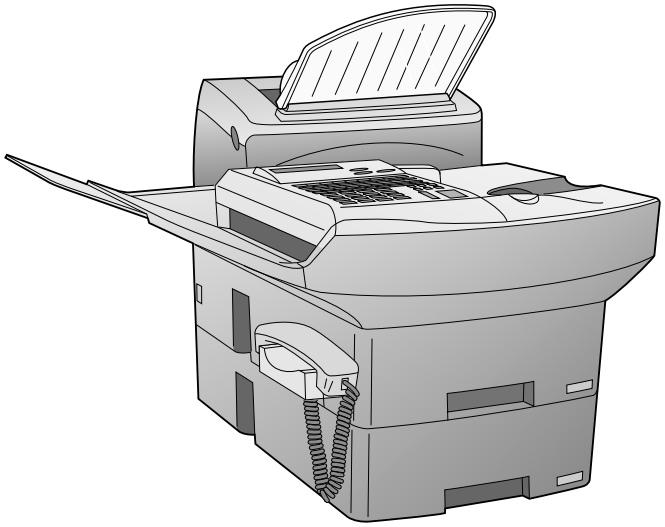
# SHARP SERVICE MANUAL

No. 00ZFO6600USME



# FACSIMILE

## MODEL FO-6600

**CAUTION**

This laser printer is a class 1 laser product that complies with 21CFR 1040.10 and 1040.11 of the CDRH standard. This means that this machine does not produce a hazardous laser radiation. The use of controls, adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

This laser radiation is not a danger to the skin, but when an exact focusing of the laser beam is achieved on the eyes retina, there is danger of spot damage to the retina.

The following cautions must be observed to avoid exposure of the laser beam to your eyes at the time of servicing.

1) When a problem in the laser optical unit has occurred, the whole optical unit must be exchanged as a unit, not an individual part.
2) Do not look into the machine with the main switch turned on after removing the toner/developer unit and drum cartridge.
3) Do not look into the laser beam exposure slit of the laser optical unit with the connector connected when removing and installing the optical system.
4) The cover of Laser Printer Unit contains the safety interlock switch.

   Do not defeat the safety interlock by inserting wedges or other items into the switch slot.

Laser Wave Length : 770-810 mm
Laser Pulse Times : 49.2 µs
Laser Output Power : 0.5 mW

Parts marked with "⚠" is important for maintaining the safety of the set. Be sure to replace these parts with specified ones for maintaining the safety and performance of the set.

SHARP CORPORATION

CONTENTS

# CHAPTER 1. GENERAL DESCRIPTION

## [1] Specifications

- **GENERAL**

| | |
|---|---|
| **Applicable telephone line:** | Public switched telephone network |
| **Compatibility:** | ITU-T (CCITT) G3 mode |
| **Configuration:** | Half-duplex, desktop transceiver |
| **Compression scheme:** | MH, MR, MMR and Sharp special mode |
| **Memory size*:** | 2 MB (approx. 108 average pages) |
| **Memory option:** | 1 MB/2 MB/4 MB/16 MB Flash Memory |
| **Scanning method:** | Flat-bed, solid-state CCD |
| **Resolution:** | Horizontal:<br>203 lines/inch (8 dots/mm)<br>Vertical:<br>Standard-98 lines/inch (3.85 lines/mm)<br>Fine/Halftone-196 lines/inch (7.7 lines/mm)<br>Super fine-391 lines/inch (15.4 lines/mm) |
| **Printing density:** | Horizontal:<br>406 lines/inch (16 lines/mm)<br>Vertical:<br>391 lines/inch (15.4 lines/mm) |
| **Reception modes:** | Auto/Manual switching |
| **Modem speed:** | 33600 bps with automatic fallback to 31200, 28800, 26400, 24000, 21600, 19200, 16800, 14400, 12000, 9600, 7200, 4800, or 2400 bps<br>**Note:** Transmission speeds in Super G3 mode may vary due to telephone line conditions. |
| **Transmission time*:** | Approx. 3 seconds |
| **Input document size:** | Automatic feeding:<br>Width — 5.8 to 11.0" (148 to 280 mm)<br>Length — 5.0 to 14.3" (128 to 364 mm)<br>Manual feeding:<br>Width — 5.8 to 11.0" (148 to 280 mm)<br>Length — 5.0 to 17.0" (128 to 432 mm) |
| **Paper size:** | Width — 8.5" (216 mm)<br>Length — 11-14" (280-356 mm) |
| **Paper capacity:** | 1150 sheets |
| **Automatic document feeder:** | 50 documents max. |
| **Effective scanning width:** | 10.1" (256 mm) |
| **Effective recording width:** | 8.0" (203 mm) |
| **Copy function:** | Single/Multi-copy/Sort-copy (99 copies/page) |
| **Telephone function:** | Standard (cannot be used if power fails) |
| **Halftone (gray scale):** | 64 levels |
| **Power requirements:** | 120 V AC, 60 Hz |
| **Operating environment:** | 50-86°F (10-30°C), 20 to 85% RH |
| **Power consumption:** | Stand-by: 15 W<br>Maximum: 400 W |
| **Dimensions:** | Width: 13.8" (351 mm)<br>Depth: 22.9" (582 mm)<br>Height: 18.5" (469 mm) |
| **Weight:** | Approx. 59.8 lbs. (27.1 kg) |

- **PRINTER SECTION**

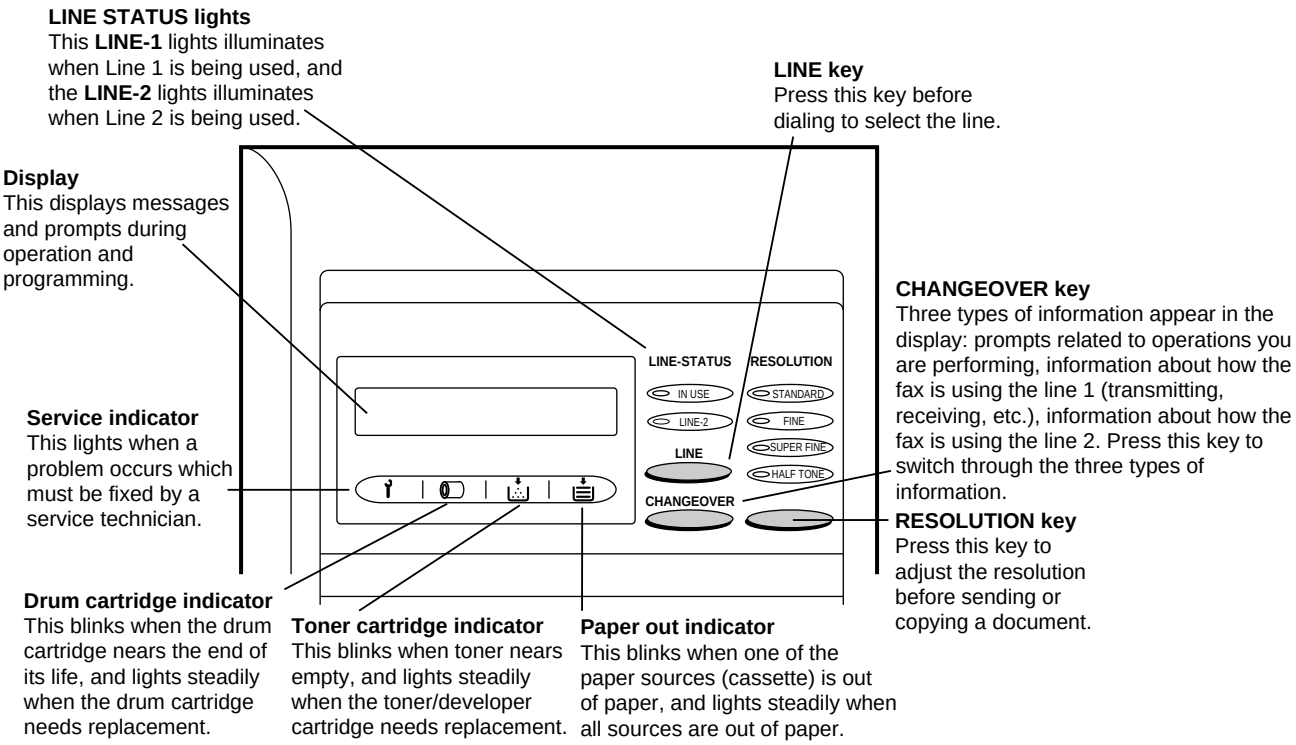
| | |
|---|---|
| **Type:** | Desktop, Laser Beam Printer |
| **Print system:** | Electrostatic Dry Powdered Imaging System |
| **Exposure system:** | Laser Diode + Polygon Mirror Scanning |
| **Resolution:** | Horizontal: 406 (dot/inch)<br>Vertical: 391 (dot/inch) |
| **Print speed:** | 6 pages per minute (Letter size paper) |
| **First print time:** | Within 19 seconds (face down) |
| **Warming-up time:** | Within 40 sec. |
| **Operating environment:** | Temperature: 10-30°C<br>Humidity: 20-80%RH |
| **Toner cartridge life:** | 3,700 prints or more (when black-to-white ratio on print is 4% or less) |
| **Drum cartridge life:** | 20,000 prints or more (when black-to-white ratio on print is 5% or less) |

* Based on ITU-T (CCITT) Test Chart #1 at standard resolution in Sharp special mode, excluding time for protocol signals (i.e., ITU-T phase C time only).

**<IMPORTANT PLEASE READ FIRST>**

To avoid problems with supplies, please don't use supplies from other units. Please use new supplies, when supply changes are required.

## [2] Operation panel (1)




**LINE STATUS lights**
This **LINE-1** lights illuminates when Line 1 is being used, and the **LINE-2** lights illuminates when Line 2 is being used.

**LINE key**
Press this key before dialing to select the line.

**Display**
This displays messages and prompts during operation and programming.

**CHANGEOVER key**
Three types of information appear in the display: prompts related to operations you are performing, information about how the fax is using the line 1 (transmitting, receiving, etc.), information about how the fax is using the line 2. Press this key to switch through the three types of information.

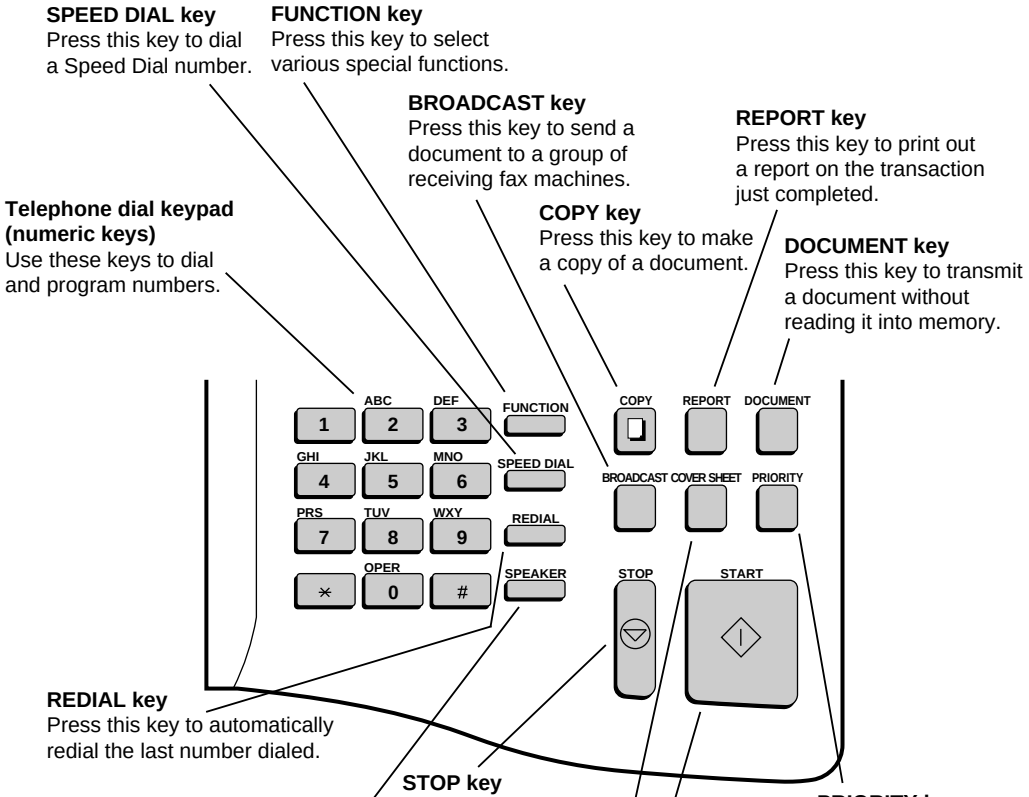
**Service indicator**
This lights when a problem occurs which must be fixed by a service technician.

**RESOLUTION key**
Press this key to adjust the resolution before sending or copying a document.

**Drum cartridge indicator**
This blinks when the drum cartridge nears the end of its life, and lights steadily when the drum cartridge needs replacement.

**Toner cartridge indicator**
This blinks when toner nears empty, and lights steadily when the toner/developer cartridge needs replacement.

**Paper out indicator**
This blinks when one of the paper sources (cassette) is out of paper, and lights steadily when all sources are out of paper.




**SPEED DIAL key**
Press this key to dial a Speed Dial number.

**FUNCTION key**
Press this key to select various special functions.

**BROADCAST key**
Press this key to send a document to a group of receiving fax machines.

**REPORT key**
Press this key to print out a report on the transaction just completed.

**Telephone dial keypad (numeric keys)**
Use these keys to dial and program numbers.

**COPY key**
Press this key to make a copy of a document.

**DOCUMENT key**
Press this key to transmit a document without reading it into memory.

**REDIAL key**
Press this key to automatically redial the last number dialed.

**STOP key**
Press this key to stop operations before they are completed.

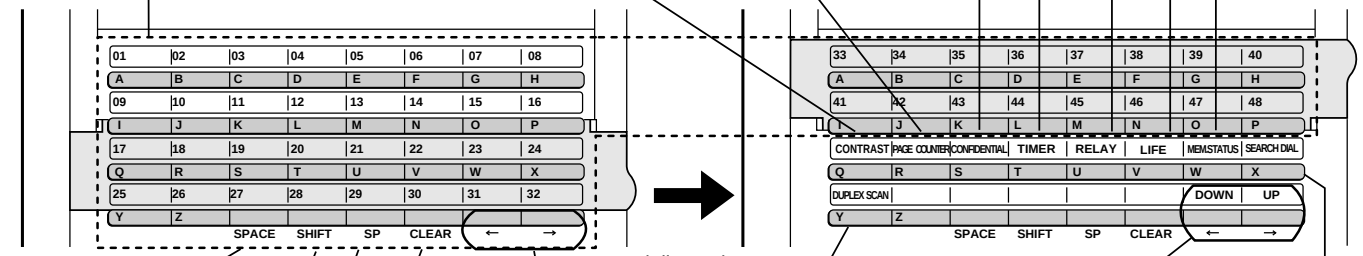
**SPEAKER key**
Press this key to dial a number without picking up the handset.
Note: **This is not a speakerphone**. You must pick up the handset to talk with the other party.

**COVER SHEET key**
Press this key to include a cover sheet with a transmitted document.

**START key**
Press this key to send or receive a document.

**PRIORITY key**
Press this key when you want to transmit a document ahead of other documents waiting in memory for transmission.

# Operation panel (2)




**Rapid Dial keys**
Press one of these keys to dial a fax or voice number automatically (these keys also serve as letter entry keys when storing a name).

**CONTRAST key**
Press this key to adjust the contrast before sending or copying a document.

**PAGE COUNTER key**
Press this key to have a slash and the total number of pages added after each page number on the pages of a transmitted document.

**CONFIDENTIAL key**
Press this key to send or print out a confidential document.

**TIMER key**
Press this key to set an operation to be performed automatically at a later time.

**RELAY key**
Press this key to send a document to another fax machine and have that machine in turn send the document to a number of end receiving machines.

**LIFE key**
Press this key, followed by the "1" key, to check the total number of pages printed by the fax machine.

**MEM. STATUS key**
Press this key to check the documents that have been scanned into memory for transmission.

(Flip up the Rapid Key overlay)

**SPACE key**
Press this key to enter a space when storing a name.

**SHIFT key**
Press this key to switch between upper and lower case when storing a name.

**SP key**
Press this key to enter symbols when storing a name.

**CLEAR key**
Press this key to clear mistakes when storing names and numbers.

**→ key, ← key**
Press these keys to move the cursor forward and backward when storing names and numbers.

**DUPLEX SCAN key**
Press this key to transmit or copy two-sided documents.

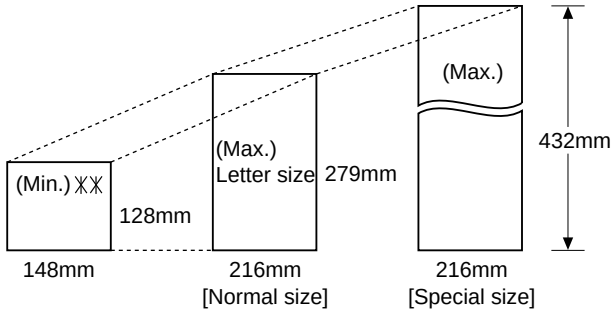
**UP and DOWN keys**
Press these keys to adjust the volume of the handset when the handset is lifted, the volume of the speaker when the **SPEAKER** key has been pressed, or the volume of the ringer at all other times.

**SEARCH DIAL key**
Press this key to search by name for a number stored for automatic dialing.

# [3] Transmittable documents

## 1. Document Sizes

| | | |
|---|---|---|
| Normal size | width | 5.83"–8.5"(148 – 216 mm) |
| | length | 5.04" – 11"(128 – 279 mm) |




※※ Use document carrier sheet for smaller documents.

* With special sizes, only one sheet can be fed into the machine at a time. Insert next page into feeder as current page is being scanned.

## 2. Paper Thickness & Weight

| | | Product specifications | |
|---|---|---|---|
| | Indication | Lower Limit | Upper Limit |
| Weight indication | Japanese indication Size 4 × 6 | 45kg paper | 70kg paper |
| | Metric system indication | 52g/m$^2$ | 80g/m$^2$ |
| | American indication LB system indication | 14 LB | 20 LB |
| Thickness indication | Metric system indication | 0.06mm | 0.1mm |
| | Inch system indication | 0.0024" | 0.0035" |
| Document size | Document size Range | (148mm × 128mm) ~ W letter (279.4mm × 432mm) | |
| | | A4 (210mm × 297mm) | |
| | | Letter (216mm × 279mm) | |
| Number of ADF sheets | Document size Weight | B6 ~ Letter/A4 size | 50 sheets |
| | | B4 size/Legal | 20 sheets |
| | | W letter size | 1 sheet |
| | | 90 kg (104g/m$^2$) or more<br>135 kg (157g/m$^2$) or less | 1 sheet |
| Paper quality | Kind | Paper of fine quality/bond paper/ Kent paper | |

## 3. Document Types

- Normal paper

  Documents handwritten in pencil (No. 2 lead or softer), fountain pen, ball point pen, or felt-tipped pen can be transmitted.

  Documents of normal contrast duplicated by a copying machine can also be transmitted.
- Diazo copy (blueprint)

  Diazo copy documents of a normal contrast may be transmitted.
- Carbon copy

  A carbon copy may be transmitted if its contrast is normal.

## 4. Cautions on Transmitting Documents

- Documents written in yellow, greenish yellow, or light blue ink cannot be transmitted.
- Ink, glue, and correcting fluid on documents must be dry before the documents can be transmitted.
- All clips, staples and pins must be removed from documents be-fore transmission.
- Patched (taped) documents should be copied first on a copier and then the copies used for transmission.
- All documents should be fanned before insertion into the feeder to prevent possible double feeds.

## 5. Automatic Document Feeder Capacity

Number of pages that can be placed into the feeder at anytime is as follows:

Normal size: max. 50 sheets (14 lbs – 20 lbs)

Special size: single sheet only (manual feed)

NOTES:
- When you need to send or copy more pages than the feeder limit, place additional pages in feeder when last page in feeder is being scanned.
- Place additional pages carefully and gently in feeder. If force is used, double-feeding or a document jam may result.

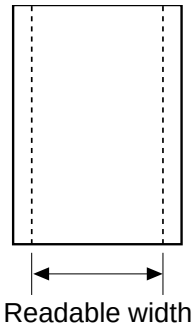
## 6. Readable Width & Length

The readable width and length of a document are slightly smaller than the actual document size.

Note that characters or graphics outside the effective document scanning range will not be read.

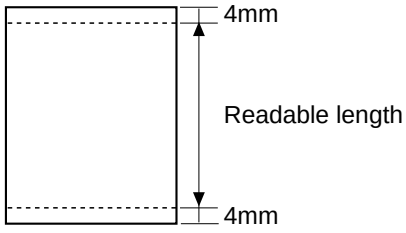
- **Readable width**

8.3" (208 mm) max.




- **Readable length**

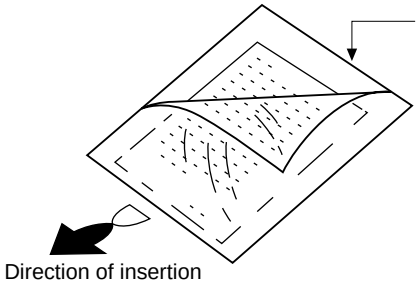
This is the length of the document sent minus 0.16" (4 mm) from the top and bottom edges.



### 7. Use of Document Carrier Sheet

A document carrier sheet must be used for the following documents.

- Those with tears.
- Those smaller than size 5.83" (W) × 5.04" (L) (148 mm (W) × 128 mm (L)).
- Carbon-backed documents




NOTE: To transmit a carbon-backed document, insert a white sheet of paper between the carbon back of the document and the document carrier.

- Those containing an easily separable writing substance (e.g., tracing paper written on with a soft, heavy lead pencil).

NOTES:
- When using the document carrier, carefully read the instructions written on the back.
- If the document carrier is dirty, clean it with a soft, moist cloth, and then dry it before using for transmission.
- Do not place more than one document in the carrier at a time.

- The thickness of document which can be held with the carrier sheet is up to 20 lb.

## [4] Installation

### 1. Site selection

Take the following points into consideration when selecting a site for this model.

**ENVIRONMENT**

- The machine must be installed on a level surface.
- Keep the machine away from air conditioners, heaters, direct sunlight, and dust.
- Provide easy access to the front, back, and sides of the machine. In particular, keep the area in front of the machine clear, or the original document may jam as it comes out after scanning.
- The temperature should be between 41° and 95°F (10° and 35°C).
- The humidity should be between 30% and 85% (without condensation).

**ELECTRICITY**

A 120 V, 60 Hz, grounded (3-prong) AC outlet is required.

**Caution!**

- Connection to a power source other than that specified will cause damage to the equipment and is not covered under the warranty.
- If your area experiences a high incidence of lightning or power surges, we recommend that you install a surge protector for the power and telephone lines. Surge protectors can be purchased at most telephone specialty stores

**TELEPHONE JACK**

A standard RJ11C telephone jack must be located near the machine. This is the telephone jack commonly used in most homes and offices.

- Plugging the fax machine into a jack which is not an RJ11C jack may result in damage to the machine or your telephone system. If you do not know what kind of jack you have, or need to have one installed, contact the telephone company.

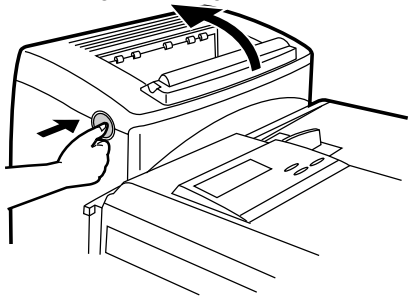
**If the machine is moved from a cold to a warm place...**

If the machine is moved from a cold to a warm place, it is possible that the reading glass may fog up, preventing proper scanning of documents for transmission. To remove the fog, turn on the power and wait approximately 2 hours before using the machine.

### 2. Installing the printer cartridges (Toner cartridge: FO-45ND/Drum cartridge: FO-45DR)

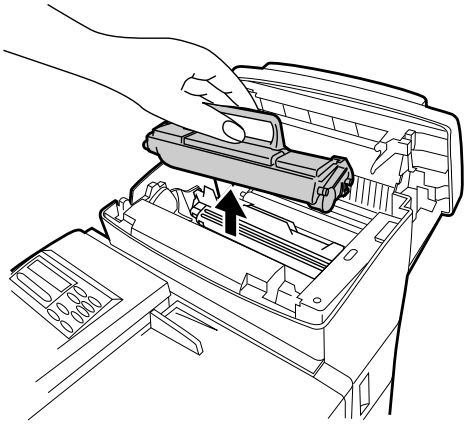
① Press the button on the side of the printer compartment, and open the printer cover.

- **Caution!** The ribs on the bottom of the inside of the printer cover become very hot during printing. Be careful not to touch them.
- If you are installing the cartridges for the first time, go to Step 4.

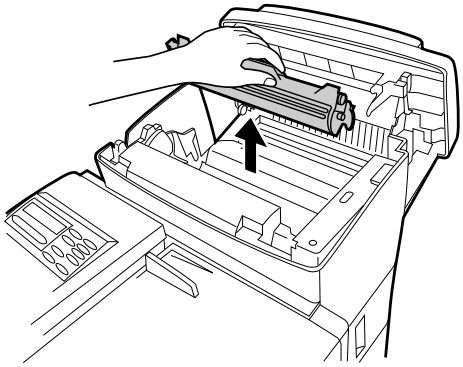


② If you are replacing the cartridges, grasp the handle on the toner cartridge, and pull the toner cartridge out of the compartment.

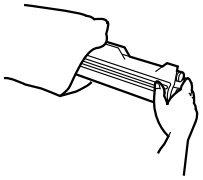
- If you are only replacing the drum cartridge, place the toner cartridge on a piece of paper on a horizontal surface.
- If you are only replacing the toner cartridge, go to Step 6.



③ Pull the old drum cartridge out of the compartment.

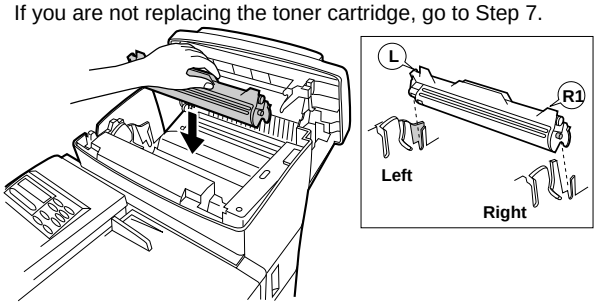


④ Remove the new drum cartridge from its packaging.



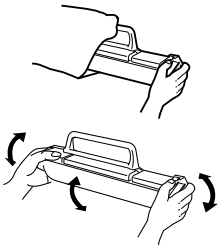
⑤ Align the arrowhead on the right side of the drum cartridge (the right side is marked "R") with the arrowhead pointing down on the right side of the compartment, and insert the cartridge into the compartment so that the ends of the cartridge move along the guides on the sides of the compartment. Make sure the cartridge is set firmly in place.

- Place the old drum cartridge (if you removed one) in the empty drum cartridge bag, seal the bag, and dispose of it in a way that conforms to any local regulations that may exist in your area.
- If you are not replacing the toner cartridge, go to Step 7.



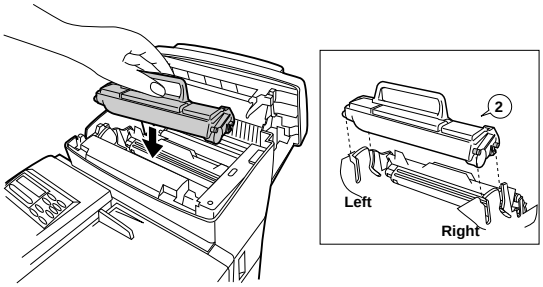

⑥ Remove the new toner cartridge from its packaging, and shake it several times as shown.

- This ensures that the toner is well distributed inside the cartridge.

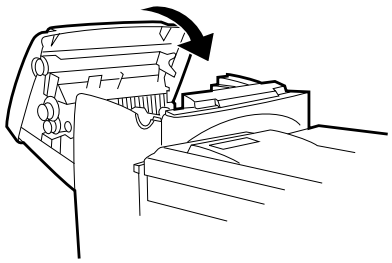


⑦ Hold the handle of the toner cartridge so that the "2" marked on the cartridge is to the right, and insert the cartridge into the com-partment that the two knobs on each side of the cartridge move along the two guides on each side of the compartment. Press the handle down so that the cartridge sets into place.

- Place the old toner cartridge (if you removed one) in the empty toner cartridge bag, seal the bag, and dispose of it in a way that conforms to any local regulations that may exist in your area.




⑧ Close the printer cover.



⑨ If you replace the toner cartridge, reset the toner counter by pressing the LIFE key (flip up the Rapid Key overlay if necessary), the "2" key, and the START key.

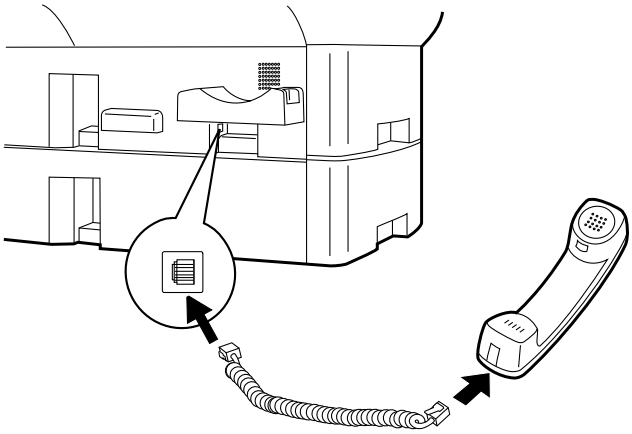

⑩ If you replace the drum cartridge, reset the drum counter by pressing the LIFE key (flip up the Rapid Key overlay if necessary), the "3" key, and the START key.


## 3. Assembly and connections

① Connect the handset cord to the handset and the fax as shown.

- The ends of the handset cord are identical, so they will go into either jack.

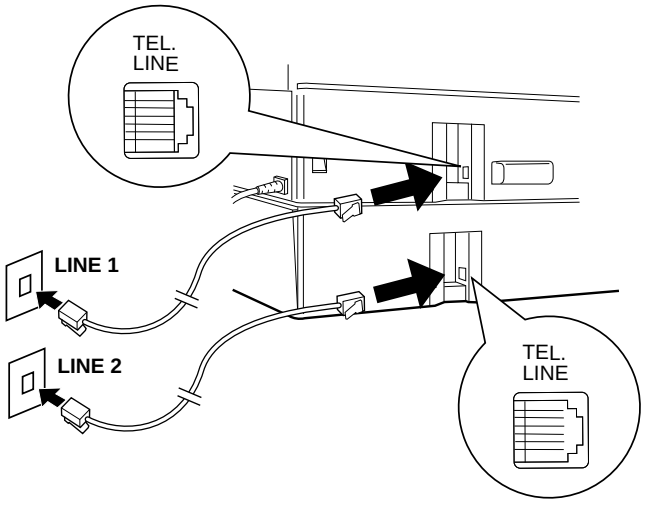
**Place the handset on the handset rest.**



Use the handset to make ordinary phone calls, or to transmit and receive documents manually.

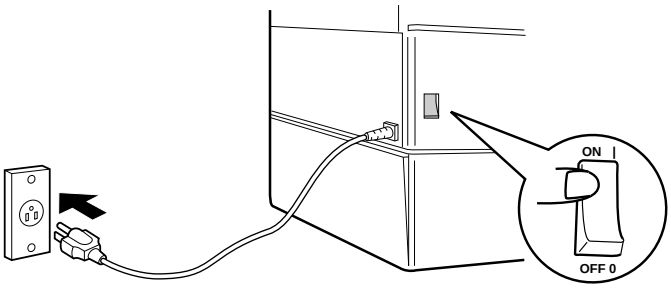
② Connect the LINE 1 jack and the LINE 2 jack to the appropriate wall jacks with the telephone line cords. The wall jacks should be standard (RJ11C) single-line wall jacks for separate lines.

- **Note:** Voice communications, manual fax transmission and manual fax reception are only possible on Line 1.
- The fax machine will only ring when a call is received on Line 1 (it will not ring when a call is received on Line 2).

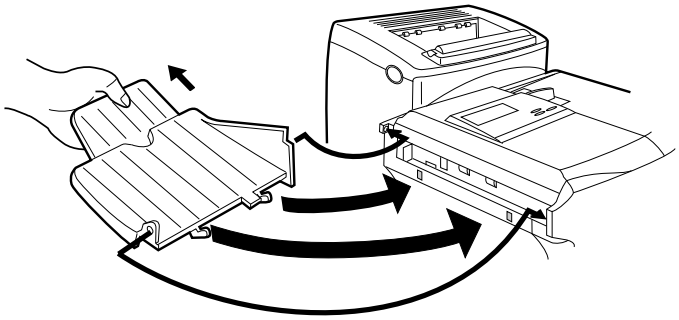


③ Plug the power cord into a 120V, 60Hz, grounded (3-prong) AC outlet.

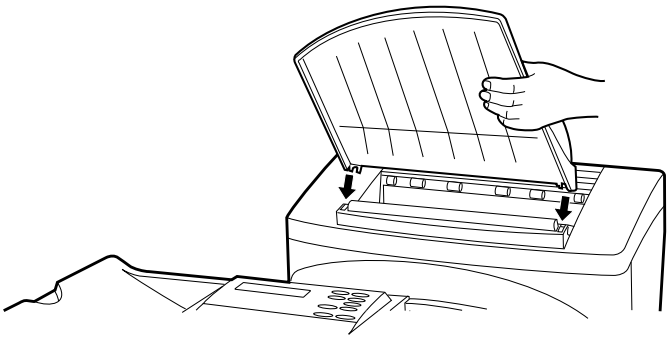
**Press the power switch to turn on the power.**



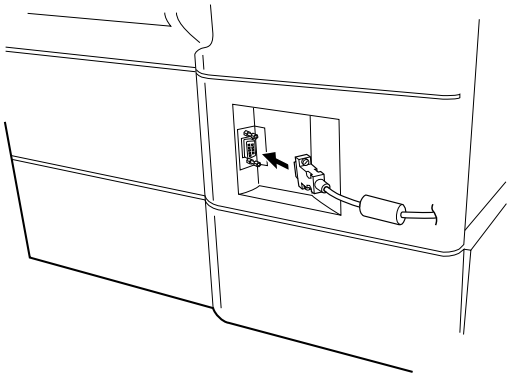

④ Attach the original document OUT tray by inserting the tabs into the holes in the fax as shown.



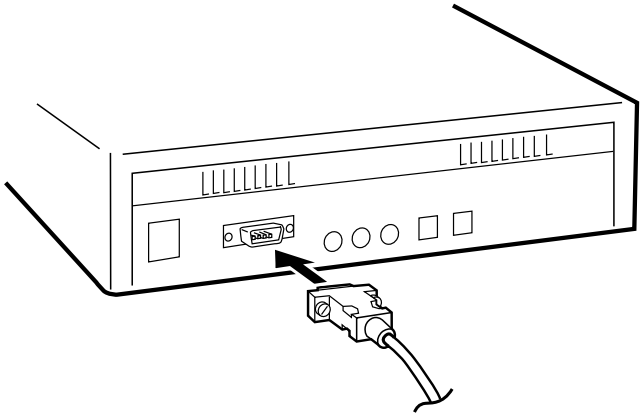
⑤ Attach the received document tray by inserting the tabs into the holes in the fax as shown.



⑥ Insert the male end of the PC interface cable into the port on the right side of fax as shown. Tighten the attached screws with a screwdriver.



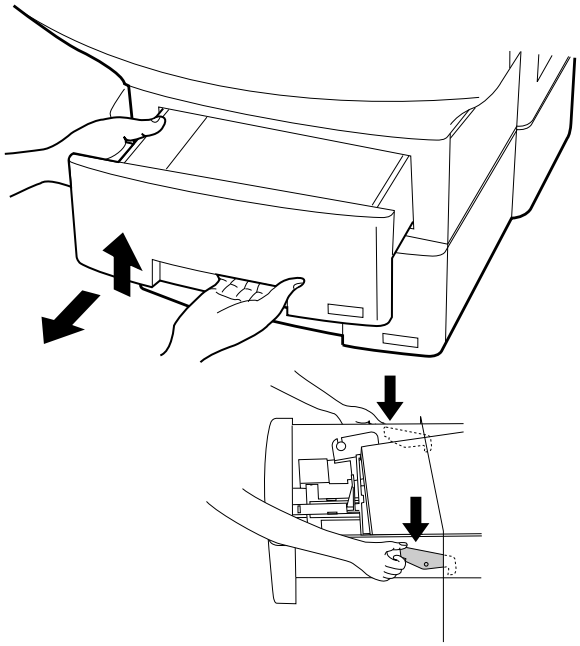
⑦ Insert the female end of the PC interface cable into the serial (RS232C) port on your computer. Tighten the attached screws with a screwdriver.



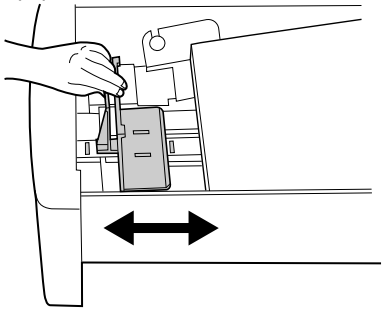
## 4. Loading printing paper

The paper cassettes and the paper tray hold the paper on which received documents are printed. The FO-6600 comes with two paper cassettes. Each paper cassette can hold 500 sheets of either legal or letter size paper. The paper tray can hold 150 sheets of either legal or letter size paper.

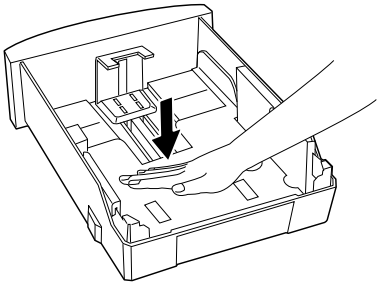
① Grasp the hand hold on the cassette as shown, lift the cassette slightly, and then pull it out as far as it will go. Do not force. Push down on green levers on both sides of the cassette tray as shown, and then pull it completely out of the fax using both hands.



② Pinch the ends of the paper guide together, and move the guide to the appropriate position depending on whether you are loading letter or legal size paper.

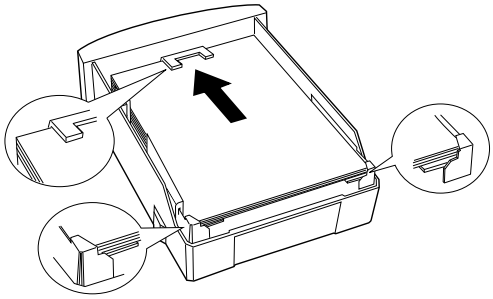


③ Push the pressure plate down until it locks into position.

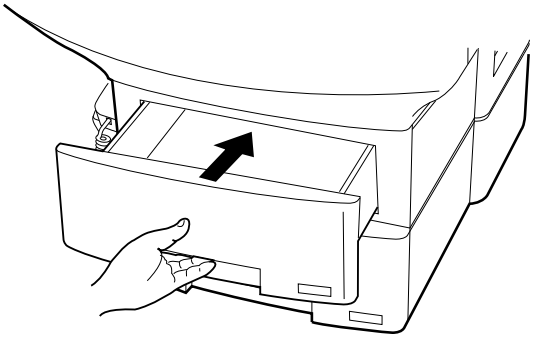


④ Place a stack of paper in the cassette, print side up. Make sure the two far corners of the paper go under the paper holders as shown.

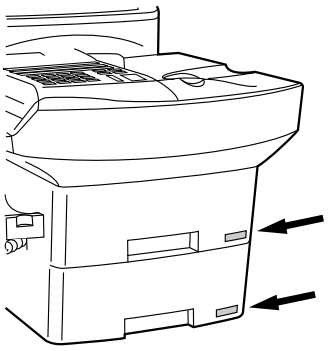
- Make sure the stack of paper is not higher than the tabs at the top of the paper guide. If it is, remove some of the paper.



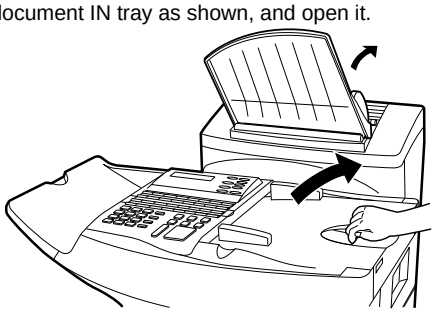
⑤ Put the cassette back in the fax.



⑥ If desired, attach a letter or legal sticker as appropriate to the cassette.

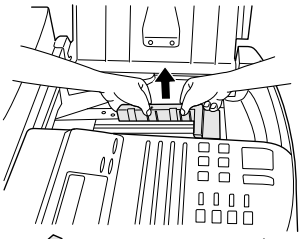


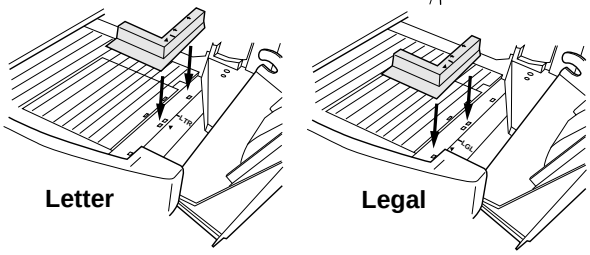
⑦ Rotate the received document tray back. Grasp the hand hold on the original document IN tray as shown, and open it.



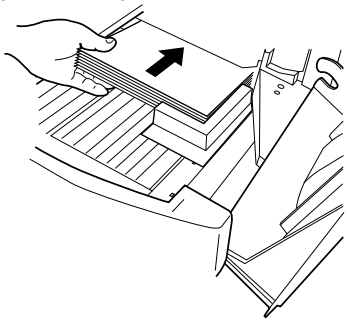
⑧ Move the paper guide to the appropriate position depending on whether you are loading letter or legal paper.

- To remove the paper guide, press its inner side at the arrow marks and lift.

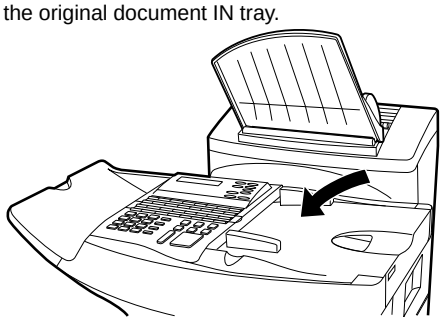





⑨ Place the paper in the tray.



⑩ Close the original document IN tray.



⑪ If desired, attach a letter or legal sticker as appropriate to the fax as shown.

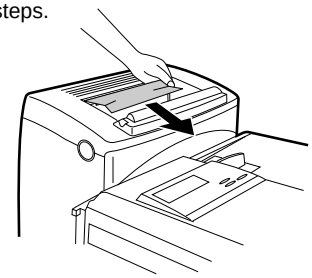
## 5. Clearing paper jams

If a document doesn't feed through the scanner properly during transmission or copying, or DOCUMENT JAM appears in the display, first try pressing the **START** key. If the document doesn't come out of the feeder, open the operation panel by squeezing the operation panel release on the right side of the operation panel (marked "**PULL OPEN**"), and gently pull out document.

①

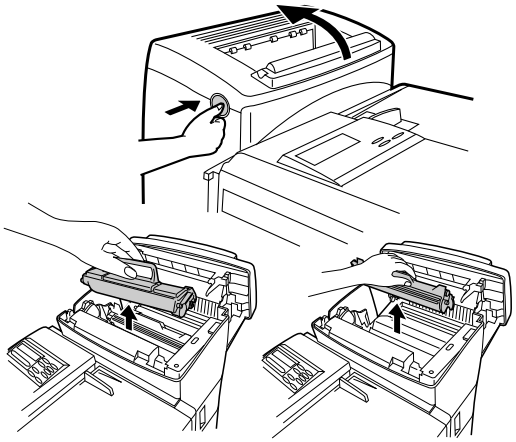
② If the leading edge of the document is protruding from the printer compartment outlet, try pulling it out.

- If you are unable to clear the paper jam in this way, continue with the following steps.



③ Open the printer cover and remove the toner cartridge and drum cartridge.

