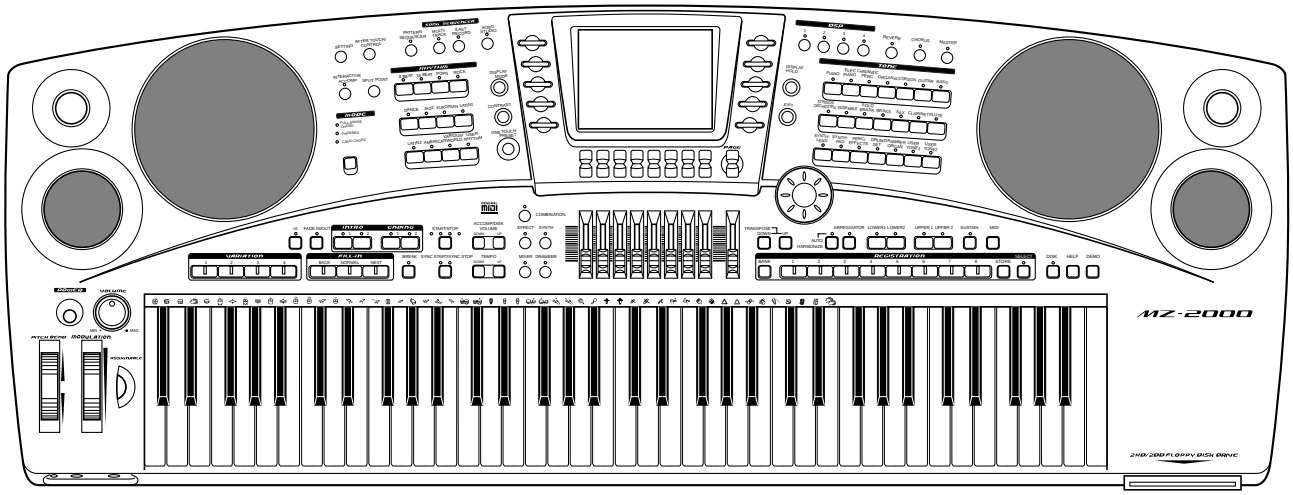
CASIO®

Service Manual

(without price)

MZ-2000

MAY. 2000



MZ-2000

ELECTRONIC KEYBOARD

CONTENTS

SPECIFICATIONS

GENERAL

Keyboard: 61 standard-size keys; 5 octaves; touch response (Can be assigned one of three touch curves.) /after touch (Can be assigned one of four touch curves.)

Interface

- Display Screen: 320 × 240-dot LCD panel with menu interface
- Controllers: Dial, control buttons, control sliders (Setting results appear on display screen.)

Tones: 562 total (507 preset tones + 15 drum sounds + 40 user tones); layer and split; variable split point
Rhythm Instrument Tones: 65

Polyphony: 64 notes maximum (32 maximum for some tones)

Digital Effects: 4-channel DSP (240 types) + Reverb (15 types) + Chorus (20 types) + Master (50 types)

Digital Drawbar Function

- Drawbars: 9 (16', 5 1/3', 8', 4', 2 2/3', 2', 1 3/5', 1 1/3', 1')
- Digital Drawbar Types: Sine, Vintage
- Percussion: Second, Third
- Click: On, Off

Auto Accompaniment

- Rhythm Patterns: 120 Presets + 10 User Rhythms (130 total)
- Tempo: Variable (226 levels: ♩=30 to 255)
- Chords: 3 types (CASIO CHORD, FINGERED, FULL RANGE CHORD)
- Rhythm Controller: Start/Stop; Intro 1, 2; Fill in BACK, NORMAL, NEXT; Break; Variations 1 to 4; Sync Start/Stop; Ritardando; Fade In/Out; Ending 1, 2
- Accompaniment volume: 0 to 127 (128 levels)
- One Touch Presets: Optimal tone, tempo, layer/auto harmonize settings to match rhythm; 4 presets for each built-in rhythm, 1 assignable for user rhythm
- Auto Harmonize: 12 types; adds harmony notes to melody in accordance with auto accompaniment chord fingerings.
- Arpeggiator: 15 types; automatic arpeggio using notes of a chord played on the keyboard

Interactive Accomp: Automatic adjustment of auto accompaniment to match keyboard play

Song Sequencer

- Number of Songs: 10
- Number of Record Tracks: 17 (system track + external tracks 1 through 16)
- Record Methods: Realtime, Step
- Memory Capacity: Approximately 40,000 notes (10 songs)

Punch-in Functions:	Manual punch-in; auto punch-in
Editing Functions:	Song editing; track editing; event editing
Pattern Sequencer	
User Pattern Areas:	10
Memory Capacity:	Approximately 22,000 notes
Elements:	Intro 1, 2; Fill In BACK, NORMAL, NEXT; Variations 1 through 4; Endings 1, 2
Number of Parts:	8 (drum, percussion, bass, chord 1 to 5)
Recording Methods:	Real-time, step
Editing Functions:	Element editing; part editing; event editing
Song Studio	
Number of Songs:	10
Composing Functions:	Chord extraction, pattern extraction, melody extraction from SMF or Song Sequencer data
Editing Functions:	Chord editing; melody track editing
Memory Capacity:	Memory shared with Song Sequencer
Registration Memory	
Number of Memory Areas:	64 (8 sets × 8 banks)
Savable Setup Data:	Rhythm; tone; tempo; auto harmonize, arpeggiator, sustain button on/off status; accomp volume; transpose setting; effect settings, etc. (See the “Registration Memory/One Touch Preset Table” for more information.)
Demos:	Melody Demos (3 tunes); Tone Demos (10 tunes); Rhythm Demos (10 tunes); Function Demo (1 tune)
Synthesizer:	Two modes (basic settings, advanced settings)
Parameters:	Basic tones (DCO) × 4; envelope (accomp envelope, filter envelope, pitch envelope): LFO × 2 channels; effect settings; controller settings
Mixer:	Two modes (basic settings, advanced settings)
Number of Channels:	31 (15 internal + 16 external)
Parameters:	Tone; part on/off; input (microphone, line only); pan; volume; reverb depth; chorus depth; DSP; noise gate threshold; EQ high frequency/high gain; EQ low frequency/low gain; coarse tune; fine tune
MIDI:	16-channel multi-timbre receive; GM Level 1 compliant
Controllers:	Pitch bend wheel; modulation wheel; assignable button; sustain button
Other Functions	
Transpose:	49 levels (–24 semitones to 0 to + 24 semitones)
Tuning:	A4=415.3Hz to 466.2Hz (Center: 440Hz)
Terminals	
MIDI:	IN, OUT, THRU
TO HOST:	Mini DIN jack (selectable)
Foot Pedal:	Standard jack
Expression Pedal:	Stereo standard jack
Line Out (L/R):	Standard jack × 2 Output impedance: 5.7kΩ Output voltage: 3.0V (RMX) MAX
Line In (L/R):	Standard jack (with bypass switch) × 2 Input impedance: 75kΩ Input sensitivity: 200mV
Headphones:	Stereo standard jack
Microphone In:	Standard jack (with microphone volume knob) Input impedance: 40kΩ Input sensitivity: 10mV
Power:	16V DC

Floppy Disk Drive

Type:	3.5-inch floppy disk drive
Disk Format:	2DD: 720KB MS-DOS format 2HD: 1.44MB MS-DOS format
Functions:	Save and load of user tones, user rhythms, Song Sequencer data, Song Studio data, Registration Memory data; playback and melody part cut of Standard MIDI files (SMF); disk formatting; file delete; file rename; pattern conversion
Power Requirements:	AD-16ML AC Adaptor
Speaker Output:	15W + 15W
Power Consumption:	16V ⎓ 32W
Dimensions:	115.0 × 42.5 × 20.2 cm (45 $^{5}/_{16}$ × 16 $^{3}/_{4}$ × 7 $^{15}/_{16}$ inch)
Weight:	Approximately 12.4kg (27.4 lbs)

ELECTRICAL

Current drain with 16 V DC:

No sound output	810 mA ± 20 %
Maximum volume	2000 mA ± 20 %

Condition : 1KHz-Sin wave by which the speaker output level becomes 2,737V is input from Line-in.

Speaker output level (Vrms with 4 Ω load each channel):

with key G1(L), F3(R)	Lch : 7700 mV ± 20 %
Volume: maximun, Tone: Sine	Rch : 6400 mV ± 20 %
Velocity MAX mode, DSP1,2,3,4/ Reverb/ Chorus/ Master: turned on	

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

with key G1(L), F3(R)	Lch : 130 mV ± 20 %
Volume: maximun, Tone: Sine	Rch : 115 mV ± 20 %
Velocity MAX mode, DSP1,2,3,4/ Reverb/ Chorus/ Master: turned on	

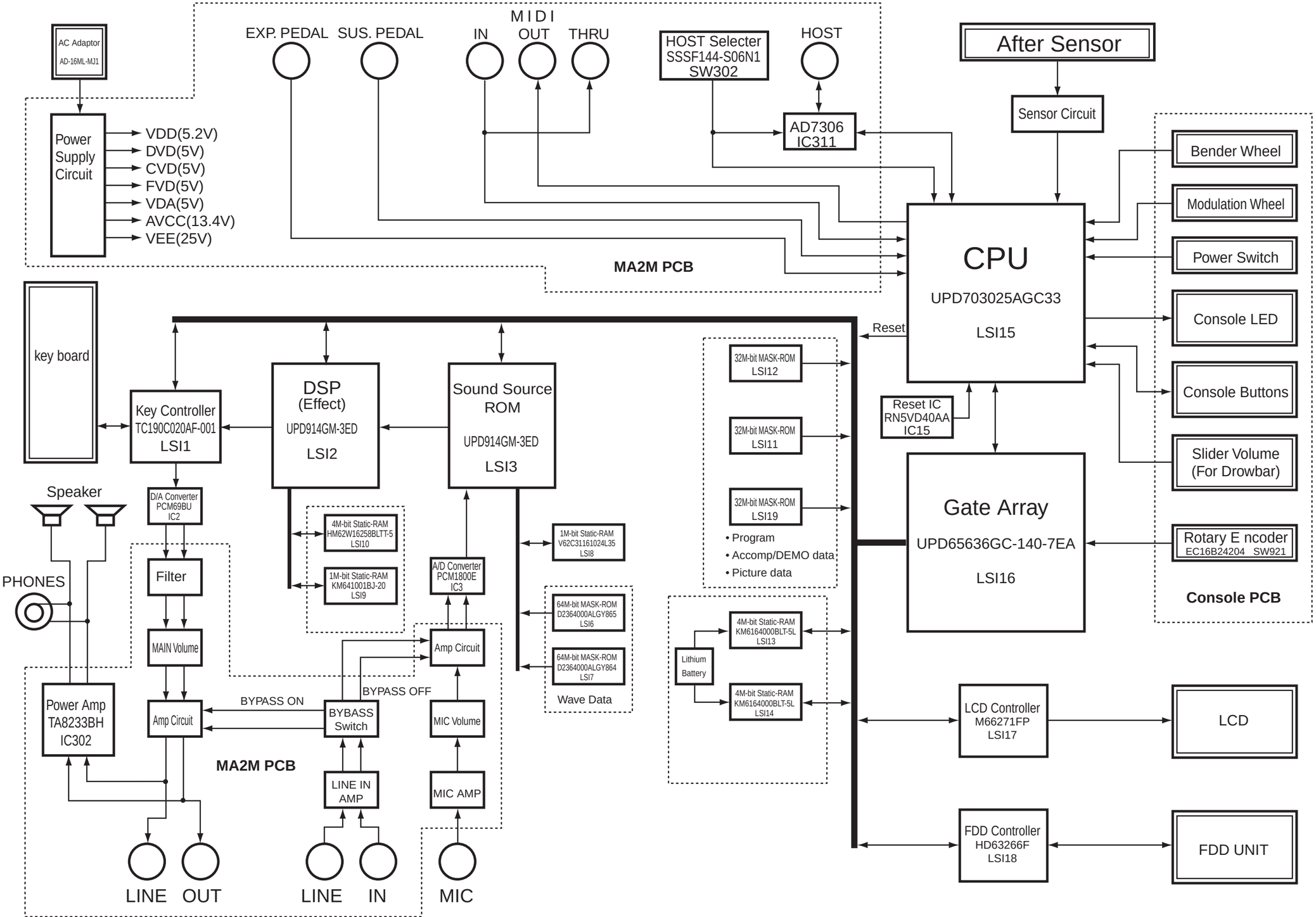
Lineout level (Vrms with 47 Ω load each channel):

with key G1(L), F3(R)	Lch : 500 mV ± 20 %
Volume: maximun, Tone: Sine	Rch : 420 mV ± 20 %
Velocity MAX mode, DSP1,2,3,4/ Reverb/ Chorus/ Master: turned on	

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 send to it from a personal computer.

