

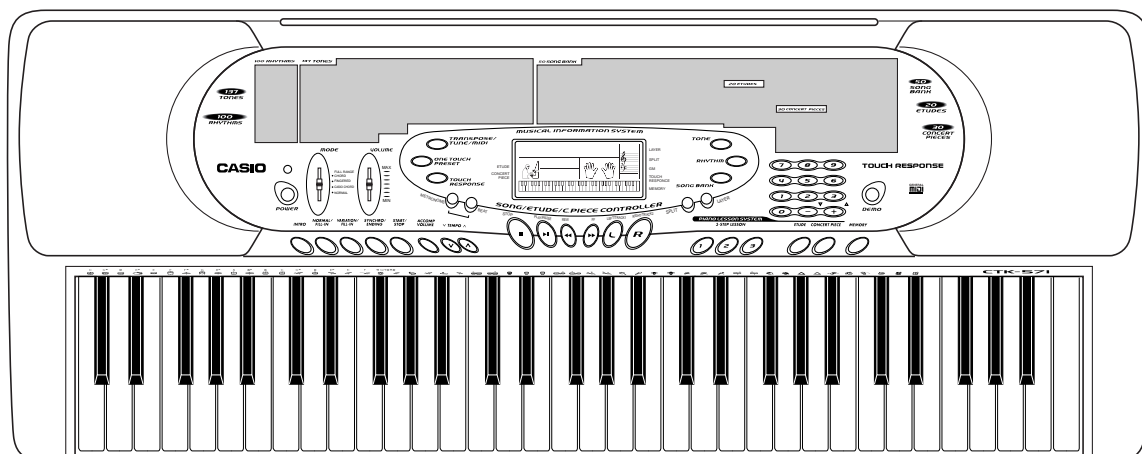
CASIO®

Service Manual

(without price)

CTK-573

JUL. 2001



CTK-573

ELECTRONIC KEYBOARD

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SPECIFICATIONS

GENERAL

Keyboard:	61 standard-size keys, 5 octaves (with touch response on/off)
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)
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)
One Touch Presets:	Recalls settings for tone, tempo, layer, split, and accompaniment volume in accordance with rhythm.
3-step Lesson:	3 lessons (Step 1, 2, 3)
Playback:	Repeat play of a single tune
Song Bank, Etude, Concert Piece	
Number of Tunes:	100 (Song Bank: 50, Etude: 20, Concert Piece: 30)
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, fingering, pedal operation, Keyboard, Piano mark
Metronome:	On/Off
	Beat Specification: 1 to 6
Memory	
Songs:	2
Recording Tracks:	2
Recording Method:	Real-time
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 440Hz ±50Cents)

Terminals

MIDI Terminals: IN, OUT
Assignable Jack: Standard jack (sustain, sostenuto, soft, rhythm start/stop)
Headphone/
Output Terminal: Stereo standard jack
Output Impedance: 66h
Output Voltage: 3.0V (RMS) MAX

Power Jack: 9V DC

Power Supply: 2-way
Batteries: 6 D-size batteries
Battery Life: Approximately 6 hours continuous operation on manganese batteries
AC Adaptor: AD-5
Auto Power Off: Turns power off approximately 6 minutes after last key operation.
Enabled under battery power only, can be disabled manually.

Speaker Output: 2.0W + 2.0W

Power Consumption: 9V == 7.7W

Dimensions: 96.1 × 37.5 × 14.3 cm (37 7/8 × 14 3/4 × 5 5/8 inch)

Weight: Approximately 5.3 kg (11.7 lbs)(without batteries)

ELECTRICAL

Current drain with 9 V DC:

No sound output 200 mA ± 20 %
Maximum volume 745 mA ± 20 %

with 10 keys from C1 to E2 pressed in French Horn
Volume: maximum, Velocity: maximum

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

with key C1 in French Horn
Volume: maximum, Velocity: maximum 1750 mV ± 20 %

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

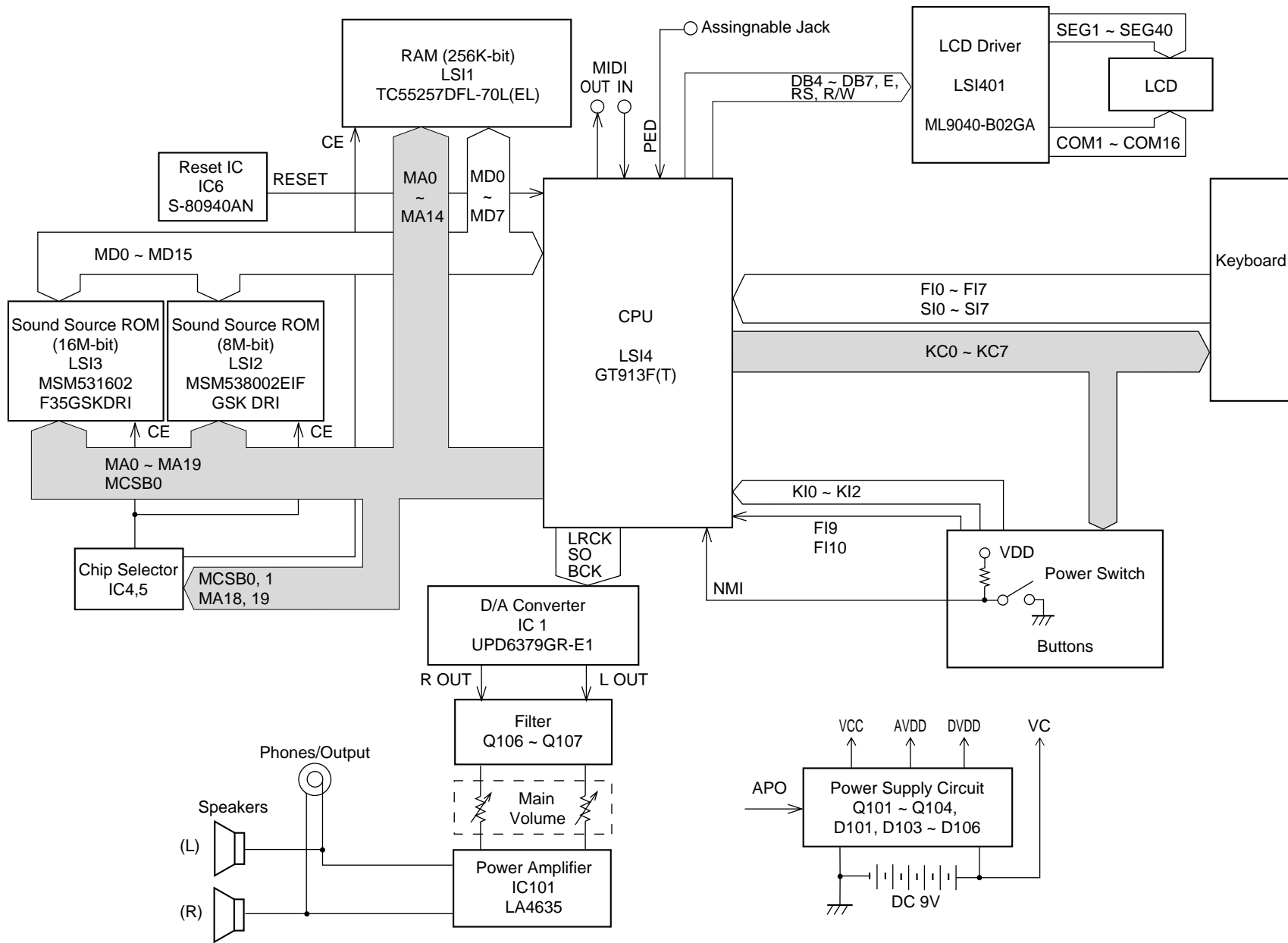
with key, G1 in French Horn
Volume: maximum, Velocity: maximum 150 mV ± 20 %

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

with key F1 in French Horn
Volume: maximum, Velocity: maximum 1800 mV ± 20 %

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

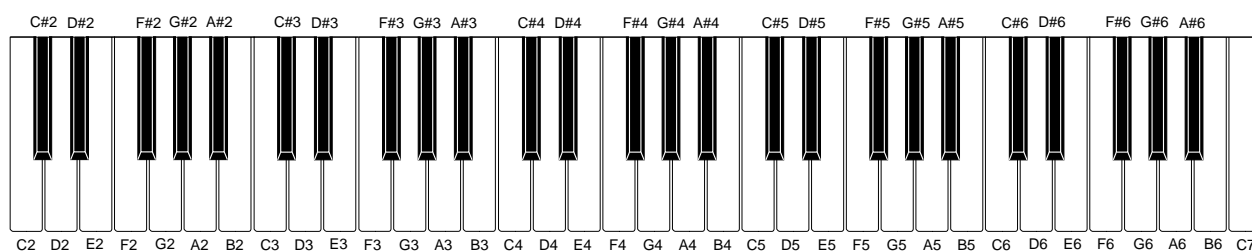
KEY MATRIX

	KC0	KC1	KC2	KC3	KC4	KC5	KC6	KC7-
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

