

VA-5

V-ARRANGER KEYBOARD

SERVICE NOTES

First edition

Issued by RES

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ATTENTION: The VA-5 is different from VA-7 only in some details such as, Top cabinet, Keyboard assy
 In this manual we have only listed the differences between the two instruments.
 It is really necessary to refer to the VA-7 Service Notes for a deep knowledge of this instrument.

Specifications

Keyboard: 61 keys, synthesizer action, velocity-sensitive

Controllers: Tempo/Data dial, D Beam Controller, Bender/Modulation Lever, 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.

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 floppy disk, Disk User style (instant access to one Style on 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

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

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

Connections: Output (L/mono, Right), Input (L/mono, Right), 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

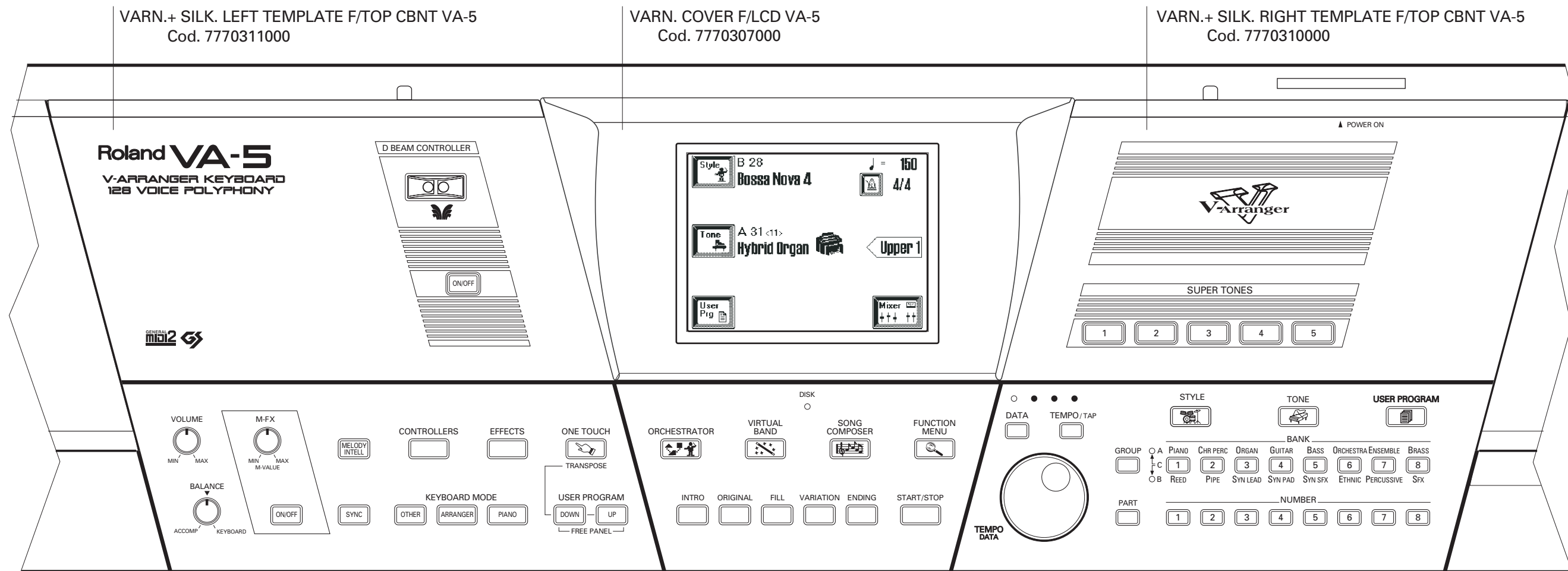
Weight: 15, 5 Kg

Accessories: See details on Parts List

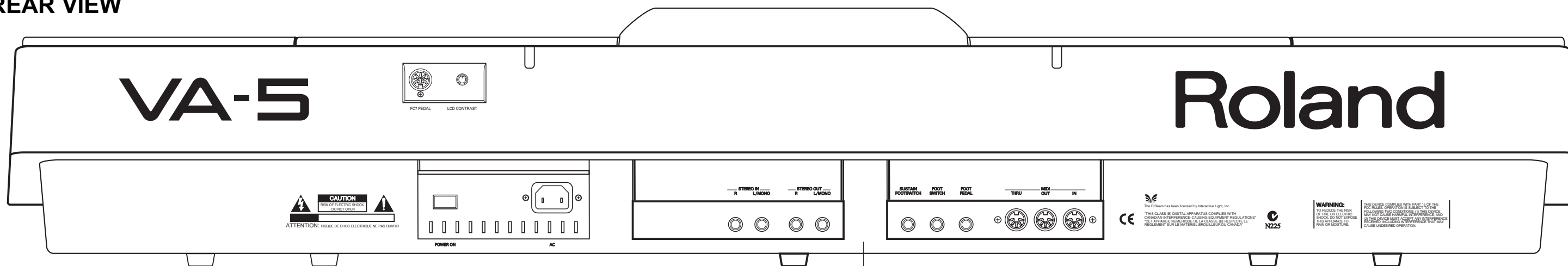
Options: PK-5 Dynamic MIDI Pedal, FC-7 Foot Controller, MSA/MSD/MSE series floppy disks (Roland & third-party), RH-25/50 Headphones, DP-2 Pedal switch, DP-6 Pedal switch (pino type), BOSS FS-5U Foot Switch, EV-5 Expression pedal, BOSS FV-300L Foot Volume/Expression pedal, KC-100/300/500 Keyboard Amplifiers