BLOCK DIAGRAM



CIRCUIT DESCRIPTION

KEY MATRIX

	KC0	K1C	K2C	K3C	K4C	K5C	K6C	K7C
FI0	C2(1)	C#2(1)	D2(1)	D#2(1)	E2(1)	F2(1)	F#2(1)	G2(1)
SI0	C2(2)	C#2(2)	D2(2)	D#2(2)	E2(2)	F2(2)	F#2(2)	G2(2)
FI1	G#2(1)	A2(1)	A#2(1)	B2(1)	C3(1)	C#3(1)	D3(1)	D#3(1)
SI1	G#2(2)	A2(2)	A#2(2)	B2(2)	C3(2)	C#3(2)	D3(2)	D#3(2)
FI2	E3(1)	F3(1)	F#3(1)	G3(1)	G#3(1)	A3(1)	A#3(1)	B3(1)
SI2	E3(2)	F3(2)	F#3(2)	G3(2)	G#3(2)	A3(2)	A#3(2)	B3(2)
FI3	C4(1)	C#4(1)	D4(1)	D#4(1)	E4(1)	F4(1)	F#4(1)	G4(1)
SI3	C4(2)	C#4(2)	D4(2)	D#4(2)	E4(2)	F4(2)	F#4(2)	G4(2)
FI4	G#4(1)	A4(1)	A#4(1)	B4(1)	C5(1)	C#5(1)	D5(1)	D#5(1)
SI4	G#4(2)	A4(2)	A#4(2)	B4(2)	C5(2)	C#5(2)	D5(2)	D#5(2)
FI5	E5(1)	F5(1)	F#5(1)	G5(1)	G#5(1)	A5(1)	A#5(1)	B5(1)
SI5	E5(2)	F5(2)	F#5(2)	G5(2)	G#5(2)	A5(2)	A#5(2)	B5(2)
FI6	C6(1)	C#6(1)	D6(1)	D#6(1)	E6(1)	F6(1)	F#6(1)	G6(1)
SI6	C6(2)	C#6(2)	D6(2)	D#6(2)	E6(2)	F6(2)	F#6(2)	G6(2)
FI7	G#6(1)	A6(1)	A#6(1)	B6(1)	C7(1)			
SI7	G#6(2)	A6(2)	A#6(2)	B6(2)	C7(2)			

BUTTON MATRIX

	0	1	2	3	4	5	6	7
KS00		MODE	INTERACTIVE...	SPLIT POINT	VARIATION 1	VARIATION 2	VARIATION 3	VARIATION 4
KS01	rit.	FADE-IN/OUT	INTRO 1	INTRO 2	ENDING 1	ENDING 2	ACC/DISK ▼	TEMPO ▼
KS02	FILL-IN BACK	PATTERN SEQ.	FILL-IN NEXT	BREAK	SYNC. St/St	Start/Stop	ACC/DISK ▼	TEMPO ▼
KS03		16BEAT	MULTI-TRACK	EASY REC.	SONG STUDIO	SETTING	AFTER/CONT.	
KS04	8BEAT	LATIN 1	POPS	ROCK	DANCE	JAZZ		
KS05	EUROPEAN		LATIN 2	AMERICAN	VARI./WORLD	USER		
KS06								
KS07								

	0	1	2	3	4	5	6	7
KS10	REVERB	CHORUS	MASTER	DSP 1	DSP 2	DSP 3	DSP 4	
KS11			MIDI	HELP	DEMO	DISK		
KS12	ARPEGGITOP	LOWER 1	UPPER 1		AUTO HARMO.	LOWER 2	UPPER 2	SUSTAIN
KS13	PIANO	ELEC PIANO	CHROMATIC P.	ORGAN	ACCORDION	GUITAR	BASS	
KS14	STRINGS/ORCH	ENSEMBLE	SOLO BRASS	BRASS	SAX	CLARINET	FLUTE	
KS15	SYNTH-LEAD	SYNTH-PAD	PERC/EFFECTS	DRUM SET	DRAWBAR	USER TONE 1	USER TONE 2	
KS16	REG.MEMO 1	REG.MEMO 2	REG. MEMO 3	REG. MEMO 4	REG. MEMO 5	REG. MEMO 6	REG. MEMO 7	REG. MEMO 8
KS17	BANK	STORE	SELECT					

	0	1	2	3	4	5	6	7
KS20	ONE T. PRESET	COMBINATION	DRAWBAR	EFFECT	SYNTH	MIXER		
KS21	LCD LEFT 1	LCD LEFT 2	LCD LEFT 3	LCD LEFT 4	LCD LEFT 5	CONTRAST	DISPLAY MODE	
KS22	LCD RIGHT 1	LCD RIGHT 2	LCD RIGHT 3	LCD RIGHT 4	LCD RIGHT 5	DISPLAY HOLD	EXIT	
KS23	DRAWBAR 1▼	DRAWBAR 2▼	DRAWBAR 3▼	DRAWBAR 4▼	DRAWBAR 5▼	DRAWBAR 6▼	DRAWBAR 7▼	DRAWBAR 8▼
KS24	DRAWBAR 1▲	DRAWBAR 2▲	DRAWBAR 3▲	DRAWBAR 4▲	DRAWBAR 5▲	DRAWBAR 6▲	DRAWBAR 7▲	DRAWBAR 8▲
KS25	DRAWBAR 9▼	TRANSPOSE▼						
KS26	DRAWBAR 9▲	TRANSPOSE▲						
KS27	DRAWBAR (Volume)1		LCD switches are designated 1 through 5 from the top,and DRAWBAR switches are desginated 1 through 9 from the left.					

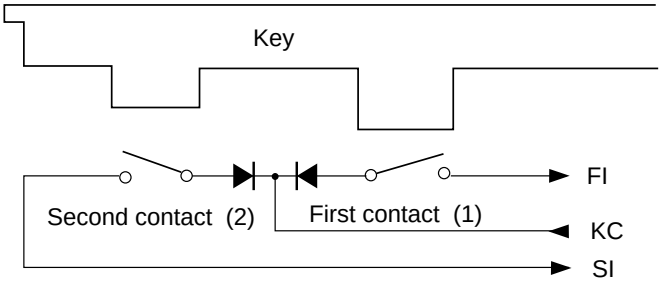
KS30	DRAWBAR (Volume)2
KS31	DRAWBAR (Volume)3
KS32	DRAWBAR (Volume)4
KS33	DRAWBAR (Volume)5
KS34	DRAWBAR (Volume)6
KS35	DRAWBAR (Volume)7
KS36	DRAWBAR (Volume)8
KS37	DRAWBAR (Volume)9

LED MATRIX

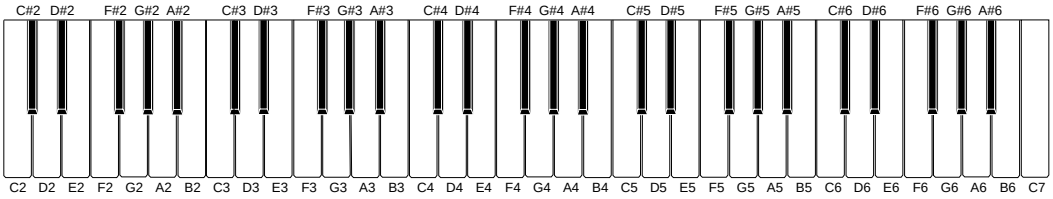
	0	1	2	3	4	5	6	7	
LEDT0-0	CASIO CHORD	FINGERD	FULL RANGE C.	INTERACTIVE...	VARIATION 1	VARIATION 2	VARIATION 3	VARIATION 4	(L0*)
LEDT0-1	rit.	FADE IN/OUT	INTRO 1	INTRO 2	ENDING 1	ENDING 2	FILL-IN BACK	FILL-IN NORM.	(L1*)
LEDT0-2	FILL-IN NEXT	BREAK	SYNC. St/St 1	SYNC. St/St 2	Start/Stop 1	Start/Stop 2	Start/Stop 3	Start/Stop 4	(L2*)
LEDT0-3		PATTERN SEQ.	MULTI-TRACK	EASY REC.	SONG STUDIO	8BEAT	16 BEAT	POPS	(L3*)
LEDT1-0	ROCK	DANCE	JAZZ	EUROPEAN	LATIN 1	LATIN 2	AMERICAN	VARI./WORLD	(L4*)
LEDT1-1	USER		COMBINATION	DRAWBAR	EFFECT	SYNTH	MIXER	DISPLAY HOLD	(L5*)
LEDT1-2	REVERB	CHORUS	MASTER	DSP 1	DSP 2	DSP 3	DSP 4	DSIK	(L6*)
LEDT1-3	ARPEGGITOR	AUTO HARMO.	LOWER 1	LOWER 2	UPPER 1	UPPER 2	SUSTAIN	SELECT	(L7*)
LEDT2-0	PIANO	ELEC PIANO	CHROMATIC P.	ORGAN	ACCORDION	GUITAR	BASS		(L8*)
LEDT2-1	STRINGS/ORCH	ENSEMBLE	SOLO BRASS	BRASS	SAX	CLARINET	FLUTE		(L9*)
LEDT2-2	SYNTH-LEAD	SYNTH-PAD	PERC/EFFECTS	DRUM SET	DRAEBAR	USER TONE 1	USER TONE 2		(LA*)
LEDT2-3	REG.MEMO 1	REG.MEMO 2	REG.MEMO 3	REG.MEMO 4	REG.MEMO 5	REG.MEMO 6	REG.MEMO 7	REG.MEMO 8	(LB*)

* LED is written in the matrix system, and there are three lines of serial data and 24bits in each line from CASIO CHORD (0,0) to REG MEMO 8 (B, 7).

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



NOMENCLATURE OF KEYS



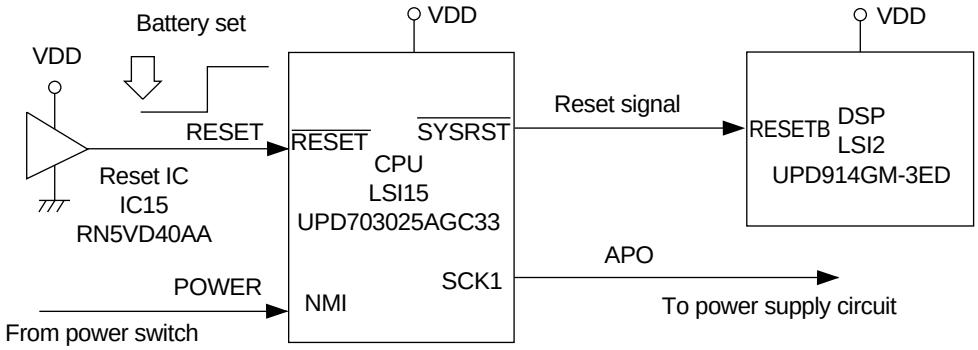
POWER SUPPLY CIRCUIT

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	(Manily) For operation of
VDD	+5.2V	CPU, Reset IC, DSP, Sound source ROM, Working storage RAM, Effect RAM, LED driver
DVD	+5V	CPU, Sustain jack, MIDI jack
CVD	+5V	DAC, Filter
FVD	+5V	FDD Unit
AVCC	13.4V	Power amplifier
VEE	+25V	LCD driver
VDA	+5V	Console PCB

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.



AFTER SENSOR ADJUSTMENT

1. AFTER TOUCH SENSOR ADJUSTMENT

After touch sensor (code number: 1001 2063) is composed of felt, upper and lower electrode sheets, and both sided adhesive tape. Silicon spacer maintains a certain gap between the upper and the lower electrodes.
Silver and carbon are printed on upper and lower electrodes. Moreover, a pressure sensor layer (white) is printed on the lower electrode.
After touch sensors are stuck on the case keyboard and rear position of key guide.

2. Operation principles

1) After pressing key in full stroke, further depression of the key presses the sensor felt.

↓

2) The force of the pressure deforms the upper electrode via the felt.

↓

3) The upper electrode and the lower electrode (with pressure sensor) touch and contact resistance becomes smaller (isolated before contact).

↓

4) The resistance vary in accordance with contact area and pressure force.

↓

5) The resistance (voltage) variation is converted in digital value by the A/D converter and provided to the CPU which apply an after touch effect to the sound.

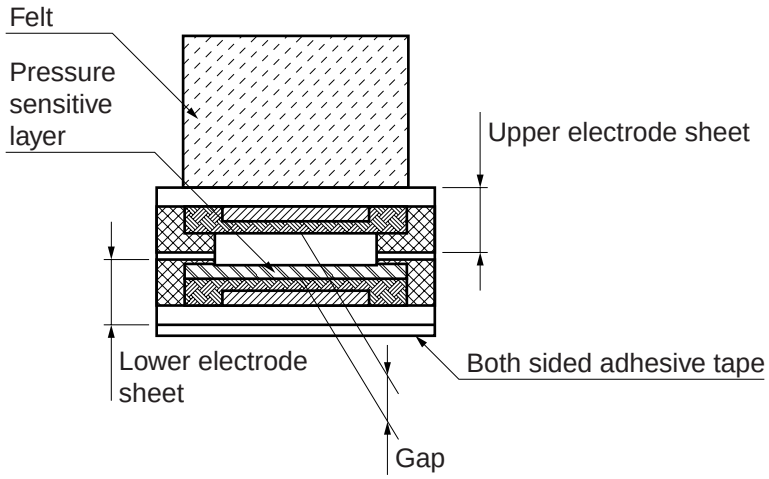


Fig.1 Structure of the after touch sensor

3. Replacement of after touch sensor

1) Remove PANEL (R-1) and keys.
2) Remove the tip of after touch sensor from connector on PCB SN1M.
3) Peel after touch sensor off from the CASE (R-2).
4) Clean residue of the adhesive tape from the case using isopropyl alcohol.
5) Stick new after touch sensor with care not to be twisted or crooked.
6) Insert the tip of after touch sensor in connector on PCB SN1M and screw it.
7) Fix the keys.

4. After touch sensor adjustment

Make sure to perform the following adjustments after replacing after touch sensor.

4-1. Necessary equipment

- Voltage regulator
- Oscilloscope
- Push-pull gauge
  (measurable up to 2,000 grams)
- Screw driver

FIG.2 PUSH · PULL GAUGE

4-2. Adjustment overview

Fig. 3 explains the relation between the pressure and the output voltage.

- After touch sensor's output voltage ranges 1.0 V to 4.0 V.
  End-of-pressure voltage: V2 = 4.0 V
  Starting pressure voltage: V1 = 1.0 V
  Center value (offset value): V3 = 2.5 V [(V2 + V1)/2]
- Adjust the voltage for 4.0 V when 1,500 grams pressure is applied on the dullest sensitive (resistance is high, voltage is low) white key.

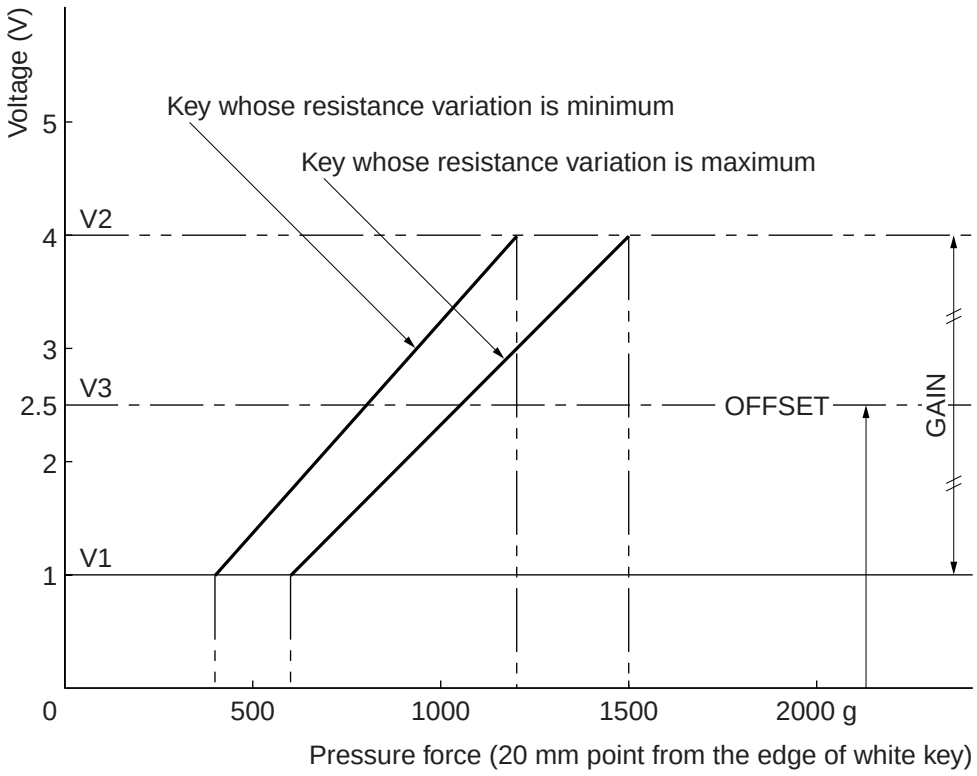


FIG.3 The relation between the pressure and the output voltage

4-3. Adjustment method

4-3-1. Preparations

1) Turn adjustment VR's VR951 (OFFSET) and VR952 (GAIN) on PCB SN1M counterclockwise (Fig. 4).
2) Connect voltage regulator to pin numbers 1 (GND) and 3 (AVCC source) on PCB SN1M's CH joiner and provide 13.6 V (+/-5%) voltage.
3) Connect oscilloscope on pin numbers 1 (GND) and 2 (output voltage).
4) Turn VR951 clockwise and adjust output voltage for about 800 mV (Fig. 5).
5) Turn VR952 clockwise and adjust output voltage for about 500 mV (VA).

