# MC-307

## SERVICE NOTES

### *First Edition*
### *Issued by RJA*

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## MAIN SPECIFICATIONS

### MC-307: Groovebox

● **SOUND GENERATOR SECTION**

Maximum Polyphony:  64 voices

Parts:       24 (Main: 8, RPS: 16)

Patches
Preset:  800
User:     256

Rhythm Set
Preset:  40
User:     20

Effects Type
Reverb:                6
Delay:                 2
Multi-Effects (M-FX): 25

● **SEQUENCER SECTION**

Parts:   8 + MUTE CTRL
Resolution:
        96 ticks per quarter note
Tempo: 20.0-240.0 (Maximum)
Maximum Note Storage:
        95,000 notes

Patterns
Preset:           240
RPS:              470
User:             200
Songs:            50
Recording Mode:
        Realtime, TR-REC
Quantize Type:
Grid, Shuffle, Groove (71 types)

Arpeggiator Style:
        Preset           43
        User             10
        RPS Set:         60
        Pattern Set: 30

● **CONTROLLERS**
  **(Display, Knobs, Slider)**
Display
136 x 32 Dots Graphic LCD
    (Backlit)
+ 7 segment 25 characters
7 segment 4 character (LED)
Knobs
Cutoff
Resonance
LFO1
Assignable 1 - 4
Turntable Emulation block
Turntable Emulation slider
Turntable PUSH/HOLD button
GRAB Switch

● **CONNECTORS**

Headphones Jack
Output Jack (L (MONO), R)
MIDI Connectors (IN, OUT)
Foot Control Jack
DC IN Jack

● **POWER SUPPLY**

DC9V

● **Current Draw**

1000mA

● **DIMENSIONS**

422 (W) x 277 (D) x 98 (H) mm
16 - 5/8 (W) x 10 - 15/16 (D) x
3 - 1/2 (H) inches

● **WEIGHT**

2.2kg/ 4lbs 14oz

● **ACCESSORIES**

Owner's Manual
    English    : (#71454923)
    Japanese : (#71453990)

AC Adaptor
PSB-1U UNIVERSAL    01901578
        ACI-230C      (#01018312)
        ACI-120C      (#00905767)
        ACI-100C      (#00905756)
AC CORD SET
        240V 1.0M FOR PSB (#01903367)
        230V 1.0M FOR PSB (#01903356)
EURO CONVERTER PLUG
        ECP01-5A (PLUG FOR BRC-230T)
                  (#00905234)

* In the interest of product
  improvement, the specifications
  and/or appearance of this unit
  are subject to change without
  prior notice.

# LOCATION OF CONTROLS
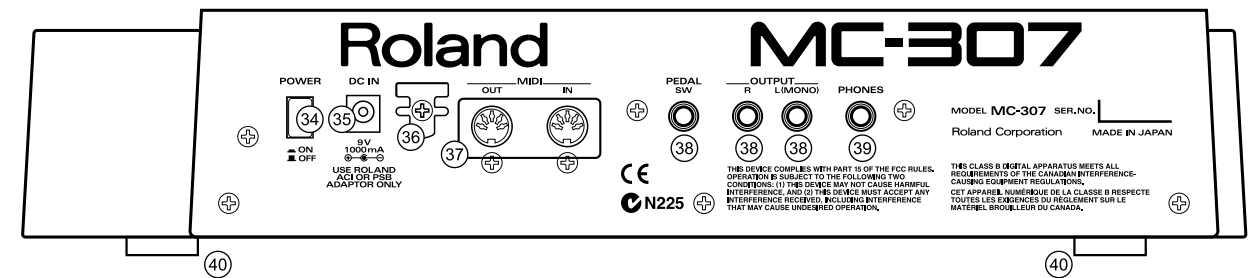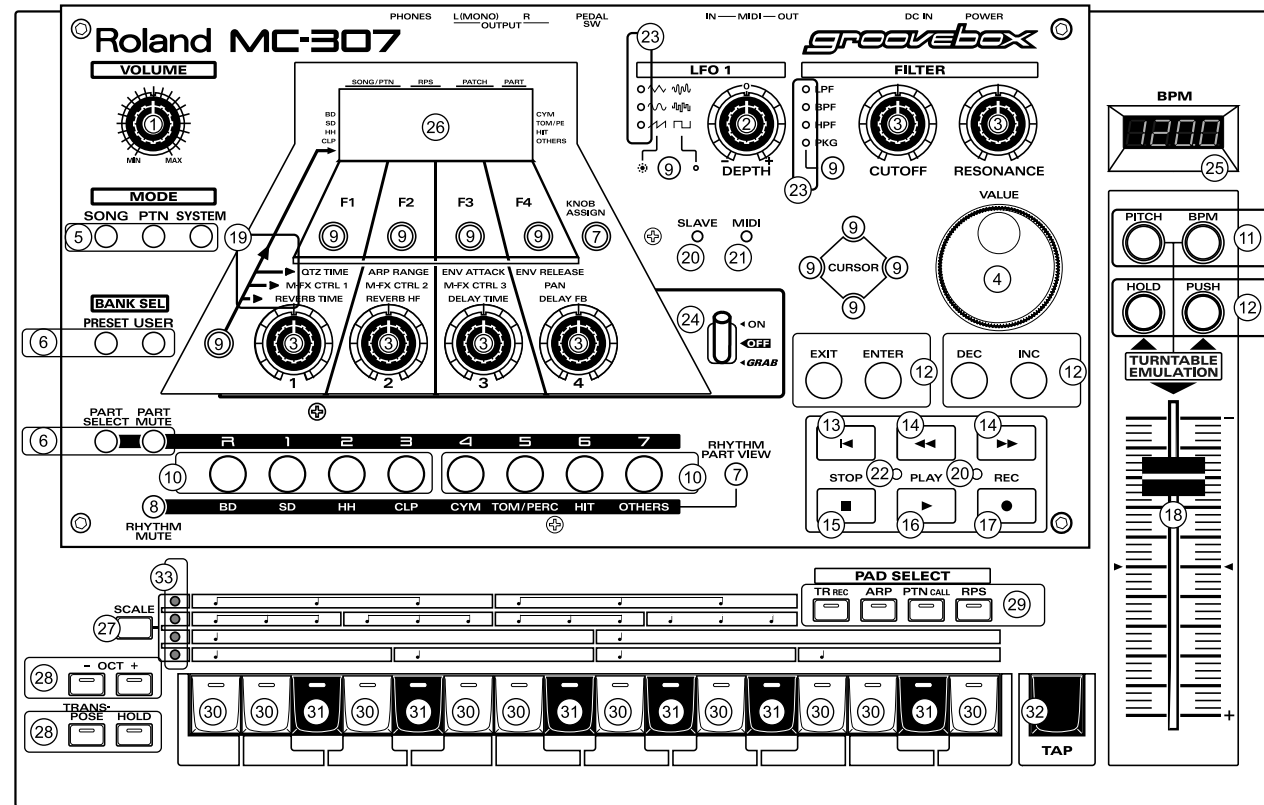


## LOCATION OF CONTROLS PARTS LIST

| NO. | PART CODE | PART NAME | DESCRIPTION |
|---|---|---|---|
| ①~③ | 01343112 | J R-KNOB | J R-KNOB MF BLK/LCG |
| ① | 01903489 | 9M/M ROTARY POTENTIOMETER | EVJY10F03B14 |
| ② | 01670312 | 9M/M ROTARY POTENTIOMETER | EVUJDDFL3B14 W/CLICK&NUT |
| ③ | 01670289 | 9M/M ROTARY POTENTIOMETER | EVUJDCFL3B14 W/NUT |
| ④ | 22485303 | D R-KNOB | L BLK 248-303 |
| ④ | 01905467 | ROTARY ENCODER | EVE GC1 F20 24B |
| ⑤~⑫ | 01340290 | TACT SWITCH | EVQ11A H=5.0 |
| ⑤~⑦ | 01787045 | LED(ORANGE) | SLR-325DCT31 |
| ⑤ | 01670478 | F C-KEYTOP | SX3H CLR |
| ⑥ | 01670489 | F C-KEYTOP | SX2H CLR |
| ⑦ | 01670490 | F C-KEYTOP | SX1H CLR |
| ⑧ | 00560745 | LED (GREEN) | SLR-325MCT31 |
| ⑧ | 01670490 | F C-KEYTOP | SX1H CLR |
| ⑨ | 01670512 | F C-KEYTOP | SX1H BLK |
| ⑩~⑪ | 02011856 | LED | SLR-56DCT32 |
| ⑩ | 01904134 | F C-KEYTOP | MX4H CLR |
| ⑪ | 01904145 | F C-KEYTOP | MX2H CLR |
| ⑫ | 01904156 | F C-KEYTOP | MX2H BLK |
| ⑬~⑰ | 00894645 | TACT SWITCH | SKECAF WITHOUT LED |
| ⑬ | 01904412 | KEYTOP RESET | |
| ⑭ | 00901423 | KEYTOP | FWD/RWD(WHIT GREY) |
| ⑮ | 00901390 | KEYTOP | STOP(WHIT GREY) |
| ⑯ | 00901401 | KEYTOP | PLAY(WHIT GREY) |
| ⑰ | 00901412 | KEYTOP | REC(RED) |
| ⑱ | 01904101 | J S-KNOB | L BLK/LCG |
| ⑱ | 01903778 | 100M/M SLIDE POTENTIOMETER | RSA0N1144(50KB) |
| ⑲ | 01904089 | LED LENS | |
| ⑲~⑳ | 01011656 | LED (RED) | SLR-332VR3F |
| ⑲ | 00785812 | LED SPACER | LH-5S-3 (3MM HIGHT) |
| ⑳ | 12169391 | LED SPACER | LH-5S-10 |
| ㉑ | 01012078 | LED (GREEN) | SLR-332MG3F |

| NO. | PART CODE | PART NAME | DESCRIPTION |
|---|---|---|---|
| ㉑ | 12169391 | LED SPACER | LH-5S-10 |
| ㉒ | 00127367 | LED (RED/GREEN) | SPR-39MVW |
| ㉒ | 01906623 | LED SPACER | LH-36-8.5 |
| ㉓ | 01907901 | LED | LNJ482YKXXE |
| ㉓ | 01343090 | LED SPACER | |
| ㉔ | 01348990 | LEVER SWITCH | LS001-C23OAB-LFA15B |
| ㉕ | 01904090 | LED COVER | |
| ㉕ | 01903512 | 7SEG LED | LNM223KS01 |
| ㉕ | 01904167 | LED SPACER | FOR 7SEG LED LNM223KS01 |
| ㉖ | 01903901 | DISPLAY COVER | |
| ㉖ | 01896145 | LCD | RCM6038T-1A |
| ㉗~㉙ | 01340290 | TACT SWITCH | EVQ11A H=5.0 |
| ㉗ | 00900189 | D S-KEYTOP | SX1H BLK |
| ㉘~㉙ | 00348490 | LED (RED) | SLR-325VCT31 |
| ㉘ | 00900156 | D S-KEYTOP | SD2H BLK |
| ㉙ | 00900178 | D S-KEYTOP | SD4H BLK |
| ㉚~㉜ | 00125590 | TACT SWITCH | EVQ QJJ 05Q |
| ㉚~㉛ | 02011856 | LED | SLR-56DCT32 |
| ㉚ | 01013356 | T S KEYTOP | MD1H LCG |
| ㉛ | 22495372 | T S KEYTOP | MD1H BLK |
| ㉜ | 22495371 | T S KEYTOP | MX1H BLK |
| ㉝ | 00899023 | LED | LNJ282RKRXE |
| ㉝ | 01343090 | LED SPACER | |
| ㉞ | 12499175 | G S-BUTTON | S1H BLK 249-175 |
| ㉞ | 01676512 | PUSH SWITCH | SDKLA1-B |
| ㉟ | 13449720 | DC JACK | HEC2305-01-250 |
| ㊱ | 22360712 | CORD HOOK | 236-712 |
| ㊲ | 13429825 | MIDI CONNECTOR | YKF51-5054 2PZ |
| ㊳ | 13449283 | 6.5MM JACK | HLJ7101-01-3010 |
| ㊴ | 13449284 | 6.5MM JACK | HLJ7001-01-3010 |
| ㊵ | 01235378 | FOOT | |

