

# SERVICE MANUAL & PARTS LIST (without price)

## SNAP PRINTER ZR-100 (ZX-265D)

NOV. 1998



ZR-100

# CASIO®

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## 1. SPECIFICATIONS

**Model:** ZR-100

### **Input:**

**Text Input Method:** Character scrolling at cursor location  
**Number of Characters:** 89 (52 alpha, 10 numbers, 27 symbols)  
**Display:** 32 (H) × 64 (W) - dot matrix LCD

### **Recording:**

**Imaging Element:** 1/4-inch CCD (80,000 pixels)  
**Lens:** Fixed focal point, f=4.5mm; fixed aperture F=2.8  
**Focus Range:** 0.4m (approximately 1.3 ft) to ∞  
**Image Illumination Range:** Approximately 100 to 50,000lux  
**Light Metering:** TTL center point by CCD  
**Photometric Range:** EV+7 to 14.5  
**Shutter:** CCD shutter  
**Shutter Speed:** 1/15 to 1/3000 second  
**Self-timer:** Approximately 5 seconds

### **Printing:**

**Print System:** Direct thermal  
**Print Size:** 15 (H) × 20 (W) mm (approximately  $\frac{5}{8}$ "(H) ×  $\frac{3}{4}$ "(W))  
**Speed:** Approximately 17 seconds per print (with 40 mm long sticker paper)

### **Other:**

**Power Supply:** Four AA-size alkaline batteries  
**Battery Life:** Approximately 50 prints (single image printing on 65mm long sticker paper)  
\*At normal temperature (approximately 25°C (77°F))  
**Power Consumption:** 7W  
**Current consumption:** While power supply voltage is DC 6.0V  
When the power is turned off; 100 μA (TYP.) / 200 μA (MAX.)  
When the power is turned on; 85 mA (TYP.) / 120 mA (MAX.)  
When printing; 0.8 A (TYP.) / 1.3 A (MAX.)  
**Auto Power Off:** Approximately 6 minutes after last operation  
**Dimensions:** Approximately 66 (W) × 114 (H) × 37.5 (D) mm  
( $2\frac{5}{8}$ "(W) ×  $4\frac{1}{2}$ "(H) ×  $1\frac{1}{2}$ "(D))  
**Weight:** Approximately 180 g (6.3 oz) (without batteries)  
**Operating Temperature:** 5°C to 35°C (41°F to 95°F)

### **Flash Unit:**

**Power Supply:** One AA-size alkaline battery  
**Battery Life:** Approximately 100 shots  
**Charge Time:** Approximately 5 seconds  
**Range:** Approximately 60 cm (2 ft)  
**Flash Modes:** Auto, Off  
**Dimensions:** Approximately 61 (W) × 27 (H) × 33.5 (D) mm  
( $2\frac{3}{8}$ "(W) × 1"(H) ×  $1\frac{3}{8}$ "(D))  
**Weight:** Approximately 40 g (1.4 oz) (without a battery)

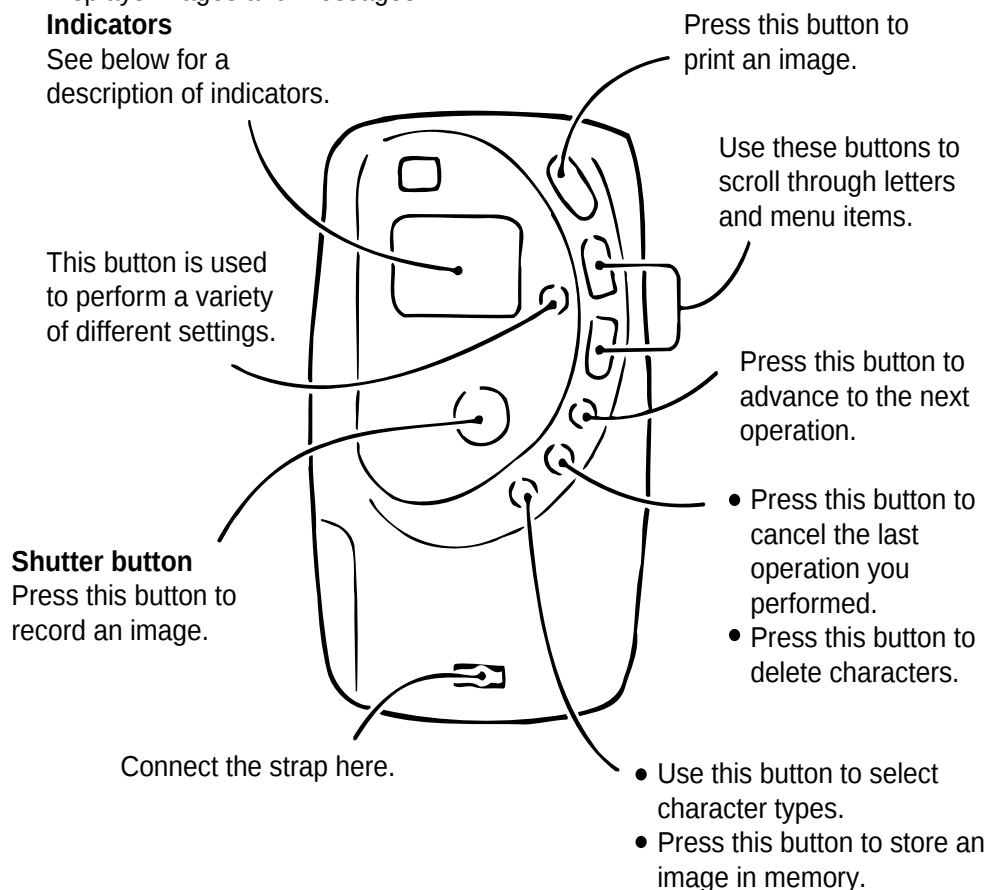
## 2. GENERAL GUIDE

### LCD Monitor Screen/Viewfinder

Displays images and messages.

#### Indicators

See below for a description of indicators.



### Display Indicators

There indicators appear on the display to indicate various conditions.

AUTO PRINT...Auto print is on.



... Text frame is in use.



... Balloon frame is in use.



... Paper is loaded for printing.



... Image display mode



... Flash is off.



... Self-timer is turned on.



... Low battery power



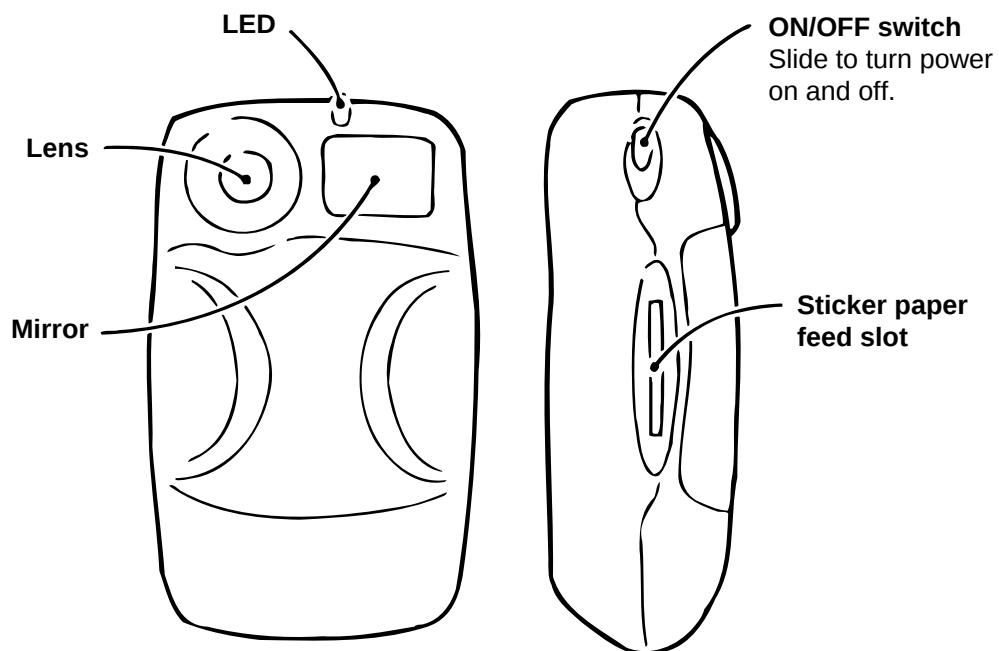
... Displayed image runs off the top of the monitor screen.



... Displayed image runs off the bottom of the monitor screen.



... Indicates that the LCD monitor screen is functioning as a viewfinder for image recording.

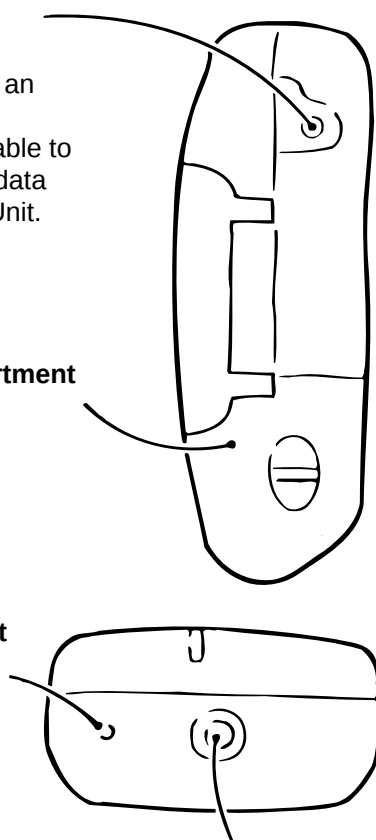


**Communication terminal**

For connection of an SB-62 data communication cable to exchange image data with another ZR Unit.

**Battery compartment cover**

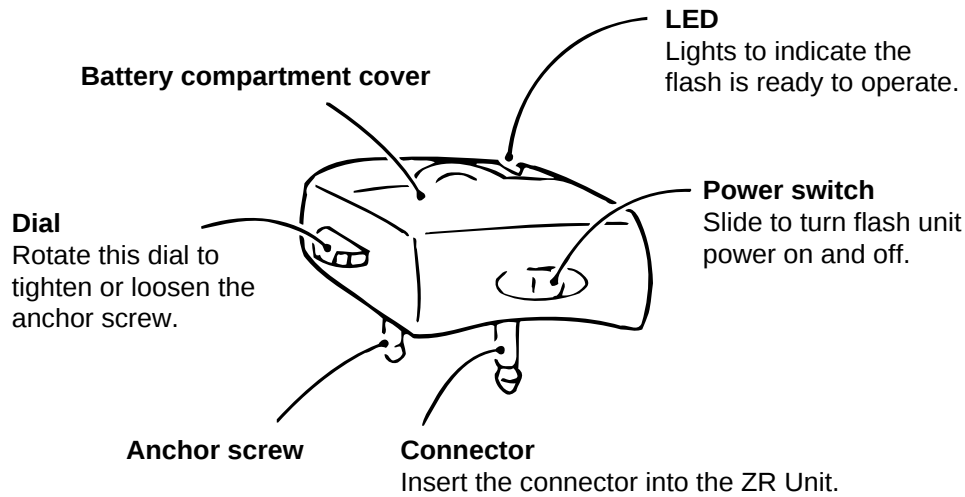
**Hole for flash unit anchor screw**



Connect the flash unite here.

## Using the Flash

### General Guide



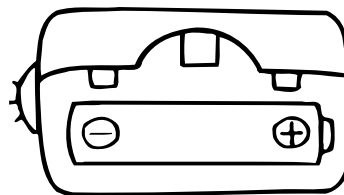
- The optimum distance between the flash and subject is about 60 centimeters. Any object outside this range may not be recorded properly, but actual results depend on available lighting.

#### ■ To replace the flash unit battery

1. Slide the battery compartment cover in the direction indicated by the arrow and remove it from the flash unit.
- If there is a battery already loaded in the compartment, remove it.



2. Load a new alkaline battery into the battery compartment.
- Make sure the positive (+) and negative (–) ends of the battery are facing correctly.

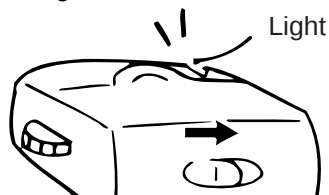


3. Replace the battery compartment cover.

#### ■ To turn flash unit power on and off

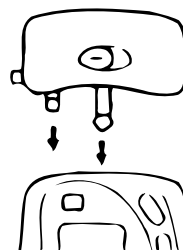
##### Important!

- Be sure to turn off flash unit power when you are not using it. Leaving the flash unit on wastes battery power.
1. Slide the power switch towards ON to turn on power.
  - The LED on the flash unit lights to indicate that power is on.
  2. Slide the power switch towards OFF to turn off power.
  - The LED goes out to indicate that power is turned off.



### ■ To attach the flash unit to ZR Unit

1. Turn off the ZR Unit and flash unit.
2. Connect the flash unit to the top of the ZR Unit as shown in the illustration.
  - Take care to ensure that the connector and the anchor screw are positioned correctly.



3. While pressing down gently on the center of the flash unit, rotate the anchor screw dial in the direction indicated by the arrow to secure it in place.



### Important!

- Do not apply undue force to, twist, or bend the flash unit while it is mounted on the ZR Unit. Doing so can damage it and cause malfunction.

### ■ To remove the flash unit from the ZR Unit

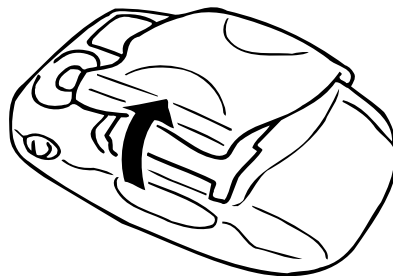
1. Turn off the ZR Unit and flash unit.
2. Rotate the anchor screw dial in the direction opposite that indicated by the arrow in step 3 above to loosen the screw.
3. Remove the flash unit from the ZR Unit.

### ■ To select the flash mode

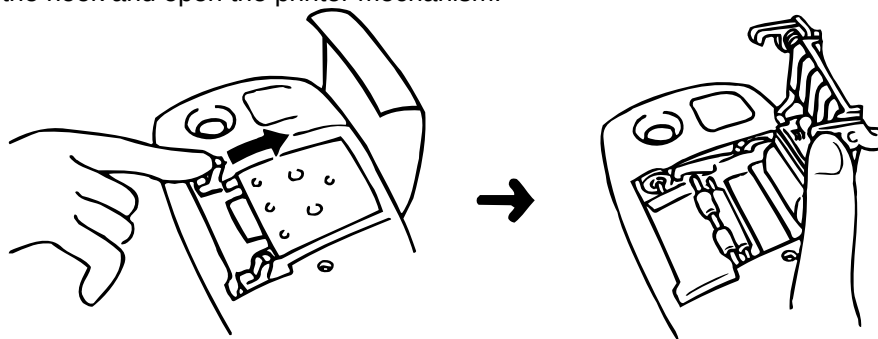
1. On the ZR Unit, press  a number of times.  
→ **(F) Function**
2. Press .
3. Press  a number of times. → **Flash**
4. Press .
5. Use  to select the flash mode you want.
  - **AUTO** ... Flash operates automatically in accordance with current lighting conditions.
  - **OFF** ..... Flash never operates, regardless of lighting conditions.
6. Press  when you are finished.

## Clearing a Sticker Paper Jam

1. Turn off the ZR Unit.
2. Insert the tip of your finger into the space between the printer cover and the ZR Unit case, and lift the printer cover open.



3. Press the hook and open the printer mechanism.



4. Remove the jammed sticker paper.
5. Close the printer mechanism, pressing down firmly until it catches on the hook.
6. Close the printer cover.

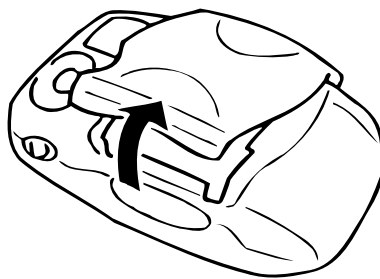
## Cleaning the Printer Mechanism

Clean the exterior of the ZR Unit by wiping it with a soft dry cloth, or with a cloth moistened in a weak solution of a mild neutral detergent and water. Wring all excess liquid from the cloth before wiping the unit. Never use thinner, benzene, or any other volatile agent to clean the ZR Unit.

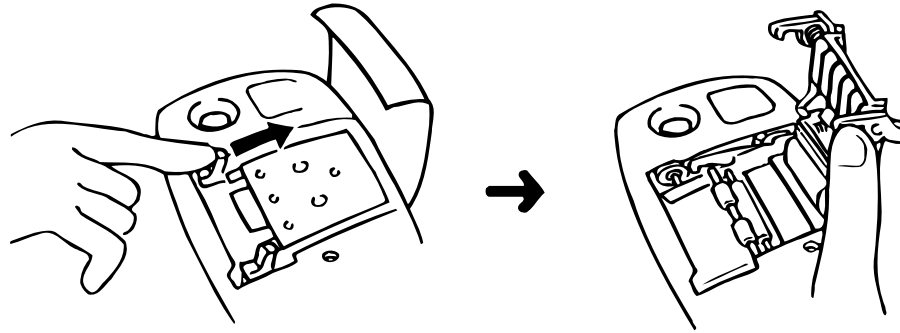
### ■ To clean the rubber roller, print head, and sticker paper holder

Clean the print head and rubber roller whenever they become dirty or dusty.

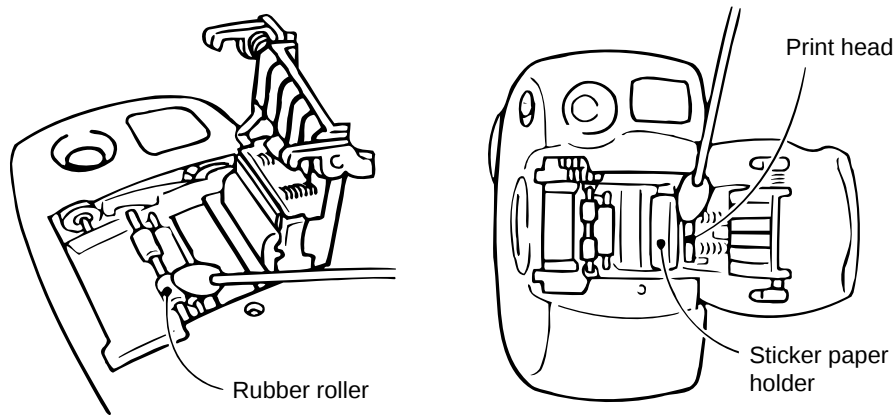
1. Turn off ZR Unit power.
2. Insert the tip of your finger into the space between the printer cover and the ZR Unit case, and lift the printer cover open.



3. Press the hook and open the printer mechanism.



4. Clean the print head, rubber roller and sticker paper holder as shown in the illustration by wiping them with a cotton swab moistened with alcohol.

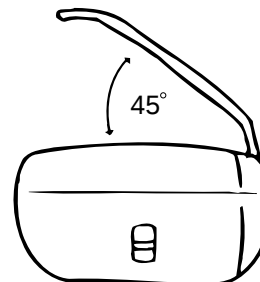


5. Close the printer mechanism, pressing down firmly until it catches on the hook.
6. Close the printer cover.

## Replacing the Printer Cover

Angling the printer cover at about 45 degrees, set it in place while aligning the tabs on ZR Unit case with the grooves on the printer cover.

- Take care to avoid damaging the tabs on the ZR Unit case when reinstalling the printer cover.



