

# HP-1 RW/MH

# HP-2e RW/LA

## Roland Digital Piano

## SERVICE NOTES

*First edition*

**Issued by RES**

### TABLE OF CONTENTS

	Page
SPECIFICATIONS	1
LOCATION OF CONTROLS HP-1 RW/MP	2
PARTS LIST OF EXPLODED VIEW HP-1 RW/MP	2
EXPLODED VIEW HP-1 RW/MP	3
LOCATION OF CONTROLS HP-2e RW/LA	4
PARTS LIST OF EXPLODED VIEW HP-2e RW/LA	4
EXPLODED VIEW HP-2e RW/LA	5
KEYBOARD PARTS LIST	6
STAND EXPLODED VIEW KS-1 RW/MP	7
2 NOTE PEDAL EXPLODED VIEW & PARTS LIST	7
CIRCUIT DIAGRAM 2 NOTE PEDAL	7
STAND EXPLODED VIEW KS-2e RW/LA	8
3 NOTE PEDAL EXPLODED VIEW & PARTS LIST	8
CIRCUIT DIAGRAM 3 NOTE PEDAL	8
TEST MODE HP-1	9
HOW TO ENTER TEST MODE, AND HOW TO VISUALIZE THE SYSTEM PROGRAM VERSION	9
TEST MODE HP-2e	10/11
HOW TO ENTER TEST MODE, DEVICE CHECK AND HOW TO VISUALIZE THE SYSTEM PROGRAM VERSION	10
PARTS LIST HP-1 RW/MP	12/13
PARTS LIST KS-2e RW/LA	14/15
BLOCK DIAGRAM	16
PHONES & VOLUME PCB ASSY & CIRCUIT DIAGRAM	17
PRIMARY PCB ASSY & CIRCUIT DIAGRAM	17
MAIN PCB ASSY	18
CIRCUIT DIAGRAM MAIN PCB ASSY	19
POWER & AMP. PCB ASSY	20
CIRCUIT DIAGRAM POWER & AMP. PCB ASSY	21
CONTROL PCB ASSY HP-1 & CIRCUIT DIAGRAM	22
CONTROL PCB ASSY HP-2e & CIRCUIT DIAGRAM	23



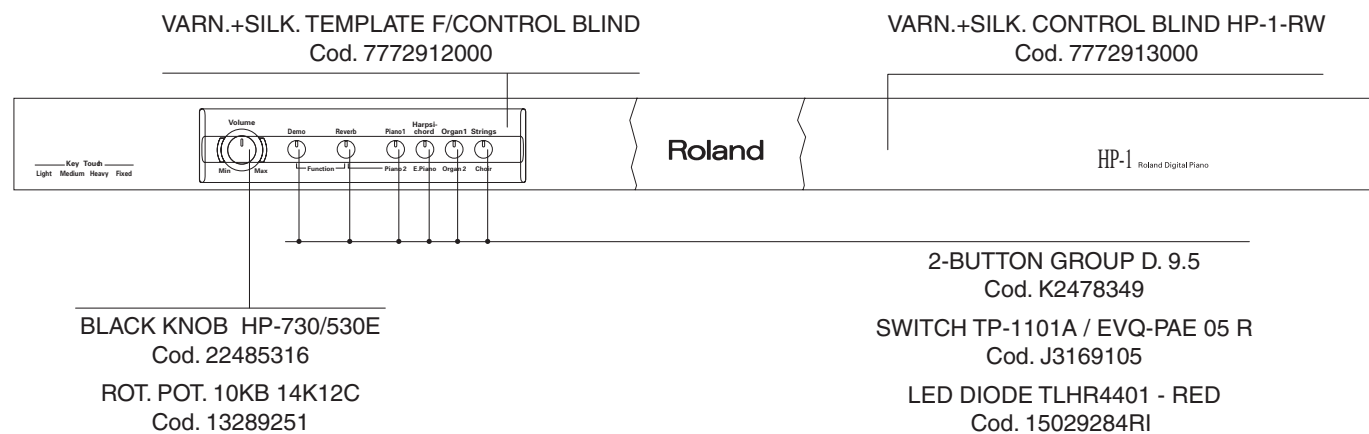
### Specifications

<b>Keyboard:</b>	88-keys, hammer action(TP-30 FATAR)
<b>Touch sensitivity</b>	4 preset levels
<b>Keyboard Mode</b>	Whole, Dual (adjustable Volume balance)
<b>Sound source:</b>	
Max polyphony:	64 Voices
Tones:	4 groups:[Piano], [Harpischord], [Organ], [Strings] 8 Total Tones:Grand Piano1, Grand Piano2, Harpsichord, Electric Piano, Church Organ, Organ, Strings, Choir
<b>Panel controls:</b>	
Switch controls	Tone (4), Reverb, Demo
Rotary pot.	Master Volume
<b>Key functions:</b>	
Master Tuning	Keys Tuning (0.1 Hz Steps) 415.3Hz - 466.2 Hz
Transpose	Key Transpose (-6 / +5 Semitone step)
Effects	Reverb (8 levels), Chorus (E. Piano), Sympathetic Resonance (Piano, 8 levels)
Temperament	7 types, selectable tonic
Stretched Tuning	2 types
<b>Pedals:</b>	
Right pedal	Damper
Central pedal	-
Left pedal	Soft/Sostenuto (selectable)
<b>Composer:</b>	
Tracks	-
Song	-
Note Storage	-
Tempo	-
Resolution	-
Control	-
Preset songs	65 (demo songs)
<b>Metronome</b>	-
<b>Other functions</b>	-
<b>Other</b>	
Power Output:	20W x 2
Speakers	12 cm x 2
Display	-
Connectors	Pedal Connector, Headphones Jack x 2 (Stereo), Input Jacks (L/Mono, R) Output Jacks (L/Mono, R)§ MIDI In / MIDI Out
Power supply	AC 117V, AC 230V, AC 240V
Power consumption	40 W
<b>Dimensions (mm)</b>	
Piano	1380(W)x443(D)x181(H)
Stand	1390(W)x390(D)x645(H)
Total	1390(W)x443(D)x826(H)
<b>Weight</b>	
Piano	34.2
Stand	11.7
Total:	45.9
<b>Supplied accessories</b>	Owner's Manual, Power cable
<b>Cabinet Finish</b>	Rosewood (RW)/ Mahogany PVC (MH)
<b>Slide Lid</b>	No
<b>Stand rear panel</b>	Half

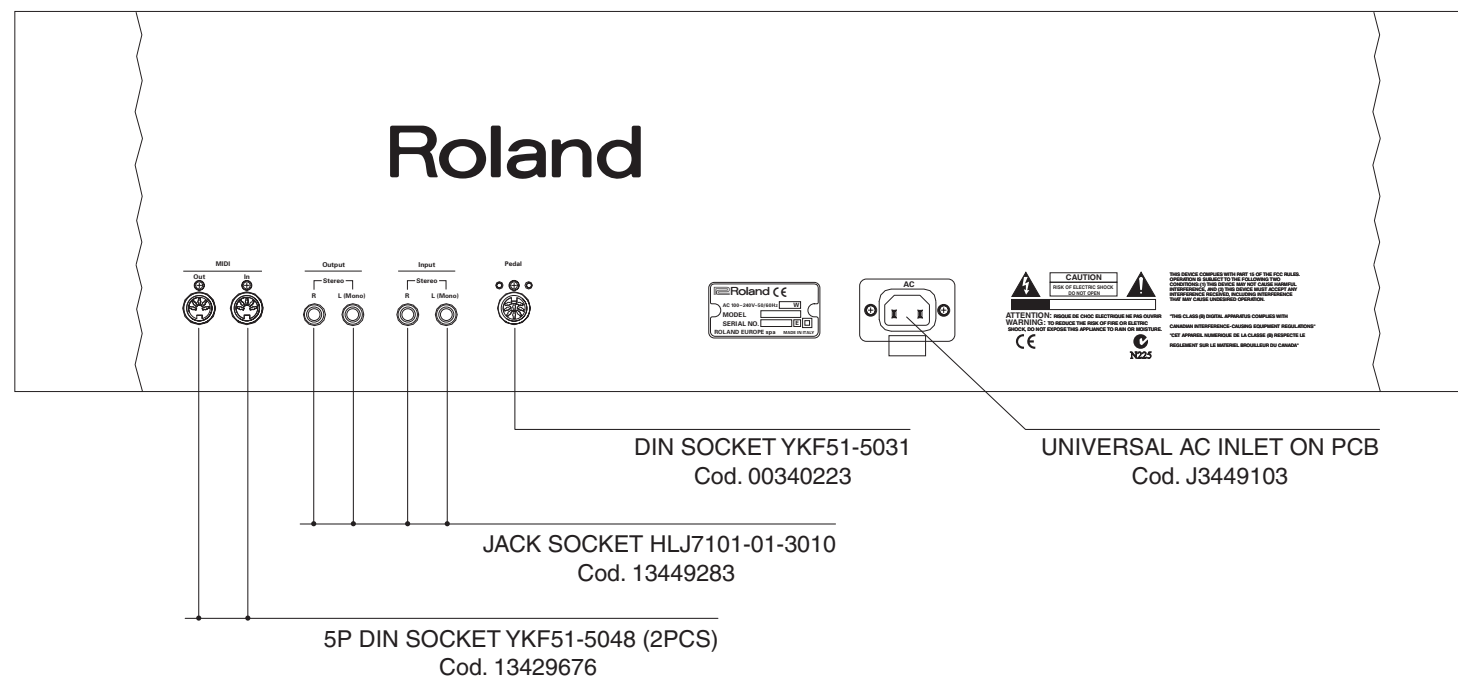
### HP-2e

88-keyshammer action(TP-30 FATAR)
4 preset levels
Whole, Dual (adjustable Volume balance), Split (adjustable split point)
64 Voices
5 groups: [Piano], [E. Piano], [Harpischord], [Organ], [Strings]
20 Total Tones: Grand Piano1, Grand Piano2, Piano + Strings Piano + Choir, Electric Piano1, Electric Piano2, Vibraphone, Electric Piano+Choir, Harpsichord, Organ Flute, Harpsichord + Strings, Harpsichord + Choir, Church Organ, Rotary Organ, Organ + Strings, Organ + Choir, Strings, Slow Strings, Strings + Choir, Strings + Brass
Tone (5),Variation, Brilliance, Transpose, Split, Reverb, Key Touch, +/- (up/down), Beat, Metronome, Recorder (4), Song Master Volume
Keys Tuning (0.1 Hz Steps) 415.3Hz - 466.2 Hz
Key Transpose (-6 / +5 Semitone step)
Reverb (8 levels), Chorus (E. Piano), Sympathetic Resonance (Piano, 8 levels)
7 types, selectable tonic
2 types
Damper
Sostenuto
Soft
2
1
approx. 5000
Quarter note = 20 to 250
96 ticks per quarter note
Play/Stop, Rec, Tempo, All Song Play, Track Select
65
Beat (2/2, 0/4, 2/4, 3/4, 4/4, 5/4, 6/4, 7/4, 3/8, 6/8, 9/8, 12/8)
8 volume levels
Panel Lock
20 W x 2
12 cm x 2
7 segments, 3-digit LED
Pedal Connector, Headphones Jack x 2 (Stereo), Input Jacks (L/Mono, R), Output Jacks (L/Mono, R), MIDI In / MIDI Out
AC 117V, AC 230V, AC 240V
40 W
1402(W)x476(D)x244(H)
1400(W)x455(D)x643(H)
1402(W)x476(D)x887(H)
42.7
16.4
59.1
Owner's Manual, Power cable, Roland 60 Classical Piano Masterpiece
Rosewood PVC (RW)/ Light Oak (LA)
Yes
Semi-Full

**LOCATION OF CONTROLS HP-1-RW/MP**



**REAR VIEW**



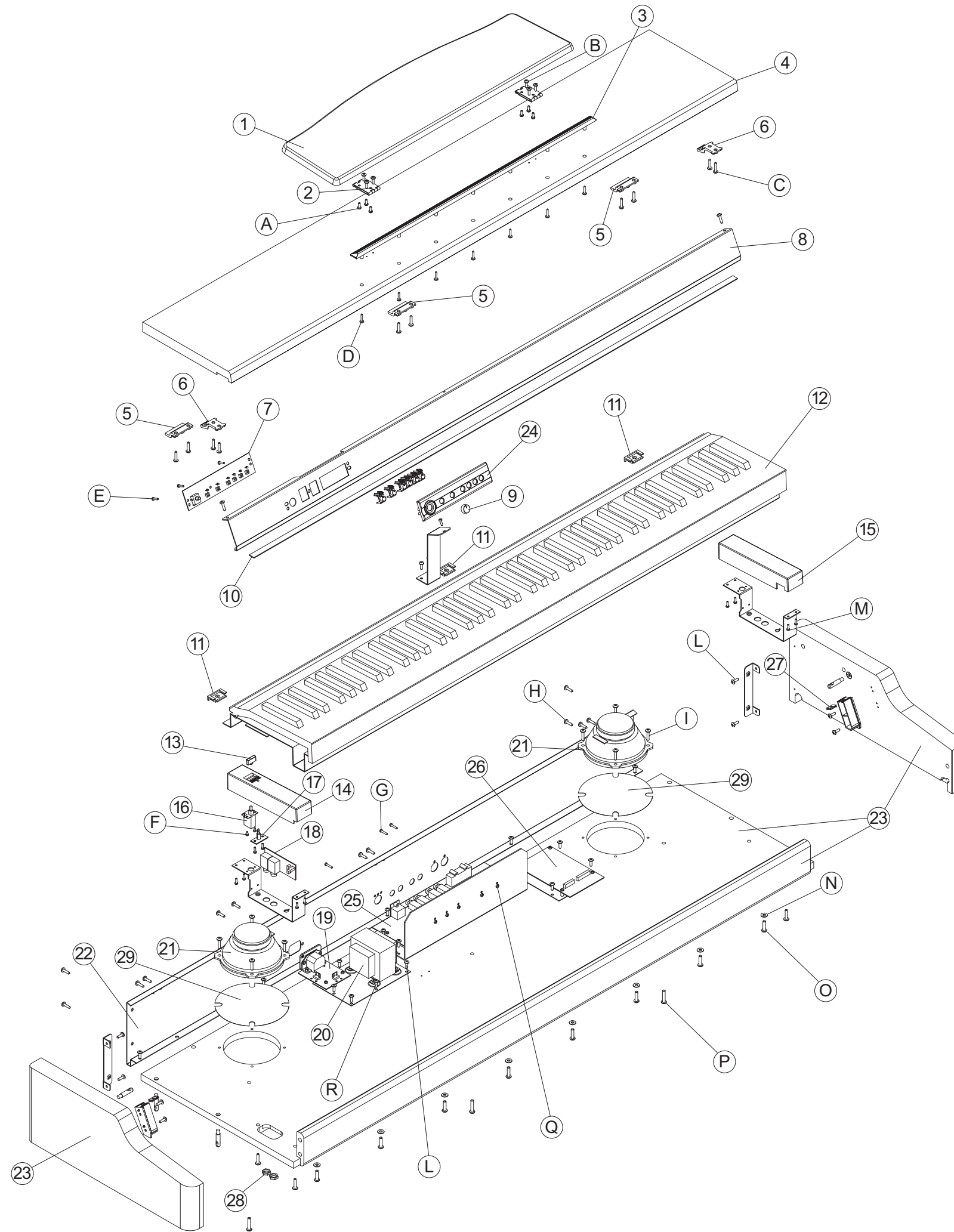
**PARTS LIST OF EXPLODED VIEW HP-1-RW/MP**

No.	Part No.	Description
1	7772916000	MDF MUSIC REST (ROSEWOOD) HP-1-RW
	7774404000	MDF MUSIC REST (SATIN MAHOGANY) HP-1-MH
2	J2329105	HINGE F/MUSIC REST
3	K2238113	MUSIC SCORE HOLDER
4	7772915000	MDF BORED TOP CBNT (ROSEWOOD) HP-1-RW
	7774405000	MDF TOP CABINET (SATIN MAHOGANY) HP-1-MH
5	K2128134	COUPLING PIN F/TOP CBNT-REAR PANEL
6	K2128135	COUPLING PIN FOR TOP CBNT
7	7772902000	CONTROL PCB ASSY HP-1
8	7772913000	VARN.+SILK. CONTROL BLIND HP-1-RW
9	22485316	BLACK KNOB HP-730/530E
10	K2268121	RED FELT MM 1250X12X1.5
11	K1188132	KEYBOARD SUPPORT R178
12	J2589109	88-KEY KEYBOARD ASSY TP/30 HP-2E RW
13	3249559701	SWITCH CAP
14	K116810602	END-BLOCK POWER ON + LED
15	K116810501	RIGHT END-BLOCK HP-136
16	01453245	AC PUSH SWITCH SDDL1B2D TV5
17	7699410000	LED ASSY
18	7772903000	PHONES PCB ASSY HP-1/2e/3e
19	7772401000	PRIMARY PCB ASSY KR-777
20	K2458148	TRANSFORMER 100-240 HP-2E-RW
21	02896112	LOUDSPEAKER PD-12355AON
22	7772914000	VARN.+SILK. REAR PANEL HP-1-RW
23	7772911000	CABINET ASSY (ROSEWOOD) HP-1-RW
	7774406000	CABINET ASSY (MAHOGANY) HP-1-MH
24	7772912000	VARN.+SILK. TEMPLATE F/CONTROL BLIND
25	7772904000	POWER & AMP. PCB ASSY HP-1
26	7772901000	MAIN PCB ASSY HP-1
27	J2159103	DOUBLE ELASTIC PLATE
28	40016756	NUT M12 HLJ0999-01-360 M12
29	K2248168	LOUDSPEAKER GRILL HP-1-RW