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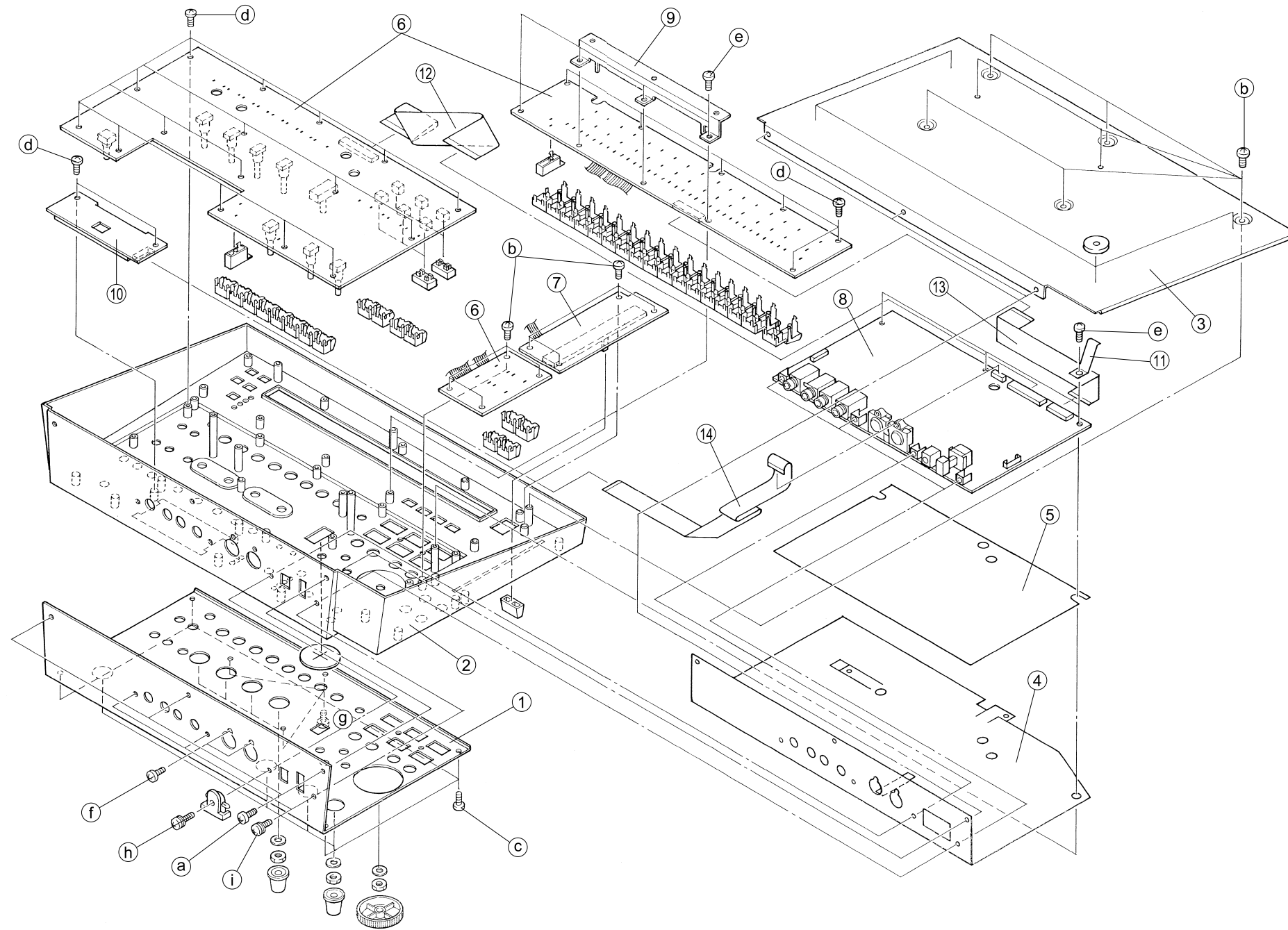
# EXPLODED VIEW



# EXPLODED VIEW PARTS LIST

| NO. | PART CODE | PART NAME | DESCRIPTION | Q'TY |
|-----|-----------|-----------|-------------|------|
| ① | 01903889 | TOP PANEL | | |
| ② | 71563989 | TOP CASE ASSY | | |
| ③ | 01904078 | BOTTOM COVER | | |
| ④ | 02015445 | SHIELD SHEET | | |
| ⑤ | 02015456 | INSULATING SHEET | | |
| ⑥ | 71454023 | PANEL KEYTOP ASSY | | |
| ⑦ | 71454045 | SLIDER BOARD ASSY | | |
| ⑧ | 71454012 | MAIN BOARD ASSY | (EXG) | |
| ⑨ | 01906801 | STAY | | |
| ⑩ | 01896145 | LCD | RCM6038T-1A(W/FLAT CABLE) | |
| ⑪ | 01120545 | LEAF | | |
| ⑫ | 02120190 | BAN CARD | BNCD-P=1.25-K-34-140 | |
| ⑬ | 02014634 | FUJI CARD | 18X150-A6.0BBR-P1.25-HBL10 | |
| ⑭ | 02128834 | BAN CARD | BNCD-P=1.00-K-16-300 | |

| NO. | PART CODE | PART NAME | DESCRIPTION | Q'TY |
|-----|-----------|-----------|-------------|------|
| ⓐ | 40011101 | SCREW M3X8 | BINDING TAPTITE B FE BZC | 3 |
| ⓑ | 40011123 | SCREW M4X8 | BINDING TAPTITE B BZC | 7 |
| ⓒ | 40344145 | SCREW M3X10 | P TITE HEX SOCKET HEAD CAP BZC | 4 |
| ⓓ | 40011267 | SCREW M3X6 | BINDING TAPTITE P FE ZC | 32 |
| ⓔ | 40011278 | SCREW M3X8 | BINDING P-TITE FE ZC | 7 |
| ⓕ | 40011312 | SCREW M3X8 | BINDING TAPTITE P FE BZC | 2 |
| ⓖ | 40233012 | SCREW M2.6X8 | BINDING TAPTITE FEBZC | 3 |
| ⓗ | 40011512 | SCREW M3X12 | SEMS. PAN HEAD FE BZC | 1 |
| ⓘ | 40011501 | SCREW M3X8 | PAN MACHINE W/SW FE BZC | 3 |

# PARTS LIST

| SAFETY PRECAUTION:*1 | The parts marked | CONSIDERATIONS ON PARTS ORDERING |
|---|---|---|
| The parts marked ⚠ have safety-related characteristics. Use only listed parts for replacement. | # are new (initial parts). *2 | 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. |

Main　= Main Board Assy
Panel A = Panel A board
Panel B = Panel B board
Slider　= Slider board
7SEG　= 7SEG board

*1 *2
↓　↓                                                                                                                                                    Q'ty

## CASING

| | | | | | Q'ty |
|---|---|---|---|---|---|
| # | 01904078 | BOTTOM COVER | | | 1 |
| # | 01903901 | DISPLAY COVER | | | 1 |
| | 01455401 | DUST COVER SW | | | 1 |
| # | 01903889 | TOP PANEL | | | 1 |
| # | 71563989 | TOP CASE ASSY | | | 1 |

NOTE: 'TOP CASE ASSY' includes the following parts.

| # | 01903878 | TOP CASE | | | 1 |
|---|---|---|---|---|---|
| # | 01904090 | LED COVER | | | 1 |
| # | 01904089 | LED LENS | | | 1 |

## KNOB, BUTTON

| | | | | | Q'ty |
|---|---|---|---|---|---|
| | 01670490 | F C-KEYTOP | SX1H CLR | [KNOB ASSIGN],[RHYTHM MUTE], [RHYTHM PART VIEW] | 3 |
| | 01670512 | F C-KEYTOP | SX1H BLK | [F1],[F2],[F3],[F4],[LFO WAVE SELECT], [FILTER TYPE SELECT], [CURSOR UP],[CURSOR DOWN], [CURSOR LEFT],[CURSOR RIGHT], [KNOB ASSIGNMENT SELECT] | 11 |
| | 00900156 | D S-KEYTOP | SD2H BLK | [OCT-,OCT+],[TRANSPOSE,HOLD] | 2 |
| | 00900178 | D S-KEYTOP | SD4H BLK | [TR REC,ARP,PTN CALL,RPS] | 1 |
| | 00900189 | D S-KEYTOP | SX1H BLK | [SCALE] | 1 |
| | 01670478 | F C-KEYTOP | SX3H CLR | [SONG,PTN,SYSTEM] | 1 |
| | 01670489 | F C-KEYTOP | SX2H CLR | [PRESET,USER],[PART SELECT,PART MUTE] | 2 |
| | 12499175 | G S-BUTTON | S1H BLK 249-175 | [POWER] | 1 |
| | 01343112 | KNOB | J R-KNOB MF BLK/LCG | [VOLUME],[ASSIGNABLE KNOB 1], [ASSIGNABLE KNOB 2], [ASSIGNABLE KNOB 3], [ASSIGNABLE KNOB 4],[DEPTH], [CUTOFF], [RESONANCE] | 8 |
| | 22485303 | D R-KNOB | L BLK 248-303 | [VALUE] | 1 |
| # | 01904101 | J S-KNOB | L BLK/LCG | [TURN TABLE EMULATION SLIDER] | 1 |

## SWITCH

| | | | | | Q'ty |
|---|---|---|---|---|---|
| ⚠ | 01676512 | SDKLA1-B | PUSH SWITCH | SW1 on Main | 1 |
| | 01348990 | LS001-C23OAB-LFA15B | LEVER SWITCH | SW140 on Panel A | 1 |
| | 00894645 | SKECAF WITHOUT LED | TACT SWITCH | SW134-139 on Panel A | 6 |
| | 01340290 | EVQ11A H=5.0 | TACT SWITCH | SW101-133 on Panel A , SW201-209 on Panel B , SW301-304 on 7SEG | 33+9+4 |
| | 00125590 | EVQ QJJ 05Q | TACT SWITCH | SW210-225 on Panel B | 17 |

## JACK, SOCKET

| | | | | | Q'ty |
|---|---|---|---|---|---|
| | 13429825 | YKF51-5054 2PZ | MIDI CONNECTOR | JK1 on Main | 1 |
| | 13449283 | HLJ7101-01-3010 | 6.5MM JACK | JK2, JK5, JK6 on Main | 3 |
| | 13449284 | HLJ7001-01-3010 | 6.5MM JACK | JK4 on Main | 1 |
| | 13449720 | HEC2305-01-250 | DC JACK | JK3 on Main | 1 |

## DISPLAY UNIT

| | | | | | Q'ty |
|---|---|---|---|---|---|
| | 01896145 | RCM6038T-1A | LCD | | 1 |

NOTE: Replacement RCM6038T-1A should be made on a unit base.

| # | 01903512 | LNM223KS01 | 7SEG LED | LED301, LED302 on 7SEG | 2 |
|---|---|---|---|---|---|

## PCB ASSY

| # | E 71454012 | MAIN BOARD ASSY | (EXG) | | 1 |
|---|---|---|---|---|---|

NOTE: 'MAIN BOARD ASSY' includes the following parts.

| | 22465224 | HEAT SINK | 246-224 | on Main | 1 |
|---|---|---|---|---|---|
| | 00892234 | LEAF SPRING | | on Main | 1 |
| | 12199584 | GROUNDING TERMINAL M1698 | | TER1, TER2, TER3, TER4 on Main | 4 |
| | 40011501 | SCREW M3X8 | PAN MACHINE W/SW FE BZC on Main | | 1 |

| # | 71454023 | PANEL KEYTOP ASSY | | | 1 |
|---|---|---|---|---|---|

NOTE: 'PANEL KEYTOP ASSY' includes the following parts.

| | 01013356 | TS KEYTOP | MD1H LCG | on Panel B | 10 |
|---|---|---|---|---|---|
| # | 01904134 | F C-KEYTOP | MX4H CLR | on Panel A | 2 |
| # | 01904145 | F C-KEYTOP | MX2H CLR | on 7SEG | 1 |
| # | 01904156 | F C-KEYTOP | MX2H BLK | on Panel A , on 7SEG | 3 |
| # | 01904412 | KEYTOP RESET | | on Panel A | 1 |
| | 00901390 | KEYTOP | STOP(WHIT GREY) | on Panel A | 1 |
| | 22495371 | TS KEYTOP | MX1H BLK | on Panel B | 1 |
| | 22495372 | TS KEYTOP | MD1H BLK | on Panel B | 6 |
| | 00901401 | KEYTOP | PLAY(WHIT GREY) | on Panel A | 1 |
| | 00901423 | KEYTOP | FWD/RWD(WHIT GREY) | on Panel A | 2 |
| | 00901412 | KEYTOP | REC(RED) | on Panel A | 1 |
| # | 01906623 | LED SPACER | LH-36-8.5 | on Panel A | 1 |
| | 12169391 | LED SPACER | LH-5S-10 | on Panel A | 3 |
| | 00785812 | LED SPACER | LH-5S-3 (3MM HIGHT) | on Panel A | 4 |
| | 01343090 | LED SPACER | | on Panel A | 2 |
| # | 01904167 | LED SPACER | FOR 7SEG LED LNM223KS01 on 7SEG | | 2 |

| # | 71454045 | SLIDER BOARD ASSY | | | 1 |
|---|---|---|---|---|---|

## IC

| | | | | | |
|---|---|---|---|---|---|
| # | 01904212 | HD6437016E08F V1.00 | IC (32BIT CPU) | IC6 on Main | 1 |
| | 01679978 | RA09-002XP6TC203C180AF002 | IC (CUSTOM) | IC18 on Main | 1 |
| | 01342978 | TC160G22AF-1253 | IC (CUSTOM) | IC4 on Main | 1 |
| | 01679790 | V53C16258HK-35-TP | IC (DRAM) | IC24 on Main | 1 |
| | 01904489 | AS4C1M16E5-60JCTR | IC (DRAM) | IC9 on Main | 1 |
| # | 01903190 | UPD23C128040LGY-846-MJH | IC (MASK ROM) | IC16 on Main | 1 |
| | 01561945 | LH28F160S5T-L70 | IC (FLASH MEMORY) | IC7, IC8 on Main | 2 |
| | 01898701 | E28F800B5B70 | IC (FLASH MEMORY) | IC10 on Main | 1 |
| | 01897201 | PCM1716E | IC (DAC) | IC27 on Main | 1 |
| | 15249111 | TC7WU04F(TE12L) | IC (CMOS) | IC22 on Main | 1 |
| | 15249104 | TC7S04F(TE85L) | IC (CMOS) | IC3 on Main | 1 |
| | 15259885 | TC7S32F(TE85L) | IC (CMOS) | IC12 on Main | 1 |
| | 15259884 | TC7S08F(TE85L) | IC (CMOS) | IC28, IC31on Main | 2 |
| | 00127490 | TC7W08F(TE12L) | IC (CMOS) | IC30 on Main | 1 |
| | 15289128 | BA10324AF | IC (OP AMP) | IC29 on Main | 1 |
| | 15289105 | UPC4570G2-E2 | IC (BIPOLAR OP AMP) | IC25 on Main | 1 |
| | 15189261 | M5218AFP-600E | IC (BIPOLAR OP AMP) | IC23, IC26 on Main | 2 |
| # | 02014645 | BA17805T | IC (REGULATOR) | IC17 on Main | 1 |
| | 01458445 | UPC29M33T-T1 | IC (REGULATOR) | IC15 on Main | 1 |
| | 00344390 | TA7805F(TE16L) | IC (REGULATOR) | IC19 on Main | 1 |
| | 15289404 | IR3M03N2-T2 | IC (REGULATOR) DC-DC | IC21 on Main | 1 |
| | 15199937 | M51953BFP-600C | IC (RESET) | IC14 on Main | 1 |
| ⚠ | 15289125 | PC-410KT 178FAY | IC (PHOTO COUPLER) | IC5 on Main | 1 |
| | 15169605 | TC74HC4052AP | IC (C MOS) | IC103 on Panel A | 1 |
| # | 02011878 | HD74HC564P | IC (CMOS) | IC104 on Panel A | 1 |
| # | 01677790 | HD74HC238P | IC (CMOS) | IC101, IC102 on Panel A | 2 |
| # | 01677801 | HD74HC245PV | IC (CMOS) | IC201 on Panel B | 1 |