LOCATION OF CONTROLS

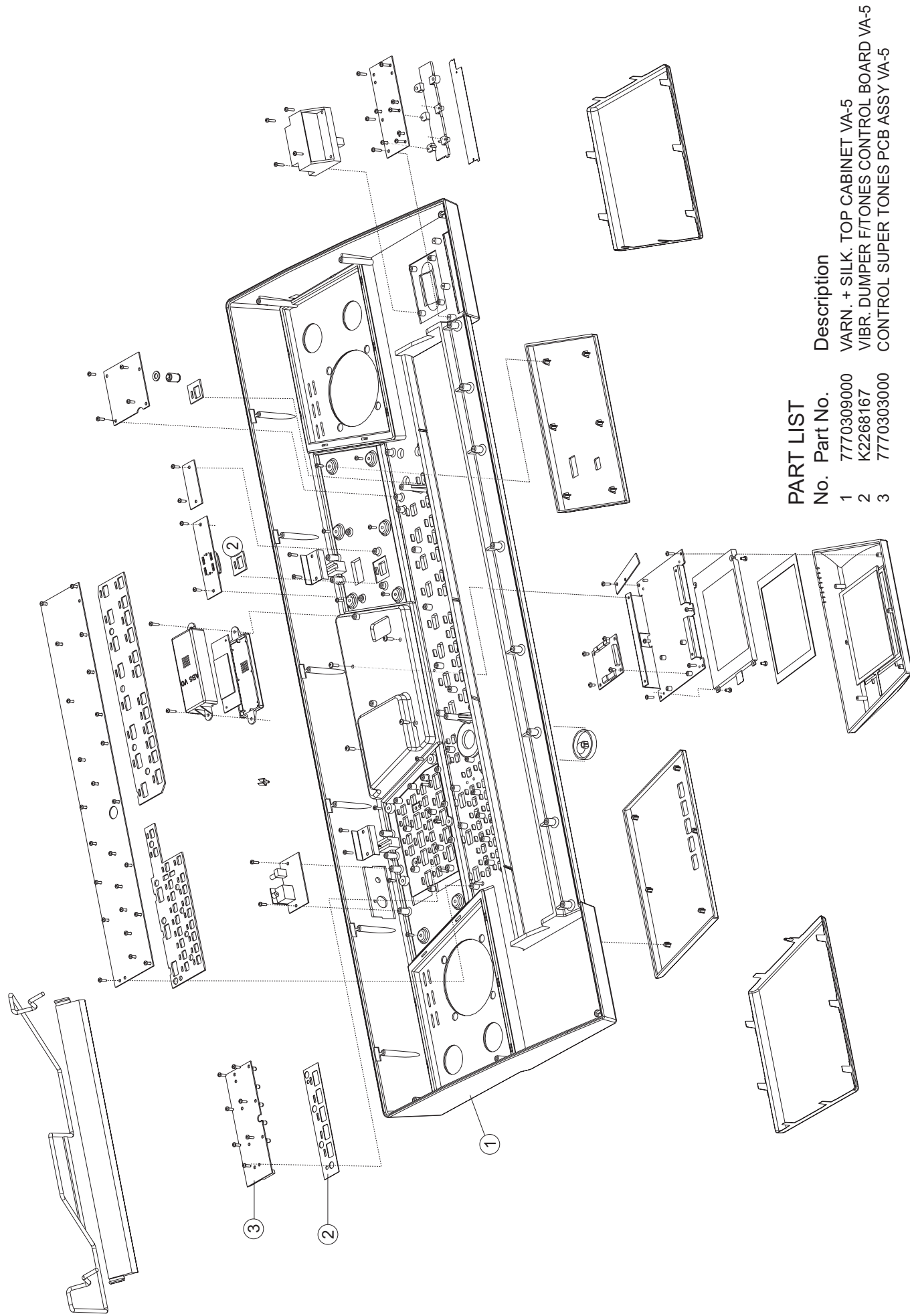


REAR VIEW



VARN.+ SILK. CONDUCTIVE BOTTOM CBNT VA-5
Cod. 7770308000

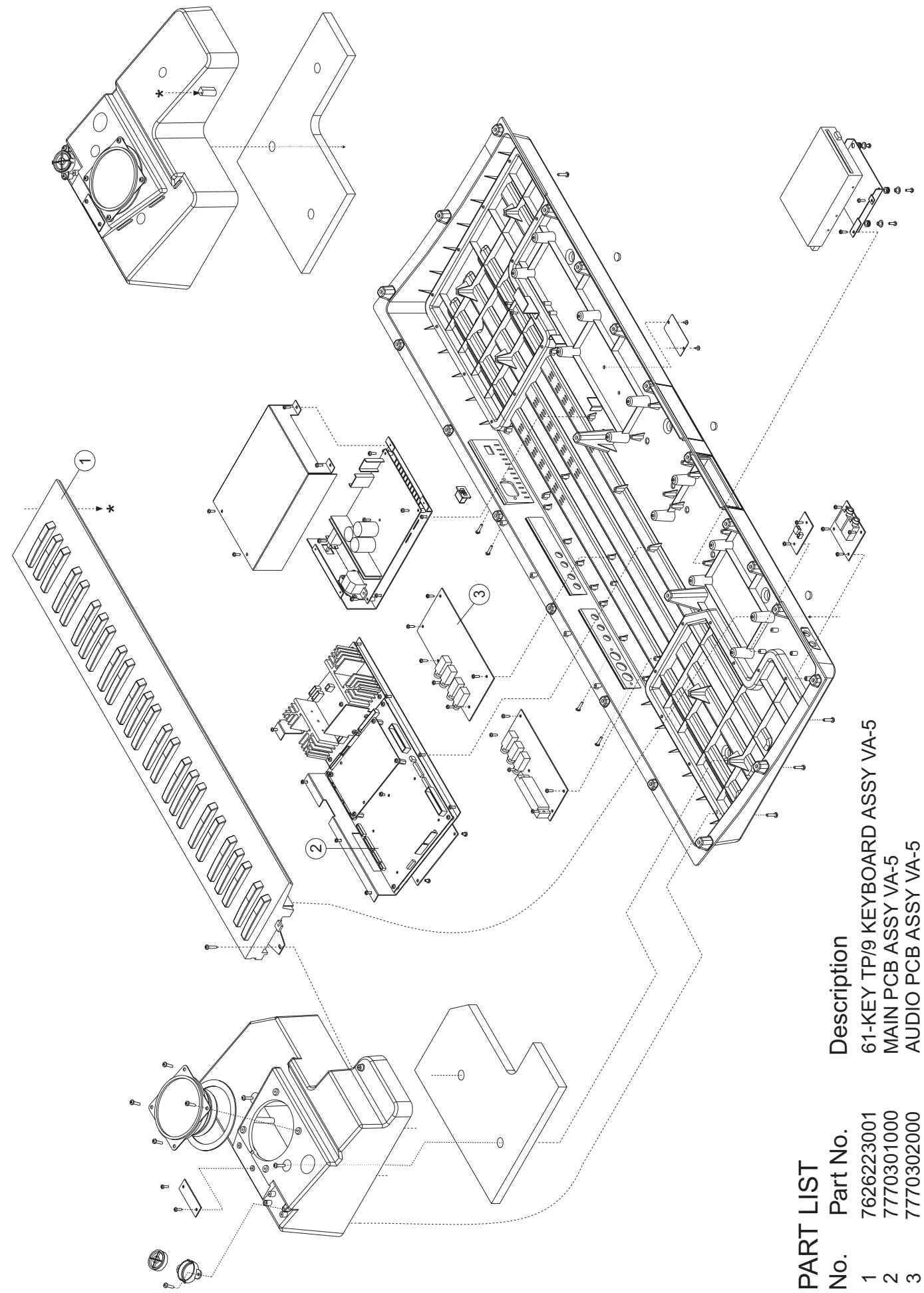
EXPLODED VIEW (TOP)



PART LIST

No.	Part No.	Description
1	7770309000	VARN + SILK TOP CABINET VA-5
2	K2268167	VIBR. DUMPER FITONES CONTROL BOARD VA-5
3	7770303000	CONTROL SUPER TONES PCB ASSY VA-5

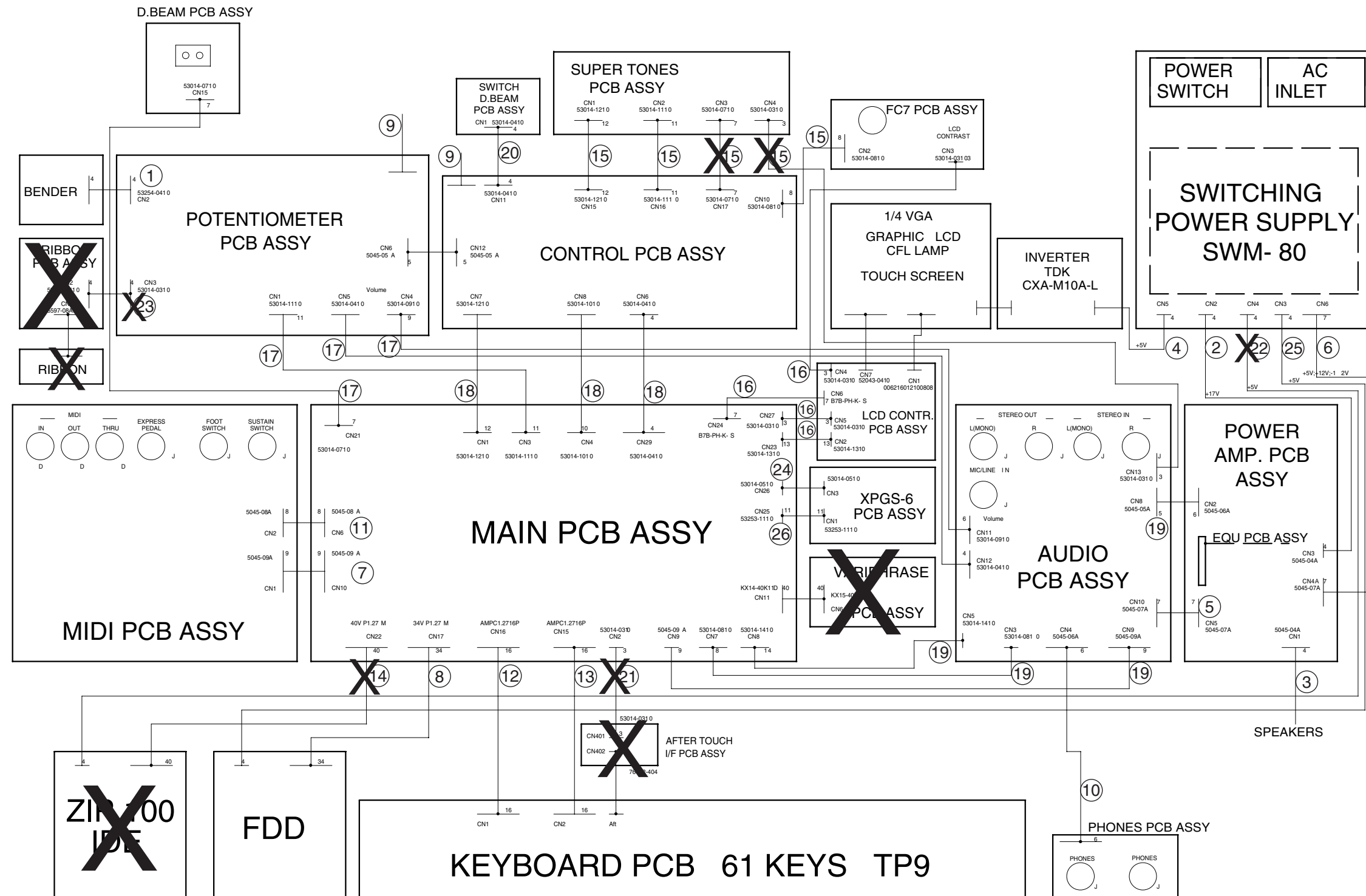
EXPLODED VIEW (BOTTOM)



PART LIST

No.	Part No.	Description
1	762623001	61-KEY TP/9 KEYBOARD ASSY VA-5
2	7770301000	MAIN PCB ASSY VA-5
3	7770302000	AUDIO PCB ASSY VA-5

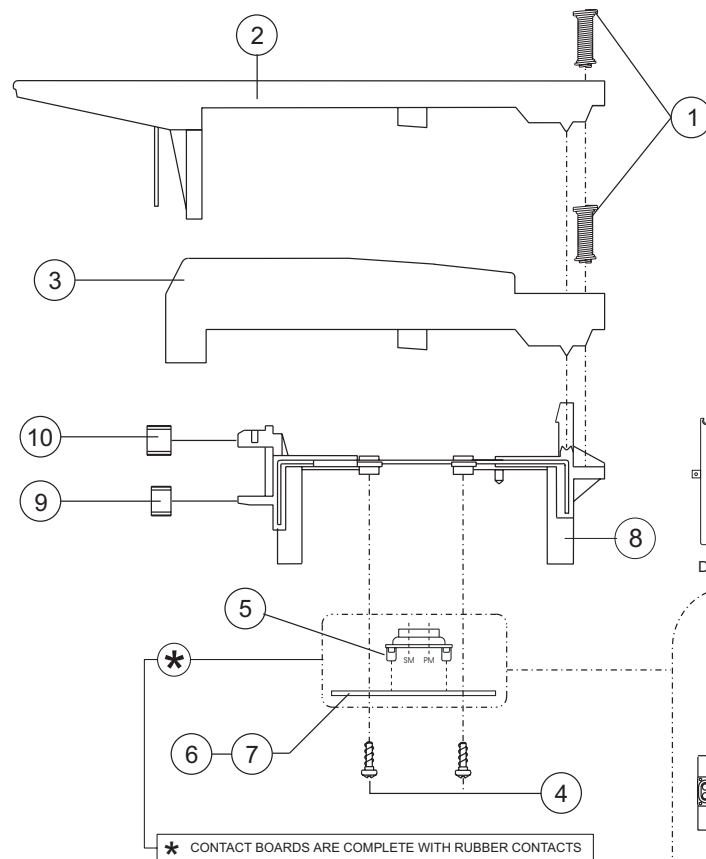
WIRING DIAGRAM



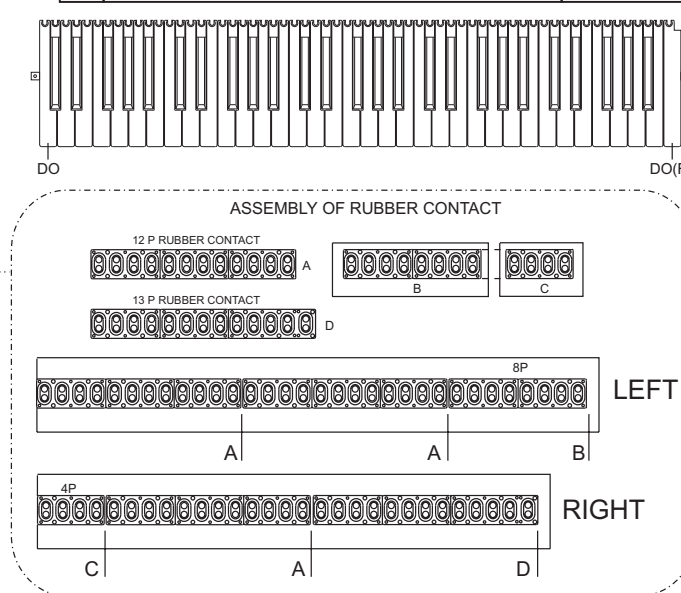
NOTE: All the parts indicated with **X** do not exist on VA-5, but on VA-7 only.

