# RD-100
## DIGITAL PIANO

## SERVICE NOTES
### *First Edition*
### Issued by RES

## Specifications

**Keyboard** . . . . . . . . . . . . . . . .88 keys
**Keyboard action** . . . . . . . . . .Hammer Action mechanism
**Sound Source** . . . . . . . . . . . .64 voices polyphonic
**Tones** . . . . . . . . . . . . . . . . . .Piano1, Piano2, Harpsichord, Vibraphone, El. Piano1, El. Piano2, Pipe Organ, Strings, Honky Tonk* (*in Dual mode)
**Display** . . . . . . . . . . . . . . . . .7-segment LED / 3 characters
**Digital effects** . . . . . . . . . . . .Chorus (7 types), Reverb (7 types)
**Tuning** . . . . . . . . . . . . . . . . .Equal Temperament, Pythagorean, Just (Major/minor), Mean Tone, Werckmeister, Kirnberger.
**Stretch Tuning** . . . . . . . . . . .Two types
**Key Touch** . . . . . . . . . . . . . .3 levels (Light/Medium/Heavy)
**Key Transpose** . . . . . . . . . . .-6~+5 semitones (Keyboard entry/button Entry)
**Sequencer** . . . . . . . . . . . . . .2 Tracks (with Track Muting Function) Approx. 5.000 notes
**Metronome** . . . . . . . . . . . . . .0/4, 2/4, 3/4, 4/4, 5/4, 6/4, 7/4, 3/8, 6/8, 9/8, 12/8, adjustable volume (7 levels),adjustable tempo =20~250
**Jacks** . . . . . . . . . . . . . . . . . .Headphone Jack x 2 (stereo), Output Jacks (stereo/mono), MIDI Connectors (In/Out), Pedal jack
**Pedals** . . . . . . . . . . . . . . . . .Damper (Soft via special break-out cable, PEDAL jack is stereo)
**Finish** . . . . . . . . . . . . . . . . .Black stage look.
**Power Consumption** . . . . . . .8W (100V), 8W (117V), 8W (230V, 240V),
**Dimensions** . . . . . . . . . . . . .1360 x 121 x 346 mm
**Net Weight** . . . . . . . . . . . . . .24.0 kg
**Accessories** . . . . . . . . . . . . .See page 6
**Options** . . . . . . . . . . . . . . . .Music rest, MSC series MIDI cables, KC series keyboard amplifiers, RH series headphones,
. . . . . . . . . . . . . . . . . . . . . . .KS series keyboard stand

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## *DISASSEMBLY*
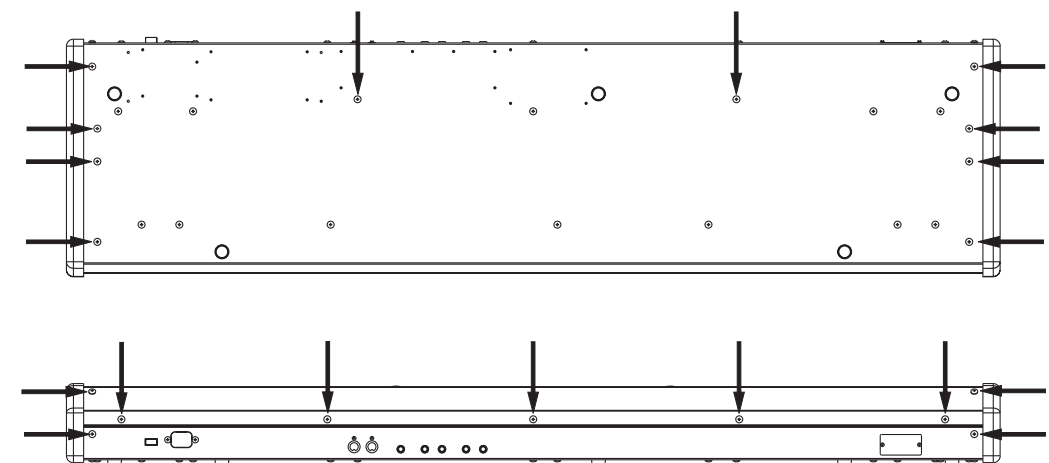


SELFLOCK SCREW M4X10 TCTC TFR 9,5 COD. J2289221

Roland     SN00027     K6018346     Printed in Italy (AC00) (AD)     1

# LOCATION OF CONTROLS

# PARTS LIST OF EXPLODED VIEW
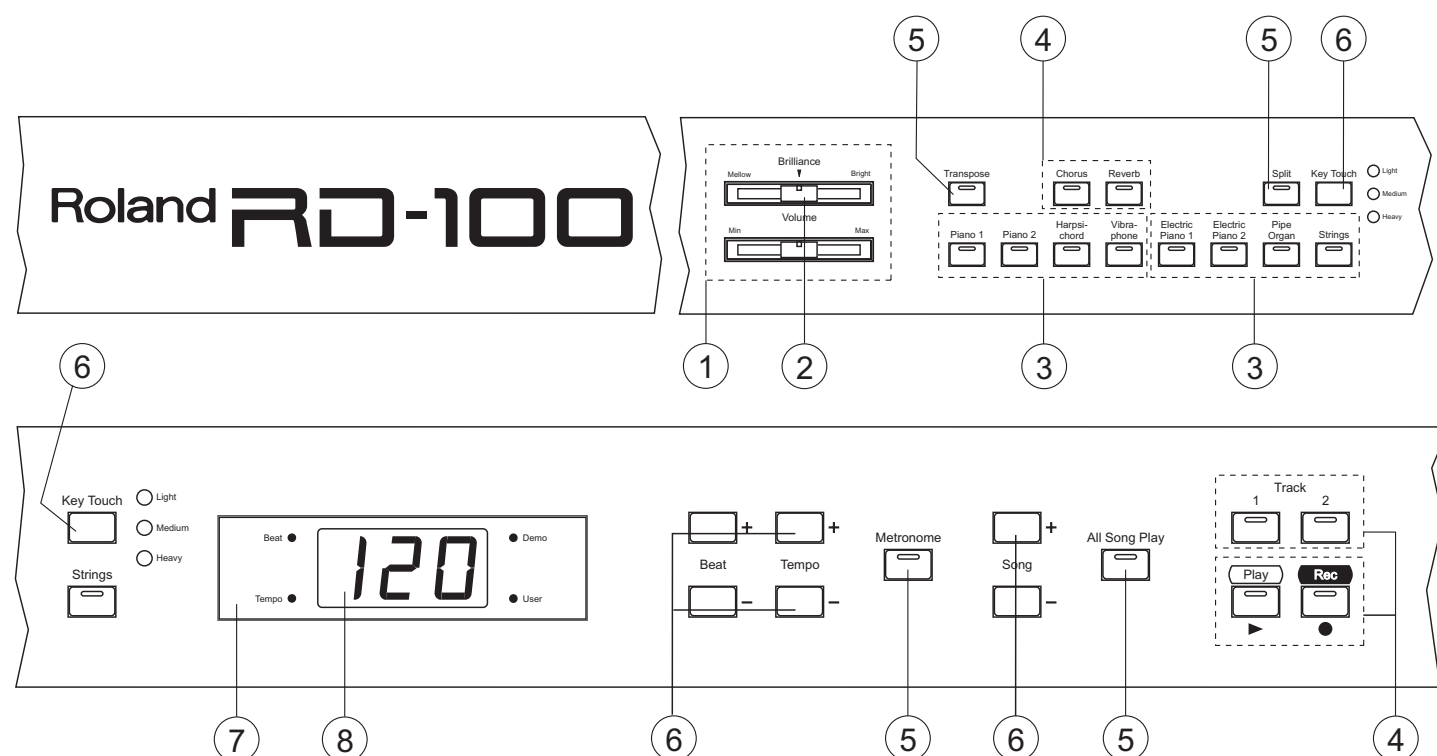


## REAR VIEW
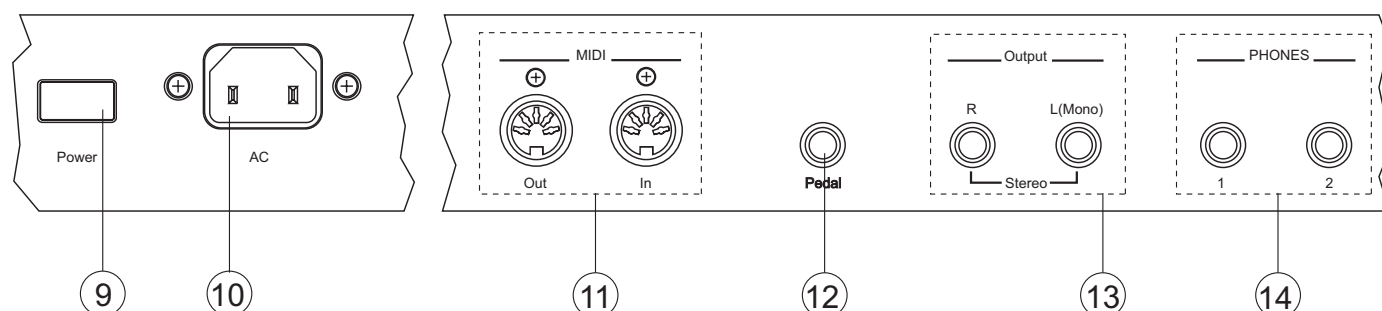


## PART LIST

| No. | Part No. | Description |
|---|---|---|
| 1 | 00671556 | Slider Pot NNK-X10-B14 |
| 2 | 22485192 | Black Knob W/White Indicator |
| 3 | 00900178 | 4-Button Group W/Diff. (Black) |
| 4 | 00900156 | Double Button+Diff.(Black) |
| 5 | 0900145 | Single Button+Diff.(Black) |
| 6 | 00900189 | Black Single Button |
| 7 | 00239767 | Red Display  Type LB-603VF |
| 8 | 7700905000 | Silkscreened Plexiglass |
| 9 | 13129160 | Power Switch SDDLB1 TV-5 |
| 10 | J3449103 | Universal AC INLET On PCB |
| 11 | 13429825 | 5P DIN Socket 2pz YKF51-5054 |
| 12 | 13449258 | Jack (Stereo) HLJ4306-01-3080 |
| 13 | 13449125 | Jack (Mono) HLJ0520-01-110 |
| 14 | 13449126 | Jack (Mono) HLJ0520-01-010 |

