# AX-7

MIDI KEYBOARD CONTROLLER

**SERVICE NOTES**

*First edition*

***Issued by RES***

## TABLE OF CONTENTS



## Specifications

**Keyboard:** 45-key keyboard with Velocity Sensitivity (TP-7 BA type)

**Display:** 3 x 7 segments display view control

**Realtime controllers:** Data Entry Knob, Touch Controller, Expression Bar, Hold Button, D-Beam

**Memories:** 128 Patches

**Connections:** MIDI In, Out; DC IN (adaptor)

**Power supply :** Battery-operated, Optional AC/DC Adaptor ACA (DC 9V)

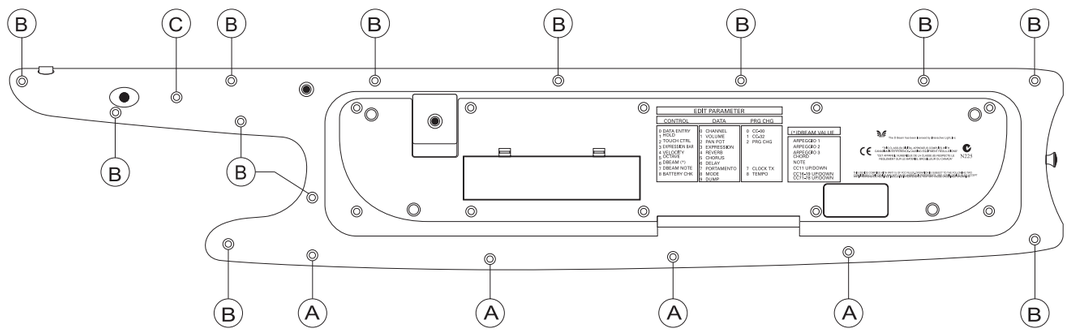
**Dimension:** 1010 (W) x 195 (D) x 102 (H) mm

**Weight::** 3,0 Kg

**Supplied accessories:** 6 x dry batteries (AA type), MIDI cable, Owner's Manual, Shoulder strap

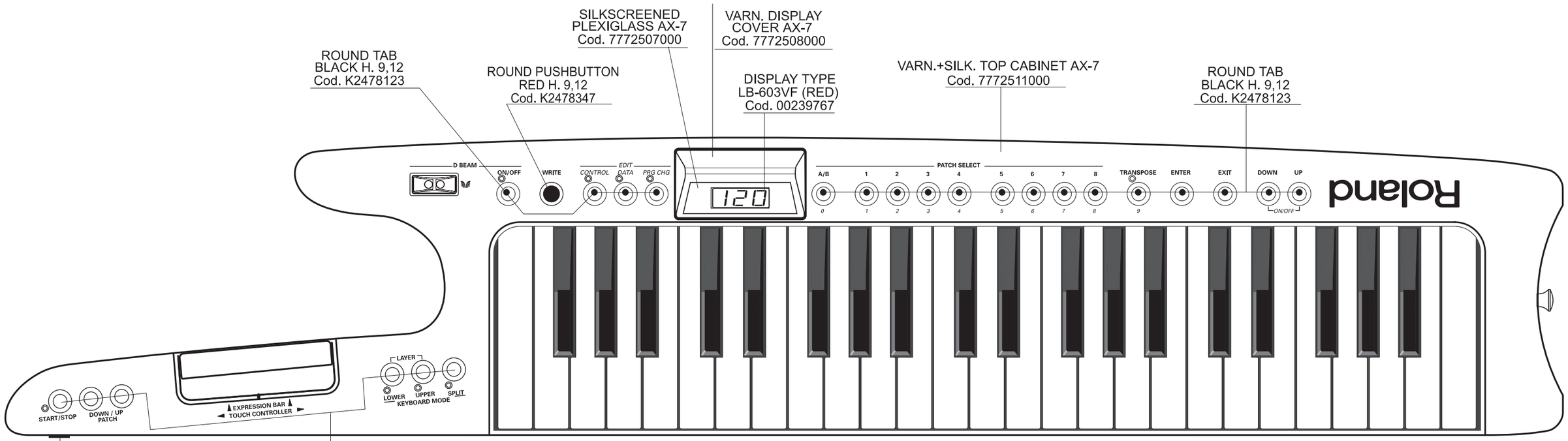
Specifications subject to change without prior notice. All other trademarks mentioned in this manual are the property of the respective companies.