## Recording and Printing

### Recording Images

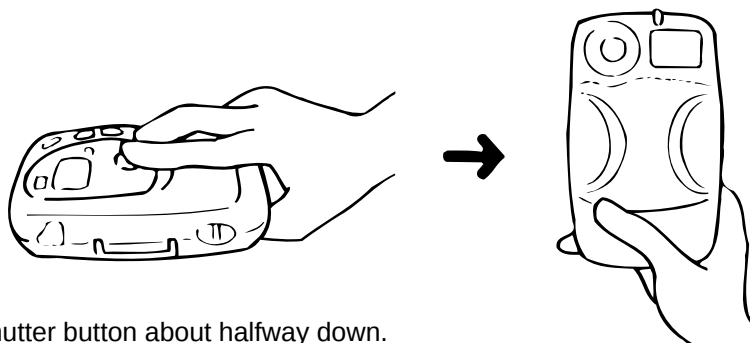
Note that the procedure you should use depends on whether you are recording yourself or someone else.

### Lighting

If you think there is not enough light to properly record an image, use the specified flash unit. See page 4 for detail.

### Recording Yourself

1. Turn on power.
2. Place your index finger on the shutter button, and position the ZR Unit so you can see your face in the mirror.



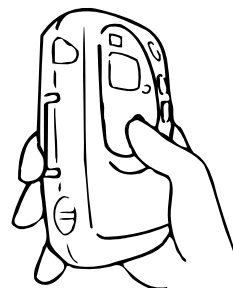
3. Press the shutter button about halfway down.
  - The LED starts to flash.
4. When the LED lights (stops flashing), press the shutter button all the way down.
  - The image remains on the monitor screen after recording is complete.

### Notes

- Pressing the shutter button all the way down while the LED is flashing, may result in poor image quality.
- If the LED remains lit, it means that the subject you are recording or surrounding light is not bright enough. When this happens, use the flash unit.
- You can use  and  after recording the image to adjust the brightness of the LCD monitor screen.
- The recorded image remains on the display until it is replaced by another image when you press the shutter button again. See "Storing a Recorded Image in Memory" on page 10 for details about how to save recorded images in memory.

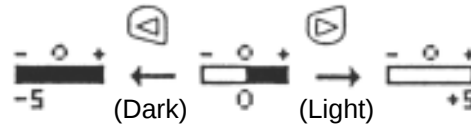
### Recording Someone Else

1. Turn on power.
2. Use your thumb to press the shutter button about half way down, and point the ZR Unit at the subject while viewing the subject on the monitor screen.



3. Use  and  to make the image brighter or darker, if you want.

- You can adjust image brightness to one of 11 levels within a range of -5 to +5.



4. Compose the image once again on the monitor screen, and then press the shutter button all the way down. → (Recording...)

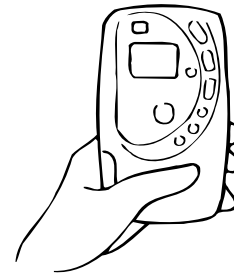
#### Notes

- You can use  and  after recording the image to adjust the brightness of the LCD monitor screen.
- The recorded image remains on the display until it is replaced by another image when you press the shutter button again. See "Storing a Recorded Image in Memory" on page 10 for details about how to save recorded images in memory.

#### Printing

Be sure to use only the specified sticker paper for printing. Other types of paper can jam and cause damage to the ZR Unit.

5. Hold the ZR Unit as shown in the illustration nearby.

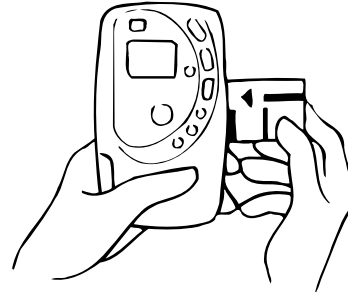


#### important!

- Make sure your hand is positioned so it does not interfere with the sticker paper as it enters and exits the ZR Unit.
- Use of the wrist strap is recommended to help ensure you do not drop the ZR Unit.

6. With the surface of the sticker paper marked with an arrow facing towards you, insert the paper into the ZR Unit's paper slot.

- When AUTO PRINT is turned on, printing starts automatically whenever you insert paper. When AUTO PRINT is turned off, you must insert paper and then press .



#### Important!

Note the following to prevent paper jams.

- Make sure the sticker paper is not bent or creased.
- Use only the specified sticker paper.
- Do not interfere with the movement of the sticker paper during printing.

#### Notes

- See page 6 for information on what you should do when a jam occurs.
- Performing a number of print operations in succession can cause the battery compartment cover to become warm. This is normal and does not indicate malfunction.

## Storing a Recorded Image in Memory

When you want to keep the displayed image from being replaced by the next image recorded, you should store it in memory. Only one image can be stored in memory at a time. An image stored in memory can be later recalled for editing and printing.

- Only one image can be stored in memory at a time. Storing an image in memory replaces an image previously stored there.
- Only image data can be stored in memory. You cannot store text or frames.
- Replacing ZR Unit batteries deletes any image currently stored in memory.

You can store the displayed image in memory either by pressing the  button or by using the mode screen.

### ■ To store an image using the button

1. Press .
- If there is already an image stored in memory, that image appears on the monitor screen. Press  to replace the existing image with the new one, or  to abort the operation without saving anything.

### ■ To store an image using the mode screen

1. Press  a number of times. → 
2. Press .
3. Press  a number of times. → 
4. Press .
- If there is already an image stored in memory, that image appears on the monitor screen. Press  to replace the existing image with the new one, or  to abort the operation without saving anything.

## Recalling the Image Stored in Memory

Normally, recalling the image stored in memory deletes the image on the monitor screen (the current image). You can check the image in memory without deleting the current image using either of the two following techniques.

- Perform the steps under "To recall the image stored in memory" below, and press  instead of  in step 5.
- Use the steps under "Printing the Image Store in Memory" on page11.

### ■ To recall the image stored in memory

1. Press  a number of times. → 
2. Press .
3. Press  a number of times. → 

4. Press .
5. After checking the image, press  to recall it (and delete the current image) or  to abort the operation without recalling anything.

## Printing the Image Stored in Memory

Printing the image stored in memory does not delete the current image.

1. Press  a number of times. →  **Memory**
2. Press .
3. Press  a number of times. → **Print**
4. Press .
5. Insert paper into the ZR Unit.
  - The print operation starts at this time.

### 3. RESET OPERATION AND LOADING BATTERIES

#### Resetting Memory

##### Important!

Resetting memory deletes any image stored in memory. If you have an image in memory, make sure you no longer need it before performing this procedure.

1. While holding down **PRINT** and **ESC/DEL**, slide the ON/OFF switch to turn on power. → (RESET?)
2. Press **OK**.
  - This starts the memory reset operation, which is indicated by the message (RESET!) on the display.

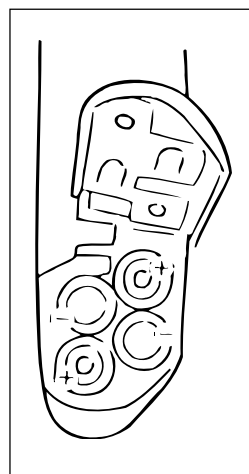
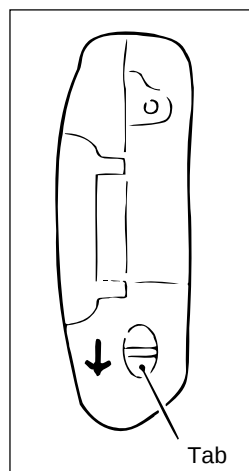
##### Notes

While turning power on, this **RESET** operation can not be performed. Be sure to perform this **RESET** operation after turning power off.

#### Loading Batteries

1. Press the tab on the battery compartment cover in the direction indicated by the arrow, and open the cover.
2. Load alkaline batteries as shown in the illustration, and then close the cover.
  - Make sure the positive (+) and negative (-) ends of the batteries are facing correctly.
  - Do not apply undue force to, twist, or bend the battery compartment cover. Doing so can damage it and cause malfunction.
  - The batteries that come with this unit discharge slightly during shipment and storage. Because of this, they may require replacement sooner than the normal expected battery life.

**Be sure to load alkaline batteries.  
The unit will not be turned on if  
manganese batteries are loaded.**



## 4. DATA COMMUNICATION

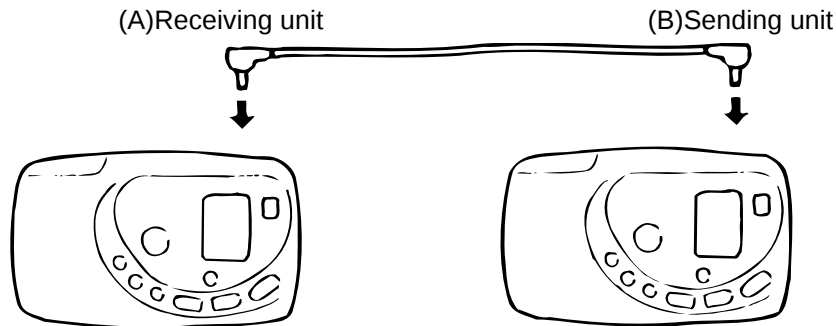
### Exchanging Image Data Between Two ZR Units

The following steps describe how to connect two ZR Units with an optional SB-62 data communication cable and exchange data between the two units.

- You can exchange image data only. You cannot exchange frames or text.

#### ■ To connect the two ZR Units

Turn off both units, and use the optional SB-62 cable to connect them. Next, turn on both units.



#### Receiving Unit (A) Operation

1. Press **MODE** a number of times. → **Communication**
2. Press **OK**.
3. Press **▼** a number of times. → **Receive**
4. Press **OK**.

#### Sending Unit (B) Operation

1. Display the image you want to send.
2. Press **MODE** a number of times. → **Communication**
3. Press **OK**.
4. Press **▼** a number of times. → **Send**
5. Press **OK**.
6. After checking the image, press **OK** to send it.
  - This starts the send operation.

#### **Important!**

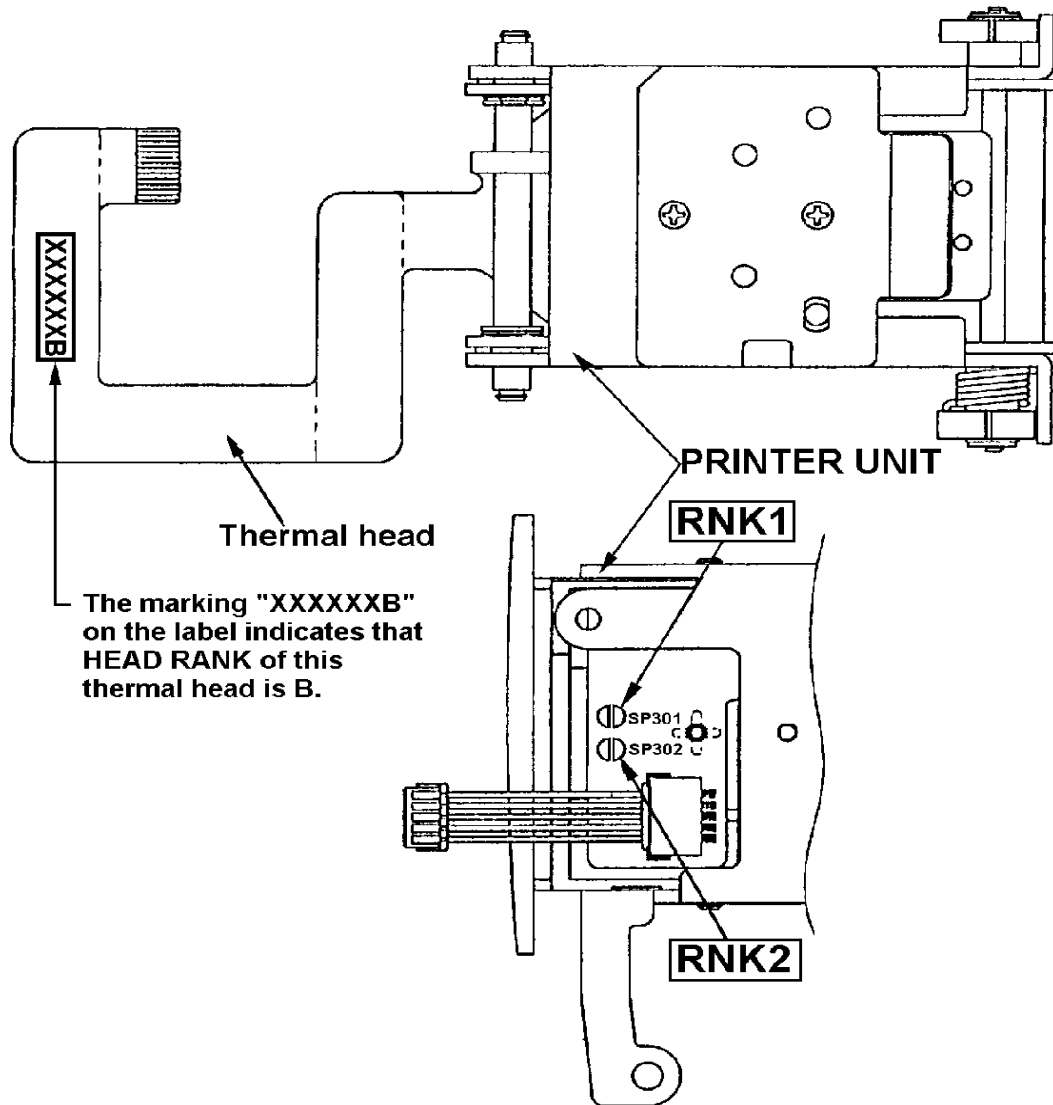
- After you press **OK**, the ZR Unit stands by to receive (indicated by the message (Receive) on the monitor screen) for about 60 seconds. If no data is received within 60 seconds, receive standby is cancelled and the message (RECEIVING ERROR! Press and key!) appears. Press any key to clear the error condition.
- The displays of both the receiving unit (A) and the sending unit (B) flash while data is being transferred.
- After you finish exchanging data, turn off both units before disconnecting the cable.

## 5. OPERATION CHECK and ADJUSTMENT

### ■OPERATIONCHECK

#### NOTES:

- After **OPERATION CHECK**, **RESET** operation must be performed.  
Otherwise, the ordinary use mode will not be completely regained canceling this check mode.  
But the image data saved in the Unit is deleted by this **RESET** operation.  
Therefore, if you want not to delete this data, transfer this image data to another unit referring to **4. DATA COMMUNICATION** of this Service Manual before this check.
- When entering this check mode and performing no operation over 6 minutes, the unit is automatically turned power off, and this check mode is canceled.  
Don't leaving the unit no operation over 6 minutes while performing this check.
- When assembling Printer Unit after repair, confirm the head rank marked on the thermal head before this check referring to the illustration shown below.



And confirm that this head rank corresponds to connection of two pads (**RNK1** and **RNK2**) referring to the table shown below also.

| Head rank | RNK1  | RNK2  |
|-----------|-------|-------|
| A         | SHORT | OPEN  |
| B         | OPEN  | OPEN  |
| C         | SHORT | SHORT |
| D         | OPEN  | SHORT |

## ■PROCEDURE

1. Turn power off if turning power on.
2. To enter this operation check, turn power on while holding down **PRINT**, **MODE** and **ESC** button at the same time.
3. The following menu mode display for this check appears.

▼  
**ALL**  
 ROM  
 RAM  
 LCD

4. Pressing ▼ button, select **ROM**. And then, press **OK** button. After that, the following display appears.

**ROM CHECK**  
**CPU 1MBIT**  
 XXXXh  
 -OK-

5. Pressing **OK** button again, the following display appears.

▼  
 ALL  
**ROM**  
 RAM  
 LCD

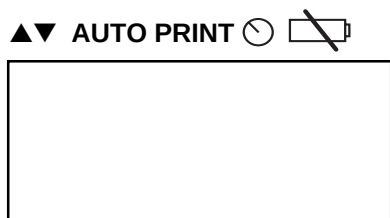
6. Pressing ▼ button, select **RAM**. And then, press **OK** button. After that, the following display appears.

**SRAM CHECK**  
**512KBIT**  
 -OK-

7. Pressing **OK** button again, the following display appears.

▼  
 ALL  
 ROM  
**RAM**  
 LCD

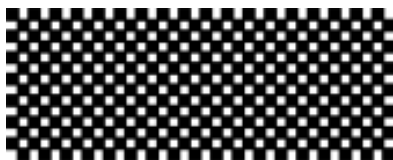
8. Pressing ▼ button, select LCD. And then, press **OK** button. After that, the following display appears.



9. Pressing **OK** button, the following display appears.



10. Pressing **OK** button, the following check display appears.



11. Pressing **OK** button, the following reversed check display appears.



12. Pressing **OK** button again, the following display appears.



13. Pressing ▼ button, the following display appears.



14. Pressing **OK** button, the following display appears.

**KEY    CHECK**

**[PRINT]**

15. Pressing **PRINT** button, the following display appears.

**KEY    CHECK**

**[INPUT]**

16. Press the button in order, one after another and one by one in accordance with the key name which appears in display.

\*After the display **[RET]** appears, press **OK** button.

"**RET**" is the abbreviated character for "**RETURN**" (=OK).

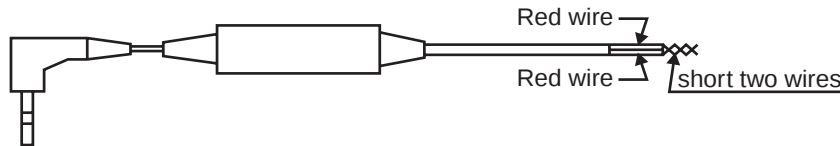
\*"**HSHUTTER**" means "**Half Shutter**". After this display appears, press the shutter button about halfway down.

17. Finally, pressing **OK** button, the display shown to the item 13 appears again.

18. Pressing **▼** button, the following display appears.

**▲▼**  
**RAM**  
**LCD**  
**KEY**  
**COM1(LB)**

19. Prepare the following jig, and connect it to the communication terminal of the unit.



This jig can be made taking advantage of SB-60/ 62.

20. Pressing **OK** button, the following display appears.

**9600**  
**19200**  
**38400**  
**76800**

21. Pressing **OK** button again, the following display appears after 5~6 seconds.

**Loop Back**  
**TX : FF**  
**RX : FF**  
**- OK -**

22. Remove this jig.

23. Pressing **OK** button, the display shown to item 18 appears.

24. Pressing ▼ button twice, the following display appears.

▲▼  
KEY  
COM1(LB)  
COM2(LB)  
LED

25. Pressing OK button, LED emitters red light while the following display appears.

LED TEST

26. Pressing OK button again, the display which appeared with item 24 appears again.

27. Pressing ▼ button, the following display appears.

▲▼  
COM1(LB)  
COM2(LB)  
LED  
RANK

28. Pressing OK button, the following display appears.

HEAD RANK

X

\* X : A, B, C or D

At this time, confirm that this display for head rank corresponds to actual head rank.  
And then, pressing OK button, the display described to item 27 regains.

\*\*\*\*\*  
Operation check for print can not be performed because thermal paper for this print is special  
, used only factory and can not be supplied for this and other reasons.  
It is recommended that test for print is performed using thermal paper for user after this check.  
\*\*\*\*\*

29. Pressing ▼ button four times, the following display appears.

▲▼  
PRINT1  
PRINT2  
PRINT3  
VP

30. Pressing OK button, the following display appears.

VP

31. Pressing **OK** and then **▼** button, the following display appears.

▲▼  
PRINT2  
PRINT3  
VP  
**THERMISTOR**

32. Pressing **OK** button, the following display appears.

**THERMISTOR**

**XXc**

\***XXc** indicates that temperature of thermal head is now XX °C.