1	00783234	BENDER CABLE (35) (W4PC P.2)	10	7697212001	6P CABLE (64) -2C	19	7770305000	WIRING ASSY (W/3 CABLE ASSY) # NEW
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 (Only for VA-7)
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 (Only for VA-7)
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 (Only for VA-7)
6	K3468219	7P CABLE (32) -2C D/R	15	7770304000	WIRING ASSY (W/3 CABLE ASSY) # NEW	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 TP9 KEYBOARD ASSY
code 7626223001



No.	PARTS NAME	CODE
1	KEY SPRING	22178233
2	NATURAL KEY C5 DO	22578319
	NATURAL KEY D6 RE	22578328
	NATURAL KEY E7 MI	22578329
	NATURAL KEY F1 FA	22578330
	NATURAL KEY G2 SOL	22578331
	NATURAL KEY A3 LA	22578332
2	NATURAL KEY B4 SI	22578333
	NATURAL KEY C8 DO (F)	22578334
3	SHARP KEY	22578335
4	SELF TAP SCREW 2.9x10 TC TC PR TROP	J2289125
5	12P RUBBER CONTACT	2218523801
	13P RUBBER CONTACT	2218523901
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



PARTS LIST VA-5 (100V/117V/230V/230VE/240VA)

SAFETY PRECAUTIONS :		CONSIDERATION ON PARTS ORDERING	
The parts marked have safety-related characteristics. Use only listed parts for replacement.		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
		15	2247017300
		Sharp Key	C-20/50
		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.

CASING				Q.ty
#	7770307000	VARN. COVER F/LCD	VA-5	1
#	7770308000	VARN.+SILK.CONDUCTIVE BOTTOM CBNT	VA-5	1
#	7770309000	VARN.+SILK. TOP CBNT	VA-5	1
#	7770310000	VARN.+S. RIGHT TEMPLATE F/TOP CBNT	VA-5	1
#	7770311000	VARN.+S. LEFT TEMPLATE F/TOP CBNT	VA-5	1

KEYBOARD ASSY				Q.ty
#	7626223001	61-KEY TP/9 KEYBOARD ASSY		1
Note: If you have to use this keyboard on VA-5, you have to order the following parts together with the keyboard itself:				
#	K2158108	SUPPORT F/GROUND		1
#	K2138113	SUPPORT F/KEYBOARD POSITIONING		1
	J2289125	SELF TAP SCREW 2.9x10 TC TC PR TROP		2
	J2289101	SELF TAP.SCREW 2.9X 6 TC TC		1

PCB ASSY				Q.ty
#	7770301000	MAIN PCB ASSY	VA-5	1
#	7770302000	AUDIO PCB ASSY	VA-5	1
#	7770303000	CONTROL SUPER TONES PCB ASSY	VA-5	1

WIRING, CABLE				Q.ty
#	7770304000	WIRING ASSY (W -3 CBL ASSY)	VA-5	1
#	7770305000	WIRING ASSY (W -3 CABLE ASSY)	VA-5	1
#	7770306000	5P CABLE (8) -2C P.2 D/R	VA-5	1

PACKING				Q.ty
#	K2618236	OUTER PACKING	VA-5	1

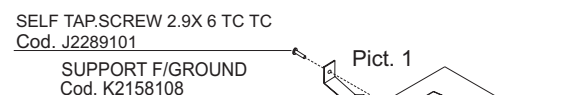
MISCELLANEOUS				Q.ty
#	K2268167	VIBR. DUMPER F/TONES CONTROL BOARD	VA-5	1

ACCESSORIES				Q.ty
#	K2378118	USER PROGRAM/STYLES DISK	VA-5	1
#	K2378119	DEMO/STYLES DISK	VA-5	1

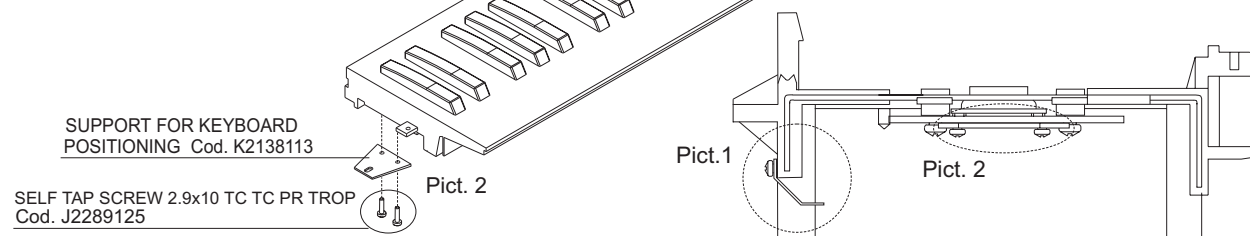
CAUTION:

When you replace the keyboard on VA-5, please remember to modify it as shown in pictures 1 and 2, using the items below, that you have to order together with the keyboard itself (see Parts List VA-5/Keyboard Assy).

Pict. 1:
 Remove the copper strip placed on the back of the keyboard you have received as replacement part.
 Mount the SUPPORT F/GROUND (K2158108) at its place, using the SELF TAP.SCREW 2.9X 6 TC TC (J2289101)



Pict. 2:
 Mount the SUPPORT F/KEYBOARD POSITIONING (K2138113) on the left side of the keyboard, using the SELF TAP SCREW 2.9x10 TC TC PR TROP (J2289125)



HOW TO SAVE - HOW TO VERSION UP

Since VA-5 has a flash memory for the System program registration, you can update:
-the System program or the test program by floppy disks

Item Required

VA-5 System Program up disk (code: 7770313000)
VA-7/5 Test program disk (code: 7770134000)

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-5 Test program disk**" you've been provided with.

WARNING:

Loading the Test Program causes the System Program of your VA-5 to be lost. Therefore every time you want to carry out some checks in your VA-5 and consequently have to install the related Test Program, **we strongly recommend** you to make a back-up copy of your VA-5 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 -5   Virtual Arranger

Ver. XX.XX
Day  Month  Day no.  Time  Year
CPU Bios Version: Ver. XX.XX
Flash : xxxxxxxx Size : xxxxxxxx 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-5 System program up disk code 7770313000) or the Test program (VA-7/5 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.

TEST MODE

After loading the Test program, turn the instrument on while keeping the [BANK/ 5] button pressed.

When the display shows: MODEL SELECTION, press [BANK/2] button.