## DISASSEMBLY

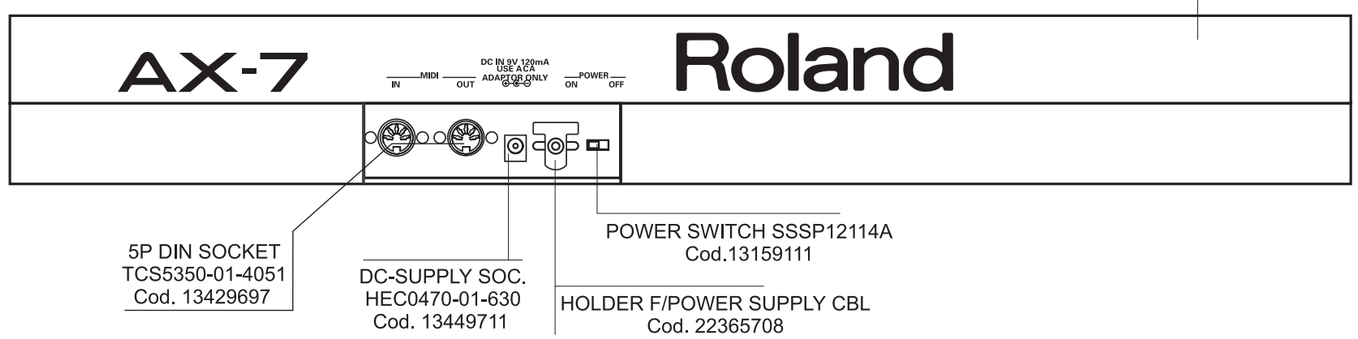



A J2289124 SELF TAP. SCREW 2,9x6 TCTCPRBZ
B J2289125 SCREW 2,9x10 TCTCPR TROP
C J2289101 SELF TAP. SCREW 2,9x6 TCTC

## LOCATION OF CONTROLS



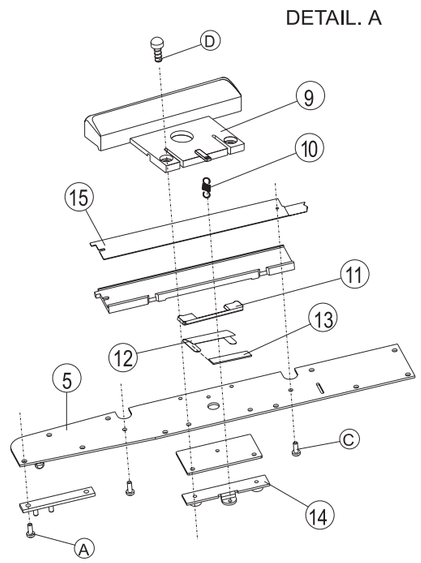

## REAR VIEW

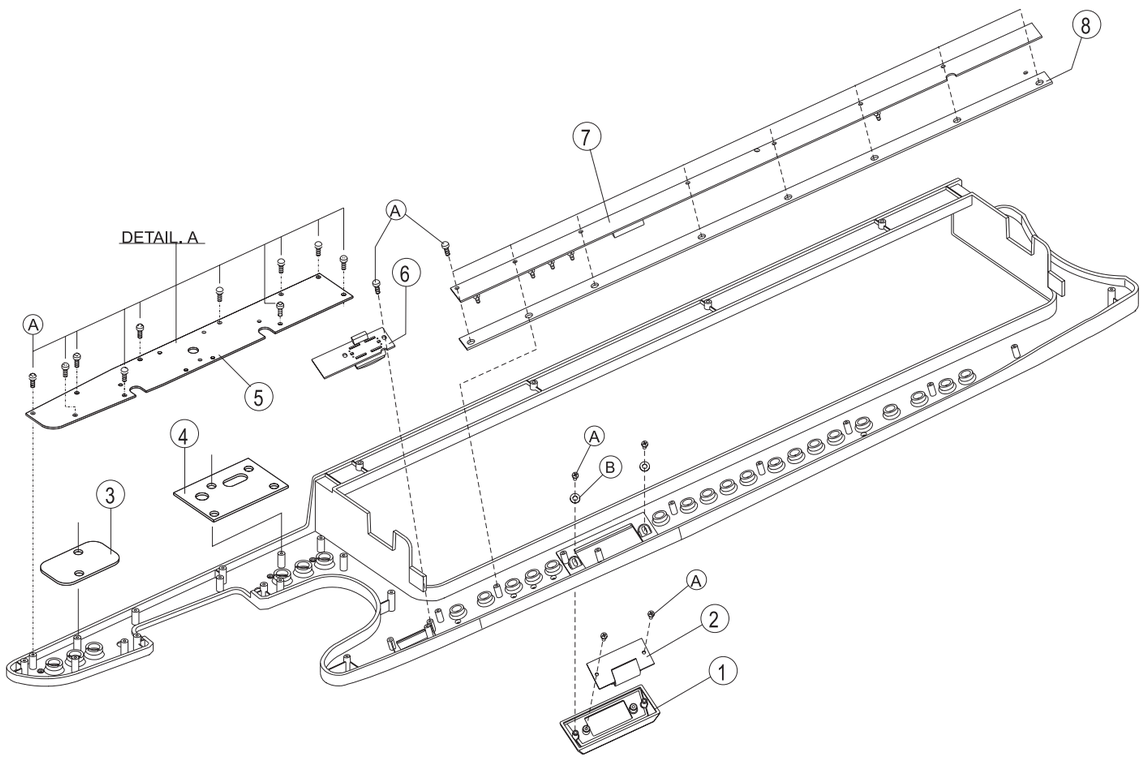


## EXPLODED VIEW - TOP

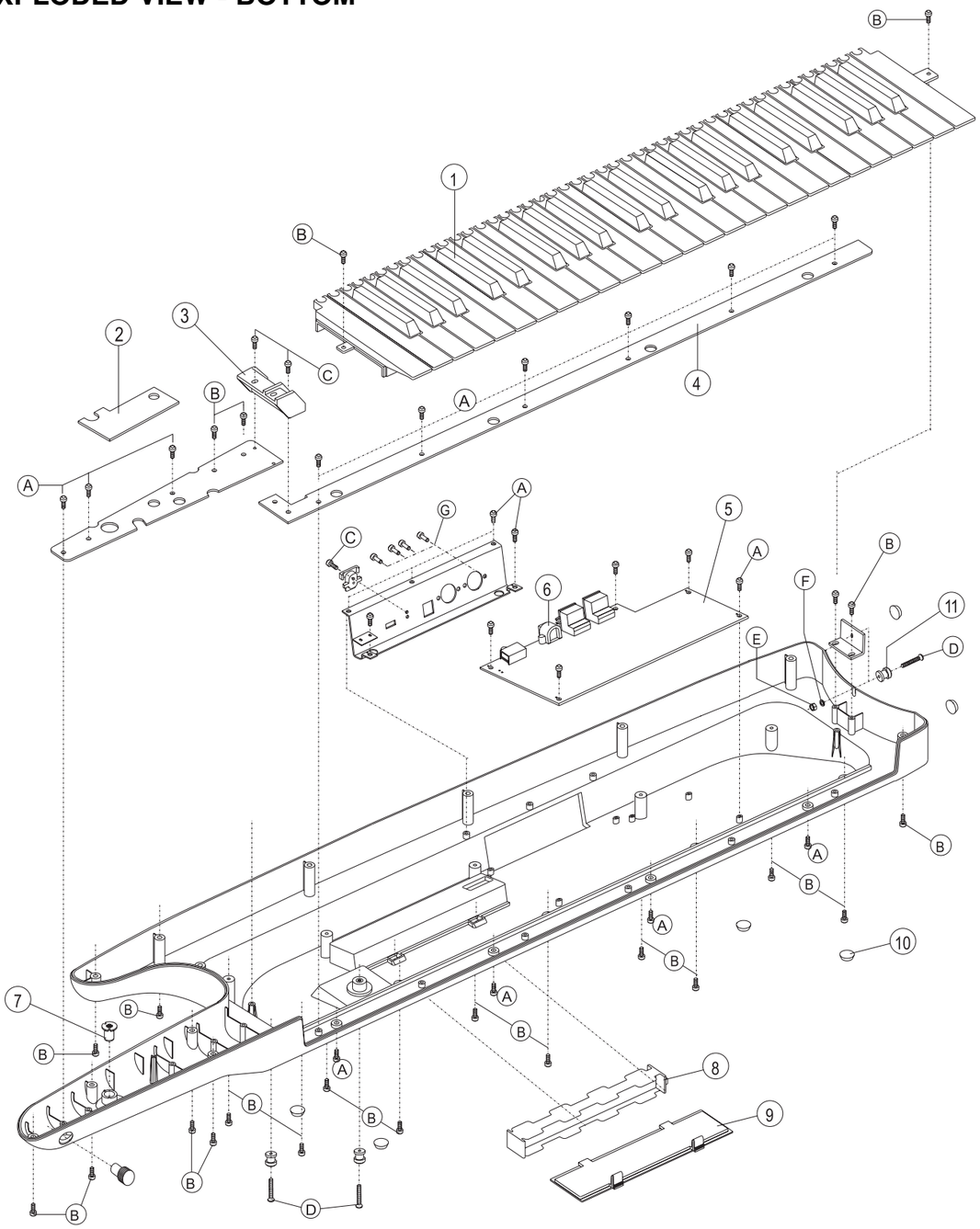
| | | |
|---|---|---|
| 1 | 7772508000 | VARN. DISPLAY COVER AX-7 |
| 2 | 7772504000 | DISPLAY PCB ASSY AX-7 |
| 3 | K2268170 | VIBRATION DAMPER 60x36(LIGHT) |
| 4 | K2268171 | VIBRATION DAMPER 70x49 (LIGHT) |
| 5 | 7772502000 | LEFT CONTROL PCB ASSY AX-7 |
| 6 | 7772503000 | D-BEAM PCB ASSY AX-7 |
| 7 | 7772501000 | RIGHT CONTROL PCB ASSY AX-7 |
| 8 | K2268172 | VIBRATION DAMPER 599x20 |
| 9 | K2148103 | MODULATION BAR AX-1 |
| 10 | K2178101 | EXTENSION SPRING |
| 11 | K1188118 | CONTACT HOLDER+SENSOR |
| 12 | 22925256 | CONTACT F/SENSOR AX-1 |
| 13 | 01237945 | PRESSURE SENSOR PB-A0101 |
| 14 | K1188116 | SPRING FOR BAR HOLDER |
| 15 | 02452467 | RIBBON SENSOR HPD-15 |

| | | |
|---|---|---|
| A | J2289125 | SCREW 2,9x10 TCTCPR TROP |
| B | J2139101 | FLAT WASHER I/D 4 |
| C | J2289124 | SELF TAP.SCREW 2,9x6TCTCPRBZ |
| D | J2289132 | PITCH SCREW M3x16 TC TC |




## EXPLODED VIEW - BOTTOM

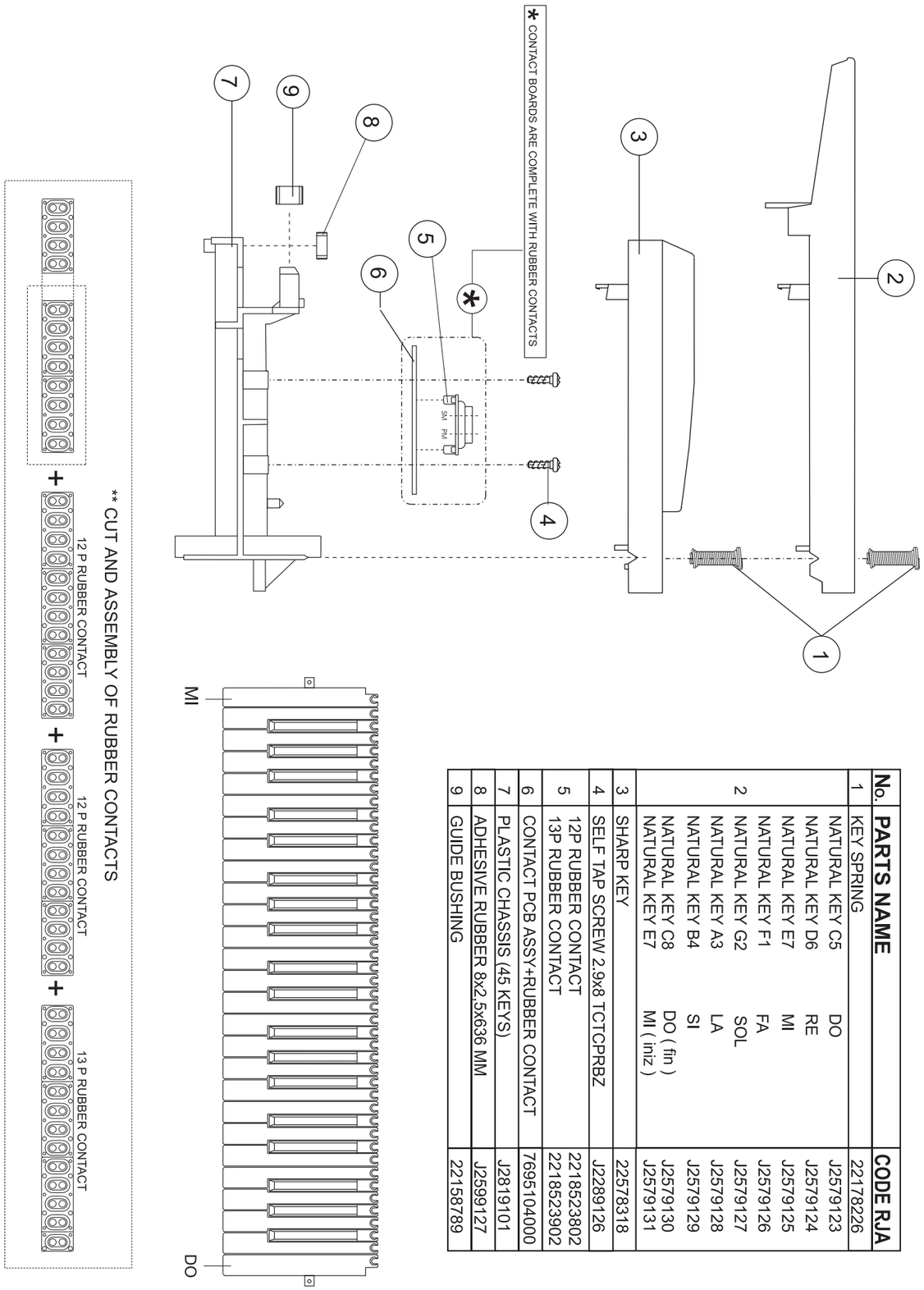



| | | |
|---|---|---|
| 1 | 7695105000 | KEYBOARD ASSY |
| 2 | K2268173 | VIBRATION DAMPER 39x83 (LIGHT) EM-55 |
| 3 | K118811901 | CHASSIS FOR STIFFENER |
| 4 | K2128111 | STIFFENER FOR FRONT |
| 5 | 7772505000 | CPU PCB ASSY AX-7 |
| 6 | 13429823RI | P. SUPPLY PLUG LOCKING |
| 7 | K2478348 | ROUND PUSHBUTTON (BLACK) H. 13,5 |
| 8 | J2209101 | 6-BATTERY HOLDER |
| 9 | 7772509000 | VARN. BATTERY COVER AX-1 |
| 10 | J2359101 | SPACER 3M ART. Sj5012 |
| 11 | J2129101 | MALE LOCK FOR BELT AX-1 |

| | | |
|---|---|---|
| A | J2289124 | SELF TAP.SCREW 2,9x6TCTCPRBZ |
| B | J2289125 | SCREW 2,9x10 TCTCPR TROP |
| C | J2289102 | SELF TAP.SCREW 2,9x10 TCTC |
| D | J2289134 | PITCH SCREW M3x17 TC TSC |
| E | J2289113 | NUT 3MA H.3 |
| F | J2139102 | TOOTHED WASHER I/D 3 |
| G | J2159102 | PLASTIC RIVET Sr3055 |

