

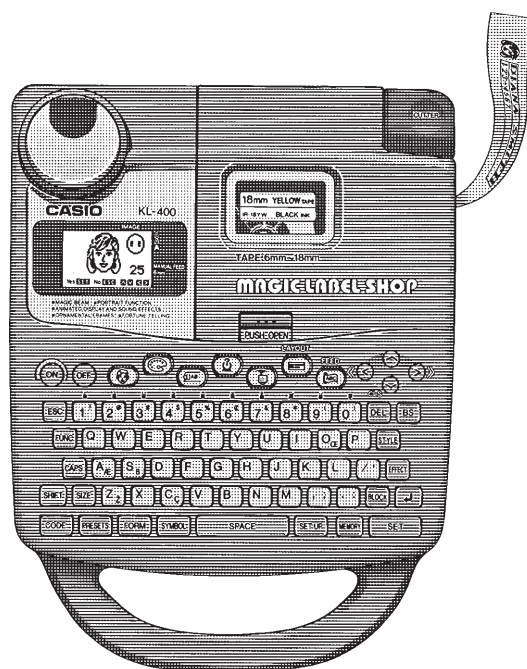
# SERVICE MANUAL & PARTS LIST (without price)

## LABEL PRINTER

**KL-400** (LX-261AE)

**C-700** (LX-261BE)

**MAR. 1995**



KL-400

**INDEX**

# CASIO®

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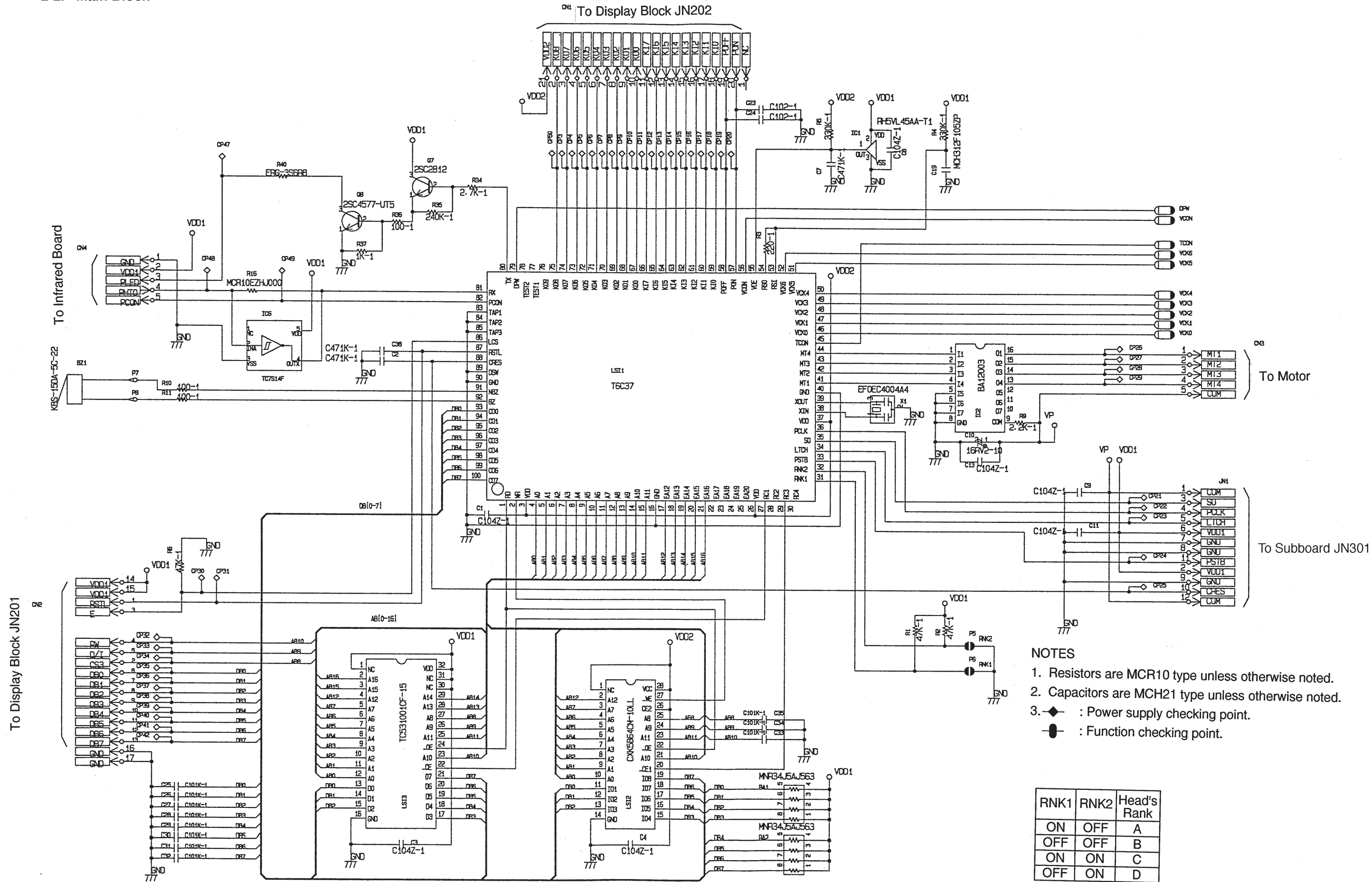
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**Note:**

Ink ribbon/Tape cassette will be supplied from our Sales division.  
Place an order to our Sales division.

1. SCHEMATIC DIAGRAM

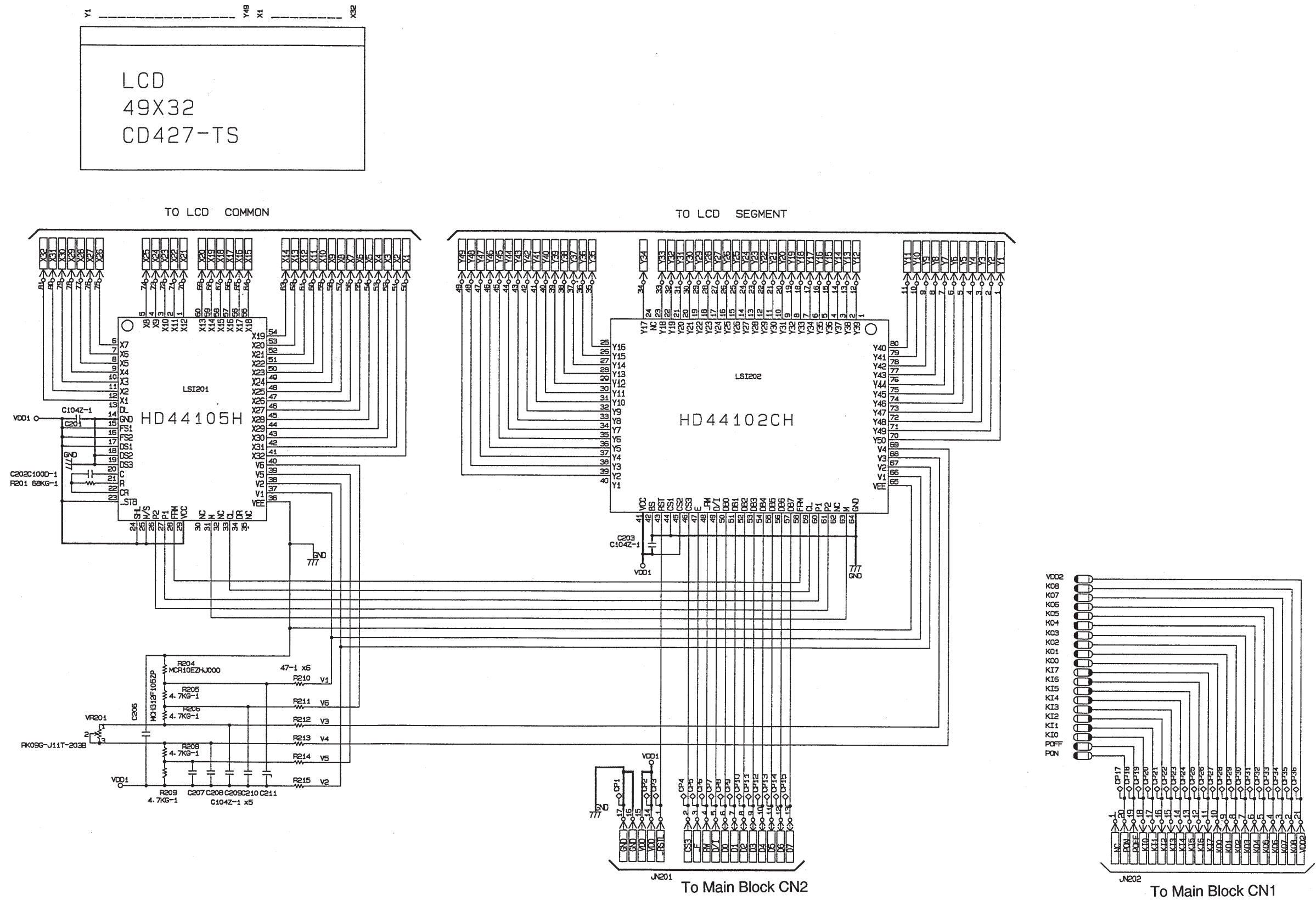
1-1. Main Block



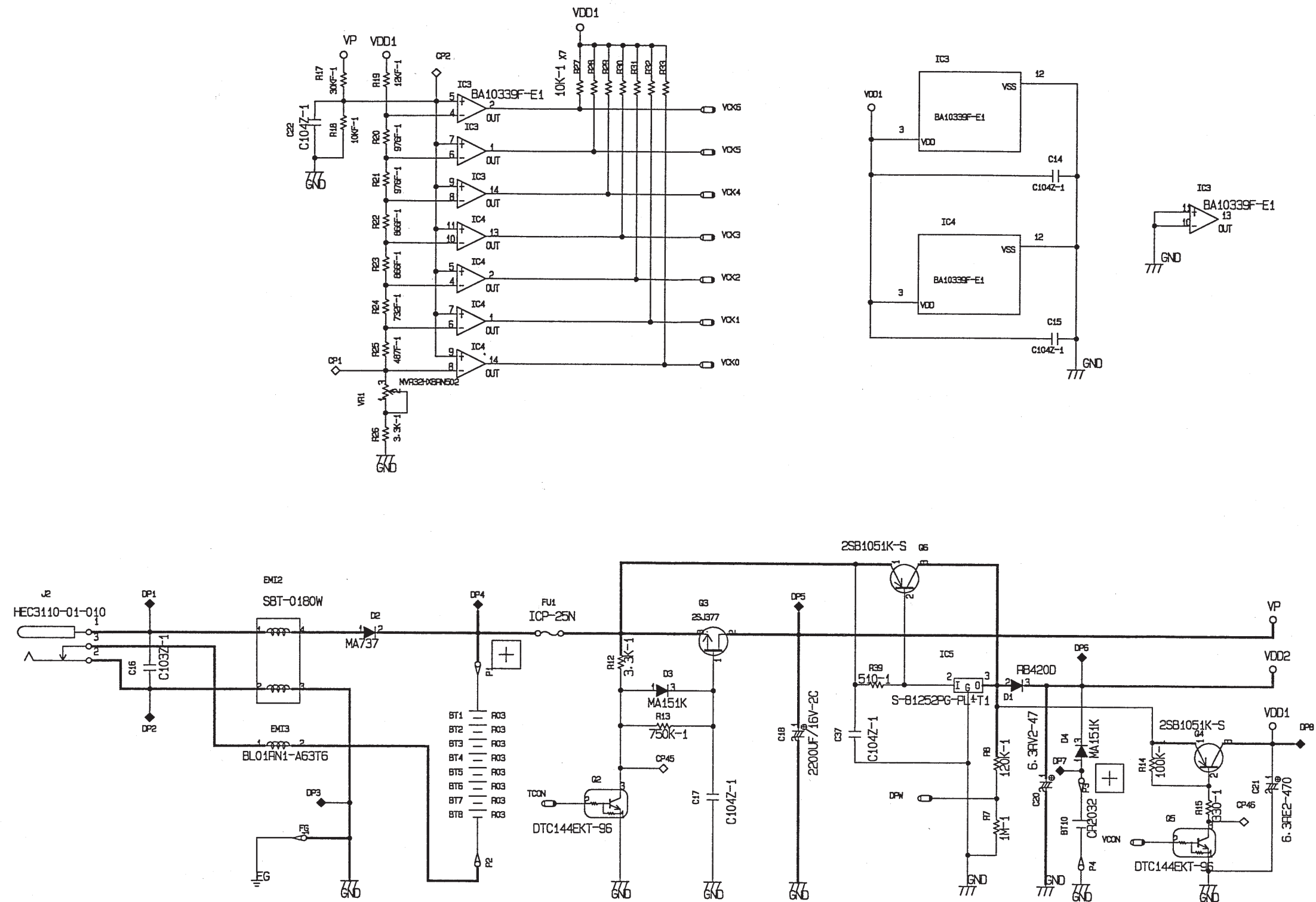
- NOTES
- 1. Resistors are MCR10 type unless otherwise noted.
  - 2. Capacitors are MCH21 type unless otherwise noted.
  - 3. ◆ : Power supply checking point.  
● : Function checking point.

| RNK1 | RNK2 | Head's Rank |
|------|------|-------------|
| ON   | OFF  | A           |
| OFF  | OFF  | B           |
| ON   | ON   | C           |
| OFF  | ON   | D           |

1-2. Display Block

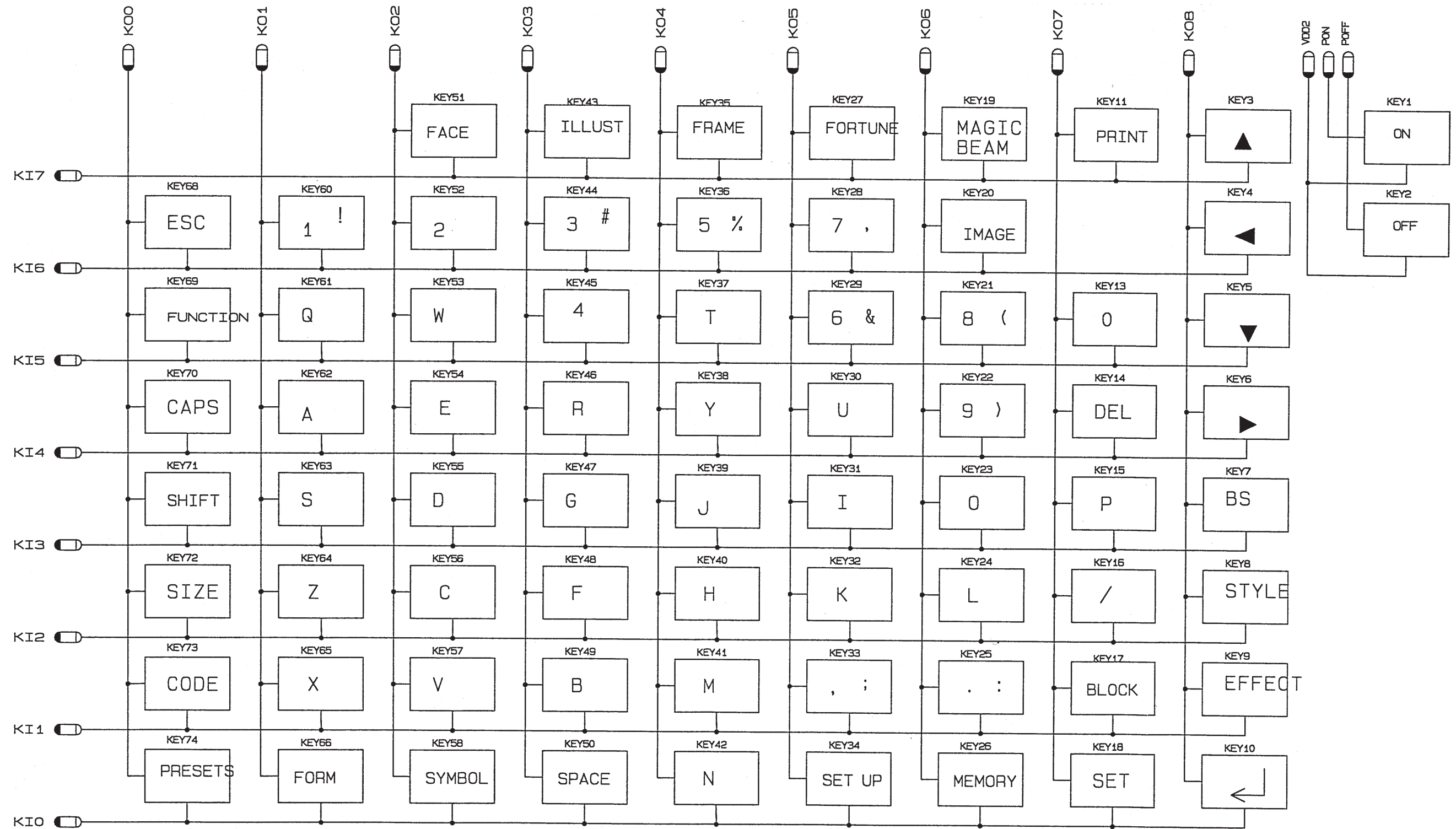


### 1-3. Power Supply

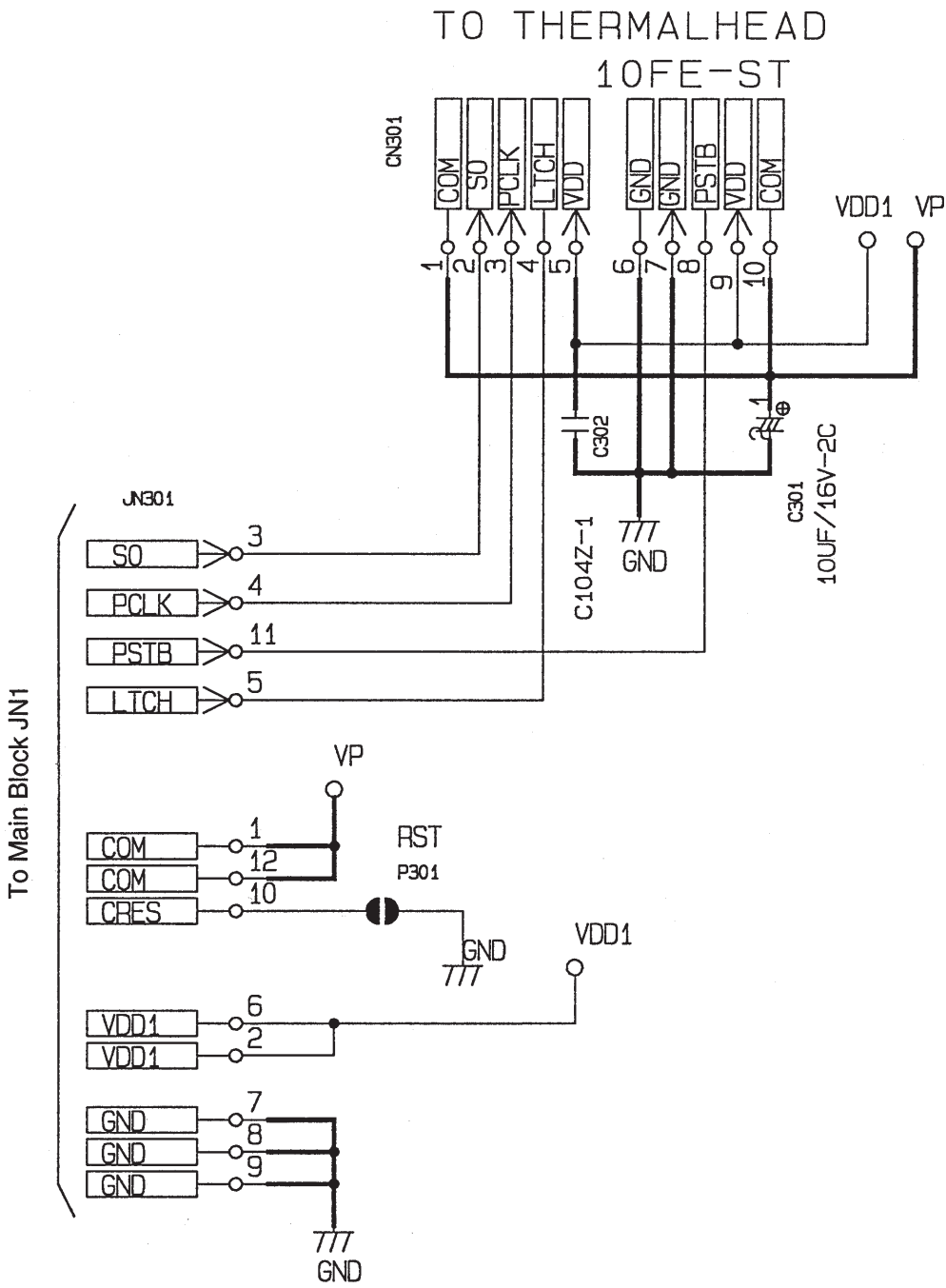


Note  
◆ : Power supply checking point.

