

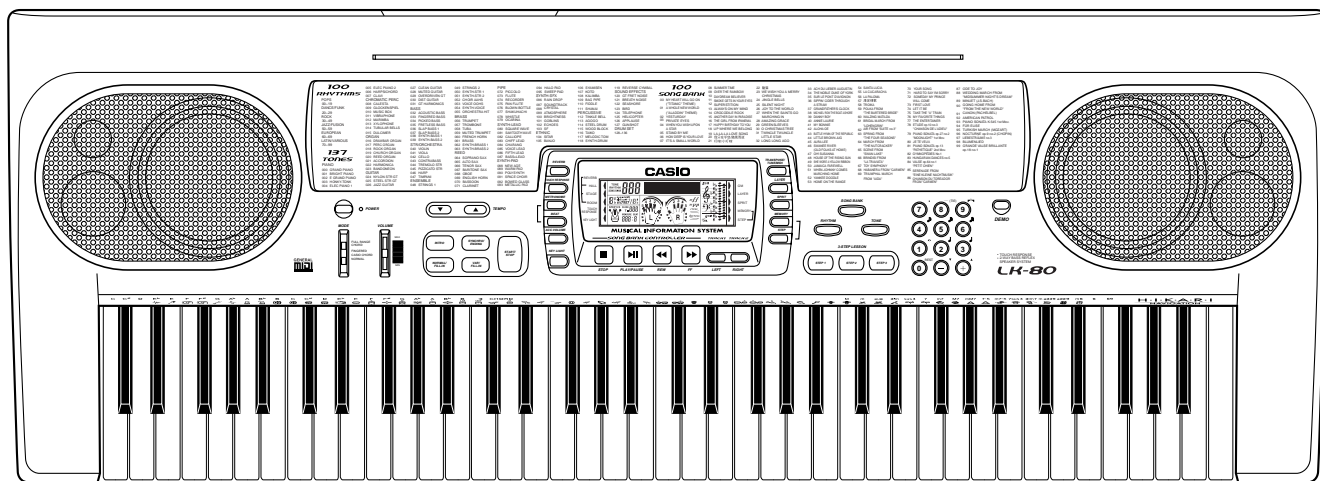
CASIO®

Service Manual

(without price)

LK-80

NOV. 1999



LK-80

ELECTRONIC KEYBOARD

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SPECIFICATIONS

GENERAL

| | |
|-------------------------------|---|
| Keyboard: | 73 standard-size keys, 6 octaves (with touch response on/off) |
| Key light system: | Can be turned on and off (up to 10 keys can be lit at the same time) |
| Tones: | 137 (128 General MIDI tones + 9 drum tones); with layer and split |
| Rhythm instrument tones: | 61 |
| Polyphony: | 24 notes maximum (12 for certain tones) |
| Digital effects: | 3 reverb types (HALL, STAGE, ROOM) |
| Auto accompaniment | |
| Rhythm patterns: | 100 |
| Tempo: | Variable (216 steps, ♩ = 40 to 255) |
| Chords: | 3 fingering methods (CASIO CHORD, FINGERED, FULL RANGE CHORD) |
| Rhythm controller: | START/STOP, INTRO, NORMAL/NORMAL FILL-IN, VARIATION/VARIATION FILL-IN, SYNCHRO/ENDING |
| Accomp volume: | 0 to 127 (128 steps) |
| 3-step lesson: | 3 lessons (step 1, 2, 3) |
| Playback: | Repeat play of a single tune |
| Song bank | |
| Number of tunes: | 100 |
| Controllers: | PLAY/PAUSE, STOP, FF, REW, LEFT/TRACK 1, RIGHT/TRACK 2 |
| Musical information function: | Tone, Auto Accompaniment, Song Bank numbers and names; staff notation, tempo, metronome, measure and beat number, step lesson display, chord name, dynamic mark, fingering, pedal operation |
| Metronome: | On/Off |
| Beat specification: | 1 to 6 |
| Memory | |
| Songs: | 2 |
| Recording tracks: | 2 |
| Recording methods: | Real-time, step |
| Memory capacity: | Approximately 5,200 notes (total for two songs) |
| MIDI: | 16 multi-timbre receive, GM Level 1 standard |
| Other functions | |
| Transpose: | 25 steps (-12 semitones to +12 semitones) |
| Tuning: | 101 steps (A4 = approximately 440 Hz ± 50 cents) |
| Terminals | |
| MIDI terminals: | IN, OUT |
| Assignable jack: | Standard jack (sustain, sostenuto, soft, rhythm start/stop) |
| Headphone/output terminal: | Stereo standard jack |
| Output Impedance: | 200 Ω |
| Output voltage: | 4.9 V (RMS) MAX |

| | |
|--------------------|---|
| Power jack | 12 V DC |
| Power supply: | 2-way |
| Batteries: | Six D-size batteries |
| Battery life: | Approximately 2 hours continuous operation on manganese batteries |
| AC adaptor: | AD-12 |
| Auto power off: | Turns power off approximately six minutes after last key operation. Enabled under battery power only, can be disabled manually. |
| Speaker output: | 5 W + 5 W |
| Power consumption: | 12 V \approx 18 W |
| Dimensions (HWD): | 135 × 1161 × 421 mm (5 5/16 × 45 3/4 × 16 9/16 inches) |
| Weight: | Approximately 8.8 kg (19.4 lbs) (without batteries) |

ELECTRICAL

Current drain with 12 V DC:

| | |
|-----------------|--------------------|
| No sound output | 480 mA \pm 20 % |
| Maximum volume | 1500 mA \pm 20 % |

with 24 keys from A3 to C7 pressed in BAOSSEON

Volume: maximum, Touch response: maximum

Reverb: HALL

Speaker output level (Vrms with 8 Ω load each channel):

with key A5 BAOSSEON

Lch : 5200 mV \pm 20 %

Volume: maximum, Touch response: maximum

Rch : 4600 mV \pm 20 %

Reverb: HALL

Phone output level (Vrms with 8 Ω load each channel):

with key A5 BAOSSEON

Lch : 150 mV \pm 20 %

Volume: maximum, Touch response: maximum

Rch : 120 mV \pm 20 %

Reverb: HALL

Output level (Vrms with 47 Ω load each channel):

with key A5 in French Horn BAOSSEON

Lch : 4000 mV \pm 20 %

Volume: maximum, Touch response: maximum

Rch : 3400 mV \pm 20 %

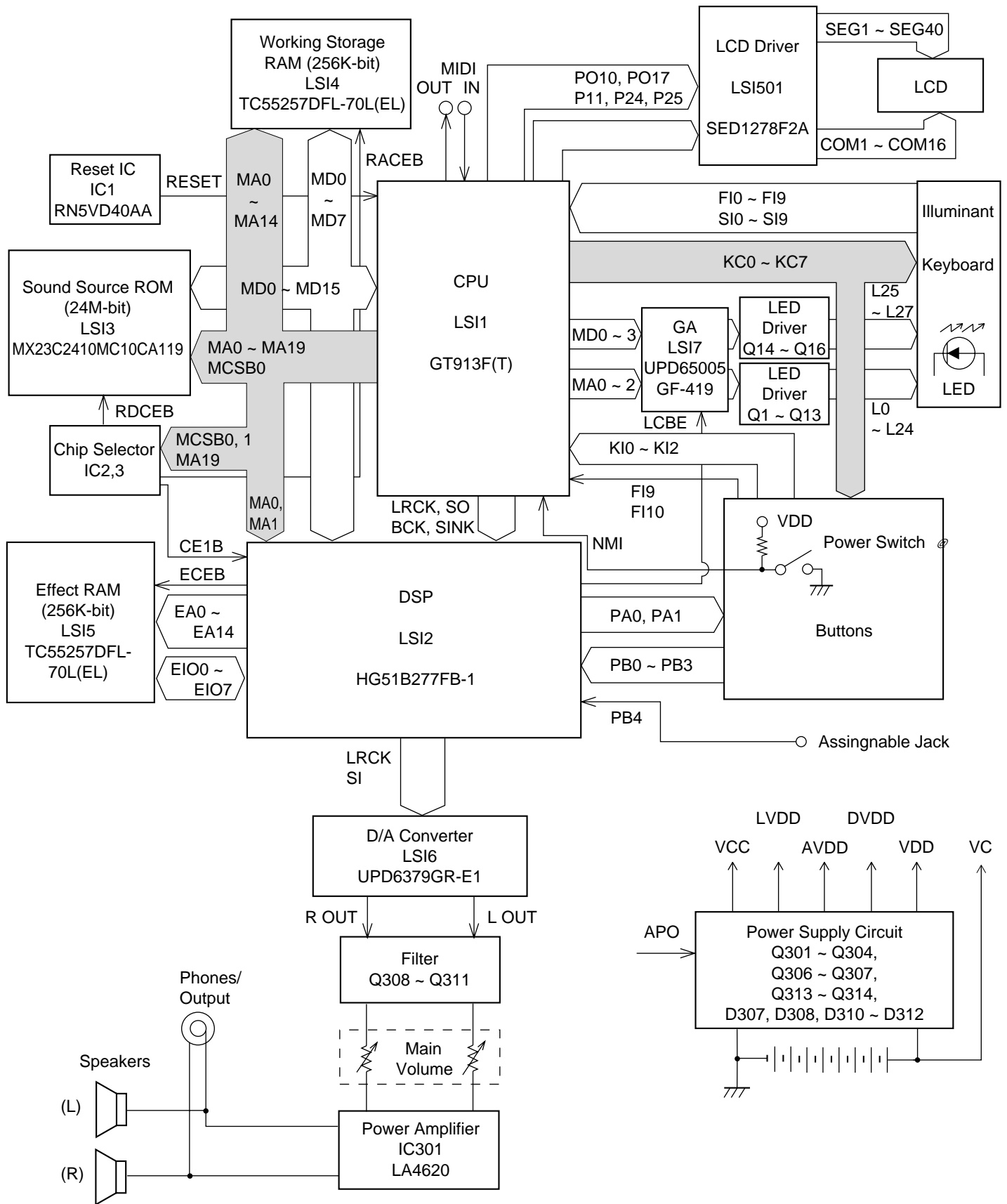
Reverb: HALL

About General MIDI

General MIDI standardizes MIDI data for all sound source types, regardless of manufacturer. General MIDI specifies such factors as tone numbering, drum sounds, and available MIDI channels for all sound sources. This standard makes it possible for all MIDI equipment to reproduce the same nuances when playing General MIDI data, regardless of the manufacturer of the sound source.

This keyboard supports General MIDI, so it can be used to play commercially available pre-recorded General MIDI data and General MIDI data sent to it from a personal computer.

BLOCK DIAGRAM



CIRCUIT DESCRIPTION

KEY MATRIX

| | KC0 | KC1 | KC2 | KC3 | KC4 | KC5 | KC6 | KC7 |
|------------|---------|---------|---------|---------|---------|---------|---------|---------|
| FI0 | C1 (1) | C#1 (1) | D1 (1) | D#1 (1) | E1 (1) | F1 (1) | F#1 (1) | G1 (1) |
| SI0 | C1 (2) | C#1 (2) | D1 (2) | D#1 (2) | E1 (2) | F1 (2) | F#1 (2) | G1 (2) |
| FI1 | G#1 (1) | A1 (1) | A#1 (1) | B1 (1) | C2 (1) | C#2 (1) | D2 (1) | D#2 (1) |
| SI1 | G#1 (2) | A1 (2) | A#1 (2) | B1 (2) | C2 (2) | C#2 (2) | D2 (2) | D#2 (2) |
| FI2 | E2 (1) | F2 (1) | F#2 (1) | G2 (1) | G#2 (1) | A2 (1) | A#2 (1) | B2 (1) |
| SI2 | E2 (2) | F2 (2) | F#2 (2) | G2 (2) | G#2 (2) | A2 (2) | A#2 (2) | B2 (2) |
| FI3 | C3 (1) | C#3 (1) | D3 (1) | D#3 (1) | E3 (1) | F3 (1) | F#3 (1) | G3 (1) |
| SI3 | C3 (2) | C#3 (2) | D3 (2) | D#3 (2) | E3 (2) | F3 (2) | F#3 (2) | G3 (2) |
| FI4 | G#3 (1) | A3 (1) | A#3 (1) | B3 (1) | C4 (1) | C#4 (1) | D4 (1) | D#4 (1) |
| SI4 | G#3 (2) | A3 (2) | A#3 (2) | B3 (2) | C4 (2) | C#4 (2) | D4 (2) | D#4 (2) |
| FI5 | E4 (1) | F4 (1) | F#4 (1) | G4 (1) | G#4 (1) | A4 (1) | A#4 (1) | B4 (1) |
| SI5 | E4 (2) | F4 (2) | F#4 (2) | G4 (2) | G#4 (2) | A4 (2) | A#4 (2) | B4 (2) |
| FI6 | C5 (1) | C#5 (1) | D5 (1) | D#5 (1) | E5 (1) | F5 (1) | F#5 (1) | G5 (1) |
| SI6 | C5 (2) | C#5 (2) | D5 (2) | D#5 (2) | E5 (2) | F5 (2) | F#5 (2) | G5 (2) |
| FI7 | G#5 (1) | A5 (1) | A#5 (1) | B5 (1) | C6 (1) | C#6 (1) | D6 (1) | D#6 (1) |
| SI7 | G#5 (2) | A5 (2) | A#5 (2) | B5 (2) | C6 (2) | C#6 (2) | D6 (2) | D#6 (2) |
| FI8 | E6 (1) | F6 (1) | F#6 (1) | G6 (1) | G#6 (1) | A6 (1) | A#6 (1) | B6 (1) |
| SI8 | E6 (2) | F6 (2) | F#6 (2) | G6 (2) | G#6 (2) | A6 (2) | A#6 (2) | B6 (2) |
| FI9 | C7 (1) | | | | | | | |
| SI9 | C7 (2) | | | | | | | |

BUTTON MATRIX

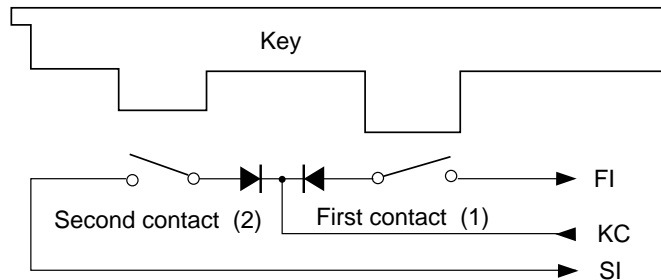
| | KC0 | KC1 | KC2 | KC3 | KC4 | KC5 | KC6 | KC7 |
|-------------|--------|---------------|-------------------|------------|------|----------------|----------|---------------------|
| KI0 | LAYER | RIGHT | 2 | RHYTHM | 9 | PLAY | STOP | KEY LIGHT |
| KI1 | SPLIT | LEFT | 1 | SONG BANK | 8 | FF | REW | TRANSPOSE/TUNE/MIDI |
| KI2 | MEMORY | STEP 2 | 3 | TONE | 5 | TEMPO DOWN | TEMPO UP | SYNCHRO/ENDING |
| KI3 | STEP | STEP 3 | ▽ | 7 | 6 | ACCOMP VOLUME | HAND | METRONOME |
| KI14 | STEP 1 | 0 | △ | 4 | DEMO | TOUCH RESPONSE | REVERB | |
| KI15 | INTRO | NOMAL FILL-IN | VARIATION FILL-IN | START/STOP | | | | |