# KEYBOARD PARTS LIST

## 45 KEY KEYBOARD TP-7/BA Code: 7695105000




| No. | PARTS NAME | CODE RJA |
|---|---|---|
| 1 | KEY SPRING | 22178226 |
| | NATURAL KEY C5 DO | J2579123 |
| | NATURAL KEY D6 RE | J2579124 |
| | NATURAL KEY E7 MI | J2579125 |
| | NATURAL KEY F1 FA | J2579126 |
| 2 | NATURAL KEY G2 SOL | J2579127 |
| | NATURAL KEY A3 LA | J2579128 |
| | NATURAL KEY B4 SI | J2579129 |
| | NATURAL KEY C8 DO ( fin ) | J2579130 |
| | NATURAL KEY E7 MI ( iniz ) | J2579131 |
| 3 | SHARP KEY | 22578318 |
| 4 | SELF TAP SCREW 2.9x8 TCTCPRBZ | J2289126 |
| 5 | 12P RUBBER CONTACT | 2218523802 |
| | 13P RUBBER CONTACT | 2218523902 |
| 6 | CONTACT PCB ASSY+RUBBER CONTACT | 7695104000 |
| 7 | PLASTIC CHASSIS (45 KEYS) | J2819101 |
| 8 | ADHESIVE RUBBER 8x2.5x636 MM | J2599127 |
| 9 | GUIDE BUSHING | 22158789 |

# PARTS LIST AX-7

**SAFETY PRECAUTIONS :**

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

**CONSIDERATION ON PARTS ORDERING**

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

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

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

**NOTE**:

**#** The parts marked " **#** " are new (Initial Parts).

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

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

**<< EMI >>** Component for EMC.

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

**RCB** = Right Control Board
**LCB** = Left Control Board
**CPU** = CPU Board
**CB** = Contact B.
**CDB** = D-Beam Board

### CASING

| | | | Q.ty |
|---|---|---|---|
| # | 7772511000 | VARN.+SILK. TOP CABINET AX-7 | 1 |
| # | 7772510000 | VARN.+SILK. BOTTOM CABINET AX-7 | 1 |
| # | 7772509000 | VARN. BATTERY COVER AX-1 | 1 |
| # | 7772508000 | VARN. DISPLAY COVER AX-7 | 1 |
| # | 7772507000 | SILKSCREENED PLEXIGLASS AX-7 | 1 |

### KNOB BUTTON

| | | | | |
|---|---|---|---|---|
| | K2478122 | ROUND TAB | BLACK H.8.3 | 6 |
| | K2478123 | ROUND TAB | BLACK H. 9.12 | 18 |
| # | K2478347 | ROUND PUSHBUTTON | RED H.9,12 | 1 |
| # | K2478348 | ROUND PUSHBUTTON | BLACK) H.13,5 | 1 |
| | 7695111000 | SILKSCREENED KNOB ASSY | AX-1 | 1 |

### SWITCH

| | | | | |
|---|---|---|---|---|
| | J3169105 | SWITCH | TP-1101A / EVQ-PAE 05 R | on RCB / on LCB 26 |
| | 13159111 | POWER SWITCH | SSSP12114A | SW2 on CPU 1 |

### JACK, SOCKET

| | | | | |
|---|---|---|---|---|
| | 13449711 | DC-SUPPLY SOC. | HEC0470-01-630 | JK2 on CPU 1 |
| | 13429697 | 5P DIN SOCKET | TCS5350-01-4051 | JK1,3 on CPU 2 |

### DISPLAY UNIT

| | | | | |
|---|---|---|---|---|
| | 00239767 | DISPLAY TYPE | LB-603VF (RED) | DS1 on DISPLAY Board 1 |

### KEYBOARD ASSY

| | | | |
|---|---|---|---|
| | 7695105000 | KEYBOARD ASSY AX1 | 1 |

**NOTE:** For details, refer to KEYBOARD PARTS LIST (Page 4)

### PCB ASSY

| | | | |
|---|---|---|---|
| # | 7772501000 | RIGHT CONTROL PCB ASSY AX-7 | 1 |
| # | 7772502000 | LEFT CONTROL PCB ASSY AX-7 | 1 |
| # | 7772503000 | D-BEAM PCB ASSY AX-7 | 1 |
| # | 7772504000 | DISPLAY PCB ASSY AX-7 | 1 |
| # | 7772505000 | CPU PCB ASSY AX-7 | 1 |
| | 7695104000 | CONTACT PCB ASSY + RUBBER AX1 | 1 |

### IC

| | | | | |
|---|---|---|---|---|
| | 15229718RI | I.C. 6N 137 | PHOTO-COUPLER | IC1 on CPU 1 |
| | 15169550RI | I.C. 74 HC138 | DIP CMOS | IC21 on CPU 1 |
| | 15249111 | I.C. TC7WU04 F | FLAT CMOS | IC13 on CPU 1 |
| | J5259127 | I.C. 74 HC 10 | | IC16 on CPU 1 |
| | J5259113 | I.C. 74 HC 390 | FLAT CMOS | IC14 on CPU 1 |
| | J5259128 | I.C. 74 HC 393 | FLAT | IC17 on CPU 1 |
| | 15259821 | I.C. TC74HC573AF | | IC10 on CPU 1 |
| | 00129278 | I.C. SSC1080 FOB | (CUSTOM IC) | IC11 on CPU 1 |
| | J5259153 | I.C. AT24C64N-10SC 64K | EEPROM | IC6 on CPU 1 |
| | 15259884 | I.C. TC7S08F MOS | CMOS | IC9 on CPU 1 |
| | 15249104 | I.C. TC7S04F | FLAT | IC12 on CPU 1 |
| | J5259149 | I.C. TC74VHC541FT | FLAT | IC7 on CPU 1 |
| | 15219183 | I.C. M51953 AL | (STANDING) | IC8 on CPU 1 |
| | 15149146 | I.C. TD62583AP | (INTERF.DRIVER IC) | IC22 on CPU 1 |
| | 15289105 | I.C. UPC 4570G | (OP AMP) | IC20 on CPU 1 |
| | 15189189 | I.C. UPC 4570HA VERT. | (OP.AMP.) | IC1 on CPU 1 |
| | 15289141 | I.C. M5223FP-600D | | IC18,23 on CPU 2 |
| # | 7772506000 | I.C. MICRO IC2 CPU A-37/AX-7 | | IC2 on CPU 1 |

### TRANSISTOR

| | | | | |
|---|---|---|---|---|
| | 15129114 | TRANSISTOR | 2SC-1815GR | Q7 on CPU 1 |
| | 15319101 | TRANSISTOR | 2SC-2412K | Q14 on CPU 1 |
| | 15309101 | TRANSISTOR | 2SA-1037KR | Q6 on CPU 1 |
| | 15329503 | TRANSISTOR | DTA-124 EK CHIP | Q1 on CPU 1 |

| | | | | | |
|---|---|---|---|---|---|
| 15129427 | TRANSISTOR | 2SC-2235Y | | Q8 on CPU | 1 |
| 15329516 | TRANSISTOR | DTC-114EK | | Q2 on CPU | 1 |
| 15119163 | TRANSISTOR | RN2227 | | Q9,10,11,12,13 on CPU | 5 |
| 15329104 | TRANSISTOR | 2SK-368GR | FET CHIP | Q5 on CPU | 1 |
| J5119105 | TRANSISTOR | TN6717A | | Q3,4 on CPU | 2 |

**DIODE**

| | | | | | |
|---|---|---|---|---|---|
| 15019159RI | DIODE | 1N-4148 | | on LCB / on CDB / on RCB / on CB | 102 |
| 15339105 | DIODE | DAN-202K | | D9,10 on CPU | 2 |
| 15339108 | DIODE | DA-204K | | D1,2,7,12,13 on CPU | 5 |
| 00893912 | DIODE | SFPB-56 | CHIP | D3 on CPU | 1 |
| 15339109 | DIODE | DAP 202K | CHIP | D8,5 on CPU | 2 |
| J5029107 | LED DIODE | 3 SLR-37VR3F - RED | | D1,2,3,4,5 on RCB / D1,2,3,4 on LCB | 9 |
| 01341623 | DIODE LED | TLN 201 | | D1 on CDB | 1 |
| 01342578 | PHOTO DIODE | TPS 708 | | D2 on CDB | 1 |
| 15019345RI | ZENER DIODE | BZX79C 5.6V | | D4 on CPU | 1 |
| J5019106 | ZENER DIODE | BZX55C 5,1V | | D6,11 on CPU | 2 |
| J5019116 | DIODE TRANSIL | BZW04-5V8B | | D10 on LCB | 1 |

**RESISTOR**

| | | | | | |
|---|---|---|---|---|---|
| J3919104 | RESISTOR ARRAY | EXB-A10E-103-J | | RA1,3,4,5,6 on CPU | 5 |
| J3919108 | RESISTOR ARRAY | EXB-V8V-103-JV | | RA2 on CPU | 1 |
| 13819131RI | UNINFL.RES. | 10 OHM 0.6W 5% | | R65 on CPU | 1 |
| J3809129 | UNINFL. RES. | 220 OHM 0.6W 5% | | R34 on CPU | 1 |
| J3809135 | UNINFL.RES. | 330 OHM 0.6W 5% | | R77,81,82,83,84,85,86,87 on CPU | 8 |

**POTENTIOMETER**

| | | | | | |
|---|---|---|---|---|---|
| 13289217 | ROT. POT. | 100KB 09L1120 | | VR1 on LCB | 1 |
| 13299206 | TRIMMER POT. | EVND 8AA03B24 | | VR1 on CPU | 1 |

**CAPACITOR**

| | | | | | |
|---|---|---|---|---|---|
| J5369103 | ELECTR. COND. RV2 | 100U 16V (SMD) | | C64,37 on CPU | 2 |
| J5369104 | ELECTR. COND. RV2 | 10U 16V (SMD) | | C2,11,15,41,81,83,85,86,87,89,94,95 on CPU | 12 |
| J5369105 | ELECTR. COND. RV3 | 33U 16V (SMD) | | C91 on CPU | 1 |
| J5369102 | ELECTR.COND. RV2 | 47U 16V (SMD) | | C42,65,66 on CPU | 3 |
| J5369106 | ELECTR. COND. RV2 | 1U 50V (SMD) | | C12,70 on CPU | 2 |
| J3629143 | ELECTR. COND. | 10U 16V H.7 | | C3,5 on CDB | 2 |
| J3629142 | ELECTR. COND. | 1U 63V H.7 | | C1 on LCB | 1 |