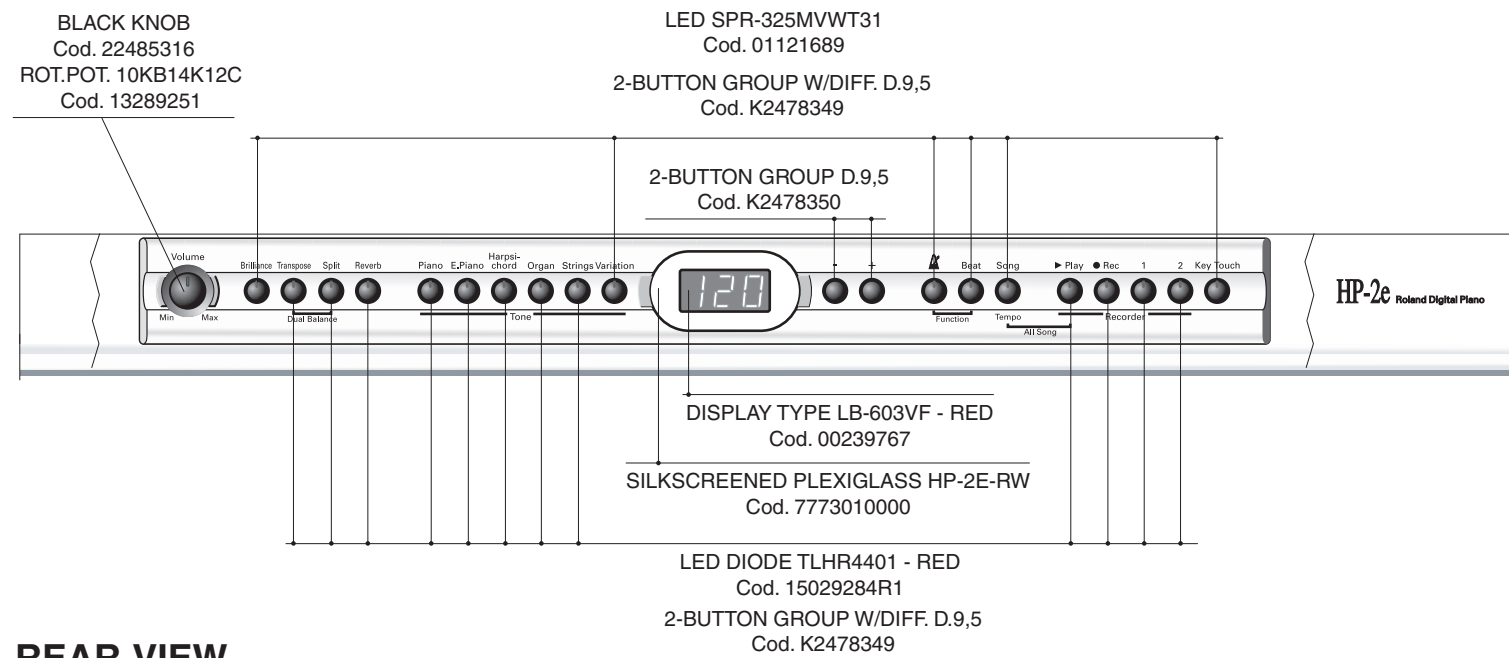
**(SCREW)**

A	J2289212	SCREW 3.5X10 TC TC PR BRUN
B	J2289116	SELF TAP.SCREW 3.5X13 TC TC
C	J2289227	SCREW 3.9X20 TC PR TFR T.8 BLACK PLATED
D	J2289150	SCREW 2.9X16 TC PR TFR H.7
E	J2289130	SCREW 2.9X13 TC TC PR TROP
F	J2289101	SELF TAP. SCREW 2.9X 6 TC TC
G	J2289118	SCREW 2.9X16 TC TC PR BRUN
H	J2283213	SCREW 3.9X16 TC TC
I	J2289110	SELF LOCK.SCREW M4X20 TCTC H. 9.5
L	K2288107	SCREW 3.9X13.5 TC PR TFR H.8
M	J2289125	SCREW 2.9X10 TC TC PR TROP
N	J2139114	FLAT WASHER I/D 5X14 TH. 1
O	K2288110	SCREW M5X20 TC TC TFR H9.5 BRUN
P	J2289110	SELF LOCK.SCREW M4X20 TCTC H. 9.5
Q	J2289147	SELF LOCK.SCREW M3X12 TCTC H.6
R	J2289135	SELF LOCK.SCREW M4X 7 TCTC T.8

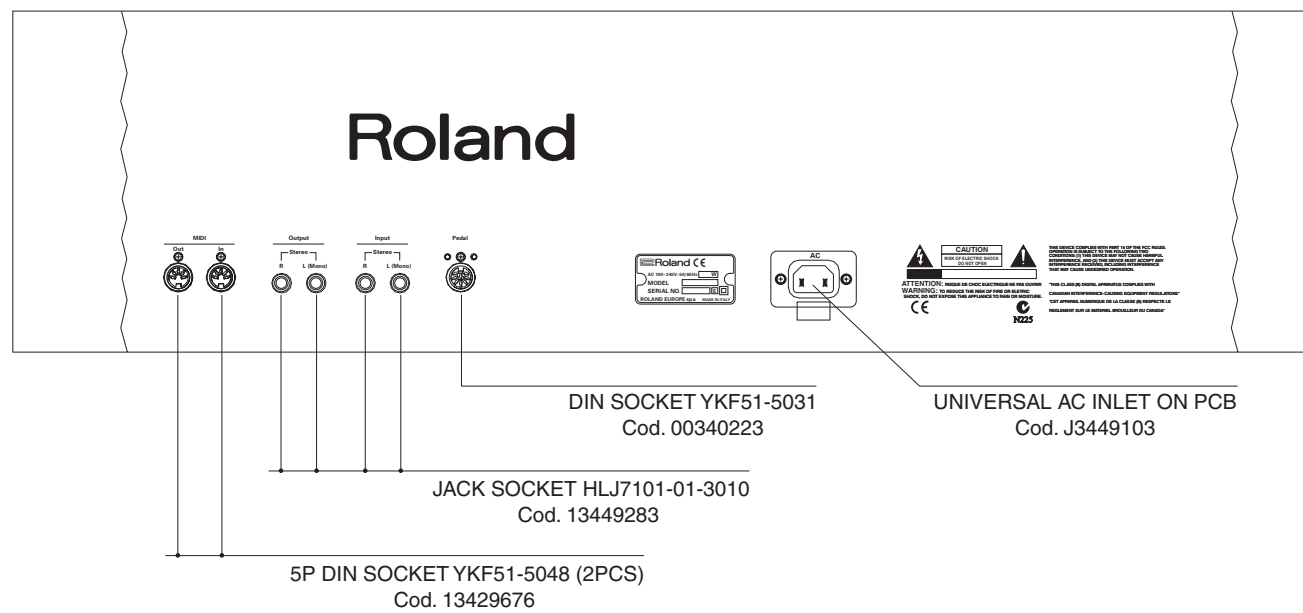
# EXPLODED VIEW HP-1-RW/MP



**LOCATION OF CONTROLS HP-2e-RW/LA**



**REAR VIEW**



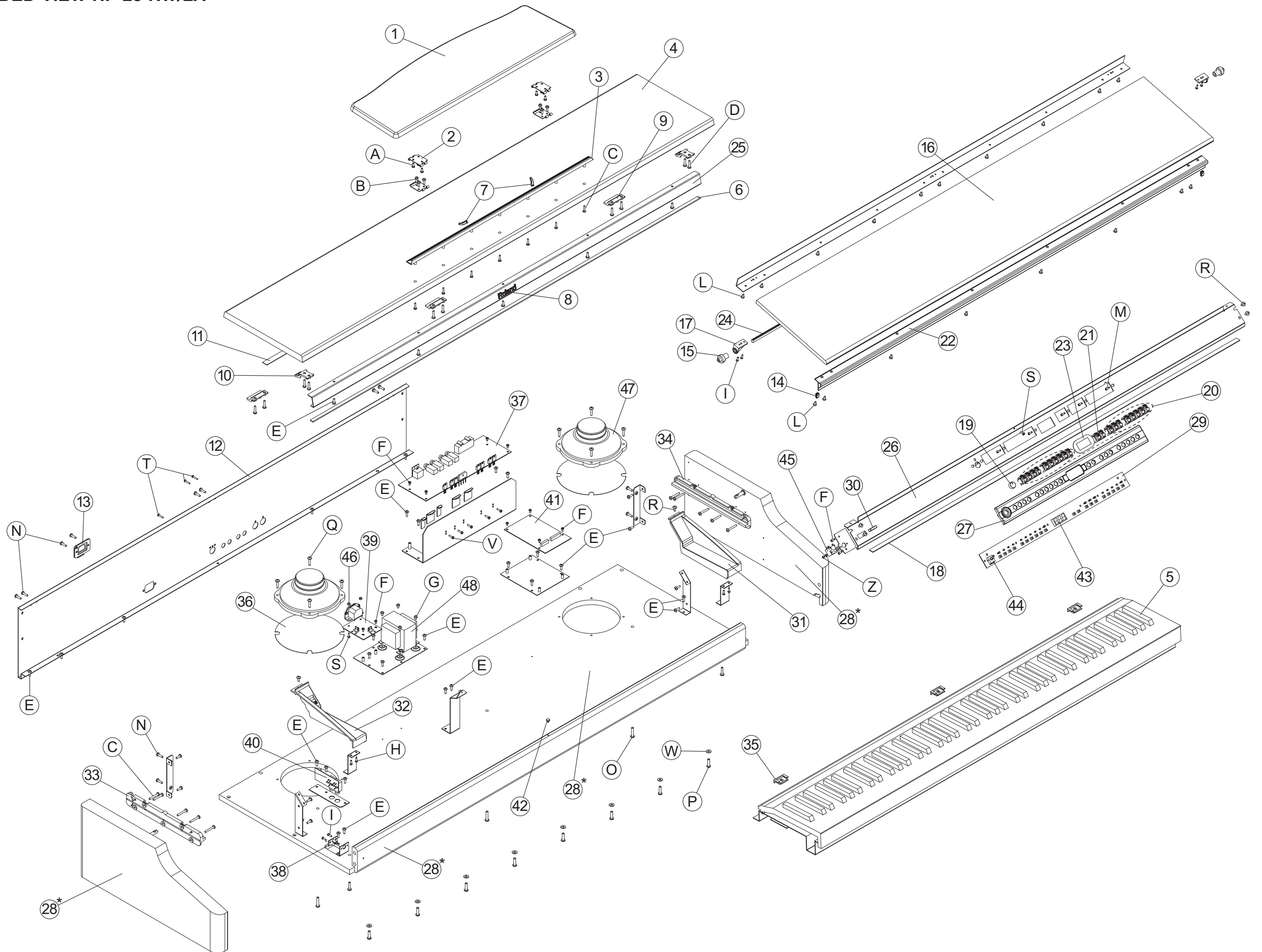
**PARTS LIST OF EXPLODED VIEW HP-2e-RW/LA**

No.	Part No.	Description
1	7773012000	BORED MUSIC REST HP-2E/3E-RW
	7774307000	VARN. MUSIC REST (OAK) HP-2E-LA
2	J2329105	HINGE F/MUSIC REST
3	K2198111	MUSIC SCORE HOLDER HP-2E-RW
	7774311000	VARN. MUSIC SCORE HOLDER HP-2E-LA
4	7773011000	BORED MDF TOP CBNT HP-2E-RW
	7774308000	MDF TOP CABINET (OAK) HP-2E-LA
5	J2589109	88 KEY KEYBOARD ASSY TP/30
6	K2268127	BLACK ADH. FELT 1320X9X2.5 MM.
7	K2148115	STOP PIN F/MUSIC SCORE HOLDER
	K2148116	STOP PIN F/MUSIC SCORE HOLDER
8	00890990	LOGO BADGE ROLAND (GOLDEN)
9	K2128134	COUPLING PIN F/TOP CBNT-REAR PANEL
10	K2128135	COUPLING PIN FOR TOP CBNT
11	K2268149	ADHESIVE BLACK FELT MM540X15X1
12	7773008000	VARN.+SILK. REAR PNEL HP-2E-RW
	7774305000	VARN.+ SILK. REAR PANEL HP-2E-LA
13	K2248160	AC SOCKET HOLDER
14	K2268159	CUSHION F/LID BLIND
15	K2128133	LID GEAR
16	7773013000	BORED SLIDE LID HP-2E-RW
	7774309000	BORED MDF SLIDE LID (OAK) HP-2E-LA
17	K2128132	SUPPORT F/SHAFT STAY HP-2E-RW
18	K2268121	RED FELT MM 1250X12X1.5
19	22485316	BLACK KNOB HP-730/530E
20	K2478349	2-BUTTON GROUP D. 9.5 W/DIFFUSOR
21	K2478350	2-BUTTON GROUP D.9.5
22	7770025000	VARN. LID BLIND HP-337E
23	7773010000	SILKSCREENED PLEXIGLASS HP-2E-RW
24	7773014000	SHAFT STAY
25	7773015000	TOP CABINET BLIND HP-2E-RW
	7774301000	TOP CABINET BLIND (OAK) HP-2E-LA
26	7773009000	VARN.+SILK. CONTROL BLIND HP-2E-RW
	7774304000	VARN.+SILK. CONTROL BLIND HP-2E-LA
27	7773007000	VARN.+SILK.TEMPLATE F/TOP CABINET HP-2e
	7774306000	VARN.+SILK. CONTROL PANEL BLIND HP-2E-LA
28	7773006000	CABINET ASSY HP-2E
	7774310000	CABINET ASSY (OAK) HP-2E-LA
29	7773002000	CONTROL PCB ASSY HP-2e
30	3249559701	SWITCH CAP
31	K1168114	RIGHT END BLOCK HP-2E RW
	7774302000	RIGHT VARN. END-BLOCK HP-2E-LA
32	K1168115	LEFT END BLOCK HP-2E-RW
	7774303000	LEFT VARN. END-BLOCK HP-2E-LA
33	K2128131	LEFT GUIDE FOR SLIDE LID
34	K2128130	RIGHT GUIDE FOR SLIDE LID HP-2e-RW
35	K1188132	KEYBOARD SUPPORT R178
36	7695813000	VARNISHED WOOFER NET
37	7773003000	POWER AMP. PCB ASSY HP-2E
38	7699410000	LED ASSY
39	7772401000	PRIMARY PCB ASSY KR-777
40	7772903000	PHONES PCB ASSY HP-1/2e/3e
41	7773001000	MAIN PCB ASSY HP-2e
42	K2268158	REST RUBBER NAIL F/LID
43	00239767	DISPLAY TYPE LB-603VF (RED)
44	13289251	ROT. POT. 10KB 14K12C
45	01453245	AC PUSH SWITCH SDDL1B2D TV5
46	J2289113	NUT 3MA H.3
47	22415596	LOUDSPEAKER CF160138-01 6 OHM
48	K2458148	TRANSFORMER 100-240 HP-2E-RW
49	40016756	NUT M12 HLJ0999-01-360 M12

(SCREW)

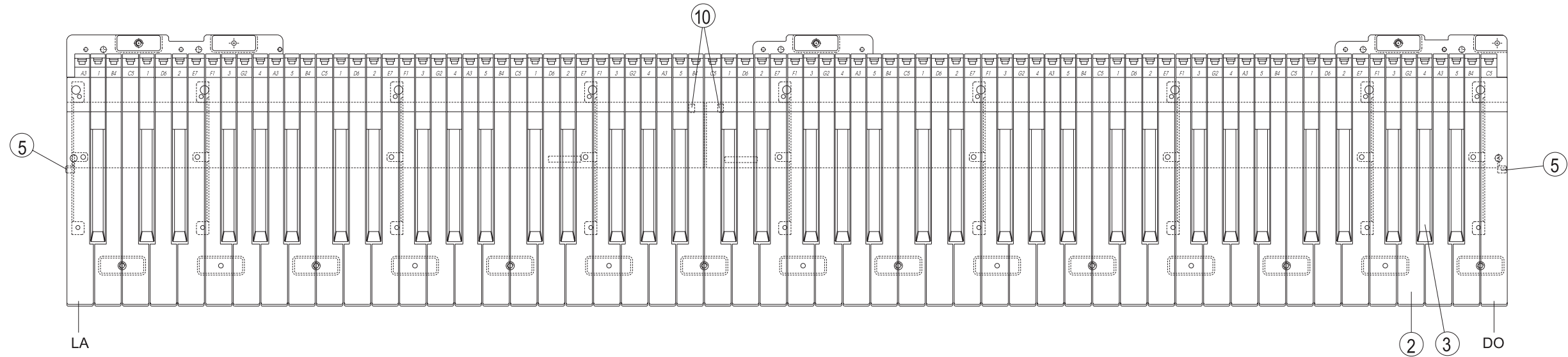
A	J2289212	SCREW 3.5X10 TC TC PR BRUN
B	J2289116	SELF TAP.SCREW 3.5X13 TC TC
C	J2289150	SCREW 2.9X16 TC PR TFR H.7
D	J2289227	SCREW 3.9X20 TC PR TFR T.8 BLACK PLATED
E	K2288107	SCREW 3.9X13.5 TC PR TFR H.8
F	J2289193	SELF LOCK.SCREW M3X6 TC TC H.6
G	J2289135	SELF LOCK.SCREW M4X 7 TCTC T.8
H	J2289125	SCREW 2.9X10 TC TC PR TROP
I	J2289102	SELF TAP.SCREW 2.9X10 TC TC
L	J2289115	SCREW 3.5X9.5 TC PR TFR H.8
M	J2289130	SCREW 2.9X13 TC TC PR TROP
N	J2289213	SELF TAP.SCREW 3.9X16 TC TC
O	J2289142	PITCH SCREW M5X25 TC TC
P	K2288110	SCREW M5X20 TC TC TFR H9.5 BRUN
Q	J2289110	SELF LOCK.SCREW M4X20 TCTC H. 9.5
R	J2289221	SELFLOCK. SCREW M4X10 TC TC TFR 9.5
S	J2289108	SELF LOCK.SCREW M3X10 TCTC H. 6
T	J2289118	SCREW 2.9X16 TC TC PR BRUN
U	J2289252	SELF TAP. SCREW 3,9X25 TC TC
V	J2289147	SELF LOCK.SCREW M3X12 TCTC H.6
Z	J2289101	SELF TAP.SCREW 2.9X 6 TC TC