LED MATRIX

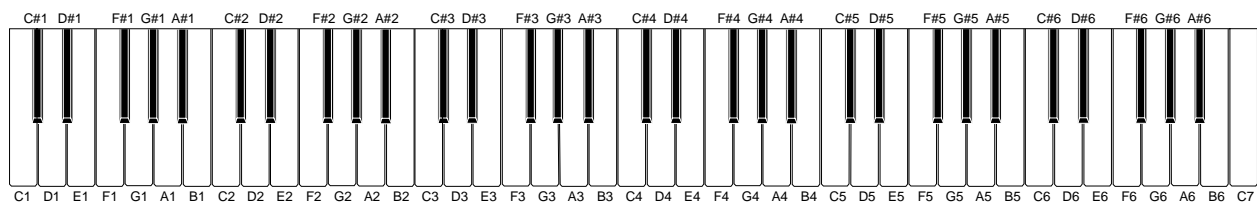
| | L0 | L1 | L2 | L3 | L4 | L5 | L6 | L7 | L8 | L9 | L10 | L11 | L12 |
|-----|-----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|
| L25 | A2# | F4 | B4 | E5 | A5 | D6 | G6 | C7 | A6# | G6# | F6# | C3# | D3# |
| L26 | G2# | E4 | A4 | D5 | G5 | C6 | F6 | B6 | A5# | C6# | D6# | F2# | D2# |
| L27 | C2 | D4 | G4 | C5 | F5 | B5 | E6 | A6 | G5# | F5# | D5# | | |

| | L13 | L14 | L15 | L16 | L17 | L18 | L19 | L20 | L21 | L22 | L23 | L24 |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| L25 | F3# | G2 | C3 | F3 | D4# | C4# | A3# | G3# | C1 | A1# | G1# | F1# |
| L26 | C2# | F2 | B2 | E3 | F4# | G4# | A4# | C5# | D1 | G1 | C1# | D1# |
| L27 | D2 | E2 | A2 | D3 | G3 | A3 | B3 | C4 | E1 | F1 | A1 | B1 |

Note: Each key has two contacts, the first contact (1) and second contact (2).



NOMENCLATURE OF KEYS



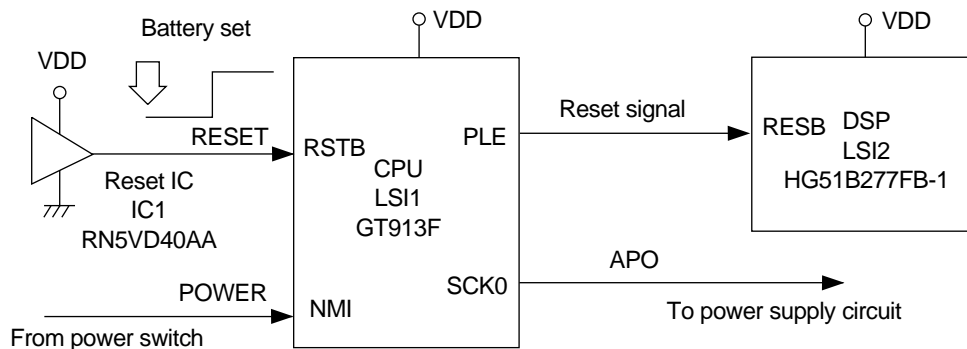
POWER SUPPLY CIRCUIT

The power supply circuit generates seven voltages as shown in the following table. VDD voltage is always generated. The others are controlled by APO signal from the CPU.

| Name | Voltage | For operation of |
|-------|----------|---|
| VDD | +5 V | CPU, Reset IC, DSP, Sound source ROM, Working storage RAM, Effect RAM, LED driver |
| DVDD | +5 V | CPU, Sustain jack, MIDI jack |
| AVDD | +5 V | DAC, Filter |
| LVDD | +5 V | GA |
| VCC | +9V~+12V | Power amplifier |
| LCVDD | +5.5 V | LCD driver |

RESET CIRCUIT

When batteries are set or an AC adapter is connected, the reset IC provides a low pulse to the CPU. The CPU then initializes its internal circuit, and clears the working storage RAM. When the power switch is pressed, the CPU receives a low pulse of POWER signal. The CPU sends APO signal to the power supply circuit, also sends a reset signal to the DSP.



CPU (LSI1: GT913F)

The 16-bit CPU contains a 1k-byte RAM, three 8-bit I/O ports, two timers, a key controller and serial interfaces. The CPU detects key velocity by counting the time between first-key input signal FI and second-key SI from the keyboard. The CPU reads sound data and velocity data from the sound source ROM in accordance with the selected tone; the CPU can read rhythm data simultaneously when a rhythm pattern is selected. Then the CPU provides 16-bit serial sound data to the DSP. The CPU also controls MIDI input/output and stores sequencer data into the working storage RAM.

The following table shows the pin functions of LSI1.

| Pin No. | Terminal | In/Out | Function |
|---------|------------------------|--------|---|
| 1 | TXD0 | Out | Not used |
| 2 | RXD0 | In | Not used |
| 3 | SCK0 | Out | APO (Auto Power Off) signal output |
| 4 | TXD1 | Out | MIDI signal output |
| 5 | RXD1 | In | MIDI signal input |
| 6 | SCK1 | Out | 1 MHz synchronizing pulse output |
| 7 | AVCC | In | DVDD (+5 V) source |
| 8 | AN0 | In | AC adaptor detection terminal. +5 V when the keyboard is powered by batteries and becomes 0 V to cancel the APO function when AC adaptor is connected. |
| 9 | AN1 | — | Not used. Connected to ground. |
| 10 | AGND | In | Ground (0 V) source |
| 11 | BCK | Out | Bit clock output |
| 12 | SO | Out | Serial sound data output |
| 13 | LRCK | Out | Word clock output |
| 14 | GND | In | Ground (0 V) source |
| 15, 16 | XLT0, XLT1 | In/Out | 30 MHz clock input/output |
| 17 | VCC | In | +5 V source |
| 18, 19 | MD0, MD1 | In | Mode selection terminal |
| 20 | RSTB | In | Reset signal input |
| 21 | NMI | In | Power ON signal input |
| 22 | INT/P10 | In/Out | Data bus for the LCD driver |
| 23 ~ 30 | FI0 ~ FI3 SI0 ~ SI3 | In | Terminal for key input signal |
| 31 ~ 38 | KC0 ~ KC7 | Out | Terminal for key scan signal |
| 39 ~ 46 | FI4 ~ FI7 SI4 ~ SI7 | In | Terminal for key input signal |
| 47, 48 | FI8, SI8 | — | Not used |
| 49 | FI9 | In | Terminal for button input signal |
| 50 | SI9 | In | Data bus for LCD driver |
| 51 | FI10 | In | Terminal for button input signal |
| 52 | SI10/P23 | Out | Data bus for the LCD driver |
| 53 ~ 55 | KI0 ~ KI2 | In | Terminal for button input signal |
| 56 | MWNB | Out | Write enable signal for the DSP |

| Pin No. | Terminal | In/Out | Function |
|---------|--------------|--------|---|
| 57 ~ 76 | MA0 ~ MA19 | Out | Address bus |
| 77, 78 | MCSB0, MCSB1 | Out | Chip enable signal output for the sound source ROM, working RAM and DSP |
| 79 | MCSB2 | Out | Not used |
| 80 | VCC | In | +5 V source |
| 81 | GND | In | Ground (0 V) source |
| 82 | MRDB | Out | Read enable signal output for the sound source ROM |
| 83 ~ 98 | MD0 ~ MD15 | In/Out | Data bus |
| 99 | PLE | Out | Reset signal output for the DSP |
| 100 | P17 | In/Out | Data bus for the LCD driver |

DIGITAL SIGNAL PROCESSOR (LSI2: HG51B277FB-1)

The DSP receives 16-bit serial sound data output from the CPU and adds the selected effect to the sound data using the effect RAM. Then the DSP provides the sound data to the DAC. The DSP also controls button input/output and GA.

The following table shows the pin functions of LSI2.

| Pin No. | Terminal | In/Out | Function |
|-----------|-----------|--------|--|
| 1 ~ 3, 80 | PB0 ~ PB3 | In | Button input terminals |
| 4 | PB4 | In | ASSIGNABLE Jack input |
| 5 | SO | Out | Serial sound data output for the DAC |
| 6 | WCKO | Out | Word clock output for the DAC |
| 7 | VDD3 | In | +5 V source |
| 8 | TEST | — | Not used |
| 9 | RESB | In | Reset signal input |
| 10 | VSS2 | In | Ground (0 V) source |
| 11, 12 | XIN, XOUT | In/Out | 20 MHz clock input/output |
| 13 | WCKI | In | Word clock input from the CPU |
| 14 | SI | In | Serial sound data input from the CPU |
| 15 | BCKI | In | Bit clock input from the CPU |
| 16 | SINC | In | 1 MHz synchronizing pulse input |
| 17 | VDD2 | In | +5 V source |
| 18 ~ 25 | IO0 ~ IO7 | In/Out | Data bus |
| 26 | RCEB | Out | Chip enable signal output for the GA |
| 27 | VSS3 | In | Ground (0 V) source |
| 28 | AD1 | In | Address bus |
| 29 | OEB | Out | Output enable signal for working storage RAM |
| 30 | WEB | In | Write enable signal for working storage RAM |
| 31 | VDD3 | In | +5 V source |
| 32 | CE2 | In | Chip enable signal input. High active. |
| 33 | AD0 | In | Address bus |

| Pin No. | Terminal | In/Out | Function |
|---------------------------------|---------------|--------|---|
| 34 | CE1B | In | Chip enable signal input. Low active. |
| 35 ~ 41, 43 | EIO0 ~ EIO7 | In/Out | Data bus for the effect RAM |
| 42, 44, 46 ~ 48, 51 ~ 59, 61 | EA0 ~ EA14 | Out | Address bus for the effect RAM |
| 45 | ECEB | Out | Chip enable signal output for the effect RAM |
| 49 | EOEB | Out | Output enable signal for the effect RAM |
| 50 | VSS3 | In | Ground (0 V) source |
| 60 | BWEB | Out | Write enable signal output for the effect RAM |
| 62, 66, 70, 74, 78 | VSS2 | In | Ground source |
| 63, 67, 71, 75, 79 | VDD2 | In | +5 V source |
| 64, 65 | PA0, PA1 | Out | Button scan signal output |
| 68, 69, 77 | PA2, PA3, PA7 | — | Not used |
| 72 | PA4 | Out | Data/command signal for LCD driver |
| 73 | PA5 | Out | Read/write signal for LCD driver |
| 76 | PA6 | Out | Chip enable signal for LCD driver |

LCD DRIVER (LSI501: SED1278F2A)

The LCD driver can drive a dot matrix LCD having 40 segment and 15 common lines. The LSI contains 240 graphic symbols in the built-in character generator ROM, and stores 80 characters in the built-in display data RAM. In accordance with command from the CPU, the LSI is capable of displaying up to 16 characters simultaneously. The following table shows the pin functions of LSI 501.

| Pin No. | Terminal | In/Out | Function |
|---------------------|-----------------------------|--------|---|
| 1 ~ 22, 63 ~ 80 | SEG1 ~ SEG40 | Out | Segment signal output |
| 23 | VSS | — | GND (0 V) source |
| 24, 25 | OSC1, OSC2 | In/Out | Terminals for the built-in clock pulse generator. The external resistor connected determines the oscillation frequency. |
| 26 ~ 30 | V1 ~ V5 | | LCD drive voltage input. Those voltages are used for generating the stepped pulse of the LCD drive signals. |
| 31, 32 | LP, XSCL | — | Not used |
| 33 | VDD | In | DVDD (+5 V) source |
| 34, 35 | FR, DO | — | Not used |
| 36 | RS | In | Data/command determination terminal. High: data, Low: command |
| 37 | R/W | In | Read/write terminal. High: read, Low: write |
| 38 | E | In | Chip enable signal. High: enable, the writing is done at fall edge. Low: disable |
| 39 ~ 42 | DB0 ~ DB3 | — | Not used. Connected to GND (0 V) |
| 43 ~ 46 | DB4 ~ DB7 | In/Out | Data bus |
| 47 ~ 53, 55 ~ 62 | COM1 ~ COM7 COM9 ~ COM16 | Out | Common signal/output |
| 54 | COM8 | — | Not used |

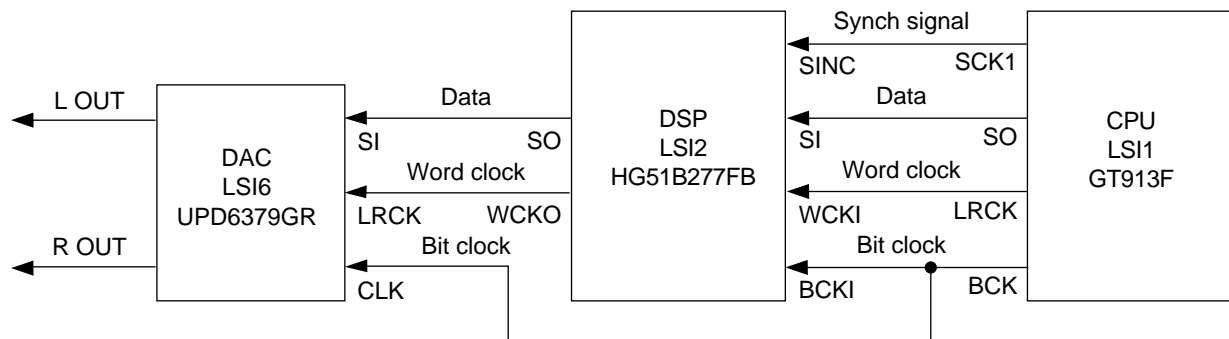
GATE ARRAY (LSI7: UPD65005GF-419)

The gate array can control 63 LEDs of key illuminators. In accordance with the command from the CPU, the LSI is capable of controlling the illuminator LEDs. The following table shows the pin functions of LSI7.

| Pin No. | Terminal | In/Out | Function |
|---------------------------------------|--------------------|--------|--------------------------|
| 3 ~ 6 | MI0, MI1, MO0, MO1 | — | Not used |
| 7, 26, 43, 58 | GND | In | GND (0 V) source |
| 8, 27, 44 | VDD | In | LVDD (5 V) source |
| 9 ~ 12 | DB0 ~ DB3 | In | Data bus |
| 13 ~ 15 | MA0 ~ MA2 | In | Address bus |
| 16 | NCE | In | Chip enable signal |
| 19 | NWR | In | Write enable signal |
| 20, 21 | NRD, NRS | — | Not used |
| 22 ~ 25, 28 ~ 32, 35 ~ 42, 45 ~ 48 | L0 ~ L20 | Out | LED drive signal output |
| 50 ~ 52 | L21 ~ L23 | Out | LED common signal output |
| 53 ~ 57, 59 | L24 ~ L28, L29 | — | Not used |
| 60 ~ 63 | I0 ~ I3 | — | Not used |
| 1, 2, 17, 18, 33, 34, 49, 64 | NC | — | Not connected |

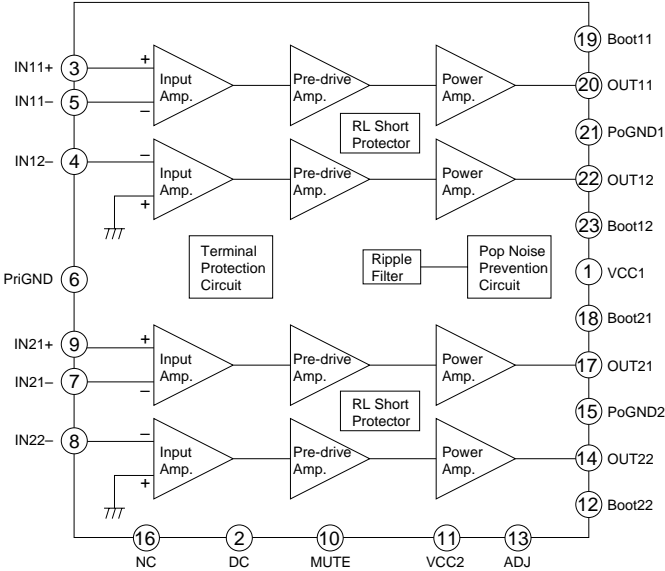
DAC (LSI6: UPD6379GR)

The DAC receives 16-bit serial data output from the DSP. The data contains digital sound data of the melody, chord, bass, and percussion for the right and left channels. The DAC converts the data into analog waveforms and output them to each channel separately.