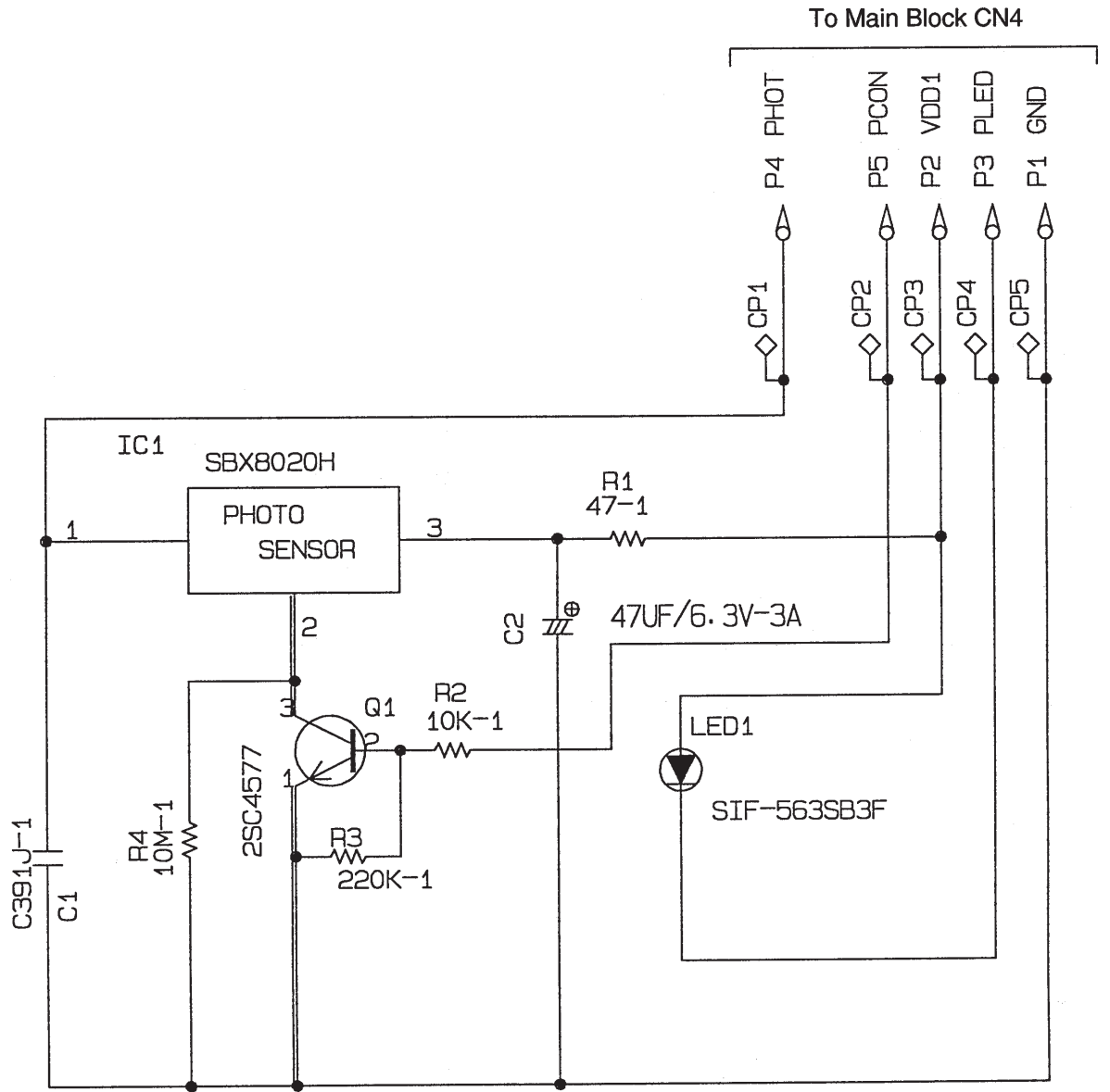
# 1-4. Key Board



1-5. Sub Board



1-6. Infrared Board



## 2. SPECIFICATIONS

### Input

Keyboard layout : Typewriter (QWERTY)

### Character Types

Alpha (English and other languages) : 151

Numbers : 10

Symbols : 52

Illustrations : 30

### Display

Type : 48 x 32-dot liquid crystal display

Number of columns : 6

Character matrix : 16 x 8-dot

### Printing

Type : 64-dot thermal transfer

Speed : Approximately 6.76 mm / second

Width : 4 mm (6 mm tape) or 8 mm (other tape)

Character matrix : 24 x 24-dot (normal) ; 16 x 16 dot (s)

Character styles : Normal, outline, shadow, raised

Character effects : Shade, underline, box

Character sizes : 1x1, 1x2, 1x3, 2x1, 2x2, 2x3, L2x3, S1x1, S1x2, S1x3, S2x1, S2x2, S2x3

Character pitch : None (0 mm), narrow (0.5 mm), wide (1.0 mm)

Number of lines : 1 or 2 (6 mm tape) ; 1 to 4 (other tapes)

### Memory

Text : Up to approximately 320 characters

### General

Main power supply : Eight AA-size batteries or optional AD-A95100 AC adaptor

Memory back-up battery : One CR2032 lithium battery  
(battery life = approximately one year)

Power consumption : 9 W

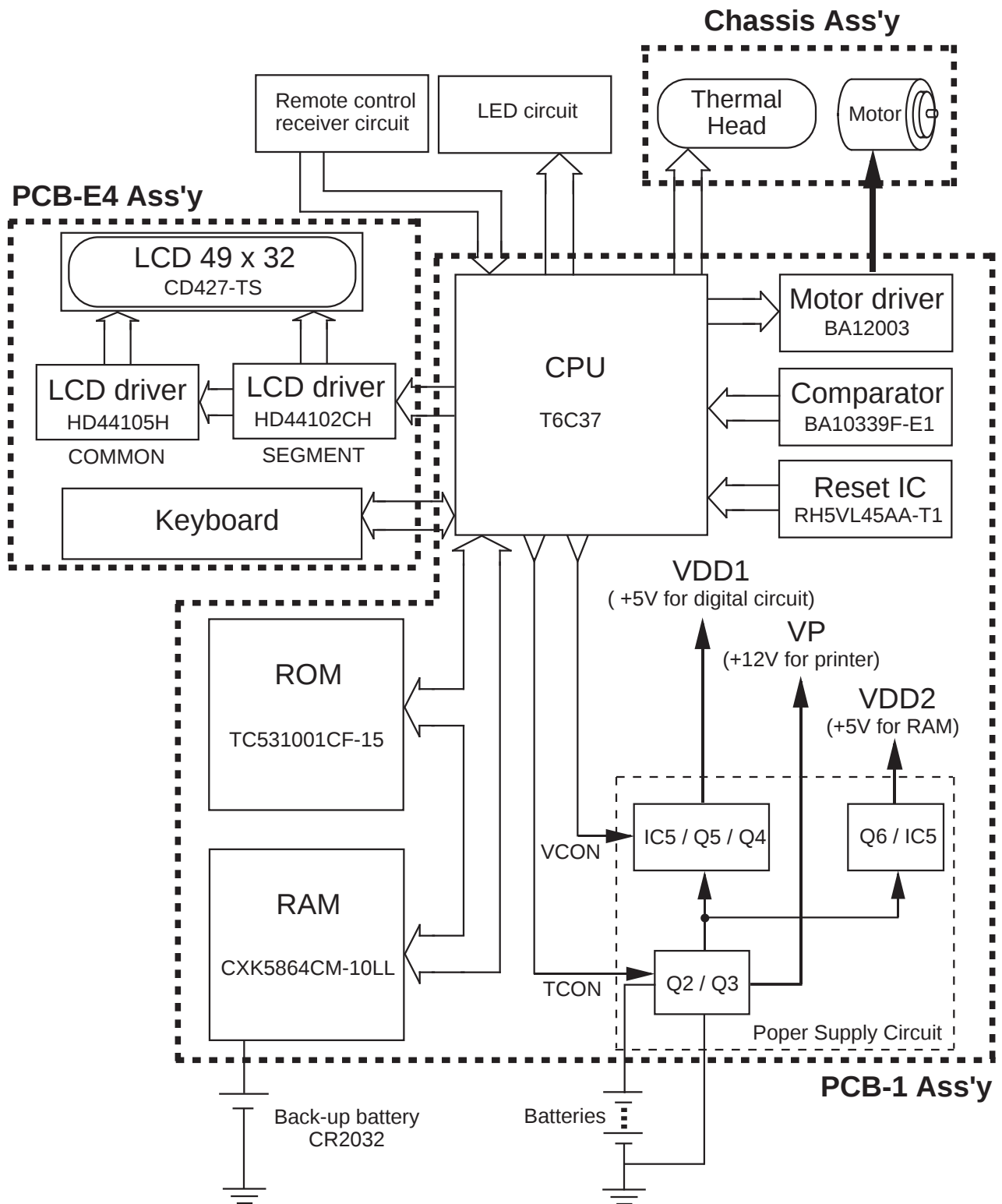
Auto power off : Approximately six minutes after last key operation

Dimensions : 56.5H x 174W x 228D mm (2 1/4"H x 6 7/8"W x 9"D)

Weight : 540g (1.21bs) (Including batteries)

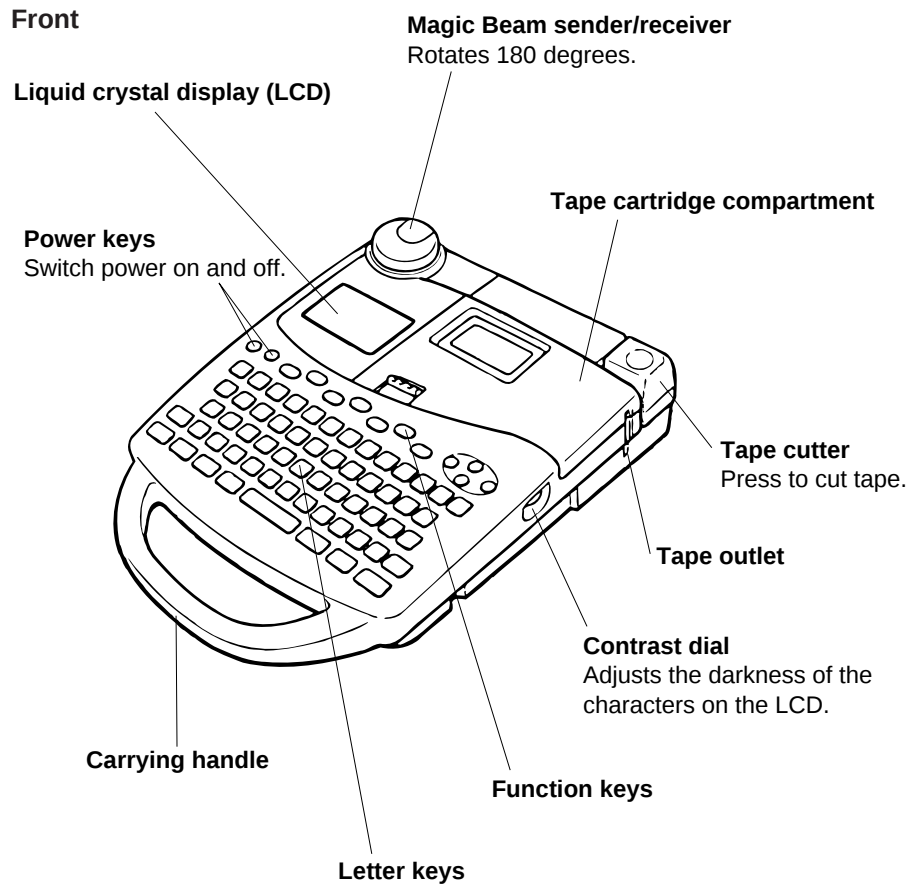
Ambient temperature : 10 °C ~ 35 °C (50 °F ~ 95 °F)

### 3. BLOCK DIAGRAM

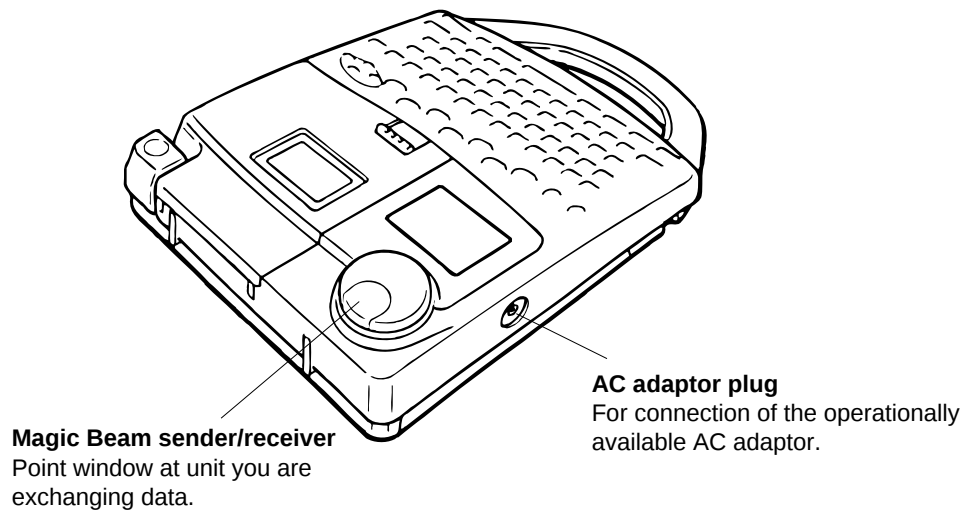


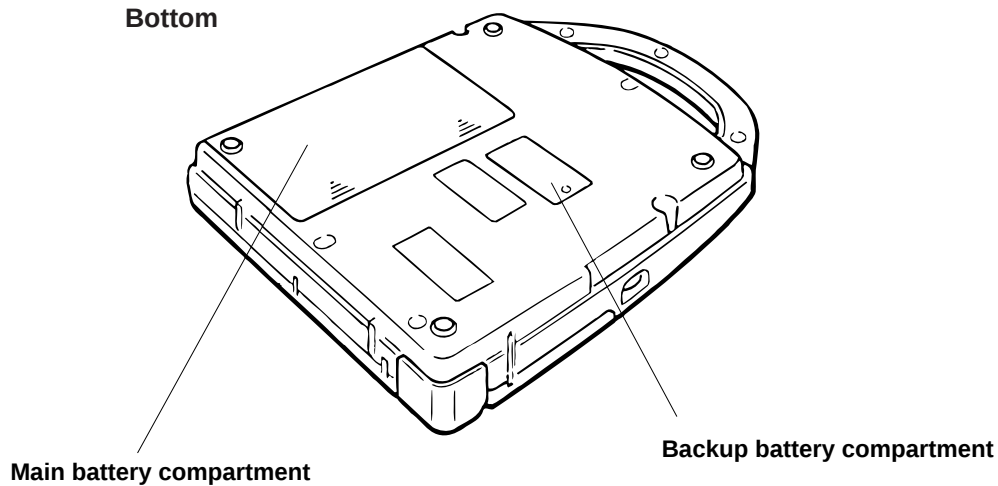
## 4. GENERAL GUIDE

### 4-1. Outward



### Back/Left Side

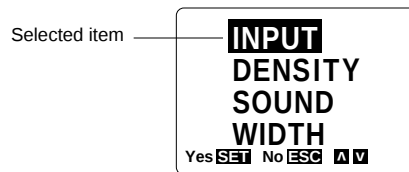




## 4-2. Menus

KL-400 operation is designed to be as simple as possible. On-screen menus let you select the settings you need. Each menu is described in detail in the sections that follow in this manual, but note the following general points.

- The item that is highlighted in a menu is the one that is selected.



- Use ▲ and ▼ to move the highlighting up and down.
- Press **SET** to execute the highlighted item, or **ESC** to exit the displayed menu (and return to the previous menu or screen).
- When you press **SET** to execute a menu item, the KL-400 either moves on to the next menu, or it executes the selected function and returns to the text input screen that you started from.