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

```
VA-7/5 test Ver. x x . x x
-BANK-          -NUMBER-
1 Switch        1 Flash
2 Encoder       2 Rom Style
3 Adc           3 Ram
4 Lcd           4 Free
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-5 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-5 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-5 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-5 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-5 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-5 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:

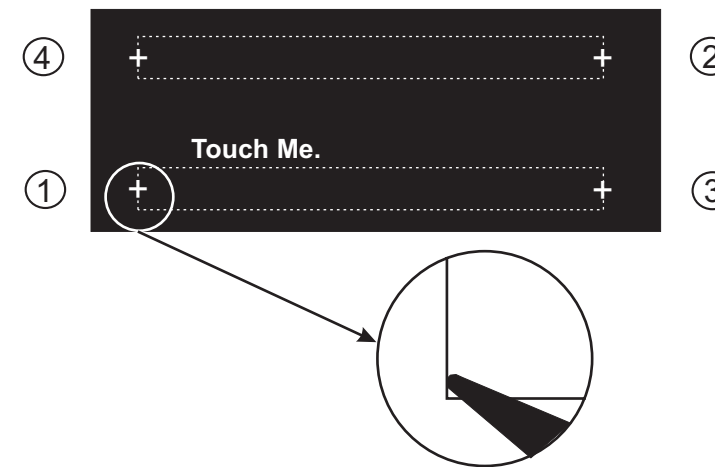
VA-5 TOUCH SCREEN TEST
BANK1 - calibrate
BANK2 - touch X, Touch Y test
Press BANK5 to exit

• **BANK1 - calibrate**

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

VA-5 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-5 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-5 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-5 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 Menu, 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. Free

5. FDD Test

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

VA-5 FDD TEST

Writing...

Reading...

Verifying

>>>> OK <<<<

Please eject disk

After a few seconds, the display will show:

VA-5 FDD TEST