| No | PART NAMES | PART NUMBERS |
|---|---|---|
| 1 | MUSIC REST | K2198103 |
| 2 | MUSIC SCORE HOLDER | 22208320 |
| 3 | VARN.+SILK. TOP CABINET | 7700904000 |
| 4 | RED FELT 1250x12x1,5 mm | K2268121 |
| 5 | GUIDE F/POT. COVER | 32225353 |
| 6 | ANTIDUST COVER PL30N | K2248129 |
| 7 | PCB CONTROL | 7699401000 |
| 8 | RIGHT END-BLOCK | K1168105 |
| 9 | BORED RIGHT SIDE PANEL | 7700909000 |
| 10 | MAIN BOARD ASSY | 7700903000 |
| 11 | JACK SOCKET ASSY | 7700902000 |
| 12 | SWITC. POWER SUPPLY SWM18N | K2458138 |
| 13 | PRIMARY ASSY | 7700908000 |
| 14 | POWER SWITCH KNOB (BLACK) | K2478258 |
| 15 | BORED LEFT SIDE PANEL | 7700910000 |
| 16 | RIGHT END-BLOCK | K1168105 |
| 17 | VARN+SILK.BOTTOM CABINET | 7700906000 |
| 18 | PRESSURE RUBBER SFF-018 | J2359105 |
| 19 | 88-KEY KEYBOARD ASSY TP/10 MDF | 7699905000 |
| 20 | BLACK ADHESIVE FELT 25x1x1240 mm | K2268148 |
| *SCREW* | | |
| A | SCREW M3x6 | J2289193 |
| B | SCREW M4x10 | J2289221 |
| C | SCREW M3x10 | J2289108 |
| D | SCREW 3,9x16 | J2289213 |
| E | SCREW 2,9x10 TCTCPR TROP | J2289125 |
| F | SCREW 3,5x16 | J2289186 |
| G | MYLAR WASHER E.D.8 I.D.9,5 | J2139119 |
| H | SELF TAP SCREW 2,9x16 TC TC | J2289202 |
| I | SELF TAP SCREW 2,9x10 TC TC | J2289102 |

# EXPLODED VIEW
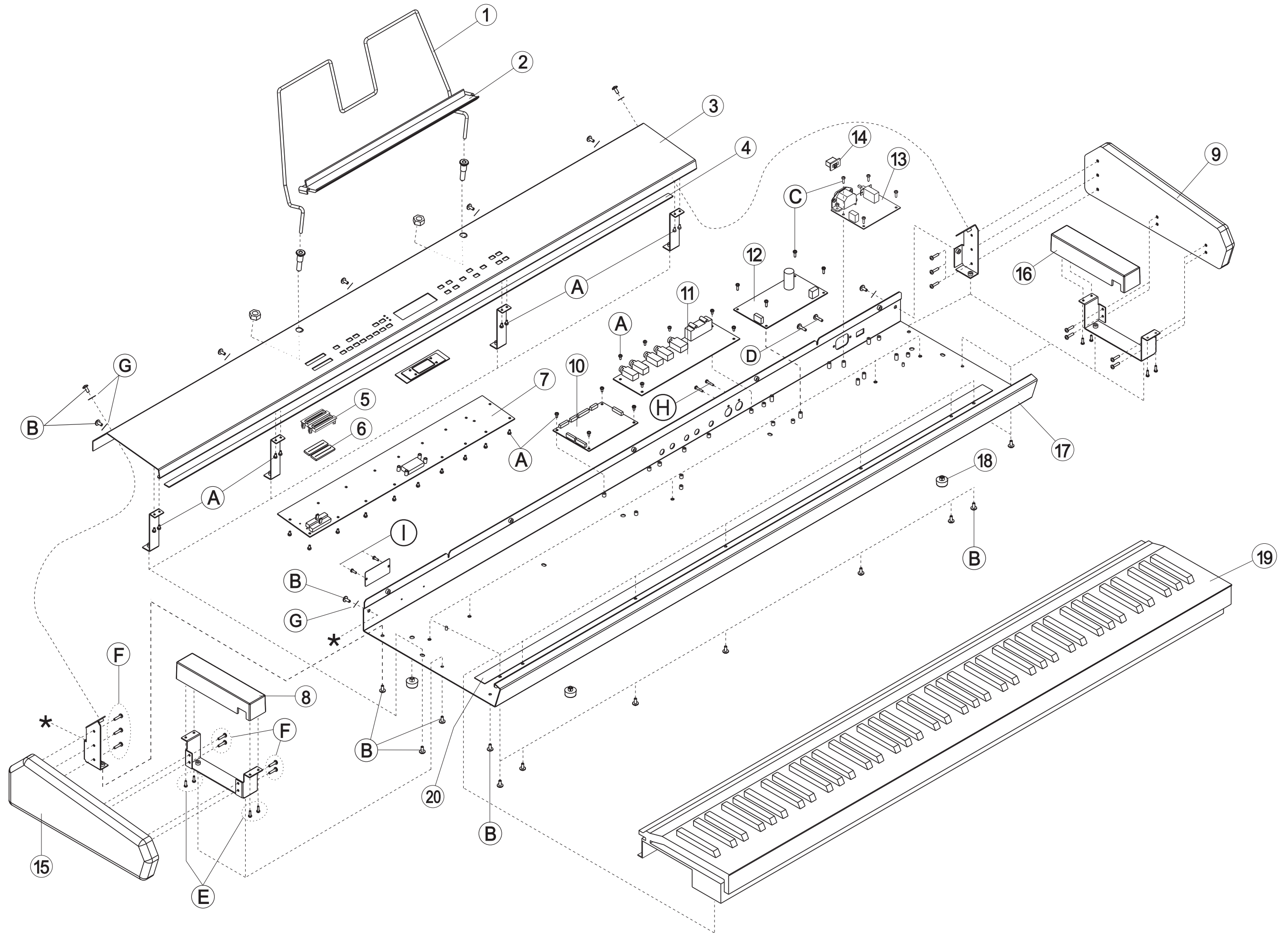
# KEYBOARD PARTS LIST
# 88 KEY TP10MDF KEYBOARD ASSY   code : 7699905000
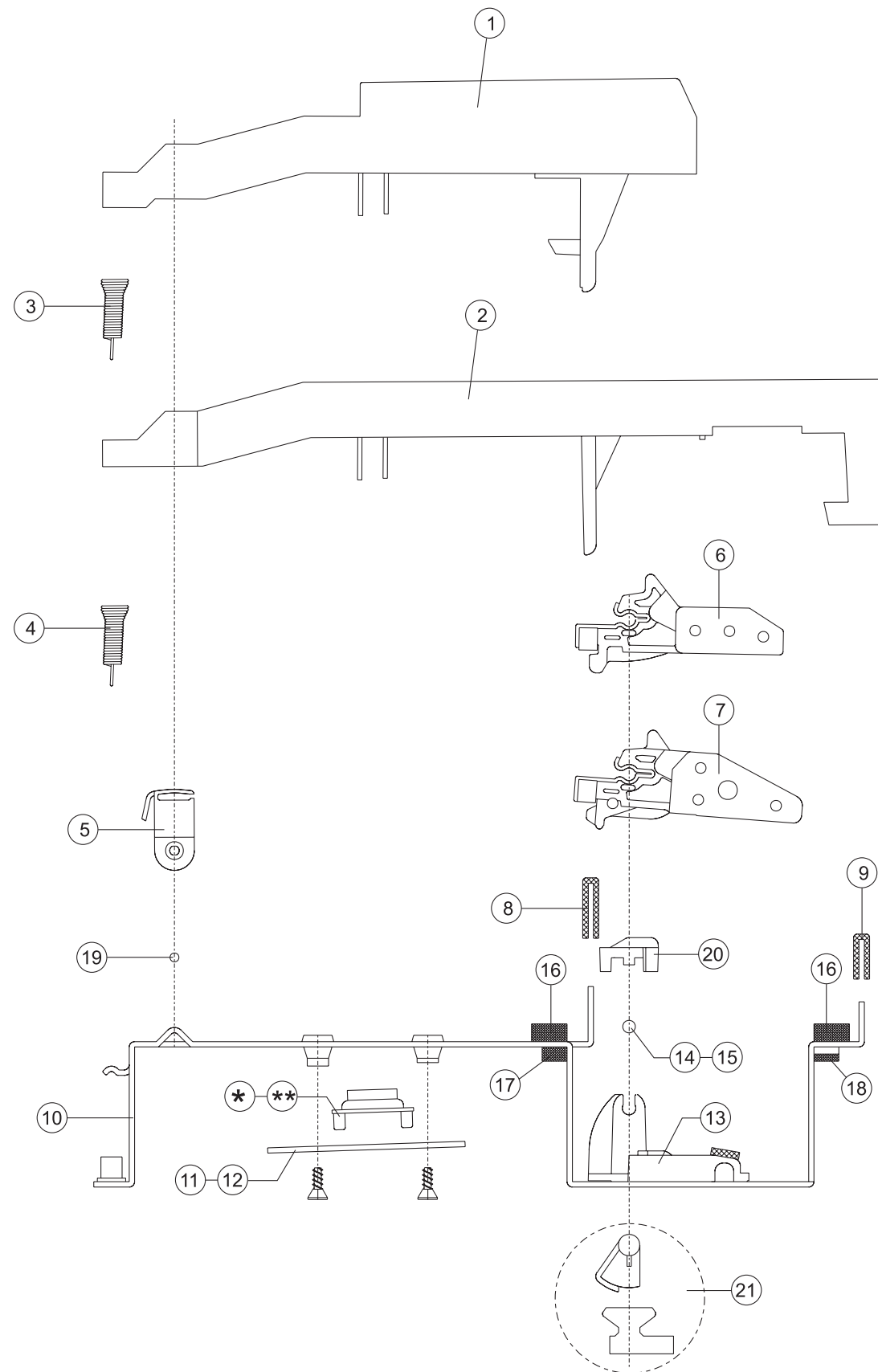