## TRANSISTOR

| | | | | | |
|---|---|---|---|---|---|
| | 15309101 | 2SA1037KR T146 QRS | TRANSISTOR | Q7 on Main | 1 |
| | 15319101 | 2SC2412KR T146 | TRANSISTOR | Q8, Q9 on Main | 2 |
| | 15329507 | DTA114EKT146 | DIGITAL TRANSISTOR | Q1, Q12, Q13, Q on Main | 3 |
| | 15329512 | DTB123TKT146 | DIGITAL TRANSISTOR | Q16, Q17 ,Q18 on Main | 3 |
| # | 02011845 | DTD123TKT146 | TRANSISTOR | Q14, Q15 on Main | 2 |
| | 15329505 | DTC314TK T146 | DIGITAL TRANSISTOR | Q4, Q5, Q6, Q10 on Main | 4 |
| | 15329511 | DTC114TKT146 | DIGITAL TRANSISTOR | Q2, Q3 on Main | 2 |
| | 15329516 | DTC114EKT146 | TRANSISTOR | Q11 on Main | 1 |
| | 15119141 | DTA114ESTP | DIGITAL TRANSISTOR | Q110 - 117 on Panel | 8 |
| # | 02011867 | DTD123TSTP | TRANSISTOR | Q101- 108 on Panel | 8 |
| | 15129164 | DTC114ESTP | DIGITAL TRANSISTOR | Q109 on Panel A , Q201 - 206 on Panel B | 1 +6 |

## DIODE

| | | | | | |
|---|---|---|---|---|---|
| | 01017512 | RB411D T146 | SCHOTTKY DIODE | D3 on Main | 1 |
| ⚠ | 15039142 | S5688G(TPB5) 1A/400V | RECTIFIER DIODE | D2 on Main | 1 |
| | 15339138 | DCC010-TB | DIODE | DA1 - 4 on Main | 4 |
| | 15339141 | DSD010-TB | ARRAY DIODE | D1, D5 on Main | 2 |
| | 01565678 | RD5.1M-T2B | ZENER DIODE | D4 on Main | 1 |
| | 15019126 | 1SS133 T-77 | SWITCHING DIODE | D101 - 139 on Panel A , D201 - 225 on Panel B, D301 - 304 on 7SEG | 39+25+4 |
| # | 02011856 | SLR-56DCT32 | LED | LED119 - 122, LED127 - 130 on Panel A , LED213 - 228 on Panel B , LED303, 304 on 7SEG | 8+16+2 |
| | 01907901 | LNJ482YKXXE | LED | LED107, 108, 115, 116, 123, 124, 132 on Panel A | 7 |
| | 01787045 | SLR-325DCT31 | LED(ORANGE) | LED102, 103, 104, 106, 110, 111, 118, 125, 126 on Panel A | 9 |
| | 00560745 | SLR-325MCT31 | LED (GREEN) | LED133 on Panel A | 1 |
| | 01011656 | SLR-332VR3F | LED (RED) | LED105, 112, 113, 114, 117, 134 on Panel A | 6 |
| | 01012078 | SLR-332MG3F | LED (GREEN) | LED109 on Panel A | 1 |
| | 00127367 | SPR-39MVW | LED (RED/GREEN) | LED101 on Panel A | 1 |
| | 00348490 | SLR-325VCT31 | LED (RED) | LED201 - 206, 211, 212 on Panel B | 8 |
| | 00899023 | LNJ282RKRXE | LED | LED207 - 210 on Panel B | 4 |

## RESISTOR

| | | | | | |
|---|---|---|---|---|---|
| | 00567023 | RPC05T 101 J | MTL.FILM RESISTOR | R5, 7, 18, 19, 23, 42 - 45, 65, 78, 93, 94, 116 on Main | 14 |
| | 00566867 | RPC05T 100 J | MTL.FILM RESISTOR | R10 on Main | 1 |
| | 00567112 | RPC05T 471 J | MTL.FILM RESISTOR | R15 - 17 on Main | 3 |
| | 00567289 | RPC05T 103 J | MTL.FILM RESISTOR | R3, 9, 24, 25, 41, 50, 63, 70, 75, 87, 88, 91, 95, 96, 120 on Main | 15 |
| | 01011256 | SR73K2ETD 0.47JOHM 1/2W | MTL.FILM RESISTOR | R35 on Main | 1 |
| | 01011856 | RPC05T 0R0 J | MTL.FILM RESIST0R | R6, 11, 27, 28, 126 on Main | 5 |
| | 00567156 | RPC05T 102 J | MTL.FILM RESISTOR | R8, 12, 26, 33, 47, 54, 72, 79, 86, 89, 90, 92, 97, 121 - 123, on Main | 16 |
| | 15399952 | MCR50JZH470 1/2W | CHIP RESISTOR | R49, 56 on Main | 2 |
| | 00566967 | RPC05T 470 J | MTL.FILM RESISTOR | R99 on Main | 1 |
| # | 00566990 | RPC05T 680 J | MTL.FILM RESISTOR | R98 on Main | 1 |
| | 00567145 | RPC05T 821 J | MTL.FILM RESISTOR | R85 on Main | 1 |
| | 00566912 | RPC05T 220 J | MTL.FILM RESISTOR | R124, 125 on Main | 2 |
| | 00567034 | RPC05T 121 J | MTL.FILM RESISTOR | R4 on Main | 1 |
| | 00567067 | RPC05T 221 J | MTL.FILM RESISTOR | R1, 2, 20 on Main | 3 |
| | 00567078 | RPC05T 271 J | MTL.FILM RESISTOR | R22, R39 on Main | 2 |
| | 00567134 | RPC05T 681 J | MTL.FILM RESISTOR | R64, 77 on Main | 2 |
| | 00567190 | RPC05T 222 J | MTL.FILM RESISTOR | R37 on Main | 1 |
| | 00567212 | RPC05T 332 J | MTL.FILM RESISTOR | R21 on Main | 1 |
| | 00567245 | RPC05T 472 J | MTL.FILM RESISTOR | R71 on Main | 1 |
| | 00567256 | RPC05T 562 J | MTL.FILM RESISTOR | R48, 55 on Main | 2 |
| | 00567267 | RPC05T 682 J | MTL.FILM RESISTOR | R34, 36, 40 on Main | 3 |
| | 00567501 | RPC05T 474 J | MTL.FILM RESISTOR | R117 - 119 on Main | 3 |
| | 00567290 | RPC05T 123 J | MTL.FILM RESISTOR | R61, 62, 80, 81 on Main | 4 |
| | 00567323 | RPC05T 223 J | MTL.FILM RESISTOR | R59, 73 on Main | 2 |
| | 00567345 | RPC05T 333 J | MTL.FILM RESISTOR | R46, 53, 60, 74 on Main | 4 |
| | 00567378 | RPC05T 473 J | MTL.FILM RESISTOR | R13, 68, 76, 83 on Main | 4 |
| | 00567412 | RPC05T 104 J | MTL.FILM RESISTOR | R51, 52, 57, 58, 66, 67, 82, 84 on Main | 8 |
| | 00567556 | RPC05T 105 J | MTL.FILM RESISTOR | R38 on Main | 1 |
| # | 01906945 | MNR14 E0AB J 101 | RESISTOR-ARRAY | RA5, 7, 9, 12 on Main | 4 |
| # | 01906667 | MNR14 E0AB J 100 | RESISTOR-ARRAY | RA3, 4, 6, 8, 10, 11, 13 - 15, 18, 20, 21, 23, 24 on Main | 14 |
| | 01566190 | EXBE10C473J | RESISTOR-ARRAY | RA30 on Main | 1 |
| | 01457145 | EXBE10C103J | RESISTOR-ARRAY | RA1, 2, 22, 17 on Main | 4 |
| # | 01906678 | MNR14 E0AB J 103 | RESISTOR-ARRAY | RA25, 26 - 29 on Main | 5 |
| | 13749757T0 | SR25TRE 220 J | CARBON RESISTOR | R111 - 118 on Panel A | 8 |
| | 13749767T0 | SR25TRE 560J | CARBON RESISTOR | R108 on Panel A | 1 |
| ⚠ | 13749773T0 | SR25TRE 101 J | CARBON RESISTOR | R101 - 107, 109 on Panel A , R201 - 206 on Panel B | 8+6 |
| | 13919140 | RGLD8X103J | RESISTOR ARRAY | RA201 on Panel B | 1 |
| # | 13749763T0 | SR25TRE 390 J | CARBON RESISTOR | R301 - 308 on 7SEG | 8 |

## POTENTIOMETER

| | | | | | |
|---|---|---|---|---|---|
| # | 01903489 | EVJY10F03B14 | 9M/M ROTARY POTENTIOMETER | VR108 on Panel A | 1 |
| | 01670289 | EVUJDCFL3B14 | 9M/M ROTARY POTENTIOMETER | VR101 - 104, 106, 107 on Panel A | 6 |
| | 01670312 | EVUJDDFL3B14 | 9M/M ROTARY POTENTIOMETER | VR 105 on Panel A | 1 |
| # | 01903778 | RSA0N1144(50KB) | 100M/M SLIDE POTENTIOMETER | VR 401 on Slider | 1 |

## CAPACITOR

| | | | | | |
|---|---|---|---|---|---|
| | 01674334 | ECUV1H101JCV | CERAMIC CAPACITOR | C18, 37, 63, 111, 141, 153, 193 - 201 on Main | 15 |
| | 00567945 | GRM39B103K50PT | CERAMIC CAPACITOR | C29 - 33, 60, 62, 160 - 164, 169, 173 on Main | 14 |
| | 01674712 | ECJ1VF1A105Z | CERAMIC CAPACITOR | C50 - 52, 56, 83, 133, 134, 167, 168, 170 , 171, 202 on Main | 12 |
| | 00567978 | GRM39F104Z25PT | CERAMIC CAPACITOR | C1, 4 - 17, 19 - 21, 23 - 28, 35, 36, 55, 57, 61, 64, 67 - 70, 72 - 74, 76, 77, 79 - 82, 84, 85, 87, 88, 90, 91, 92, 94 - 100, 102, 104, 107, 110, 112, 113, 115, 116, 122, 124 - 126, 129 - 131, 143, 145, 155 - 157, 159, 165, 166, 203 - 210 on Main | 88 |
| | 01675367 | GRM39CH471J50PT | CERAMIC CAPACITOR | C38 on Main | 1 |
| | 01672412 | GRM39CH150J50PT | CERAMIC CAPACITOR | C39 - 49, 108, 109 on Main | 13 |
| | 01675190 | GRM39CH220J50PT | CERAMIC CAPACITOR | C58, 59 on Main | 2 |
| # | 01675323 | GRM39CH271J50PT | CERAMIC CAPACITOR | C103 on Main | 1 |
| | 01675234 | GRM39CH470J50PT | CERAMIC CAPACITOR | C118, 123, 135, 144 on Main | 4 |
| | 00567823 | GRM39B102K50PT | CERAMIC CAPACITOR | C121, 132, 174 - 192 on Main | 21 |
| | 13559360 | ECQB1181JF3 180PF/100V | POLYEST. CAPACITOR | C136, 147 on Main | 2 |
| # | 13549254M0 | ECQ-B1H821JF3 | POLYEST. CAPACITOR | C140, 154 on Main | 2 |
| | 01900834 | RA2-16V101M-T2 | CHEMICAL CAPACITOR | C93, 114, 117, 120, 128, 142 on Main | 6 |
| # | 02014923 | RA2-35V470MT2 | CHEMICAL CAPACITOR | C138, 139, 148, 152 on Main | 4 |
| | 01900823 | RA2-16V100M-T2 | CHEMICAL CAPACITOR | C75, 78, 105, 119, 127, 137, 146, 149 - 151 on Main | 10 |
| | 01902590 | RA2-6V101M-T2 | CHEMICAL CAPACITOR | C2, 3, 22, 53, 54, 71, 101, 172, 158 on Main | 9 |
| | 00674423 | ECA0JM102B 1000U/6.3V | CHEMICAL CAPACITOR | C86 on Main | 1 |
| | 13629624S0 | 6SC10M+T (OS) 6.3V10 | CHEMICAL CAPACITOR | C105 on Main | 1 |
| | 13639514M0 | ECA0JM331B | CHEMICAL CAPASITOR | C106 on Main | 1 |
| | 13639557M0 | ECA1CM102B | CHEMICAL CAPACITOR | C89 on Main | 1 |
| | 13529132 | RPE132-901F104Z50 | MLT.LAY.CERAMIC CAPACITOR | C101 - 111, 113, 116 on Panel A , C201, 202 on Panel B , C401 on Slider | 13+2+1 |
| | 13639698 | ECEA0JKS101B (H=5MM) | CHEMICAL CAPACITOR | C112 on Panel A | 1 |
| | 13639150M0 | ECEA1CKS100B 10UF/16V | CHEMICAL CAPACITOR | C113, 115 on Panel A | 2 |