33. Pressing **OK** and then **▼** button twice, the following display appears.

▲▼  
VP  
**THERMISTOR**  
**MECHA**  
**SENSOR**

34. Pressing **OK** button, the following button appears.

**SENSOR**  
**PAP**  
**JAM**

Pull up the printer cover, press the hook and then open printer mechanism.  
After that, inserting deeply thermal paper into printer, the display changes as follows;

**SENSOR**  
**PAP**  
**JAM**

35. Pull out thermal paper, shut printer mechanism and printer cover.

36. Pressing **OK** and then **▼** button, the following display appears.

▲▼  
**THERMISTOR**  
**MECHA**  
**SENSOR**  
**CCD**

37. Pressing **OK** button, the following display appears.

**GAIN 0**  
**EV**  
**AVE**  
**OPTB**

## NOTES:

Refer to 9-1. **Block Diagram** of this manual.

1. Term "**GAIN**" means Gain of amplifier (AMP) in IC4.
  2. The value for **EV** indicates how much bright the light which entered into CCD is.
  3. The value for **AVE** indicates how much wide the image area in which brightness of light is averaged is. This value changes according to brightness of light which entered into CCD.
  4. Term "**OPTB**" means Optical Black.  
There are areas which don't accept light in CCD chip.  
These areas are on purpose installed for compensation for deviation on manufacture.  
But this deviation is not completely compensated .  
The value for **OPTB** indicates its deviation.  
Therefore, this value changes according to this deviation.
38. Pressing **OK** button again, the following display appears.

```
GAIN  0
EV    7
AVE
OPTB
```

39. Pressing **OK** button again, the following display appears.

```
GAIN  0
EV    7
AVE  XX
OPTB  X
```

40. Pressing **ESC/ DEL** button twice, the display described to item 36 regains.
41. Pressing ▼ button, the following display appears.

```
▲
MECHA
SENSOR
CCD
FLASH
```

42. Install the strobe, and then turn power for strobe on.  
After that, pressing **OK** button, flash light from this strobe is emitted once per second.
43. Turn power for strobe off, and then remove this strobe.
44. Pressing **OK** button, the display described to item 41 regains.
45. Turn power off.
46. Turn power on while holding down **PRINT** and **ESC/ DEL** buttons at the same time.
47. Display for RESET and Hello message appear one after another, and the following display appears.

```
AUTO PRINT 
No picture 
1
```

48. Turn power off.

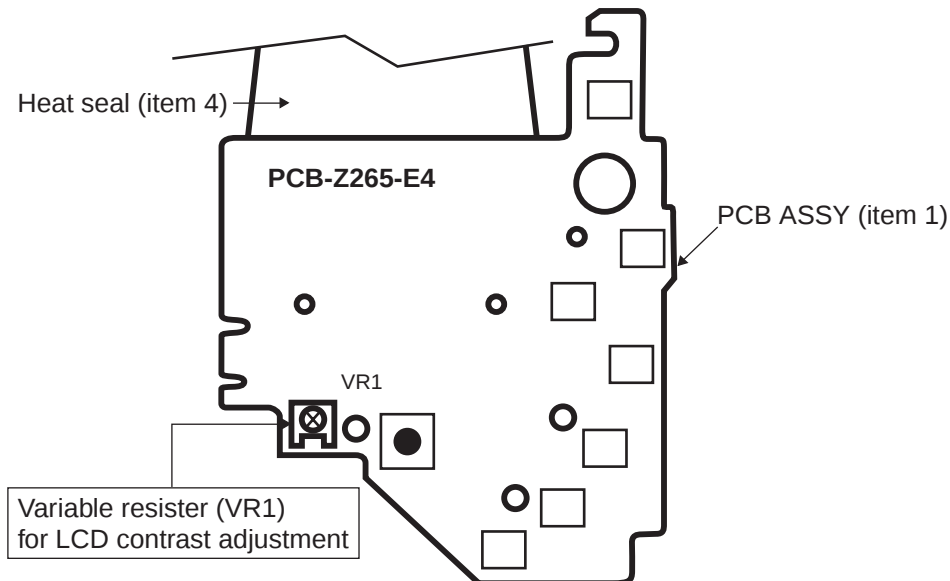
## ■ADJUSTMENT

### 1. LCD Contrast Adjustment

Refer to **13. PARTS LIST** and **14. EXPLODED VIEW**.

Contrast adjustment for LCD is performed in factory.

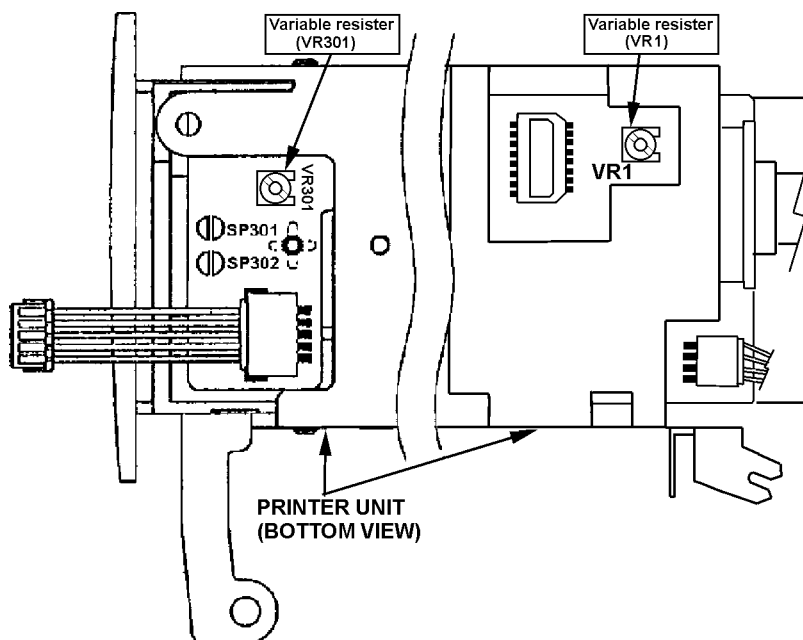
But, if LCD contrast is not correctly adjusted or you want to change this contrast, adjust contrast again with the variable resistor (**VR1**) on PCB ASSY of item 1 as follows;



### 2. Adjustment for Sensitivity for Detection of Paper Position

Adjustment for sensitivity for detection of thermal paper position is performed in factory using some special jigs.

But if an image is not correctly printed in frame of thermal paper or the other problems on printing occurs, try to adjust this sensitivity with variable resistor (**VR301**) referring to the illustration described to the next page.



### **3. Adjustment for Sensitivity for Detection of Jam**

Adjustment for sensitivity for detection of jam is performed in factory using some special jigs also. But if jam can not be correctly detected although jam actually occurs, try to adjust this sensitivity with variable resistor (**VR1**) referring to the illustration described above.

## 6. ERROR MESSAGE

| Message                                          | Cause and Action                                                                                                                                                             |
|--------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Remove sticker</b>                            | Sticker paper is jammed in the printer.<br>Remove the sticker paper from the printer.<br>*This message also appears when a print operation is complete.                      |
| <b>PRINT ERROR!</b><br><b>Remove sticker</b>     | Error occurred during printing or paper feeding. Remove the paper.                                                                                                           |
| <b>SEND ERROR!</b><br><b>Press any key!</b>      | Data communication error on the sending unit. Press any key to clear the error, and then check cable connections and make sure you are performing the operation correctly.   |
| <b>RECEIVE ERROR!</b><br><b>Press any key!</b>   | Data communication error on the receiving unit. Press any key to clear the error, and then check cable connections and make sure you are performing the operation correctly. |
| <b>DATA ERROR!</b><br><b>RESET?</b><br><b>OK</b> | Data in memory contains an error.<br>Press  to reset memory and delete the data.            |
| <b>Low Battery</b>                               | Battery power is running low. Replace batteries with a full set of new ones.                                                                                                 |
| <b>No memory</b>                                 | There is no image currently stored in memory.                                                                                                                                |
| <b>No picture</b>                                | This message appears when you turn on power after resetting the ZR Unit.                                                                                                     |

## 7. TROUBLESHOOTING

### ZR Unit

#### ■ Power does not turn on.

| Cause                               | Action                            |
|-------------------------------------|-----------------------------------|
| Dead batteries                      | Replace the batteries (alkaline). |
| Batteries are not loaded correctly. | Load batteries correctly.         |

#### ■ Images are not recorded.

| Cause                               | Action                                         |
|-------------------------------------|------------------------------------------------|
| Not enough light around the subject | Use the flash unit when recording.             |
| Dirty lens                          | Used a clean, soft cloth to wipe off the lens. |
| Faulty CCD camera                   | Contact your nearest service provider.         |

#### ■ Printing is not performed.

| Cause                                    | Action                            |
|------------------------------------------|-----------------------------------|
| Dead batteries                           | Replace the batteries (alkaline). |
| Sticker paper is not inserted correctly. | Insert sticker paper correctly.   |

#### ■ Print quality is poor.

| Cause                                    | Action                                        |
|------------------------------------------|-----------------------------------------------|
| Not enough light around the subject      | Use the flash unit when recording.            |
| Dirty lens                               | Use a clean, soft cloth to wipe off the lens. |
| Print head is dirt, dusty, or scratched. | Clean the interior of the printer.            |

### Flash Unit

#### ■ Flash unit power does not turn on (LED does not light).

| Cause                               | Action                            |
|-------------------------------------|-----------------------------------|
| Dead batteries                      | Replace the batteries (alkaline). |
| Batteries are not loaded correctly. | Load batteries correctly.         |

#### ■ Flash does not fire.

| Cause             | Action                                 |
|-------------------|----------------------------------------|
| Faulty flash unit | Contact your nearest service provider. |

## 8. LSI PIN FUNCTION

### 8-1. CPU (LSI1): UPD703003GC-25-015

| PIN No. | Name      | I/O | Function                                                      |
|---------|-----------|-----|---------------------------------------------------------------|
| 1       | P31       | O   | Signal for turning flash light from strobe ON/OFF to strobe   |
| 2       | P32       | I   | Shutter pulse signal from ASIC (LSI2)                         |
| 3       | P33       | I   | Signal for turning flash light from strobe ON/OFF from strobe |
| 6       | P36       | O   | Signal for turning LED ON/OFF                                 |
| 8~11    | A16~19    | O   | Address bus to ASIC (LSI2)                                    |
| 12      | VSS       | –   | Ground for Logic circuits in CPU                              |
| 13      | VDD       | I   | Power supply (VDD2) to Logic circuits in CPU                  |
| 14~27   | AD2~AD15  | –   | Data bus to ASIC (LSI2) and RAM (LSI3/ 4)                     |
| 28      | VSS       | –   | Ground for Logic circuits in CPU                              |
| 29      | VDD       | I   | Power supply (VDD2) to Logic circuits in CPU                  |
| 30~31   | AD0~AD1   | –   | Data bus to ASIC (LSI2) and RAM (LSI3)                        |
| 32      | /LBEN     | O   | Lower byte enable signal for data bus                         |
| 33      | /UBEN     | O   | Upper byte enable signal for data bus                         |
| 34      | R/W       | O   | Read/ Write signal to ASIC (LSI2)                             |
| 35      | /DSTB     | O   | Data strobe signal to ASIC (LSI2)                             |
| 36      | /ASTB     | O   | Address strobe signal to ASIC (LSI2)                          |
| 37      | /HLDK     | O   | Acknowledge signal for hold of data bus to ASIC (LSI2)        |
| 38      | /HLDRQ    | I   | Bus hold request signal from ASIC (LSI2)                      |
| 39      | /WAIT     | I   | Wait signal at the time of bus cycle from ASIC (LSI2)         |
| 40      | VPP       | I   | Interior terminal of CPU without function                     |
| 42      | /RESET    | I   | System RESET to CPU                                           |
| 44      | X2        | –   | Terminal for system clock                                     |
| 45      | X1        | I   | Terminal for system clock                                     |
| 46      | CVSS      | –   | Ground for system clock circuit                               |
| 47      | CLKOUT    | O   | System clock output to ASIC (LSI2)                            |
| 48      | VSS       | –   | Ground for Logic circuits in CPU                              |
| 49      | VDD       | I   | Power supply (VDD2) to Logic circuits in CPU                  |
| 50      | P110      | O   | Standby signal to Motor drive IC                              |
| 51~52   | P111/ 112 | O   | Control signal for Motor drive                                |
| 53      | P113      | O   | Control signal for reference voltage (VREF) of Motor drive IC |
| 54      | P114      | I   | Jam sensing signal from jam sensor                            |
| 55      | P115      | I   | Paper position sensing signal from paper sensor               |
| 57      | P117      | O   | Control signal to power supply for sensor                     |
| 58      | P00       | O   | Control signal to power supply for Motor driver IC            |
| 59      | P01       | O   | Control signal to power supply for CCD drive IC               |
| 60      | P02       | O   | Control signal to power supply for ASIC (LSI2)                |
| 61      | P03       | O   | RESET signal to ASIC (LSI2) and RAM (LSI3/ LSI4)              |
| 62      | INTP110   | I   | Initialization signal from ASIC (LSI2)                        |
| 70      | ANI0      | I   | Low battery signal to CPU (LSI1)                              |
| 71      | ANI1      | I   | Temperature value signal from thermal head (analog signal)    |
| 74~75   | RNK1/ 2   | I   | Terminal for setting of head rank                             |
| 78      | AVREF1    | I   | Reference voltage supply to A/ D converter in CPU (LSI1)      |
| 79      | AVSS      | –   | Ground for A/ D converter in CPU                              |
| 80      | AVDD      | I   | Power supply (VDD2) to A/ D converter in CPU                  |
| 81~83   | KO0~KO2   | O   | Key scanning signal to keys                                   |
| 84~86   | KI0~KI2   | I   | Key scanning signal from keys                                 |
| 89      | VSS       | –   | Ground for Logic circuits in CPU                              |
| 90      | VDD       | I   | Power supply (VDD2) to Logic circuits in CPU                  |
| 91      | NMI       | I   | Non maskable interrupt signal (for power) to CPU              |
| 92      | P20       | I   | Terminal for turning power ON/OFF                             |
| 94      | SO0       | O   | NC                                                            |
| 95      | SI0       | I   | NC                                                            |
| 96      | SCK1      | I   | NC                                                            |
| 97      | TXD1      | O   | Terminal for serial data sending transfer to another unit     |
| 98      | RXD       | I   | Terminal for serial data transfer receiving from another unit |