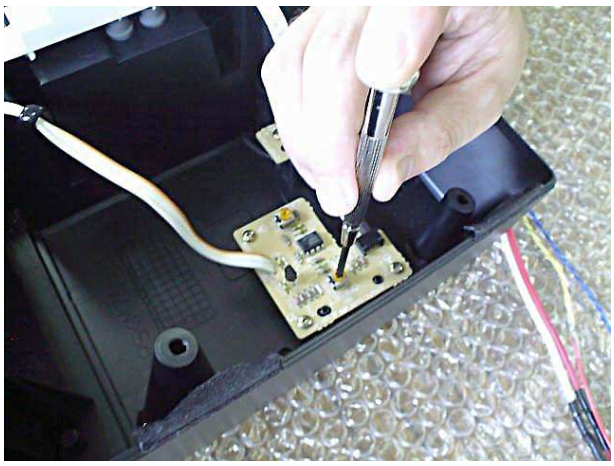


FIG.4

FIg.5

4-3-2. White key measurement

1) Before the measurement, press all of the 36 white keys with about 1,000 grams pressure.
2) Observing the oscilloscope, apply 1,500 grams pressure at adjustment point (2 cm from the edge) on the 32 white keys E1 – A5 (do not use two each of either ends as the adjustment key) and find the key whose voltage change is minimum (the key becomes adjustment key). It is preferable to use a push-pull gauge (Fig. 6).
3) After determining adjustment key, apply 1,500 grams pressure on the adjustment key and record the output voltage (VC).

FIG.6

4-3-3. Center value (Offset value) adjustment

Adjustment for the center (offset) value of the variable range of after touch sensor (refer to Fig. 7).

Calculations:

Present offset value (VB) is; (VA + VC) / 2
Correct offset value (V3) is; (V1 + V2) / 2 = 2.5 V
Adjust the difference using VR951 (VA')

VA' = 2.5 – (VA + VC) / 2 + VA

4-3-4. Gain adjustment

Adjustment for the starting and end points' voltage of the after touch sensor effect.

Calculation;

Adjust present effect-starting voltage VA' to V1 using VR952.

VA' -> V1 = 0.90 – 0.95 V
(Although 1.0 V is preferable, set lower considering the dispersion).

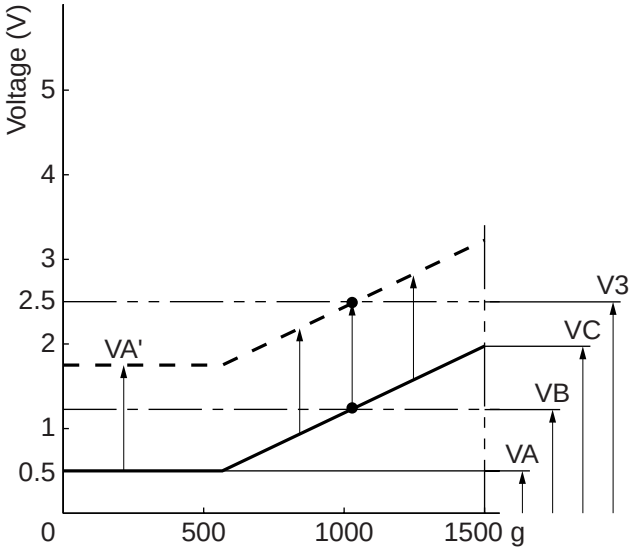


FIG.7 OFFSET adjustment

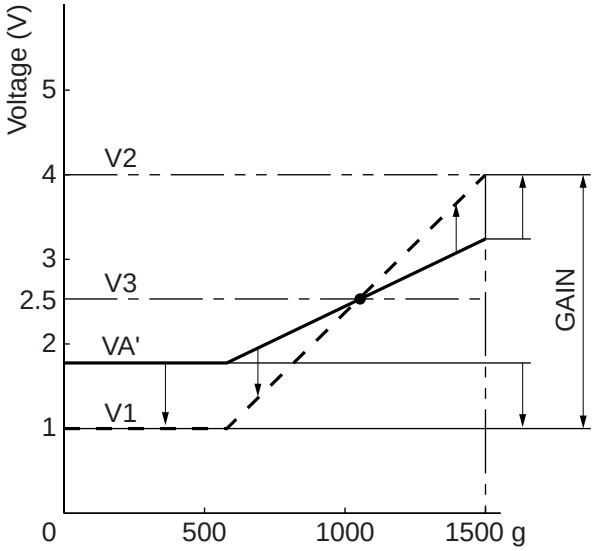


FIg.8 GAIN adjustment

4-3-5. Confirmation

1) Observing the oscilloscope, apply a pressure on the adjustment key and when output voltage is 4.0 V, pressure force should be 1,500 +/- 100 grams.
2) Make sure that voltage on the oscilloscope screen is between 0.90 and 0.95 when there is no pressure force on the adjustment key.

Perform the adjustment again if the result of the above 1) and 2) is no good.

DIAGNOSTIC PROGRAM

■ To enter diagnostic mode

1. While pressing down "PATTERN SEQUENCER" and "MODE" buttons, press"POWER" button for turning on.
2. The instrument is set in diagnostic mode and start LED check automatically.

■ LED check

1. Check the LEDs illuminate in the following order.

   VARIATION(1→ 2→ 3→ 4)→ FILL-IN(BACK→ NORMAL→ NEXT)→ BREAK→ SYNC (START→ STOP)→ MIXER→ DRAWBAR→ SYNTH→ EFFECT→ START/STOP(GR3→ GR2→ GR1→ R) → ENDING(2→ 1)→ INTRO(2→ 1)→ FADE IN/OUT→ rit.→ COMBINATION→ USER RHYTHM→ VARIOUS/WORLD→ AMERICAN→ LATIN2→ CASIO CHORD→ FINGERED→ FULL RANG CHORD→ DANCE→ JAZZ→ EUROPEAN→ LATIN1→ ROCK→ POPS→ 16BEAT→ 8BEAT→ INTERACCTIVE ACCOMP→ PATTERN SEQUNCER→ MULTITRACK→ EASY RECORD→ SONG STUDIO→ DSP(1→ 2→ 3→ 4)→ REVERB→ CHORUS→ MASTER→ BASS→ GUITAR→ ACCORDION→ ORGAN→ CHROMATIC PERC→ ELEC PIANO→ PIANO→ DISPLAY HOLD→ STRINGS/ORCHESTRA→ ENSEMBLE→ SOLO BRASS→ BRASS→ SAX→ CLARINET→ FLUTE→ USER TONE2→ USER TONE1→ DRAWBAR ORGAN→ DRUM SET→ PERC/ EFFECTS→ SYNTHPAD→ SYNTHLEAD→ AUTO HARMONIZE→ ARPEGGIATOR→ LOWER1→ LOWER2→ UPPER1→ UPPER2→ SUSTAIN→ REGISTRATION(1→ 2→ 3→ 4→ 5→ 6→ 7→ 8)→ SELECT→ DISK→ <Return to the head>.

■ LED check

1. Check the LCD displays following patterns in the following order.

   (all lighting)→ (all turning off)→ (vertical line)→ (horizontal line)→ (Checker pattern)→

   <Return to the head>.

■ Button check

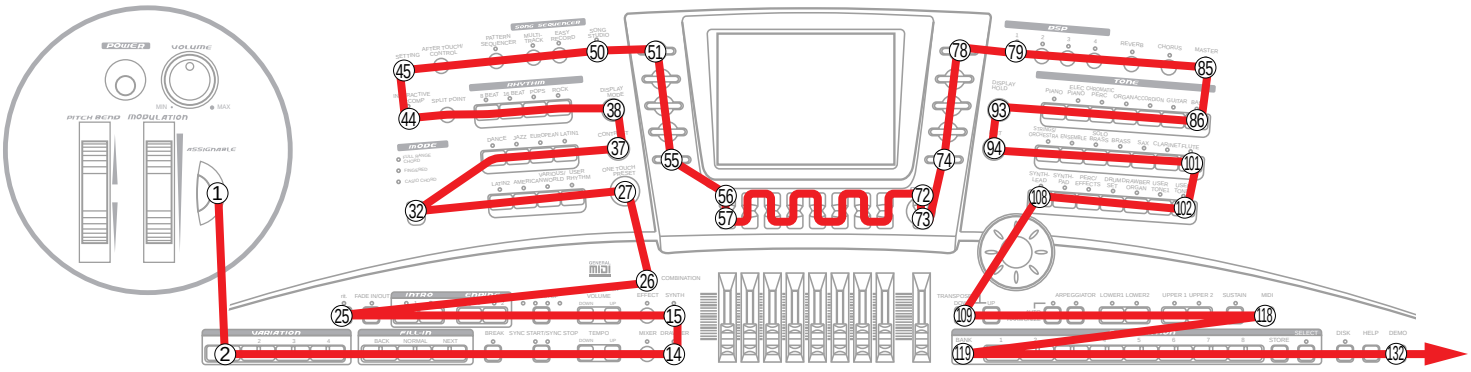
1. Press "ASSIGNABLE" button, so display indicates following.

```
MZ-2000 ROM ver2. 200
EVENT     [SW        ] [E2] [00] [00]

Switch                      [00]
Keyboard          ***  **  [00]
Bender             **~**  [   ]
Wheel              **~**  [   ]
Expression         **~**  [   ]
After              **~**  [   ]
Slider         XXXXXXXXX  [   ]
Enc                **~**  [   ]
Foot Pedal         **~**  [   ]
host                      [   ]
MIDI loop                 [   ]
FDDcheck           **/**  [   ]
```

2. Press buttons in the following order. When the pressed button functions properly, a pip sounds and display indicates as follows.

Button	Display	Button	Display	Button	Display
① ASSIGNABLE	[SW][E2][00][00]	㊻ AFTER TOUCH/CONTROL	[SW][19][01][00]	㊶ ELEC PIANO	[SW][5E][01][00]
② VARIATION 1	[SW][03][01][00]	㊼ PATTERN SEQUNCER	[SW][1E][01][00]	㊷ PIANO	[SW][5F][01][00]
③ VARIATION 2	[SW][02][01][00]	㊽ MULTITRACK	[SW][1D][01][00]	㊸ DISPLAY HOLD	[SW][92][01][00]
④ VARIATION 3	[SW][01][01][00]	㊾ EASY RECORD	[SW][1C][01][00]	㊹ EXIT	[SW][91][01][00]
⑤ VARIATION 4	[SW][00][01][00]	㊿ SONG STUDIO	[SW][1B][01][00]	㊺ STRINGS/ORCHESTRA	[SW][67][01][00]
⑥ BACK	[SW][DD][00][00]	(51) <LEFT 1>	[SW][8F][01][00]	㊻ ENSEMBLE	[SW][66][01][00]
⑦ NORMAL	[SW][DE][00][00]	(52) <LEFT 2>	[SW][8E][01][00]	㊼ SOLO BRASS	[SW][65][01][00]
⑧ NEXT	[SW][DF][00][00]	(53) <LEFT 3>	[SW][8D][01][00]	㊽ BRASS	[SW][64][01][00]
⑨ BREAK	[SW][E4][00][00]	(54) <LEFT 4>	[SW][E3][01][00]	㊾ SAX	[SW][63][01][00]
⑩ SYNC START/SYNC STOP	[SW][13][01][00]	(55) <LEFT 5>	[SW][8B][01][00]	㊿ CLARINET	[SW][62][01][00]
⑪ TEMPO DOWN	[SW][08][01][00]	(56) <DRAWBAR1 SW UP>	[SW][A7][01][00]	(101) FLUTE	[SW][61][01][00]
⑫ TEMPO UP	[SW][10][01][00]	(57) <DRAWBAR1 SW DOWN>	[SW][9F][01][00]	(102) USER TONE2	[SW][69][01][00]
⑬ MIXER	[SW][82][01][00]	(58) <DRAWBAR2 SW UP>	[SW][A6][01][00]	(103) USER TONE1	[SW][6A][01][00]
⑭ DRAWBAR	[SW][85][01][00]	(59) <DRAWBAR2 SW DOWN>	[SW][9E][01][00]	(104) DRAWBAR ORGAN	[SW][6B][01][00]
⑮ SYNTH	[SW][83][01][00]	(60) <DRAWBAR3 SW UP>	[SW][A5][01][00]	(105) DRUM SET	[SW][6C][01][00]
⑯ EFFECT	[SW][84][01][00]	(61) <DRAWBAR3 SW DOWN>	[SW][9D][01][00]	(106) PERC/EFFECTS	[SW][6D][01][00]
⑰ ACCOMP/DISK VOLUME UP	[SW][11][01][00]	(62) <DRAWBAR4 SW UP>	[SW][A4][01][00]	(107) SYNTHPAD	[SW][6E][01][00]
⑱ ACCOMP/DISK VOLUME DOWN	[SW][09][01][00]	(63) <DRAWBAR4 SW DOWN>	[SW][9C][01][00]	(108) SYNTHLEAD	[SW][6F][01][00]
⑲ START/STOP	[SW][12][01][00]	(64) <DRAWBAR5 SW UP>	[SW][A3][01][00]	(109) TRANSPOSE DOWN	[SW][AE][01][00]
⑳ ENDING 2	[SW][0A][01][00]	(65) <DRAWBAR5 SW DOWN>	[SW][9B][01][00]	(110) TRANSPOSE UP	[SW][B6][01][00]
㉑ ENDING 1	[SW][0B][01][00]	(66) <DRAWBAR6 SW UP>	[SW][A2][01][00]	(111) AUTO HARMONIZE	[SW][53E][01][00]
㉒ INTRO 2	[SW][0C][01][00]	(67) <DRAWBAR6 SW DOWN>	[SW][9A][01][00]	(112) ARPEGGIATOR	[SW][57][01][00]
㉓ INTRO 1	[SW][0D][01][00]	(68) <DRAWBAR7 SW UP>	[SW][A1][01][00]	(113) LOWER 1	[SW][56][01][00]
㉔ FADE IN/OUT	[SW][0E][01][00]	(69) <DRAWBAR7 SW DOWN>	[SW][99][01][00]	(114) LOWER 2	[SW][52][01][00]
㉕ rit.	[SW][0F][01][00]	(70) <DRAWBAR8 SW UP>	[SW][A0][01][00]	(115) UPPER 1	[SW][55][01][00]
㉖ COMBINATION	[SW][86][01][00]	(71) <DRAWBAR8 SW DOWN>	[SW][98][01][00]	(116) UPPER 2	[SW][51][01][00]
㉗ ONE TOUCH PRESET	[SW][87][01][00]	(72) <PAGE SW UP>	[SW][B7][01][00]	(117) SUSTAIN	[SW][50][01][00]
㉘ USER RHYTHM	[SW][2A][01][00]	(73) <PAGE SW DOWN>	[SW][AF][01][00]	(118) MIDI	[SW][4D][01][00]
㉙ VARIOUS/WORLD	[SW][2B][01][00]	(74) <RIGHT 5>	[SW][93][01][00]	(119) BANK	[SW][7F][01][00]
㉚ AMERICAN	[SW][2C][01][00]	(75) <RIGHT 4>	[SW][94][01][00]	(120) REGISTRATION 1	[SW][77][01][00]
㉛ LATIN2	[SW][2D][01][00]	(76) <RIGHT 3>	[SW][95][01][00]	(121) REGISTRATION 2	[SW][76][01][00]
㉜ MODE	[SW][06][01][00]	(77) <RIGHT 2>	[SW][96][01][00]	(122) REGISTRATION 3	[SW][75][01][00]
㉝ DANCE	[SW][23][01][00]	(78) <RIGHT 1>	[SW][97][01][00]	(123) REGISTRATION 4	[SW][74][01][00]
㉞ JAZZ	[SW][22][01][00]	(79) DSP 1	[SW][44][01][00]	(124) REGISTRATION 5	[SW][73][01][00]
㉟ EUROPEAN	[SW][2F][01][00]	(80) DSP 2	[SW][43][01][00]	(125) REGISTRATION 6	[SW][72][01][00]
㊱ LATIN1	[SW][2E][01][00]	(81) DSP 3	[SW][42][01][00]	(126) REGISTRATION 7	[SW][71][01][00]
㊲ CONTRAST	[SW][8A][01][00]	(82) DSP 4	[SW][41][01][00]	(127) REGISTRATION 8	[SW][70][01][00]
㊳ DISPLAY MODE	[SW][89][01][00]	(83) REVERB	[SW][47][01][00]	(128) STORE	[SW][E0][01][00]
㊴ ROCK	[SW][24][01][00]	(84) CHORUS	[SW][46][01][00]	(129) SELECT	[SW][7D][01][00]
㊵ POPS	[SW][25][01][00]	(85) MASTER	[SW][45][01][00]	(130) DISK	[SW][4A][01][00]
㊶ 16BEAT	[SW][26][01][00]	(86) BASS	[SW][59][01][00]	(131) HELP	[SW][4C][01][00]
㊷ 8BEAT	[SW][27][01][00]	(87) GUITAR	[SW][5A][01][00]	(132) DEMO	[SW][4B][01][00]
㊸ SPLIT POINT	[SW][04][01][00]	(88) ACCORDION	[SW][5B][01][00]		
㊹ INTERACCTIVE ACCOMP	[SW][05][01][00]	(89) ORGAN	[SW][5C][01][00]		
㊺ SETTING	[SW][1A][01][00]	(90) CHROMATIC PERC	[SW][5D][01][00]		