Writing...

Reading...

Verifying

>>>> 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:

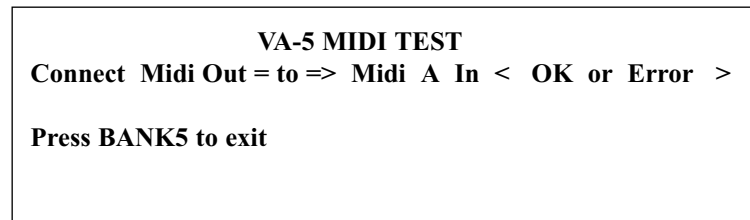
- Read Error
- Write Error
- Verify Error

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

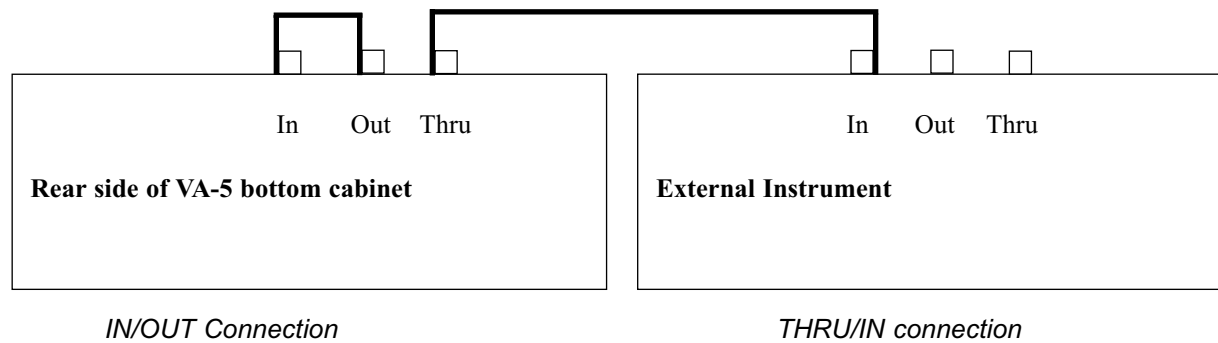
To exit, press [BANK/5]

6 MIDI & THRU test

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



Cable connections to check the MIDI outputs:



While the "VA-5 MIDI TEST" screen display is shown, connect the Midi Cables between VA-5 and an external instrument as shown in the above diagram.

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

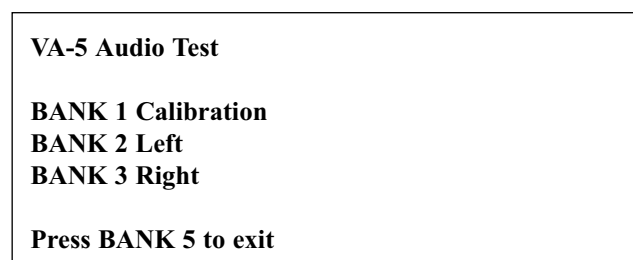
Then keep the cable connection between the IN and OUT sockets of VA-5 and connect VA-5 with another external instrument by using its "Midi Thru" output and the second Midi Cable.

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:



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.

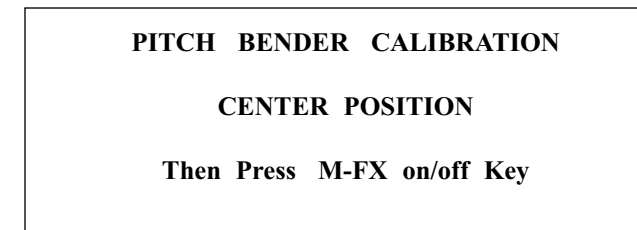
Pressing the [BANK/3] - Right button, a sine wave sound will be heard from the right loudspeaker, with a frequency of 215 Hz.

To exit, press [BANK/5].

CALIBRATION PROCEDURE TO REPLACE THE PITCH BENDER

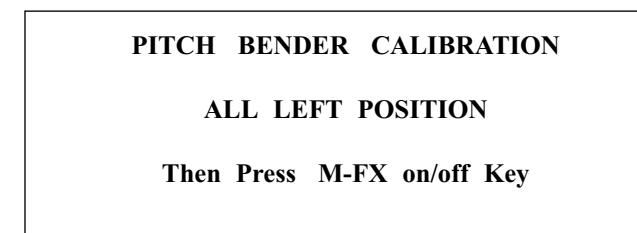
Load the "System Program" into the instrument. Turn VA-5 on while keeping the [ORCHESTRATOR] button pressed.