**INDUCTOR, COIL, FILTER**

| | | | | | |
|---|---|---|---|---|---|
| <<EMI>> | 12449382RI | NOISE SUP. | PLT1-R53C | L4 on CPU | 1 |
| <<EMI>> | 12449370 | NOISE SUP. | SBT-0160W | L1,2 on CPU | 2 |
| <<EMI>> | 12449326 | NOISE SUP. | SBT-0460 | L3 on CPU | 1 |
| <<EMI>> | J2399104 | CHIP NOISE SUP. | EXCCL4532U1 | L5,6,7,8 on CPU | 4 |

**CRYSTAL, RESONATOR**

| | | | | |
|---|---|---|---|---|
| 00894034 | X-TAL | 16 MHZ MA-406 | X1 on CPU | 1 |
| 01124812 | QUARTZ | 10 MHZ MA-406 | X2 on CPU | 1 |

**CONNECTOR**

| | | | | | |
|---|---|---|---|---|---|
| | 13419677RI | 16P FEM. CONNECTOR | AMP 1.27 | CN2,4 on CPU / on RC / on LC | 4 |
| | J3429114 | 22P FEM. CONN. | C/1.25 - H. | CN3 on LCB / CN9 on CPU | 2 |
| | J3429122 | 14P FEM. CONNECTOR | AMP 1.27 | CN1 on RCB | 1 |
| | J3429123 | 8P FEM. CONNECTOR | IL-404-08S-LW | CN1 on LCB | 1 |
| # | J3429127 | 28V FEMALE CONN. | 1,25 90° FE-ST-VK-N | CN3 on RCB / CN6 on CPU | 2 |
| | J3439125 | 5P MALE CONNECTOR | P.2 M | CN2 on RCB / CN1 on CDB | 2 |

**WIRING, CABLE**

| | | | | | | |
|---|---|---|---|---|---|---|
| # | K3468260 | 22P MYLAR CABLE | (44) | 1,25 | From CN9 on CPU to CN3 on LCB | 1 |
| # | K3468261 | 28P MYLAR CABLE | (16) | 1.25 | From CN6 on CPU to CN3 on RCB | 1 |
| | 2348854501 | 16P FLAT CABLE | (18) | -2C | From CN4 on CPU to CN2 on CB | 1 |
| | 7695108001 | 16P FLAT CABLE | (24) | -2C | From CN2 on CPU to CN1 on CB | 1 |
| | 7770306000 | 5P CABLE | (8) | -2C P.2 D/R VA-5 | From CN1 on CDB to CN2 on RCB | |

**BATTERY**

| | | |
|---|---|---|
| J2569102 | 2-BATTERY SET 'AA'-SIZE (ALK.) | 3 |

**SCREW**

| | | | |
|---|---|---|---|
| J2289122 | SCREW | 2.2X6 TC TC BRUN | 2 |
| J2289102 | SELF TAP. SCREW | 2.9X10 TC TC | 6 |
| J2289124 | SELF TAP. SCREW | 2.9X 6 TCTCPRBZ | 27 |
| J2289125 | SCREW | 2.9X10 TC TC PR TROP | 50 |
| J2289132 | PITCH SCREW | M3X16 TC TC | 2 |
| J2289134 | PITCH SCREW | M3X17 TC TSC | 3 |

**PACKING**

| | | | | |
|---|---|---|---|---|
| | K2638127 | POLYST. LOWER SIDE COVER | | 1 |
| # | K2638265 | UPPER POLYST. SIDE | AX-7 | 1 |
| | K2678102 | POLYETH. ENVELOPE 25X45 | | 2 |
| # | K2618264 | OUTER CARTON | AX-7 | 1 |

**MISCELLANEOUS**

| | | | |
|---|---|---|---|
| | J2289113 | NUT 3MA H.3 | 5 |
| | J2139101 | FLAT WASHER I/D 4 | 2 |
| | J2139111 | FLAT WASHER I/D 3X7 TH. 0.6 | 4 |
| | J2139102 | TOOTHED WASHER I/D 3 | 5 |
| | K2168105 | SPACER F/LED H.12 HEX. | 5 |
| | K2168107 | SPACER F/LED H.8.8 HEX. | 4 |
| | 00453223 | LED SPACER H. 7 E.D. 5 | 2 |
| | J2359101 | SPACER 3M ART. SJ5012 | 6 |
| | J2159102 | PLASTIC RIVET SR3055 | 4 |
| | J2209101 | 6-BATTERY HOLDER | 1 |
| | 22925256 | CONTACT F/SENSOR AX-1 | 1 |
| # | 01237945 | PRESSURE SENSOR PB-A0101 | 1 |
| # | K2268170 | VIBRATION DAMPER 60X36 (LIGHT) AX-7 | 1 |
| # | K2268171 | VIBRATION DAMPER 70X49 (LIGHT) AX-7 | 1 |
| # | K2268172 | VIBRATION DAMPER 599X20 (LIGHT) AX-7 | 1 |
| # | K2268173 | VIBRATION DAMPER 39X83 (LIGHT) AX-7 | 1 |
| | 02452467 | RIBBON SENSOR HPD-15 | 1 |
| | 13419723RI | 9V BATTERY CONNECTION | 1 |
| | J2129102 | FEMALE LOCK FOR BELT AX1 | 1 |
| | K2178101 | EXTENSION SPRING | 1 |
| | 22365708 | HOLDER F/POWER SUPPLY CBL | 1 |
| | K2148103 | MODULATION BAR AX-1 | 1 |
| | K1188118 | CONTACT HOLDER + SENSOR | 1 |
| | 01343089 | D-BEAM CONTROLLER ESCT BLK | 1 |
| | 13429823RI | P. SUPPLY PLUG LOCKING | 1 |

**ACCESSORIES**

| | | | |
|---|---|---|---|
| | J2319101 | BLACK BELT - 1.6 M | 1 |
| | J3439116 | MIDI CBL - BLACK - 5 M. | 1 |
| | K6018109 | MIDI GUIDE | 1 |
| # | K6018456 | OWNER'S MANUAL E/D/F/SP/IT/OL AX-7 | 1 |

# TEST MODE

ITEMS REQUIRED:
· MIDI cable;

## HOW TO VISUALIZE THE SYSTEM PROGRAM VERSION

Turn the instrument on, while keeping pressed the button 2 of section PATCH.
After a few seconds, the display will visualize a writing identifying the software version:
i.e.: VER 100 - 04 oct 2001

To exit, turn the instrument off.

## HOW TO CARRY OUT THE FACTORY SETUP

Turn the instrument on while keeping the button WRITE pressed.
After a few seconds, the display will visualize the writing Factory setup.

The Factory Setup function re-establishes the instrument's factory settings.

## HOW TO ENTER TEST MODE

Turn the instrument on while keeping pressed the button 1 of section PATCH.

After a few seconds, the display will visualize the following writing:
TEST ROLAND AX-7 VERSION 1.00

Then the display visualizes:


Every button of section Patch corresponds to a test to carry out.

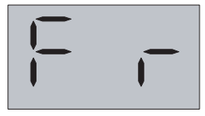
Button 1 ⇒ **Panel check ("F": Front, "R": Rear);**
Button 2 ⇒ **Keyboard check**
Button 3 ⇒ **Memory check**

Turn the instrument off to exit test mode.

Note: After carrying out the tests, the instrument automatically performs the Factory Setup.

## 1) PANEL CHECK (FRONT / REAR)

Once entered test mode, press button 1. The display visualizes:




If you press button 1, you check the **Front Control Panel.**
If you press button 2, you check the **Rear Control panel (MIDI, D-Beam, HOLD and Battery)**.

Press EXIT to come back to the previous menu.

### a) Front Panel check (Controls)

Once you have entered the control panel check, press button 1:
The display visualizes:


If you press the button 1, you check the **buttons**.
If you press the button 2, you check the **LEDs**.
If you press the button 3, you check the **Controls (Expression bar, Touch controller, Data entry).**

#### Buttons check

Once you have entered the front panel test mode, press button 1.
The display visualizes pict. A:

**A** **B**



If you press the buttons of the control panel one after the other, the display will visualize their name.
When you release the button, the display will visualize: OFF (See pict. B).

Press EXIT and WRITE at the same time to exit.
The test procedure automatically goes back to the previous menu.

Note: It is not possible to go on to the following step if this test is not carried out correctly.
If you exit the test before checking all the buttons, the display indicates the name of the untested buttons.
Press EXIT to go back to the main menu.

#### LED check

Once you have entered the control panel check, press button 2.

The control panel LEDs and the display segments will light in sequence.
Press EXIT to leave this test.
Press EXIT again to go back to the main menu.

#### Control check (Expression bar, Touch controller, Data entry).

Once you have entered the control panel check, press button 3.
The display visualizes:


Pressing the button 1, you check the **Expression bar**.
Pressing the button 2, you check the **Touch controller**.
Pressing the button 3, you check the **Data entry** potentiometer.

#### Expression bar

Once you have pressed the button 1, the display visualizes:
Pict. A (value 0) if the Expression bar is released;
Pict. B (value 127) if the Expression bar is completely pressed.

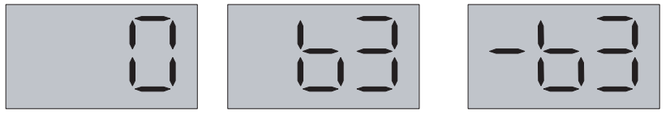
**A** **B**


Press EXIT to leave.
Press EXIT again to go back to the main menu.

**Touch controller**

Once you have pressed button 2, the display visualizes:
Pict. A (Value 0), if you don't touch the touch controller or if you touch it in the middle (please see the reference sign on the touch controller);
Pict. B (Value 63), if you press the touch controller from the middle rightwards;
Pict. C (Value - 63), if you press the touch controller from the middle leftwards.

A B C

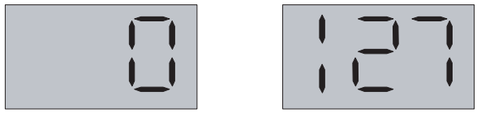



Press EXIT to leave.
Press EXIT again to go back to the main menu.

