SERVICE MANUAL & PARTS LIST (with price)

SF-4300B(LX-588)

MAR. 1994



SF-4300B

INDEX

CASIO®

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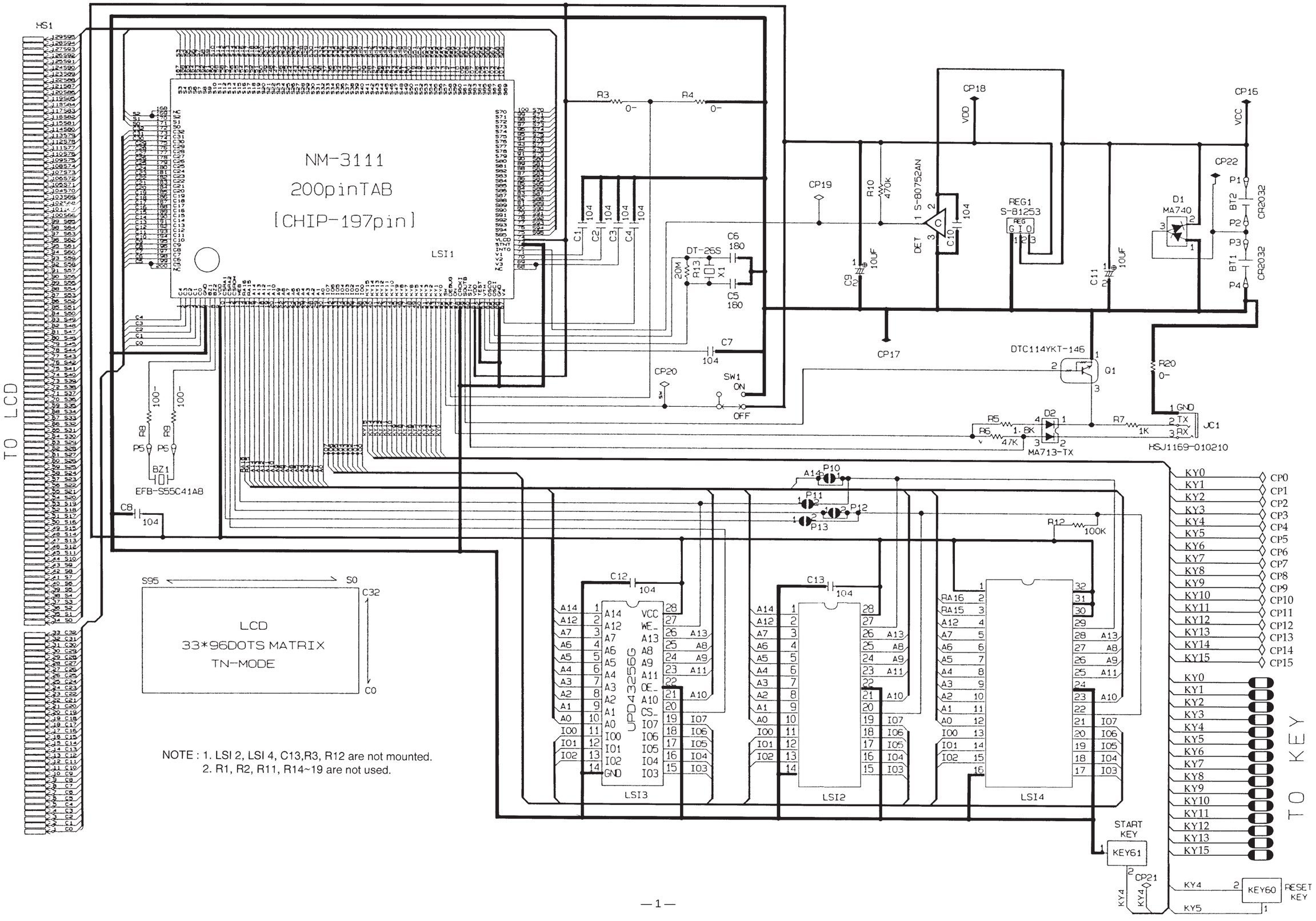
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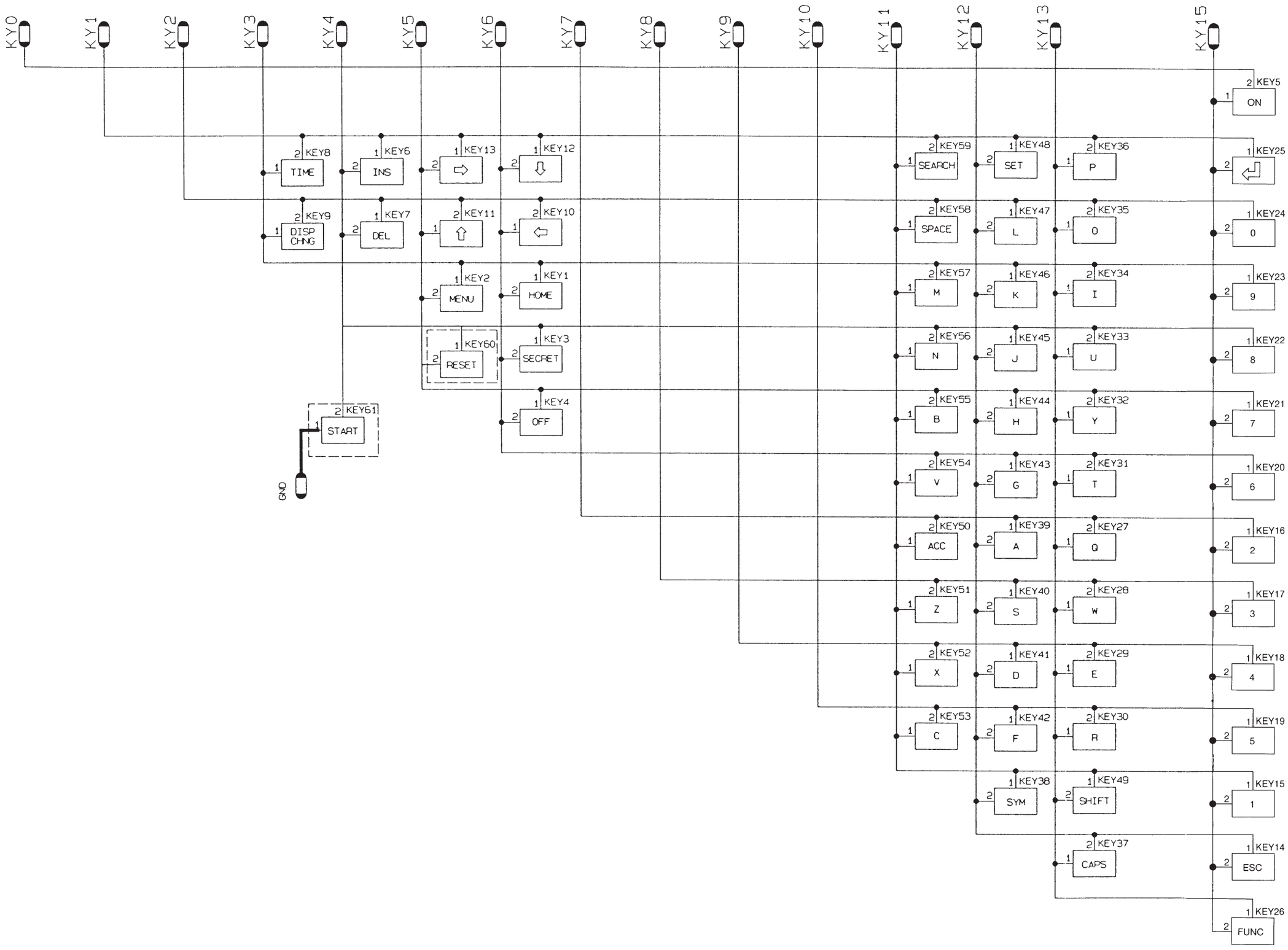
1. SCHEMATIC DIAGRAM

1-1. MAIN PCB



NOTE : 1. LSI 2, LSI 4, C13,R3, R12 are not mounted.
2. R1, R2, R11, R14~19 are not used.