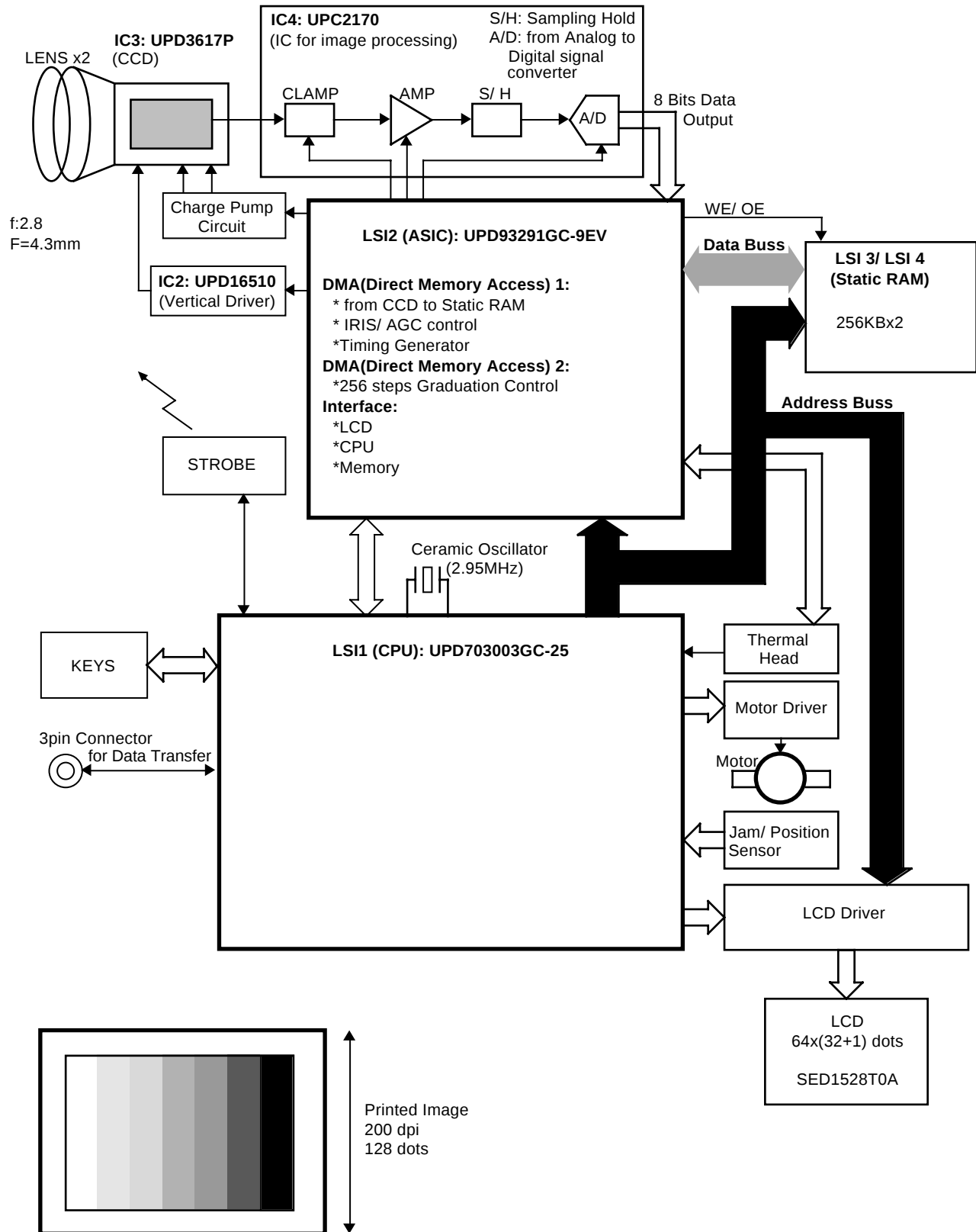
## 8-2. ASIC (LSI2): UPD93291GC-9EV

| PIN No. | Name      | I/O | Function                                                |
|---------|-----------|-----|---------------------------------------------------------|
| 1       | VDD       | I   | Power supply to this ASIC (LSI2)                        |
| 2       | PWCK1     | O   | Power supply to charge pump circuit for CCD ( + )       |
| 3       | PWCK2     | O   | Power supply to charge pump circuit for CCD ( - )       |
| 4 and 8 | VSS       | —   | Ground for this ASIC (LSI2)                             |
| 9       | SYSCCLK   | I   | System clock from CPU (LSI1)                            |
| 10      | VDD       | I   | Power supply to ASIC (LSI2)                             |
| 11      | /LWR      | O   | Write enable signal to RAM in LCD driver                |
| 12      | /RD       | O   | Read enable signal to RAM in LCD driver                 |
| 13      | /LCS      | O   | Chip select signal to RAM in LCD driver                 |
| 14      | D/I       | O   | Display ON/OFF signal to LCD                            |
| 15      | VSS       | —   | Ground for this ASIC (LSI2)                             |
| 16      | /WEL      | O   | Write enable signal to RAM (LSI3)                       |
| 17      | /WEH      | O   | Write enable signal to RAM (LSI4)                       |
| 18      | /OE       | O   | Output enable to RAM (LSI3/ 4)                          |
| 19      | /HLDRQ    | O   | Bus hold request signal to CPU (LSI1)                   |
| 20      | /HLDK     | I   | Acknowledge signal for hold of data bus from CPU (LSI1) |
| 21      | /ASTB     | I   | Address strobe signal from CPU (LSI1)                   |
| 22      | /DSTB     | I   | Data strobe signal from CPU (LSI1)                      |
| 23      | R/W       | I   | Read/ Write signal from CPU (LSI1)                      |
| 24      | /UBEN     | I   | Upper byte enable signal for data bus                   |
| 25      | /LBEN     | I   | Lower byte enable signal for data bus                   |
| 26~29   | AD0~AD3   | —   | Data bus from CPU (LSI1) and RAM (LSI3)                 |
| 30      | VDD       | I   | Power supply to this ASIC (LSI2)                        |
| 31      | VSS       | —   | Ground for this ASIC (LSI2)                             |
| 32~35   | AD4~AD7   | —   | Data bus from CPU (LSI1) and RAM (LSI3)                 |
| 36      | VDD       | I   | Power supply to ASIC (LSI2)                             |
| 37~40   | AD8~AD11  | —   | Data bus from CPU (LSI1) and RAM (LSI4)                 |
| 41      | VSS       | —   | Ground for this ASIC (LSI2)                             |
| 42~45   | AD12~AD15 | —   | Data bus from CPU (LSI1) and RAM (LSI4)                 |
| 46      | VDD       | I   | Power supply to ASIC (LSI2)                             |
| 47~50   | A16~A19   | I   | Address bus from CPU (LSI1)                             |
| 52      | /RC2      | O   | Chip select signal to RAM (LSI3/ 4)                     |
| 53~54   | MA14~MA15 | O   | Address bus to RAM (LSI3/ 4)                            |
| 55      | VSS       | —   | Ground for this ASIC (LSI2)                             |
| 56~59   | MA10~MA13 | O   | Address bus to RAM (LSI3/ 4)                            |
| 60      | VSS       | —   | Ground for this ASIC (LSI2)                             |
| 61      | VDD       | I   | Power supply to ASIC (LSI2)                             |
| 62~65   | MA6~MA9   | O   | Address bus to RAM (LSI3/ 4)                            |
| 66      | VSS       | —   | Ground for this ASIC (LSI2)                             |
| 67~70   | MA2~MA5   | O   | Address bus to RAM (LSI3/ 4)                            |
| 71      | VDD       | I   | Power supply to ASIC (LSI2)                             |
| 72      | MA1       | O   | Address bus to RAM (LSI3/ 4)                            |
| 74      | PDATA     | O   | Data output to thermal head                             |
| 75      | VSS       | —   | Ground for this ASIC (LSI2)                             |
| 76      | PCLK      | O   | Clock to thermal head                                   |
| 77      | /PLTCH    | O   | Latch pulse to thermal head                             |
| 78      | VDD       | I   | Power supply to ASIC (LSI2)                             |
| 79      | /PSTB     | O   | Strobe signal to thermal head                           |
| 80      | /WAIT     | O   | Wait signal at the time of bus cycle to CPU (LSI1)      |
| 81      | VSS       | —   | Ground for this ASIC (LSI2)                             |
| 82~89   | CD0~CD7   | I   | 8 bits analog image data input from IC4 (UPC2170)       |
| 90      | VDD       | I   | Power supply to ASIC (LSI2)                             |
| 91      | VSS       | —   | Ground for this ASIC (LSI2)                             |
| 92      | /RESET    | I   | RESET signal from CPU (LSI1)                            |
| 93      | /INT      | O   | Initialization signal to CPU (LSI1)                     |
| 94~97   | AGC1~AGC4 | O   | Digital gain control signal to IC4 (UPC2170)            |

| PIN No. | Name    | I/O | Function                                                   |
|---------|---------|-----|------------------------------------------------------------|
| 98      | BCP     | O   | Clump pulse output to IC4 (UPC2170)                        |
| 99      | SHP     | O   | Clock pulse output to IC4 (UPC2170)                        |
| 100     | VSS     | –   | Ground for this ASIC (LSI2)                                |
| 101~104 | V1~V4   | O   | Digital vertical scanning control signal to IC2 (UPD16510) |
| 105     | VDD     | I   | Power supply to ASIC (LSI2)                                |
| 106     | VSUB    | O   | Shutter pulse signal to CPU (LSI1) and IC2 (UPD16510)      |
| 107~108 | TG1~TG2 | O   | Digital vertical scanning control signal to IC2 (UPD16510) |
| 109     | VDD     | I   | Power supply to ASIC (LSI2)                                |
| 110     | VSS     | –   | Ground for this ASIC (LSI2)                                |
| 111     | R0      | O   | RESET pulse to CCD (IC3)                                   |
| 112     | VDD     | I   | Power supply to ASIC (LSI2)                                |
| 113~114 | H1~H2   | O   | Horizontal data transfer drive pulse to CCD (IC3)          |
| 115     | VSS     | –   | Ground for this ASIC (LSI2)                                |
| 116     | VDD     | I   | Power supply to ASIC (LSI2)                                |
| 117     | CLP     | O   | Control signal to analog CCD (IC3) output                  |
| 119     | VDD     | I   | Power supply to ASIC (LSI2)                                |
| 120     | VSS     | –   | Ground for this ASIC (LSI2)                                |

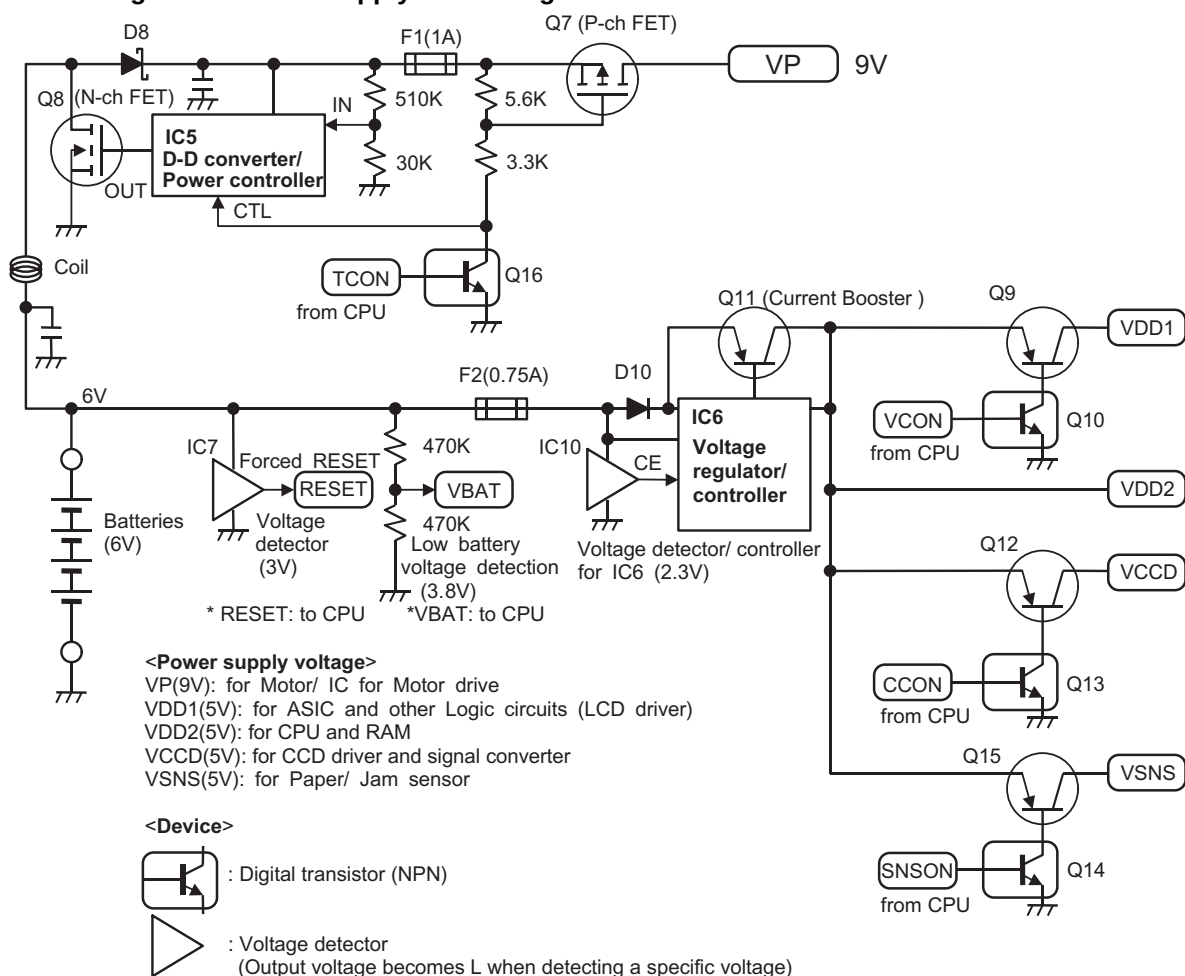
## 9. CIRCUIT EXPLANATION

### 9-1. Block Diagram



## 9-2. Power supply

### Block Diagram of Power Supply and Voltage Detector



### Circuit explanation

1. IC5(MB3776A) is DC/DC converter which convert the battery voltage (6V) to higher voltage (9V).
2. After turning power on, TCON terminal voltage which is supplied by CPU become H (High voltage). Next, Q7 is turned on. And then, power supply voltage (9V) to Motor/Motor drive generates.
3. If batteries voltage becomes lower than 3.8V, VBAT terminal voltage becomes lower than 1.9V. And then, low battery message appears.
4. If batteries voltage becomes lower than 3V, each of terminal voltages becomes unstable and can not hold its normal voltage. As a result, for example, printing becomes unstable. To stabilize these voltages, RESET for CPU is performed passing through IC7 (SB2020P).
5. If batteries voltage becomes lower than 2.3V, all circuitry systems become unstable. At this time, CE (Chip enable) terminal of IC6 becomes L (Low voltage). As a result, IC6 stops to work, and power to Logic circuits and others are not supplied. Therefore, TCON terminal voltage becomes L, and then the power to Motor/ IC for Motor drive becomes not to be supplied also.
6. IC5 and IC6 are DC/DC converters, and switching regulators also. Adopting these switching regulators, wide range input voltage and low power consumption are realized. Output voltages of these IC are stabilized taking advantage of PWM (Pulse Width Modulation) system.

### 9-3. Function

Refer to **9-1. Block Diagram** and **10. SCHEMATIC DIAGRAMS**.

#### 9-3-1. CCD (Charge Coupled Device)

CCD takes in image data one by one sequentially according to horizontal and vertical scanning pulse from ASIC, and converts these data to electronic charges.

These electronic charges are in order accumulated in registers in CCD.

Output of CCD is serial analog signals.

Therefore, CCD is a sort of Sequential Memory.

These analog signals are converted to 8 bits digital data by A/D converter in IC4 (UPC2170).

These analog signal value is controlled by ASIC (LSI2).

Refer to **11. PCB VIEW** concerning terminal pin layout.

Terminal pin function is shown below.

| PIN No. | Name  | I/O | Function                                   |
|---------|-------|-----|--------------------------------------------|
| 1       | VOD   | I   | Power supply for amplifier in CCD.         |
| 2       | øR    | I   | RESET pulse from ASIC                      |
| 3       | VRD   | I   | Power supply for RESET circuit in CCD      |
| 4       | VOOUT | O   | Analog signal output                       |
| 5       | NC    | —   | —                                          |
| 6       | NC    | —   | —                                          |
| 7       | øH2   | I   | Horizontal transfer scanning drive pulse-1 |
| 8       | øH1   | I   | Horizontal transfer scanning drive pulse-2 |
| 9       | NC    | —   | -                                          |
| 10      | SUB   | I   | Power supply for substrate                 |
| 11      | PW    | I   | Power supply to transistor for protection  |
| 12      | øV1   | I   | Vertical transfer scanning drive pulse-1   |
| 13      | øV2   | I   | Vertical transfer scanning drive pulse-2   |
| 14      | øV3   | I   | Vertical transfer scanning drive pulse-3   |
| 15      | øV4   | I   | Vertical transfer scanning drive pulse-4   |
| 16      | GND   | —   | Ground for CCD                             |

#### <Specification>

- 30 frames/s (MAX.)
- Horizontal scanning frequency: 15.73426573kHz
- Master clock: 12.14685MHz
- Clock for synchronization: 6.07343MHz
- Horizontal available pixels: 320 bits
- Length of pixel: H=10μ/ V=10μ
- Available range: H=10μ X 320=3200μ/ V=10μ X 242.5=2425μ
- Aspect ratio: 4:3

#### 9-3-2. Motor drive IC A3964SLB

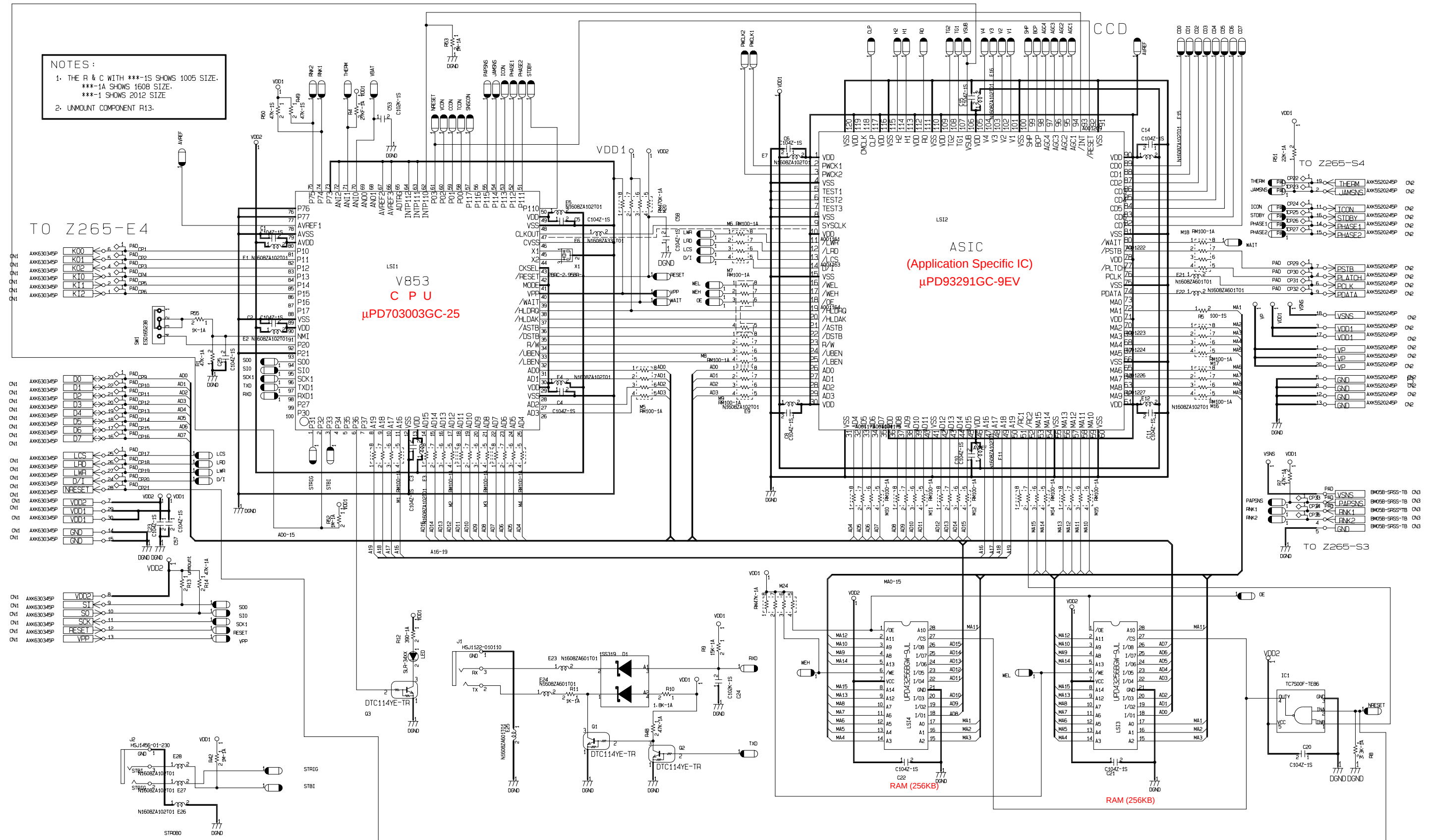
This motor drive IC is controlled by **PWM** (Pulse Width Modulation).

Truth table is shown below.

