISTOR	2200 0.6W 5%	R20, 21 on LCD
	J3809153	UNINFL.RESISTOR	0.22 0.6W 5%	R1 on LCD
	J3809134	UNINFL.RES.	27 OHM 0.6W 5%	R32 on CB
	J3809150	UNINFL.RES.	33 OHM 1/4W 5%	R62=>78, 80, 81, 82, 83, 84, 85, on CB / R116, 117 on AB
#	J3809157	THERMISTOR NTC	10K PH 5%	on TB

POTENTIOMETER

13289186	ROT.POT.	10KB 11K1130	VR1 on PB	1
00459901	ROT. POT.	10KB 14K 1230	VR3 on PB	1
13289185	ROT. POT.	10KB 11K1130	VR2 on PB	1
13299206	TRIMMER POT.	EVND 8AA03B24	VR1 on MB	1
13299227RI	TRIM.POT.	22KOHM 5X10 H CERMET	VR11, 12 on AMP.B	2
J3219101	ROT.POT.	5KB 90° - MONO	VR1 on FC7	1
13279988	ROT.POT.	RK09K12A0A2AAC	VR1 on AB	1

CAPACITOR

01015912	POL. COND.	0805 2.2N 5%	C21 on AB	1
15359774	POLYEST.COND.	0805 680P 5%	C40 on AB	1
#	01349378	COND. TANTALIUM	TCFGA0J475M8R	C20 on AB
	J3629144	ELECTRL.COND.	470UF 16V AX	C22 on CB
	13639154	ELECTRL.COND.-V	1000UF 16V	C48 on DBM
	J3629117	ELECTRL.COND.-V	4700UF 25V	C3, 47 on AMP.B
	J3629103	ELECTRL.COND.	100U 25V P5	C1, 2 on AMP.B / C25, 36, 37, 54, 55, 62, 63, 74, 75, 76 on AB / C69, 70 on MB / C1 on MIDI
	J3629147	ELECTR. COND.	220U 25V P.5	C114, 115 on AB / C9, 10, 46, 43 on AMP.B
	J3629133	ELECTROL.COND.	22U 25V P5	C18, 38 on AB / C12, 42 on AMP.B
	J3629135	ELECTRL. COND.	470U 35V P5	C2 on IB
	J3629132	ELECTRL.COND.	100U 50V P5	C2, 4 on LCD
	J3629104	ELECTRL.COND.	10U 50V P5	C7, 10, 14, 17, 27, 35, 42, 47, 50 on AB / C8 on AMP.B
	J3629105	ELECTRL.COND.	47U 50V P5	C39 on AB / C1, 3, 7, 8 on LCD
	J3629106	ELECTRL.COND.	4.7U 63V P5	C24 on AB

J3629107	ELECTRL.COND.	1UF 100V P5	C116 on AB / C5, 13 on EQB3	3
J5369103	ELECTR. COND. RV2	100U 16V (SMD)	C71, 203, 216, 219, 215 on MB	5
J5369104	ELECTR. COND. RV2	10U 16V (SMD)	C2, 38 on MB	2
J5369105	ELECTR. COND. RV3	33U 16V (SMD)	C1, 15, 17, 93, 96, 118, 147, 148, 175, 176, 202 on MB	11
J5369102	ELECTR.COND. RV2	47U 16V SMD	C188, 201 on MB	2
J5369106	ELECTR. COND. RV2	1U 50V (SMD)	C68 on MB	1
J3629149	ELECTR.COND.	100U 16V H.7	C17, 19 on PB	2
J3629143	ELECTR. COND.	10U 16V H.7	C44, 45 on DBM	2
J3629137	ELECTR. COND.	33U 16V H.7	C4, 8, 12 on PB / C21 on CB	4
J3629150	ELECTR.COND.	47U 16V H.7	C19 on CB	1
J3629142	ELECTR. COND.	1U 63V H.7	C8 on RB / C43 on DBM	2
13649103J0	UNPOL.COND.	10U 16 P5	C102, 105, 109, 113, 117, 118 on AB / C60, 75 on AMP.B	8
# 00239412	POLYEST.COND.	AMZV0050J122 0200	C53, 61 on AB	2
# 00239390	POLYEST.COND.	AMZV0050J561 0200	C64, 56 on AB	2

INDUCTOR, COIL, FILTER

<<EMI>>	22448240	NOISE SUP.	BL02RN2-R62	L1=>6 on PHB	6
<<EMI>>	12449370	NOISE SUP.	SBT-0160W	L4, 7, 11, 12, 13 on AB / L5, 7, 9, 10, 11 on MIDI	10
<<EMI>>	12449326	NOISE SUP.	SBT-0460	L6, 12 on MIDI / L4 on FC7	3
<<EMI>>	13529187	NOISE SUP.	ELKTR391CA	FL1 on PB / FL1=>7 on FC7	8
<<EMI>>	J2399103	CHIP NOISE SUP.	ELKS471FA	FL2=>10 on MB	8
<<EMI>>	J2399104	CHIP NOISE SUP.	EXCCL4532U1	L2=>9, 18, 39, 40, 41, 42, 44, 51, 52, 53 on MB / L10 on AB	19
<<EMI>>	00452034	CHIP NOISE SUP.	BK2125HM102	L21=>38, 43 on MB	19
<<EMI>>	00907856	NOISE SUP.	BLM21A601SPT	CHIP L3, 5, 6 on AB	3
<<EMI>>	12449449	INDUCTOR	RCH-875-151K	L1 on LCD	1

CRYSTAL, RESONATOR

00894023	X-TAL 20.000 MHZ	MA-406	X1 on MB	1
00894034	X-TAL 16.000 MHZ	MA-406	X2 on MB	1

RELAY

12439224RI	RELAY DS2YS-12V		RL1 on AMP.B / RL1 on AB	2
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ENCODER

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

13419677RI	16P FEM. CONNECTOR AMP 1.27		CN15, 16 on MB / CN3 on LB / CN4 on RB	4
13429325	7P FEMALE CONN. P.2.5 JST		CN1 on EQB	1
J3429123	8P FEM. CONNECTOR IL-404-08S-LW		CN1 on RB	1
01454112	12P CONN. 006216012100808		CN1 on LCD	1
# J3429125	FEMALE CONNECTOR 52043-0410		CN7 on LCD	1
13439479RI	MALE CONN.AMP 6W STANDING		CN6 on PB	1
13369550RI	40P MALE CONN. P. 1.27		CN22 on MB	1
13419676RI	8P MALE CONN. P/2.5 MOLEX		CN2 on MIDI / CN6 on MB	2
13369688RI	4P MALE CONN. P 2.5 M		CN1 on IB / CN1, 3 on AMP.B	3
J3439103	6P MALE CONNECTOR P 2.5 M		CN2 on AMP.B / CN 1 on PHB / CN4 on AB	3
J3439106	9P MALE CONNECTOR P 2.5 M		CN1 on MIDI / CN9, 10 on MB / CN9 on AB	4
J3439109	5P MALE CONNECTOR P 2.5 M		CN8 on AB	1
J3439113	7P MALE CONNECTOR P 2.5 M		CN10 on AB / CN4, 5 on AMP.B	3
J3439120	4P MALE CONN. P.2 M		CN2 on RB / CN29 on MB / CN12 on AB / CN3 on PB	4
J3439122	8P MALE CONNECTOR P.2 M		CN2 on FC7 / CN3 on AB / CN7 on MB	3
J3439125	5P MALE CONNECTOR P.2 M		CN26 on MB	1
J3439151	9P MALE CONNECTOR P.2 M		CN11 on AB	1
J3439141	10P MALE CONNECTOR P.2 M		CN1 on MB	1
J3439143	34P MALE CONN. P. 1.27 M		CN17 on MB	1
J3439124	10P MALE CONN. P. 2 M 90°		CN8 on CB	1
J3439126	12P MALE CONN. P.2 M		CN1 on MB / CN1 on CVP	2
J3439146	11P MALE CONNECTOR P.2 M		CN3, 25 on MB / CN2 on CVP	3
J3439147	14P MALE CONNECTOR P.2 M		CN8 on MB / CN5 on AB	2
J3429120	3P MALE CONNECTOR P.2 M		CN13 on AB/CN5 on LCD/CN2, 27 on MB/CN4 on CVP/CN401 on AFT	6
J3439148	7P MALE CONNECTOR P.2 M		CN3 on CVP / CN21 on MB	3
13369592	7P MALE CONNECTOR P.2.5 JST		CN6 on LCD	1
J3439159	4P MALE CONN. 53254 90° P.2		CN2 on PB	1
J3439162	13P MALE CONN. P.2 M		CN23 on MB / CN2 on LCD	2
J3439168	4P MALE CONNECTOR 76384-404		CN402 on AFT	1
13369568	B3B-PH-K-S CONNECTOR		CN4 on LCD / CN3 on FC7	2
13369503	B7B-PH-K-S CONNECTOR		CN6 on LCD / CN24 on MB	2
01349645	2P MALE CONNECTOR S2(4-2.3)B-XH-A		CN2 on IB	1
J3439171	4P MALE CONNECTOR 90° P.2 M		CN6, 11 on CB / CN5 on PB / CN1 on CDBM	4
# 02230034	KX14-40K5D CONNECTOR		CN11 on MB	1
# J3439172	8P MALE CONNECTOR 90°P.2 M		CN10 on CB	1
# J3439173	7P MALE CONNECTOR 90°P.2 M		CN17 on CB	1
# J3439174	9P MALE CONNECTOR 90°P.2 M		CN4 on PB	1
# J3439175	11P MALE CONNECTOR 90° P.2 M		CN1 on PB / CN16 on CB	2
# J3439176	12P MALE CONNECTOR 90°P.2 M		CN7, 15 on CB	2

WIRING, CABLE

00783234	BENDER CABLE (35) (W4PC P.2)		For details refer to "WIRING DIAGRAM" on page 6.	1
K3468155	4P CABLE 2R/2N (28) 2C D/R		"	1
# K3468217	4P CABLE (72/96) -1C 4PC		"	1
# K3468218	4P CABLE (72) -2C D/D		"	1
# K2468106	7P CABLE (12) -2C D/R		"	1
# K3468219	7P CABLE (32) -2C D/R		"	1
K3468171	9P CABLE (22) -2C D/R		"	1
K3468198	34P FLAT CABLE (18) -2C		"	1

J3469143	1P CONN. AWG18 (10) - YELLOW		"	2
7697212001	6P CABLE (64) -2C		"	1
7697220001	8P CABLE (32) -2C		"	1
7695108001	16P FLAT CABLE (24) -2C		"	1
7697223001	16P FLAT CABLE (38) -2C		"	1
# K3468220	40P FLAT CABLE CM.18 -2C D/D		"	1
# 7770116000	WIRING ASSY (W/5 CABLE ASSY)		"	1
# 7770118000	WIRING ASSY (W/4 CABLE ASSY)		"	1
# 7770117000	WIRING ASSY (W/5 CABLE ASSY)		"	1
# 7770119000	WIRING ASSY (W/3 CABLE ASSY)		"	1
# 7770120000	WIRING ASSY (W/4 CABLE ASSY)		"	1
7698907000	4P CABLE ASSY (6) -2C P.2		"	1
7699415000	3P CABLE ASSY (44) -2C P.2		"	1
# 7770121000	3P CABLE ASSY 2V/1R (38) -2C 4P D/R		"	1
# 7770122000	4P CABLE ASSY (32) 2C P.2 D/R		"	1
# 7770123000	5P CABLE ASSY (12) -2C P.2 D/R		"	1
# 7770124000	3P CABLE ASSY 2N/1R (54) -2C 4P D/D		"	1
7700424000	11P CABLE ASSY (12) -2C P.2		"	1

SCREW

J2289102	SELF TAP.SCREW	.9X10 TC TC		4
J2289202	SELF TAP.SCREW	2.9X16 C C		3
J2289116	SELF TAP.SCREW	3.5X13 TC TC		4
J2289213	SELF TAP.SCREW	3.9X16 TC TC		2
J2289126	SELF TAP.SCREW	2.9X 8 TCTCPRBZ		4
J2289125	SCREW	2.9X10 TC TC PR TROP		121
J2289130	SCREW	2.9X13 TC TC PR TROP		4
J2289131	SELF TAP.SCREW	3.5X16 TCTCPRBZ		5
J2289108	SELF LOCK.SCREW	M3X10 TCTC H.6		12
J2289147	SELF LOCK.SCREW	M3X12 TCTC H.6		2
J2289193	SELF LOCK.SCREW	M3X6 TC TC H.6		36
# J2289230	NYLON SCREW	M3X12 G030MA012		1
J2289149	SCREW	3X20 TC TFR H.7		4
J2289186	SCREW	3.5X16 TCPR TFR H.8 BRUN		71

PACKING

# K2638234	RIGHT POLYSTH. END SIDE	VA-7		1
# K2638235	LEFT POLYSTH. END SIDE	VA-7		1
# K2638236	CENTRAL LDPE PROTECTION	VA-7		1
K2678119	CARTENE ENVELOPE HD	CM.170X56		1
K2678102	POLYETH. ENVELOPE	5X45		1
K2678106	POLYETH.ENVELOPE	40X55		1
# K2618229	OUTER PACKING	VA-7		1

MISCELLANEOUS

# K2148114	HEXAGONAL ROD M3 6X14			8
J2289113	NUT 3MA H.3			2
J2139111	FLAT WASHER I/D 3X7 TH. 0.6			4
J2139102	TOOTHED WASHER I/D 3			2
22165134	BRASS BUSHING			8
K2168114	LED SPACER H.1.8 E.D.9			18
00453223	LED SPACER H. 7 E.D. 5			2
# K2168117	LED SPACER H.1.5 D.E.5.5			59
K216810801	SPACER F/LED H. 5.5 - E/D 5.5			5
J2359101	SPACER 3M ART. SJ5012			5
22265242	RUBBER GUIDE BUSHING			8
J2159102	PLASTIC RIVET SR3055			2
K2228103	SPEAKER GASKET 108/88 TH.2			2
K2248150	FELT WASHER I/D 7 E/D 13 TH.1.5			3
# K2248152	BLACK ANTIDUST COVER PL45N LCD			1
# K2268164	RIGHT VIBRATION DAMPER PL45N			1
# K2268165	LEFT VIBRATION DAMPER PL45N			1
# K2268166	VIBRATION DAMPER F/VARIPH. CONTROL B.			1
12199584	FIXING SUPPORT M1698			2
01121790	RIBBON SENSOR			1
K2198105	SENSOR SUPPORT EM-20			1
K2248127	PROTECTING BOX COVER F/INVERTER			1
K2248128	PROTECTING BOX BASE F/INVERTER			1
K1188130	TWEETER SUPPORT EM2000/EG101			2
01343089	D-BEAM CONTROLLER ESCT BLK			1
# K2238127	DIFFUSER FOR LED			10
K253810302	FUSE WARNING LABEL			1

ACCESSORIES

# 7770131000	ZIP DISK DEMO/STYLE/SONG/SAMPLE VA-7			1
# 7770136000	ZIP DISK DEMO/STYLE/SAMPLE VA-7		(only for US market)	1
K6018109	MIDI GUIDE			1
# K6018390	OWNER'S MANUAL (E)	VA-7		1
# K6018391	MIDI IMPLEMENTATION MANUAL	VA-7		1
# K6018396	OWNER'S MANUAL (D)	VA-7		1
# K6018397	OWNER'S MANUAL (F)	VA-7		1
# 7770133000	SYSTEM UPDATE DISK	VA-7		1
# 7770134000	TEST UPDATE DISK	VA-7		1
# 7770135000	VARIPHRASE UPDATE ZIP DISK	VA-7		1
Δ J3439150	MAINS CABLE H05VV+POL.. SOCKET		(230V)	1
Δ J3439128	CABLE 498/3 SJT 2X18 AWG-C17		(117V)	1
Δ 13499152RI	CABLE BS/13/H05VV-F3G0 75-V		(230VE)	1
Δ J3439167	MAINS CABLE SAA/2-H05VV5 2X1-C17		(240VA)	1

HOW TO SAVE - HOW TO VERSION UP

Since VA-7 has a flash memory for the System program registration, and a flash memory for the Variphase program registration you can update:

- the System program or the test program by floppy disks
- the Variphase program by zip disk (VA-7 formatted)

Item Required

VA-7 System Program up disk (code: 7770133000)
VA-7 Test program disk (code: 7770134000)
VA-7 VP Program up disk (code: 7770135000)

ATTENTION:

The **Test program** was not installed in this instrument (otherwise it would have occupied too much memory space).

If you want to install it, you have to load the Test Program from the "**VA-7 Test program disk**" you've been provided with.

WARNING:

Loading the Test Program causes the System Program of your VA-7 to be lost. Therefore every time you want to carry out some checks in your VA-7 and consequently have to install the related Test Program, **we strongly recommend** you to make a back-up copy of your VA-7 current System program, according to the procedure described in the << [How to save the System Version or the Test Program onto Floppy disk](#) >> paragraph.

Of course, once you've completed your checks, you'll have to reload the System Program (that had been erased when installing the Test Program), as described in the << [How to update the System Program or the Test Program by floppy disk](#) >> paragraph.

How to visualize the "System Program" version

Turn the instrument on while keeping the [PIANO + ONE TOUCH + INTRO] buttons pressed, the display shows:

```
***SYSTEM MENU***

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

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

```
VA -7   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.

Insert a formatted Floppy Disk in which you'll save either the "System Program" or the "Test Program" Turn the instrument on while keeping the [PIANO] + [ONE TOUCH] + [INTRO] buttons pressed. The display shows:

```
***SYSTEM MENU***

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

Choose in the menu the option "SYSTEM SAVE" pressing [BANK/3] button The display shows:

```
***SYSTEM SAVE***

NUMBER1: CONTINUE
NUMBER2: EXIT
```

Choose in the menu the option "CONTINUE" pressing [NUMBER/1] button The display shows:

```
***SYSTEM SAVE***

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

Then after a few seconds the display will show:

```
***SYSTEM SAVE***

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

<< TURN THE INSTRUMENT AGAIN >>
```

When the program saving operation has been completed it will be confirmed by the "System saving COMPLETED" message appearing on the display.

To go back to the initial program, after a few seconds you have to turn the instrument off and then on again.

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

Insert the floppy disk containing either the System program (VA-7 System program up disk code 7770133000) or the Test program (VA-7 Test program disk code 7770134000) into the FDD.
Turn the instrument on while keeping the [PIANO] + [ONE TOUCH] + [INTRO] buttons pressed.
The display shows:

```
***SYSTEM MENU***

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

Choose in the menu the option "SYSTEM LOAD" pressing [BANK/2] button

The display shows:

```
***SYSTEM LOAD***

NUMBER1: CONTINUE
NUMBER2: EXIT
```

Choose in the menu the option "CONTINUE" pressing [NUMBER/1] button

After a few seconds, the display shows:

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

<< TURN INSTRUMENT ON AGAIN >>
```

If the loading operation of the Flash has been completed, you'll have the confirmation if the message "COMPLETED" is displayed.
After a few seconds, you have to turn the instrument off and then on again.

How to update the Variphase program by Zip disk

You can update the VP program by using a zip disk only (VA-7 VP program up disk -code: 7770135000)***

Put the VP program up zip disk on your VA-7
Check that no floppy disk is inside.
Turn it on while pressing the [BACKGROUND] + [MELODIC] + [RHYTMIC] buttons

The following writings will appear on the screen:

```
1. UPDATE VERSION

2. THRU MODE

Version: XX.XX           Day Month Year
```

Select point 1 "UPDATE VERSION" on the display.
Wait until the update is finished, then power off and on the instrument again.

*** : You can copy the Vp program update file onto a zip disk by downloading it from your PC, **but:**
ATTENTION: the zip disk MUST be formatted by VA-7, not by PC.

How to format a zip disk by VA-7

1. Insert the new zip disk
2. Press [FUNCTION MENU] button
3. On the screen, touch and select in sequence:
4. DISK,
5. UTILITY,
6. FORMAT,
7. Select ZIP,
8. Select QUICK,
9. YES

Once the disk is formatted, the writing "FUNCTION COMPLETE" will appear.

Take the zip out of the VA-7, this way:
Press [FUNCTION MENU] button
On the screen, touch and select:
DISK, then on the following screen
UTILITY, then on the following screen select:
ZIP EJECT

TEST MODE

After loading the Test program, turn the instrument on.
The Test Menu will be displayed, which is divided into two major groups: BANK and NUMBER.

```
VA-7 test Ver. x x . x x
-BANK-                -NUMBER-
1 Switch              1 Flash
2 Encoder             2 Rom Style
3 Adc                 3 Ram
4 Lcd                 4 IDE
5 Led                 5 FDD
6 Keyscan             6 Midi
7 Touch screen       7 Audio Test

DATE: (day) (month) xx xx:xx:xx (year)
```

First group of test => BANK**1. SWITCH test**

Press the [BANK/1] button, the display shows:

```

VA-7 SWITCH TEST

Nome  XXXXX
      O N /OFF
*****
*****
*****
Next.  XXXXX
Press Bank 8 and Bank5 to exit
  
```

Action: every button, when pressed, will generate a sound. The LCD will consequently show the button name on the top of the left side as well as its ON/OFF status. On the bottom of the left side the name of the following button to be pressed will be shown. Every time a button has been checked, the asterisks disappear from the display.