1-2. KEY MATRIX



2. SPECIFICATIONS

Data storage:
Storage and recall of telephone, memo, schedule, reminder data; calendar display; secret area; editing; memory status display.

Clock:
World time; reminder alarm; schedule alarm; daily alarm; accuracy under normal temperatures: ±3 seconds average.

Calculation:
10-digit arithmetic calculations; arithmetic constants (+, –, ×, ÷); independent memory; percentages; square roots; 20-digit approximations; date calculations; other mixed calculations.

General:
Display element: 16-column × 4-line LCD
Memory capacity: 32 KB (28579 bytes)
Main component: LSI
Power supply: 2 lithium batteries (CR2032)
Power consumption: 0.05W
Battery life:
Approximately 500 hours continuous operation in Telephone Directory
Approximately 400 hours repeating one minute of input and 10 minutes of display in Telephone Directory
Approximately 12 months for memory back up
Test condition: 20°C
Auto power off: Approximately 6 minutes after last key operation
Operating temperature: 0°C ~ 40°C (32°F ~ 104°F)
Dimensions:
Unfolded: 9.6H × 122W × 158.5Dmm ($^3/_8$"H × 4 $^3/_4$"W × 6 $^1/_4$"D)
Folded: 12.4H × 122W × 81.5Dmm ($^1/_2$"H × 4 $^3/_4$"W × 3 $^1/_4$"D)
Weight: 89g (3.1 oz)

Current consumption:

Power switch	TYP. [μA]	MAX [μA]
OFF	4.85	10.0
ON	225	380

Storage Capacity:
The 32K bytes memory capacity includes a 28579 bytes user area. The following shows examples of what this means for the storage of data in each mode.

Telephone Directory:
Approximately 1360, under the following conditions: 8-character name
10-character telephone number
Approximately 680, under the following conditions: 8-character name
10-character telephone number
20-character address

Memo:

Approximately 1290, 20-character memos

Schedule Keeper:

Approximately 890, under the following conditions:

1 item per day, 20 characters per item
30 days per month
Starting time specified, alarm time set

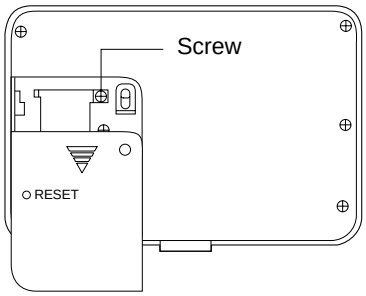
Approximately 1020, under the following conditions:

1 item per day, 20 characters per item
30 days per month
Starting time specified, no alarm time

Reminder:

Approximately 1680, under the following conditions:	10 characters per item Alarm time set
Approximately 1900, under the following conditions:	10 characters per item No alarm time

3. TO REPLACE THE BATTERIES

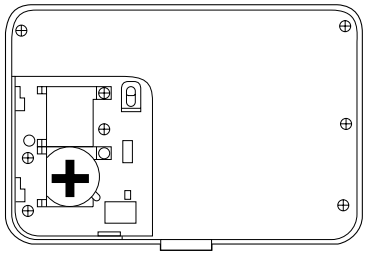


1) Loosen the screw on the back of the SF-4300B that holds the battery compartment cover in place, and remove the cover.

2) Loosen the screw that secures one of the two battery holders in place and remove the battery holder.

Caution
Be sure to remove only one battery at a time.
Otherwise, you will lose all data stored in memory.

3) Replace the old battery with a new one, making sure that the positive (+) side of the new battery is facing up (so you can see it).



4) Replace the battery holder and secure it by tightening its screw.
   - Be sure careful that you do not over tighten the screw.

5) Repeat steps 2) through 4) for the other two batteries.
   - Be sure to replace all two batteries. Never mix old batteries with new ones, and be sure to use CR2032 lithium batteries only.

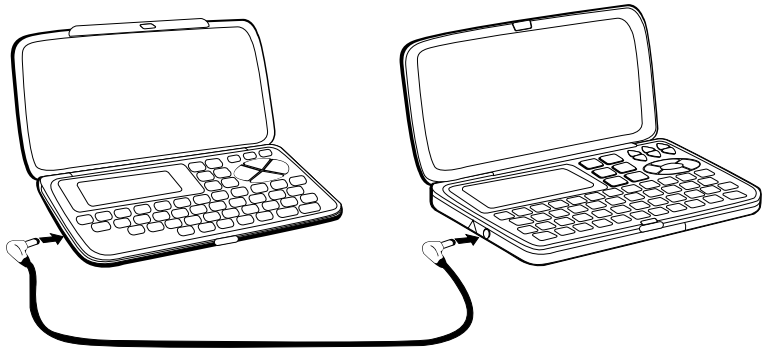
6) After you replace all two batteries, replace the battery compartment cover and secure it by tightening its screw.
   - Be careful that you do not over tighten the screw.

4. DATA TRANSFER

SF-4300B can transfer customers data to other SF-4300B with memory protection only when replacing the LCD or the outer case. How to transfer the data.

* Before connecting the cable (SB-60/62), be sure to reset the slave machine to clear all data.

1) Turn off the power switch and connect the two units using the cable (SB-60/62) as shown in the drawing.



SB-60/62 accessory cable

2) Turn on the power switch of each machine.

3) The slave machine must be set the date of Feb. 3rd, 1901 into the memory under the calculator mode.

Operation: 1. Press (ON) (MENU)
2. Select "CAL" mode or press ⑥.
3. ① [TIME DATE] ② [TIME DATE] ③ [TIME DATE] [M+ Ⓡ]

M SUN
1901/ 2/ 3

If you don't set the date, the "PASSWORD" isn't transferred to the slave machine.

Setting up for Data Communications

The following procedures describe what you should do to set up for data communications between two SF Units or between an SF Unit and a personal computer. In addition to hardware connections, it details how to set up the communications parameters and how to set up the SF-4300B to receive data. By following these instructions carefully, you can be ensured of successful communications every time.

To connect two SF Units

1. Check to make sure that the power of the two SF Units is switched off.
2. Remove the covers from the connectors on the two SF Units.
3. Connect the two SF Units using the optional SB-60/62 cable. You can also connect them using an SB-60/62 cable.

Important
Be sure to replace the connector covers on the SF Units when you are not performing data communications.