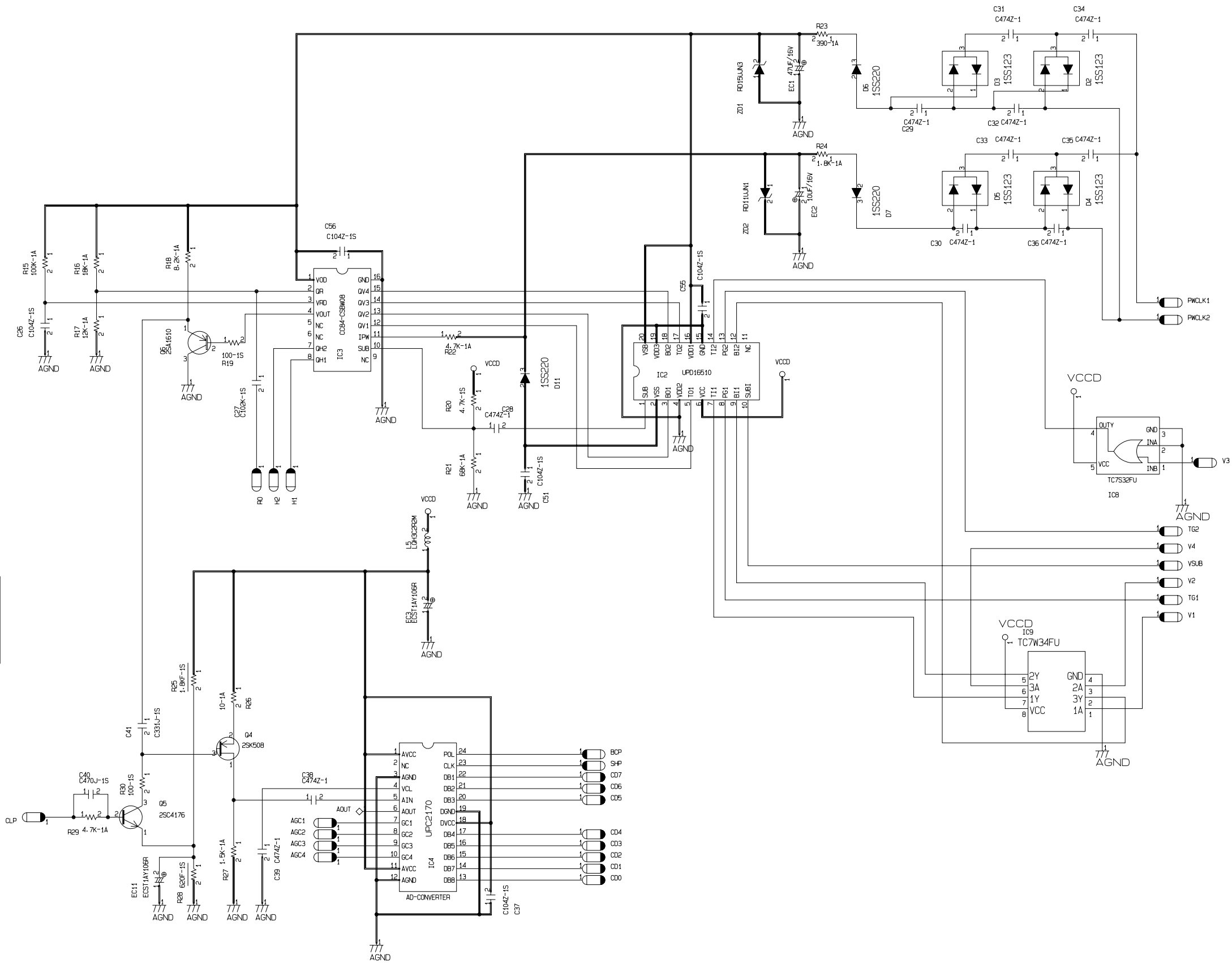
| Phase      | Enable | Out A              | Out B              |
|------------|--------|--------------------|--------------------|
| H          | L      | H                  | L                  |
| L          | L      | L                  | H                  |
| X (H or L) | H      | Z (High impedance) | Z (High impedance) |

## 10. SCHEMATIC DIAGRAMS

## LOGIC Block



CCD Block



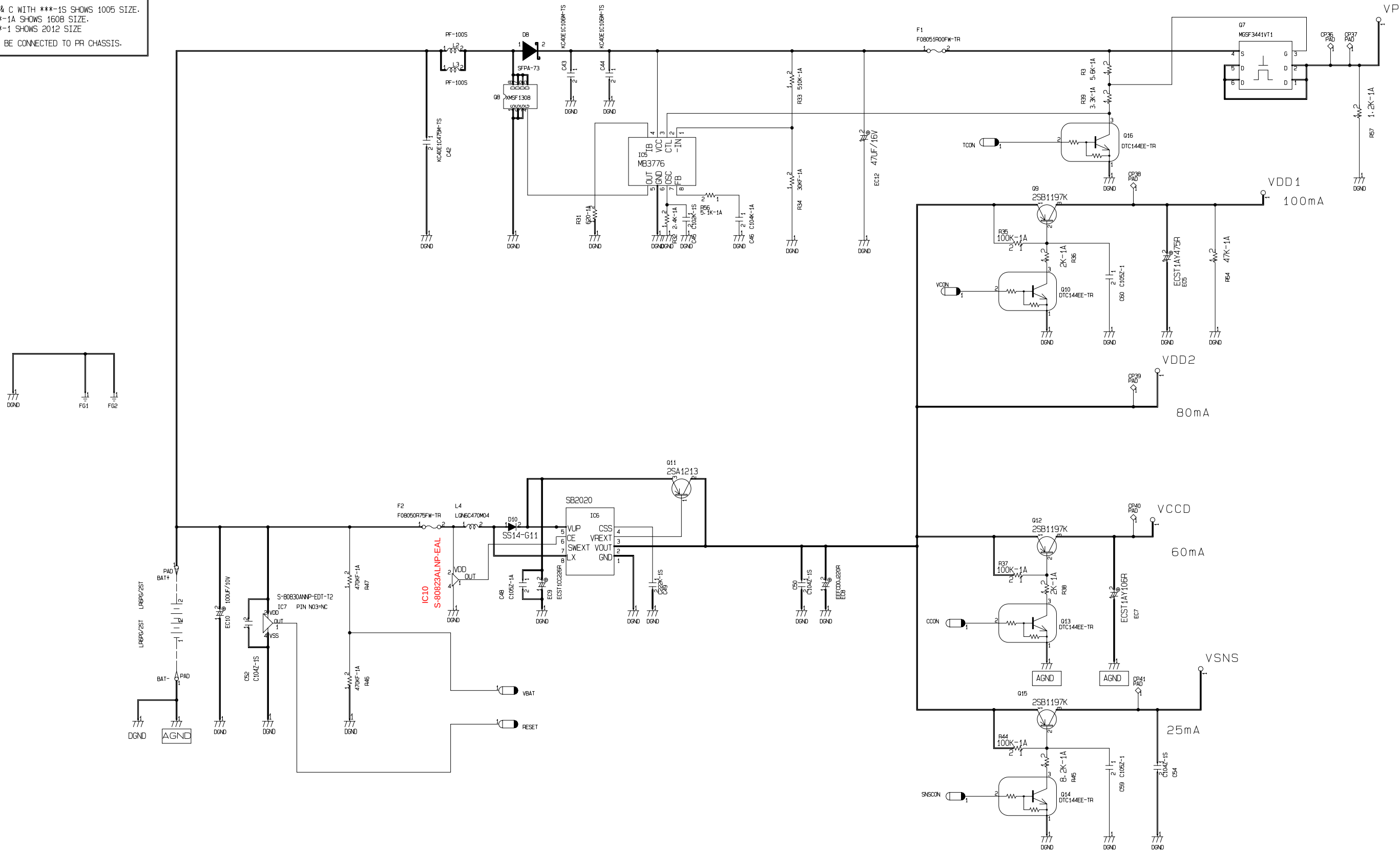
NOTES :

1. THE R & C WITH \*\*\*-1S SHOWS 1005 SIZE.  
\*\*\*-1A SHOWS 1608 SIZE.  
\*\*\*-1 SHOWS 2012 SIZE

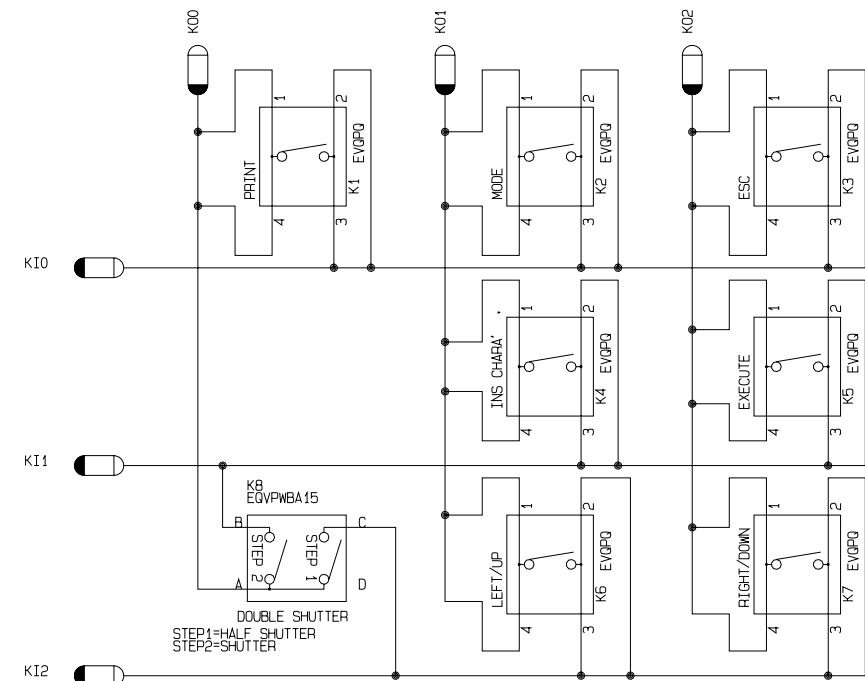
Power supply

NOTES :

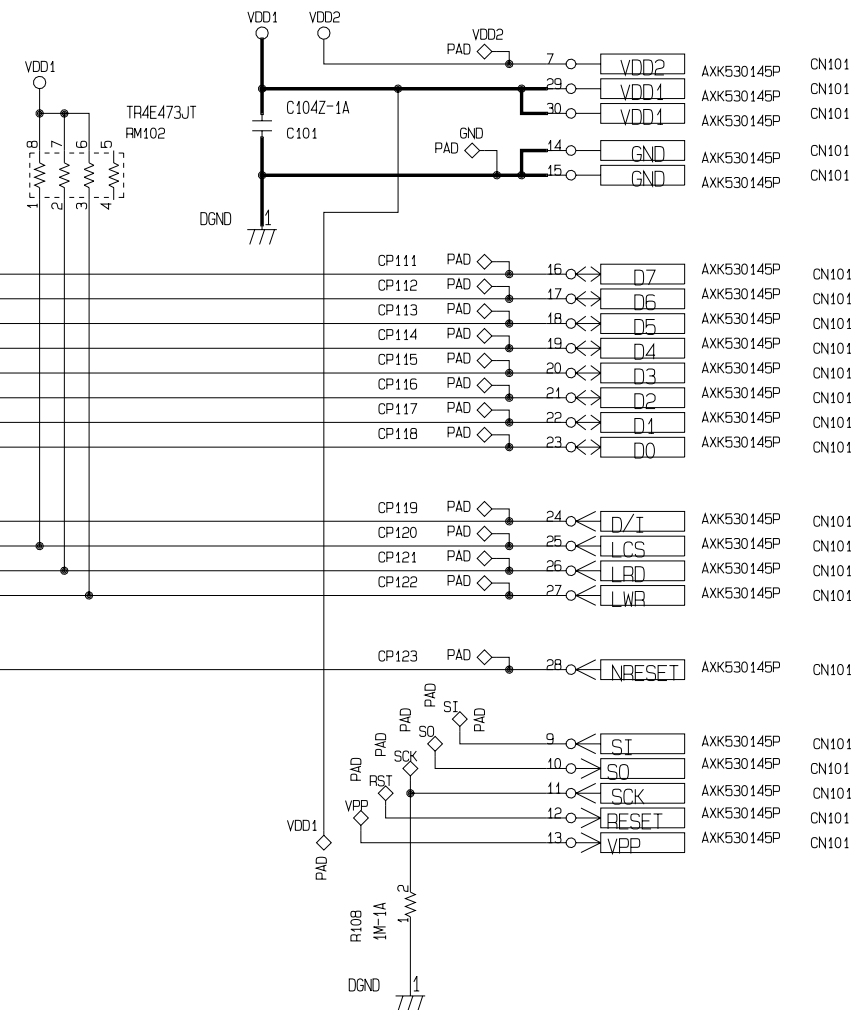
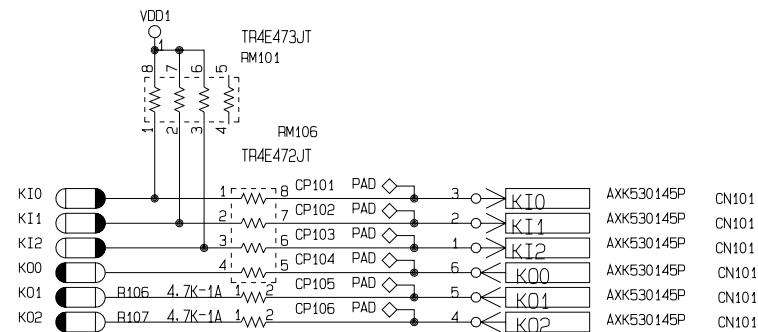
- 1. THE R & C WITH \*\*\*-1S SHOWS 100S SIZE.  
\*\*\*-1A SHOWS 160S SIZE.  
\*\*\*-1 SHOWS 2012 SIZE
- 2. FG MUST BE CONNECTED TO PR CHASSIS.



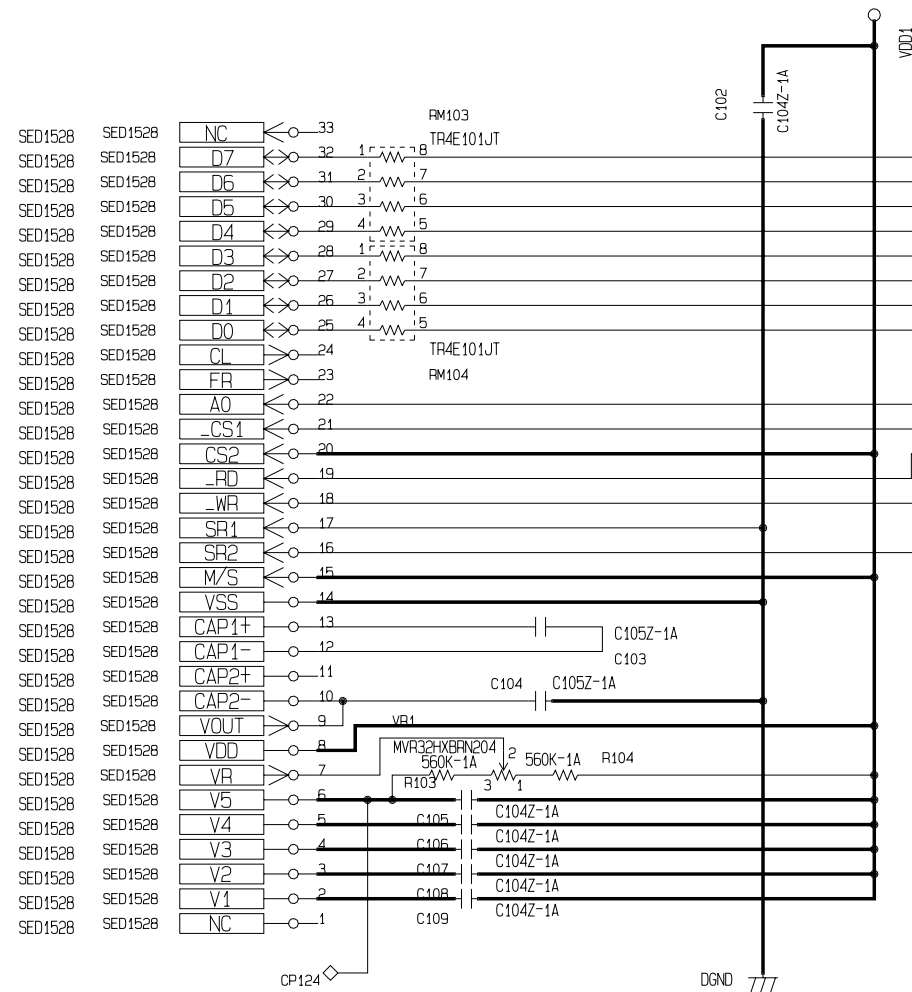
Keys Block



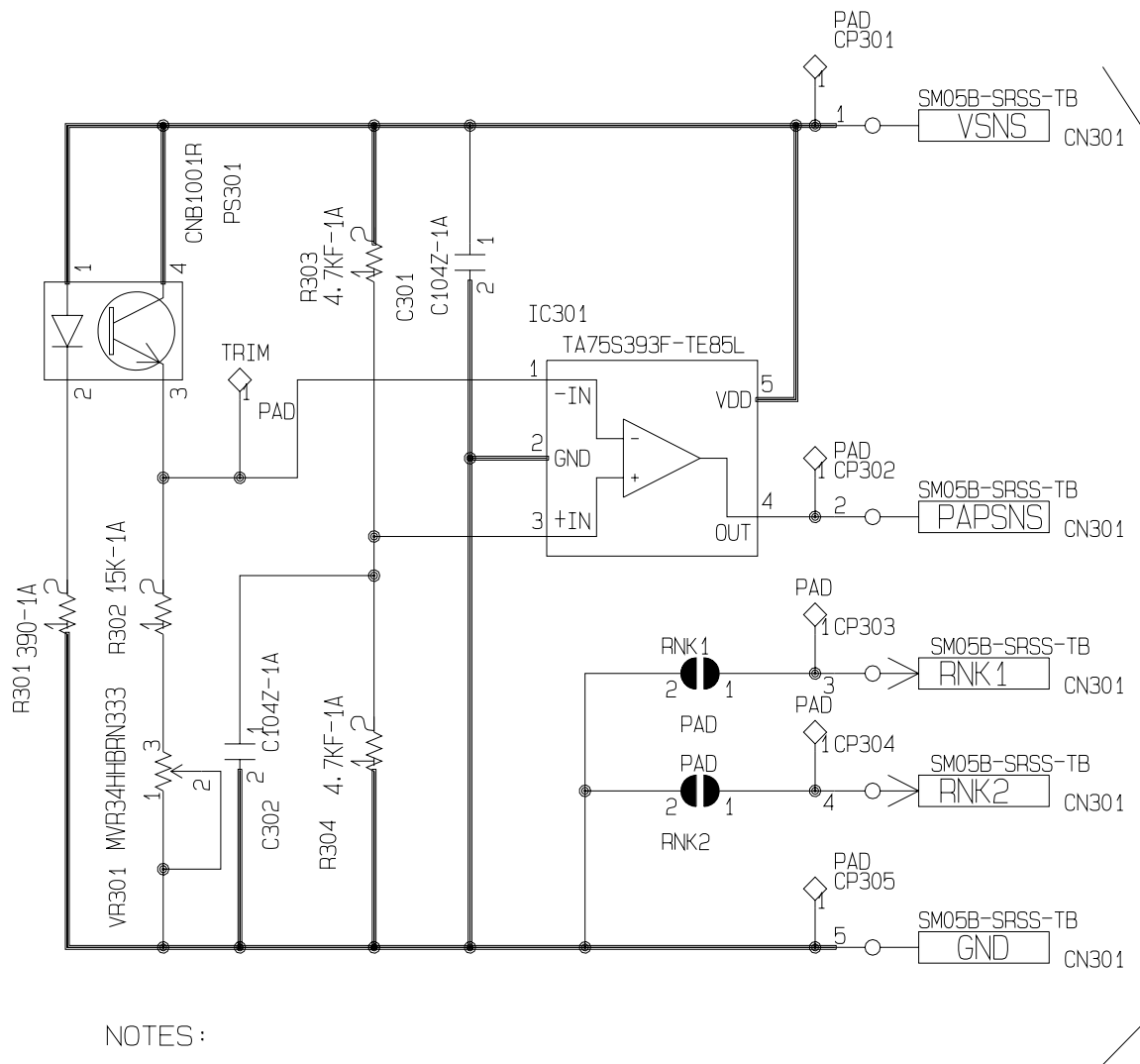
NOTES :  
1. THE R & C WITH \*\*\*-1S SHOWS 1005 SIZE.  
\*\*\*-1A SHOWS 1608 SIZE.  
\*\*\*-1 SHOWS 2012 SIZE



TO SED1528TOA(DRIVER) & LD-NU10358AY(LCD)



Paper sensor Block



NOTES:

1. THE R & C WITH \*\*\*-1S SHOWS 1005 SIZE.  
\*\*\*-1A SHOWS 1608 SIZE.  
\*\*\*-1 SHOWS 2012 SIZE
2. RNK1 & RNK2 MUST BE SHORTED AS BELOW.

|   | RNK1  | RNK2  |
|---|-------|-------|
| A | SHORT | OPEN  |
| B | OPEN  | OPEN  |
| C | SHORT | SHORT |
| D | OPEN  | SHORT |