After a few seconds, the display will show:



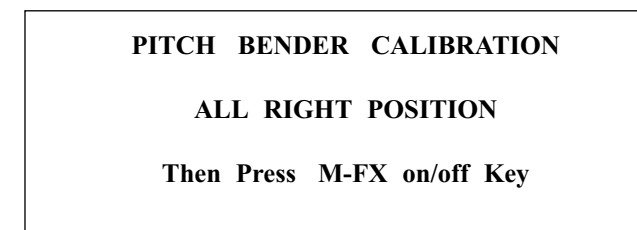
Put the Bender lever in the middle while pressing the M-FX [ON/OFF] button at the same time.

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.

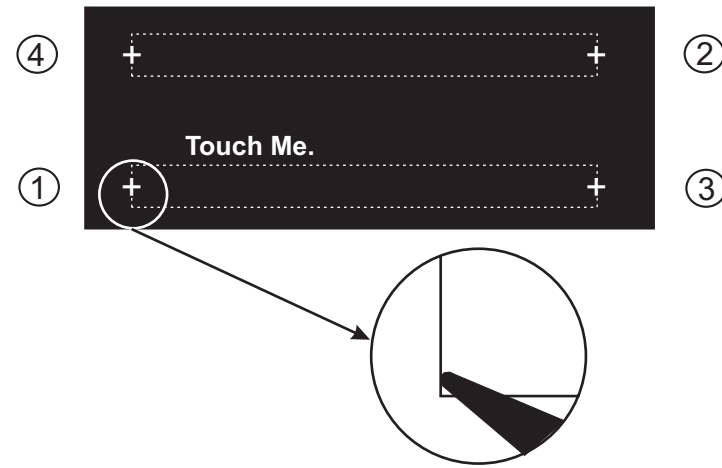
HOW TO ENTER THE TOUCH SCREEN CALIBRATION

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

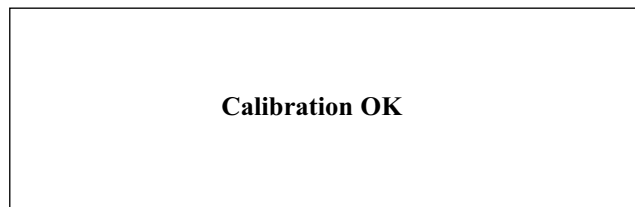
Note: When entered the Calibration test, you cannot exit unless you carry out the calibration operation. To perform this test, a normal pen is required.

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-5 recognizes the touch, + will change into 0.

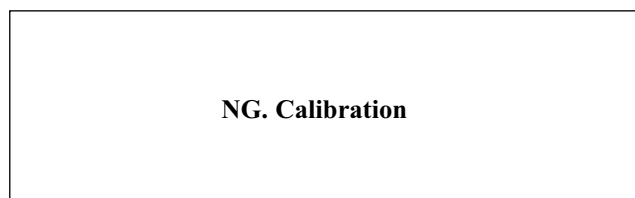


This way, the writing "Touch me" will appear to show the correct order, so please follow this indication. During the calibration, do not touch any point except "Touch me". After touching the four points, the calibration ends and the display will show one of the following displays:



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-5 internal flash, by turning it on while keeping the [MELODY INTELL.] + [CONTROLLERS] + [EFFECTS] buttons pressed.

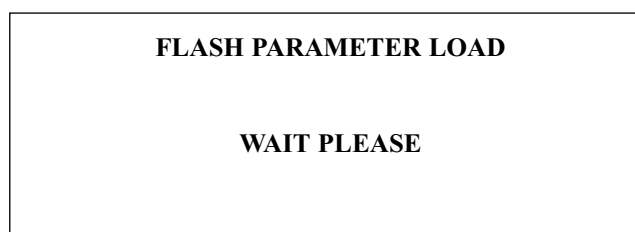
If the calibration fails, the following display appears.