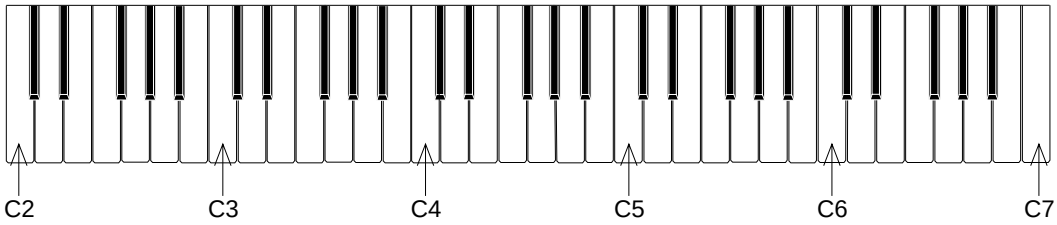


■ Keyboard check

1. Depress keys in the following order.

   1) White key C2,D2,E2,.....A6,B6,C7

   2) Black key $A^{\#}6$,$G^{\#}6$,$F^{\#}6$,.....$F^{\#}2$,$D^{\#}2$,$C^{\#}2$



When all keys is proper, display indicates "Keyboard $C^{\#}3$ 40 [OK]".

■ Bender and Modulation check

1. Rotate the Bender wheel and Modulation wheel in the following order.

   Bender wheel : Max→Center→Min.→Center

   When the Bender wheel is proper, display indicates "Bender 00 - 7F [OK]".

   Modulation wheel : Max→Min.

   When the Modulation wheel is proper, display indicates "Wheel 00 - 7F [OK]".

■ Expression pedal check

1. Connect the Expression pedal(EX-10,option).
2. Depress and release the pedal two times.
3. When the expression terminal is normal, display indicates "Expression 00 - 7F[OK]".

■ After touch check

1. Depress C4 white key gradually strongly, and release the key.
2. When the after touch function is proper, display indicates "After 00 - 7F [OK]".

■ Control slider check

1. Slide the control slider in the following order.

Slider 1(Left)	Lower position to upper position
Slider 2	Do
Slider 3	Do
Slider 4	Do
Slider 5	Do
Slider 6	Do
Slider 7	Do
Slider 8	Do
Slider 9(Right)	Do

2. When the all slider is proper, display indicates "Slider 000000000[OK]".

■ Selector dial check

1. Rotate the selector dial to right and left rotation.
2. When the selector dial is proper, display indicates "Enc 00 - 7F [OK].

■ Sustain pedal check

1. Connect the Sustain pedal(SP-2 or SP-10, option).
2. Depress and release the pedal.
3. When the sustain circuit is normal, display indecates "Foot Pedal 00 - 7F[OK].

■ MIDI IN/OUT test

1. Connect MIDI IN and MIDI OUT terminals with a MIDI cable.
2. Press "MIDI" button.
3. When the MIDI circuit is normal, display indicates "MIDI loop [OK]".

■ Host select switch

1. Change the Host select switch in order of PC2→PC1→MAC→MIDI.

   Select switch "PC2", display indicates "host [PC2]".

   Select switch "PC1", display indicates "host [PC1]".

   Select switch "MAC", display indicates "host [MAC]".

   Select switch "MIDI", display indicates "host [MID]".

■ FDD check

1. Insert formatted floppy disk to FDD.
2. Push the "DISK" button, so FDD starts to read floppy disk.
3. When the FDD is normal, display indicates "FDD check XX/XX [OK]".
4. To stop FDD, push again the "DISK" button.

■ Headphone check

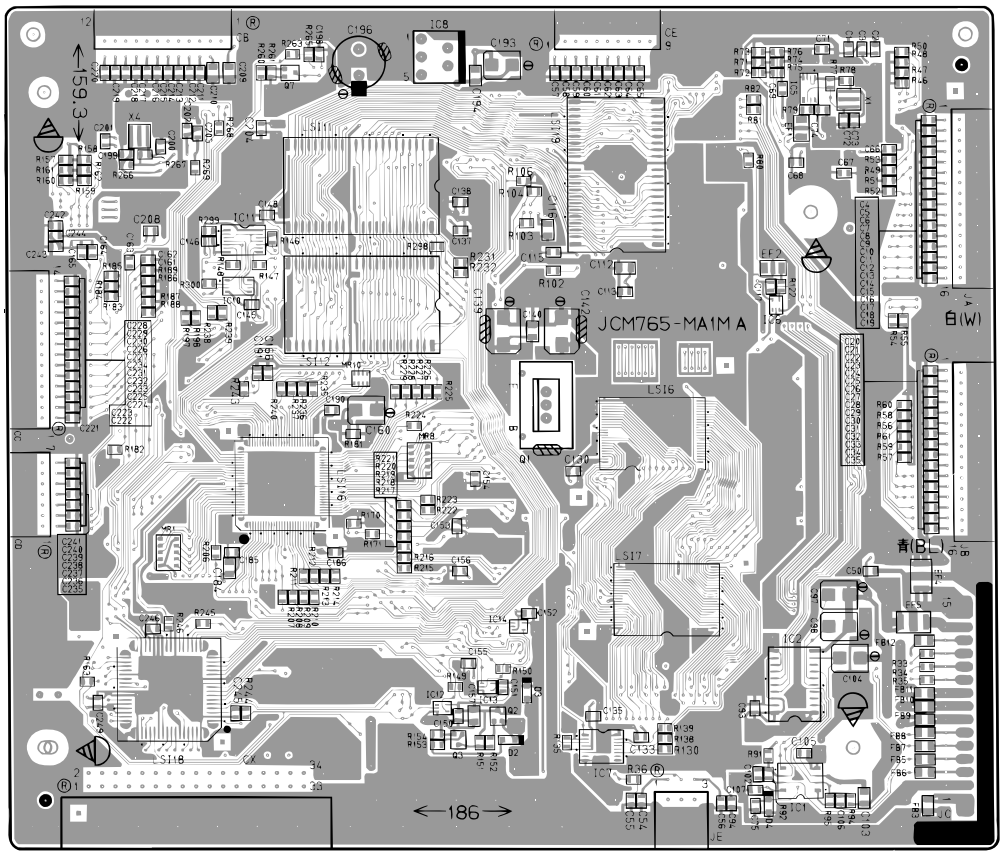
1. Connect Headphone to "PHONES" terminal.
2. Push the "DEMO" button, so sine wave sound is heard by right side of the headphone.
3. Push the "DEMO" button once more, so sine wave sound is heard by both side of the headphone.
4. Push the "DEMO" button once more, so sine wave sound is heard by left side of the headphone.
5. Push the "DEMO" button once more, so sine wave sound is stoppped.

■ To exit from the diagnostic program

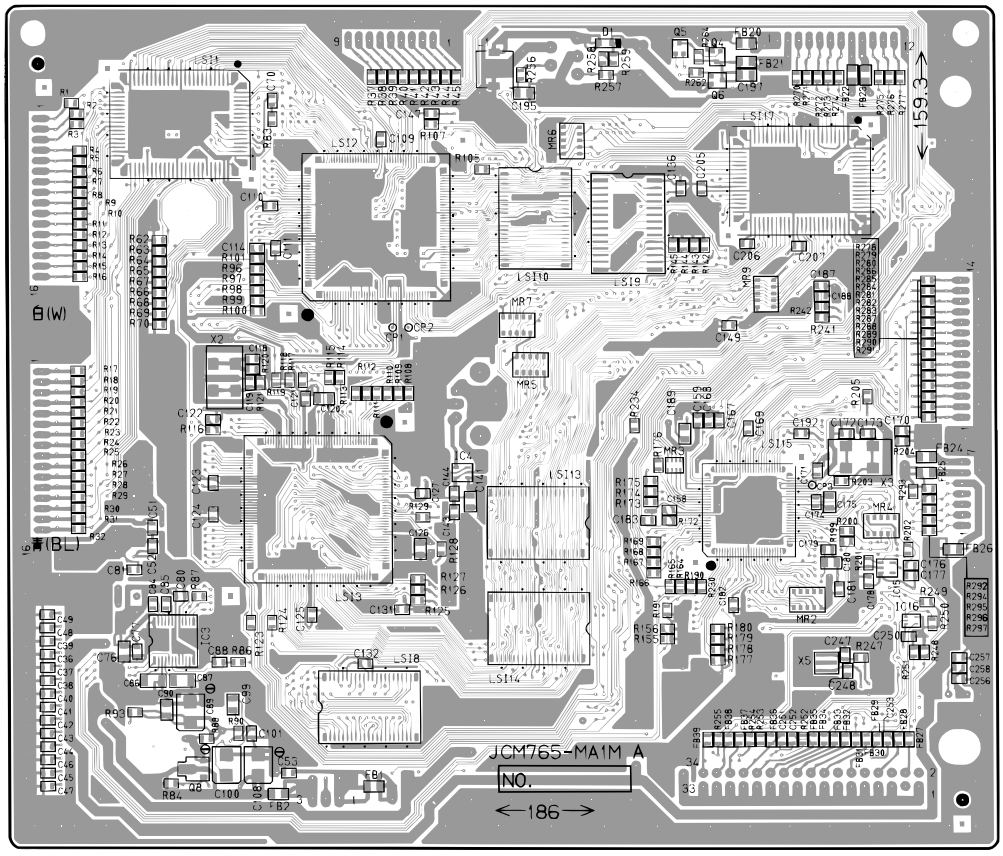
Turn off power. When turning off power, hold down the "POWER" button for a short while.