POWER AMPLIFIER (IC301: LA4620)

The power amplifier is a two-channel amplifier with standby switch.



ADJUSTMENT

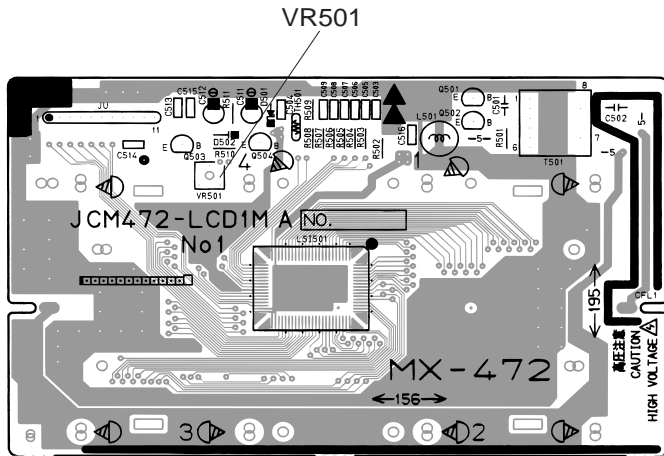
DISPLAY PCB

1) Items to be adjusted:

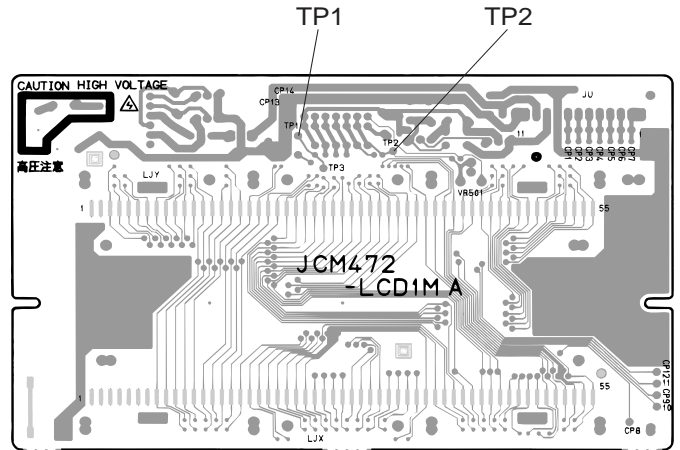
| Item | Measuring Instrument |
|---------------------|----------------------|
| Vop voltage setting | Voltmeter |

2) Adjustment and Test Point Locations

JCM472-LCD1M



Top View

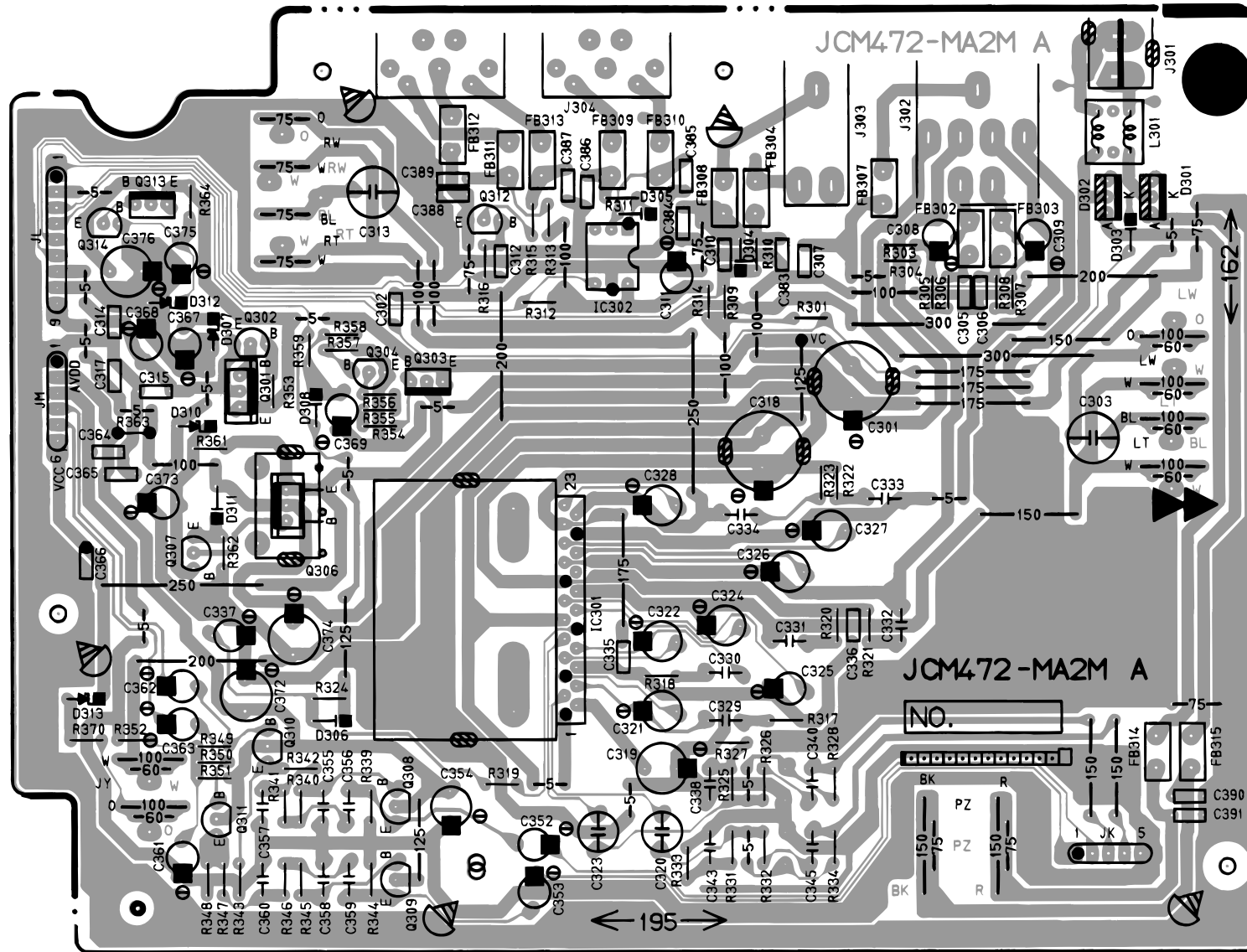


Bottom View

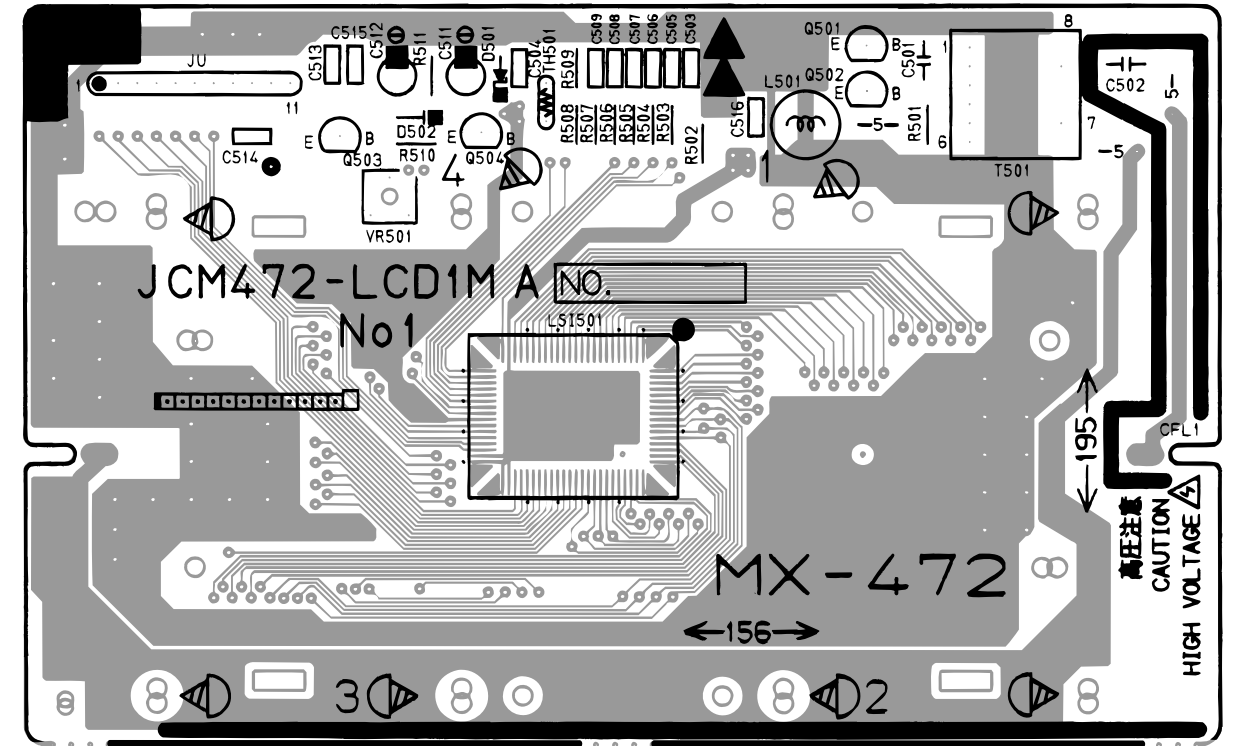
3) Equipment connection/Procedure

| Vop voltage setting | | | | | | |
|---|-------------|--------------|--------|-------------------|--------------|---|
| | | | | | | |
| Input Connection | Input Point | Input Signal | Adjust | Output Connection | Output Point | Adjust for |
| — | — | — | VR501 | Voltmeter | TP1-TP2 | Adjust for 3.7 ~ 3.8 V reading on voltmeter under the temperature 20 ~ 25 °C. Make fine adjustment according to the next instruction. |
| | | | | | | |
| <p>Watching the LCD at a 37.4° angle to the horizontal, adjust Vop voltage so that unenergized segments are seen dimly.</p> | | | | | | |