	KC0	KC1	KC2	KC3	KC4	KC5	KC6	KC7
KI0	MEMORY	STEP 2	3	TONE	5	TEMPO ▼	TEMPO ▲	SYNCHRO/ ENDING
KI1	ONE TOUCH PRESET	STEP 3	—	7	6	ACC. VOL.	BEAT	METRONOME
KI2	STEP 1	0	+	4	DEMO	ETUDE	TRANSPOSE /TONE/MIDI	
FI8	FULL RANGE CHORD	FINGERED	CASIO CHORD	NORMAL	INTRO	NORMAL /FILL-IN	VARIATION /FILL-IN	START/STOP
FI9	LAYER	RIGHT	2	RHYTHM	9	PLAY/PAUSE ▶	STOP ■	TOUCH RESPONSE
FI10	SPLIT	LEFT	1	SONG	8	FF ▷▷	REW ◁◁	CONCERT PIANO

NOMENCLATURE OF KEYS



POWER SUPPLY CIRCUIT

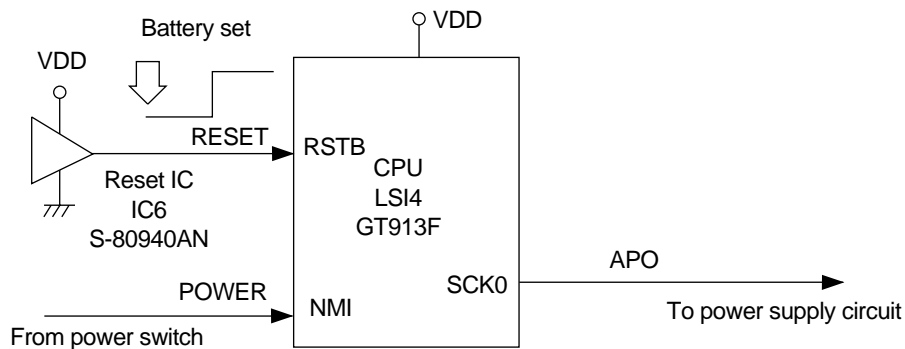
The power supply circuit generates seven voltages as shown in the following table. VDD voltage is always generated. The others are controlled by APO signal from the CPU.

Name	Voltage	For operation of
VDD	+5 V	CPU, Reset IC, Sound source ROM, RAM, Chip selector
DVDD	+5.3 V	CPU, Sustain jack, MIDI jack, LCD driver
AVDD	+5.3 V	DAC, Filter
VC	+8 V	Power amplifier

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 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.



CPU (LSI4: 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. The CPU also controls MIDI input/output and stores sequencer data into the working storage RAM. The following table shows the pin functions of LSI4.

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	DVDB (+5.3V) source
8	AN0	In	AC adaptor detection terminal. +5.3 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 ~ 48	FI4 ~ FI8 SI4 ~ SI8	In	Terminal for key input signal
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	MWEB	Out	Write enable signal

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 and working RAM
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	Terminal for pedal signal
100	P17	In/Out	Data bus for the LCD driver

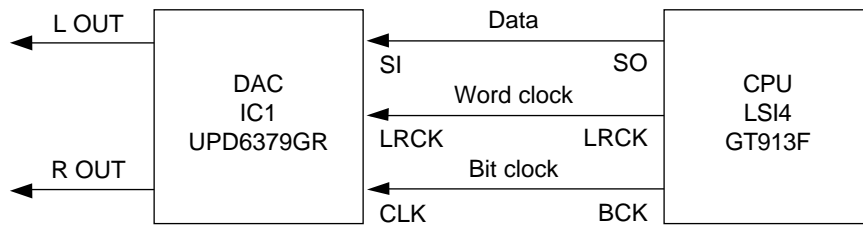
LCD DRIVER (LSI401: ML9040-B02GA)

The LCD driver can drive a dot matrix LCD having 40 segment and 16 common lines. The LSI contains 160 characters in the built-in character generator ROM, and stores 8 characters in the built-in display data RAM. In accordance with command from the CPU, the LSI is capable of displaying up to 8 characters simultaneously. The following table shows the pin functions of LSI 401.

Pin No.	Terminal	In/Out	Function
1 ~ 22, 63 80	SEG1 - SEG40	Out	Segment signal output
23	GND	—	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	In	LCD drive voltage input. Those voltages are used for generating the stepped pulse of the LCD drive signals.
31, 32	L, CP	—	Not used
33	VDD	In	DVDD (+5.3 V) source
34, 35	DF, 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: disenable
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

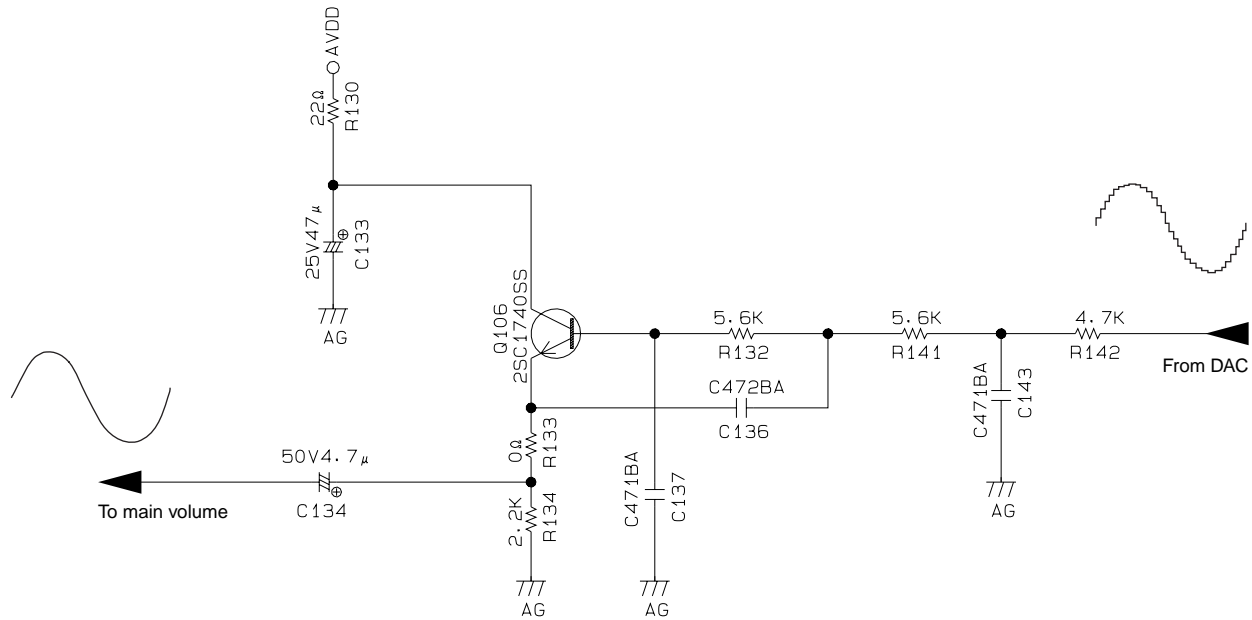
DAC (IC1: UPD6379GR)

The DAC receives 16-bit serial data output from the CPU. 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.



FILTER BLOCK

Since the sound signals from the DAC are stepped waveforms, the filter block is added to smooth the waveforms.



POWER AMPLIFIER (IC101: LA4635)

The power amplifier is a two-channel amplifier with standby switch. The following table shows the pin function of IC101.

Pin No.	Terminal	In/Out	Function
1	D.C.	–	Terminal for a decoupling capacitor
2	IN 1	In	Channel 1 input
3	Pre GND	In	Ground (0 V) source
4	IN 2	In	Channel 2 input
5	STBY	In	Power control signal input. 0 V: Off, +9 V: On
6	P.P	In	Prevention of POP sound
7	VCC	In	+9 V source
8	OUT 2	Out	Channel 2 output
9	N.C.	–	Not used
10	Power GND	In	Ground (0 V) source
11	N.C.	–	Not used
12	OUT 1	Out	Channel 1 output