**Data entry**

Once you have pressed button 3, the display visualizes:
Pict. A (value 0) if the potentiometer slider is in low position;
Pict. B (value 127) if the potentiometer slider is in high position.

A B




Press EXIT to leave.
Press EXIT again to go back to the main menu.

**b) Rear panel (HOLD, D-Beam, Battery, MIDI)**

Once you have entered the rear panel test mode rear panel, press button 2.
The display visualizes:


Press button 1, to check **HOLD switch and D-Beam**.
Press button 2, to check the **Power battery**.
Press button 3, to check the **MIDI**.

**HOLD switch and D-Beam check**

Once you have entered the rear panel test mode, press button 1.
The display visualizes:


Press button 1, to check the HOLD switch.
Press button 2, to check the D-Beam.

**HOLD switch**

If you press the HOLD switch, the display visualzes the status ON (Pict. A); when you release the HOLD switch, the display visualizes its new status OFF (Pict. B).

A B


Press EXIT to leave.
Press EXIT again to go back to the main menu.

**D-Beam**

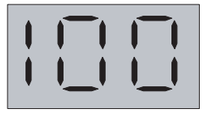
Make sure that the value of the D-Beam controller ranges from 0 (Pict. A) to 127 (Pict. B) depending on the vertical distance of your hand from the infrared LEDs of the D-Beam.
When standing still, the value shown must be 0.

A B


Press EXIT to leave.
Press EXIT again to go back to the main menu.

**Power Battery check**

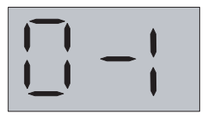
Once you have entered the rear panel test mode, press button 2.
The display visualizes a value representing the power battery charge level, expressed in % value (i.e.: 100 = 100 %).




Press EXIT to leave.
Press EXIT again to go back to the main menu.

**Midi check**

Once you have entered in the rear panel test mode, press button 3.
The display visualizes:

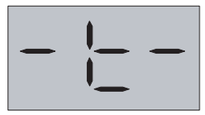



Connect MIDI IN and MIDI OUTsockets by a Midi cable.
In case of correct data transmission and reception, the display visualizes the writing "go".
In case of failure, the display visualizes "0 - 1".

Press EXIT to leave.
Press EXIT again to go back to the main menu.

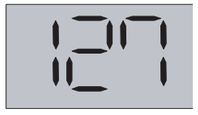
## 2) KEYBOARD CHECK

Once you have entered test mode, press the button 2:
The display visualizes:




Connect the Midi outputs (OUT) to the Midi in of another musical instrument or of a dedicated equipment, provided of a sound source.
Press the keyboard keys. When the keys are released, the display visualizes OFF.
When you press a key, you hear a Piano sound and the display visualizes the velocity level (from 0 to 127).


Released key


Pressed key

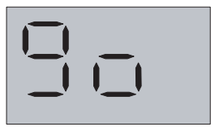
Press EXIT to leave.
Press EXIT again to go back to the main menu.

## 3) MEMORY CHECK

Once you have entered in test mode, press button 3.
The display visualizes:

A


B




The instrument carries out the DEVICE CHECK (Pict. A) automatically.

Caution: Don't turn the power off during this test. If the power goes off accidentally, carry out the test again.

At the end of all the tests, make sure the display visualizes the writing "go" (Pict. B). This means that the instrument memory has been implemented correctly. In case the display visualizes the writing "Err", it means that the memory is damaged.

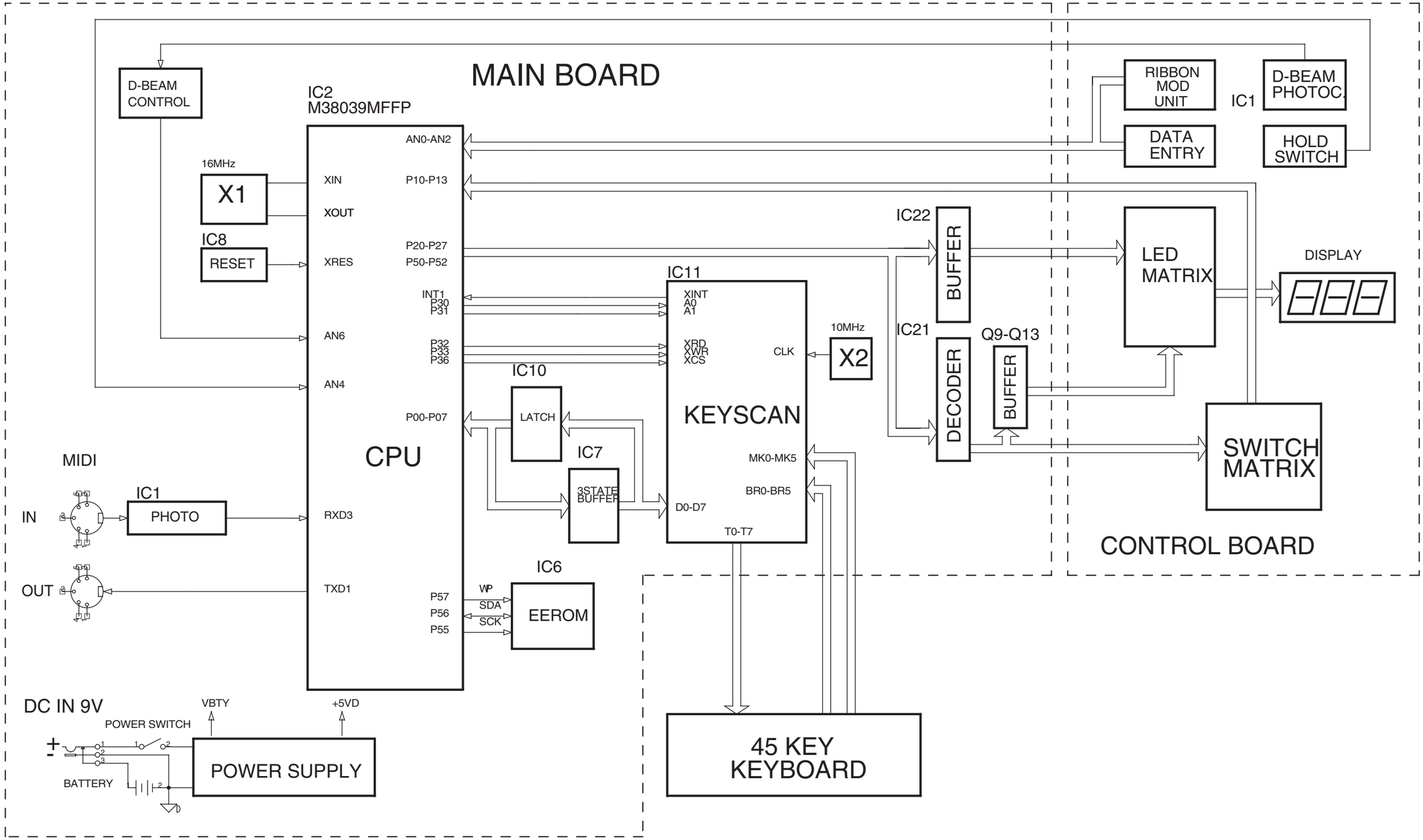
Press EXIT to leave.

To exit, turn the power off.

Note 1: When you turn the power on again, the Factory Setup is carried out automatically.

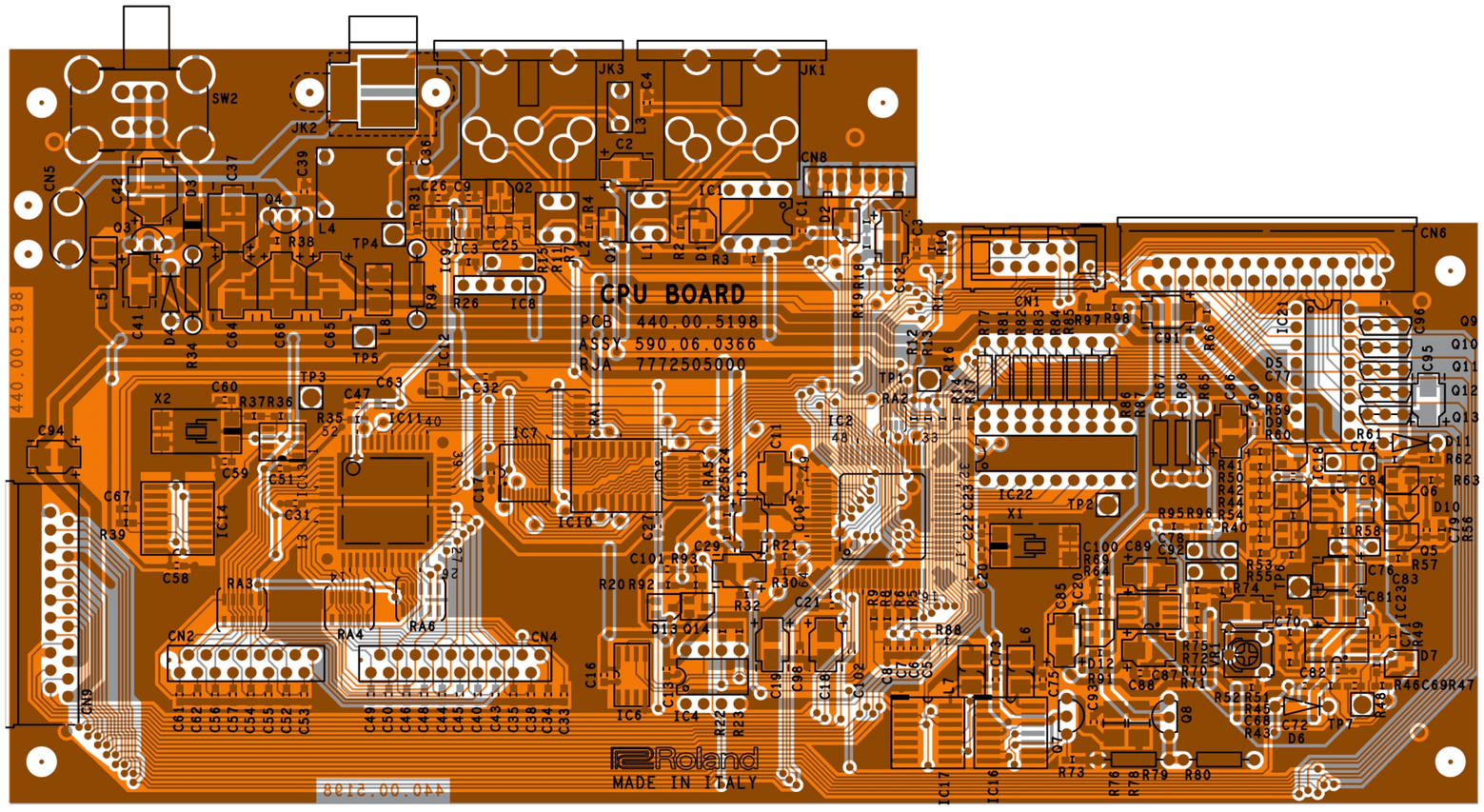
Note 2: If you press EXIT when the display visualizes the main menu, you enter test mode again.