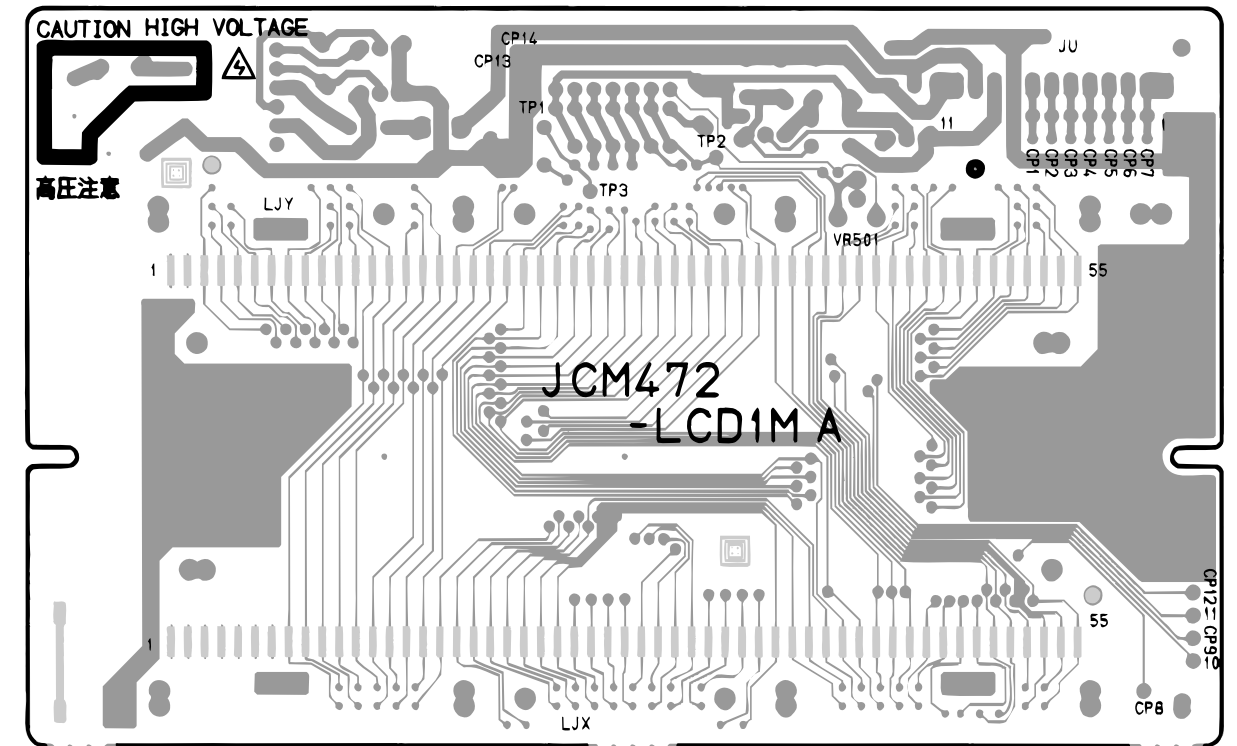
Sub PCB JCM472-MA2M



Display PCB JCM472-LCD1M

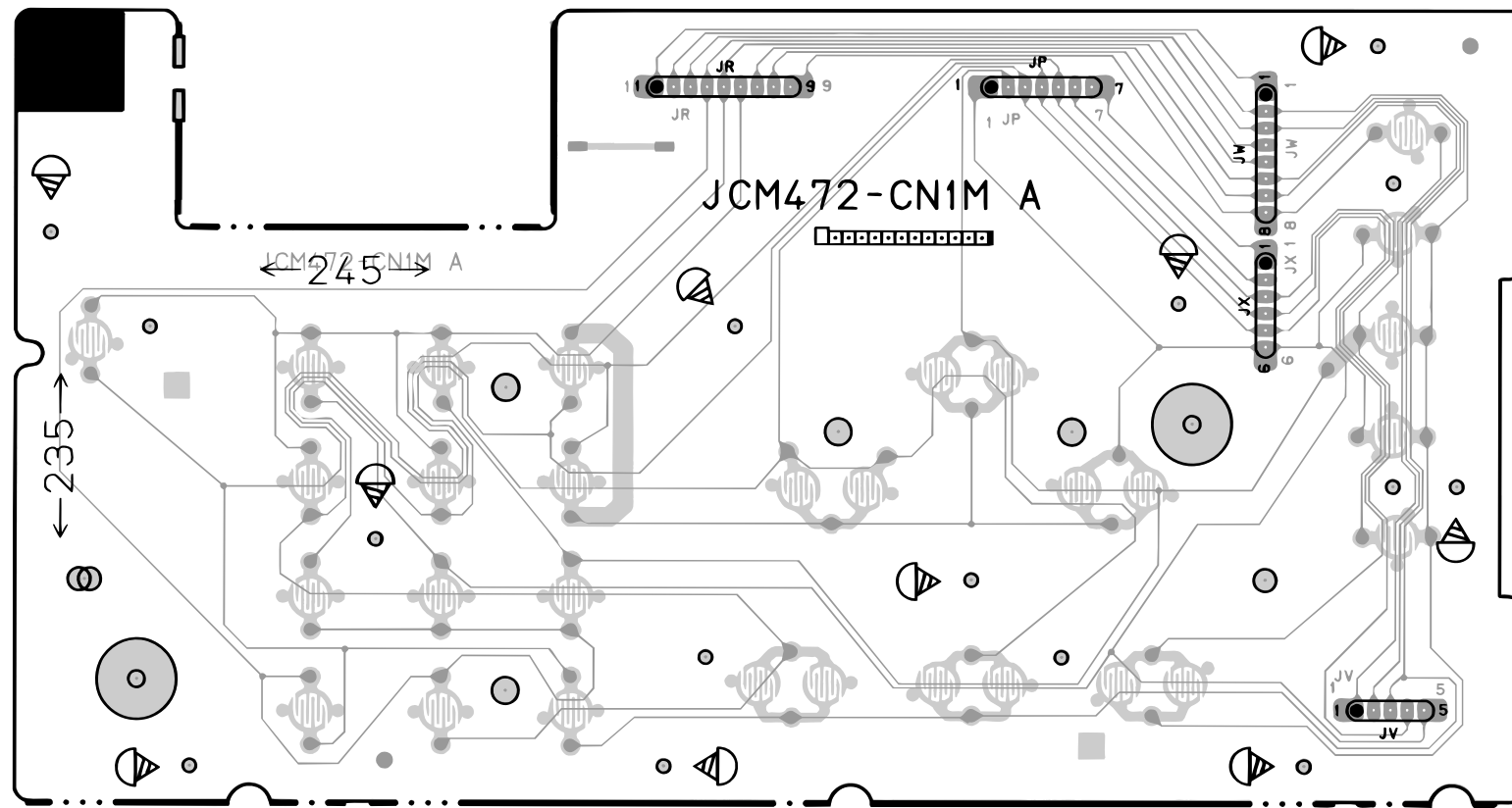


Top View

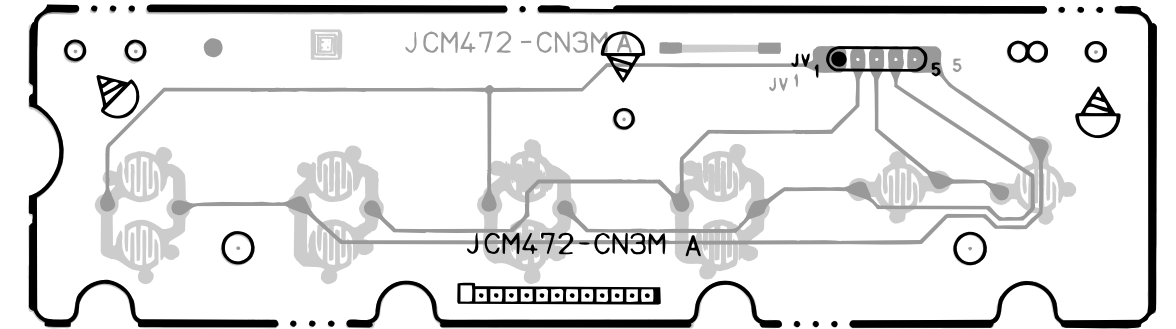


Bottom View

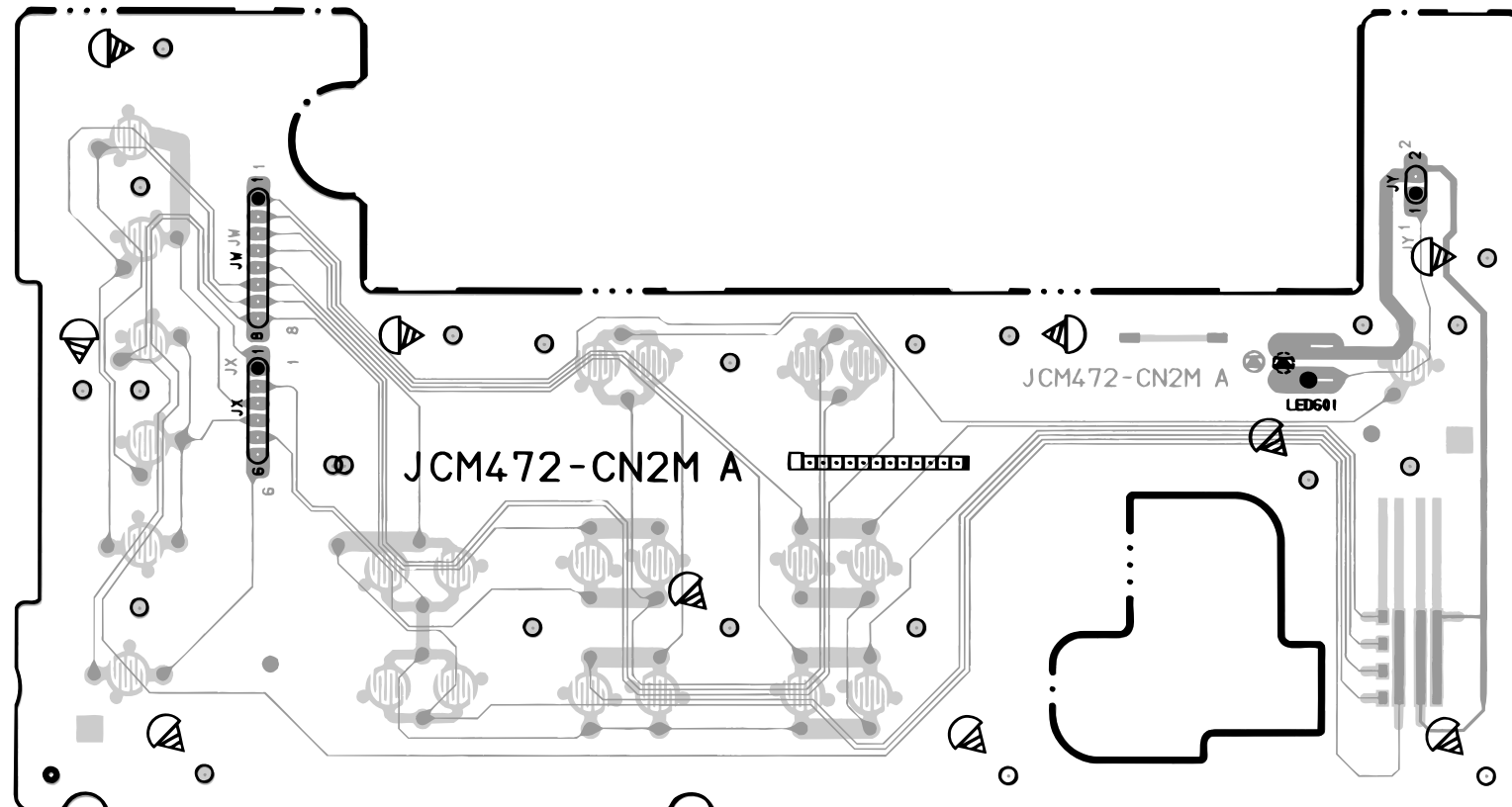
Console PCB JCM472-CN1M



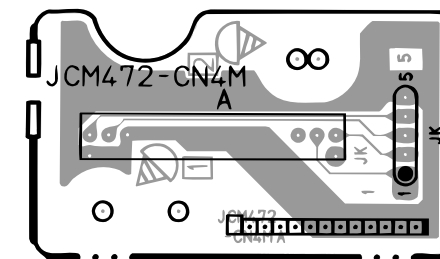
Console PCB JCM472-CN3M



Console PCB JCM472-CN2M

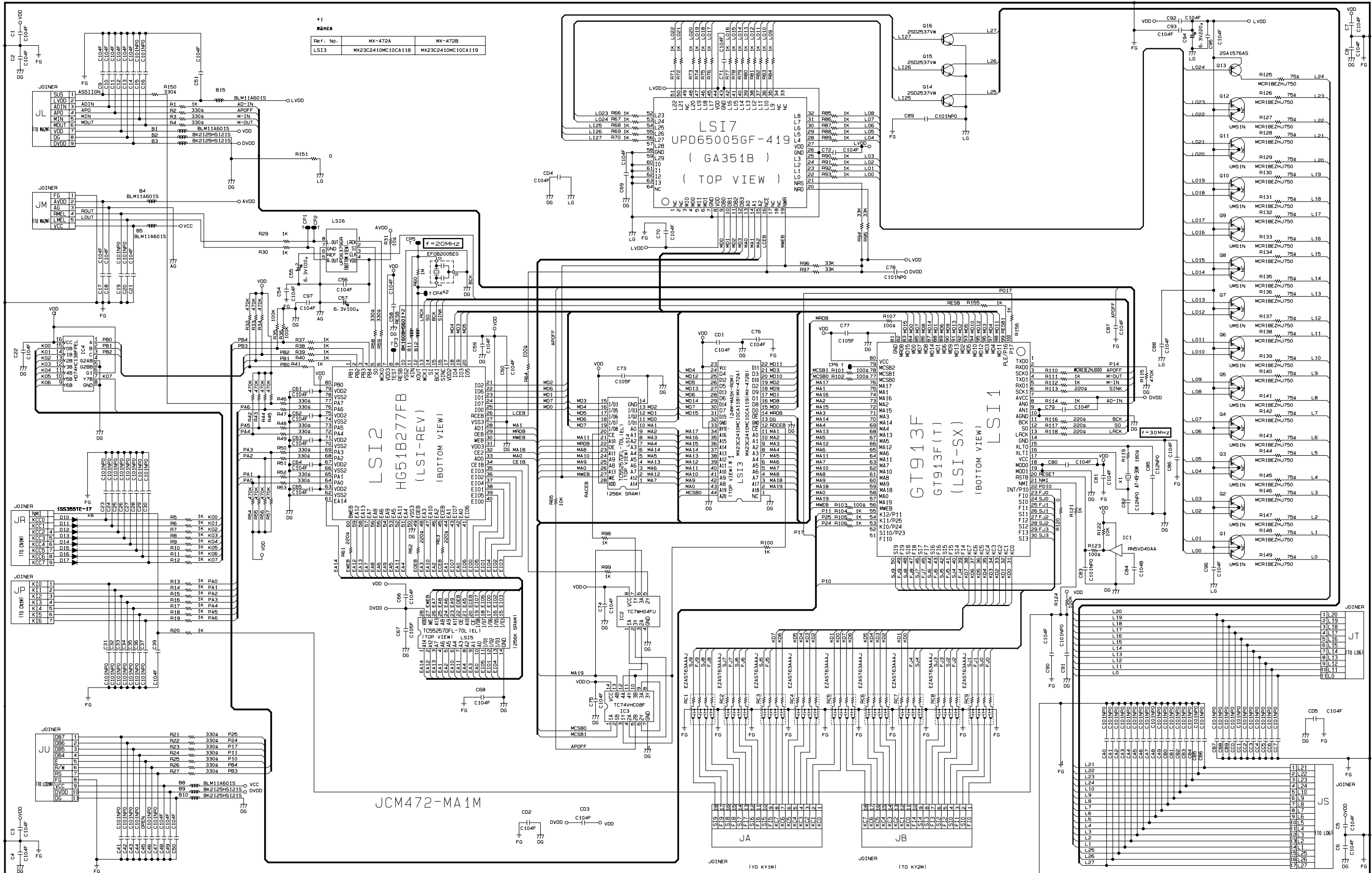


Console PCB JCM472-CN4M

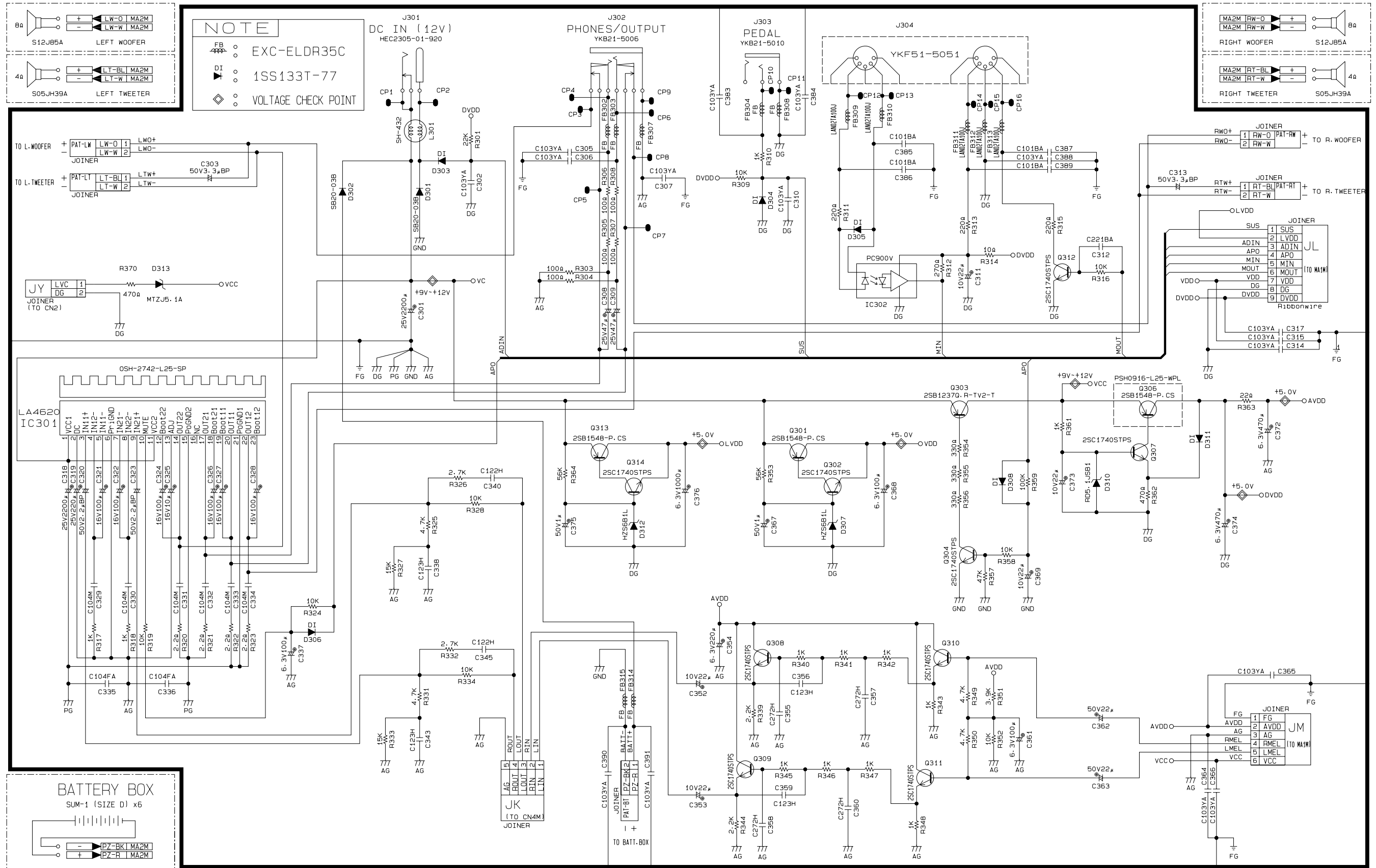