EXPLODED VIEW HP-2e-RW/LA



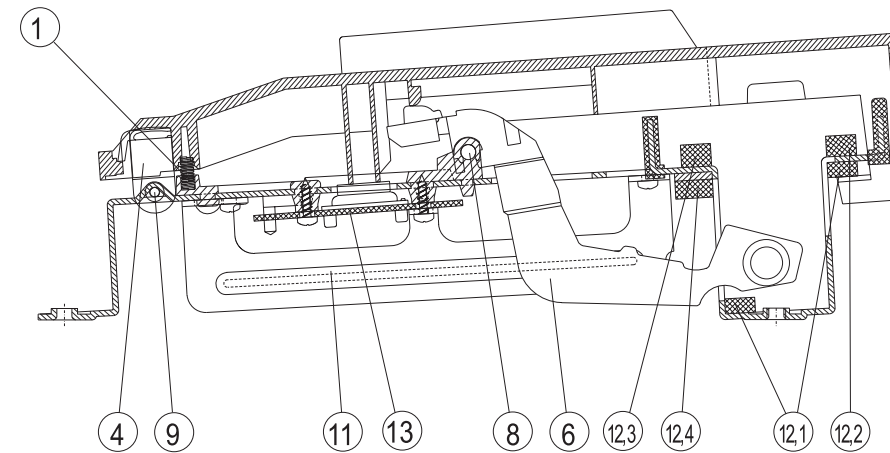
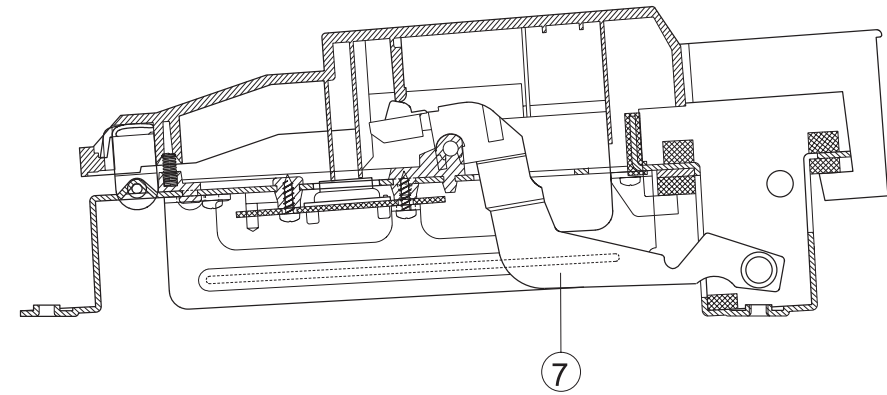
**KEYBOARD PARTS LIST**

**88-KEY KEYBOARD ASSY TP/30 code J2589109**

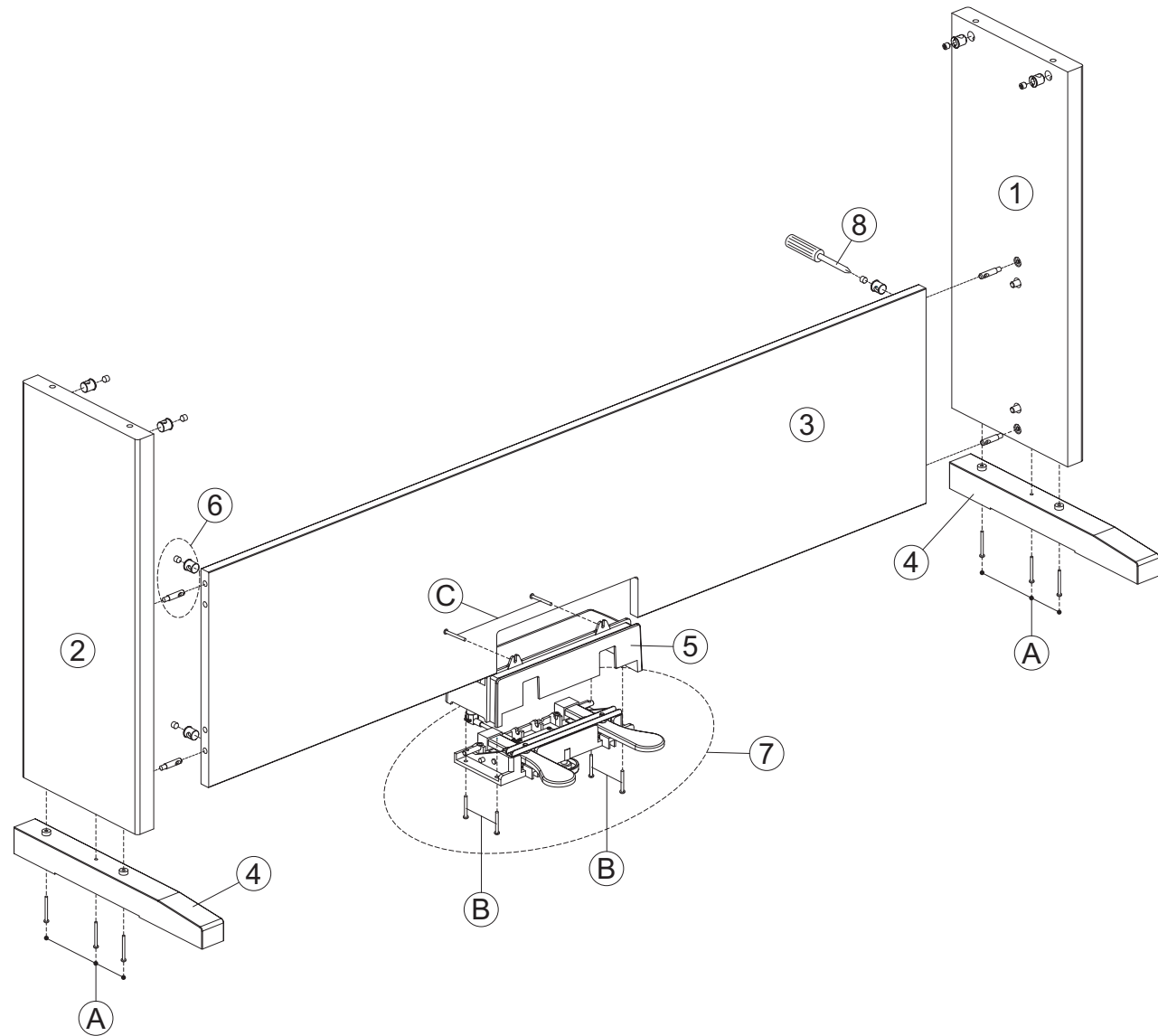


**KEYBOARD PARTS LIST**

Ref	Description	Code	n.
1	KEY SPRING TP/23	No service	88
2	NATURAL KEY C5 TP/30	J2579218	7
	NATURAL KEY D6 TP/30	J2579219	7
	NATURAL KEY E7 TP/30	J2579220	7
	NATURAL KEY F1 TP/30	J2579221	7
	NATURAL KEY G2 TP/30	J2579222	7
	NATURAL KEY A3 TP/30	J2579223	7
	NATURAL KEY B4 TP/30	J2579224	8
	NATURAL KEY C8 TP/30	J2579225	1
	NATURAL KEY A3 TP/30	J2579226	1
3	SHARP KEY TP/23	J2579227	36
4	BAR FOR KEY FIXING TP/20-23	J1189101	88
5	CLAMP F/HAMMER PIVOT TP/20	J2139115	2
6	HAMMER F / NATURAL KEY TP/30	J2139126	52
7	HAMMER F / SHARP KEY TP/30	J2139127	36
8	HAMMER PIVOT TP/23	J2149104	1
9	NUT PIVOT TP/23	J2149105	1
10	4P FLAT CABLE TP/30	K3468256	1
11	RIGHT SUPPORT F/KEYBOARD BASE TP/23	J2249106	8
	LEFT SUPPORT F/KEYBOARD BASE TP/23	J2249107	1
12,1	LOWER FELT END F/NATURAL KEY+HAMMER	J2249104	2
12,2	UPPER FELT END F/NATURAL KEY	J2249103	1
12,3	UPPER FELT END F/SHARP KEY	J2249102	1
12,4	LOWER FELT F/SHARP KEY	J2249105	1
13	RIGHT CONTACT PCB ASSY TP/23	J2929101	1
	LEFT CONTACT PCB ASSY TP/23	J2929102	1

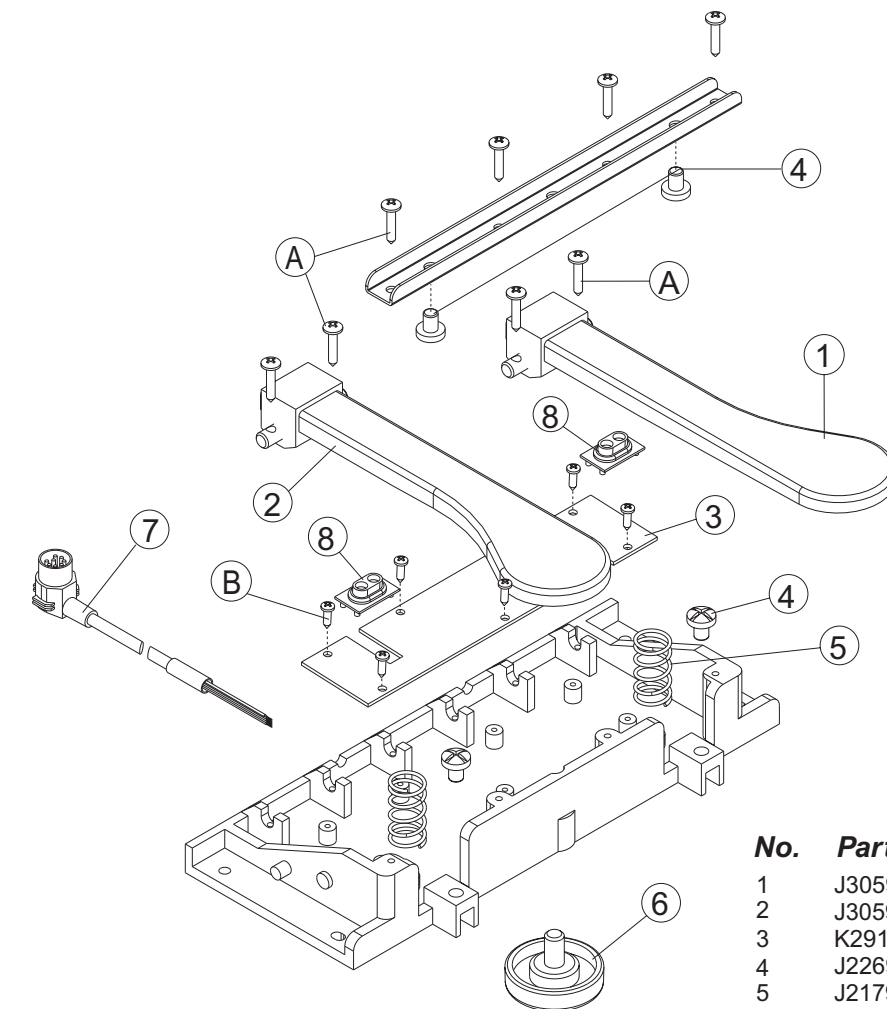


**STAND EXPLODED VIEW HP-1-RW/MP**



**2-Note Pedal Exploded View & Parts List**

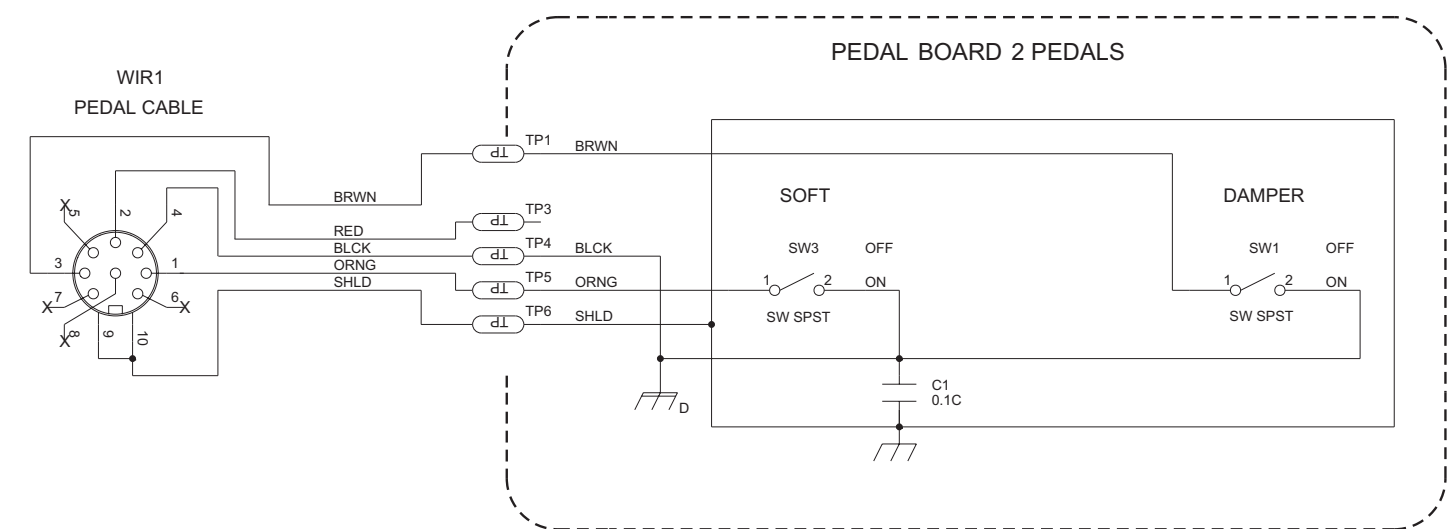
ASSY J3059113



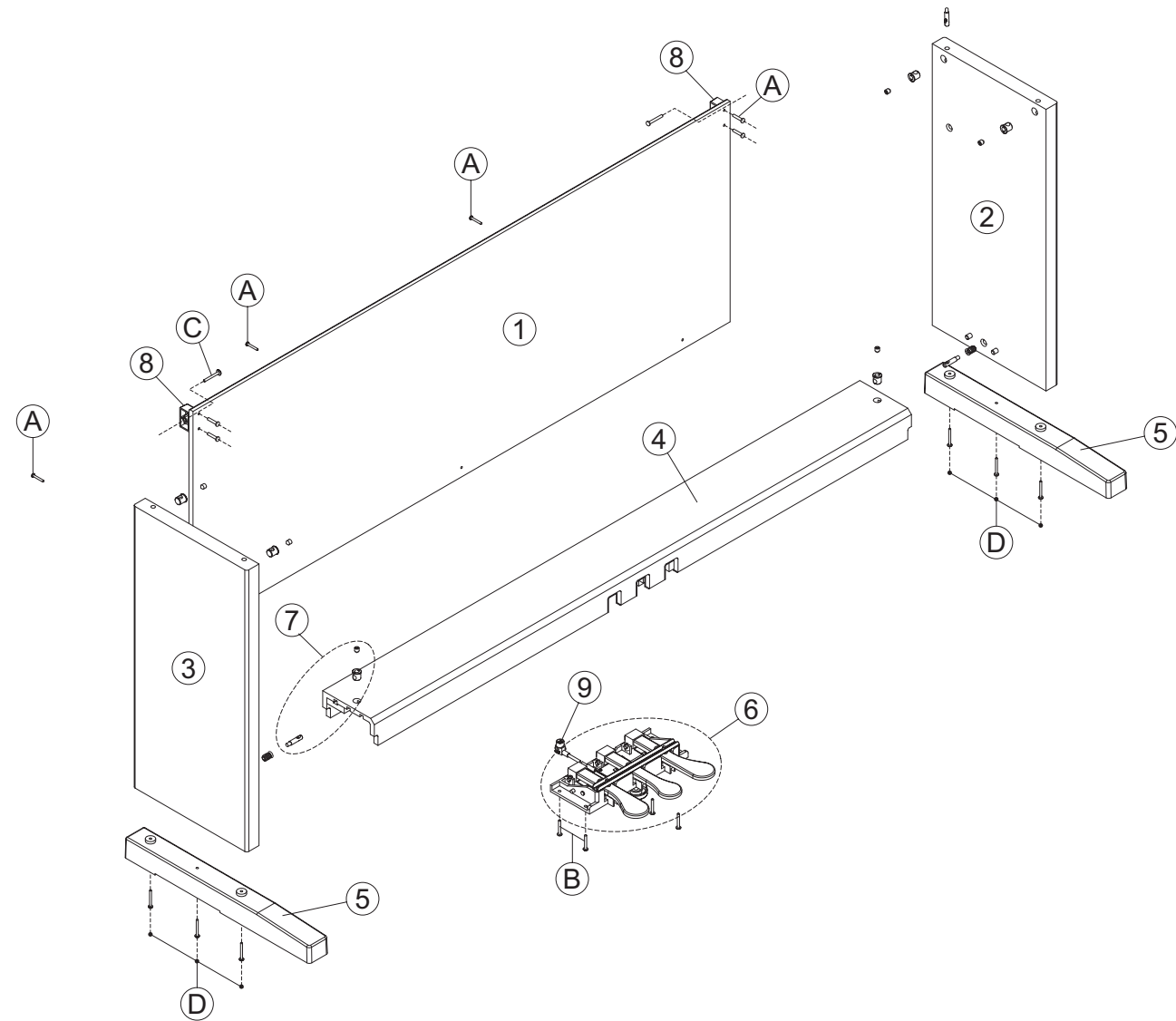
No.	Part No.	Description
1	J3059114	RIGHT PEDAL (GOLD)
2	J3059115	LEFT PEDAL (GOLD)
3	K2918155	PCB FOR PEDAL
4	J2269108	RUBBER DAMPER FOR PEDAL
5	J2179112	PEDAL SPRING 1,4x14x29
6	J2289190	BLACK KNOB M8x14
7	K3418105	CABLE FOR PEDAL(84)
8	7625920000	1P CONDUCTIVE RUBBER LR13/1
A	J2289128	SELF.TAP SCREW 3,5x19 TCTCPRBZ
B	J2289125	SCREW 2,9x10 TCTC PR TROP