PRINTED CIRCUIT BOARDS

Main PCB JCM765-MA1M

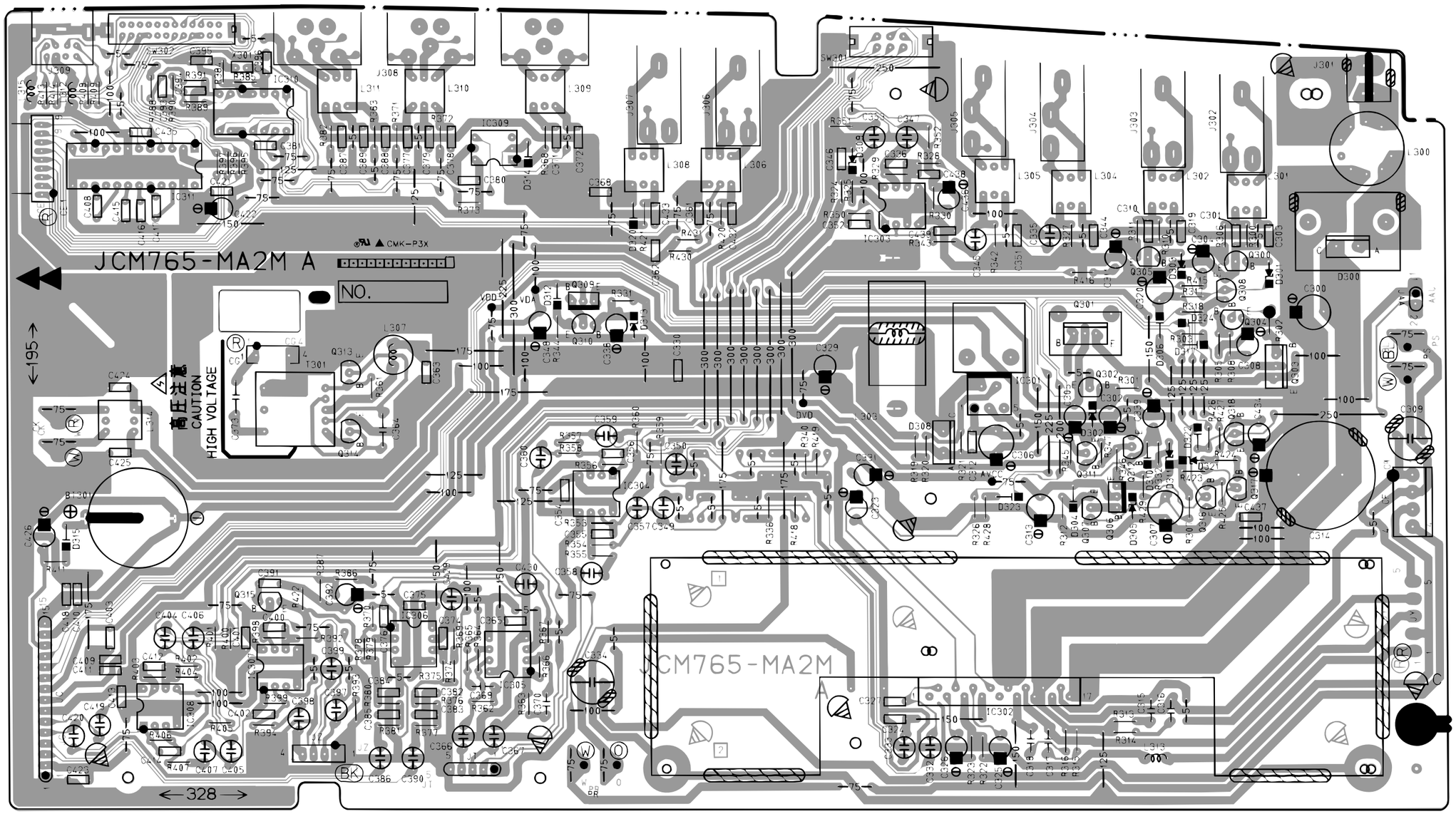


Top view



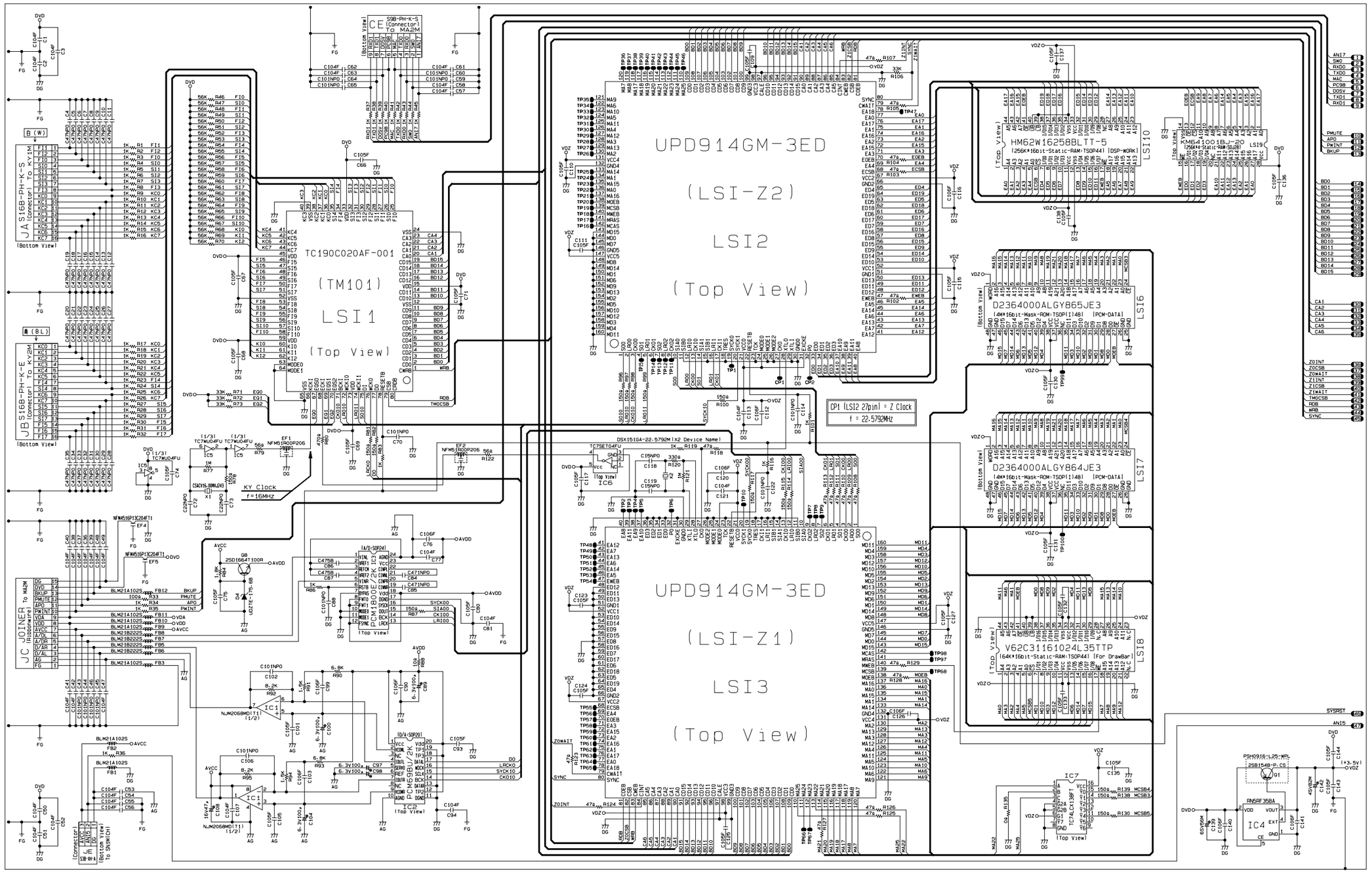
Bottom view

Sub PCB JCM765-MA2M

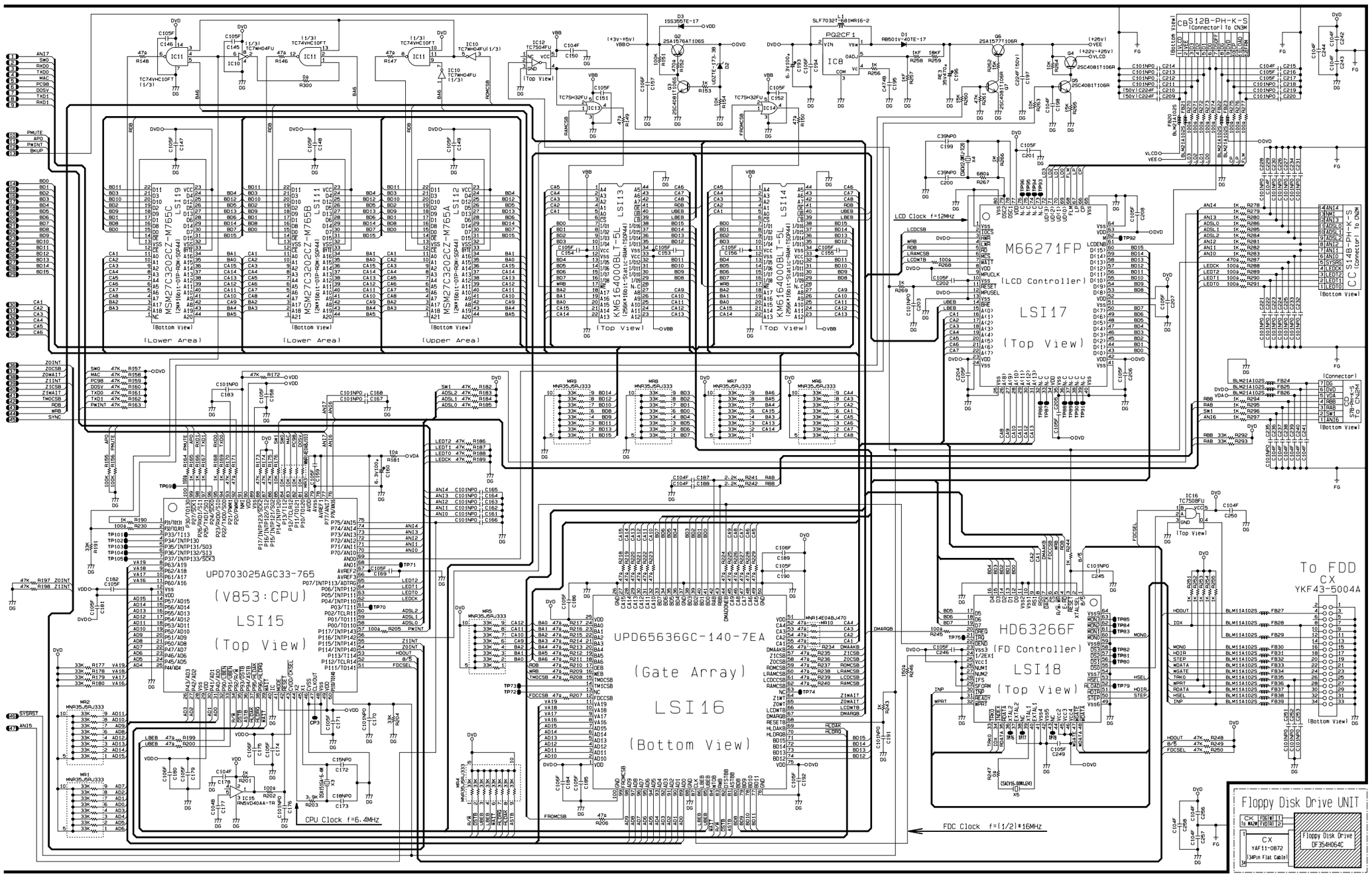


SCHEMATIC DIAGRAMS

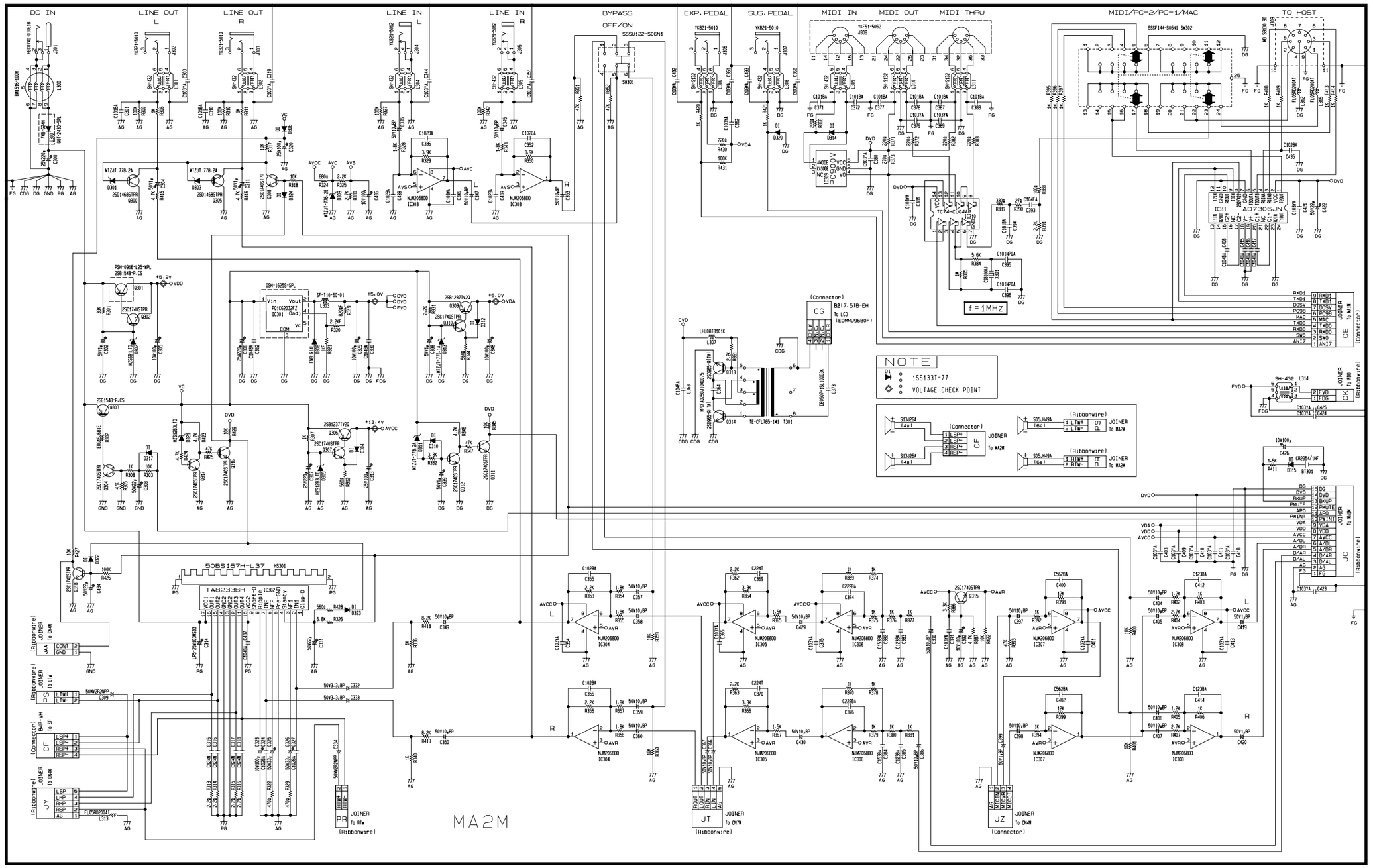
Main PCB JCM765-MA1M (1)