| Ref | DESCRIPTION | N. | Code RJA |
|---|---|---|---|
| 1 | SHARP KEY TP/10MDF | 36 | J2579203 |
| 2 | NATURAL KEY -C- TP/10MDF | 7 | J2579195 |
|  | NATURAL KEY -D- TP/10MDF | 7 | J2579196 |
|  | NATURAL KEY -E- TP/10MDF | 7 | J2579197 |
|  | NATURAL KEY -F- TP/10MDF | 7 | J2579198 |
|  | NATURAL KEY -G- TP/10MDF | 7 | J2579199 |
|  | NATURAL KEY -A- TP/10MDF | 7 | J2579200 |
|  | NATURAL KEY -B- TP/10MDF | 8 | J2579201 |
| 2a | NATURAL KEY -C- TP/10MDF | 1 | J2579202 |
| 2b | NATURAL KEY -A- TP/10MDF | 1 | J2579194 |
| 3 | SPRING F/SHARP KEY TP/10MDF | 36 | J2179111 |
| 4 | SPRING F/NATURAL KEY TP/10MDF | 52 | J2179110 |
| 5 | ABS KEY FIXING | 88 | No service |
| 6 | HAMMER F/SHARP KEY | 36 | J2139123 |
| 7 | HAMMER F/NATURAL KEY | 52 | J2139122 |
| 8 | GUIDE BUSHING F/SHARP KEY | 36 | No service |
| 9 | GUIDE BUSHING F/NATURAL KEY | 52 | No service |
| 10 | KEYBOARD CHASSIS | 1 | No service |
| 11 | RIGHT CONTACT PCB ASSY W/RUBBER CONTACT | 1 | 7698903000 |
| 12 | LEFT CONTACT PCB ASSY W/RUBBER CONTACT | 1 | 7698904000 |
| * | 12P RUBBER CONTACT | 7 | 22185238 |
| ** | 13P RUBBER CONTACT | 1 | 22185239 |
| 13 | CHASSIS F/12 HAMMERS | 7 | No service |
|  | CHASSIS F/4 HAMMERS | 1 | No service |
| 14 | HAMMER BAR 4x664 | 1 | No service |
| 15 | HAMMER BAR 4x557 | 1 | No service |
| 16 | UPPER FELT END F/SHARP AND NATURAL KEY | 2 | No service |
| 17 | LOWER FELT END F/SHARP KEY | 1 | No service |
| 18 | LOWER RUBBER END F/NATURAL KEY FELT+FOAM | 1 | No service |
| 19 | BAR FOR KEY FIXING 1225xD2,5 | 1 | No service |
| 20 | HAMMER BAR HOLDER | 7 | No service |
| 21 | HAMMER BAR HOLDER F/KEYBOARD ENDS | 2 | No service |

# PARTS LIST RD-100 (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.<br>　QTY　PART NUMBER　DESCRIPTION　MODEL NUMBER<br>Ex.　10　22575241　Sharp Key　C-20/50<br>　　15　2247017300　Knob (orange)　DAC-15D<br>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).

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

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

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

| | |
|---|---|
| **MB** | = MAIN PCB ASSY |
| **CB** | = CONTROL PCB ASSY |
| **JB** | = JACK PCB ASSY |
| **PB** | = PRIMARY PCB ASSY |
| **RCB** | = RIGHT CONTACT PCB ASSY W/RUBBER |
| **LCB** | = LEFT CONTACT PCB ASSY W/RUBBER |

## CASING

| | | | |
|---|---|---|---|
| # | 7700904000 | VARN.+SILKSCR. TOP CABINET | RD-100 |
| # | 7700906000 | VARN.+SILKSCR. BOTTOM CABINET | RD-100 |
| # | 7700909000 | RIGHT VARN. SIDE PANEL (MDF) | RD-100 |
| # | 7700910000 | LEFT VARN. SIDE PANEL (MDF) | RD-100 |
| | K1168105 | RIGHT END-BLOCK | HP-136 |
| # | 7700905000 | SILKSCR. PLEXIGLASS | RD-100 |

## KNOB BUTTON

| | | |
|---|---|---|
| K2478258 | POWER SWITCH KNOB   (BLACK) | |
| 00900156 | 2-BUTTON GROUP+DIFF(BLACK)SD2H | |
| 00900145 | BUTTON W/DIFF. (BLACK) SD1H | |
| 00900178 | 4-BUTTON GROUP+DIFF(BLACK)SD4H | |
| 00900189 | BUTTON SX1H  (BLACK) | |
| 22485192 | BLACK KNOB W/WHITE INDICATOR | |
| 32225353 | GUIDE F/POT. COVER | |

## SWITCH

| | | | | |
|---|---|---|---|---|
| | 1312975301 | SWITCH | EVQ-QSB 05K GR.160 | All on CB |
| ⚠ | 13129160 | SWITCH | SDDLB1-TV5 | on PB |

## JACK, SOCKET

| | | | |
|---|---|---|---|
| 13449125 | JACK SOCKET | HLJ0520-01-110 | JK1, JK2 on MB |
| 13449126 | JACK SOCKET | HLJ0520-01-010 | JK5, JK6 on MB |
| 13449258 | JACK SOCKET | HLJ4306-01-3080 | JK3 on MB |
| 13429825 | 5P DIN SOCKET | YKF51-5054 (2PCS) | JK4 on MB |

## DISPLAY UNIT

| | | |
|---|---|---|
| 00239767 | DISPLAY TYPE LB-603VF (RED) | LED20 on CB |

## KEYBOARD ASSY

| | | |
|---|---|---|
| 7699905000 | 88-KEY KEYBOARD ASSY TP/10 MDF | |

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

## POWER SUPPLY UNIT

| | | |
|---|---|---|
| Note | K2458138 | SWITCHING POWER SUPPLY SWM18N |

Note :  Replacement SWITCHING P.S.SWM18N should be made on a unit basis. No replacements available for individual parts. Replacement only be a unit.