## INDUCTOR, COIL, FILTER

| | | | | | |
|---|---|---|---|---|---|
| | 01346089 | SBC3-331-551 | CHOKE COIL | L8, L9 on Main | 2 |
| | 01565612 | DSS310-93D223S50 | FILTER | FL1 on Main | 1 |
| | 01787056 | N1608Z102T01 | FERRITE-BEAD | R14, 100 - 115 on Main | 17 |
| | 01340834 | EXCML20A390 | FERRITE-BEAD | L7 on Main | 1 |
| | 01783601 | BLM21B601SPT | FERRITE-BEAD | L1 - 6, 10 - 16 on Main | 13 |
| | 12449355 | FBR07HA850TB00 TAPE | INDUCTOR | L201 on Panel B | 1 |

## CRYSTAL, RESONATOR

| | | | | | |
|---|---|---|---|---|---|
| | 00901912 | MA-406 24.576MHZ | CRYSTAL | X2 on Main | 1 |
| | 01126267 | MA-406 7.056MHZ | CRYSTAL | X1 on Main | 1 |

## ENCODER

| | | | | | |
|---|---|---|---|---|---|
| | 01905467 | EVE GC1 F20 24B | ROTARY ENCODER | EN101 on Panel A | 1 |

## CONNECTOR

| | | | | | |
|---|---|---|---|---|---|
| # | 01902989 | 52806-1610 | CONNECTOR | CN1 on Main | 1 |
| | 01787467 | 52044-3410 | CONNECTOR | CN5 on Main, CN101on Panel A | 1 +1 |
| | 13379158 | IL-FPC-18SL-N | FFC CONNECTOR | CN6 on Main, CN201on Panel B | 1+1 |
| | 13369601 | 52147-0610(6P) | WIRE TRAP | CN4 on Main | 1 |
| | 13369599 | 52147-0410(4P) | WIRE TRAP | CN7 on Main | 1 |
| | 13429297 | 51048-0800(8P) | CABLE HOLDER | CN104 on Panel A , CN203 on Panel B | 1+1 |
| | 13429295 | 51048-0600(6P) | CABLE HOLDER | CN105 on Panel A | 1 |
| | 13429301 | 51048-1200(12P) | CABLE HOLDER | CN102, 103 on Panel A , CN204 on Panel B , CN301 on 7SEG | 2+1+1 |
| | 13429298 | 51048-0900(9P) | CABLE HOLDER | CN202 on Panel B , CN302 on 7SEG | 1+1 |
| | 13429293 | 51048-0400(4P) | CABLE HOLDER | CN401on Slider | 1 |

## WIRING, CABLE

| | | | | | |
|---|---|---|---|---|---|
| # | 02014634 | FUJI CARD | 18X150-A6.0BBR-P1.25-HBL10 | CN201 on Panel B  to CN6 on Main | 1 |
| # | 02120190 | BAN CARD | BNCD-P=1.25-K-34-140 | CN101 on Panel A  to CN5 on Main | 1 |
| # | 02128834 | BAN CARD | BNCD-P=1.00-K-16-300 | CN1 on LCD Unit to CN1 on Main | 1 |
| # | 02011889 | RIBBON CABLE | 8X50-P2.0 | CN104 on Panel A  to CN203 on Panel B | 1 |
| # | 02014656 | RIBBON CABLE | 6X150-P2.0(KOHNO) | CN105 on Panel A  to CN4 on Main | 1 |
| # | 01906634 | RIBBON CABLE | 9X150-P2.0 | CN202 on Panel B  to CN302 on 7SEG | 1 |
| # | 01906889 | RIBBON CABLE | 12X50-P2.0 | CN103 on Panel A to CN204 on Panel B , CN102 on Panel A  to CN301 on 7SEG | 2 |
| # | 02014690 | RIBBON CABLE | 4X60-P2.0(KOHNO) | CN401 on Slider to CN7 on Main | 1 |

## SCREW

| | | | | | |
|---|---|---|---|---|---|
| | 40233012 | SCREW M2.6X8 | BINDING TAPTITE FEBZC | | 3 |
| # | 40344145 | SCREW M3X10 | P TITE HEX SOCKET HEAD CAP BZC | | 4 |
| | 40011512 | SCREW M3X12 | SEMS. PAN HEAD FE BZC | | 1 |
| | 40011267 | SCREW M3X6 | BINDING TAPTITE P FE ZC | | 32 |
| | 40011101 | SCREW M3X8 | BINDING TAPTITE B FE BZC | | 3 |
| | 40011312 | SCREW M3X8 | BINDING TAPTITE P FE BZC | | 2 |
| | 40011278 | SCREW M3X8 | BINDING P-TITE FE ZC | | 6 |
| | 40011501 | SCREW M3X8 | PAN MACHINE W/SW FE BZC   on Main | | 3 |
| | 40011123 | SCREW M4X8 | BINDING TAPTITE B BZC | | 7 |

## PACKING

| | | | | | |
|---|---|---|---|---|---|
| # | 01906901 | ADAPTOR PAD | | | 1 |
| # | 01904045 | UPPER PAD  L | | | 1 |
| # | 02016112 | LOWER PAD L | | | 1 |
| # | 01904056 | UPPER PAD  R | | | 1 |
| # | 02016134 | LOWER PAD R | | | 1 |
| # | 01904023 | PACKING CASE | | | 1 |

## MISCELLANEOUS

| | | | | | |
|---|---|---|---|---|---|
| | 22360712 | CORD HOOK | 236-712 | | 1 |
| | 01235378 | FOOT | | | 4 |
| | 01120545 | LEAF | XP-80LEAF | | 3 |
| # | 02015445 | SHIELD SHEET | | | 1 |
| # | 02015456 | INSULATING SHEET | | | 1 |
| # | 01906801 | STAY | | | 1 |

## ACCESSORIES (STANDARD)

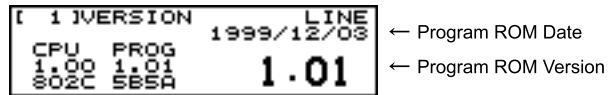| | | | | | |
|---|---|---|---|---|---|
| ⚠ | 01901578 | AC ADAPTOR | PSB-1U UNIVERSAL | | 1+1 |
| ⚠ | 01018312 | AC ADAPTOR | ACI-230C | | 1 |
| ⚠ | 00905767 | AC ADAPTOR | ACI-120C | | 1+1 |
| ⚠ | 00905756 | AC ADAPTOR | ACI-100C | | 1 |
| ⚠ | 01903367 | AC CORD SET | 240V 1.0M FOR PSB | | 1 |
| ⚠ | 01903356 | AC CORD SET | 230V 1.0M FOR PSB | | 1 |
| ⚠ | 00905234 | EURO CONVERTER PLUG | ECP01-5A (PLUG FOR BRC-230T) | | 1 |
| # | 71454923 | OWNER'S MANUAL | ENGLISH | | 1 |
| # | 71453990 | OWNER'S MANUAL | JAPANESE | | 1 |

# CONFIRMING THE VERSION

Turn the power to on while holding down [SONG], [SYSTEM] and [BPM]. Test mode program starts and, after a while, the following screen appears on the LCD.

```
[ 1 ]VERSION        LINE
              ----/--/--
CPU  PROG
----  ----
----  ----
```
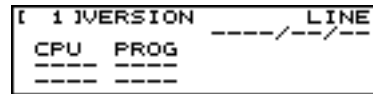
After entering the test mode, the program automatically starts VERSION test.

Checks version of CPU/Program ROM.

It takes same time until all the contents are displayed because it is necessary to calculate checksum.

The contents are shown as follows.

```
[ 1 ]VERSION        LINE
              1999/12/03      ← Program ROM Date
CPU  PROG
1.00 1.01         1.01        ← Program ROM Version
802C 5B5A
```

The screen displays the following items.

- Version of CPU (CPU Internal ROM)
- Checksum of CPU (CPU Internal ROM)
- Version of Program ROM...It is shown also with large characters.
- Checksum of Program ROM
- Date of release of Program ROM

Turn off the power after the above confirmation.

# RECORDING THE DATA OF ALL MC-307 DATA ON AN EXTERNAL SEQUENCER

Before you begin, use a MIDI cable to connect the MIDI OUT of the MC-307 to the MIDI IN of the external sequencer MC-80.

**Procedure**

1. Press the [SYSTEM] button, and then the [F2 (UTIL)] button.
2. Press the [CURSOR(up)] button.

   The "3 BULK DUMP" screen will appear.
3. Press the [F3 (BULK)] button.
4. Press the [F3 (TXAL)] button.

   The "BULK TX USER ALL" screen will appear.
5. Start realtime recording on your external MIDI sequencer.
6. On the MC-307, press [F4 (EXEC)].

   Bulk data will be transmitted from MIDI OUT.

   When the data has been transmitted, you will return to the pattern screen.
7. Stop recording on your external MIDI sequencer.

   The bulk data will be transmitted with the device ID number specified.

# Restoring data for all MC-307 data from a MIDI sequencer back to the MC-307

To restore previously saved bulk data back to the MC-307, use the following procedure.

Before you begin, use a MIDI cable to connect the MIDI IN of the MC-307 to the MIDI OUT of your external sequencer.

**Procedure**

1. Press the [SYSTEM] button and then the [F2 (UTIL)] button.
2. Press the [CURSOR(up)] button.

   The "3 BULK DUMP" screen will appear.
3. Press the [F3 (BULK)] button.
4. Press the [F4 (RX AL)] button

   The "BULK RECEIVE" screen will appear. The MC-307 will be ready to receive bulk data.
5. Transmit bulk data from the external device.
6. When the external device has finished transmitting the data, You will

   return to pattern play screen.

# RESTORING THE FACTORY SETTINGS (FACTORY RESET)

This operation can restore all settings of the MC-307 to those factory default settings.

Caution: If any valuable data reside in the MC-307 main memory, save the data into an external MIDI sequencer or other external devices before executing factory reset.

**Operating procedure**

1. Press the [SYSTEM] button.

   The menu screen for system set-up appears.
2. Press the [F2 (UTIL)] button.
3. Press the [CURSOR (down)] button.

   The screen containing the "5 FACTORY RESET" screen appears.
4. Press [F1 (FACT)] button.

   The "FACTORY RESET" screen appears and the "ARE YOU SURE?" message is displayed.
5. Press [F4 (EXEC)] button to execute factory reset.

   It takes about 6 minutes to complete and the "COPMPLETED!" message appears.

   After a while, pattern play screen appears.

# VERSION-UP

## ○ Outline

- MC-307 uses 16 Mbit flash memory for program (system), and 16 Mbit flash memory for data (Note).
- Updata (control program) of the flash memories are stored in the CPU (SH-2).
- Data for update are provided usually as SMF data that consist of several divisions.

  By combining a sequencer that can regenerate SMF data (such as MC-80) and MC-307, and by loading the data into MC-307, the version of program or data can be updated.

**Note:**

- After updating the data, factory reset is required.

  Since the user's data are reset at this time, it is necessary to make a backup of the user's data beforehand. Details are described in the sections describing the data saving and loading.
- From a certain lot, program and data are delivered at the same time by 32 bit mask ROM that is installed in the unit.
→ For the board on which the mask ROM is installed, the program and data cannot be updated.

## ○ Required items

- MC-307 and its AC adaptor
- Sequencer that is capable of regenerating SMF (such as MC-80)
- MIDI cable
- SMF data disks for update (2HD): #17048493
→ Two disks for program, and two disks for data

  Individual disks contain files as described below.
  (Note)File names are the same after the version is changed.

  Program (system) update disk

  Disk for Program #1(1/2)

  SYS4MC_1.SVC (Chain file for MC-80)
  SYS4XP_1.SVC (Chain file for XP-50, 60, and 80)
  S0000001.MID
  S0000002.MID
  S0000003.MID
  S0000004.MID
  S0000005.MID
  S0000006.MID
  S0000007.MID
  S0000008.MID
  S0000009.MID
  S0000010.MID
  S0000011.MID
  S0000012.MID
  S0000013.MID
  S0000014.MID
  S0000015.MID
  S0000016.MID

Disk for Program #1(2/2)

SYS4MC_2.SVC (Chain file for MC-80)
SYS4XP_2.SVC (Chain file for XP-50, 50, and 80)
S0000017.MID
S0000018.MID
S0000019.MID
S0000020.MID
S0000021.MID
S0000022.MID
S0000023.MID
S0000024.MID
S0000025.MID
S0000026.MID
S0000027.MID
S0000028.MID
S0000029.MID
S0000030.MID
S0000031.MID
S0000032.MID

Data update disk

Disk for Data #1(1/2)

DAT4MC_1.SVC (Chain file for MC-80)
DAT4XP_1.SVC (Chain file for XP-50, 50, and 80)
D0000001.MID
D0000002.MID
D0000003.MID
D0000004.MID
D0000005.MID
D0000006.MID
D0000007.MID
D0000008.MID
D0000009.MID
D0000010.MID
D0000011.MID
D0000012.MID
D0000013.MID
D0000014.MID
D0000015.MID
D0000016.MID

Disk for Data #1(2/2)

DAT4MC_2.SVC (Chain file for MC-80)
DAT4XP_2.SVC (Chain file for XP-50, 50, and 80)
D0000017.MID
D0000018.MID
D0000019.MID
D0000020.MID
D0000021.MID
D0000022.MID
D0000023.MID
D0000024.MID
D0000025.MID
D0000026.MID
D0000027.MID
D0000028.MID
D0000029.MID
D0000030.MID
D0000031.MID
D0000032.MID

○ **Updating procedure**

● **Procedure common to updating program and data**

1. Connect the power cords of individual units to be used, and check that the power can be turned on.
2. If necessary, confirm the version of MC-307 before updating.
3. Use MIDI cable to connect MIDI-OUT of the sequencer and MIDI-IN of MC-307.
4. Turn on the power while holding down [F1], [F4] and [RHYTHM PART VIEW] buttons.