4) Check the hardware parameters.

1. Select "TEL" mode or press ① under MENU screen.

2. Press FUNC twice to display the second function menu.

FUNC FUNC



* If the password isn't registered in the SF unit, display shows **X** instead of "1".

- You can perform the above operation while the initial screen of the Memo Mode, Schedule Keeper, Calendar, or Reminder is displayed also.

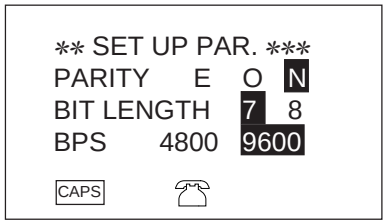
3. Press 4 to select DATA COMM.

4



4. Press 3 to select SET UP.

3



• **N** is blinking.

5. If the units have another condition, reset as above.
   • To change the parameters

△/▽ ◁/▷

1. Use the △ and — cursor keys to change the selected parameter on the display.
2. Use the ◁ and ▷ cursor keys to change the high-lighted setting of the currently selected parameter.

SET

3. Press SET to store them in memory.

5) Set up the slave machine

1. While an initial screen is displayed, press FUNC twice to display the second function menu.

FUNC FUNC



* If the password isn't registered in the SF unit, display shows **X** instead of "1".

• You can perform the above operation while the initial screen of the Memo Mode, Schedule Keeper, Calendar, or Reminder is displayed also.

2. Press 4 to select DATA COMM.

4



3. Press 2 to select RECEIVE.

2



6) Set up the customer's machine.

1. While an initial screen is displayed, press FUNC twice to display the second function menu.

FUNC FUNC

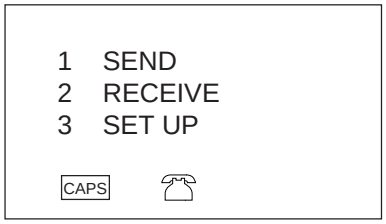


* If the password isn't registered in the SF unit, display shows **X** instead of "1".

• You can perform the above operation while the initial screen of the Memo Mode, Schedule Keeper, Calendar, or Reminder is displayed also.

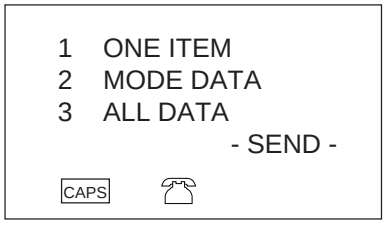
2. Press 4 to select DATA COMM.

4



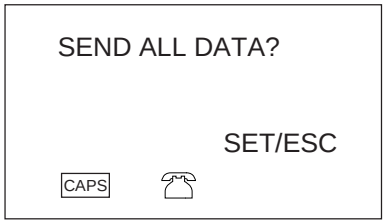
3. Press 1 to select SEND.

1



4. Press 3 to select ALL DATA.

3



5. Press SET to start the send operation or ESC to abort the operation without sending anything.

SET or ESC



- Data is send in the sequence: Telephone Directory, Memo Mode, Reminder Mode, Schedule Keeper, Calendar.
- To abort the send operation at any time, press ESC.
- If an error occurs during the send operation, the message “TRANSMIT ERROR!” appears on the display. Press ESC to clear the error message.

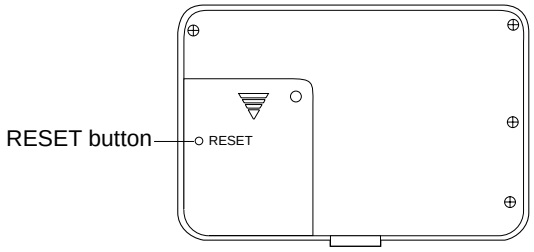
6. After the send operation is complete, the display returns to the initial screen of the mode you were in when you started this procedure.

5. OPERATION REFERENCE

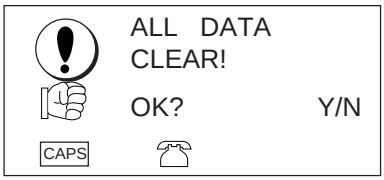
5-1. RESET OPERATION

The following procedure erases all data stored in the memory of the SF Unit.
Perform the following operation only when you want to delete all data and initialize the settings of the SF Unit.
Remember-you should always keep copies of important data by writing it down, by transferring it to a personal computer or other SF Unit.

To reset the SF Unit's memory



1. Switch on power and press the **RESET** button with a thin, pointed object.



Warning!
The next step deletes all data stored in the SF Unit's memory. Make sure that you really want to delete the data before you continue!

2. Press **Y*** to reset the memory and delete all data or **N** to abort the reset operation without deleting anything.

   * Note that the letter key you press to indicate "yes" depends on the system language, as noted below.

   English: **Y** Spanish: **S** German: **J**
   French: **O** Italian: **S**

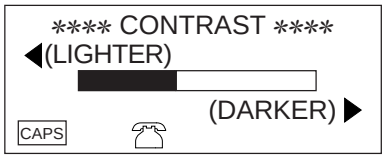
   Following the reset operation described above, the Home Time display appears and the SF Unit setting are initialized as noted below.

Home Time:	12-hour format JAN/1/1994 AM/12:00 00
Zone:	London(LON)
World Time:	New York(NYC)
Daily Alarm:	12:00 PM
Menu Mode:	Telephone mode
Language:	English

Sound:	Schedule alarm → ON
	Reminder Alarm → ON
	Daily alarm → OFF
	Key → ON
Character input:	CAPS

5-2. TO ADJUST THE DISPLAY CONTRAST

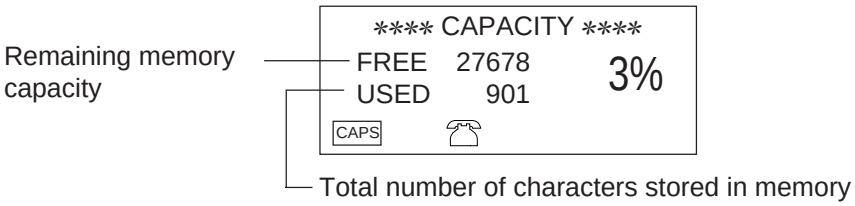
1 Enter the Telephone Directory Mode.
   • You could enter any mode except the Calculator mode here.
2 Press **SHIFT** and confirm that the "S" indicator is on the display.
3 Press **CONT**.
4 Use the ◁ and ▷ keys to adjust the contrast.



5 After you are finished, press **ESC** to clear the contrast adjustment display.

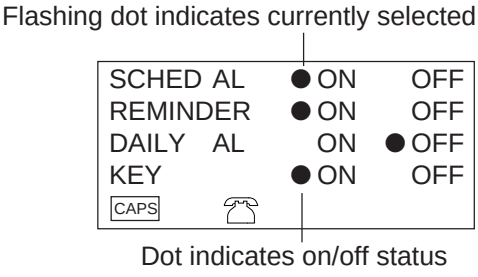
5-3. TO CHECK THE MEMORY STATUS

Hold down **SHIFT CAPA** to display a screen that shows the current memory status. To clear the memory status display, release **CAPA**.