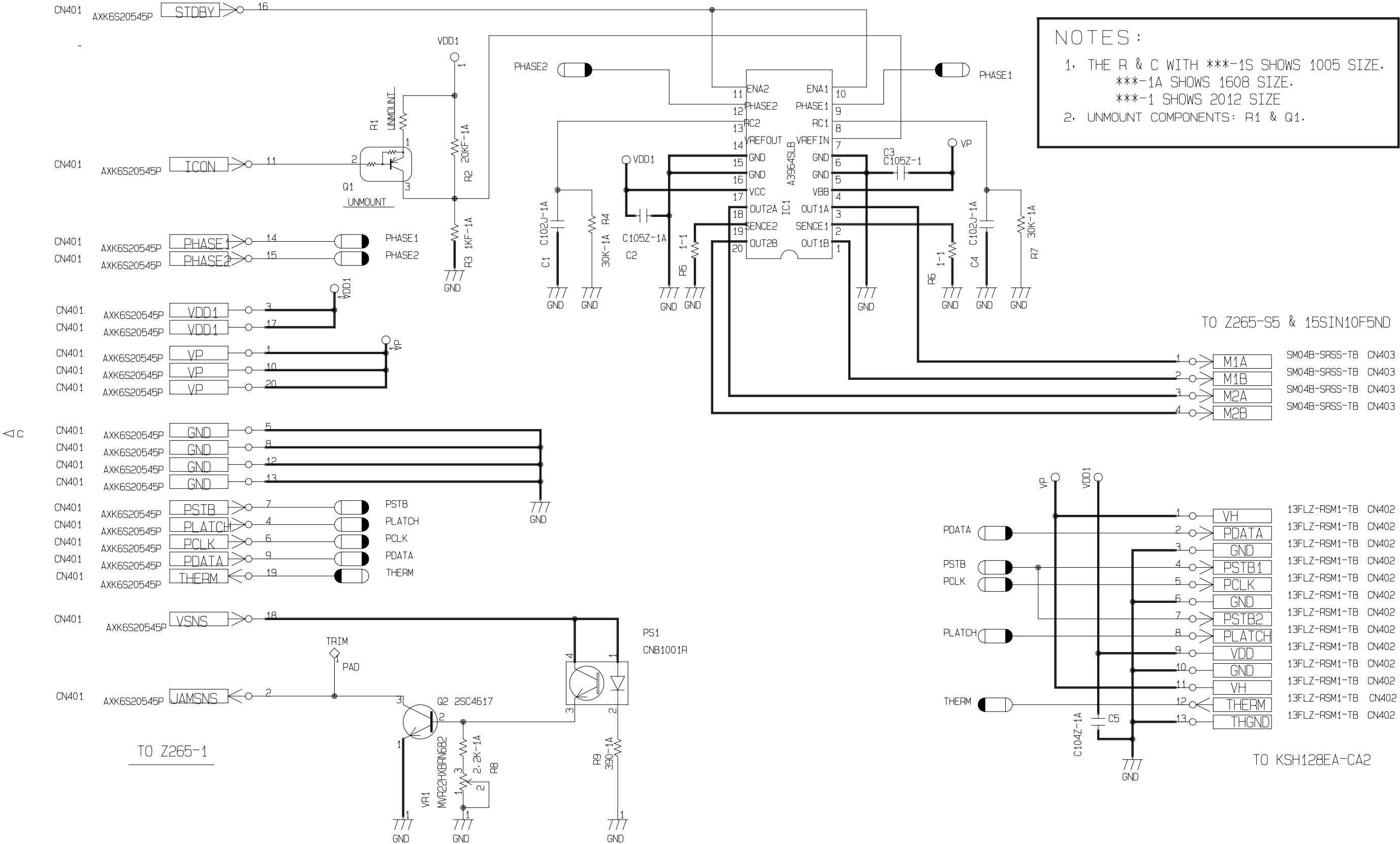
Z265-1

Printer Block

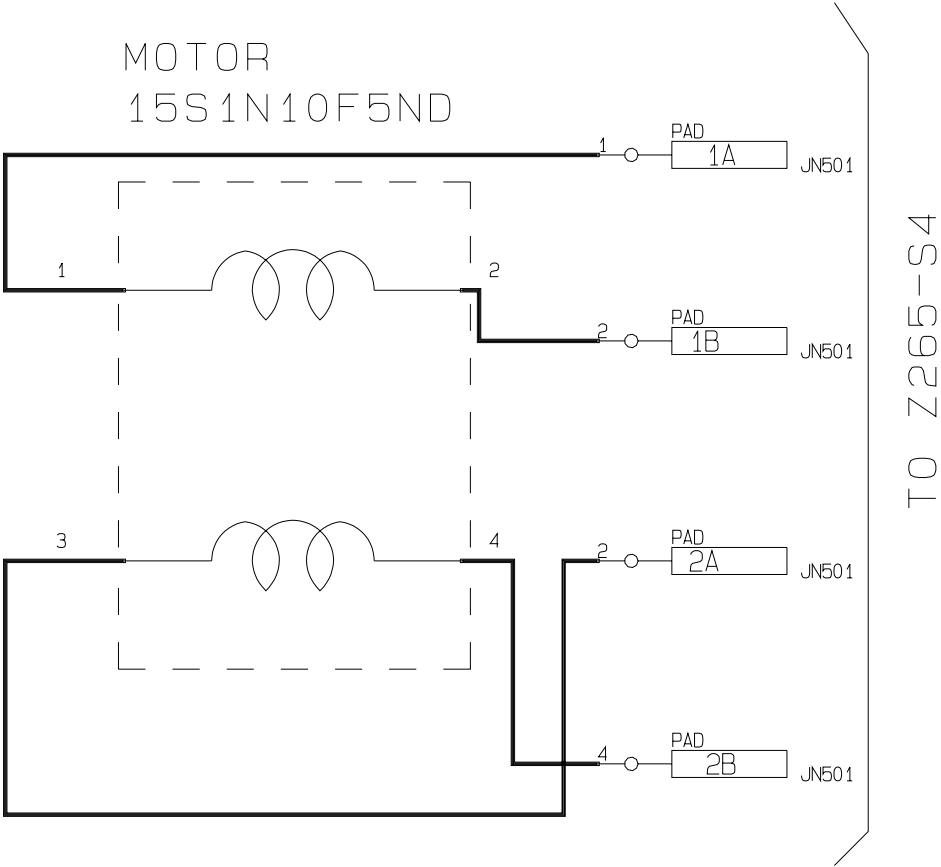
NOTES :

1. THE R & C WITH \*\*\*-1S SHOWS 1005 SIZE.  
\*\*\*-1A SHOWS 1608 SIZE.  
\*\*\*-1 SHOWS 2012 SIZE

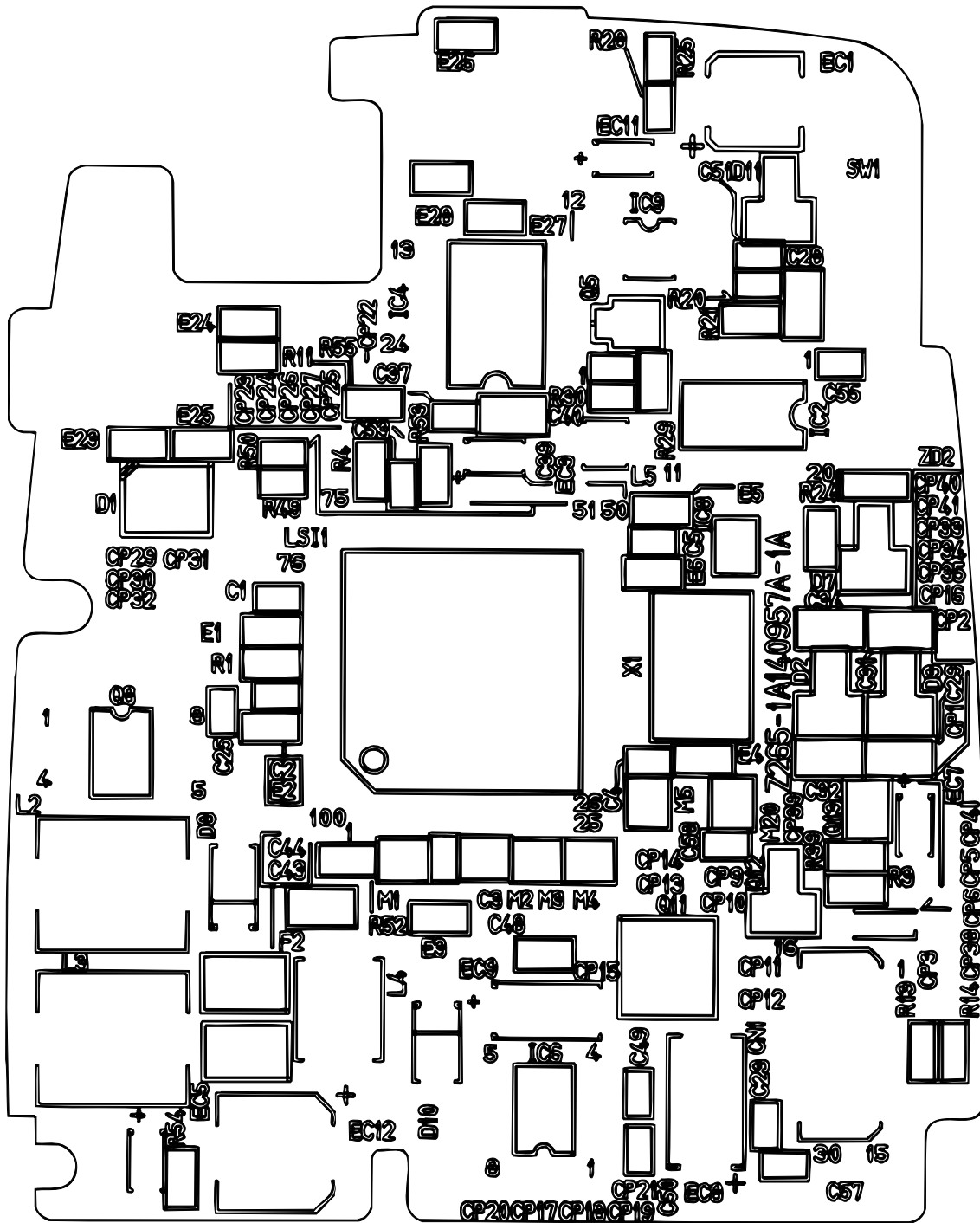
2. UNMOUNT COMPONENTS: R1 & Q1.