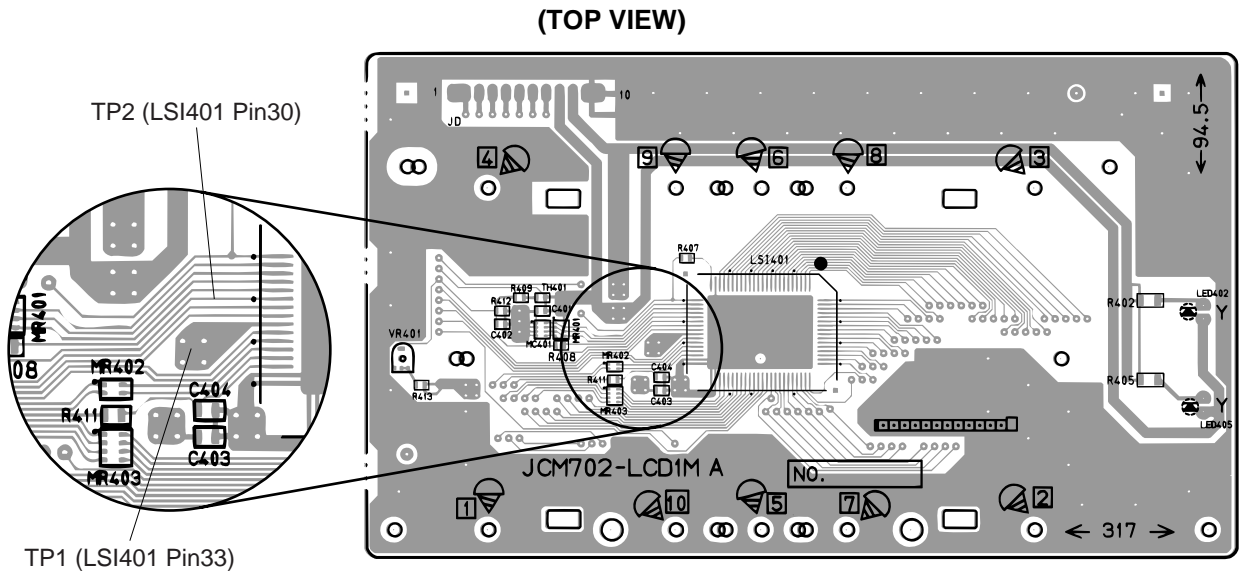
ADJUSTMENT

DISPLAY PCB

1) Items to be adjusted:

Item	Measuring Instrument
Vop voltage setting	Voltmeter

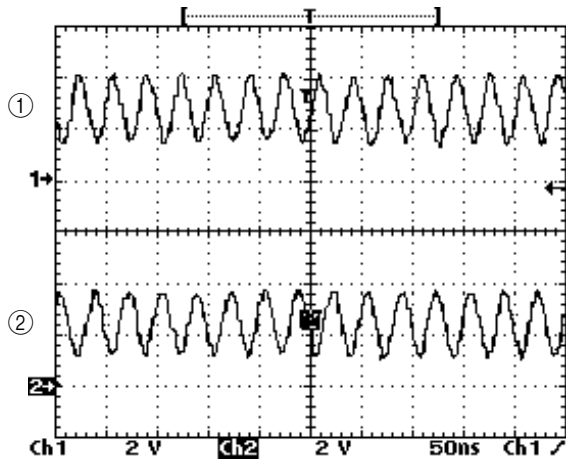
2) Adjustment and Test Point Locations



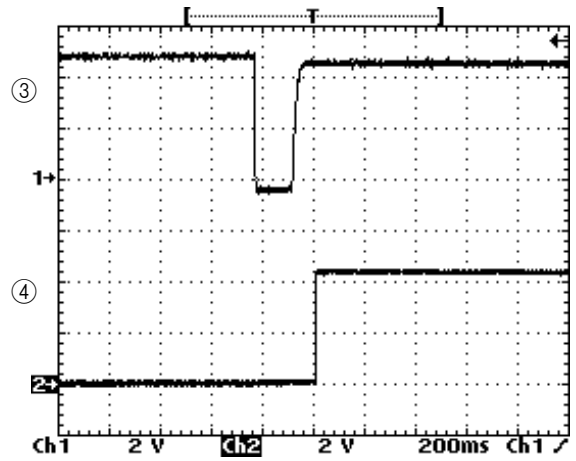
3) Equipment connection/Procedure

Vop voltage setting						
Input Connection	Input Point	Input Signal	Adjust	Output Connection	Output Point	Adjust for
—	—	—	VR401	Voltmeter	TP1-TP2	Adjust for 4.3 ~ 4.4 V reading on voltmeter under the temperature 20 ~ 25 °C. Make fine adjustment according to the next instruction.
<p>Watching the LCD at a 36.1° angle to the horizontal, adjust Vop voltage so that unenergized segments are seen dimly.</p>						

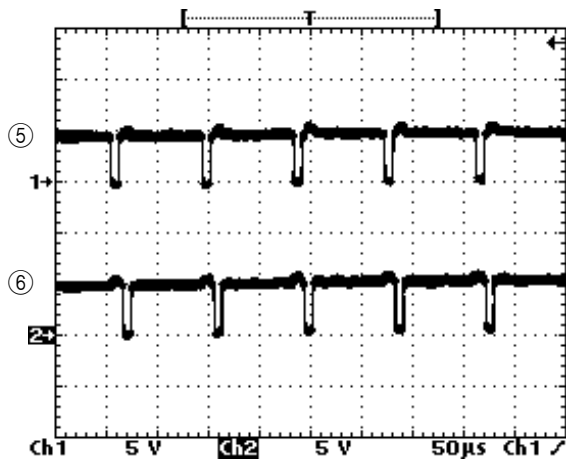
MAJOR WAVEFORMS



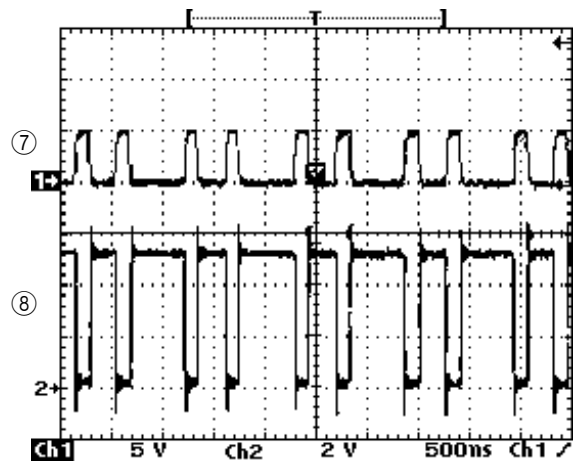
- ① Clock signal for CPU
LSI4 pin 15
- ② Clock signal for CPU
LSI4 pin 16



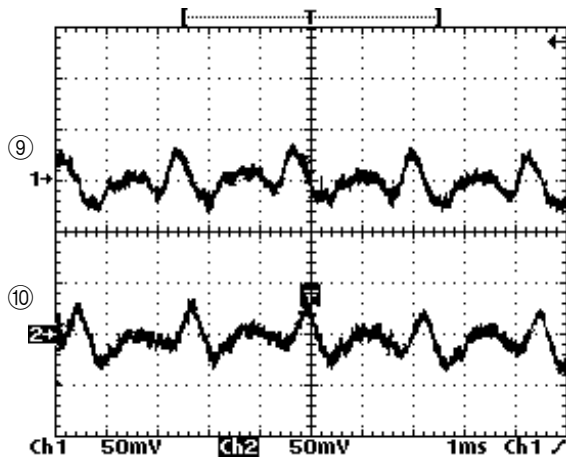
- ③ MNI signal
JE connector pin 1
- ④ APO signal
JC connector pin 12



- ⑤ Key common signal KC0
JB connector pin 1
- ⑥ Key common signal KC1
JB connector pin 2



- ⑦ \overline{CE} signal for ROM
LSI3 LH536PYE pin 12
- ⑧ \overline{CE} signal for working RAM
LSI1 TC55257DFL pin 20