Once all buttons of the control panel and of the FC7 pedalboard have been subsequently pressed, you will automatically exit the Switch Test and get back to the Test Menu.

If the Switch test has been already carried out previously and you want to exit it, you can do it by pressing the Bank 8 button first and then the Bank 5 one.

2. ENCODER check

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

```

VA-7 TEST ENCODER

ENCODER  →          XXX

Press Bank 5 to exit
  
```

Action: A value (here represented by XXX) will be visualized in the upper right corner of the LCD. Moving the encoder rightwards, this value will increase up to +255. Moving the encoder leftwards, it will decrease until 0.

To exit, press [BANK/5].

3. ADC Check

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

```

VA-7 ADC TEST
Bender (0 +/- 127)      D.Beam C. (0 - 127) **
Modulation (0 - 127)
Ribbon (0 - 127)       Sust Foot switch (On/Off)
Balance (0 +/- 127)    Foot switch (On /Off)
M - FX (0 + 127)       Express (0 - 127)

Press BANK 5 to exit
  
```

Action: 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 5].

4. LCD Check

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

```

VA-7 LCD TEST
Press BANK 1      blue   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/1] button, the display will be blue

If you press the [BANK/2] button, the display will be white;

If you press the [BANK/3] button, the display will be gray;

If you press the [BANK/4] button, the display will show some numbers (normal)

If you press the [BANK/6] button, the display will show an image

To exit, press [BANK/5].

5. LED Check

Press the [BANK/5] button, the display shows:

```

VA-7 LED TEST
Press BANK 1      to orange colors
Press BANK 2      to orange colors
Press BANK 3      to orange colors
Press BANK 4      All led   ON
Press BANK 6      Sequence  ON

Press BANK5 to exit
  
```

Action:

If you press the [BANK/1] button, all orange leds light

If you press the [BANK/2] button, all green leds light

If you press the [BANK/3] button, all red leds light

If you press the [BANK/4] button, all the leds light

If you press the [BANK/6] button, all the leds light in sequence

Note: All the LEDs will light one after the other and, at the end of the sequence, they will all light.

To exit, press [BANK/5].

6. KEYSKAN Check

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

```

VA-7 KEY SCAN TEST
Key =           C
Velocity =      0/127
Octave =        2
After Touch =   0/127

Press BANK5 to exit
  
```

Action: a piano sound will be heard every time a key is pressed; you'll hear the aftertouch effect if you press a key till the end of its stroke. The LCD shows the key name, the velocity value, the number of the octave used and the After touch value.

To exit, press [BANK/5].

7. TOUCH SCREEN Test

Note: to carry out this test, a normal pen is required.
Press the [BANK/6] button, the display shows:

VA-7 TOUCH SCREEN TEST
BANK1 - calibrate
BANK2 - touch X, Touch Y test

Press BANK5 to exit

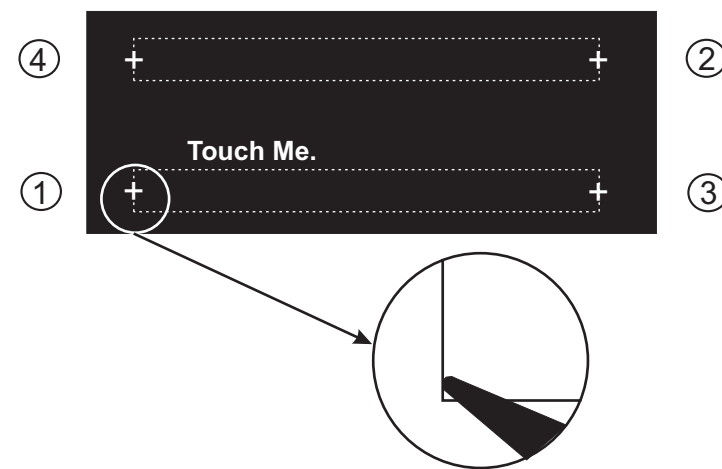
• **BANK1 - calibrate**

Action : Pressing the [BANK/1] button, you enter the Calibration test.

VA-7 TOUCH SCREEN TEST
BANK1 - Exit calibrate
BANK2 - Confirm calibration

Press BANK5 to exit

Action: Pressing the [BANK/1] button, you exit the Calibration test.
Pressing the [BANK/2] button, you enter the LCD calibration test.
Note: Once you enter the Calibration test, you can not exit unless you carry out the calibration operations.
The display shows:



Touch 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 VA-7 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:

Calibration OK

Press BANK5 to exit

Note: The calibration set will be memorized on the VA-7 internal flash, by turning it on while keeping the [Melody Intelligence] button pressed, after having loaded the System program.
When the calibration fails, the following display will appear.

NG. Calibration

You have to carry out the calibration again.
Press the [BANK/5] button to go to the next test.

• **BANK2 - touch X, Touch Y test**

Action : Pressing the [BANK/2] button, you enter the test to check the LCD "darkest" area, the display shows:

Touch X - 1
Touch Y - 1

Press BANK5 to exit

Action: 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 is 320. Then repeat the operation from downwards to upwards and check that the Y value is 240. The acceptable variation from these values is +/- 5%.

To exit, press [BANK/5]

Second group of test => NUMBER

1. FLASH test

Press the [NUMBER/1] button, the display shows:

VA-7 FLASH TEST

Writing 24
Verifying 24
Flash OK or Error
Press BANK 5 to exit

Action: 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 [BANK/5]

Note: if there is an asterisk (*) beside the "Flash Test" item within the Main Menù, this means that this kind of check has already been carried out.

2. ROM STYLE Test

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

ROM STYLE TEST

OK or ERROR

Press BANK 5 to exit

To exit, press [BANK/5]

3. **RAM Test**

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

```
RAM TEST
OK or ERROR
Press BANK 5 to exit
```

To exit, press [BANK/5]

4. **IDE Test**

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

```
IDE TEST
IDE: initializing...
** OK or ERROR**
Drive checking...
** OK or ERROR**
Press BANK 5 to exit
```

Action: Before inserting the zip disk in the VA-7 zip disk driver, make sure that it has been formatted by a VA-7, a G-1000 or an EM-2000.

Note: If the zip disk is not inserted before entering the test mode, the writing NOT READY will appear in the drive checking space.

To exit, press [BANK/5]

5. **FDD Test**

Press the [NUMBER/5] button the display shows:

```
VA-7 FDD TEST
Writing...
Reading...
Verifyng
>>>> OK <<<<
Please eject disk
```

After a few seconds, the display will show:

```
VA-7 FDD TEST
Writing...
Reading...
Verifyng
>>>> OK <<<<
Press BANK 5 to exit
```

Action: If the floppy disk has not been inserted in the drive, the following writing will be visualized on the bottom of the lcd: PLEASE INSERT DISK.

If the result isn't OK, one of the following errors will appear on the display:

- Read Error
- Write Error

- Verify Error

CAUTION: To check the FDD, use only a formatted disk, either DD or HD type.

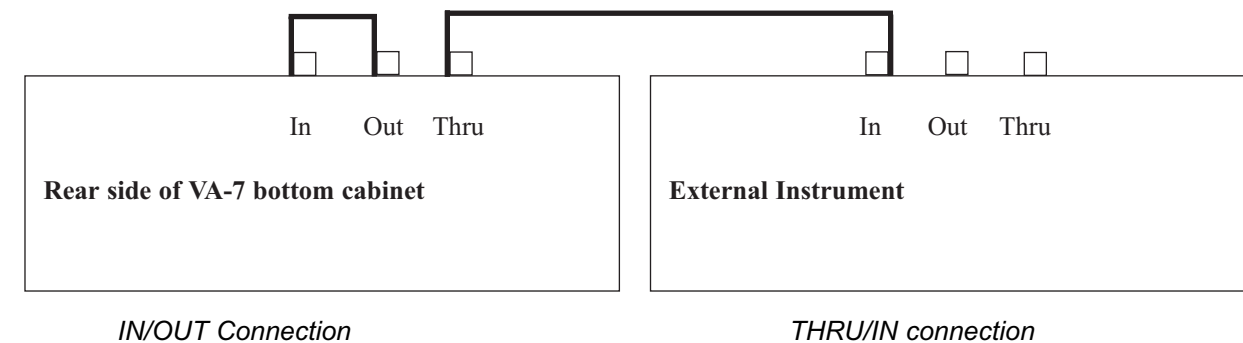
To exit, press [BANK/5]

6. **MIDI & THRU test**

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

```
VA-7 MIDI TEST
Connect Midi Out = to => Midi A In < OK or Error >
Press BANK5 to exit
```

Cable connections to check the MIDI outputs:



While the "VA-7 MIDI TEST" screen display is shown, connect the Midi Cables between VA-7 and an external instrument as shown in the above diagram.

Make sure that either the "OK" or the "ERROR" message appear on the display.

Then keep the cable connection between the IN and OUT sockets of VA-7 and connect VA-7 with another external instrument by using its "Midi Thru" output and the second Midi Cable.

If the result of this Midi Test is "OK", you'll hear an intermittent sound coming from the second external instrument.

To exit, press the [BANK/5].

7. **Audio Test**

Press the [NUMBER/7] button. You've entered the "Audio Test" mode and the display shows:

```
VA-7 Audio Test
BANK 1 Calibration
BANK 2 Left
BANK 3 Right
Press BANK 5 to exit
```

Pressing the [Bank/1] button "Calibration", some sine wave sounds (frequency 415 Hz) will come out from the Right and Left speakers.

Before calibrating the amplifier, move the "volume" potentiometer to the "Max" position then adjust the trimmers of the amplifier channels (VR11: right Channel; VR12: left Channel) so that the oscilloscope will show a value of 20 Vpp across the speakers.

Note: The measurements on the R/L output have to be carried out with the jacks inserted in both outputs .

The sounds coming from the R/L Mono channels on the "OUT" output will be mixed and can be adjusted by the "Volume" slider potentiometer.

The sine wave sound on the right and left channels will have a 415 Hz frequency and a 3Vpp amplitude.

Pressing the [BANK/2] - Left button, a sine wave sound will be heard from the left loudspeaker, with a frequency of 215 Hz.

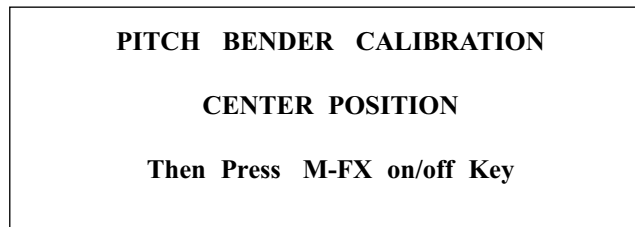
Pressing the [BANK/3] - Right button, a sine wave sound will be heard from the right loudspeaker, with a frequency of 215 Hz.

To exit, press [BANK/5].

CALIBRATION PROCEDURE TO REPLACE THE PITCH BENDER

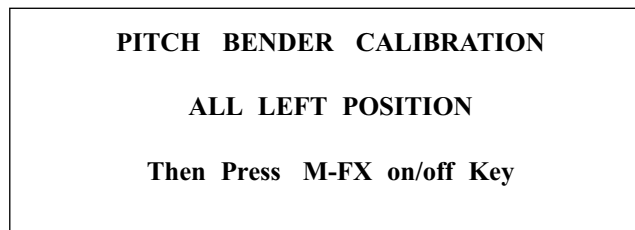
Load the "System Program" into the instrument. Turn VA-7 on while keeping the [ORCHESTRATOR] button pressed.

After a few seconds, the display will show:



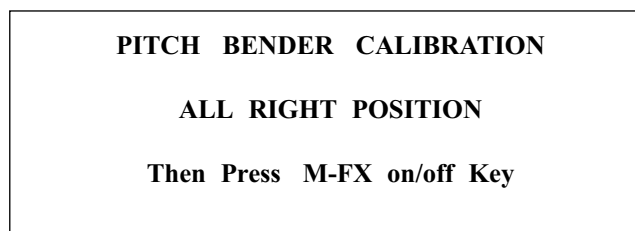
Put the Bender lever in the middle while pressing the M-FX [ON/OFF] button at the same time.

The display shows:



Move the Bender lever completely towards left while pressing the M-FX [ON/OFF] button at the same time.

The display shows:



Move the Bender lever completely towards right while pressing the M-FX [ON/OFF] button at the same time. When the calibration has been completed, the instrument will automatically reset and go back to the initial screen display of the software program.

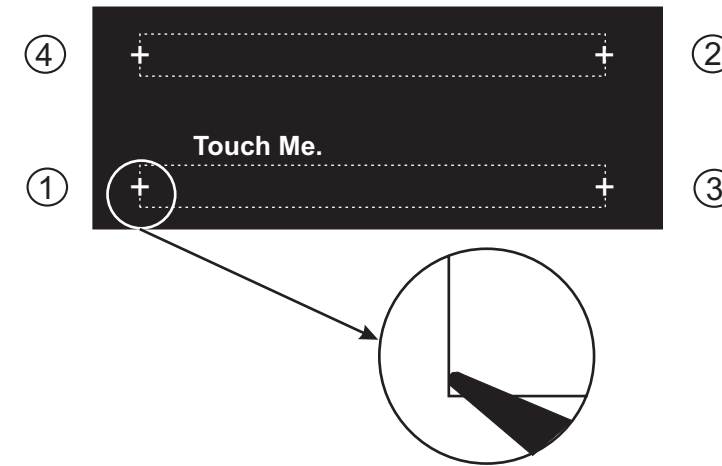
HOW TO ENTER THE TOUCH SCREEN CALIBRATION

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

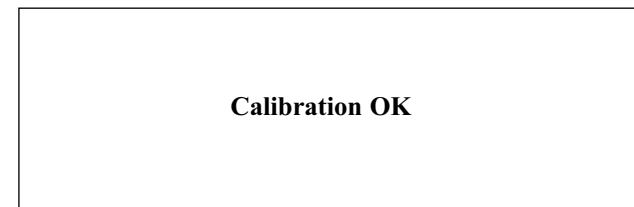
Note: When entered the Calibration test, you cannot exit unless you carry out the calibration operation. To perform this test, a normal pen is required.

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 VA-7 recognizes the touch, + will change into 0.

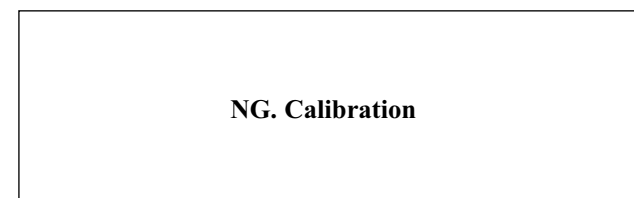


This way, the writing "Touch me" will appear to show the correct order, so please follow this indication. During the calibration, do not touch any point except "Touch me". After touching the four points, the calibration ends and the display will show one of the following displays:



If Calibration OK appears, the instruments will reset and get back to the normal working display. Note: The calibration set will be memorized on the VA-7 internal flash, by turning it on while keeping the [MELODY INTELL.] + [CONTROLLERS] + [EFFECTS] buttons pressed.

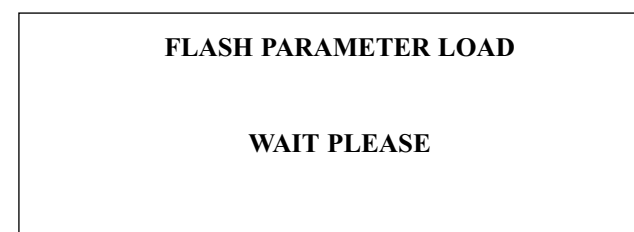
If the calibration fails, the following display appears.



You have to carry out the calibration again.

HOW TO INIZIALIZE THE FLASH AREA

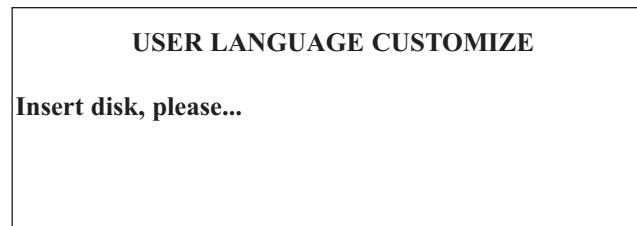
Turn the instrument on while keeping the [MELODY INTELL.] + [CONTROLLERS] + [EFFECTS] buttons pressed. After a few seconds, the display shows:



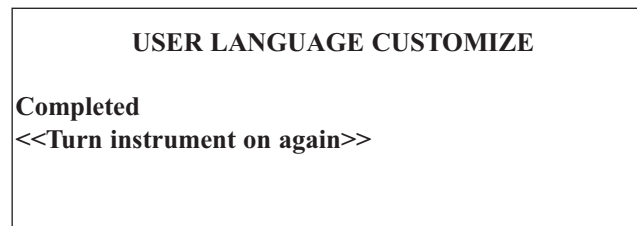