## PCB ASSY

| | | | |
|---|---|---|---|
| E # | 7700903000 | MAIN PCB ASSY | RD-100 |
| | 7699401000 | CONTROL PCB ASSY | HP-330E |
| # | 7700902000 | JACK PCB ASSY | RD-100 |
| # | 7700908000 | PRIMARY PCB ASSY | RD-100 |
| | 7698903000 | RIGHT CONTACT PCB ASSY W/RUBBER | |
| | 7698904000 | LEFT CONTACT PCB ASSY W/RUBBER | |

## IC

| | | | |
|---|---|---|---|
| 00901867 | I.C. HD6413003TF16 | (CPU) | IC1 on MB |
| 00897078 | I.C. TC170C200AF-005 | (CUSTOM IC) | IC2 on MB |
| K5258115 | I.C. M5M44256BJ-70NS | FLAT DRAM | IC3, IC4 on MB |
| 15199286 | I.C. AN78L05M FLAT | (REGULATOR) | IC6 on MB |
| 15289105 | I.C. UPC 4570G | (OP AMP) | IC7, IC16 on MB |
| 00129278 | I.C. SSC1080 FOB | (CUSTOM IC) | IC9 on MB |
| J5259110 | I.C. HM62256LFP-7T | FLAT SRAM | IC10, IC11 on MB |
| 15249111 | I.C. TC7WU04 F | FLAT CMOS | IC13 on MB |
| 15249116 | I.C. TC7W00F TE12L | CMOS | IC14 on MB |
| J5259112 | I.C. PCM69AU | DAC (RED LINE) | IC15 on MB |
| # 7700907000 | I.C. 28F400BV-B60 | MASK ROM | IC18 on MB |
| # 01561101 | I.C. ROM LHMN5  KYR | FLAT | IC19 on MB |
| 15169547RI | I.C. 74 HC 08 | DIP CMOS | IC2 on CB |
| 15169550RI | I.C. 74 HC138 | DIP CMOS | IC3 on CB |
| 15189250 | I.C. M5218 AL | (STANDING) | IC4 on CB |
| 15189210 | I.C. BA 5218F | (OP AMP) | IC1, IC6 on JB |
| 15219183 | I.C. M51953 AL | (STANDING) | IC2, IC3 on JB |
| 15229718RI | I.C. 6N 137 | PHOTO-COUP. | IC4 on JB |
| 15269214 | I.C. 74LS05  FLAT | TTL | IC5 on JB |

## TRANSISTOR

| | | | |
|---|---|---|---|
| 15129136 | TRANSISTOR | 2SC-2878-A/B | Q7, Q8 on JB |
| 15319101 | TRANSISTOR | 2SC-2412 | Q1, Q2, Q4, Q5 on JB |
| 15309101 | TRANSISTOR | 2SA-1037KR | Q3, Q6 on JB |
| 15129164 | TRANSISTOR | DTC-114ES | Q7 > Q14 on CB |
| 15119163 | TRANSISTOR | RN2227 | Q15 > Q21 on CB |

## DIODE

| | | | |
|---|---|---|---|
| 15019159RI | DIODE | 1N-4148 | on CB;  on RCB;  on LCB |
| 15339105 | DIODE | DAN-202K | D1 > D6 on JB |
| 15339104 | DIODE | RB420D T146 | D1 on MB |
| J5029107 | LED DIODE | 3 SLR-37VR3F - RED | All on CB |

## RESISTOR

| | | | |
|---|---|---|---|
| J3919108 | RESISTOR ARRAY | EXB-V8V-103-JV | RA12 > RA18 on MB |
| 00126101 | RESISTOR ARRAY | EXB-V8V-221-JV | RA7, RA8, RA9, RA10, RA11 on MB |
| 00346690 | RESISTOR ARRAY | RCE9A-682-JA | RA4, RA5, RA6 on MB |
| 13819132RI | UNINFL.RES. | 100 OHM 0.6W  5% | R1, R2, R43, R44, R46, R47 on JB |
| 15399713 | RESISTOR | 1210 100 OHM 1/4 5% | RA4, RA5, RA6 on MB |

## POTENTIOMETER

| | | | |
|---|---|---|---|
| 00671556 | SLIDER POT. | NNK-X10-B14 | VR1, VR2 on CB |

## CAPACITOR

| | | | | |
|---|---|---|---|---|
| | 15359774 | POLYEST.COND. | 0805 680P 5% | C12, C13 on MB |
| | 13649103J0 | UNPOL.COND. | 10U 16 P5 | C1, C2, C25, C26 on JB |
| | J3629103 | ELECTRL.COND. | 100U 25V P5 | C3, C4, C17, C21, C22, C34, C35, C36 on JB |
| | J3629147 | ELECTR. COND. | 220U 25V P.5 | C33 on JB |
| | J3629104 | ELECTRL.COND. | 10U 50V P5 | C13 on JB |
| | J3629150 | ELECTR.COND. | 47U 16V H.7 | C1, C14, C15, C25, C26 on CB |
| ⚠ | 13529104RI | CAPACITOR | DE1310E472MVA-KH | C1 on PB |
| | 00908012 | CAPACITOR | 0.22F  5.5V | C38 on MB |
| | J5369103 | ELECTR. COND. | 100U 16V (SMD) | C23 on MB |
| | J5369104 | ELECTR. COND. | 10U 16V (SMD) | C10, 11, 47, 50, 51, 54, 56, 70, 72, 78, 79, C85 on MB |
| | J5369102 | ELECTR.COND. | 47U 16V (SMD) | C58, C59 on MB |

## INDUCTOR, COIL, FILTER

| | | | |
|---|---|---|---|
| <<EMI>> 12449370 | NOISE SUP. | SBT-0160W | L1, 2, 4, 5, 6 on JB |
| <<EMI>> 12449326 | NOISE SUP. | SBT-0460 | L3, L7 on JB |
| <<EMI>> 12449380 | NOISE SUP. | EXC-ELDR25V | L11 on JB |
| <<EMI>> 12449358 | NOISE SUP. | FL5R200N PNT | L9, 10, 12, 13 on JB |
| <<EMI>> 12449392 | NOISE SUP. | SNT-D30 | L8, L14 on JB |

## CRYSTAL, RESONATOR

| | | | |
|---|---|---|---|
| 00894034 | QUARTZ | 16,000 MHZ  MA-406 | X2 on MB |
| 00901912 | QUARTZ | 24,576 MHZ  MA-406 | X1 on MB |

## CONNECTOR

| | | | | |
|---|---|---|---|---|
| 13369689RI | 20P | FEM. CONNECTOR | AMP 1.27 | CN1, CN2 on MB / CN1 on RCB/CN1 on LCB |
| J3439113 | 7P | MALE CONNECTOR | P 2.5 M | CN3 on JB |
| J3439120 | 4P | MALE CONNECTOR | P.2 M | CN2 on RCB, CN2 on LCB |
| J3439122 | 8P | MALE CONNECTOR | P.2 M | CN5 on CB, CN4 on JB |
| J3439125 | 5P | MALE CONNECTOR | P.2 M | CN6 on MB /CN3 on CB |
| J3439141 | 10P | MALE CONNECTOR | P.2 M | CN5, CN7 on MB / CN4 on CB, CN5 on JB |
| J3439148 | 7P | MALE CONNECTOR | P.2 M | CN4 on MB / CN1 on JB |
| 13439611RI | 3P | SCREW CLAMP | P10 | CN1 on PB |

## WIRING, CABLE

| | | | | |
|---|---|---|---|---|
| 7698907000 | 4P | CABLE ASSY | (6        2C P.2 | From CN2 on RCB to CN2 on LCB |
| 7700118000 | 5P | CABLE ASSY | (44)      2C P.2 | From CN6 on MB to CN3 on CB |

| 7699408000 | 7P | CABLE ASSY | (38) | 2C P.2 | | From CN4 on MB to CN1 on JB |
| 7697239001 | 7P | CABLE ASSY | (16) | 2C P 2.5 D/R | | From CN2 on Switching B. to CN3 on JB |
| 7700115000 | 8P | CABLE ASSY | (40) | 2C P.2 | | From CN5 on CB to CN4 on JB |
| 7699413000 | 10P | CABLE ASSY | (12) | 2C P.2 | | From CN7 on MB to CN5 on JB |
| 7699418000 | 10P | CABLE ASSY | (38) | 2C P.2 | | From CN5 on MB to CN4 on JB |
| K3468178 | 20P | FLAT CABLE | (44) | 2C/D | | From CN2 on MB to CN1 on RCB |
| K3468185 | 20P | CABLE ASSY | (24) | 2C | | From CN1 on MB to CN1 on LCB |

## AC INLET

⚠    J3449103     UNIVERSAL AC INLET

## SCREW

| | J2289102 | SELF TAP.SCREW | 2.9X10 TC TC |
| | J2289108 | SELF LOCK.SCREW | M3X10 TCTC H.6 |
| | J2289113 | NUT | 3MA H.3 |
| | J2289186 | SCREW | 3.5X16 TCPR TFR H.8 BRUN |
| | J2289193 | SELF LOCK.SCREW | M3X6 TC TC H.6 |
| | J2289202 | SELF TAP.SCREW | 2.9X16 C C |
| | J2289213 | SELF TAP.SCREW | 3.9X16 TC TC |
| # | J2289221 | SELF LOCK.SCREW | M4X10 TC TC TFR 9.5 |
| # | J2289222 | NUT | 10MA TH.8 |

## PACKING

| # | K2638211 | RIGHT LDPE PROTECTION | RD-100 |
| # | K2638212 | LEFT LDPE PROTECTION | RD-100 |
| # | K2638213 | CENTRAL LDPE PROTECTION | RD-100 |
| # | K2638214 | LDPE PROTECTION F/PEDAL | RD-100 |
| | K2678119 | CARTENE ENVELOPE HD CM.170X56 | |
| # | K2618207 | OUTER PACKING | RD-100 |