No.	Part No.	Description
1	7772905000	RIGHT SIDE PANEL (ROSEWOOD) HP-1-RW
	7774402000	RIGHT SIDE PANEL (MAHOGANY) HP-1-MH
2	7772907000	LEFT SIDE PANEL (ROSEWOOD) HP-1-RW
	7774403000	LEFT SIDE PANEL (MAHOGANY) HP-1-MH
3	7772906000	REAR PANEL (ROSEWOOD) HP-1-RW
	7774401000	REAR PANEL (SATIN MAHOGANY) HP-1-MH
4	K235810101	FOOT F/SIDE PANEL KS-136
5	K2028143	COVER FOR PEDAL HP-1-RW
6	J2329107	JOINT BOLT ASSY
7	J3059113	2-NOTE PEDAL KS-137
8	J2329101	SCREW DRIVER TYPE 2
A	J2289249	SCREW 4.5X45 TC PR TFR T.9.5
B	J2289227	SCREW 3.9X20 TC PR TFR T.8 BLACK PLATED
C	K2288107	SCREW 3.9X13.5 TC PR TFR H.8

**Circuit Diagram 2-Note Pedal**



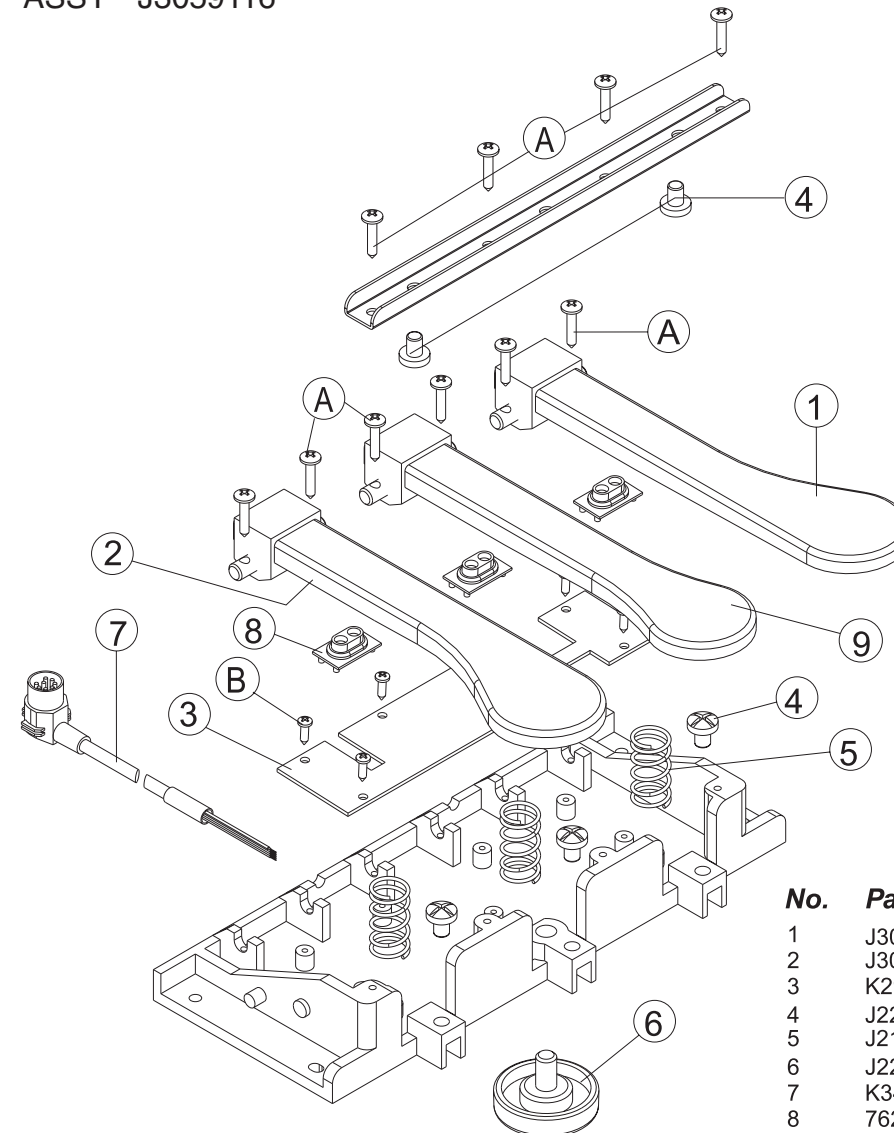
**STAND EXPLODED VIEW KS-2e-RW/LA**



No.	Part No.	Description
1	K1148151	REAR PANEL (OAK) KS-2E-LA
	K1148148	REAR PANEL KS-2E/KS-3E/KS7E
2	7897001000	RIGHT SIDE PANEL ASSY (OAK) KS-2E-LA
	7896601000	RIGHT SIDE PANEL ASSY KS-2E
3	7897002000	LEFT SIDE PANEL ASSY (OAK) KS-2E-LA
	7896602000	LEFT SIDE PANEL ASSY KS-2E
4	7897004000	BASE F/PEDAL ASSY KE-2E-LA
	K1138111	BASE FOR PEDAL (MDF) KS-147E
5	7897003000	FOOT F/SIDE PANEL (STAND) KS-2E-LA
	K2358102	SIDE PANEL FOOT
6	J3059116	3-NOTE PEDAL KS-237E/147E
7	J2329107	JOINT BOLT ASSY
8	K2128129	COUPLING BASE KS-237LE
9	K3418105	CABLE F/PEDAL (84) KS137/237/147
A	J2289208	SCREW 3.5X25 TC PR TFR H.8 BRUN
B	K2288109	SCREW 3.9X30 TC PR TFR T.8 BRUN
C	J2289248	SCREW M6X30 TC PHILIPS TBL (for KS-2E-LA)
	J2289247	SCREW M6X30 TC PHILIPS TBL (for KS-2E-RW)
D	J2289248	SCREW 4.5X45 TC PR TFR T. 9.5

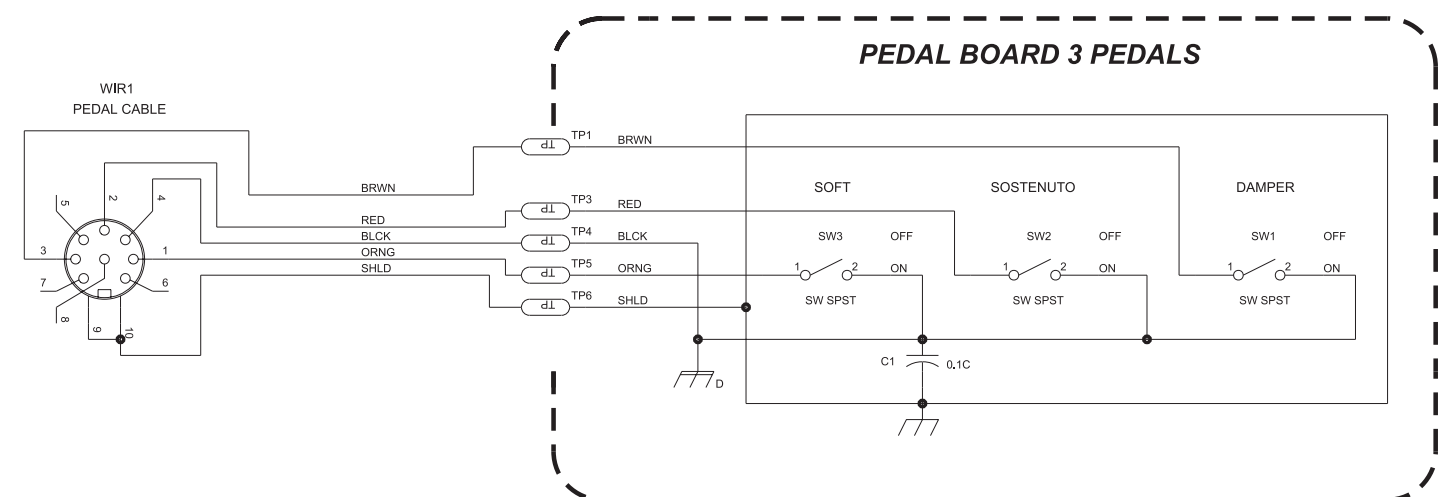
**3-Note Pedal Exploded View & Parts List**

ASSY J3059116



No.	Part No.	Description
1	J3059114	RIGHT PEDAL (GOLD)
2	J3059115	LEFT PEDAL (GOLD)
3	K2918155	PCB FOR PEDAL
4	J2269108	RUBBER DAMPER FOR PEDAL
5	J2179112	PEDAL SPRING 1,4x14x29
6	J2289190	BLACK KNOB M8x14
7	K3418105	CABLE FOR PEDAL(84)
8	7625920000	1P CONDUCTIVE RUBBER LR13/1
9	J3059117	CENTRAL PEDAL (GOLD)
A	J2289128	SELF.TAP SCREW 3,5x19 TCTCPRBZ
B	J2289125	SCREW 2,9x10 TCTC PR TROP

**Circuit Diagram 3-Note Pedal**





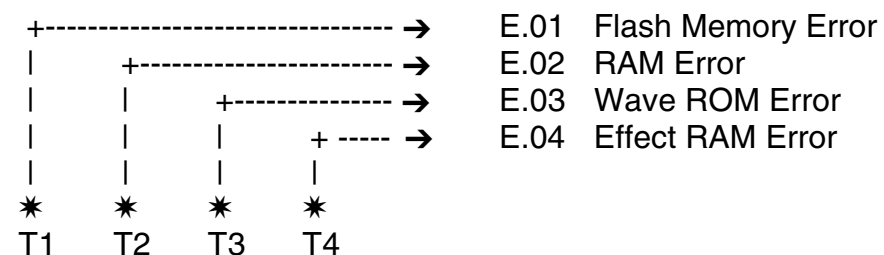
## TEST MODE HP-1

### Notations:

- **LED**
  - = Led ON;
  - \* = Led blinking
  - = Led off
- **BUTTONS**
  - T1: TONE PIANO
  - T2: TONE HARPSICHORD
  - T3: TONE ORGAN
  - T4: TONE STRINGS

### 1. How to enter Test Mode and how to visualize the System program version

Turn on the power while press the button PIANO  
 When entering the test mode, "Device Check" is executed.  
 All the LED will be ON.  
 If there are any error, the LED will blink according to the part and error number is displayed on the led



When press [Demo] on this situation, the version will be shown.  
 If there are no errors in device check, the version will be shown immediately.

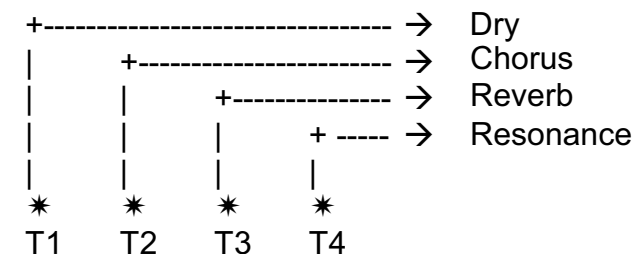
	REV	T1	T2	T3	T4
1.00	0	1	0	0	0
1.01	0	1	0	0	1
1.02	0	1	0	1	0
1.03	0	1	0	1	1

Press the button DEMO to go on to the next check.

### 2. SWITCH / LED CHECK

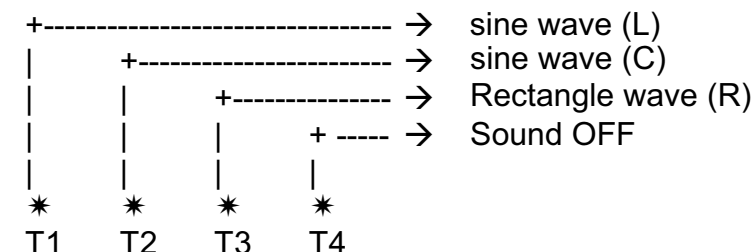
All the LED will be ON.  
 Turn off each LED and sounds piano.  
 When all the LEDs are turned off, proceed to the next.

### 3. EFFECT CHECK



Press the button DEMO to go on to the next check.

### 4. PANPOT CHECK



Press the button DEMO to go on to the next check.

### 5. A/D AND MIDI CHECK

Loop connect the MIDI IN and OUT.  
 The LED will be off when finished the test.



Press the button DEMO to go on to the next check.

#### 5-1. Pedal test

Bell will be sound when detect Max.  
 It is OK to detect Min and Max.

\* If plural pedals are pressed, it will go to non-checked state (blink).

#### 5-2. MIDI test

\* (blink): non-checked (entered in test mode without connecting the cable).  
 ● (ON) : Connected MIDI IN and OUT  
 ○ (off) : Not connected.  
 It is OK, if detected both connected and not connected situation.

### 6. End

Power Off the HP-1

## TEST MODE HP-2e

### Items required:

MIDI cable  
Oscilloscope  
Pedals: SOFT, SOSTENUTO and DAMPER

### Notations:

- **LED**
  - = Led ON;
  - \* = Led blinking
  - = Led off
- **BUTTONS**
  - T1: TONE PIANO
  - T2: TONE E.PIANO
  - T3: TONE HARPSICHORD
  - T4: TONE ORGAN
  - T5: TONE STRINGS
  - T6: TONE VARIATION

### 1. How to enter Test Mode, Device Check and how to visualize the System program version

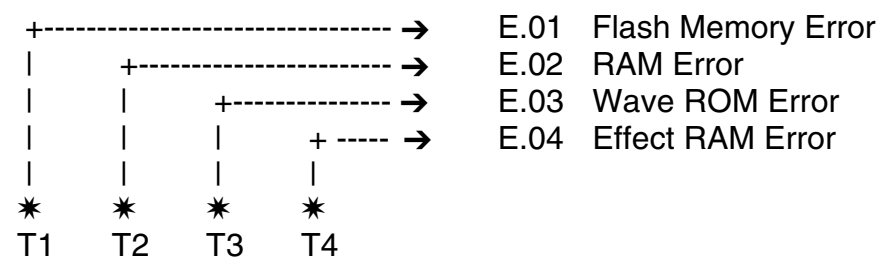
Turn the instrument on.  
Press the buttons REC, TRACK 2 and TRANSPOSE contemporarily.  
While the system carries out the Device Check, the display visualizes:



Then the display visualizes the system version (i.e.: Ver. 1.01).



In case a problem happens during the Device Check, the display visualizes the error and the LED of the corresponding button keeps blinking, as shown in the table below:



Press the button TRANSPOSE to go on to the next check.

In case you have already selected a test and you want to quit it and go on to the next one, press the button + and the button TRANSPOSE contemporarily.

### 2. SWITCH / LED CHECK

At first, all LEDs are on.  
Every time you press a button you hear a piano sound.  
When all the buttons have been pressed and all LEDs are off, the system goes on to the following check automatically.

For the buttons BRILLIANCE, VARIATION, METRONOMO, BEAT and KEY TOUCH, orange colour means that both red and green LEDs work.

The buttons - and + don't have any corresponding LED, but some segments on the display turn off according to the button pressed, as indicated in the following pictures:

BUTTON -



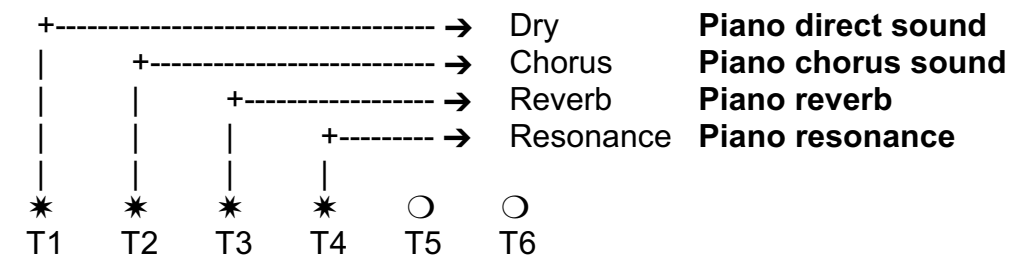
BUTTON +



The system goes on to the following check automatically.