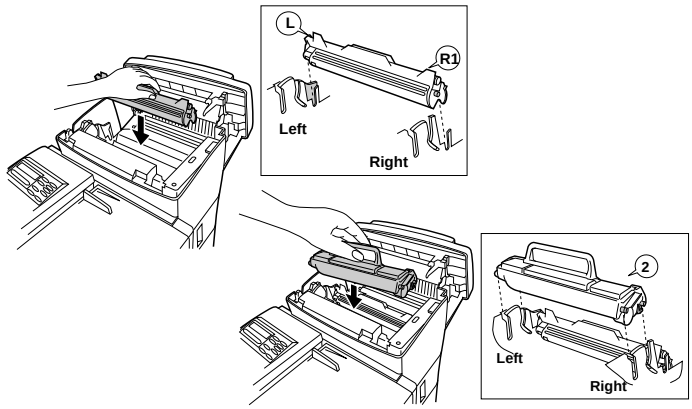
- **Caution!** The ribs on the bottom of the inside of the printer cover become very hot during printing. Be careful not to touch them.



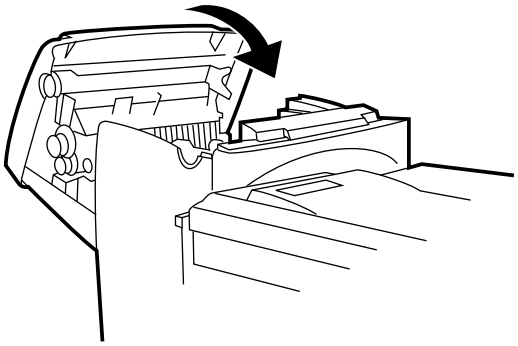
④ Gently pull the paper out of the compartment.

- If the leading edge of the paper has entered the fusing unit, first pull the leading edge out of the fusing unit, then pull the paper out of the compartment.
- Be sure to remove any torn pieced of paper.

⑤ Replace the drum cartridge, and then the toner cartridge.

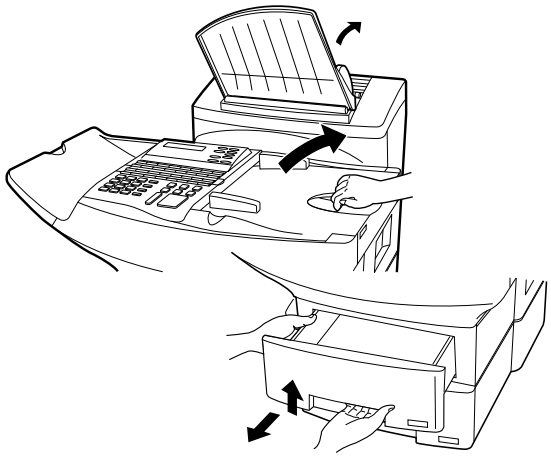



⑥ Close the printer cover.

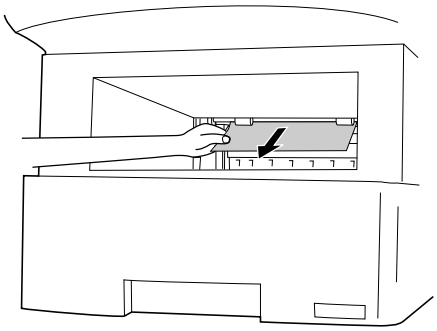


⑦ If you didn't find any paper in the printer compartment, or if PAPER JAM still appears in the display after you close the printer cover, check each paper cassette and the paper tray.

- To release the cassette when pulling it out, press down on the levers on each side of the cassette.
- To check the paper tray, grasp the hand hold on the original document IN tray and rotate the tray up.



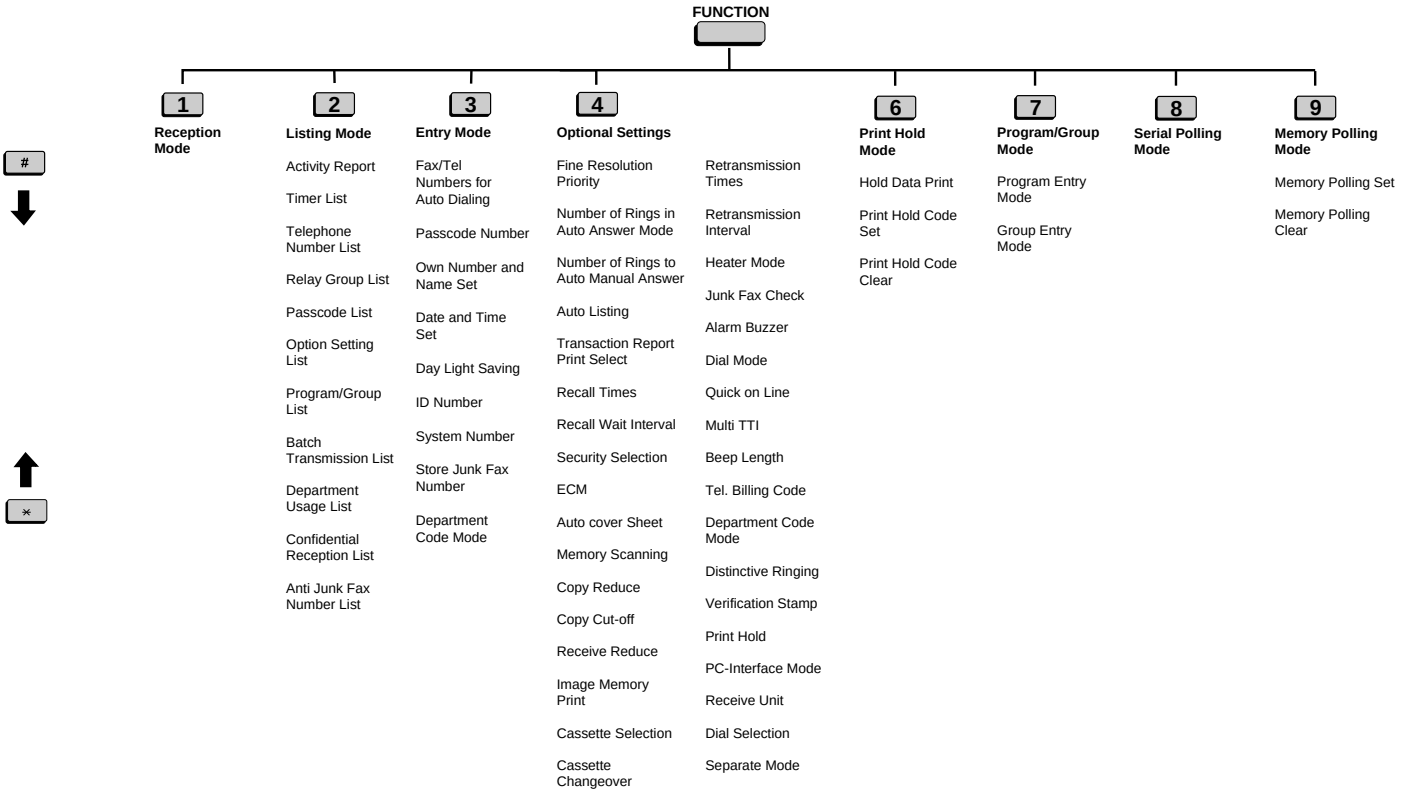
⑧ Gently pull out any jammed paper you find, and then replace the cassette or close the original document IN tray.



# [5] Quick reference guide

## FUNCTION key menu

The following chart shows the layout of the functions and settings accessed by pressing the **FUNCTION** key. First press the **FUNCTION** key, the appropriate numeric key as shown, and then "#" or "✳" until the desired item appears. Instructions for making each setting appear in the display. Refer to the detailed instructions on the page shown below the setting.




Note: Steps which are optional are enclosed in a dotted frame: RESOLUTION LINE

### Transmitting documents

| | |
|---|---|
| **Normal Dialing (1)** | Load document → RESOLUTION → Lift handset or press **SPEAKER** → Dial (press numeric keys) → Wait for reception tone → START → Hang up |
| **Normal Dialing (2)** | Lift handset or press **SPEAKER** → Dial (press numeric keys) → Load document → RESOLUTION → Wait for reception tone → START → Hang up |
| **Direct Keypad Dialing** | Load document → RESOLUTION → LINE → Dial (press numeric keys) → START |
| **Rapid Key Dialing** | Load document → RESOLUTION → LINE → Press Rapid key |
| **Speed Dialing** | Load document → RESOLUTION → LINE → SPEED DIAL → Enter Speed Dial number (press numeric keys, -if less than 3 digits, press **START** to complete entry) → START |
| **Redialing** | Load document → RESOLUTION → REDIAL → Wait for reception tone → START |

# CHAPTER 2. ADJUSTMENTS

## [1] Adjustments

### General

Since the following adjustments and settings are provided for this model, make adjustments and/or setup as necessary.

### 1. Adjustments

#### Adjustments of output voltage (FACTORY ONLY)

1. Install the power supply unit in the machine.
2. Set the recording paper and document.
3. When the document is loaded, power is supplied to the output lines. Confirm that outputs are within the limits below.

#### Output voltage settings

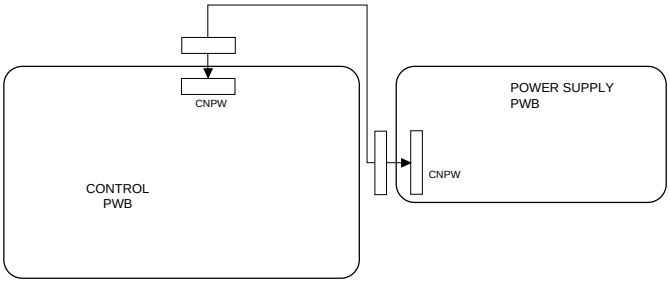



Fig. 1

| Output | Voltage limits |
|---|---|
| +5V | 4.75V~5.25V |
| +12V | 11.5V~12.5V |
| VM (+24V) | 23.04V~24.96V |

| Connector No. / Pin No. | CNPW |
|---|---|
| 1 | VM |
| 2 | VM |
| 3 | VM |
| 4 | MG |
| 5 | MG |
| 6 | MG |
| 7 | +5V |
| 8 | +5V |
| 9 | DG |
| 10 | DG |
| 11 | +12V |
| 12 | AG |

### 2. IC protectors replacement

ICPs (IC Protectors) are installed to protect the TX motor drive circuit and verification stamp drive circuit. ICPs protect various ICs and electronic circuits from an overcurrent condition.

The location of ICPs are shown below:

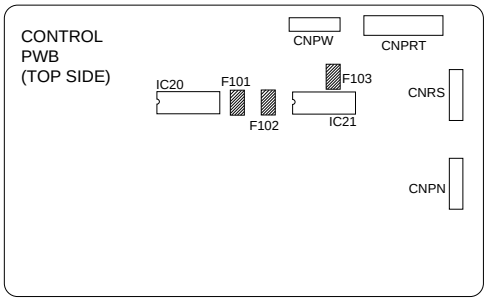



Fig. 2

(1) F102 (CCP2E20) is installed in order to protect IC's from and overcurrent generated in the verification stamp drive circuit. If F102 is open, replace it with a new one.

(2) F101, F103 (CCP2E30) is installed in order to protect IC's from an overcurrent generated in the TX motor drive circuit. If F101, F103 is open, replace it with a new one.

In addition to the replacement of F101, F103 and F102, the factor causing F101, F103 and F102 to open must also be repaired. If not, F101, F103 and F102 will open again.

Replacement parts

CCP2E20 (Sharp code: VHVCCP2E20/-1)

CCP2E30 (Sharp code: VHVCCP2E30/-1)

### 3. Volume adjustment

You can adjust the volume of the speaker, handset, and ringer using the **UP** and **DOWN** keys on the operation panel (flip up the Rapid Key overlay to access the keys).

**Speaker**

The speaker has 3 volume levels: HIGH, MIDDLE, and LOW. To adjust the volume of the speaker, press the **SPEAKER** key and then press the **UP** or **DOWN** key until the desired level appears in the display. Press the **SPEAKER** key again to turn the speaker off.

**Handset**

The handset receiver has 3 volume levels: HIGH, MIDDLE, and LOW. To adjust the volume of the handset receiver, lift the handset and then press the **UP** or **DOWN** key until the desired level appears in the display.

**Ringer**

The ringer has 4 volume levels: HIGH, MIDDLE, LOW, and OFF. To adjust the volume of the ringer, press the **UP** or **DOWN** key until the desired level appears in the display (make sure the **SPEAKER** has not been pressed and the handset is not lifted). The fax will ring at the new volume level each time you change the level. If you select OFF, press the **START** key to confirm your selection.

### 4. Settings

### (1) Dial mode selector

OPTION SETTING: DIAL MODE (Soft Switch No. SW2 DATA No. 1)
Use this to set the fax machine to the type of telephone line you are on.

• The factory setting is "TONE".

**OPTIONAL SETTING: DIAL MODE**
Soft Switch No. SW2 DATA No.1 for Line 1
No. SW15 DATA No.1 for Line 2

Use this to set the fax machine to the type of telephone line you are on.

• The factory setting is "TONE".

(step 1) Select "OPTION SETTING".

KEY: [FUNCTION] (4)

DISPLAY: [4:OPTION SETTING] ⇔ [ENTER #01→ 33,✳,#]

(step 2) Select "DIAL MODE".

KEY: (2)(3)

DISPLAY: [23:DIAL MODE] ⇔ [1=LINE 1,2=LINE 2]

(step 3) Select "LINE", using "1" or "2".

KEY: (1)

DISPLAY: [1:LINE 1] ⇔ [1=TONE, 2=PULSE]

KEY: (2)

DISPLAY: [2:LINE 2] ⇔ [1=TONE, 2=PULSE]

(step 4) Select, using "1" or "2".

KEY: (1)

DISPLAY: [TONE SELECTED]

KEY: (2)

DISPLAY: [PULSE SELECTED]

(step 5) End, using the "STOP" key.

KEY: [STOP]

# [2] Diagnostics and service soft switch

## 1. Operating procedure

Two kinds of diagnoses are supported.

### 1-1. Fax diagnosis

This diagnosis is concerned with the main body of fax which is used for production and service support.

#### Entering the diagnostic mode

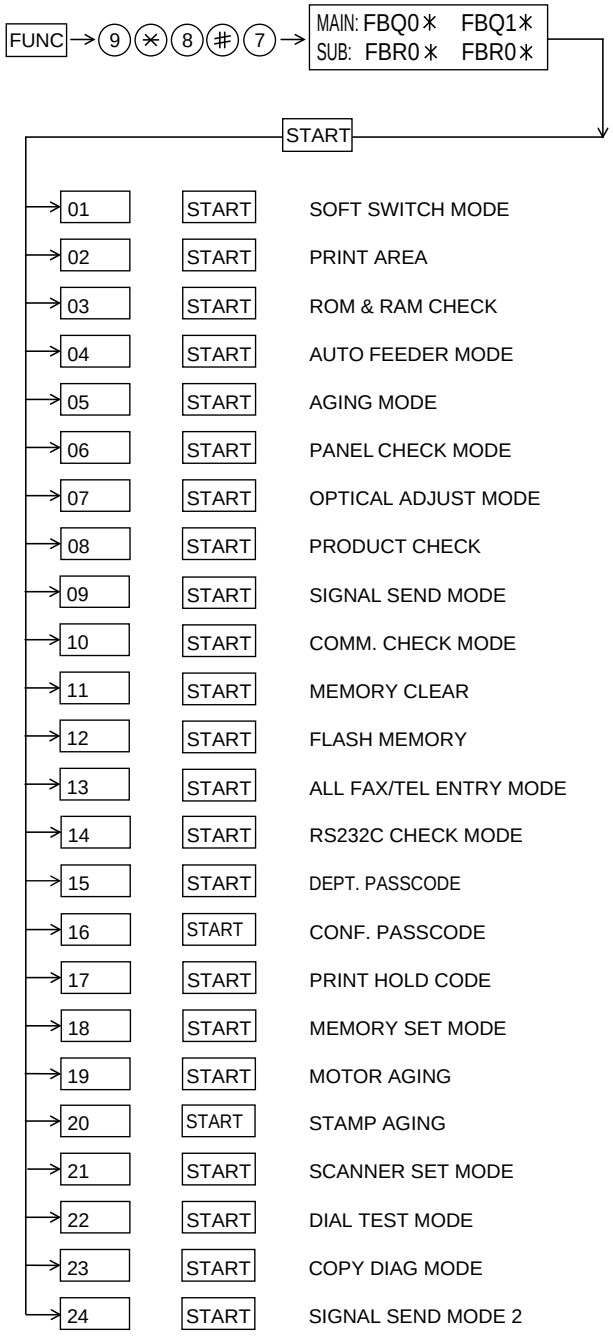
Press FUNC → 9 → ✳ → 8 → # → 7 , and the following display will appear.

```
MAIN: FBQ0✳  FBQ1✳
SUB:  FBR0✳  FBR0✳
```

Then press the START key. Select the desired item with the ✳ key and the # key or select with the rapid key.

Enter the mode with the START key.

(Diag・specifications)




### 1-2. Print diagnosis

This diagnosis is concerned with the print which is used for production and service support.

#### Entering the diagnostic mode

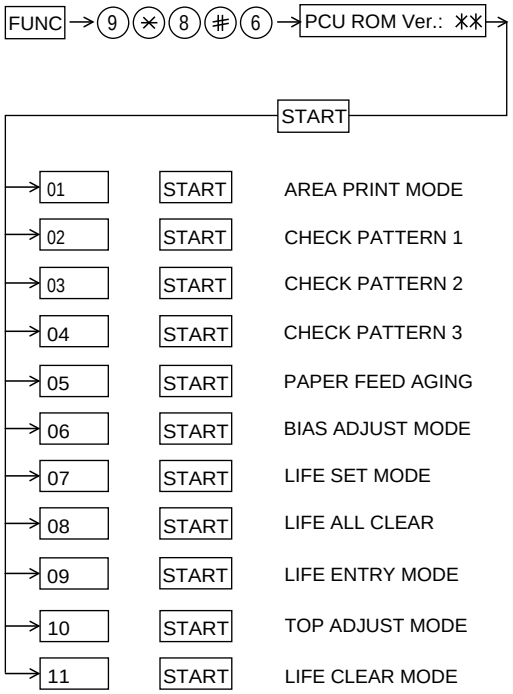
Press FUNC → 9 → ✳ → 8 → # → 6 , and the following display will appear.

```
PCU ROM Ver.: ✳✳
```

Then press the START key. Select the desired item with ✳ the key and the # key or select with the rapid key.

Enter the mode with the START key.

(Diag・specifications)




#### 3) Memory clear when power is turned on

Pressing the START and STOP keys, turn on the main power, and the following message will be displayed.

```
MEMORY  CLEAR
EXECUTE  ?  1 = YES , 2 = NO
```

Here, when 1: YES is selected, the memory will be cleared to be ready for operation.

If 2: NO is selected, it will continue ready for operation as it is.

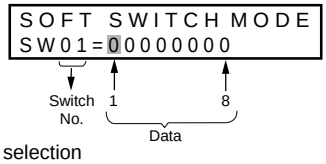
## 2. Diagnostic items description

### 2-1. Fax diagnosis

#### 1) Soft switch mode

In this mode, the soft switch are set and the soft switch list is printed.
Soft switch mode screen

Soft switch mode screen




① Switch number selection

- Press START key for setting of the next soft switch. If the soft switch number is the final, pressing START key will exit the soft switch mode.
- Enter two digits of a soft switch number to set the switch number. If a switch number of unexisting soft switch is entered, key error buzzer sounds to reject the input.


② Data number selection
The cursor position shows the data to be set.
Pressing # key moves the cursor to the right. If, however, the cursor is on data number 8, pressing # key shifts the cursor to data number 1 of the next switch number. If the switch number is the final, pressing # key will exit the soft switch mode.
Pressing ⋌ key moves the cursor to the left. If, however, the cursor is on data number 1, pressing ⋌ key shifts the cursor to data number 1 of the former switch number. If the switch number is 1, pressing key will not move the cursor.

③ Data setting method
Press the FUNCTION key, and the data at the position of the cursor will be reversed to 0 when it is 1, or to 1 when it is 0. (If the soft switch can be changed at the bit (Refer to ⑥.), the error buzzer will sound with the process not received.)

④ Outputting method of soft switch list
In the soft switch mode, press the REPORT key, and the soft switch list will be output.
If the recording paper runs out or is clogged, the key error buzzer will sound with the process not received.

⑤ Storage of data
In the following case, the data of the soft switches set will be stored.

- It is shifted to set the next soft switch by pressing the START switch.
- It is shifted to set the next soft switch with the [#] key.
- It is shifted to set the last soft switch with the [⋌] key.
- It is shifted to set another soft switch by inputting two digits as the switch number. (When 2 digits are completely input.)
- Output of the soft switch list is started.

⑥ Inhibition of data change
(This is also applicable for the optional setting.)
In the following case, it is inhibited to change the data with the key error buzzer.

- When the print hold bus code is not registered, the print hold func-tion is turned from OFF to ON.
- When the print hold function is on, the print hold bus code is cleared.
- When the memory is used because of substitutive receiving, etc, the print hold function is mutually turned on/off.
- OFF to ON of telephone billing function which is using the image memory is used (Note: In the existing set, the telephone billing code function is specified from OFF to ON when the timer system com-munication (including the batch communication) is set.)
  Here, the memory is usable when the telephone billing code func-tion is on. It can be set from ON to OFF while the memory is used. However, if setting is practically changed even once, it can not be returned from OFF to ON.
- Mutual switch of ON/OFF of PC interface function during operation of image memory.
- When the PC interface board is not mounted, [Switch of OFF → ON of the item of "PC interface function" and of FAX → PC of the item of "automatic receiving in the PC interface mode]
  (Note: This supports not only the operation protect of the op-tional setting and soft switch mode but also an example of the automatic compensation of soft switch to OFF/FAX when the power is turned on even if the PC PWB is removed when the optional setting and soft switch mode are set at ON/PC.)
  (Though they are not provided, the existing model can operate without setting of the soft switch when it is not installed.)
- OFF to ON of multi TTI function and telephone billing code function when the department control function is OFF.
- OFF to ON of department control function during use of image memory.
  (Note: In the existing set, the department control function is set from OFF to ON when the timer communication (including the batch sending) or the memory hold is set.)
- ON to OFF of continuous serial polling function when the continuous serial polling is started.
  (Note: In the existing set, "ON to OFF of the continuous serial polling function when the continuous serial polling is registered" has been applied, but the conditions are now moderated. However, reg-istration is impossible to the program of the new continuous serial polling when the continuous serial polling function is OFF.)
- In addition, change of all soft switches during communication

⑦ Linked change of data (This is the same even in the optional setting.)

- When the department control function is off, the multi TTI function and telephone billing code function are turned off.

#### 2) Print area

According to the size of the specified sheet, the effective printing area is printed.

#### 3) ROM & RAM check

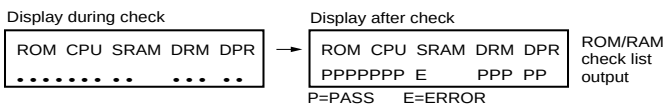
The sum value of ROM, the work and the back-up RAM are checked. The RS232C interface is also checked. If any error occurs, the buzzer will inform it. (Refer to the following table). Finally, the result will be printed. This diagnosis does not check the flash memory. The flash memory is checked with the flash memory test.

| Number of buzzer sounds | Device checked | Remarks |
|---|---|---|
| 1 time <Short sound> | ROM1 | Main |
| 2 times <Short sounds> | ROM2 | Main |
| 3 times <Short sounds> | Integrated ROM/RAM | Main |
| 4 times <Short sounds> | D-RAM | Main |
| 5 times <Short sounds> | S-RAM | Main |
| *6 times <Short sounds> | S-RAM (on the optional memory) | Main |
| 1 time <Long sound> | ROM | Sub 1 |
| 2 times <Long sounds> | Integrated ROM/RAM | Sub 1 |
| 3 times <Long sounds> | D-RAM | Sub 1 |
| 4 times <Long sounds> | ROM | Sub 2 |
| 5 times <Long sounds> | Integrated ROM/RAM | Sub 2 |
| 6 times <Long sounds> | D-RAM | Sub 2 |

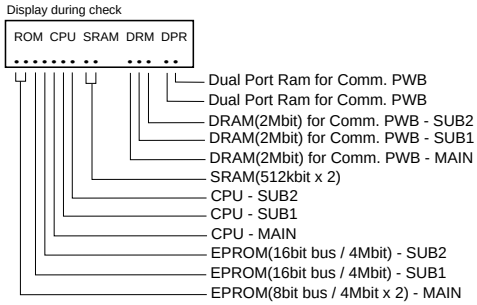
* As practical, it is judged that the optional memory is not installed if any error occurs. Therefore, it does sometimes not sound.

For the short and long sounds, one pattern is as follows.
Main system: 0.25 seconds ON/0.25 seconds OFF
Sub system: 1.00 second ON/0.25 seconds OFF

The execution state of checking is as follows. Moreover, the list of the check result is output after checking is ended.



<Relationship between display and memory>



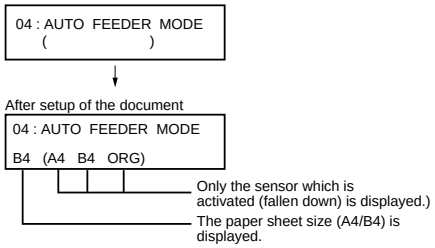

The check result of RS232C interface board is listed and printed together with the check result of ROM&RAM.

### 4) Auto feeder mode

The auto feed function can be checked by inserting and discharging the document. (The distance between pages can be displayed during operation of the scanner.)

① Check of auto feed function

After this mode is activated, set up the document, and press the START key, and it will be automatically fed. (Before the START key is pressed, the document sensor alone is activated.) Moreover, the document size (A4/B4) and sensor information (A4/B4/ORG) are displayed when the document sensor is turned.




② Display of distance between pages during operation of the scanner

- Soon after this mode is c\activated, press the FUNCTION key for 5 seconds or more, and the display mode of the distance between pages will be activated. Then, set up the sending paper and select the image quality, and then press the START key, and operation will be started.
  Be sure to press the FUNCTION key prior to the START key. If the FUNCTION key is not pressed but the START key is pressed, it will operate in the same manner as in the existing auto feeder mode.
  If the START key is pressed, the FUNCTION key will be invalid hereafter. Therefore, the display mode of the distance between pages and the existing mode can not be changed.
- While the sending paper is read, the image quality key can be input. STD/FINE/S-FINE modes are usable. However, the same operation of FINE will be selected if the intermediate tone is set.
- The image quality, the length of the sending page read, the page distance to the next sending paper and the total of the sending papers read are shown on the display.
- When the stop key is pressed or 100 sending papers are read, the content shown on the display will be totally output as the list after the remaining sending papers are discharged.

### 5) Aging mode

If any document is set up in the first state (when started), copying will be executed. If it is not set up, "check pattern 1" of the print diagnosis is output at the intervals of 1 time/60 minutes. (A total of 10 sheets are output.)

### 6) Panel check mode

This is used to check whether each key is normally operated or not. According to the key input, LCD is displayed. Moreover, during exe-cution, the document reading lamp is turned on.

① When [PANEL CHECK MODE] is displayed, press the [START] key. The test will be started. When the test is started, LED's will sequentially come on. It is used to check all LED's.

② Press any other key except [STOP] key.
At this time, the name of each key will be displayed every push of the key.

③ However, if any key is pressed with the page plate opened, it will be equal to a press of key 32 with the page plate opened.

④ Finally press the [STOP] key.
If all keys can be input, the key input "ALL KEY OK!!" will be displayed when the STOP key is ended.
The screen will be all displayed in black, and the test result will be printed.

In this test, it is okayed if all the other keys except [STOP] key have been pressed from start of the test to its end (the [STOP] key is pressed). If any key is skipped, it will be regarded as "KEY ERROR!!", and the name of the key not pressed will be printed on the list as the result. This will complete printing.

- If the ten-key pad is used to input in this mode, DTMF corresponding to the pressed key is sent out continuously (lines 1/2 simultaneously).

### 7) Optical adjust mode

The document reading LED is turned on.

### 8) Product check

The diagnosis is used in the production process.
After shift to the mode, the following operations are sequentially executed. At this time, the sensor of read-error can be checked by feed-ing the B3 document. Set up one short document of B4 size.

① Memory clear (Same as Diagnosis 11)

② Panel test (Same as Diagnosis 06)

③ Dial test (Same as Diagnosis 24)

④ Document feed

⑤ Stamp press

⑥ ROM & RAM test, RS232C interface board check (Same as the Diagnosis 03)

⑦ Flash memory test mode (Same as Diagnosis 12)

⑧ Registration of fixed data

Registration of rapid key No. and other data necessary for production.
The registered data are shown in the following table. The chain dial is not set for any destination.

| Rapid No. | FAX No. | Rapid No. | FAX No. | Rapid No. | FAX No. | Rapid No. | FAX No. |
|---|---|---|---|---|---|---|---|
| 01 | 20 | 06 | 25 | 11 | 1 | 21 | 01 |
| 02 | 21 | 07 | 26 | 12 | 2 | 22 | 02 |
| 03 | 22 | 08 | 27 | 13 | 3 | 23 | 03 |
| 04 | 23 | 09 | 28 | 14 | 4 | 24 | 04 |
| 05 | 24 | 10 | 29 | 15 | 5 | 25 | 05 |

⑨ Transmission check (Same as Diagnosis 10)
The soft switches necessary for production are set.

⑩ Test result print (two sheets)

- AUTO FEEDER CHECK LIST
- FLASH MEMORY CHECK LIST

Memory clear printing
Panel test result printing
ROM&RAM test result printing
Check result printing of RS232C interface board

⑪ Print area printing (one sheet)

### 9) Signal send mode

After shift to the mode, press the START key, and the signals will be transmitted in the following sequence.
It can be used to check the modem and so on.

- The selection signal is sent out simultaneously from the lines 1/2 in this mode.

[ 1] No signals

[ 2] 4800BPS (V27ter)

[ 3] 14400BPS (V. 33)

[ 4] 12000BPS (V. 33)

[ 5] 14400BPS (V. 17)

[ 6] 12000BPS (V. 17)

[ 7] 9600BPS (V. 17)

[ 8] 7200BPS (V. 17)

[ 9] 9600BPS (V. 29)

[10] 7200BPS (V. 29)

[11] 4800BPS (V27ter)

[12] 2400BPS (V27ter)

[13] 300BPS (FLAG)

[14] 2100Hz (CED)

[15] 1100Hz (CNG)

### 10) Comm. check mode

① Turn on the line monitor.

② Turn off the cover sheet function.

③ Set 0 km at the line equivalence.

④ Bring the copy mode into the continuity mode.

⑤ It is set to shift into the diagnosis mode when the SPEED key alone is pressed.

After the check, it is necessary to be sure to return the aforemen-tioned soft switches into the initial state.
(Clear the memory with the diagnosis.)

### 11) Memory clear

Clear the back-up memory to initialize the soft switches.
The flash memory will be initialized. Then, the initialized list be output.

### 12) Flash memory

The flash memory is checked.
The ordinary memories (ROM, SRAM, DRAM) are checked in the ROM&RAM check process. The write/read test is taken every block to print the result.

When an error occurs, the following error buzzer will sound.

| Number of buzzer sounds | Check device |
|---|---|
| 7 times <Short sounds> | Page memory |
| 8 times <Short sounds> | Flash memory |
| 9 times <Short sounds> | Flash memory (optional) |

During operation of this diagnosis, dual operation is not possible at all.
If this is excessively repeated, it will shorten the life of the flash memory.

### 13) All FAX/TEL. entry mode

The function is used to simplify the registration of FAX/TEL No. during aging.

First, write the reference destination No. with the Rapid No. 01 key in the FAX No. registration mode before start of the diagnosis.

① The diagnosis mode is activated. If anything is not registered in the Rapid No. 01 or any program or group is not registered, it will pass the diagnosis without doing anything.

② The FAX/TEL No. (including the substitutive destination) of the Rapid No. 01 is copied to the Rapid Nos. 02 thru 48.

③ FAX No. of the Rapid No. 01 is copied to SPEED key Nos. 001 thru 200.

④ If any chain dial is not in the Rapid No., the Rapid Nos. 02 thru 48 and SPEED key Nos. 001 thru 200 are registered in the group No. 01.
If any chain dial is not set, the group will be not produced but the chain dial setting alone of the Rapid No. 01 will be reset.
(In all others except the Rapid No. 01, the chain dials will be continuously set as they are.)

(16th and subsequential letters of the destination name registered in the Rapid No. 01 will be discarded.)

### 14) RS232C check mode

RS232C interface board is checked.
When the interface board is installed, the result will be printed after the check.
It is not installed, the following will be displayed.

```
14: RS232C CHECK MODE
I/F PWB NOT CONNECT
```

The process will be ended after sounding of the error end buzzer.

### 15) Dept. passcode

The department passcode list is printed.

### 16) Conf. passcode

The confidential passcode list is printed.
Differing from printing of one box alone soon after registration, the confidential passcodes of all boxes are printed.

### 17) Print hold code

The print lockout passcode No. is printed.

### 18) Memory set mode

The set and dump list of the memory content is output.

- The address (8 digits (P) generally including the bank information is input, and the data of 2 digits is continuously input.
  Inputting is done in the hexadecimal mode. The ten-key is used for 0 thru 9, and the alphabetic keys A (RAPID01 thru 06) are used for A thru F.
- During data inputting, the address can be moved forward and backward one byte by one byte with "⋌" and "#". (The address prior to the address 0 is looped as the maximum address.)
- The Validity of the address is not checked. Accordingly, writ-ing/ reading operations are possible in the address of the memory not assigned, the address of ROM and so on.
  (However, as practical, writing is not done, and the data content runs short each reading.)
  Though writing is possible in the flash memory, a little time is required.
  It is also necessary to take care that the life of the flash memory is excessively shortened if much data is written in the flash memory. Since it may run away depending the written content, take minute care for the writing address.
- When the REPORT key is input, the memory dump list is produced from the displayed address (here, it is limited at the 16-byte boundary address (address with end 0) which does not exceed the specified address and is just in front.). The dump list is output to a maximum of 99 pages. If any data of one page can be repeatedly developed and printed, the list is sufficient. But it is not desired that the content of plural pages are developed in the memory once and are then printed. If the STOP key is pressed, it will pass to the diagnosis after the page which is now being printed is completed printed.
  If the address exceeds the maximum address, it will return to the address 0 and printing will be continued.

### 19) Motor aging

- Whether a document is present or not, the motor in the sending system is kept in rotation until the STOP key is pressed.
- The image quality selection key can be input during stop alone to set the rotation speed for the image quality.
  (Here, the speed for FINE is selected when the intermediate tone is specified.)
- The image quality for default at the start of execution is STD regardless of the image quality selection priority of the main body.
- For rotation, the ⋌ key "1" selects the 1-2 phase excitation, "2" selects the 2-phase excitation and "3" selects the micro step. It can not be changed during rotation. The 1-2 phase excitation is set as default.

### 20) Stamp aging

- It is impossible if any document is not set up.
- The document is fed at the 10 mm intervals, and is continuously stamped.
- The total number of stamps from entry of the mode is displayed on the screen.
- The ordinary operation aging which stamps a finish every docu-ment is executed in the ordinary copying mode.

### 21) Scanner set mode

- The reading width and motor drive conditions are set.

<Reading width>

1. Top margin
2. Bottom margin
3. Left adjustment (The left position alone is specified.)

Specify the above values.

- Select the above items 1, 2 and 3 with the [⋌] and [#] keys, and set the values with the [←] and [→] keys. The values can be set in the range of +3.0 mm to -3.0 mm at the 0.1 mm intervals. While the [←] and [→] key is continuously pressed one second or more, the setting value is automatically increased/decreased (in the range between the upper and lower limits).
- Input the quality selection key, and the value will be respectively set corresponding to the selected image quality. Here, the interme-diate tone is the same as for the setting value of FINE.
- ±0.0 mm is default for all.

<Drive conditions of motor>

4. Motor
5. Phase
6. Slow-up
7. Slow-down

Specify the above values.

- Select the above items 4 thru 7 with the [⋌] and [#] keys, and select the setting value with the ten-key.

Setting values

4. 6 steps
5. Selection of one mode from 1-2 phase, 2-phase and micro step
6. 3 steps
7. 3 steps

- Input the quality selection key, and the value will be respectively set corresponding to the selected image quality. Here, the interme-diate tone is the same as for the setting value of FINE.
  1. TOP
  2. BOTTOM
  3. LEFT
  4. MOTOR
  5. PHASE
  6. SLOW UP
  7. SLOW DOWN

### 22) Dial test mode

The mode is used to inspect whether dialing is accurate in two kinds of dial modes ⋌. All data which can be dialed in this mode are automatically called up in both PB mode and DP mode.

When this mode is activated, the following operations will be automatically executed . Whether the dialed content is right or not is judged with the external instrument which is connected to the line cable.

① After shift to the FAX diagnosis mode, press RAPID 24.
(Also switch the display with the [⋌] and [#] keys.)

② Press the START key.

③ Turn on CML, and dial the following in the PB mode.
1, 2, 3, 4, 5, 6, 7, 8, 9, ⋌, 0, #

④ Turn off CML 500 mS alone.

⑤ Dial the following in the DP mode.
1, 5, 9, 0

⑥ After dialing, turn off CML.

This mode uses the ordinary auto dial. (Accordingly, the signal send-ing time and minimum pause are all the same as ordinary.
The measurement result in this mode is completely all the same as in the ordinary dial mode.
Moreover, the same process as above is also done in the dial test mode which is executed in the product check mode.

- The lines 1/2 operate simultaneously in this mode.

### 23) Copy diag mode

In order to shorten the process time during production, this mode is used to automatically switch the copy mode. Three menus are pro-vided.

1. ① Set up two documents. (In case of two documents or more, there is no problem.

   ② Press the START key.

   ③ Copy 1st document in the fine mode/density AUTO. (One sheet is printed in the ordinary copy mode.)

   ④ Copy 2nd (subsequential) document in the intermediate tone mode/density DARK. (In the ordinary copying mode, one sheet is printed when the RESOLUTION key is pressed three times.)

When copy test is tried during production or is checked in two modes (fine and intermediate tones), this mode is provided to reduce the troublesome work which makes the operator stand aside to change the mode. Accordingly, the fine and intermediate tones are merely switched, and the mode is not switched to another mode. (Input of the image quality/density key is invalid.)

2. Try the copy in the mode fixed at COPY REDUCE 95% and fine mode/density AUTO. At this time, don't change the soft key of COPY REDUCE. (Input of the image quality/density key is invalid.

3. Continuously try the above items 1 and 2.

### 24) Signal send mode 2

The signals concerned with V.34 & V.8 are checked.
After this mode is activated, press the START key, and the signals will be sent in the following sequence.
It can be used to check the modem.

- The selection signal is sent out simultaneously from the lines 1/2 in this mode.

[ 1] No signal

[ 2] 33600BPS

[ 3] 31200BPS

[ 4] 28800BPS

[ 5] 26400BPS

[ 6] 24000BPS

[ 7] 21600BPS

[ 8] 19200BPS

[ 9] 16800BPS

[10] 14400BPS

[11] 12000BPS

[12] 9600BPS

[13] 7200BPS

[14] 4800BPS

[15] 2400BPS

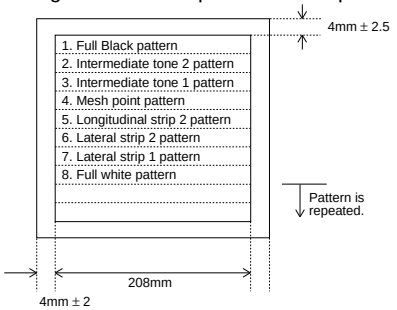
[16] V. 21 0-300bps

[17] ANSam

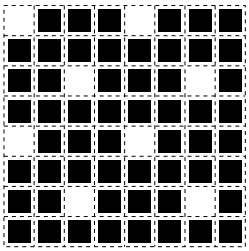
## 2-2. Print diagnosis

### Rapid key 01: Area print mode

The effective printing area frame is printed in the specified sheet size.

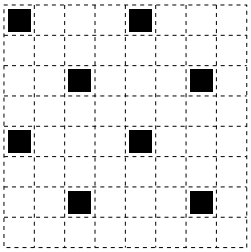



1. [Full black pattern]
2. [Intermediate tone 2 pattern]



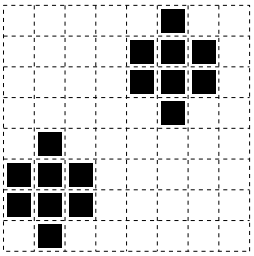
The left pattern is repeated.

3. [Intermediate tone 1 pattern]



The left pattern is repeated.

4. [Mesh point pattern]



The left pattern is repeated.

5. [Longitudinal strip 2 pattern]
   Black 2 dot and white 2 dot are repeated in line.
6. [Lateral strip 2 pattern]
   Black 2 line and white 2 line are repeated.
7. [Lateral strip 1 pattern]
   Black 1 line and white 1 line are repeated.
8. [Full White pattern]

### Rapid key 02: Check pattern 1

The lateral stripe 2 pattern is printed on one sheet.
(Black 2 line and white 2 line are repeated.)

### Rapid key 03: Check pattern 2

The lateral stripe 2 pattern is printed on multiple pages.
Press the STOP key to end the printing.

### Rapid key 04: Check pattern 3

The intermediate tone 1 is printed on one sheet.

### Rapid key 05: Paper feed aging

The mode is used for aging related to the printing. In this mode, the following modes are provided.

① Blank paper aging mode (ALL WHITE AGING)
② Whole black print aging mode (ALL BLACK AGING)
③ 5% printing aging mode (5% AGING)
④ 4% printing aging mode (4% AGING)

After selecting the paper-pass aging mode in the print diagnosis mode, input the number of each mode above with the ten-key, and the mode will be executed. The detailed specifications of each mode are described as follows. Here, the operation in each mode is stopped only when the STOP key is pressed by the operator or a printing-impossible error occurs.

- Blank paper aging mode
  In the mode, printing is continued in the whole white (white paper) printing pattern until the STOP key is pressed by the operator. (In the printing area)
- Whole black printing aging mode
  In the mode, printing is continued in the whole black (whole black) printing pattern until the STOP key is pressed by the operator. (In the printing area)

### Rapid key 6: Bias adjust mode

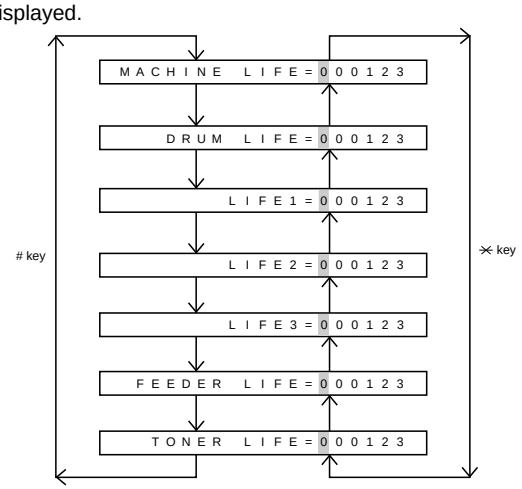
The mode is used to adjust the printing density of the printed image. The image printing density is adjustable in six steps of 1 to 6.
For details, refer to the following table. (For selection, use the keys 1 thru 6.)

| Image printing density | Thin ← | | | | → | Thick |
|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 |
| Default value | | | | O | | |

### Rapid key 7: Life set mode

The mode is used to set the life counter of the printer and the counter of the auto feeder at desired values. For setting, proceed with the following procedure.

① When the life counter setting mode is selected, the following will be is displayed.




The cursor blinks at the top data.
Seven counters can be selected with the "#" and "*" keys.

② In the state ①, input a desired setting number of 6 digits with the ten-key.

③ After input of 6 digits, shift to another counter with the "#" and "*" keys as necessary. When all necessary counters are completely input, press the START key.

④ "STORED" will be displayed with the set values stored into the memory. For checking, retry this mode.

Note:
The counter shows the operational state of the printer (how many sheets have been printed since start of use? and others). The ordi-nary memory does not reset the counter. For clearing, set 0 in this mode or use the life counter clear mode in Item 3-9. (Accordingly, it is necessary to reset the counter or do the clear process in addition to the ordinary memory clear if the content in the memory on the control PWB is broken because of PWB repair, etc. (In the production stage, it is necessary to execute this in the last process.)

### Rapid key 08: Life all clear

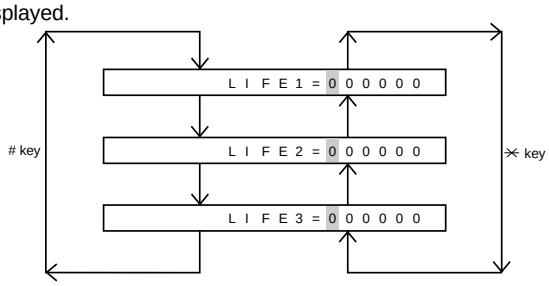
The mode is used to clear the life counter of the printer of the counter of the auto feeder.