## 4-3. Tape Cartridges

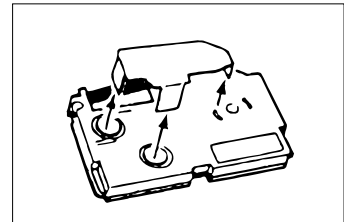
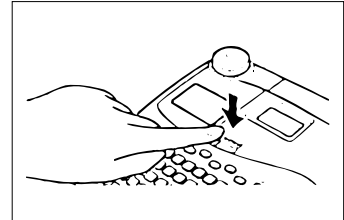
Use the procedures described below to load a tape cartridge into the KL-400. After you load the tape cartridge, be sure to use the procedure described under "To specify the tape width" to tell the KL-400 what width of tape you are using.

### Important!

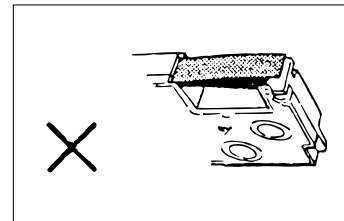
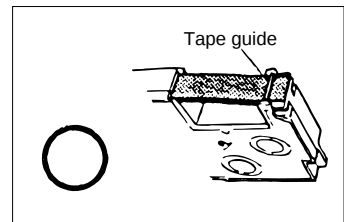
- Never try to push the tape back into the cassette. Once tape is out of the cassette, there is no way to wind it back in. Trying to do so can cause operational problems with the KL-400.
- Always make sure that KL-400 power is switched off before you replace the tape cartridge.

## ***To load a tape cartridge***

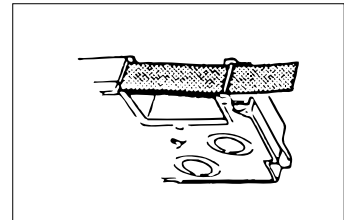
1. Make sure that the power of the KL-400 is switched off.
2. Press the tape cartridge compartment cover release and open the compartment cover.
  - If there is a cartridge already installed in the unit, remove it by grasping the tape cartridge on both sides with your thumb and forefinger and lifting it straight up.
3. Remove the stopper from a new tape cartridge and check to see that the tape is ready to use.



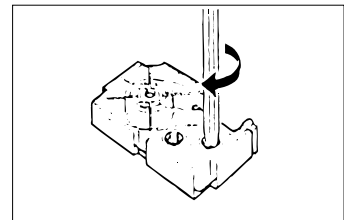
- Make sure that the tape is under the tape guide and that it is not bent or twisted.



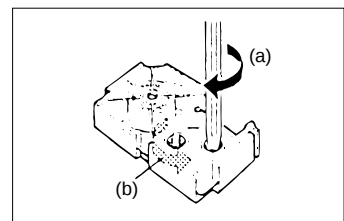
- Make sure that the tape does not extend too far past the tape guide. If it does, cut off the end with a pair of scissors.



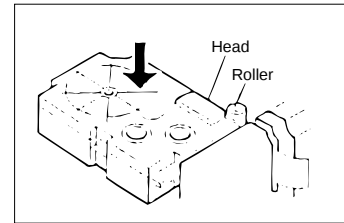
4. Use a pencil or some other thin object to take up slack in the ink ribbon as shown in the illustration. Note that the tape does not move at this time.
  - If the ink ribbon is slack when you load it into the KL-400, it can break or cause some other problem.



- Be sure to turn the ink ribbon take up spool only in the direction indicated by the arrow (a).
- Turn the spool until the other spool (b) starts turning in the direction noted by the arrow. This indicates there is no slack in the ribbon.



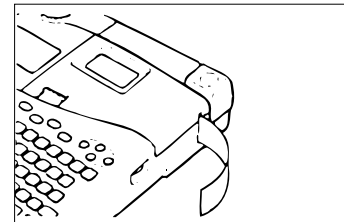
5. Load the tape cartridge into the KL-400, making sure that the tape and ink ribbon pass between the head and roller.



6. Close the tape cartridge compartment cover.



7. Switch on KL-400 power and press **FUNC** and then **FEED** two or three times to make sure that the tape comes out without any problem.
- If the tape does not come out normally, switch off power and start again from step 1 above.

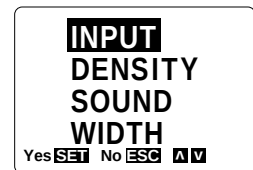


### *To specify the tape width*

#### **Important!**

- When using 6mm tape, certain character sizes and layouts can cause characters to run off the top or bottom of the tape.
- Be sure to specify 6mm tape whenever you are using it.
- In addition to the following tape size specification procedure, you can also specify 6mm tape by holding down the **6** key while pressing **ON** to switch power on. To specify another tape size (other than 6mm ) you must use the following procedure.

1. Switch power on.
2. Press **SET UP** to display the setup menu.



3. Use **▲** and **▼** to highlight WIDTH, and then press **SET**.



4. Use **▲** and **▼** to select 6mm (to specify 6mm wide tape) or OTHER (to specify another width), and then press **SET**.

## **4-4. Display Contrast**

Rotate the dial on the side of the KL-400 to adjust display contrast.

#### 4-5. Sound Effects

The KL-400 is equipped with sound effects that sound when you switch power on and when an illegal operation is attempted. Sound effects are switched on whenever you switch power on, but you can use the following procedure to cancel the sound effects.

##### *To cancel sound effects when switching power on*

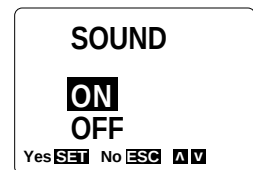
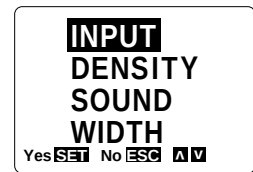
Hold down the **ESC** key, and switch power on.

Sound effects remain switched off until you switch them back on again (using the procedure described below), or until you switch power off and then on again.

Use the following procedure to switch sound effects on and off.

##### *To switch sound effects on and off*

1. Switch power on.
2. Press **SET UP** to display the setup menu.
3. Use **▲** and **▼** to highlight **SOUND**, and then press **SET**.
4. Use **▲** and **▼** to select **OFF** (to switch the beep tone off) or **ON** (to switch the beep tone on).
5. Press **SET**.

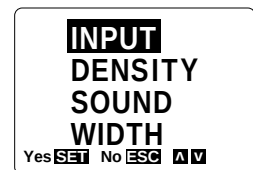


#### 4-6. Setting the Message Language

The KL-400 lets you specify English, German, French, Italian, or Spanish as the language to use for display messages.

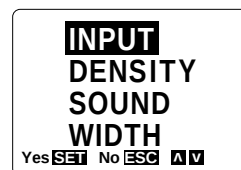
##### *To set the message language*

1. Switch power on.
2. Press **SET UP** to display the setup menu.
3. Use **▲** and **▼** to highlight **LANGUAGE**, and then press **SET**.
  - Note that the language option does not appear immediately on the screen when you first display the set up menu. This is because there are more than four items in the menu. Use **▼** to scroll down four times to make the **LANGUAGE** option appear.
4. Use **▲** and **▼** to highlight the language you want to use, and then press **SET** to apply the setting and return to the text input screen.
  - Since there are five languages, they do not all fit on a single screen. To view the language at the bottom of the menu (**ESPAÑOL**), press **▼** four times.

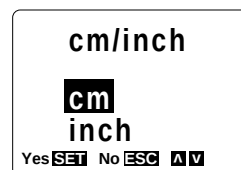


## 4-7. Setting the Unit of Measurement

1. Switch power on.
2. Press **SET UP** to display the setup menu.



3. Use **▲** and **▼** to highlight cm/inch, and then press **SET**.
  - Note that the cm/inch option does not appear immediately on the screen when you first display the set up menu. This is because there are more than four items in the menu. Use **▼** to scroll down five times to make the cm/inch option appear.



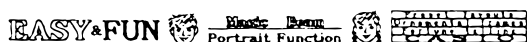
4. Use **▼** and **▲** to highlight the measurement unit you want to use, and then press **SET** to apply the setting and return to the text input screen.

## 4-8. Demo Print

After setting up the KL-400, you may want to produce a demo print to make sure that everything is working properly. Use one of the following procedures to produce a print that demonstrates some of the features of the KL-400. The procedure you should use depends on the size of the tape you are using.

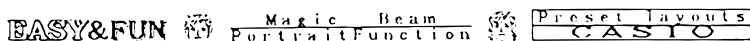
### *To produce a demo print using tape other than 6mm*

1. Press **ON** to switch power on.
2. Press **ABC**.
3. Press **SET**.



### *To produce a demo print using 6mm tape*

1. Holding down the **6** key, press **ON** to switch power on.
2. Press **ABC**.
3. Press **SET**.



### **Important!**

You can produce a demo print when the text input display is clear, only immediately after switching power on. Even if you input text and then delete it, pressing **ABC** will not produce a demo print.

- If you experience problems with printing, check your tape cartridge and power supply and try again.

#### 4-9. About the KL-400's Keys

| Key                                                                                 | Name         | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-------------------------------------------------------------------------------------|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>BLOCK</b>                                                                        | Block        | <ul style="list-style-type: none"> <li>Inputs a block mark.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>BS</b>                                                                           | Backspace    | <ul style="list-style-type: none"> <li>Deletes the character to the left of the cursor and shifts characters to the left.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>CAPS</b>                                                                         | Caps         | <ul style="list-style-type: none"> <li>Shift locks the keyboard for input of upper-case characters.</li> <li>Unshifts the keyboard for input of lower-case characters.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>CODE</b>                                                                         | Code         | <ul style="list-style-type: none"> <li>Causes the code indicator <b>CODE</b> to appear on the display. The next key operation inputs special punctuation or character (if available).</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>DEL</b>                                                                          | Delete       | <ul style="list-style-type: none"> <li>Deletes the character at the cursor location and shifts characters to the left.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|    | Down         | <ul style="list-style-type: none"> <li>Moves highlighting in a menu down.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>EFFECT</b>                                                                       | Effect       | <ul style="list-style-type: none"> <li>Displays a menu of effects.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>ESC</b>                                                                          | Escape       | <ul style="list-style-type: none"> <li>Cancels the current operation.</li> <li>If the current display was produced from a previous menu, pressing this key backsteps to the previous display.</li> <li>Specifies "No" for a Yes/No dialog.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|  | Portrait     | <ul style="list-style-type: none"> <li>Displays a menu of Portrait Maker operations.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>FORM</b>                                                                         | Form         | <ul style="list-style-type: none"> <li>Displays the FORM menu for pitch, text blocks, text alignment, and other features.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|  | Fortune      | <ul style="list-style-type: none"> <li>Enters the Fortune Telling Mode.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|  | Frame        | <ul style="list-style-type: none"> <li>Displays a menu of text frames.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>FUNC</b>                                                                         | Function     | <ul style="list-style-type: none"> <li>Accesses the functions marked above some of the keys on the keyboard.</li> <li><b>FUNC FEED</b> <ul style="list-style-type: none"> <li>Manually feeds the tape.</li> </ul> </li> <li><b>FUNC CLS</b> <ul style="list-style-type: none"> <li>Displays the display clear menu.</li> </ul> </li> <li><b>FUNC ◀</b> <ul style="list-style-type: none"> <li>Makes the cursor jump to the first character of text on the display.</li> </ul> </li> <li><b>FUNC ▶</b> <ul style="list-style-type: none"> <li>Makes the cursor jump to the last character of text on the display.</li> </ul> </li> <li><b>FUNC BS</b> <ul style="list-style-type: none"> <li>Deletes all characters to the left of the current cursor location, up to the next space to the left of the cursor.</li> </ul> </li> <li><b>FUNC LAYOUT</b> <ul style="list-style-type: none"> <li>Displays a rough layout of the tape.</li> </ul> </li> </ul> |
|  | Illustration | <ul style="list-style-type: none"> <li>Displays a menu of illustrations.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

| Key                                                                                 | Name       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-------------------------------------------------------------------------------------|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    | Image      | <ul style="list-style-type: none"> <li>Displays text as it will appear on the printed tape.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|    | Left       | <ul style="list-style-type: none"> <li>Moves the cursor to the left.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|    | Magic Beam | <ul style="list-style-type: none"> <li>Enters the Magic Beam Mode for data communications.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>MEMORY</b>                                                                       | Memory     | <ul style="list-style-type: none"> <li>Displays a menu of memory functions.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>OFF</b>                                                                          | Off        | <ul style="list-style-type: none"> <li>Switches power off.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>ON</b>                                                                           | On         | <ul style="list-style-type: none"> <li>Switches power on.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>PRESETS</b>                                                                      | Presets    | <ul style="list-style-type: none"> <li>Displays a menu of preset items.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|    | Print      | <ul style="list-style-type: none"> <li>Executes the print operation.</li> <li>Immediately after switching power on, outputs a demo print.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                               |
|    | Return     | <ul style="list-style-type: none"> <li>Inputs a newline mark.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|    | Right      | <ul style="list-style-type: none"> <li>Moves the cursor to the right.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>SET</b>                                                                          | Set        | <ul style="list-style-type: none"> <li>Executes the currently selected function.</li> <li>Specifies "Yes" for a Yes/No dialog.</li> <li>Immediately after switching power on, recalls the text that was on the display when power was last switched off.</li> </ul>                                                                                                                                                                                                                                                                                                |
| <b>SET UP</b>                                                                       | Set up     | <ul style="list-style-type: none"> <li>Displays the set up menu.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>SHIFT</b>                                                                        | Shift      | <ul style="list-style-type: none"> <li>Shifts the keyboard for input of one alpha-character that is opposite that of the current keyboard setting (upper-case or lower-case).</li> <li>Shifts the keyboard for input of punctuation symbols marked on the number keys.</li> <li>The indicator <b>SHIFT</b> indicates that the keyboard is shifted.</li> <li><b>SHIFT</b> ◀ makes the cursor jump to the next newline mark or block mark to the left.</li> <li><b>SHIFT</b> ▶ makes the cursor jump to the next newline mark or block mark to the right.</li> </ul> |
| <b>SIZE</b>                                                                         | Size       | <ul style="list-style-type: none"> <li>Displays a menu of character sizes.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>SPACE</b>                                                                        | Space      | <ul style="list-style-type: none"> <li>Inserts a space in text.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>STYLE</b>                                                                        | Style      | <ul style="list-style-type: none"> <li>Displays a menu of character styles (normal, outline, shadow, raised).</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>SYMBOL</b>                                                                       | Symbol     | <ul style="list-style-type: none"> <li>Displays a menu of symbols.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|  | Up         | <ul style="list-style-type: none"> <li>Moves highlighting in a menu up.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

## 4-10. Initial Settings

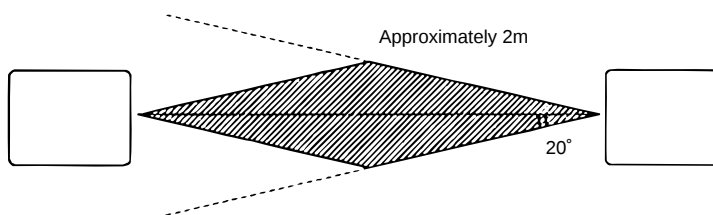
There are two types of initial settings: those that are set automatically each time you switch power on, and those that are set whenever you reset KL-400 memory. The following table shows the initial settings in each case.

| Item                 | Power On | Reset    |
|----------------------|----------|----------|
| Display              | Cleared* | Cleared  |
| Memory               | Retained | Cleared  |
| Horz/Vert            | Horz     | Horz     |
| Pitch                | None     | None     |
| Side Space           | Yes      | Yes      |
| Block Spacing        | Narrow   | Narrow   |
| Insert/Overwrite     | Insert   | Insert   |
| Density              | Retained | 3        |
| Sound                | On       | On       |
| Character Attributes | None     | None     |
| Style                | Normal   | Normal   |
| Form                 | Normal   | Normal   |
| Auto Feed            | Long     | Long     |
| Character Size       | Auto Fit | Auto Fit |
| Language             | Retained | English  |
| Length Unit          | Retained | cm       |

\* Display is cleared, but last input data is retained in memory. To recall last input data, press **SET**.

## 4-11. Effective Range for Infrared Communication

It is possible to communicate with another KL-400 or other units using infrared light on the Magic Beam Mode. While operating this mode, be sure that the two units are within 2 meters of each other and that the angle between the two units does not over 40 degrees (in a room lit by fluorescent lighting to a level of 500 lux).



## 4-12 About Low Battery Warning

A handy low battery power indicator lets you know when battery power is getting too low for proper operation. The message LOW BATTERY appears on the display if battery power is low when you perform any of the following operations.

- Switching power on
- Executing a print operation
- Executing a tape feed operation

When the LOW BATTERY message appears, press **ESC** to clear it from the display. You should still be able to perform some KL-400 operations, but some power intensive operations (like printing or tape feed) may become impossible if battery power is too low. In any case, you should replace batteries as soon as possible or switch to the AC adaptor as soon as possible after the LOW BATTERY message appears.

## 5. REPLACING BATTERIES

### Important!

Batteries can burst or leak and damage your unit if you use them the wrong way. Note the following important points.

- Be sure that the plus (+) and minus (–) sides of each battery are facing correctly.
- Never mix batteries of different types.
- Never leave dead batteries in the battery compartment.
- Remove the batteries if you do not plan to use the unit for a long time.
- Be sure to replace the main battery in accordance with the battery life noted on the side of the battery itself, and the back-up battery once every year.

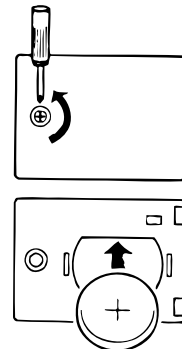
### Warning!

- Never try to recharge the batteries that come with the unit.
- Do not expose batteries to direct heat, do not short circuit them, and do not try to take them apart.
- **Keep batteries out of the reach of small children. If swallowed, consult with a physician immediately.**
- Low battery power is indicated by poor print quality or power switching off while printing is in progress.

### To replace the memory back-up battery

Before using the Label Printer for the first time, be sure that you first use the following procedure to install the memory back-up battery that comes with it. Data stored in memory will be lost if you do not load this battery.

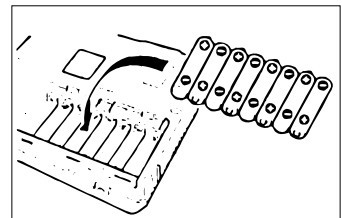
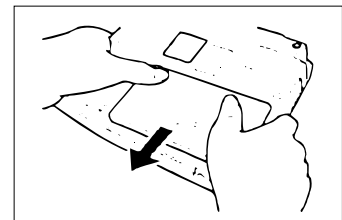
1. Switch power off.
2. Use a small phillips head screwdriver to loosen the screw that secures the back-up battery compartment cover in place, and remove the cover.
3. Wipe off the surfaces of a CR2023 battery with a soft dry cloth, and install it with its plus (+) side facing up (so you can see it).
4. Carefully replace the battery compartment cover and secure it in place with the screw.