### 3. EFFECT CHECK

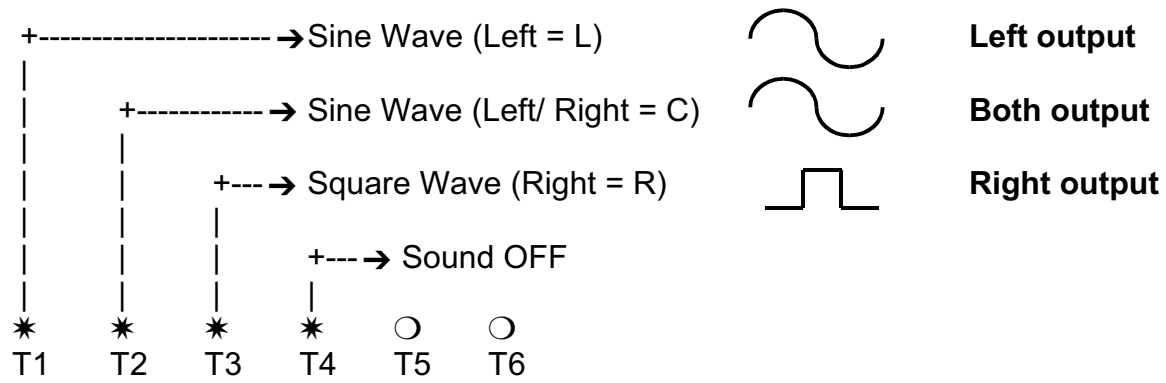
When pressing each button, you hear the sound with the effect indicated.  
The display visualizes:



Press the button TRANSPOSE to go on to the next check.

### 4. PANPOT CHECK

When you press the following buttons, you hear the corresponding sound as indicated below.  
The display visualizes:



Pressing the buttons as indicated in the following table, you hear the corresponding sounds.  
Put the volume potentiometer at max.  
Insert a jack connected to the oscilloscope into L/R output and then into the R output.  
The oscilloscope shows the wave shape and its value in Volt (Vpp). Namely:

Button	Wave shape	Frequency (Hz)	Output	Volt (mVpp)
Tone PIANO		220	L	Min 850 Max 950
Tone E. PIANO		440	L / R	Min 620 Max 680
Tone HARPSI-CHORD		440	R	Min 950 Max 1.050

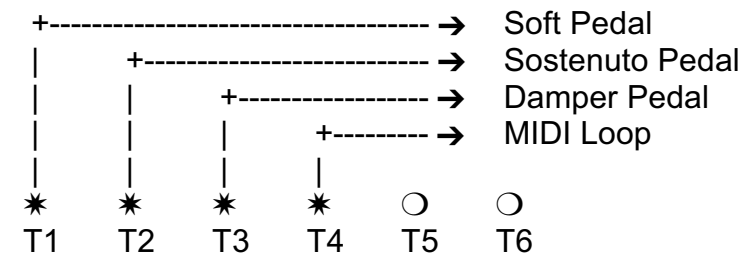
Press the button TONE ORGAN to stop the sound.  
Press the button TRANSPOSE to go on to the next check.

### 5. A/D AND MIDI CHECK

A/D check:  
The display visualizes:



Buttons and LEDs are as follows:



Pressing each pedal the corresponding blinking LED goes off, the display shows a value between 0 and 10 and you hear a sine wave sound. When the value is 0 you don't hear any sound, when the value is 10 you hear a bell-like sound.

Press the button TRANSPOSE to go on to the next check.

#### MIDI Check:

Connect MIDI IN and MIDI OUT sockets by a Midi cable:  
The LED corresponding to the button T4 is:  
● : Connection OK;  
○ :Connection failed.  
Blinking Led means that the connection has not been tested.

### 6. End

Once the MIDI check is ended and the MIDI cable is disconnected, the display visualizes:



Press the button TRANSPOSE to enter test mode again.

Turn the power off to exit test mode.



J2559104	FUSE 5X20	3.15AL/250V	SEMKO	F1, F2 on PAB	2
12199597RI	FUSE HOLDER T.P1			on PRIMARY B / on PAB	6

**CONNECTOR**

13369689RI	20P FEM. CONNECTOR	AMP 1.27		CN5,6 on MB	2
J3439112	2P MALE CONNECTOR	P 2.5 M		CN16 on PHB	1
J3439120	4P MALE CONN.	P.2 M		CN4 on MB	1
J3439122	8P MALE CONNECTOR	P.2 M		CN1 on PAB	1
J3439141	10P MALE CONNECTOR	P.2 M		CN3 on MB	1
J3439124	10P MALE CONN.	P. 2 M 90°		CN3 on CB	1
J3439138	4P MALE CONNECTOR	P 3.96 M		CN5 on PAB	1
J3439147	14P MALE CONNECTOR	P.2 M		CN8 on MB / CN4 on PAB	2
J3439148	7P MALE CONNECTOR	P.2 M		CN15 on PHB / CN2 on MB/ CN6,9 on PAB	4
13369898	2P MALE CONNECTOR	B2P3-VH		CN1,2 on PB	2
J3439152	5P MALE CONNECTOR	P.3.96 M		CN11 on PAB	1
J3439171	4P MALE CONNECTOR	90° P.2 M		CN1 on CB	1
J3439172	8P MALE CONNECTOR	90°P.2 M		CN4 on CB	1

**WIRING, CABLE**

K3418105	CABLE F/PEDAL (84)	KS-137/237/147			1
K3468212	2P CABLE (18)	(W/2PC)		From CN16 on PHB to CN1 on LEDB	1
K3468153	20P FLAT CABLE (52)	-2C		From CN6 on MB to Right Contact B.	1
K3468213	20P FLAT CABLE (72)	-2C D/R		From CN5 on MB to Left Contact B.	1
J3469143	1P CONN. AWG18 (10)	- YELLOW		On PHB	1
# 7772908000	2+2P COAXIAL CBL ASSY (114)	P.2 D/R		From CN4 on CB to CN1 on PAB	1
# 7773004000	4P CABLE ASSY (76/40)	1C P3.96		From CN5 on PAB to speakers	1
# 7772909000	4P CABLE ASSY (86)	-2C P.2 D/R		From CN1 on CB to CN4 on MB	1
7699409000	7P CABLE ASSY (86)	-2C P.2		From CN9 on PAB to CN1 on PHB	1
7711512000	7P CABLE ASSY (28)	-2C P.2 D/R		From CN6 on PAB to CN2 on MB	1
# 7772910000	10P CABLE ASSY (86)	-2C P.2 D/R HP-1-RW		From CN3 on CB to CN3 on MB	1
7700124000	14P CABLE ASSY (28)	-2C P.2		From CN4 on PAB to CN8 on MB	1

**TRANSFORMER**

#	△ K2458148	TRANSFORMER 100-240	HP-2E-RW		1
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**AC INLET**

△	J3449103	UNIVERSAL AC INLET ON PCB		on PB	1
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**SCREW**

J2289101	SELF TAP.SCREW	2.9X 6 TC TC			3
J2289116	SELF TAP.SCREW	3.5X13 TC TC			6
J2289213	SELF TAP.SCREW	3.9X16 TC TC			14
J2289125	SCREW	2.9X10 TC TC PR TROP			10
J2289130	SCREW	2.9X13 TC TC PR TROP			3
J2289118	SCREW	2.9X16 TC TC PR BRUN			3
J2289212	SCREW	3.5X10 TC TC PR BRUN			6
J2289108	SELF LOCK.SCREW	M3X10 TCTC H.6			3
J2289147	SELF LOCK.SCREW	M3X12 TCTC H.6			5
J2289110	SELF LOCK.SCREW	M4X20 TCTC H. 9.5			12
K2288110	SCREW	M5X20 TC TC TFR H9.5 BRUN			8
J2289142	PITCH SCREW	M5X25 TC TC			3
J2289193	SELF LOCK.SCREW	M3X6 TC TC H.6			10
J2289135	SELF LOCK.SCREW	M4X 7 TCTC T.8			4
J2289227	SCREW	3.9X20 TC PR TFR T.8 BLACK PLATED			14
J2289150	SCREW	2.9X16 TC PR TFR H.7			7
K2288107	SCREW	3.9X13.5 TC PR TFR H.8			32
# J2289249	SCREW	4.5X45 TC PR TFR T.9.5			6

**PACKING**

#	K2638272	POLYST. END-SIDE HP-1-RW			2
#	K2638273	CENTRAL POLYSTERENE END-SIDE HP-1-RW			1
#	K2638274	CENTRAL POLYSTERENE END-SIDE HP-1-RW			1
#	K2638275	RIGHT SIDE LDPE PROTECTION+BOX HP-1-RW			1
#	K2638276	LEFT SIDE LDPE PROTECTION+BOX HP-1-RW			1
#	K2638277	CENTRAL LDPE PROTECTION HP-1-RW			2
	K2678115	CARTENE ENVELOPE HD 60X80			2
	K2678109	CARTENE ENVELOPE HD 150X40			1
	K2678116	CARTENE ENVELOPE HD 70X190			1
	K2678102	POLYETH. ENVELOPE 25X45			2
	K2678106	POLYETH.ENVELOPE 40X55			1
#	K2618277	OUTER CARTON HP-1-RW			1
#	K2618278	INNER CARTON HP-1-RW			1

**MISCELLANEOUS**

	40016756	NUT M12 HLJ0999-01-360 M12			2
	J2289113	NUT 3MA H.3			2
	J2329107	JOINT BOLT ASSY			8
	J2139112	FLAT WASHER I.D. 6X18 TH. 1.6			2
	J2139114	FLAT WASHER I/D 5X14 TH. 1			8
	K2168113	LED SPACER H. 17.1 E.D. 6.7			1
#	K2168122	LED SPACER H.4.6 D.E.5.5			6


J2369106	WIRE HOLDER CLAMPING RN04	2
J2159103	DOUBLE ELASTIC PLATE	2
J2329101	SCREW DRIVER TYPE 2	1
K2268121	RED FELT MM 1250X12X1.5	1
K2268148	ADHESIVE BLACK FELT 25X1X1240	1
K2268149	ADHESIVE BLACK FELT MM540X15X1	2
K1188132	KEYBOARD SUPPORT R178	3
K2248160	AC SOCKET HOLDER	1
K2128135	COUPLING PIN FOR TOP CBNT	2
K2128134	COUPLING PIN F/TOP CBNT-REAR PANEL	3
# K2248168	LOUDSPEAKER GRILL HP-1-RW	2
K253810302	FUSE WARNING LABEL	1

**ACCESSORIES**

△	J3439155	CABLE CEE XВИIG-H05VVVF2X1-C17W (230V)	1
△	J3439154	CABLE GB BS89/5 H05VV-F3G1 C13W (230VE)	1
△	J3439167	CABLE SAA/2-H05VV5 2X1-C17W (240VA)	1
△	J3439155	CABLE CEE XВИIG-H05VVVF2X1-C17W (117V)	1
#	K6018476	OWNER'S MANUAL (E-D-F-IT-SP-OL) HP-1-RW	1
#	K6018477	MOUNTING SCHEME HP-1-RW	1

# PARTS LIST HP-2e-RW/LA (230V/230VE/240VA)

### SAFETY PRECAUTIONS :

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



### CONSIDERATION ON PARTS ORDERING

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

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

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

### NOTE:

- # The parts marked "# " are new (Initial Parts).
- A The parts marked "A " are new (Initial Parts) for RES but already used by RJA
-  The parts marked  have Safety - Related characteristics. Use only listed parts for replacement.
- << EMI >> Component for EMC.
- Note:** Replacement should be made on a unit basis. No replacements available for individual parts. Replacement only be a unit.

**MB** = Main Board  
**PAB** = Power Amp. Board  
**CB** = Control Board  
**PHB** = Phones Board  
**PB** = Primary Board  
**LEDB** = Led Board

### CASING

#	00890990	LOGO BADGE 'ROLAND' (GOLDEN)	1
#	K1168114	RIGHT END BLOCK HP-2E RW	1
#	K1168115	LEFT END BLOCK HP-2E-RW	1
#	K2198111	MUSIC SCORE HOLDER HP-2E-RW	1
#	7773006000	CABINET ASSY HP-2E	1
#	7773007000	VARN.+SILK.TEMPLATE F/TOP CABINET HP-2e	1
#	7770025000	VARN. LID BLIND HP-337E	1
#	7773008000	VARN.+SILK. REAR PNEL HP-2E-RW	1
#	7773009000	VARN.+SILK. CONTROL BLIND HP-2E-RW	1
#	7773010000	SILKSCREENED PLEXIGLASS HP-2E-RW	1
#	7773011000	BORED MDF TOP CBNT HP-2E-RW	1
#	7773012000	BORED MUSIC REST HP-2E/3E-RW	1
#	7773013000	BORED SLIDE LID HP-2E-RW	1
#	7773014000	SHAFT STAY	1
#	7773015000	KEYBOARD BLIND HP-2E-RW	1

### ONLY FOR HP-2e LA

#	K2148116	STOP PIN F/MUSIC SCORE HOLDER	2
#	7774310000	CABINET ASSY (OAK) HP-2E-LA	1
#	7774306000	VARN.+SILK. CONTROL PANEL BLIND HP-2E-LA	1
#	7774302000	RIGHT VARN. END-BLOCK HP-2E-LA	1
#	7774303000	LEFT VARN. END-BLOCK HP-2E-LA	1
#	7774311000	VARN. MUSIC SCORE HOLDER HP-2E-LA	1
#	7774305000	VARN.+ SILK. REAR PANEL HP-2E-LA	1
#	7774304000	VARN.+SILK. CONTROL BLIND HP-2E-LA	1
#	7774301000	TOP CABINET BLIND (OAK) HP-2E-LA	1
#	7774308000	MDF TOP CABINET (OAK) HP-2E-LA	1
#	7774307000	VARN. MUSIC REST (OAK) HP-2E-LA	1
#	7774309000	BORED MDF SLIDE LID (OAK) HP-2E-LA	1

### KNOB BUTTON

#	22485316	BLACK KNOB HP-730/530E	1
#	K2478349	2-BUTTON GROUP D. 9.5	9
#	K2478350	2-BUTTON GROUP D.9.5	1
#	3249559701	SWITCH CAP	1

### SWITCH

	01453245	AC PUSH SWITCH	SDDL1B2D TV5		1
	J3169105	SWITCH	TP-1101A / EVQ-PAE 05 R	SW1=>20 on CB	20

### JACK, SOCKET

	13449252	JACK SOCKET	YKB 21-5006	JK101,102 on PHB	2
	13449283	JACK SOCKET	HLJ7101-01-3010	JK1,2,3,4 on PAB	4
	00340223	DIN SOCKET	YKF51-5031	JK8 on PAB	1
	13429676	5P DIN SOCKET Y	KF51-5048 (2PCS)	JK5 on PAB	1

### DISPLAY UNIT

	00239767	DISPLAY TYPE	LB-603VF (RED)	LED19 on CB	1
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### SPEAKER

	22415596	LOUDSPEAKER	CF160138-01 6 OHM		2
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### KEYBOARD ASSY

#	J2589109	88-KEY KEYBOARD ASSY TP/30			1
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**NOTE:** For details, refer to KEYBOARD PARTS LIST (Page 6)

### PCB ASSY

#	7773003000	POWER AMP. PCB ASSY HP-2E			1
	7699410000	LED ASSY			1
	7772401000	PRIMARY PCB ASSY KR-777			1
		<b>NOTE:</b> The PRIMARY PCB ASSY doesn't include the fuse. When you replace this assy, please order the fuse, as well, as indicated on "FUSE, FUSE HOLDER".			

#	7773002000	CONTROL PCB ASSY HP-2e			1
#	7772903000	PHONES PCB ASSY HP-1/2e/3e			1
#	7773001000	MAIN PCB ASSY HP-2e			1

### IC

	15229718RI	I.C. 6N 137	PHOTO-COUPLER	IC15 on PAB	1
A	02673823	I.C. MASK ROM UPD23C64040ALGY-743-MJH		IC11 on MB	1
	01786667	I.C. HD6413006F20	FLAT	IC6 on MB	1
	15249111	I.C. TC7WU04 F	FLAT CMOS	IC13 on MB	1
	00232645	I.C. TC7W14F	FLAT	IC20 on MB	1
	J5259001	I.C. 74 HC 04 FLAT	CMOS	IC9 on PAB	1
	J5259105	I.C. 74 HC 138 FLAT	CMOS	IC4 on CB	1
	00129278	I.C. SSC1080 FOB	(CUSTOM IC)	IC16 on MB	1
	J5259110	I.C. HM62256LFP-7T	FLAT SRAM	IC5,7on MB	2
	01126612	I.C. LC324260AJ60/AS4C256K16E050JCT		IC14 on MB	1
	01679978	I.C. RA09-002 (XP6)	CUSTOM	IC9 on MB	1
	15259884	I.C. TC7S08F	MOS CMOS	IC19 on MB	1
	00236845	I.C. TC 74VHC245F		IC5 on CB	1
	15189210	I.C. BA 5218F	(OP AMP)	IC3,5,7on PAB/IC17 on MB	4
	15289105	I.C. UPC 4570G	(OP AMP)	IC3 on CB/IC1,2,6,10,11 on PAB	6
	15199937	I.C. M51953 BFP	FLAT	IC4 on PAB	1
	01451578	I.C. AK4324-VF-E2 DAC		IC18 on MB	1
	J5199102	I.C. UA 7812 CV TO220		IC13 on PAB	1
	J5199103	I.C. 7912F TO220		IC14 on PAB	1
	01344512	I.C. UPC24A05HF	(REGULATOR)	IC12 on PAB	1
	01458445	I.C. UPC29M33T-1	FLAT (REGULATOR)	IC27 on PAB	1
A	02780301	I.C. UPC 29L05T	REGULATOR FLAT	IC15 on MB	1