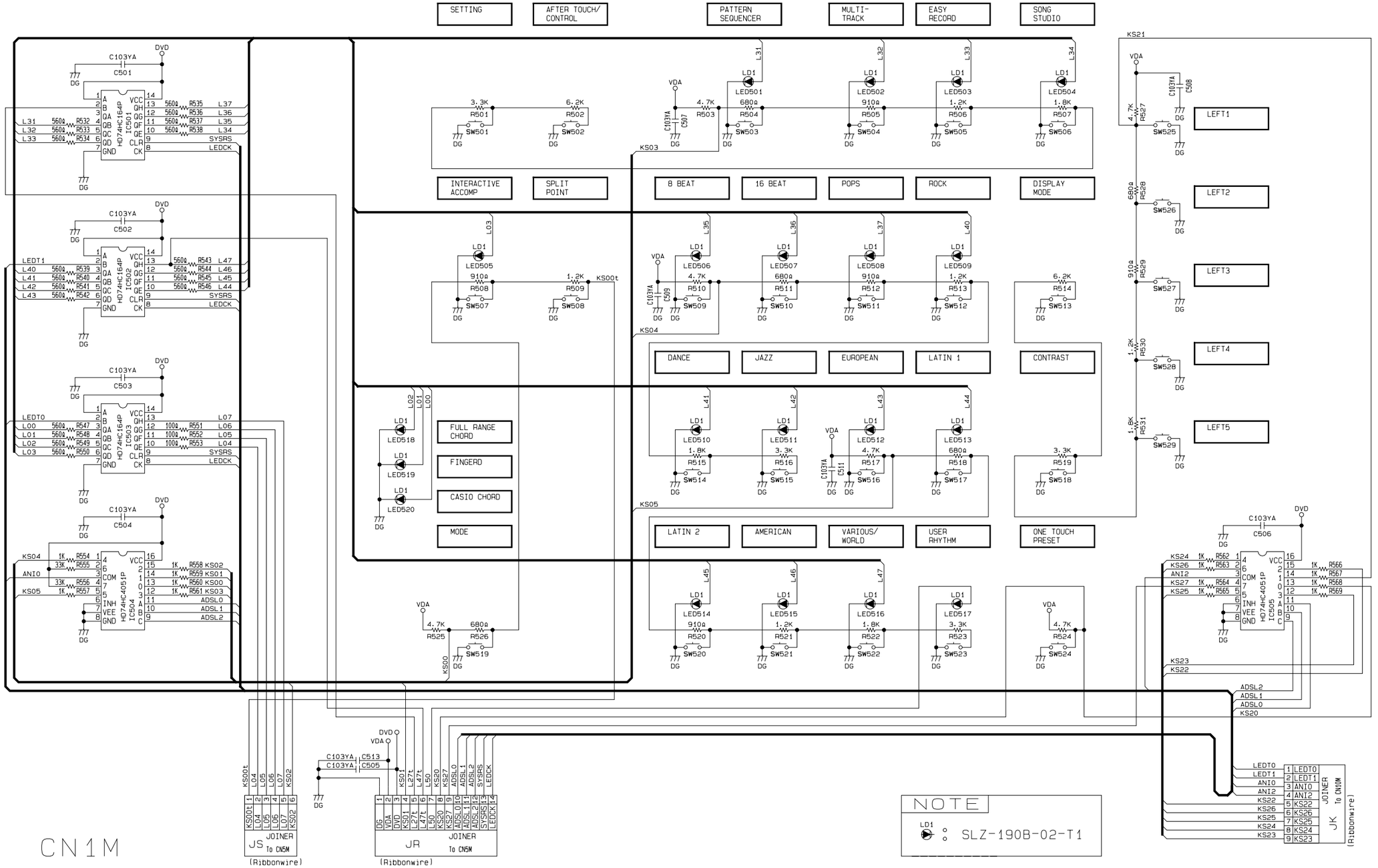
Main PCB JCM765-MA1M (2)