When the saving operation has been completed, the instrument will exit and get back to the VA-7 initial display.

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:



CHANGE INFORMATION

REASON

Replacement of the XPGS-6 assy on VA-7 with a new one with different dimension:

START PRODUCTION: MODULE XPGS-6 PCB ASSY code 7770111000

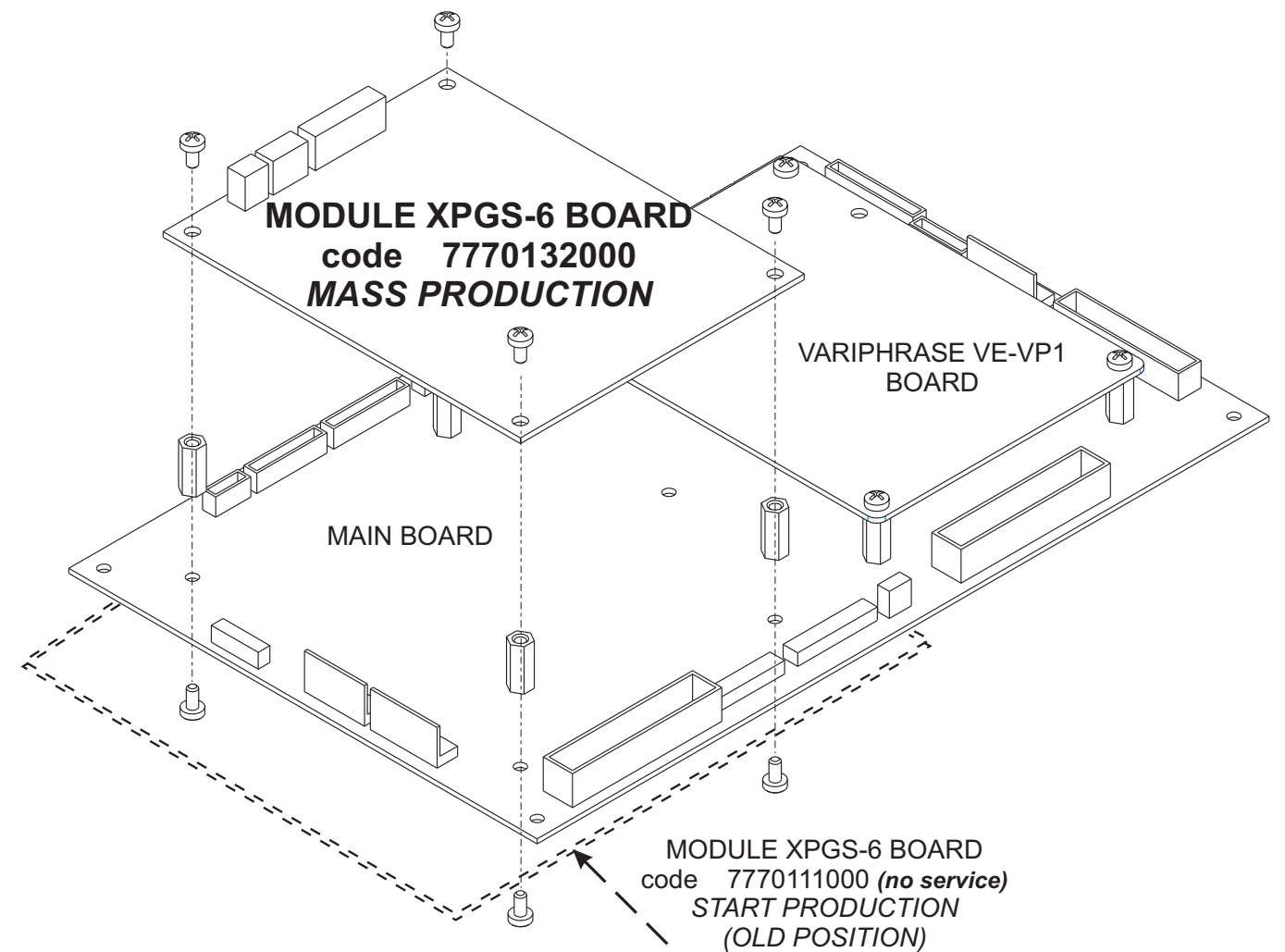
MASS PRODUCTION: MODULE XPGS-6 PCB ASSY code 7770132000
(from Z N6 5325; July 2000 production)

PART TO BE ORDERED:

Please order always MODULE XPGS-6 PCB ASSY code 7770132000

MEASURE:

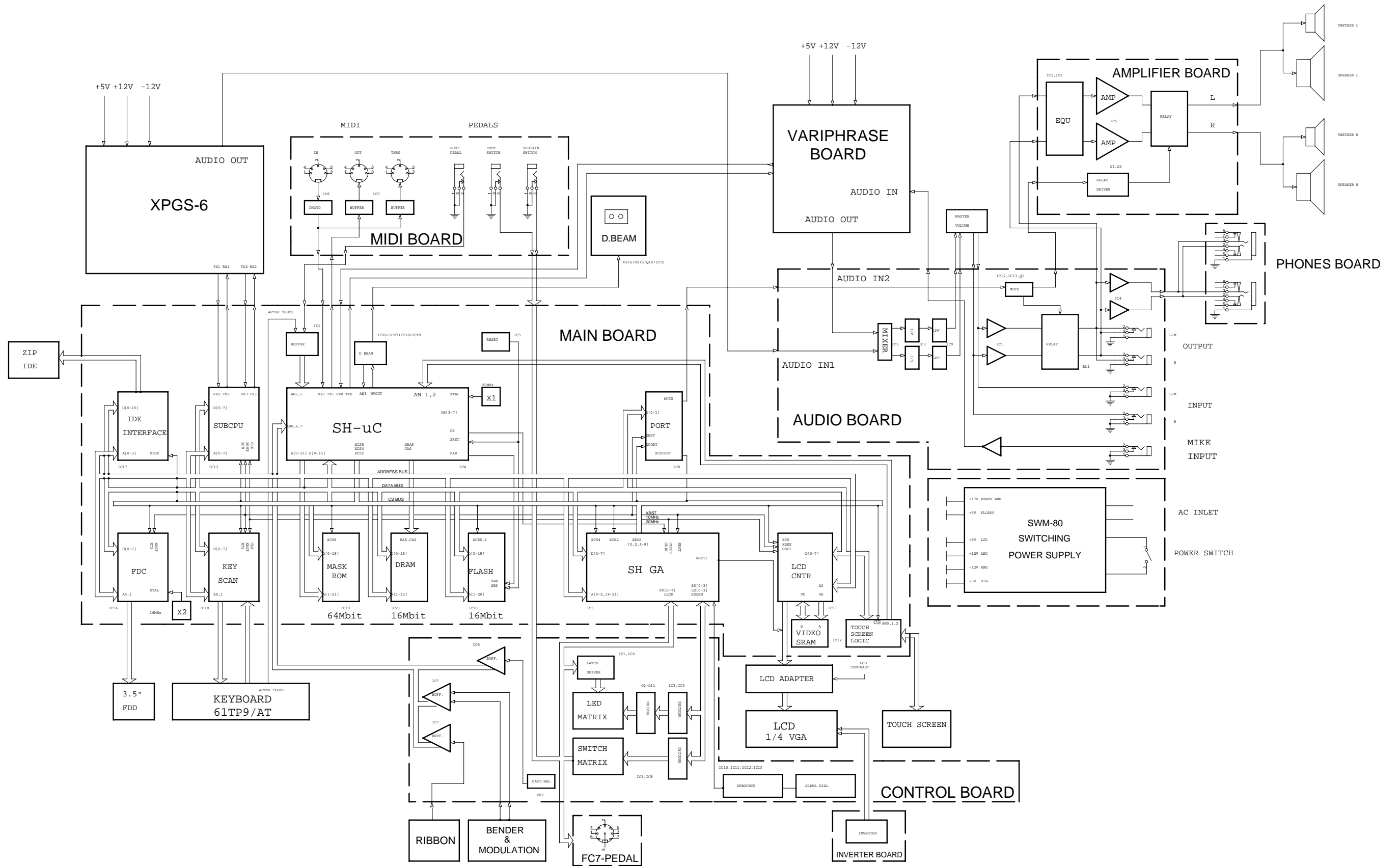
When you have to replace an XPGS-6 code 7770111000 and receive from us, as a spare parts an XPGS-6 new version code 7770132000, please be so kind to mount it as shown in the following picture: IT HAS TO BE PLACED ON THE MAIN BOARD IN STEAD OF BELOW THE IRON SUPPORT WHERE THE OLD VERSION XPGS-6 WAS PLACED.



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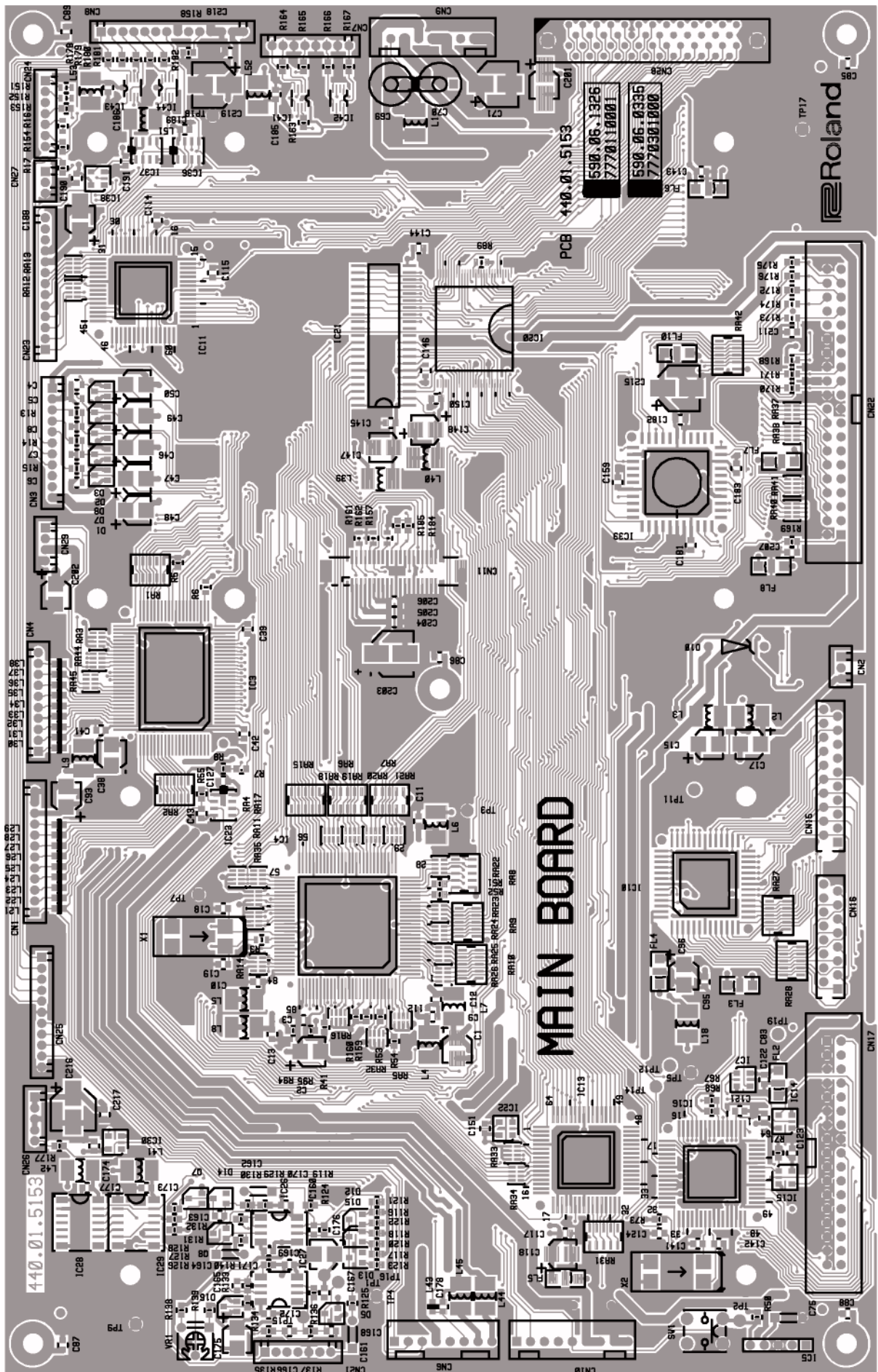
BLOCK DIAGRAM



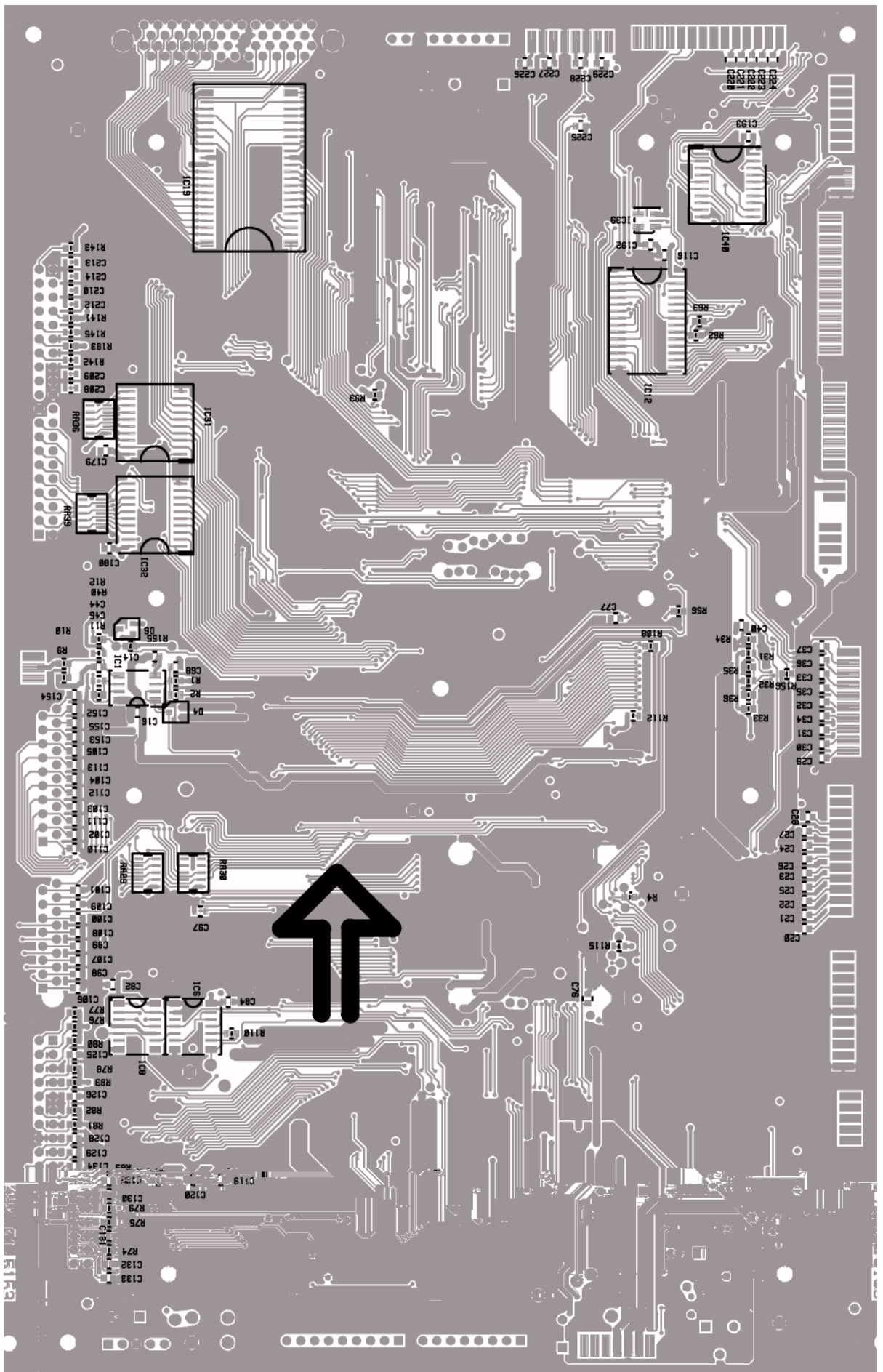
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E MAIN PCB ASSY ASSY 7770110001



View from component side

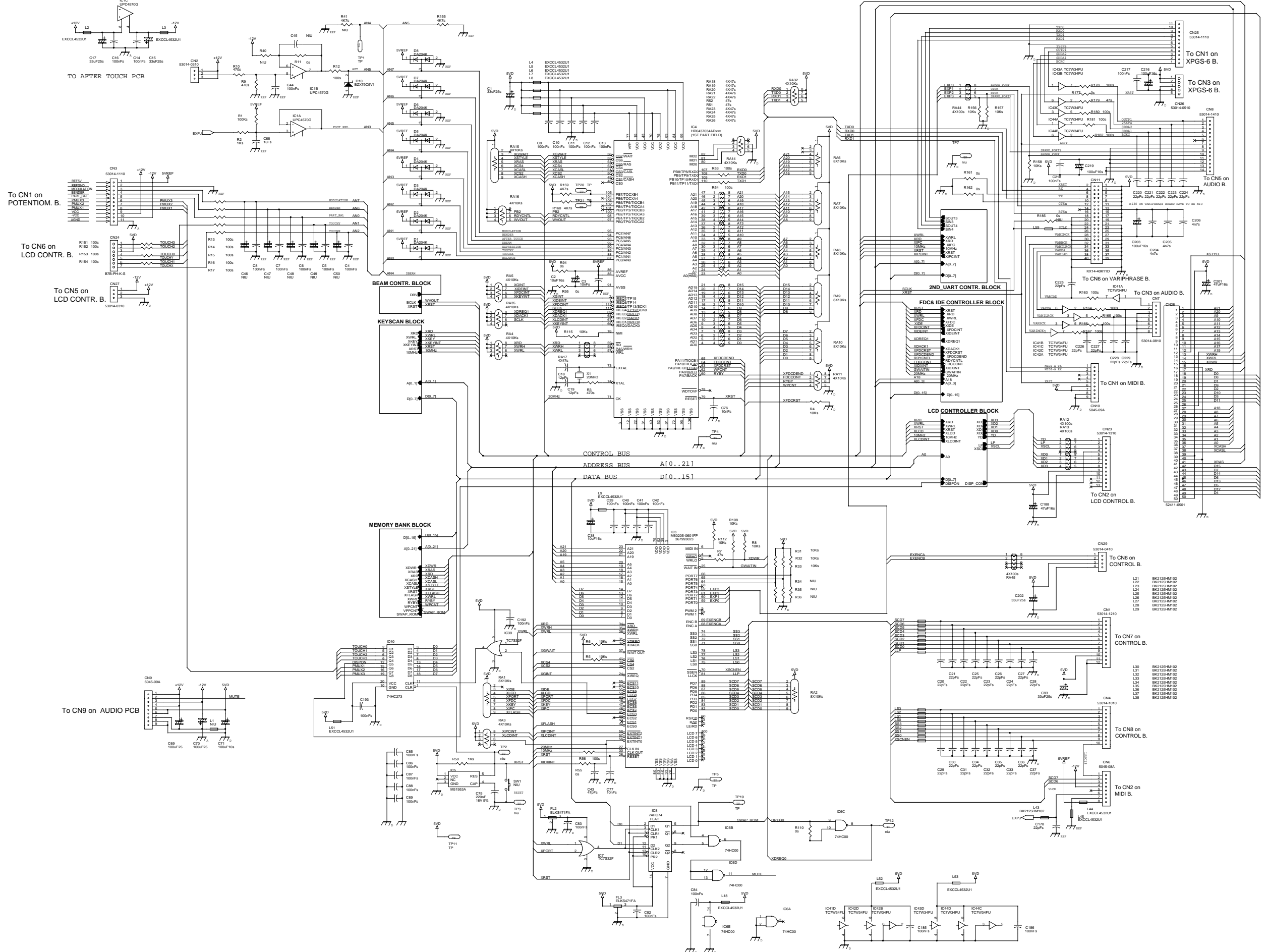


View from solder side

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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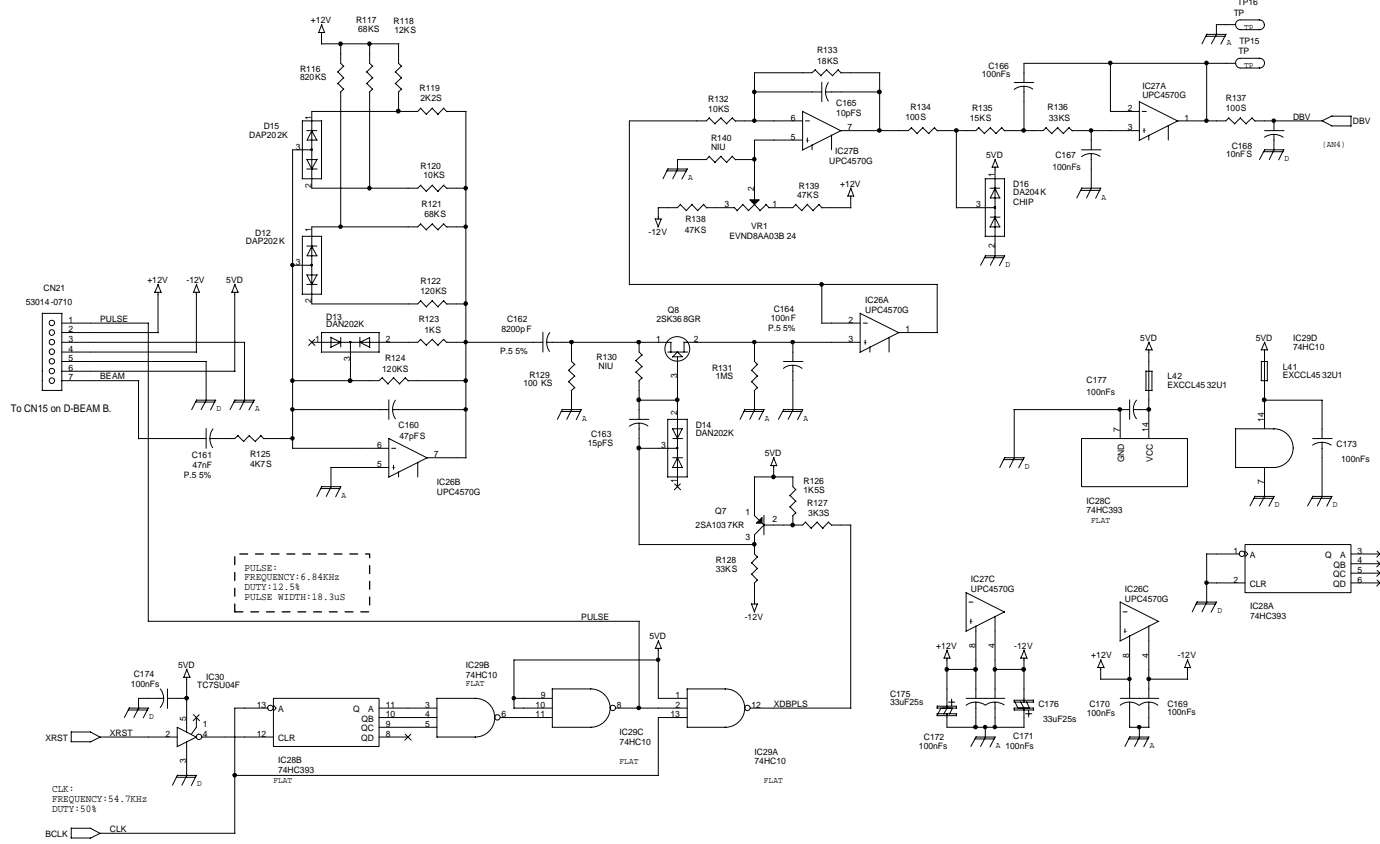
CIRCUIT DIAGRAM (MAIN PCB ASSY)



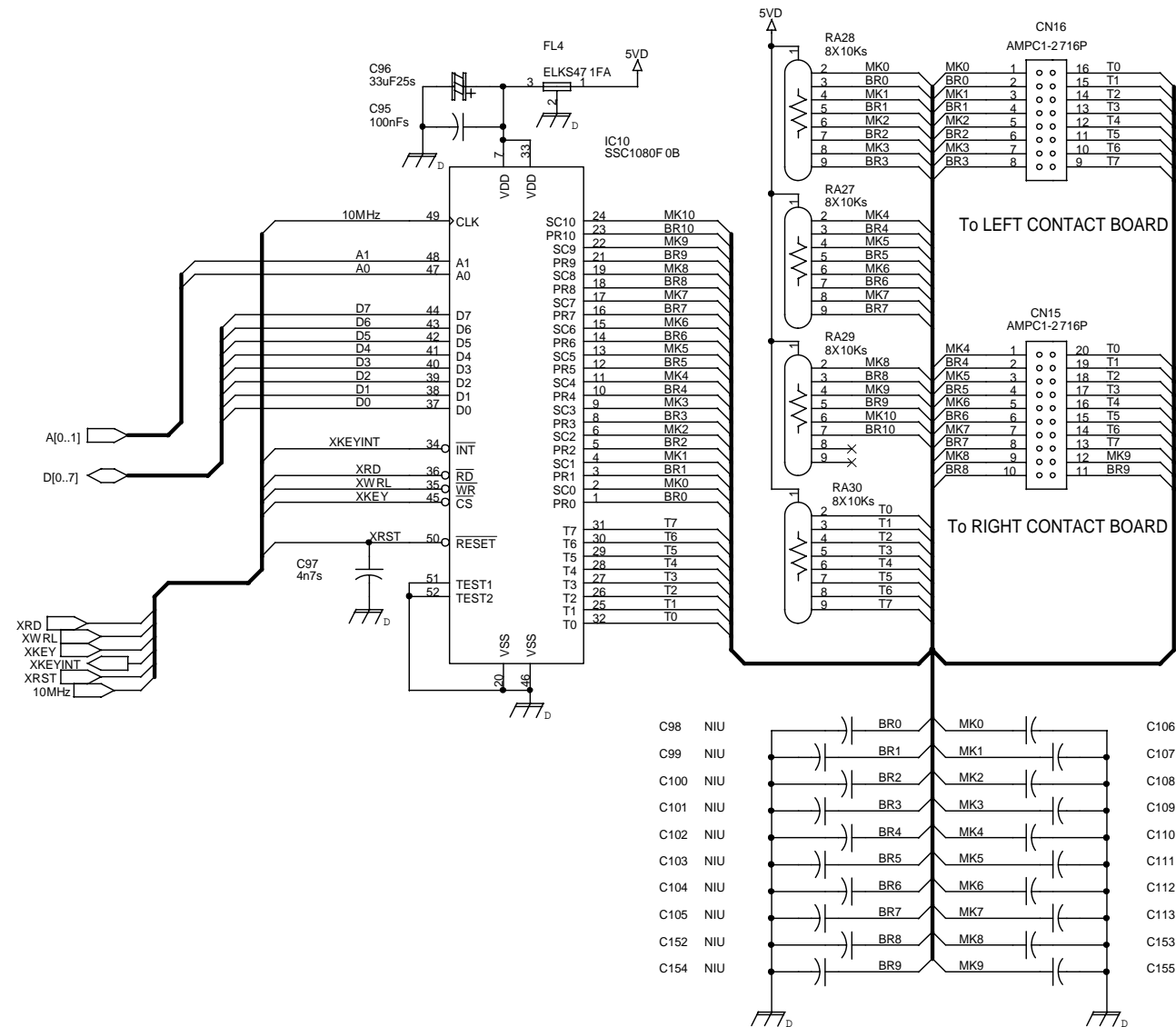
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30

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



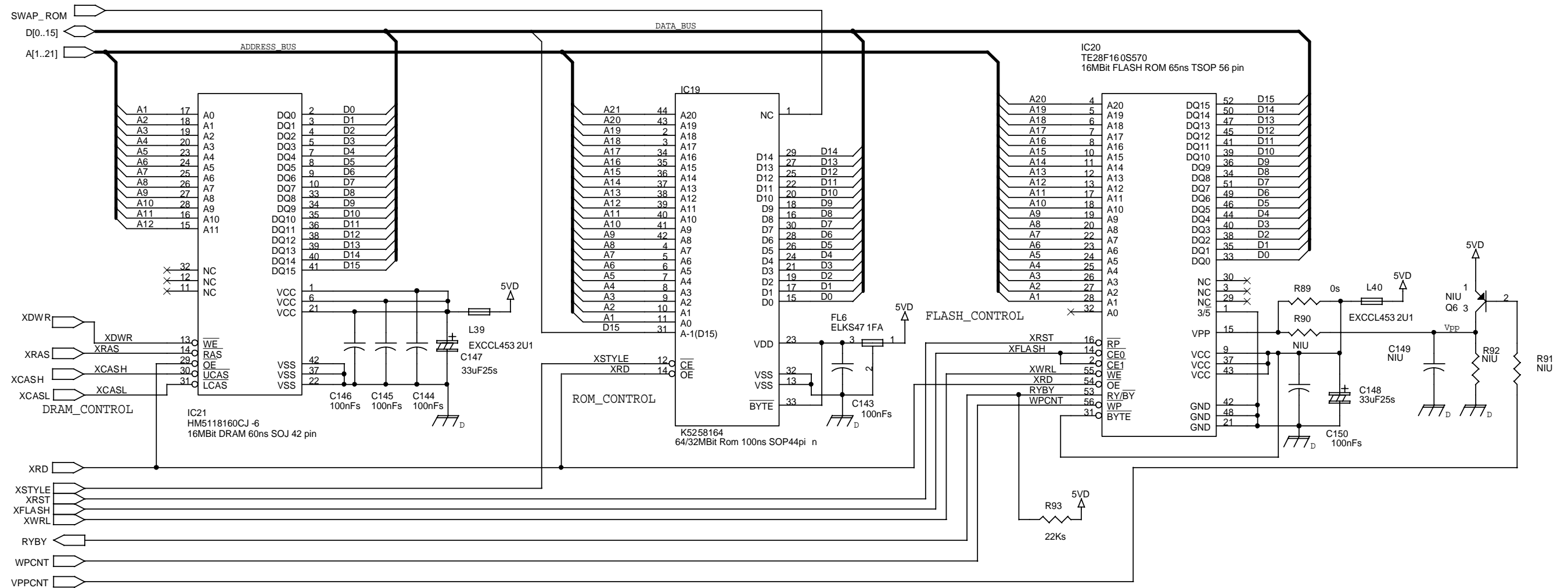
CIRCUIT DIAGRAM (MAIN PCB ASSY/ Keyscan Block)



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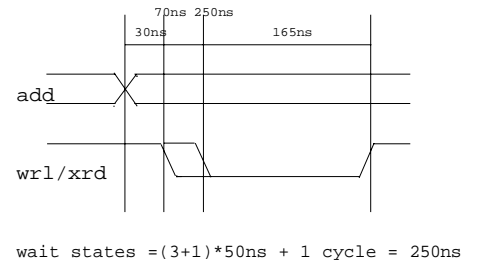