5-4. THE SOUND MENU

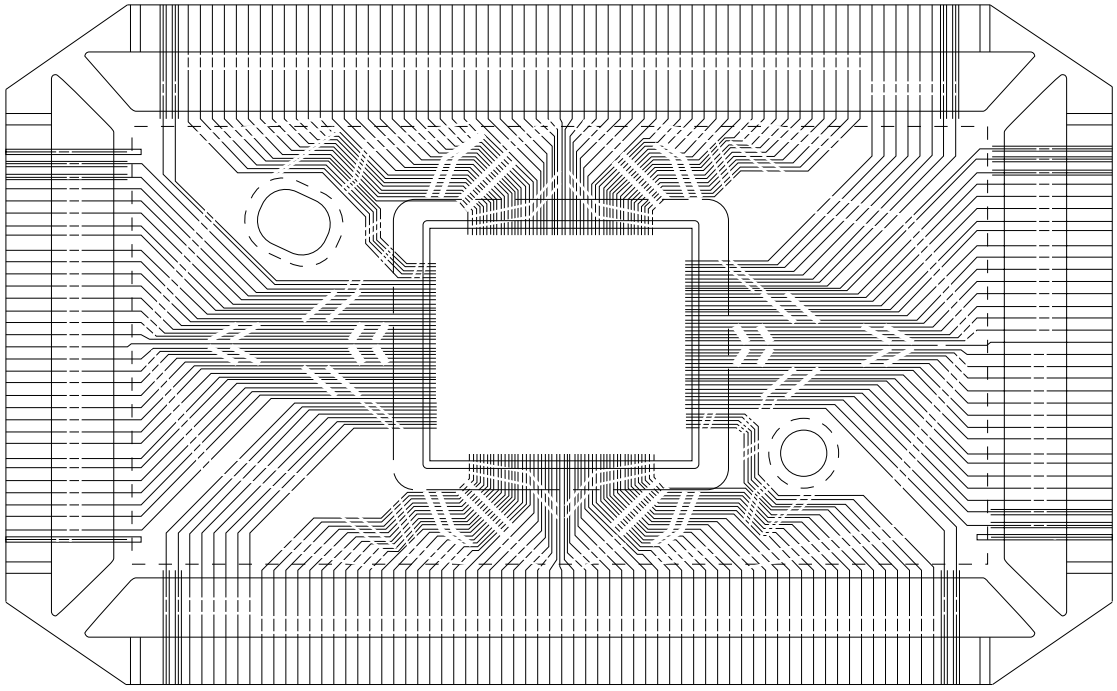
The sound menu lets you switch the key input tone and the various alarms of the SF Unit on and off.



The on/off status of each SOUND menu items is indicated by a dot, and the dot that is flashing on the menu is the one that is currently selected.
Use △ and ▽ to change the currently selected (flashing) item. Use ◁ and ▷ to switch the currently selected item on and off.

6. LSI, IC (Pin function)

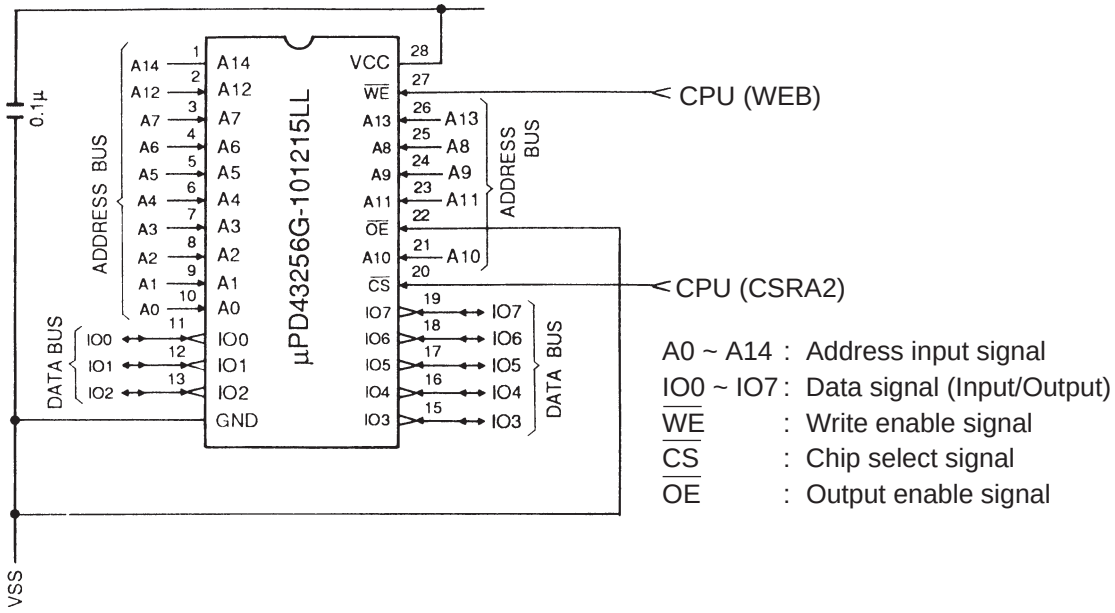
6-1. CPU



Pin No.	Signal	I/O	Function
1 ~ 5	C0 ~ 4	Out	Common Signal for display
6	GND	In	GND /0[V]
7,8	BZ1,2	Out	Buzzer terminal
9	VDD	In	Power supply/5.3[V]
10	CSRA1	Out	Chip enable signal (Not used)
11	CSRA2	Out	Chip enable signal for RAM
12	CSROM	Out	Chip enable signal (Not used)
13	WEB	Out	Write enable signal for RAM
14,15	RA15,16	Out	Address bus (Not used)
16 ~ 30	A0 ~ 14	Out	Address bus
31 ~ 38	IO0 ~ 7	I/O	Data bus
39 ~ 54	KY0 ~ 15	I/O	Key signal
55	SW	In	Battery switch (On: "L"/0[V] Off: "H"/6[V])
56	DEBUG	-	Test for manufacturer
57	ON	Out	Data communication enable
58	CRCKI	In	GND/0[V]
59	SOUTB	Out	Transmission data output
60	SIN	In	Transmission data input
61	VDD	In	Power supply/5.3[V]
62	TEST	-	Test for manufacturer
63	VTM	-	Not used

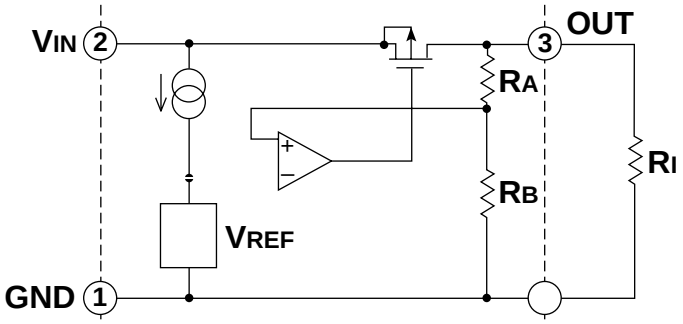
Pin No.	Signal	I/O	Function
64,65	OSC I/O	I/O	Clock terminal (DT-26S)
67,69~71	V1 ~ 4		Voltage for LCD driver OFF: 0[V] ON: V1: 0.64(Light) ~ 1.29(Dark) [V] V2: 1.29 ~ 2.56 [V] V3: 3.99 ~ 2.71 [V] V4: 4.64 ~ 3.99 [V]
68	NC	-	Not used
72	INTO	In	Low battery detection INTO<5.2[V]=> No power on
73	STNT	-	GND/0[V]
74	VLCD	In	Power supply/5.3[V]
75 ~ 171	S0 ~ 95	Out	Segment signal for display
172 ~ 199	C5 ~ 32	Out	Common signal for display
168,200	NC	-	Not used