## MISCELLANEOUS

| | J2139119 | MYLAR WASHER E.D.8 I.D.4 |
| | K2168102 | SPACER FOR LED H.2.8 D.E. 5.5 |
| | K2168109 | SPACER FOR LED H.10 - D.E. 5.5 |
| | K2168112 | LED SPACER H. 4.5 MAX 9 MM |
| | J2359105 | PRESSURE RUBBER SFF-018 |
| | K2268121 | RED FELT MM 1250X12X1.5 |
| | K2248129 | ANTIDUST COVER PL30N |
| | K2268148 | ADHESIVE BLACK FELT 25X1X1240 |
| # | K253810302 | FUSE WARNING LABEL |

## ACCESSORIES

| ⚠ | J3439150 | MAINS CABLE H05VV+POL.SOCKET | (230V) |
| ⚠ | J3439128 | CABLE 498/3SJT 2X18 AWG-C17 | (117V) |
| ⚠ | 13499152RI | CABLE BS/13/H05VV-F3G0.75-V | (230VE) |
| ⚠ | J3439167 | MAINS CABLE SAA/2-H05VV5 2X1-C17 | (240VA) |
| # | K6018342 | O.MANUAL (E/D/F/I/SP/DUTCH) | RD-100 |
| | J3059103 | PEDAL W/CABLE | |

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

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

A

**BLOCK DIAGRAM**



**CONTROL BOARD**

VOLUME | BRILLIANCE

LED+SW MATRIX

**MAIN BOARD**

IC10,IC11 — SRAM
IC18 — ROM
IC1 — CPU (IP, OP, A, D)

ADDRESS BUS
DATA BUS

IC3,IC4 — PS RAM
IC2 — XP (EA, ED, WA, WD)
IC19 — WAVE ROM

IC9 — KEY SCAN (A, D, T, MK BK)
IC15 — D/A (DATA, LOUT, ROUT)
IC7 — I/V
IC16 — LPF

MIDI OUT — Q6 BUFFER
MIDI IN — IC4 PHOTO
DAMP/SOFT SWITCH — REF
OUTPUT L/M R
PHONES 2
PHONES 1

L R — IC1 OUTPUT BUFFER
Q7 SQLC Q8
L R — IC6 PHONES BUFFER

RESET — IC2
IC3,Q4,Q5 — MUTING
Q1,Q2,Q3 — SQUELCH CONTROL

**JACK BOARD**

**KEYBOARD   88 KEYS**

-15V  +15V  +5V

**SWITCHING SWM18N**

POWER SUPPLY

POWER SWITCH

AC INLET

**PRIMARY BOARD**

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

A   **E MAIN PCB ASSY**        ASSY 7700903000

B

C

D

E

F

G

H

I

J

K

L

M

N

O

P

Q

R

S
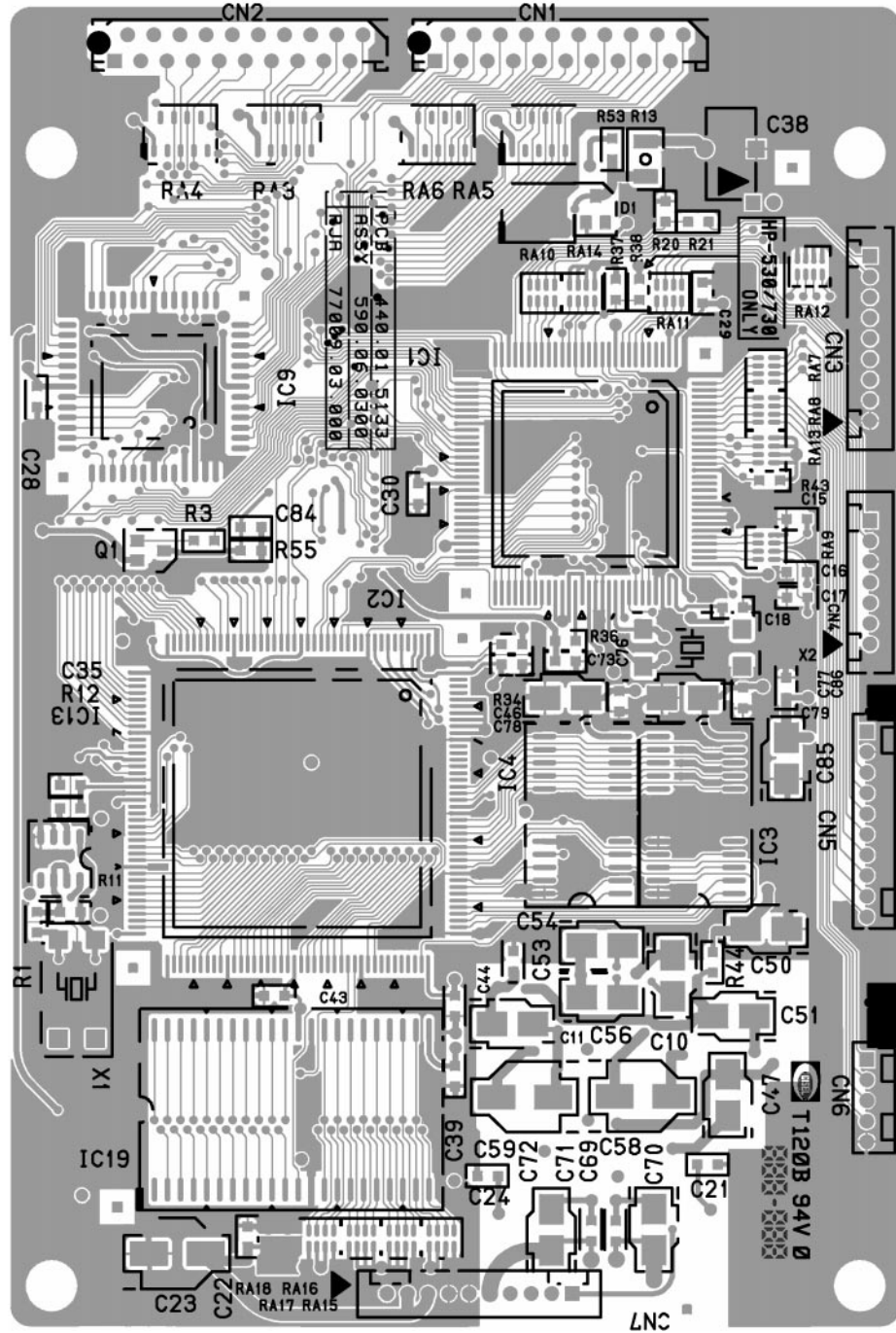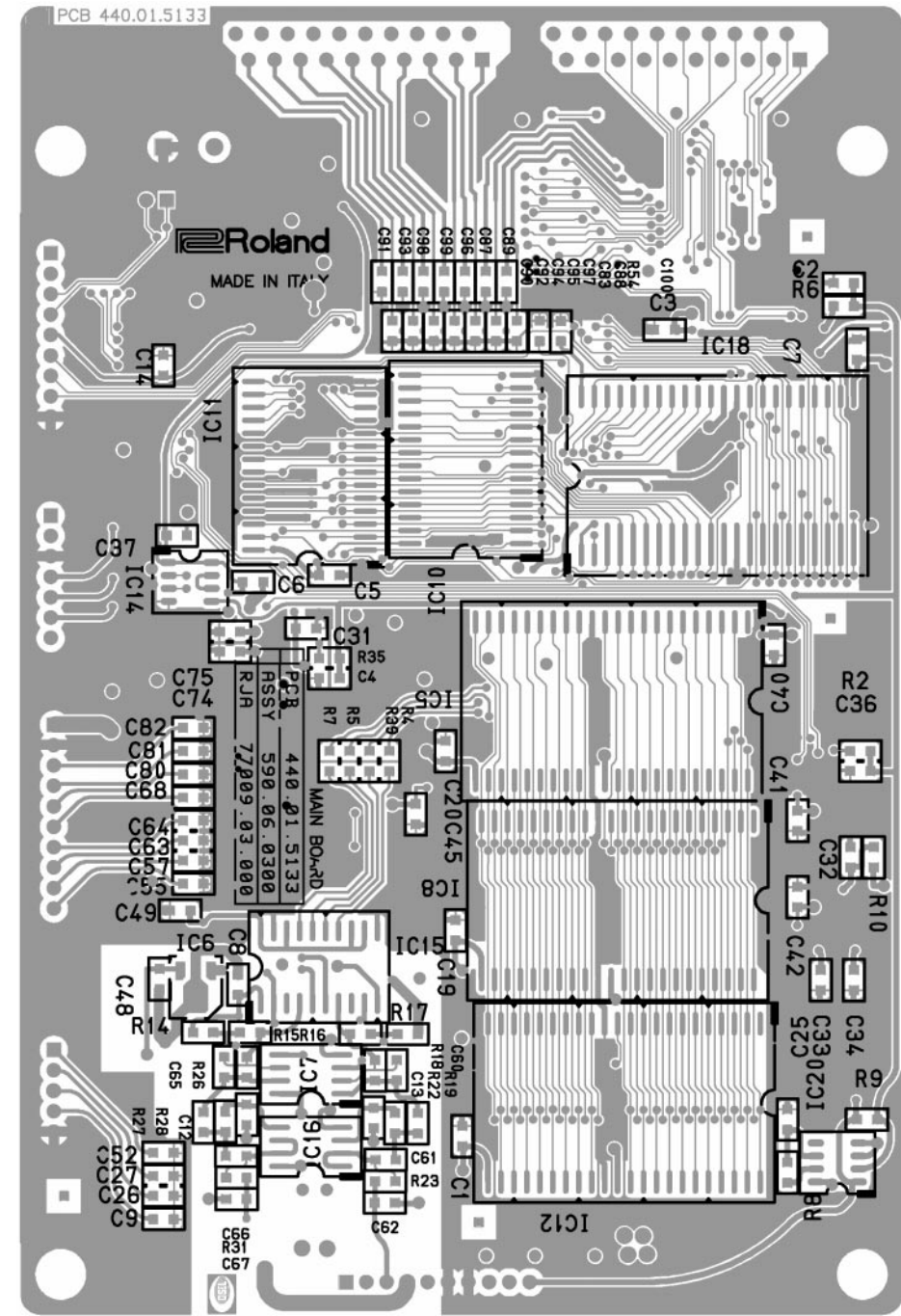
T        View from component side                                                         View from solder side
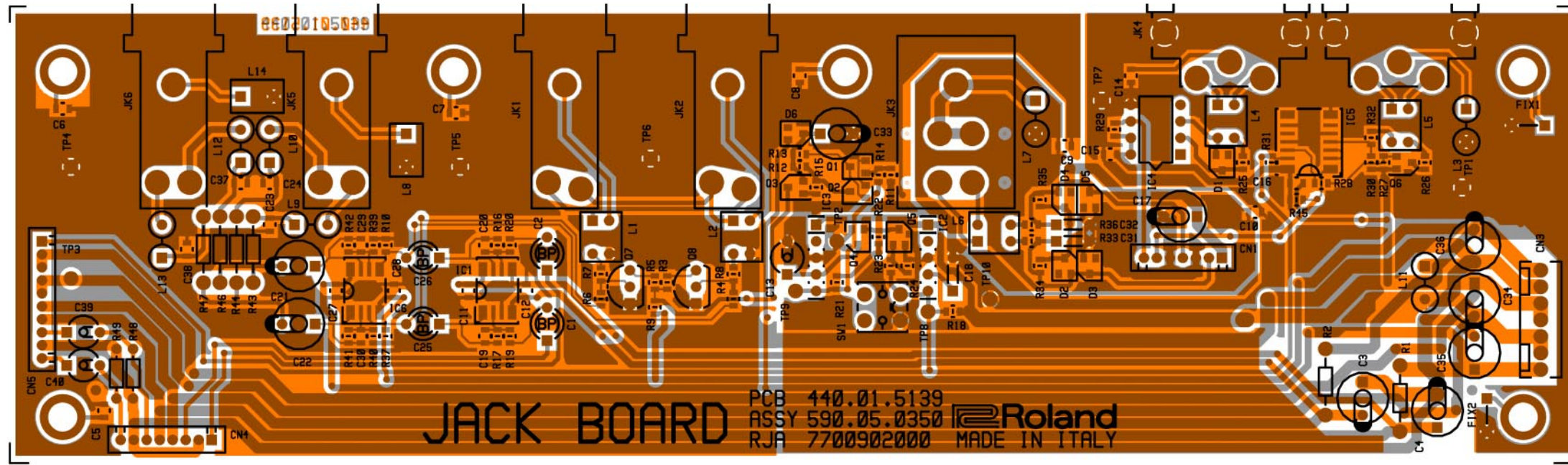
U