Note: The counter shows the operational state of the printer (e.g. how many sheets have been printed since start of use?). The ordinary memory does not reset the counter. For clearing, set 0 in the mode 8 or execute this mode. (Accordingly, it is nec-essary to reset this counter in addition to the ordinary memory clear if the content in the memory on the control PWB is broken because of PWB repair, etc. (In the production stage, it is necessary to execute this in the last process.)

### Rapid key 09: Life entry mode (For Serviceman temporary counter)

The mode is used to set a desired value for the judgment value (alarm judgment counter value) of the general purpose life counters 1 thru 3 of the printer. If the life of a consumable part (developer,imprinter, etc) is set, the model which has the error display and RMS function will inform RMS when the counter reaches the set value. For setting, proceed with the following procedure.

① When the life counter setting mode is selected, the following will be displayed.




The cursor blinks at the top data.
Three counters can be selected with the "#" and "*" keys.

② In the state ① , input a desired setting number of 6 digits with the ten-key.

③ After input of 6 digits, shift to another counter with the "#" and "*" keys as necessary. When all necessary counters are completely input, press the START key.

④ "STORED" will be displayed with the set values stored into the memory. For checking, retry this mode.

Note: The counter shows the operational state of the printer (how many sheets have been printed since start of use? and oth-ers). The ordinary memory does not reset the counter. For clearing, set 0 in this mode or use the life counter clear mode in Item 3-9. (Accordingly, it is necessary to reset the counter or do the clear process in addition to the ordinary memory clear if the content in the memory on the control PWB is broken be-cause of PWB repair, etc. (In the production stage, it is neces-sary to execute this in the last process.)

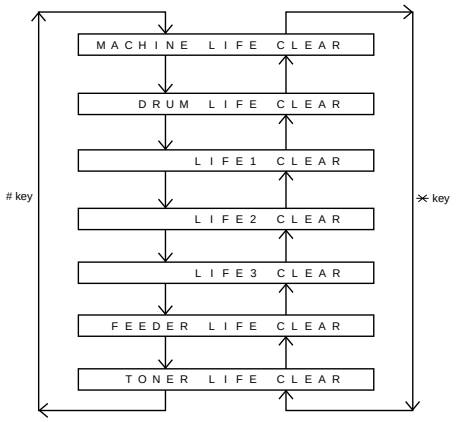
### Rapid key 10: Top adjust mode

As the method to adjust the top margin for printing, adjust top-margin adjusting VR on the PWB. If this mode is used at this time, adjust-ment is possible without the printing test every time when VR is turned.
For the practical use, determine the adjusting value on the basis of the old data, and adjust to the determined value in this mode. Then, check it with the printing test.

### Rapid key 11: Life clear mode

The mode is used to respectively clear the life counter of the printer and the counter of the auto feeder. For setting, proceed with the following procedure.

① When the life counter clearing mode is selected, the following will be is displayed.
Seven counters can be selected with the "#" and "*" keys.

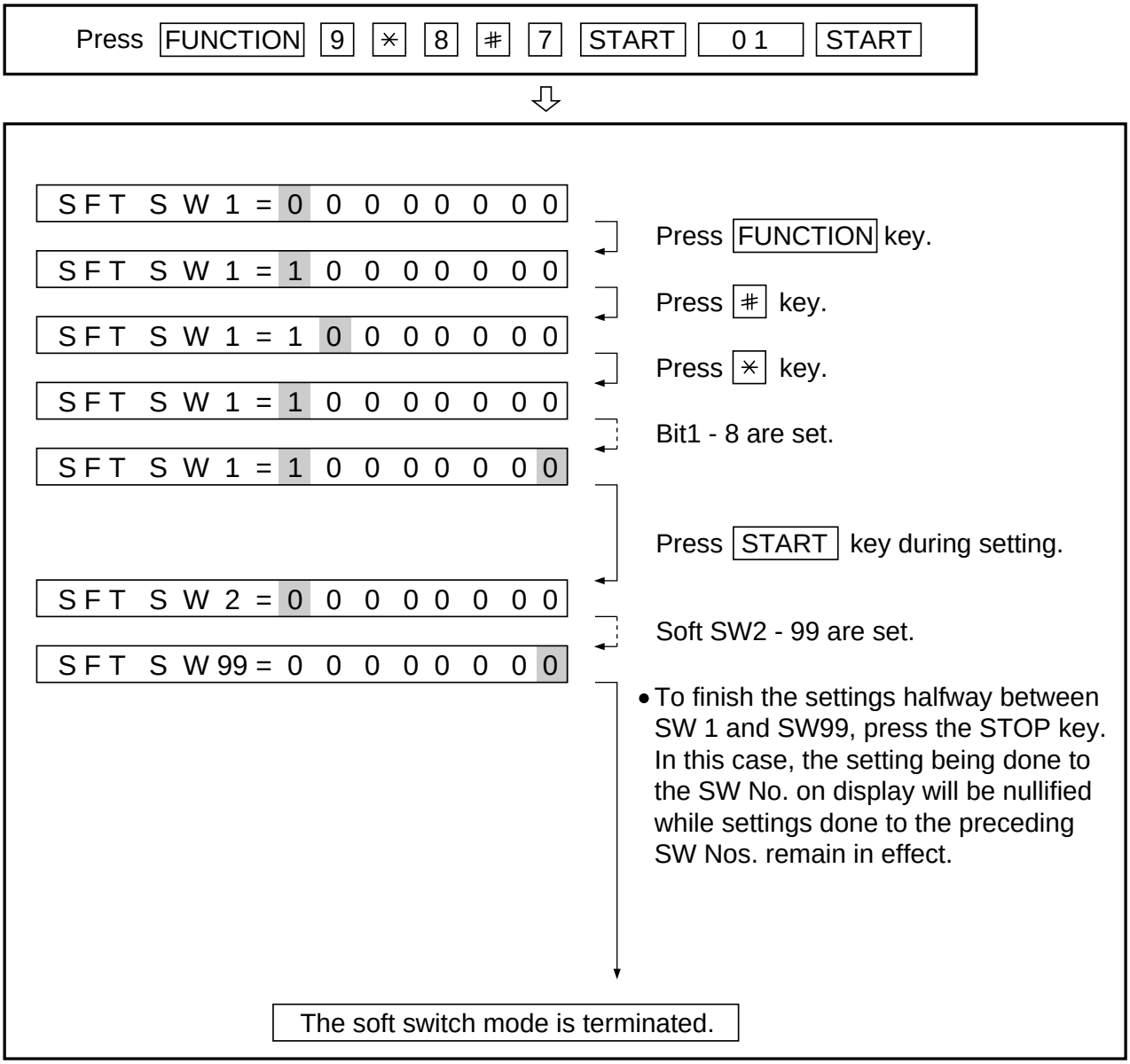



② In the state ①, input the CLEAR key, and the counter will be respectively cleared.

③ After one clear, move the cursor to another counter with the "#" and "*" keys as necessary, and then press the CLEAR key. When the necessary counters are completely cleared, press the STOP key.

### 3. How to make soft switch setting

To enter the softswitch mode, make the following key entries in se-quence.




- SW1 to SW13: For line 1
- SW14 to SW26: For line 2

## 4. Soft switch description

**• Soft switch** Note : SW1 to SW13 : For line 1, SW14 to SW26 : For line 2.

| SW NO. | DATA NO. | ITEM | Switch setting and function | | | | | | Initial setting | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | 1 | | | | 0 | | | |
| SW1 | 1 | Recall interval | Binary input 8 4 2 1 | | | | | | 0 | OPTION |
| | 2 | | No. = 1 2 3 4 (Data No.) | | | | | | 1 | Set to 1~15 |
| | 3 | | EX 0 1 0 1 | | | | | | 0 | |
| | 4 | | eg. Recall interval is set to 5 min. | | | | | | 1 | |
| | 5 | Recall attempts | Binary input 8 4 2 1 | | | | | | 0 | OPTION |
| | 6 | | No. = 5 6 7 8 (Data No.) | | | | | | 0 | |
| | 7 | | EX 0 0 1 0 | | | | | | 1 | Set to 0~15 |
| | 8 | | eg. Recall attempt times is set to 2 times. | | | | | | 0 | |
| SW2 | 1 | Dialing mode | PULSE | | | | TONE | | 0 | |
| | 2 | Receive mode | AUTO | | | | MANUAL | | 1 | |
| | 3 | ECM mode | Off | | | | On | | 0 | OPTION |
| | 4 | Reserved | | | | | | | 0 | |
| | 5 | Polling security | On | | | | Off | | 1 | OPTION |
| | 6 | Auto cover sheet | No | | | | Yes | | 1 | OPTION |
| | 7 | JUNK-FAX function in manual reception | Yes | | | | No | | 0 | |
| | 8 | JUNK-FAX function | Yes | | | | No | | 0 | OPTION |
| SW3 | 1 | Number of rings for auto-receive | Binary input 8 4 2 1 | | | | | | 0 | OPTION |
| | 2 | (0: No ring receive) | No. = 1 2 3 4 (Data No.) | | | | | | 0 | Set to 0~15 |
| | 3 | | EX 0 0 0 1 | | | | | | 0 | |
| | 4 | | eg. Number of rings for auto receive is set to 1. | | | | | | 1 | |
| | 5 | Switch to auto-receive from manual receive | Binary input 8 4 2 1 | | | | | | 0 | OPTION |
| | 6 | (0: No switch) | No. = 5 6 7 8 (Data No.) | | | | | | 0 | Set to 0~15 |
| | 7 | | EX 0 0 0 0 | | | | | | 0 | |
| | 8 | | eg. Switch to auto receive is set to disable. | | | | | | 0 | |
| SW4 | | Communication results printout | | Printed at error only | Printed at error/timer/ memory only | Printed at transmis-sion mode only | Not printed | Printed every time | | OPTION |
| | 1 | | No. 1 | 0 | 0 | 0 | 1 | 1 | 0 | |
| | 2 | | No. 2 | 0 | 0 | 1 | 0 | 1 | 0 | |
| | 3 | | No. 3 | 1 | 0 | 0 | 0 | 0 | 1 | |
| | 4 | Image addition function to the communication result table (for memory transmission only) | On | | | | Off | | 1 | OPTION |
| | 5 | Reserved | | | | | | | 0 | |
| | 6 | TEL billing code function | On | | | | Off | | 0 | OPTION |
| | 7 | Billing code position | Before | | | | After | | 1 | OPTION |
| | 8 | Multi-TTI feature | On | | | | Off | | 0 | OPTION |
| SW5 | 1 | Time display format | 24 hours | | | | 12 hours-AM/PM | | 0 | |
| | 2 | Date display format | Month-Day-Year | | | | Day-Month-Year | | 1 | |
| | 3 | Header print | Off | | | | On | | 0 | |
| | 4 | Footer print | On | | | | Off | | 0 | |
| | 5 | Relay data output | No | | | | Yes | | 0 | |
| | 6 | Substitute reception | Off | | | | On | | 0 | |
| | 7 | Substitute reception conditions | Reception disable without TSI | | | | Reception enable without TSI | | 0 | |
| | 8 | CSI transmission | Off | | | | On | | 0 | |

| SW NO. | DATA NO. | ITEM | Switch setting and function | | | | | | | | | | Initial setting | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 1 | | | | | | 0 | | | | | |
| | 1 | MH fixed | Yes | | | | | | No (depend on remote machine) | | | | 0 | |
| | 2 | H2 mode | No | | | | | | Yes | | | | 0 | |
| | 3 | Reserved | | | | | | | | | | | 0 | |
| | 4 | Reserved | | | | | | | | | | | 0 | |
| SW6 | | Modem speed (DCS data reception speed) | | V. 33 | | V. 17 | | | | V. 29 | | V. 27ter | | Default 14400 BPS MODEM machine-1000 (V. 17-14400) |
| | | | | 14400 | 12000 | 14400 | 12000 | 9600 | 7200 | 9600 | 7200 | 4800 2400 | | |
| | 5 | | No. 5 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 0 | 1 | |
| | 6 | | No. 6 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 0 | 0 | |
| | 7 | | No. 7 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 1 0 | 0 | |
| | 8 | | No. 8 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 0 | 0 | |
| | | Reception speed fixed | | | | NO | | V. 17-14400BPS | | V. 29-9600BPS | | V. 27ter-4800BPS | | When 14400BPS MODEM used, setting to 14400BPS is ignore. |
| | 1 | | No. 1 | | | 0 | | 1 | | 0 | | 1 | 0 | |
| | 2 | | No. 2 | | | 0 | | 1 | | 1 | | 0 | 0 | |
| | 3 | DIS receive acknowledge in G3 transmission | Twice | | | | | Once in NSF reception, twice in DIS reception | | | | | 0 | Effective to international comm. |
| SW7 | 4 | Non-modulated carrier in V.29 transmission mode | On | | | | | Off | | | | | 0 | |
| | 5 | EOL detection timer | 25sec | | | | | 13sec | | | | | 0 | |
| | 6 | Protocol monitor | On | | | | | Off | | | | | 0 | |
| | 7 | Line monitor | On | | | | | Off | | | | | 0 | |
| | 8 | Max. length for TX/RX/Copy | TX: 432mm, RX: unlimited | | | | | TX/Copy: 432mm, RX: 1.5m | | | | | 0 | |
| | | Compromise Equalizer | | | | constant (ROM) | | | | variable (SRAM) | | | | |
| | | | | | | No Filter | | 1.8Km | | 3.6Km | | 7.2Km | | |
| | 1 | | No. 1 | | | 0 | | 0 | | 1 | | 1 | 0 | |
| | 2 | | No. 2 | | | 0 | | 1 | | 0 | | 1 | 1 | |
| | 3 | Reserved | | | | | | | | | | | 0 | |
| SW8 | 4 | Pause time | 2 sec (1 sec from the second pause) | | | | | 4 sec (2 sec from the second pause) | | | | | 0 | |
| | 5 | Signal transmission level | Binary input 8 4 2 1 | | | | | | | | | | 1 | |
| | 6 | | No. = 5 6 7 8 (Data No.) | | | | | | | | | | 0 | |
| | 7 | | EX 1 0 1 0 | | | | | | | | | | 1 | |
| | 8 | | Set to -(n+3)dBm | | | | | | | | | | 0 | |
| | | | eg. Signal transmission level is set to -11dBm | | | | | | | | | | | |

| SW NO. | DATA NO. | ITEM | Switch setting and function | | Initial setting | Remarks |
|---|---|---|---|---|---|---|
| | | | 1 | 0 | | |
| SW9 | 1 | CED tone signal interval | 500ms | 75ms | 0 | |
| | 2 | CI signal OFF detect enable time | 350ms or more | 700ms or more | 0 | |
| | 3 | Equalizer freeze | On | Off | 0 | |
| | 4 | Equalizer freeze conditions | All | 7200bps | 0 | |
| | 5 | Reserved | | | 0 | |
| | 6 | CED detection time | 500ms | 1000ms | 0 | |
| | 7 | Reserved | | | 0 | |
| | 8 | Reserved | | | 0 | |
| SW10 | 1 | Reserved | | | 0 | |
| | 2 | Reserved | | | 0 | |
| | 3 | Reserved | | | 0 | |
| | 4 | Reserved | | | 0 | |
| | | Distinctive ringing | OFF / STANDARD / RING1 / RING2 / RING3 | | | |
| | 5 | | No. 5: 0 / 0 / 1 / 0 / 1 | | 0 | |
| | 6 | | No. 6: 0 / 0 / 0 / 1 / 1 | | 0 | |
| | 7 | | No. 7: 0 / 0 / 0 / 0 / 0 | | 0 | |
| | 8 | | No. 8: 0 / 1 / 0 / 0 / 0 | | 0 | |
| SW11 | 1 | Memory retransmission times | Binary input 8 4 2 1 | | 1 | OPTION |
| | 2 | | No. = 1 2 3 4 (Data No.) | | 0 | |
| | 3 | | EX 1 0 1 0 | | 1 | |
| | 4 | | eg. Retransmission time set to 10 times. | | 0 | |
| | 5 | Memory retransmission interval | Binary input 8 4 2 1 | | 0 | OPTION |
| | 6 | | No. = 5 6 7 8 (Data No.) | | 0 | |
| | 7 | | EX 0 0 0 0 | | 0 | |
| | 8 | | eg. Retransmission interval set to 5 min. | | 0 | |
| SW12 | 1 | Reserved | | | 0 | |
| | 2 | Reserved | | | 0 | |
| | | Alarm buzzer | 3sec / 1sec / No BEEP / No BEEP | | | |
| | 3 | | No. 3: 0 / 0 / 1 / 1 | | 0 | |
| | 4 | | No. 4: 0 / 1 / 0 / 1 | | 0 | |
| | 5 | Action when RTN received | Handle to no error | Handle to error | 0 | |
| | 6 | V.34 mode function in case of manual communication | On | Off | 1 | |
| | 7 | V.34 mode function | On | Off | 1 | |
| | 8 | V.34 control channel communication speed | 2400bps | 1200bps | 0 | |
| SW13 | 1 | V.34 mode sending speed | Sending speed = 2400 (bps) x N | | 1 | |
| | 2 | | Example: | | 1 | |
| | 3 | | 2400 (bps) x 12 = 28800 (bps) | | 1 | |
| | 4 | | 2400 (bps) is set for N = 0. | | 0 | |
| | | | 33600 (bps) is set for N = 15. | | | |
| | 5 | V.34 mode receiving speed | Receiving speed = 2400 (bps) x N | | 1 | |
| | 6 | | Example: | | 1 | |
| | 7 | | 2400 (bps) x 12 = 28800 (bps) | | 1 | |
| | 8 | | 2400 (bps) is set for N = 0. | | 0 | |
| | | | 33600 (bps) is set for N = 15. | | | |
| SW14 | 1 | Reserved | | | 0 | |
| | 2 | Reserved | | | 1 | |
| | 3 | Reserved | | | 0 | |
| | 4 | Reserved | | | 1 | |
| | 5 | Reserved | | | 0 | |
| | 6 | Reserved | | | 0 | |
| | 7 | Reserved | | | 1 | |
| | 8 | Reserved | | | 0 | |

| SW NO. | DATA NO. | ITEM | Switch setting and function | | Initial setting | Remarks |
|---|---|---|---|---|---|---|
| | | | 1 | 0 | | |
| SW15 | 1 | Dialing mode | PULSE | TONE | 0 | |
| | 2 | Reserved | | | 1 | |
| | 3 | Reserved | | | 0 | |
| | 4 | Reserved | | | 0 | |
| | 5 | Reserved | | | 1 | |
| | 6 | Reserved | | | 1 | |
| | 7 | Reserved | | | 0 | |
| | 8 | Reserved | | | 0 | |
| SW16 | 1 | Number of rings for auto-receive | Binary input 8 4 2 1 | | 0 | OPTION |
| | 2 | (0 : No ring receive) | No. = 1 2 3 4 (Data No.) | | 0 | Set to 0 ~15 |
| | 3 | | EX 0 0 0 1 | | 0 | |
| | 4 | | eg. Number of rings for auto receive is set to 1. | | 1 | |
| | 5 | Reserved | | | 0 | |
| | 6 | Reserved | | | 0 | |
| | 7 | Reserved | | | 0 | |
| | 8 | Reserved | | | 0 | |
| SW17 | 1 | Reserved | | | 0 | |
| | 2 | Reserved | | | 0 | |
| | 3 | Reserved | | | 1 | |
| | 4 | Reserved | | | 1 | |
| | 5 | Reserved | | | 0 | |
| | 6 | Reserved | | | 0 | |
| | 7 | Reserved | | | 1 | |
| | 8 | Reserved | | | 0 | |
| SW18 | 1 | Reserved | | | 0 | |
| | 2 | Reserved | | | 1 | |
| | 3 | Reserved | | | 0 | |
| | 4 | Reserved | | | 0 | |
| | 5 | Reserved | | | 0 | |
| | 6 | Reserved | | | 0 | |
| | 7 | Reserved | | | 0 | |
| | 8 | Reserved | | | 0 | |
| SW19 | 1 | Reserved | | | 0 | |
| | 2 | Reserved | | | 0 | |
| | 3 | Reserved | | | 0 | |
| | 4 | Reserved | | | 0 | |
| | | Modem speed (DCS data reception speed) | V.33 14400 12000 / V.17 14400 12000 9600 7200 / V.29 9600 7200 / V.27ter 4800 2400 | | | Default 14400 BPS MODEM machine-1000 (V. 17-14400) |
| | 5 | | No. 5: 0 0 / 1 1 1 1 / 0 0 / 0 0 | | 1 | |
| | 6 | | No. 6: 1 1 / 0 0 0 0 / 0 0 / 0 0 | | 0 | |
| | 7 | | No. 7: 0 1 / 0 1 0 1 / 0 1 / 1 0 | | 0 | |
| | 8 | | No. 8: 0 0 / 0 0 1 1 / 1 1 / 0 0 | | 0 | |
| SW20 | | Reception speed fixed | | NO / V. 17-14400PS / V. 29-9600BPS / V. 27ter-4800BPS | | When 14400BPS MODEM used, setting to 14400BPS is ignore. |
| | 1 | | No. 1: 0 / 1 / 0 / 1 | | 0 | |
| | 2 | | No. 2: 0 / 1 / 1 / 0 | | 0 | |
| | 3 | DIS receive acknowledge in G3 transmission | Twice | Once in NSF reception, twice in DIS reception | 0 | Effective to international comm. |
| | 4 | Non-modulated carrier in V.29 transmission mode | On | Off | 0 | |
| | 5 | EOL detection timer | 25sec | 13sec | 0 | |
| | 6 | Protocol monitor | On | Off | 0 | |
| | 7 | Line monitor | On | Off | 0 | |
| | 8 | Reserved | | | 0 | |

| SW NO. | DATA NO. | ITEM | Switch setting and function | | | | | Initial setting | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| | | | 1 | | | 0 | | | |
| | | Compromise Equalizer | | constant (ROM) | | variable (SRAM) | | | |
| | | | | No Filter | 1.8Km | 3.6Km | 7.2Km | | |
| | 1 | | No. 1 | 0 | 0 | 1 | 1 | 0 | |
| | 2 | | No. 2 | 0 | 1 | 0 | 1 | 1 | |
| | 3 | Reserved | | | | | | 0 | |
| SW21 | 4 | Pause time | 2 sec (1 sec from the second pause) | | | 4 sec (2 sec from the second pause) | | 0 | |
| | 5 | Signal transmission level | Binary input 8 4 2 1 | | | | | 1 | |
| | 6 | | No. = 5 6 7 8 (Data No.) | | | | | 0 | |
| | 7 | | EX 1 0 1 0 | | | | | 1 | |
| | 8 | | Set to -(n+3)dBm | | | | | 0 | |
| | | | eg. Signal transmission level is set to -11dBm | | | | | | |
| | 1 | CED tone signal interval | 500ms | | | 75ms | | 0 | |
| | 2 | CI signal OFF detect enable time | 350ms or more | | | 700ms or more | | 0 | |
| | 3 | Equalizer freeze | On | | | Off | | 0 | |
| SW22 | 4 | Equalizer freeze conditions | All | | | 7200bps | | 0 | |
| | 5 | Reserved | | | | | | 0 | |
| | 6 | CED detection time | 500ms | | | 1000ms | | 0 | |
| | 7 | Reserved | | | | | | 0 | |
| | 8 | Reserved | | | | | | 0 | |
| | 1 | Reserved | | | | | | 0 | |
| | 2 | Reserved | | | | | | 0 | |
| | 3 | Reserved | | | | | | 0 | |
| | 4 | Reserved | | | | | | 0 | |
| SW23 | | Distinctive ringing | | OFF | STANDARD | RING1 | RING2 | RING3 | |
| | 5 | | No. 5 | 0 | 0 | 1 | 0 | 1 | 0 |
| | 6 | | No. 6 | 0 | 0 | 0 | 1 | 1 | 0 |
| | 7 | | No. 7 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 8 | | No. 8 | 0 | 1 | 0 | 0 | 0 | 0 |
| | 1 | Reserved | | | | | | 1 | |
| | 2 | Reserved | | | | | | 0 | |
| | 3 | Reserved | | | | | | 1 | |
| SW24 | 4 | Reserved | | | | | | 0 | |
| | 5 | Reserved | | | | | | 0 | |
| | 6 | Reserved | | | | | | 0 | |
| | 7 | Reserved | | | | | | 0 | |
| | 8 | Reserved | | | | | | 0 | |
| | 1 | Reserved | | | | | | 0 | |
| | 2 | Reserved | | | | | | 0 | |
| | 3 | Reserved | | | | | | 0 | |
| SW25 | 4 | Reserved | | | | | | 0 | |
| | 5 | Reserved | | | | | | 0 | |
| | 6 | Reserved | | | | | | 1 | |
| | 7 | V.34 mode function | On | | | Off | | 1 | |
| | 8 | V.34 control channel communication speed | 2400bps | | | 1200bps | | 0 | |
| | 1 | V.34 mode sending speed | Sending speed = 2400 (bps) x N | | | | | 1 | |
| | 2 | | Example: | | | | | 1 | |
| | 3 | | 2400 (bps) x 12 = 28800 (bps) | | | | | 1 | |
| | 4 | | 2400 (bps) is set for N = 0. | | | | | 0 | |
| SW26 | | | 33600 (bps) is set for N = 15. | | | | | | |
| | 5 | V.34 mode receiving speed | Receiving speed = 2400 (bps) x N | | | | | 1 | |
| | 6 | | Example: | | | | | 1 | |
| | 7 | | 2400 (bps) x 12 = 28800 (bps) | | | | | 1 | |
| | 8 | | 2400 (bps) is set for N = 0. | | | | | 0 | |
| | | | 33600 (bps) is set for N = 15. | | | | | | |

| SW NO. | DATA NO. | ITEM | Switch setting and function | | | | | | | | Initial setting | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 1 | | | | 0 | | | | | |
| | | Line condition setting | Line 1 | TX/RX | TX/RX | TX/RX | RX | RX | TX | TX | | OPTION |
| | | | Line 2 | TX/RX | RX | TX | TX/RX | TX | TX/RX | RX | | |
| | 1 | | No. 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | |
| | 2 | | No. 2 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | |
| | 3 | | No. 3 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | |
| SW27 | 4 | Preference line specification | LINE 2 | | | | LINE 1 | | | | 0 | |
| | | Key buzzer volume | | | Off | | HIGH | MIDDLE | | LOW | | |
| | 5 | | No. 5 | | 0 | | 0 | 1 | | 1 | 1 | |
| | 6 | | No. 6 | | 0 | | 1 | 0 | | 1 | 1 | |
| | 7 | Reserved | | | | | | | | | 0 | |
| | 8 | Reserved | | | | | | | | | 0 | |
| | | Speaker volume | | | HIGH | | HIGH | MIDDLE | | LOW | | |
| | 1 | | No. 1 | | 0 | | 0 | 1 | | 1 | 1 | |
| | 2 | | No. 2 | | 0 | | 1 | 0 | | 1 | 1 | |
| | | Handset volume | | | HIGH | | HIGH | MIDDLE | | LOW | | |
| | 3 | | No. 3 | | 0 | | 0 | 1 | | 1 | 1 | |
| SW28 | 4 | | No. 4 | | 0 | | 1 | 0 | | 1 | 0 | |
| | | Ringer volume | | | Off | | HIGH | MIDDLE | | LOW | | |
| | 5 | | No. 5 | | 0 | | 0 | 1 | | 1 | 1 | |
| | 6 | | No. 6 | | 0 | | 1 | 0 | | 1 | 1 | |
| | 7 | Reserved | | | | | | | | | 0 | |
| | 8 | Reserved | | | | | | | | | 0 | |
| | 1 | Line to be used in PC I/F mode | LINE 2 | | | | LINE 1 | | | | 0 | |
| | 2 | PC I/F mode | On | | | | Off | | | | 0 | OPTION |
| | 3 | Auto receive with PC I/F | PC | | | | FAX | | | | 0 | OPTION |
| SW29 | 4 | Reserved | | | | | | | | | 0 | |
| | 5 | Reserved | | | | | | | | | 0 | |
| | 6 | Reserved | | | | | | | | | 0 | |
| | 7 | Reserved | | | | | | | | | 0 | |
| | 8 | Reserved | | | | | | | | | 0 | |
| | 1 | Reserved | | | | | | | | | 0 | |
| | 2 | Reserved | | | | | | | | | 0 | |
| | 3 | Continuous serial polling | On | | | | Off | | | | 0 | |
| | | Dialing interval in continuous serial polling | | | 0minute | | 30minutes | 60minutes | | 120minutes | | When SW30-3 is ON to be set by OPTION setting |
| SW30 | 4 | | No. 4 | | 0 | | 0 | 1 | | 1 | 0 | |
| | 5 | | No. 5 | | 0 | | 1 | 0 | | 1 | 0 | |
| | 6 | Reserved | | | | | | | | | 0 | |
| | 7 | Reserved | | | | | | | | | 0 | |
| | 8 | Quick on-line | Yes | | | | No | | | | 1 | |
| | 1 | Reserved | | | | | | | | | 0 | |
| | 2 | Reserved | | | | | | | | | 0 | |
| | 3 | Reserved | | | | | | | | | 0 | |
| SW31 | 4 | Reserved | | | | | | | | | 0 | |
| | 5 | Reserved | | | | | | | | | 1 | |
| | 6 | Reserved | | | | | | | | | 0 | |
| | 7 | Reserved | | | | | | | | | 1 | |
| | 8 | Reserved | | | | | | | | | 0 | |

| SW NO. | DATA NO. | ITEM | Switch setting and function | | | | | | | | Initial setting | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 1 | | | | 0 | | | | | |
| | 1 | Print hold | On | | | | Off | | | | 0 | OPTION |
| | 2 | Document transmission in Super G3 mode | Yes | | | | No | | | | 0 | Refer to Page 2-44. |
| | 3 | Reserved | | | | | | | | | 0 | |
| | 4 | Changeover of print cassette | On | | | | Off | | | | 1 | OPTION |
| | | Selection of print cassette | W cassette | Auto. | TUL | TLU | UTL | ULT | LTU | LUT | | Indicate of priority T...TRAY |
| SW32 | 5 | | No. 5 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | U...UPPER |
| | 6 | | No. 6 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | L...LOWER |
| | 7 | | No. 7 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | |
| | 8 | | No. 8 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | |
| | | Selection of print cassette | SEPA. MODE ON | Auto. | U→L | L→U | Work in auto mode except in this table. | | | | | Indicate of priority |
| | 5 | | No. 5 | 0 | 0 | 0 | | | | | 0 | U...UPPER |
| | 6 | | No. 6 | 0 | 1 | 0 | | | | | 0 | L...LOWER |
| | 7 | | No. 7 | 0 | 0 | 1 | | | | | 0 | |
| | 8 | | No. 8 | 0 | 0 | 0 | | | | | 0 | |
| | | Heater mode | | | Always on | | Always off | | Off timer | | | OPTION |
| | 1 | | No. 1 | | 0 | | 0 | | 1 | | 0 | |
| | 2 | | No. 2 | | 0 | | 1 | | 0 | | 1 | |
| | | Density adjustment of print bias | Binary input 4 2 1 | | | | | | | | | set to 1~6. |
| | 3 | | No. = 3 4 5 (Data No.) 1: faint 6: deep | | | | | | | | 0 | set to 0,7 is |
| SW33 | 4 | | EX 0 1 1 | | | | | | | | 1 | equal to 3 |
| | 5 | | eg. Bias is set to level 3. | | | | | | | | 1 | (001). |
| | 6 | Drum life limit | 0 near = 19,000 pcs. 0 near = 15,000 pcs.<br>1 near = 15,000 pcs. 1 near = 16,000 pcs. | | | | | | | | 0 | |
| | 7 | | 0 limit = 20,000 pcs. 1 limit = 16,000 pcs.<br>0 limit = 20,000 pcs. 1 limit = 20,000 pcs. | | | | | | | | 0 | |
| | 8 | Reserved | | | | | | | | | 0 | |
| | 1 | Start time of heater OFF timer | Binary input 8 4 2 1 | | | | | | | | 0 | OPTION |
| | 2 | (Upper digit of hour) | No. = 1 2 3 4 (Data No.) | | | | | | | | 0 | |
| | 3 | | EX 0 0 0 0 | | | | | | | | 0 | |
| SW34 | 4 | | | | | | | | | | 0 | |
| | 5 | Start time of heater OFF timer | Binary input 8 4 2 1 | | | | | | | | 0 | OPTION |
| | 6 | (Lower digit of hour) | No. = 5 6 7 8 (Data No.) | | | | | | | | 0 | |
| | 7 | | EX 0 0 0 0 | | | | | | | | 0 | |
| | 8 | | eg. Start time is set to 15: XX | | | | | | | | 0 | |
| | 1 | Start time of heater OFF timer | Binary input 8 4 2 1 | | | | | | | | 0 | OPTION |
| | 2 | (Upper digit of minute) | No. = 1 2 3 4 (Data No.) | | | | | | | | 0 | |
| | 3 | | EX 0 0 0 0 | | | | | | | | 0 | |
| SW35 | 4 | | | | | | | | | | 0 | |
| | 5 | Start time of heater OFF timer | Binary input 8 4 2 1 | | | | | | | | 0 | OPTION |
| | 6 | (Lower digit of minute) | No. = 5 6 7 8 (Data No.) | | | | | | | | 0 | |
| | 7 | | EX 0 0 0 0 | | | | | | | | 0 | |
| | 8 | | eg. Start time is set to XX: 40 | | | | | | | | 0 | |
| | 1 | End time of heater OFF timer | Binary input 8 4 2 1 | | | | | | | | 0 | OPTION |
| | 2 | (Upper digit of hour) | No. = 1 2 3 4 (Data No.) | | | | | | | | 0 | |
| | 3 | | EX 0 0 0 0 | | | | | | | | 0 | |
| SW36 | 4 | | | | | | | | | | 0 | |
| | 5 | End time of heater OFF timer | Binary input 8 4 2 1 | | | | | | | | 0 | OPTION |
| | 6 | (Lower digit of hour) | No. = 5 6 7 8 (Data No.) | | | | | | | | 0 | |
| | 7 | | EX 0 0 0 0 | | | | | | | | 0 | |
| | 8 | | eg. End time is set to 21: XX | | | | | | | | 0 | |

| SW NO. | DATA NO. | ITEM | Switch setting and function 1 | Switch setting and function 0 | Initial setting | Remarks |
|---|---|---|---|---|---|---|
| SW37 | 1 | End time of heater OFF timer | Binary input 8 4 2 1 | | 0 | OPTION |
| | 2 | (Upper digit of minute) | No. = 1 2 3 4 (Data No.) | | 0 | |
| | 3 | | EX 0 0 0 0 | | 0 | |
| | 4 | | | | 0 | |
| | 5 | End time of heater OFF timer | Binary input 8 4 2 1 | | 0 | OPTION |
| | 6 | (Lower digit of minute) | No. = 5 6 7 8 (Data No.) | | 0 | |
| | 7 | | EX 0 0 0 0 | | 0 | |
| | 8 | | eg. End time is set to XX: 35 | | 0 | |
| SW38 | 1 | Reserved | | | 1 | |
| | 2 | Reserved | | | 0 | |
| | 3 | Reserved | | | 0 | |
| | 4 | Reserved | | | 0 | |
| | 5 | Reserved | | | 0 | |
| | 6 | Reserved | | | 0 | |
| | 7 | Reserved | | | 0 | |
| | 8 | Reserved | | | 0 | |
| SW39 | 1 | Reserved | | | 0 | |
| | 2 | Reserved | | | 1 | |
| | 3 | Reserved | | | 0 | |
| | 4 | Reserved | | | 0 | |
| | 5 | Reserved | | | 0 | |
| | 6 | Reserved | | | 0 | |
| | 7 | Reserved | | | 0 | |
| | 8 | Reserved | | | 0 | |
| SW40 | 1 | Reserved | | | 1 | |
| | 2 | Reserved | | | 0 | |
| | 3 | Reserved | | | 0 | |
| | 4 | Reserved | | | 0 | |
| | 5 | Reserved | | | 0 | |
| | 6 | Reserved | | | 0 | |
| | 7 | Reserved | | | 0 | |
| | 8 | Reserved | | | 0 | |
| SW41 | 1 | Reserved | | | 0 | |
| | 2 | Reserved | | | 0 | |
| | 3 | Reserved | | | 1 | |
| | 4 | Reserved | | | 0 | |
| | 5 | Reserved | | | 0 | |
| | 6 | Reserved | | | 1 | |
| | 7 | Reserved | | | 0 | |
| | 8 | Reserved | | | 1 | |

| SW NO. | DATA NO. | ITEM | Switch setting and function | | Initial setting | Remarks |
|---|---|---|---|---|---|---|
| | | | 1 | 0 | | |
| SW42 | 1 | Reserved | | | 0 | |
| | 2 | Reserved | | | 0 | |
| | 3 | Reserved | | | 1 | |
| | 4 | Reserved | | | 0 | |
| | 5 | Reserved | | | 0 | |
| | 6 | Reserved | | | 1 | |
| | 7 | Reserved | | | 0 | |
| | 8 | Reserved | | | 1 | |
| SW43 | 1 | Reserved | | | 1 | |
| | 2 | Reserved | | | 0 | |
| | 3 | Reserved | | | 0 | |
| | 4 | Reserved | | | 0 | |
| | 5 | Reserved | | | 0 | |
| | 6 | Reserved | | | 1 | |
| | 7 | Reserved | | | 0 | |
| | 8 | Reserved | | | 1 | |
| SW44 | 1 | Automatic printing of activity report | Yes (When memory full) | No (First data is cleared when memory full) | 0 | OPTION |
| | 2 | Printout of total time and total number of pages on activity report | Off | On | 0 | |
| | 3 | Reserved | | | 0 | |
| | 4 | Department function | On | Off | 0 | |
| | 5 | Department ID digit | Binary input 8 4 2 1 | | 0 | OPTION |
| | 6 | | No. = 5 6 7 8 (Data No.) | | 1 | Set is 3~9. |
| | 7 | | EX 0 1 0 0 | | 0 | |
| | 8 | | eg. Department ID is set to 4 digits. | | 0 | |
| SW45 | 1 | Picture quality priority mode | Fine | Standard | 0 | OPTION |
| | 2 | Cut-off mode (when copy mode) | Continue | Cut-off | 0 | OPTION |
| | 3 | Scanning ratio in memory input | 1 : 1 | Reduce | 0 | Memory scanning |
| | 4 | Verification STAMP | Yes | No | 0 | Invalid if not mounted. |
| | 5 | Overseas communication mode selection function | Yes | No | 0 | Refer to Page 2-44. |
| | | Reduce ratio (when copy mode) | AUTO / 100% / 95% / 89% / 74% | | | |
| | 6 | | No. 6: 0 / 1 / 0 / 0 / 1 | | 1 | |
| | 7 | | No. 7: 0 / 0 / 1 / 0 / 1 | | 0 | |
| | 8 | | No. 8: 0 / 0 / 0 / 1 / 0 | | 0 | |

| SW NO. | DATA NO. | ITEM | Switch setting and function | | | | | Initial setting | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| | | | 1 | | 0 | | | | |
| | 1 | Reserved | | | | | | 0 | |
| | 2 | Reserved | | | | | | 0 | |
| | | Density adjustment (when Fine/STD mode) | | Normal | Faint | Deep | Deep (when Dark mode) | | |
| | 3 | | No. 1 | 0 | 0 | 1 | 1 | 0 | |
| SW46 | 4 | | No. 2 | 0 | 1 | 0 | 1 | 0 | |
| | | Density adjustment (when Half-tone mode) | | Normal | Faint | Deep | Deep (when Dark mode) | | |
| | 5 | | No. 3 | 0 | 0 | 1 | 1 | 0 | |
| | 6 | | No. 4 | 0 | 1 | 0 | 1 | 0 | |
| | 7 | HTF correction in Half-tone mode | On | | Off | | | 1 | |
| | 8 | MTF correction in Half-tone mode | Strong | | Weak | | | 0 | |
| | 1 | Reserved | | | | | | 0 | |
| | 2 | Reserved | | | | | | 0 | |
| | 3 | Reserved | | | | | | 0 | |
| SW47 | 4 | Reserved | | | | | | 0 | |
| | 5 | Reserved | | | | | | 0 | |
| | 6 | Reserved | | | | | | 0 | |
| | 7 | Reserved | | | | | | 0 | |
| | 8 | Reserved | | | | | | 0 | |
| | 1 | Reserved | | | | | | 0 | |
| | 2 | Reserved | | | | | | 0 | |
| | 3 | Reserved | | | | | | 0 | |
| SW48 | 4 | Reserved | | | | | | 0 | |
| | 5 | Reserved | | | | | | 0 | |
| | 6 | Reserved | | | | | | 0 | |
| | 7 | Reserved | | | | | | 0 | |
| | 8 | Reserved | | | | | | 0 | |
| | 1 | Reserved | | | | | | 0 | |
| | 2 | Reserved | | | | | | 0 | |
| | 3 | Reserved | | | | | | 0 | |
| SW49 | 4 | Reserved | | | | | | 0 | |
| | 5 | Reserved | | | | | | 0 | |
| | 6 | Reserved | | | | | | 0 | |
| | 7 | Reserved | | | | | | 0 | |
| | 8 | Reserved | | | | | | 0 | |
| | 1 | Reserved | | | | | | 0 | |
| | 2 | Reserved | | | | | | 0 | |
| | 3 | Reserved | | | | | | 0 | |
| SW50 | 4 | Reserved | | | | | | 0 | |
| | 5 | Reserved | | | | | | 0 | |
| | 6 | Reserved | | | | | | 0 | |
| | 7 | Reserved | | | | | | 0 | |
| | 8 | Reserved | | | | | | 0 | |
| | 1 | Reserved | | | | | | 0 | |
| | 2 | Reserved | | | | | | 0 | |
| | 3 | Reserved | | | | | | 0 | |
| SW51 | 4 | Reserved | | | | | | 0 | |
| | 5 | Reserved | | | | | | 0 | |
| | 6 | Reserved | | | | | | 0 | |
| | 7 | Reserved | | | | | | 0 | |
| | 8 | Reserved | | | | | | 0 | |

| SW NO. | DATA NO. | ITEM | Switch setting and function | | | | | | Initial setting | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | 1 | | | 0 | | | | |
| SW52 | 1 | Reserved | | | | | | | 0 | |
| | 2 | Reserved | | | | | | | 0 | |
| | 3 | Reserved | | | | | | | 0 | |
| | 4 | Reserved | | | | | | | 0 | |
| | 5 | Reserved | | | | | | | 0 | |
| | 6 | Reserved | | | | | | | 0 | |
| | 7 | Reserved | | | | | | | 0 | |
| | 8 | Reserved | | | | | | | 0 | |
| SW53 | 1 | Reserved | | | | | | | 0 | |
| | 2 | Reserved | | | | | | | 0 | |
| | 3 | Reserved | | | | | | | 0 | |
| | 4 | Reserved | | | | | | | 0 | |
| | 5 | Reserved | | | | | | | 0 | |
| | 6 | Reserved | | | | | | | 0 | |
| | 7 | Reserved | | | | | | | 0 | |
| | 8 | Reserved | | | | | | | 0 | |
| SW54 | 1 | Reserved | | | | | | | 0 | |
| | 2 | Reserved | | | | | | | 0 | |
| | 3 | Reserved | | | | | | | 0 | |
| | 4 | Reserved | | | | | | | 0 | |
| | 5 | Reserved | | | | | | | 0 | |
| | 6 | Reserved | | | | | | | 0 | |
| | 7 | Reserved | | | | | | | 0 | |
| | 8 | Reserved | | | | | | | 0 | |
| SW55 | 1 | Reserved | | | | | | | 0 | |
| | 2 | Reserved | | | | | | | 0 | |
| | 3 | Reserved | | | | | | | 0 | |
| | 4 | Reserved | | | | | | | 0 | |
| | 5 | Reserved | | | | | | | 0 | |
| | 6 | Reserved | | | | | | | 0 | |
| | 7 | Reserved | | | | | | | 0 | |
| | 8 | Reserved | | | | | | | 0 | |
| SW56 | 1 | Reserved | | | | | | | 1 | |
| | 2 | Reserved | | | | | | | 1 | |
| | 3 | Reserved | | | | | | | 1 | |
| | 4 | Reserved | | | | | | | 1 | |
| | 5 | Printing when toner empty | Printing | | | Stop | | | 0 | |
| | | Reduction of print data | | AUTO | 100% | 94%(92%) | 88%(86%) | 73%(72%) | | The number in () is applicable for the footer print on. AUTO is equivalent to 100 %. |
| | 6 | | No. 6 | 0 | 1 | 0 | 0 | 1 | 0 | |
| | 7 | | No. 7 | 0 | 0 | 1 | 0 | 1 | 0 | |
| | 8 | | No. 8 | 0 | 0 | 0 | 1 | 0 | 0 | |
| SW57 | 1 | Reserved | | | | | | | 0 | |
| | 2 | Reserved | | | | | | | 0 | |
| | 3 | Reserved | | | | | | | 0 | |
| | 4 | Reserved | | | | | | | 0 | |
| | 5 | Reserved | | | | | | | 0 | |
| | 6 | Reserved | | | | | | | 0 | |
| | 7 | Reserved | | | | | | | 0 | |
| | 8 | Reserved | | | | | | | 0 | |