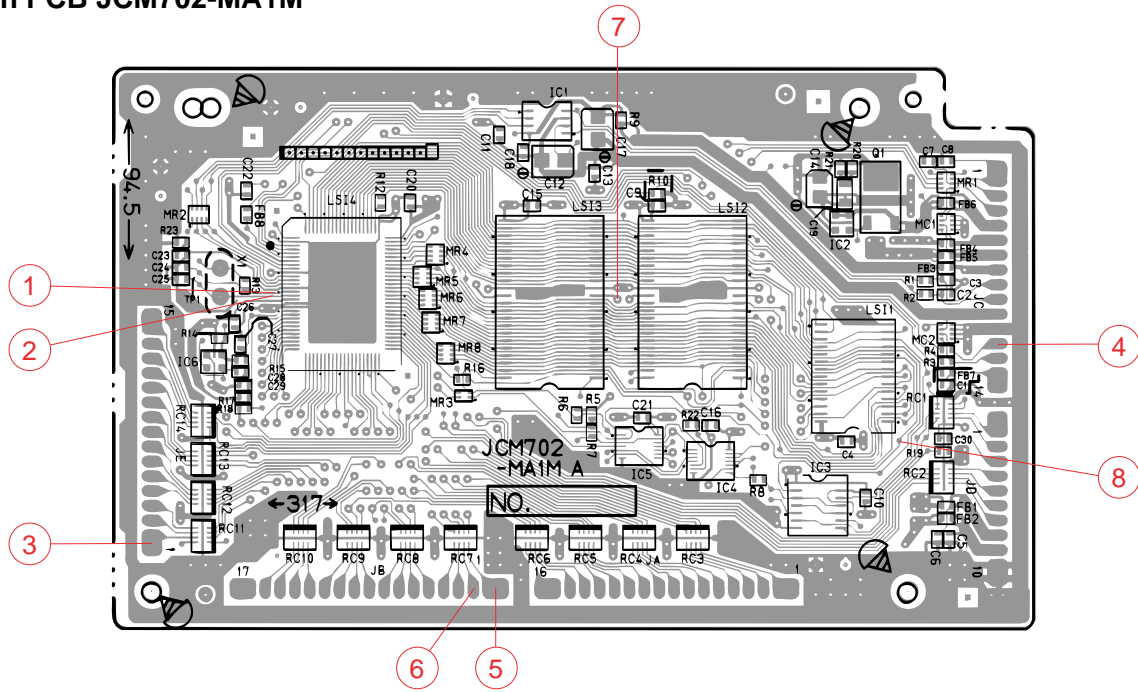


- ⑨ Sound signal (L)
JF connector pin 3
- ⑩ Sound signal (R)
JF connector pin 4

Tone : Grand Piano
Volume : Maximum
Touch speed : Maximum
Key : A4

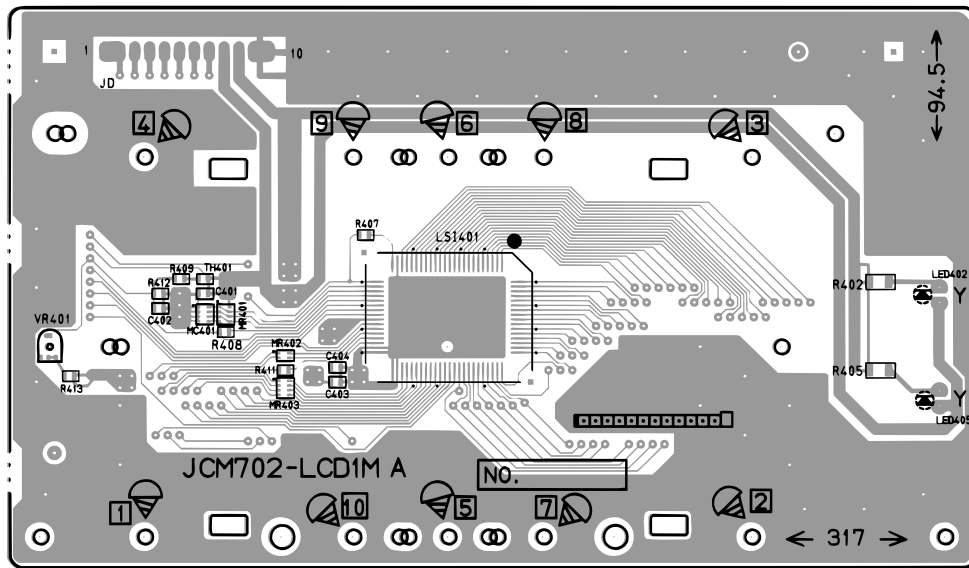
PRINTED CIRCUIT BOARDS

Main PCB JCM702-MA1M



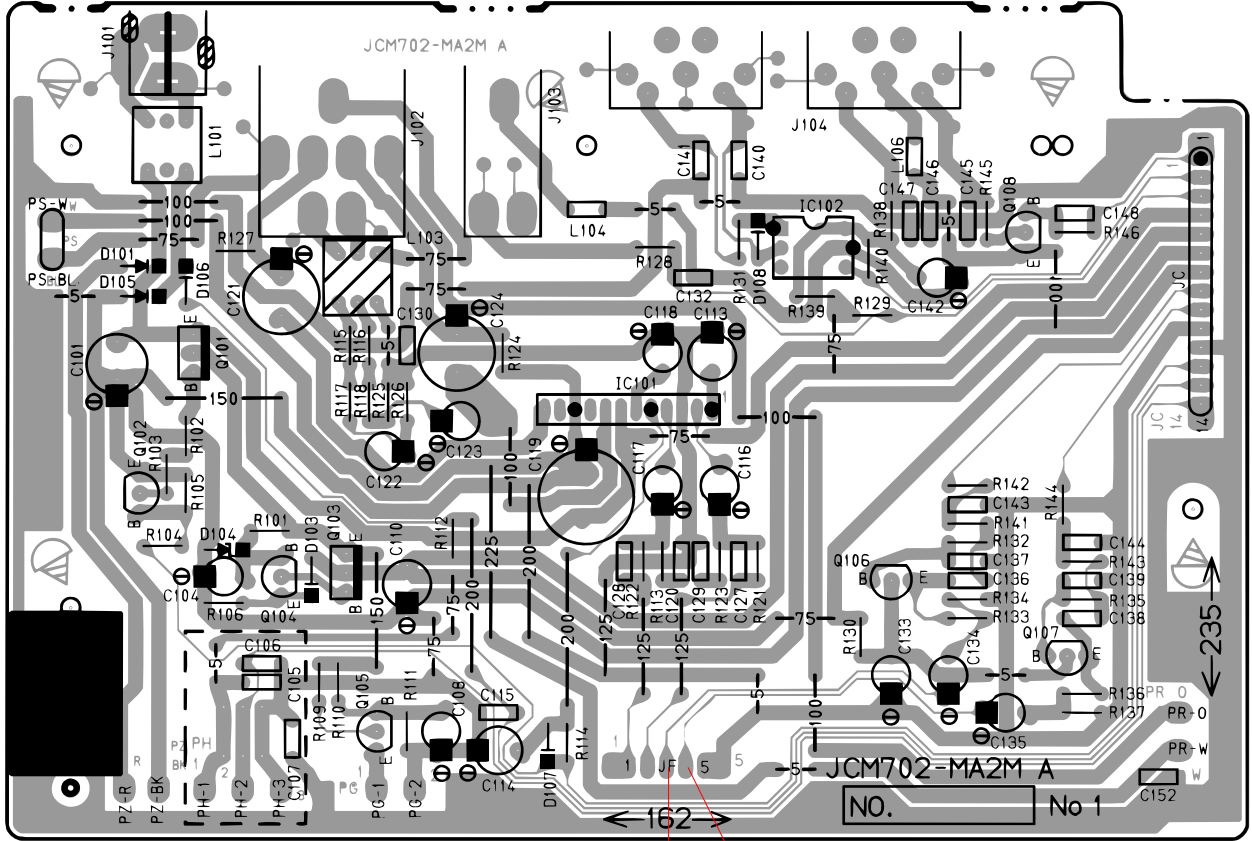
Top View

LCD PCB JCM702-LCD1M



Top View

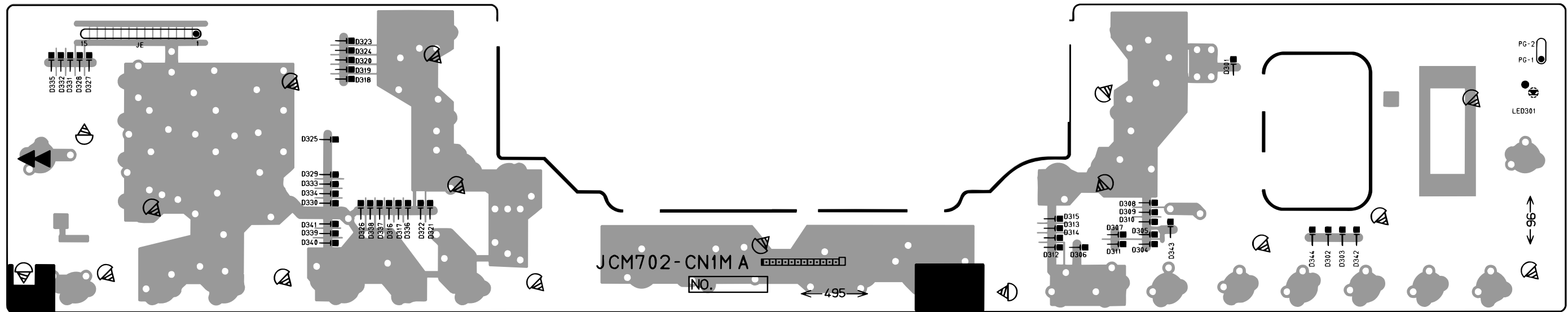
Sub PCB JCM702-MA2M



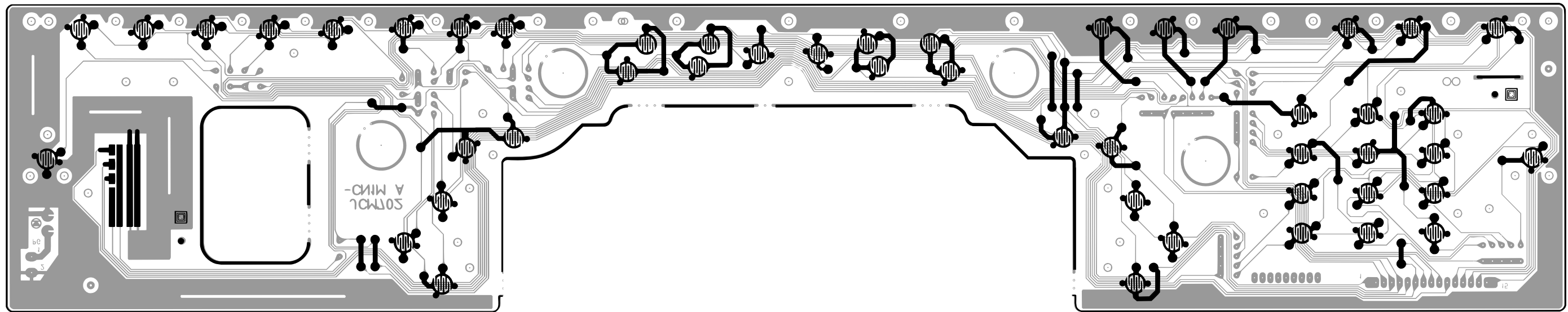
9 10