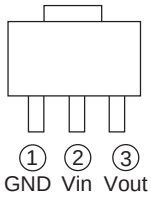
6-2. RAM: μPD43256G-101215LL (LSI 3)



6-3. VOLTAGE REGULATOR: S-81253SGUP (REG1)

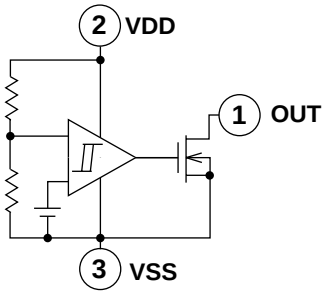
Output Voltage (Vout) : 5.3V ± 5%

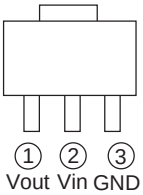


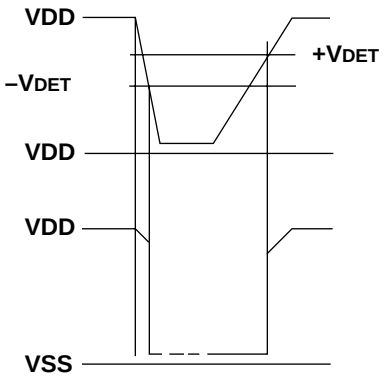


6-4. VOLTAGE DETECTOR: S-80752AN (DET1)

Detection Voltage(–VDET) : 5.2V ± 2.5%
[5.07V (MIN) ~ 5.33V (MAX)]