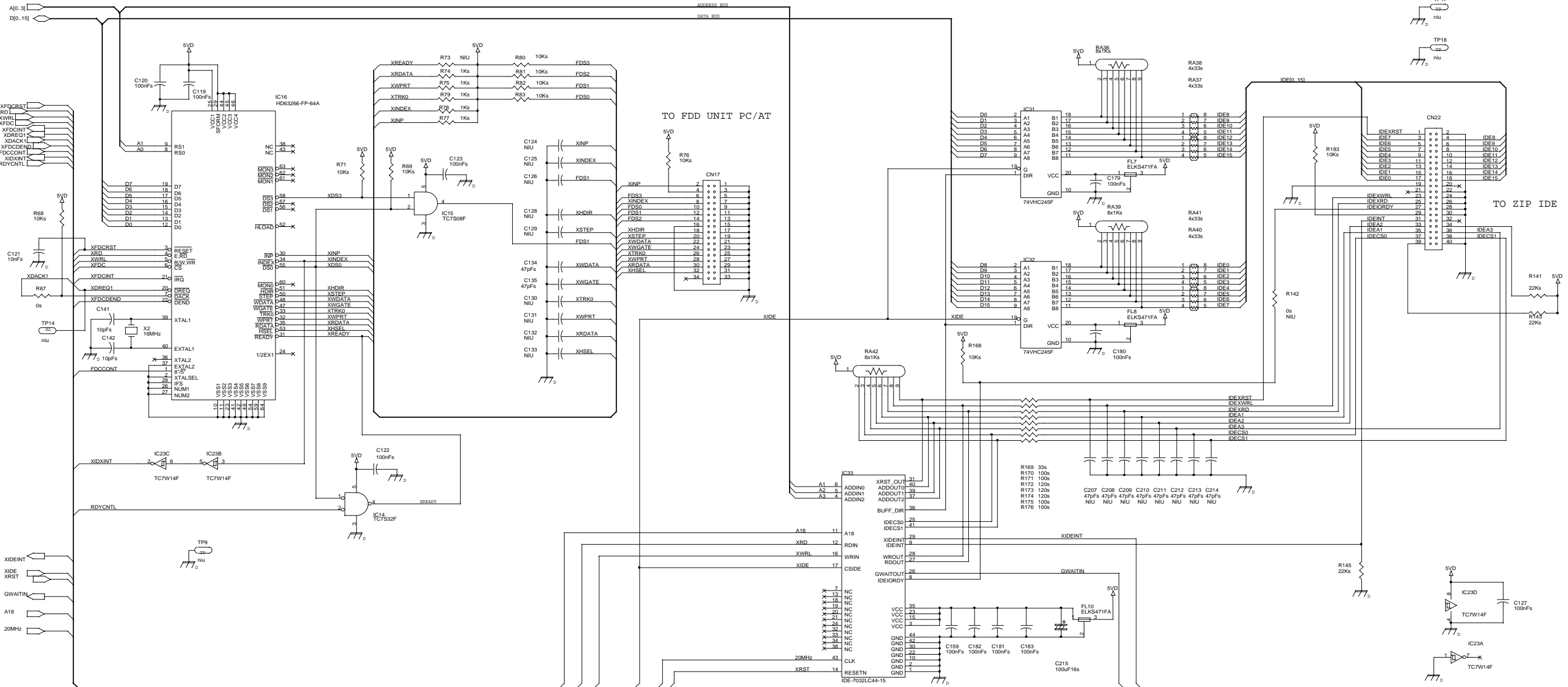
CIRCUIT DIAGRAM (MAIN PCB ASSY/ Memory Bank Block)



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CIRCUIT DIAGRAM (MAIN PCB ASSY/ FDC & IDE Contr. Block)

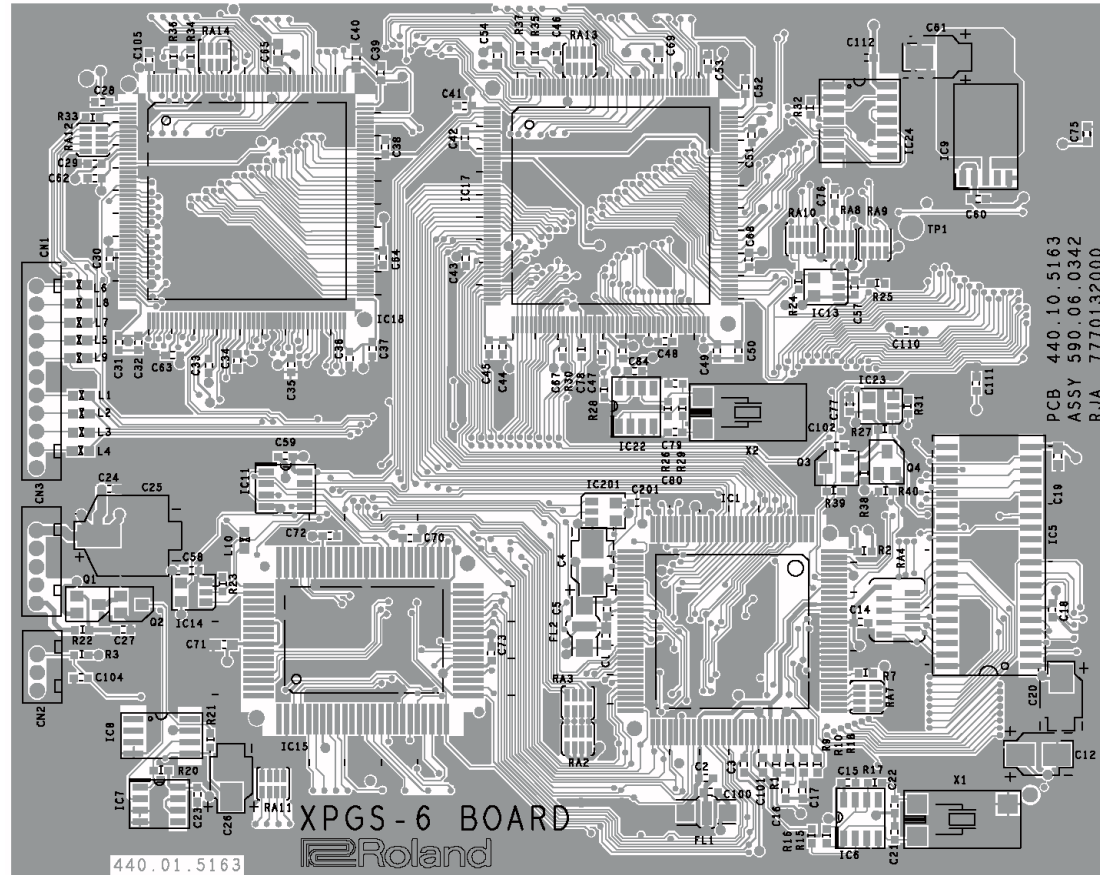


IDE

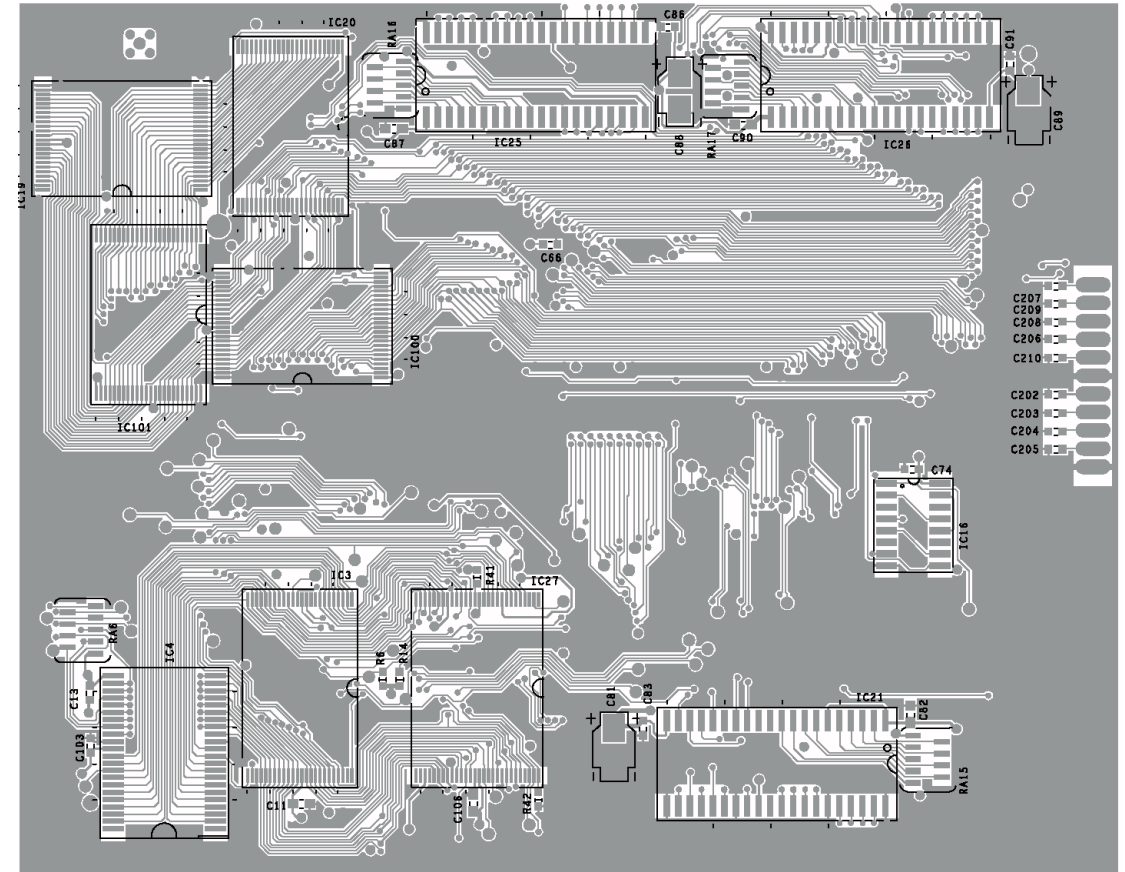
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30

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E MODULE XPGS-6 PCB ASSY ASSY 7770132000

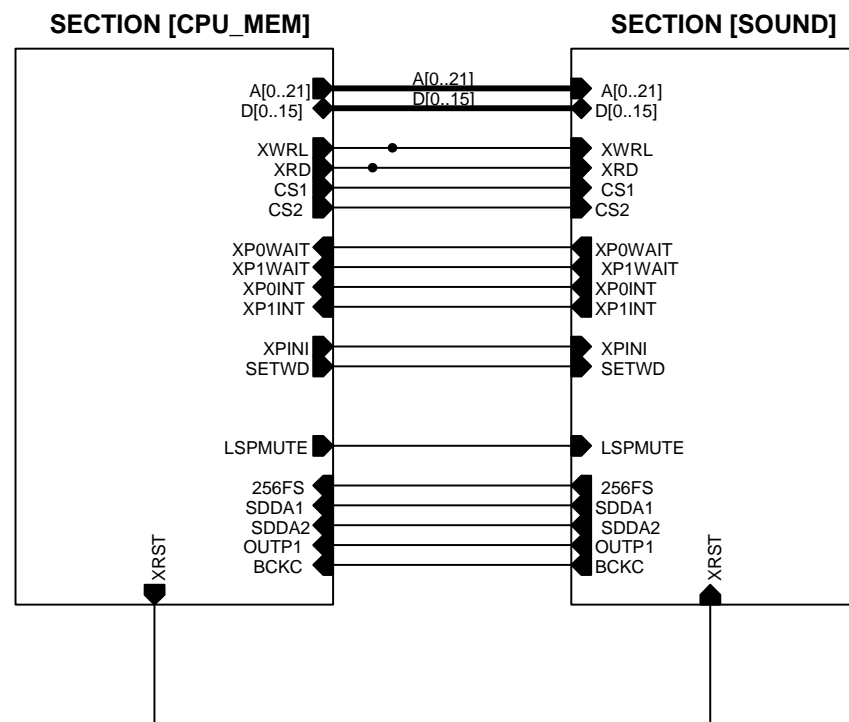


View from component side



View from solder side

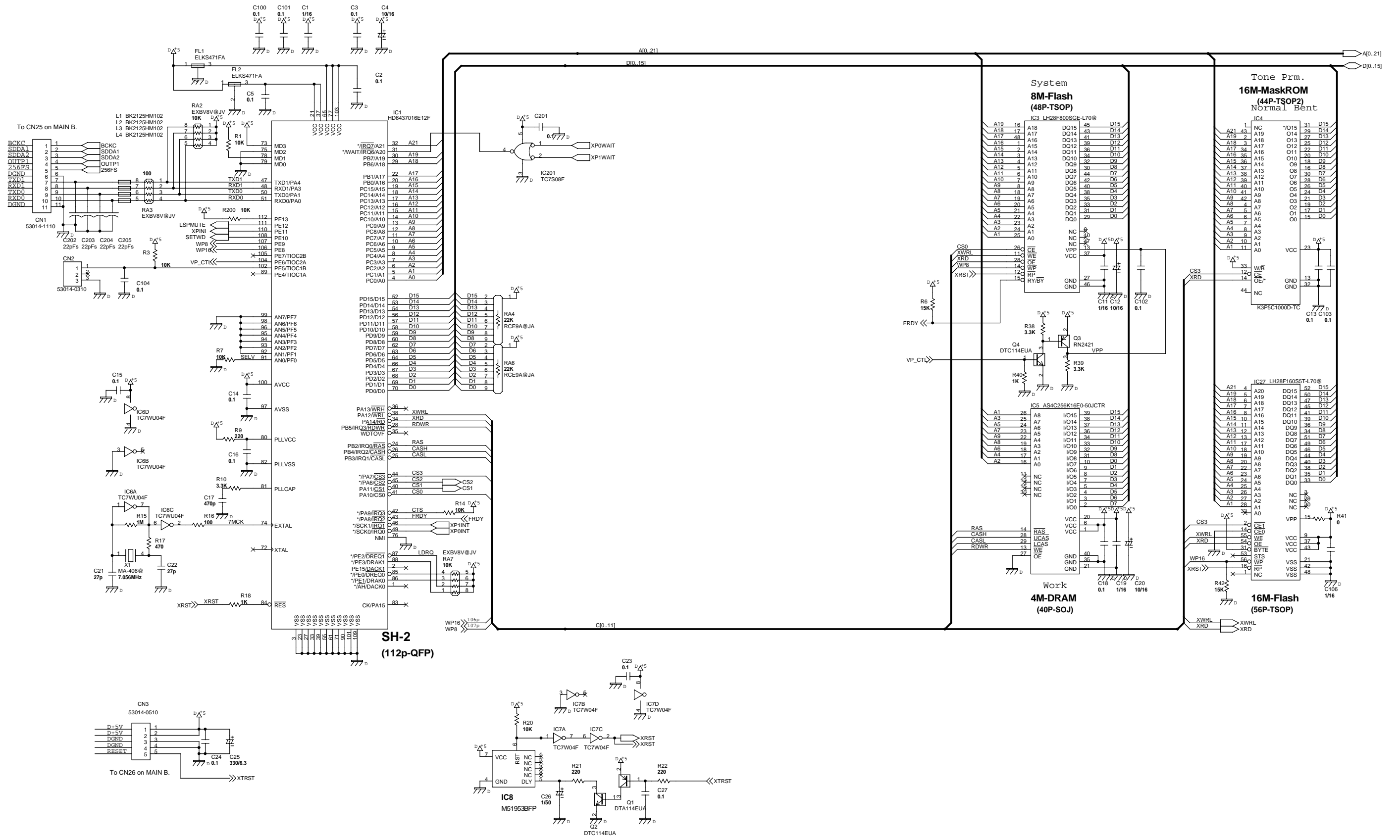
CIRCUIT DIAGRAM (XPGS-6 PCB ASSY)



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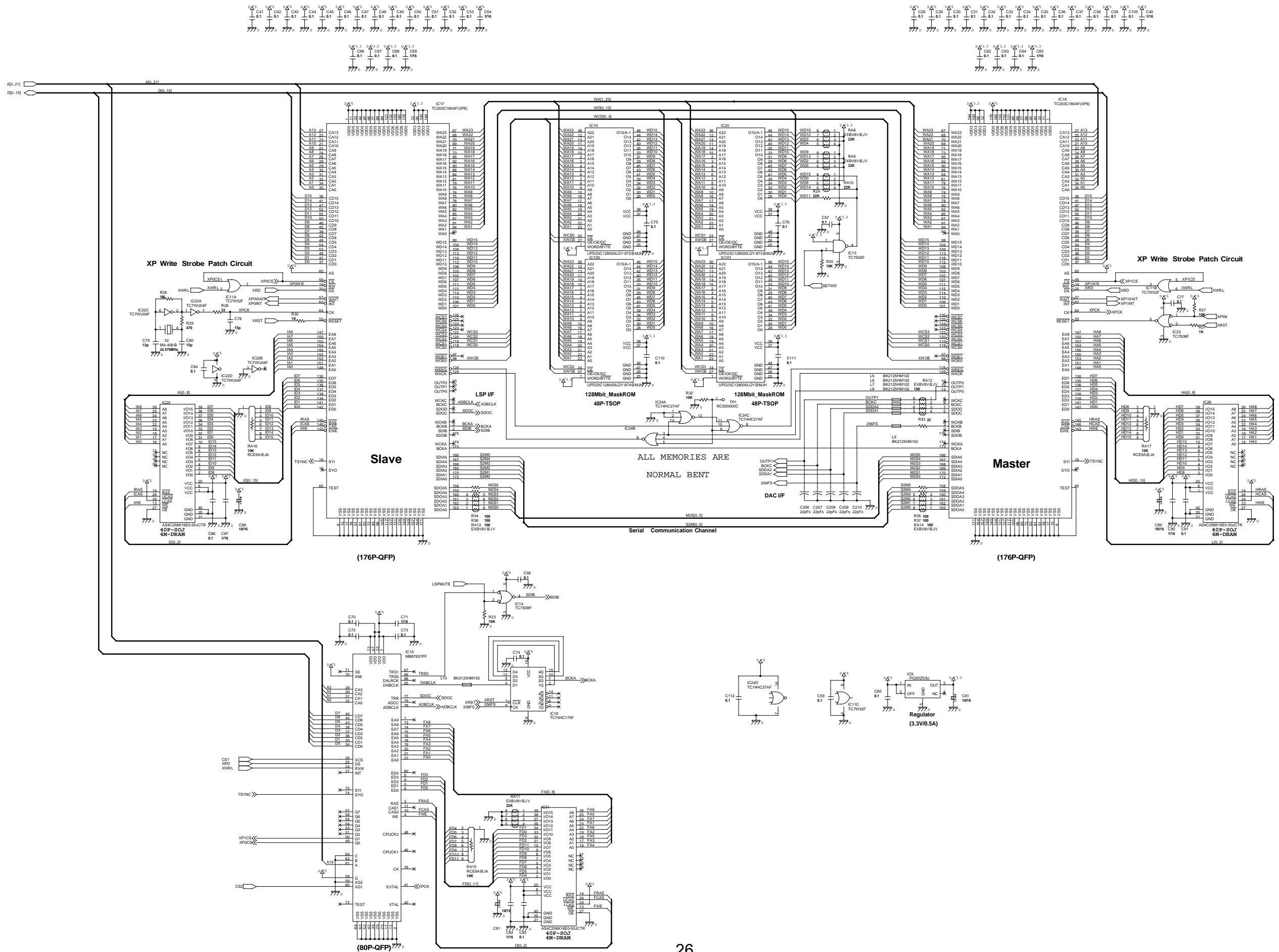
CIRCUIT DIAGRAM (XPGS-6 PCB ASSY/ CPU_MEM Section)



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CIRCUIT DIAGRAM (XPGS-6 PCB ASSY/ SOUND Section)

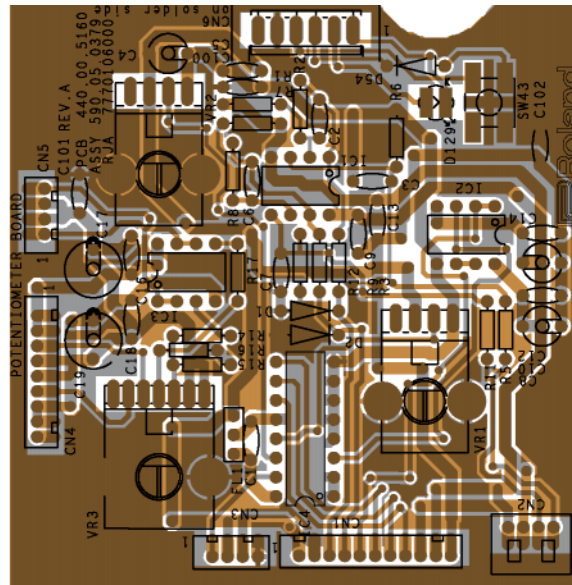


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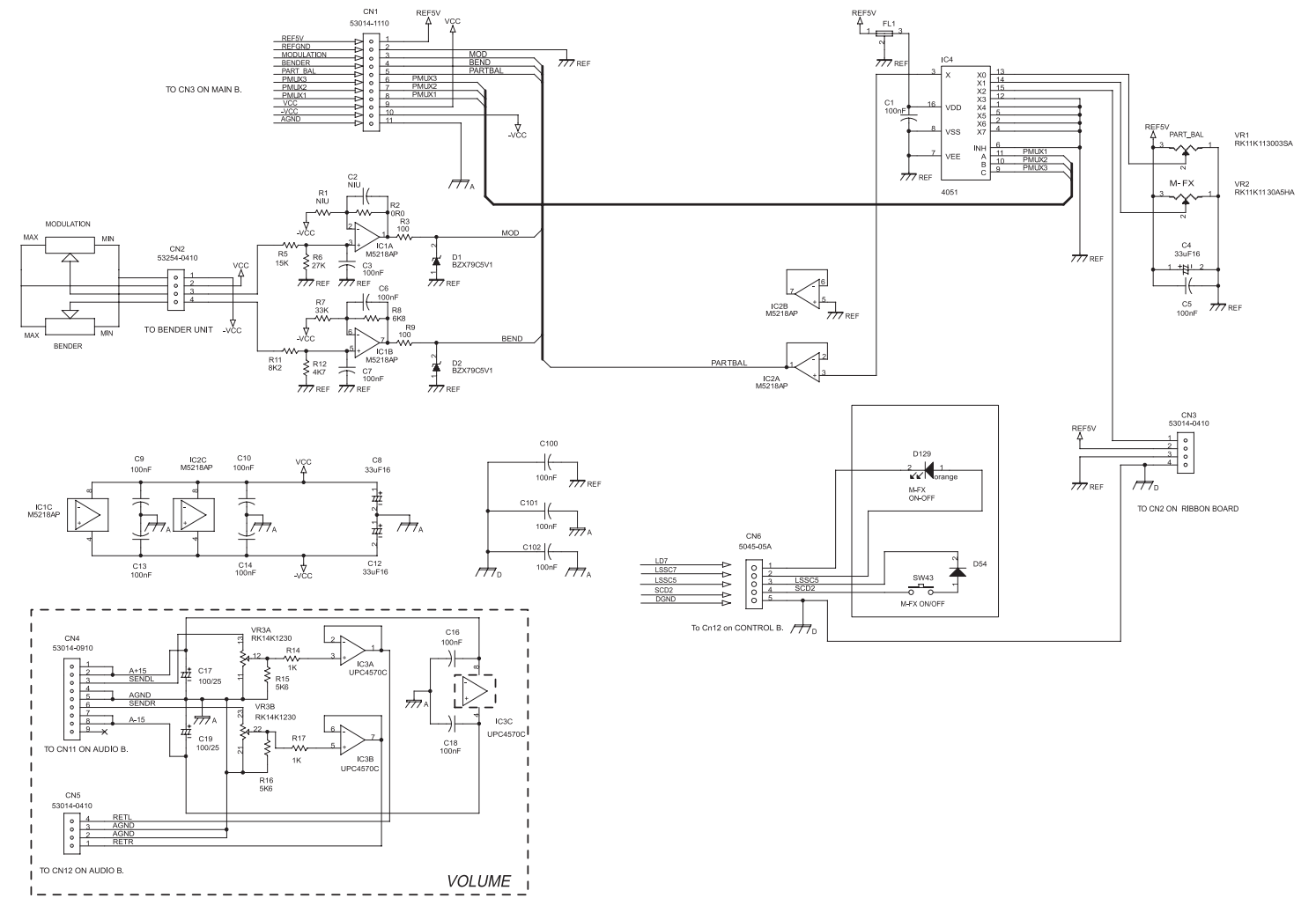
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POTENTIOMETER PCB ASSY & CIRCUIT DIAGRAM

ASSY 7770106000

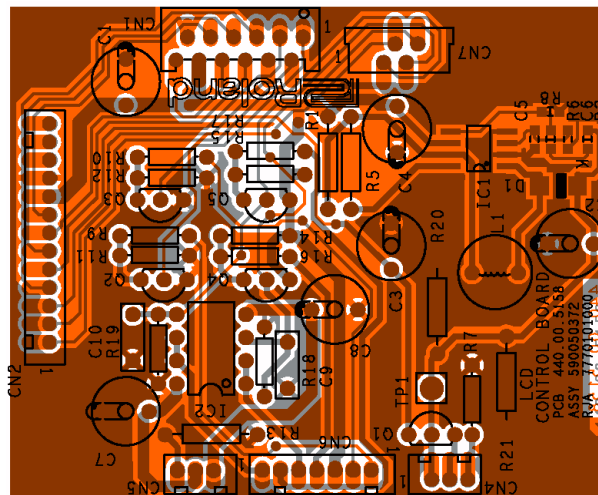


View from component side

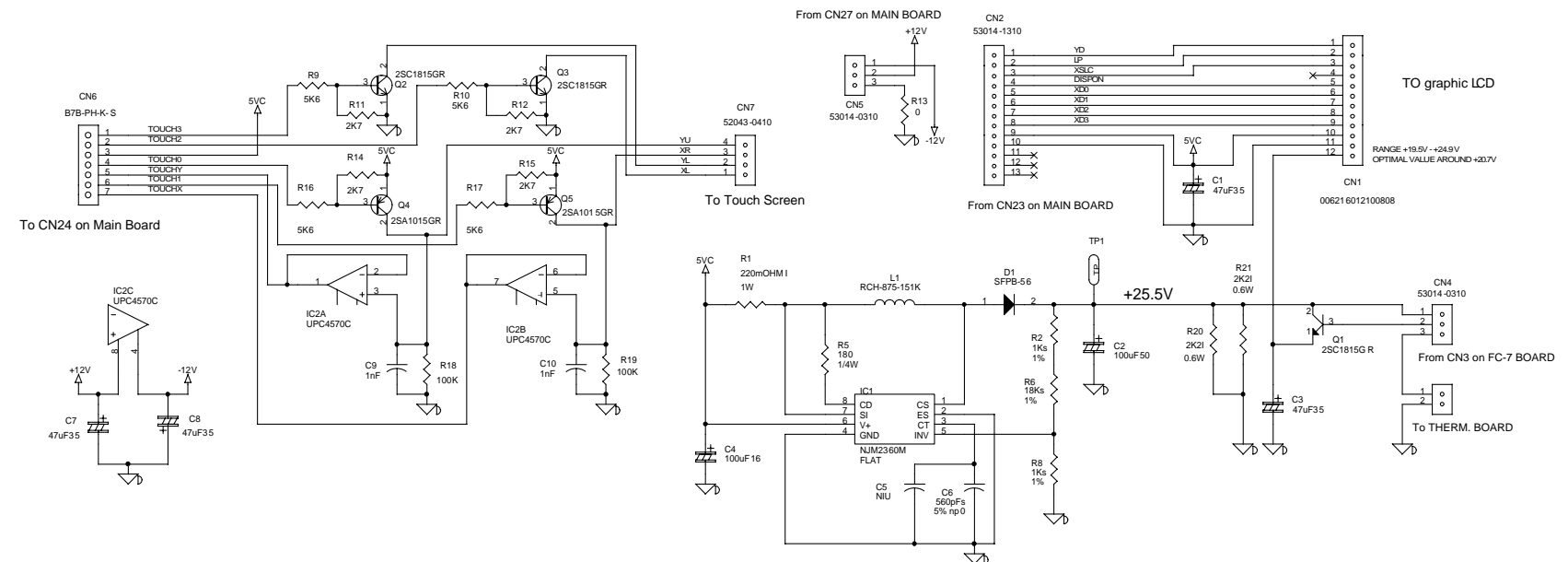


LCD CONTROL PCB ASSY & CIRCUIT DIAGRAM

ASSY 7770101000



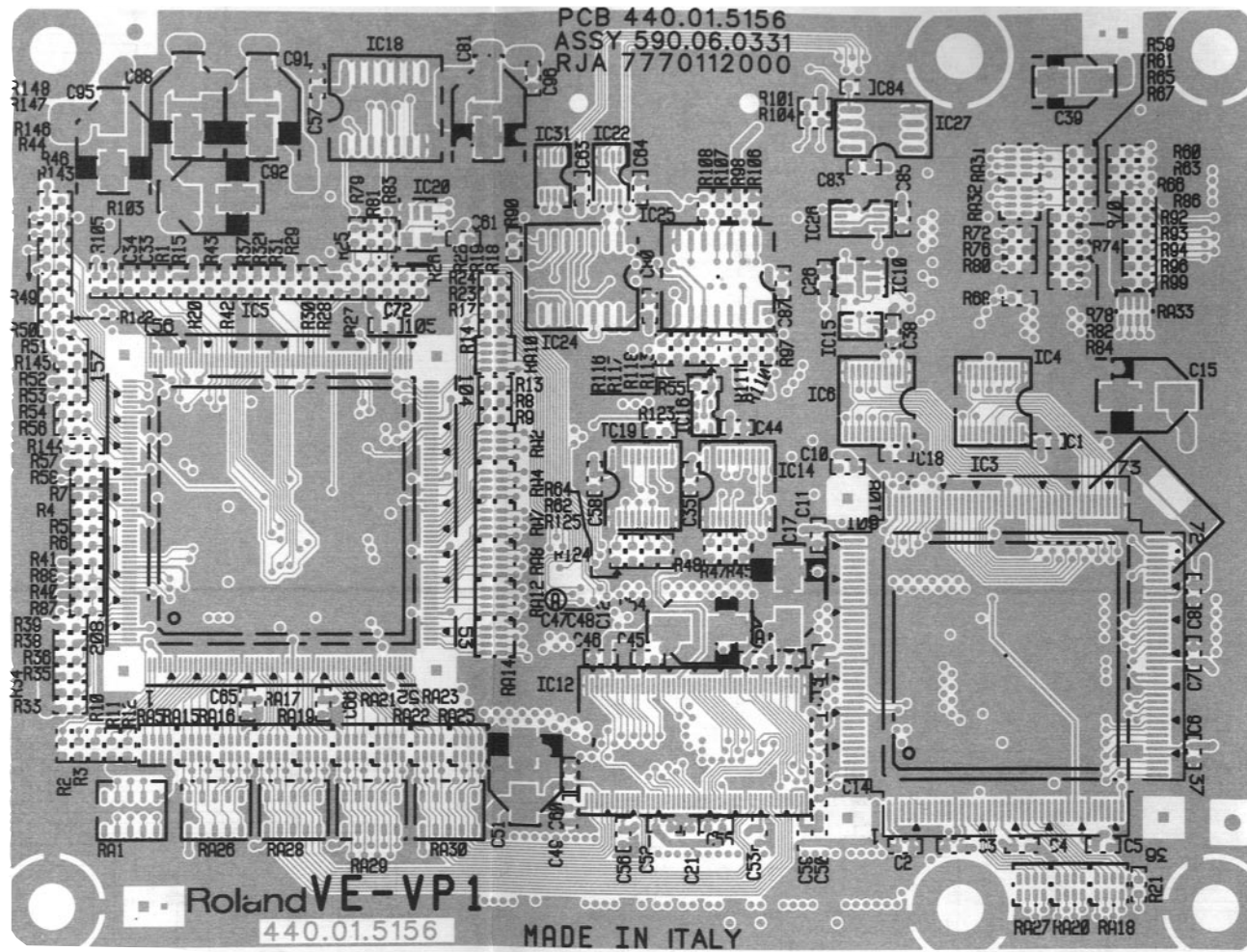
View from component side



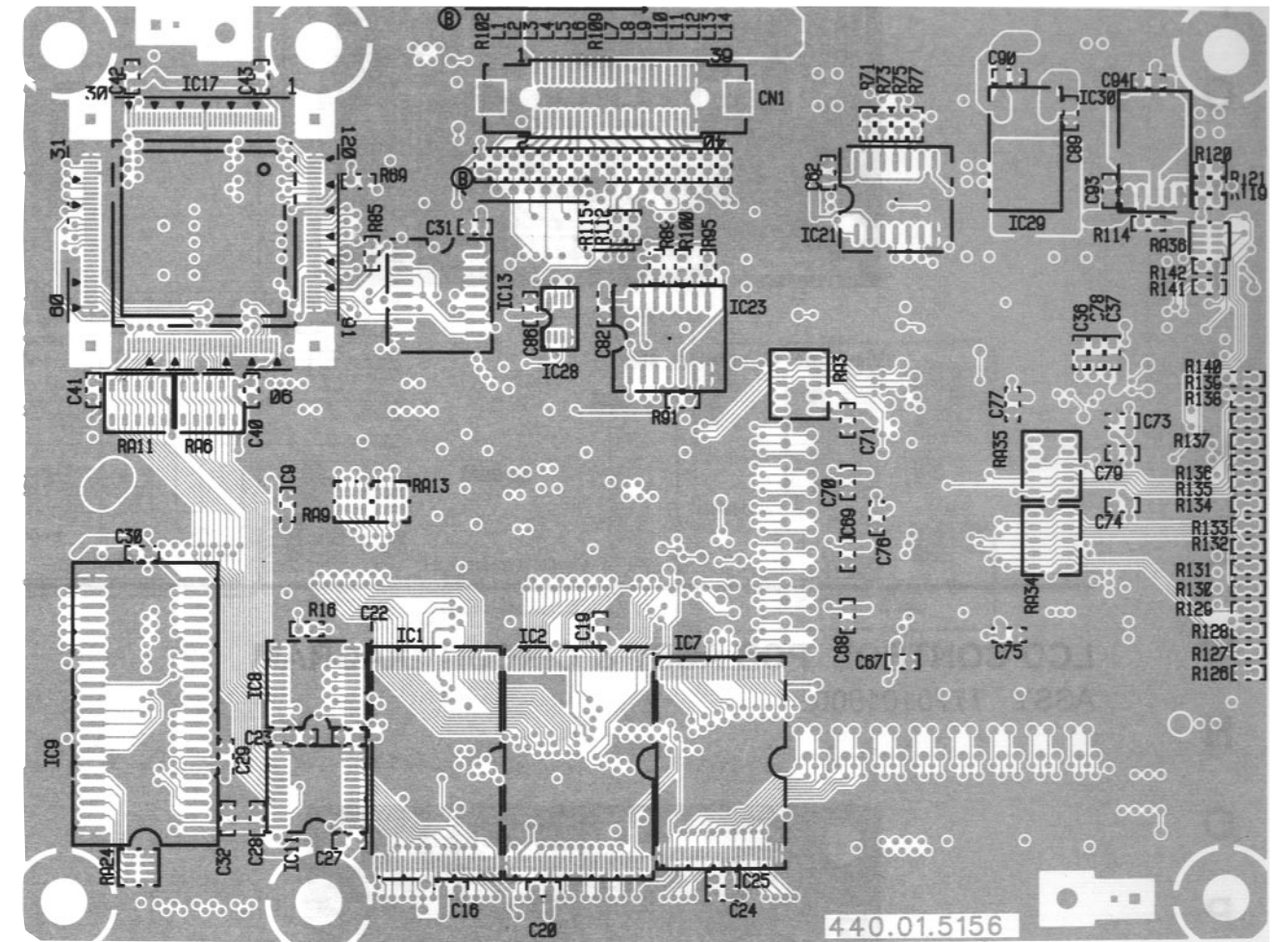
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30

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E VARIPHASE VE-VP1 PCB ASSY ASSY 7770112000



View from component side

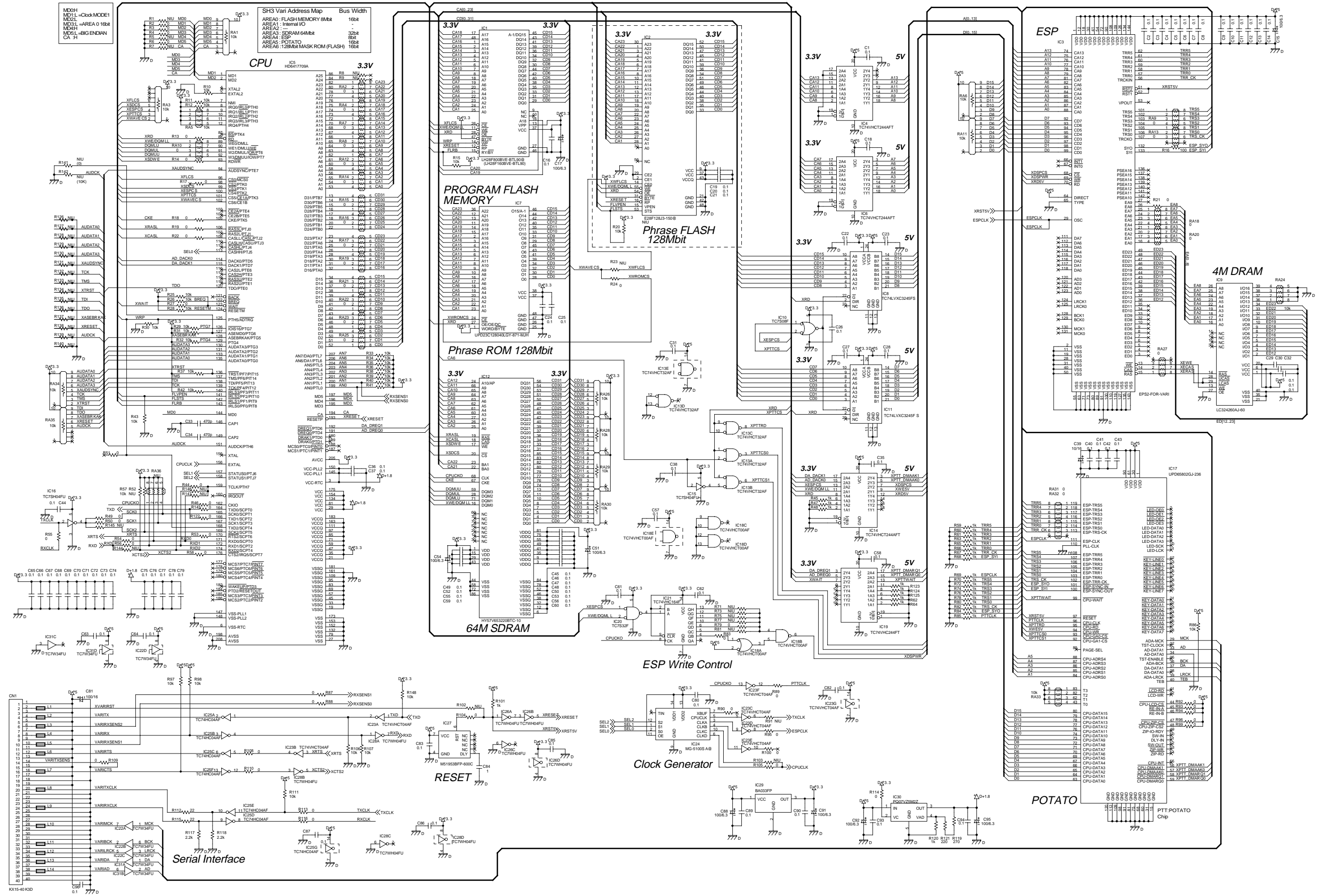


View from solder side

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 (VARIPHRASE VE-VP1 PCB ASSY)