## BLOCK DIAGRAM



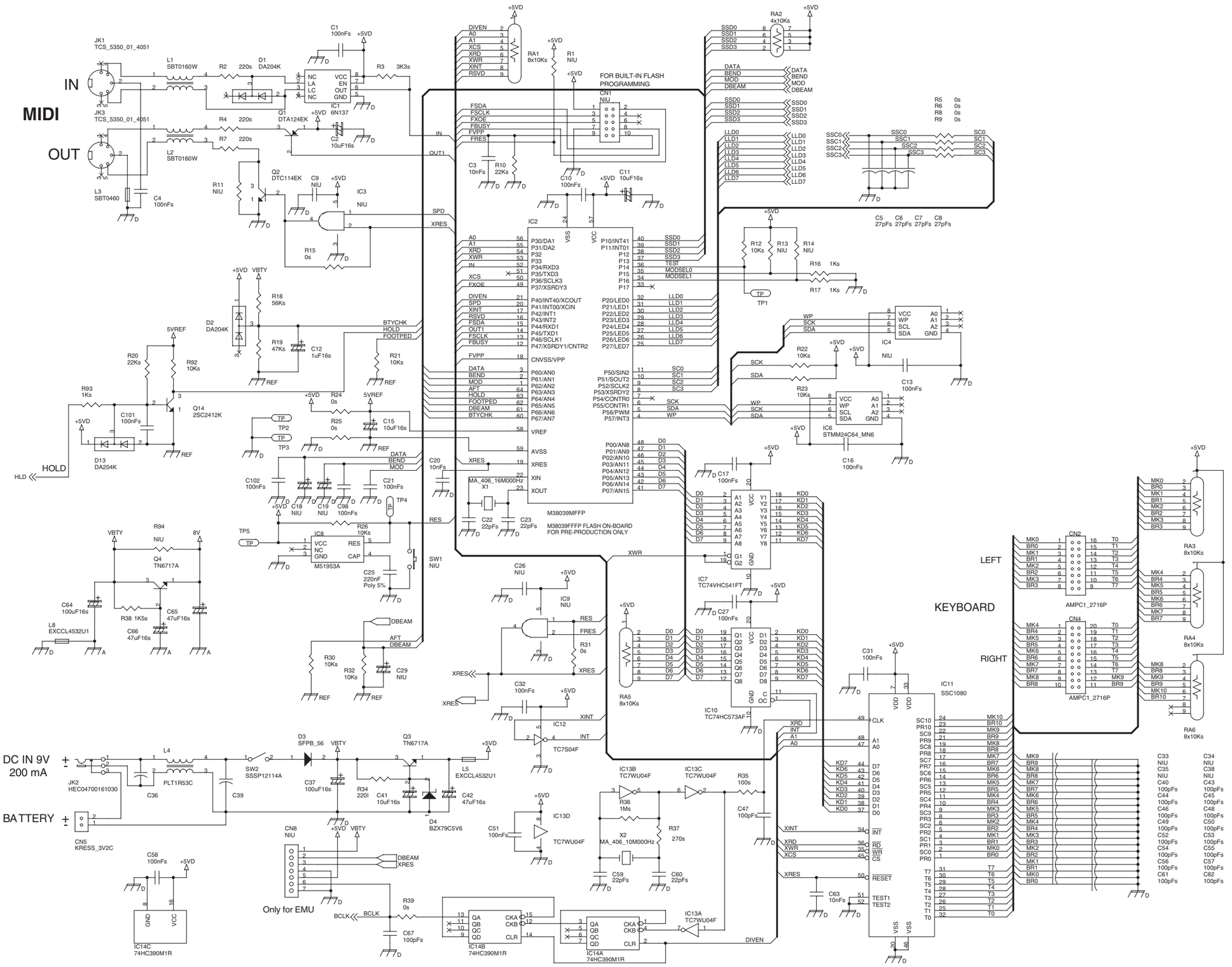
## CPU PCB ASSY

ASSY 7772505000

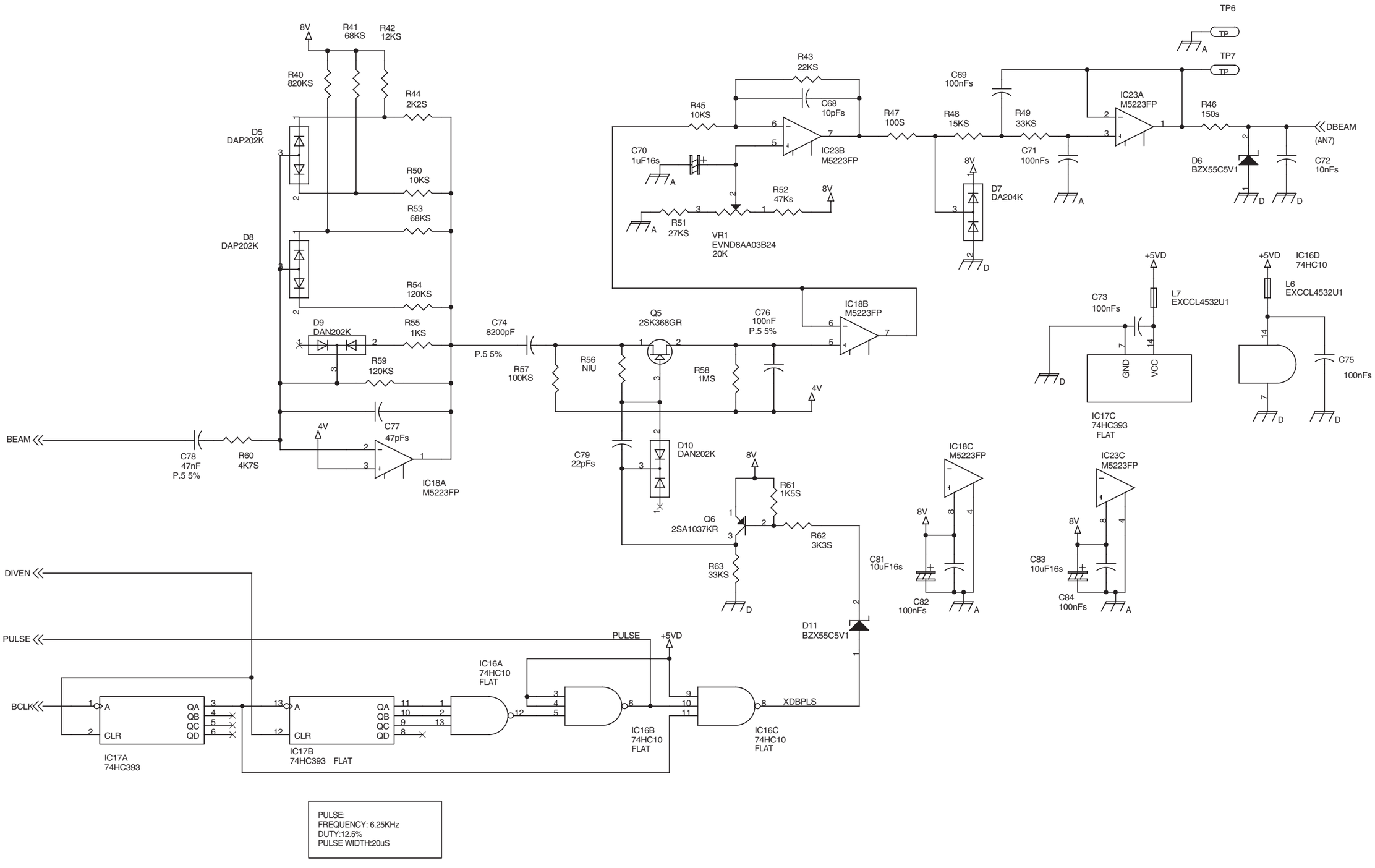



View from component side

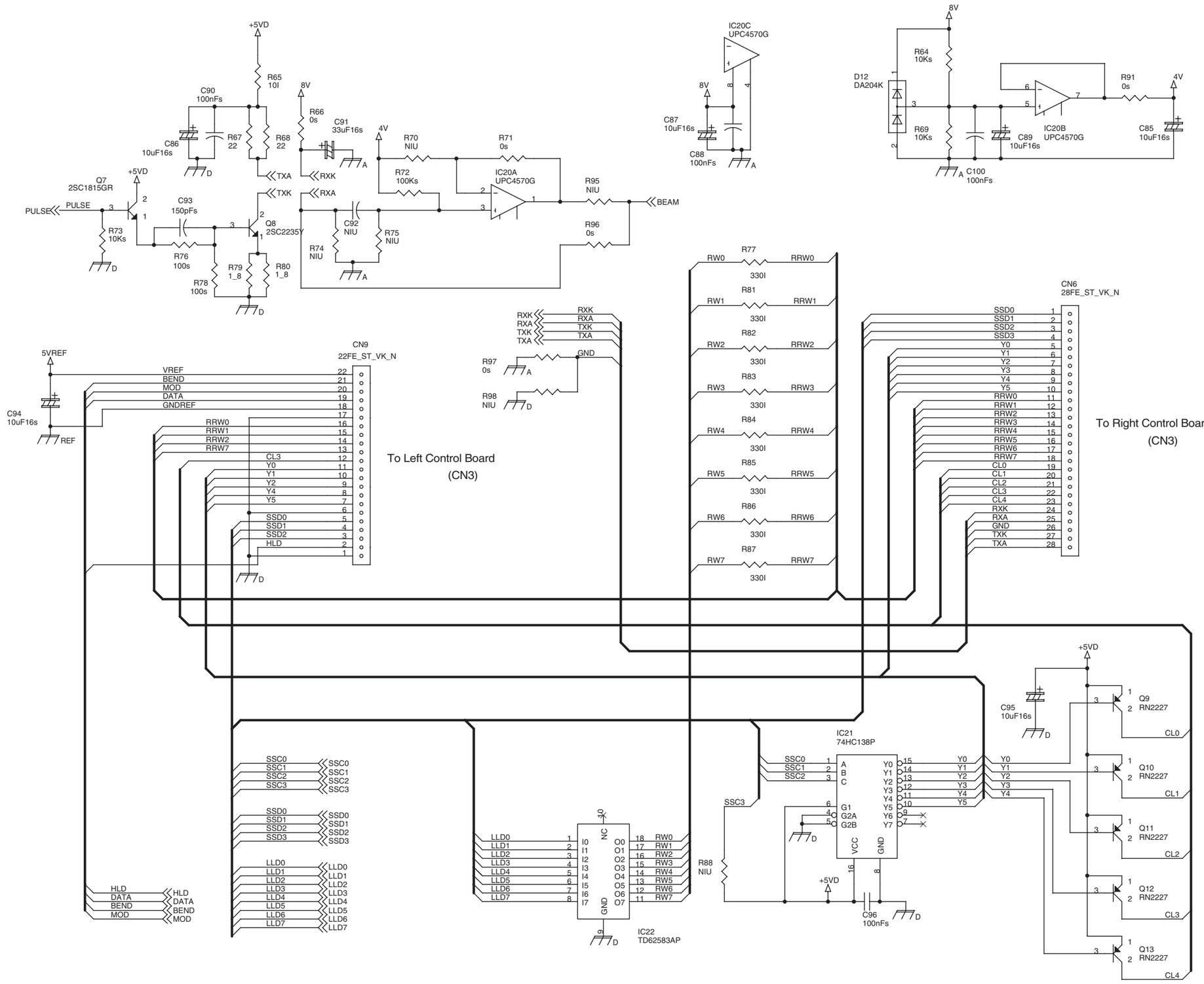
# CIRCUIT DIAGRAM (CPU PCB ASSY 1/3)



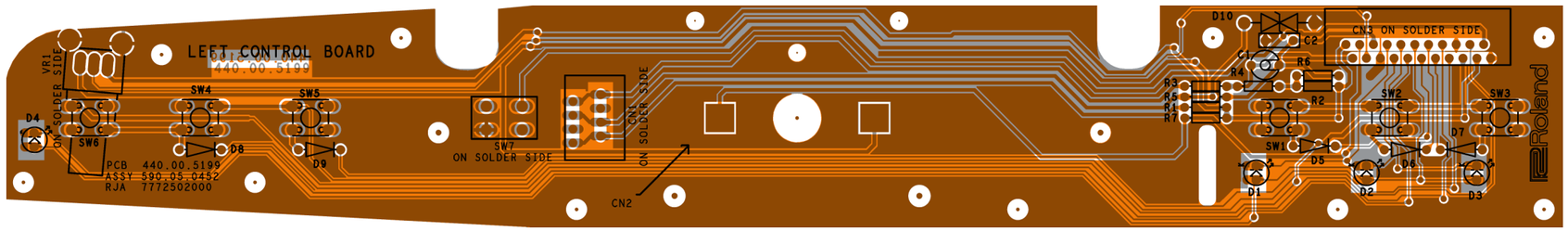