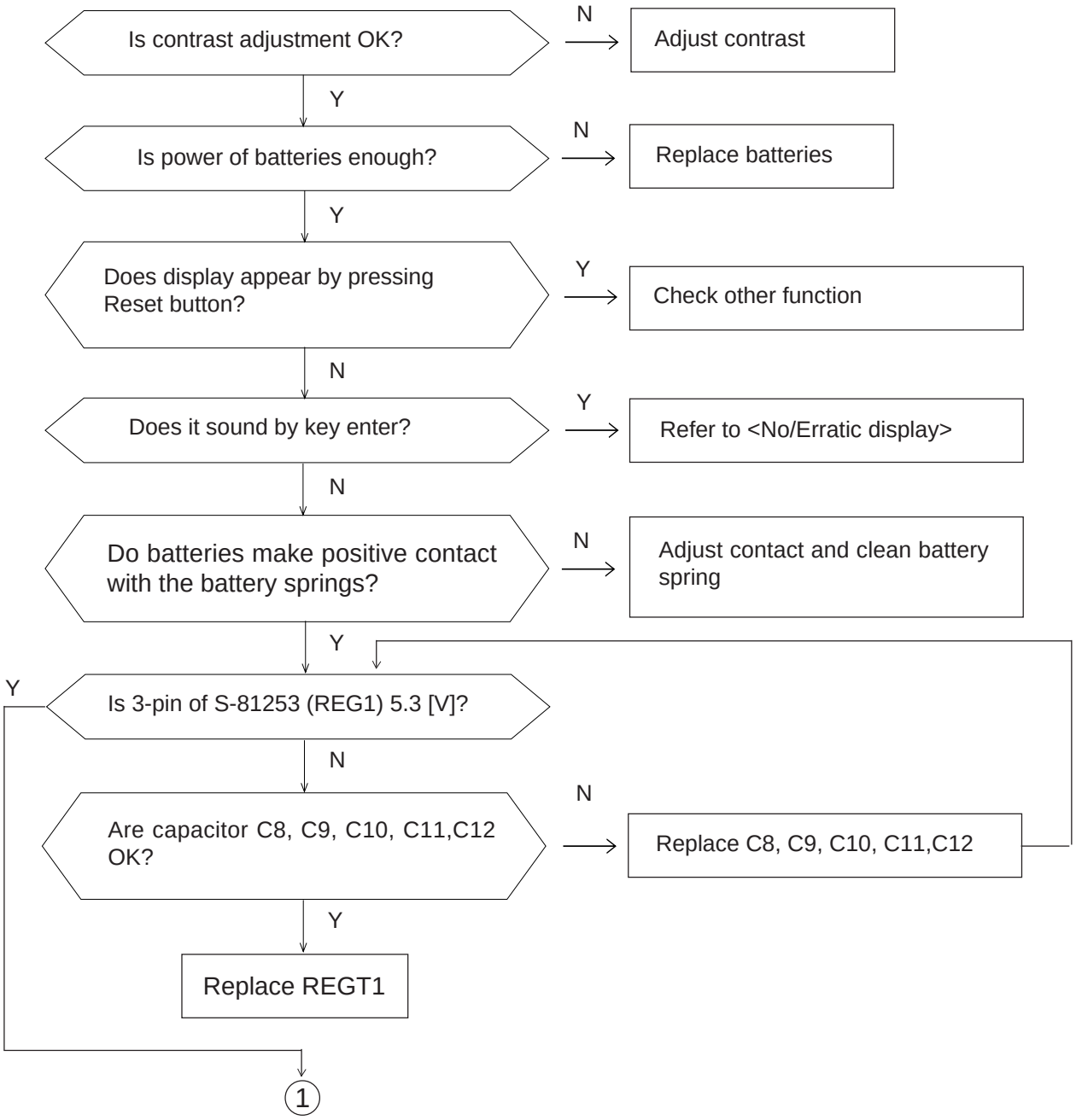


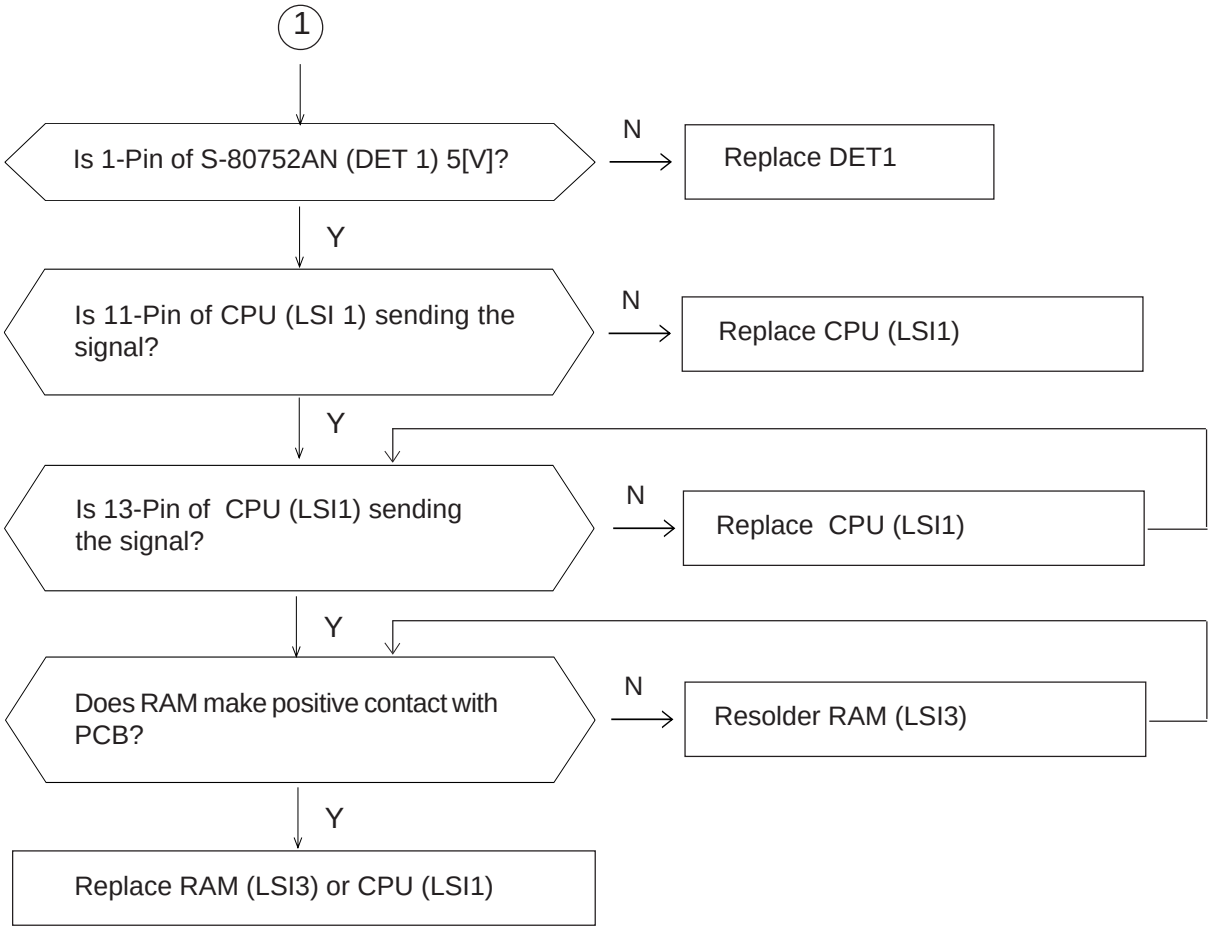


Input voltage	Output voltage
>5.2V	5V
<5.2V	0V

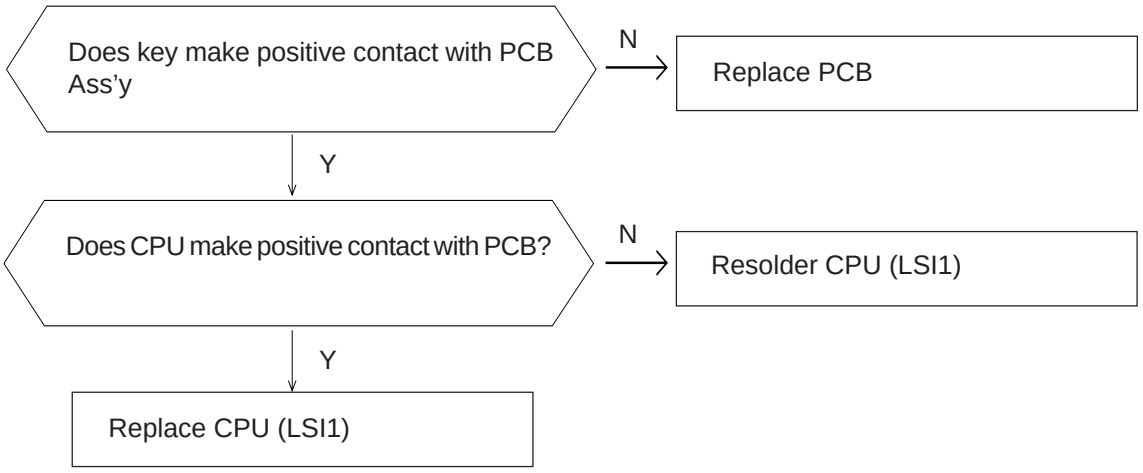
7. TROUBLESHOOTING

< No power on >

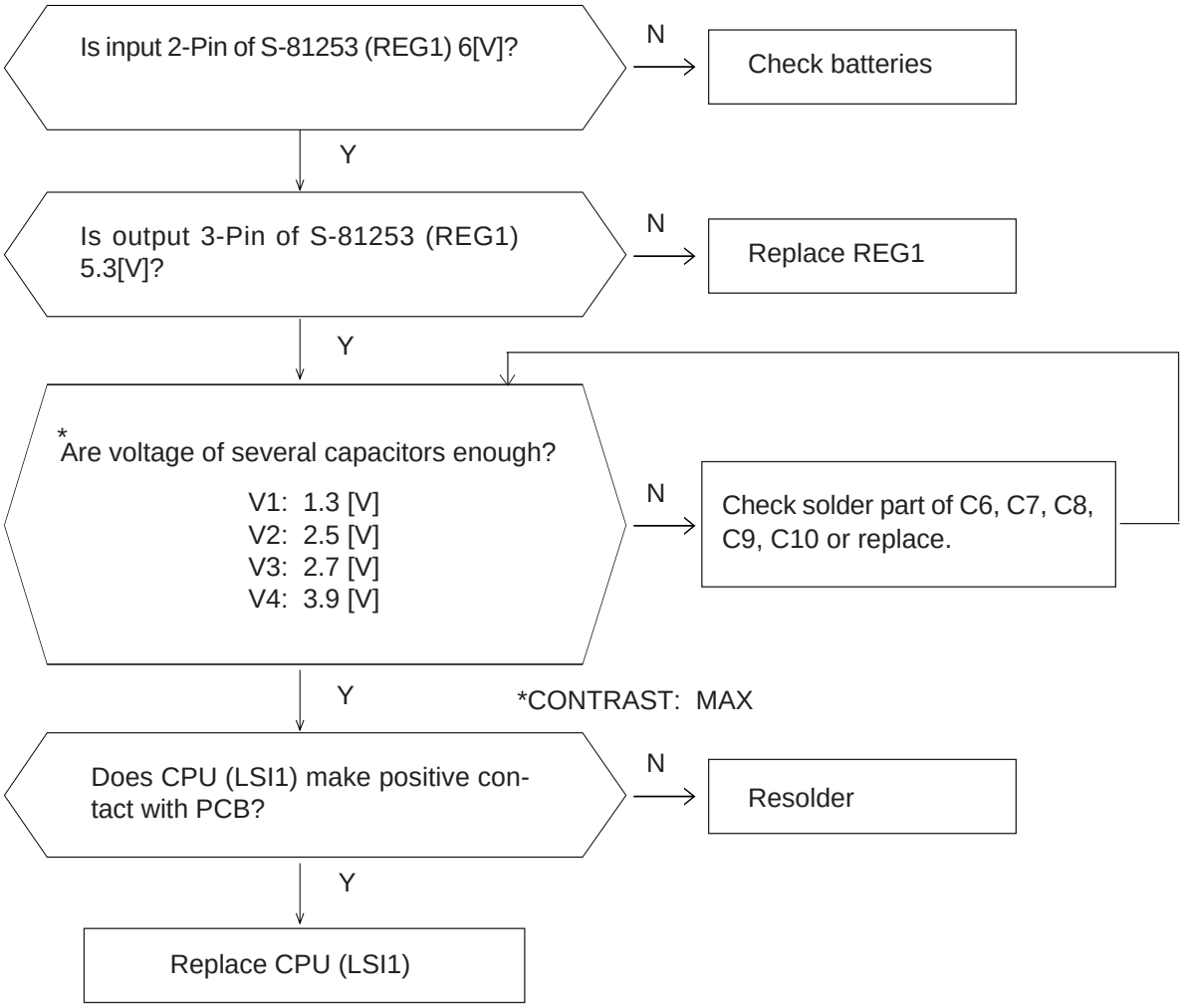



1
Is 1-Pin of S-80752AN (DET 1) 5[V]?
N
Replace DET1
Y
Is 11-Pin of CPU (LSI 1) sending the signal?
N
Replace CPU (LSI1)
Y
Is 13-Pin of CPU (LSI1) sending the signal?
N
Replace CPU (LSI1)
Y
Does RAM make positive contact with PCB?
N
Resolder RAM (LSI3)
Y
Replace RAM (LSI3) or CPU (LSI1)

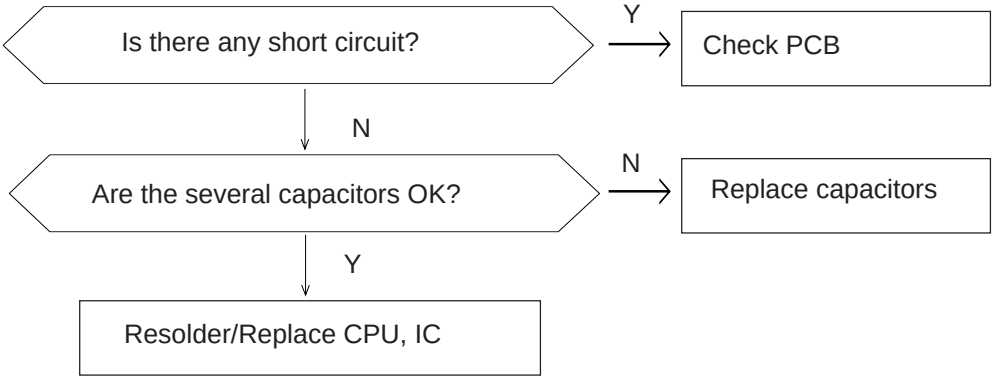
< No key input >


Does key make positive contact with PCB Ass'y