   [----] appears on the BPM display section.

   Now, perform the following procedure in accordance with the contents (item program or data) to be updated.

● **Updating program**

1. Press buttons [R] and [3] in this order.
2. [SyS] appears on the BPM display section.
3. SMF data for updating are loaded from the sequencer.
   32 files from S0000001.MID to S0000032.MID are regenerated in this order.

● **Updating data**

1. Press buttons [5] and [7] in this order.
2. [dAt] appears on BPM display section.
3. SMF data for updating are loaded from the sequencer.
   32 files from D0000001.MID to D0000032.MID are regenerated in this order.

● **Operation of panel during updating**

During the data loading, MIDI indicator (green LED) goes on and off, and part mute buttons are lit in the order from R, 1, to 7. Then, SLAVE indicator (red LED) goes on and then off. Loading of one file is completed now.

It takes about approximately 40 seconds to load one SMF file.

After all the files are updated, turn off the power and then on to confirm the version and checksum.

After data is updated, perform factory reset.

● **Updating when chain file can be used**

If any of the following model is available as a sequencer for regeneration of SMF file, the time for updating can be shortened by automatically playing the disk files (16 files) using the chain play function.

MC-80
XP-50
XP-60
XP-80

Use chain files corresponding to the sequencer model.

These files are made to chain-play SMF files (16 files) stored in individual disks.

For the operation of the sequencer, refer to the operation manual of the model.

○ **Corrective actions to be taken in case the unit cannot be started**

● **Outline**

• MC-307 is equipped with a flash memory to store the data created by the user. In case the power is turned off accidentally while the data are written into this flash memory, it may be possible that the unit cannot be started normally according to the damage to the flash memory, such as stopping at the starting screen.

   In such case, the unit cannot be restored to normal state only by performing the version-up operation, but it can be restored to normal state by performing the version-up operation after initializing the flash memory. However, the user's data are lost in such occasion.

1. Turn on the power while holding down [F1], [F4] and [RHYTHM PART VIEW].

   [----] appears on BPM display section.
2. Press [1] and [6] buttons in this order.
3. [tESt] appears on BPM display section.
4. Initialization of the flash memory starts automatically.
5. BPM display section shows [tSt1], [tSt2], [tSt3] and [ End] in this order.
   [ End] appears when initialization of the flash memory is completed.
   It takes approximately 3 minutes to complete the initialization.
6. After initializing the flash memory by going through the above steps, version-up both program and data.
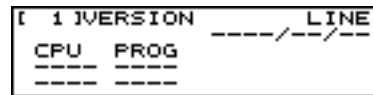
# OPERATION FOR TEST MODE

## ☐ 1  Required items

- MIDI cable
- Foot pedal (such as DP-2)
- Monitor speaker set (such as MA-12)

## ☐ 2  Entering the TEST MODE

2.1   Connect the monitor speaker to OUTPUT.

2.2   Turn on the power while holding down [SONG], [SYSTEM] and [BPM. Test mode program starts and, after a while, the following screen appears on the LCD.



## ☐ 3  Exiting the TEST MODE

Turn the power switch to OFF.

(Caution) Do not turn the power switch to OFF during the execution of the test item 10. Factory Reset, that is described later in this manual.

## ☐ 4  Basic operations in TEST MODE

4.1   Basic operations of controls are as described below.

| | |
|---|---|
| [F1] or [LEFT] | Goes back to previous test screen |
| [F4] or[RIGHT] | Moves to the next test screen. |
| [ENTER] | Performs the test. |
| [SYSTEM] and [F1] | Goes to Test Menu screen. |

4.2   For some test items, the test process advances automatically to the next item when the current test item is completed successfully. For such items, "OK!" appears when the result of the test is normal. In case the result of the test is abnormal, "NG!" and the contents of the abnormality are displayed, and the test process does not move to the next item. If the process is ended at a test item, it does not move to the next test item automatically.

4.3   A test item can be selected directly on the test menu screen.

Use [INC] or [DEC] to select a test item and press [F4] or [ENTER] to display the screen of the selected test item.

## ☐ 5  Test items

The following 10 test items are available.

| | | |
|---|---|---|
| 1 | VERSION TEST | |
| 2 | DEVICE TEST | (auto 1) |
| 3 | EFFECT TEST | (auto 1) |
| 4 | MIDI TEST | (auto 2) |
| 5 | A/D TEST | (auto 2) |
| 6 | PEDAL TEST | (auto 2) |
| 7 | SW/LED TEST | |
| 8 | LCD/ENCODER TEST | |
| 9 | SOUND TEST | |
| 10 | FACTORY RESET | |

*   The test item shown with (auto 1) is the item for which the test process moves automatically to the next item when the result of the test is normal.
*   The test item shown with (auto 2) is the item performed manually, and the test process moves automatically to the next item when the result of the test is normal.

## ☐ 6  Confirmation of test results

Numbers corresponding to individual test items are displayed with the seven segment display section on the upper part of LCD. The numbers go off when the test items corresponding to the numbers are completed normally.

## ☐ 7  Proceeding with TEST MODE

7.1   VERSION test

○ When entering the TEST MODE, VERSION is started automatically.

○ Version of CPU/Program ROM is checked.

○ It takes some time until all the contents are displayed because of calculation of checksum.

○ Press [F4] or [RIGHT] to move to the next test.

VERSION 1.01: Takes some time until the test process is switched.

VERSION 1.02 and after: The test process is switched quickly.
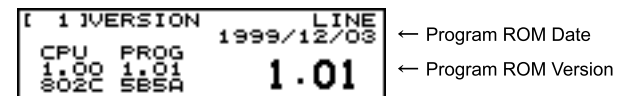


← Program ROM Date
← Program ROM Version

The screen displays the following items.

- Version of CPU (CPU Internal ROM)
- Checksum of CPU (CPU Internal ROM)
- Version of Program ROM...It is shown also with large characters.
- Checksum of Program ROM
- Date of release of Program ROM

7.2   DEVICE test

○ Individual devices are tested; CPU ROM/RAM, Program ROM, Pattern ROM, User Flash Memory, and DRAM.

○ It takes some time until the test results are displayed.

○ When the test result is normal, the process moves to the next test automatically.

○ If the test result is abnormal, the name(s) of defective device(s) is displayed.

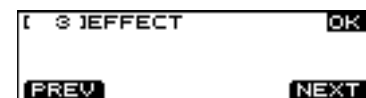(When the test result is normal)
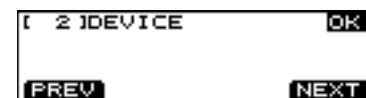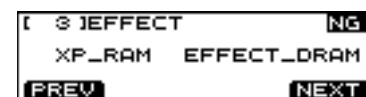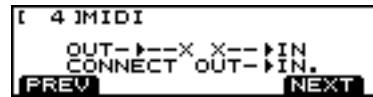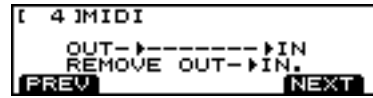


(If the test result is abnormal)
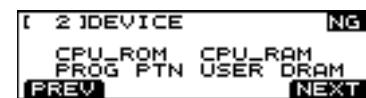


7.3   EFFECT test

○ RAM in DSP of synthesis chip (XP chip) and DRAM for EFFECT are tested.

○ When the test result is normal, the process moves to the next test automatically.

○ If the test result is abnormal, the name(s) of defective device(s) is displayed.

(When the test result if normal)



(If the test result is abnormal)

7.4   MIDI test

  ◯ Conductivity of MIDI is tested.

  ◯ Use MIDI cable to connect MIDI IN and MIDI OUT.
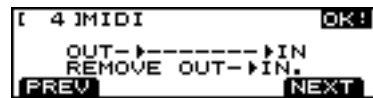
   The following screen appears.

     Before connecting the cable

```
[ 4 ]MIDI
   OUT-▶--X X--▶IN.
   CONNECT OUT-▶IN.
 PREV            NEXT
```

     After connecting the cable

```
[ 4 ]MIDI
   OUT-▶-------▶IN
   REMOVE OUT-▶IN.
 PREV            NEXT
```

  ◯ Disconnect MIDI cable.

  ◯ If MIDI is normal, the process moves to the next test.

```
[ 4 ]MIDI         OK!
   OUT-▶-------▶IN
   REMOVE OUT-▶IN.
 PREV            NEXT
```

7.5   A/D test

  ◯ A/D is tested.

  ◯ When the test result is normal, the process moves to the next test automatically.

  ◯ If the test result is abnormal, the process does not move to the next test.

  ◯ The following screen appears.

```
[ 5 ]A/D          OK!
1: 127  2: 127  3: 127
4: 127  L: 127  C: 127
R: 127  S: 100
 PREV            NEXT
```
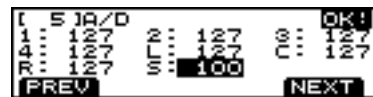
**Test items**

- 1 (KNOB1)     Confirm changes from 0 through 127.
  (A sound is generated at 0 and 127 respectively.)
- 2 (KNOB2)     Confirm changes from 0 through 127.
  (A sound is generated at 0 and 127 respectively.)
- 3 (KNOB3)     Confirm changes from 0 through 127.
  (A sound is generated at 0 and 127 respectively.)
- 4 (KNOB4)     Confirm changes from 0 through 127.
  (A sound is generated at 0 and 127 respectively.)
- L (LFO1 DEPTH)   Confirm changes from 0 through 127.
  (A sound is generated at 0 and 127 respectively.)
- C (CUTOFF)     Confirm changes from 0 through 127.
  (A sound is generated at 0 and 127 respectively.)
- R (RESONANCE) Confirm changes from 0 through 127.
  (A sound is generated at 0 and 127 respectively.)
- S (SLIDER)     Confirm changes from -100 through 100.
  (A sound is generated at -100 and 100 respectively.)

7.6   PEDAL test

  ◯ Pedal is tested for ON/OFF operation.

  ◯ Connect foot switch.

  ◯ Step on the foot switch to confirm that ON or OFF is displayed and a sound is generated.

```
[ 6 ]PEDAL
            OFF
 PREV            NEXT
```

  ◯ When the foot switch is normal, the process automatically moves to the next test.

```
[ 6 ]PEDAL
            ON
 PREV            NEXT
```

7.7   Switch/LED test

  ◯ Switches (including GRAB switche) and LEDs are tested for their operations.

     (Note) Test the GRAB switch at both ON side and GRAB side.

  ◯ Press all buttons one by one.

     Pressing a button displays its name on the screen.

     The mark " ☐ " corresponding to the button disappears.

  ◯ For buttons with their corresponding LED, press the button to turn off the LED. For buttons with corresponding with LEDs, press the button repeatedly until all the LEDs go off.
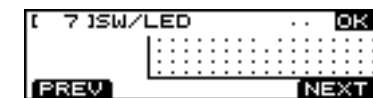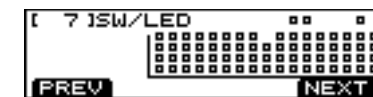
   Buttons needed to press repeated are as follows.

- KNOB ASSIGN SELECT button (right side of USER button)   : 4 times
- LF0 WAVE SELECT button (in LFO1 section)          : 3 imes
- FILTER SELECT button (in FILTER section)         : 4 tmes
- PLAY button                              : 2 times
- PUSH button                              : 8 times
- SCALE button                            : 4 times

  ◯ When all " ☐ " marks go off, "OK!" is displayed on the upper right area of the display, and the process moves to the next test automatically.

(Note) • Press TAP button after confirming that all LEDs are off and only " ☐ " mark on the right lower area of the screen is lit.

       • Be sure to press switches one by one. The operation may be incorrect if two or more switches are pressed at the same time.

       • Press [F4] while holding [KNOB ASSIGN] to exit the switch/LED test at any time.

```
[ 7 ]SW/LED       □□   □
  .....................
  .....................
 PREV            NEXT
```

                ↓

```
[ 7 ]SW/LED       ..   OK!
  .....................
  .....................
 PREV            NEXT
```

7.8   LCD/ENCODER test

○ Display and contrast of 7 segment section and graphic section
   (dot) of LCD, and encoder are tested.

```
[  8 ]LCD/ENCODER
    PRESS 'ENTER' TO
    TEST.
 PREV              NEXT
```
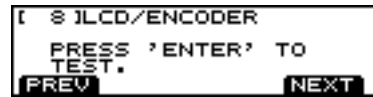
○ Press [ENTER] to confirm that LCD is turned off entirely.
   Be sure to confirm 7 segment section on the upper area of LCD also.