# CIRCUIT DIAGRAM (MAIN PCB ASSY)
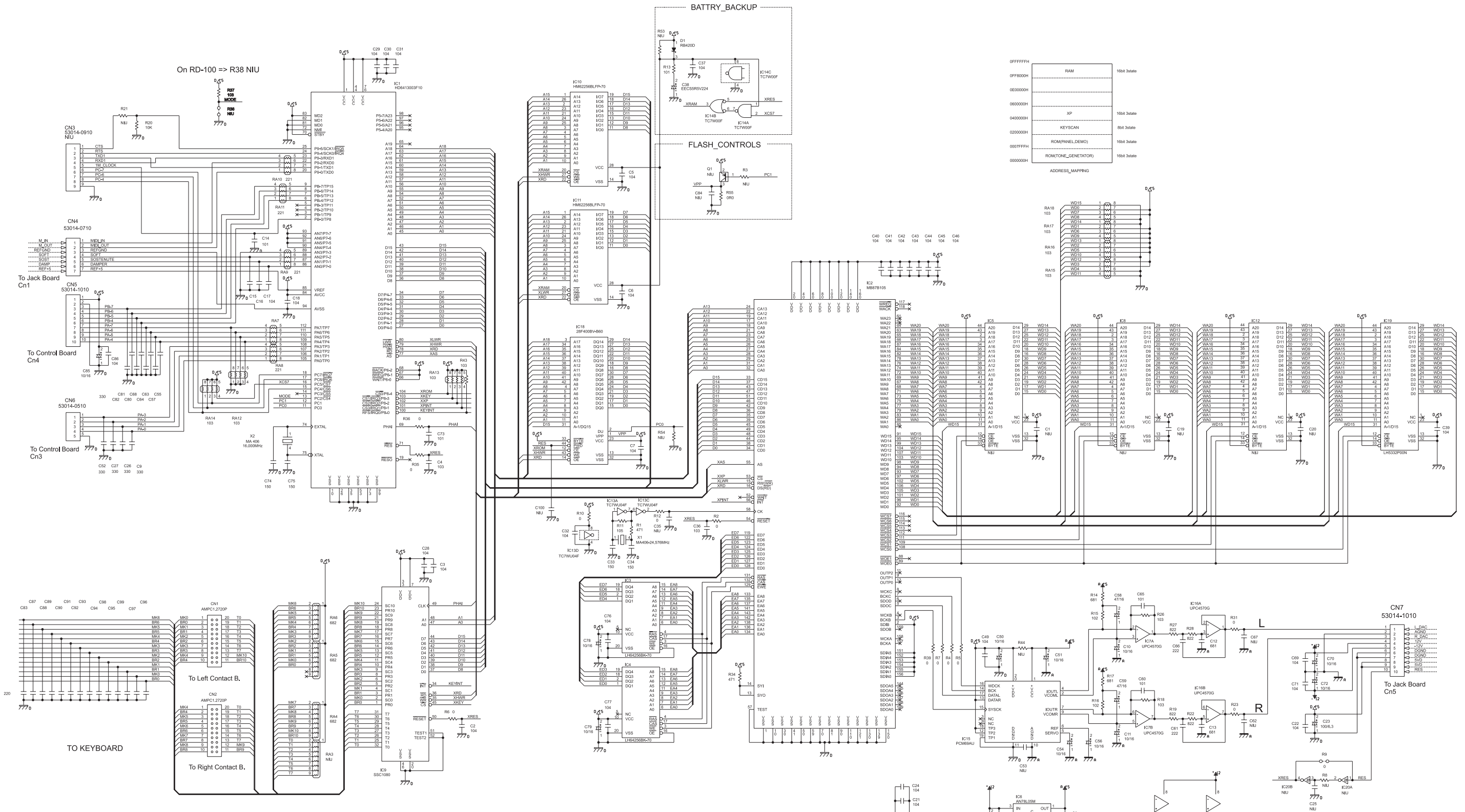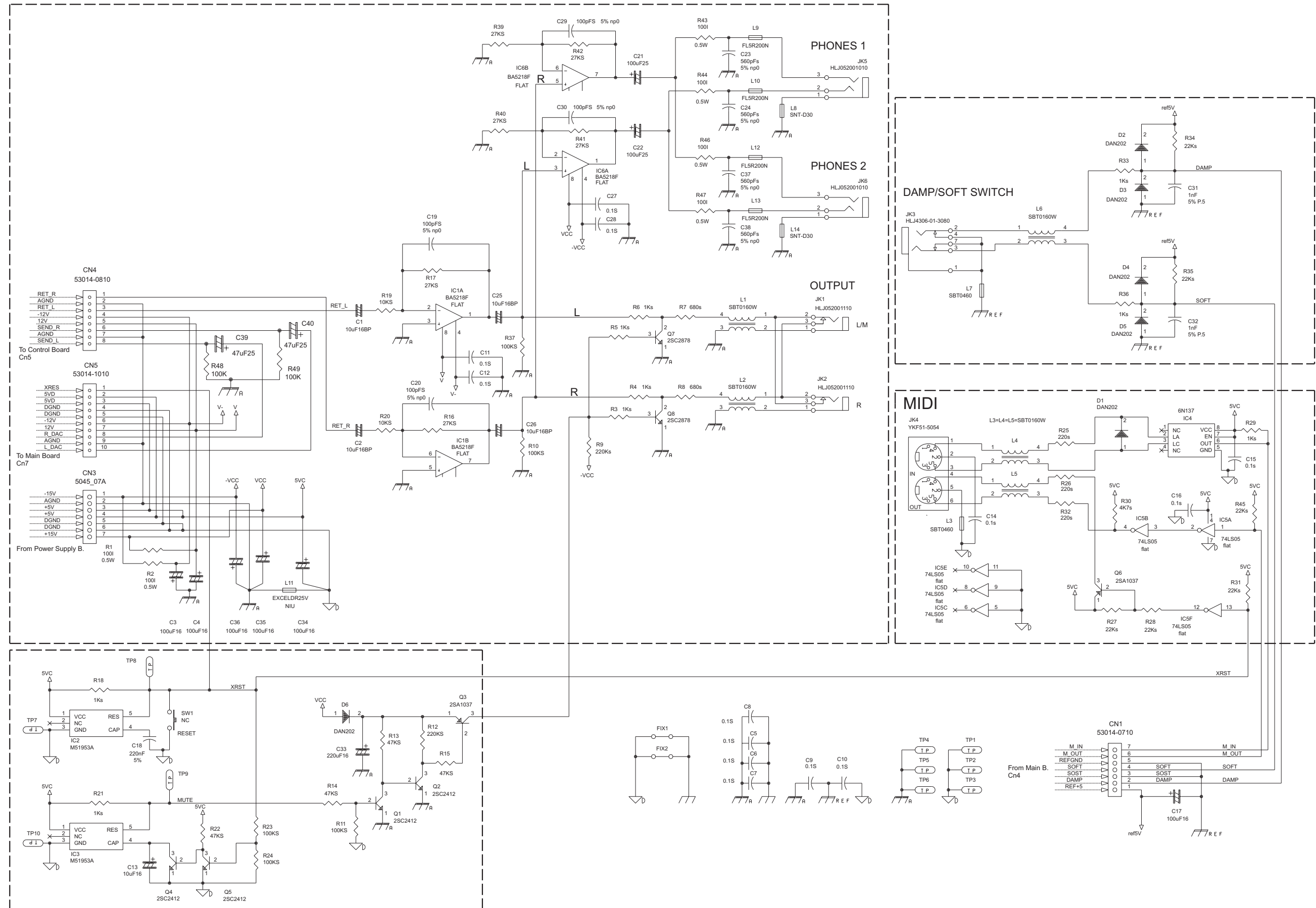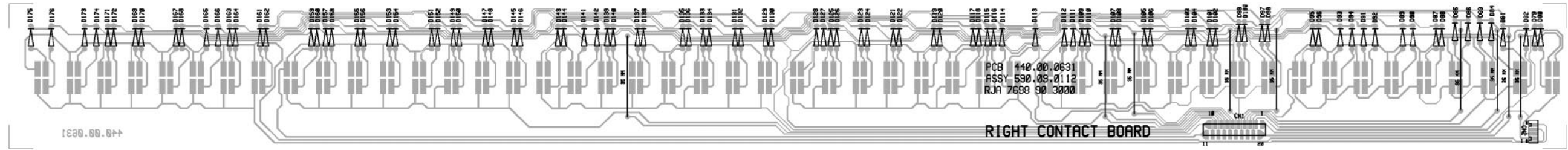
1  2  3  4  5  6  7  8  9  10  11  12  13  14  15  16  17  18  19  20  21  22  23  24  25  26  27  28  29  30