SCHEMATIC DIAGRAMS

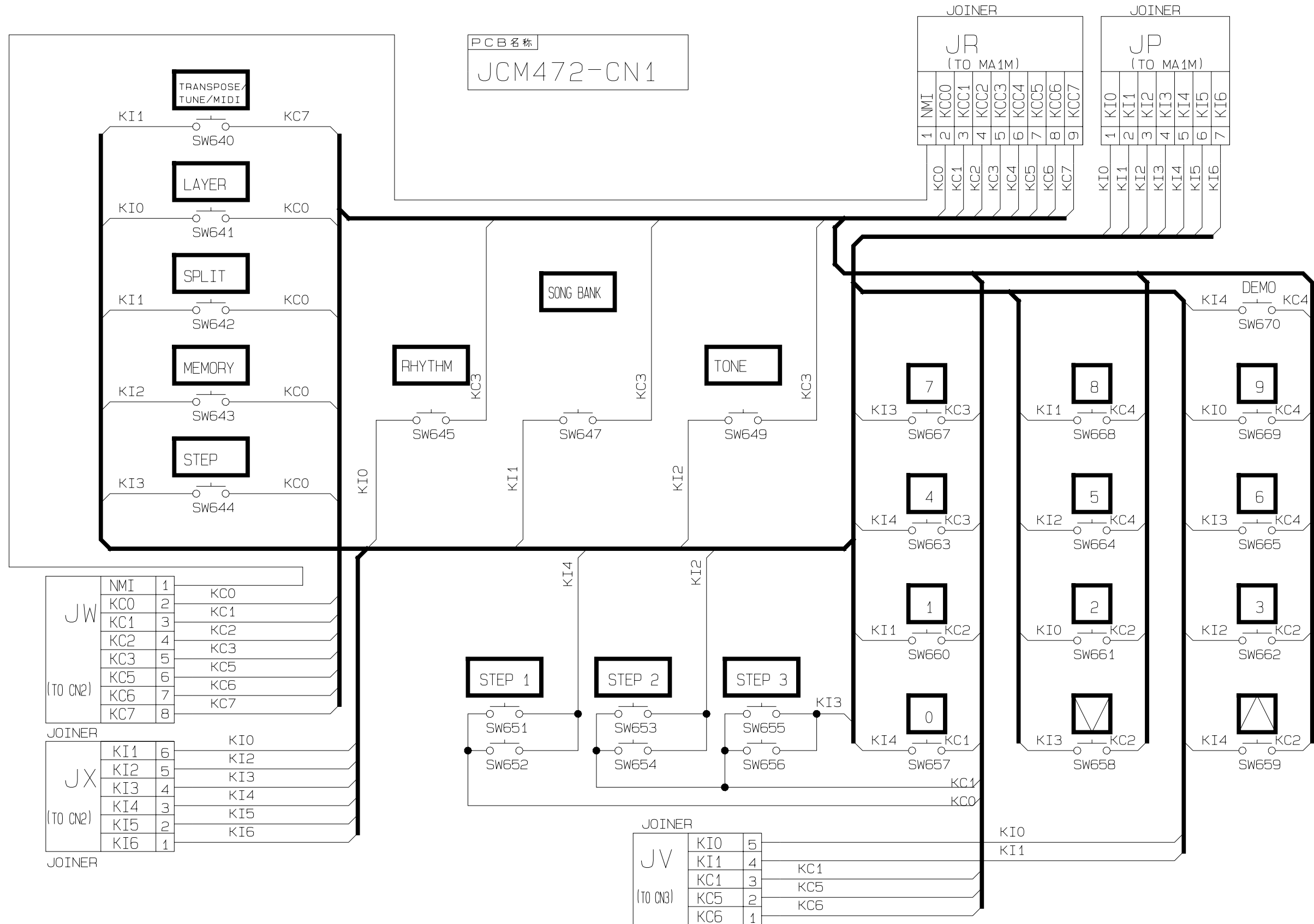
Main PCB JCM472-MA1M



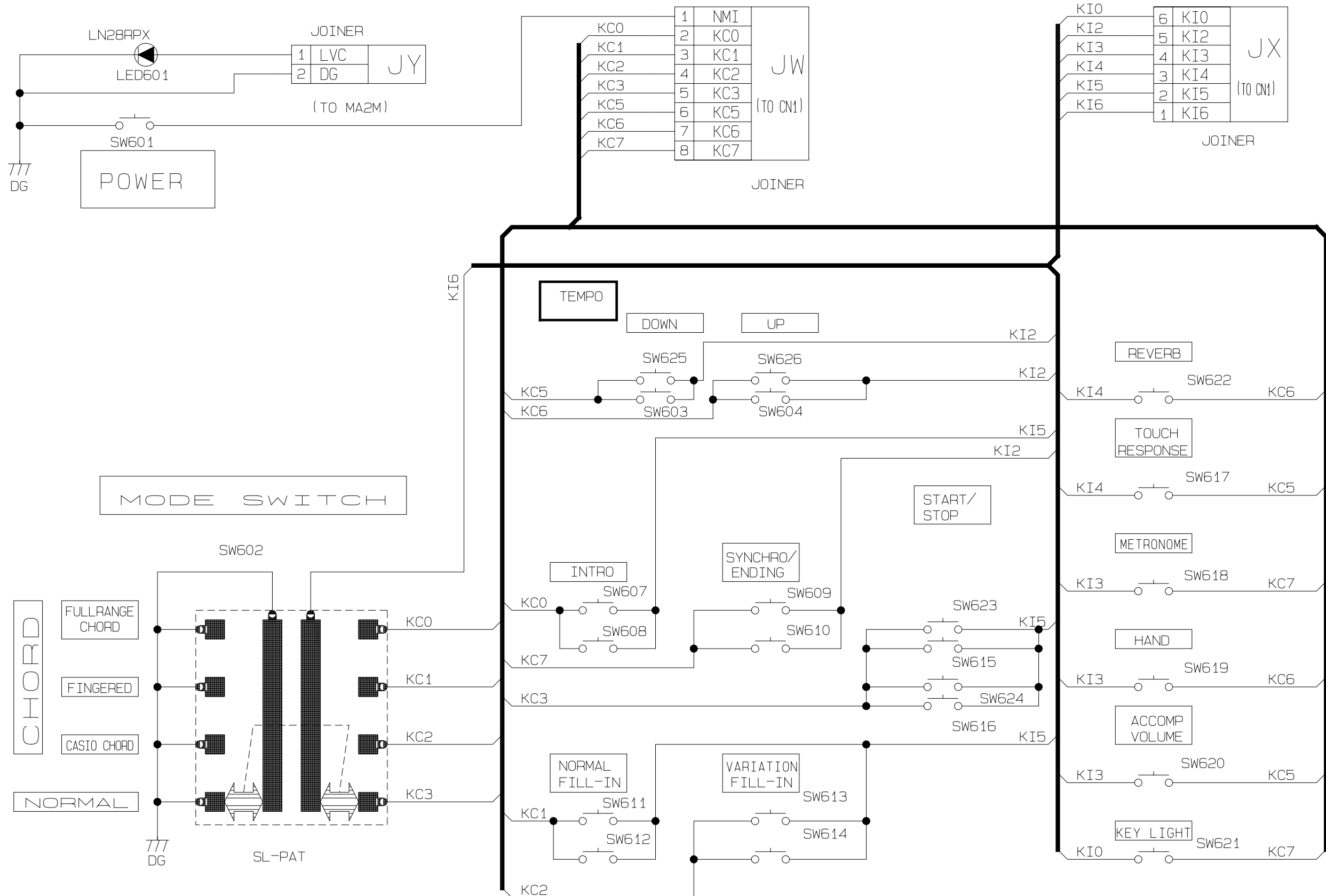
Sub PCB JCM472-MA2M



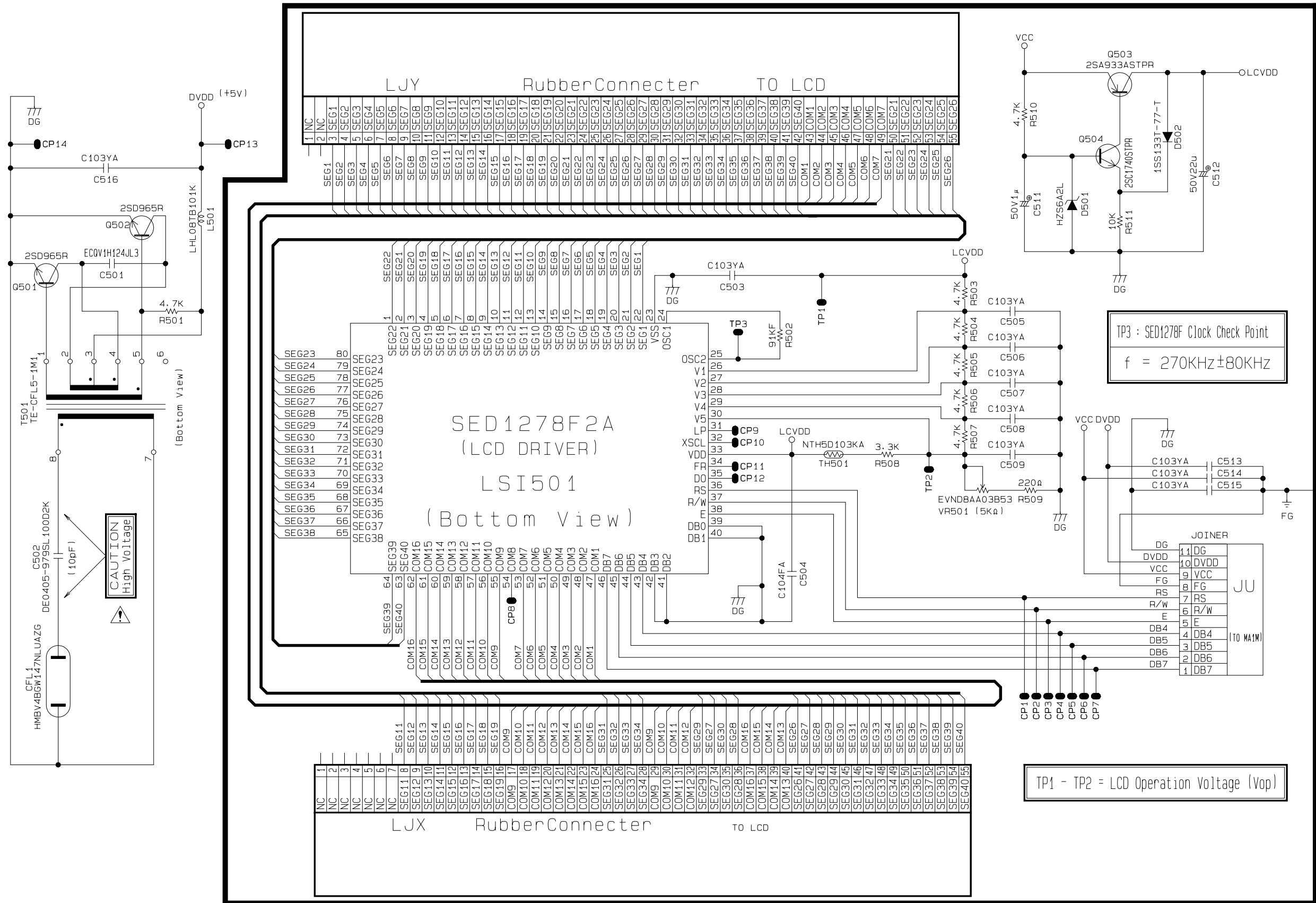
Console PCB JCM472-CN1M



Console PCB JCM472-CN2M



Display PCB JCM472-LCD1M

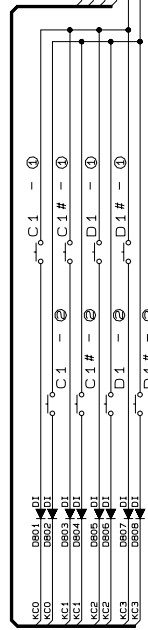
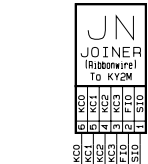


TP3 : SED1278F Clock Check Point
 $f = 270\text{KHz} \pm 80\text{KHz}$

TP1 - TP2 = LCD Operation Voltage (Vop)