### TRANSISTOR

	15129114	TRANSISTOR	2SC-1815GR	Q15,16,25,28 on PAB	4
	15119113	TRANSISTOR	2SA-1015 GR	Q12,22,27 on PAB	3
	15129136	TRANSISTOR	2SC-2878-A/B	Q3,4,9,10,13,14 on PAB	6
	15129602	TRANSISTOR	2SD-667C	Q2,8 on PAB	2
	15139124	TRANSISTOR	2SK-363 GR FET	Q17,21,26,29 on PAB	4
	15129164	TRANSISTOR	DTC-114ES	Q32 on PAB	1
	15329516	TRANSISTOR	DTC-114EK	Q8,9,10,11,12,13,14,15 on CB	8
	15119163	TRANSISTOR	RN2227	Q19,20 on PAB	2
	15119615	TRANSISTOR	2SB-647C T2	Q5,11 on PAB	2
	00898201	TRANSISTOR	RN2421 CHIP	Q1 on MB	1
A	02126367	TRANSISTOR	2SB-1016 AY	Q1,7 on PAB	2
A	02126378	TRANSISTOR	2SD-1407 AY	Q6,12 on PAB	2
A	02451378	TRANSISTOR	RN2427	Q1,2,3,4,5,6,7 on CB	7

### DIODE

	15119126	DIODE	1SS-133T REDUCED PITCH	D1,2,3,4,5,6,7,8,15,16,17,18 on PAB	12
	15339108	DIODE	DA-204K	D9,11,13,19,21,22,25 on PAB	7
	15339109	DIODE	DAP 202K CHIP	DA1,2,3,4,5,6,7,8,10,11 on CB	10
	15039159T0	DIODE RECTIFIER	S5688G	D14,24,27,28,30,31,33 on PAB	7
	15029284RI	LED DIODE	TLHR4401 - RED	LED5,6,7,9,10,12,13,14,15,20,23,24 on CB	12
	J5029107	LED DIODE	3 SLR-37VR3F - RED	On LEDB	1
	01121689	LED	SPR-325MVWT31	LED16,17,18,21,22,25 on CB	6
	15039176	JUMPER DIODE	D3SBA20 4A/200V	D29 on PAB	1


### RESISTOR

	J3919108	RESISTOR ARRAY	EXB-V8V-103-JV	RA3,5,6,8,26 on MB	5
	J3919110	RESISTOR ARRAY E	XB-V8V-R00-0V	RA20,21,22,23,24,25 on MB	6
	00126101	RESISTOR ARRAY	EXB-V8V-221-JV	RA2,7,9,10,11,12 on MB	6
	01457145	RESISTOR ARRAY	EXB-E10C-103-J	RA13 on MB	1
A	02019023	RESISTOR ARRAY	EXB-E10C-682-J	RA16,17,18 on MB	3
	13819132RI	UNINFL.RES.	100 OHM 0.6W 5%	R22,23,24,25 on PHB	4
	02014945	RESISTOR	0 OHM1/2W 5% 2010 (MCR50)	R59 on CB	1
	01783623	RESIST.	2010 10 OHM1/2W 5%	R27,30 on MB	2
A	01561290	FUSE RESISTOR	RF2SL20 8R2 OHM J	R137 on PAB	1
A	01450978	FUSE RESISTOR	RF50S T52 OR1 OHM J	R10,47 on PAB	2

### POTENTIOMETER

	13289251	ROT. POT.	10KB 14K12C	VR1 on CB	1
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### CAPACITOR

	01015878	POL.COND. 0805	330P 5%	C52,56,57,63,67,68 on PAB	6
	15359774	POLYEST.COND. 0805	680P 5%	C20,41 on PAB	2
	J3469156	ELECTR. COND.	33U 35V P.5	C1,3,4,6,16,36,37,42,45,48,49,53,55,60,64,66,71,72,73,74, 88,89,91 on PAB	23
	J3629155	CONDENSER	330V 25V P5 ELET PRESAGOM.	C95,100,105,107 on PAB	4
#	J3629159	ELECTRL.COND.	1000UF 35V R.	C92 on PAB	1
	J3629148	ELECTR. COND.	6800U 35V R.	C97,102 on PAB	2
	J3629132	ELECTRL.COND.	100U 50V P5	C12,19,33,40,77,82 on PAB	6
	J3629107	ELECTRL.COND.	1UF 100V P5	C39 on PAB	1
	J5369104	ELECTR. COND. RV2	10U 16V (SMD)	C11,12,13,45,48,54,78,92,101,104,107,110,115,183 on MB	14
	J5369105	ELECTR. COND. RV3	33U 16V (SMD)	C13,74,82,117,176 on MB	5
	J3629137	ELECTR. COND.	33U 16V H.7	C4,5,8,12,16,17 on CB	6
	13529104RI	CAPACITOR	DE1310E472MVA-KH	C1 on PB	1
	13649103J0	UNPOL.COND.	10U 50 P5	C13,21,84,108,117 on PAB	5

01452189	COND.	ECKDBE472 ZF	C101on PAB	1	
<b>INDUCTOR, COIL, FILTER</b>					
<<EMI>>	12449326	NOISE SUP.	SBT-0460	L15 on PAB	1
<<EMI>>	13529187	NOISE SUP.	ELKTR391CA	FL1,2,3 on PAB	3
<<EMI>>	12449355	NOISE SUP.	FBR07H850TB00	L1,2,3,4 on PAB/L18,19,22 on PHB	7
<b>CRYSTAL, RESONATOR</b>					
	00894034	X-TAL	16 MHZ MA-406	X1 on MB	1
	00901912	X-TAL	24.576 MHZ MA-406	X2 on MB	1
<b>FUSE, FUSE HOLDER</b>					
△	J2559123	FUSE 5X20	630MAL/250V SEMKO	F1 on PRIMARY B - only for 230V/230VE	1
	J2559104	FUSE 5X20	3.15AL/250V SEMKO	F1, F2 on PAB	2
	12199597RI	FUSE HOLDER T.P1		on PRIMARY B / on PAB	6
<b>CONNECTOR</b>					
	13369689RI	20P FEM. CONNECTOR	AMP 1.27	CN5,6 on MB	2
	J3439112	2P MALE CONNECTOR	P 2.5 M	CN16 on PHB	1
	J3439120	4P MALE CONN.	P.2 M	CN4 on MB	1
	J3439122	8P MALE CONNECTOR	P.2 M	CN16 on PAB	1
	J3439141	10P MALE CONNECTOR	P.2 M	CN3 on MB	1
	J3439124	10P MALE CONN.	P. 2 M 90°	CN3 on CB	1
	J3439138	4P MALE CONNECTOR	P 3.96 M	CN5 on PAB	1
	J3439147	14P MALE CONNECTOR	P.2 M	CN4 on PAB/CN8 on MB	2
	J3439148	7P MALE CONNECTOR	P.2 M	CN2 on MB/CN6,9 on PAB/CN15 on PHB	4
	13369898	2P MALE CONNECTOR	B2P3-VH	CN1,2 on PB	2
	J3439152	5P MALE CONNECTOR	P.3.96 M	CN5 on PAB	1
	J3439171	4P MALE CONNECTOR	90° P.2 M	CN1 on CB	1
	J3439172	8P MALE CONNECTOR	90°P.2 M	CN4 on CB	1
<b>WIRING, CABLE</b>					
	K3468212	2P CABLE (18)	(W/2PC)	From CN16 on PHB to CN1 on LEDB.	1
	K3468153	20P FLAT CABLE (52)	-2C	From CN6 on MB to CN KEY DX	1
	K3468213	20P FLAT CABLE (72)	-2C D/R	From CN5 on MB to CN KEY SX	1
	J3469143	1P CONN. AWG18 (10)	-GREEN	On PHB	1
	7770122000	4P CABLE ASSY (32)	2C P.2 D/R	From CN1 on CB to CN4 on MB	1
#	7773004000	4P CABLE ASSY (76/40)	1C P3.96	From CN5 on PAB to SPEAKERS	1
	7699409000	7P CABLE ASSY (86)	-2C P.2	From CN9 on PAB to CN15 on PHB	1
	7711512000	7P CABLE ASSY (28)	-2C P.2 D/R	From CN6 on PAB to CN2 on MB	1
#	7773005000	8P CABLE ASSY (86)	-2C P.2 D/R	From CN4 on CB to CN1 on PAB	1
	7699418000	10P CABLE ASSY (38)	-2C P.2	From CN3 on CB to CN3 on MB	1
	7700124000	14P CABLE ASSY (28)	-2C P.2	From CN4 on PAB to CN8 on MB	1
<b>TRANSFORMER</b>					
#	△	K2458148	TRANSFORMER 100-240	HP-2E-RW	1
<b>AC INLET</b>					
△	J3449103	UNIVERSAL AC INLET	ON PCB	on PB	1
<b>SCREW</b>					
	J2289101	SELF TAP.SCREW	2.9X 6 TC TC		2
	J2289102	SELF TAP.SCREW	2.9X10 TC TC		8
	J2289116	SELF TAP.SCREW	3.5X13 TC TC		6
	J2289213	SELF TAP.SCREW	3.9X16 TC TC		12
	J2289125	SCREW	2.9X10 TC TC PR TROP		4
	J2289130	SCREW	2.9X13 TC TC PR TROP		7
	J2289118	SCREW	2.9X16 TC TC PR BRUN		3
	J2289212	SCREW	3.5X10 TC TC PR BRUN		6
	J2289108	SELF LOCK.SCREW	M3X10 TCTC H.6		3
	J2289147	SELF LOCK.SCREW	M3X12 TCTC H.6		5
	J2289221	SELFLOCK. SCREW	M4X10 TC TC TFR 9.5		6
	J2289110	SELF LOCK.SCREW	M4X20 TCTC H. 9.5		10
	K2288110	SCREW	M5X20 TC TC TFR H9.5 BRUN		8
	J2289142	PITCH SCREW	M5X25 TC TC		3
	J2289193	SELF LOCK.SCREW	M3X6 TC TC H.6		12
	J2289135	SELF LOCK.SCREW	M4X 7 TCTC T.8		4
	J2289115	SCREW	3.5X9.5 TC PR TFR H.8		18
	J2289227	SCREW	3.9X20 TC PR TFR T.8 BLACK PLATED		10
	J2289150	SCREW	2.9X16 TC PR TFR H.7		17
	K2288107	SCREW	3.9X13.5 TC PR TFR H.8		44
<b>PACKING</b>					
#	K2638266	RIGHT LDPE END SIDE + BOX	HP-2E-RW		1
#	K2638267	LEFT LDPE END SIDE + BOX	HP-2E-RW		1
#	K2638268	CENTRAL LDPE PROTECTION	HP-2E-RW		2
	K2678121	CARTENE HD ENVELOPE	CM 80X200		1
	K2678106	POLYETH.ENVELOPE	40X55		1
#	K2618266	OUTER CARTON	HP-2E-RW		1

**MISCELLANEOUS**

	40016756	NUT M12 HLJ0999-01-360 M12			2
	J2289113	NUT 3MA H.3			2
	J2329105	HINGE F/MUSIC REST			2
	J2139114	FLAT WASHER I/D 5X14 TH. 1			8
	K2168113	LED SPACER H. 17.1 E.D. 6.7			1
#	K2168121	LED SPACER H. 3.6 D.E.9			6
#	K2168122	LED SPACER H.4.6 D.E.5.5			12
	K2268158	REST RUBBER NAIL F/LID			1
	J2369106	WIRE HOLDER CLAMPING RN04			5
	K2248160	AC SOCKET HOLDER			1
	K2268121	RED FELT MM 1250X12X1.5			1
	K2268127	BLACK ADH. FELT 1320X9X2.5 MM.			1
	K2268149	ADHESIVE BLACK FELT MM540X15X1			2
	K2268159	CUSHION F/LID BLIND			2
	7695813000	VARNISHED WOOFER NET			2
	K1188132	KEYBOARD SUPPORT R178			3
	K253810302	FUSE WARNING LABEL			1
#	K2128130	RIGHT GUIDE FOR SLIDE LID HP-2e-RW			1
#	K2128131	LEFT GUIDE FOR SLIDE LID			1
#	K2128132	SUPPORT F/SHAFT STAY HP-2E-RW			3
#	K2128133	LID GEAR			2
#	K2128134	COUPLING PIN F/TOP CBNT-REAR PANEL			3
#	K2128135	COUPLING PIN FOR TOP CBNT			2
#	K2148115	STOP PIN F/MUSIC SCORE HOLDER			2

**ACCESSORIES**

△	J3439155	CABLE CEE XVIIIG-H05VVF2X1-C17W	(230V)		1
△	J3439154	CABLE GB BS89/5 H05VV-F3G1 C13W	(230VE)		1
△	J3439167	CABLE SAA/2-H05VV5 2X1-C17W	(240VA)		1
#	K6018467	OWNER'S MANUAL (E-D-F-IT-SP-OL)	HP-2E		1
A	02892389	SONG BOOK	60 PCN		1

**PARTS LIST STAND KS-2e-RW/LA**

	K3418105	CABLE F/PEDAL (84)	KS-137/237/147		1
	K2288109	SCREW 3.9X30 TC PR TFR T.8 BRUN			4
	J2289208	SCREW 3.5X25 TC PR TFR H.8 BRUN			7
	J2289247	SCREW M6X30 TC PHILIPS TBL			2
#	J2289249	SCREW 4.5X45 TC PR TFR T.9.5			6
	J2329107	JOINT BOLT ASSY			6
	J2329101	SCREW DRIVER TYPE 2			1
	K2358102	SIDE PANEL FOOT			2
	K2128128	COUPLING BASE KS-237PE			2
	K2638142	MID POLYST. END-SIDE			1
	K2638143	POLYST. SHEET 500X1510X20			1
	K2678115	CARTENE ENVELOPE HD 60X80			2
	K2678116	CARTENE ENVELOPE HD 70X190			1
	K2678102	POLYETH. ENVELOPE 25X45			1
	K2678105	CARTENE ENVELOPE HD 140X57			1
#	7896601000	RIGHT SIDE PANEL ASSY KS-2E			1
#	7896602000	LEFT SIDE PANEL ASSY KS-2E			1
	K1138111	BASE FOR PEDAL (MDF) KS-147E			1
#	K1148148	REAR PANEL KS-2E/KS-3E/KS7E			1
#	K2618267	OUTER CARTON KS-2E			1
	J3059116	3-NOTE PEDAL KS-237E/147E			1
#	K6018468	MOUNTING SCHEME KS-2E			1

**ONLY FOR KS-2e LA**

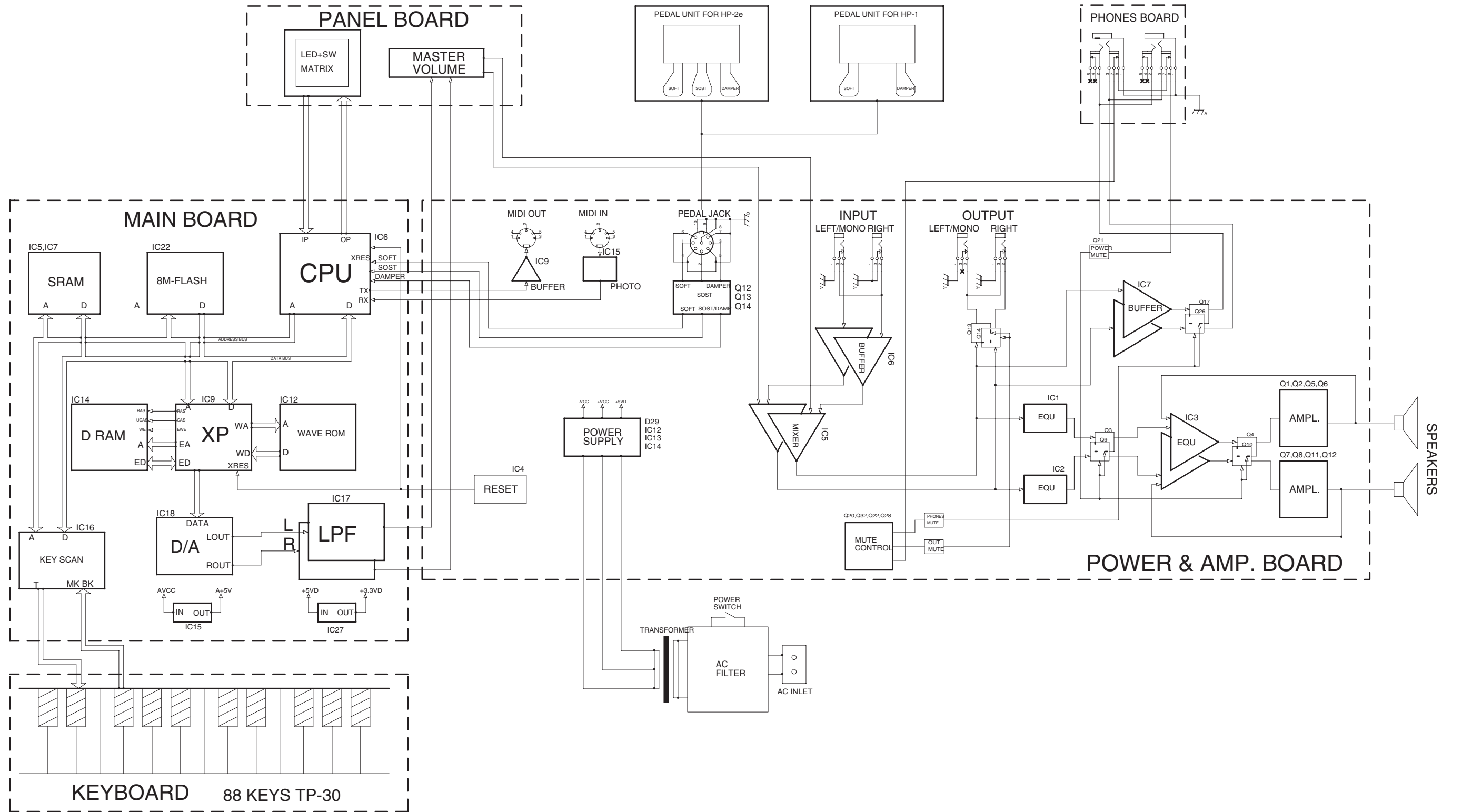
	J2289248	SCREW M6X30 TC PHILIPS TBL			2
	K2128129	COUPLING BASE KS-237LE			2
#	7897001000	RIGHT SIDE PANEL ASSY (OAK) KS-2E-LA			1
#	7897002000	LEFT SIDE PANEL ASSY (OAK) KS-2E-LA			1
#	K1148151	REAR PANEL (OAK) KS-2E-LA			1
#	7897004000	BASE F/PEDAL ASSY KE-2E-LA			1
#	7897003000	FOOT F/SIDE PANEL (STAND) KS-2E-LA			2