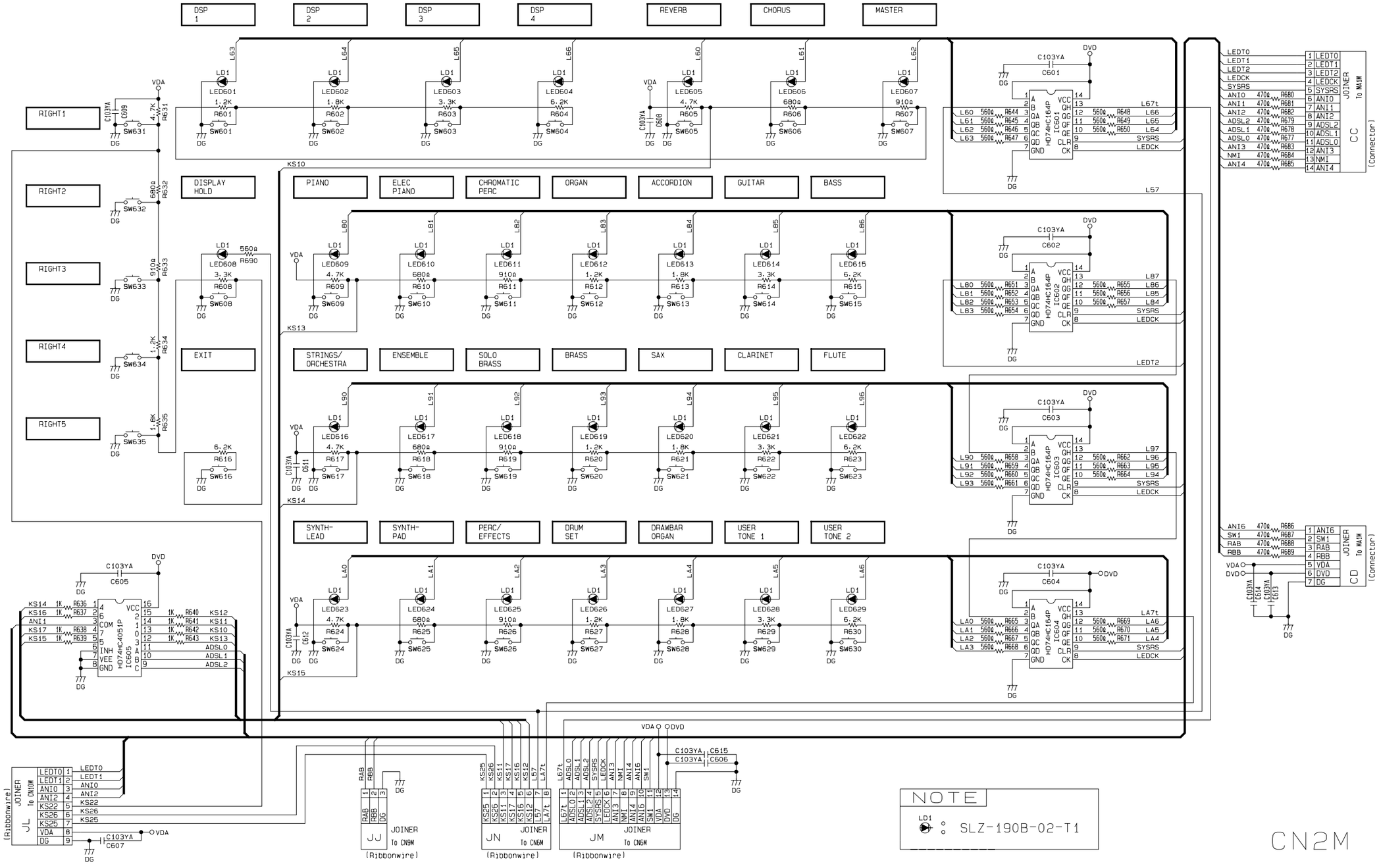
Sub PCB JCM765-MA2M



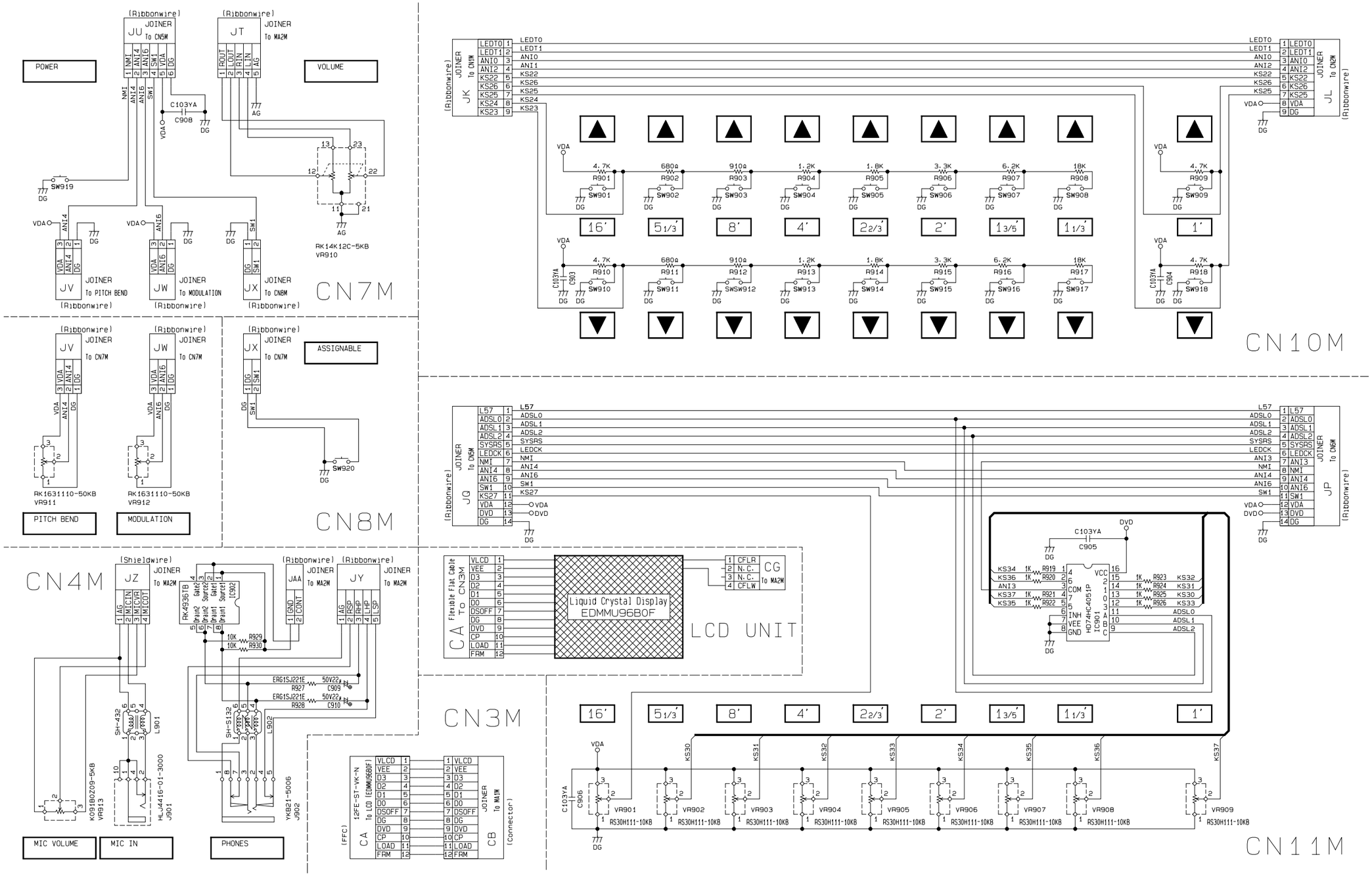
Console PCB JCM765-CN1M



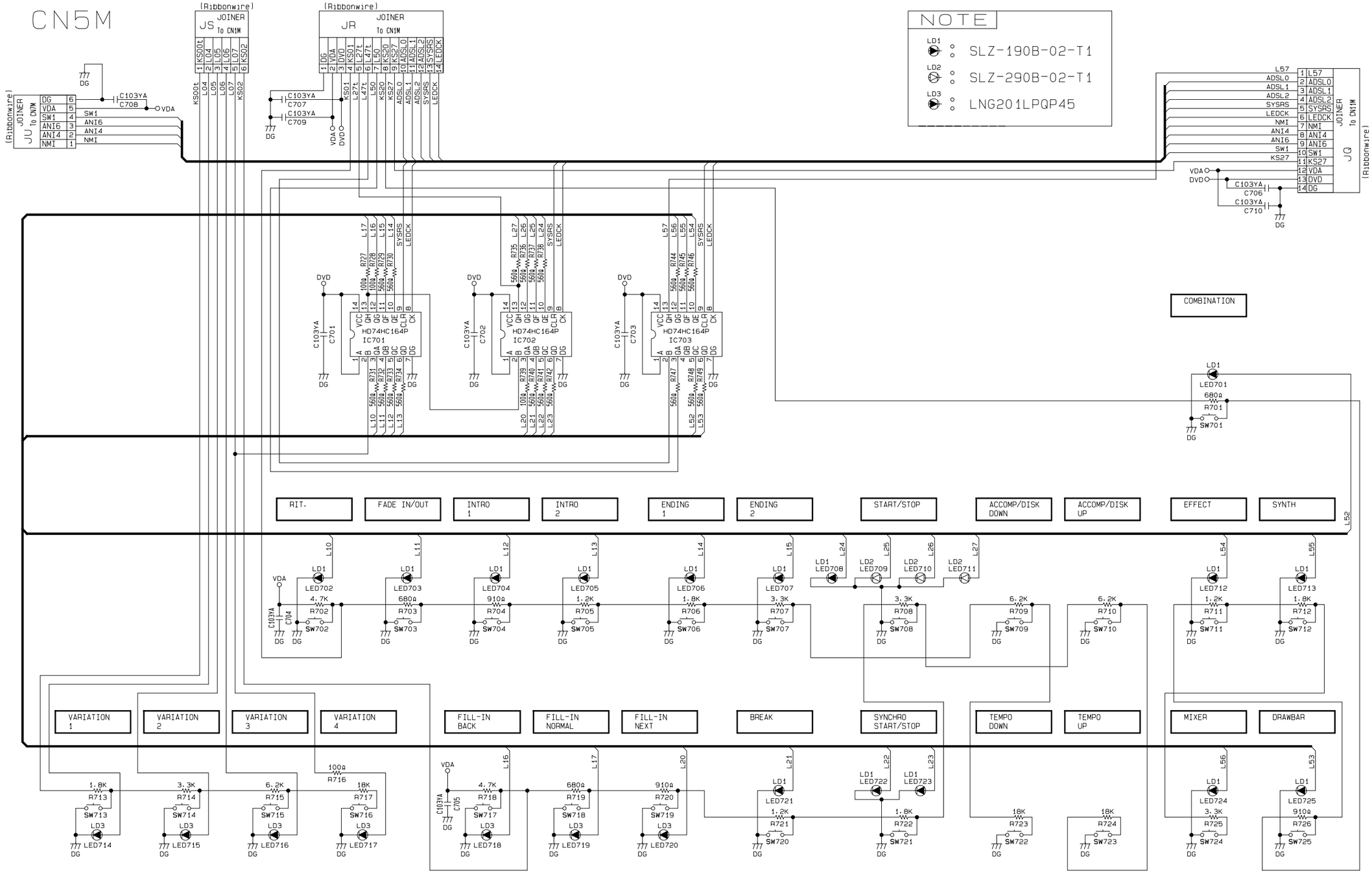
Console PCB JCM765-CN2M



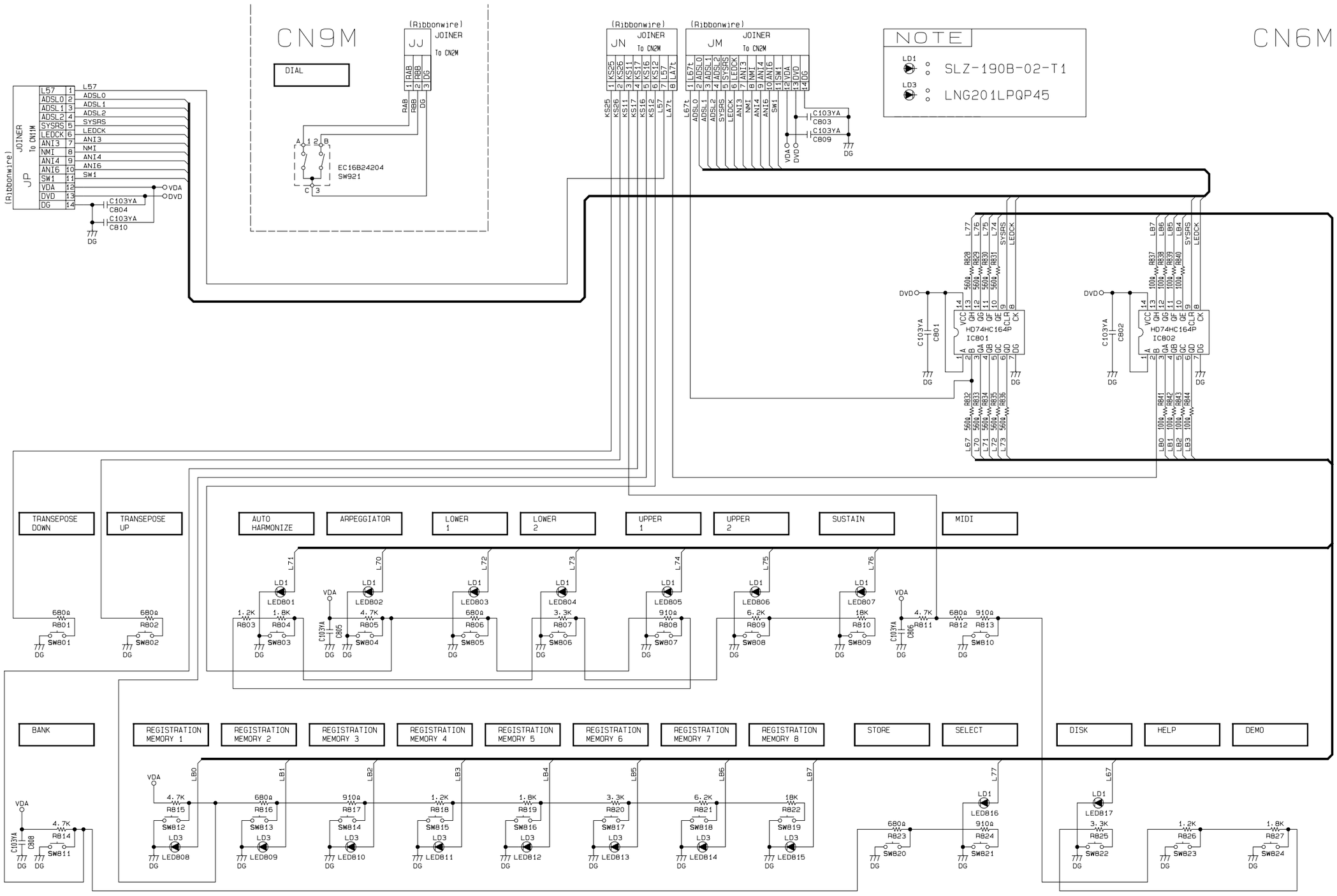
Console PCBs JCM765-CN3M/CN4M/CN7M/CN8M/CN10M/CN11M



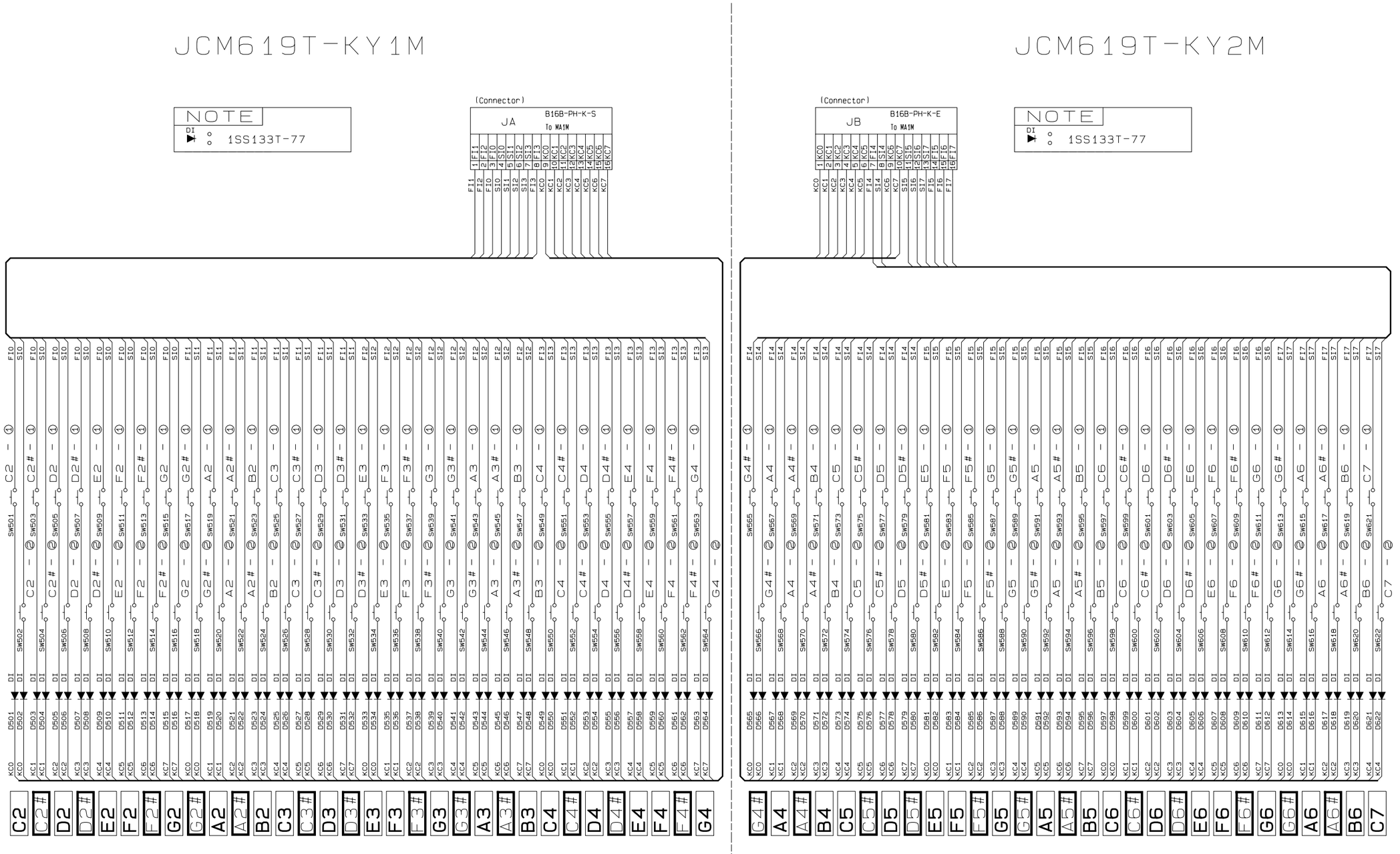
Console PCB JCM765-CN5M



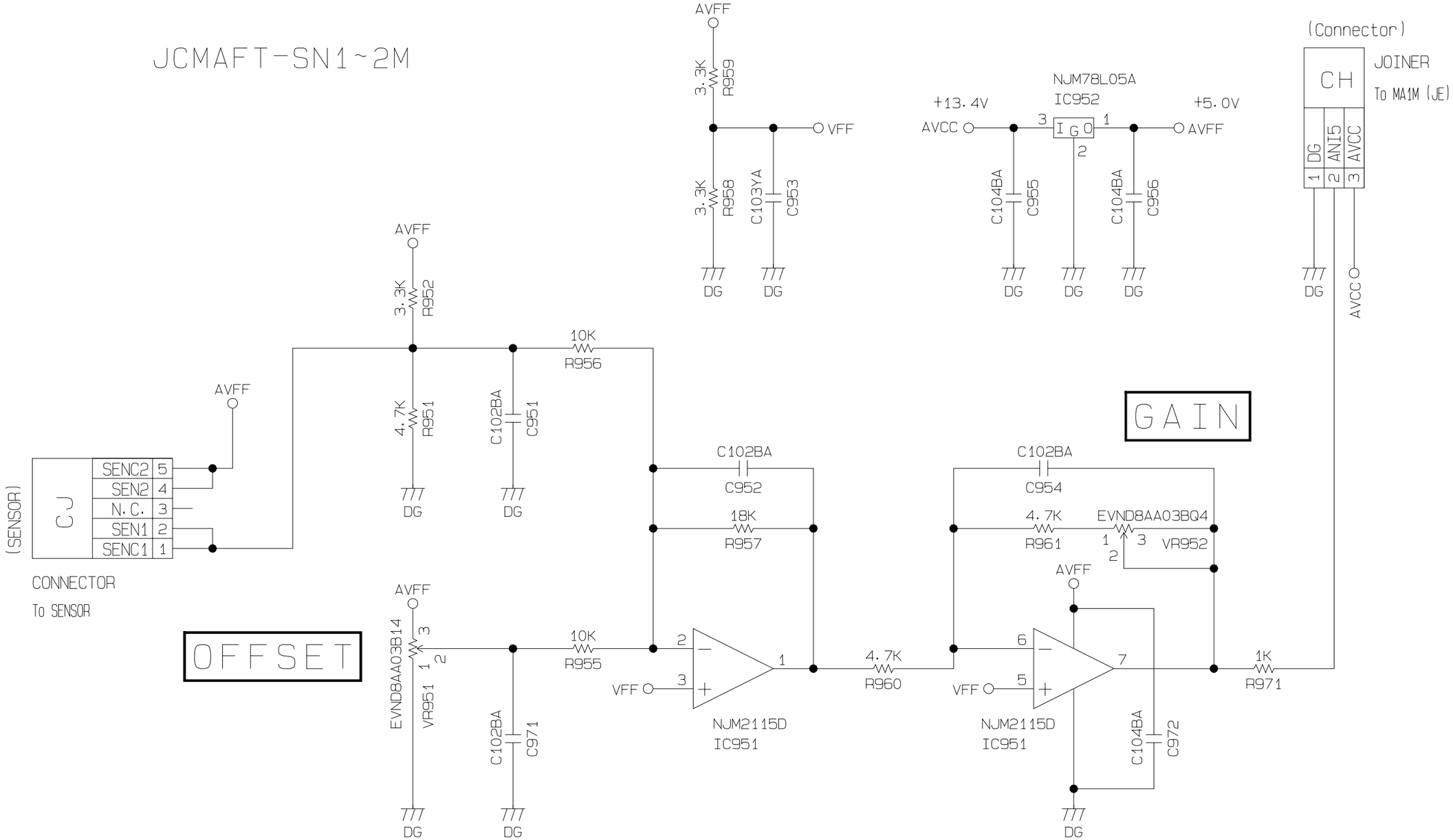
Console PCBs JCM765-CN6M/CN9M



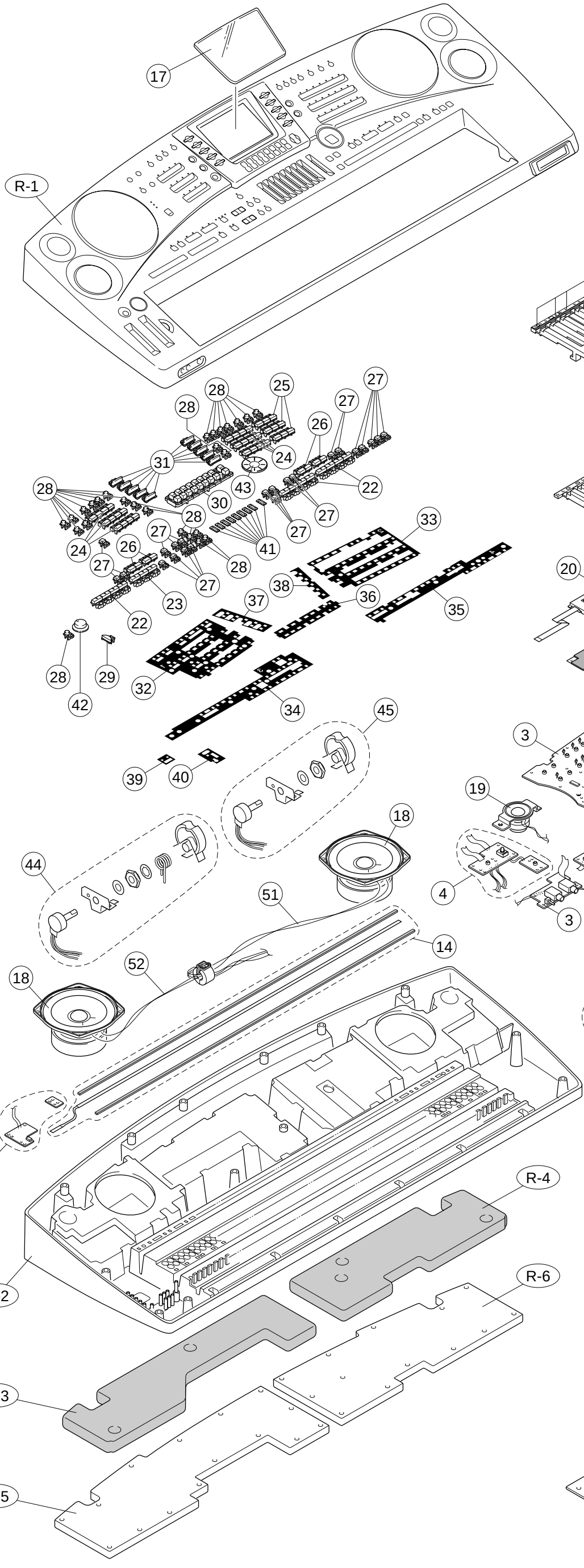
Keyboard PCBs JCM619T-KY1M/KY2M



Sensor PCB JCMAFT - SN1 ~ 2M



EXPLODED VIEW



PARTS LIST

MZ-2000

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 seperately.