## CIRCUIT DIAGRAM (CPU PCB ASSY 2/3)



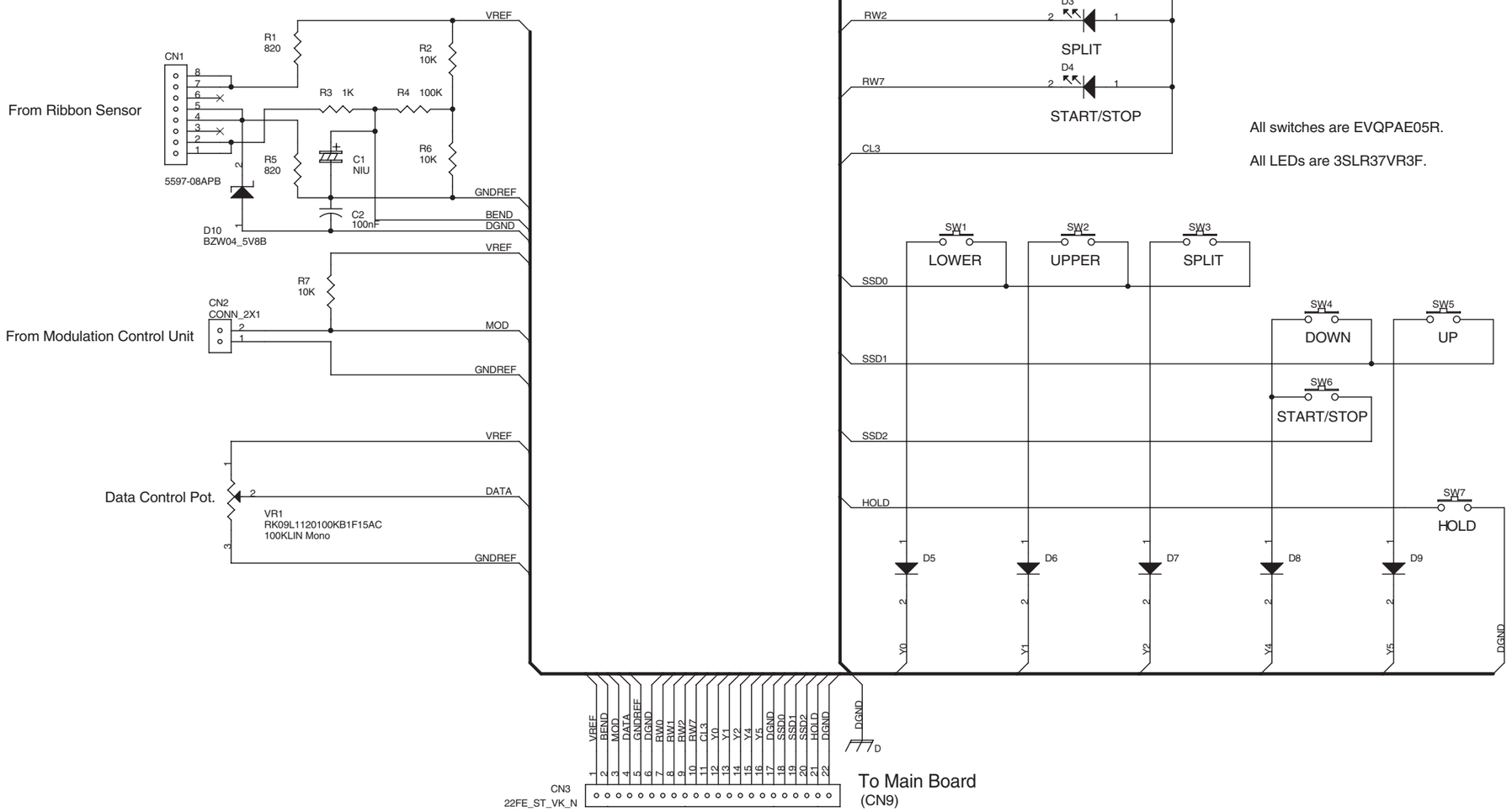
# CIRCUIT DIAGRAM (CPU PCB ASSY 3/3)



# LEFT CONTROL PCB ASSY & CIRCUIT DIAGRAM ASSY 7772502000



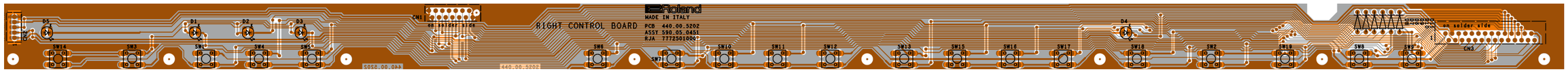

**View from component side**



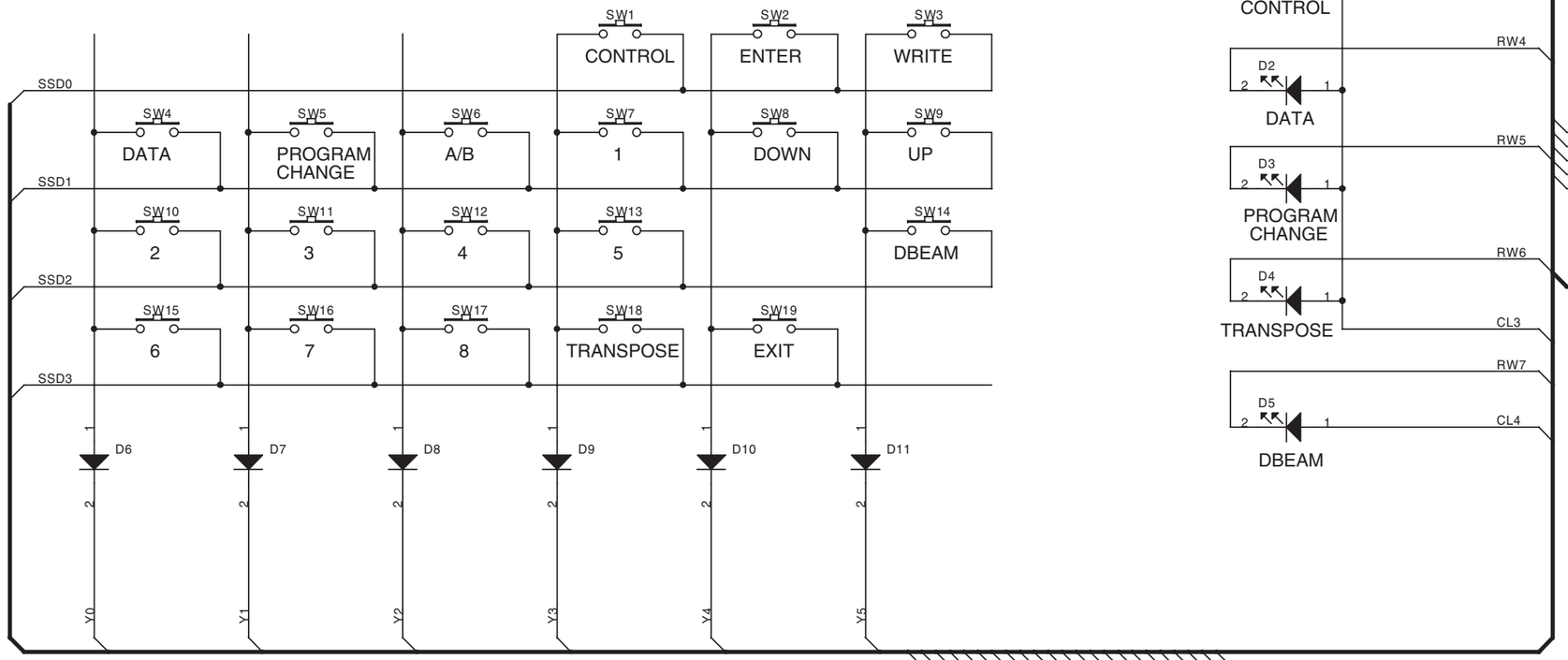

All switches are EVQPAE05R.