| SW NO. | DATA NO. | ITEM | Switch setting and function | | Initial setting | Remarks |
|---|---|---|---|---|---|---|
| | | | 1 | 0 | | |
| SW58 | 1 | Reserved | | | 0 | |
| | 2 | Reserved | | | 0 | |
| | 3 | Reserved | | | 0 | |
| | 4 | Reserved | | | 0 | |
| | 5 | Reserved | | | 0 | |
| | 6 | Reserved | | | 0 | |
| | 7 | Reserved | | | 0 | |
| | 8 | Reserved | | | 0 | |
| SW59 | 1 | Reserved | | | 0 | |
| | 2 | Reserved | | | 0 | |
| | 3 | Reserved | | | 0 | |
| | 4 | Reserved | | | 0 | |
| | 5 | Reserved | | | 0 | |
| | 6 | Reserved | | | 0 | |
| | 7 | Reserved | | | 0 | |
| | 8 | Reserved | | | 0 | |
| SW60 | 1 | Reserved | | | 0 | |
| | 2 | Reserved | | | 0 | |
| | 3 | Reserved | | | 0 | |
| | 4 | Reserved | | | 0 | |
| | 5 | Reserved | | | 0 | |
| | 6 | Reserved | | | 0 | |
| | 7 | Reserved | | | 0 | |
| | 8 | Reserved | | | 0 | |
| SW61 | 1 | Reserved | | | 0 | |
| | 2 | Reserved | | | 0 | |
| | 3 | Reserved | | | 0 | |
| | 4 | Reserved | | | 0 | |
| | 5 | Reserved | | | 0 | |
| | 6 | Reserved | | | 0 | |
| | 7 | Reserved | | | 0 | |
| | 8 | Reserved | | | 0 | |
| SW62 | 1 | Reserved | | | 0 | |
| | 2 | Reserved | | | 0 | |
| | 3 | Reserved | | | 0 | |
| | 4 | Reserved | | | 0 | |
| | 5 | Reserved | | | 0 | |
| | 6 | Reserved | | | 0 | |
| | 7 | Reserved | | | 0 | |
| | 8 | Reserved | | | 0 | |
| SW63 | 1 | Reserved | | | 0 | |
| | 2 | Reserved | | | 0 | |
| | 3 | Reserved | | | 0 | |
| | 4 | Reserved | | | 0 | |
| | 5 | Reserved | | | 0 | |
| | 6 | Reserved | | | 0 | |
| | 7 | Reserved | | | 0 | |
| | 8 | Reserved | | | 0 | |

| SW NO. | DATA NO. | ITEM | Switch setting and function | | Initial setting | Remarks |
|---|---|---|---|---|---|---|
| | | | 1 | 0 | | |
| SW64 | 1 | Reserved | | | 0 | |
| | 2 | Reserved | | | 0 | |
| | 3 | Reserved | | | 0 | |
| | 4 | Reserved | | | 0 | |
| | 5 | Reserved | | | 0 | |
| | 6 | Reserved | | | 0 | |
| | 7 | Reserved | | | 0 | |
| | 8 | Reserved | | | 0 | |
| SW65 | 1 | Reserved | | | 0 | |
| | 2 | Reserved | | | 0 | |
| | 3 | Reserved | | | 0 | |
| | 4 | Reserved | | | 0 | |
| | 5 | Reserved | | | 0 | |
| | 6 | Reserved | | | 0 | |
| | 7 | Reserved | | | 0 | |
| | 8 | Reserved | | | 0 | |
| SW66 | 1 | Reserved | | | 0 | |
| | 2 | Reserved | | | 0 | |
| | 3 | Reserved | | | 0 | |
| | 4 | Reserved | | | 0 | |
| | 5 | Reserved | | | 0 | |
| | 6 | Reserved | | | 0 | |
| | 7 | Reserved | | | 0 | |
| | 8 | Reserved | | | 0 | |
| SW67 | 1 | Reserved | | | 0 | |
| | 2 | Reserved | | | 0 | |
| | 3 | Reserved | | | 0 | |
| | 4 | Reserved | | | 0 | |
| | 5 | Reserved | | | 0 | |
| | 6 | Reserved | | | 0 | |
| | 7 | Reserved | | | 0 | |
| | 8 | Reserved | | | 0 | |
| SW68 | 1 | Reserved | | | 0 | |
| | 2 | Reserved | | | 0 | |
| | 3 | Reserved | | | 0 | |
| | 4 | Reserved | | | 0 | |
| | 5 | Reserved | | | 0 | |
| | 6 | Reserved | | | 0 | |
| | 7 | Reserved | | | 0 | |
| | 8 | Reserved | | | 0 | |
| SW69 | 1 | Cassette define (LTR/A4): Tray | A4 | LTR | 0 | |
| | 2 | Cassette define (LTR/A4): Upper | A4 | LTR | 0 | When W cassette |
| | 3 | Cassette define (LTR/A4): Lower | A4 | LTR | 0 | Ignore when W cassette. |
| | 4 | Separation of image area in the half-tone | On | Off | 1 | |
| | 5 | Removal of notch in the binary mode | On | Off | 1 | |
| | 6 | Reserved | | | 1 | |
| | 7 | Reserved | | | 1 | |
| | 8 | Reserved | | | 0 | |

| SW NO. | DATA NO. | ITEM | Switch setting and function | | | | | | | | | Initial setting | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 1 | | | | | | | | 0 | | |
| SW70 | 1 | Reserved | | | | | | | | | | 1 | |
| | 2 | Reserved | | | | | | | | | | 1 | |
| | 3 | Reserved | | | | | | | | | | 1 | |
| | 4 | Reserved | | | | | | | | | | 1 | |
| | 5 | Reserved | | | | | | | | | | 0 | |
| | 6 | Reserved | | | | | | | | | | 0 | |
| | 7 | Reserved | | | | | | | | | | 0 | |
| | 8 | Reserved | | | | | | | | | | 0 | |
| SW71 | | Black line detection (When transmission scanning) | Continued black line count when detected | | | | | | | | | | |
| | | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Unused | | |
| | 1 | | No. 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 2 | | No. 2 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | |
| | 3 | | No. 3 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | |
| | 4 | | No. 4 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | |
| | | All white page detection (When transmission scanning) | All white line count ratio against total count of page to judge the white page | | | | | | | | | | |
| | | | | Unused | 1.0% | 1.5% | 2.0% | 2.5% | 3.0% | 3.5% | 4.0% | | |
| | 5 | | No. 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 6 | | No. 6 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | |
| | 7 | | No. 7 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | |
| | 8 | | No. 8 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | |
| | | | All white line count ratio against total count of page to judge the white page | | | | | | | | | | |
| | | | | 4.5% | 5.0% | 5.5% | 6.0% | 7.0% | 8.0% | 9.0% | 10.0% | | |
| | 5 | | No. 5 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | |
| | 6 | | No. 6 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | | |
| | 7 | | No. 7 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | | |
| | 8 | | No. 8 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | | |
| SW72 | | Black line detection (When copy scanning) | Continued black line count when detected | | | | | | | | | | |
| | | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Unused | | |
| | 1 | | No. 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 2 | | No. 2 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | |
| | 3 | | No. 3 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | |
| | 4 | | No. 4 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | |
| | | White page detect (When copy scanning) | All white line count ratio against total count of page to judge the white page | | | | | | | | | | |
| | | | | Unused | 1.0% | 1.5% | 2.0% | 2.5% | 3.0% | 3.5% | 4.0% | | |
| | 5 | | No. 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 6 | | No. 6 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | |
| | 7 | | No. 7 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | |
| | 8 | | No. 8 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | |
| | | | All white line count ratio against total count of page to judge the white page | | | | | | | | | | |
| | | | | 4.5% | 5.0% | 5.5% | 6.0% | 7.0% | 8.0% | 9.0% | 10.0% | | |
| | 5 | | No. 5 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | |
| | 6 | | No. 6 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | | |
| | 7 | | No. 7 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | | |
| | 8 | | No. 8 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | | |
| SW73 | 1 | Reserved | | | | | | | | | | 1 | |
| | 2 | Reserved | | | | | | | | | | 0 | |
| | 3 | Reserved | | | | | | | | | | 0 | |
| | 4 | Reserved | | | | | | | | | | 0 | |
| | 5 | Reserved | | | | | | | | | | 0 | |
| | 6 | Reserved | | | | | | | | | | 0 | |
| | 7 | Reserved | | | | | | | | | | 0 | |
| | 8 | Reserved | | | | | | | | | | 1 | |

| SW NO. | DATA NO. | ITEM | Switch setting and function | | Initial setting | Remarks |
|---|---|---|---|---|---|---|
| | | | 1 | 0 | | |
| SW74 | 1 | Reserved | | | 0 | |
| | 2 | Reserved | | | 1 | |
| | 3 | Reserved | | | 1 | |
| | 4 | Reserved | | | 0 | |
| | 5 | Reserved | | | 0 | |
| | 6 | Reserved | | | 0 | |
| | 7 | Reserved | | | 0 | |
| | 8 | Reserved | | | 0 | |
| SW75 | 1 | Reserved | | | 0 | |
| | 2 | Reserved | | | 1 | |
| | 3 | Reserved | | | 0 | |
| | 4 | Reserved | | | 0 | |
| | 5 | Reserved | | | 0 | |
| | 6 | Reserved | | | 0 | |
| | 7 | Reserved | | | 0 | |
| | 8 | Reserved | | | 0 | |
| SW76 | 1 | Reserved | | | 1 | |
| | 2 | Reserved | | | 1 | |
| | 3 | Reserved | | | 1 | |
| | 4 | Reserved | | | 1 | |
| | 5 | Reserved | | | 1 | |
| | 6 | Reserved | | | 1 | |
| | 7 | Reserved | | | 0 | |
| | 8 | Reserved | | | 0 | |
| SW77 | 1 | Reserved | | | 0 | |
| | 2 | Reserved | | | 0 | |
| | 3 | Reserved | | | 0 | |
| | 4 | Reserved | | | 0 | |
| | 5 | Reserved | | | 0 | |
| | 6 | Reserved | | | 0 | |
| | 7 | Reserved | | | 0 | |
| | 8 | Reserved | | | 0 | |
| SW78 | 1 | Secure billing code | Yes | No | 0 | |
| | 2 | Pause with Z key | Yes | No | 0 | Only when special billing code is given. |
| | 3 | Reserved | | | 0 | |
| | 4 | Z key pause time | Binary input 16 8 4 2 1 | | 0 | Only when the special billing code is given The ordinary pause is not affected. |
| | 5 | 250 ms unit | No. = 4 5 6 7 8 (Data No.) | | 0 | |
| | 6 | | EX 0 0 0 0 0 | | 0 | |
| | 7 | | eg. Pause time 250 ms | | 0 | |
| | 8 | | Time = (n + 1) x 250 ms | | 0 | |
| SW79 | 1 | Reserved | | | 1 | |
| | 2 | Reserved | | | 1 | |
| | 3 | Reserved | | | 1 | |
| | 4 | Reserved | | | 1 | |
| | 5 | Reserved | | | 0 | |
| | 6 | Reserved | | | 0 | |
| | 7 | Reserved | | | 0 | |
| | 8 | Reserved | | | 0 | |

| SW NO. | DATA NO. | ITEM | Switch setting and function | | Initial setting | Remarks |
|---|---|---|---|---|---|---|
| | | | 1 | 0 | | |
| SW80 | 1 | Reserved | | | 0 | |
| | 2 | Reserved | | | 0 | |
| | 3 | Reserved | | | 1 | |
| | 4 | Reserved | | | 1 | |
| | 5 | Reserved | | | 0 | |
| | 6 | Reserved | | | 1 | |
| | 7 | Reserved | | | 1 | |
| | 8 | Reserved | | | 0 | |
| SW81 | 1 | Reserved | | | 0 | |
| | 2 | Reserved | | | 0 | |
| | 3 | Reserved | | | 0 | |
| | 4 | Reserved | | | 0 | |
| | 5 | Reserved | | | 1 | |
| | 6 | Reserved | | | 0 | |
| | 7 | Reserved | | | 0 | |
| | 8 | Reserved | | | 0 | |
| SW82 | 1 | Reserved | | | 1 | |
| | 2 | Reserved | | | 0 | |
| | 3 | Reserved | | | 0 | |
| | 4 | Reserved | | | 1 | |
| | 5 | Reserved | | | 0 | |
| | 6 | Reserved | | | 0 | |
| | 7 | Reserved | | | 1 | |
| | 8 | Reserved | | | 1 | |
| SW83 | 1 | Reserved | | | 0 | |
| | 2 | Reserved | | | 1 | |
| | 3 | Reserved | | | 0 | |
| | 4 | Reserved | | | 0 | |
| | 5 | Reserved | | | 0 | |
| | 6 | Reserved | | | 1 | |
| | 7 | Reserved | | | 1 | |
| | 8 | Reserved | | | 0 | |
| SW84 | 1 | Reserved | | | 0 | |
| | 2 | Reserved | | | 0 | |
| | 3 | Reserved | | | 1 | |
| | 4 | Reserved | | | 0 | |
| | 5 | Reserved | | | 0 | |
| | 6 | Reserved | | | 0 | |
| | 7 | Reserved | | | 0 | |
| | 8 | Reserved | | | 1 | |
| SW85 | 1 | Reserved | | | 0 | |
| | 2 | Reserved | | | 0 | |
| | 3 | Reserved | | | 1 | |
| | 4 | Reserved | | | 0 | |
| | 5 | Reserved | | | 0 | |
| | 6 | Reserved | | | 0 | |
| | 7 | Reserved | | | 0 | |
| | 8 | Reserved | | | 1 | |

| SW NO. | DATA NO. | ITEM | Switch setting and function | | | | | Initial setting | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| | | | 1 | | 0 | | | | |
| SW86 | 1 | F.A.S.T. (RMS) mode | On | | Off | | | 0 | |
| | 2 | F.A.S.T. (RMS) line | LINE 2 | | LINE 1 | | | 0 | |
| | 3 | Day light saving time feature | On | | Off | | | 0 | |
| | 4 | Separate mode | On | | Off | | | 0 | OPTION |
| | 5 | Reserved | | | | | | 0 | |
| | 6 | Reserved | | | | | | 0 | |
| | 7 | CNG send when manual TX | On | | Off | | | 1 | |
| | 8 | Ringer of line 2 | On | | Off | | | 0 | |
| SW87 | 1 | Reserved | | | | | | 0 | |
| | | Addition of header to various lists | | Without addition | Information of line 1 | Information of line 2 | Without addition | | |
| | 2 | | No. 2 | 0 | 0 | 1 | 1 | 0 | |
| | 3 | | No. 3 | 0 | 1 | 0 | 1 | 0 | |
| | | Relay instruction transmission line specification | | AUTO | Line 1 | Line 2 | Not used (AUTO) | | |
| | 4 | | No. 4 | 0 | 0 | 1 | 1 | 0 | |
| | 5 | | No. 5 | 0 | 1 | 0 | 1 | 1 | |
| | 6 | Reserved | | | | | | 1 | |
| | 7 | Reserved | | | | | | 0 | |
| | 8 | Reserved | | | | | | 0 | |
| SW88 | 1 | Reserved | | | | | | 0 | |
| | 2 | Reserved | | | | | | 1 | |
| | 3 | Reserved | | | | | | 0 | |
| | 4 | Reserved | | | | | | 0 | |
| | 5 | Reserved | | | | | | 0 | |
| | 6 | Reserved | | | | | | 0 | |
| | 7 | Reserved | | | | | | 0 | |
| | 8 | Reserved | | | | | | 0 | |
| SW89 | 1 | Reserved | | | | | | 0 | |
| | 2 | Reserved | | | | | | 0 | |
| | 3 | Reserved | | | | | | 0 | |
| | 4 | Reserved | | | | | | 0 | |
| | 5 | Reserved | | | | | | 0 | |
| | 6 | Reserved | | | | | | 0 | |
| | 7 | Reserved | | | | | | 0 | |
| | 8 | Reserved | | | | | | 0 | |
| SW90 | 1 | Reserved | | | | | | 0 | |
| | 2 | Reserved | | | | | | 0 | |
| | 3 | Reserved | | | | | | 0 | |
| | 4 | Reserved | | | | | | 0 | |
| | 5 | Reserved | | | | | | 0 | |
| | 6 | Reserved | | | | | | 0 | |
| | 7 | Reserved | | | | | | 0 | |
| | 8 | Reserved | | | | | | 0 | |
| SW91 | 1 | Reserved | | | | | | 0 | |
| | 2 | Reserved | | | | | | 0 | |
| | 3 | Reserved | | | | | | 0 | |
| | 4 | Reserved | | | | | | 0 | |
| | 5 | Reserved | | | | | | 0 | |
| | 6 | Reserved | | | | | | 0 | |
| | 7 | Reserved | | | | | | 0 | |
| | 8 | Reserved | | | | | | 0 | |

| SW NO. | DATA NO. | ITEM | Switch setting and function | | Initial setting | Remarks |
|---|---|---|---|---|---|---|
| | | | 1 | 0 | | |
| SW92 | 1 | Reserved | | | 0 | |
| | 2 | Reserved | | | 0 | |
| | 3 | Reserved | | | 0 | |
| | 4 | Reserved | | | 0 | |
| | 5 | Reserved | | | 0 | |
| | 6 | Reserved | | | 0 | |
| | 7 | Reserved | | | 0 | |
| | 8 | Reserved | | | 0 | |
| SW93 | 1 | Reserved | | | 0 | |
| | 2 | Reserved | | | 0 | |
| | 3 | Reserved | | | 0 | |
| | 4 | Reserved | | | 0 | |
| | 5 | Reserved | | | 0 | |
| | 6 | Reserved | | | 0 | |
| | 7 | Reserved | | | 0 | |
| | 8 | Reserved | | | 0 | |
| SW94 | 1 | Reserved | | | 0 | |
| | 2 | Reserved | | | 0 | |
| | 3 | Reserved | | | 0 | |
| | 4 | Reserved | | | 0 | |
| | 5 | Reserved | | | 0 | |
| | 6 | Reserved | | | 0 | |
| | 7 | Reserved | | | 0 | |
| | 8 | Reserved | | | 0 | |
| SW95 | 1 | Reserved | | | 0 | |
| | 2 | Reserved | | | 0 | |
| | 3 | Reserved | | | 0 | |
| | 4 | Reserved | | | 0 | |
| | 5 | Reserved | | | 0 | |
| | 6 | Reserved | | | 0 | |
| | 7 | Reserved | | | 0 | |
| | 8 | Reserved | | | 0 | |
| SW96 | 1 | Reserved | | | 0 | |
| | 2 | Reserved | | | 0 | |
| | 3 | Reserved | | | 0 | |
| | 4 | Reserved | | | 0 | |
| | 5 | Reserved | | | 0 | |
| | 6 | Reserved | | | 0 | |
| | 7 | Reserved | | | 0 | |
| | 8 | Reserved | | | 0 | |
| SW97 | 1 | Reserved | | | 0 | |
| | 2 | Reserved | | | 0 | |
| | 3 | Reserved | | | 0 | |
| | 4 | Reserved | | | 0 | |
| | 5 | Reserved | | | 1 | |
| | 6 | Reserved | | | 1 | |
| | 7 | Reserved | | | 1 | |
| | 8 | Reserved | | | 1 | |

| SW NO. | DATA NO. | ITEM | Switch setting and function | | Initial setting | Remarks |
|---|---|---|---|---|---|---|
| | | | 1 | 0 | | |
| SW98 | 1 | Reserved | | | 0 | |
| | 2 | Reserved | | | 0 | |
| | 3 | Reserved | | | 0 | |
| | 4 | Reserved | | | 0 | |
| | 5 | Reserved | | | 0 | |
| | 6 | Reserved | | | 0 | |
| | 7 | Reserved | | | 0 | |
| | 8 | Reserved | | | 0 | |
| SW99 | 1 | Reserved | | | 0 | |
| | 2 | Reserved | | | 0 | |
| | 3 | Reserved | | | 0 | |
| | 4 | Reserved | | | 0 | |
| | 5 | Reserved | | | 0 | |
| | 6 | Reserved | | | 0 | |
| | 7 | Reserved | | | 0 | |
| | 8 | Reserved | | | 0 | |

## • Soft switch function description

**SW1 No. 1 ~ No. 4 Recall interval**

Choice is made for a recall interval for speed and rapid dial-numbers. Use a binary number to program this. If set to 0 accidentally, 1 will be assumed.

**SW1 No. 5 ~ No. 8 Recall attempts**

Choice is made as to how many recall attempts should be made. Use a binary number to program this.

**SW2 No. 1 Dialing mode**

Switch the type according to the telephone circuit connected to the facsimile.

0: PULSE DIAL

1: TONE DIAL

**SW2 No. 2 Receive mode**

Auto/manual receiving mode is set.

**SW2 No. 3 ECM mode**

Used to determine ECM mode function. Refer to the following table.

| SW2-No.3 ECM MODE | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SW6-No.1 MH FIXED | | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 |
| Compression method | ECM MMR mode | Yes | No | Yes | No | No | No | No | No | No | No | No | No | No | No | No | No |
| | ECM MR mode | Yes | No | Yes | No | Yes | No | Yes | No | No | No | No | No | No | No | No | No |
| | ECM MMH mode | Yes | Yes | No | No | Yes | Yes | No | No | No | No | No | No | No | No | No | No |
| | ECM MH mode | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | No | No | No | No | No | No | No | No |
| | MR mode | Yes | No | Yes | No | Yes | No | Yes | No | Yes | No | Yes | No | Yes | No | Yes | No |
| | MH mode | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |

(Depending on remote machine)

**SW2 No. 4 Reserved**

Set to "0".

**SW2 No. 5 Polling security**

This switch is employed to enable or disable the polling operation using the ID code verification function, in order to prevent unauthorized polling operation.

**SW2 No. 6 Auto cover sheet**

When "1" (=YES) is selected, the cover sheet is automatically sent after transmission of the original to notify the receiver of the number of original sheets transmitted.

**SW2 No. 7 JNNK-FAX function in manual reception**

It is set whether JUNK-FAX is functioned in the manual receiving mode or not.

**SW2 No. 8 JUNK-FAX function**

This function is used to receive data from a specific remote machine (station registered in entry mode). It is the function that refused a reception in the case that TSI of remote machine matched with fax number of the station registered.

0: No

1: Yes

**SW3 No. 1 ~ No. 4 Number of rings for auto-receive (0: No ring receive)**

When the machine is set in the auto receive mode, the number of rings before answering can be selected. It may be set from one to nine rings using a binary number. If the soft switch was set to 1, a direct connection is made to the facsimile. If a facsimile. If it was set to 0 accidentally, receive ring is set to 1. If it was above 9, receive rings are set to 9. So, this has to be corrected.

- SW1 to SW13: For line 1
- SW14 to SW26: For line 2

**SW3 No. 5 ~ No. 8 Switch to auto-receive from manual receive (0: No switch)**

Choice is made after how many rings in the manual receive mode it should be automatically change to auto answer mode or remain in the manual receive mode. Entering the binary number 0 forces the machine to remain in the manual answer mode. If a number between 1 and 9 is entered, the machine will go into the answer mode after the given number of rings. However, it can be used as an ordinary telephone if the handset is taken off the hook before this programmed number is finished. If entry of a number above 9 by accident, it will be set to 9. In this case, it must be corrected to the proper number.

**SW4 No. 1 ~ No. 3 Communication results printout**

It is possible to obtain communication results after each transaction. Normally, the switch is set (No. 1: 0, No. 2: 0, No. 3: 1) so that the communication result is produced only a communication error is encountered. If No. 1 was set to 1, No. 2 was set to 1 and No. 3 was set to 0, the communication result will be produced every time a communication is done, even if the communication was successful.

If No. 1 was set to 0, No. 2 to 1 and No. 3 to 0, the communication result will be produced every transmission.

Setting No. 1 to 1 No. 2 to 0 and No. 3 to 0 will disable this function. No transaction report will be printed.

If No. 1 was set to 0, No. 2 to 0 and No. 3 to 0, the communication result is produced only after a timer and memory transmission or when a communication error is encountered.

**SW4 No. 4 Image addition function to the communication result table (for memory transmission only)**

Used to set addition of sending image to the communication result table.

**SW4 No. 5 Reserved**

Set to "0".

**SW4 No. 6 TEL billing code function**

When set to "1", the TEL billing code function is enabled.

**SW4 No. 7 Billing code position**

When set to "1", the billing code is delivered before dialing the remote number. When set to "0", the billing code is delivered after dialing.

**SW4 No. 8 Multi-TTI feature**

When this switch is set to "1", Multi TTI function is enabled.

**SW5 No. 1 Time display format**

When this switch is set to "0", time is displayed in 12-hour system.

When set to "1", 24-hour system.

**SW5 No. 2 Date display format**

Used to select date display/print formats.

**SW5 No. 3 Header print**

When it is set at 0, sender's name, sending page number and so on are automatically printed in the recording paper on the receiving side during transmission. Thus, the sender can be known on the receiving side.

0: Applied.

1: Not applied.

**SW5 No. 4 Footer print**

When set to "1", the date of reception, the sender machine No., and the page No. are automatically recorded at the end of reception.

**SW5 No. 5 Relay data output**

0: Output ON

1: Output OFF

**SW5 No. 6 Substitute reception**

Selection of substitute reception in the case of recording paper exhausted or paper jam. If set to "NO", auto receive is disabled even when the receive memory is ready to receive.

Substitute reception is not performed even during receive operation.

**SW5 No. 7 Substitute reception condition**

Selection of substitute reception according to existence of TEL number from transmitting side. Initial setting allows substitute reception without CSI. If set to "no", the receiver cannot receive any documents.

**SW5 No. 8 CSI transmission**

CSI signal contains the sender's phone number registered in the machine. If this switch is set to "1", no sender's name will be printed at the receiving side.

**SW6 No. 1 MH fixed**

Normally set to allow automatic selection of MH and MR mode according to the remote side.

If set to 1, the mode is fixed to MH and is useful if the remote side is a MH only unit; or a lot of image distortion is met due to a bad line.

**SW6 No. 2 H2 mode**

Used to determine H2 mode (15 sec transmission mode). When set to OFF, H2 mode is inhibited even though the transmitting machine has H2 mode.

**SW6 No. 3, No. 4 Reserved**

Set to "0".

**SW6 No. 5 ~ No. 8 Modem speed (DCS date reception speed)**

Used to determine the initial modem speed. The default is 14400BPS (V17). It may be necessary to program it to a slower speed when frequent line fallback is encountered, in order to save the time required for the fallback procedure.

**SW7 No. 1, No. 2 Reception speed fixed**

The transferable speed of modem in the receiving mode is set.

**SW7 No. 3 DIS receive acknowledge during G3 transmission**

Used to make a choice of whether reception of NSF (DIS) is acknowledged after receiving two NSFs (DISs) or receiving one NSF (two DISs).

It may be useful for overseas communication to avoid an echo suppression problem, if set to 1.

**SW7 No. 4 Non-modulated carrier in V29 transmission mode**

Though transmission of a non-modulated carrier is not required for transmission by the V29 modem according to the CCITT Recommendation, it may be permitted to send a non-modulated carrier before the image signal to avoid an echo suppression problem.

It may be useful for overseas communication to avoid an echo suppression problem, if set to 1.

**SW7 No. 5 EOL detection timer**

Used to make a choice of whether to use the 25-second or 13-second timer for detection of End of line.

This is effective to override communication failures with some facsimile models that have longer End of line detection.

**SW7 No. 6 Protocol Monitor**

Normally set to "0". If set to "1", communication can be checked, in case of troubles, without using a G3 tester or other tools.

When communication FSK data transmission or reception is made, the data is taken into buffer. When communication is finished, the data analyzed and print out. When data is received with the line monitor (SW7-No. 7) set to "1" the reception level is also print out.

**SW7 No. 7 Line monitor**

Normally set to "0". If set to "1", the transmission speed and the reception level are displayed on the LCD. Used for line tests.

**SW7 No. 8 Max. length for TX/RX/Copy**

Used to set the maximum page length.

To avoid possible paper jam, the page length is normally limited to 432 mm for copy or transmit, and 1.5 meters for receive.

It is possible to set it to "No limit" to transmit/receive a long document, such as a computer print form, etc. (In this case, the receiver/transmitter must also be set to no limit.)

**SW8 No. 1, No. 2 Compromised Equalizer**

The specific line equalizer is inserted.

| No. 1 | No. 2 | |
|---|---|---|
| 0 | 0 | The line equalizer built in the modem is turned off. |
| 0 | 1 | Line equalizer corresponding to 1.8 km |
| 1 | 0 | Line equalizer corresponding to 3.6 km |
| 0 | 1 | Line equalizer corresponding to 7.2 km |

**SW8 No. 3 Reserved**

Set to "0".

**SW8 No. 4 Pause time**

This relates to the pause code of dial signal. When this switch is set to "1", the 1st pause is 2 seconds, and the 2nd and subsequent pauses are 1 second. In case of "0", the 1st pause is 4 seconds, and the 2nd and subsequent pauses are 2 seconds.

**SW8 No. 5 ~ No. 8 Signal transmission level**

Used to control the signal transmission level in the range of –0dB to –15dB.

**SW9 No. 1 CED tone signal interval**

For international communication, the 2100Hz CED tone may act as an echo suppresser switch, causing a communication problem. Though this soft switch is normally set to "0", it should be set to "1" so as to change the time between CED tone and DIS signal from 75ms to 500ms to eliminate the communication problem caused by echo.

**SW9 No. 2 CI signal OFF detect enable time**

Used to set the continuous detection time during OFF period of CI signal. Normally set to 700ms, where the short ring (500ms: OFF period) cannot be detected. Therefore, selection of 350ms is allowed.

**SW9 No. 3 Equalization freeze**

This switch is used to perform reception operation by fixing the equalizer control of modem for the line which is always in unfavorable state and picture cannot be received. Usually, the control is executed according to the state of line where the equalizer setting is changed always.

**SW9 No. 4 Equalization freeze conditions**

Setting which specifies SW9 No.3 control only in condition of 7200bps modem speed.

**SW9 No. 5 Reserved**

Set to "0".

**SW9 No. 6 CED detection time.**

The detection time of the CED signal from the called side in the auto calling mode is set.

**SW9 No. 7, No. 8 Reserved**

Set to "0".

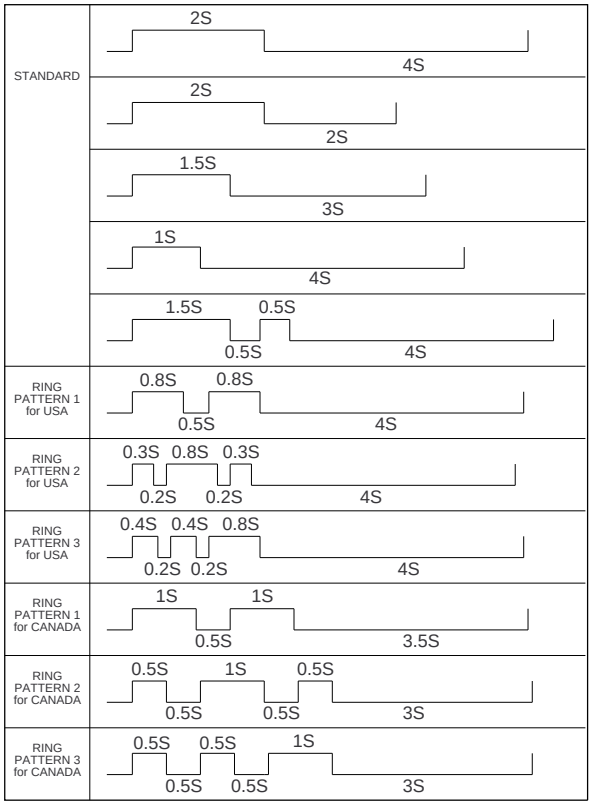
**SW10 No. 1 ~ No. 4 Reserved**

Set to "0".

**SW10 No. 5 ~ No. 8 Distinctive ringing**

When the ringing setting is turned off, all of the CI signal is received. When any of the standard, and ring patterns 1 through 3 is selected for the ringing setting, only the selected CI signal is received.

CI signal patterns.
The CI signal patterns consists of the standard pattern, and ring patterns 1 through 7. The standard pattern is the conventional one.




**SW11 No. 1 ~ No. 4 Memory retransmission times**

The number of memory retransmissions is set.

**SW11 No. 5 ~ No. 8 Memory retransmission interval**

The interval between memory retransmissions is set.

**SW12 No. 1, No. 2 Reserved**

Set to "0".

**SW12 No. 3, No. 4 Alarm buzzer**

The length of the buzzer for normal end of operation is set.

**SW12 No. 5 Action when RTN received**

The operation is set when the RTN signal is received in the G3 transmission mode.

**SW12 No. 6 V.34 mode function in case of manual communication**

Used to select whether the V.34 mode is made valid when automatically transmitting/receiving.

**SW12 No. 7 V.34 mode function**

Used to select the V.34 mode for communication when set to "1", communication methed is V.34 mode.

**SW12 No. 8 V.34 control channel communication speed**

Used to select the control channel communication speed for V.34 mode.

**SW13 No. 1 ~ No. 4 V.34 mode transmission speed**

Used to determine the initial modem speed when communication methed is V.34 transmission mode.

**SW13 No. 5 ~ No. 8 V.34 mode receiving speed**

Used to determine the initial modem speed when communication methed is V.34 reception mode.

**SW14 No. 1 Reserved**

Set to "0".

**SW14 No. 2 Reserved**

Set to "1".

**SW14 No. 3 Reserved**

Set to "0".

**SW14 No. 4 Reserved**

Set to "1".

**SW14 No. 5, No. 6 Reserved**

Set to "0".

**SW14 No. 7 Reserved**

Set to "1".

**SW14 No. 8 Reserved**

Set to "0".

**SW15 No. 1 Dialing mode**

Switch the type according to the telephone circuit connected to the facsimile.

0: PULSE DIAL

1: TONE DIAL

**SW15 No. 2 Reserved**

Set to "1".

**SW15 No. 3, No. 4 Reserved**

Set to "0".

**SW15 No. 5, No. 6 Reserved**

Set to "1".

**SW15 No. 7, No. 8 Reserved**

Set to "0".

**SW16 No. 1 ~ No. 4 Number of rings for auto-receive (0: No ring receive)**

When the machine is set in the auto receive mode, the number of rings before answering can be selected. It may be set from one to nine rings using a binary number. If the soft switch was set to 1, a direct connection is made to the facsimile. If a facsimile. If it was set to 0 accidentally, receive ring is set to 1. If it was above 9, receive rings are set to 9. So, this has to be corrected.

**SW16 No. 5 ~ No. 8 Reserved**

Set to "0".

**SW17 No. 1, No. 2 Reserved**

Set to "0".

**SW17 No. 3, No. 4 Reserved**

Set to "1".

**SW17 No. 5, No. 6 Reserved**

Set to "0".

**SW17 No. 7 Reserved**

Set to "1".

**SW17 No. 8 Reserved**

Set to "0".

**SW18 No. 1 Reserved**

Set to "0".

**SW18 No. 2 Reserved**

Set to "1".

**SW18 No. 3 ~ No. 8 Reserved**

Set to "0".

**SW19 No. 1 ~ No. 4 Reserved**

Set to "0".

**SW19 No. 5 ~ No. 8 Modem speed (DCS date reception speed)**

Used to determine the initial modem speed. The default is 14400BPS (V17). It may be necessary to program it to a slower speed when frequent line fallback is encountered, in order to save the time required for the fallback procedure.

**SW20 No. 1, No. 2 Reception speed fixed**

The speed of modem in the receiving mode is set.

**SW20 No. 3 DIS receive acknowledge during G3 transmission**

Used to make a choice of whether reception of NSF (DIS) is acknowledged after receiving two NSFs (DISs) or receiving one NSF (two DISs).

It may be useful for overseas communication to avoid an echo suppression problem, if set to 1.

**SW20 No. 4 Non-modulated carrier in V29 transmission mode**

Though transmission of a non-modulated carrier is not required for transmission by the V29 modem according to the CCITT Recommendation, it may be permitted to send a non-modulated carrier before the image signal to avoid an echo suppression problem.

It may be useful for overseas communication to avoid an echo suppression problem, if set to 1.

**SW20 No. 5 EOL detection timer**

Used to make a choice of whether to use the 25-second or 13-second timer for detection of End of line.

This is effective to override communication failures with some facsimile models that have longer End of line detection.

**SW20 No. 6 Protocol Monitor**

Normally set to "0". If set to "1", communication can be checked, in case of troubles, without using a G3 tester or other tools.

When communication FSK data transmission or reception is made, the data is taken into buffer. When communication is finished, the data analyzed and print out. When data is received with the line monitor (SW7-No. 7) set to "1" the reception level is also print out.

**SW20 No. 7 Line monitor**

Normally set to "0". If set to "1", the transmission speed and the reception level are displayed on the LCD. Used for line tests.

**SW20 No. 8 Reserved**

Set to "0".

**SW21 No. 1, No. 2 Compromised Equalizer**

The specific line equalizer is inserted.

| No. 1 | No. 2 | |
|---|---|---|
| 0 | 0 | The line equalizer built in the modem is turned off. |
| 0 | 1 | Line equalizer corresponding to 1.8 km |
| 1 | 0 | Line equalizer corresponding to 3.6 km |
| 0 | 1 | Line equalizer corresponding to 7.2 km |

**SW21 No. 3 Reserved**

Set to "0".

**SW21 No. 4 Pause time**

This relates to the pause of dial signal. When this switch is set to "1", the 1st pause is 2 seconds, and the 2nd and subsequent pauses are 1 second. In case of "0", the 1st pause is 4 seconds, and the 2nd and subsequent pauses are 2 seconds.

**SW21 No. 5 ~ No. 8 Signal transmission level**

Used to control the signal transmission level in the range of –0dB to –15dB.

**SW22 No. 1 CED tone signal interval**

For international communication, the 2100Hz CED tone may act as an echo suppresser switch, causing a communication problem. Though this soft switch is normally set to "0", it should be set to "1" so as to change the time between CED tone and DIS signal from 75ms to 500ms to eliminate the communication problem caused by echo.

**SW22 No. 2 CI signal OFF detect enable time**

Used to set the continuous detection time during OFF period of CI signal. Normally set to 700ms, where the short ring (500ms: OFF period) cannot be detected. Therefore, selection of 350ms is allowed.

**SW22 No. 3 Equalization freeze**

This switch is used to perform reception operation by fixing the equalizer control of modem for the line which is always in unfavorable state and picture cannot be received. Usually, the control is executed according to the state of line where the equalizer setting is changed always.

**SW22 No. 4 Equalization freeze conditions**

Setting which specifies SW9 No.3 control only in condition of 7200bps modem speed.

**SW22 No. 5 Reserved**

Set to "0".

**SW22 No. 6 CED detection time.**

The detection time of the CED signal from the called side in the auto calling mode is set.

**SW22 No. 7, No. 8 Reserved**

Set to "0".

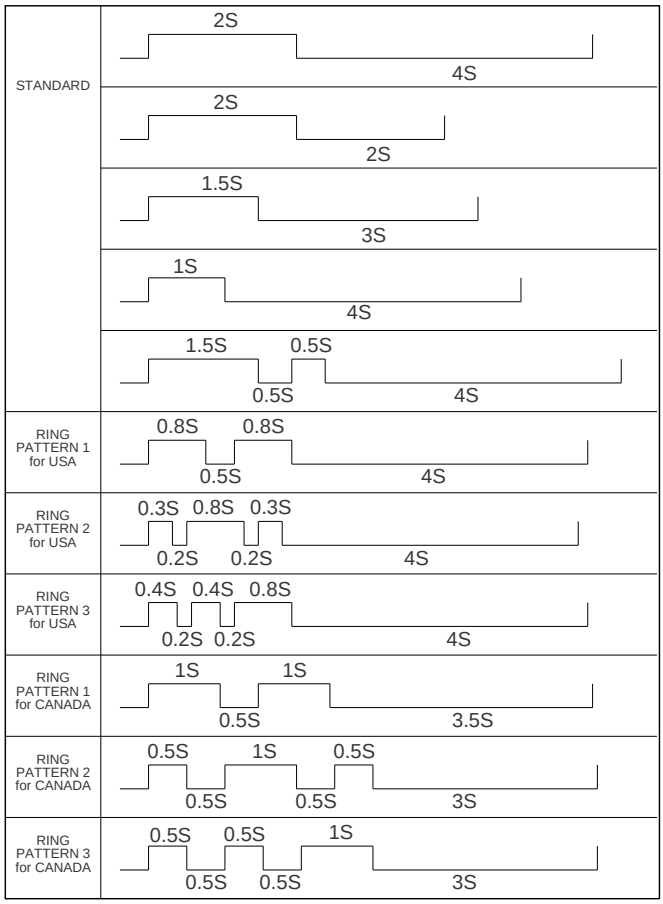
**SW23 No. 1 ~ No. 4 Reserved**

Set to "0".

**SW23 No. 5 ~ No. 8 Distinctive ringing**

When the ringing setting is turned off, all of the CI signal is received. When any of the standard, and ring patterns 1 through 3 is selected for the ringing setting, only the selected CI signal is received.

CI signal patterns
The CI signal patterns consists of the standard pattern, and ring patterns 1 through 7. The standard pattern is the conventional one.




**SW24 No. 1 Reserved**

Set to "1".

**SW24 No. 2 Reserved**

Set to "0".

**SW24 No. 3 Reserved**

Set to "1".

**SW24 No. 4 ~ No. 8 Reserved**

Set to "0".

**SW25 No. 1~ No. 5 Reserved**

Set to "0".

**SW25 No. 6 Reserved**

Set to "1".

**SW25 No. 7 V.34 mode function**

Used to select the V.34 mode for communication when set to "1", communication methed is V.34 mode.

**SW25 No. 8 V.34 control channel communication speed**

Used to select the control channel communication speed for V.34 mode.

**SW26 No. 1 ~ No. 4 V.34 mode transmission speed**

Used to determine the initial modem speed when communication methed is V.34 transmission mode.

**SW26 No. 5 ~ No. 8 V.34 mode receiving speed**

Used to determine the initial modem speed when communication methed is V.34 reception mode.

**SW27 No. 1 ~ No. 3 Line condition setting**

The communication conditions of lines 1/2 are set respectively.

**SW27 No. 4 Preference line specification**

In the case when it is allowed to select the line 1 or 2 in the transmission mode, the preference line is set.

**SW27 No. 5, No. 6 Key buzzer volume**

Key buzzer volume:
The sound volume of key inputting buzzer and other buzzers is set.

**SW27 No. 7, No. 8 Reserved**

Set to "0".

**SW28 No. 1, No. 2 Speaker volume**

Speaker volume:
The sound volume of the speaker in the on-hook mode is set.

**SW28 No. 3, No. 4 Handset volume**

Handset volume:
The volume of sound heard from the receiver is set.

**SW28 No. 5, No. 6 Ringer volume**

Ringer volume:
The calling sound volume of CI signal receiving is set.

**SW28 No. 7, No. 8 Reserved**

Set to "0".

**SW29 No. 1 Line to be used in PC I/F mode**

The line to communicate in the PC I/F mode is set.

**SW29 No. 2 PC I/F mode**

PC I/F mode:
The interface with the personal computer is selected.

**SW29 No. 3 Auto receive with PC I/F**

Automatic receiving of I/F mode:
Which receives the call is determined.

**SW29 No. 4 ~ No. 8 Reserved**

Set to "0".

**SW30 No. 1, No. 2 Reserved**

Set to "0".

**SW30 No. 3 Continuous serial polling**

Turns on/off the continuous polling function.

**SW30 No. 4, No. 5 Dialing interval in continuous serial polling**

Used to set continuous serial polling interval time.

**SW30 No. 6, No. 7 Reserved**

Set to "0".

**SW30 No. 8 Quick on-line**

It is selected whether auto dial call is activated in the memory input mode when one document is completely read or when all pages are completely read.

**SW31 No. 1 ~ No. 4 Reserved**

Set to "0".

**SW31 No. 5 Reserved**

Set to "1".

**SW31 No. 6 Reserved**

Set to "0".

**SW31 No. 7 Reserved**

Set to "1".

**SW31 No. 8 Reserved**

Set to "0".