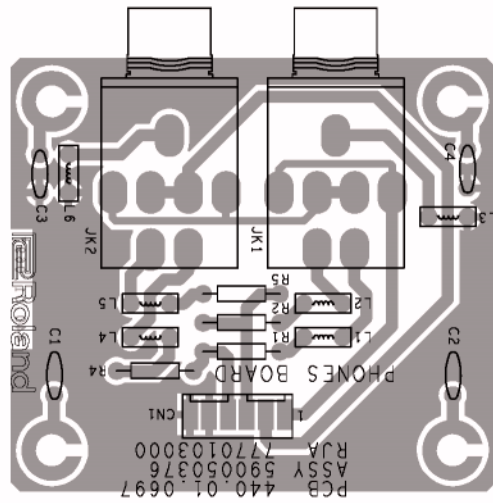


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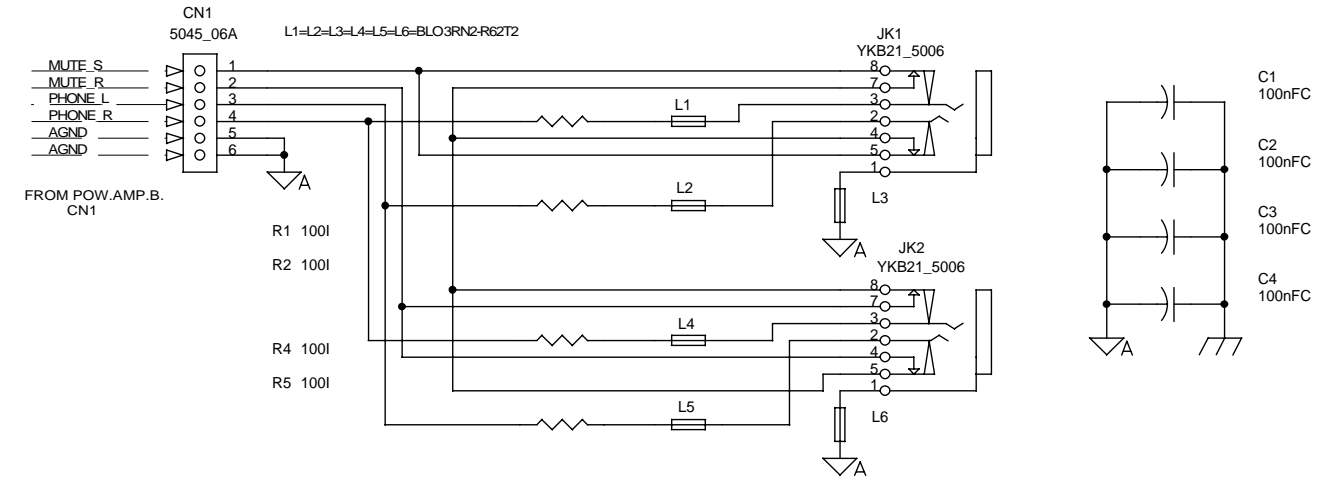
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PHONES PCB ASSY & CIRCUIT DIAGRAM

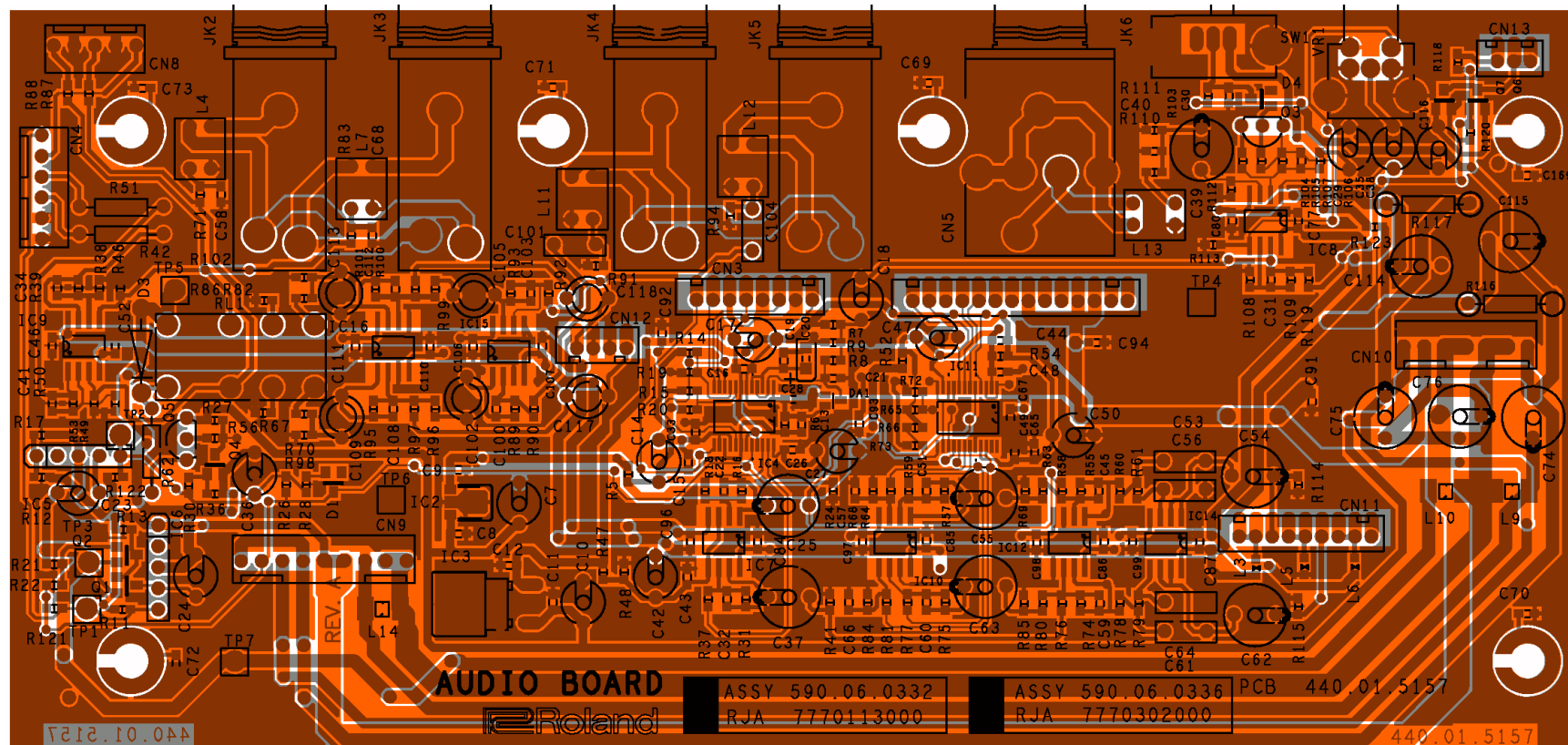
ASSY 7770103000



View from component side



AUDIO PCB ASSY ASSY 7770113000

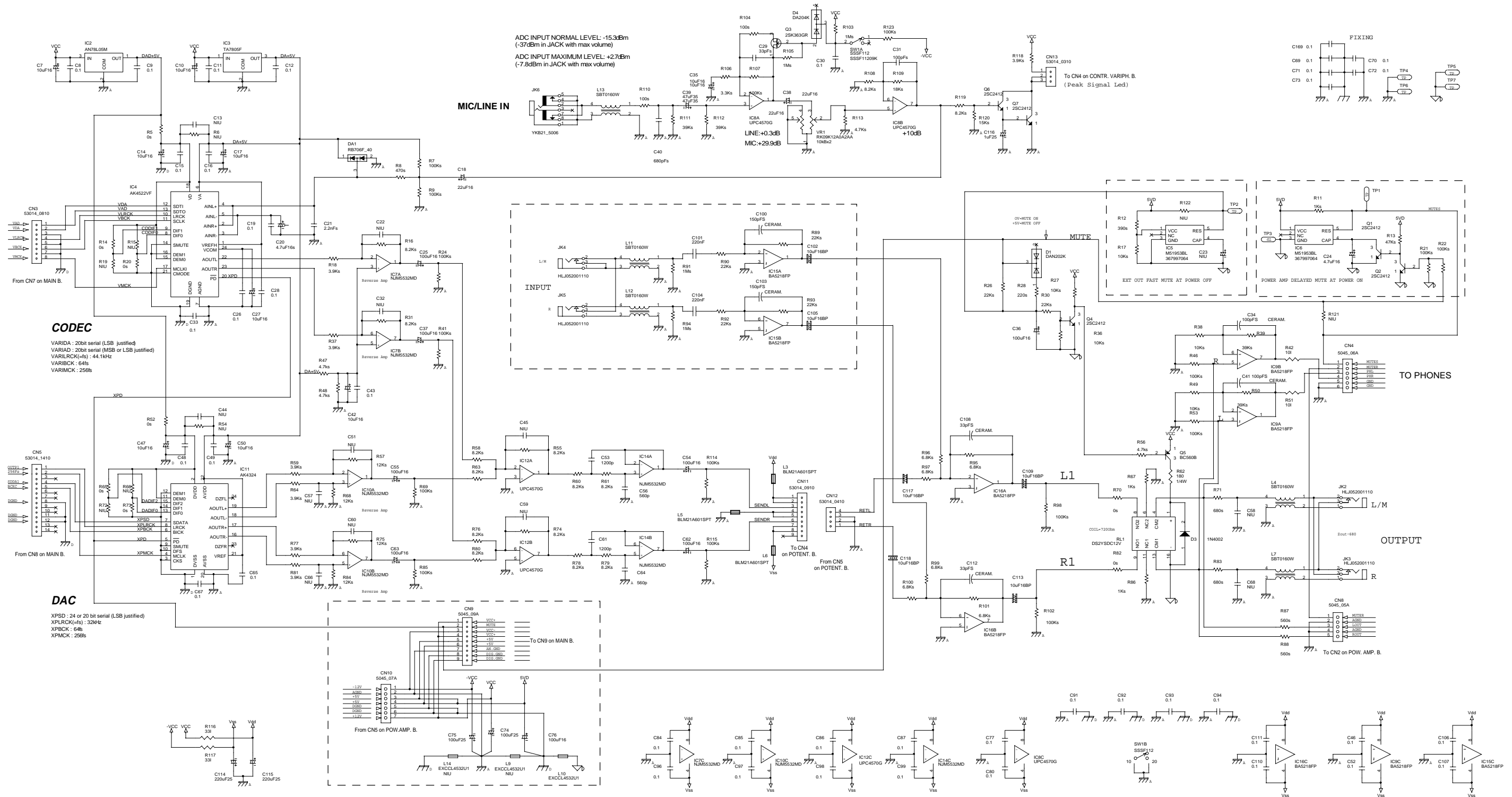


View from component side

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 (AUDIO PCB ASSY)

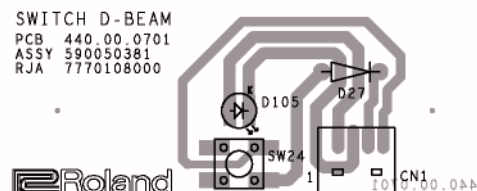


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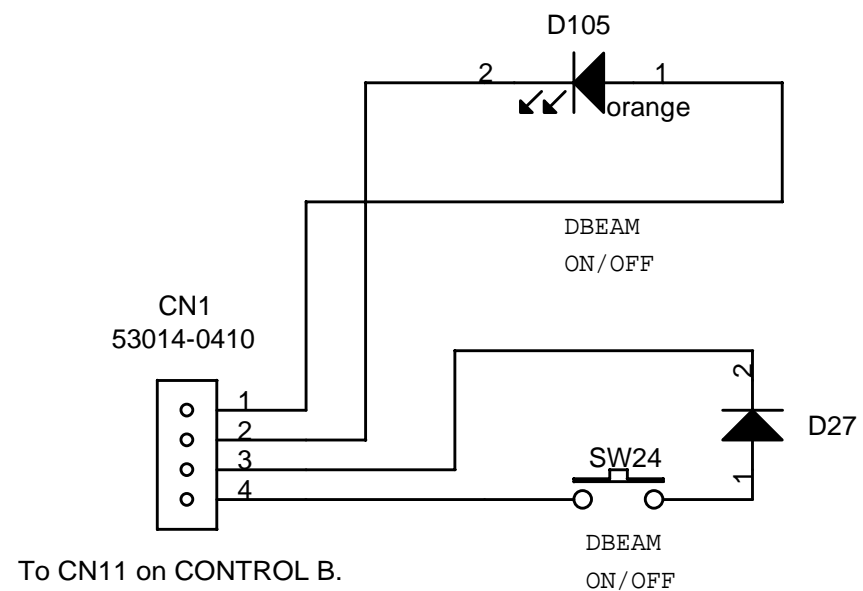
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SWITCH D-BEAM PCB ASSY& CIRCUIT DIAGRAM

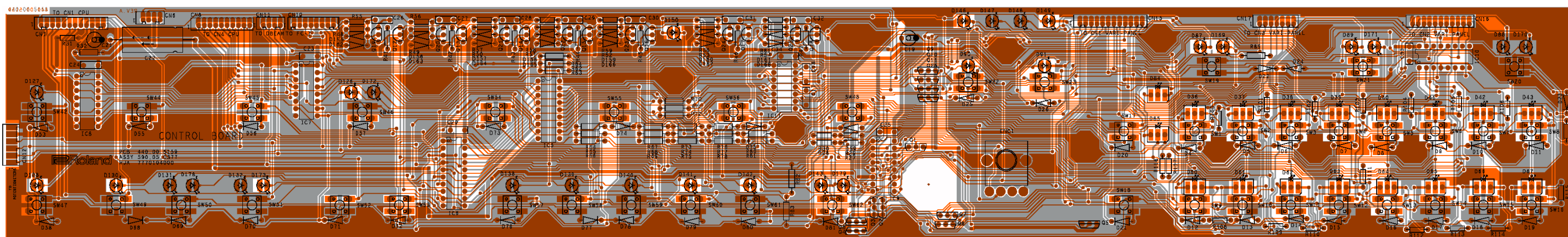
ASSY 7770108000



View from component side



CONTROL PCB ASSY ASSY 7770104000

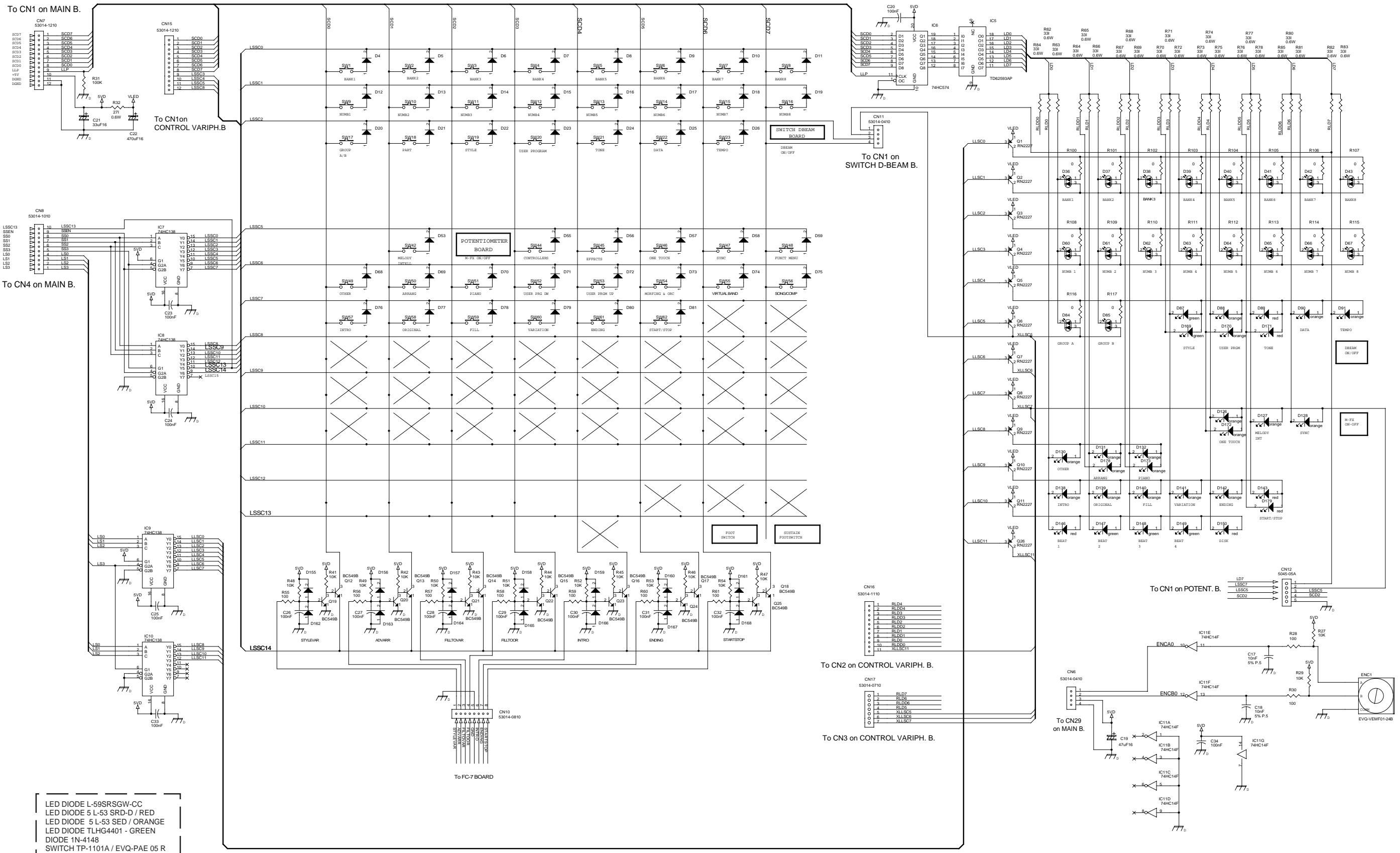


View from component side

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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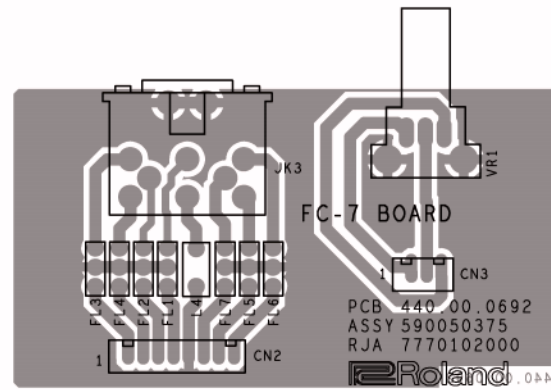
CIRCUIT DIAGRAM (CONTROL PCB ASSY)



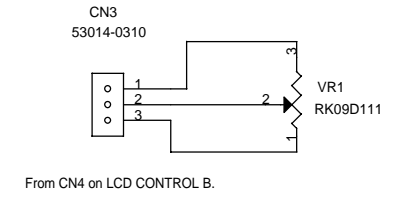
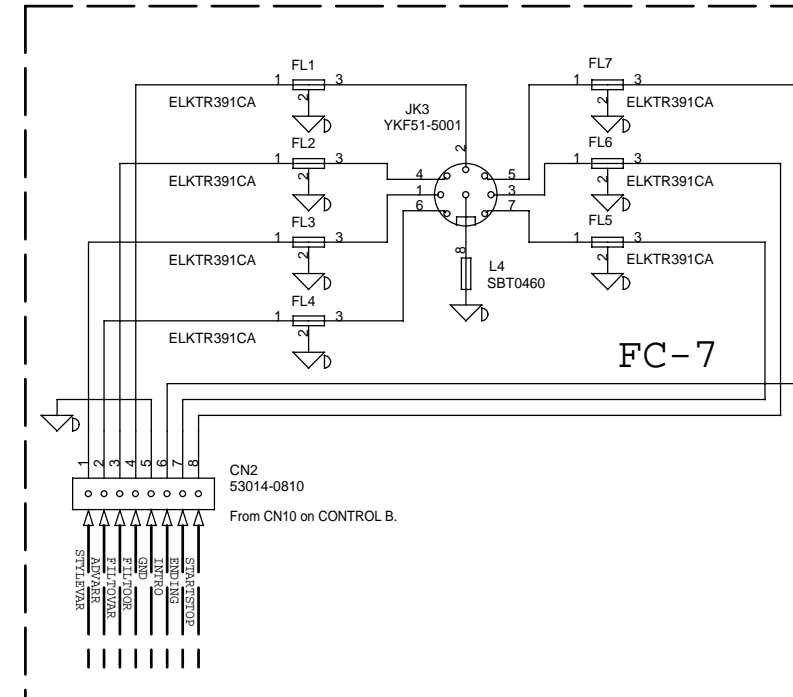
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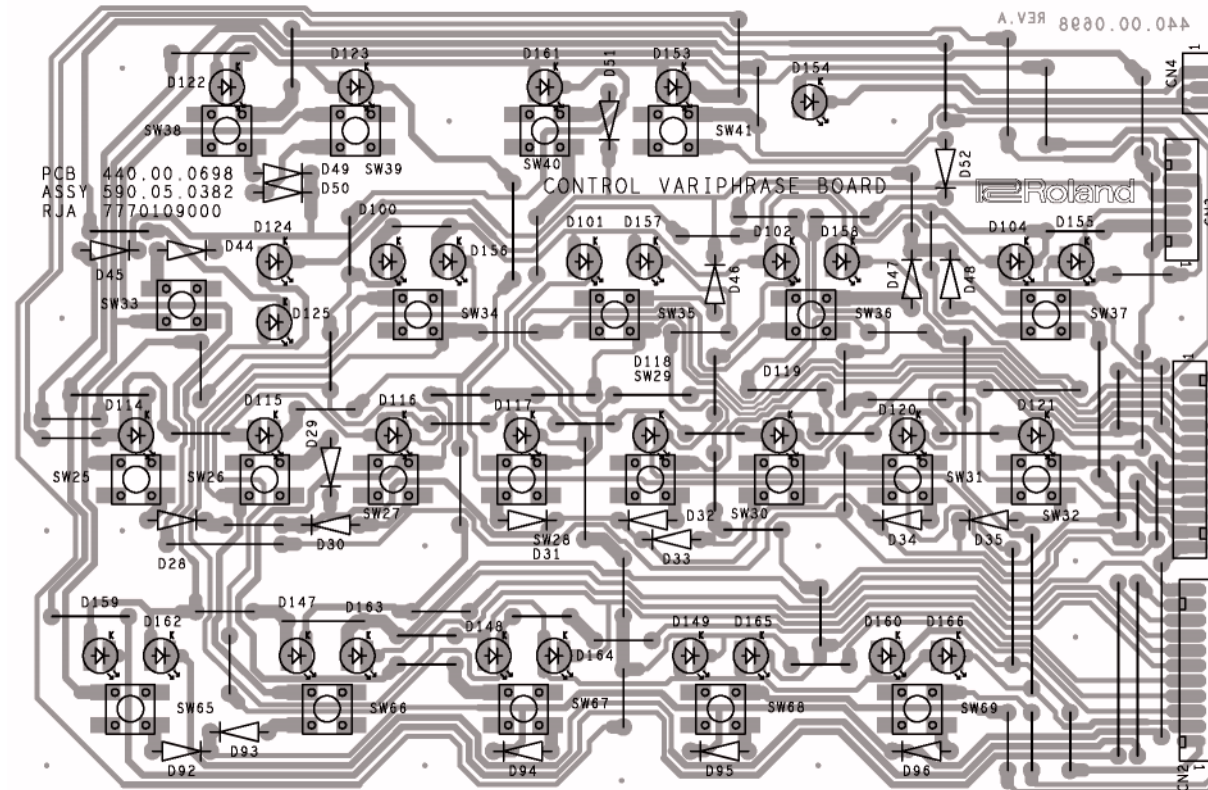
FC-7 PCB ASSY& CIRCUIT DIAGRAM
ASSY 7770102000



View from component side



CONTROL VE-VP1 PCB ASSY ASSY 7770109000

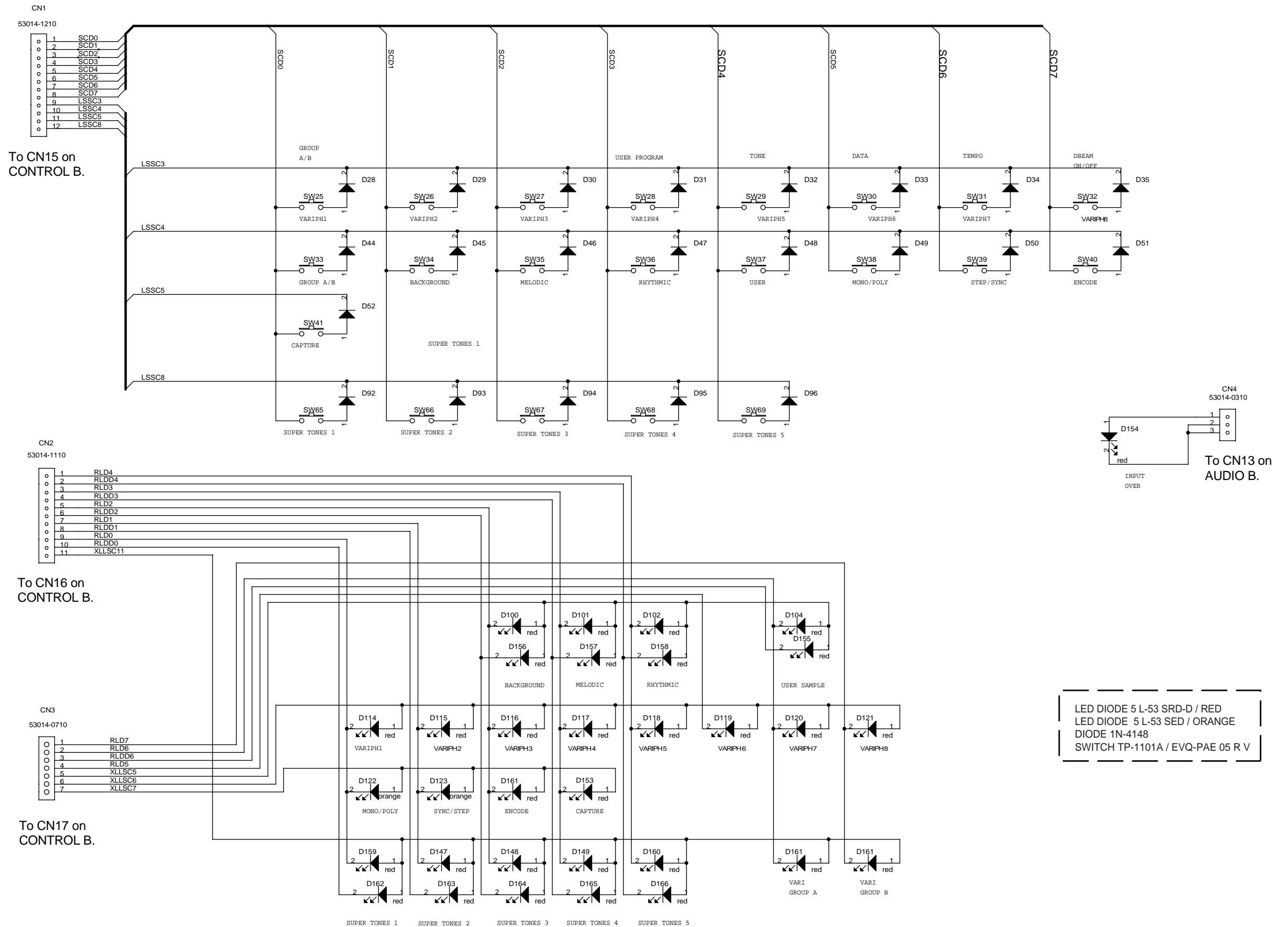


View from component side

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 VE-VP1 PCB ASSY)

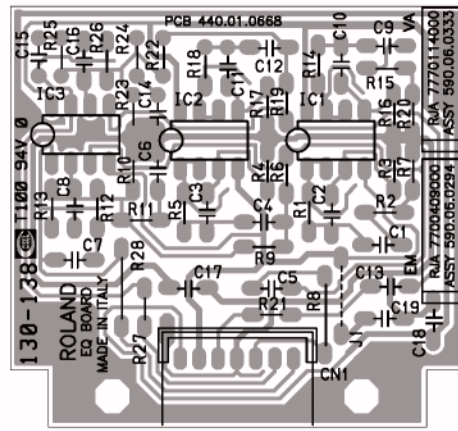


LED DIODE 5 L-53 SRD-D / RED
 LED DIODE 5 L-53 SED / ORANGE
 DIODE 1N-4148
 SWITCH TP-1101A / EVQ-PAE 05 R V