○ Press [ENTER] to confirm that LCD is turned on entirely.
   Be sure to confirm 7 segment section on the upper area of LCD also.
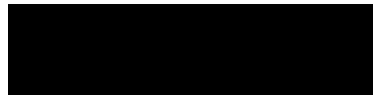
○ Turn encoder to confirm that the contrast of LCD changes
   smoothly. The contrast of LCD changes with 16 steps.

Minimum contrast : [KEY PAD 1] LED is on.

Maximum contraxt : [KEY PAD 1] to [KEY PAD 16]  LEDs are on.

○ When the results are normal, press [F1] or [RIGHT] to proceed to
   the next  test.

*  When pressing any of the following switches during testing the LCDs
   and encoder, LED goes on and off and corresponding pattern is dis-
   played. (This is a display that helps to find dot missing easily. This is
   not used normally.)
   Pressing a switch whose LED is blinking resumes the initial screen of
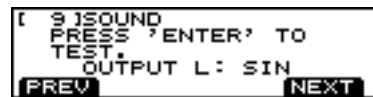   the LED or encoder test.

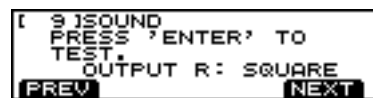•  [PART R]

•  [PART 1]

•  [PART 2]

7.9   SOUND test

○ Sound output (OUTPUT L/R) is tested.

```
[  9 ]SOUND
    PRESS 'ENTER' TO
    TEST.
 PREV              NEXT
```

○ Press [ENTER] to confirm that a sinusoidal wave signal is output-
   ted from OUTPUT L.

```
[  9 ]SOUND
    PRESS 'ENTER' TO
    TEST.
      OUTPUT L: SIN
 PREV              NEXT
```

○ Press [ENTER] to confirm that a rectangular wave signal is out-
   putted from OUTPUT R.

```
[  9 ]SOUND
    PRESS 'ENTER' TO
    TEST.
      OUTPUT R: SQUARE
 PREV              NEXT
```

○ When the results of these test are normal, press [F4] or [RIGHT]
   to proceed to the next test.

7.10  FACTORY RESET

○ Confirm that only the number (0) corresponding to the factory reset
   is displayed on the right half of 7 segment display on the upper part
   of the screen.

   If other than the above number is displayed, it means that the test
   item corresponding to the number is not completed yet or the test
   result is abnormal.

```
[ 10 ]FACTORY  RESET
    EXECUTE FACTORY
    RESET ALL!
 PREV            EXEC
```

○ Press [F3] to perform the factory reset.

□ 8   Test mode menu

○ Press [F1] while holding down [SYSTEM] to display the TEST
   MODE menu.

(page 1)

```
TEST MODE MENU:    LINE
 1 VERSION   4 MIDI
 2 DEVICE    5 A/D
 3 EFFECT    6 PEDAL
              ►      OK
```

(page 2)

```
TEST MODE MENU:    LINE
 7 SW/LED   10 RESET
 8 LCD/ENC
 9 SOUND
       ◄            OK
```

○ Use the following controls to select a test item.

[UP], [DOWN], [LEFT], [RIGHT], [INC] or [DEC]  Selects a test item.
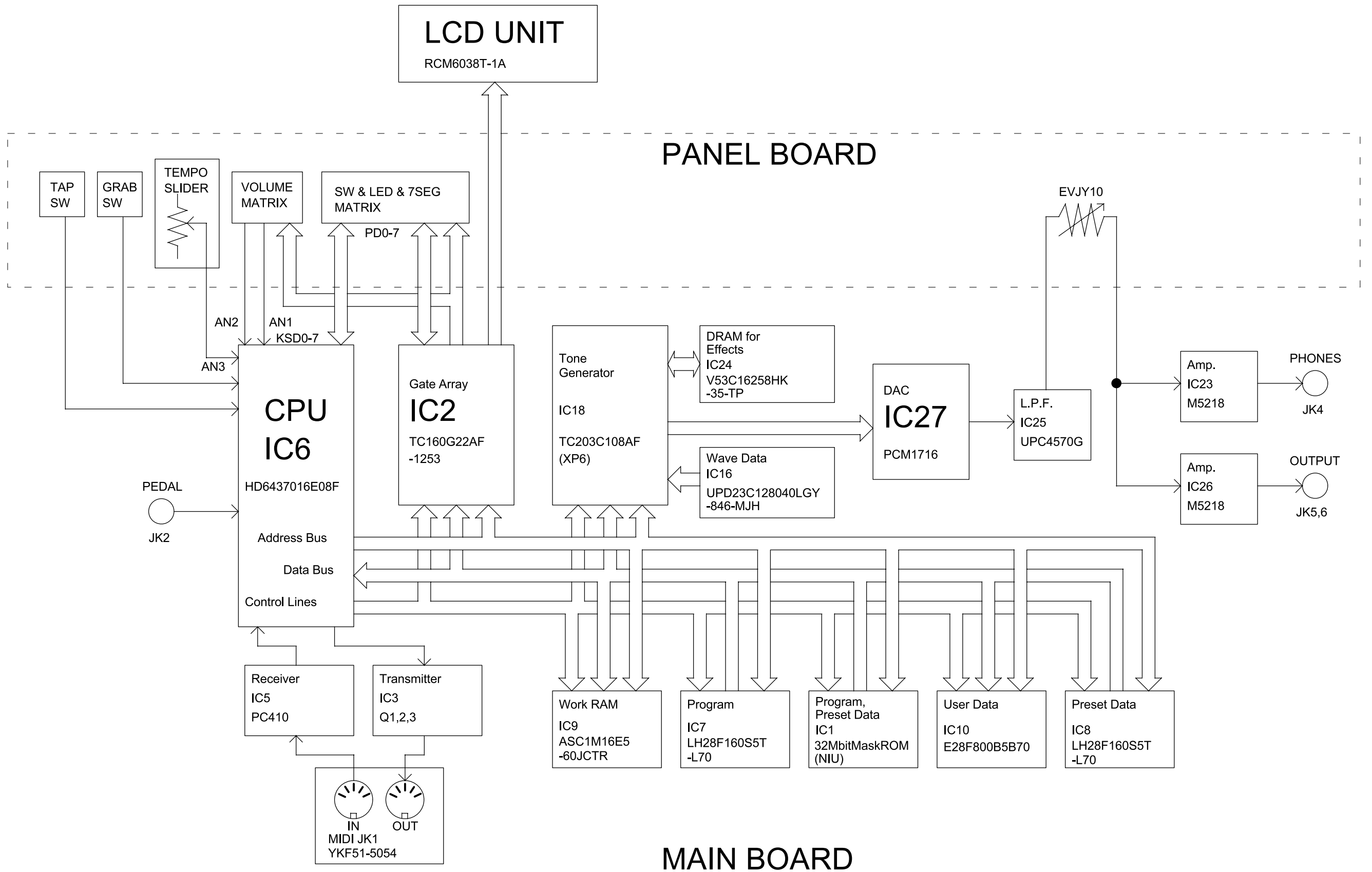
[F2] or [F3]                                Changes the page of test menu.

○ Use [F4] or [ENTER] to settle the test item and change the screen.

**BLOCK DIAGRAM**

**MC-307 Block Diagram**

**LCD UNIT**

RCM6038T-1A

**PANEL BOARD**

| TAP SW | GRAB SW | TEMPO SLIDER | VOLUME MATRIX | SW & LED & 7SEG MATRIX |
|---|---|---|---|---|

PD0-7

EVJY10

AN2

AN1

KSD0-7

AN3

**CPU IC6**

HD6437016E08F

PEDAL

JK2

Address Bus

Data Bus

Control Lines

Gate Array

**IC2**

TC160G22AF -1253

Tone Generator

IC18

TC203C108AF (XP6)

DRAM for Effects
IC24
V53C16258HK -35-TP

Wave Data
IC16
UPD23C128040LGY -846-MJH

DAC

**IC27**

PCM1716

L.P.F.
IC25
UPC4570G

Amp.
IC23
M5218

PHONES

JK4

Amp.
IC26
M5218

OUTPUT

JK5,6

Receiver
IC5
PC410

Transmitter
IC3
Q1,2,3

IN    OUT

MIDI JK1
YKF51-5054

Work RAM
IC9
ASC1M16E5 -60JCTR

Program
IC7
LH28F160S5T -L70

Program, Preset Data
IC1
32MbitMaskROM (NIU)