**SW32 No. 1 Print hold**

When set to "1", the print hold function is enabled.

**SW32 No. 2 Document transmission in Super G3 mode (Refer to Page 2-44.)**

When this switch is set to "1", even if documents are sent, the communication in the super G3 mode is possible. In case of "0", document transmission is made at a rate of 14.4 kbps or below (V.17/V.33/V.29/V.27ter).

**SW32 No. 3 Reserved**

Set to "0".

**SW32 No. 4 Changeover of Print cassette**

When the cassette selection priority is set to the upper priority or the lower priority and paper in the cassette is exhausted, this function is used to set changeover of the cassette of not.

**SW32 No. 5 ~ No. 8 Selection of print cassette**

Used to set the priority of selection of the recording paper cassettes. (Auto selection/Upper priority/Lower priority)

**SW33 No.1 No. 2 Heater mode**

Used to set ON/OFF of the heater. Three settings are available: always ON, always OFF, and OFF timer. (Only when Off timer is selected, SW34-SW37 settings are valid.)

**SW33 No. 3 ~ No. 5 Density adjustment of print bias**

The density of printing is set.

It can be also set in the print diagnosis mode.

**SW33 No. 6, No. 7 Drum life limit**

The drum life-over judgment conditions are set.

**SW33 No. 8 Reserved**

Set to "0".

**SW34 No. 1 ~ No. 4 Start time of heater OFF time (Upper digit of hour)**

Used to set the start time of the heater OFF timer. (Enter in 24-hour system.)

**SW34 No. 5 ~ No. 8 Start time of heater OFF time (Lower digit of hour)**

Used to set the start time of the heater OFF timer. (Enter in 24-hour system.)

**SW35 No. 1 ~ NO. 4 Start time of heater OFF time (Upper digit of minute)**

Used to set the start time of the heater OFF timer. (Enter in 24-hour system.)

**SW35 No. 5 ~ No. 8 Start time of heater OFF time (Lower digit of hour)**

Used to set the start time of the heater OFF timer. (Enter in 24-hour system.)

**SW36 No. 1 ~ No. 4 End time of heater OFF time (Upper digit of hour)**

Used to set the end time of the heater OFF timer. (Enter in 24-hour system.)

**SW36 No. 5 ~ No. 8 End time of heater OFF time (Lower digit of hour)**

Used to set the end time of the heater OFF timer. (Enter in 24-hour system.)

**SW37 No. 1 ~ No. 4 End time of heater OFF time (Upper digit of minute)**

Used to set the end time of the heater OFF timer. (Enter in 24-hour system.)

**SW37 No. 5 ~ No. 8 End time of heater OFF time (Lower digit of minute)**

Used to set the end time of the heater OFF timer. (Enter in 24-hour system.)

**SW38 No. 1 Reserved**

Set to "1".

**SW38 No. 2 ~ No. 8 Reserved**

Set to "0".

**SW39 No. 1 Reserved**

Set to "0".

**SW39 No. 2 Reserved**

Set to "1".

**SW39 No. 3 ~ No. 8 Reserved**

Set to "0".

**SW40 No. 1 Reserved**

Set to "1".

**SW40 No. 2 ~ No. 8 Reserved**

Set to "0".

**SW41 No. 1, No. 2 Reserved**

Set to "0".

**SW41 No. 3 Reserved**

Set to "1".

**SW41 No. 4, No. 5 Reserved**

Set to "0".

**SW41 No. 6 Reserved**

Set to "1".

**SW41 No. 7 Reserved**

Set to "0".

**SW41 No. 8 Reserved**

Set to "1".

**SW42 No.1, No. 2 Reserved**

Set to "0".

**SW42 No. 3 Reserved**

Set to "1".

**SW42 No. 4, No. 5 Reserved**

Set to "0".

**SW42 No. 6 Reserved**

Set to "1".

**SW42 No. 7 Reserved**

Set to "0".

**SW42 No. 8 Reserved**

Set to "1".

**SW43 No. 1 Reserved**

Set to "1".

**SW43 No. 2 ~ No. 5 Reserved**

Set to "0".

**SW43 No. 6 Reserved**

Set to "1".

**SW43 No. 7 Reserved**

Set to "0".

**SW43 No. 8 Reserved**

Set to "1".

**SW44 No. 1 Automatic printing of activity report**

This soft switch is used to select; whether or not to produce the activity report when the memory is full (about 50 items). An activity report can be produced when the following key entry command is made.

"FUNC", "2", "#", "START"

After producing the activity report, all the data in the memory will be cleared.

When the switch function is set to "0" (NO), the data in memory will be deleted from the oldest as it reaches the maximum memory capacity (approx. 50 items).

**SW44 No. 2 Printout of total time and total number of pages on activity report**

Used to make a choice of whether the total communication time and pages are recorded in the activity report.

**SW44 No. 3 Reserved**

Set to "0".

**SW44 No. 4 Department function**

This model has the department audit feature, it has to be set to 1 to utilize this feature.

**SW44 No. 5 ~ No. 8 Department ID digit**

Used to set the department ID digit number. When set to "D", the number is "4".

**SW45 No. 1 Picture qualitypriority mode**

Used to set the transmission mode which is automatically selected when the MODE key is not pressed. In the copy mode, however, the fine mode is automatically selected unless the MODE key is manually set to another mode.

**SW45 No. 2 Cut-off mode (when copy mode)**

When in copy, if the scanned data is out of the range of recrding, the operator has one of the choices below using the switch.

0: Continue: Data is printed onto the next page with the last 20mm also printed at the beginning of the next page.

1: Cut off: Data scanned out of the limit is cut off (a page is printed.)

**SW45 No. 3 Scanning ratio in memory input**

In the case of memory transmission, etc., only letter size (A4) documents can be stored in the memory. To input B4 documents into the memory, therefore, the B4 documents must be reduced to letter size (A4) or the both ends of the B4 documents will be cut off to input the center letter-size (A4) portion. This switch provides the selection.

0: Reduced to A4 size and inputted.

1: The both ends are cut off and the center portion (A4 size) is inputted.

**SW45 No. 4 Verification STAMP**

End stamp:
It is set whether the red round mark is stamped at the bottom margin of the document of every page in the memory input mode and document sending mode or not.

**SW45 No. 5 Overseas communication mode selection function (Refer to Page 2-44.)**

When this switch is set to "1", the communication in Super G3 mode can be turned off by pressing the "SPACE" key before sending operation, for the transmission set after that (including polling).

**SW45 No. 6 ~ No. 8 Reduce ratio (when copy mode)**

Reduction ratio of copying is set.
It can be changed even in the optional mode.

**SW46 No. 1, No. 2 Reserved**

Set to "0".

**SW46 No. 3, No. 4 Density adjustment (when Fine/STD mode)**

This is used for density adjustment in fine/standard mode. Adjust the density according to that of frequently used original.

Set to "Dark" for darker reading (either in the auto or the dark mode) of light original. Set to "Light" for lighter reading (either in the auto or the dark mode) of dark original.

Set to "Dark only in dark mode" for darker reading only in the dark mode.

**SW46 No. 5, No. 6 Density adjustment (when Half-tone mode)**

This is used for density adjustment in the half tone. Setting procedures are the same as SW46 No. 3, No. 4.

**SW46 No. 7 HTF correction in Half-tone mode**

In the half tone mode, image area is separated from character area and processed separately to eliminate unclear character transmission. This switch is used to change the criteria of judgement of separation. When "Strong" (= 1) is selected, more area is judge d as character area, providing clearer characters.

On the contrary, however, edges of image area may be emphasized.

It is advisable to restrict the use of this function only when clear characters must be transmitted, and to use the function of "Weak" (= 0) for general cases.

**SW46 No.8 MTF correction in Half-tone mode**

This allows selection of MTF correction (dimness correction) in the half tone mode. When "NO" (= 1) is selected, the whole image becomes soft and mild, On the contrary, however, cleamess of characters will be reduced. Normally set to "NO" (= 1).

**SW47 ~ SW55 No. 1 ~ No. 8 Reserved**

Set to "0".

**SW56 No. 1 ~ No. 4 Reserved**

Set to "1".

**SW56 No. 5 Printing when toner empty**

It is set whether printing is stopped for empty toner or not.

**SW56 No. 6 ~ No. 8 Reduction of print data**

Reduction ratio of receiving is set.

It can be changed even in the optional mode.

**SW57 ~ SW68 No. 1 ~ No. 8 Reserved**

Set to "0".

**SW69 No. 1 (Cassette define (LTR/A4): Tray**

A4 cassette can be used.

Set 0 or 1 for all of three bits.

Do not change the setting during printing.

**SW69 No. 2 Cassette define (LTR/A4): Upper**

A4 cassette can be used.

Set 0 or 1 for all of three bits.

Do not change the setting during printing.

**SW69 No. 3 Cassette define (LTR/A4): Lower**

A4 cassette can be used.

Set 0 or 1 for all of three bits.

Do not change the setting during printing.

**SW69 No. 4 Separation of image area in the half-tone**

This allows selection of MTF correction (dimness correction) in the half tone mode. When "NO" (= 1) is selected, the whole image becomes soft and mild, On the contrary, however, cleamess of characters will be reduced. Normally set to "NO" (= 1).

**SW69 No. 5 Removal of notch in the binary mode**

The notch signal is removed in the binary mode.

**SW69 No. 6, No. 7 Reserved**

Set to "1".

**SW69 No. 8 Reserved**

Set to "0".

**SW70 No. 1 ~ No. 4 Reserved**
Set to "1".

**SW70 No. 5 ~ No. 8 Reserved**
Set to "0".

**SW71 No. 1 ~ No. 4 Black line detection (When transmission scanning).**
Number of continuous judgements of black lines during duplex scan.

**SW71 No. 5 ~ No. 8 All white page detection (When transmission scanning)**
Ratio of black and white during duplex scan.

**SW72 No. 1 ~ No. 4 Black line detection (When copy scanning)**
Number of continuous judgements of black lines during duplex scan.

**SW72 No. 5 ~ No. 8 White page detect (When copy scanning)**
Ratio of black and white during duplex scan.

**SW73 No. 1 Reserved**
Set to "1".

**SW73 No. 2 ~ No. 7 Reserved**
Set to "0".

**SW73 No. 8 Reserved**
Set to "1".

**SW74 No. 1 Reserved**
Set to "0".

**SW74 No. 2, No. 3 Reserved**
Set to "1".

**SW74 No. 4 ~ No. 8 Reserved**
Set to "0".

**SW75 No. 1 Reserved**
Set to "0".

**SW75 No. 2 Reserved**
Set to "1".

**SW75 No. 3 ~ No. 8 Reserved**
Set to "0".

**SW76 No. 1 ~ No. 5 Reserved**
Set to "1".

**SW76 No. 6 ~ No. 8 Reserved**
Set to "0".

**SW77 No. 1 ~ No. 8 Reserved**
Set to "0".

**SW78 No. 1 Secure billing code**
When the Tel. Billing Code function is ON, the operation of SECURE BILLING CODE is enabled.

**SW78 No. 2 Pause with Z key**
The pause corresponding to the Z key is inserted for Secure Billing Code input.

**SW78 No. 3 Reserved**
Set to "0".

**SW78 No. 4 ~ No. 8 Z key pause time (250 ms unit)**
The Z key pause time is set

**SW79 No. 1 ~ No. 4 Reserved**
Set to "1".

**SW79 No. 5 ~ No. 8 Reserved**
Set to "0".

**SW80 No. 1, No. 2 Reserved**
Set to "0".

**SW80 No. 3, No. 4 Reserved**
Set to "1".

**SW80 No. 5 Reserved**
Set to "0".

**SW80 No. 6, No. 7 Reserved**
Set to "1".

**SW80 No. 8 Reserved**
Set to "0".

**SW81 No. 1 ~ No. 4 Reserved**
Set to "0".

**SW81 No. 5 Reserved**
Set to "1".

**SW81 No. 6 ~ No. 8 Reserved**
Set to "0".

**SW82 No. 1 Reserved**
Set to "1".

**SW82 No. 2, No. 3 Reserved**
Set to "0".

**SW82 No. 4 Reserved**
Set to "1".

**SW82 No. 5, No. 6 Reserved**
Set to "0".

**SW82 No. 7, No. 8 Reserved**
Set to "1".

**SW83 No. 1 Reserved**
Set to "0".

**SW83 No. 2 Reserved**
Set to "1".

**SW83 No. 3 ~ No. 5 Reserved**
Set to "0".

**SW83 No. 6, No. 7 Reserved**
Set to "1".

**SW83 No. 8 Reserved**
Set to "0".

**SW84 No. 1, No. 2 Reserved**
Set to "0".

**SW84 No. 3 Reserved**
Set to "1".

**SW84 No. 4 ~ No. 7 Reserved**
Set to "0".

**SW84 No. 8 Reserved**
Set to "1".

**SW85 No. 1, No. 2 Reserved**
Set to "0".

**SW85 No. 3 Reserved**
Set to "1".

**SW85 No. 4 ~ No. 7 Reserved**
Set to "0".

**SW85 No. 8 Reserved**
Set to "1".

**SW86 No. 1 F.A.S.T (Remote maintenance system) mode**

Used to determine remote maintenance system (F.A.S.T) function.

**SW86 No. 2 F.A.S.T. (Remote maintenance system) line**

The line where the F.A.S.T. function is set.

**SW86 No. 3 Day light saving feature**

The Day light saving function ON/OFF is set.

**SW86 No. 4 Separate mode**

The Separate mode ON/OFF is set.

**SW86 No. 5, No. 6 Reserved**

Set to "0".

**SW86 No. 7 CNG send when manual TX**

CN G signal sending ON/OFF in case of manual transmission is set

**SW86 No. 8 Ringer of line 2**

The ringer ringing ON/OFF is set when incoming call is received through the line 2.

**SW87 No. 1 Reserved**

Set to "0".

**SW87 No. 2, No. 3 Addition of header to various lists**

ON/OFF of addition of header (sender information) to various lists is set.

**SW87 No. 4, No. 5 Relay instruction transmission line specification**

The line to be used for relay specification transmission is set.

In case of AUTO setting the line specified in the transmission operation is used.

**SW87 No. 6 Reserved**

Set to "1".

**SW87 No. 7, No. 8 Reserved**

Set to "0".

**SW88 No. 1 Reserved**

Set to "0".

**SW88 No. 2 Reserved**

Set to "1".

**SW88 No. 3 ~ No. 8 Reserved**

Set to "0".

**SW89 ~ SW96 No. 1 ~ No. 8 Reserved**

Set to "0".

**SW97 No. 1 ~ No. 4 Reserved**

Set to "0".

**SW97 No. 5 ~ No. 8 Reserved**

Set to "1".

**SW98 No. 1 ~ No. 8 Reserved**

Set to "0".

**SW99 No. 1 ~ No. 8 Reserved**

Set to "0".

# [3] Troubleshooting

### 1. Fax troubleshooting

Refer to the following actions to troubleshoot any of problems men-tioned in 1-4.

[1] A communication error evoked.

[2] Image distortion produced.

[3] Unable to do overseas communication.

[4] Communication speed slow liable to failback.

- Increase the transmission level SOFT SWITCH 8-5, 6, 7, 8 Can be used in case [1] [2] [3]
- Decrease the transmission level SOFT SWITCH 8-5, 6, 7, 8 Can be used in case [3]
- Apply line equalization SOFT SWITCH 8-1, 2
  Can be used in all cases.
- Slow down the transmission speed SOFT SWITCH 6-4, 5, 6, 7, 8
  Can be used in case [2] [3]
- Replace the TEL/LIU PWB.
  Can be used in all cases.
- Replace the control PWB.
  Can be used in all cases.

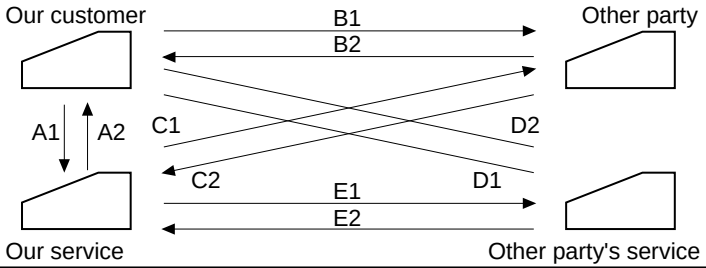
* If transmission problems still exist on the machine, use the follow-ing format and check the related matters.

TO: ATT: Ref.No. :

CC: ATT: Date :

FM: Dept :

Sign :

| ***** Facsimile communication problem ***** | | | | Ref.No.: |
|---|---|---|---|---|
| From: Mr. | Fax Tel No.: | | | Date: |
| Our customer | Name | | | Tel No. |
| | Address | | | Fax No. |
| | Contact person | | | Model name |
| Other party | Name | | | Tel No. |
| | Address | | | Fax No. |
| | Contact person | | | Model name |
| Problem mode | Line: Domestic / international | Mode: G3 | Phase: A. B. C. D. | |
| | Reception / Transmission | Automatic reception / Manual reception | | |
| | | Automatic dialing / Manual dialing / Others | | |
| Frequency: | | % | ROM version: | |
| Confirmation item |  | | | Please mark problem with an X<br>No problem is: 0 |



| A1 | A2 | B1 | B2 | C1 | C2 | D1 | D2 | E1 | E2 |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |

Transmission level setting is ( ) dB at our customer

Transmission level ( ) dBm
Reception level ( ) dBm
By level meter at B1 and B2

| Comment | |
|---|---|
| Countermeasure | |

**** Please attach the G3 data and activity report on problem. ****

## 2. Printer trouble detection

**(1) Paper jam**

The printer recognizes if paper remains inside the printer by detecting the status of the Paper Take-Up Sensor (PC1) and the Paper Exit Sensor (PC3). A paper jam is detected by the timing that PC1 and PC3 become activated or deactivated.

When a paper jam is detected, the drive for all elements is stopped except for the Fan Motor (M3) , excluding the two following cases.

- During multi printing

  When condition 1 listed below is detected and paper remains in the printer, all elements except the Fan Motor (M3) will be stopped after the paper is fed out of the printer.

- During single printing

  When condition 1 listed below is detected and paper does not remains in the printer, elements except the Heater Lamp (H1) and Fan Moter (M3) will be stopped.

1. The Paper Take-Up Sensor (PC1) does not activate within 2 sec, after the Paper Take-Up Roller in the printer starts rotating, or within 4 sec. after the Paper Take-Up Roller in the optional 250 Sheet Second Tray starts rotating.
2. The Paper Take-Up Sensor (PC1) activates when the Power ON/OFF Switch (S1) is turmed ON, or when the Upper Unit is closed.
3. The Paper Exit Sensor (PC3) activates when the Power ON/OFF Switch(S1) is turned ON, of when the Upper Unit is closed.
4. The Paper Take-Up Sensor (PC1) does not deactivate within 11 sec. after the paper leading edge reaches the Paper Take-Up Sensor (PC1).
5. The Paper Exit Sensor (PC3) does not activate within 3.5 to 4.5 sec. after the paper leading edge reaches the Paper Take-Up Sensor (PC1).
6. The Paper Exit Sensor (PC3) does not deactivate within 3.4 to 4.7 sec. afer the paper trailing edge passes the PaperTake-Up Sensor (PC1).

**(2) Laser malfuction**

All elements except the Exit Fan Motor (M3) are deactivated when the malfunctions described below are detected.

The LDVR1 signal or LDVT2 signal deviates from the specified value while the laser power is adjusted.

LDVR1/LDVR2 : These signals are to adjust the laser drive current.

**(3) Polygon motor malfunction**

1. The SSCAN signal has not been entered once within 1 sec. after the Polygon Motor is energized.
2. The number of Polygon Motor rotations has not stabilized within ± by 4.2 sec. after the Motor is energized.
3. The number of Polygon Motor rotations has exceeded ±3% for more than 0.5 sec. after the Motor is energized and the rotation number stabilizes within ±0.5%.

**(4) Fusing malfunction**

1. The temperature detected by the Thermistor has not risen 20˚C for 50 mmsec. within 12 to 30 sec. after the warming up. (This detec-tion applies only when the Thermistor detecting temperature is 90˚C or less.)
2. The Thermistor detecting temperature has not reached to 172˚C within 60 sec. after warming up.
3. Except in the Pause Mode*, the Thermistor detecting temperature during the idle state has fallen to 80˚C or lower for 50 msec., or the temperature during printing has fallen to 133˚C or lower.
4. The Thermistor detecting temperature has exceeded 193˚C for 50 msec. during temperature control.

*Pause Mode : During this mode, the control temperature is de-creased to save power during the idle state, the Heater Lamp being turned OFF.

**(5) Exit fan malfunction**

The voltage equivalent to the current*1 of the Exit Fan Motor remains 160 mV or lower for 2 sec.

*1: detected by converting the Motor current into voltage.

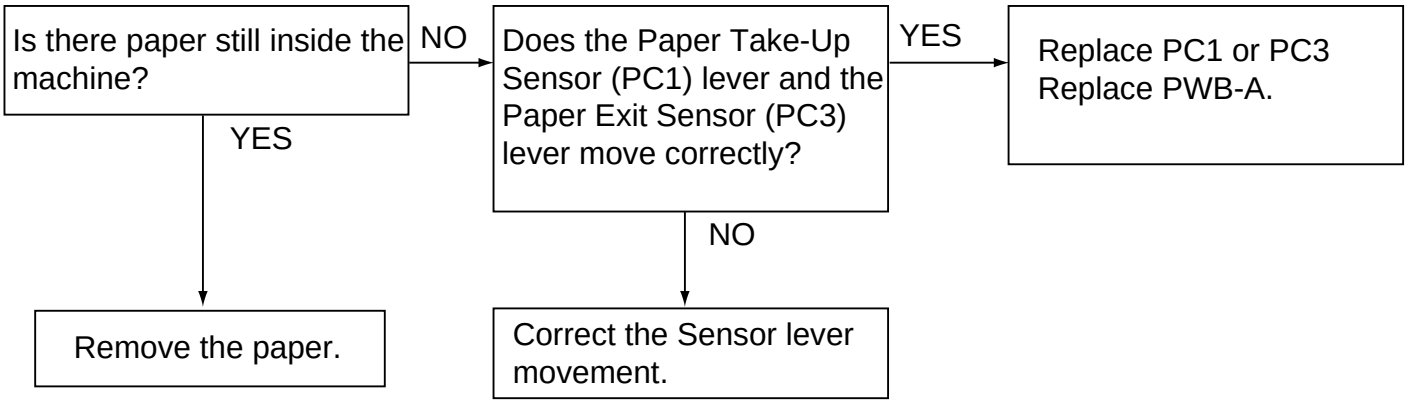
How to Reset these malfunctions

Turn OFF The Power ON/OFF Switch (S1).

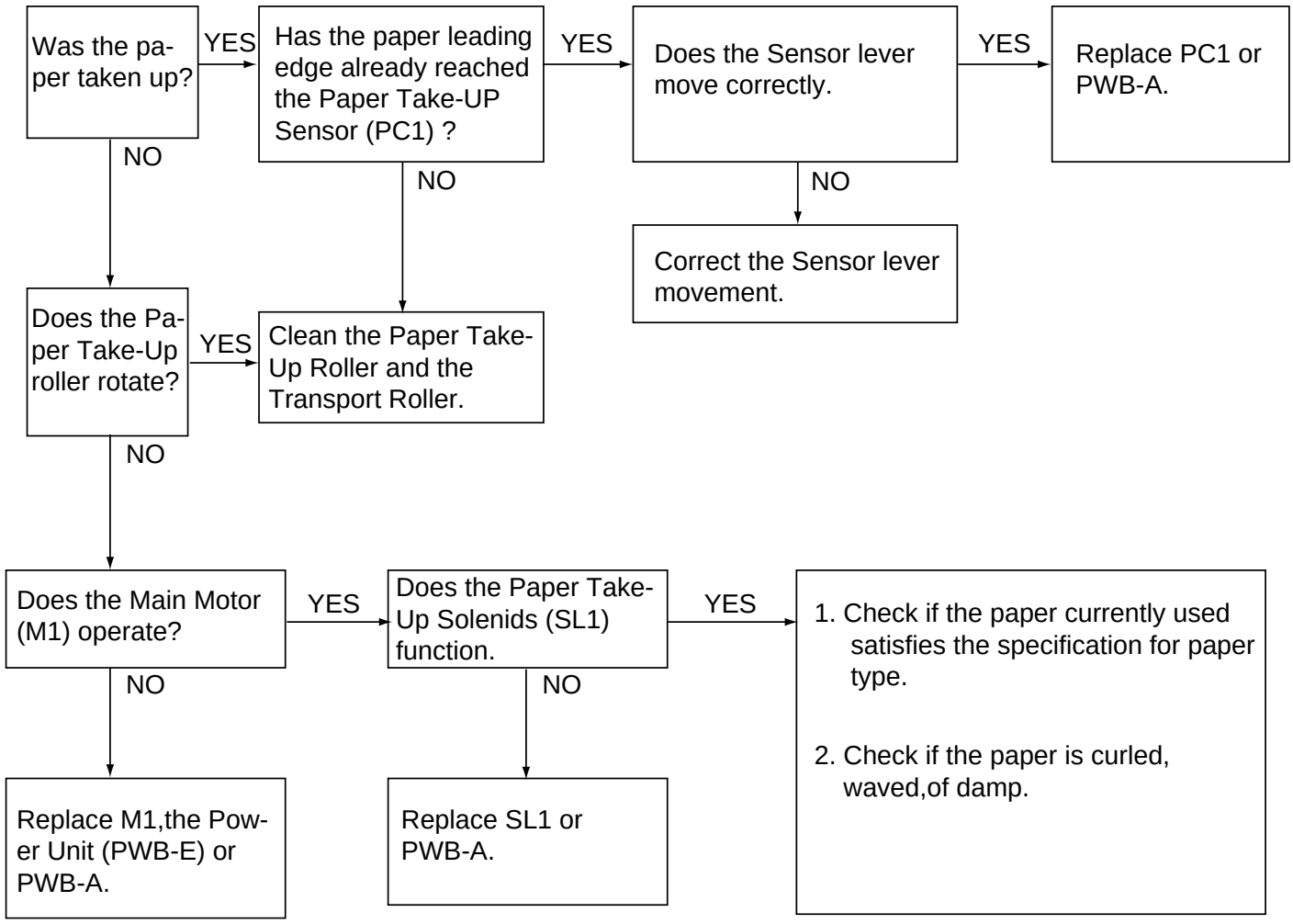
**3. Printer troubleshooting**

1. PAPER JAM

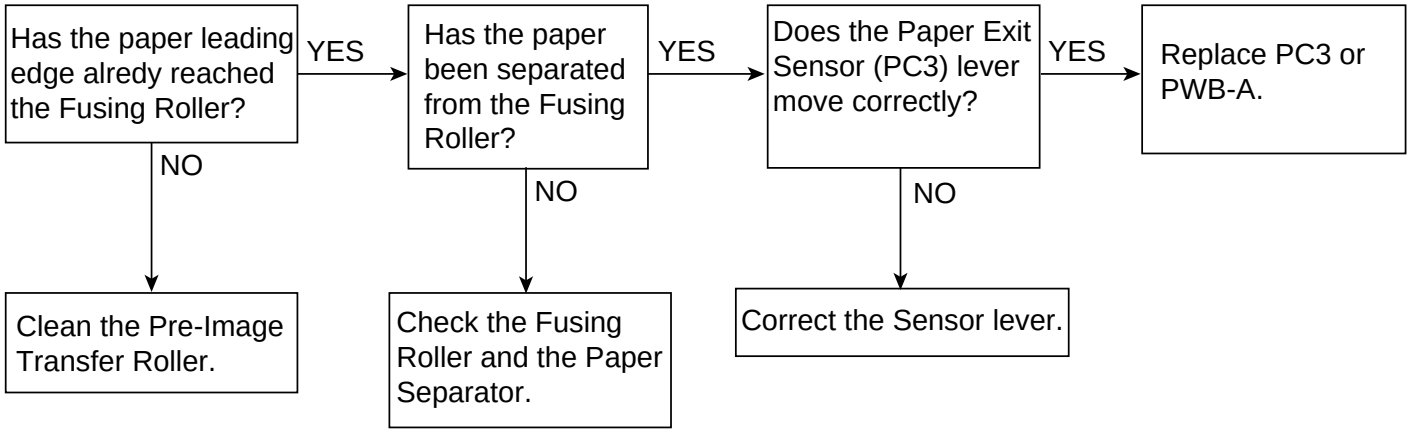
(1) Paper jam occurred when the Power ON/OFF Switch (S1) is turned ON, or when the Upper Unit is closed.




(2) Paper jam occurred at the paper take-up section

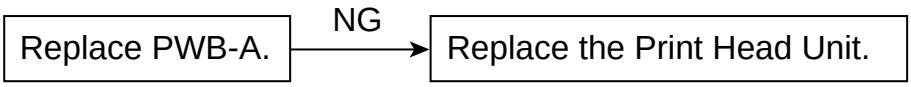


(3) Paper jam occurred at the paper transport section

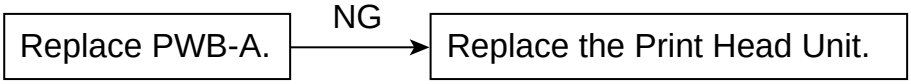



2. UNIT ERROR

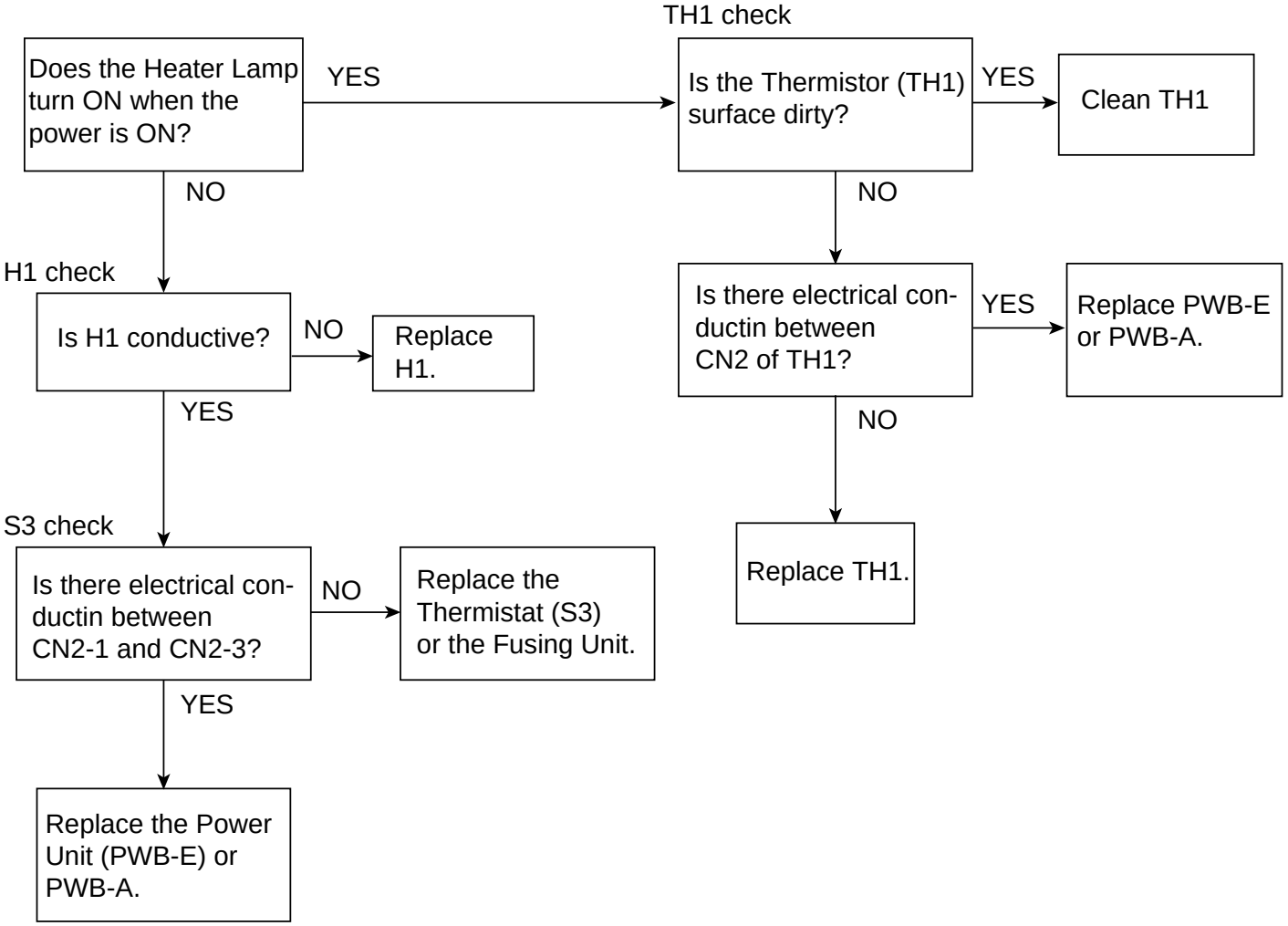
(1) Laser malfunction



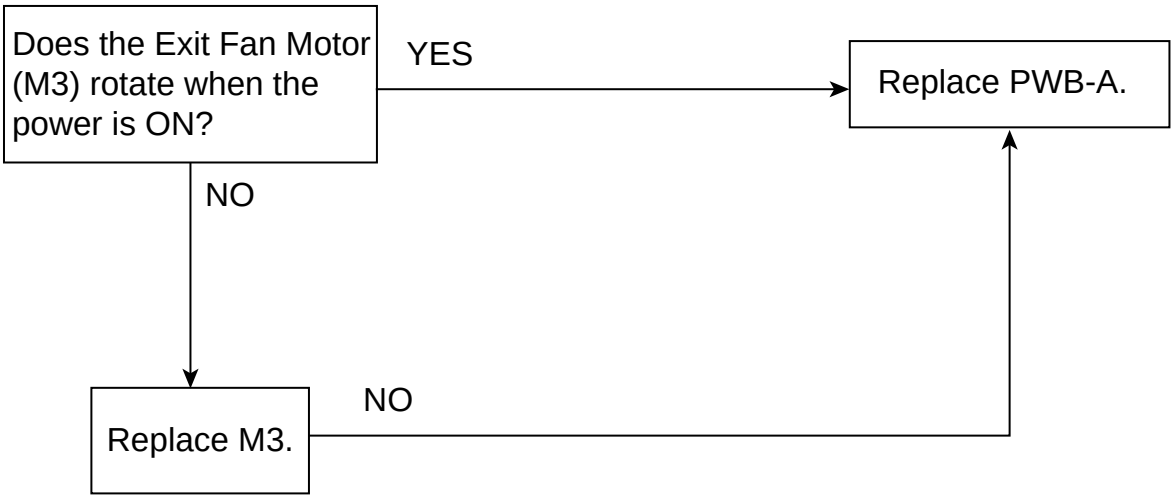

(2) Polygon motor malfunction




(3) Fusing malfunction

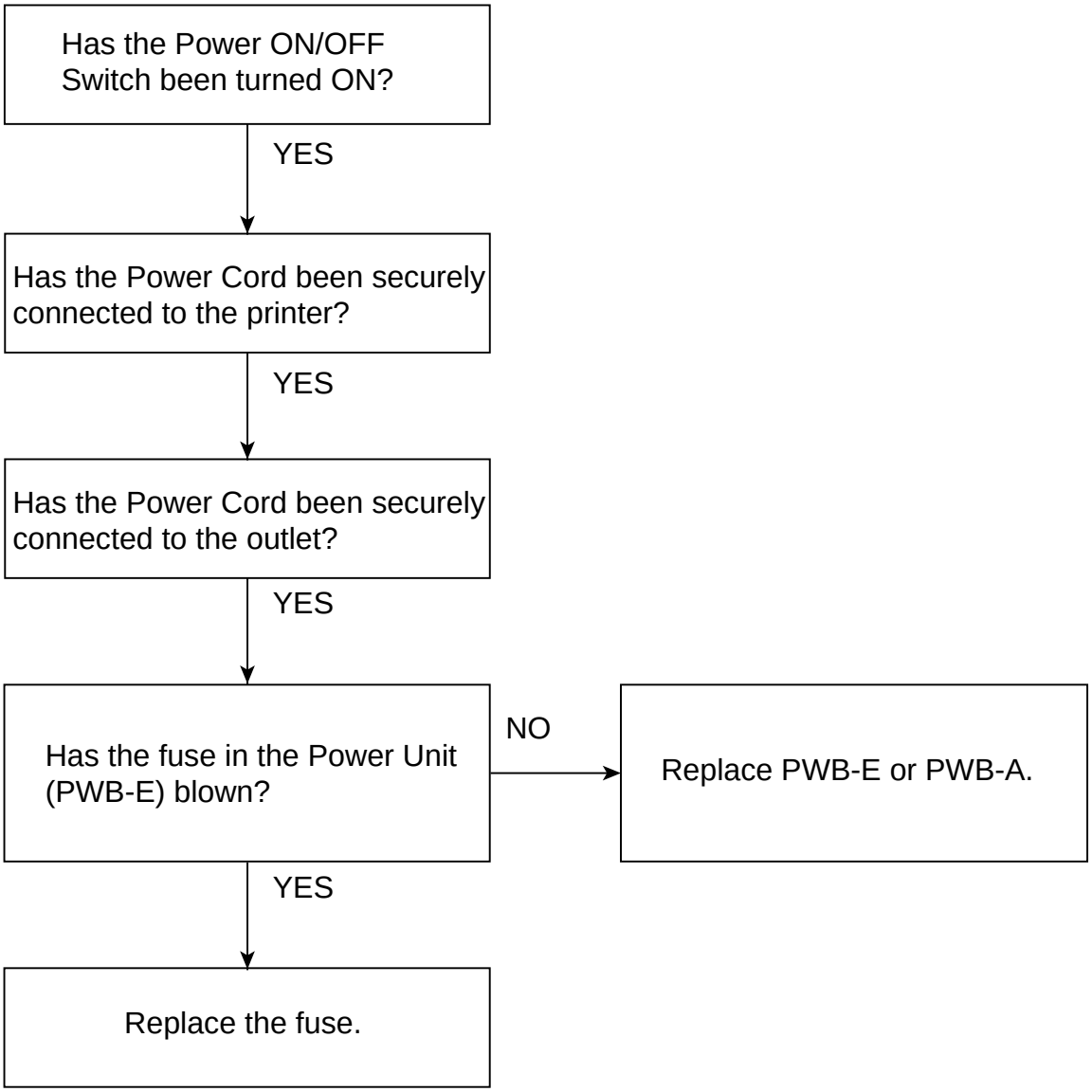


(4) Exit fan malfunction




3. OTHER TROUBLE SHOOTING

(1) No Power



# [4] ERROR CODE TABLE

## 1. Communication error code table

### G3 Transmission

| Code | Final received signal | Error Condition (Receiver side) |
|---|---|---|
| 0 | Incomplete signal frame | Cannot recognize bit stream after flag |
| 1 | NSF, DIS | Cannot recognize DCS signal by echo etc.<br>Cannot recognize NSS signal (FIF code etc) |
| 2 | CFR | Disconnects line during reception (carrier missing etc) |
| 3 | FTT | Disconnects line by fall back |
| 4 | MCF | Disconnects line during reception of multi page<br>Cannot recognize NSS, DCS signal in the case of mode change |
| 5 | PIP or PIN | The line is hung up without replying to telephone request from the receiving party. |
| 6 | RTN or RTP | Cannot recognize NSS, DCS signal after transmit RTN or RTP signal. |
| 7 | No signal or DCN | No response in receiver side or DCN signal received* (transmitter side) |
| 8 | – | Owing to error in some page the error could not be corrected although the specified number of error retransmission was at tempted. |
| 11 | – | Error occurred after or while reception by the remote (receiving) machine was revealed to be impossible. |
| 12 | – | Error occurred just after fallback. |
| 13 | – | Error occurred after a response to retransmission end command was received. |

### G3 Reception

| Code | Final received signal | Error Condition (Receiver side) |
|---|---|---|
| 0 | Incomplete signal frame | Cannot recognize bit stream after flag |
| 1 | NSS, DCS | Cannot recognize CFR or FTT signal<br>Disconnects line during transmission (line error) |
| 2 | NSC, DTC | Cannot recognize NSS signal (FIF code etc) |
| 3 | EOP | Cannot recognize MCF, PIP, PIN, RTN, RTP signal |
| 4 | EOM | Cannot recognize MCF, PIP, PIN, RTN, RTP signal in the case of mode change |
| 5 | MPS | The line is hung up without replying to communication request. |
| 6 | PR1-Q | Cannot recognize PIP, PIN signal in the case of TALK request |
| 7 | No signal or DCN | No response in transmitter (cannot recognize DIS signal) or DCN signal received* (receiver side) |
| 8 | – | Error occurred upon completion of reception of all pages. |
| 9 | – | Error occurred when mode was changed or Transmission/Reception switching was performed. |
| 10 | – | Error occurred during partial page or physical page reception. |
| 11 | – | Error occurred after or during inquiry from the remote (transmitting) machine as to whether reception is possible or not. |
| 12 | – | Error occurred during or just after fallback. |
| 13 | – | Error occurred after the retransmission end command was received. |

### Super G3 Mode

| Error Code | Transmission Errors | Reception Errors |
|---|---|---|
| E-16 | Same as E-0 | Same as E-0 |
| E-17 | Same as E-1 | Same as E-1 |
| E-18 | Same as E-2 | Same as E-2 |
| E-19 | – | Same as E-8 |
| E-20 | Same as E-4 | Same as E-9 |
| E-21 | – | Same as E-10 |
| E-22 | – | – |
| E-23 | Same as E-7 | Same as E-7 |
| E-24 | Same as E-8 | – |
| E-25 | Same as E-11 | Same as E-11 |
| E-26 | Same as E-12 | Same as E-12 |
| E-27 | Same as E-13 | Same as E-13 |
| E-28 | – | Same as E-14 |
| E-29 | Error occured during handshaking for super G3 mode | |
| E-30 | | |
| E-31 | | |

### <Reference> Details of E-29~31

| | |
|---|---|
| E-29 | Handshaking error in V.8 negotiation procedure |
| E-30 | Handshaking error in V.34 line probing procedure |
| E-31 | Handshaking error in V.34 HDX training procedure |

### 2. Service call error massage

1. HEATER ERROR
2. LASER ERROR
3. POLYGON ERROR
4. FAN ERROR
5. PCU COMM, ERROR

## [5] OVERSEAS COMMUNICATION MODE

#### (1) Function

The Super G3(V.34) mode is susceptible to influence of line. It is better to use the G3(V.17) mode for communication in specific line conditions. This function is provided to support this status.

#### (2) Memory retransmission

In case of memory transmission the retransmission is performed in the following conditions.

| No. | Conditions | Operation |
|---|---|---|
| 1 | When a communication error occurred in communication in the Super G3 mode due to page 1 MCF reception failure. | The retransmission of this communication is performed after setting Super G3 to OFF (in V.17 mode). |
| 2 | When a communication error occurred in communication in the Super G3 mode after reception of page 1 MCF. | The retransmission of this communication is performed without setting Super G3 to OFF (in V.34 mode). |
| 3 | When a communication error occurred in retransmission. | Retransmission is performed again according to 1 and 2 above. |
| 4 | When a communication error occurred in sequential system communication. | Retransmission is performed according to 1 and 2 above for each station. |

#### (3) Original transmission

Since retransmission is not provided for the original transmission, recovery by the method 1 is impossible. Accordingly, for the original transmission set Super G3 to OFF (default), and apply V.17 mode.

This function can be set to ON or OFF by using the soft switch.

SW32 No.2 = 0: Super G3 off (default) = 1: Super G3 on

This setting has priority over the Super G3 function setting to OFF by operator which is discussed in item (4).

## (4) Super G3 function setting to OFF by operator

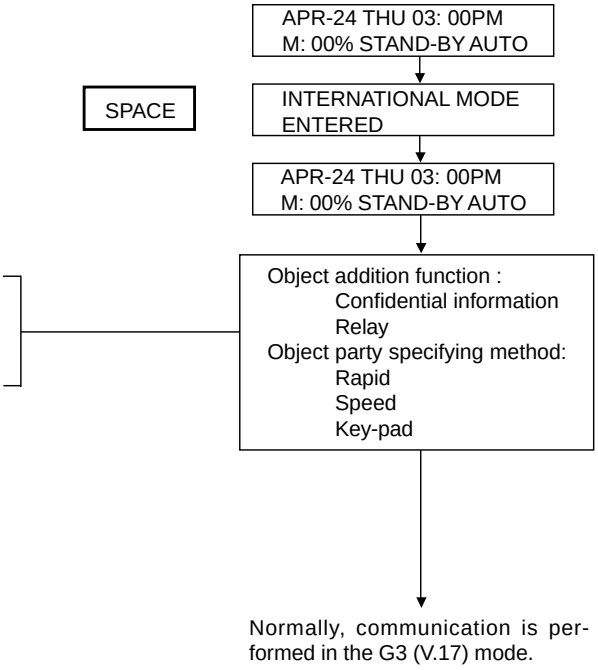
A function to set Super G3 function to OFF is provided for operator in addition to the functions described in items (2) and (3) above. However, this function is invalid in the default mode.