Keyboard PCBs JCM731T-KY1M/KY2M/KY3M

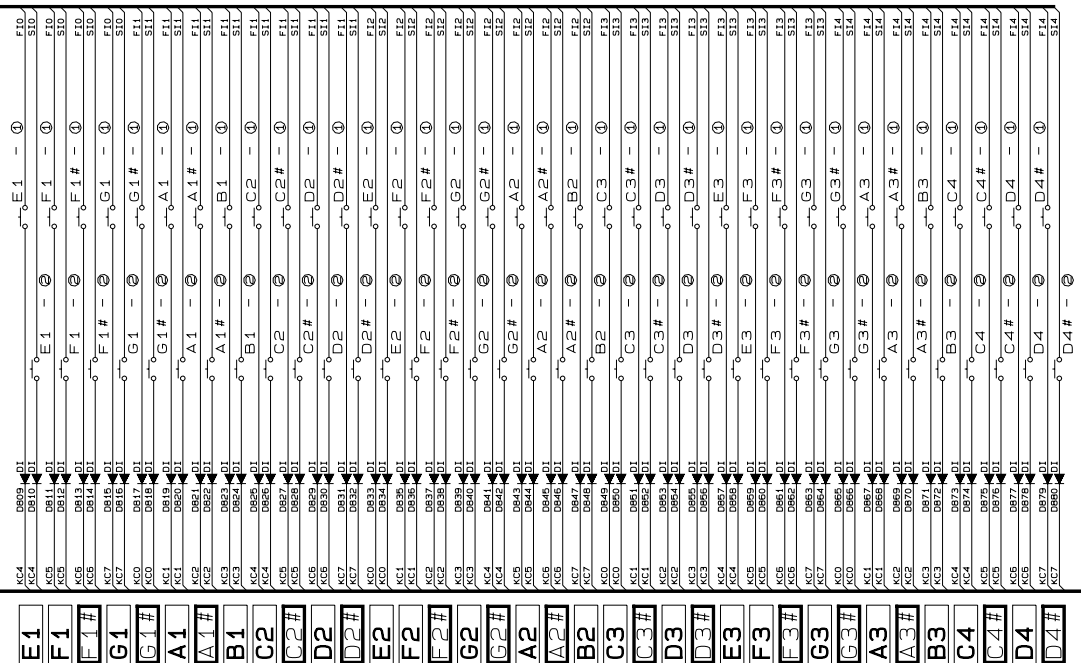
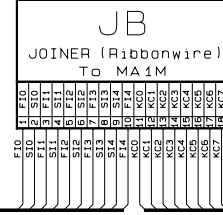
NOTE
 1SS133T-77-T



C1#
 C1#
 D1#
 D1#

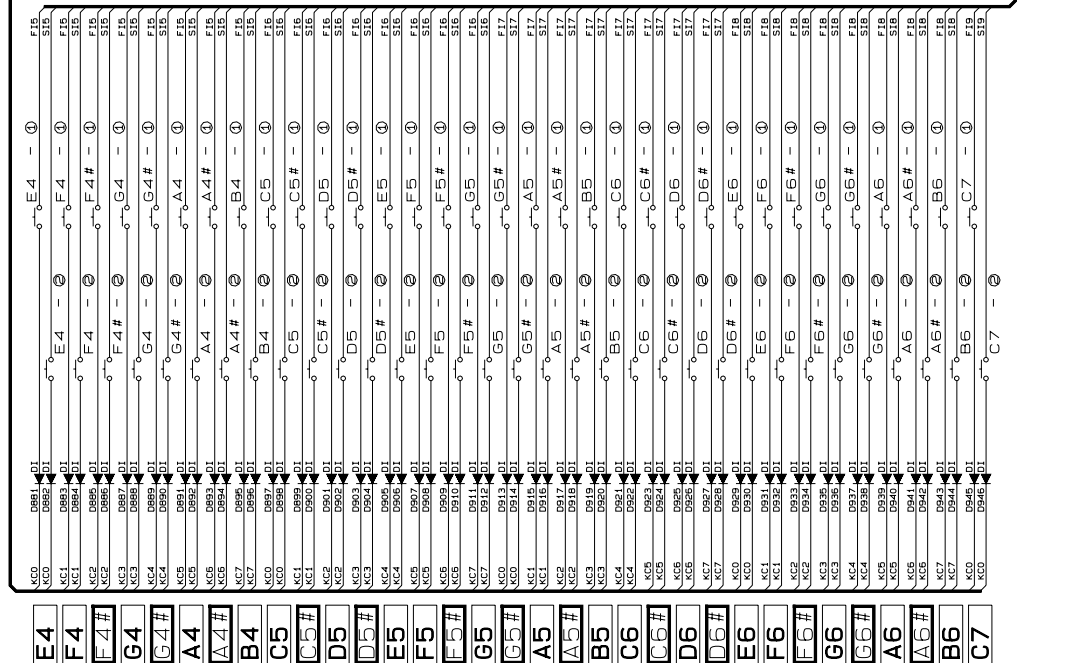
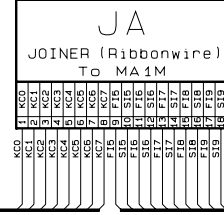
JCM731T-KY3M