- You should use the above procedure to replace the memory back-up battery once a year.

### To replace the main batteries

1. Switch power off.
  - If you are using the AC adaptor to power the unit, you should also unplug the adaptor from the KL-400.
2. Open the battery compartment cover on the back of the KL-400 by sliding it in the direction indicated by the arrow.
3. Remove all eight of the old batteries.
4. Load a set of eight new batteries into the battery compartment, making sure that their positive (+) and negative (–) ends are facing in the correct directions.
5. Replace the battery compartment cover.



## 6. RESET OPERATION

### 6-1. Resetting the Memory

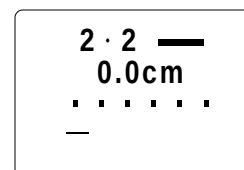
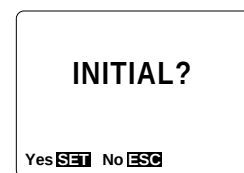
You should reset the memory of the KL-400 before using it for the first time, after you have not used it for a long time, or if nothing happens when you switch power on, even after you change the batteries.

#### Important!

Resetting KL-400 memory clears the memory of all input data.

#### *To reset the memory*

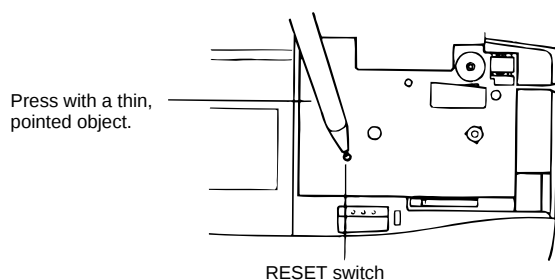
1. Make sure that KL-400 power is off.
2. While holding down the **ABC** and **ESC** keys, press **ON** to switch power on.
3. Press **SET** to initialize the KL-400 or **ESC** to abort the operation without initializing anything.
  - If you press **SET**, the initial reset screen appears.
- See "Initial Settings" for the initial default settings of the KL-400 following the reset operation.



### 6-2. Resetting the Unit

If you experience serious malfunction of the KL-400 or if operation fails completely, try performing the following operation to reset the unit.

1. Switch power off.
2. Open the tape cartridge compartment cover and remove the tape cartridge.
3. Press the RESET switch inside the tape cartridge compartment to reset the KL-400.



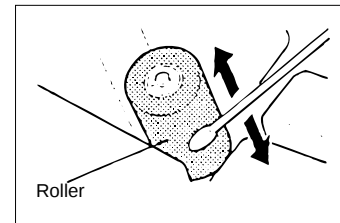
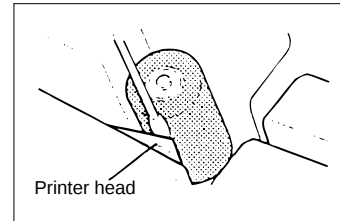
- Take care not to press the RESET switch too hard with a pointed object. Doing so can cause malfunction.
- Never press the RESET switch except when the KL-400 fails to operate correctly.
- Data stored in memory is not cleared when you press the RESET switch.

## 7. CLEANING THE PRINTER HEAD AND ROLLER

A dirty printer head and roller can result in poor printing quality. If you have problems with print quality, use the following procedure to clean the printer head and roller.

### *To clean the printer head and roller*

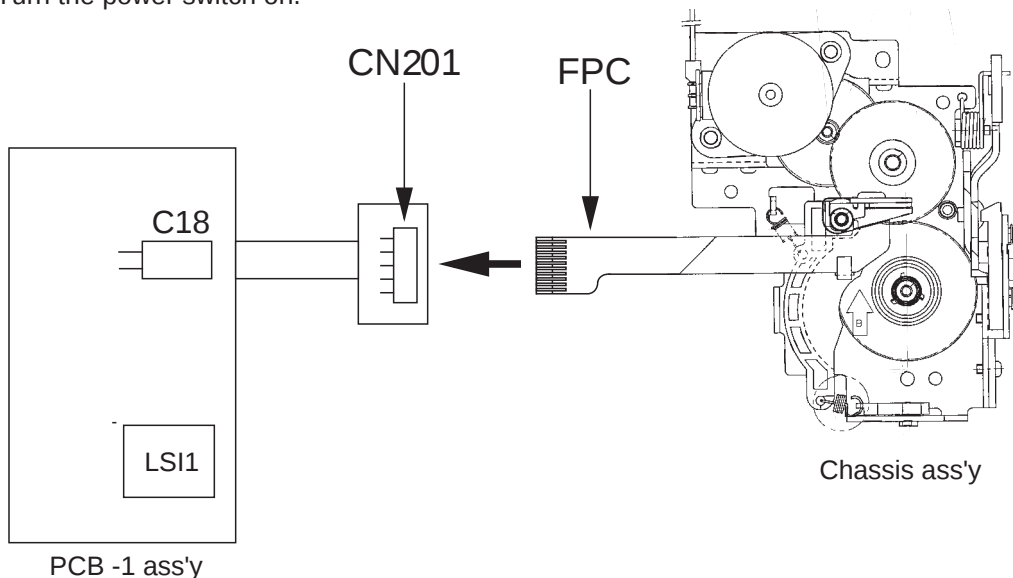
1. Make sure the KL-400 is switched off.
2. Press the tape cartridge compartment cover release and open the compartment cover.
3. Remove the tape cartridge.
4. Use a cotton swab dipped in alcohol to clean the printer head and roller as shown in the illustration.
5. Replace the tape cartridge and close the compartment cover.



## 8. MATTER NEEDING ATTENTION WHEN ASSEMBLING CHASSIS ASS'Y

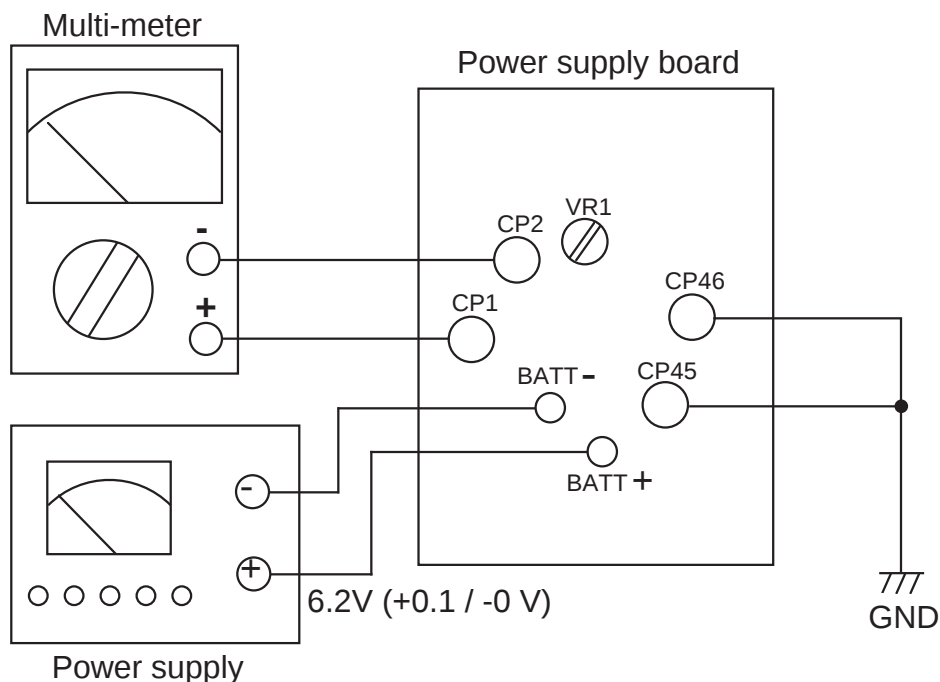
In order to prevent the thermal head from damage caused by static electricity, it must comply with the following steps to assemble or to reassemble the chassis ass'y into the unit.

1. Turn the power switch off.
2. Discharge the capacitor C18(2200 $\mu$ F) on the PCB -1 ass'y.
3. Connect the FPC tape of chassis ass'y into the connector CN201 of the PCB -1 ass'y.
4. Assemble the chassis ass'y.
5. Turn the power switch on.



## 9. ADJUSTMENT FOR LOW BATTERY DETECTION CIRCUIT

1. Apply 6.2V(+0.1V,-0V) to the main battery terminal.
2. Make the check pads CP45 and CP46 ground.
3. Adjust the pot VR1 so that the voltage between CP1 and CP2 is  $0V \pm 10mV$ .



## 10. INTERNAL VOLTAGE AND POWER SUPPLY CURRENT

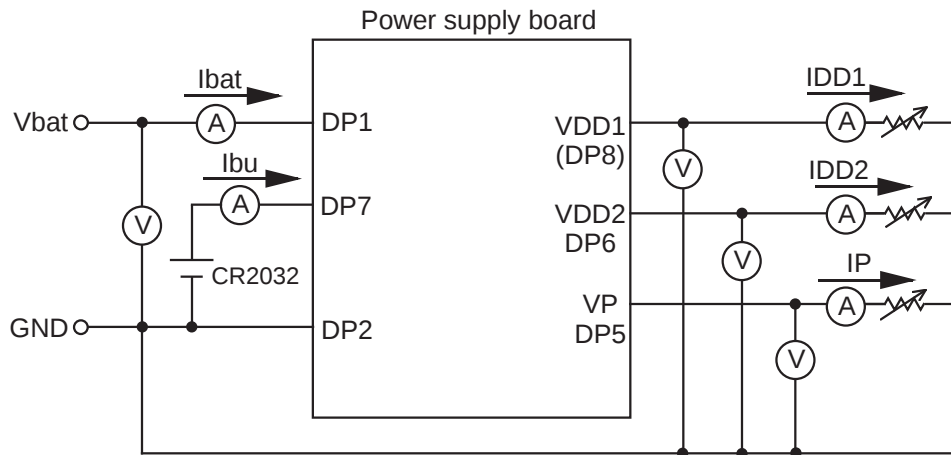
The data shown in the table below should be found by using the measuring circuits shown in present figure.

| Measurement point          | Standard values of voltage or current | Condition                                                                                                             |
|----------------------------|---------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| VDD1                       | 4.72V ~5.4V                           | IDD1 = 30 mA                                                                                                          |
| VDD2                       | 4.72V ~5.4V                           | IDD2 = 30 mA                                                                                                          |
| VP                         | 11.7V ~ 12.24V                        | IP = 300 mA                                                                                                           |
| I bat<br>(Displaying)      | Typ: 25 mA                            | Power on                                                                                                              |
|                            | Max: 100 mA                           |                                                                                                                       |
| I bat<br>(Printing)        | Typ: 0.6 A                            | When printing " CASIO com..." at the diagnostic program PRINT CHECK-2.                                                |
|                            | Max: 0.7 A                            | When printing " !" at the diagnostic program PRINT CHECK-2.                                                           |
| I bat<br>(Infraed sending) | Typ: 90 mA                            | Under condition that pressing the MAGIC BEAM key on the diagnostic program and pressing the SET key on the SEND ONLY. |
|                            | Max: 260 mA                           |                                                                                                                       |
| I bu<br>(Power off)        | Min: -----                            | Turn switch off and cut off the power supply Vbat,<br>then connect the back up battery CR2032.                        |
|                            | Max: 15 uA                            |                                                                                                                       |

Note: Ibat = Power source (main batteries or AC adaptor)

Ibu = Back-up battery (CR2032)

Vbat =  $12V \pm 2\%$

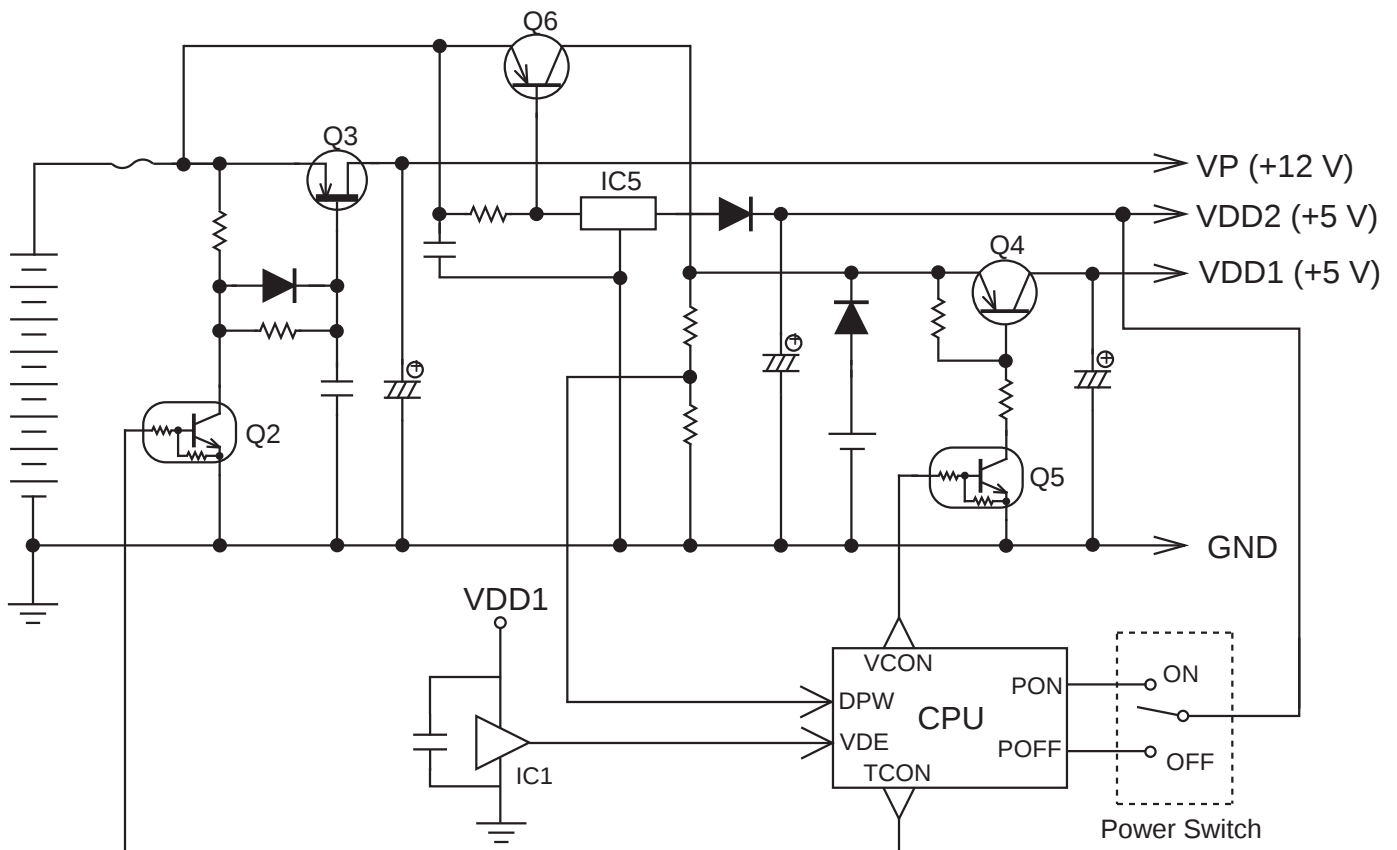


## 11. SETTING THE THERMAL HEAD RANK

It may be used to select the thermal head rank to short or disshort the pads RNK1 and/or RNK2 on the main block.

|                         |          |
|-------------------------|----------|
| Head rank A : RNK1=ON,  | RNK2=OFF |
| Head rank B : RNK1=OFF, | RNK2=OFF |
| Head rank C : RNK1=ON,  | RNK2=ON  |
| Head rank D : RNK1=OFF, | RNK2=ON  |

## 12. CIRCUIT DESCRIPTION



**Setting the batteries or AC adaptor**

As soon as the batteries or AC adaptor are or is set up, the Q6 and IC5 are turned on so that the voltage VDD2 is applied to RAM and CPU.

**Power on sequence**

Once the power switch is turned on, the PON and so the VCON signals become higher level (PON = VDD2). This makes both the transistors Q5 and Q4 turn on, and the voltage VDD1 may be applied to all devices.

**Power off sequence**

Whit turning the switch off, the POFF becomes higher level (PON = VDD2) and the VCON level becomes lower. This makes both the transistors Q5 and Q4 turn off, and the voltage VDD1 is cut off.

**Power down sequence**

If the voltage across the batteries becomes so lower that the DPW level of CPU is lower than 4.5V, VCON signal will come to lower and both the transistors Q5 and Q4 are turned off, so that the voltage VDD1 is cut off.

**Print sequence**

When the PRINT button is pressed, TCON level becomes higher. Both the transistors Q2 and Q3 are turned on, the voltage VP for printing achieves 12V.