It is made valid only when requested by using the soft switch.

SW27 No.4 = 0: Operation invalid (Default) 1: Operation valid

### (4)-1 Setting method

① Before communication operation press the SPACE key to set the communication to OFF in the Super G3 mode.




② Perform the transmission/polling operation.

The operations which are taken as objects are the following.

* Instantaneous single station auto-dial transmission (original/memory)
* Time-specified single station transmission
* Program instantaneous single station transmission
* Program time-specified single station transmission
* Time-specified single station polling
* Program instantaneous single station polling
* Program time-specified single station polling
* Manual transmission (original/memory)
* Batch transmission

### (4)-2 Canceling method (this setting is not canceled while one of the following operations is not performed)

① After setting operation (pressing the SPACE key) press the STOP key on the WAIT screen.

② After setting operation (pressing the SPACE key) hold for one minute.

In case of operation ① and ② the display shown right will appear for 2 seconds.

INTERNATIONAL MODE
CANCELED

③ Perform the communication operation (all the communication operations).

④ Start up again the machine (turn on power).

### (4)-3 Others

① The operation to set Super G3 to OFF is valid only for one communication which is performed successively.

# CHAPTER 3. MECHANICAL DESCRIPTION

## [1] Mechanical description

### 1. Facsimile block

### 1-1. Document feed block and diagram

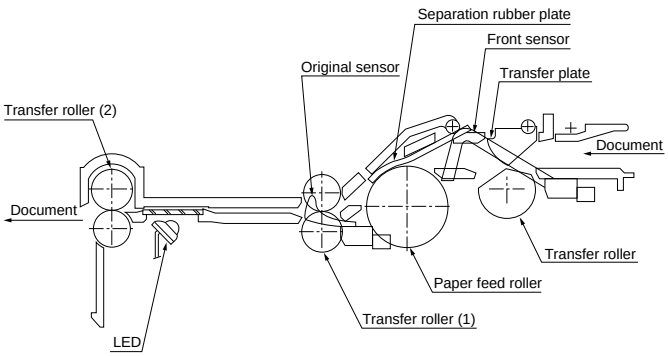



Fig. 1

### 2. Document feed operation

1) As shown in Fig.1, the document set in the hopper (the front sensor is on) is fed with the pay-out roller and paper feed roller which rotate together with the pulse motor.

2) When a specified number of pulses are received from the document sensor after the document lead edge is sensed, scanning will be started.

3) When a specified number of pulses are received from the document sensor after the document rear edge is sensed, scanning will be ended to discharge the document to the tray.

4) If the front sensor is on (the document is set up in the hopper), the next document is supplied and fed nearly when the last document is completely read and discharged. If the front sensor is off (no document is set up in the hopper), the drive will be stopped when the document is discharged to the tray.

### 3. Hopper mechanism

### 3-1. General view

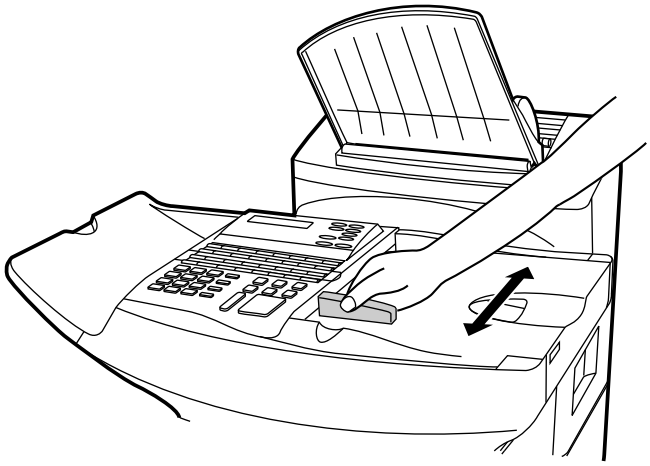


Fig. 2

The hopper is used to align documents with the document guides adjusted to the paper width.

NOTE: Adjust the document guides before and after inserting the document.

### 3-2. Automatic document feed

1) The structure with secure paper feed of the transfer roller and secure separation of the separation rubber plate system is employed. The transfer roller is so semicircular as to be rotated only when the paper feed roller is driven with the 2-step paper feed clutch mechanism. Moreover, the separation securely done by running the paper feed and transfer rollers more slowly than the feed rollor.

2) Document separation system:
Friction + speed reduction rario + roller backlash separation system

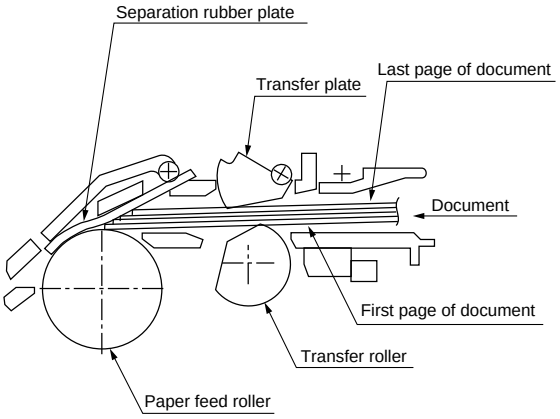



Fig. 3

### 3-3. Documents applicable for automatic feed

| | | Product specifications | |
|---|---|---|---|
| | Indication | Lower Limit | Upper Limit |
| Weight indication | Japanese indication Size 4 × 6 | 45kg paper | 70kg paper |
| | Metric system indication | 52g/m$^2$ | 80g/m$^2$ |
| | American indication LB system indication | 14 LB | 20 LB |
| Thickness indication | Metric system indication | 0.06mm | 0.1mm |
| | Inch system indication | 0.0024" | 0.0035" |
| Document size | Document size Range | (148mm × 128mm) ~ W letter (279.4mm × 432mm) | |
| | | A4 (210mm × 297mm) | |
| | | Letter (216mm × 279mm) | |
| Number of ADF sheets | Document size Weight | B6 ~ Letter/A4 size | 50 sheets |
| | | B4 size/Legal | 20 sheets |
| | | W letter size | 1 sheet |
| | | 90 kg (104g/m$^2$) or more 135 kg (157g/m$^2$) or less | 1 sheet |
| Paper quality | Kind | Paper of fine quality/bond paper/ Kent paper | |

NOTE: Double-side coated documents and documents on facsimile recording paper should be inserted manually.

Documents corresponding to a paper weight heavier than 90kg (104g/m$^2$) and lighter than 135kg (157g/m$^2$) are acceptable for manual feed.

Documents heavier than 135kg in terms of the paper weight must be duplicated on a copier to make it operative in the facsimile.

## 3-4. Loading the documents

1) Make sure that the documents are of suitable size and thickness, and free from creases, folds, curls, wet glue, Wet ink, clips, staples and pins.

2) Place documents face down in the hopper.

   i) Adjust the document guides to the document width.

   ii) Align the top edge of documents and gently place them into the hopper. The first page under the stack will be taken up by the feed roller to get ready for transmission.

NOTES: 1) Curled edge of documents, if any, must be straighten out.

2) Do not load the documents of different sizes and/or thicknesses together.

## 3-5. Documents requiring use of document carrier

1) Documents smaller than B6 (128mm x 182mm).

2) Documents thinner than the thickness of 0.06mm.

3) Documents containing creases, folds, or curls, especially those whose surface is curled (maximum allowable curl is 5mm).

4) Documents containing tears.

5) Carbon-backed documents. (Insert a white sheet of paper between the carbon back and the document carrier to avoid transfer of carbon to the carrier.)

6) Documents containing an easily separable writing material (e.g., those written with a lead pencil).

7) Transparent documents.

8) Folded or glued documents.

Document in document carrier should be inserted manually into the feeder.

## 4. Optical system

### (1) General view

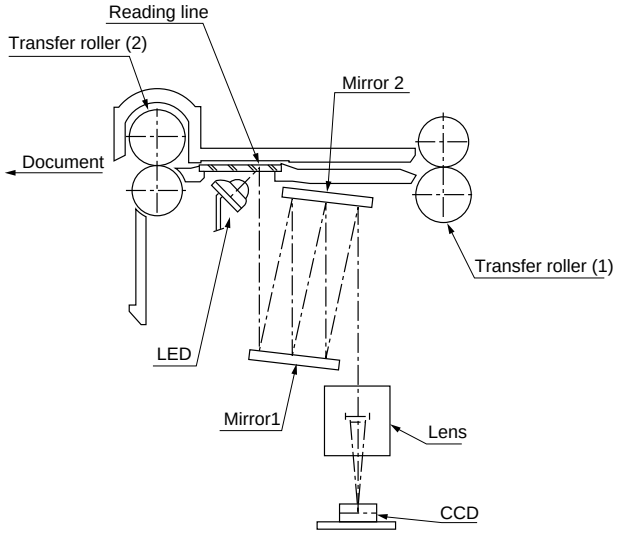



Fig. 4

### (2) Composition

The optical system is composed of the document feed mechanism, the lamp, the reflecting mirrors, the focusing lens, the CCD sensor, and the read process circuit.

### 4-1. LED Lamp

The LED lamp is used to expose the document.

### 4-2. Lens

The lens is used to focus the light reflected from the document on the CCD elements.

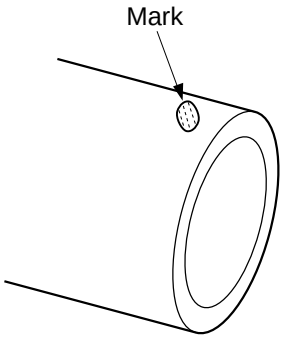



Fig. 5

### 4-3. CCD

The CCD (charge coupled device) image sensor consists of a photodiode array which converts the intensity of light reflected from the document surface into series of analog voltages which are then stored in an analog shift register. The series of analog voltages are then converted into a digital equivalent by a black/white binary logic circuit.

(Example) Scan signal output waveform

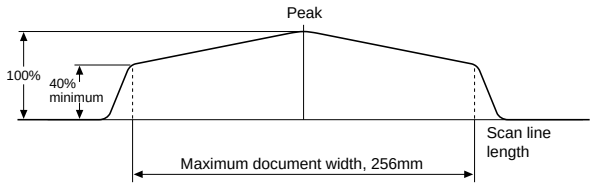


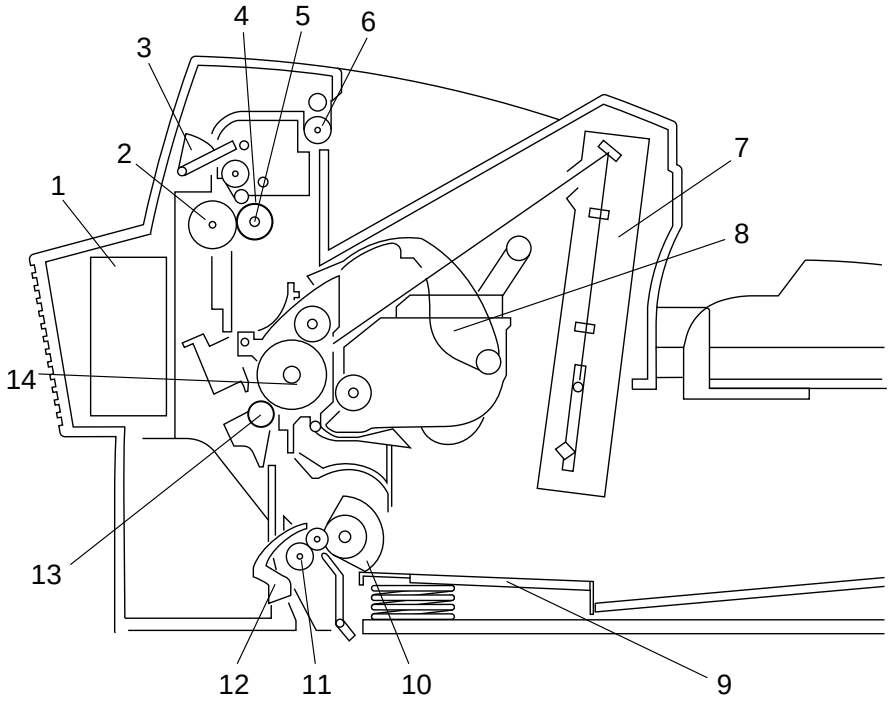

Fig. 6

1) The minimum output from the CCD at the maximum scan width of document (256mm) must be more than 40% of the peak value.

2) The peak output must be about 200mV under room temperature to avoid CCD saturation.

# [2] Printer description

## 1. COMPONENTS LAYOUT




1. Exit Fan Motor (M3)
2. Lower Fusing Roller
3. Paper Exit Sensor (PC3)
4. Upper Fusing Roller
5. Heater Lamp (H1)
6. Paper Exit Roller
7. Print Head Unit
8. Toner Cartridge
9. Paper Lift-Up Plate
10. Paper Take-Up Roller
11. Paper Transport Roller
12. Paper Take-Up Sensor (PC1)
13. Image Transfer Roller
14. Dram Cartridge

Fig. 1

## 2. DRIVE SECTION

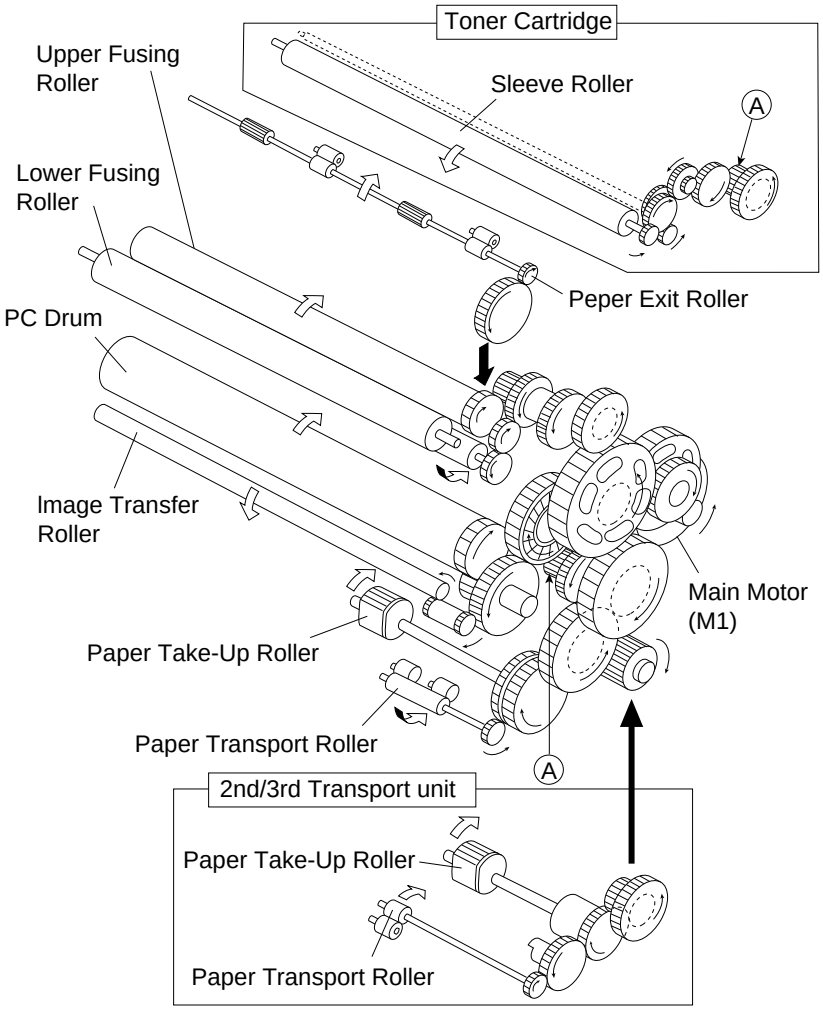



Fig. 2

## 3. PRINTER ENGINE ELECTRICAL COMPONENTS LAYOUT

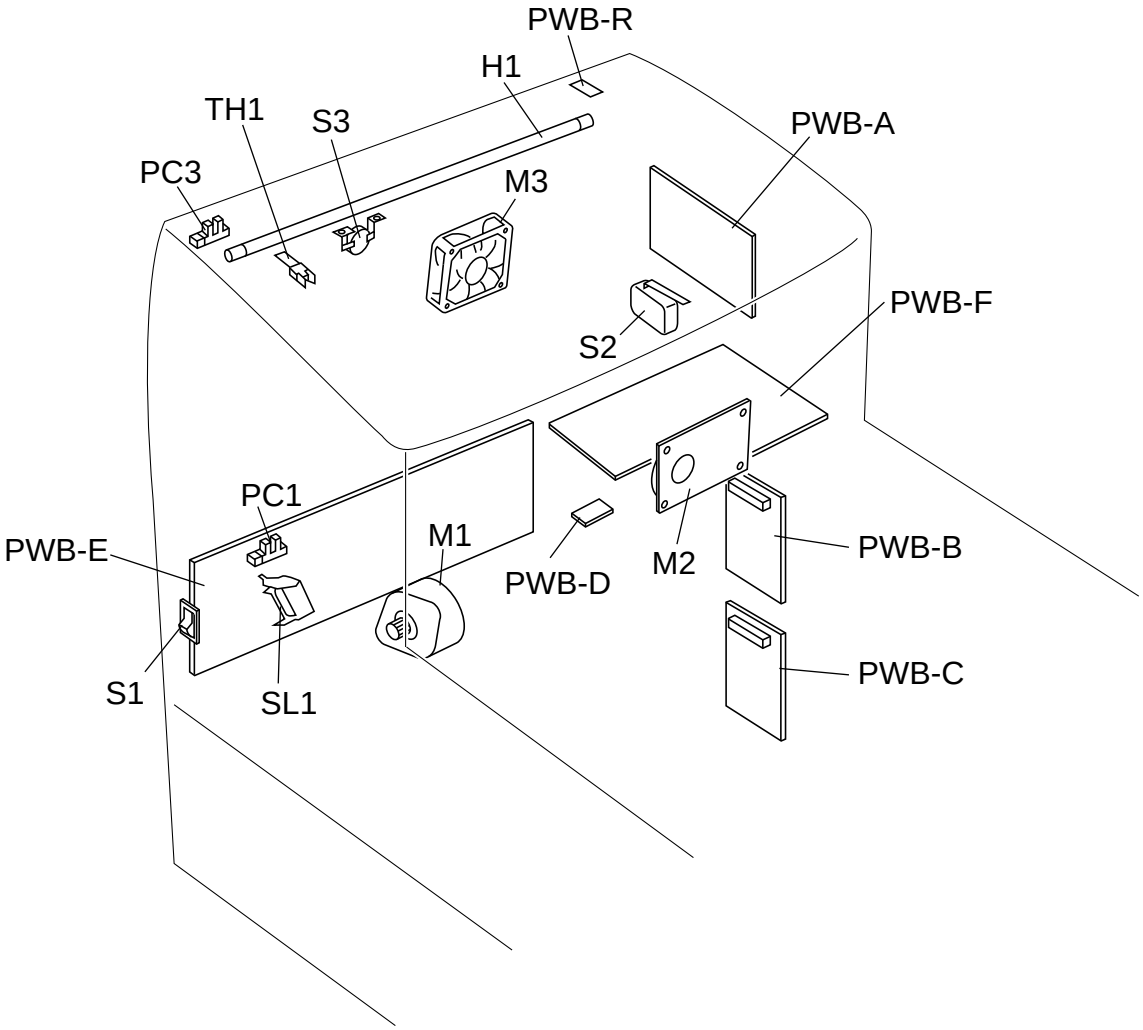



Fig. 3

## 4. ELECTRICAL PARTS IDENTIFICATION

| Symbol | Name | Function |
|---|---|---|
| PWB-A | Printer Control PWB | Communicates with the controller and controls all printer operation. |
| PWB-D | Laser Diode Drive | Detects the start position of the image by the Laser Diode and the SOS Sensor. |
| PWB-E | Power Supply PWB | Converts the power voltage from AC voltage into DC voltage and supplies that to H1. |
| PWB-F | High Voltage PWB Unit | Applies each voltage respectively to the Rotating Charge Brush, the Sleeve Roller, the Toner Regulation Plate, the Toner Collecting Plate and the Electrode Plate. |
| PWB-R | Resistor PWB | Prevents the image transfer current from flowing to paper by the resistor. |
| M1 | Main Motor | Is the drive source of the printer. |
| M2 | Polygon Motor | Rotates at high speed and makes the laser scan in scanning direction. |
| M3 | Fan Motor | Exhausts the heated air out of the printer. |
| SL1 | Paper Take-Up Solenoid | Transmits the drive of the Main Motor to the Paper Take-Up Roller. |
| H1 | Heater Lamp | A halogen lamp that supplies heat to the Upper and Lower Fusing Rollers. |
| TH1 | Thermistor | Detects the temperature of the Upper Fusing Roller. |
| S1 | Power ON/OFF Switch | Turns ON or OFF the printer. |
| S2 | Interlock Switch | Detects the opening or closing of the Upper Unit. |
| S3 | Thermostat | Cuts off the current to H1 when blown. |
| PC1 | Paper Take-Up Sensor | Detects when paper is picked up and the paper size. The signal is L when the paper is detected. |
| PC3 | Paper Exit Sensor | Detects when the paper is fed out. The signal is L when the paper is detected. |
| PWB-B | 2nd Transport PWB | Connects the printer and the Second Tray. |
| PWB-C | 3rd Transport PWB | Connects the printer and the Third Tray. |

## 5. ELECTRICAL SERVICE PARTS ON P.W.BOARDS

| P.W.Board | Symbol | Function |
|---|---|---|
| PWB-F | VR1, 2 | Factory settings |
| PWB-E | F701 | Power Unit protection fuse<br>120V AC125V 5A |
| PWB-A | VR1 | Positioning adjustment of the start of image<br>(Refer to Adjustment section.) |

PWB-F

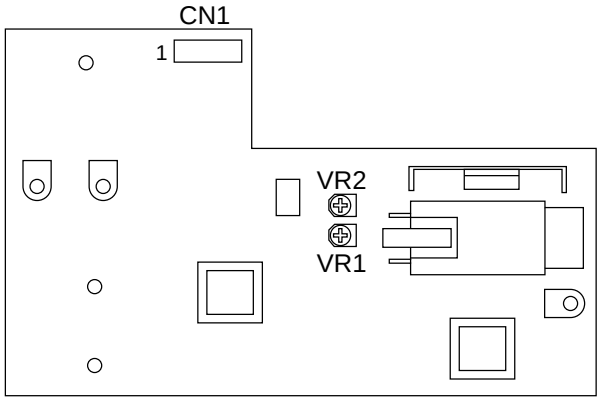



Fig. 4

PWB-E

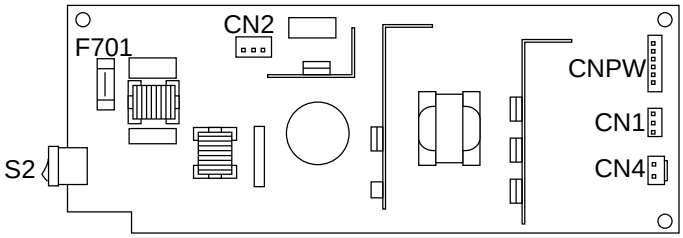



Fig. 5

PWB-A

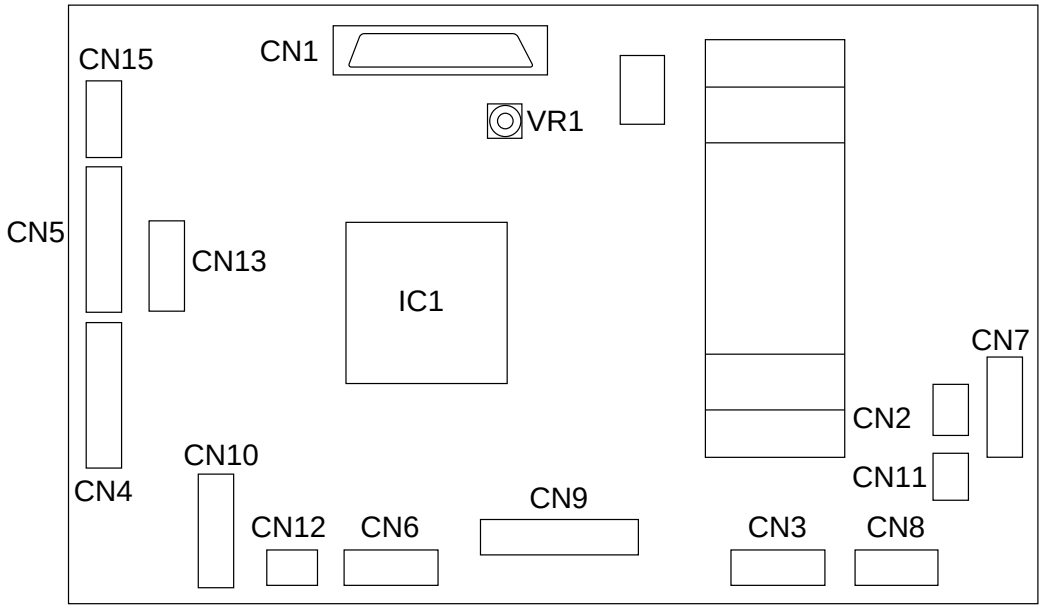



Fig. 6

## 6. PRINT PROCESSING

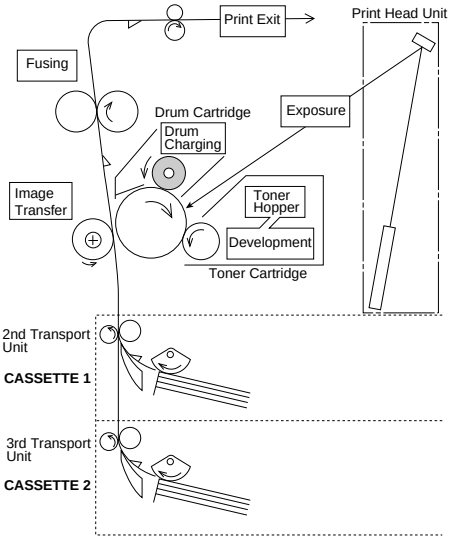



Fig. 7

## 7. PAPER TAKE-UP SECTION

Paper can be fed into the printer from the Multi Purpose Tray or from the Manual Feed Port (1 sheet).

Installing the Second Tray adds another feeding method.

The paper fed by the Paper Take-Up Roller is transported to the Transport Roller, Fusing Roller and then Paper Exit Roller. After this, the paper is fed out onto the Print Tray.

The starting position of an image is decided by the Paper Take-Up Sensor (PC1).

### 7-1. Multi-Purpose Tray

When the Paper Take-Up Solenoid is energized, the drive of the Main Motor (M1) is transmitted to the Paper Take-Up Roller via the Paper Take-Up Clutch (one-way clutch) to rotate the Paper Take-Up Roller one revolution. At the same time, the Depressing Cam rotates and releases the Paper Lift-Up Plate to feed the top (first) sheet of paper.

The Fixed Separating Pad is used for the paper separation system. It prevents the second or later sheets of paper from being fed together with the top paper.

A Paper Empty Sensor in the Multipurpose Tray senses when the paper tray is empty. Additionally, a sensor informs the Printer Control PWB if the paper guide is adjusted to Legal and that legal sized paper is installed.

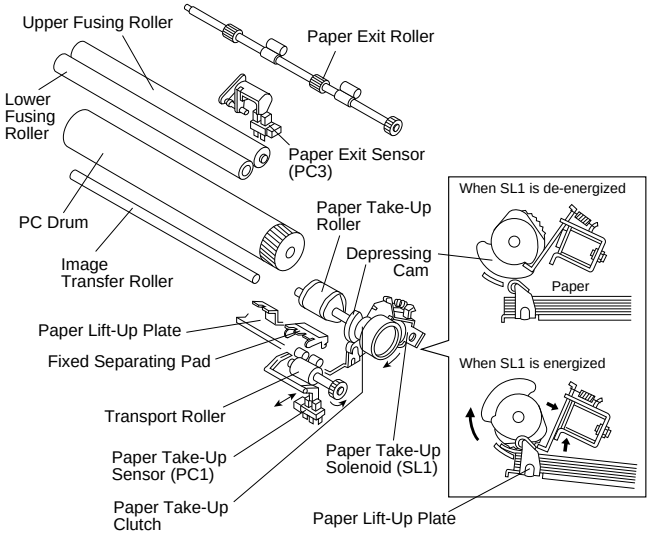



Fig. 8

## 8. DRUM CHARGE

The PC Drum is charged with static electricity before laser exposure. The Rotating Charge Brush and the Precharge-film are used for the charging method.

The rotating brush charging and the Precharge-film charging generate little ozone in the printer. Because the charge is directly given to the PC Drum, the PC Drum can be charged by low voltage. At the same time, PC Drum can be charged stably and evenly.

The Precharge-film charging supplies the charge to the Rotating Charge Brush to improve the charging efficiency.

The Rotating Charge Brush is turned by the drive of the Main Motor (M1) via a gear.

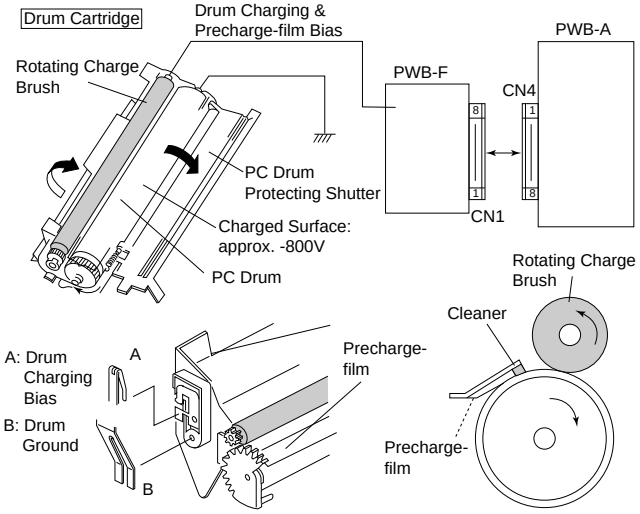



Fig. 9

## 9. LASER EXPOSURE

An invisible static image is made by the laser beam emitted from the Print Head Unit.

In the sub-scanning direction (vertical direction)
When the printer receives the PRINT signal, the Polygon Motor and the Main Motor rotate and the paper is fed into the printer.
The printing in the sub-scanning direction is started when the PWB-P sends the VIDEO signal to the Print Head a certain time after the leading edge of the paper activates the Paper Sensor (TOD signal).
The print starting position of the 2nd line is decided by delaying the VIDEO signal sending timing.

In the scanning direction (horizontal direction)
The SOS Sensor is installed on the Laser Diode Control Board (PWB-D) to unify the laser emission timing for each scan line.

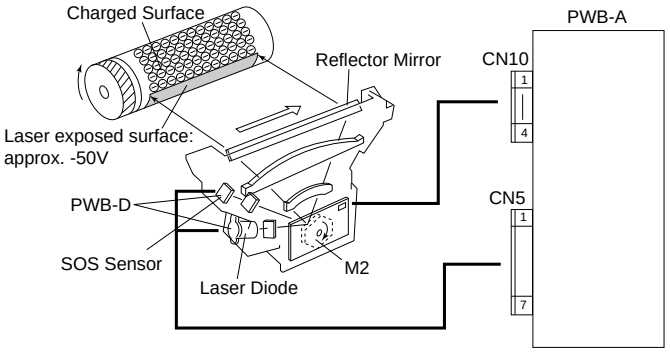



Fig. 10

## 10. DEVELOPMENT

Toner is applied to the invisible static image on the PC Drum and a toner image is created on the surface.
The development is the process of creating a toner image on the PC Drum by applying toner onto the invisible static electricity image.

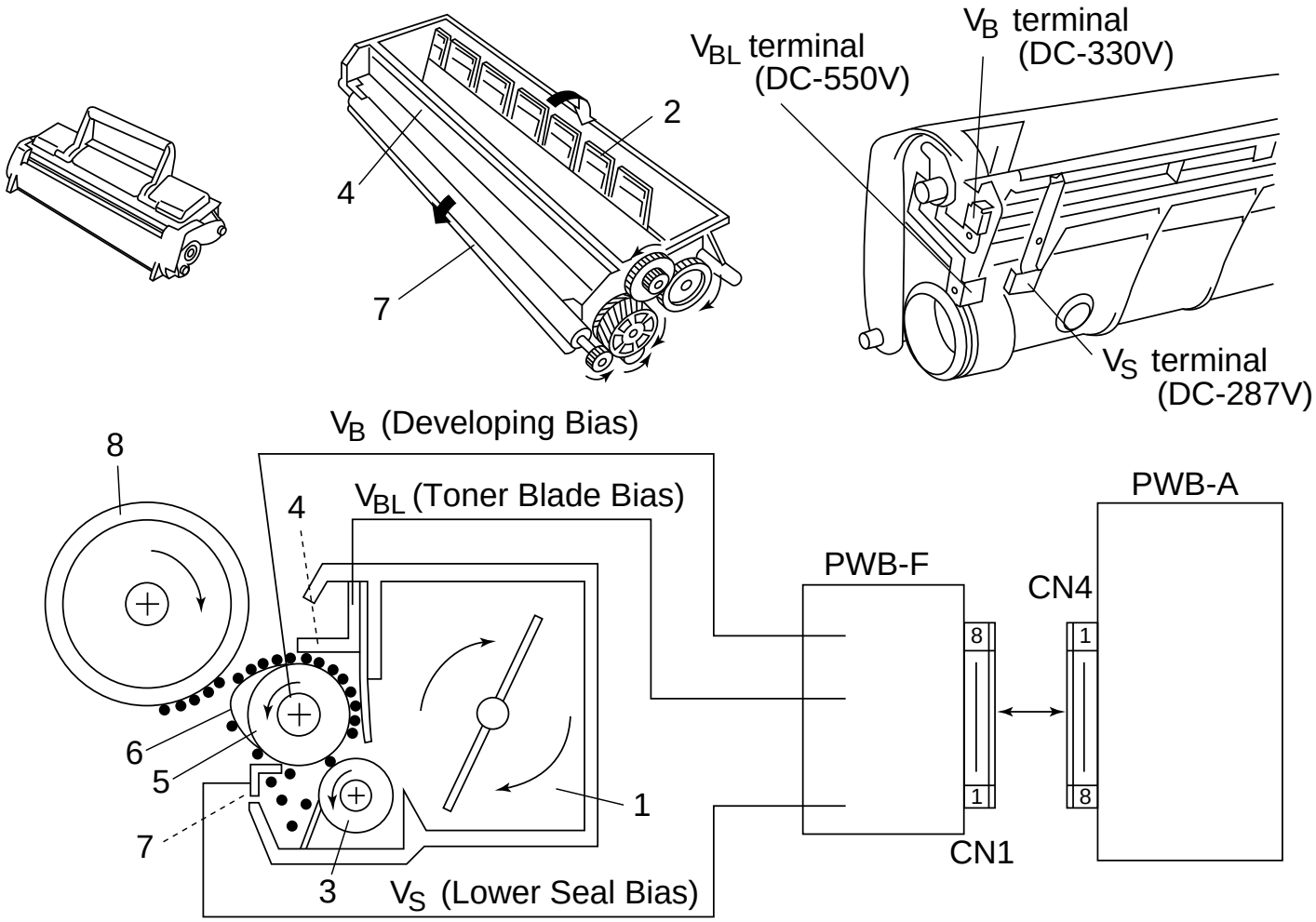



Fig. 11

| Part Name | Function |
|---|---|
| 1. Toner Hopper | Contains toner. |
| 2. Toner Agitating Screw | Agitates the toner in the Toner Hopper and sends the toner to the Toner Transport Roller. |
| 3. Toner Transport Roller | Transports the toner to the Sleeve Roller. |
| 4. Doctor Blade | Spreads a thin, even coat of toner over the Resin Sleeve. The toner is negatively charged when passing between this Blade and the Resin Sleeve. |
| 5. Sleeve Roller | Rotates the Resin Sleeve. |
| 6. Resin Sleeve | Carries the toner to the PC Drum surface for development. |
| 7. Bias Seal | Carries the toner remaining on the Resin Sleeve and neutralizes charge. |
| 8. PC Drum | Exposed to laser to create an invisible image and rotates to carry the developed image to the paper surface. |

## 11. IMAGE TRANSFER

Image transfer is the process of transferring the toner image created on the PC Drum in the developing process to paper. We use the Roller Image Transfer instead of the Corona Image Transfer, as the image transfer method. In the Roller Image Transfer, there is little generation of ozone due to corona discharge. Also, there is no blur of toner because the paper is always pressed by the PC Drum and the Image Transfer Roller.

When cleaning the Image Transfer Roller and before printing, reverse bias is applied.

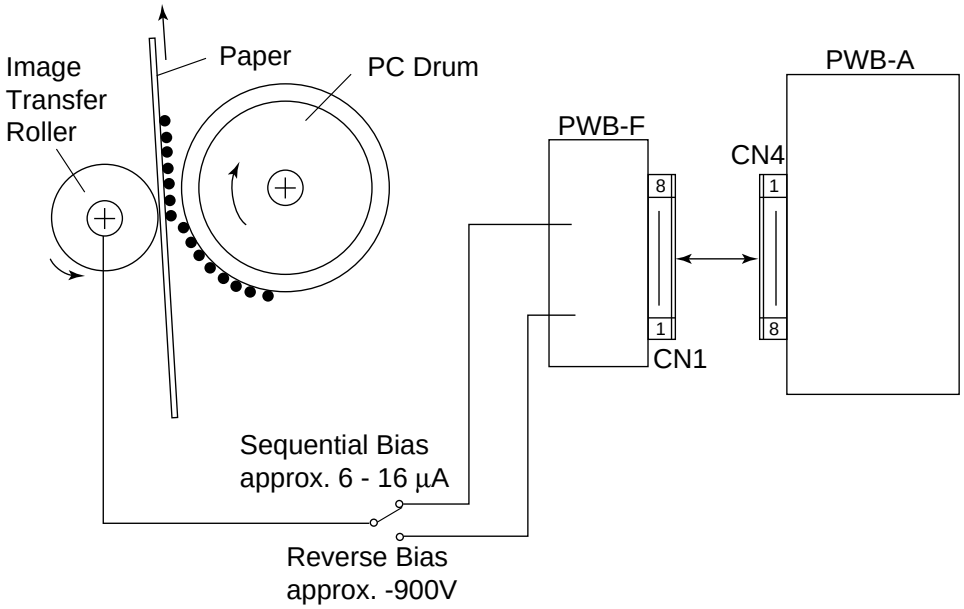



Fig. 12

## 12. FUSING

### 12-1. An Overview

The toner image transferred onto the paper is securely fixed.
A heat roller system is used as the fusing system. The toner image is fused by the Upper Fusing Rokkellheated by the Heater Lamp, and securely fixed by the pressure between the Upper and Lower Fusing Rollers.
A Thermistor (TH1) detects and conttrols the Upper Fusing Roller temperature.
The Thermostat (S3) blows when the temperature becomes approx. 133˚C and shuts down the power to the Heater Lamp.

### 12-2. Fusing Temperature Control Circnit

The Thermistor (TH1) detects the surface temperature of the Upper Fusing Roller and inputs that analog voltage into IC1A-77. Corresponding to this data, the Heater Lamp ON/OFF signal is output from IC1A-54, causing the Heater Lamp (H1) to turn ON or OFF to control the fusing temperature.
When the Heater Lamp is not turned OFF even if the Thermistor detects a high temperature malfunction (if the surface temperature of the Upper Fusing Roller exceeds 200˚C), the signal from IC1A-75 changes from H to L to turn OFF the Heater Lamp forcibly.

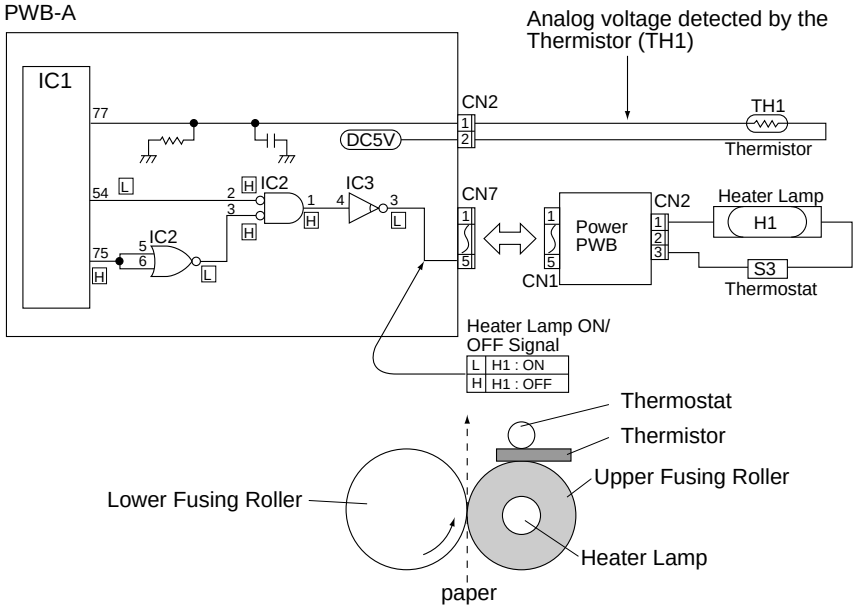



Fig. 13

1) Warming Up — After the initialization of the printer, warming up of the printer starts and the Heater Lamp turns ON until the temperature of the Upper Fusing Roller reaches approx. 172˚C.

2) Standby — In this standby mode, the temperature of the Upper Fusing Roller is maintained at 156˚C. When this condition continues for 3minutes, the printer turns to Standby mode at low temperature.

3) Print Cycle — When the printer obtains the printing command from its controller, the Upper Fusing Roller is maintained at 172˚C.

4) Standby at low temperatuie — The Upper Fusing Roller is maintained at 112˚C.