You have to carry out the calibration again.

HOW TO INIZIALIZE THE FLASH AREA

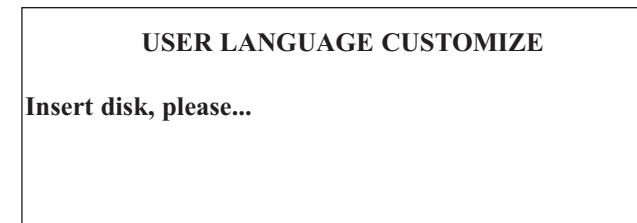
Turn the instrument on while keeping the [MELODY INTELL.] + [CONTROLLERS] + [EFFECTS] buttons pressed. After a few seconds, the display shows:



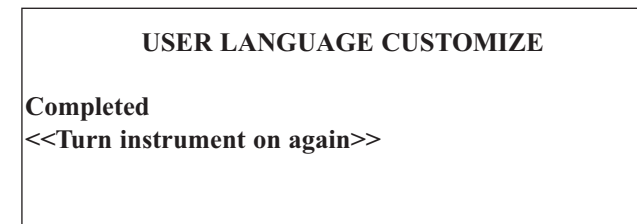
When the saving operation has been completed, the instrument will exit and get back to the VA-5 initial display.

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:

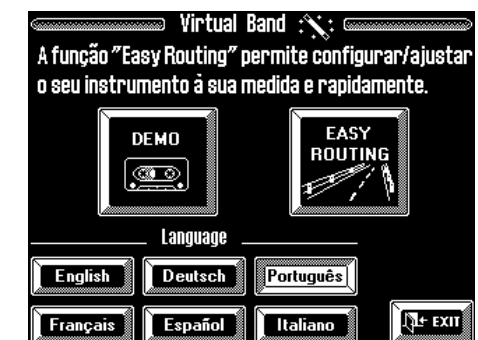
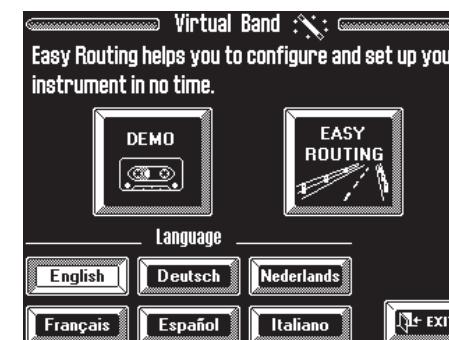


Turn the instrument off and on again.

Caution:

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

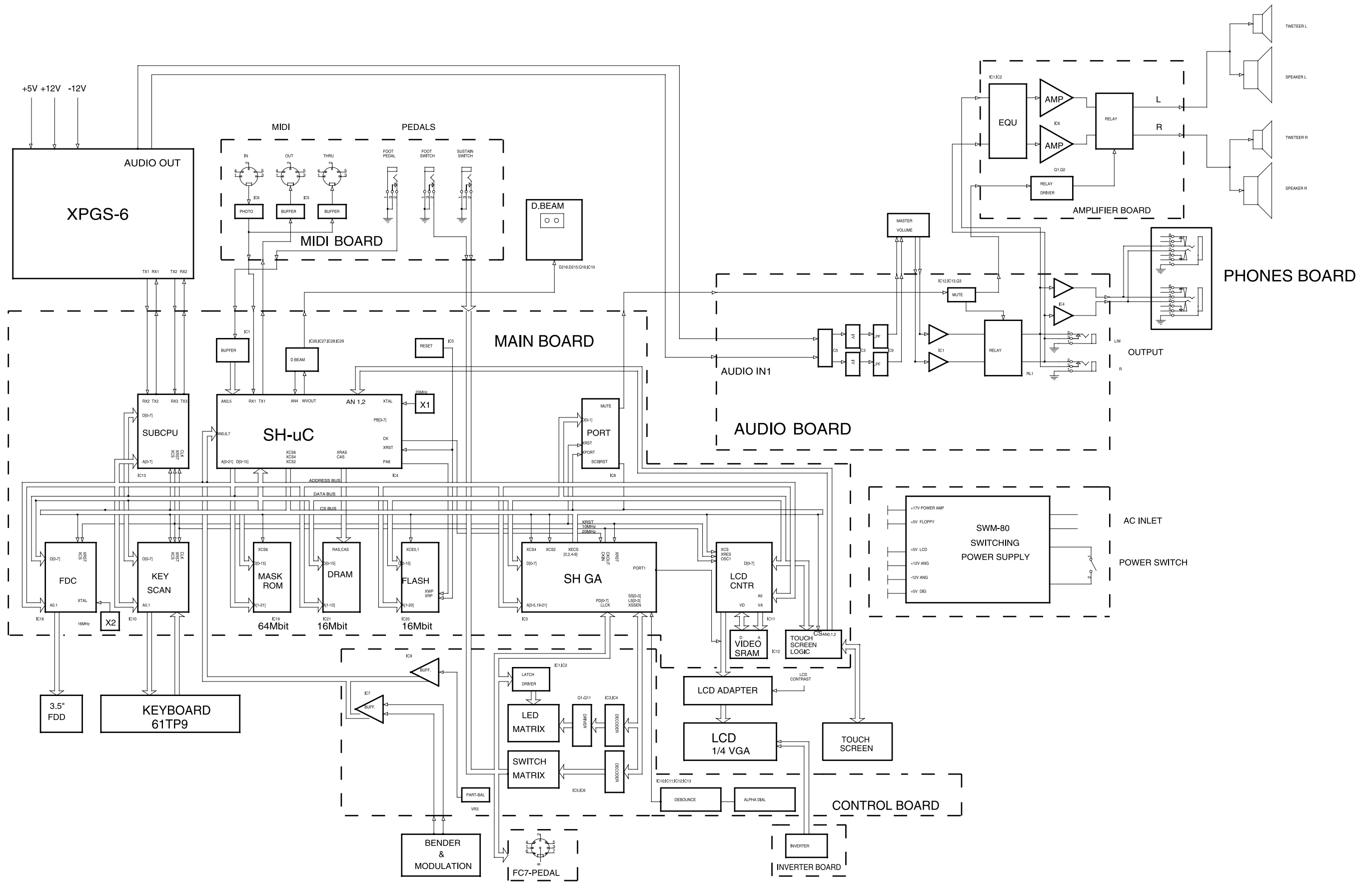
Example:



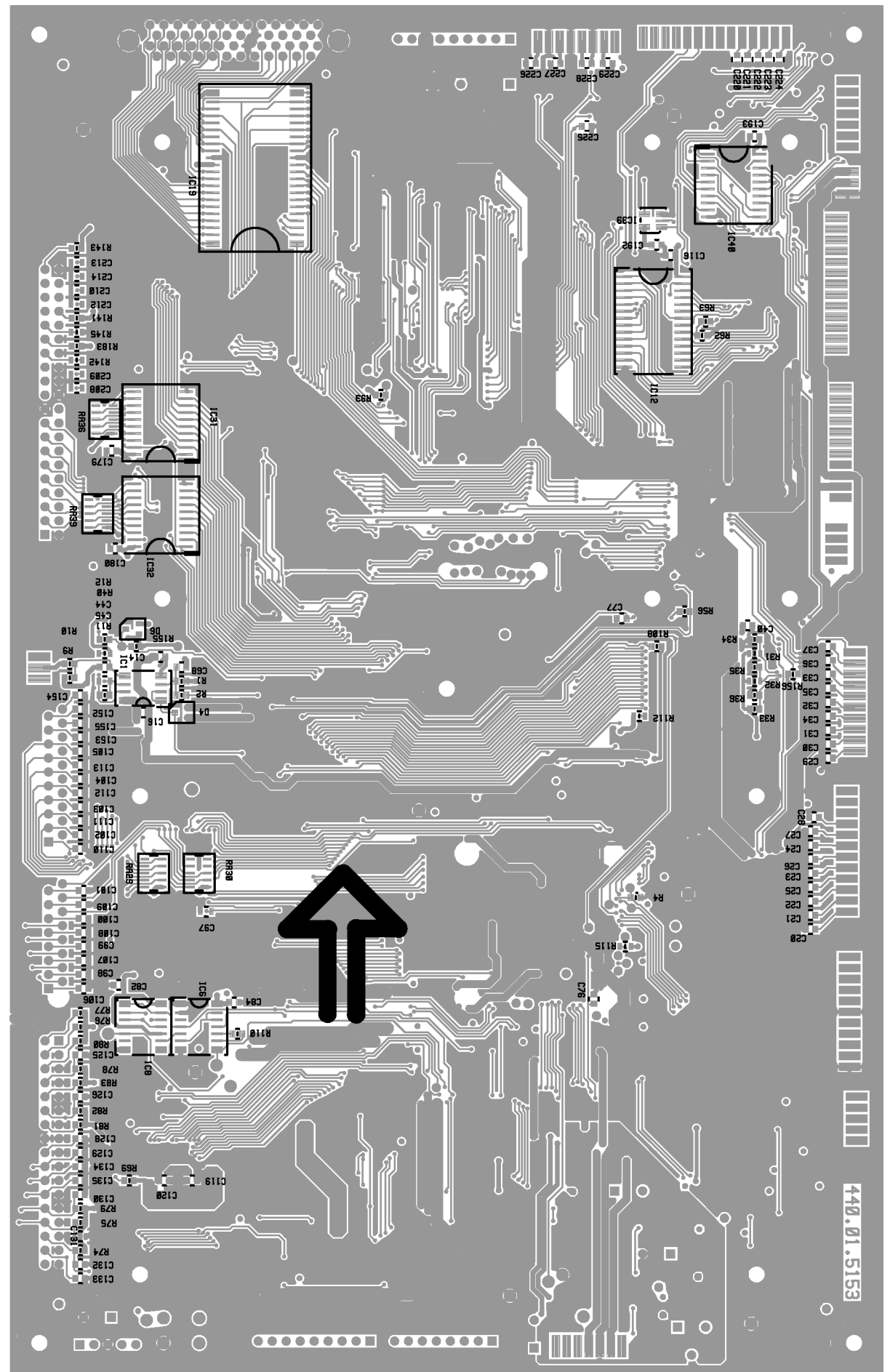
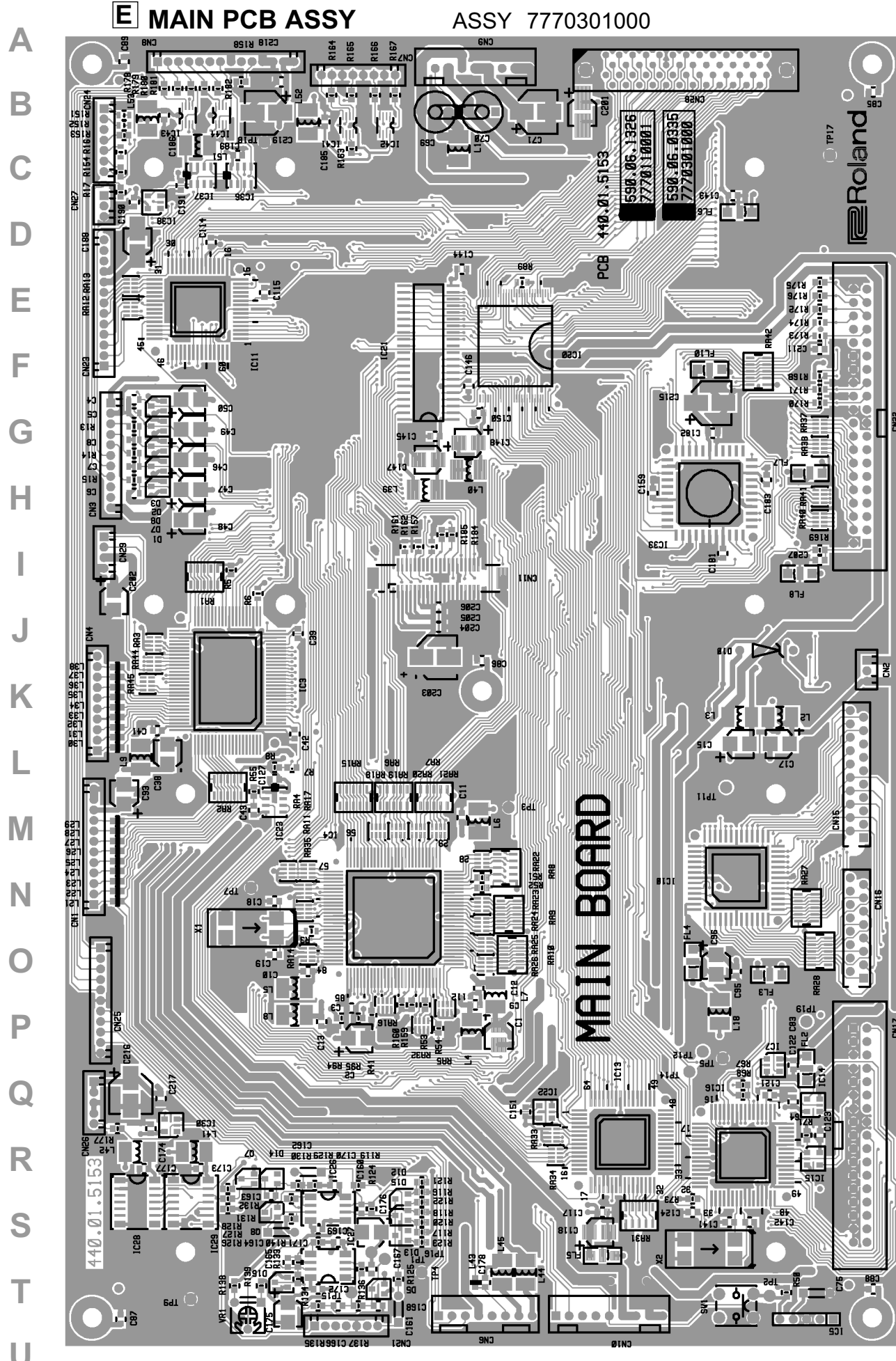
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30

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BLOCK DIAGRAM



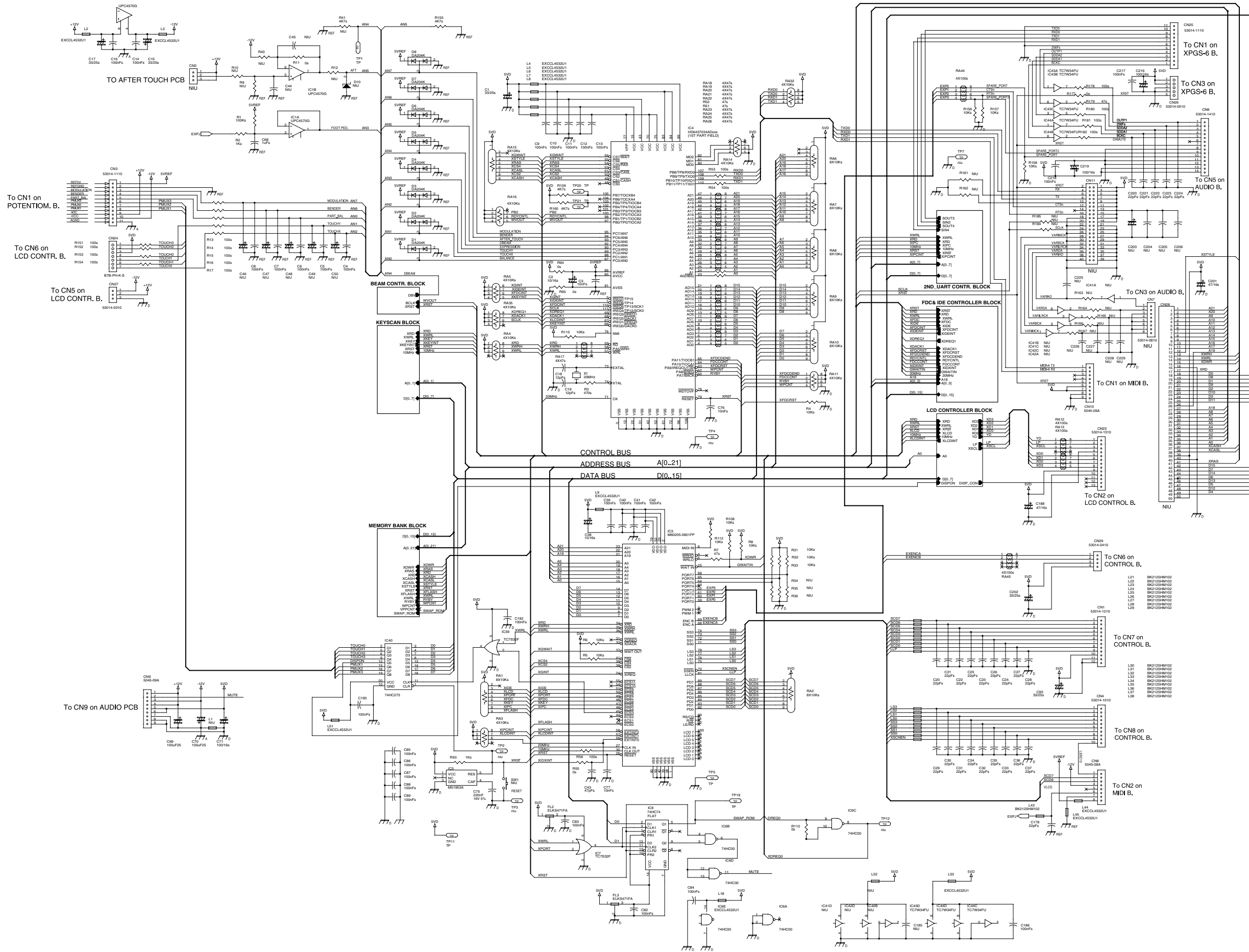
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1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30

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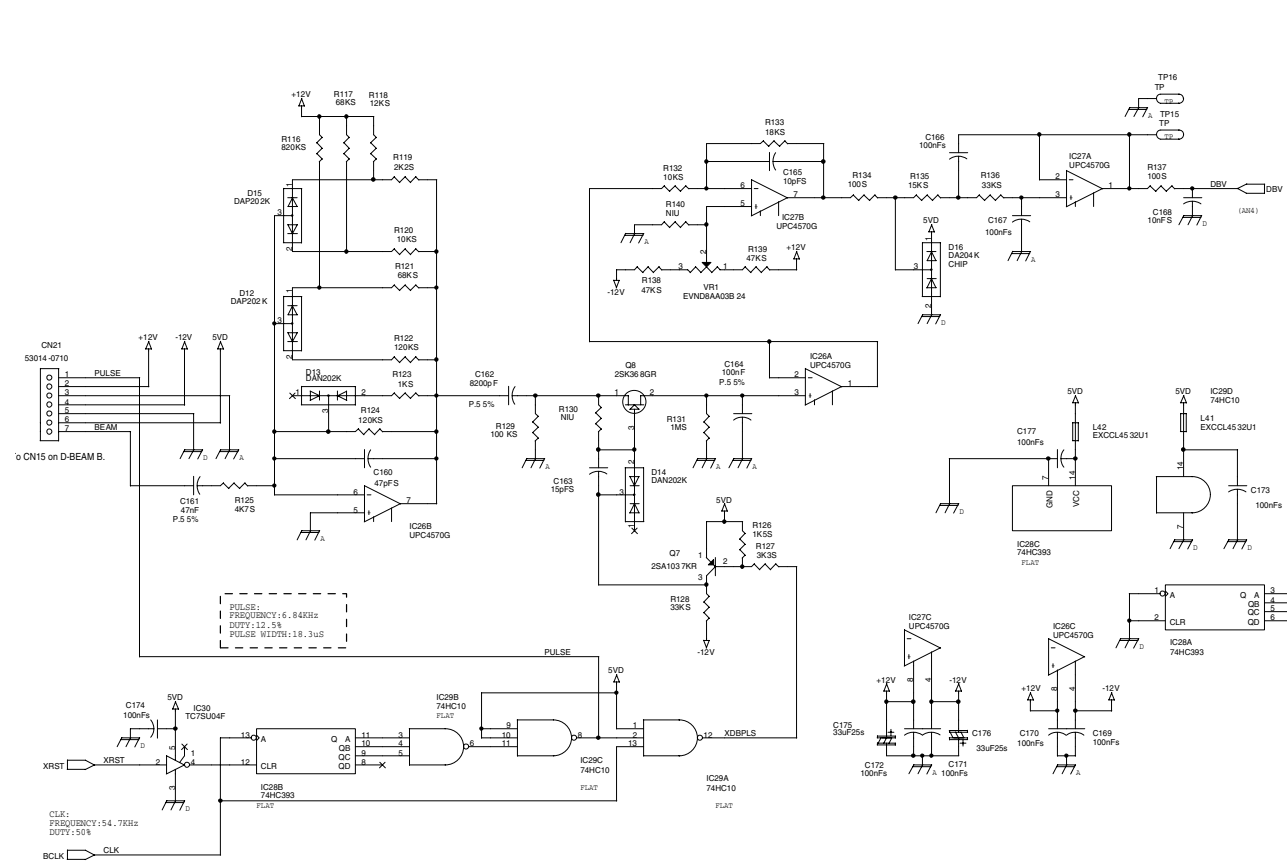
CIRCUIT DIAGRAM (MAIN PCB ASSY)



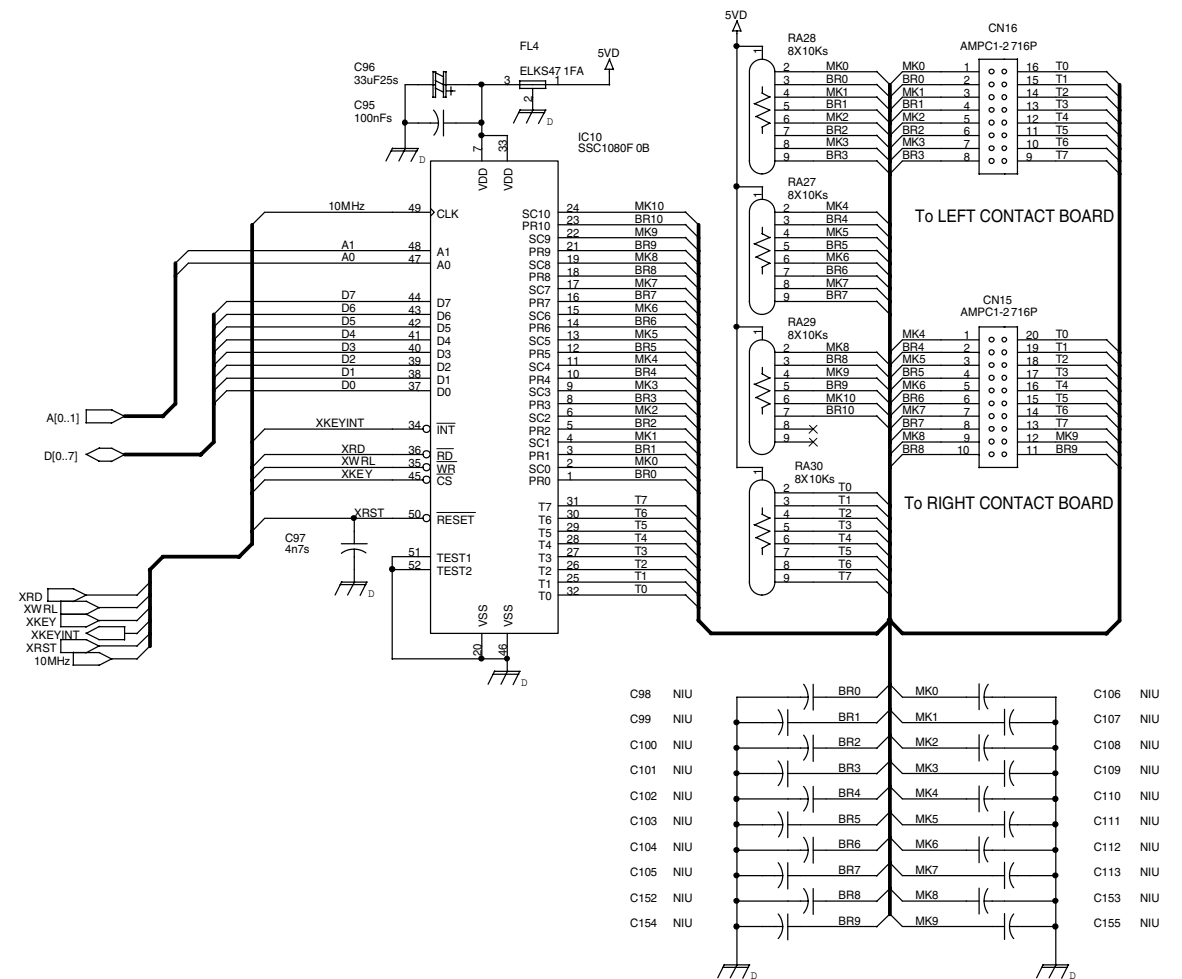
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30