3. The numbers in item column correspond to the same numbers in drawing.

PARTS PRICE LIST

MZ-2000

N	Item	Code No.	Part Name	Specification	Q	Price Code	R	Remarks
		Main PCB						
N	1	10021540	PCB ASSY/MA1M	TK-M241191*1(M765)	1	FA	A	
	D1	23902576	DIODE/SCHOTTKY	RB501V-40TE-17	1	AB	C	
	D2	23603057	DIODE/ZENER	UDZTE-173.3B	1	AA	C	
	D3	23901820	DIODE	1SS355TE-17	1	AA	C	
	D4	23602856	DIODE/ZENER	UDZTE-175.6B	1	AA	C	
	IC1	21141218	IC/MONOLITHIC	NJM2068MD(T1)	1	AD	C	
	IC10	21056427	IC/L-MOS	TC7WH04FU(TE12L)	1	AF	C	
N	IC11	21120828	IC/C-MOS	TC74VHC10FT(EL)	1	AD	C	
	IC12	21055712	IC/L-MOS	TC7S04FU(TE85L)	1	AB	C	
	IC13,14	21055824	IC/L-MOS	TC7SH32FU(TE85L)	2	AB	C	
	IC15	20121883	IC/MOS	RN5VD40AA-TR	1	AE	C	
	IC16	21053521	IC/L-MOS	TC7S08FU(TE85L)	1	AB	C	
N	IC2	10008350	LSI	PCM69BU/2K	1	BA	B	
N	IC3	10008349	LSI	PCM1800E/2K	1	BH	B	
N	IC4	10021416	IC/MOS	RN5RF35BA-TR	1	AE	C	
	IC5	21056427	IC/L-MOS	TC7WU04FU(TE12L)	1	AF	C	
	IC6	21056389	IC/L-MOS	TC7SET04FU(TE85L)	1	AD	C	
N	IC7	21056621	IC/C-MOS	TC74LCX138FT(EL)	1	AF	C	
N	IC8	10021399	IC/MONOLITHIC	PQ2CF1	1	AW	C	
	LSI1	20125987	LSI	TC190C020AF-001	1	BC	B	
N	LSI10	10008354	LSI	HM62W16258BLTT-5	1	CL	B	
N	LSI11	10018328	LSI	MSM27C3202CZ-M765B	1	CR	B	
N	LSI12	10018325	LSI	MSM27C3202CZ-M765A	1	CR	B	
N	LSI13,14	10008355	LSI	KM6164000BLT-5LT	2	CR	B	
N	LSI15	10018335	LSI	UPD703025AGC33-765	1	DG	B	
N	LSI16	10012037	LSI	UPD65636GC-140-7EA	1	AX	B	
N	LSI17	10008346	LSI	M66271FP	1	BY	B	
	LSI18	20109990	LSI	HD63266F	1	BT	B	
N	LSI2,3	10008358	LSI	UPD914GM-3ED	2	CK	B	
N	LSI6	10018332	LSI	D2364000ALGY865JE3	1	BU	B	
N	LSI7	10018333	LSI	D2364000ALGY864JE3	1	BU	B	
N	LSI8	10021428	LSI	V62C31161024L35TTP	1	BN	B	
N	LSI9	10018329	LSI	MSM27C3202CZ-M765C	1	CR	B	
N	LSI9	10008356	LSI	KM641001BJ-20T	1	BT	B	
	Q1	22510672	TRANSISTOR	2SB1548-P.CS	1	AD	C	
	Q2	22501169	TRANSISTOR	2SA1576AT106S	1	AA	C	
	Q3	22521169	TRANSISTOR	2SC4081T106S	1	AA	C	
	Q4,5	22520637	TRANSISTOR	2SC4081T106R	2	AA	C	
	Q6	22501176	TRANSISTOR	2SA1577T106R	1	AA	C	
	Q7	22520637	TRANSISTOR	2SC4081T106R	1	AA	C	
	Q8	22530644	TRANSISTOR	2SD1664T100R	1	AB	C	
N	X1	25902807	OSCILLATOR/CERAMIC	CSACV16.00MXJ243-T	1	AE	C	
N	X2	10021357	OSCILLATOR/CRYSTAL	DSX151GA-22.5792M	1	AS	C	
N	X3	10021358	OSCILLATOR/CRYSTAL	DSX151GA-6.400M	1	AS	C	
N	X4	10021353	OSCILLATOR/CERAMIC	CSACV12.0MTJ-TC20	1	AC	C	
	X5	25902807	OSCILLATOR/CERAMIC	CSACV16.00MXJ243-T	1	AE	C	
		Sub PCB						
N	2	10021543	PCB ASSY/MA2M	TK-M241192*1(M765)	1	EC	B	
N	BT301	38150658	BATTERY/LITHIUM	CR2354/1HF	1	AN	C	
N	D300	23152640	DIODE	FMB-G24H	1	AI	C	
N	D301,303,311	10021395	DIODE/ZENER	MTZJT-778.2A	1	AA	C	
	D302	23601085	DIODE/ZENER	HZS6B1LTD	2	AA	C	
	D304,306,310 D312,314,315 D317,320,322 D323,324	23153132	DIODE	1SS133T-77	2	AA	C	
	D305,321	10021362	DIODE/ZENER	HZS12B3LTD	1	AA	C	
N	D308	10008352	DIODE	FMB-G14L	11	AF	C	
N	D309	10021393	DIODE/ZENER	MTZJT-776.2B	1	AA	C	
N	D313	10021391	DIODE/ZENER	MTZJT-775.1A	3	AA	C	
N	IC301	10008351	IC/MONOLITHIC	PQ1CG2032FZ	6	AO	C	
N	IC302	10021425	IC/MONOLITHIC	TA8233BH	1	AZ	C	
	IC303-308	21210072	IC/MONOLITHIC	NJM2068DD	1	AD	C	

N	Item	Code No.	Part Name	Specification	Q	Price Code	R	Remarks
	IC309	21141421	IC/PHOTO COUPLER	PC900V	1	AK	C	
	IC310	21051260	IC/C-MOS	TC74HCU04AP	1	AC	C	
N	IC311	10008345	IC/MONOLITHIC	AD7306JN	1	AZ	C	
N	J301	10021361	JACK/DC	HEC0740-010618	1	AF	C	
	J302,303,306 J307	36120789	JACK	YKB21-5010	4	AC	C	
	J304-305	36120584	JACK	YKB21-5012	2	AD	C	
	J308	35014802	JACK/DIN	YKF51-5052	1	AM	C	
N	J309	35022005	JACK	MD-S8130-90	1	AG	C	
	Q300,305	22530420	TRANSISTOR	2SD1468STPR	11	AA	C	
	Q301,303	22510672	TRANSISTOR	2SB1548-P.CS	2	AD	C	
	Q302,304,307 Q308,310-312 Q315-318	22501592	TRANSISTOR	2SC1740STPR	2	AA	C	
	Q306,309	22501591	TRANSISTOR	2SB1237TV2Q	1	AB	C	
	Q313-314	22530710	TRANSISTOR	2SD965-R(TA)	2	AB	C	
N	SW301	10021423	SWITCH/SLIDE	SSSU122-S06N1	1	AE	C	
N	SW302	34122023	SWITCH/SLIDE	SSSF144-S06N1	1	AK	C	
N	T301	10021426	TRANSFORMER	TE-CFL765-1M1	1	AA	C	
N	X301	25292032	OSCILLATOR/CERAMIC	CSB1000J	1	AC	C	
	Console PCB							
N	3	10021544	PCB ASSY/CN1-4M	TK-M241193*1(M765)	1	DP	B	
N	4	10021545	PCB ASSY/CN5-9M	TK-M241194*1(M765)	1	DF	B	
N	5	10021546	PCB ASSY/CN10,11M	TK-M241195*1(M765)	1	CP	B	
	IC501-503 IC601-604	21053129	IC/C-MOS	HD74HC164P	7	AF	C	
N	IC504,505,605	10021360	IC/C-MOS	HD74HC4051P	3	AD	C	
	IC701-703 IC801-802	21053129	IC/C-MOS	HD74HC164P	5	AF	C	
	IC901	10021360	IC/C-MOS	HD74HC4051P	1	AD	C	
	IC902-903	10021413	IC/MOS FET	RK4936TB	2	AJ	C	
	J901	36131015	JACK	HLJ4416-01-3000	1	AH	C	
	J902	36120665	JACK/PHONE	YKB21-5006	1	AG	C	
	LED501-520 LED601-629	10005470	LED	SLZ-190B-02-T1	49	AA	C	
	LED701-708,712 LED713,721-725 LED801-807,816 LED817	10005470	LED	SLZ-190B-02-T1	24	AA	C	
	LED709-711	10005471	LED	SLZ-290B-02-T1	3	AA	C	
N	LED714-720 LED808-815	10021367	LED	LNG201LPQ45	15	AA	C	
	SW921	10021359	ENCODER/ROTARY	EC16B24204	1	AG	C	
N	VR901-909	10021418	POTENTIOMETER/SLIDE	RS30H111-10KB	9	AD	C	
	VR910	10021410	POTENTIOMETER/ROTARY	RK14K12C-5KB	1	AF	C	
	VR913	10021364	POTENTIOMETER	K091B0Z09-5KB	1	AD	C	
	Keyboard PCBs							
N	6	10021553	PCB ASSY/KY1M	TK-M241197*1(M765)	1	CE	B	
	D501-564	23903043	DIODE	1S2076TE	64	AA	C	
N	7	10021554	PCB ASSY/KY2M	TK-M241198*1(M765)	1	BS	B	
	D565-622	23903043	DIODE	1S2076TE	58	AA	C	
N	8	10021548	PCB ASSY/SN1,2M	TK-M241196*1(M765)	1	BS	B	
	Keyboard unit							
N	9	10011312	KEY CEGB/WHITE	M140929-1	5	AR	B	
N	10	10021368	KEY DFA/WHITE	M140930-1	4	AP	B	
N	11	10021369	KEY DFAS/WHITE	M140931-1	1	AS	B	
N	12	10021370	KEY 10P/BLACK	M140932-1	2	AT	B	
N	13	10021371	KEY 5P/BLACK	M140932-2	1	AL	B	
N	14	10012063	AFTER SENSOR	M-AFTS-A61	1	CI	C	
N	15	10012065	CONTACT RUBBER CB/KEY	M241146-1	4	AM	B	
N	16	10012064	CONTACT RUBBER CS/KEY	M241147-1	1	AO	B	
	Panel unit							
N	17	10002570	PLATE/DISPLAY	M341111-1	1	AX	C	
N	18	10021421	SPEAKER	S13J26A	2	CO	C	WOOFER
N	19	10021420	SPEAKER	S05JH49A	2	BG	C	TWEETER
N	20	10008339	LCD	EDMMU96B0F	1	DL	C	

N	Item	Code No.	Part Name	Specification	Q	Price Code	R	Remarks
N	21	10021386	PLATE/SHIELD	M341212-1	1	AO	C	
N	22	10006283	BUTTON A/TACT(4 BUTTONS)	M341102-1	3	AH	C	
N	23	10021376	BUTTON A/TACT(3 BUTTONS)	M341102-2	1	AH	C	
N	24	10006284	BUTTON B/TACT(4 BUTTONS)	M341103-1	6	AB	C	
N	25	10021377	BUTTON B/TACT(3 BUTTONS)	M341103-2	3	AB	C	
N	26	10021378	BUTTON B/TACT(2 BUTTONS)	M341103-3	4	AA	C	
N	27	10006257	BUTTON C/TACT	M341104-1	22	AA	C	
N	28	10006258	BUTTON D/TACT	M341105-1	26	AA	C	
N	29	10011931	BUTTON E/TACT	M341106-1	1	AC	C	
N	30	10006269	BUTTON F/TACT	M241179-1	1	AD	C	
N	31	10006259	BUTTON G/TACT	M341107-1	10	AA	C	
N	32	10021379	HIMELON A	M341187-1	1	AC	X	
N	33	10021382	HIMELON B	M341188-1	1	AC	X	
N	34	10021372	HIMELON C	M241240-1	1	AC	X	
N	35	10021373	HIMELON D	M241241-1	1	AB	X	
N	36	10021383	HIMELON E	M341189-1	1	AA	X	
N	37	10021387	HIMELON F	M440983-1	1	AA	X	
N	38	10021388	HIMELON G	M440984-1	1	AA	X	
N	39	10021389	HIMELON H	M440985-1	1	AA	X	
N	40	10021390	HIMELON I	M440986-1	1	AA	X	
N	41	10006260	KNOB/SLIDE	M341108-1	9	AC	C	
N	42	10006273	KNOB/RTR	M341109-1	1	AA	C	
N	43	10006274	JOG DIAL	M341110-1	1	AD	C	
N	44	10021557	BENDER 1 ASSY	TK-M340804*2(M765)	1	BU	C	
N	45	10021558	BENDER 2 ASSY	TK-M340804*3(M765)	1	BU	C	
	46	10151485	FDD UNIT	DF354H064C	1	CW	B	
	47	69269420	DAMPER/RUBBER	M440598-2	4	AB	X	FOR FDD
	48	69269431	SPACER	M440597-1	4	AC	X	FOR FDD
N	49	10008359	CABLE/FDD	YAF11-0872	1	AS	X	FOR FDD
N	50	10021351	CONNECTOR 2P	AMP-2P-62-M765	1	AX	X	
N	51	10021356	RIBBON WIRE PR	DF5H02670-35453545	1	AB	X	
N	52	10021355	RIBBON WIRE PS	DF0H02440-35453545	1	AB	X	
	53	69165832	HOLDER/DIN	M310714-1	1	AI	X	
		Accessory						
N		10021582	STAND/MUSIC	TK-M341266*1(M765)	1	CB	X	
N		10008338	ADAPTOR/AC	AD-16ML-MJ1	1	DQ	C	
			AC CORD SET	DC2K-M001A	1			FOR JAPAN
N		10012067	AC CORD SET	UC2K-M001A	1	AY	C	FOR USA/CANADA
N		10012068	AC CORD SET	EC2K-M001A	1	AU	C	FOR EU/GmbH/DI
N		10021352	AC CORD SET	BC2K-M001A	1	AW	C	FOR UK
		10018311	FLOPPY DISK	MZ-2000-FD-JA	1			FOR JAPAN
N		10018313	FLOPPY DISK	MZ-2000-FD-ES	1	AM	C	FOR OTHERS
N		10018314	FLOPPY DISK	MZ-2000-FD-G	1	AM	C	FOR GmbH
N		10018319	FLOPPY DISK	MZ-2000-FD-EF	1	AM	C	FOR CANADA
N		10021588	FLOPPY DISK	MZ-2000-FD-GF	1	AM	C	FOR EU
N		10021397	FLOPPY DISK(MUSIC)	MZ-2000-FD-MD	1	AL	C	

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