Top View

JCM702-CN1MA

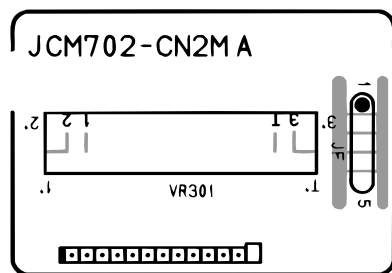


Top View

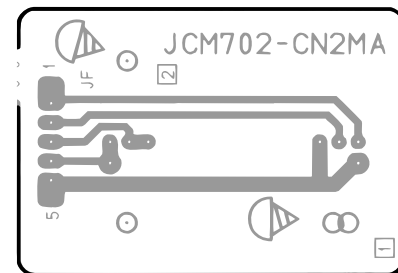


Bottom View

JCM702-CN2MA



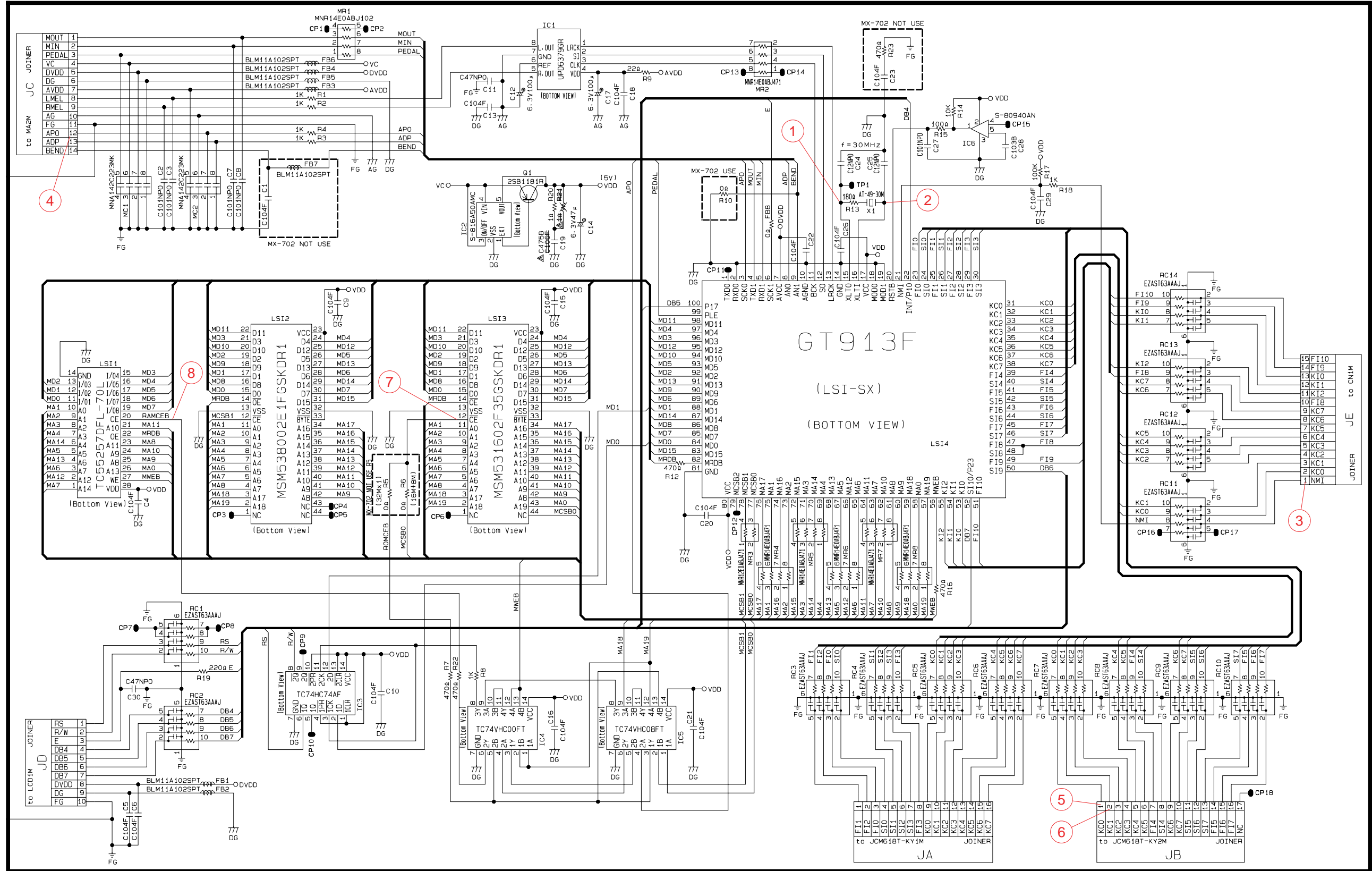
Top View



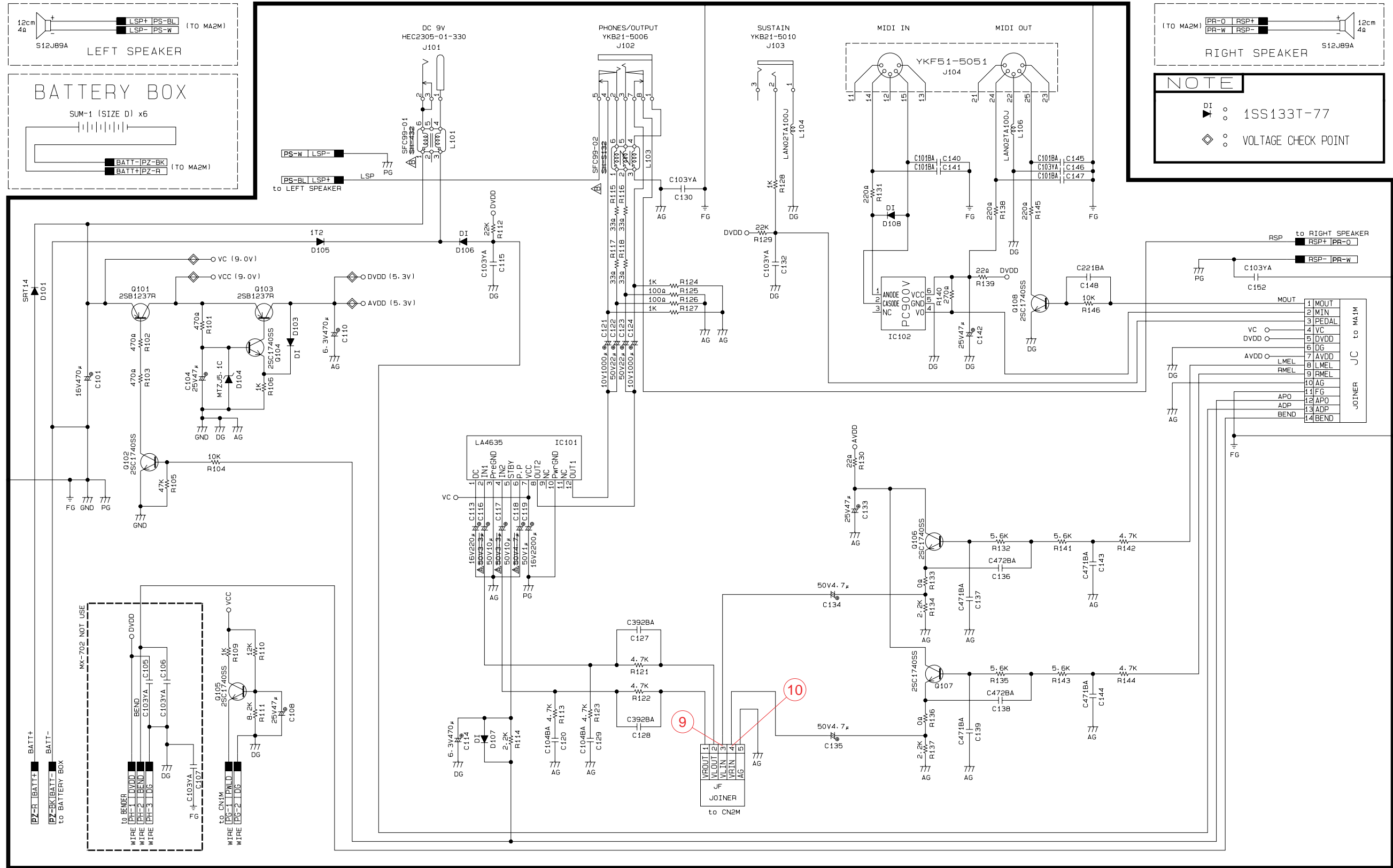
Bottom View

SCHEMATIC DIAGRAMS

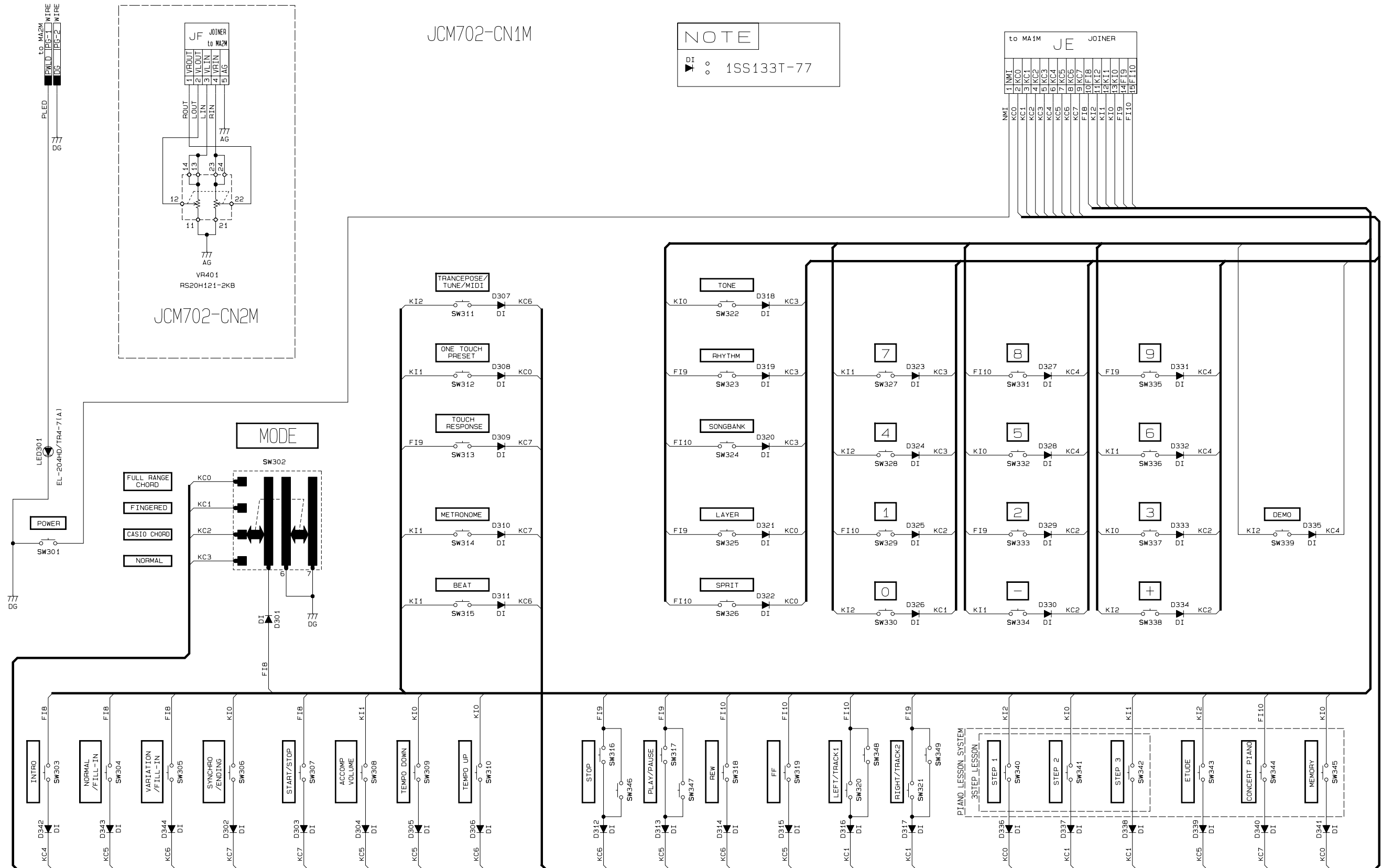
Main PCB JCM702-MA1M



Sub PCB JCM702-MA2M



Console PCB JCM702-CN1M/CN2M

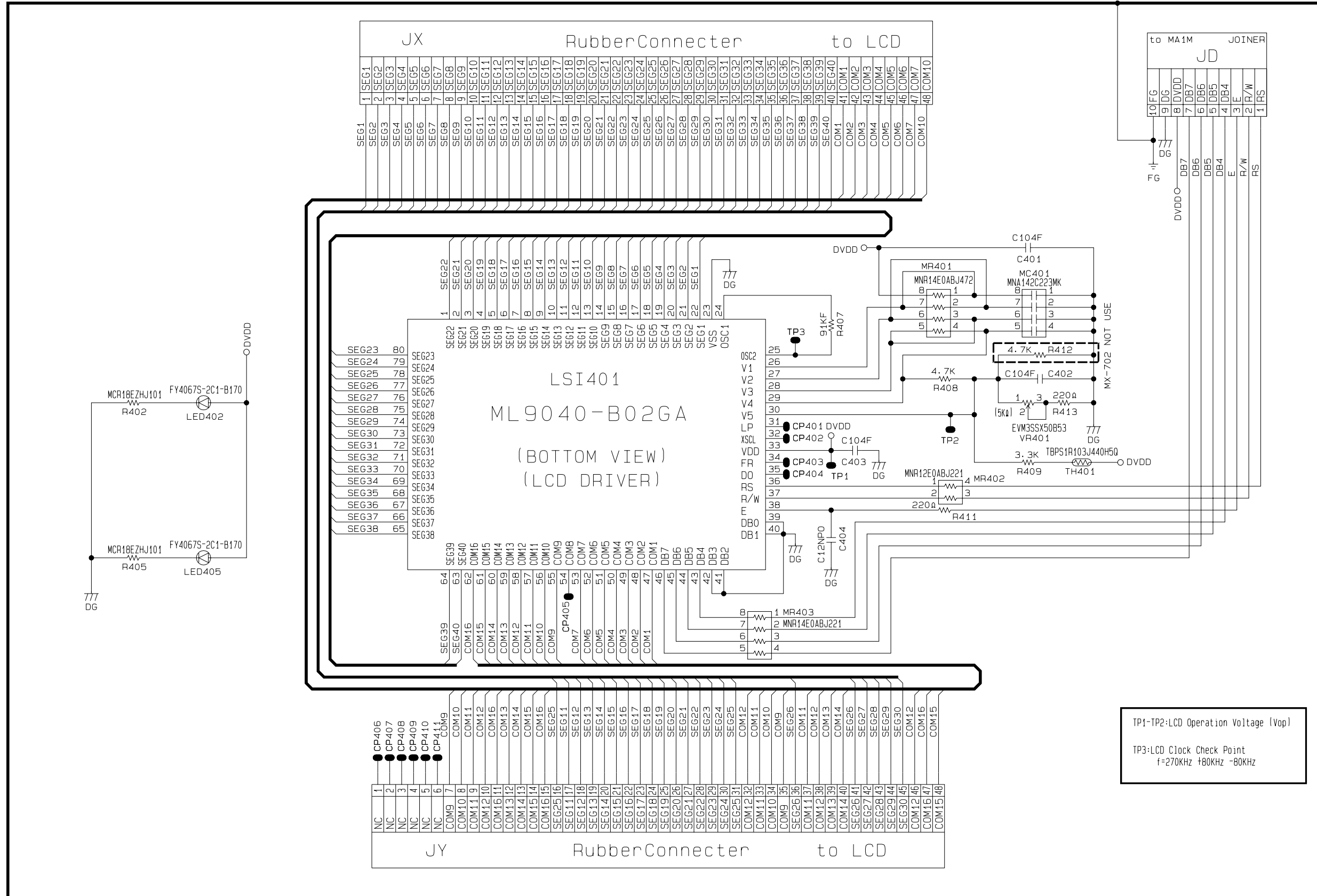


JCM702-CN1M

NOTE
 DI : 1SS133T-77