**NOTE:** The "3-NOTE PEDAL KS-237" includes the parts shown in the Pedal Exploded view, on page 8.

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BLOCK DIAGRAM



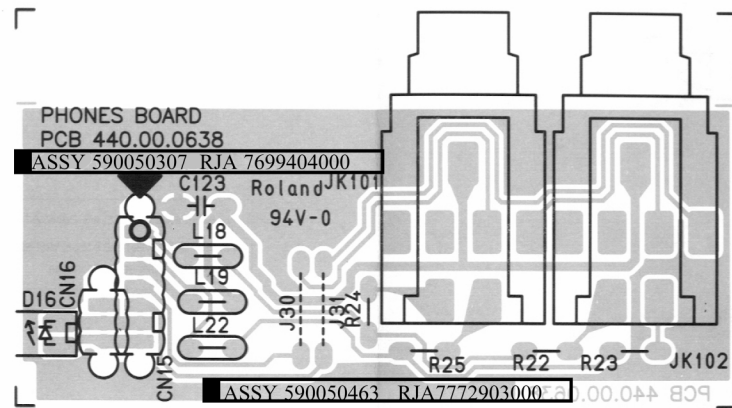


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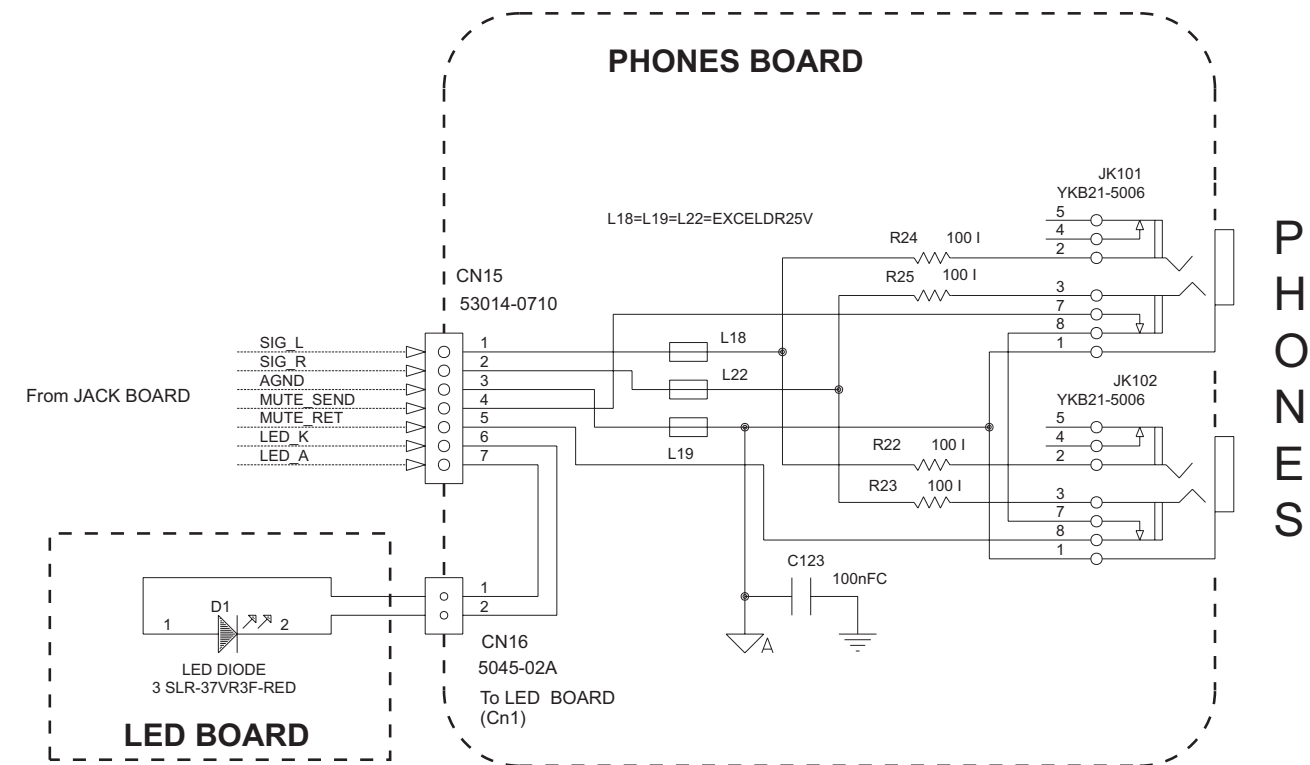
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**PHONES PCB ASSY & CIRCUIT DIAGRAM**

ASSY 7772903000



View from component side

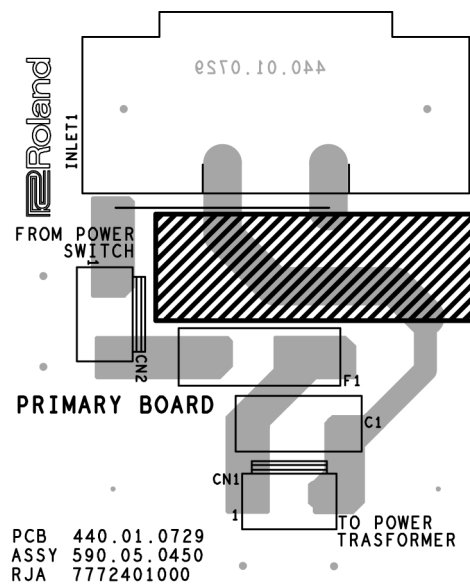


P H O N E S

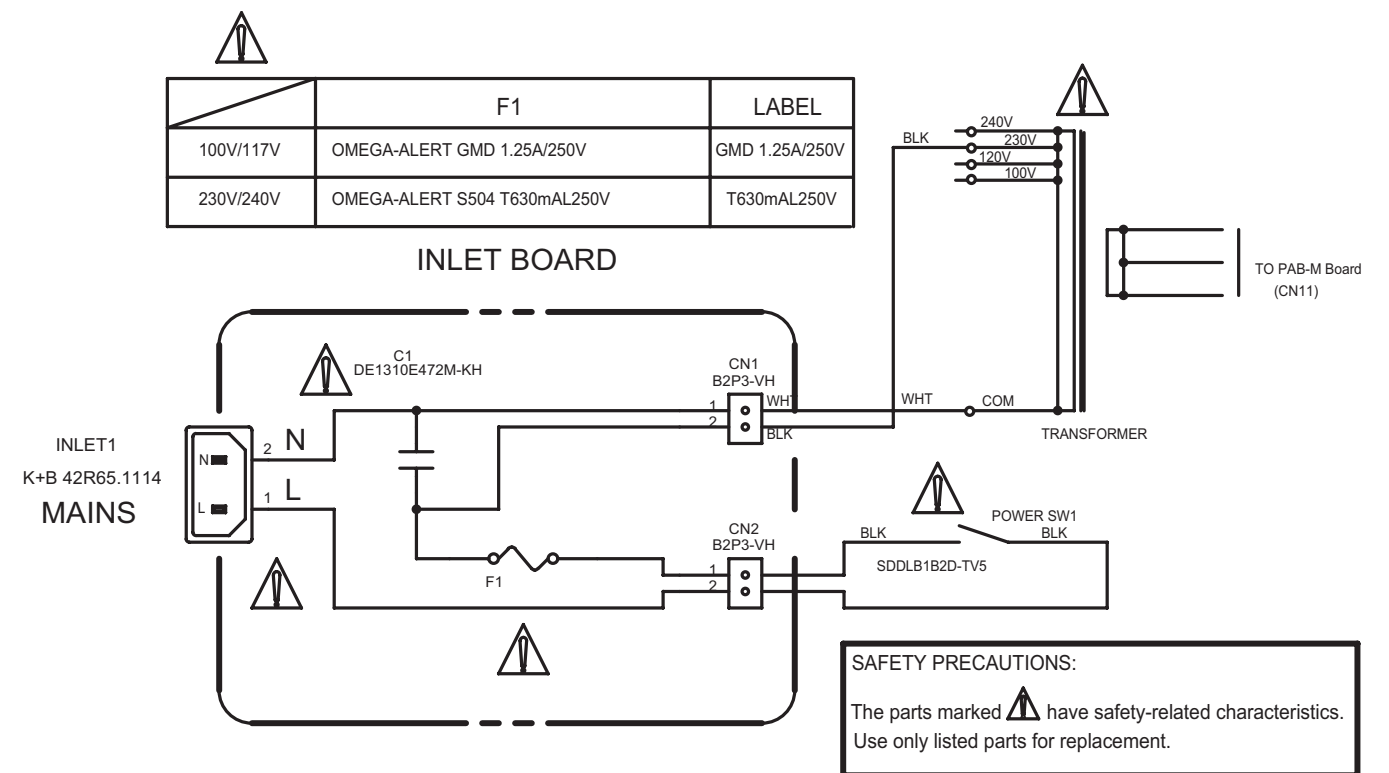
**PRIMARY PCB ASSY & CIRCUIT DIAGRAM**

ASSY 7772401000

**NOTE:** The PRIMARY PCB ASSY doesn't include the fuse. When you replace this assy, please order the fuse, as well, as indicated on PARTS LIST "FUSE, FUSE HOLDER".



View from component side



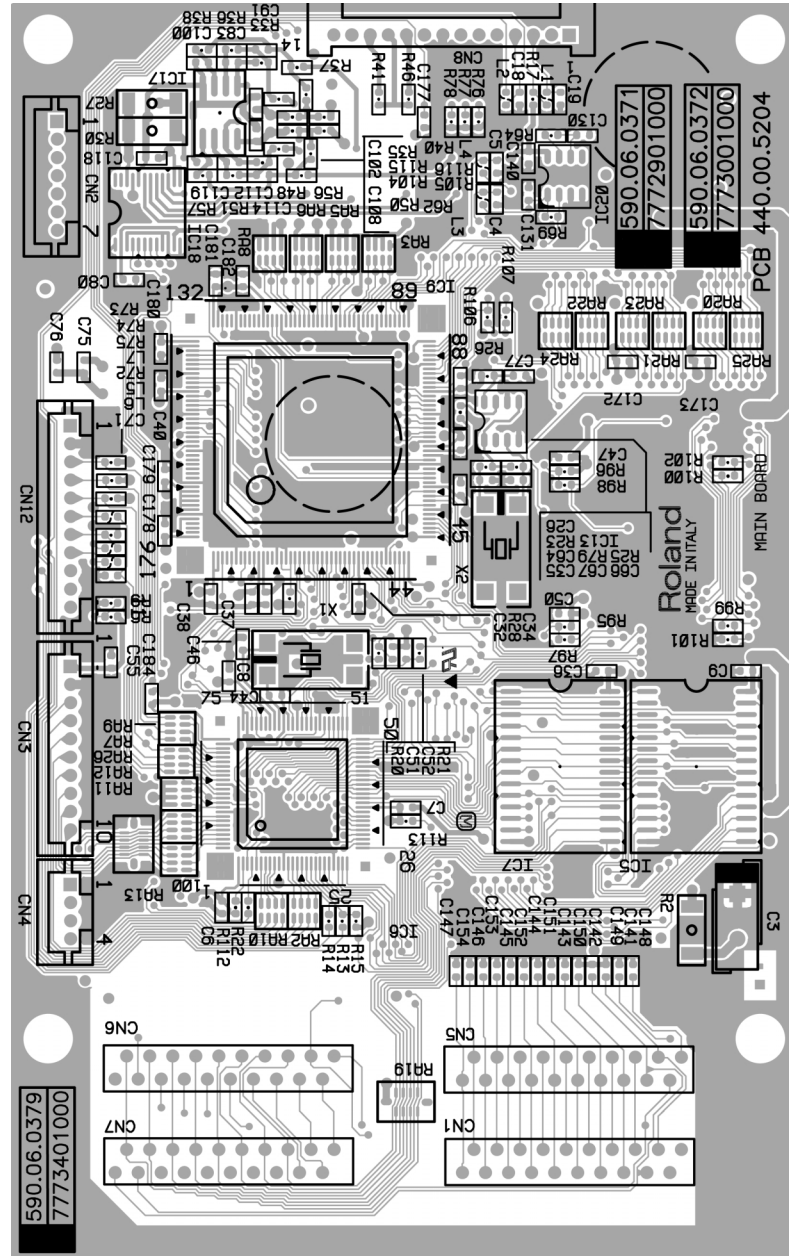
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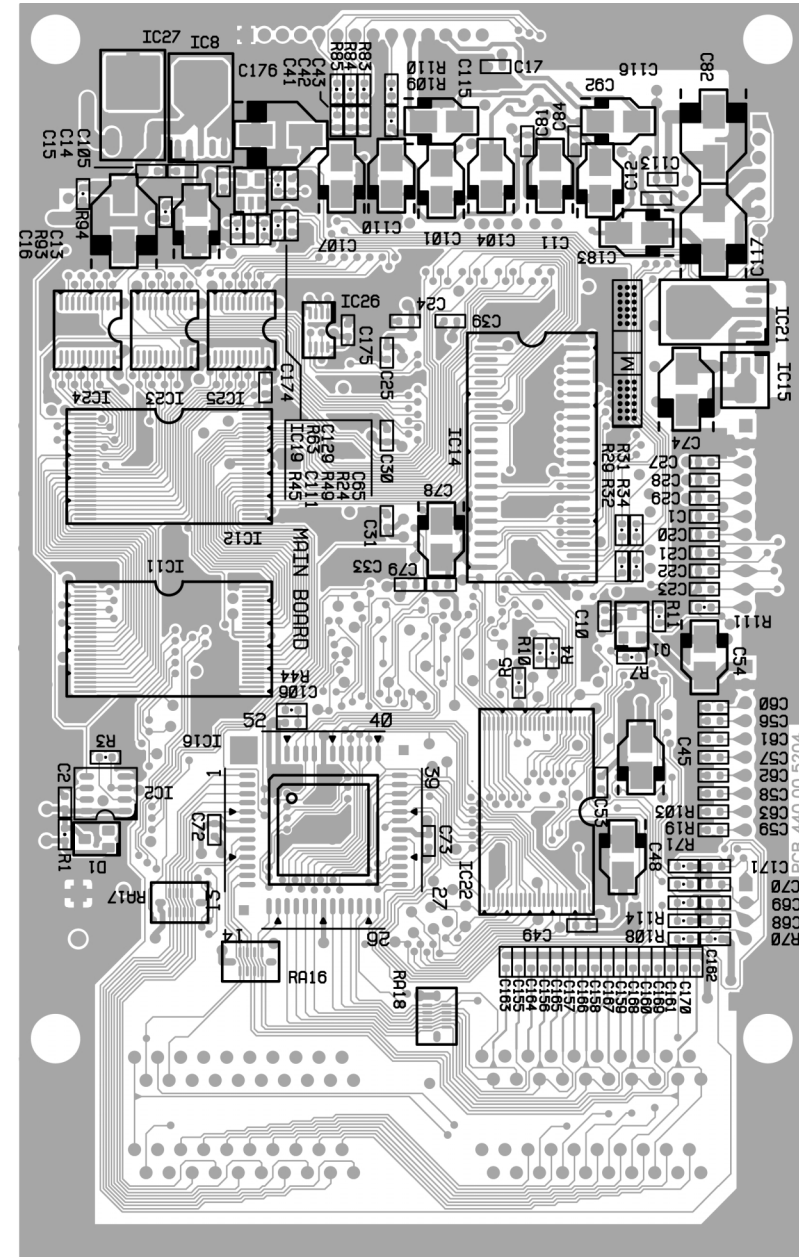
### MAIN PCB ASSY