NOTE
 1S2473T-77-T



JCM731T-KY2M

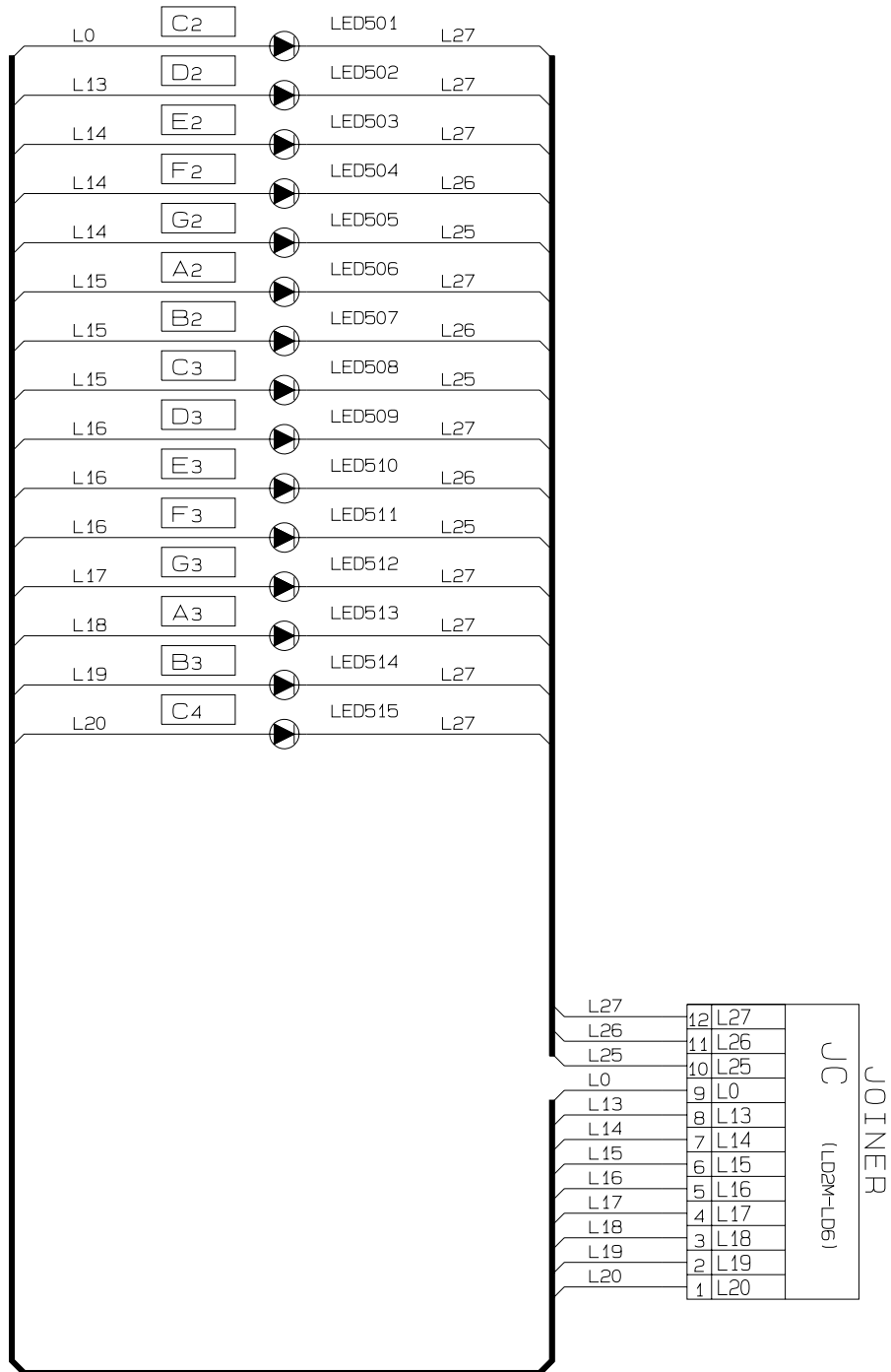
NOTE
 1S2473T-77-T



JCM731T-KY1M

LED PCB JCM472-LD1M

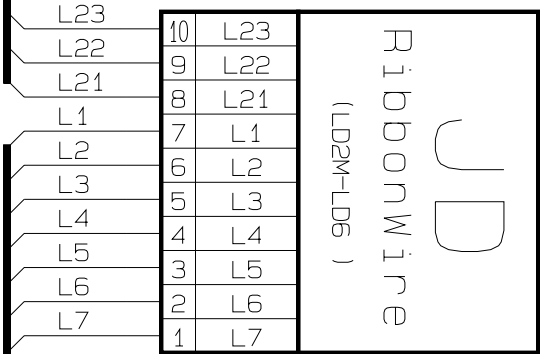
NOTE
H=14.5mm
KR3301X-J444X



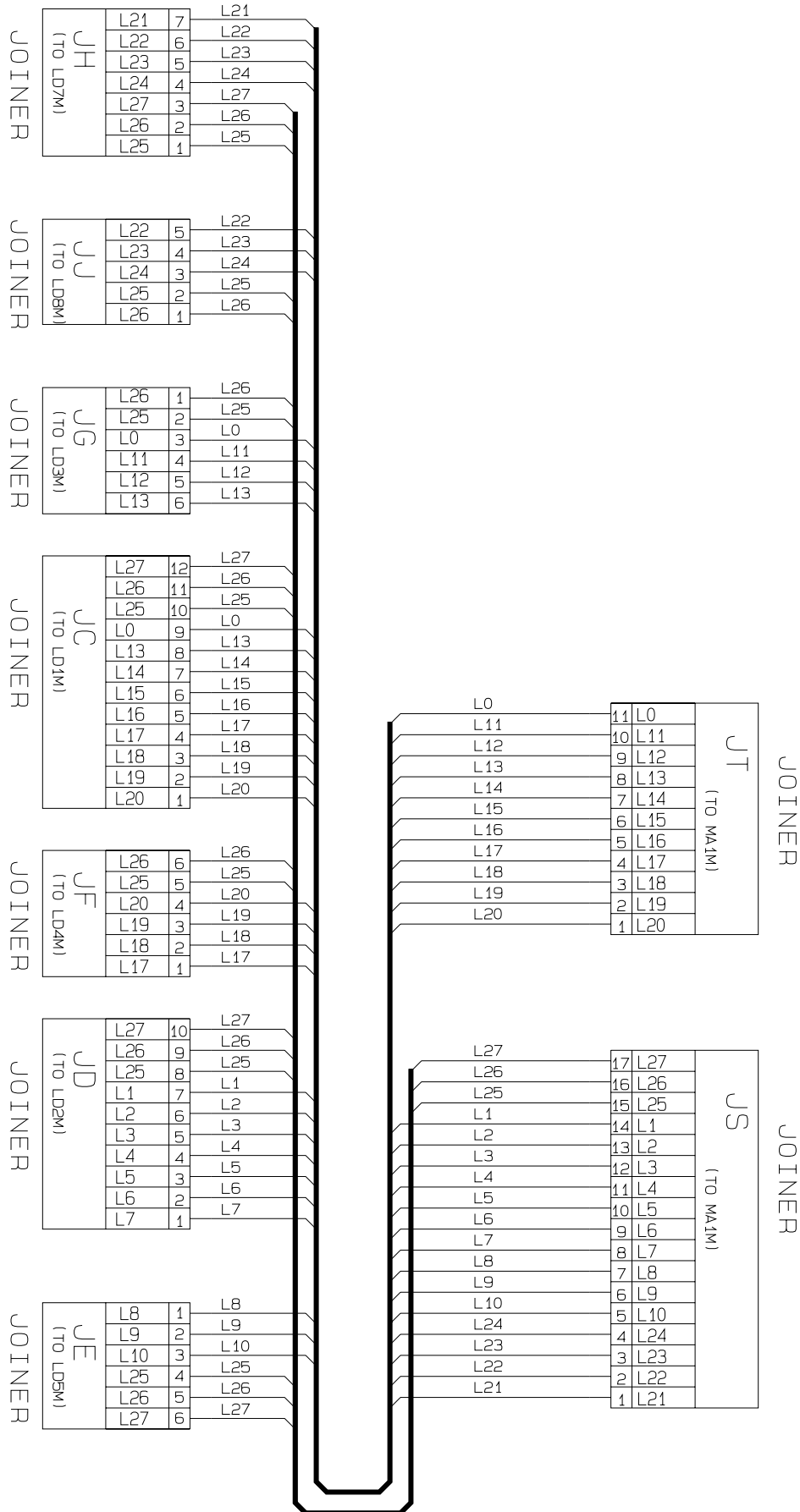
LED PCB JCM447-LD2M



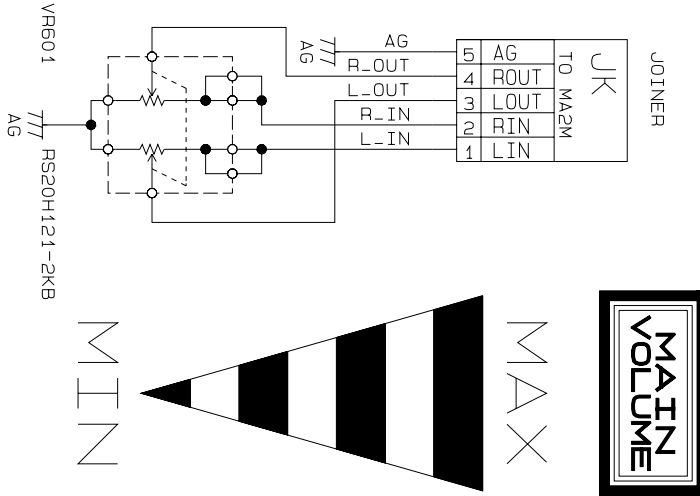
NOTE
H = 14.5mm
SLR-33JTJ2



LED PCB JCM472-LD6

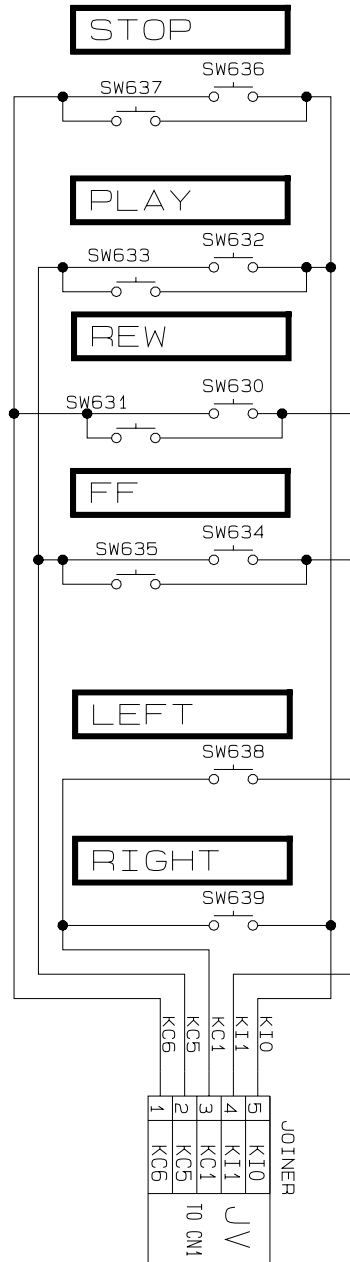


Console PCBs JCM472-CN3M/CN4M




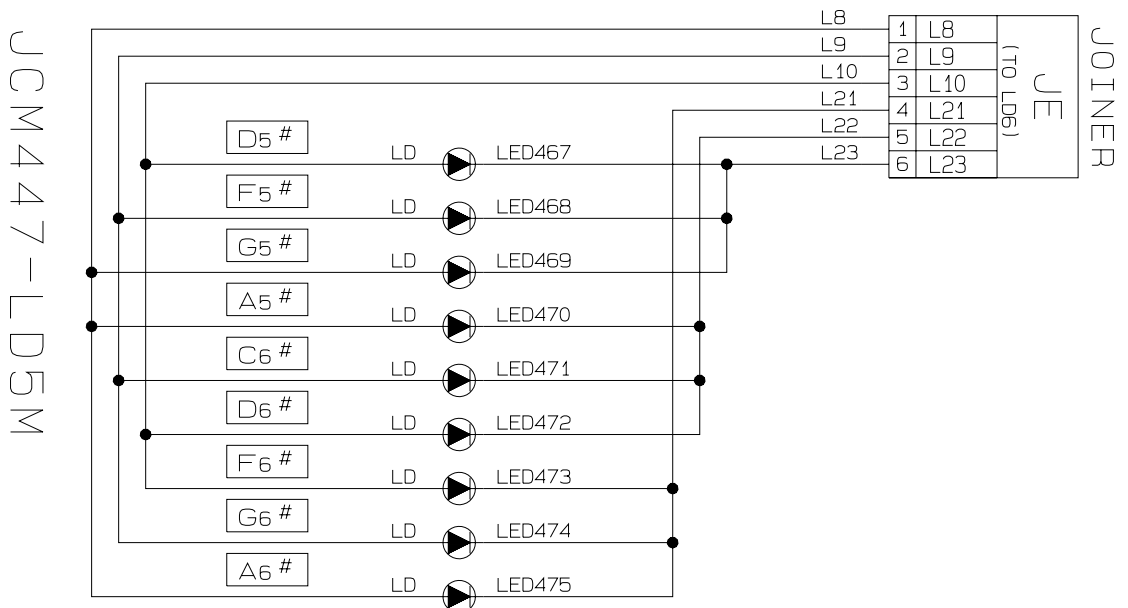
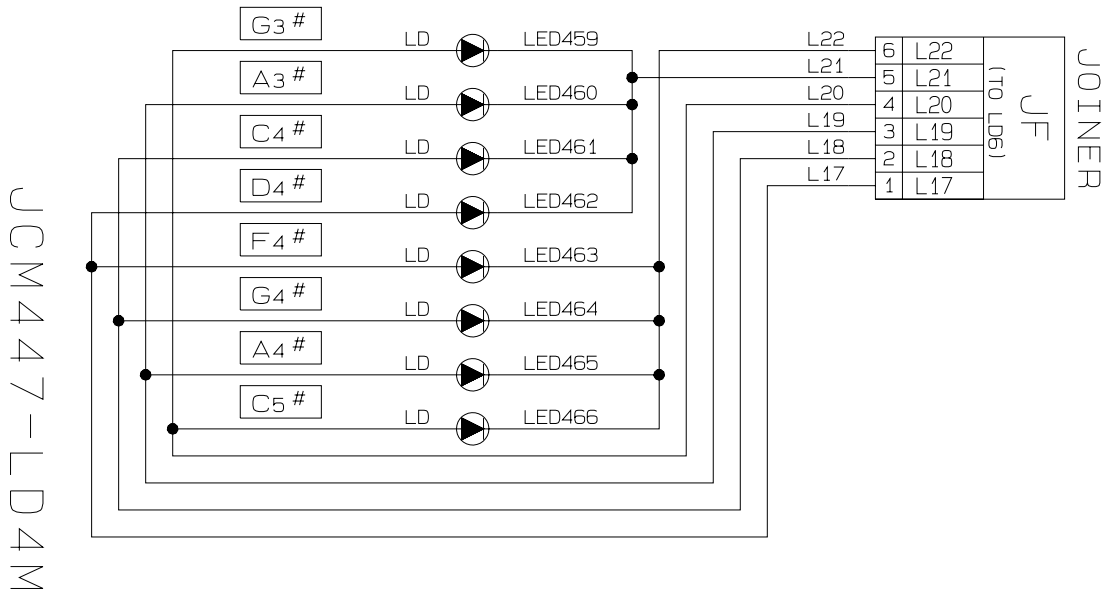
JCM472-CN4

JCM472-CN3



LED PCBs JCM447-LD4M/LD5M

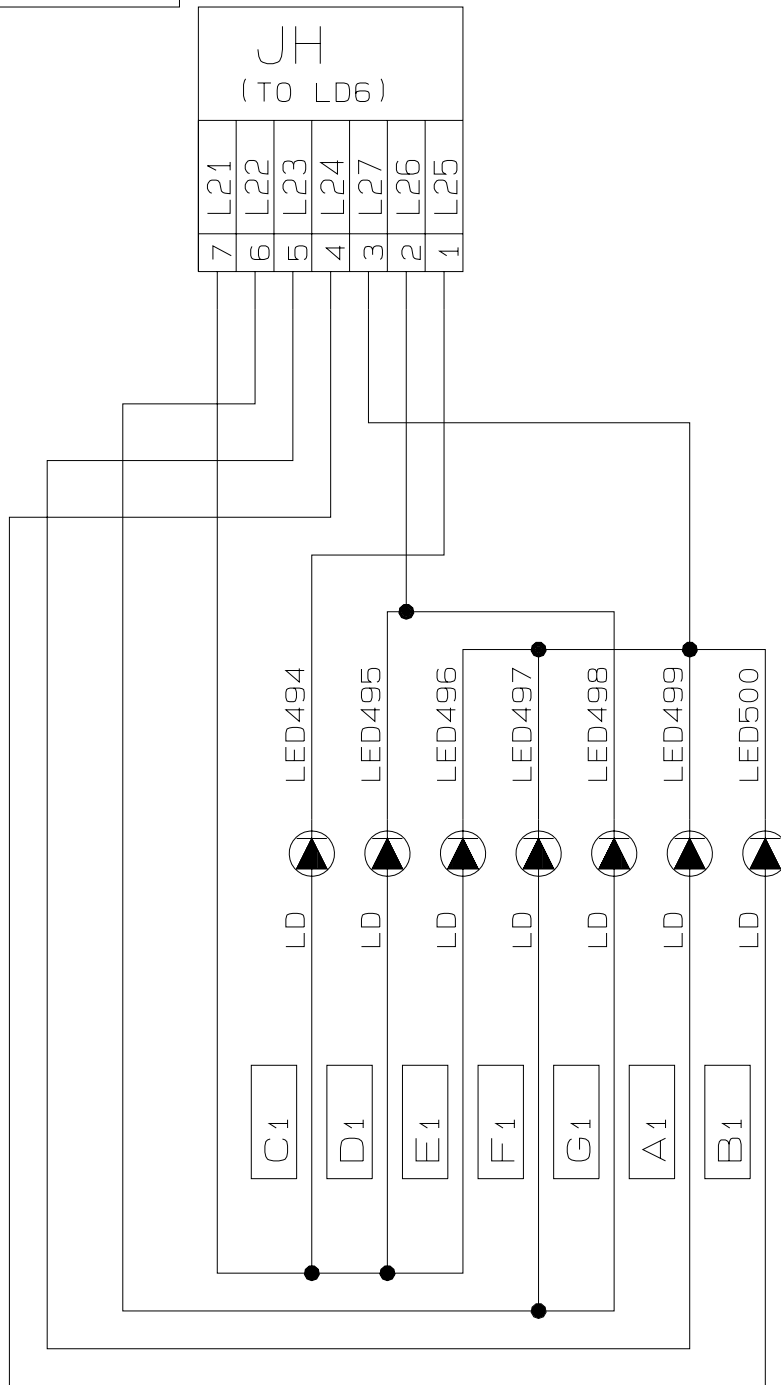
NOTE
 SLR-33JT D7




LED PCBs JCM472-LD7M

PCB名称
JCM472-LD7M

JOINER



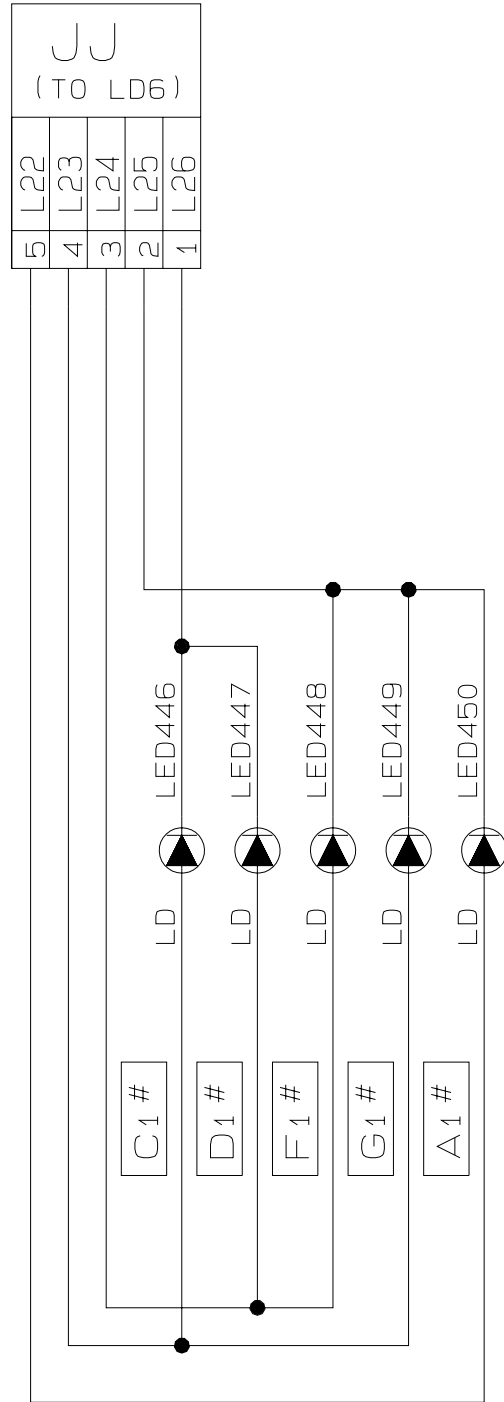
NOTE


LD  KR330 1X - J444X

LED PCBs JCM472-LD8M

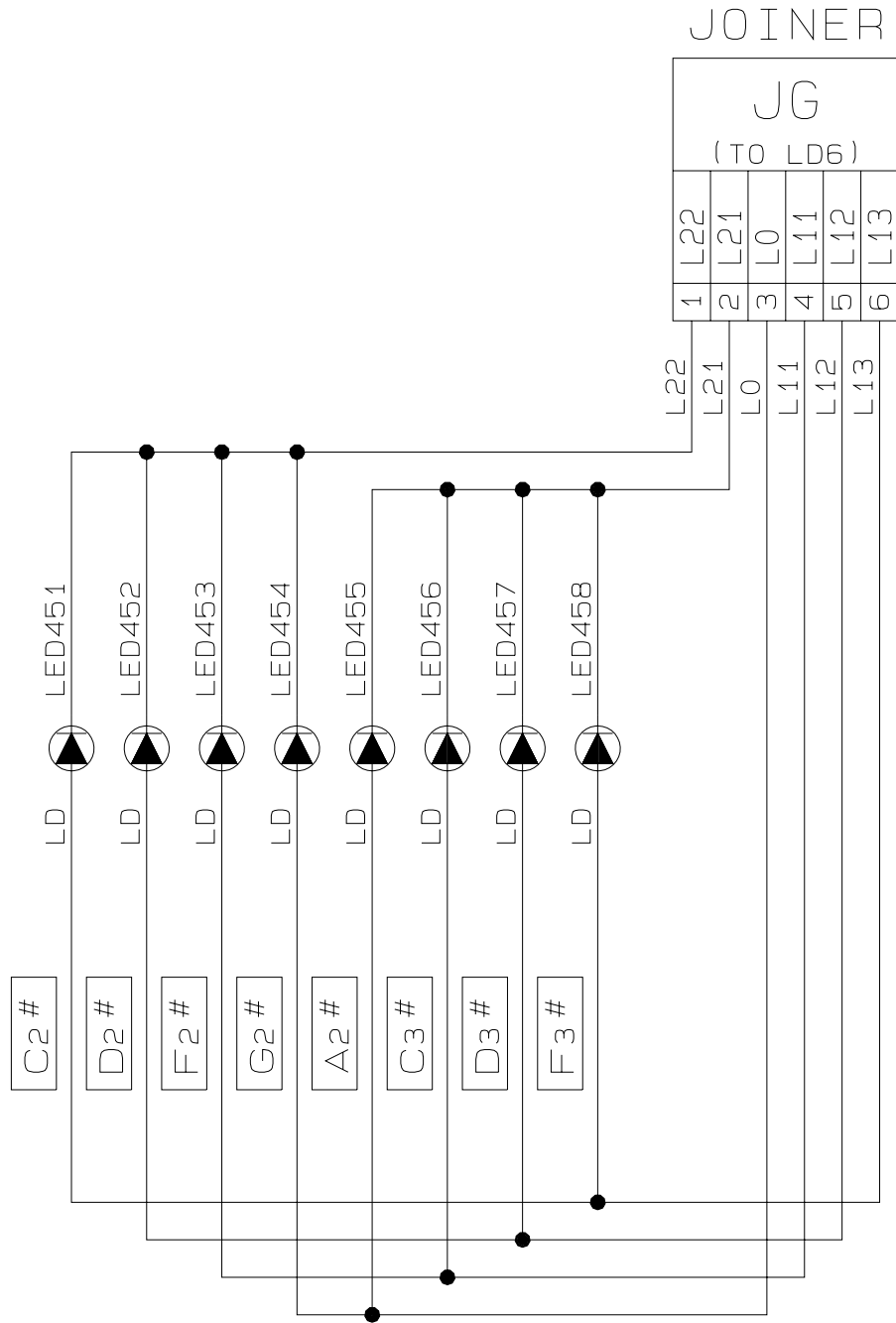
| |
|-------------|
| PCB名称 |
| JCM472-LD8M |