to MA1M		JE JOINER	
1	NMI	1	FT10
2	KC0	2	FT9
3	KC1	3	K10
4	KC2	4	K11
5	KC3	5	K12
6	KC4	6	FTB
7	KC5	7	FTB
8	KC6	8	FTB
9	KC7	9	FTB
10	FTB	10	FTB
11	FTB	11	FTB
12	K11	12	FTB
13	K12	13	FTB
14	K10	14	FTB
15	FT9	15	FTB

Display PCB JCM702-LCD1M



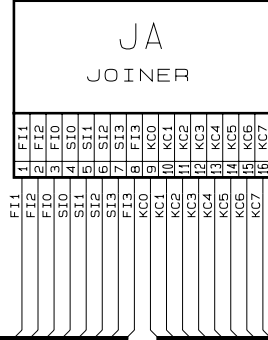
TP1-TP2:LCD Operation Voltage (Vop)
 TP3:LCD Clock Check Point
 f=270KHz +80KHz -80KHz

Keyboard PCBs JCM618T-KY1M/KY2M

NOTE

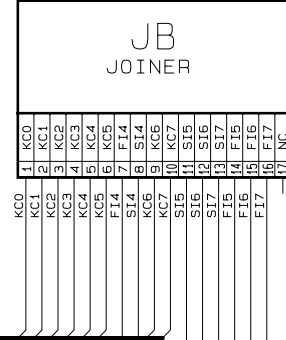
1S2473T-77-T
 (1SS133T-77-T)