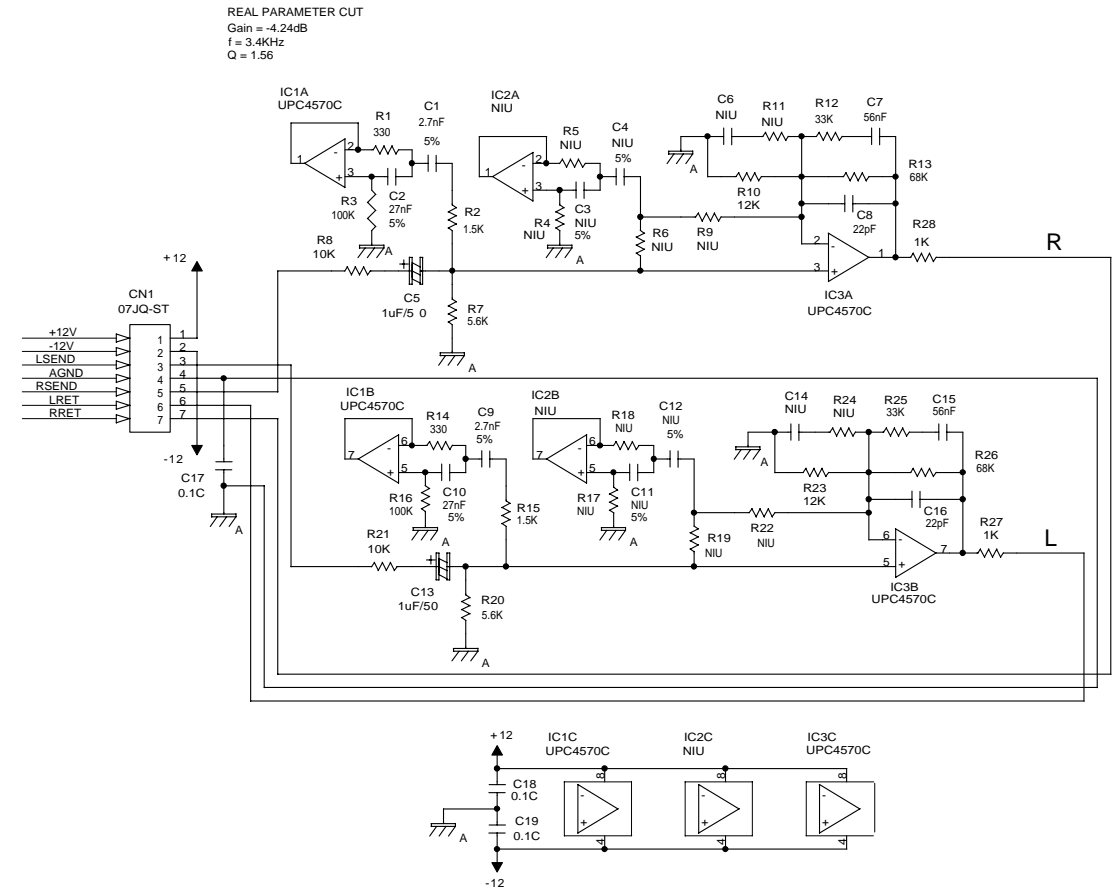
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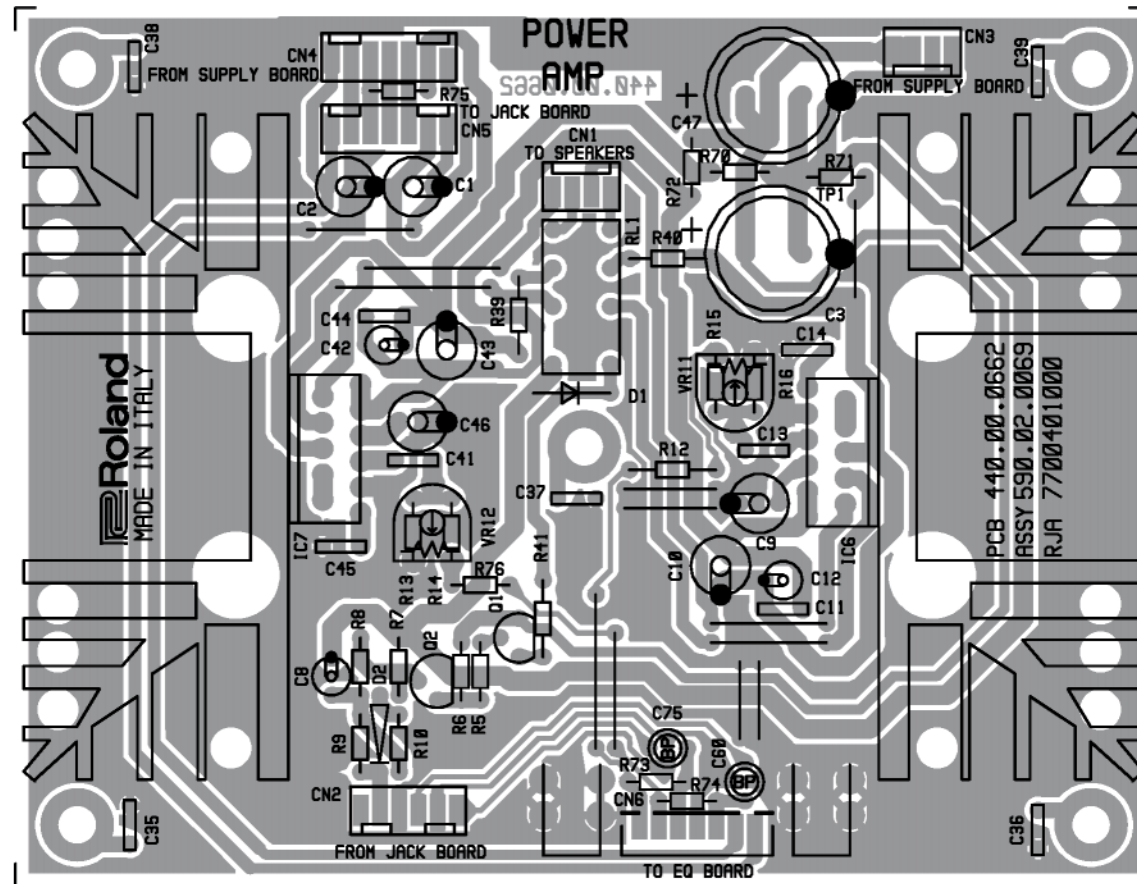
EQUALIZER PCB ASSY& CIRCUIT DIAGRAM
ASSY 7770114000



View from component side



AMPLIFIER PCB ASSY ASSY 7700401000

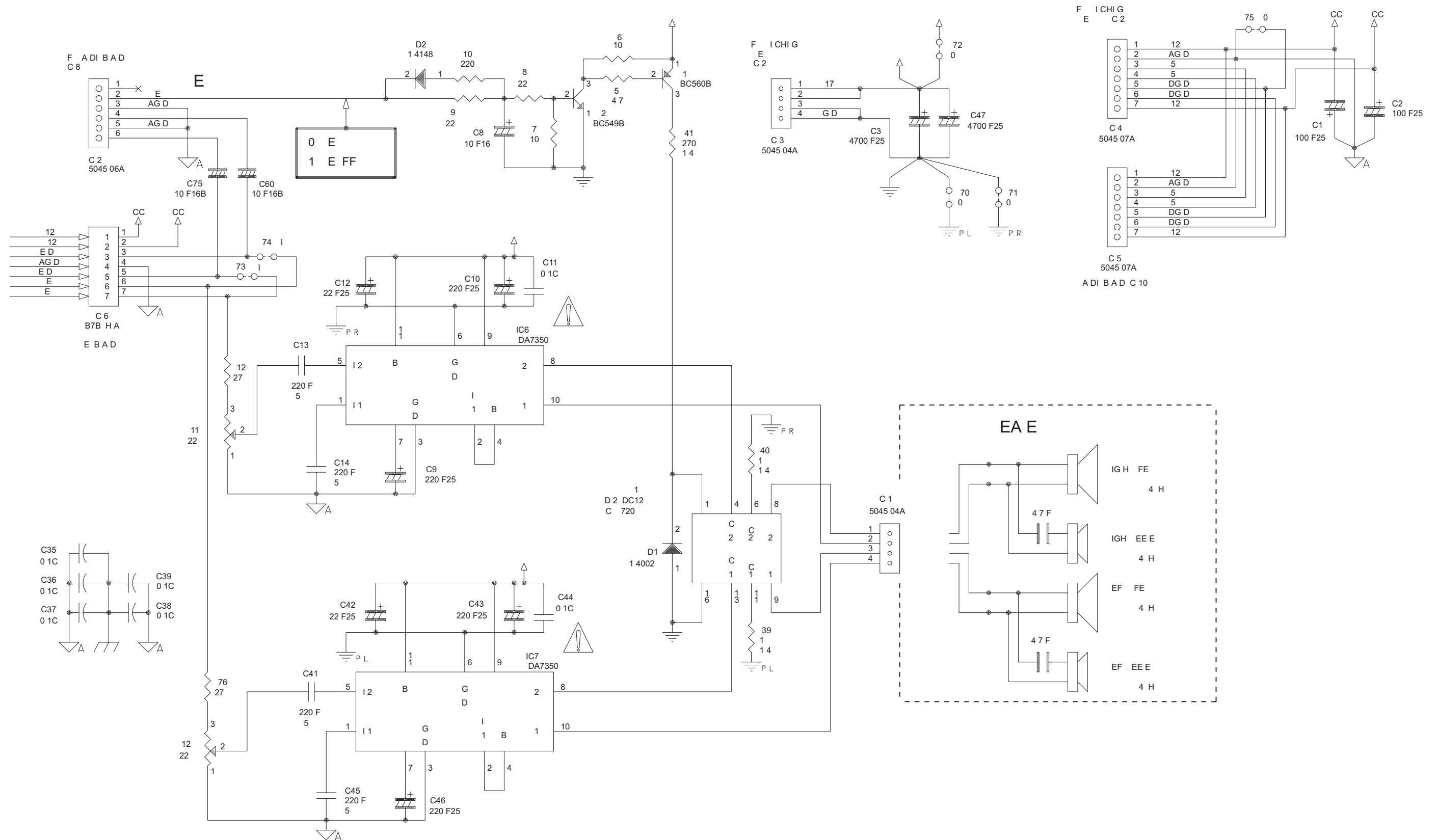


View from component side

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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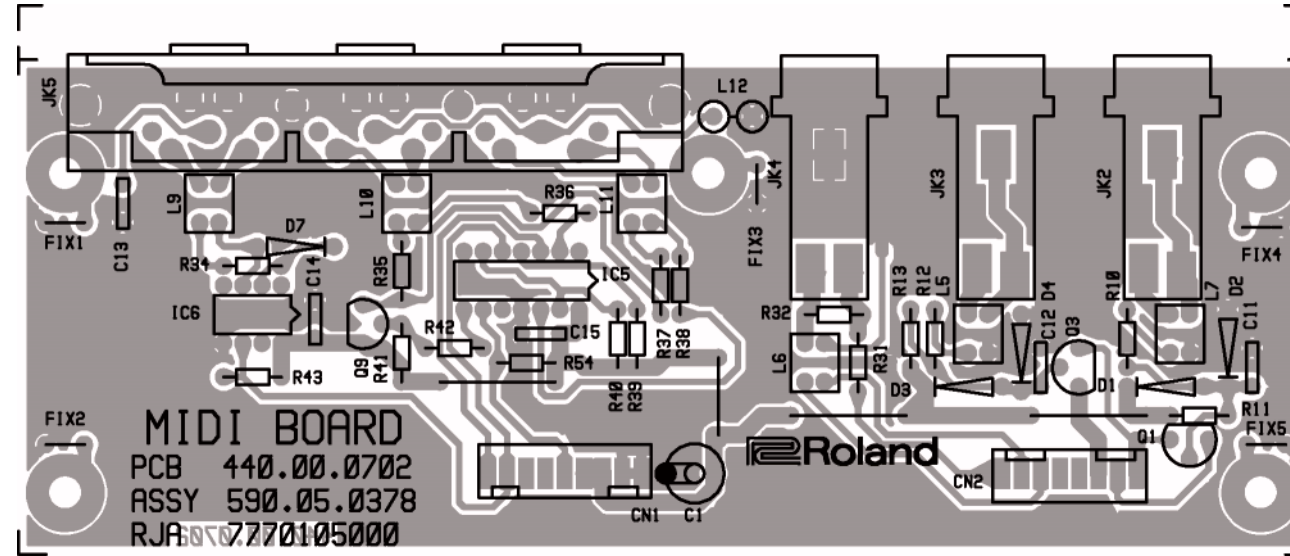
CIRCUIT DIAGRAM (AMPLIFIER PCB ASSY)



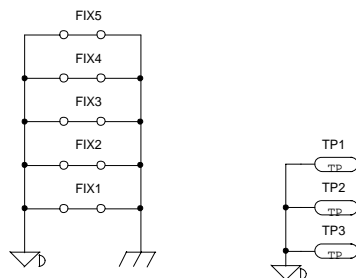
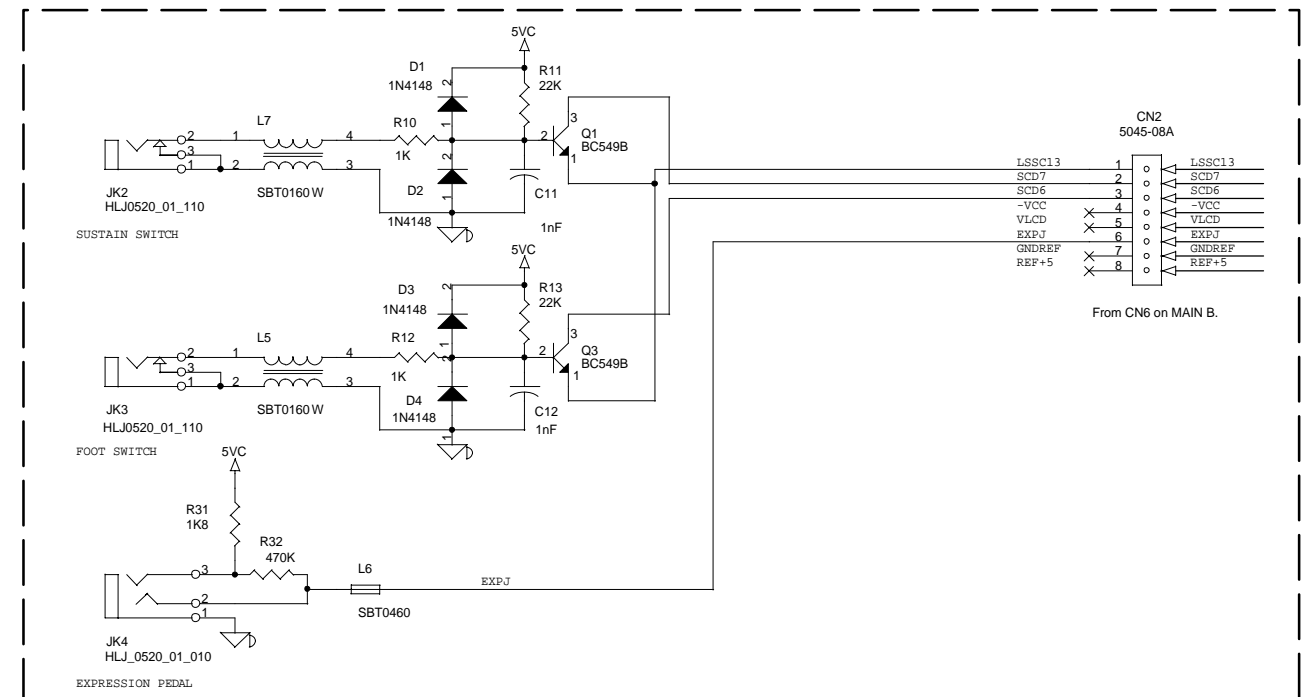
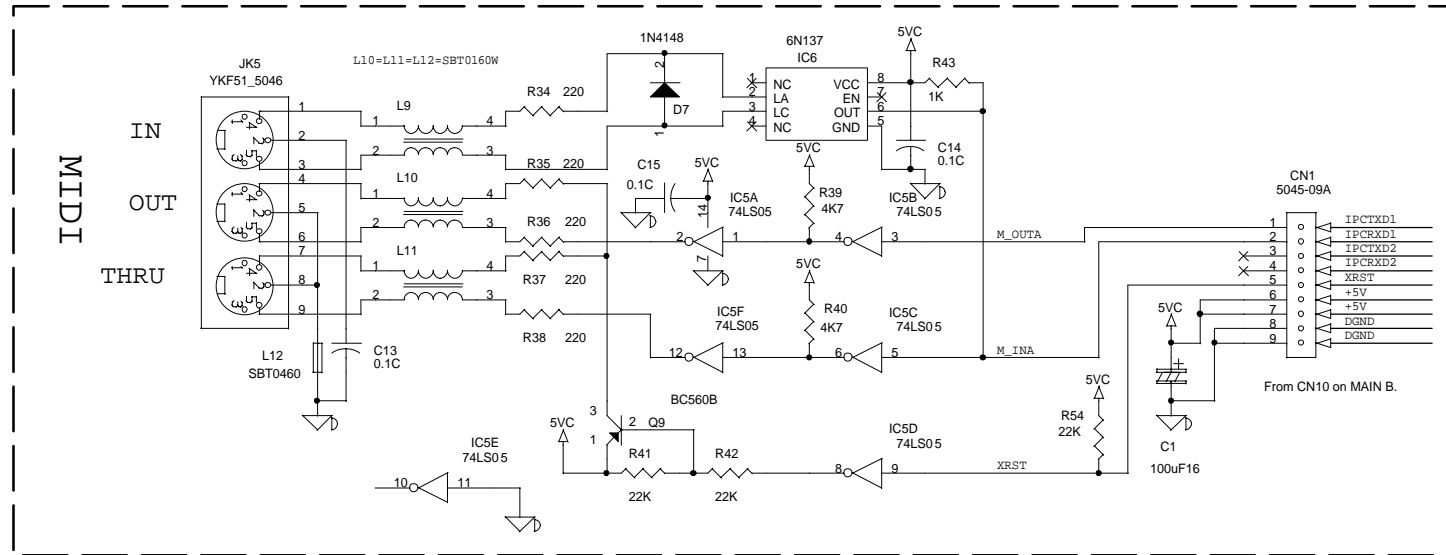
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MIDI PCB ASSY & CIRCUIT DIAGRAM
ASSY 7770105000



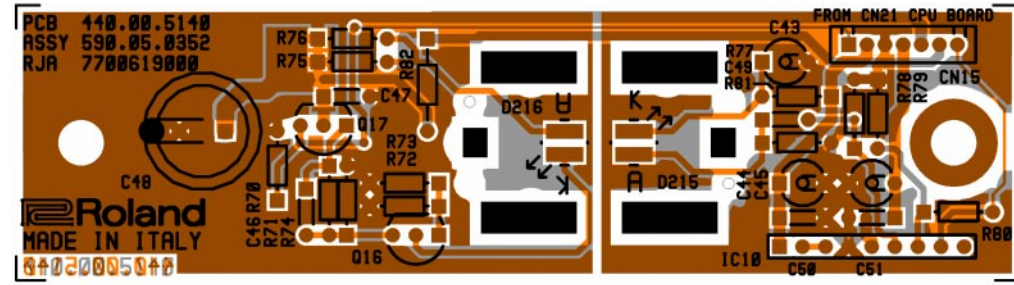
View from component side



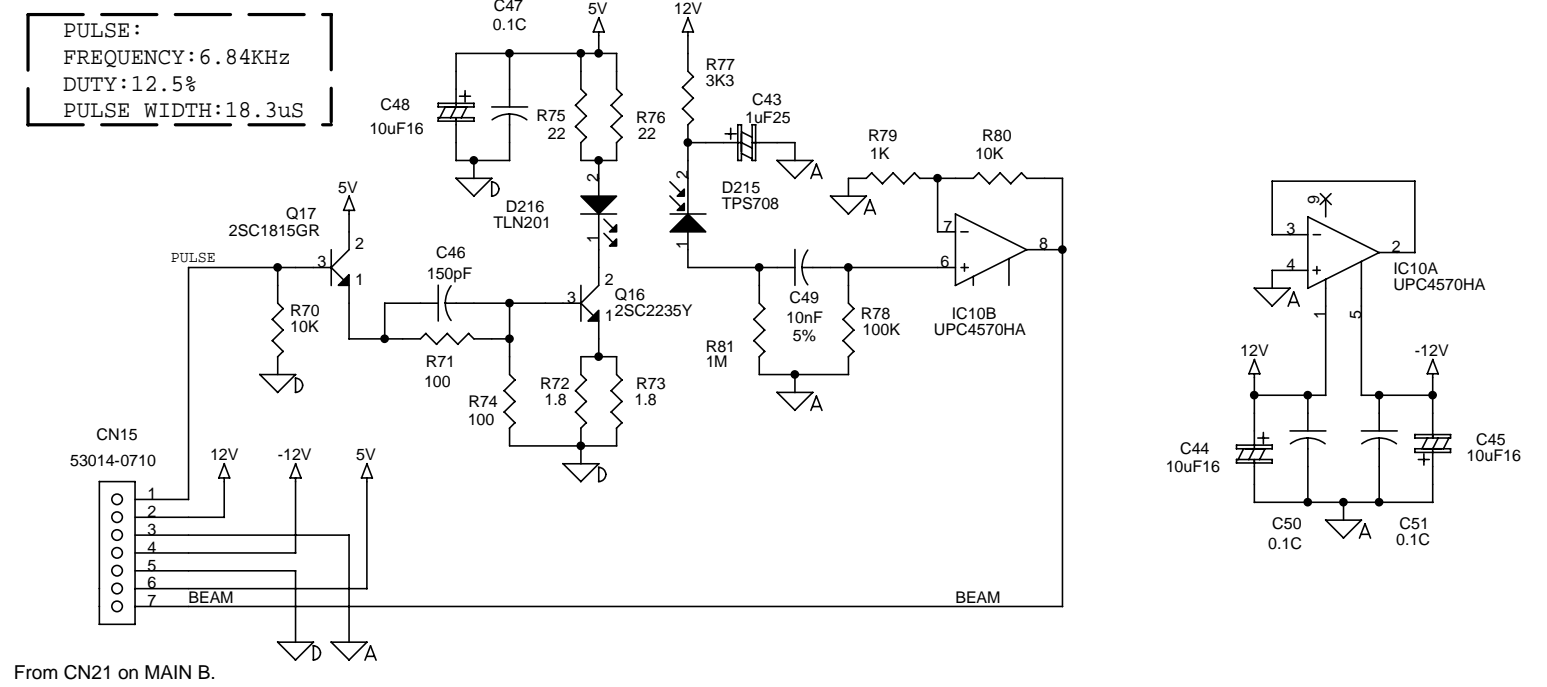
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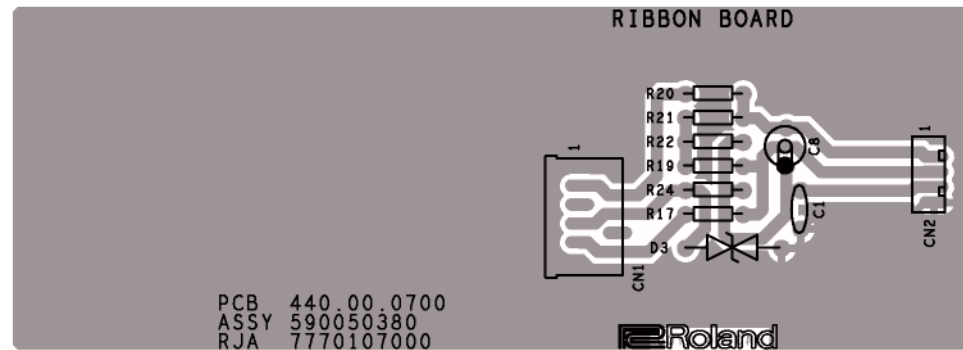
D-BEAM PCB ASSY & CIRCUIT DIAGRAM
ASSY 7700609000



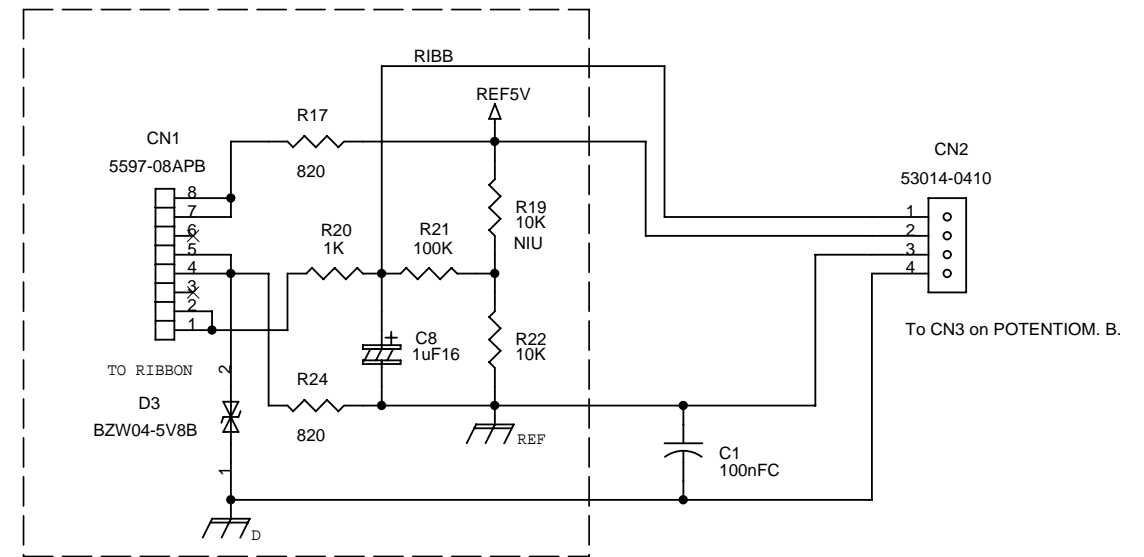
View from component side



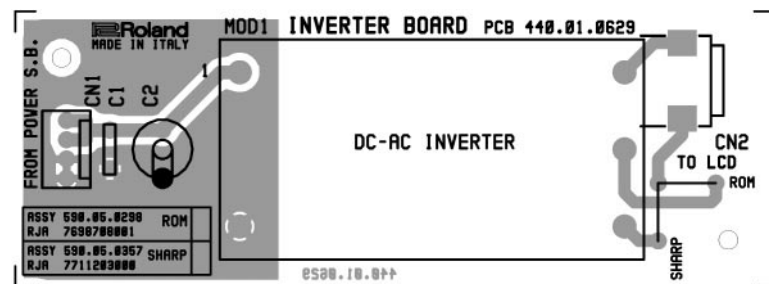
RIBBON PCB ASSY & CIRCUIT DIAGRAM
ASSY 7770107000



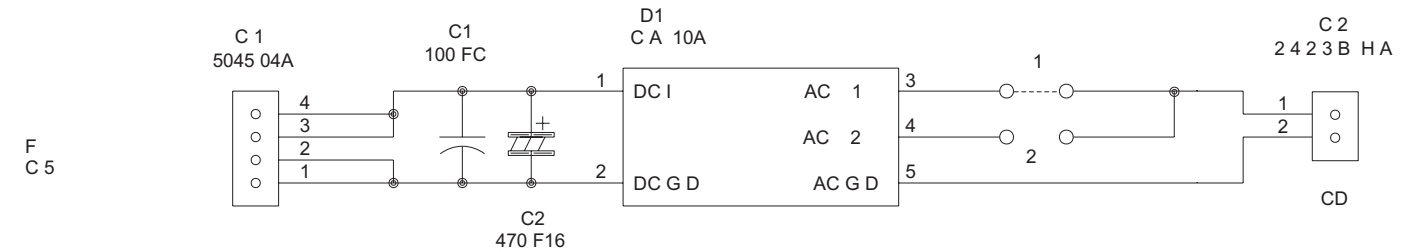
View from component side



INVERTER PCB ASSY & CIRCUIT DIAGRAM
ASSY 7711203000



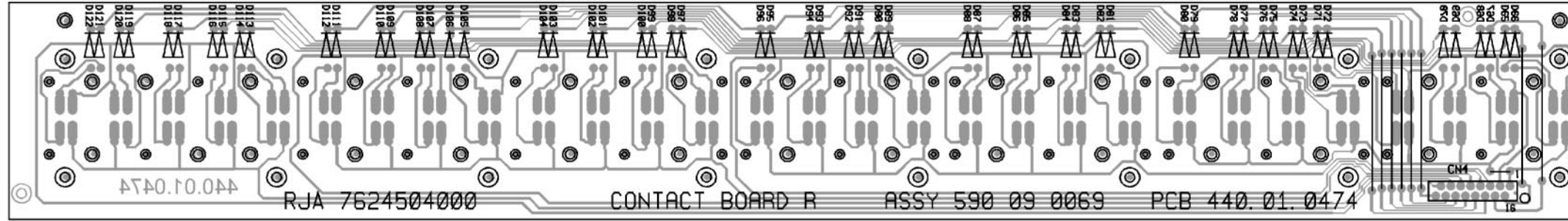
View from component side



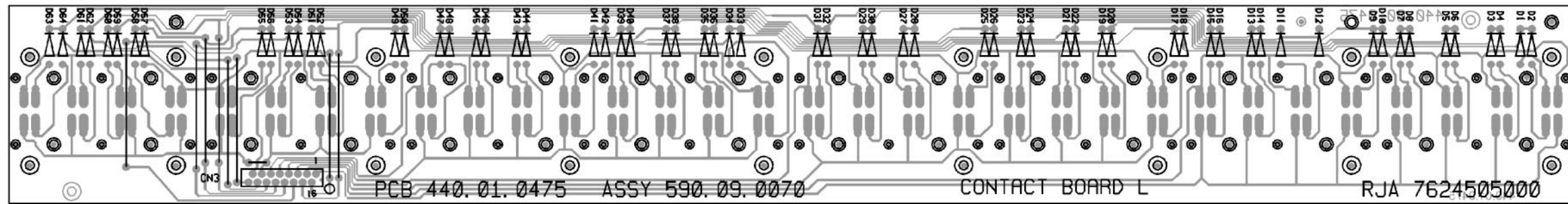
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30

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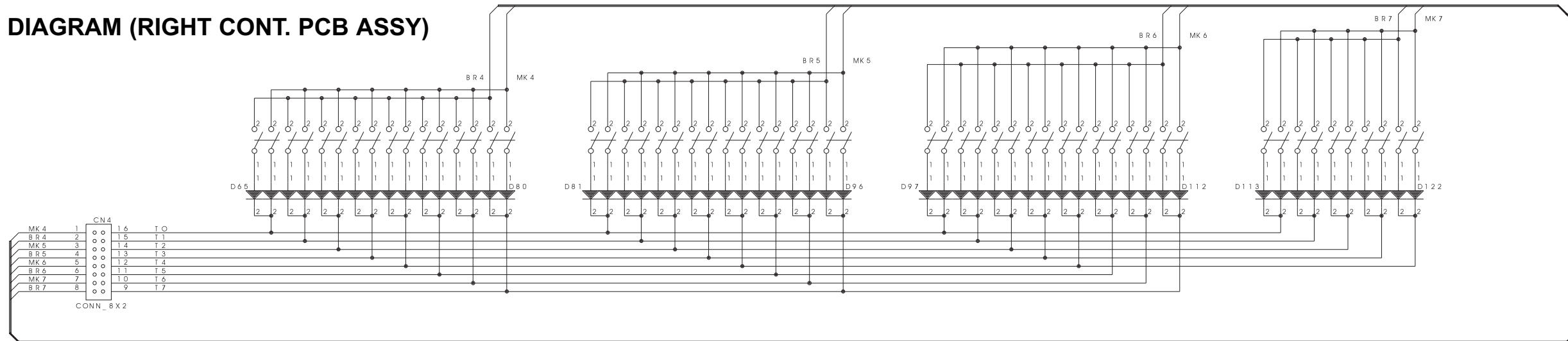
RIGHT CONTACT PCB ASSY w/RUBBER ASSY 7624504001



LEFT CONTACT PCB ASSY w/RUBBER ASSY 7624505001



CIRCUIT DIAGRAM (RIGHT CONT. PCB ASSY)



CIRCUIT DIAGRAM (LEFT CONT. PCB ASSY)