JOINER




| |
|--|
| NOTE |
|  : LN J298RKCAB |

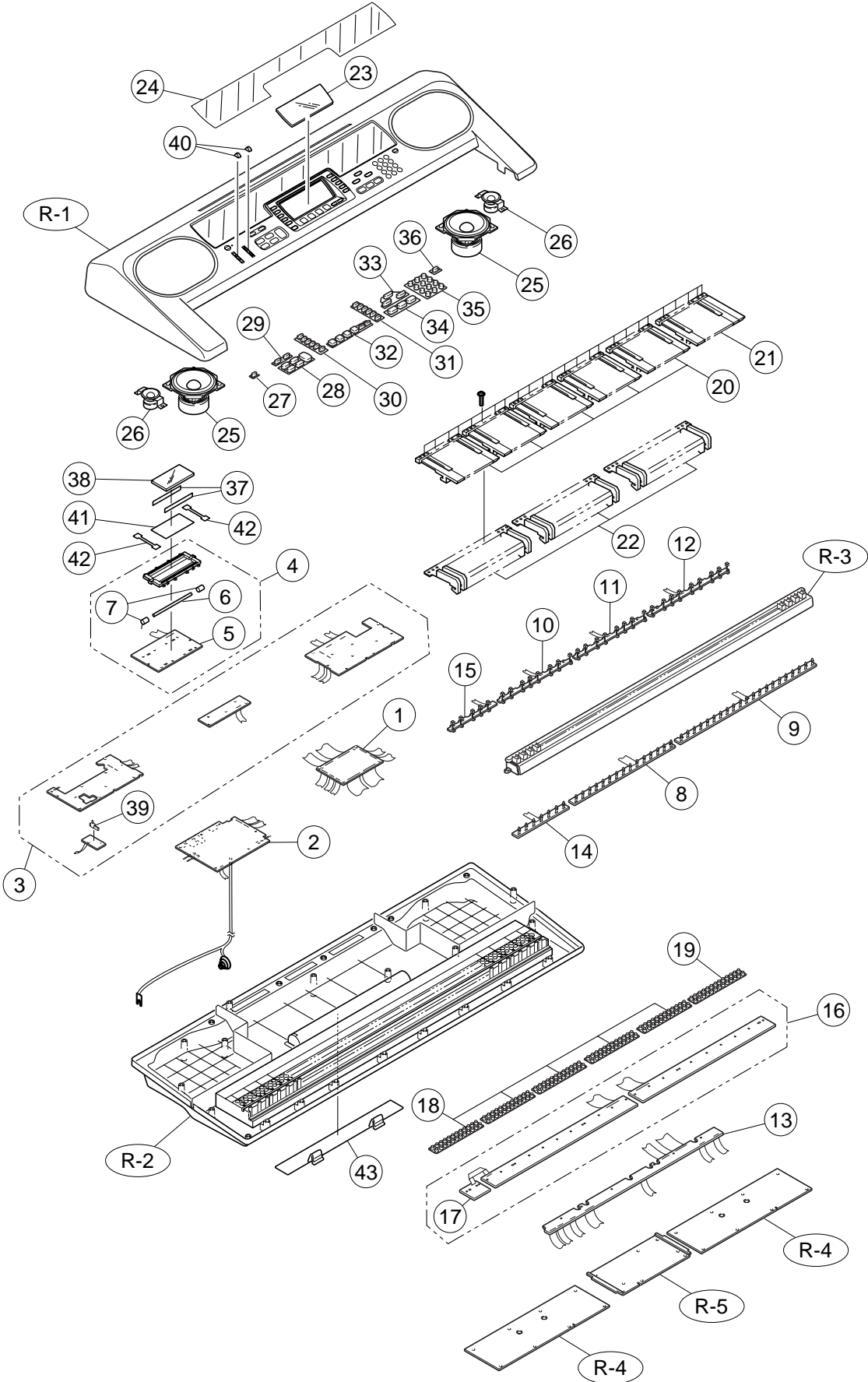
LED PCB JCM447-LD3M



NOTE

LD  SLR-33JT TD7

EXPLODED VIEW



PARTS LIST

LK-80

Notes: This parts list does not include the cosmetic parts, which parts are marked with item No. "R-X" in the exploded view.

Contact our spare parts department if you need these parts for refurbish.

1. Prices and specifications are subject to change without prior notice.
2. As for spare parts order and supply, refer to the "GUIDEBOOK for Spare parts Supply", published separately.
3. The numbers in item column correspond to the same numbers in drawing.

PARTS PRICE LIST
LK-80

| N | Item | Code No. | Part Name | Specification | Q | Price Code | R |
|--------------------|-----------|-----------|------------------------|--------------------|----|------------|---|
| Main PCB | | | | | | | |
| N | 1 | 1000 3294 | PCB ASS'Y / MA1M | M241183*2 | 1 | DL | A |
| | D10-D17 | 2390 1820 | DIODE / CHIP | 1SS355TE-17 | 8 | AA | B |
| | IC1 | 2012 1883 | IC / C-MOS | RN5VD40AA-TR | 1 | AE | A |
| | IC2 | 2105 6427 | IC / L-MOS | TC7WH04FUTE12L | 1 | AF | A |
| | IC3 | 2105 4935 | IC / C-MOS | TC74VHC08F(TP1) | 1 | AD | A |
| N | IC4 | 2105 6690 | IC / C-MOS | HD74HC138FPEL | 1 | AC | A |
| | LSI1 | 2012 4998 | LSI | GT913F | 1 | BP | A |
| | LSI2 | 2012 4494 | LSI | HG51B277FB | 1 | BF | A |
| N | LSI3 | 1000 2391 | LSI / MASK-ROM | MX23C2410MC10CA119 | 1 | BG | A |
| | LSI4,LSI5 | 2012 5572 | LSI / S-RAM | TC55257DFL-70L(EL) | 2 | AS | A |
| | LSI6 | 2105 4746 | LSI | UPD6379GR-E1 | 1 | AO | A |
| | LSI7 | 2011 0812 | LSI / GATE ARRAY | UPD65005GF-419 | 1 | AT | A |
| | Q13 | 2250 1169 | TRANSISTOR / CHIP | 2SA1576AT106S | 1 | AA | B |
| | Q14-Q16 | 2259 2737 | TRANSISTOR / CHIP | 2SD2537T100VW | 3 | AC | B |
| | Q1-Q12 | 2259 2562 | TRANSISTOR / DIGITAL | UMS1NTL | 12 | AB | B |
| | RC1-RC9 | 2845 6492 | RESISTOR / RC NETWORK | EZAST63AAAJ | 9 | AC | B |
| | X1 | 2590 2742 | OSCILLATOR / CRYSTAL | AT-49-30M | 1 | AG | A |
| | X2 | 2590 2699 | OSCILLATOR / CERAMIC | EFO-B2005E0 | 1 | AE | A |
| Sub PCB | | | | | | | |
| N | 2 | 6928 3950 | PCB ASS'Y / MA2M | M241184*1 | 1 | CX | B |
| | IC301 | 2114 1883 | IC / MONOLITHIC | LA4620 | 1 | AV | A |
| | D301,D302 | 2390 1463 | DIODE / SCHOTTKY | SB20-03B | 2 | AD | B |
| | D303-D306 | 2390 1344 | DIODE | 1SS133T-77 | 6 | AA | B |
| | D308,D311 | | | | | | |
| | D307,D312 | 2360 1085 | DIODE / ZENER | HZS6B1LTD-T | 2 | AA | B |
| | D310 | 2360 2233 | DIODE / ZENER | RD5.1JSB1-T1-T | 1 | AA | A |
| | D313 | 2360 1729 | DIODE / ZENER | MTZJ5.1AT-77-T | 1 | AA | A |
| | IC302 | 2114 1421 | IC / PHOTO COUPLER | PC900V | 1 | AK | A |
| | J301 | 3501 5012 | JACK / DC | HEC2305-01-920 | 1 | AC | B |
| | J302 | 3612 0665 | JACK / PHONE | YKB21-5006 | 1 | AG | A |
| | J303 | 3612 0789 | JACK | YKB21-5010 | 1 | AC | B |
| | J304 | 3501 4816 | JACK / DIN | YKF51-5051 | 1 | AH | C |
| Console PCB | | | | | | | |
| N | 3 | 6928 3960 | PCB ASS'Y / CN1,2,3,4M | M140981*1 | 1 | CB | B |
| | LED601 | 2370 0343 | LED | LN28RPX-(TT) | 1 | AA | B |
| | VR601 | 2765 2213 | VOLUME | RS20H121-2KB | 1 | AD | B |
| BL Ass'y | | | | | | | |
| N | 4 | 6928 3910 | BL-ASS'Y | M240950*4 | 1 | CQ | B |
| N | 5 | 6928 3970 | PCB ASS'Y / LCD1M | M241185*1 | 1 | CJ | B |
| | 6 | 3122 3524 | LAMP, FLUORESCENT | HMBV26BAG63N/AZ | 1 | AY | A |
| | 7 | 5861 3522 | CUSHION/LAMP | HRB-0256 | 2 | AB | B |
| | D501 | 2360 3056 | DIODE / ZENER | HZS6A2LTD-T | 1 | AA | B |
| | D502 | 2390 1344 | DIODE | 1SS133T-77 | 1 | AA | B |
| | LSI501 | 2012 6018 | LSI / LCD DRIVER | SED1278F2A | 1 | AV | A |
| | Q501,Q502 | 2253 0710 | TRANSISTOR | 2SD965-R(TA) | 2 | AB | B |
| | Q503 | 2250 1577 | TRANSISTOR | 2SA933ASTPR | 1 | AA | B |
| | Q504 | 2250 1592 | TRANSISTOR | 2SC1740STPR | 1 | AA | B |
| | T501 | 3012 1606 | TRANSFORMER | TE-CL5-1M1 | 1 | AL | B |
| N | TH501 | 2775 3299 | THERMISTOR | NTH5D103KA | 1 | AB | B |
| N | VR501 | 2775 0994 | RESISTOR / SEMI-FIXED | EVN-D8AA03B53 | 1 | AA | B |

| N | Item | Code No. | Part Name | Specification | Q | Price Code | R |
|-------------------------|-----------------|----------------------|------------------------------|----------------------|--------------|---------------|--------------|
| LED PCBs | | | | | | | |
| N | 8 | 6928 4020 | PCB ASS'Y / LD1M | M240777*3 | 1 | BS | B |
| N | 9 | 6928 4030 | PCB ASS'Y / LD2M | M240778*3 | 1 | BV | B |
| N | 10 | 6928 4040 | PCB ASS'Y / LD3M | M240428*4 | 1 | BJ | B |
| N | 11 | 6928 4050 | PCB ASS'Y / LD4M | M240429*4 | 1 | BJ | B |
| N | 12 | 6928 4060 | PCB ASS'Y / LD5M | M240430*4 | 1 | BK | B |
| N | 13 | 6928 4070 | PCB ASS'Y / LD6M | M241186*1 | 1 | BR | B |
| N | 14 | 6928 4080 | PCB ASS'Y / LD7M | M241187*1 | 1 | BK | B |
| N | 15 | 6928 4090 | PCB ASS'Y / LD8M | M241188*1 | 1 | BG | B |
| N | LED446 - LED475 | 2370 1406 | LED | LNJ298RKCAB | 30 | AA | B |
| N | LED494 - LED536 | 2370 1407 | LED | KR3301X-J444K | 43 | AB | B |
| Keyboard PCB | | | | | | | |
| N | 16 | 6928 4100 | PCB ASS'Y / KY1,2M | M140614*3 | 1 | CL | B |
| | D809-D946 | 2301 0101 | DIODE | 1S2473-T-77-T | 138 | AA | C |
| | 17 | 6925 8940 | PCB ASS'Y / KY3M | M340666*1 | 1 | BC | B |
| | D801-D808 | 2390 1344 | DIODE | 1SS133T-77-T | 8 | AA | C |
| Keyboard | | | | | | | |
| | 18 | 6926 2500 | RUBBER / CONTACT | M240699-2 | 5 | AL | A |
| | 19 | 6926 2510 | RUBBER / CONTACT | M240700-2 | 1 | AL | A |
| | 20 | 6927 3390 | WHITE KEY SET / LSK-CB | M340489*3 | 5 | AU | A |
| | 20-1 | 69252110 | W-KEY-LSK-GEGB | M140366-1 | 4 | BC | B |
| | 20-2 | 69252120 | W-KEY-LSK-DFA | M140367-1 | 4 | BF | B |
| | 21 | 6927 3400 | WHITE KEY SET / LSK-CS | M340489*4 | 1 | AV | A |
| | 22 | 6925 1720 | BLAK KEY SET / LSK 10P | M140369-1 | 3 | BN | A |
| Mechanical Parts | | | | | | | |
| N | 23 | 6928 4330 | PLATE A / DISPLAY | M341044-2 | 1 | AS | C |
| N | 23 | 6928 7210 | PLATE A / DISPLAY | M341044-2 | 1 | AS | C |
| N | 24 | 6928 7220 | PLATE B / DISPLAY | M241086-2 | 1 | BB | C |
| N | 25 | 3831 1105 | SPEAKER | S12J96A | 2 | BM | B |
| N | 26 | 3831 1106 | SPEAKER(TWEETER) | S05JH48A | 2 | AT | B |
| N | 27 | 6928 4360 | BUTTON 472A/ RUBBER | M241077-1 | 1 | AA | B |
| N | 28 | 6928 7190 | BUTTON 472B/ RUBBER | M241078-2 | 1 | AG | B |
| N | 29 | 6928 4380 | BUTTON 472C/ RUBBER | M241079-1 | 1 | AB | B |
| N | 30 | 6928 4390 | BUTTON 472D/ RUBBER | M241080-1 | 1 | AD | B |
| N | 31 | 6928 4400 | BUTTON 472E/ RUBBER | M241081-1 | 1 | AC | B |
| N | 32 | 6928 4410 | BUTTON 472F/ RUBBER | M241082-1 | 1 | AT | B |
| N | 33 | 6928 4420 | BUTTON 472G/ RUBBER | M241083-1 | 1 | AD | B |
| N | 34 | 6928 7200 | BUTTON 472H/ RUBBER | M241084-2 | 1 | AM | B |
| N | 35 | 6928 4440 | BUTTON 472J/ RUBBER | M241085-1 | 1 | AF | B |
| N | 36 | 6928 4450 | BUTTON 472K/ RUBBER | M241093-1 | 1 | AA | B |
| | 37 | 6927 3070 | INTERCONNECTOR | M440459-4 | 2 | AO | A |
| N | 38 | 1000 1783 | LCD | LD-B10529E | 1 | CA | A |
| | 39 | 6927 0510 | SWITCH / SL KNOB | CSB-08D | 1 | AD | A |
| | 40 | 6921 5030 | KNOB | M311859-1 | 2 | AA | B |
| | 41 | 6927 3080 | PC-FILM | M440764-1 | 1 | AE | C |
| | 42 | 6927 3090 | PACKING | M440765-1 | 2 | AC | C |
| | 43 | 6906 6856 | COVER / BATTERY | M311164*7 | 1 | AS | C |
| Accessory | | | | | | | |
| N | | 1000 5803 | STAND / MUSIC | M341213*1 | 1 | BD | C |

Ver. 1 : Correction of spare parts page 32.

Ver. 2 : Correction of "Item 23" of spare parts page 32

CASIO TECHNO CO.,LTD.
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