JCM618T-KY1M



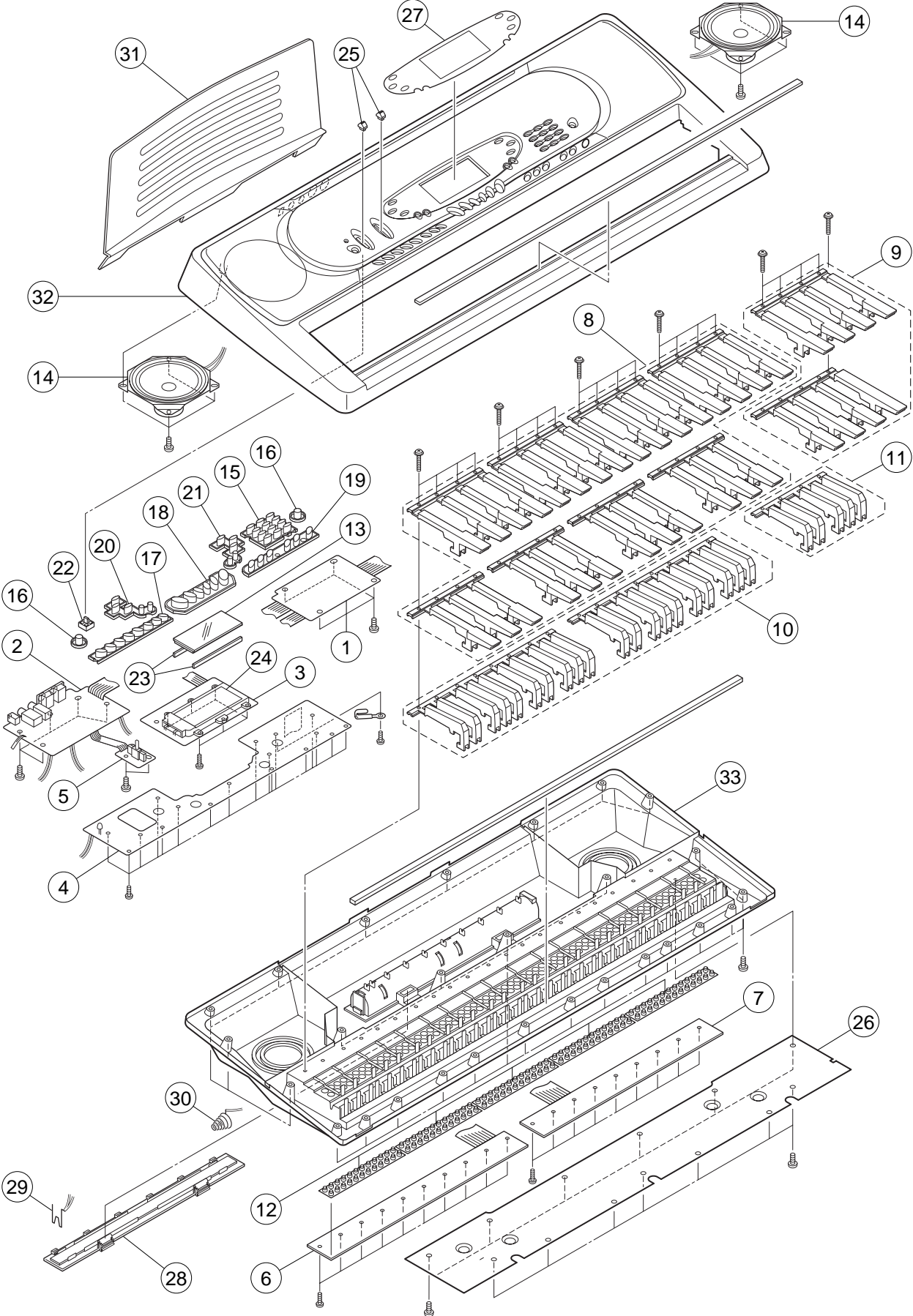
KC0	D501	DI	SM501	C2	①	FI0
KC0	D502	DI	SM502	C		SI0
KC1	D503	DI	SM503	C2	①	FI0
KC1	D504	DI	SM504	C		SI0
KC2	D505	DI	SM505	C2#	①	FI0
KC2	D506	DI	SM506	C		SI0
KC3	D507	DI	SM507	D2	①	FI0
KC3	D508	DI	SM508	C		SI0
KC4	D509	DI	SM510	D2#	①	FI0
KC4	D510	DI	SM511	C		SI0
KC5	D511	DI	SM512	E2	①	FI0
KC5	D512	DI	SM513	C		SI0
KC6	D513	DI	SM514	F2	①	FI0
KC6	D514	DI	SM514	C		SI0
KC7	D515	DI	SM516	F2#	①	FI0
KC7	D516	DI	SM516	C		SI0
KC0	D517	DI	SM517	G2	①	FI1
KC0	D518	DI	SM518	C		SI1
KC1	D519	DI	SM520	G2#	①	FI1
KC1	D520	DI	SM520	C		SI1
KC2	D521	DI	SM521	A2	①	FI1
KC2	D522	DI	SM522	C		SI1
KC3	D523	DI	SM523	A2#	①	FI1
KC3	D524	DI	SM524	C		SI1
KC4	D525	DI	SM525	B2	①	FI1
KC4	D526	DI	SM526	C		SI1
KC5	D527	DI	SM527	C3	①	FI1
KC5	D528	DI	SM528	C		SI1
KC6	D529	DI	SM530	C3#	①	FI1
KC6	D530	DI	SM530	C		SI1
KC7	D531	DI	SM531	D3	①	FI1
KC7	D532	DI	SM532	C		SI1
KC0	D533	DI	SM533	D3#	①	FI2
KC0	D534	DI	SM534	C		SI2
KC1	D535	DI	SM534	E3	①	FI2
KC1	D536	DI	SM536	C		SI2
KC2	D537	DI	SM536	F3	①	FI2
KC2	D538	DI	SM538	C		SI2
KC3	D539	DI	SM539	F3#	①	FI2
KC3	D540	DI	SM540	C		SI2
KC4	D541	DI	SM541	G3	①	FI2
KC4	D542	DI	SM542	C		SI2
KC5	D543	DI	SM543	G3#	①	FI2
KC5	D544	DI	SM544	C		SI2
KC6	D545	DI	SM545	A3	①	FI2
KC6	D546	DI	SM546	C		SI2
KC7	D547	DI	SM547	A3#	①	FI2
KC7	D548	DI	SM548	C		SI2
KC0	D549	DI	SM549	B3	①	FI2
KC0	D550	DI	SM550	C		SI2
KC1	D551	DI	SM551	C4	①	FI3
KC1	D552	DI	SM552	C		SI3
KC2	D553	DI	SM553	C4#	①	FI3
KC2	D554	DI	SM554	C		SI3
KC3	D555	DI	SM555	D4	①	FI3
KC3	D556	DI	SM556	C		SI3
KC4	D557	DI	SM557	D4#	①	FI3
KC4	D558	DI	SM558	C		SI3
KC5	D559	DI	SM559	E4	①	FI3
KC5	D560	DI	SM560	C		SI3
KC6	D561	DI	SM561	F4	①	FI3
KC6	D562	DI	SM562	C		SI3
KC7	D563	DI	SM563	F4#	①	FI3
KC7	D564	DI	SM564	C		SI3
				G4	①	FI3
				C		SI3

JCM618T-KY2M



KC0	D565	DI	SM565	G4#	①	FI4
KC0	D566	DI	SM566	C		SI4
KC1	D567	DI	SM567	G4#	①	FI4
KC1	D568	DI	SM568	C		SI4
KC2	D569	DI	SM569	A4	①	FI4
KC2	D570	DI	SM570	C		SI4
KC3	D571	DI	SM571	A4#	①	FI4
KC3	D572	DI	SM572	C		SI4
KC4	D573	DI	SM573	B4	①	FI4
KC4	D574	DI	SM574	C		SI4
KC5	D575	DI	SM575	C5	①	FI4
KC5	D576	DI	SM576	C		SI4
KC6	D577	DI	SM577	C5#	①	FI4
KC6	D578	DI	SM578	C		SI4
KC7	D579	DI	SM579	D5	①	FI4
KC7	D580	DI	SM580	C		SI4
KC0	D581	DI	SM581	D5#	①	FI5
KC0	D582	DI	SM582	C		SI5
KC1	D583	DI	SM583	E5	①	FI5
KC1	D584	DI	SM584	C		SI5
KC2	D585	DI	SM585	F5	①	FI5
KC2	D586	DI	SM586	C		SI5
KC3	D587	DI	SM587	F5#	①	FI5
KC3	D588	DI	SM588	C		SI5
KC4	D589	DI	SM589	G5	①	FI5
KC4	D590	DI	SM590	C		SI5
KC5	D591	DI	SM591	G5#	①	FI5
KC5	D592	DI	SM592	C		SI5
KC6	D593	DI	SM593	A5	①	FI5
KC6	D594	DI	SM594	C		SI5
KC7	D595	DI	SM595	A5#	①	FI5
KC7	D596	DI	SM596	C		SI5
KC0	D597	DI	SM597	B5	①	FI6
KC0	D598	DI	SM598	C		SI6
KC1	D599	DI	SM599	C6	①	FI6
KC1	D600	DI	SM600	C		SI6
KC2	D601	DI	SM601	C6#	①	FI6
KC2	D602	DI	SM602	C		SI6
KC3	D603	DI	SM603	D6	①	FI6
KC3	D604	DI	SM604	C		SI6
KC4	D605	DI	SM605	D6#	①	FI6
KC4	D606	DI	SM606	C		SI6
KC5	D607	DI	SM607	E6	①	FI6
KC5	D608	DI	SM608	C		SI6
KC6	D609	DI	SM609	F6	①	FI6
KC6	D610	DI	SM610	C		SI6
KC7	D611	DI	SM611	F6#	①	FI6
KC7	D612	DI	SM612	C		SI6
KC0	D613	DI	SM613	G6	①	FI7
KC0	D614	DI	SM614	C		SI7
KC1	D615	DI	SM615	G6#	①	FI7
KC1	D616	DI	SM616	C		SI7
KC2	D617	DI	SM617	A6	①	FI7
KC2	D618	DI	SM618	C		SI7
KC3	D619	DI	SM619	A6#	①	FI7
KC3	D620	DI	SM620	C		SI7
KC4	D621	DI	SM621	B6	①	FI7
KC4	D622	DI	SM622	C		SI7
				C7	①	FI7
				C		SI7