A
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## PRIMARY PCB ASSY & CIRCUIT DIAGRAM
ASSY   7700908000



| ASSY | | | |
|---|---|---|---|
| 590.05.0318 | 7699512000 | 100V/117V | 600MA/250V |
| 590.05.0315 | 7699506000 | 230V/240V | T315MAL250V |
| 590.05.0351 | 7700908000 | | JUMPER |
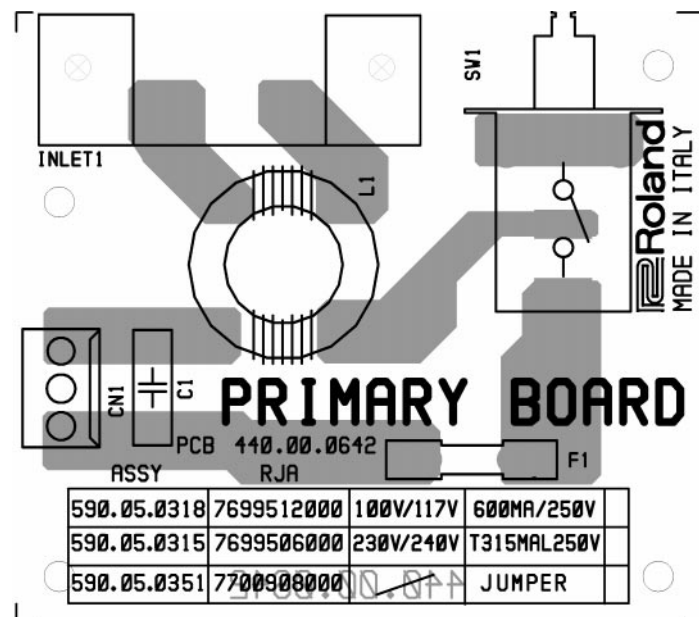
View from component side
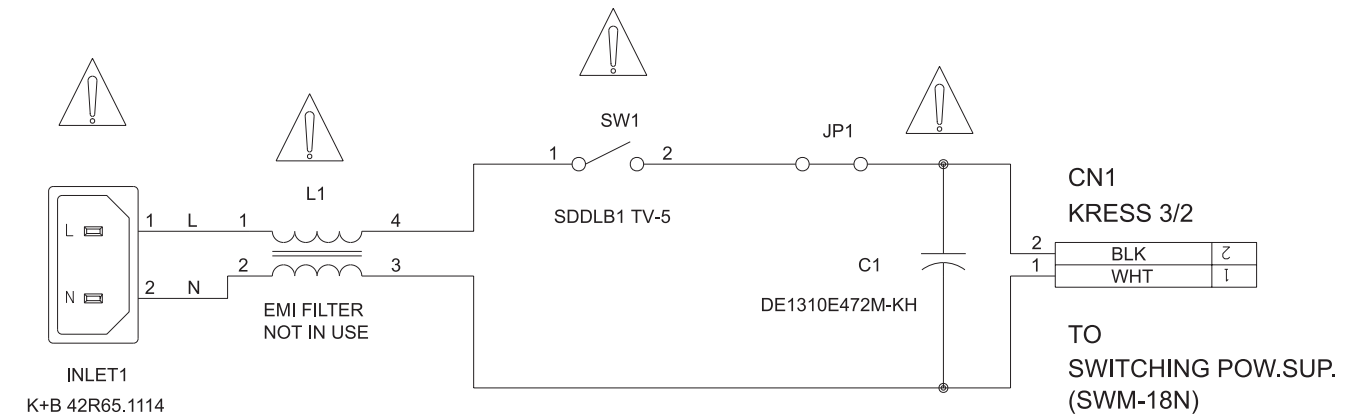
SAFETY PRECAUTIONS:

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

## CONTROL PCB ASSY    ASSY   7699401000



CONTROL BOARD
PCB: 440.00.0635
ASSY: 590.05.0306
RJA: 7699401000

View from component side

# CIRCUIT DIAGRAM (CONTROL PCB ASSY)



Note

ALL SWITCHES IN THIS SHEET ARE EVQ-213-05R
ALL LEDS IN THIS SHEET ARE TLHR_4401, EXCEPT
LED2,3,13 THAT ARE LNJ2

11

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

A

**JACK PCB ASSY**    ASSY   7700902000



View from component side

# CIRCUIT DIAGRAM (JACK PCB ASSY)

## RIGHT CONTACT PCB ASSY w/RUBBER    ASSY 7698903000

PCB 440.00.0631
ASSY 590.09.0112
RJA 7698 90 3000

RIGHT CONTACT BOARD

View from component side

## LEFT CONTACT PCB ASSY w/RUBBER    ASSY 7698904000

PCB 440.00.0632
ASSY 590.09.0113
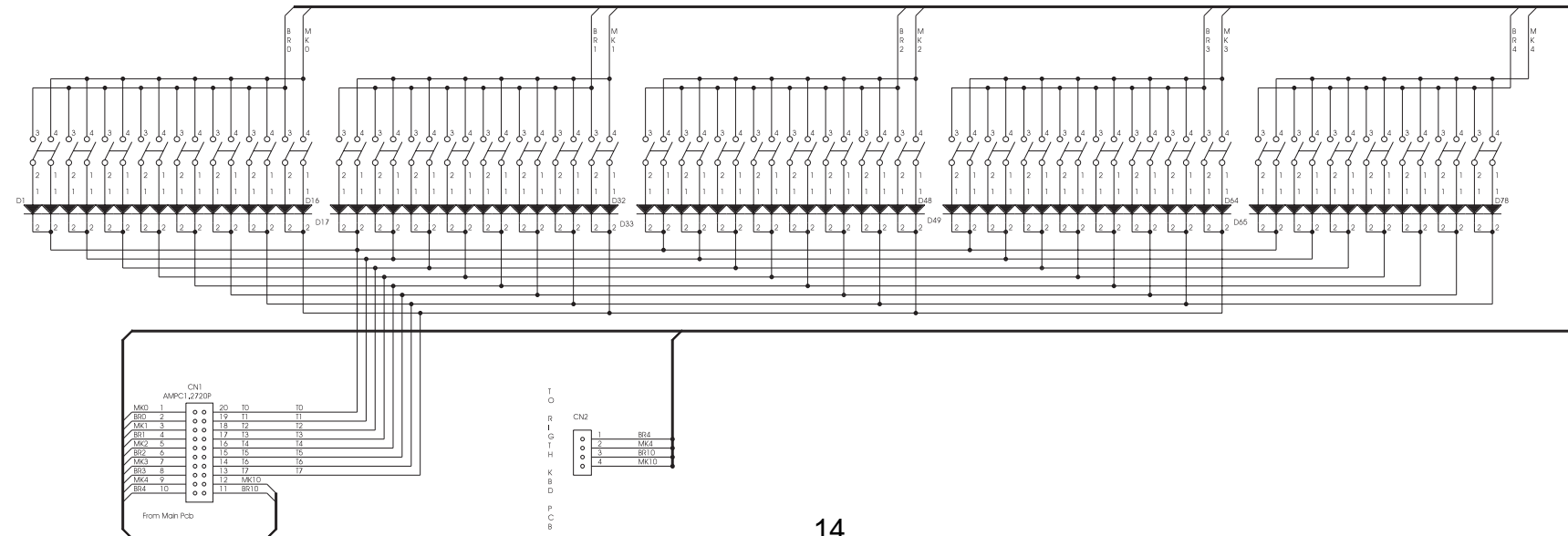RJA 7698 90 4000