User Data
IC10
E28F800B5B70

Preset Data
IC8
LH28F160S5T -L70

**MAIN BOARD**

# CIRCUIT BOARD

# PANEL BOARD ASSY
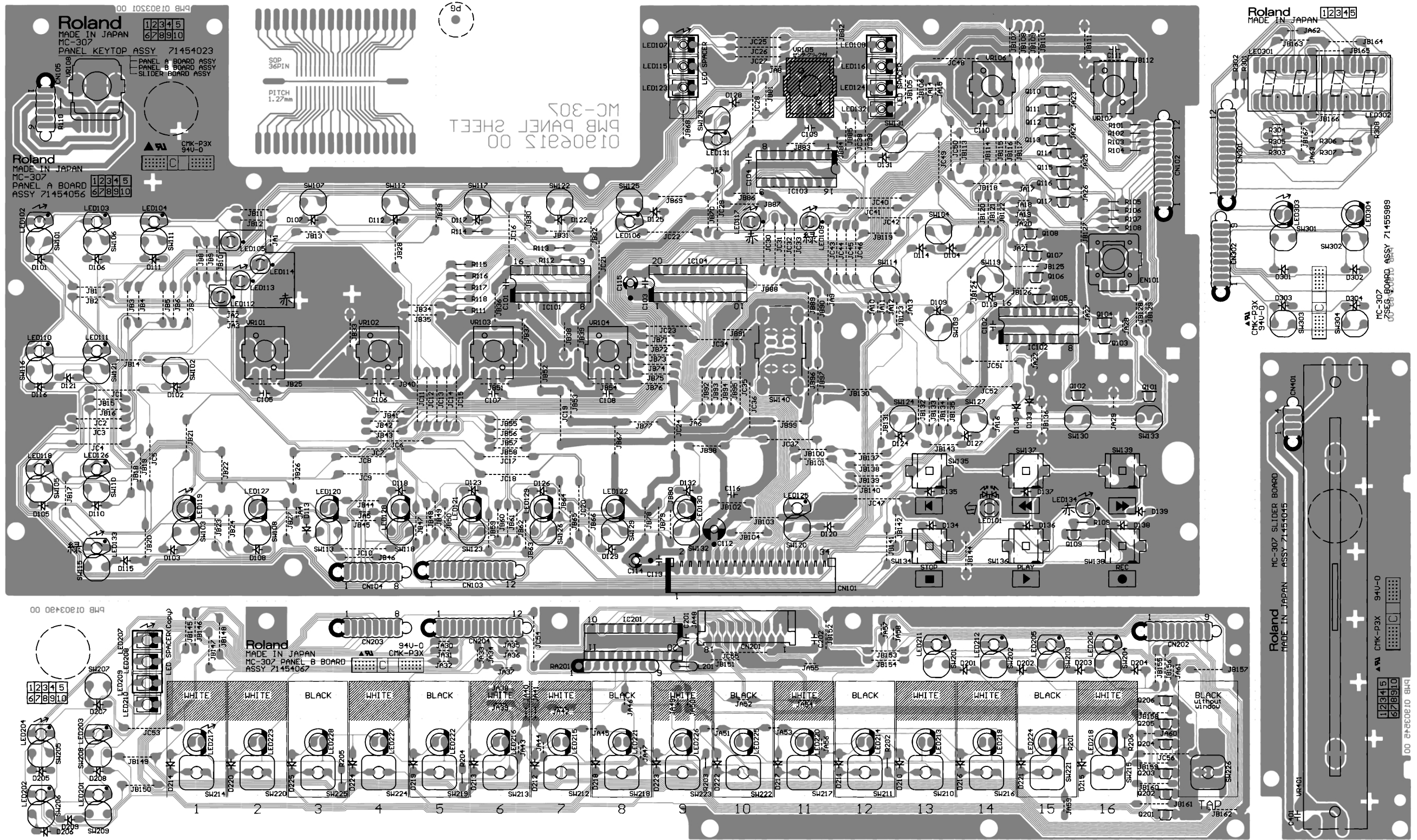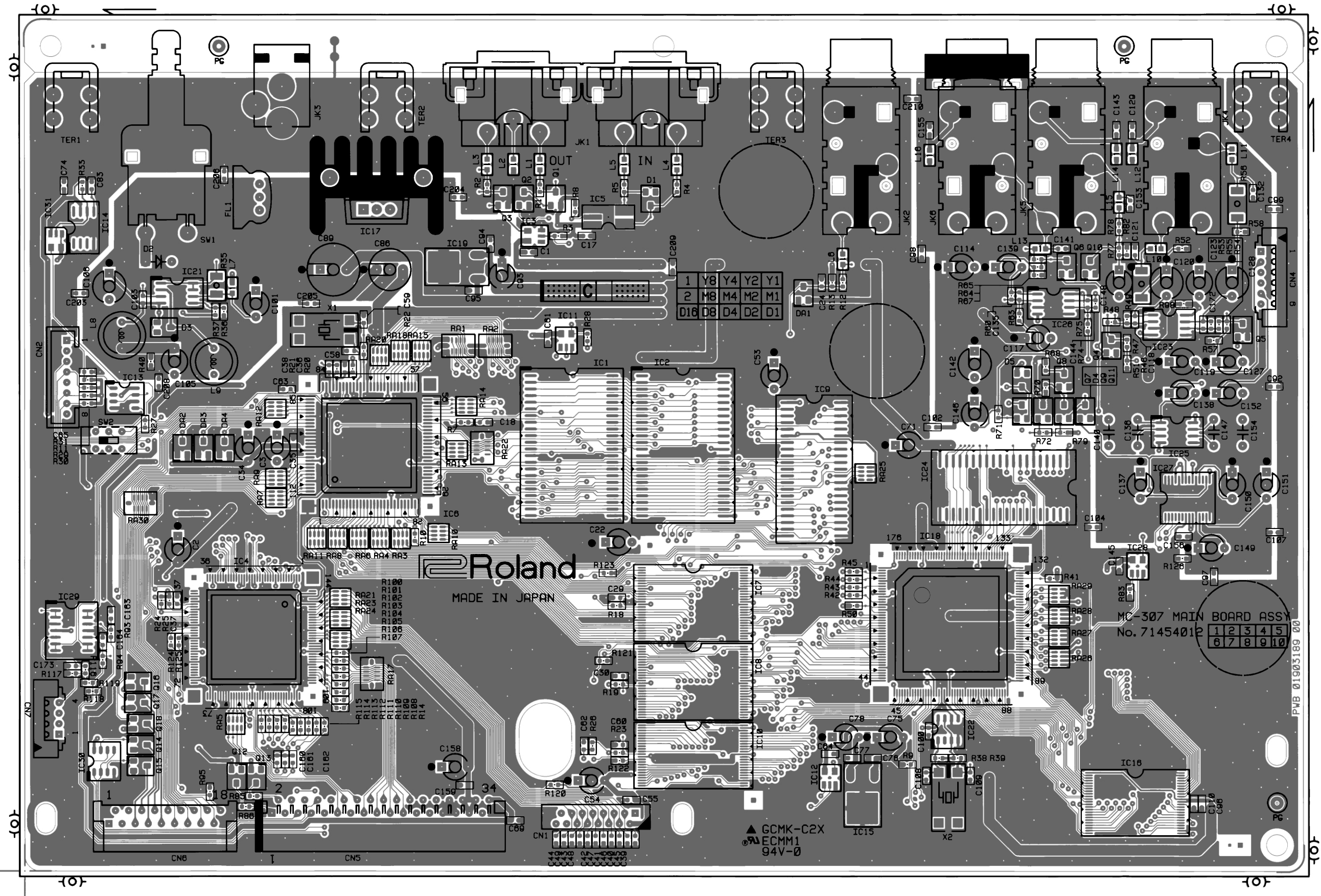
## MAIN BOARD ASSY

**MAIN BOARD ASSY**

# A    CIRCUIT DIAGRAM

## MAIN BOARD, CPU, Memory BLOCK
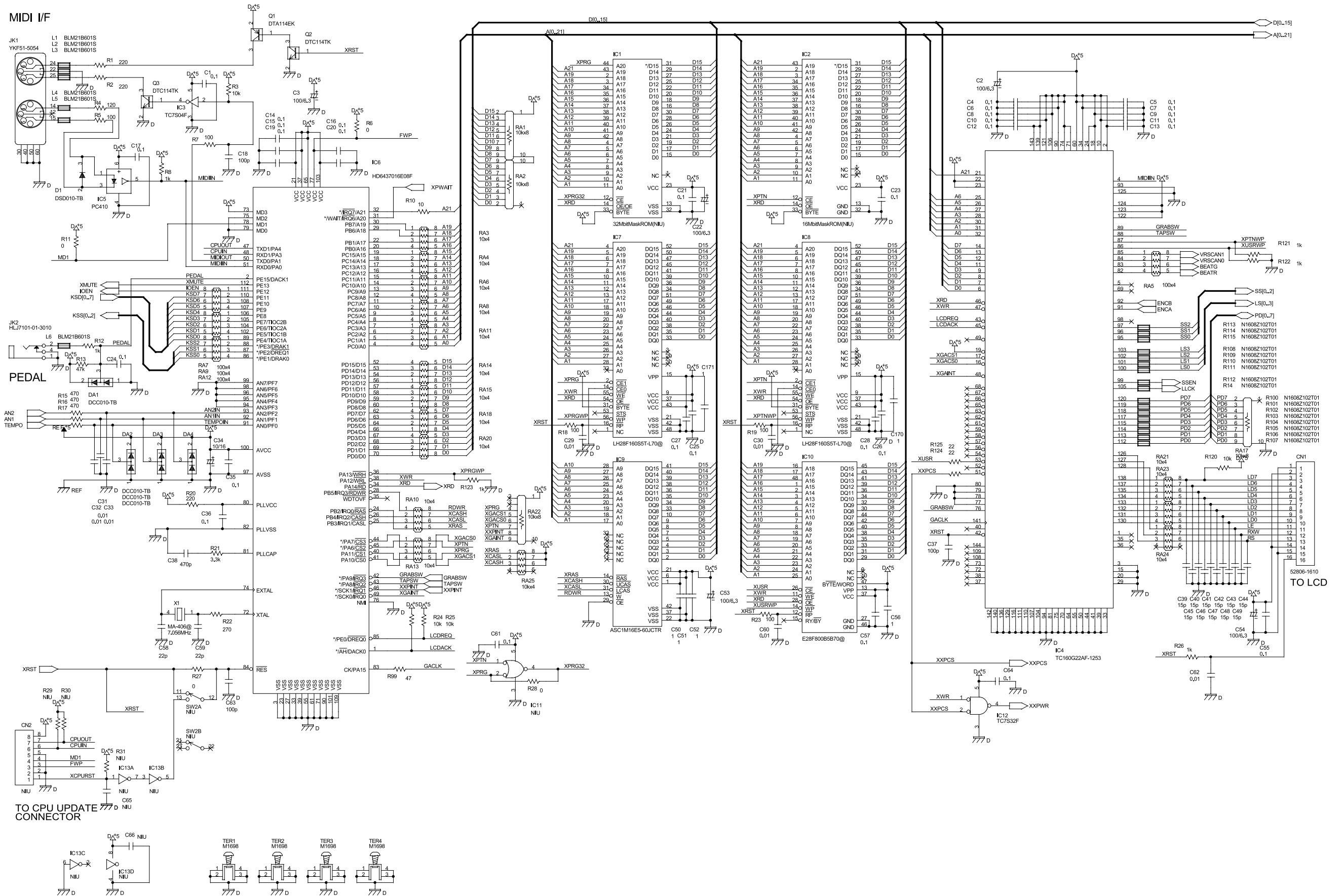
# MAIN BOARD, Sound Generator BLOCK
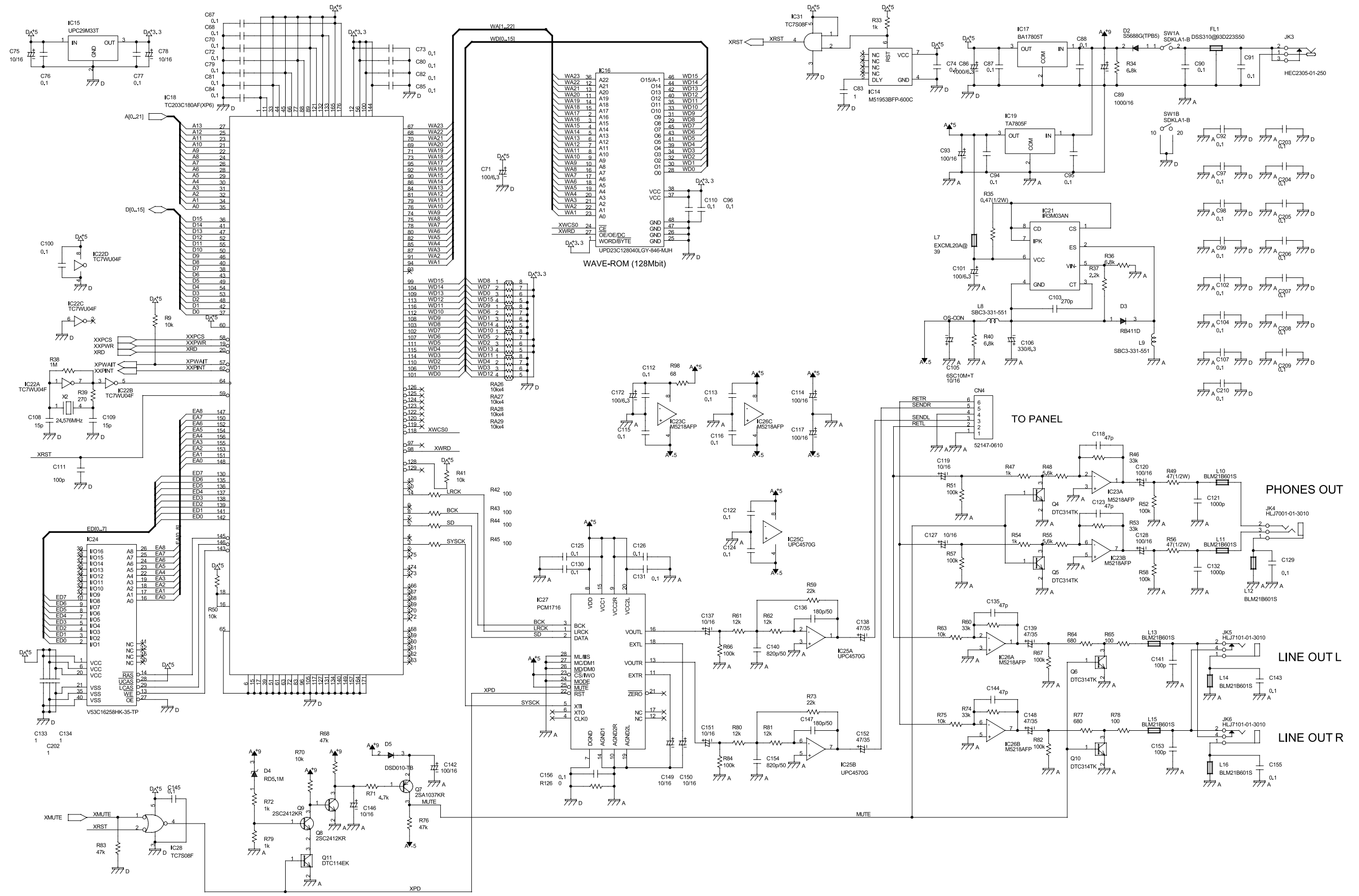


WAVE-ROM (128Mbit)