N
Replace PCB
Y
Does CPU make positive contact with PCB?
N
Resolder CPU (LSI1)
Y
Replace CPU (LSI1)

< No/Erratic display >



< High current consumption >



8. HARD CHECK

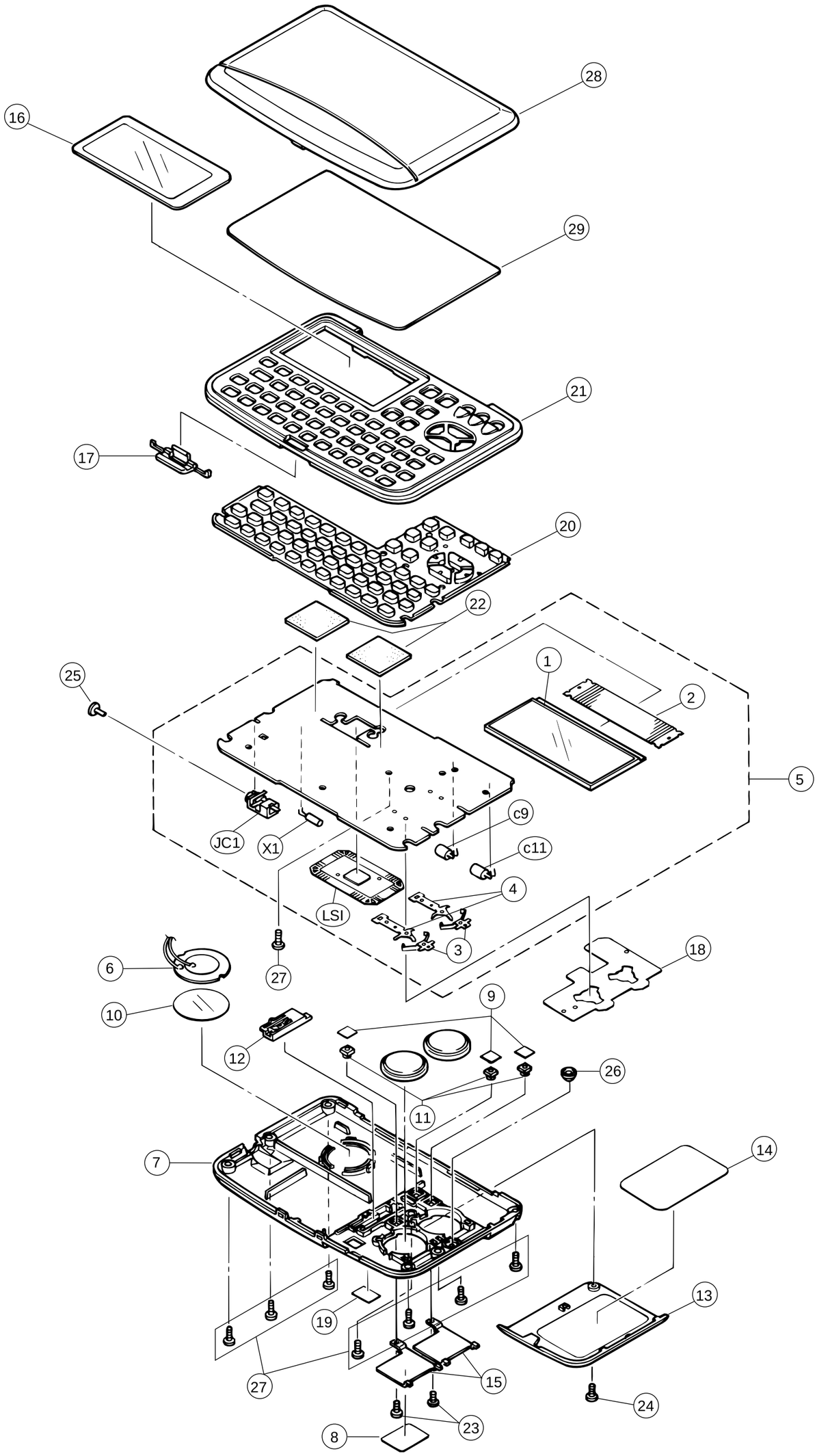
No.	OPERATION	DISPLAY	NOTE
1	Turn on while short the short pad (KEY61).	SELF TEST PROG. PRESS SEARCH QUIT BY OFF CASIO AUG. 1993	The short pad is located behind the tape ⑲.
2	SEARCH	TEST MENU 1 DISP 2 MEMORY 3 KEY 4 BUZZER 5 I/F	Main menu
3	1	DISP 1 WHITE 2 BLACK 3 CHECK. 4 RVS. 5 FRAME 6 DOT 4 7 TIME	Display check
4	1	No display	
5	2	All dots display	
6	3	Checker display	
7	4	Reverse checker display	