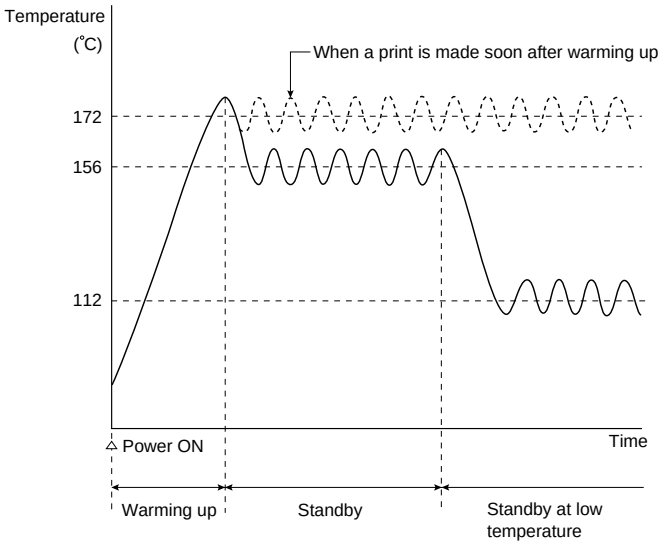



Fig. 14

## 13. PRINT SEQUENCE

### 13-1. Print Starting

### 13-2. Print Ending

Unit: msec

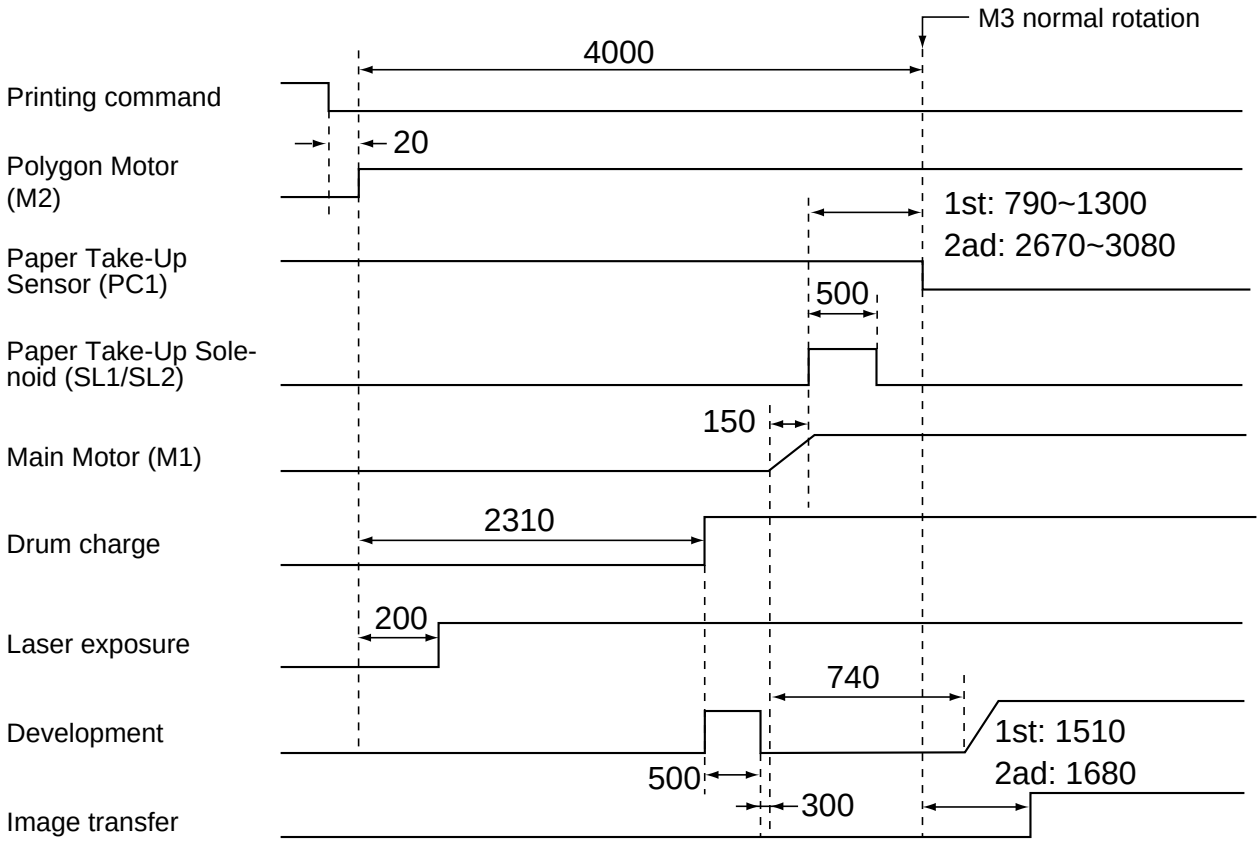



Fig. 15

# [3] Disassembly and assembly procedures

- This chapter mainly describes the disassembly procedures. For the assembly procedures, reverse the disassembly procedures.
- Easy and simple disassembly/assembly procedures of some parts and units are omitted. For disassembly and assembly of such parts and units, refer to the Parts List.
- The numbers in the illustration, the parts list and the flowchart in a same section are common to each other.
- To assure reliability of the product, the disassembly and the assembly procedures should be performed carefully and deliberately.
- The part where the mounting screws are painted in red. (See page 3-31.)

## 1 Left side panel, speaker and handset cover

Parts list (Fig. 1)

| No. | Part name | Q'ty | No. | Part name | Q'ty |
|---|---|---|---|---|---|
| 1 | Mechanism unit | 1 | 10 | Screw (3×10) | 3 |
| 2 | Screw (3×10) | 3 | 11 | Handset cover unit | 1 |
| 3 | Connector | 2 | 12 | Left side panel, top | 1 |
| 4 | Left side panel, top unit | 1 | 13 | Screw (3×8) | 1 |
| 5 | Screw (3×10) | 2 | 14 | Handset cover, bottom | 1 |
| 6 | Left side panel, bottom | 1 | 15 | Screw (3×8) | 1 |
| 7 | Screw (3×10) | 3 | 16 | Hook switch PWB | 1 |
| 8 | Washer (ϕ3) | 3 | 17 | Hook switch lever | 1 |
| 9 | Speaker | 1 | 18 | Handset cover, top | 1 |

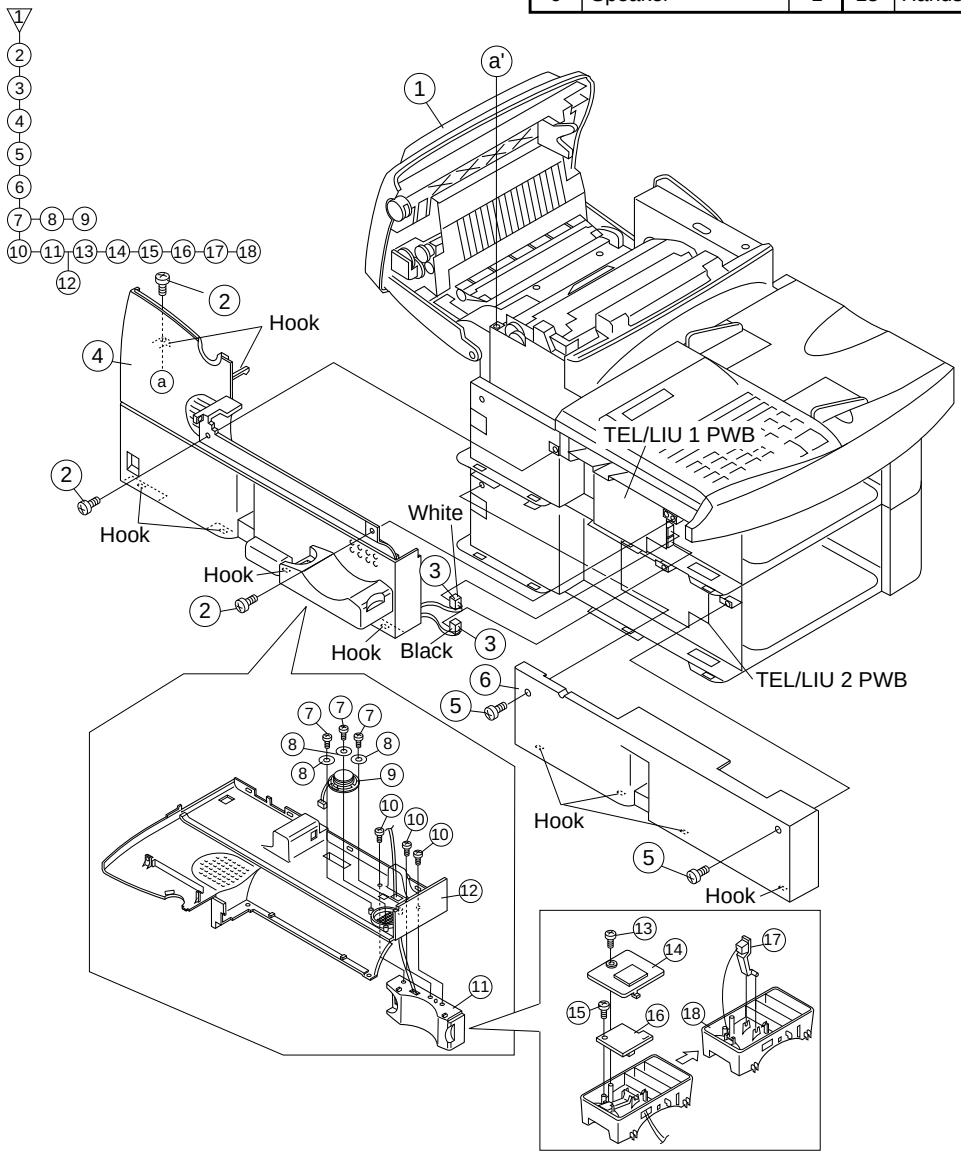



Fig. 1

## 2 Right side panel

Parts list (Fig. 2)

| No. | Part name | Q'ty |
|---|---|---|
| 1 | Mechanism unit | 1 |
| 2 | Screw (3×10) | 1 |
| 3 | Screw (3×10) | 2 |
| 4 | Right side panel, top | 1 |
| 5 | Screw (3×10) | 2 |
| 6 | Right side panel, bottom | 1 |

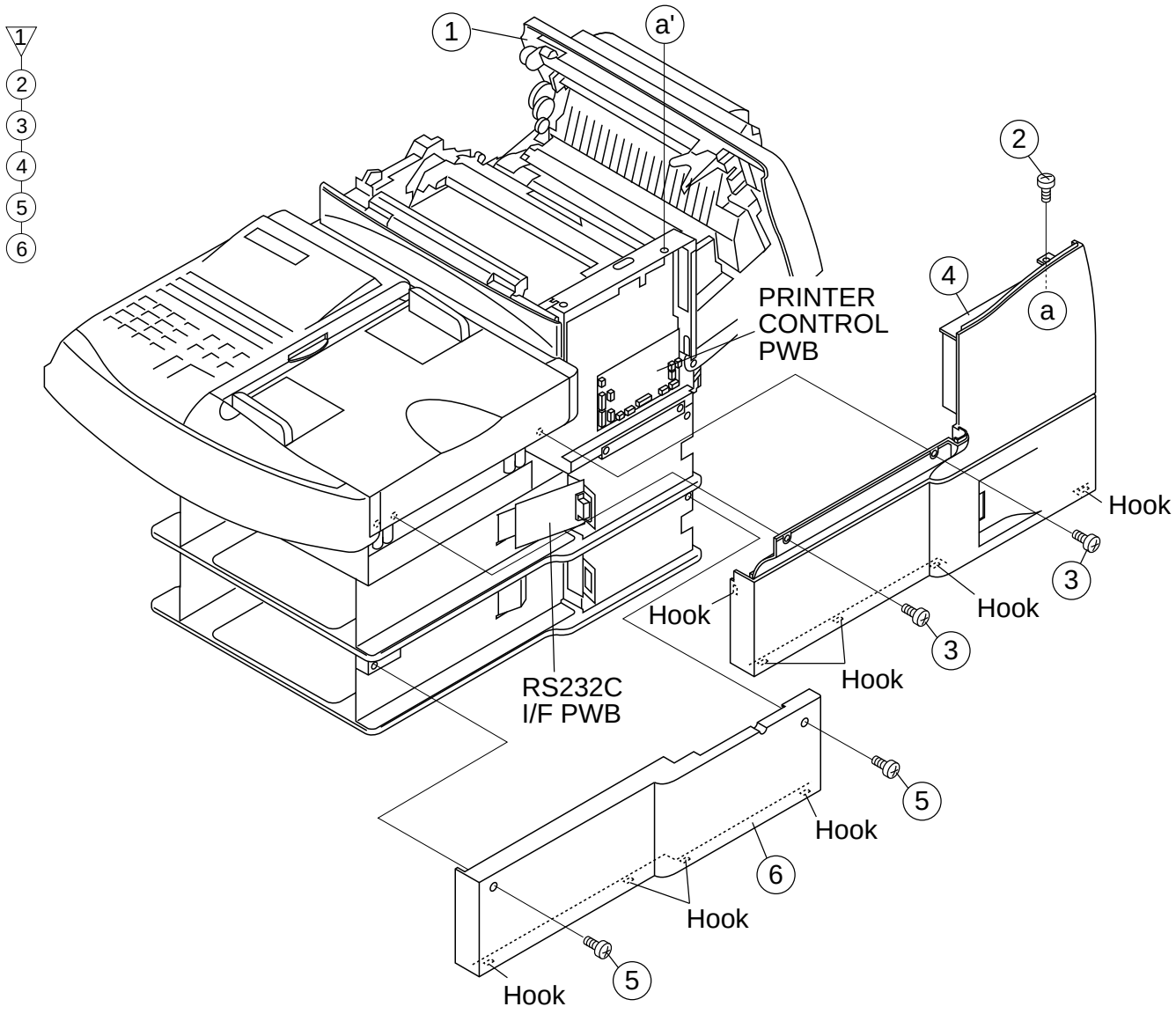



Fig. 2

## 3 Hopper, scanner cover, inner tray and printer front cover

Parts list (Fig. 3)

| No. | Part name | Q'ty | No. | Part name | Q'ty |
|---|---|---|---|---|---|
| 1 | Mechanism unit | 1 | 12 | Screw (3×6) | 1 |
| 2 | Hopper unit | 1 | 13 | Pinion gear | 1 |
| 3 | Screw (3×10) | 2 | 14 | Hopper spring | 1 |
| 4 | Scanner cover | 1 | 15 | Hopper guide, left | 1 |
| 5 | Screw (3×10) | 3 | 16 | Hopper guide, right | 1 |
| 6 | Connector | 1 | 17 | Hopper | 1 |
| 7 | Inner tray unit | 1 | 18 | Paper setting plate | 1 |
| 8 | Screw (3×10) | 2 | 19 | Screw (3×8) | 1 |
| 9 | Printer front cover | 1 | 20 | ROM cover | 1 |
| 10 | Screw (3×8) | 2 | 21 | Inner tray | 1 |
| 11 | Hopper window | 1 | | | |

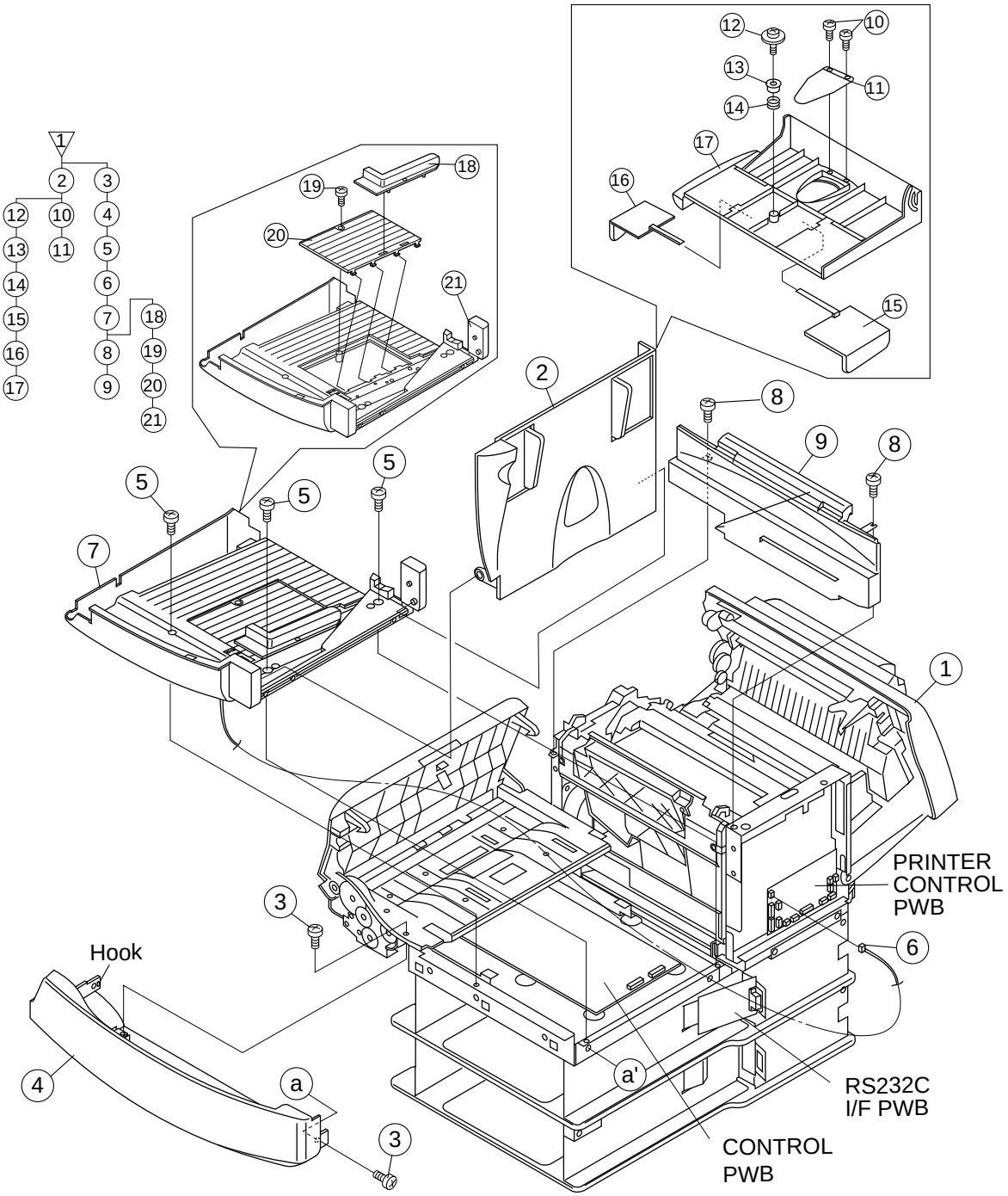



Fig. 3

| 4 | Scanner unit |
|---|---|

Parts list (Fig. 4)

| No. | Part name | Q'ty |
|---|---|---|
| 1 | Mechanism unit | 1 |
| 2 | Screw (3×6) | 4 |
| 3 | Earth cable | 1 |
| 4 | Connector | 10 |
| 5 | Scanner unit | 1 |

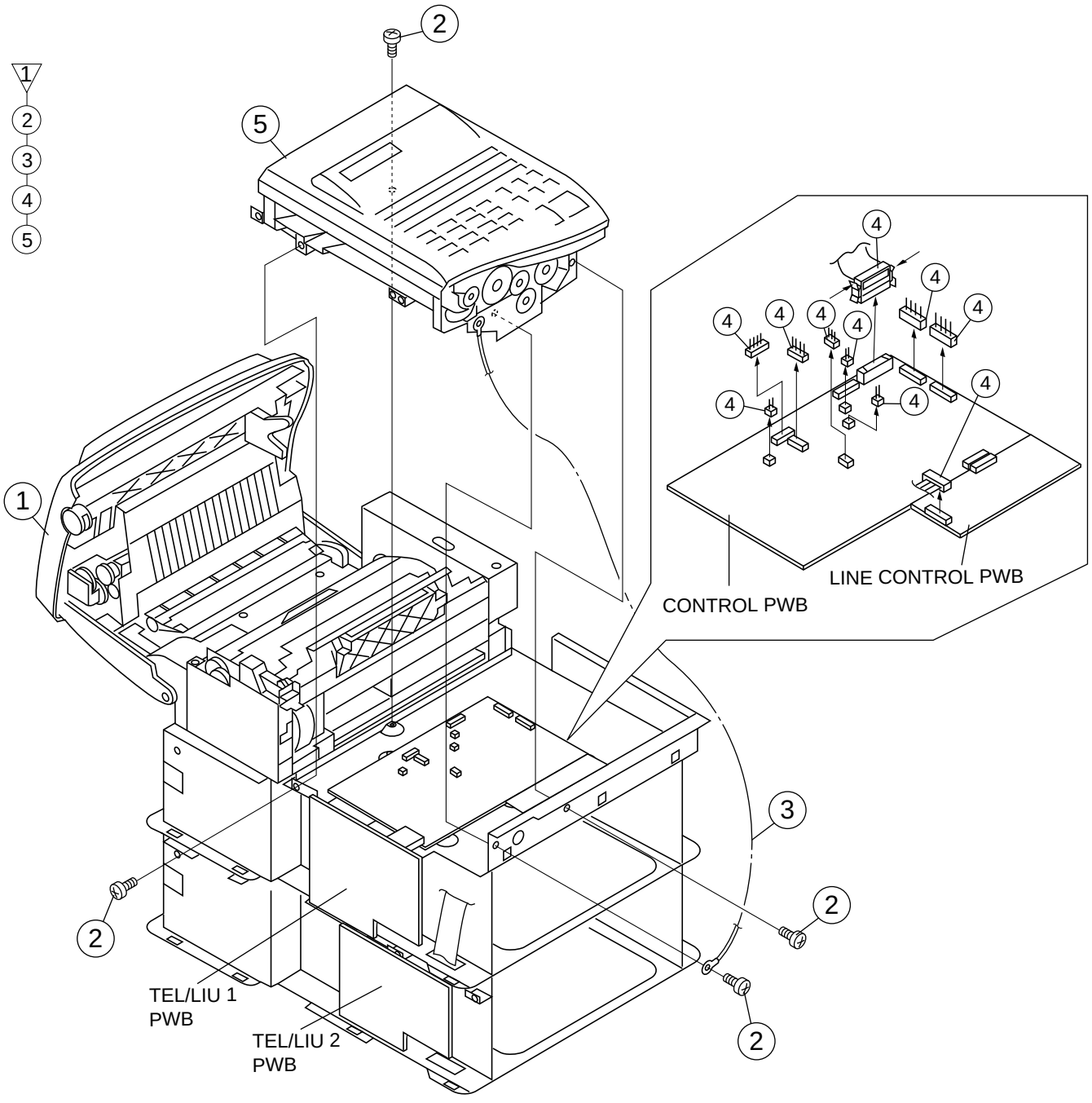



Fig. 4

| 5 | **Document guide lower, operation panel unit and optical unit.** |
|---|---|

Parts list (Fig. 5)

| No. | Part name | Q'ty |
|---|---|---|
| 1 | Scanner unit | 1 |
| 2 | Screw (3×10) | 5 |
| 3 | Reader glass | 1 |
| 4 | Document guide lower | 1 |
| 5 | Screw (3×10) | 1 |
| 6 | Operation panel unit | 1 |
| 7 | Optical unit | 1 |

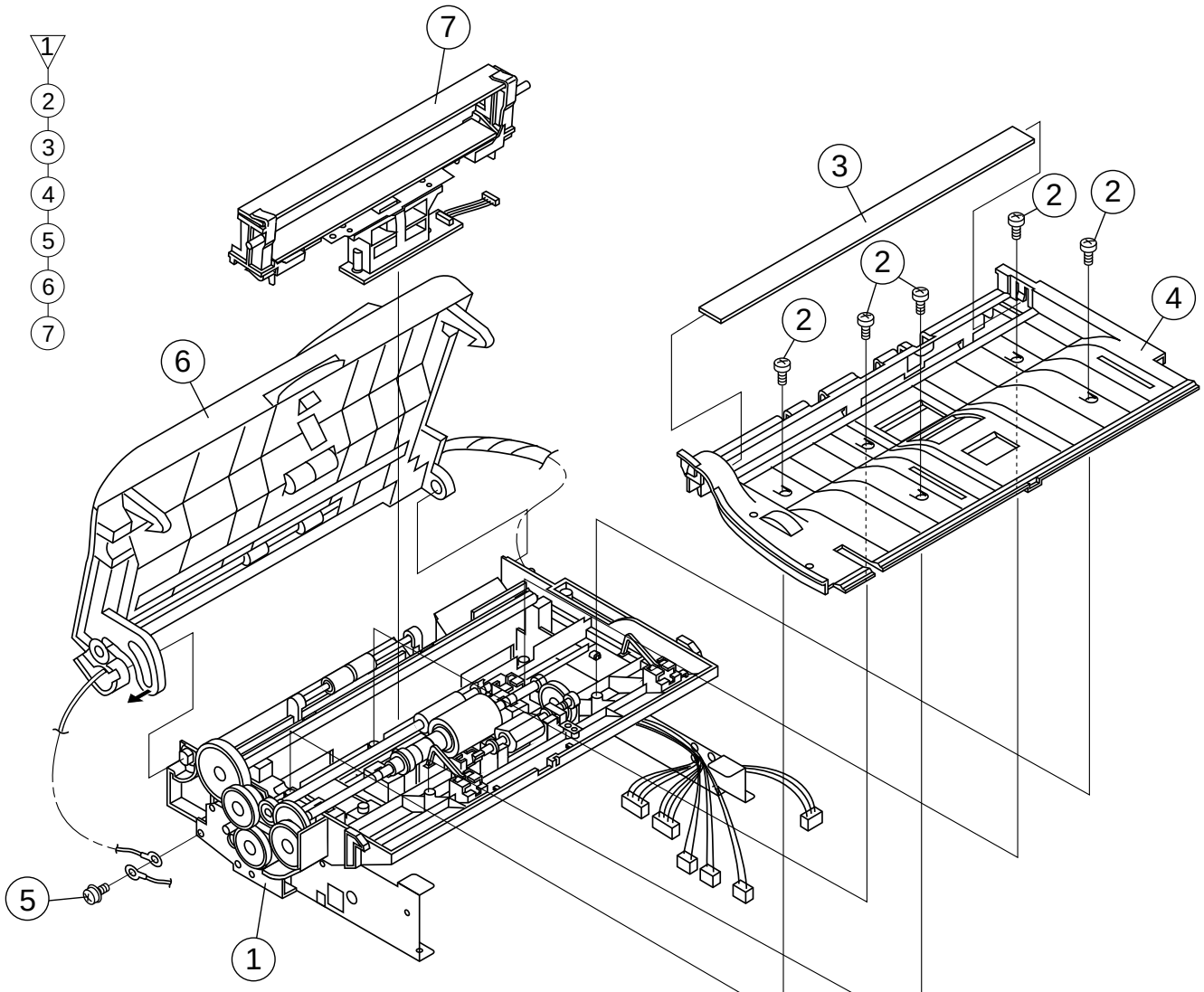



Fig. 5

## 6 Operation panel and document guide upper

Parts list (Fig. 6)

| No. | Part name | Q'ty | No. | Part name | Q'ty | No. | Part name | Q'ty |
|---|---|---|---|---|---|---|---|---|
| 1 | Screw (3×10) | 3 | 13 | Separator plate | 1 | 25 | LCD | 1 |
| 2 | Document guide upper unit | 1 | 14 | Separator rubber | 1 | 26 | Page plate | 1 |
| 3 | Release lever | 1 | 15 | Separator sheet | 1 | 27 | Panel cable | 1 |
| 4 | Release lever spring | 1 | 16 | Paper feed pressure spring | 1 | 28 | Screw (2×6) | 9 |
| 5 | Screw (3×8) | 3 | 17 | Rear sheet | 1 | 29 | Operation panel PWB unit | 1 |
| 6 | Electro-static discharger brush earth cable | 1 | 18 | Electro-static discharger brush | 1 | 30 | Change key | 1 |
| 7 | Earth plate spring 4 | 1 | 19 | Bearing | 2 | 31 | Stop key | 1 |
| 8 | Reinforcement bracket | 1 | 20 | Transfer roller gear | 1 | 32 | Mode key | 1 |
| 9 | Separator spring | 1 | 21 | Transfer roller | 1 | 33 | Start key | 1 |
| 10 | Pinch roller spring | 2 | 22 | Document guide upper | 1 | 34 | Direct key | 1 |
| 11 | Pinch roller | 2 | 23 | Operation panel unit | 1 | 35 | 12 key | 1 |
| 12 | Pinch roller shaft | 1 | 24 | Decoration panel | 1 | 36 | Operation panel | 1 |

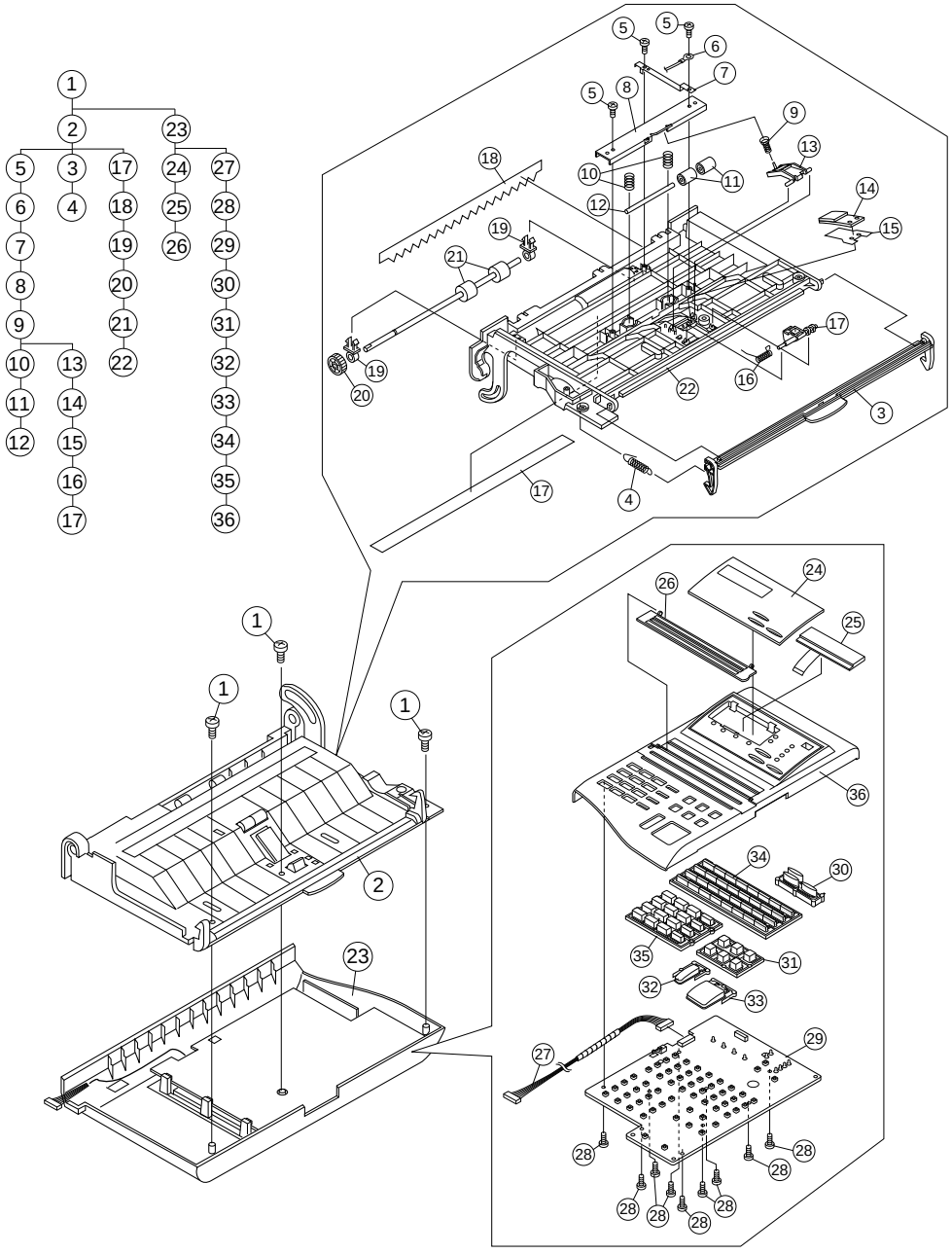


Fig. 6

## 7 Optical unit

Parts list (Fig. 7)

| No. | Part name | Q'ty | No. | Part name | Q'ty |
|---|---|---|---|---|---|
| 1 | Shading sheet | 1 | 9 | Connector | 1 |
| 2 | Mirror | 1 | 10 | CCD PWB unit | 1 |
| 3 | Screw (3×8) | 1 | 11 | Screw (3×8) | 2 |
| 4 | Mirror hold plate, right | 1 | 12 | Screw (3×6) | 1 |
| 5 | Mirror | 1 | 13 | Lens holding spring | 1 |
| 6 | Screw (3×8) | 1 | 14 | Lens | 1 |
| 7 | Mirror hold plate, left | 1 | 15 | Lens holder | 1 |
| 8 | Screw (RED) | 2 | 16 | Lens holder plate | 1 |

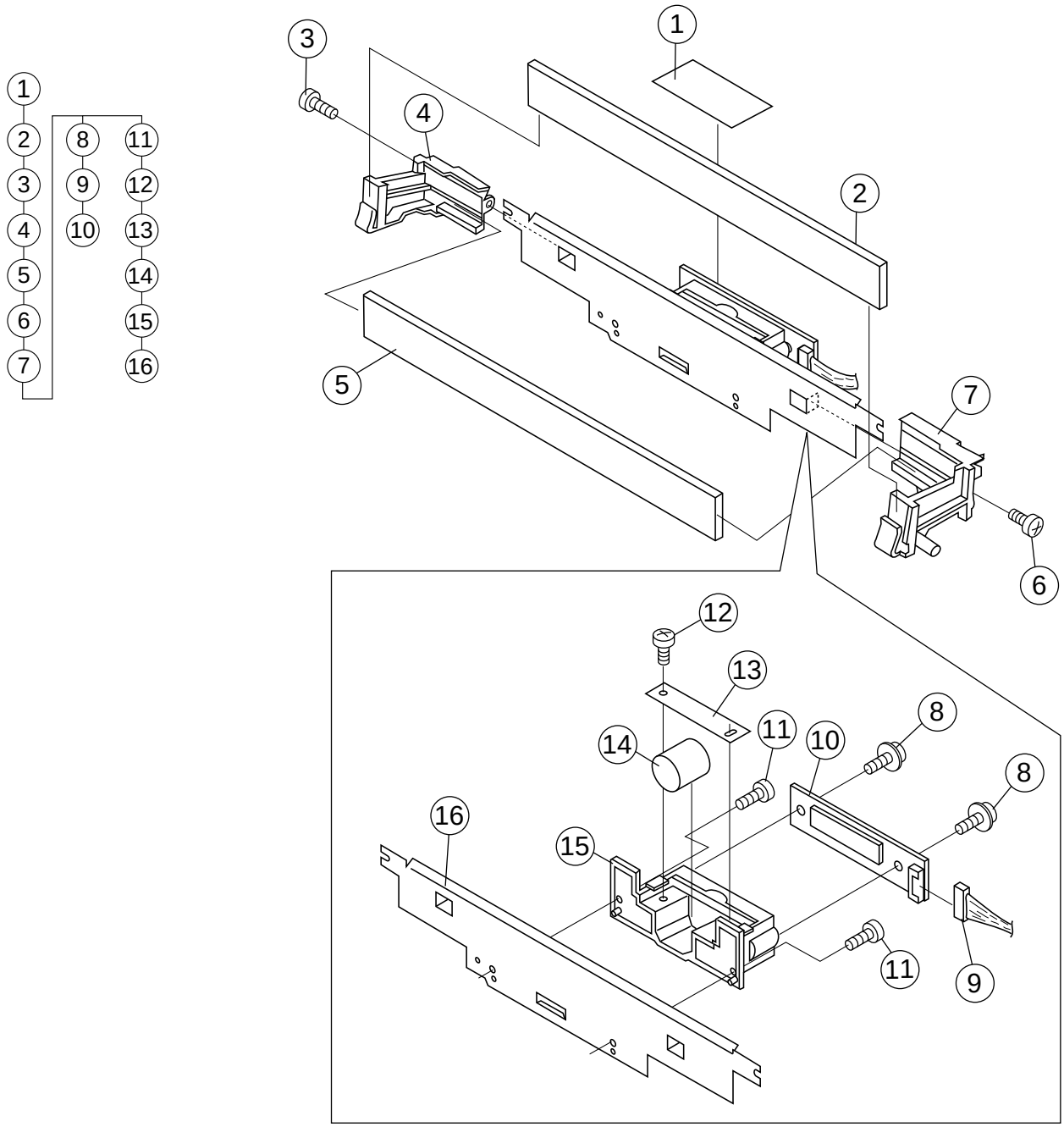



Fig. 7

## 8 Scanner frame unit and drive unit

Parts list (Fig. 8)

| No. | Part name | Q'ty | No. | Part name | Q'ty | No. | Part name | Q'ty |
|---|---|---|---|---|---|---|---|---|
| 1 | LED | 1 | 14 | ADF transfer gear | 1 | 27 | Document sensor (White) | 1 |
| 2 | Screw (3×10) | 2 | 15 | Paper feed roller shaft 2 | 1 | 28 | Front sensor (Black) | 1 |
| 3 | Pinch roller spring 2 | 1 | 16 | E ring | 1 | 29 | Front sensor (Red) | 1 |
| 4 | Screw (3×10) | 1 | 17 | ADF paper feed gear | 1 | 30 | Screw (3×10) | 2 |
| 5 | Verification stamp ass'y | 1 | 18 | Washer | 1 | 31 | Drive unit | 1 |
| 6 | Earth plate spring 2 | 1 | 19 | Washer | 1 | 32 | Screw (3×6) | 1 |
| 7 | Pinch roller | 2 | 20 | Paper feed roller | 1 | 33 | Earth plate spring 3 | 1 |
| 8 | Pinch roller shaft | 1 | 21 | Paper feed clutch unit | 1 | 34 | Screw (3×10) | 2 |
| 9 | Screw (3×10) | 1 | 22 | Paper feed roller shaft 1 | 1 | 35 | Scanner frame bracket, rear | 1 |
| 10 | Stopper spring | 1 | 23 | Paper feed gear | 1 | 36 | Bushing | 1 |
| 11 | Transfer idler gear | 1 | 24 | Transfer roller 1 | 1 | 37 | Screw (3×10) | 2 |
| 12 | Bearing | 5 | 25 | Transfer gear 1 | 1 | 38 | Scanner frame bracket, front | 1 |
| 13 | Transfer roller | 1 | 26 | Transfer sensor (Green) | 1 | 39 | Earth plate spring 1 | 1 |
| | | | | | | 40 | Dustproof sheet | 2 |
| | | | | | | 41 | Scanner frame | 1 |

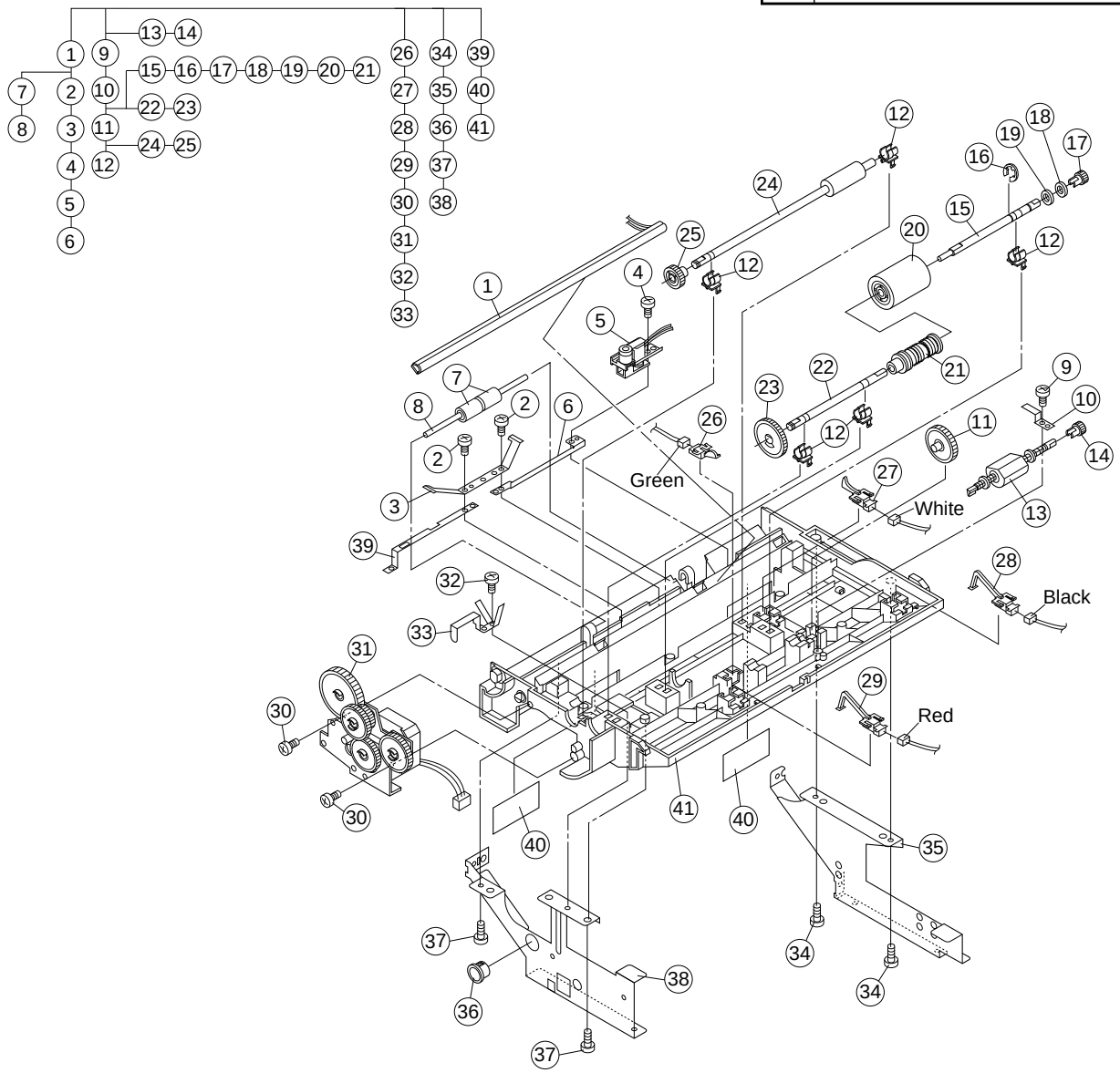



Fig. 8

| 9 | Drive unit |
|---|---|

Parts list (Fig. 9)

| No. | Part name | Q'ty |
|---|---|---|
| 1 | Reduction gear (14/50Z) | 1 |
| 2 | Idler gear (45Z) | 1 |
| 3 | Slow down gear (27/46Z) | 1 |
| 4 | Idler gear (70Z) | 1 |
| 5 | Screw (3×6) | 2 |
| 6 | Transfer motor | 1 |
| 7 | Motor plate | 1 |

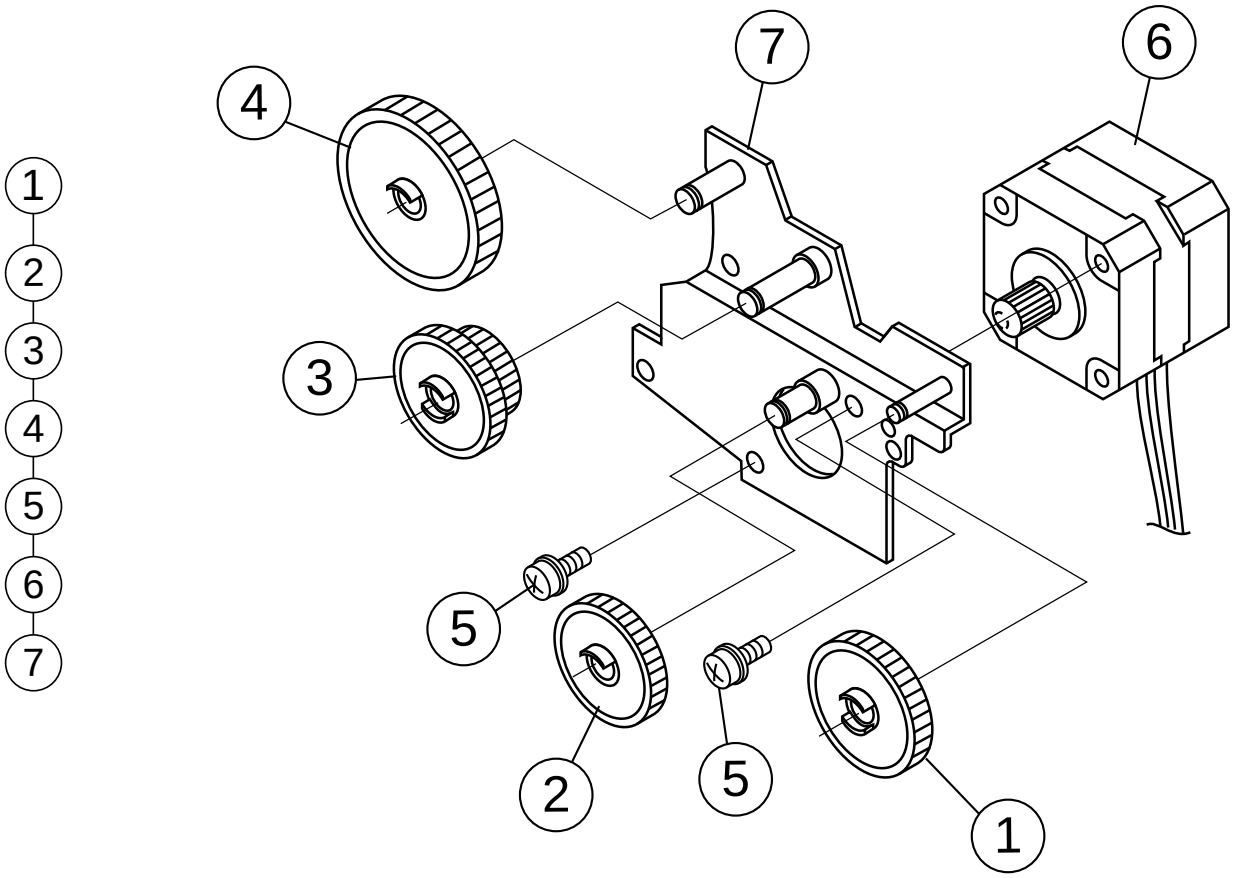



Fig. 9

## 10 PWB section

Parts list (Fig. 10)

| No. | Part name | Q'ty | No. | Part name | Q'ty |
|---|---|---|---|---|---|
| 1 | Mechanism unit | 1 | 10 | TEL/LIU 1 PWB sheet | 1 |
| 2 | Connector | 1 | 11 | TEL/LIU 1 PWB unit | 1 |
| 3 | Screw (3×6) | 2 | 12 | Screw (3×6) | 3 |
| 4 | Screw (3×8) | 1 | 13 | TEL/LIU 2 PWB bracket | 1 |
| 5 | Clamp | 1 | 14 | TEL/LIU 2 PWB sheet | 1 |
| 6 | Core | 1 | 15 | TEL/LIU 2 PWB unit | 1 |
| 7 | Control/line control PWB unit | 1 | 16 | Connector | 1 |
| | | | 17 | Screw (3×6) | 1 |
| 8 | Screw (3×6) | 3 | 18 | Screw (Special) | 2 |
| 9 | TEL/LIU 1 PWB bracket | 1 | 19 | RS232C I/F PWB unit | 1 |