## 13. LSI PIN FUNCTION

### 13-1. CPU (T6C37)

| Pin No.     | Pin Name          | Input/Output | Function                                          |
|-------------|-------------------|--------------|---------------------------------------------------|
| 1           | RD                | O            | Read signal for memory devices                    |
| 2           | WR                | O            | Write signal for memory devices                   |
| 3           | VDD               | I            | +5V source                                        |
| 4~15, 17~21 | A0~A11, EA12~EA16 | O            | Address bus                                       |
| 16          | GND               | I            | Ground (0V) source                                |
| 26          | VDD               | I            | +5V source                                        |
| 27          | RC1               | O            | Chip enable signal for ROM                        |
| 29          | RC3               | O            | Chip enable signal for RAM                        |
| 31          | RNK1              | I            | Thermal head rank setting                         |
| 32          | RNK2              | I            | Thermal head rank setting                         |
| 33          | PSTB              | O            | Strobe signal for thermal head                    |
| 34          | LTCH              | O            | Latch signal for thermal head                     |
| 35          | SO                | O            | Data                                              |
| 36          | PCLK              | O            | Clock pulse for thermal head                      |
| 37          | VDD               | I            | +5V source                                        |
| 38          | XIN               | I            | Main clock input                                  |
| 39          | XOUT              | O            | Main clock output                                 |
| 40          | GND               | I            | Ground (0V) source                                |
| 41~44       | MT1~MT4           | O            | Motor drive signal                                |
| 45          | TCON              | O            | Control signal for voltage VP                     |
| 46~52       | VCK0~VCK6         | I            | Voltage detecting signal for low battery          |
| 53          | RSI               | I            | Reset delay input                                 |
| 54          | RSO               | O            | Reset delay output                                |
| 55          | VDE               | I            | Reset signal input                                |
| 56          | VCON              | O            | Control signal for voltage VDD1                   |
| 57          | PON               | I            | Power on signal from power switch                 |
| 58          | POFF              | I            | Power off signal from power switch                |
| 59~66       | KI0~KI7           | I            | Key input signal                                  |
| 67~75       | KO0~KO8           | O            | Key common signal                                 |
| 79          | DPW               | I            | Voltage detecting signal for forced power off     |
| 80          | TX                | O            | Serial data output.                               |
| 81          | RX                | ---          | Serial data input.                                |
| 83~85       | TAP1~TAP3         | I            | Tape cartridge selecting signal. Connected to GND |
| 86          | LCS               | O            | Chip enable signal for LCD driver                 |
| 87          | RSTL              | O            | Reset signal for LCD driver                       |
| 88          | CRES              | I            | Reset timing signal input. Connected to reset pad |
| 89, 90      | DSW, GND          | ---          | Connected to GND                                  |
| 91          | NBZ               | O            | Buzzer signal output                              |
| 92          | BZ                | O            | Buzzer signal output                              |
| 93~100      | CD0~CD7           | I/O          | data bus                                          |

**13-2. ROM (TC531001CF-15)**

| Pin No.        | Pin Name | Input/Output | Function                     |
|----------------|----------|--------------|------------------------------|
| 1,30,31        | NC       | I            | +5V                          |
| 2~12,23,25~29, | A0~A16   | I            | Address input                |
| 13~15,17~21    | D0~D7    | O            | Data output                  |
| 16             | GND      | I            | Ground                       |
| 22             | CE       | I            | Chip enable input from CPU   |
| 24             | OE       | I            | Output enable input from CPU |
| 32             | VDD      | I            | Power supply +5V             |

**13-3. RAM (CXK5864CM-10LL)**

| Pin No.        | Pin Name | Input/Output | Function                     |
|----------------|----------|--------------|------------------------------|
| 1              | NC       | I            | +5V                          |
| 2~10,21,23~25, | A0~A12   | I            | Address input                |
| 11~13,15~19    | IO1~IO8  | I/O          | Data input/output            |
| 14             | GND      | I            | Ground                       |
| 20             | CE1      | I            | Chip enable input from CPU   |
| 22             | OE       | I            | Output enable input from CPU |
| 26             | CE2      | I            | +5V                          |
| 27             | WE       | I            | Write enable input           |
| 32             | VDD      | I            | Power supply +5V             |

**13-4. LCD driver (HD44105H)**

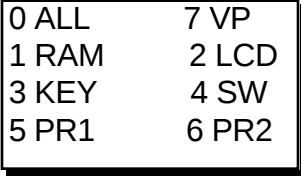
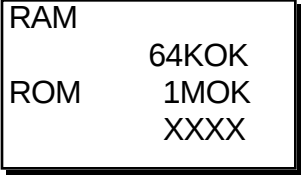
| Pin No.     | Pin Name | Input/Output | Function                                                                                        |
|-------------|----------|--------------|-------------------------------------------------------------------------------------------------|
| 1~12, 41~60 | X1~X32   | O            | LCD drive output                                                                                |
| 13          | DL       | I/O          | I/O pin for 2 way shift register and shift data                                                 |
| 14          | GND      |              | Ground                                                                                          |
| 15, 16      | FS1, FS2 | I            | Select frequency                                                                                |
| 17~19       | DS1~DS3  | I            | Select display duty                                                                             |
| 20          | C        |              | Oscillator                                                                                      |
| 21          | R        |              | Oscillator                                                                                      |
| 22          | CR       |              | Oscillator                                                                                      |
| 23          | STB      | I            | Input pin for test use                                                                          |
| 24          | SHL      | I            | 2 way shift register, select shift direction                                                    |
| 25          | M/S      | I            | Master/slave switching<br>M/S=H : master mode<br>M/S= L : slave mode                            |
| 26, 27      | ø1, ø2   | O            | Output pin to HD44102CH operation clock. The frequency is half the frequency of the oscillator. |
| 28          | FRM      | O            | Display synchronize signal (frame signal)                                                       |
| 29          | VCC      |              | +5V source                                                                                      |
| 30, 32, 35  | NC       |              | Not used                                                                                        |
| 31          | M        | I/O          | LCD drive alternating signal                                                                    |
| 33          | CL       | I/O          | Shift register shift clock<br>Output at master<br>Input at slave                                |
| 34          | DR       | I/O          | I/O pin for 2 way shift register and shift data                                                 |
| 36          | VEE      |              | Power source for LCD drive circuit. 0~+5.5V                                                     |
| 37~40       | V1~V4    |              | LCD drive level power<br>V1, V2 : Selecting level<br>V3, V4 : No selecting level                |

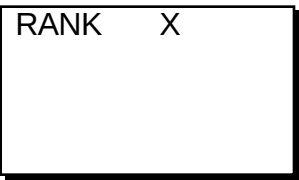
### 13-5. LCD driver (HD44102CH)

| Pin No.               | Pin Name | Input/Output | Function                                                                                                                                               |
|-----------------------|----------|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1~22, 24~40,<br>70~80 | Y1~Y50   | O            | LCD drive output signal                                                                                                                                |
| 23, 62                | NC       |              | Not used                                                                                                                                               |
| 41                    | VCC      | I            | +5V source                                                                                                                                             |
| 42                    | BS       | I            | Bus select<br>BS=L : DB0~DB7 work at 8-bit<br>BS=H : DB4~DB7 are only active a 4-bit.<br>8-bit data is split in two and accessed in order.             |
| 43                    | RST      | I            | Reset signal. Set RST signal to low level and display is turned off.                                                                                   |
| 44~46                 | CS1~CS3  | I            | Chip select                                                                                                                                            |
| 47                    | E        | I            | Enable<br>R/W=L : latches E fall DB0~DB7<br>R/W=H : E=H sends data to DB0~DB7                                                                          |
| 48                    | R/W      | I            | Read/Write<br>R/W=H : Sends data to DB0~DB7 when E=H, CS2, 3=H<br>R/W=L : Receive from DB0~DB7 when CS2,3=H or CS1=H                                   |
| 49                    | D/I      | I            | Data/Instruction<br>D/I=H : Indicates that DB0~DB7 data is display data<br>D/I=L : Indicates that DB0~DB7 data is display control data                 |
| 50~57                 | DB0~DB7  | I/O          | Data bus                                                                                                                                               |
| 58                    | FRM      | I            | Display synchronize signal (frame signal)<br>When FRM=H, the 5-bit display line counter is reset, and synchronizes the common signal and frame timing. |
| 59                    | CL       | I            | Display synchronize signal. Synchronizes with the rise of the CL signal, and sends the liquid crystal signal for the display data.                     |
| 60, 61                | ø1, ø2   |              | 2 phase clock for internal operation                                                                                                                   |
| 63                    | M        | I            | Alternating signal for LCD drive output                                                                                                                |
| 64                    | GND      |              | Ground source                                                                                                                                          |
| 65                    | VEE      |              | Power source for LCD. 0~+5V.                                                                                                                           |
| 66~69                 | V1~V4    |              | Level power for LCD drive.<br>V1 / V2 : Selecting level.<br>V3 / V4 : No selecting level.                                                              |

## 14. DIAGNOSTIC PROGRAM

Note: Please take the reset operation after RAM check, because the RAM check breaks the data stored in the RAM.

| Check item           | Operation                                                                          | Display                                                                              | Note                                                               |
|----------------------|------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|--------------------------------------------------------------------|
| (BOOT)               | Press ON key while pressing keys, EXE + RETURN + FUNCTION                          |    | Main menu                                                          |
| RAM CHECK<br>(1 RAM) |   |    | Beep                                                               |
|                      | (After a few seconds)                                                              |    | RAM and ROM are normal.<br>To return the main menu, press any key. |
| LCD CHECK<br>(2 LCD) |  |   | Frame                                                              |
|                      | Any key                                                                            |  | All dots                                                           |
|                      | Any key                                                                            |  | Checker                                                            |
|                      | Any key                                                                            |  | Reversed checker<br><br>To return the main menu, press any key.    |

| Check item                | Operation                                                                           | Display                                                                              | Note                                                                                                                                                |
|---------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| KEY CHECK<br>(3 KEY)      |    |    | Press the key that is appearing on the LCD one after one until OK appears.<br><br>Press any key to return the main menu.                            |
| RANK CHECK<br>(4 SW)      |    |    | Check the rank of the thermal head employed in the unit.<br>(RANK = A ~ D)<br><br>Press any key to return the main menu.                            |
| PRINT CHECK-1<br>(5 PR1)  |    |    | The pattern 1 shown below is printed, and return the main menu.                                                                                     |
| PRINT CHECK-2<br>(6 PR2)  |    |   | The pattern 2 shown below is printed, and return the main menu.                                                                                     |
| VP CHECK<br>(7 VP)        |  |  | TCON signal from CPU comes to high. The voltage VP is applied to the thermal head and the stepping motor.<br>Press any key to return the main menu. |
| ALL ITEM CHECK<br>(0 ALL) |  |  | The checks for RAM, LCD, KEY, SW, and PR1 can be carried out one after one, with pressing any key once and again.                                   |

#### Pattern 1

PR-1 (Normal printing result)



#### Pattern 2

PR-2 (Normal printing result)



## 15. TROUBLESHOOTING

|               | Problem                                                                                                               | Possible Cause                                                           | Action                                                                                                                                                                                          |
|---------------|-----------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Power         | • No display when power is switched on                                                                                | • Wrong contrast setting                                                 | • Use contrast dial to adjust contrast.                                                                                                                                                         |
|               |                                                                                                                       | • Dead batteries                                                         | • Change batteries                                                                                                                                                                              |
|               |                                                                                                                       | • Batteries not loaded correctly.                                        | • Load batteries correctly                                                                                                                                                                      |
|               |                                                                                                                       | • Adaptor not connected correctly.                                       | • Plug in the AC adaptor correctly                                                                                                                                                              |
| Input         | • Cannot input characters                                                                                             | • <b>FUNC</b> was pressed, and unit is waiting for pressing of next key. | • Press <b>ESC</b> to clear function indicator from display.                                                                                                                                    |
| Printing      | • No tape comes out when  is pressed | • Tape cartridge compartment cover is not closed securely.               | • Close the tape cartridge compartment cover securely.                                                                                                                                          |
|               |                                                                                                                       | • Out of tape                                                            | • Load a new tape cartridge.                                                                                                                                                                    |
|               |                                                                                                                       | • Tape is jammed.                                                        | • Remove the tape cartridge, pull out the jammed tape with your fingers, and cut it off.<br>Avoid touching the tape cutter, the tape outlet, and the tape itself while printing is in progress. |
|               |                                                                                                                       | • Low battery power                                                      | • Change batteries                                                                                                                                                                              |
|               | • Tape comes out, but nothing is printed                                                                              | • Only blank spaces are input.                                           | • Input other text.                                                                                                                                                                             |
|               | • Printing is not clear                                                                                               | • Low battery power                                                      | • Change batteries                                                                                                                                                                              |
|               |                                                                                                                       | • Printing density is not set correctly.                                 | • Adjust the printing density.                                                                                                                                                                  |
|               |                                                                                                                       | • The tape cartridge is not loaded correctly.                            | • Load the tape cartridge correctly.                                                                                                                                                            |
|               |                                                                                                                       | • Printer head or roller is dirty.                                       | • Clean the printer head and roller.                                                                                                                                                            |
|               | • Ink ribbon comes out with tape                                                                                      | • The tape cartridge was loaded with too much slack in the ink ribbon    | • Remove the tape cartridge and take up any slack, taking care not to break the ribbon.<br>Reload the tape cartridge. If the ink ribbon breaks, load a new tape cartridge.                      |
| Tape Cutter   | • Tape does not cut.                                                                                                  | • Tape cutter is dull or damaged.                                        | • Take your Label Printer to an authorized CASIO service provider to have the cutter replaced.                                                                                                  |
|               | • Text is cut off.                                                                                                    | • Auto Feed is switched off.                                             | • Press <b>FUNC FEED</b> to feed tape before cutting it.                                                                                                                                        |
|               |                                                                                                                       | • End of tape                                                            | • Load a new tape cartridge.                                                                                                                                                                    |
| Tape Adhesion | • Tape does not stick.                                                                                                | • Paper backing is still in place.                                       | • Remove paper backing from tape.                                                                                                                                                               |
|               |                                                                                                                       | • Bad surface                                                            | • Tape will not stick on coarse, wet, oily, or soiled surfaces.                                                                                                                                 |

## 16. MESSAGES

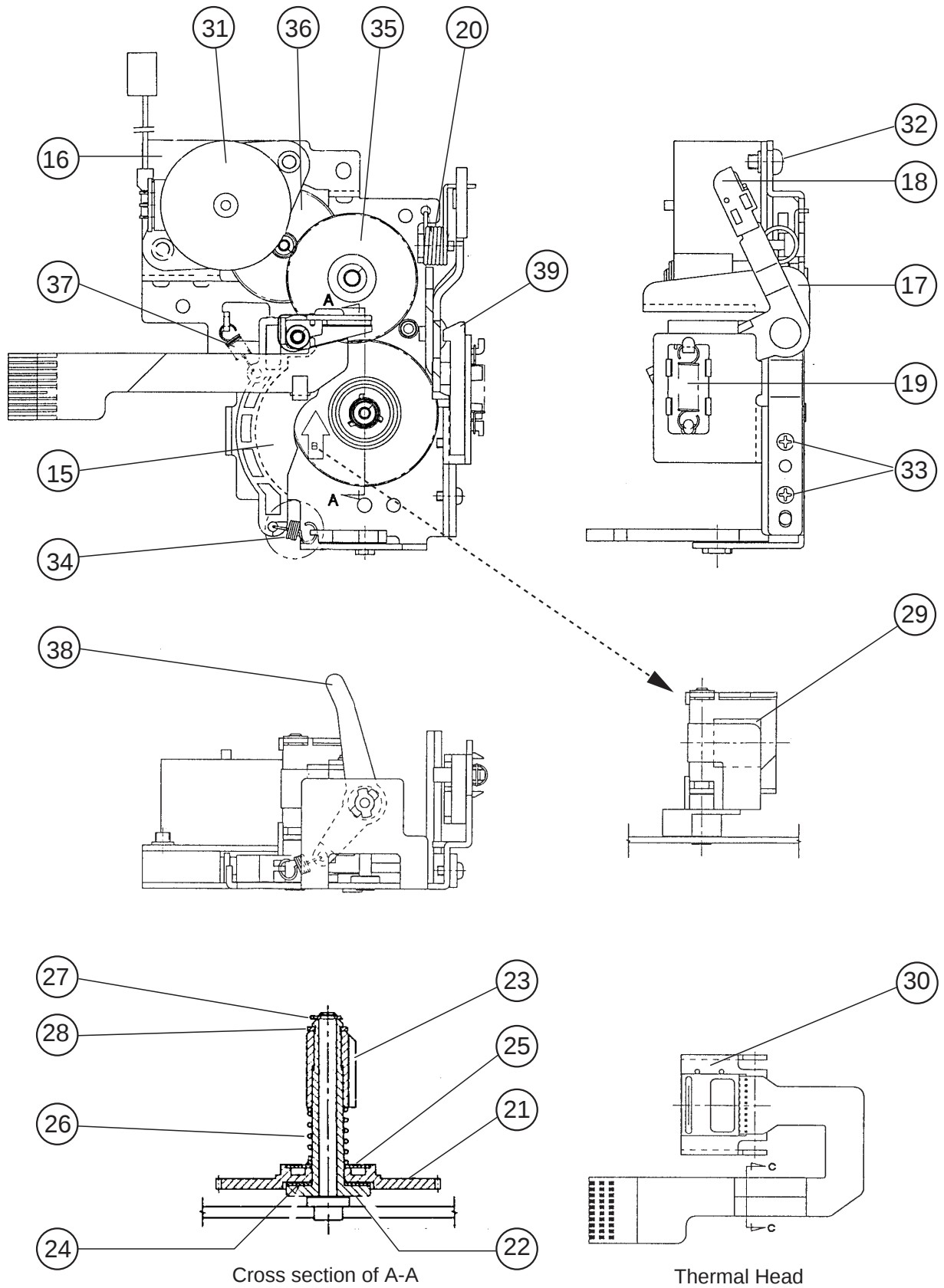
| Message                      | Meaning                                                                                                                      | Action                                                                                                                                                             |
|------------------------------|------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NO DATA!                     | <ul style="list-style-type: none"> <li>There is no data stored in memory.</li> </ul>                                         | <ul style="list-style-type: none"> <li>Store some data before trying to perform this operation.</li> </ul>                                                         |
| NO FACE DATA!                | <ul style="list-style-type: none"> <li>No portrait data is currently stored in memory.</li> </ul>                            | <ul style="list-style-type: none"> <li>You must store face data in memory before performing current operation.</li> </ul>                                          |
| NOT ENOUGH MEMORY!           | <ul style="list-style-type: none"> <li>There is not enough unused memory to perform the operation.</li> </ul>                | <ul style="list-style-type: none"> <li>Reduce the size of the data you are trying to store or delete data already stored to make room for the new data.</li> </ul> |
| NOW PRINTING                 | <ul style="list-style-type: none"> <li>Printer is performing printing operation.</li> </ul>                                  | <ul style="list-style-type: none"> <li>Wait for printing operation to end.</li> </ul>                                                                              |
| NOW PRINTING CUT THEN [SET]! | <ul style="list-style-type: none"> <li>Printing is paused for a tape cut operation.</li> </ul>                               | <ul style="list-style-type: none"> <li>Cut the tape and then press <b>SET</b> to resume printing.</li> </ul>                                                       |
| SAME NAME ALREADY USED!      | <ul style="list-style-type: none"> <li>The name you are using when storing data in memory is already used.</li> </ul>        | <ul style="list-style-type: none"> <li>Use a different name or delete the data in memory that is under the same name.</li> </ul>                                   |
| TEXT DOES NOT FIT!           | <ul style="list-style-type: none"> <li>Text is too long to fit in the specified tape length.</li> </ul>                      | <ul style="list-style-type: none"> <li>Reduce the size of the characters or shorten the text.</li> </ul>                                                           |
| TOO MANY LINES!              | <ul style="list-style-type: none"> <li>Text has too many lines to fit on tape.</li> </ul>                                    | <ul style="list-style-type: none"> <li>Reduce the number of lines.</li> </ul>                                                                                      |
| TOO MANY LINES TO FRAME!     | <ul style="list-style-type: none"> <li>Text has too many line to fit into a frame.</li> </ul>                                | <ul style="list-style-type: none"> <li>Reduce line number of lines.</li> </ul>                                                                                     |
| WHERE?                       | <ul style="list-style-type: none"> <li>Unit is asking for the starting point of the operation you are performing.</li> </ul> | <ul style="list-style-type: none"> <li>Use ◀ and ▶ to move the cursor to the starting point and press <b>SET</b> to specify it.</li> </ul>                         |
| CANNOT COMBINE!              | <ul style="list-style-type: none"> <li>Previously input text cannot be combined with new input text.</li> </ul>              | <ul style="list-style-type: none"> <li>Perform the operation and input new text.</li> </ul>                                                                        |
| CANNOT USE 6mm               | <ul style="list-style-type: none"> <li>Current operation cannot be performed using 6mm tape.</li> </ul>                      | <ul style="list-style-type: none"> <li>Change to a different tape size.</li> </ul>                                                                                 |
| CLEAR INPUT TEXT!            | <ul style="list-style-type: none"> <li>The operation you have selected will clear the text you previously input.</li> </ul>  | <ul style="list-style-type: none"> <li>Proceed with the operation (and clear the text), or press <b>ESC</b> to abort without clearing anything.</li> </ul>         |
| DATA ERROR! RESET!           | <ul style="list-style-type: none"> <li>Memory data has become corrupted for some reason.</li> </ul>                          | <ul style="list-style-type: none"> <li>Reset the unit. Note that the reset operation deletes all data in memory.</li> </ul>                                        |
| INITIAL?                     | <ul style="list-style-type: none"> <li>Memory initialization is required.</li> </ul>                                         | <ul style="list-style-type: none"> <li>Initialize memory.</li> </ul>                                                                                               |
| INPUT TEXT!                  | <ul style="list-style-type: none"> <li>Unit is requesting input of text.</li> </ul>                                          | <ul style="list-style-type: none"> <li>Input the text you want to print.</li> </ul>                                                                                |
| LOW BATTERY                  | <ul style="list-style-type: none"> <li>Battery power is low.</li> </ul>                                                      | <ul style="list-style-type: none"> <li>Replace batteries or use AC adaptor.</li> </ul>                                                                             |
| MAGIC BEAM ERROR!            | <ul style="list-style-type: none"> <li>Problem with Magic Beam operation.</li> </ul>                                         | <ul style="list-style-type: none"> <li>Locate and correct the problem and try again.</li> </ul>                                                                    |
| BEAM OK!                     | <ul style="list-style-type: none"> <li>Magic Beam operation can be performed.</li> </ul>                                     | <ul style="list-style-type: none"> <li>Perform Magic Beam operation.</li> </ul>                                                                                    |
| MAGIC BEAM STARTED!          | <ul style="list-style-type: none"> <li>Magic Beam operation has started.</li> </ul>                                          | <ul style="list-style-type: none"> <li>Wait until the Magic Beam operation is complete.</li> </ul>                                                                 |
| MEMORY FULL!                 | <ul style="list-style-type: none"> <li>Memory is full and data cannot be stored.</li> </ul>                                  | <ul style="list-style-type: none"> <li>Delete data you no longer need and make room for new data.</li> </ul>                                                       |