No.	OPERATION	DISPLAY	NOTE
8	5	FRAME	
9	6	Dots appear at 4 corners.	
10	7	TIME DISPLAY 00:00:00	Check if timer is working.
11	[ESC]	TEST MENU 1 DISP 2 MEMORY 3 KEY 4 BUZZER 5 EXT	
12	3	KEY 1 RANDOM 2 AUTO	Key check
13	2	No display	
14	[HOME/WORLD] [MENU]  [OFF] [ON] [INS] [DEL] [TIME/DATA] [DISP CHNG] ◀ ▲ ▼ ▶ [ESC]..... [↵] [FUNC]..... [P] [CAPS]..... [SET] [SHIFT]..... [SPACE]	00 01 02 03 04 .... 56 57	• Check the key No. appears on the display. • Check the key sounds. • To return to the menu mode, enter [SEARCH].

No.	OPERATION	DISPLAY	NOTE
15	SEARCH	TEST 2 MEMORY MENU 3 KEY 4 BUZZER 1 DISP 5 EXT	
16	4	BUZZER 1 BEEP 2 ALARM1 3 ALARM2	Buzzer check
17	2	EXECUTING!!	Check the alarm 1 sound.
18	ESC	BUZZER 1 BEEP 2 ALARM1 3 ALARM2	
19	ESC	TEST 2 MEMORY MENU 3 KEY 4 BUZZER 1 DISP 5 EXT	
20	2	MEMORY 3 WR2 4 READ2 1 WR1 5 DUMP 2 READ1 6 CHKSUM	RAM check
21	1	WRITE1	

No.	OPERATION	DISPLAY	NOTE
22	(After few seconds)	MEMORY 1 WR1 2 READ1 3 WR2 4 READ2 5 DUMP 6 CHKSUM	
23	2	EXECUTING	
24		COMPLETE 32KB	Check sound. If RAM has defect, error message will be appeared.
25	ESC ESC	TEST MENU 1 DISP 2 MEMORY 3 KEY 4 BUZZER 5 EXT	
26	Press "RESET" key.		

9. ASSEMBLY VIEW



10. PARTS LIST

N	Item	Code No.	Parts Name	Specification	Q	M	FOB Japan N.R.Yen Unit Price	R
N	LSI1	6409 2760	COB LSI	C312133*1	1	1	1,010	A
	LSI3	2011 2849	LSI (RAM)	uPD43256AGU-1012LL	1	1	600	B
	Q1	2259 0959	Chip digital transistor	DTC114YKT-146	1	20	12	B
N	DET1	2105 3297	CMOS IC	S-80752AN-JG-T1	1	10	47	B
N	REG1	2105 3290	Regulator	S-81253SGUP-DIJ-T1	1	5	60	B
	C1~4	2896 1400	Chip capacitor	C1608JF1C334Z-TP	5	20	10	C
	C5,6	2845 2534	Chip capacitor	MCH185A180JK	2	20	4	C
	C7	2845 2548	Chip capacitor	MCH183F104ZK	1	20	6	C
	C8,10,12	2845 1540	Chip capacitor	MCH212F104ZK	3	20	4	C
	C9,11	2805 0275	Electrolytic capacitor	CE04C-1A100MS5	2	20	21	C
N	D1	2390 2128	Chip diode	MA740-(TX)	1	20	50	C
	D2	2390 0364	Schottky diode	MA713-TX	1	20	33	C
	R4,20	2797 2051	Chip resistor	ERJ-3GEY0R00	1	20	2	C
	R5	2791 1170	Chip resistor	ERJ-6GEYJ182	1	20	3	C
N	R6	2797 0637	Chip resistor	ERJ-6GEYJ473	1	20	2	C
	R7	6510 4770	Chip resistor	CC1001311C0	1	20	5	C
	R8,9	2797 1078	Chip resistor	ERJ-6GEYJ101	2	20	3	C
	R10	2791 1871	Chip resistor	ERJ-6GEYJ474	1	20	3	C
	R13	2797 2520	Chip resistor	ERJ-3GEAK206V	1	20	2	C
	X1	7110 0642	Crystal oscillator	DT-26S	1	1	57	B
	JC1	3501 6538	Jack	HSJ1169-012010	1	20	56	C
N	1	3335 4606	LCD	CD418-TS	1	1	350	A
N	2	6409 6270	Heat seal	FX200P40056	1	5	82	A
N	3	6409 6300	Battery contact spring (+)	EF01DB20102	2	20	16	C
N	4	6409 6310	Battery contact spring (–)	EF02DB10100	2	20	16	C
N	5	6409 6090	PCB ass'y	DB20XX0300V*1	1	1	3,060	A
			(This ass'y contains the above parts as its element.)					
N	6	3122 2380	Buzzer	EFB-S55C41A8	1	10	36	C
N	7	6409 6200	Lower case	FABDB201004	1	5	61	X
N	7	6410 8340	Lower case (USA,CANADA)	FABDB201012	1	5	70	X
N	8	6409 6210	Battery change label	HGC00001102	1	20	7	X
	9	6510 4440	Insulation seal	HGFC0001206	3	20	6	X
	10	6510 4500	Buzzer tape	HGFC0000501	1	10	17	X
	11	6512 1080	Nut	MD100000602	3	20	15	X
	12	6408 5920	Switch knob ass'y	DB2AXX4A00M*1	1	10	30	C
N	13	6409 6220	Battery cover	FADDB201001	1	20	29	X
N	14	6409 6230	Battery cover label	HGC00001200	1	20	16	X
N	15	6409 6120	Battery holder	ECDB1011108	2	20	26	X
N	16	6409 6130	Display panel	EL5G0009107	1	10	48	C
N	17	6409 6140	Knob	FB3DB201001	1	20	13	X
N	18	6409 6150	Battery insulation	EL4C0001105	1	10	27	X
N	19	6409 6160	Mask tape	HGG00012808	1	20	7	X
N	20	6409 6170	Rubber key	LADB2010001	1	1	200	C
N	21	6409 6180	Upper case	FAADB201008	1	1	120	C
N	22	6409 6190	Cushion	FH100027108	2	20	10	X
	23	6510 4310	Screw	MAA80006311	2	20	3	C
	24	6510 4350	Screw	MAA80006302	1	20	2	B
	25	6511 7160	RB Insert	LC120000102	1	10	17	B
	26	6511 8400	Key contact rubber	LADB0220105	1	10	10	C

Notes: N – New parts
M – Minimum order/supply quantity
R – Rank
Q – Quantity used per unit

R – A : Essential
B : Stock recommended
C : Others
X : No stock recommended

N	Item	Code No.	Parts Name	Specification	Q	M	FOB Japan N.R.Yen Unit Price	R
N	27	6512 0980	Screw	MAB20086306	8	20	2	X
N	28	6409 6240	Hard case	FC1DB20001	1	5	78	X
N	29	6409 6250	Label	HGG00012603	1	1	130	X

Notes: N – New parts
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R – A : Essential
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