All LEDs are 3SLR37VR3F.

# RIGHT CONTROL PCB ASSY & CIRCUIT DIAGRAM ASSY 7772501000

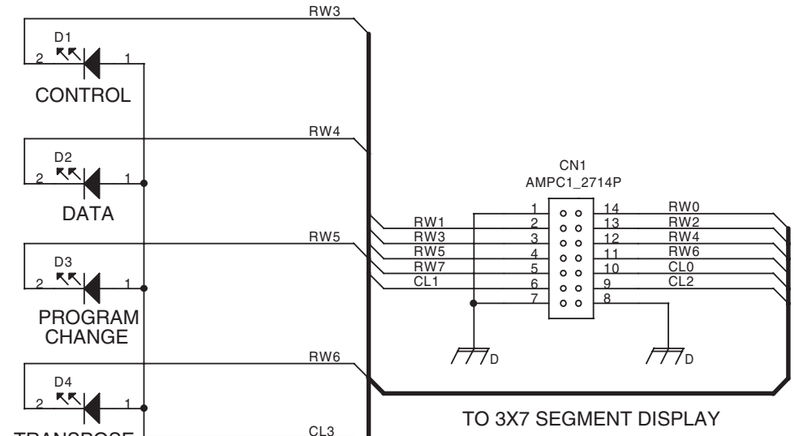


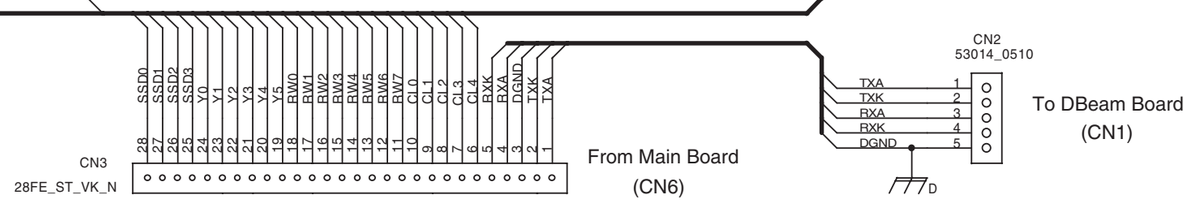

**View from component side**




All switches are EVQPAE05R.

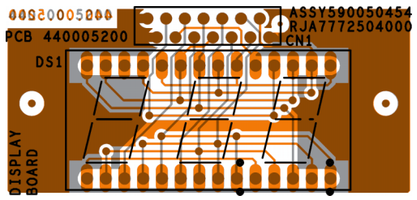
All LEDs are 3SLR37VR3F.



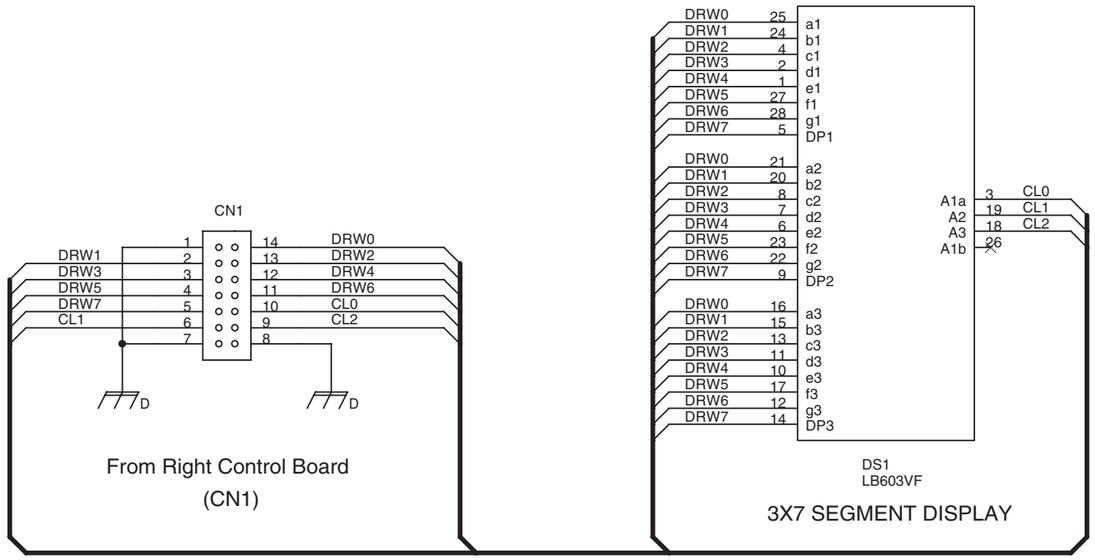



## DISPLAY PCB ASSY & CIRCUIT DIAGRAM

ASSY 7772504000

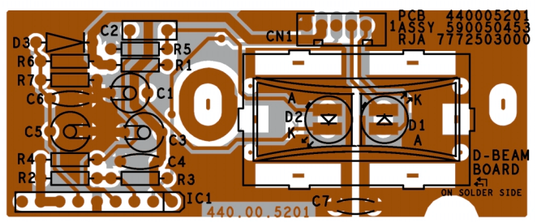



**View from component side**

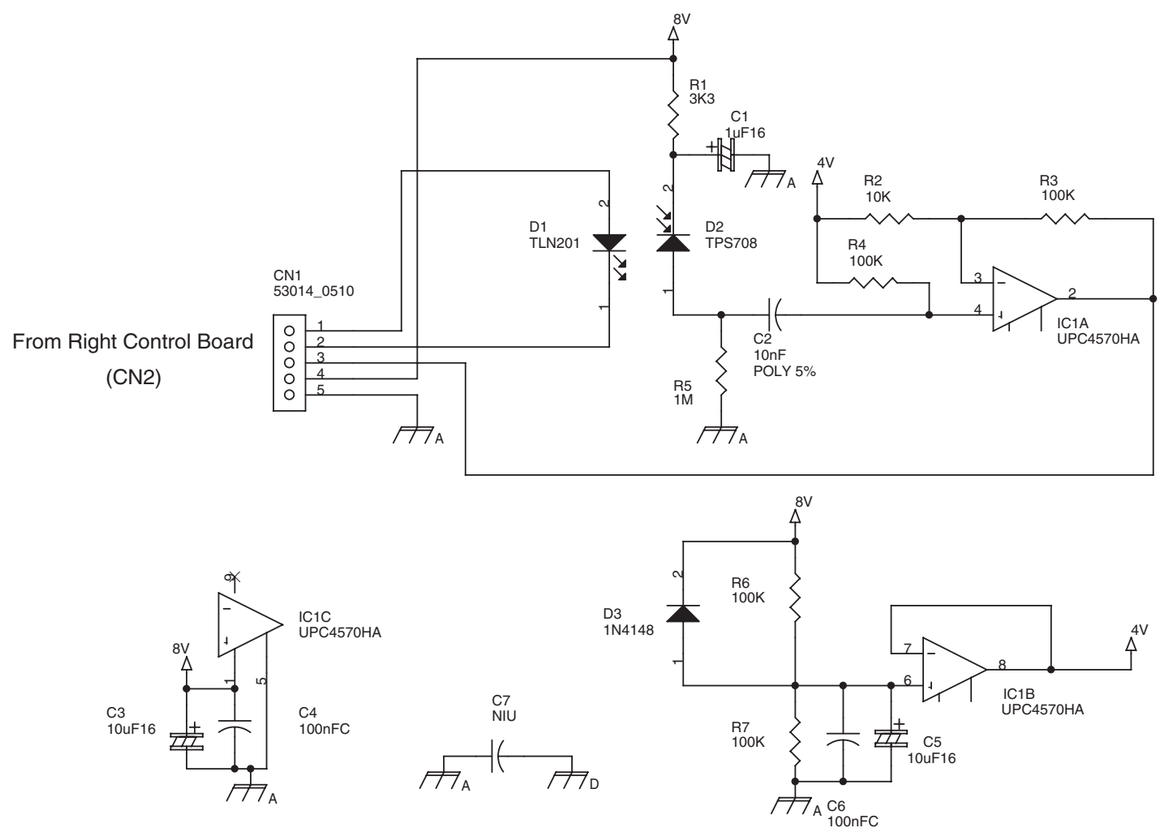



## D-BEAM PCB ASSY & CIRCUIT DIAGRAM

ASSY 7772503000

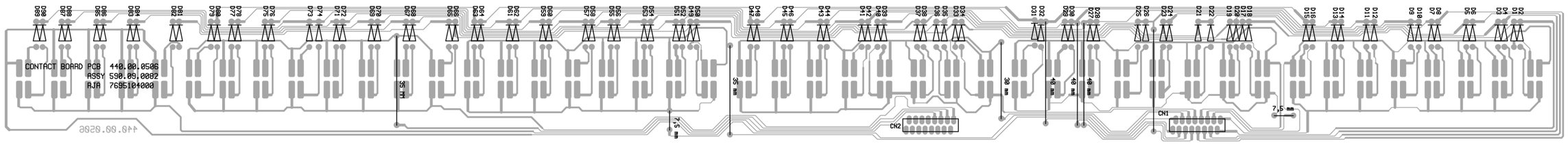



**View from component side**



## CONTACT PCB ASSY w/RUBBER & CIRCUIT DIAGRAM

ASSY 7695104000




**View from component side**