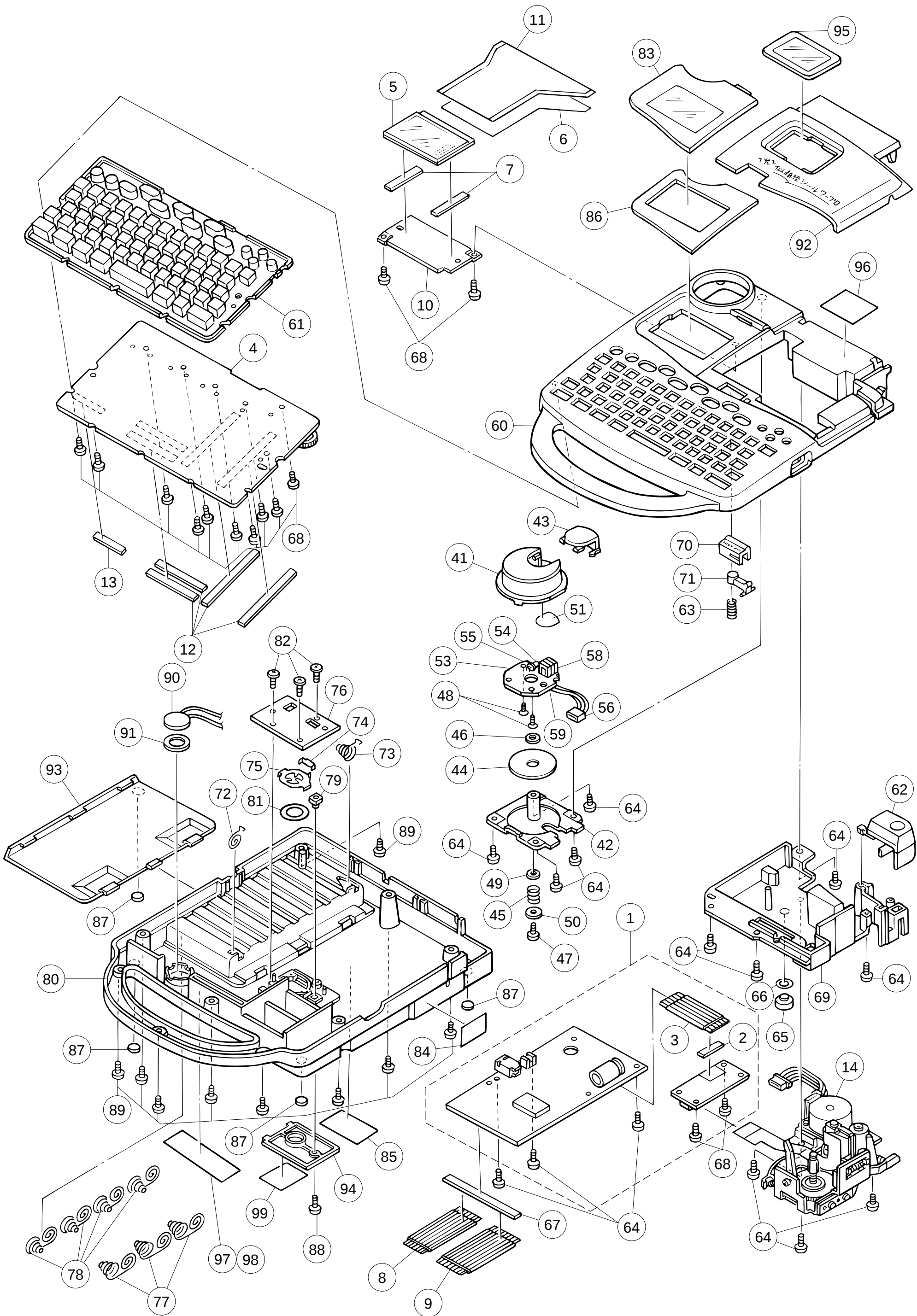
## 17. DISASSEMBLY PROCEDURE

1. Remove the battery cover, batteries and ink ribbon cassette.
2. Loosen 9 screws ⑧⑨ on the lower case ⑧⑩, and open the lower case.
3. Remove 6 wires from the buzzer ⑨⑩ and battery terminals with the help of fusing these welds.
4. Take out the connectors CN3 and CN4 on the PCB-1 ass'y ①, and loosen 3 screws ⑥④ on the PCB-1 ass'y.
5. Take the FPC tape of chassis ass'y ⑭ away from PCB-1 ass'y ①, and loosen 2 screws ⑥⑧ on the PCB-1 ass'y ①.
6. Loosen 10 screws ⑥⑧ on the PCB-E4 ass'y ④, 2 screws ⑥⑧ on the LC holder ⑩. Then remove the PCB-1 ass'y ① and the PCB-E4 ass'y ④ from the upper case ⑥⑩.
7. Loosen 3 screws ⑥④ on the chassis ass'y ⑭ and take the chassis ass'y away from the upper case ⑥⑩.
8. Take out the spring ①⑨ and remove the tape holder ③⑨.
9. Loosen 2 screws ③③ on the scissors sub ass'y ①⑦, and take out the spring ②⑩. Then remove the scissors sub ass'y ①⑦.
10. Loosen 4 screws ⑥④ on the dial holder ④②, and take out the dial elements.

## 18. EXPLODED VIEW

### Chassis ass'y





# 19. PARTS LIST

| N           | Item                             | Code No.  | Parts Name                                                 | Specification      | Q  | M  | FOB Japan<br>N.R.Yen<br>Unit Price | R |
|-------------|----------------------------------|-----------|------------------------------------------------------------|--------------------|----|----|------------------------------------|---|
| PCB-1 ASS'Y |                                  |           |                                                            |                    |    |    |                                    |   |
| N           | 1                                | 6413 1710 | PCB-1 Ass'y                                                | A140027A*1         | 1  | 1  |                                    | B |
|             |                                  |           | (This assembly contains the following available elements.) |                    |    |    |                                    |   |
|             | C1,3,4,8,9,11,<br>13~15,17,22,37 | 2845 1540 | Chip capacitor                                             | MCH212F104ZK       | 12 | 20 |                                    | C |
|             | C2,7,38                          | 2845 2289 | Chip capacitor                                             | MCH215C471KK       | 3  | 20 |                                    | C |
|             | C10                              | 2803 6155 | Chip capacitor                                             | 16RV2-10-T         | 1  | 20 |                                    | C |
|             | C16                              | 2845 2506 | Chip capacitor                                             | MCH215F103ZK       | 1  | 20 |                                    | C |
|             | C18                              | 2803 6512 | Electrolytic capasitor                                     | 16RE3-2200-T4-T    | 1  | 5  |                                    | C |
|             | C19                              | 2845 1925 | Chip capacitor                                             | MCH312F105ZP       | 1  | 20 |                                    | C |
|             | C20                              | 2807 6553 | Chip capacitor                                             | 6.3RV2-47-T        | 1  | 20 |                                    | C |
| N           | C21                              | 2803 7702 | Electrolytic capasitor                                     | RE3-6V471M-T2      | 1  | 20 |                                    | C |
|             | C23,24                           | 2845 2030 | Chip capacitor                                             | MCH215C102KK       | 2  | 20 |                                    | C |
| N           | C25~35                           | 2845 4501 | Chip capacitor                                             | MCH215SL101KK      | 11 | 20 |                                    | C |
| N           | C201                             | 2803 6624 | Electrolytic capasitor                                     | 16RC2-10-T14-T     | 1  | 20 |                                    | C |
|             | C202                             | 2845 1540 | Chip capacitor                                             | MCH212F104ZK       | 1  | 20 |                                    | C |
|             | CN3                              | 3501 6307 | Connector                                                  | S5B-PH-K-S         | 1  | 20 |                                    | C |
| N           | CN4                              | 3501 9156 | Connector                                                  | CGP1705-0101       | 1  | 20 |                                    | C |
| N           | CN201                            | 3501 7770 | FPC connector                                              | 10FE-ST            | 1  | 20 |                                    | C |
| N           | D1                               | 2390 2226 | Chip schottky diode                                        | RB420D-T146        | 1  | 20 |                                    | C |
| N           | D2                               | 2390 1827 | Diode                                                      | MA737-(TX)         | 1  | 10 |                                    | C |
|             | D3,4                             | 2301 2359 | Chip diode                                                 | MA151K-(TX)        | 2  | 20 |                                    | C |
|             | EMI2                             | 3013 0602 | Inductor                                                   | SBT-0180W          | 1  | 5  |                                    | C |
| N           | EMI3                             | 3035 0308 | Ferrite bead inductor                                      | BL01RN1-A63T6      | 1  | 20 |                                    | C |
|             | FU1                              | 2114 3227 | IC protector                                               | ICP-N25-T104       | 1  | 20 |                                    | C |
|             | IC1                              | 2105 2667 | CMOS IC                                                    | RH5VL45AA-T1       | 1  | 10 |                                    | B |
|             | IC2                              | 2114 2436 | Monolithic IC                                              | BA12003            | 1  | 5  |                                    | C |
|             | IC3,4                            | 2114 3185 | Comparator                                                 | BA10339F-E1        | 2  | 10 |                                    | C |
|             | IC5                              | 2105 3920 | CMOS IC                                                    | S-81252PG-PL-T1    | 1  | 10 |                                    | C |
|             | J2                               | 3501 5103 | AC adapter jack                                            | HEC3110-01-010     | 1  | 10 |                                    | C |
|             | LSI1                             | 2012 0385 | LSI                                                        | T6C37A             | 1  | 1  |                                    | B |
|             | LSI2                             | 2010 7259 | LSI                                                        | MN4464S-08LL       | 1  | 1  |                                    | B |
|             | LSI3                             | 2012 0378 | LSI                                                        | HN62321AFRM0       | 1  | 1  |                                    | B |
|             | Q2,5                             | 2259 0889 | Digital transistor                                         | DTC144EKT-96       | 2  | 20 |                                    | C |
|             | Q3                               | 2254 0364 | FET                                                        | 2SJ377(TE16L)      | 1  | 1  |                                    | C |
|             | Q4,6                             | 2251 0742 | Chip transistor                                            | 2SB1051K-S-T146    | 2  | 20 |                                    | C |
|             | Q7                               | 2221 0378 | Chip transistor                                            | 2SC2812-L5,L6-TB   | 1  | 20 |                                    | C |
|             | Q8                               | 2252 0945 | Chip transistor                                            | 2SC4577-UT5,UT6-TB | 1  | 20 |                                    | C |
|             | R1,2,6                           | 2792 0462 | Chip resistor                                              | MCR10EZHZJ473      | 3  | 20 |                                    | C |
|             | R3                               | 2792 0815 | Chip resistor                                              | MCR10EZHZJ221      | 1  | 20 |                                    | C |
|             | R4,5                             | 2792 0888 | Chip resistor                                              | MCR10EZHZJ334      | 2  | 20 |                                    | C |
|             | R7                               | 2795 0532 | Chip resistor                                              | MCR10EZHZJ105      | 1  | 20 |                                    | C |
|             | R8                               | 2730 0547 | Chip resistor                                              | MCR10EZHZJ124      | 1  | 20 |                                    | C |
|             | R9                               | 2792 1051 | Chip resistor                                              | MCR10EZHZJ222      | 1  | 20 |                                    | C |
|             | R10,11,36                        | 2792 0217 | Chip resistor                                              | MCR10EZHZJ101      | 3  | 20 |                                    | C |
|             | R12,26                           | 2792 0942 | Chip resistor                                              | MCR10EZHZJ332      | 2  | 20 |                                    | C |
|             | R13                              | 2795 1792 | Chip resistor                                              | MCR10EZHZJ754      | 1  | 20 |                                    | C |
|             | R14                              | 2792 0209 | Chip resistor                                              | MCR10EZHZJ104      | 1  | 20 |                                    | C |
|             | R15                              | 2792 0675 | Chip resistor                                              | MCR10EZHZJ331      | 1  | 20 |                                    | C |
|             | R16                              | 2795 0056 | Chip resistor                                              | MCR10EZHZJ000      | 1  | 20 |                                    | C |
|             | R17                              | 2730 0559 | Chip resistor                                              | MCR10EZHF3002      | 1  | 20 |                                    | 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<br>N.R.Yen<br>Unit Price | R |
|----------------------|-------------------------------------|-----------|-------------------------------------------------------------------|-----------------|---|----|------------------------------------|---|
| N                    | R18                                 | 2795 1190 | Chip resistor                                                     | MCR10EZHF1002   | 1 | 20 |                                    | C |
|                      | R19                                 | 2795 1701 | Chip resistor                                                     | MCR10EZHF1202   | 1 | 20 |                                    | C |
|                      | R20,21                              | 2795 5334 | Chip resistor                                                     | MCR10EZHF9760   | 2 | 20 |                                    | C |
|                      | R22,23                              | 2795 5341 | Chip resistor                                                     | MCR10EZHF8660   | 2 | 20 |                                    | C |
|                      | R24                                 | 2795 5348 | Chip resistor                                                     | MCR10EZHF7320   | 1 | 20 |                                    | C |
|                      | R25                                 | 2795 5355 | Chip resistor                                                     | MCR10EZHF4870   | 1 | 20 |                                    | C |
|                      | R27~33                              | 2792 0831 | Chip resistor                                                     | MCR10EZHJ103    | 7 | 20 |                                    | C |
|                      | R34                                 | 2730 0530 | Chip resistor                                                     | MCR10EZHJ272    | 1 | 20 |                                    | C |
|                      | R35                                 | 2795 1785 | Chip resistor                                                     | MCR10EZHJ244    | 1 | 20 |                                    | C |
|                      | R37                                 | 2792 0470 | Chip resistor                                                     | MCR10EZHJ102    | 1 | 20 |                                    | C |
|                      | R39                                 | 2795 1358 | Chip resistor                                                     | MCR10EZHJ511    | 1 | 20 |                                    | C |
|                      | R40                                 | 2605 1022 | Metal film resistor                                               | ERG-3SJ6R8      | 1 | 20 |                                    | C |
|                      | RA1,2                               | 2775 1372 | Chip network resistor                                             | MNR34J5AJ563    | 2 | 20 |                                    | C |
|                      | VR1                                 | 2795 4620 | Chip volume                                                       | MVR32HXB RN502  | 1 | 20 |                                    | C |
| N                    | X1                                  | 2590 1435 | Ceramic oscillator                                                | EFOEC4004A4     | 1 | 10 |                                    | C |
| N                    | 2                                   | 6410 7080 | Adhesive tape C-L263                                              | C413532-1       | 2 | 20 |                                    | C |
| N                    | 3                                   | 6410 7010 | PC joiner L263                                                    | C413507-1       | 1 | 10 |                                    | A |
| <b>PCB-E4 ASS'Y</b>  |                                     |           |                                                                   |                 |   |    |                                    |   |
| N                    | 4                                   | 6413 1700 | PCB-E4 Ass'y                                                      | A140028A*1      | 1 | 1  |                                    | B |
|                      |                                     |           | <b>(This assembly contains the following available elements.)</b> |                 |   |    |                                    |   |
|                      | C201,203,207,<br>208,209<br>210,211 | 2845 1540 | Chip capacitor                                                    | MCH212F104ZK    | 7 | 20 |                                    | C |
|                      | C202                                | 2845 2212 | Chip capacitor                                                    | MCH215A100DK    | 1 | 20 |                                    | C |
|                      | C206                                | 2845 1925 | Chip capacitor                                                    | MCH312F105ZP    | 1 | 20 |                                    | C |
|                      | LSI201                              | 2001 7287 | LSI                                                               | HD44105H        | 1 | 1  |                                    | B |
|                      | LSI202                              | 2001 7295 | LSI                                                               | HD44102CH       | 1 | 1  |                                    | B |
|                      | R201                                | 2795 0826 | Chip resistor                                                     | MCR10EZHG683    | 1 | 20 |                                    | C |
|                      | R204                                | 2795 0056 | Chip resistor                                                     | MCR10EZHJ000    | 1 | 20 |                                    | C |
|                      | R205,206,<br>208,209                | 2795 2457 | Chip resistor                                                     | MCR10EZHG472    | 4 | 20 |                                    | C |
|                      | R210,211,212,<br>213,214,215        | 2792 0807 | Chip resistor                                                     | MCR10EZHJ470    | 6 | 20 |                                    | C |
|                      | VR201                               | 2765 0798 | Volume                                                            | RK09G-J11T-203B | 1 | 5  |                                    | B |
| N                    | 5                                   | 3335 5502 | LCD                                                               | CD427-TS        | 1 | 1  |                                    | B |
| N                    | 6                                   | 6410 7100 | Tape A-L263                                                       | C413534-1       | 1 | 20 |                                    | C |
| N                    | 7                                   | 6410 7090 | Cushion A-L263                                                    | C413533-1       | 2 | 20 |                                    | X |
| N                    | 8                                   | 6413 0050 | PC joiner B-L263AEJ                                               | C440133-1       | 1 | 10 |                                    | C |
| N                    | 9                                   | 6413 0040 | PC joiner A-L263AEJ                                               | C440132-1       | 1 | 10 |                                    | C |
| N                    | 10                                  | 6412 1760 | LC holder L262                                                    | A314023-1       | 1 | 20 |                                    | C |
| N                    | 11                                  | 5610 8090 | Heat seal L263                                                    | C312236-1       | 1 | 1  |                                    | B |
| N                    | 12                                  | 6413 1940 | Spacer L261                                                       | A440135-1       | 4 | 20 |                                    | X |
| N                    | 13                                  | 6413 1950 | Spacer B-L261                                                     | A440135-2       | 1 | 20 |                                    | X |
| <b>CHASSIS ASS'Y</b> |                                     |           |                                                                   |                 |   |    |                                    |   |
| N                    | 14                                  | 6413 1720 | Chassis Ass'y                                                     | C140015C*3      | 1 | 1  |                                    | C |
|                      |                                     |           | <b>(This assembly contains the following available elements.)</b> |                 |   |    |                                    |   |
| N                    | 15                                  | 6410 6870 | Head arm L263                                                     | C211543-1       | 1 | 10 |                                    | C |
| N                    | 16                                  | 6413 0061 | Chassis sub ass'y                                                 | C240092A*1      | 1 | 1  |                                    | C |
| N                    | 17                                  | 6410 6960 | Scissors sub ass'y                                                | C312250*1       | 1 | 1  |                                    | C |
| N                    | 18                                  | 6410 7000 | Cut plate L263                                                    | C413506-1       | 1 | 10 |                                    | C |
| N                    | 19                                  | 6410 7120 | Spring T-L263                                                     | C413536-1       | 1 | 20 |                                    | 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<br>N.R.Yen<br>Unit Price | R |
|-------------------|------|-----------|-------------------------|--------------------|----|----|------------------------------------|---|
| N                 | 20   | 6410 7130 | Spring S-L263           | C413537-1          | 1  | 20 |                                    | C |
| N                 | 21   | 6410 2770 | Gear B-L278             | A313765-1          | 1  | 20 |                                    | C |
|                   | 22   | 6400 9640 | Clutch plate L240       | A311853-1          | 1  | 20 |                                    | C |
|                   | 23   | 6400 9650 | Reel top L240           | A311854-1          | 1  | 20 |                                    | C |
|                   | 24   | 6400 9710 | Clutch felt L240        | A412350-1          | 1  | 20 |                                    | C |
|                   | 25   | 6400 9720 | Spring washer L240      | A412351-1          | 1  | 20 |                                    | C |
|                   | 26   | 6400 9730 | Clutch spring L240      | A412352-1          | 1  | 20 |                                    | C |
|                   | 27   | 6400 9750 | Cut washer B-L240       | A412353-2          | 3  | 20 |                                    | C |
|                   | 28   | 6400 9760 | Cut washer C-L240       | A412353-3          | 1  | 20 |                                    | C |
| N                 | 29   | 6405 2850 | Adhesive tape L244      | A413501-1          | 1  | 20 |                                    | C |
| N                 | 30   | 1013 8689 | Thermal head            | KSH64FK-CA         | 1  | 1  |                                    | A |
|                   | 31   | 3222 0049 | Stepping motor          | 27S1N18ECNU        | 1  | 1  |                                    | C |
|                   | 32   | 5041 5252 | Screw                   | 3x5 ZMC-3          | 2  | 20 |                                    | C |
|                   | 33   | 5111 5155 | Screw                   | 2x4 ZMC-3          | 2  | 20 |                                    | C |
|                   | 34   | 6400 9780 | Head spring A-L240      | A412366-1          | 1  | 20 |                                    | C |
| N                 | 35   | 6410 8092 | Platen L263             | C312242B-1         | 1  | 1  |                                    | C |
| N                 | 36   | 6413 9330 | Gear A-L263AE           | A340279-1          | 1  | 10 |                                    | C |
|                   | 37   | 6413 9340 | Head spring B-L263      | A440434-1          | 1  | 20 |                                    | C |
| N                 | 38   | 6412 2140 | Switch lever L262       | C312240-3          | 1  | 10 |                                    | B |
| N                 | 39   | 6412 1830 | Tape holder L262        | A314038-1          | 1  | 20 |                                    | C |
| <b>COMPONENTS</b> |      |           |                         |                    |    |    |                                    |   |
| N                 | 41   | 6412 1800 | Dial L262               | A314027-1          | 1  | 10 |                                    | C |
| N                 | 42   | 6412 1810 | Dial holder L262        | A314028-1          | 1  | 10 |                                    | C |
| N                 | 43   | 6412 1820 | Filter L262             | A314029-1          | 1  | 20 |                                    | C |
| N                 | 44   | 6412 1890 | Spacer L262             | A415173-1          | 1  | 20 |                                    | C |
| N                 | 45   | 6412 1910 | Dial spring L262        | A415175-1          | 1  | 20 |                                    | C |
| N                 | 46   | 6412 1920 | Washer L262             | A415176-1          | 1  | 20 |                                    | C |
| N                 | 47   | 7436 2493 | Binding screw           | 2.0x6 (ZMC)        | 1  | 20 |                                    | X |
|                   | 48   | 6337 8670 | Screw A-G803            | A33953-27          | 2  | 20 |                                    | C |
| N                 | 49   | 6412 9220 | Washer B-L262           | A415176-2          | 1  | 20 |                                    | C |
| N                 | 50   | 6414 2350 | Washer L261             | A440323-1          | 1  | 20 |                                    | C |
| N                 | 51   | 6414 2340 | Tape B-L262             | A440183-1          | 1  | 20 |                                    | C |
|                   | C1   | 2845 2030 | Chip capacitor          | MCH215C102KK       | 1  | 20 |                                    | C |
|                   | Q1   | 2252 0945 | Chip transistor         | 2SC4577-UT5,UT6-TB | 1  | 20 |                                    | C |
|                   | R1   | 2792 0807 | Chip resistor           | MCR10EZJH470       | 1  | 20 |                                    | C |
|                   | R2   | 2792 0831 | Chip resistor           | MCR10EZJH103       | 1  | 20 |                                    | C |
|                   | R3   | 2792 1116 | Chip resistor           | MCR10EZJH224       | 1  | 20 |                                    | C |
|                   | R4   | 2795 0532 | Chip resistor           | MCR10EZJH105       | 1  | 20 |                                    | C |
| N                 | 53   | 3122 2583 | Remote control receiver | SBX8020-H          | 1  | 1  |                                    | B |
| N                 | 54   | 2370 1113 | LED                     | SIR-341SB3F-P,Q    | 1  | 10 |                                    | B |
| N                 | 55   | 2803 7674 | Electrolytic capacitor  | 6.3RC2-47-T58-T    | 1  | 20 |                                    | C |
| N                 | 56   | 6412 1940 | Wire sub ass'y          | A415190*1          | 1  | 5  |                                    | C |
| N                 | 57   | 6413 1270 | Spacer B-L262           | A440205-1          | 1  | 20 |                                    | C |
| N                 | 58   | 6413 1280 | Spacer C-L262           | A440206-1          | 1  | 20 |                                    | C |
| N                 | 59   | 6413 1290 | Spacer D-L262           | A440207-1          | 1  | 20 |                                    | C |
| N                 | 60   | 6413 1870 | Upper case L261AE       | A140021-1          | 1  | 1  |                                    | X |
| N                 | 61   | 6413 1890 | Rubber key L261AE       | A140022-1          | 1  | 1  |                                    | B |
| N                 | 62   | 6413 1920 | Cut button L261AE       | A314024-2          | 1  | 10 |                                    | C |
| N                 | 63   | 6410 2960 | Push spring L278        | A414847-1          | 1  | 20 |                                    | C |
|                   | 64   | 5150 1217 | Binding screw           | 2.3x6 (ZMC-3)      | 14 | 20 |                                    | C |
|                   | 65   | 6512 5890 | Rubber key L571AE       | C311028-2          | 1  | 20 |                                    | B |
|                   | 66   | 6410 0620 | Shield plate Z829AE     | A413625-4          | 1  | 20 |                                    | C |
| N                 | 67   | 6413 0010 | Adhesive tape D-L263AEJ | C440140-1          | 1  | 20 |                                    | C |