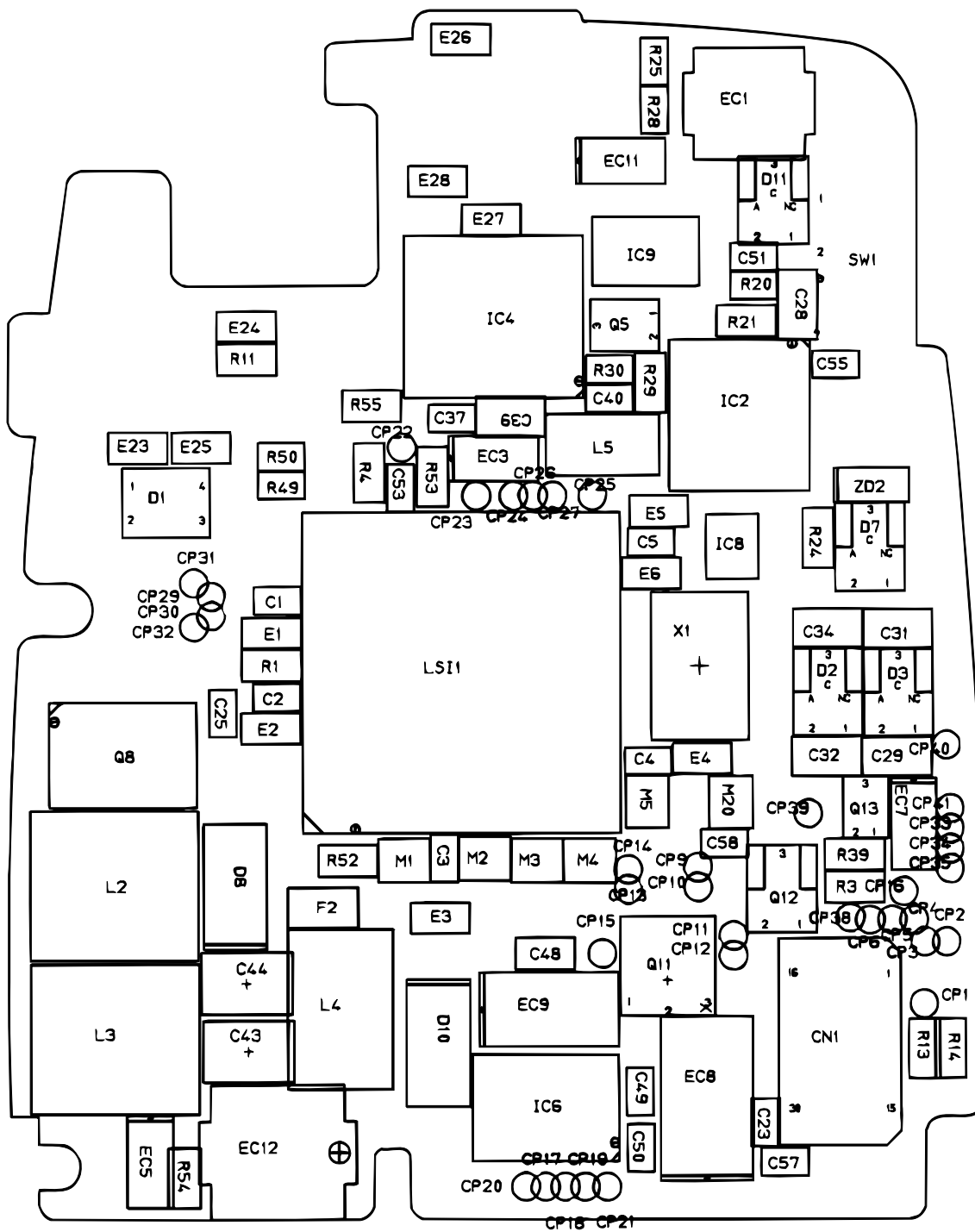


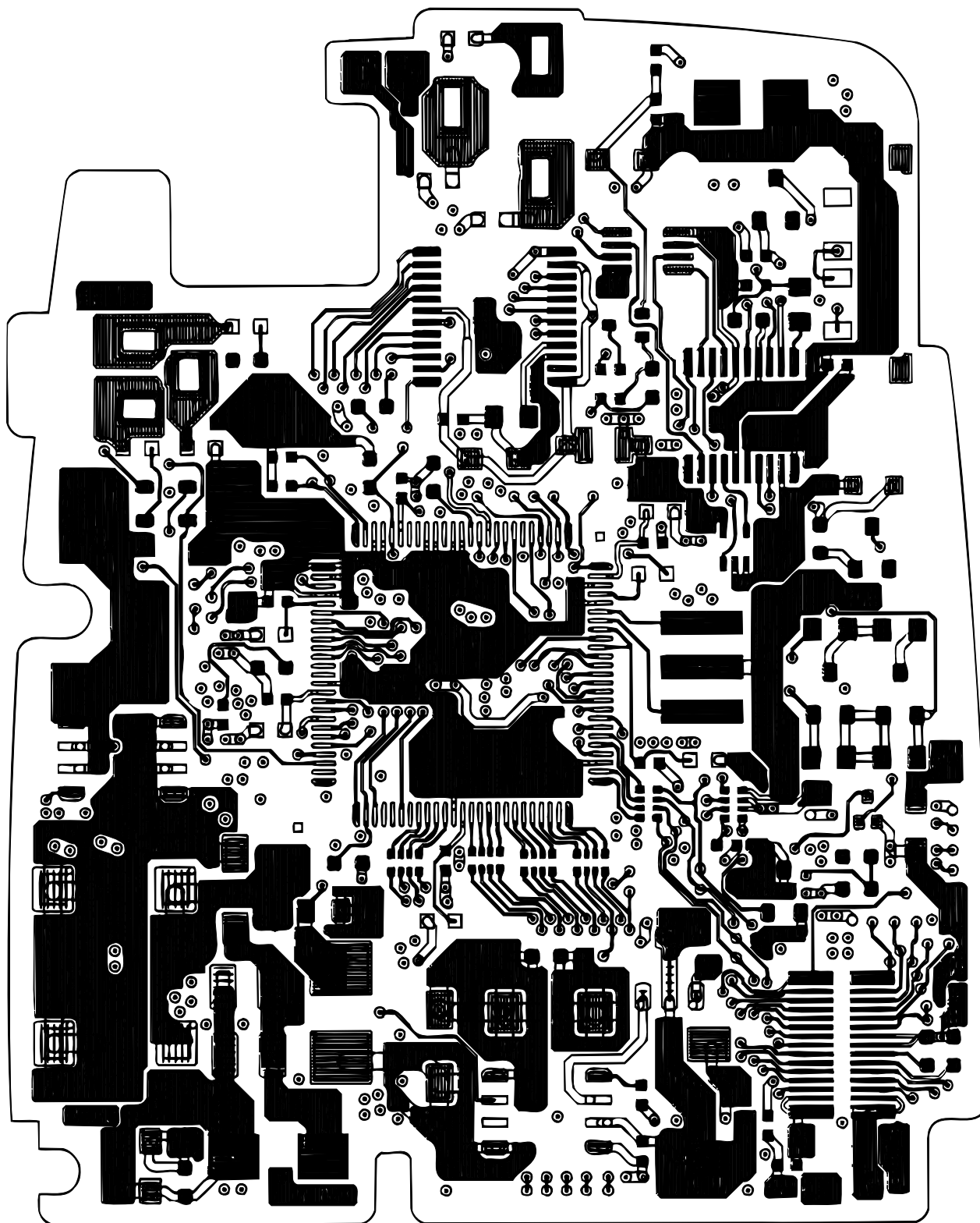
Motor Block

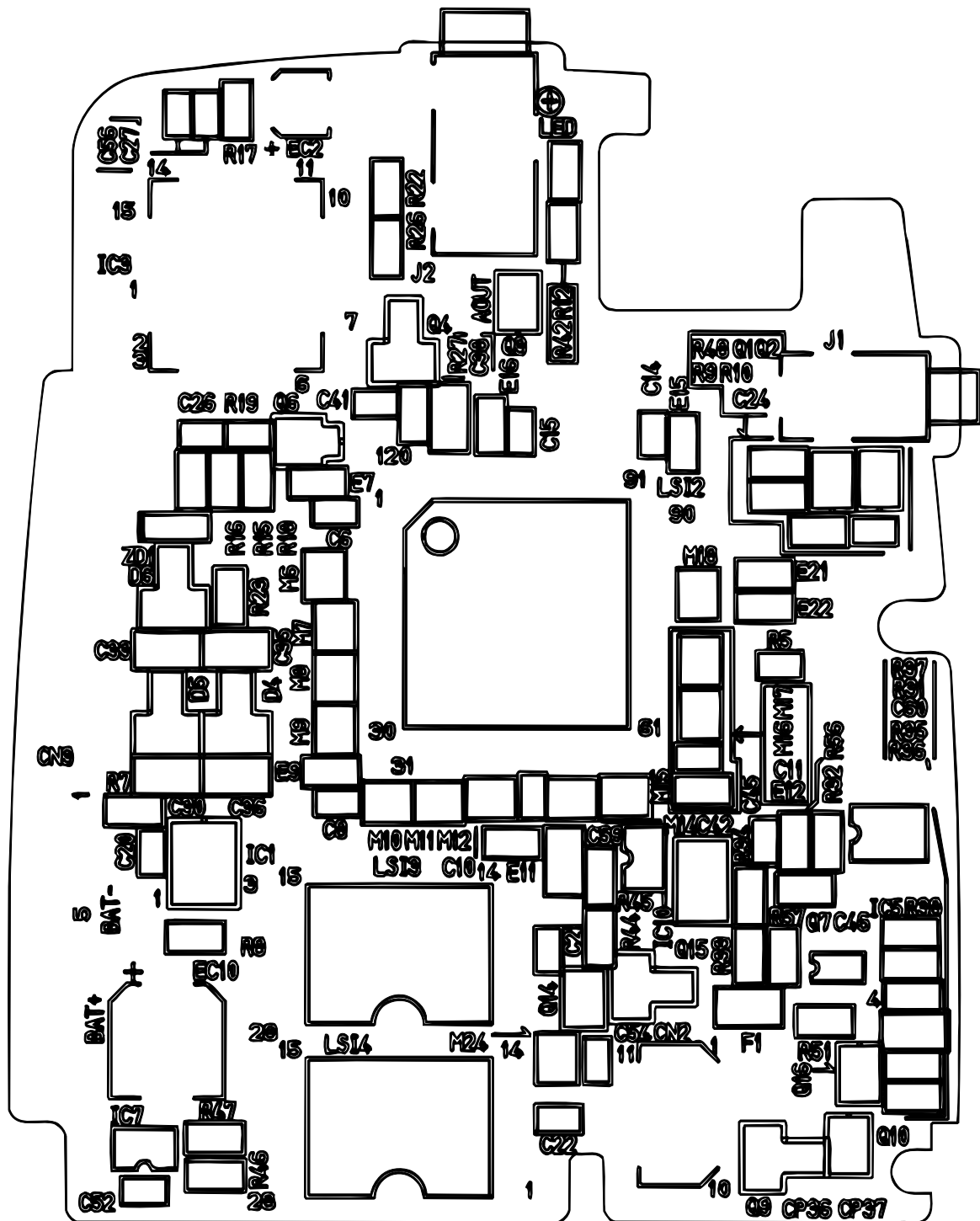


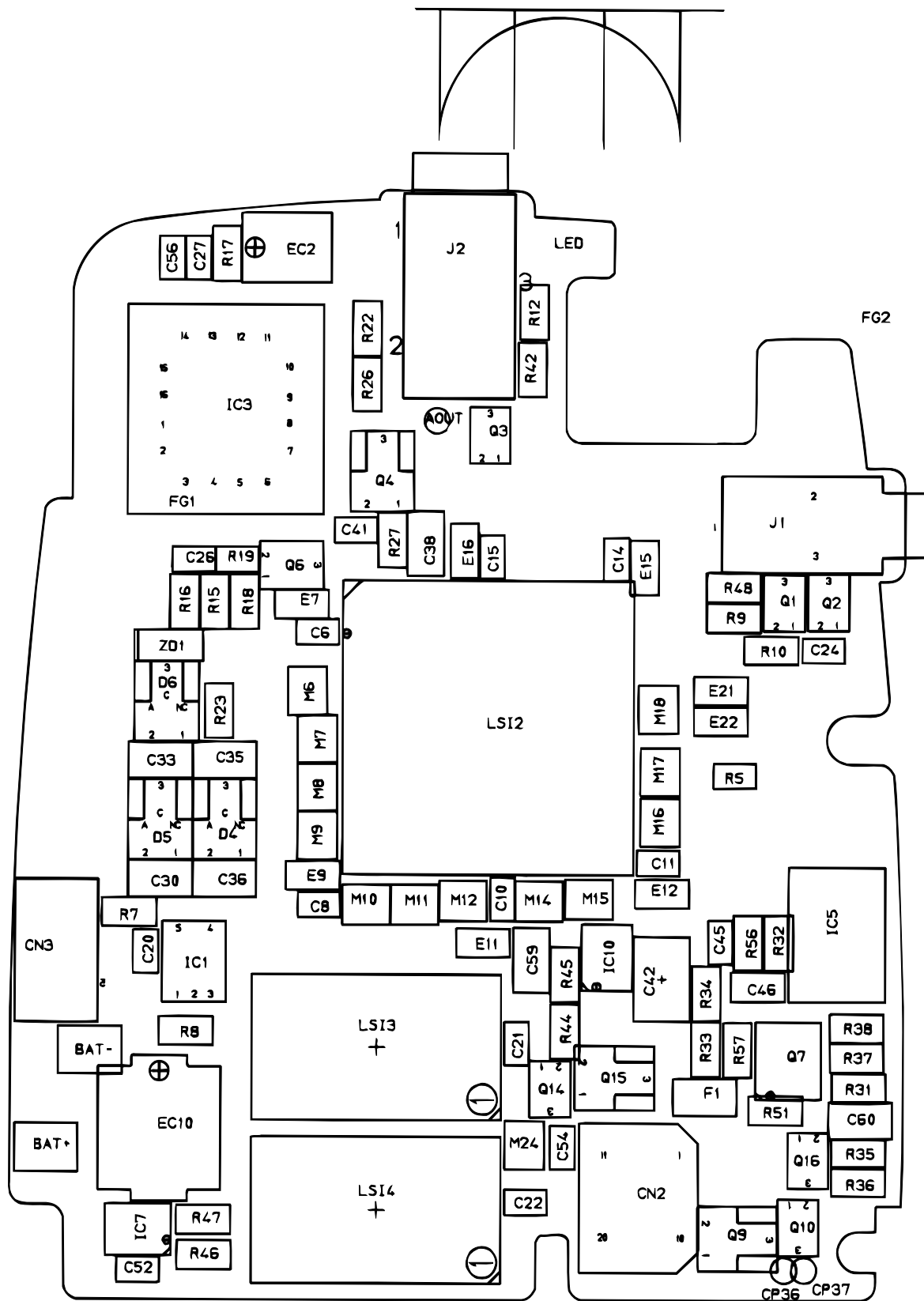
## 11. PCB VIEW

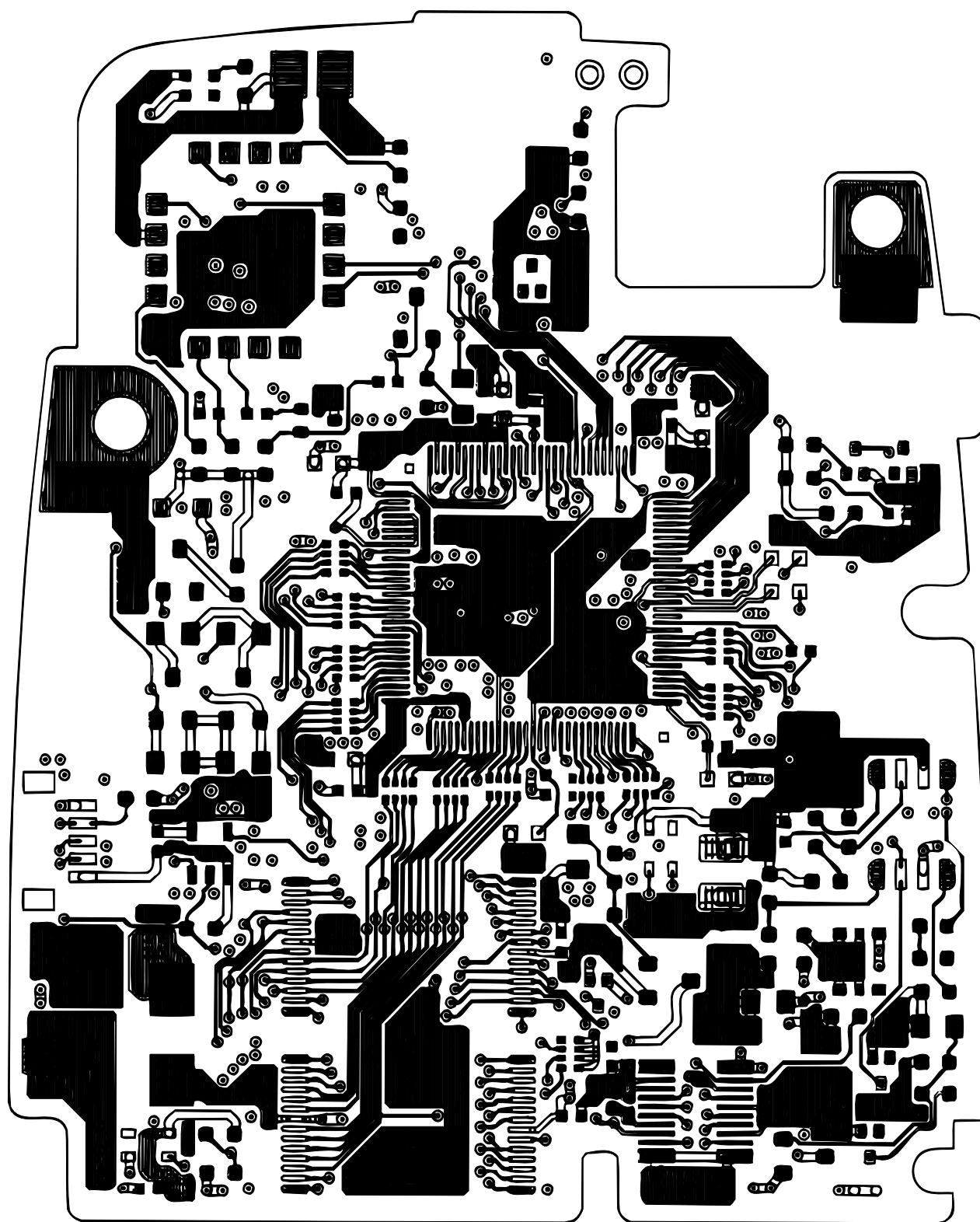












## 12. DISASSEMBLY

Refer to “**14. EXPLODED VIEW**” and “**Clearing a Sticker Paper Jam of 2. GENERAL GUIDE**” of this manual.

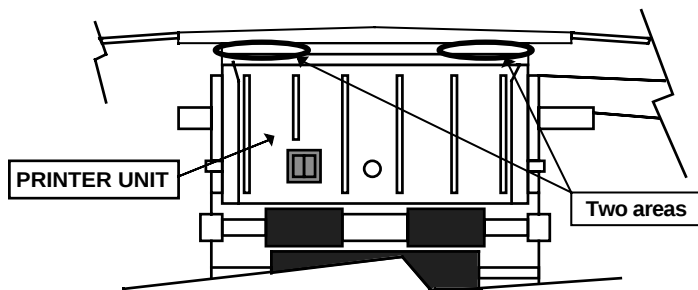
1. Remove all batteries after turning off ZR Unit power.



2. Insert the tip of your finger into the space between the printer cover (item **38**) and the ZR Unit case, and lift this printer cover open. After that, remove this printer cover.



3. Press the hook and open the printer mechanism.
4. The special adhesive is applied to two areas shown bellow.

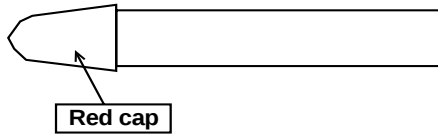


Using the pencil type tool containing the solution which will be supplied from Overseas Service Division of CASIO TECHNO Co., LTD., apply this solution to areas shown to the next page.

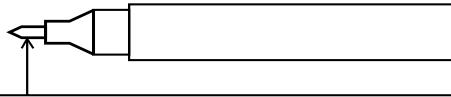
At this time, don't apply this solution too much because the plastic case is slightly damaged by this solution.

The pencil type tool described above is shown to the next page also.

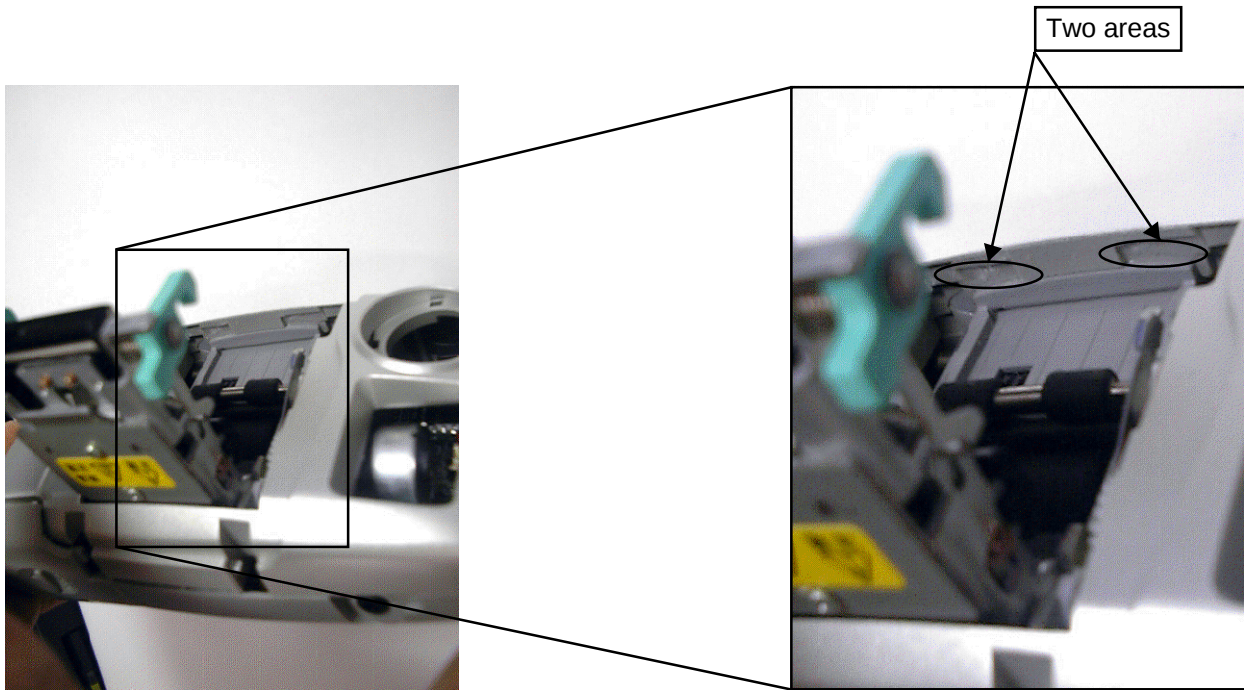
\* Pencil type tool containing the solution



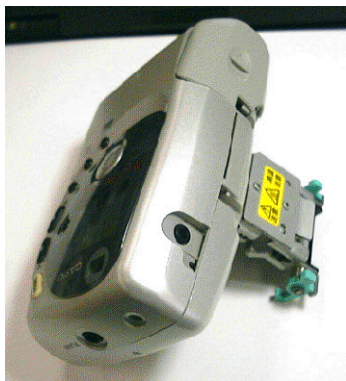
<After removing red cap>



The solution to peel the special adhesive is contained in this tip.



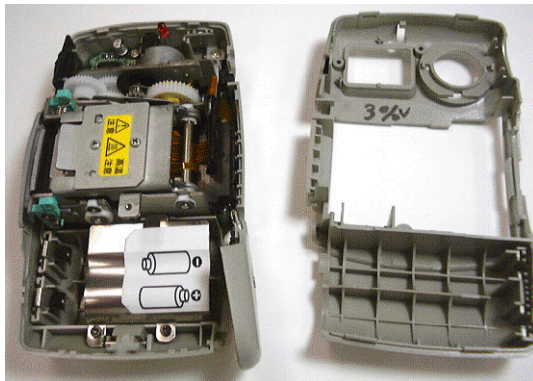
5. After that, wait 2-3 minutes until the solution to peel infiltrates adequately into the adhesive.



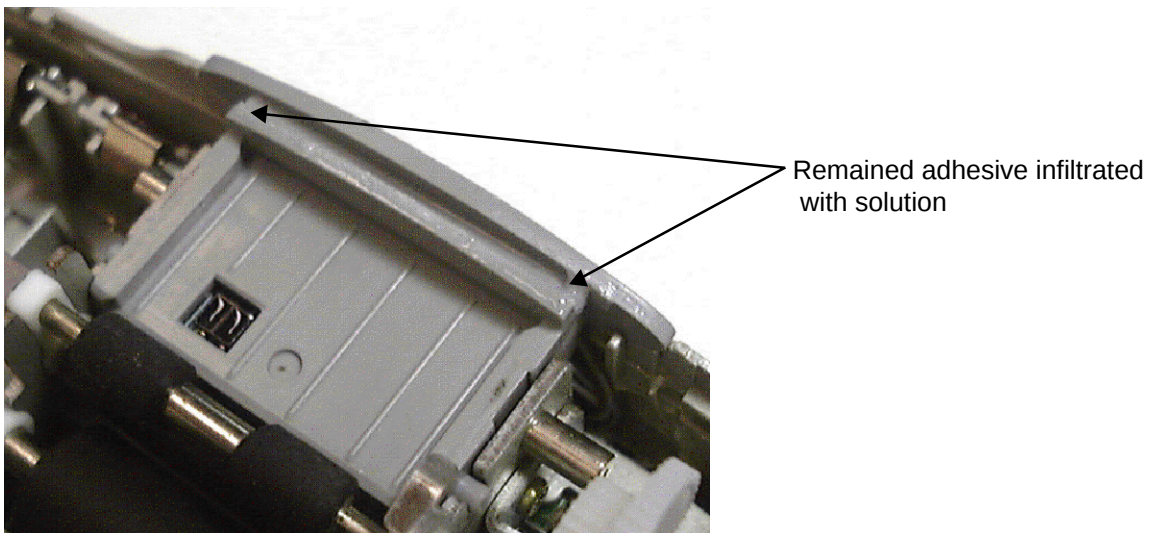
6. Remove a screw **S1**.

7. Remove the assembly consisting of item **35**, **36** and **43** using a opener.

**At this time, be careful not to damage to CCD because CCD stands on the corner of main PC Board.**



8. Wipe away the remained adhesive infiltrated with solution on case and sticker paper feed slot using a cloth.



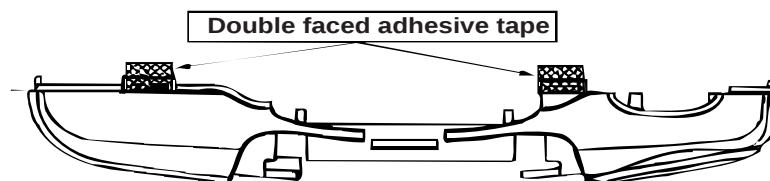
9. Remove the knob for power switch (Item **26**).
10. Remove two screws **S2**.
11. Lift up the printer (item **23**), and then pull out the socket from the connector CN3 on Main PC Board.  
Doing so, Printer Unit can be removed.
12. Remove two wires of item **7** from Main PC Board using soldering iron.
13. Remove two screws **S3**.
14. Remove Main PC Board.
15. Remove five screws **S4**.
16. Remove LCD ASSY (item **24**).

■ **REMARK**

1. Be careful not to damage to CCD at assembling also.  
If impacted on CCD, CCD will be damaged and collapsed.
2. The adhesive described above will be supplied from Overseas Service Division of CASIO TECHNO Co., LTD. because this adhesive is necessary at assembling.  
This adhesive is contained in the vessel shown to the right picture.  
This adhesive name: ThreeBond 1795



3. The double faced adhesive tape which is necessary at assembling may be supplied from Overseas Service Division of CASIO TECHNO Co., LTD also.  
Apply this two double faced adhesive tapes at assembling referring to bellow illustration.