LEFT CONTACT BOARD
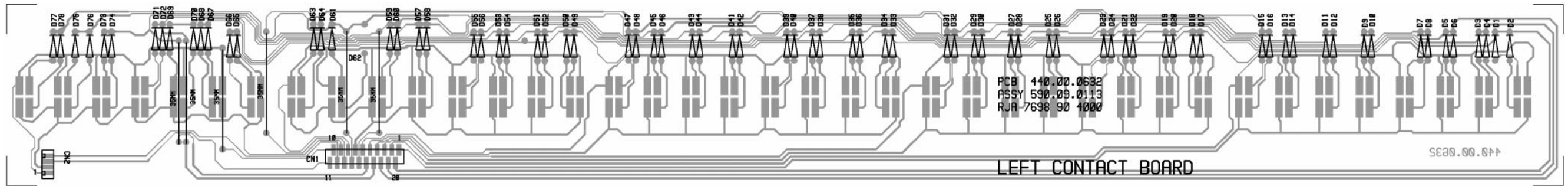
View from component side

## CIRCUIT DIAGRAM
## (RIGHT CONT.PCB ASSY)
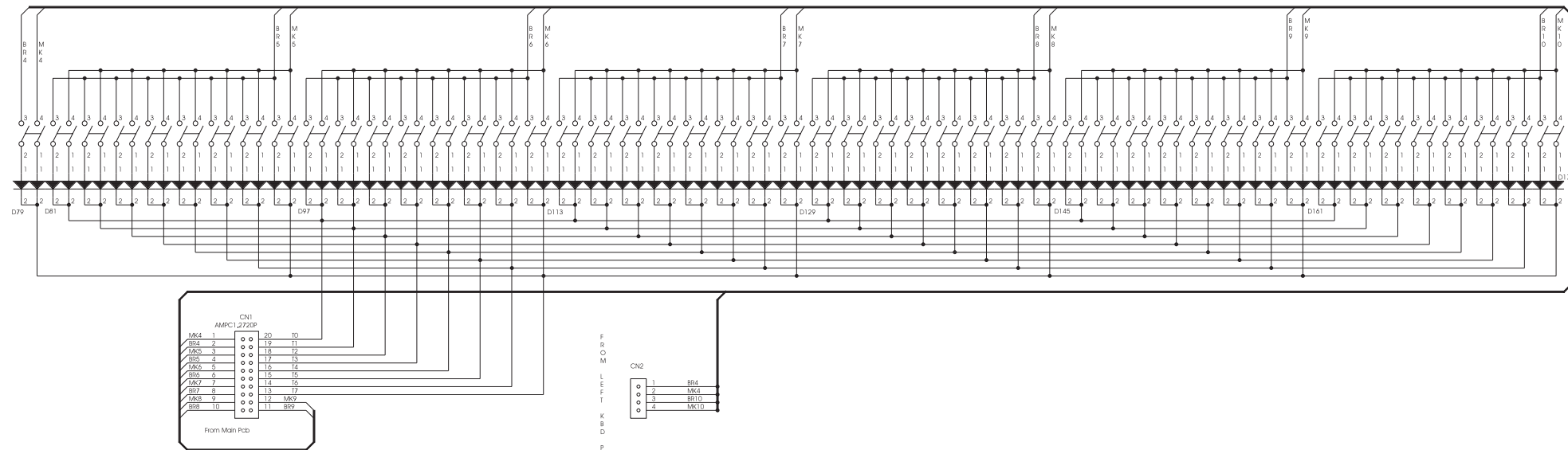
## CIRCUIT DIAGRAM
## (LEFT CONT.PCB ASSY)

## TEST MODE

Necessary elements:    Nr. 1  -  Midi Cable
                                   Nr. 1  -  2-note Pedal

### How to enter the Test Mode:

After turning on the instrument, press the "Transpose", the "Play" and the "Track 2" buttons simultaneously. The 7-seg display will show:

$$\boxed{J \; I \; G}$$

RD-100 will automatically enter the Test Mode.

### 1 : How to display the DEVICE CHECK and the ROM VERSION.

After entering the Test Mode, the CPU automatically carries out the DEVICE CHECK. If there is no malfunction, the 7-seg LCD shows the ROM version:

$$\boxed{1.0.5.}$$

In the event of a malfunction, one of the following messages is displayed:

ROM                    $\boxed{E \; 0 \; 1}$

SRAM                 $\boxed{E \; 0 \; 2}$

WAVE ROM        $\boxed{E \; 0 \; 3}$

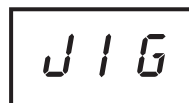DRAM                 $\boxed{E \; 0 \; 4}$

When a malfunction is found out, the LCD shows the ROM version if the "Piano 1" button is pressed.

### How to select the next check

Press the " Transpose" button and go on with the next step.

NOTE: Don't play on the keyboard while you're in Test Mode.
If there is any malfunction, press the "Transpose" button more than once until the following message is displayed:

$$\boxed{J \; I \; G}$$

To start the testing procedure again, press the  "Transpose" button.

### 2 : Button and LED check

Press the "Transpose" button and the 7-seg LCD will show:

$$\boxed{8.8.8.}$$

All the LEDs on the control panel are lit; if you press any button, you'll hear a piano sound and the corresponding LED will alternatively turn off. When you press a button without LED, the following LED or 7-seg LED will correspondingly turn off as shown below:

| Button | | Corresponding Led |
|---|---|---|
| Key Touch | ⇨ | Light , Medium , Heavy |
| Beat + | ⇨ | Demo |
| Beat - | ⇨ | Beat |
| Tempo + | ⇨ | User |
| Tempo - | ⇨ | Tempo |
| Song + | ⇨ | Display  $\boxed{8.}$ |
| Song - | ⇨ | Display  $\boxed{8.8.}$ |

Note:    Unless this button check is performed on all buttons, you cannot proceed to the next stage.

### 3: Effect check

Press the "Transpose" button and the 7-seg LED display shows:

$$\boxed{P \; A \; n}$$

Some LEDs of the buttons on the control panel are flashing; if you press the following buttons, you'll hear the corresponding sounds indicated below:

| Button | | Sound signal |
|---|---|---|
| Piano 1 | ⇨ | Direct sound of Piano 1 |
| Piano 2 | ⇨ | Chorus sound of Piano1 |
| Harpsichord | ⇨ | Reverb sound of  Piano 1 |
| Vibrafono | ⇨ | Resonance sound of  Piano 1 |
| Electric Piano 1 | ⇨ | Sine Wave from the left speaker |
| Electric Piano 2 | ⇨ | Square Wave from the right speaker |
| Pipe Organ | ⇨ | Sine Wave from both speakers |

### 4 : A/D Check

Press the "Transpose" button and the 7-seg display shows:

```
 A  D
```

Press each of the following pedals.  Their corresponding LEDs will turn on as shown below. A value (0~10) will appear on the 7-seg display and a sine wave sound will be heard. When the value shown is '0', no sound can be heard; when the value is "10" a bell sound will be heard.
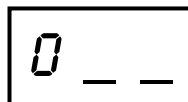
| Items for A/D check | | LED |
|---|---|---|
| Damper Pedal | ⇨ | Demo |
| Soft Pedal | ⇨ | Beat |

### 5 : MIDI check

Press the "Transpose" button and the 7-seg display shows:
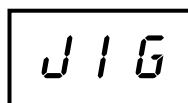
```
 S  E  R
```

Hook up MIDI IN and MIDI OUT sockets via a MIDI cable and make sure that the 7-seg display shows:

```
 0  _  _
```

### 6 : How to finish or start the test again

Press the "Transpose" button and the 7-seg display shows:

```
 E  N  D
```

If you press this button again, you'll go back to the beginning of the Test Mode and the display will show:

```
 J  I  G
```

To exit the Test Mode definitely, turn the instrument off and then on again.