Notes: N – New parts  
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R – A : Essential  
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X : No stock recommended

| N             | Item | Code No.  | Parts Name              | Specification  | Q  | M  | FOB Japan<br>N.R.Yen<br>Unit Price | R |
|---------------|------|-----------|-------------------------|----------------|----|----|------------------------------------|---|
| N             | 68   | 6413 4850 | Screw A-L271            | A313841-5      | 14 | 20 |                                    | C |
| N             | 69   | 6412 1710 | Cassette case L262      | A111115-1      | 1  | 5  |                                    | C |
| N             | 70   | 6412 1780 | Open button L262        | A314025-1      | 1  | 20 |                                    | C |
| N             | 71   | 6412 1790 | Hook L262               | A314026-1      | 1  | 20 |                                    | C |
| N             | 72   | 6410 6980 | Battery spring A-L263   | C413502-1      | 1  | 20 |                                    | C |
| N             | 73   | 6410 6990 | Battery spring B-L263   | C413503-1      | 1  | 20 |                                    | C |
|               | 74   | 6396 8870 | Battery spring B-L531AA | C310675-1      | 1  | 20 |                                    | C |
|               | 75   | 6329 7620 | Battery spring A-G272   | A33938-1       | 1  | 20 |                                    | C |
| N             | 76   | 6407 9270 | Battery holder L277     | A414032-1      | 1  | 20 |                                    | C |
|               | 77   | 7435 9411 | Battery spring C-G164   | A43733-1       | 3  | 20 |                                    | C |
|               | 78   | 6328 1560 | Battery spring G49      | A44683A-1      | 4  | 20 |                                    | C |
|               | 79   | 6393 1710 | Nut B-V346              | A411430-2      | 1  | 20 |                                    | C |
| N             | 80   | 6413 1930 | Lower case L261AE       | A111114-2      | 1  | 5  |                                    | X |
|               | 81   | 6512 5860 | Insulation plate L571AM | C411701-2      | 1  | 20 |                                    | C |
|               | 82   | 6413 4850 | Screw A-L271            | A313841-5      | 3  | 20 |                                    | C |
| N             | 83   | 6413 1820 | Display plate A-L261AE  | A340084-1      | 1  | 1  |                                    | C |
| N             | 84   | 6413 1840 | Label A-L261AE          | A414078-3      | 1  | 20 |                                    | C |
| N             | 85   | 6413 1850 | Label B-L261AE          | A414747-6      | 1  | 20 |                                    | C |
| N             | 86   | 6412 1880 | Adhesive tape A-L262    | A415112-1      | 1  | 10 |                                    | C |
| N             | 87   | 6408 9950 | Rubber foot L277        | A414533-1      | 4  | 20 |                                    | C |
|               | 88   | 6400 9580 | Screw L240              | A412411-1      | 1  | 20 |                                    | C |
|               | 89   | 5150 1217 | Binding screw           | 2.3x6 (ZMC-3)  | 9  | 20 |                                    | C |
| N             | 90   | 3122 2520 | Buzzer                  | KBS-15DA-5C-22 | 1  | 10 |                                    | C |
|               | 91   | 6388 8240 | Adhesive tape A-V164    | A410562-1      | 1  | 20 |                                    | C |
| N             | 92   | 6412 1730 | Cassette cover L262     | A211659-1      | 1  | 1  |                                    | C |
| N             | 93   | 6412 1720 | Battery cover L262      | A211658-1      | 1  | 5  |                                    | C |
| N             | 94   | 6412 1740 | Battery cover B-L262    | A313775-5      | 1  | 10 |                                    | C |
| N             | 95   | 6412 1870 | Window plate B-L262     | A415111-1      | 1  | 10 |                                    | C |
| N             | 96   | 6413 4780 | Label C-L271            | A414471-3      | 1  | 20 |                                    | C |
| <b>OTHERS</b> |      |           |                         |                |    |    |                                    |   |
| N             | 97   | 6405 0930 | FCC Label L235AEU       | A412826-4      | 1  | 20 |                                    | C |
|               | 98   | 6414 1830 | EMI Label Z556          | A440515-1      | 1  | 20 |                                    | C |
| N             | 99   | 6414 4820 | Label D-L261AEW         | A440593-1      | 1  | 20 |                                    | C |

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# PARTS LIST (C-700)

| N           | Item                             | Code No.  | Parts Name                                                 | Specification      | Q  | M  | FOB Japan<br>N.R.Yen<br>Unit Price | R |
|-------------|----------------------------------|-----------|------------------------------------------------------------|--------------------|----|----|------------------------------------|---|
| PCB-1 ASS'Y |                                  |           |                                                            |                    |    |    |                                    |   |
| N           | 1                                | 6413 1710 | PCB-1 Ass'y                                                | A140027A*1         | 1  | 1  |                                    | B |
|             |                                  |           | (This assembly contains the following available elements.) |                    |    |    |                                    |   |
|             | C1,3,4,8,9,11,<br>13~15,17,22,37 | 2845 1540 | Chip capacitor                                             | MCH212F104ZK       | 12 | 20 |                                    | C |
|             | C2,7,38                          | 2845 2289 | Chip capacitor                                             | MCH215C471KK       | 3  | 20 |                                    | C |
|             | C10                              | 2803 6155 | Chip capacitor                                             | 16RV2-10-T         | 1  | 20 |                                    | C |
|             | C16                              | 2845 2506 | Chip capacitor                                             | MCH215F103ZK       | 1  | 20 |                                    | C |
|             | C18                              | 2803 6512 | Electrolytic capasitor                                     | 16RE3-2200-T4-T    | 1  | 5  |                                    | C |
|             | C19                              | 2845 1925 | Chip capacitor                                             | MCH312F105ZP       | 1  | 20 |                                    | C |
|             | C20                              | 2807 6553 | Chip capacitor                                             | 6.3RV2-47-T        | 1  | 20 |                                    | C |
| N           | C21                              | 2803 7702 | Electrolytic capasitor                                     | RE3-6V471M-T2      | 1  | 20 |                                    | C |
|             | C23,24                           | 2845 2030 | Chip capacitor                                             | MCH215C102KK       | 2  | 20 |                                    | C |
| N           | C25~35                           | 2845 4501 | Chip capacitor                                             | MCH215SL101KK      | 11 | 20 |                                    | C |
| N           | C201                             | 2803 6624 | Electrolytic capasitor                                     | 16RC2-10-T14-T     | 1  | 20 |                                    | C |
|             | C202                             | 2845 1540 | Chip capacitor                                             | MCH212F104ZK       | 1  | 20 |                                    | C |
|             | CN3                              | 3501 6307 | Connector                                                  | S5B-PH-K-S         | 1  | 20 |                                    | C |
| N           | CN4                              | 3501 9156 | Connector                                                  | CGP1705-0101       | 1  | 20 |                                    | C |
| N           | CN201                            | 3501 7770 | FPC connector                                              | 10FE-ST            | 1  | 20 |                                    | C |
| N           | D1                               | 2390 2226 | Chip schottky diode                                        | RB420D-T146        | 1  | 20 |                                    | C |
| N           | D2                               | 2390 1827 | Diode                                                      | MA737-(TX)         | 1  | 10 |                                    | C |
|             | D3,4                             | 2301 2359 | Chip diode                                                 | MA151K-(TX)        | 2  | 20 |                                    | C |
|             | EMI2                             | 3013 0602 | Inductor                                                   | SBT-0180W          | 1  | 5  |                                    | C |
| N           | EMI3                             | 3035 0308 | Ferrite bead inductor                                      | BL01RN1-A63T6      | 1  | 20 |                                    | C |
|             | FU1                              | 2114 3227 | IC protector                                               | ICP-N25-T104       | 1  | 20 |                                    | C |
|             | IC1                              | 2105 2667 | CMOS IC                                                    | RH5VL45AA-T1       | 1  | 10 |                                    | B |
|             | IC2                              | 2114 2436 | Monolithic IC                                              | BA12003            | 1  | 5  |                                    | C |
|             | IC3,4                            | 2114 3185 | Comparator                                                 | BA10339F-E1        | 2  | 10 |                                    | C |
|             | IC5                              | 2105 3920 | CMOS IC                                                    | S-81252PG-PL-T1    | 1  | 10 |                                    | C |
|             | J2                               | 3501 5103 | AC adapter jack                                            | HEC3110-01-010     | 1  | 10 |                                    | C |
|             | LSI1                             | 2012 0385 | LSI                                                        | T6C37A             | 1  | 1  |                                    | B |
|             | LSI2                             | 2010 7259 | LSI                                                        | MN4464S-08LL       | 1  | 1  |                                    | B |
|             | LSI3                             | 2012 0378 | LSI                                                        | HN62321AFRM0       | 1  | 1  |                                    | B |
|             | Q2,5                             | 2259 0889 | Digital transistor                                         | DTC144EKT-96       | 2  | 20 |                                    | C |
|             | Q3                               | 2254 0364 | FET                                                        | 2SJ377(TE16L)      | 1  | 1  |                                    | C |
|             | Q4,6                             | 2251 0742 | Chip transistor                                            | 2SB1051K-S-T146    | 2  | 20 |                                    | C |
|             | Q7                               | 2221 0378 | Chip transistor                                            | 2SC2812-L5,L6-TB   | 1  | 20 |                                    | C |
|             | Q8                               | 2252 0945 | Chip transistor                                            | 2SC4577-UT5,UT6-TB | 1  | 20 |                                    | C |
|             | R1,2,6                           | 2792 0462 | Chip resistor                                              | MCR10EZHZJ473      | 3  | 20 |                                    | C |
|             | R3                               | 2792 0815 | Chip resistor                                              | MCR10EZHZJ221      | 1  | 20 |                                    | C |
|             | R4,5                             | 2792 0888 | Chip resistor                                              | MCR10EZHZJ334      | 2  | 20 |                                    | C |
|             | R7                               | 2795 0532 | Chip resistor                                              | MCR10EZHZJ105      | 1  | 20 |                                    | C |
|             | R8                               | 2730 0547 | Chip resistor                                              | MCR10EZHZJ124      | 1  | 20 |                                    | C |
|             | R9                               | 2792 1051 | Chip resistor                                              | MCR10EZHZJ222      | 1  | 20 |                                    | C |
|             | R10,11,36                        | 2792 0217 | Chip resistor                                              | MCR10EZHZJ101      | 3  | 20 |                                    | C |
|             | R12,26                           | 2792 0942 | Chip resistor                                              | MCR10EZHZJ332      | 2  | 20 |                                    | C |
|             | R13                              | 2795 1792 | Chip resistor                                              | MCR10EZHZJ754      | 1  | 20 |                                    | C |
|             | R14                              | 2792 0209 | Chip resistor                                              | MCR10EZHZJ104      | 1  | 20 |                                    | C |
|             | R15                              | 2792 0675 | Chip resistor                                              | MCR10EZHZJ331      | 1  | 20 |                                    | C |
|             | R16                              | 2795 0056 | Chip resistor                                              | MCR10EZHZJ000      | 1  | 20 |                                    | C |
|             | R17                              | 2730 0559 | Chip resistor                                              | MCR10EZHF3002      | 1  | 20 |                                    | C |