for HP-1 ASSY 7772901000

for HP-2e ASSY 7773001000



View from component side

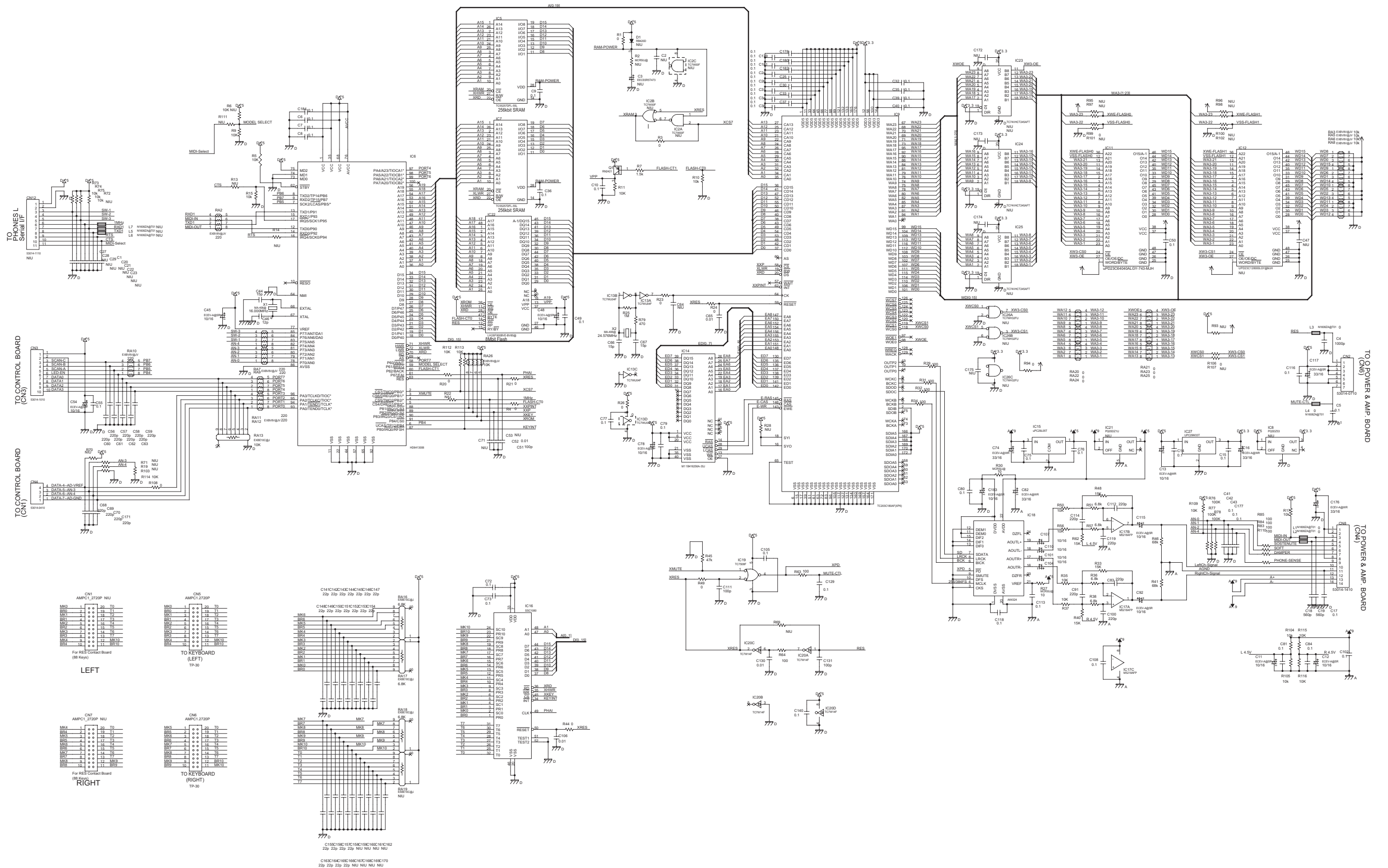


View from solder side

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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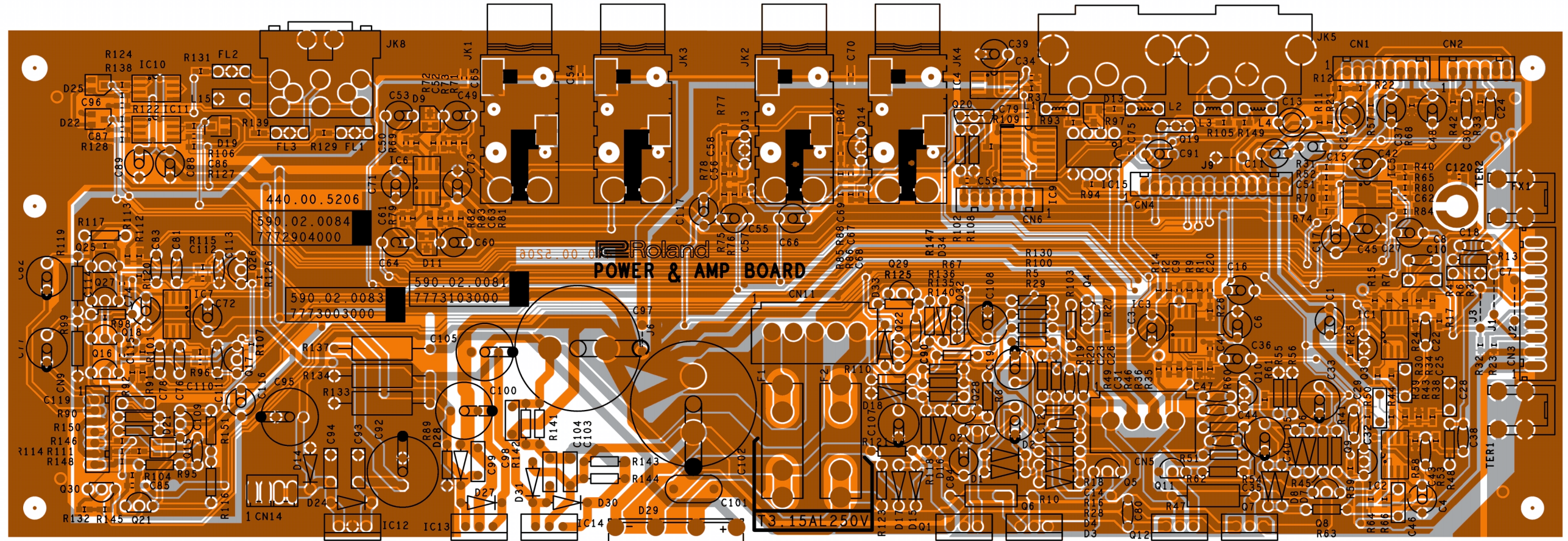
# CIRCUIT DIAGRAM (MAIN PCB ASSY)



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**POWER & AMP. PCB ASSY**  
for HP-1 ASSY 7772904000  
for HP-2e ASSY 7773003000

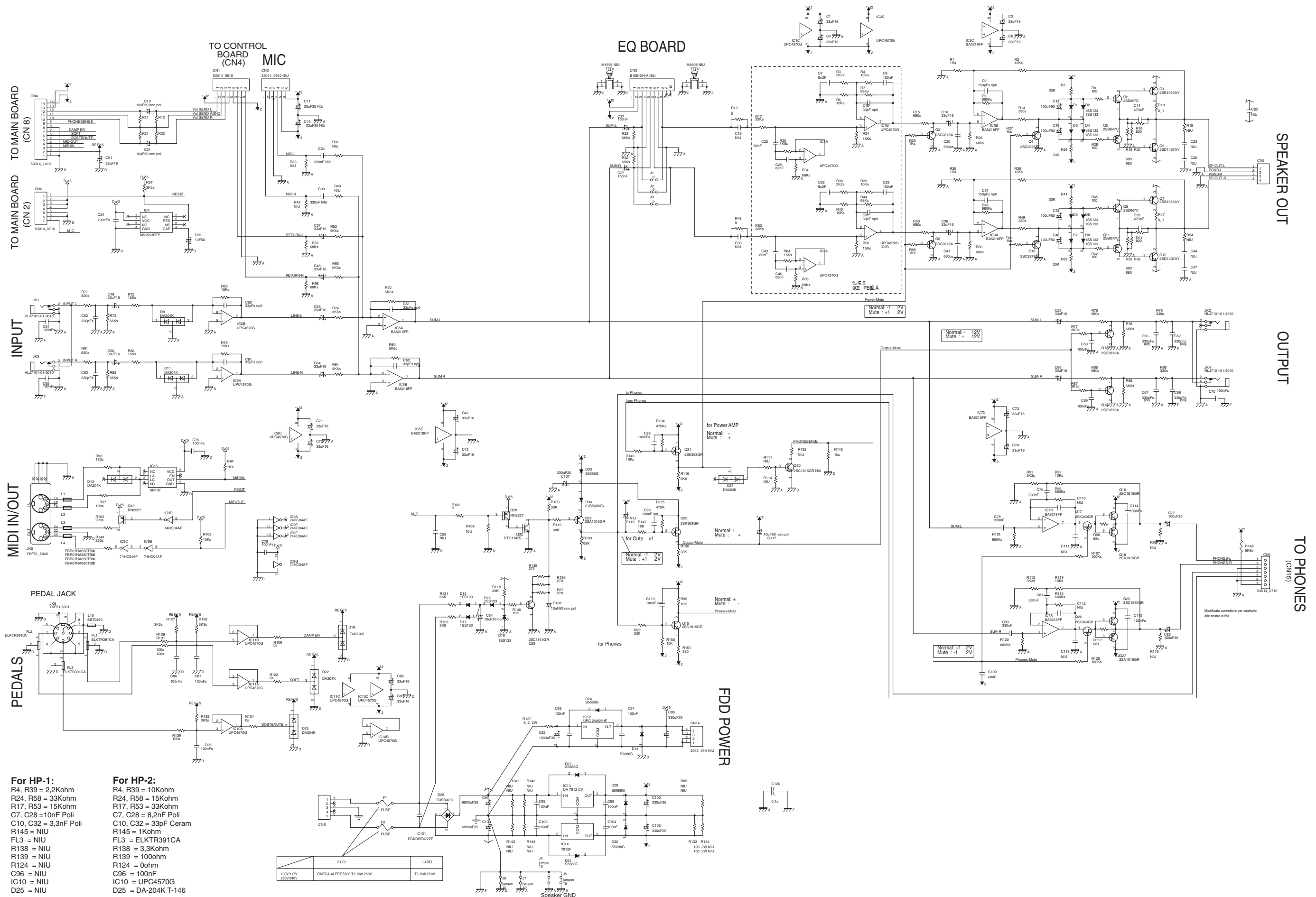


View from component side

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# CIRCUIT DIAGRAM (POWER & AMP. PCB ASSY)



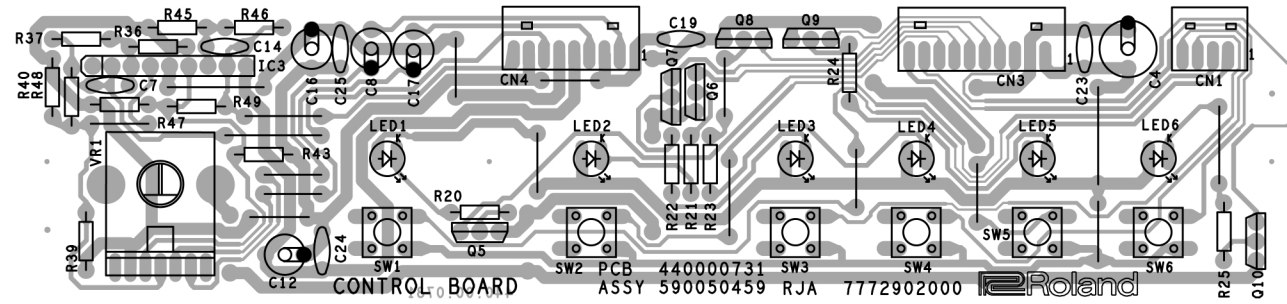
- For HP-1:**  
 R4, R39 = 2.2Kohm  
 R24, R58 = 33Kohm  
 R17, R53 = 15Kohm  
 C7, C28 = 10nF Poli  
 C10, C32 = 3.3nF Ceram  
 R145 = NIU  
 FL3 = NIU  
 R138 = NIU  
 R139 = NIU  
 R124 = NIU  
 C96 = 100nF  
 IC10 = NIU  
 D25 = NIU
- For HP-2:**  
 R4, R39 = 10Kohm  
 R24, R58 = 15Kohm  
 R17, R53 = 33Kohm  
 C7, C28 = 8.2nF Poli  
 C10, C32 = 33nF Ceram  
 R145 = 1Kohm  
 FL3 = ELKTR391CA  
 R138 = 3.3Kohm  
 R139 = 100ohm  
 R124 = 0ohm  
 C96 = 100nF  
 IC10 = UPC4570G  
 D25 = DA-204K T-146

VALUE	DESCRIPTION	LABEL
100V117V 230V240V	OMEGA-ALERT 5006 T3 15AL250V	T3 15AL250V

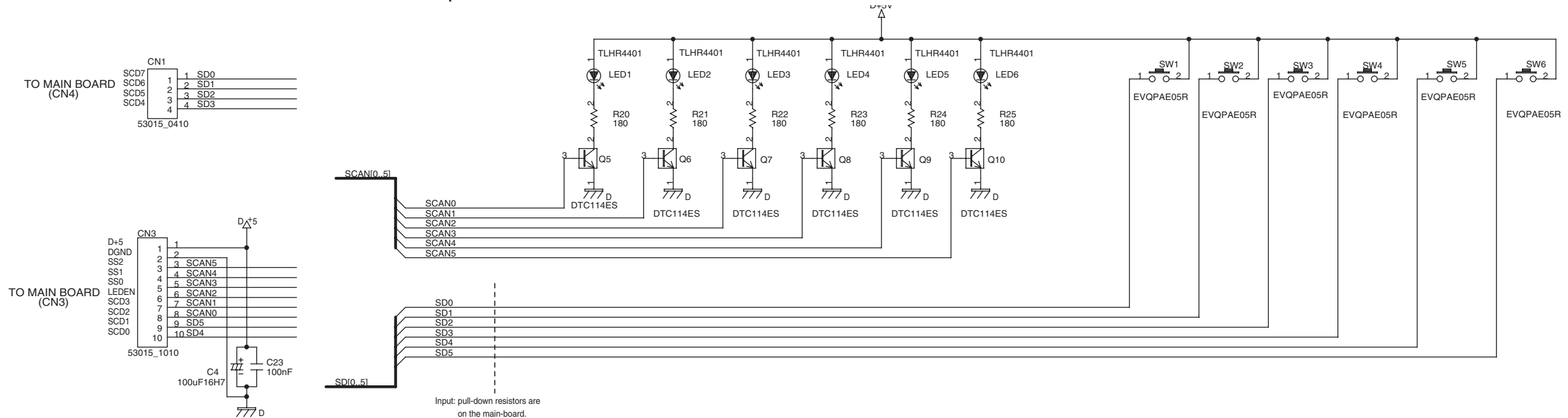
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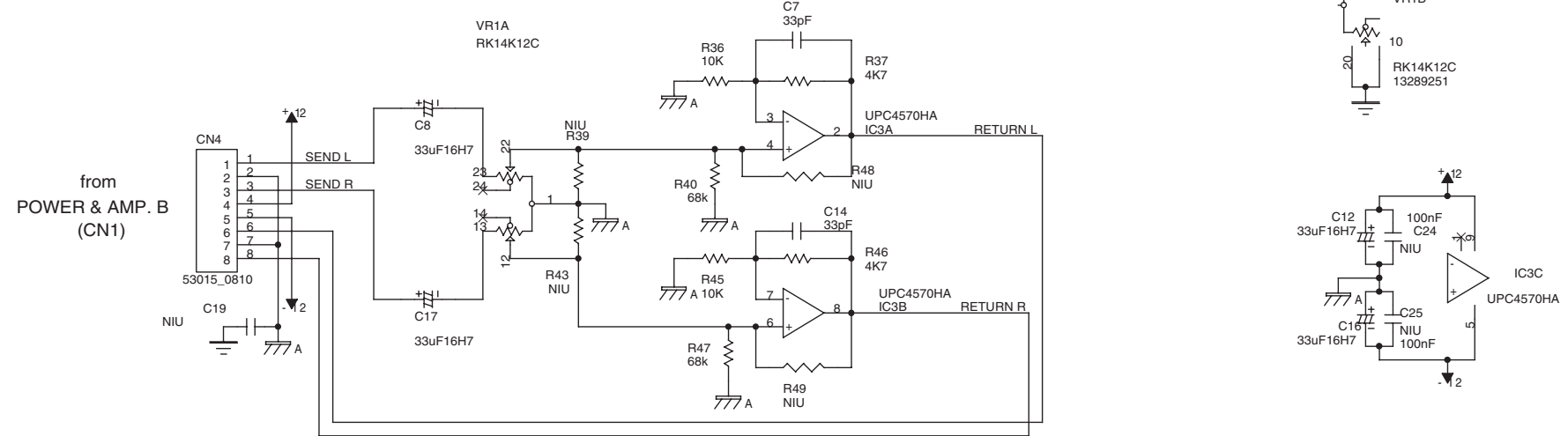
**CONTROL PCB ASSY & CIRCUIT DIAGRAM (only for HP-1)**  
ASSY7772902000



View from component side



IN						OUT					
SD0	SD1	SD2	SD3	SD4	SD5	SCAN0	SCAN1	SCAN2	SCAN3	SCAN4	SCAN5
PORT0	PORT1	PORT2	PORT3	PORT4	PORT5	PORT6	PORT7	PB4	PB5	PB6	PB7
PA0	PA1	PA2	PA3	PA4	PA5	PA6	P60	PB4	PB5	PB6	PB7

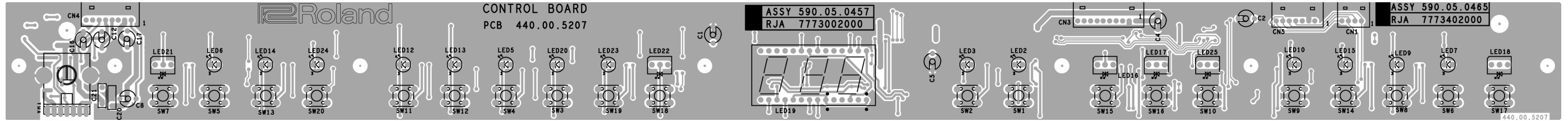


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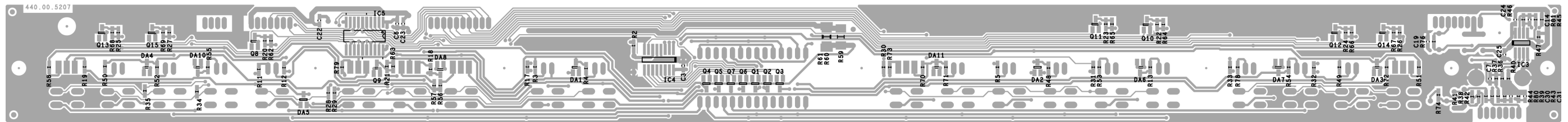
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### CONTROL PCB ASSY & CIRCUIT DIAGRAM (only for HP-2e)

ASSY 7773002000



View from component side



View from solder side