# PARTS PRICE LIST

## ZR-100

| N                                  | Item         | Code No.  | Parts Name               | Specification      | Q | Price Code | R |
|------------------------------------|--------------|-----------|--------------------------|--------------------|---|------------|---|
| <b>PCB ASSY/SWITCH (A241465*1)</b> |              |           |                          |                    |   |            |   |
| N                                  | K1-K7        | 3412 2052 | SWITCH/TACT              | EVQPQMB55          | 7 | AA         | C |
| N                                  | K8           | 3412 2097 | SWITCH/TACT              | EVQPWBA15          | 1 | AD         | C |
| N                                  | CN101        | 3502 2534 | CONNECTOR                | AXK530145J         | 1 | AE         | C |
| N                                  | VR1          | 2765 2209 | RESISTER/CHIP SEMI-FIXED | CVR-32A-204AX2     | 1 | AA         | C |
| <b>LCD ASSY (A241463*1)</b>        |              |           |                          |                    |   |            |   |
| N                                  | 1            | 6423 1910 | PCB ASSY/SWITCH          | A241465*1          | 1 | BL         | B |
| N                                  | 2            | 3065 0729 | LSI/TAB                  | SED1528T0A         | 1 | BC         | B |
| N                                  | 3            | 3335 6781 | LCD                      | E-10385-4          | 1 | AU         | B |
| N                                  | 4            | 5610 9700 | HEAT/SEAL                | A342466-1          | 1 | AL         | B |
| N                                  | 5            | 6423 2770 | PLATE/LCD                | A443787-1          | 1 | AA         | C |
| N                                  | 6            | 6423 2800 | TAPE/LCD                 | A443814-1          | 1 | AA         | C |
| <b>PCB ASSY/MAIN (A141039*1)</b>   |              |           |                          |                    |   |            |   |
|                                    | LED          | 2370 1393 | LED                      | SLR-332VC3F        | 1 | AA         | C |
|                                    | IC3          | 3122 3577 | CCD                      | CC84-CSBW08        | 1 | CV         | B |
|                                    | J1           | 3501 9513 | JACK/COMMUNICATION       | HSJ1122-010110     | 1 | AD         | C |
|                                    | J2           | 3501 8274 | JACK/STROBE              | HSJ1456-01-230     | 1 | AB         | C |
| N                                  | LSI1         | 2012 6189 | LSI                      | UPD703003GC-25-015 | 1 | BX         | C |
| N                                  | LSI2         | 2012 6190 | LSI                      | UPD93291GC-9EV     | 1 | BL         | C |
| N                                  | LSI3,LSI4    | 2012 6187 | LSI/RAM                  | D43256BGW70LL9JLE3 | 2 | AS         | C |
| N                                  | IC2          | 2105 6475 | IC/MOS                   | UPD16510GR-8JG-E1  | 1 | AS         | C |
| N                                  | IC4          | 3065 0726 | IC/MOS                   | UPC2170GS-E2       | 1 | BA         | C |
| N                                  | CN1          | 3502 2500 | CONNECTOR                | AXK630345J         | 1 | AE         | C |
| N                                  | CN2          | 3502 2497 | CONNECTOR                | AXK5S20245P        | 1 | AD         | C |
| N                                  | CN3          | 3502 2501 | CONNECTOR                | BM05B-SRSS-TB      | 1 | AB         | C |
|                                    | F1           | 3632 0711 | FUSE/CHIP                | F0805B1R00FW-TR    | 1 | AD         | B |
|                                    | F2           | 3632 0728 | FUSE/CHIP                | F0805B0R75FWTR     | 1 | AC         | B |
|                                    | IC1          | 2105 1547 | IC/MOS                   | TC7S00F-TE85R      | 1 | AC         | C |
|                                    | IC5          | 2114 3150 | IC                       | MB3776APNF-EF      | 1 | AL         | C |
| N                                  | IC6          | 2113 0375 | IC                       | SB2020P-50542AR    | 1 | AP         | C |
| N                                  | IC7          | 2105 6485 | IC                       | S-80830ANNP-EDT-T2 | 1 | AC         | C |
| N                                  | IC10         | 2114 5874 | IC                       | S-80823ANNP-EAL-T2 | 1 | AC         | C |
|                                    | Q1-Q3        | 2259 2282 | TRANSISTOR/DIGITAL       | DTC114YE-TR        | 3 | AA         | C |
|                                    | Q10,Q13,Q14, | 2259 2289 | TRANSISTOR/DIGITAL       | DTC144EE-TR        | 4 | AA         | C |
|                                    | Q11          | 2250 1386 | TRANSISTOR/CHIP          | 2SA1213(TE12L,C)   | 1 | AB         | C |
| N                                  | Q4           | 2254 0584 | FET                      | 2SK508-T1B         | 1 | AC         | C |
| N                                  | Q5           | 2259 2770 | TRANSISTOR/CHIP          | 2SC4176-T1         | 1 | AC         | C |
| N                                  | Q6           | 2259 2768 | TRANSISTOR/CHIP          | 2SA1610-T1         | 1 | AB         | C |
| N                                  | Q7           | 2254 0582 | FET                      | MGSF3441VT1        | 1 | AF         | C |
| N                                  | Q8           | 2254 0583 | FET                      | MMSF1308R2         | 1 | AF         | C |
|                                    | Q9,Q12, Q15  | 2259 1827 | TRANSISTOR/CHIP          | 2SB1197K-Q,R-T146  | 3 | AB         | C |
|                                    | SW1          | 3412 2096 | SWITCH/SLIDE             | ESD165238          | 1 | AH         | C |

# PARTS PRICE LIST

## ZR-100

| N                      | Item | Code No.  | Parts Name          | Specification    | Q | Price Code | R |
|------------------------|------|-----------|---------------------|------------------|---|------------|---|
| N                      | X1   | 2775 3424 | OSCILLATOR/CERAMIC  | PBRC-2.95BR-C1-A | 1 | AC         | C |
| N                      | IC9  | 2105 6572 | IC/MOS              | TC7W34FU(TE85L)  | 1 | AC         | C |
|                        | IC8  | 2105 6244 | IC/MOS              | TC7S32FU(TE85L)  | 1 | AC         | C |
|                        | 7    | 6423 2840 | SPRING/BATTERY      | A443825-1        | 2 | AD         | C |
| <b>LOWER CASE UNIT</b> |      |           |                     |                  |   |            |   |
| N                      | 8    | 6423 2040 | CASE/LOWER          | A140994-1        | 1 | BA         | X |
| N                      | 9    | 6423 2440 | BUTTON              | A342565-1        | 1 | AE         | C |
| N                      | 10   | 6423 2450 | BUTTON              | A342566-1        | 1 | AF         | C |
| N                      | 11   | 6423 2460 | BUTTON              | A342567-1        | 1 | AB         | C |
| N                      | 12   | 6423 2470 | BUTTON              | A342568-1        | 1 | AE         | C |
| N                      | 13   | 6423 5070 | CASE/LOWER SUB ASSY | A241488*1        | 1 | BH         | X |
| N                      | 14   | 6423 2490 | PLATE               | A342586-1        | 1 | AB         | C |
| N                      | 15   | 6423 2530 | PLATE/BATTERY       | A342598-1        | 1 | AC         | C |
| N                      | 16   | 6423 2820 | LABEL/BATTERY       | A443819-1        | 1 | AA         | C |
| N                      | 17   | 6423 2870 | COVER/BATTERY       | A241411-1        | 1 | AG         | C |
| N                      | 18   | 6423 2880 | HOLDER/BATTERY      | A342591-1        | 1 | AC         | C |
| N                      | 19   | 6423 2891 | PLATE/BATTERY       | A342592A-1       | 1 | AB         | C |
| N                      | 20   | 6423 2901 | PLATE/BATTERY       | A342593A-1       | 1 | AB         | C |
| N                      | 21   | 6423 2912 | HINGE/BATTERY       | A342603B-1       | 1 | AE         | C |
|                        | 22   | 6423 1880 | BATTERY COVER ASSY  | A241462*1        | 1 | BA         | C |
|                        | 23   | 6423 1850 | PRINTER UNIT        | A141037*1        | 1 | DH         | B |
|                        | 24   | 6423 1890 | LCD ASSY            | A241463A*1       | 1 | CF         | B |
| N                      | 25   | 6424 3870 | PCB ASSY/MAIN       | A141039G*2       | 1 | DU         | B |
|                        | 26   | 6423 2430 | SWITCH/POWER        | A342558-1        | 1 | AB         | C |
|                        | 27   | 6423 2480 | HOLDER/PRINTER      | A342579-1        | 1 | AB         | C |
|                        | 42   | 6424 4260 | SPACER              | A444131-1        | 2 | AA         | C |
| <b>UPPER CASE ASSY</b> |      |           |                     |                  |   |            |   |
| N                      | 28   | 6423 2050 | CASE/UPPER          | A141003-1        | 1 | AT         | X |
| N                      | 29   | 6423 2130 | CASE/FRAME          | A241402-1        | 1 | AB         | X |
| N                      | 30   | 6423 2400 | MIRROR/REFLECTION   | A342521-1        | 1 | AO         | B |
| N                      | 31   | 6423 2510 | CAP/LED             | A342589-1        | 1 | AB         | C |
| N                      | 32   | 6423 2520 | CAP/LED             | A342590-1        | 1 | AC         | C |
| N                      | 33   | 6423 2540 | CASE/FRAME          | A342604-1        | 1 | AB         | X |
| N                      | 34   | 6423 2831 | PLATE/BATTERY       | A443824A-1       | 1 | AE         | C |
| <b>COMPONENTS</b>      |      |           |                     |                  |   |            |   |
|                        | 35   | 6423 2120 | COVER/LENS          | A241394-1        | 1 | AD         | C |
|                        | 36   | 6423 2420 | PLATE/LENS          | A342531-1        | 1 | AC         | C |
|                        | 37   | 6423 2500 | COVER/JACK          | A342587-1        | 1 | AE         | C |
| N                      | 38   | 6423 8710 | COVER/UPPER CASE    | A141006-4        | 1 | AR         | C |
| N                      | 39   | 6423 8720 | PLATE/DISPLAY       | A241393-4        | 1 | AL         | B |
|                        | 43   | 6423 1800 | UPPER CASE ASSY     | A141018A*1       | 1 | BP         | C |

## PARTS PRICE LIST

### ZR-100

| N             | Item | Code No.                                                      | Parts Name | Specification | Q | Price Code | R |
|---------------|------|---------------------------------------------------------------|------------|---------------|---|------------|---|
| <b>OTHERS</b> |      |                                                               |            |               |   |            |   |
| N             | 40   | 3122 3580                                                     | SEAL/PRINT | ZS-S1BK-OP-J  | 1 | AT         | C |
|               | 41   | 3122 3659                                                     | STRAP      | C-DA2         | 1 | AG         | C |
|               |      | Parts prices will be informed separately by Parts Price List. |            |               |   |            |   |

Notes:N-New parts

Q-Quantity used per unit

R-Rank

R-A:Essential

B:Stock recommended

C:Others

X:No stock recommended

### PARTS LIST-Strobe Unit

| N | Item | Code No.                                                      | Parts Name    | Specification | Q | Price Code | R |
|---|------|---------------------------------------------------------------|---------------|---------------|---|------------|---|
|   | 201  | 6423 5330                                                     | COVER/BATTERY | A342684-1     | 1 | AD         | C |
| N | 202  | 6423 5340                                                     | SWITCH/POWER  | A342686-1     | 1 | AA         | C |
| N | 203  | 6423 5350                                                     | KNOB/STROBE   | A342687-1     | 1 | AB         | C |
| N | 204  | 6423 5360                                                     | CAP/STROBE    | A342688-1     | 1 | AA         | C |
| N | 205  | 6423 5380                                                     | SHAFT/STROBE  | A443936-1     | 1 | AB         | C |
| N | 206  | 6423 5420                                                     | PLUG/SUB ASSY | A443966*1     | 1 | AM         | C |
| N | 207  | 6423 8680                                                     | STROBE UNIT   | A141056*4     | 1 | CT         | C |
|   |      | Parts prices will be informed separately by Parts Price List. |               |               |   |            |   |

Notes:N-New parts

Q-Quantity used per unit

R-Rank

R-A:Essential

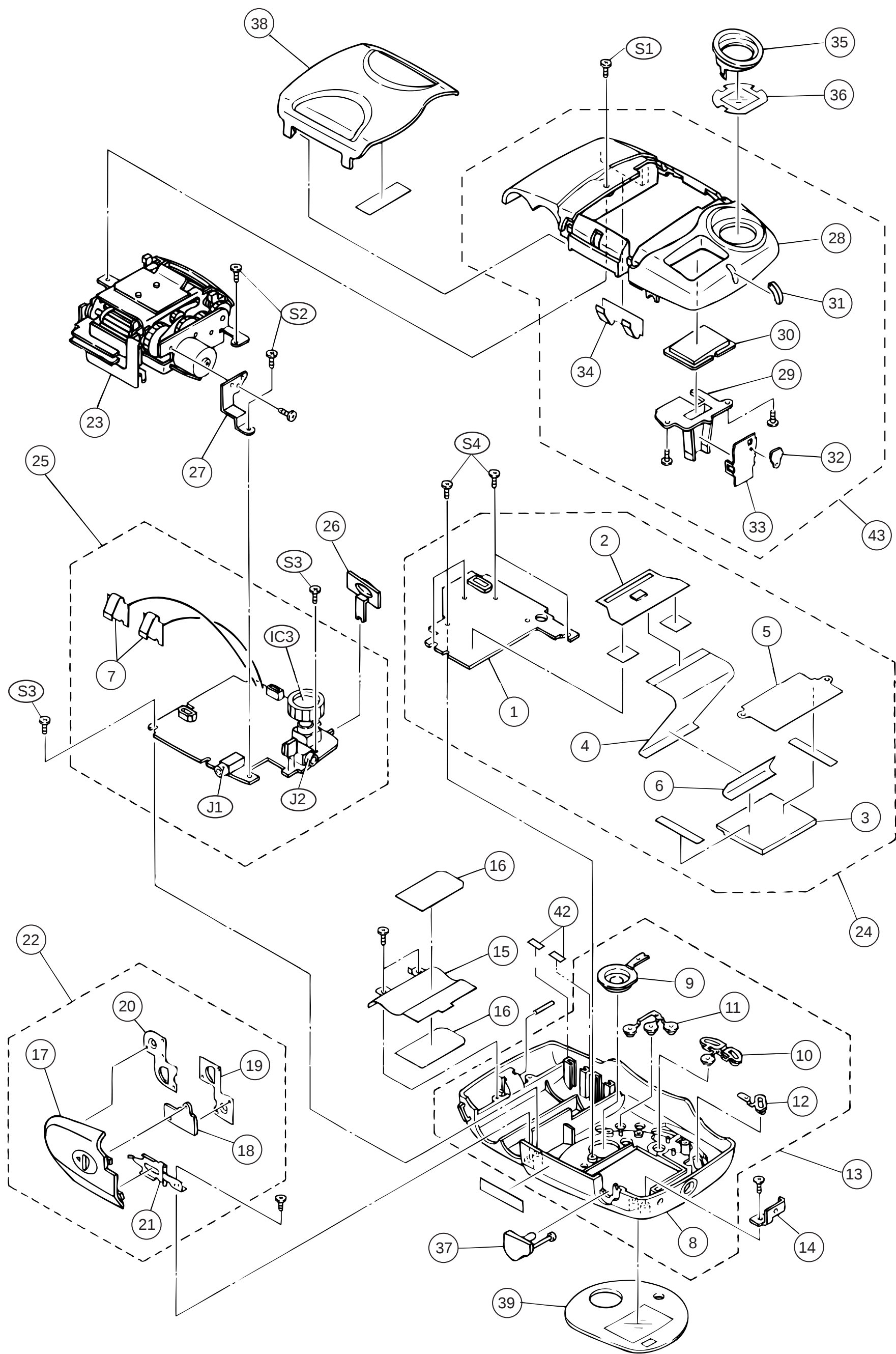
B:Stock recommended

C:Others

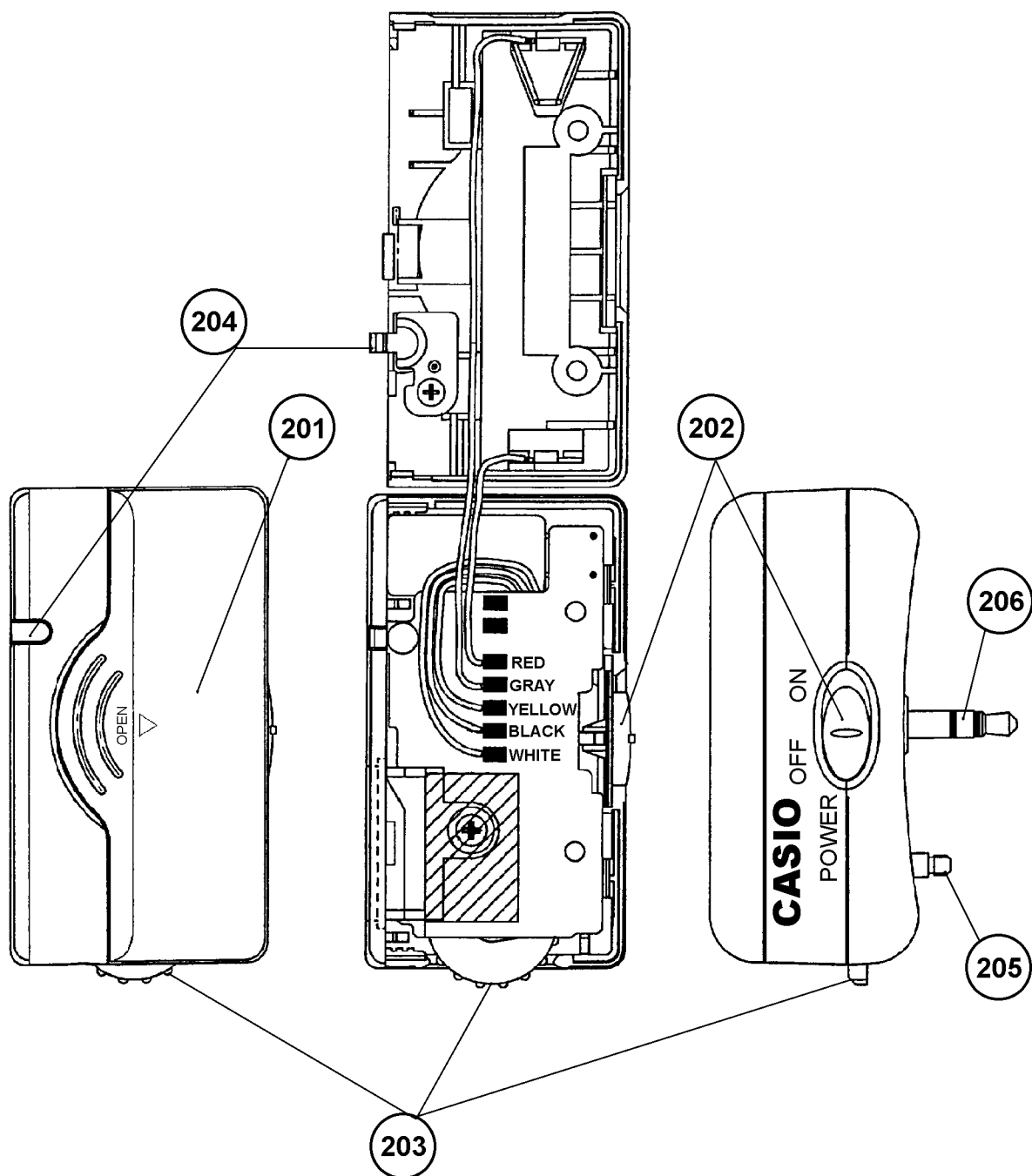
X:No stock recommended

14. EXPLODED VIEW

Components



## Strobe Unit



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Overseas Service Division

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