EXPLODED VIEW



PARTS LIST

CTK-573

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
CTK-573

N	ITEM	CODE NO.	PART NAME	SPECIFICATION	Q	PRICE CODE	R
MAIN PCB							
	1	1005 3885	PCB ASSY(MA1M)	TK-M241539*1(M702)	1	DQ	A
	LSI1	2012 5572	LSI	TC55257DFL-70L(EL)	1	AS	A
	LSI2	1004 5604	LSI	MSM538002E1FGSKDR1	1	AZ	A
	LSI3	1004 5603	LSI	MSM531602F35GSKDR1	1	BH	A
	LSI4	2012 4998	LSI	GT913F	1	BP	A
	IC1	2105 4746	LSI	UPD6379GR-E1	1	AO	A
	IC2	1002 9549	IC/C-MOS	S-816A50AMC-BAZ-T2	1	AD	A
	IC3	2101 0294	IC/C-MOS	TC74HC74AF-TP1	1	AD	A
	IC4	1004 6049	IC/C-MOS	TC74VHC00FT(EL)	1	AC	A
	IC5	2105 6631	IC/C-MOS	TC74VHC08FT(EL)	1	AC	A
	IC6	1004 7049	IC/C-MOS	S-80940ANMP-DD4-T2	1	AC	A
	Q1	1001 5566	TRANSISTOR	2SB1181TLR	1	AC	B
	X1	2590 2742	OSCILLATOR/CRYSTAL	AT-49-30M	1	AG	B
SUB PCB ASSY							
	2	1005 3886	PCB ASSY(MA2M)	TK-M241540*1(M702)	1	CO	B
	IC101	1004 3474	IC/MONOLITHIC	LA4635A	1	AN	A
	IC102	2114 1421	IC/PHOTO COUPLER	PC900V	1	AK	B
	Q102,Q104-Q108	2250 1627	TRANSISTOR	2SC1740STPS	6	AA	A
	Q101,Q103	2250 1591	TRANSISTOR	2SB1237TV2R	2	AB	A
	D101	2390 3021	DIODE	SRT14	1	AF	B
	D105	2390 3018	DIODE	1T2	1	AA	B
	D103,D106-D108	2315 3132	DIODE	1SS133T-77	4	AA	B
	D104	2360 1939	DIODE/ZENER	MTZJ5.1C-T77-T	1	AA	B
	J101	3501 7049	JACK/DC	HEC2305-01-330	1	AC	A
	J102	3612 0665	JACK/PHONE	YKB21-5006	1	AG	B
	J103	3612 0789	JACK	YKB21-5010	1	AC	B
	J104	3501 4816	JACK/DIN	YKF51-5051	1	AH	B
DISPLAY PCB							
	3	1005 6773	PCB ASSY(LCD1M)	TK-M241539*2(M702)	1	CC	B
	LSI401	1000 6502	LSI	ML9040-B02GA	1	AU	A
	TH401	2590 2177	THERMISTOR	TBPS1R103J440H5Q	1	AD	B
	VR401	2775 3286	POTENTIOMETER/TRIMER	EVM3SSX50B53	1	AC	B
CONSOLE PCB							
	4	1005 3887	PCB ASSY(CN1)	TK-M241541*1(M702)	1	BL	B
	5	1005 3888	PCB ASSY(CN2)	TK-M341421*1(M702)	1	AP	B
	D301-D344	2315 3132	DIODE	1SS133T-77	44	AA	A
	LED301	1004 6705	LED	EL-204HD-TR4-7(A)	1	AA	B
	VR301	2765 2213	VOLUME	RS20H121-2KB	1	AD	A
KEYBOARD PCB							
	6	1005 3891	PCB ASSY(KY1M)	TK-M140687*9(M702)	1	BK	B
	7	1005 3893	PCB/ASSY(KY2M)	TK-M140688*9(M702)	1	BJ	B
	D501~D564	2301 0101	DIODE	1S2473-T-77-T	64	AA	B
	D565~D622	2301 0101	DIODE	1S2473-T-77-T	58	AA	B
KEYBOARD UNIT							
	8	6922 2721	WHITE KEY SET/LT	M312118A*1	4	AP	A
	9	6922 2731	WHITE KEY SET/LT	M312118A*2	1	AP	A
	10	6906 8482	BLACK KEY SET 10P	M140369B-3	2	AM	A
	11	6906 8592	BLACK KEY SET 5P	M140369B-4	1	AI	A
	12	6927 4260	RUBBER/KEY LT SET	M340985*1	1	BJ	B

Notes: N- New parts

Q- Quantity used per unit

R- Rank

N	ITEM	CODE NO.	PART NAME	SPECIFICATION	Q	PRICE CODE	R
PANEL UNIT							
	13	1004 2196	LCD	CG1899-TTP	1	BM	B
	14	3831 1096	SPEAKER	S12J89A	2	BH	B
	15	1002 7856	RUBBER/BUTTON	M241394-1	1	AF	B
	16	6926 3950	RUBBER/BUTTON	M340681-1	2	AA	B
	17	1005 8895	RUBBER/BUTTON	M241389-4	1	AE	B
	18	1002 7850	RUBBER/BUTTON	M141111-1	1	AL	B
	19	1004 1977	RUBBER/BUTTON	M241391-2	1	AE	B
	20	1005 1796	RUBBER/BUTTON	M241392-2	1	AC	B
	21	1005 1797	RUBBER/BUTTON	M241393-2	1	AC	B
	22	6927 0510	CONTACT/SL	CSB-08D	1	AD	C
	23	1002 7158	CONNECTOR	M441141-1	2	AI	C
	24	1005 3894	BL ASSY	TK-M341418*1	1	CK	C
	25	6921 5031	KNOB/SLIDE	M311859A-1	2	AA	B
		6930 7200	PIECE/TOP 476-L	M441142A-1	1	AA	X
		6930 7201	PIECE/TOP 476-R	M441143A-1	1	AA	X
		6930 7202	FILM	M441144A-1	1	AA	C
		1003 7738	SPONGE	M441167-1	2	AA	C
		1003 0993	PLATE/BL	M341362-1	1	AT	C
		6922 4480	DUMPER/KEY	M412324-1	1	AE	C
		1006 2649	REFLECTOR	M241321A-2	1	AO	B
		1003 7737	FACE/D	M441174-1	1	AA	X
		1003 2149	LED	FY4067S-2C1-B170	2	AD	B
COMPONENT							
	26	6906 9252	PLATE/LOWER	M240573B-2	1	AS	X
	27	1005 8896	PLATE/DISPLAY	M241395-4	1	AH	C
	28	1002 9911	BATTERY COVER SUB ASSY	M341235*2	1	AM	B
	29	6903 2150	SPRING/BATTERY(+)	M41330-1	1	AA	X
	30	6902 6141	SPRING/BATTERY(-)	M41226A-1	1	AB	X
	31	1006 4961	STAND SUB ASSY/MUSIC	M340876*4(M702)	1	BB	X
	32	1006 4951	PANEL SUB ASSY	M241534*2(M702)	1	CW	X
	33	1006 4958	CASE SUB ASSY	M140573*27(M702)	1	CV	X
		6902 6690	FOOT/RUBBER	M41361-1	4	AA	B
		6927 3031	PACKING	M440775A-1	2	AA	B
		6926 6110	PACKING	M440621-1	2	AB	B

Notes:**N**- New parts

Q- Quantity used per unit

R- Rank

CASIO TECHNO CO.,LTD.
Overseas Service Division

Nishi-Shinjuku Kimuraya Bldg. 1F
5-25, Nishi-Shinjuku 7-Chome
Shinjuku-ku, Tokyo 160-0023, Japan