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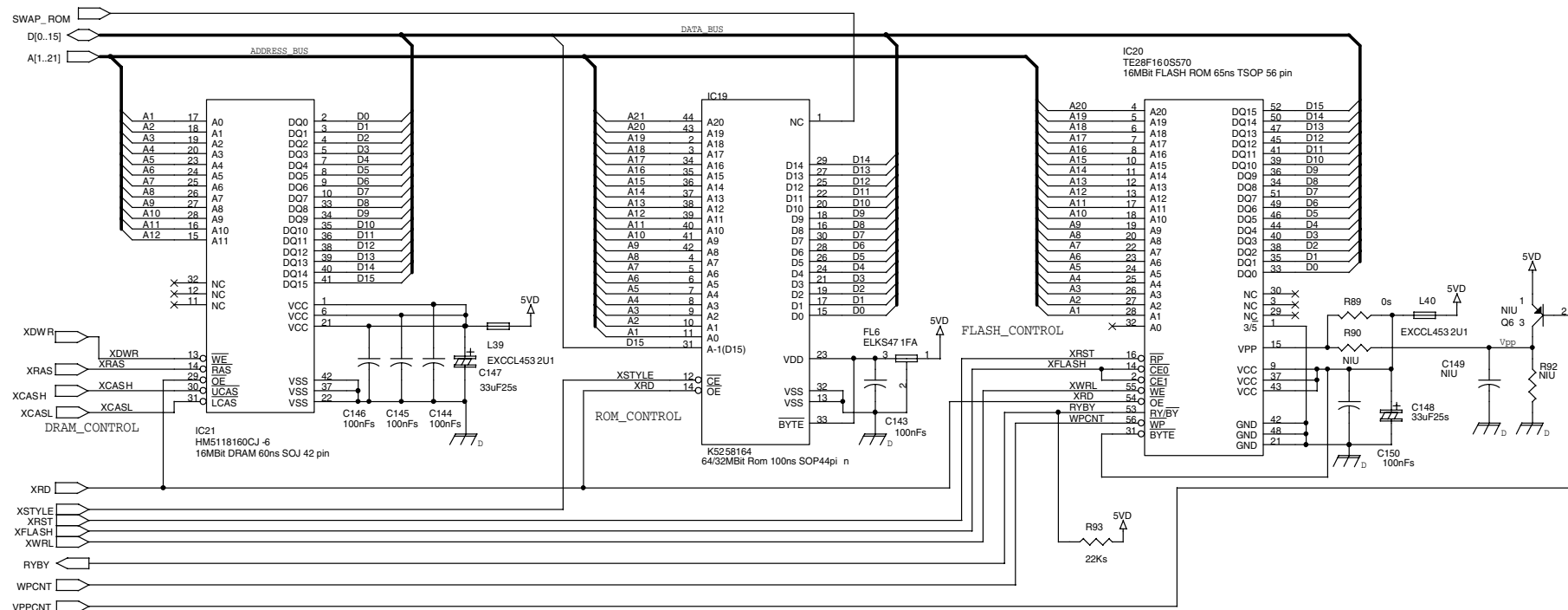
CIRCUIT DIAGRAM (MAIN PCB ASSY/ Beam Control. Block)



CIRCUIT DIAGRAM (MAIN PCB ASSY/ Keyscan Block)



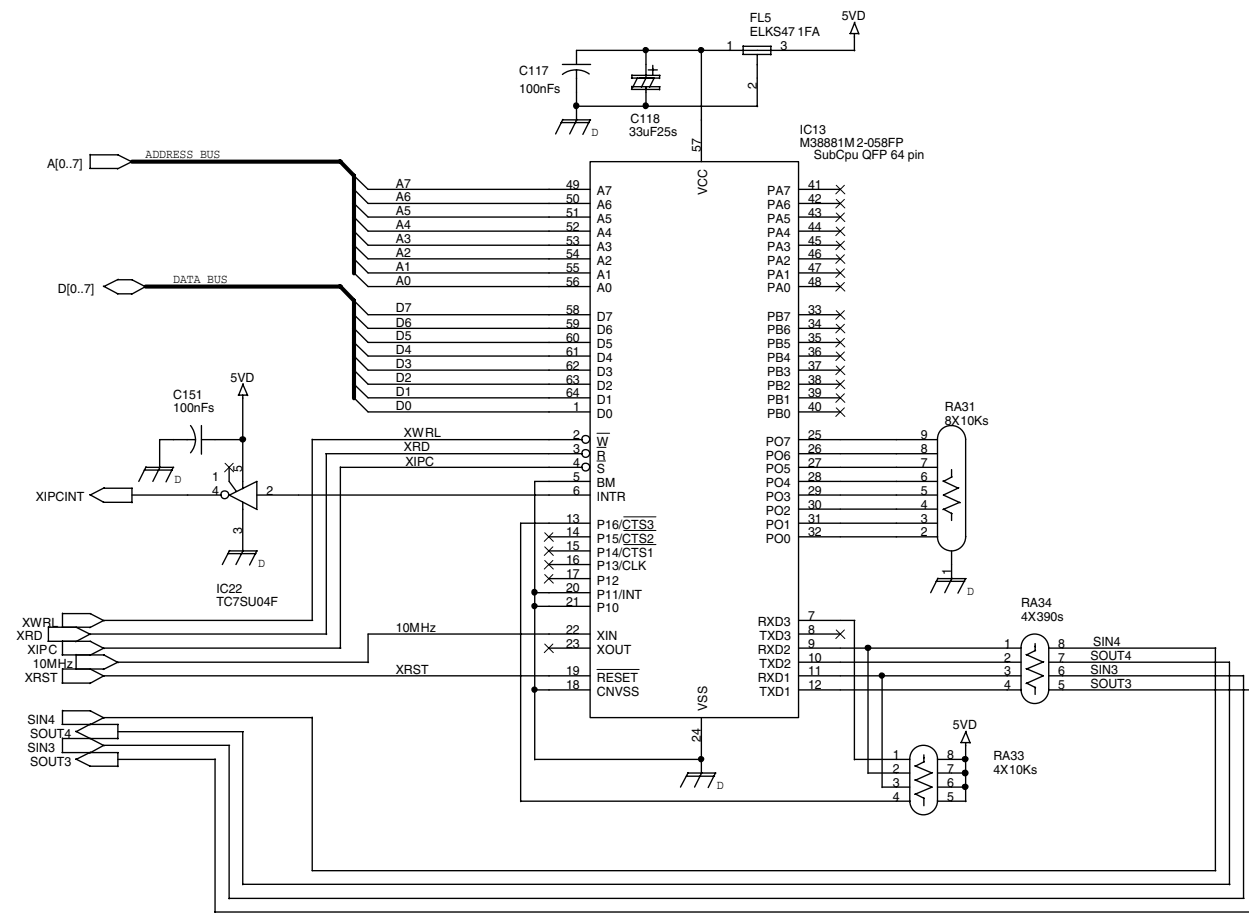
CIRCUIT DIAGRAM (MAIN PCB ASSY/ Memory Bank Block)



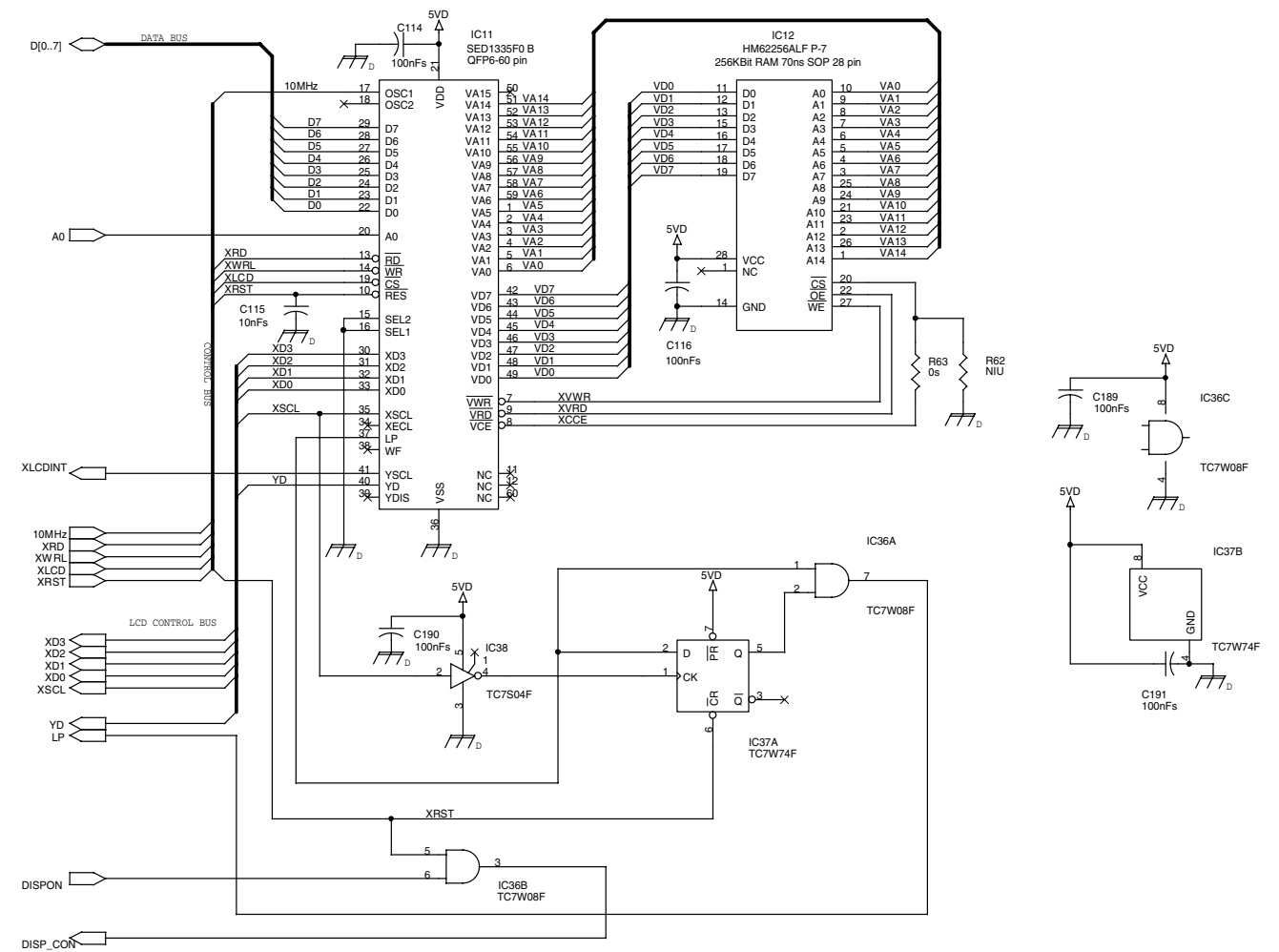
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30

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CIRCUIT DIAGRAM (MAIN PCB ASSY/ 2nd Uart Contr. Block)



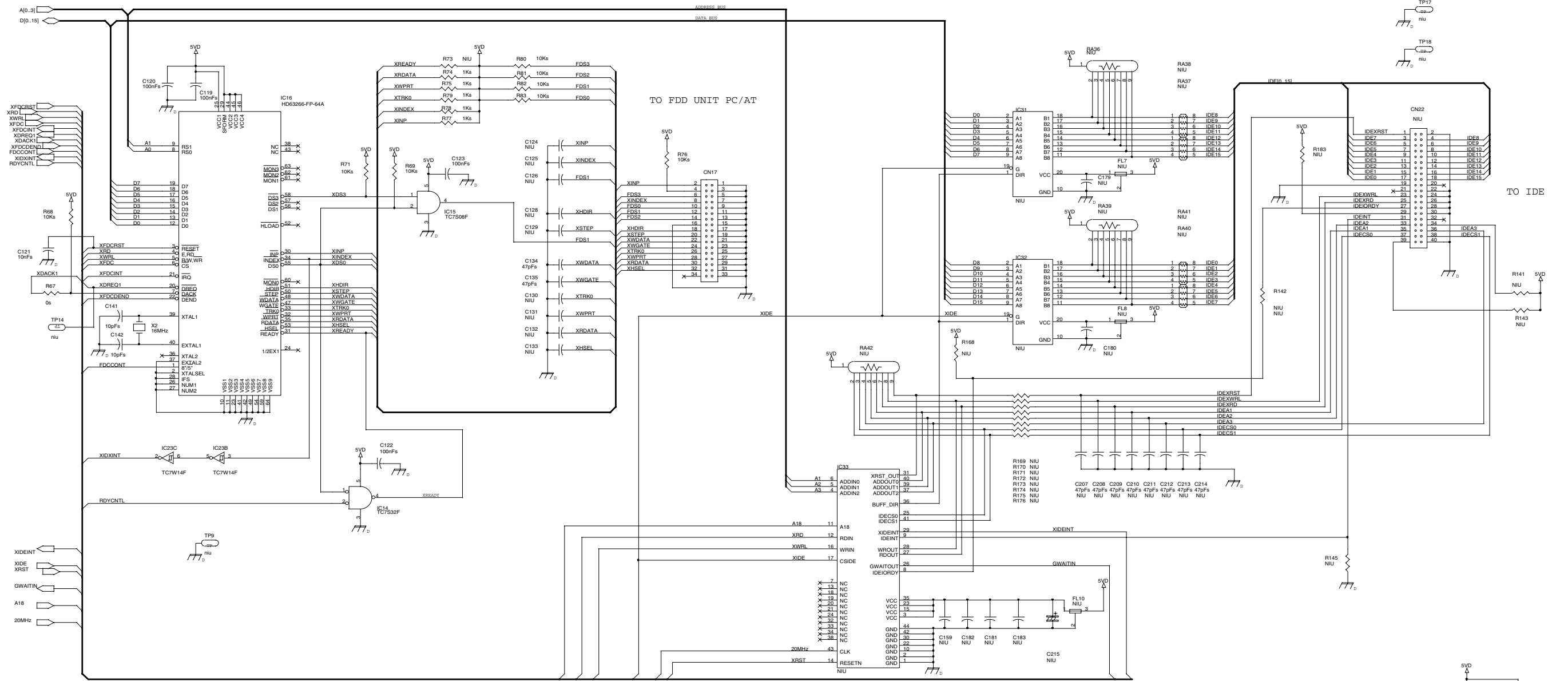
CIRCUIT DIAGRAM (MAIN PCB ASSY/ LCD Contr. Block)



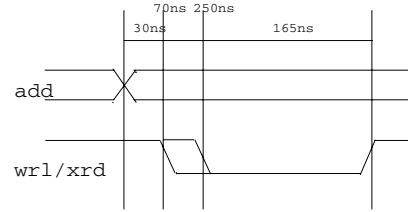
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30

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

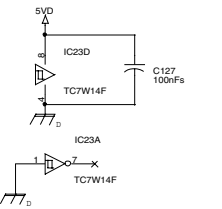


FDC



IDE

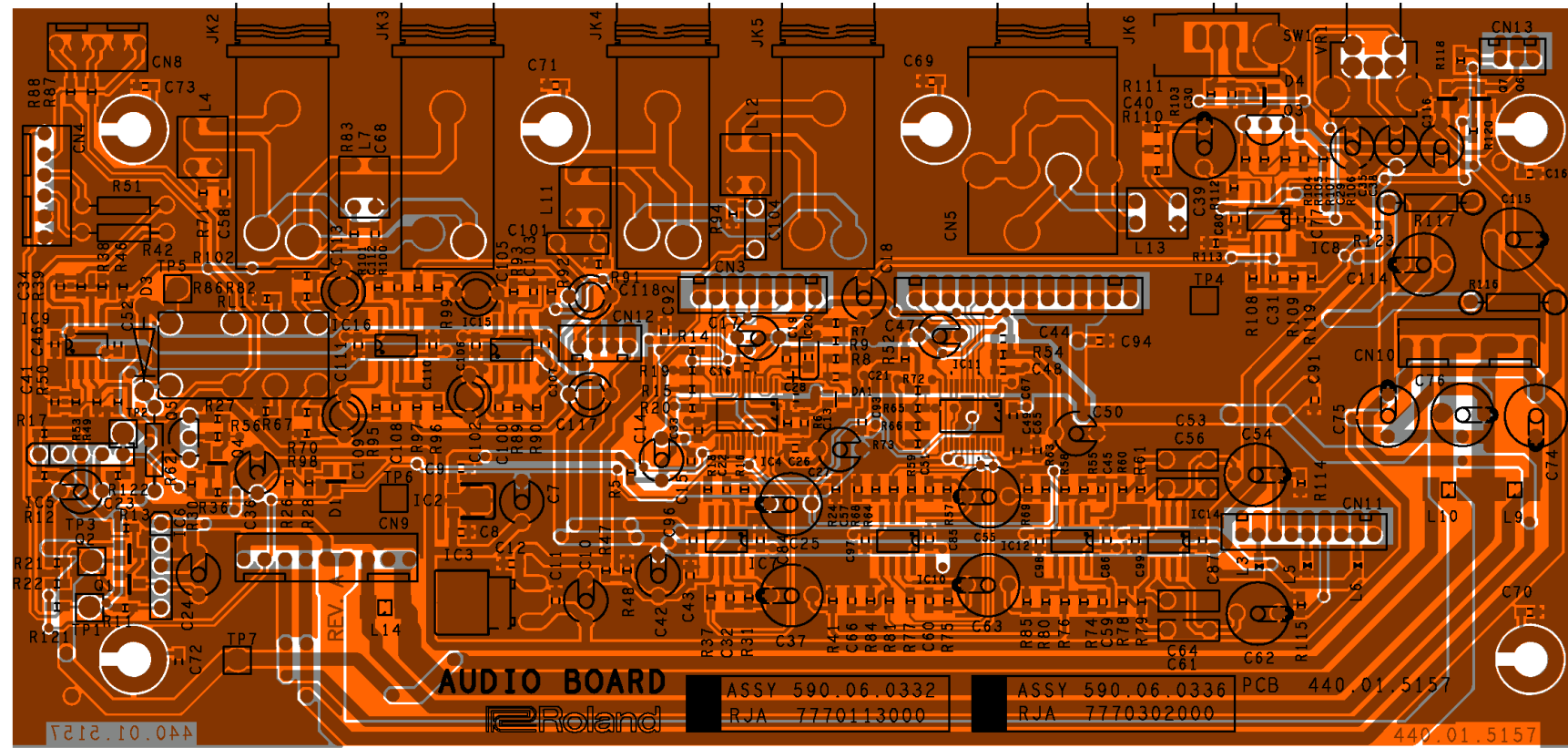
wait states = (3+1)*50ns + 1 cycle = 250ns



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AUDIO PCB ASSY ASSY 7770302000

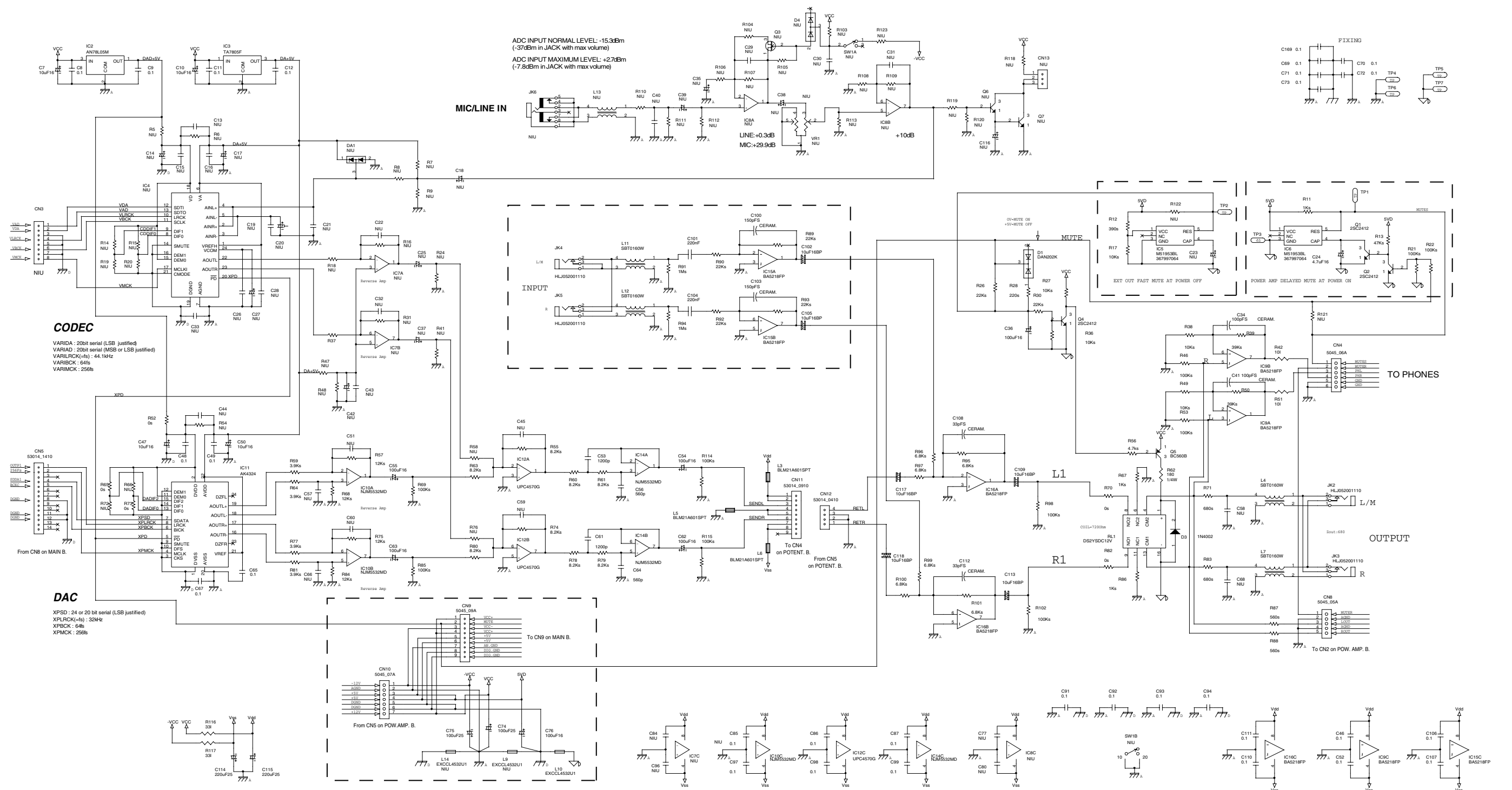


View from component side

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)

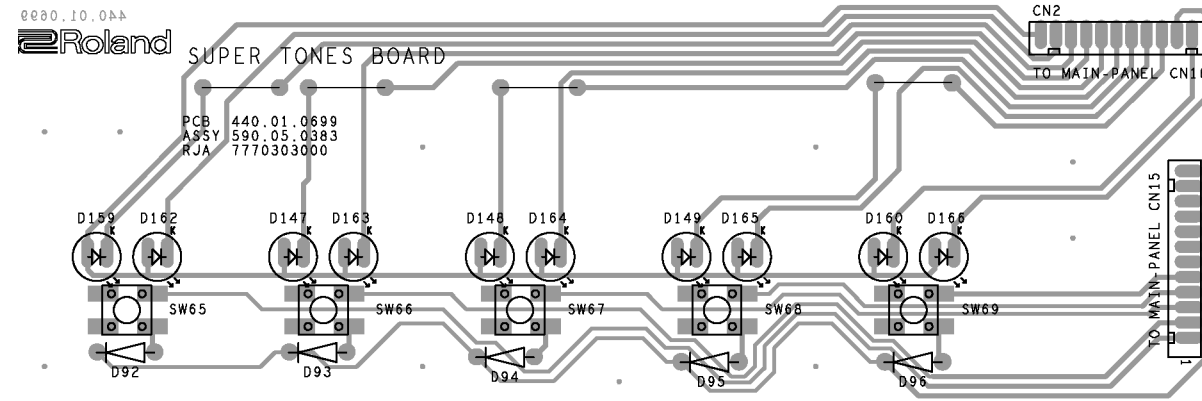


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30

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SUPER TONES PCB ASSY & CIRCUIT DIAGRAM

ASSY 7770303000



View from component side