TO PANEL

PHONES OUT

LINE OUT L

LINE OUT R

**MAIN BOARD, Panel I/F BLOCK**
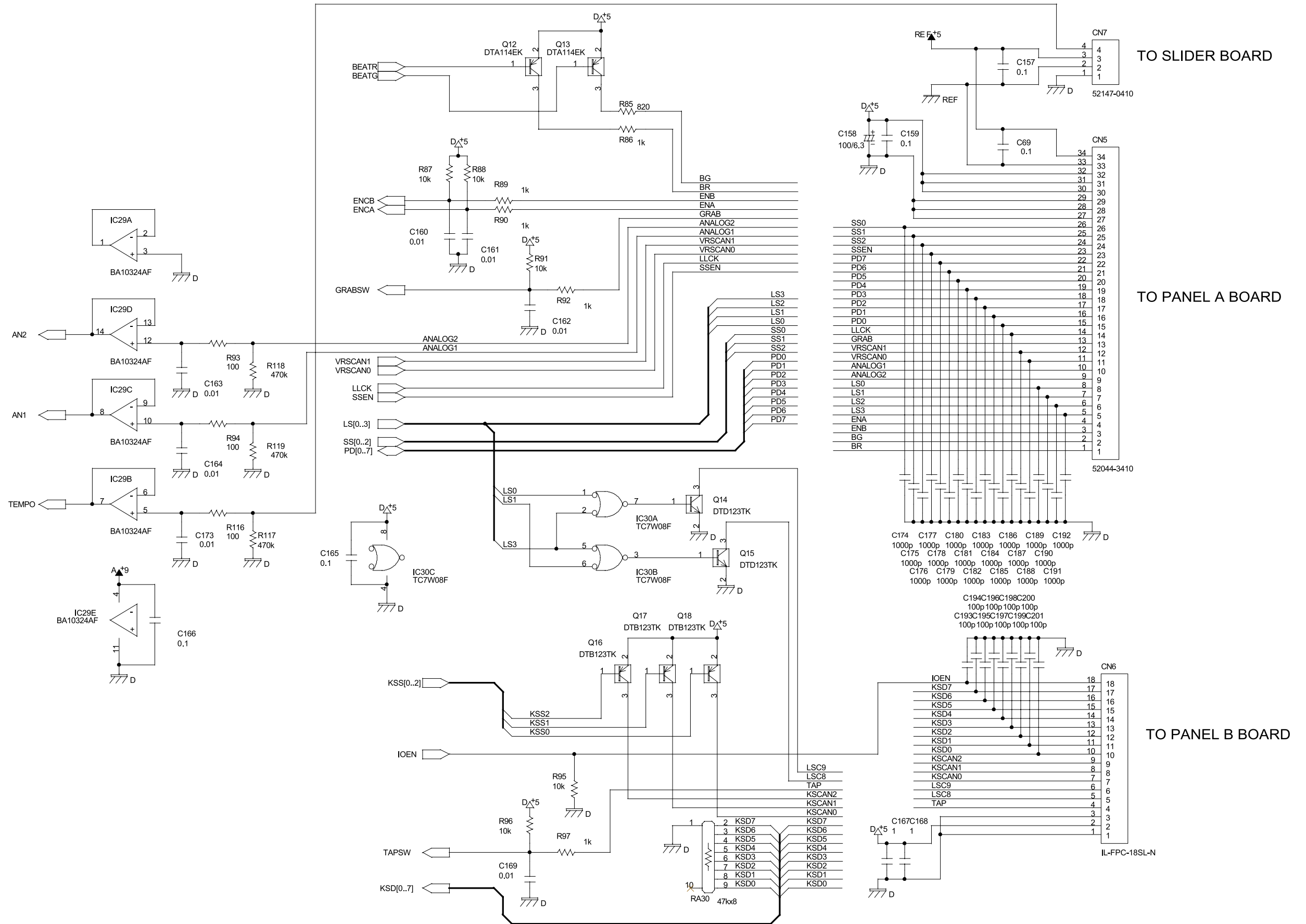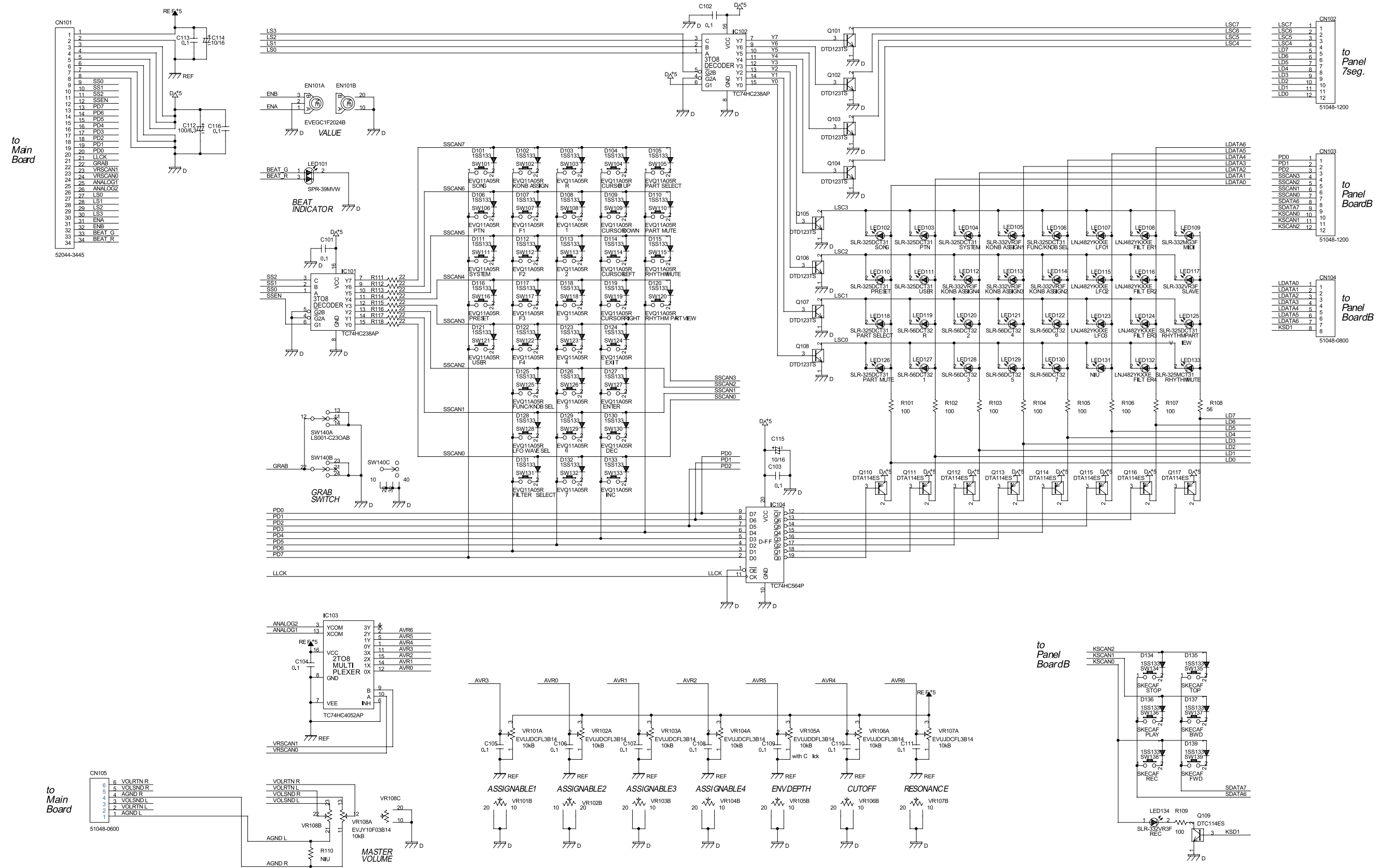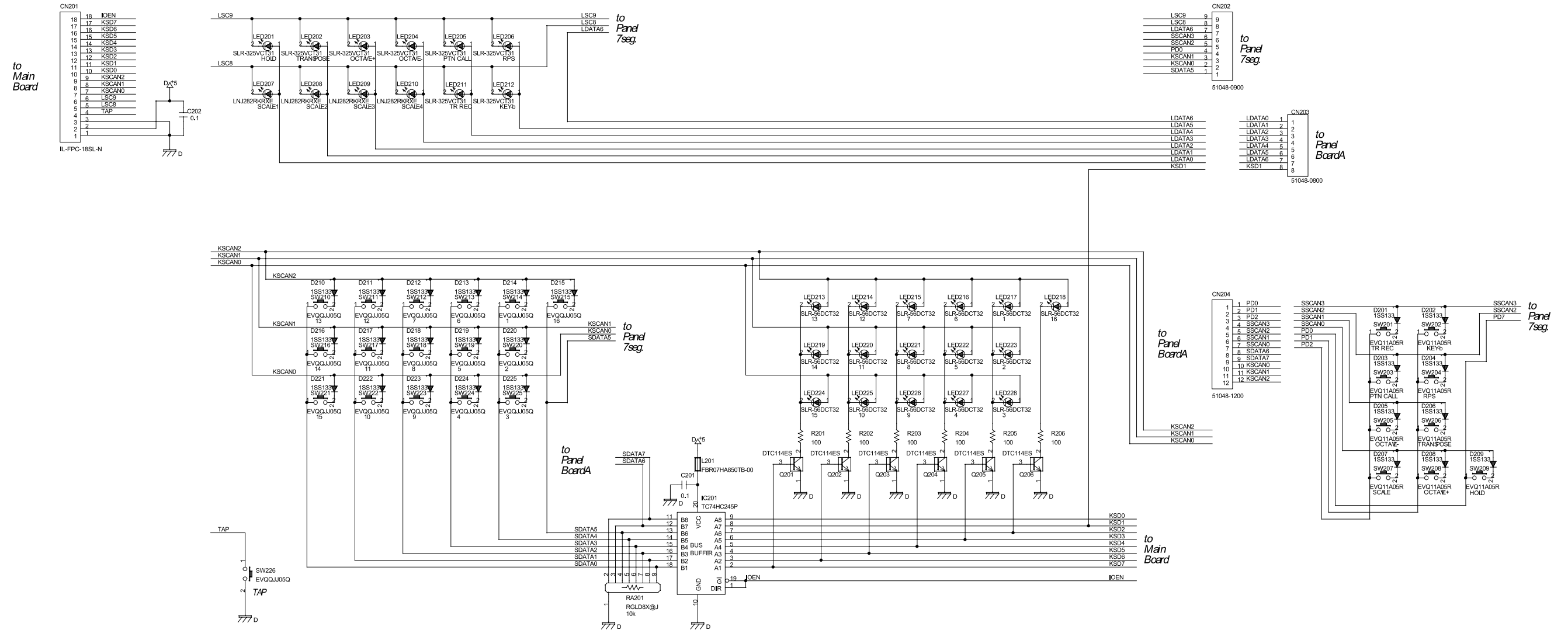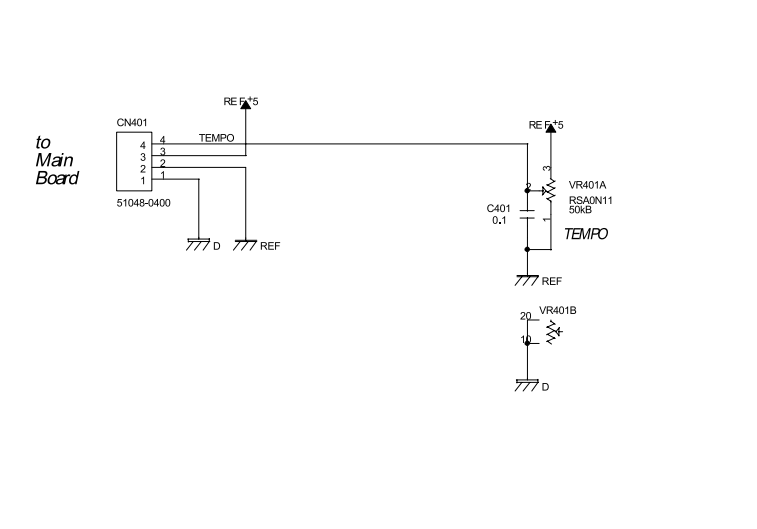
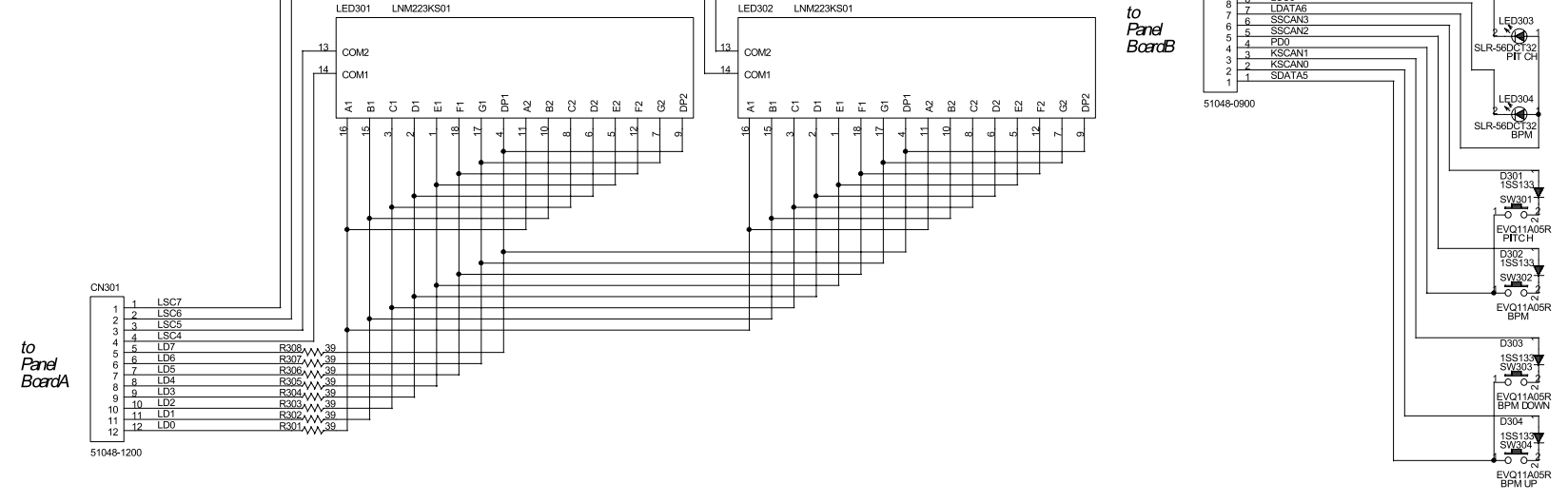# PANEL A BOARD

# ERROR MESSAGES

### NOW PLAYING!
- ● Since playback is in progress, operation cannot be performed.
- → Press the [STOP] button to stop playback, and then perform the operation.

### MIDI OFFLINE!
- ● There is a problem with the MIDI cable connections.
- → Make sure that MIDI cables have not been pulled out or broken.

### MIDI BUFFER FULL!
- ● More MIDI messages were received at once than the MC-307 was able to process.
- → Reduce the amount of MIDI messages that are being transmitted to the MC-307.

### REC OVERFLOW!
- ● More recording data was received at once than the MC-307 was able to process.
- → Reduce the amount of recording data that is being transmitted to the MC-307.

### CHECKSUM ERROR!
- ● The checksum value of the received system exclusive message is incorrect.
- → Correct the checksum value.

### PTN REC FULL!
- ● Since the maximum number of notes that can be recorded in a single pattern has been reached, further pattern recording is not possible.
- → Erase unneeded data from the pattern that you are recording.

### SONG REC FULL!
- ● Since the maximum number of patterns that can be registered in a single song has been reached, further song recording is not possible.
- → A maximum of 50 patterns can be registered in a single song. No further patterns can be registered.

### USER MEMORY FULL!
- ● Since there is insufficient user memory, the pattern cannot be saved.
- → Either initialize an unneeded pattern.

### BEAT DIFFERS!
- ● Since a different time signature is set for the copy source and copy destination patterns, the pattern copy is not possible.
- → The pattern copy operation can only be used for patterns with the same time signature.

### CANNOT ASSIGN!
- ● Since there are two or more un-muted parts, the phrase cannot be assigned to an RPS set.
- → Decide on one part in the phrase that you wish to register, and mute all the other parts.

### NO QTZ SELECTED!
- ● Quantize is not selected.
- → In the Play Quantize setting, select the quantization that you wish to use.

### EMPTY PATTERN!
- ● Since the pattern contains no musical data, it cannot be played back.

### CANNOT UNDO!
- ● Cannot undo.

### MEMORY DAMAGED!
- ● It is possible that the contents of internal memory have been damaged.
- → Try executing the Factory Reset operation. If this does not resolve the problem, contact a nearby Roland service center.