Notes: N – New parts

M – Minimum order/supply quantity

R – Rank

Q – Quantity used per unit

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X : No stock recommended

| N                                                          | Item                                | Code No.  | Parts Name            | Specification   | Q | M  | FOB Japan<br>N.R.Yen<br>Unit Price | R |
|------------------------------------------------------------|-------------------------------------|-----------|-----------------------|-----------------|---|----|------------------------------------|---|
| N                                                          | R18                                 | 2795 1190 | Chip resistor         | MCR10EZHF1002   | 1 | 20 |                                    | C |
|                                                            | R19                                 | 2795 1701 | Chip resistor         | MCR10EZHF1202   | 1 | 20 |                                    | C |
|                                                            | R20,21                              | 2795 5334 | Chip resistor         | MCR10EZHF9760   | 2 | 20 |                                    | C |
|                                                            | R22,23                              | 2795 5341 | Chip resistor         | MCR10EZHF8660   | 2 | 20 |                                    | C |
|                                                            | R24                                 | 2795 5348 | Chip resistor         | MCR10EZHF7320   | 1 | 20 |                                    | C |
|                                                            | R25                                 | 2795 5355 | Chip resistor         | MCR10EZHF4870   | 1 | 20 |                                    | C |
|                                                            | R27~33                              | 2792 0831 | Chip resistor         | MCR10EZJ103     | 7 | 20 |                                    | C |
|                                                            | R34                                 | 2730 0530 | Chip resistor         | MCR10EZJ272     | 1 | 20 |                                    | C |
|                                                            | R35                                 | 2795 1785 | Chip resistor         | MCR10EZJ244     | 1 | 20 |                                    | C |
|                                                            | R37                                 | 2792 0470 | Chip resistor         | MCR10EZJ102     | 1 | 20 |                                    | C |
|                                                            | R39                                 | 2795 1358 | Chip resistor         | MCR10EZJ511     | 1 | 20 |                                    | C |
|                                                            | R40                                 | 2605 1022 | Metal film resistor   | ERG-3SJ6R8      | 1 | 20 |                                    | C |
|                                                            | RA1,2                               | 2775 1372 | Chip network resistor | MNR34J5AJ563    | 2 | 20 |                                    | C |
|                                                            | VR1                                 | 2795 4620 | Chip volume           | MVR32HXBRN502   | 1 | 20 |                                    | C |
| N                                                          | X1                                  | 2590 1435 | Ceramic oscillator    | EFOEC4004A4     | 1 | 10 | C                                  |   |
| N                                                          | 2                                   | 6410 7080 | Adhesive tape C-L263  | C413532-1       | 2 | 20 | C                                  |   |
| N                                                          | 3                                   | 6410 7010 | PC joiner L263        | C413507-1       | 1 | 10 | A                                  |   |
| PCB-E4 ASS'Y                                               |                                     |           |                       |                 |   |    |                                    |   |
| N                                                          | 4                                   | 6413 1700 | PCB-E4 Ass'y          | A140028A*1      | 1 | 1  |                                    | B |
| (This assembly contains the following available elements.) |                                     |           |                       |                 |   |    |                                    |   |
|                                                            | C201,203,207,<br>208,209<br>210,211 | 2845 1540 | Chip capacitor        | MCH212F104ZK    | 7 | 20 |                                    | C |
|                                                            | C202                                | 2845 2212 | Chip capacitor        | MCH215A100DK    | 1 | 20 |                                    | C |
|                                                            | C206                                | 2845 1925 | Chip capacitor        | MCH312F105ZP    | 1 | 20 |                                    | C |
|                                                            | LSI201                              | 2001 7287 | LSI                   | HD44105H        | 1 | 1  |                                    | B |
|                                                            | LSI202                              | 2001 7295 | LSI                   | HD44102CH       | 1 | 1  |                                    | B |
|                                                            | R201                                | 2795 0826 | Chip resistor         | MCR10EZHG683    | 1 | 20 |                                    | C |
|                                                            | R204                                | 2795 0056 | Chip resistor         | MCR10EZJ000     | 1 | 20 |                                    | C |
|                                                            | R205,206,<br>208,209                | 2795 2457 | Chip resistor         | MCR10EZHG472    | 4 | 20 |                                    | C |
|                                                            | R210,211,212,<br>213,214,215        | 2792 0807 | Chip resistor         | MCR10EZJ470     | 6 | 20 |                                    | C |
|                                                            | VR201                               | 2765 0798 | Volume                | RK09G-J11T-203B | 1 | 5  |                                    | B |
| N                                                          | 5                                   | 3335 5502 | LCD                   | CD427-TS        | 1 | 1  |                                    | B |
| N                                                          | 6                                   | 6410 7100 | Tape A-L263           | C413534-1       | 1 | 20 |                                    | C |
| N                                                          | 7                                   | 6410 7090 | Cushion A-L263        | C413533-1       | 2 | 20 | X                                  |   |
| N                                                          | 8                                   | 6413 0050 | PC joiner B-L263AEJ   | C440133-1       | 1 | 10 | C                                  |   |
| N                                                          | 9                                   | 6413 0040 | PC joiner A-L263AEJ   | C440132-1       | 1 | 10 | C                                  |   |
| N                                                          | 10                                  | 6412 1760 | LC holder L262        | A314023-1       | 1 | 20 | C                                  |   |
| N                                                          | 11                                  | 5610 8090 | Heat seal L263        | C312236-1       | 1 | 1  | B                                  |   |
| N                                                          | 12                                  | 6413 1940 | Spacer L261           | A440135-1       | 4 | 20 | X                                  |   |
| N                                                          | 13                                  | 6413 1950 | Spacer B-L261         | A440135-2       | 1 | 20 | X                                  |   |
| CHASSIS ASS'Y                                              |                                     |           |                       |                 |   |    |                                    |   |
| N                                                          | 14                                  | 6413 8240 | Chassis Ass'y         | C140015C*4      | 1 |    |                                    | C |
| (This assembly contains the following available elements.) |                                     |           |                       |                 |   |    |                                    |   |
| N                                                          | 15                                  | 6410 6870 | Head arm L263         | C211543-1       | 1 | 10 |                                    | C |
| N                                                          | 16                                  | 6413 0061 | Chassis sub ass'y     | C240092A*1      | 1 | 1  |                                    | C |
| N                                                          | 17                                  | 6410 6960 | Scissors sub ass'y    | C312250*1       | 1 | 1  |                                    | C |
| N                                                          | 18                                  | 6410 7000 | Cut plate L263        | C413506-1       | 1 | 10 |                                    | C |
| N                                                          | 19                                  | 6410 7120 | Spring T-L263         | C413536-1       | 1 | 20 |                                    | C |

Notes: N – New parts  
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| N                 | Item | Code No.  | Parts Name              | Specification      | Q  | M  | FOB Japan<br>N.R.Yen<br>Unit Price | R |
|-------------------|------|-----------|-------------------------|--------------------|----|----|------------------------------------|---|
| N                 | 20   | 6410 7130 | Spring S-L263           | C413537-1          | 1  | 20 |                                    | C |
| N                 | 21   | 6410 2770 | Gear B-L278             | A313765-1          | 1  | 20 |                                    | C |
|                   | 22   | 6400 9640 | Clutch plate L240       | A311853-1          | 1  | 20 |                                    | C |
|                   | 23   | 6400 9650 | Reel top L240           | A311854-1          | 1  | 20 |                                    | C |
|                   | 24   | 6400 9710 | Clutch felt L240        | A412350-1          | 1  | 20 |                                    | C |
|                   | 25   | 6400 9720 | Spring washer L240      | A412351-1          | 1  | 20 |                                    | C |
|                   | 26   | 6400 9730 | Clutch spring L240      | A412352-1          | 1  | 20 |                                    | C |
|                   | 27   | 6400 9750 | Cut washer B-L240       | A412353-2          | 3  | 20 |                                    | C |
|                   | 28   | 6400 9760 | Cut washer C-L240       | A412353-3          | 1  | 20 |                                    | C |
| N                 | 29   | 6405 2850 | Adhesive tape L244      | A413501-1          | 1  | 20 |                                    | C |
| N                 | 30   | 1013 8689 | Thermal head            | KSH64FK-CA         | 1  | 1  |                                    | A |
|                   | 31   | 3222 0049 | Stepping motor          | 27S1N18ECNU        | 1  | 1  |                                    | C |
|                   | 32   | 5041 5252 | Screw                   | 3x5 ZMC-3          | 2  | 20 |                                    | C |
|                   | 33   | 5111 5155 | Screw                   | 2x4 ZMC-3          | 2  | 20 |                                    | C |
|                   | 34   | 6400 9780 | Head spring A-L240      | A412366-1          | 1  | 20 |                                    | C |
| N                 | 35   | 6410 8092 | Platen L263             | C312242B-1         | 1  | 1  |                                    | C |
| N                 | 36   | 6413 9330 | Gear A-L263AE           | A340279-1          | 1  | 10 |                                    | C |
|                   | 37   | 6413 9340 | Head spring B-L263      | A440434-1          | 1  | 20 |                                    | C |
| N                 | 38   | 6413 8280 | Switch lever L261BE     | C312240-5          | 1  | 10 |                                    | B |
| N                 | 39   | 6413 8270 | Tape holder L261BE      | A314038-3          | 1  | 20 |                                    | C |
| <b>COMPONENTS</b> |      |           |                         |                    |    |    |                                    |   |
| N                 | 41   | 6413 8300 | Dial L261BE             | A314027-3          | 1  | 5  |                                    | C |
| N                 | 42   | 6412 1810 | Dial holder L262        | A314028-1          | 1  | 10 |                                    | C |
| N                 | 43   | 6412 1820 | Filter L262             | A314029-1          | 1  | 20 |                                    | C |
| N                 | 44   | 6412 1890 | Spacer L262             | A415173-1          | 1  | 20 |                                    | C |
| N                 | 45   | 6412 1910 | Dial spring L262        | A415175-1          | 1  | 20 |                                    | C |
| N                 | 46   | 6412 1920 | Washer L262             | A415176-1          | 1  | 20 |                                    | C |
| N                 | 47   | 7436 2493 | Binding screw           | 2.0x6 (ZMC)        | 1  | 20 |                                    | X |
|                   | 48   | 6337 8670 | Screw A-G803            | A33953-27          | 2  | 20 |                                    | C |
| N                 | 49   | 6412 9220 | Washer B-L262           | A415176-2          | 1  | 20 |                                    | C |
| N                 | 50   | 6414 2350 | Washer L261             | A440323-1          | 1  | 20 |                                    | C |
| N                 | 51   | 6414 2340 | Tape B-L262             | A440183-1          | 1  | 20 |                                    | C |
|                   | C1   | 2845 2030 | Chip capacitor          | MCH215C102KK       | 1  | 20 |                                    | C |
|                   | Q1   | 2252 0945 | Chip transistor         | 2SC4577-UT5,UT6-TB | 1  | 20 |                                    | C |
|                   | R1   | 2792 0807 | Chip resistor           | MCR10EZJ470        | 1  | 20 |                                    | C |
|                   | R2   | 2792 0831 | Chip resistor           | MCR10EZJ103        | 1  | 20 |                                    | C |
|                   | R3   | 2792 1116 | Chip resistor           | MCR10EZJ224        | 1  | 20 |                                    | C |
|                   | R4   | 2795 0532 | Chip resistor           | MCR10EZJ105        | 1  | 20 |                                    | C |
| N                 | 53   | 3122 2583 | Remote control receiver | SBX8020-H          | 1  | 1  |                                    | B |
| N                 | 54   | 2370 1113 | LED                     | SIR-341SB3F-P,Q    | 1  | 10 |                                    | B |
| N                 | 55   | 2803 7674 | Electrolytic capacitor  | 6.3RC2-47-T58-T    | 1  | 20 |                                    | C |
| N                 | 56   | 6412 1940 | Wire sub ass'y          | A415190*1          | 1  | 5  |                                    | C |
| N                 | 57   | 6413 1270 | Spacer B-L262           | A440205-1          | 1  | 20 |                                    | C |
| N                 | 58   | 6413 1280 | Spacer C-L262           | A440206-1          | 1  | 20 |                                    | C |
| N                 | 59   | 6413 1290 | Spacer D-L262           | A440207-1          | 1  | 20 |                                    | C |
| N                 | 60   | 6413 8180 | Upper case L261BE       | A140021-2          | 1  | 1  |                                    | X |
| N                 | 61   | 6413 8200 | Rubber key L261BE       | A140022-2          | 1  | 1  |                                    | B |
| N                 | 62   | 6413 8230 | Cut button L261BE       | A314024-3          | 1  | 10 |                                    | C |
| N                 | 63   | 6410 2960 | Push spring L278        | A414847-1          | 1  | 20 |                                    | C |
|                   | 64   | 5150 1217 | Binding screw           | 2.3x6 (ZMC-3)      | 14 | 20 |                                    | C |
|                   | 65   | 6512 5890 | Rubber key L571AE       | C311028-2          | 1  | 20 |                                    | B |
|                   | 66   | 6410 0620 | Shield plate Z829AE     | A413625-4          | 1  | 20 |                                    | C |
| N                 | 67   | 6413 0010 | Adhesive tape D-L263AEJ | C440140-1          | 1  | 20 |                                    | 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<br>N.R.Yen<br>Unit Price | R |
|---------------|------|-----------|-------------------------|----------------|----|----|------------------------------------|---|
| N             | 68   | 6413 4850 | Screw A-L271            | A313841-5      | 14 | 20 |                                    | C |
| N             | 69   | 6413 8190 | Cassette case L261BE    | A111115-3      | 1  | 5  |                                    | C |
| N             | 70   | 6413 8210 | Open button L261BE      | A314025-3      | 1  | 20 |                                    | C |
| N             | 71   | 6413 8220 | Hook L261BE             | A314026-3      | 1  | 20 |                                    | C |
| N             | 72   | 6410 6980 | Battery spring A-L263   | C413502-1      | 1  | 20 |                                    | C |
| N             | 73   | 6410 6990 | Battery spring B-L263   | C413503-1      | 1  | 20 |                                    | C |
|               | 74   | 6396 8870 | Battery spring B-L531AA | C310675-1      | 1  | 20 |                                    | C |
|               | 75   | 6329 7620 | Battery spring A-G272   | A33938-1       | 1  | 20 |                                    | C |
| N             | 76   | 6407 9270 | Battery holder L277     | A414032-1      | 1  | 20 |                                    | C |
|               | 77   | 7435 9411 | Battery spring C-G164   | A43733-1       | 3  | 20 |                                    | C |
|               | 78   | 6328 1560 | Battery spring G49      | A44683A-1      | 4  | 20 |                                    | C |
|               | 79   | 6393 1710 | Nut B-V346              | A411430-2      | 1  | 20 |                                    | C |
| N             | 80   | 6413 1930 | Lower case L261AE       | A111114-2      | 1  | 5  |                                    | X |
|               | 81   | 6512 5860 | Insulation plate L571AM | C411701-2      | 1  | 20 |                                    | C |
|               | 82   | 6413 4850 | Screw A-L271            | A313841-5      | 3  | 20 |                                    | C |
| N             | 83   | 6413 8140 | Display plate A-L261BE  | A340084-2      | 1  | 1  |                                    | C |
| N             | 84   | 6413 1840 | Label A-L261AE          | A414078-3      | 1  | 20 |                                    | C |
| N             | 85   | 6413 1850 | Label B-L261AE          | A414747-6      | 1  | 20 |                                    | C |
| N             | 86   | 6412 1880 | Adhesive tape A-L262    | A415112-1      | 1  | 10 |                                    | C |
| N             | 87   | 6408 9950 | Rubber foot L277        | A414533-1      | 4  | 20 |                                    | C |
|               | 88   | 6400 9580 | Screw L240              | A412411-1      | 1  | 20 |                                    | C |
|               | 89   | 5150 1217 | Binding screw           | 2.3x6 (ZMC-3)  | 9  | 20 |                                    | C |
| N             | 90   | 3122 2520 | Buzzer                  | KBS-15DA-5C-22 | 1  | 10 |                                    | C |
|               | 91   | 6388 8240 | Adhesive tape A-V164    | A410562-1      | 1  | 20 |                                    | C |
| N             | 92   | 6413 8110 | Cassette cover L261BE   | A211659-3      | 1  |    |                                    | C |
| N             | 93   | 6412 1720 | Battery cover L262      | A211658-1      | 1  | 5  |                                    | C |
| N             | 94   | 6412 1740 | Battery cover B-L262    | A313775-5      | 1  | 10 |                                    | C |
| N             | 95   | 6412 1870 | Window plate B-L262     | A415111-1      | 1  | 10 |                                    | C |
| N             | 96   | 6413 4780 | Label C-L271            | A414471-3      | 1  | 20 |                                    | C |
| <b>OTHERS</b> |      |           |                         |                |    |    |                                    |   |
| N             | 97   | 6405 0930 | FCC Label L235AEU       | A412826-4      | 1  | 20 |                                    | C |
|               | 98   | 6414 1830 | EMI Label Z556          | A440515-1      | 1  | 20 |                                    | C |
| N             | 99   | 6414 4820 | Label D-L261AEW         | A440593-1      | 1  | 20 |                                    | C |

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