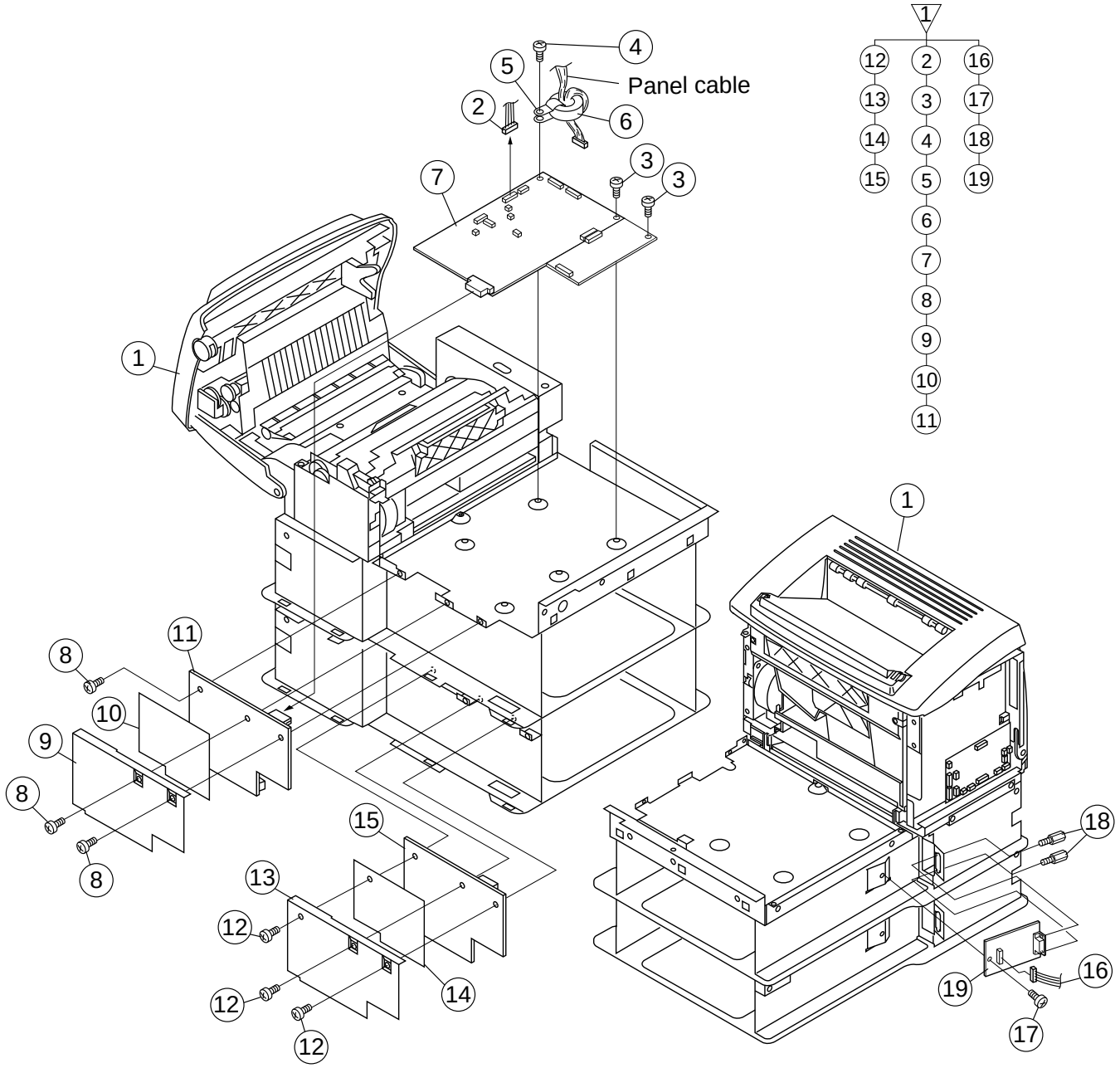



Fig. 10

## 11 Power supply PWB and printer unit

Parts list (Fig. 11)

| No. | Part name | Q'ty | No. | Part name | Q'ty |
|---|---|---|---|---|---|
| 1 | Mechanism unit | 1 | 8 | Screw (4×8) | 1 |
| 2 | Screw (3×6) | 2 | 9 | AC cord | 1 |
| 3 | Screw (3×6) | 1 | 10 | Screw (3×8) | 1 |
| 4 | Screw (3×8) | 1 | 11 | Power supply PWB cover | 1 |
| 5 | Connector | 4 | 12 | Power supply PWB unit | 1 |
| 6 | Power supply PWB ass'y | 1 | 13 | Screw (3×6) | 4 |
| 7 | Screw (3×6) | 5 | 14 | Printer unit | 1 |

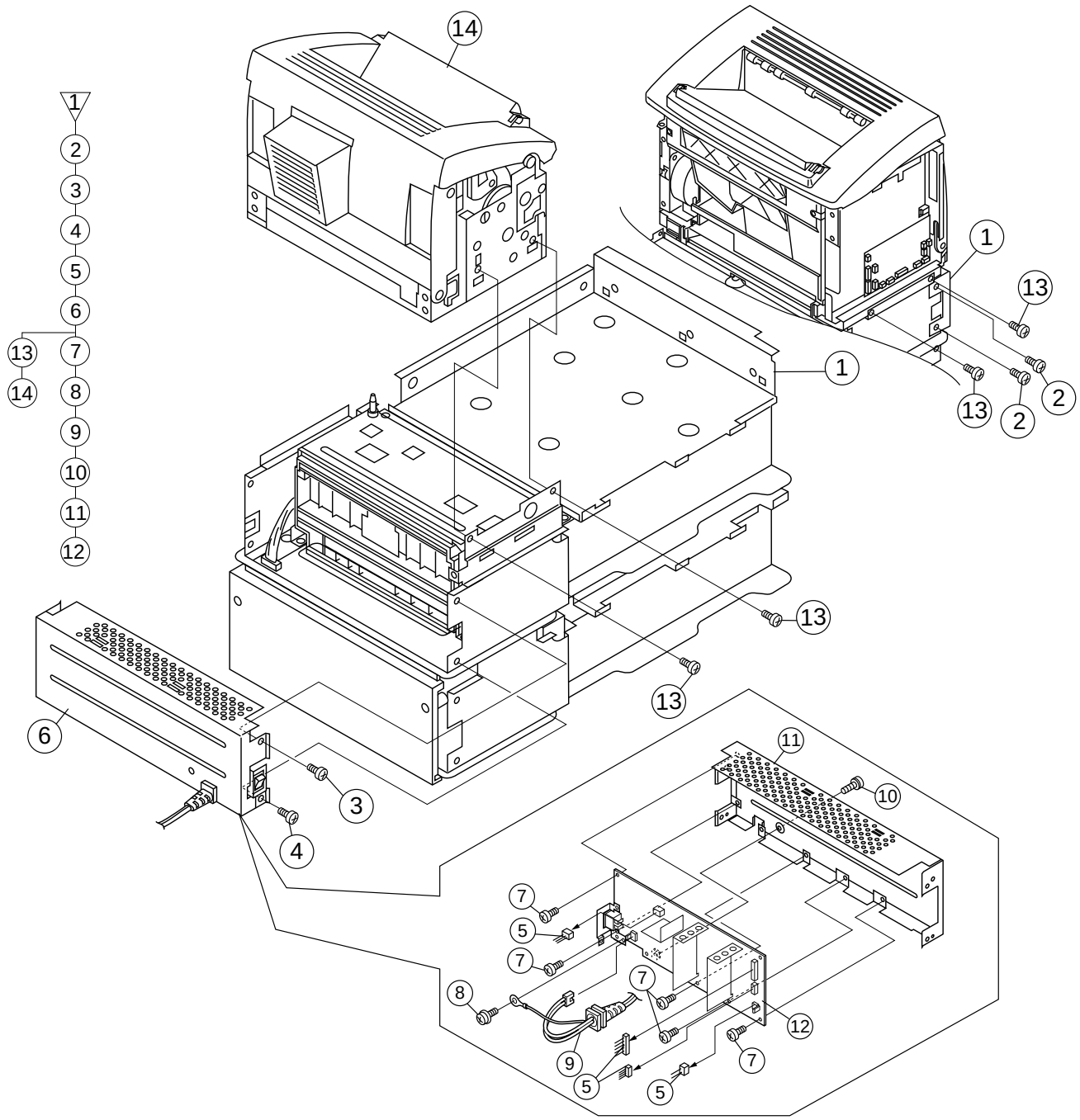



Fig. 11

| 12 | **2nd transport unit, upper chassis unit and rear panel** |
|---|---|

Parts list (Fig. 12)

| No. | Part name | Q'ty | No. | Part name | Q'ty |
|---|---|---|---|---|---|
| 1 | Chassis unit | 1 | 7 | Connector | 1 |
| 2 | Screw (3×6) | 4 | 8 | Screw (3×6) | 2 |
| 3 | Connector | 1 | 9 | Printer bracket | 1 |
| 4 | 2nd transport unit | 1 | 10 | Mini clamp | 1 |
| 5 | Screw (3×6) | 4 | 11 | Upper chassis unit | 1 |
| 6 | Screw (3×6) | 2 | 12 | Screw (3×10) | 2 |
| | | | 13 | Rear panel | 1 |

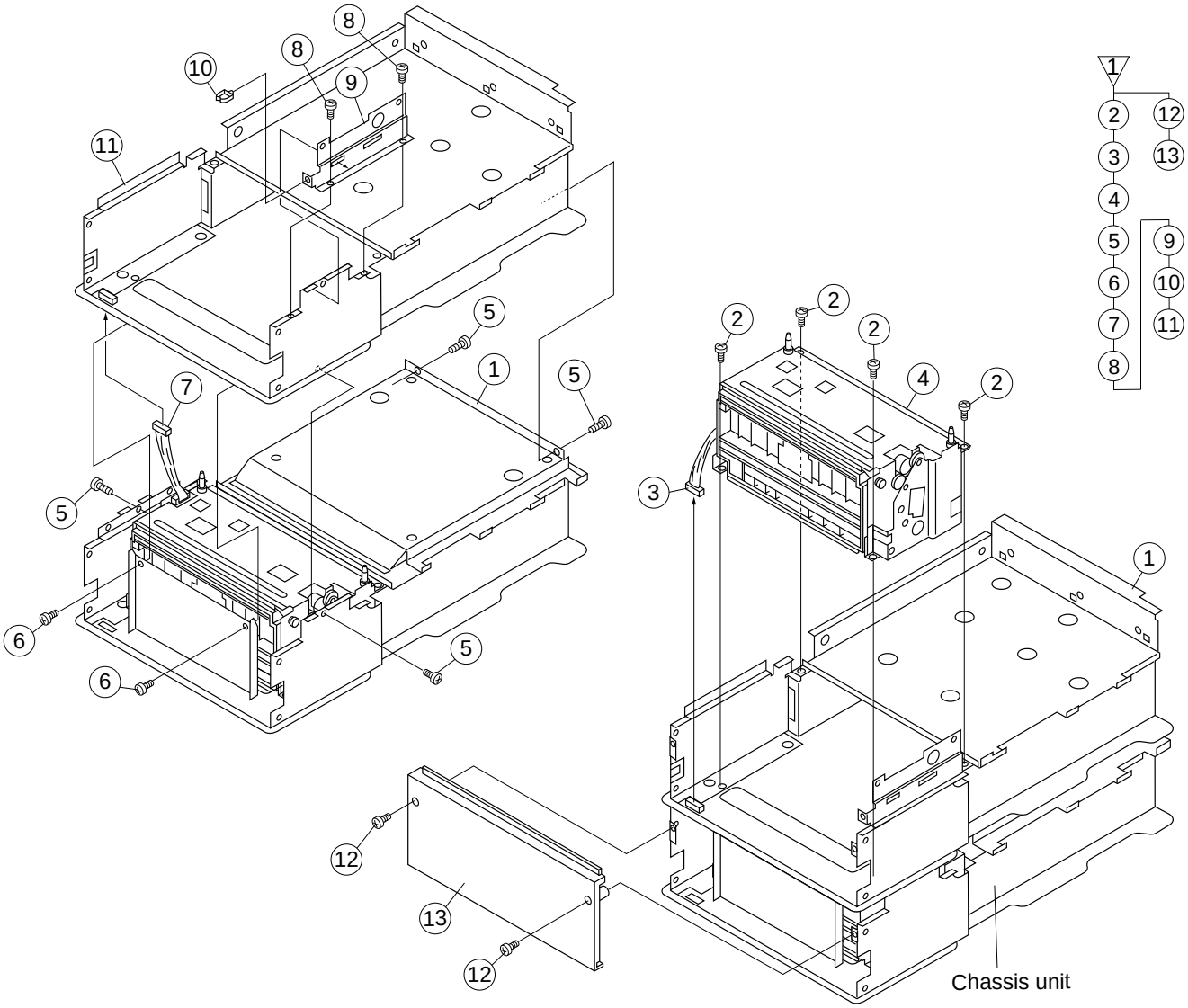



Fig. 12

## 13 Upper chassis unit

Parts list (Fig. 13)

| No. | Part name | Q'ty | No. | Part name | Q'ty |
|---|---|---|---|---|---|
| 1 | Upper chassis unit | 1 | 11 | Screw (3×6) | 2 |
| 2 | Edge holder | 1 | 12 | Bottom plate bracket, top | 1 |
| 3 | Wire holder | 1 | | | |
| 4 | Screw (3×6) | 4 | 13 | Screw (3×6) | 2 |
| 5 | Top plate, top | 1 | 14 | Cassette lock plate, left | 1 |
| 6 | Edging | 1 | | | |
| 7 | Screw (3×6) | 3 | 15 | Cassette lock plate, right | 1 |
| 8 | Right side chassis | 1 | | | |
| 9 | Screw (3×6) | 3 | 16 | Bottom plate, upper | 1 |
| 10 | Left side chassis | 1 | | | |

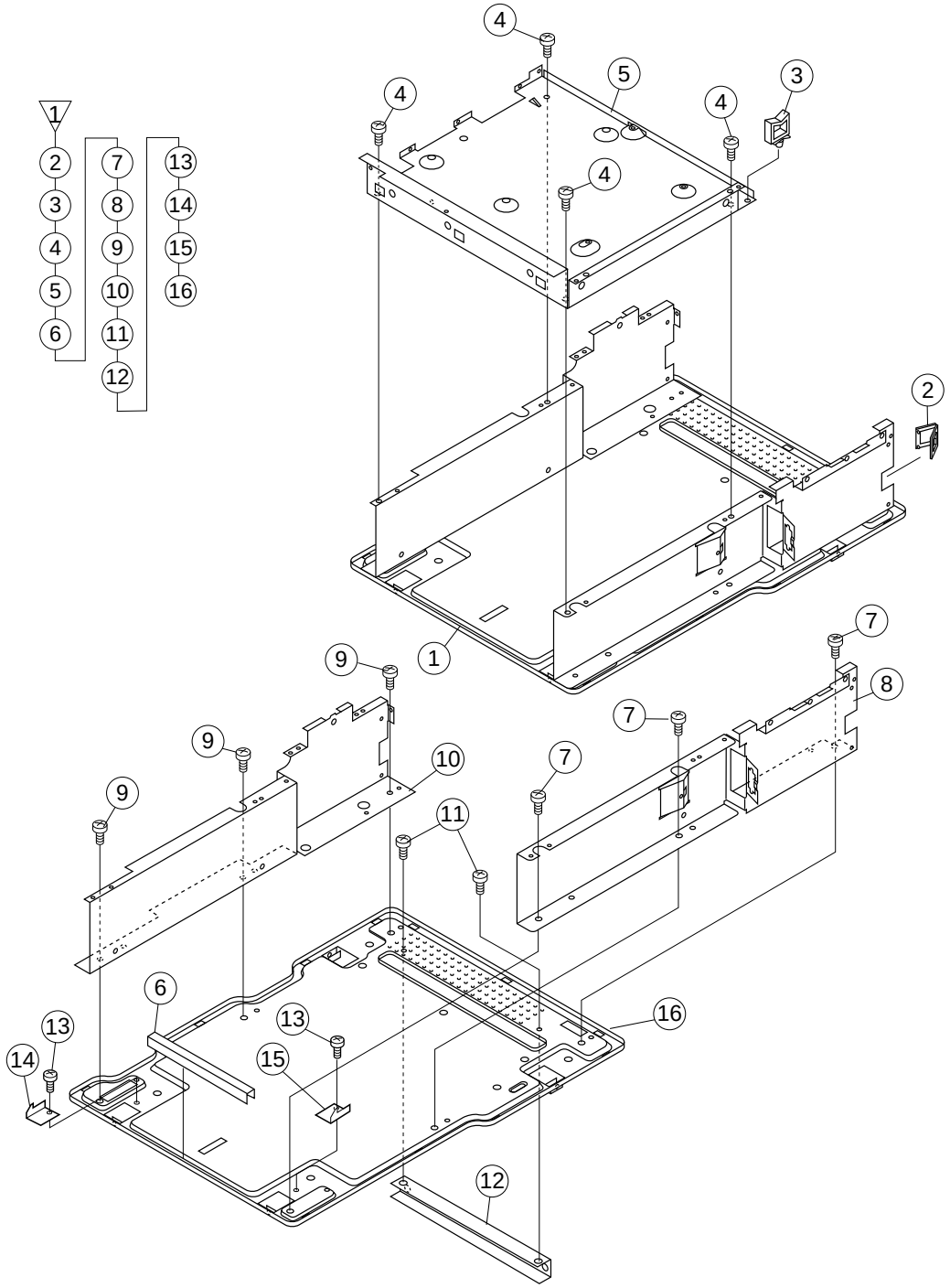



Fig. 13

## 14 3rd transport unit and lower chassis unit

Parts list (Fig. 14)

| No. | Part name | Q'ty |
|---|---|---|
| 1 | Screw (3×6) | 4 |
| 2 | 3rd transport unit | 1 |
| 3 | Lower chassis unit | 1 |

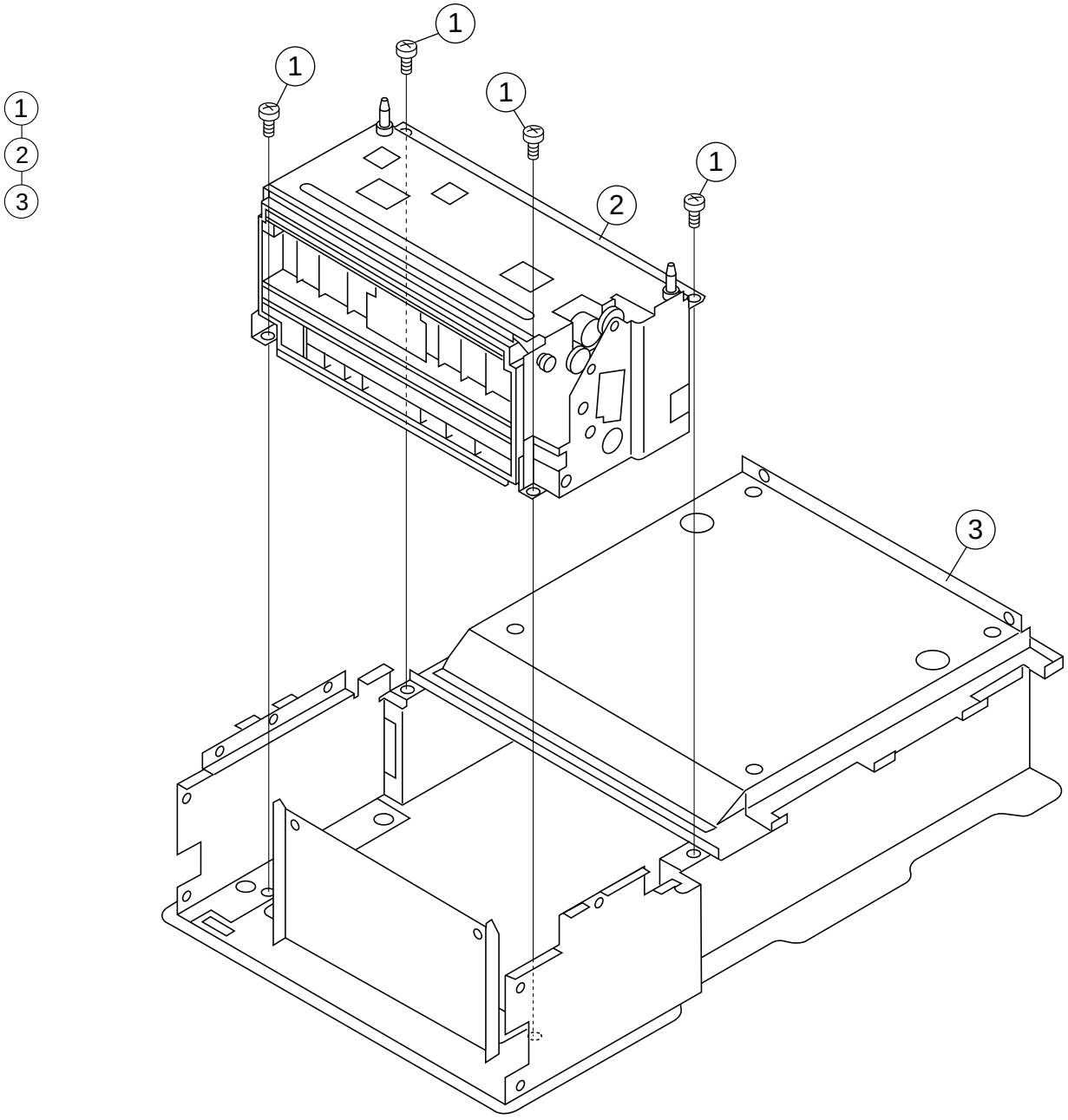



Fig. 14

## 15 Lower chassis unit and bottom plate

Parts list (Fig. 15)

| No. | Part name | Q'ty | No. | Part name | Q'ty |
|---|---|---|---|---|---|
| 1 | Lower chassis unit | 1 | 11 | Bottom plate bracket, bottom | 1 |
| 2 | Screw (3×6) | 4 | | | |
| 3 | Top plate, bottom | 1 | 12 | Screw (3×6) | 2 |
| 4 | Foot | 2 | 13 | Cassette lock plate, left | 1 |
| 5 | Edging | 1 | | | |
| 6 | Screw (3×6) | 3 | 14 | Cassette lock plate, right | 1 |
| 7 | Right side chassis | 1 | | | |
| 8 | Screw (3×6) | 3 | 15 | Foot | 4 |
| 9 | Left side chassis | 1 | 16 | Bottom plate, lower | 1 |
| 10 | Screw (3×6) | 2 | | | |

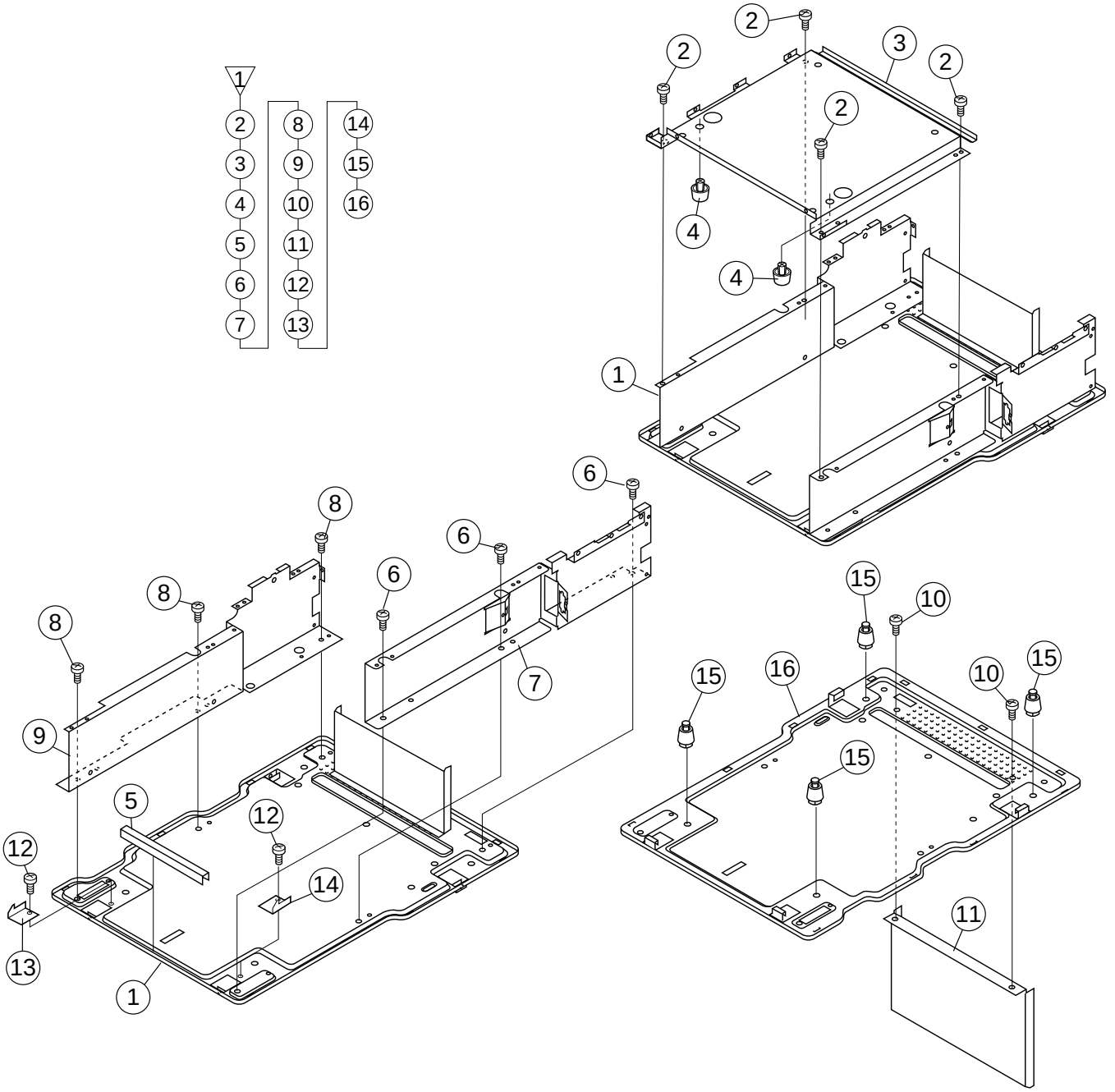



Fig. 15

## 16 Wire treatment

Parts list (Fig. 16)

| No. | Part name | Q'ty | No. | Part name | Q'ty |
|---|---|---|---|---|---|
| 1 | Band (80 mm) | 5 | 5 | Core (F2064) | 1 |
| 2 | Core (F2094) | 1 | 6 | Core (F2063) | 1 |
| 3 | Screw (3×8) | 2 | 7 | Band (100 mm) | 3 |
| 4 | Clamp | 1 | 8 | Core (F7009) | 1 |

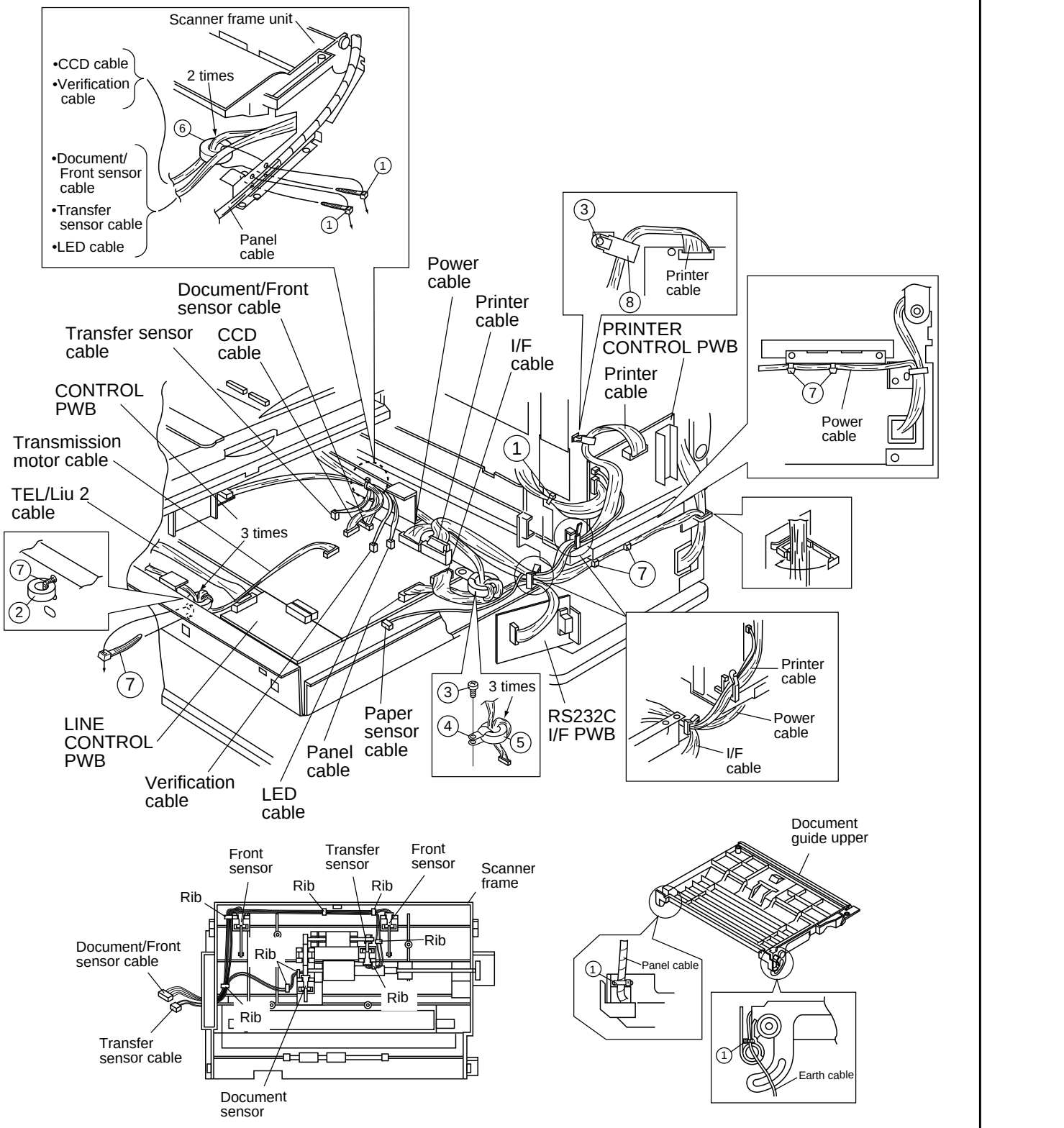


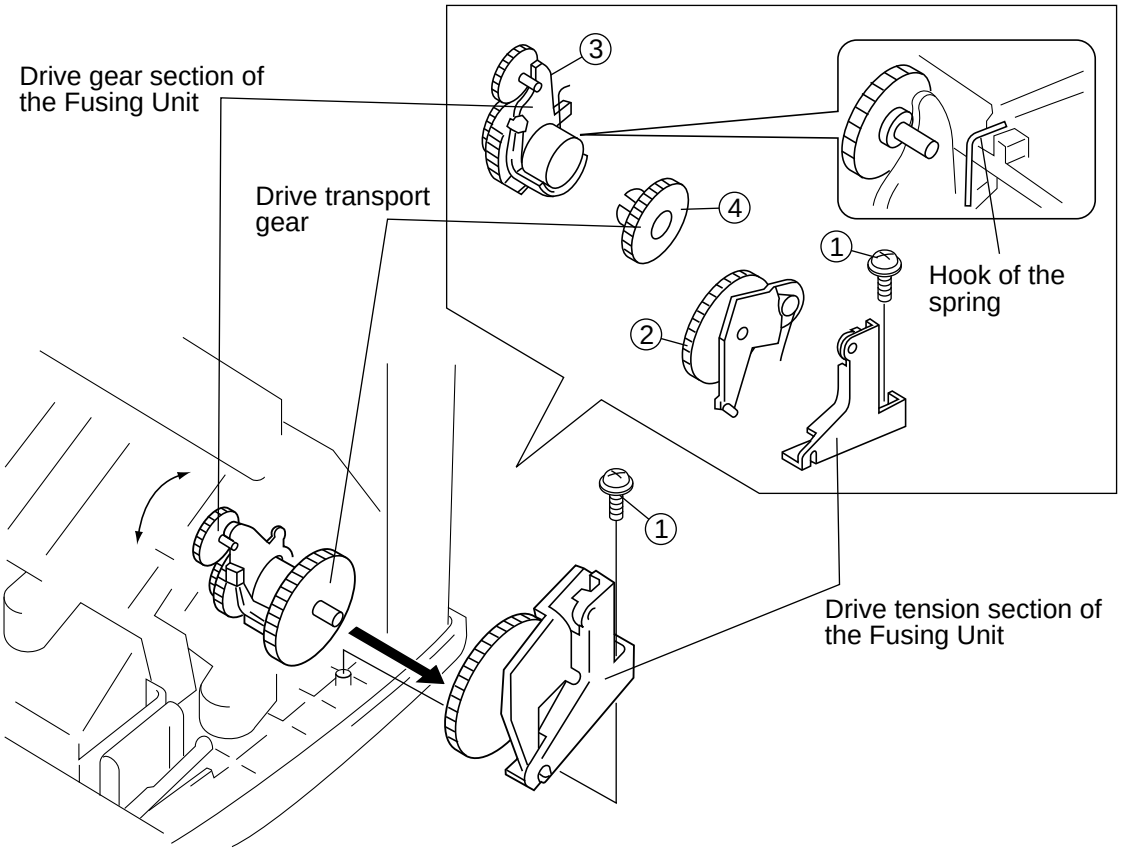

Fig. 16

## 17 Fusing unit

1. Remove the Upper Unit.
2. Remove the Image Transfer Unit.
3. Remove the drive tension section of the Fusing Unit. (1 screw)
4. Remove the transport gear.
5. Release the hook of the spring and remove the drive gear section of the Fusing Unit.

**NOTE:**

- When rehooking the spring, be sure to hook it at the correct position.
- After reinstalling the drive section of the Fusing Unit, be sure to check if the gear section moves forward and backward as in the directions shown below.




6. Remove the fusing guide plate. (4 screws)

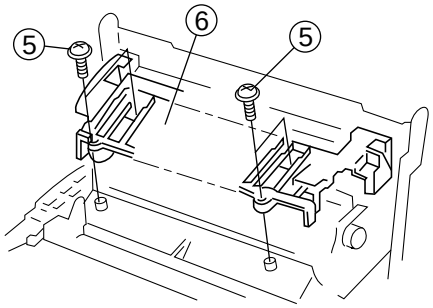
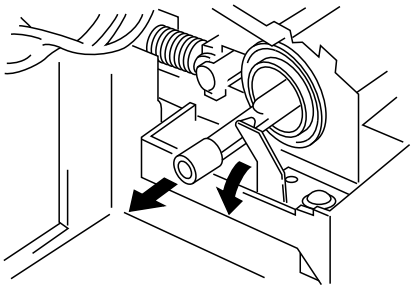



Fig. 17

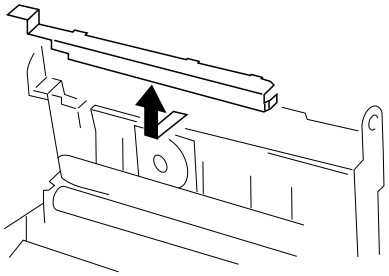
## 18 Heater lamp



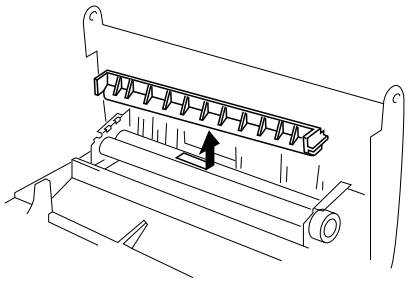
1. Pull the Heater Lamp out of the lamp holder from the right side.

**NOTE:**

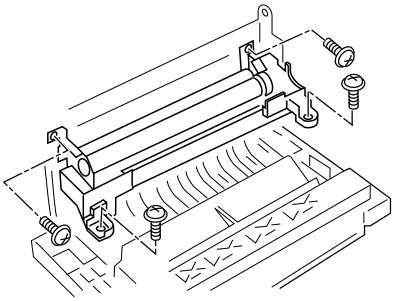
- When reinstalling the Lamp, position its voltage indication on the fusing drive gear side.
- Be sure not to touch the lamp surface with bare hands.



2. Remove the harness cover.



3. Remove the fusing entrance guide.



4. Remove the Fusing Unit. (4 screws)

**NOTE:**

- After reinstalling the Fusing Unit, check the direction of the bushings on the Paper Exit Roller and the connection condition between the Roller and the ground plate.

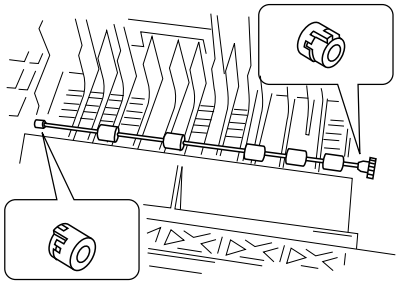
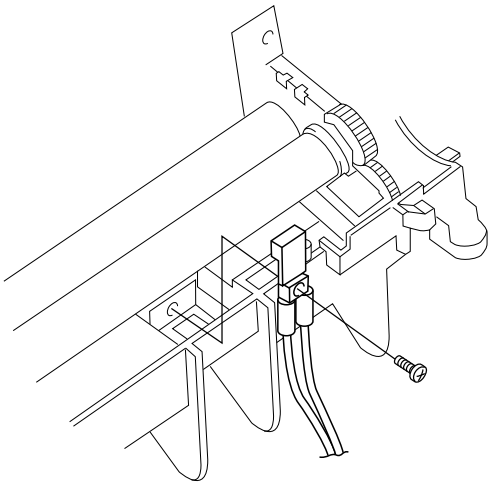
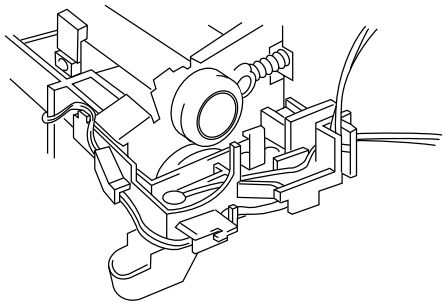


Fig. 18

## 19 Thermistor





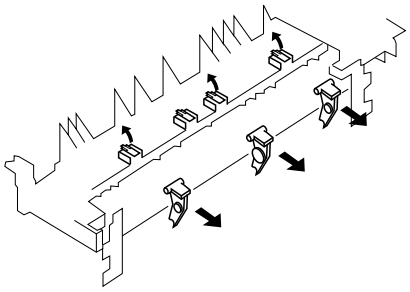


Fig. 19

1. Remove the Thermistor (TH1). (1 screw)

**NOTE:**

- When reinstalling the Thermistor, wire the harness as shown below.

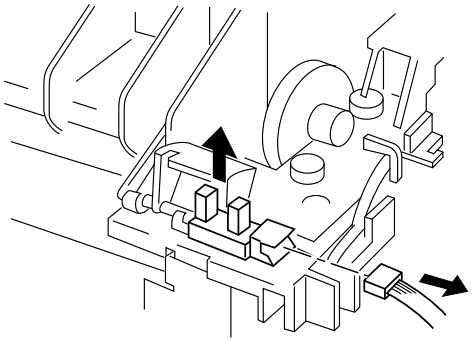
2. Release the lock of the holder and remove the three paper separators.

**NOTE:**

- When reinstalling the paper separators, be careful of these positions as the middle one differs from the others.

## 20 Paper exit sensor

1. Remove the Paper Exit Sensor (PC3).



2. Remove the two G-rings from the Fusing Unit.

**NOTE:**

When reinstalling the G-rings:

- Be careful of the direction.
- Securely position them into the grooves of the Fusing Roller.

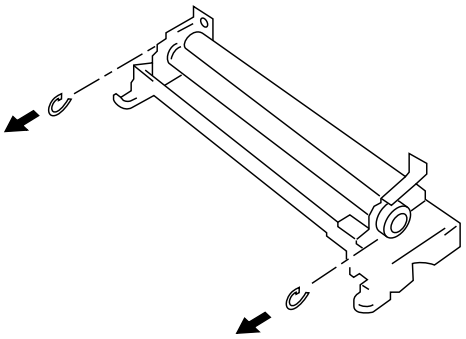
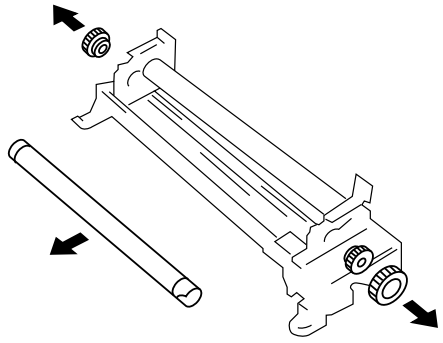


Fig. 20

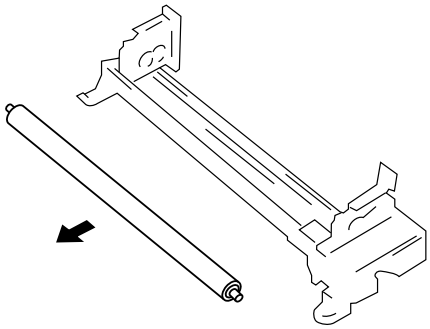
## 21 Fusing roller and Thermostat



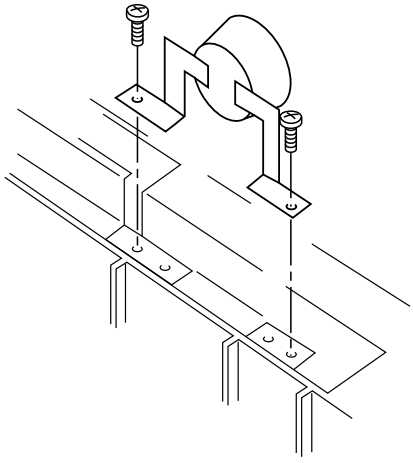
1. Remove the Upper Fusing Roller drive gear
2. Remove the Upper Fusing Roller.

**NOTE:**

- When reinstalling the Roller, be careful not to damage the Roller surface by the unit frame.



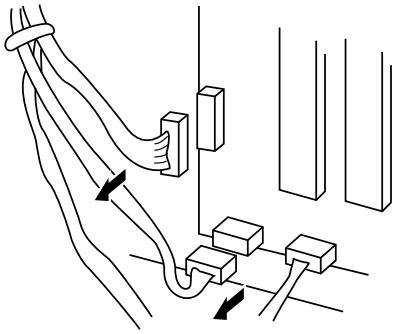
3. Take out the Lower Fusing Roller.



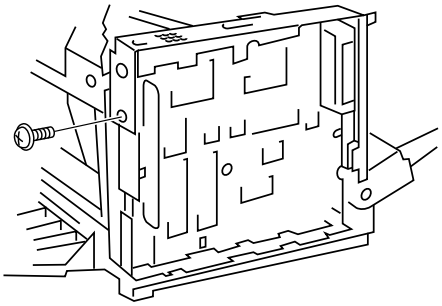
4. Remove the Thermostat (S3). (2 screws)

Fig. 21

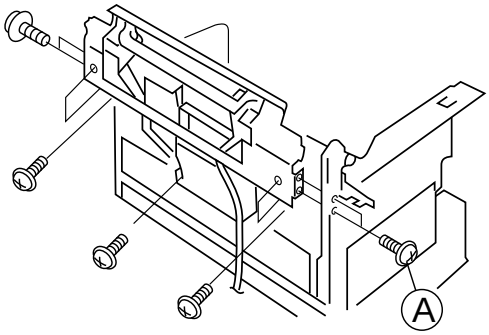
## 22 Print head unit



1. Open the Upper Unit.
2. Remove the Left, Front and Right Covers.
3. Unplug the connectors from PWB-A.
4. Cut the Tie Band.



5. Remove the screw of the cover mounting plate to ease the removal of screw Ⓐ in the next step.




6. Remove the Print Head Unit. (7 screws)

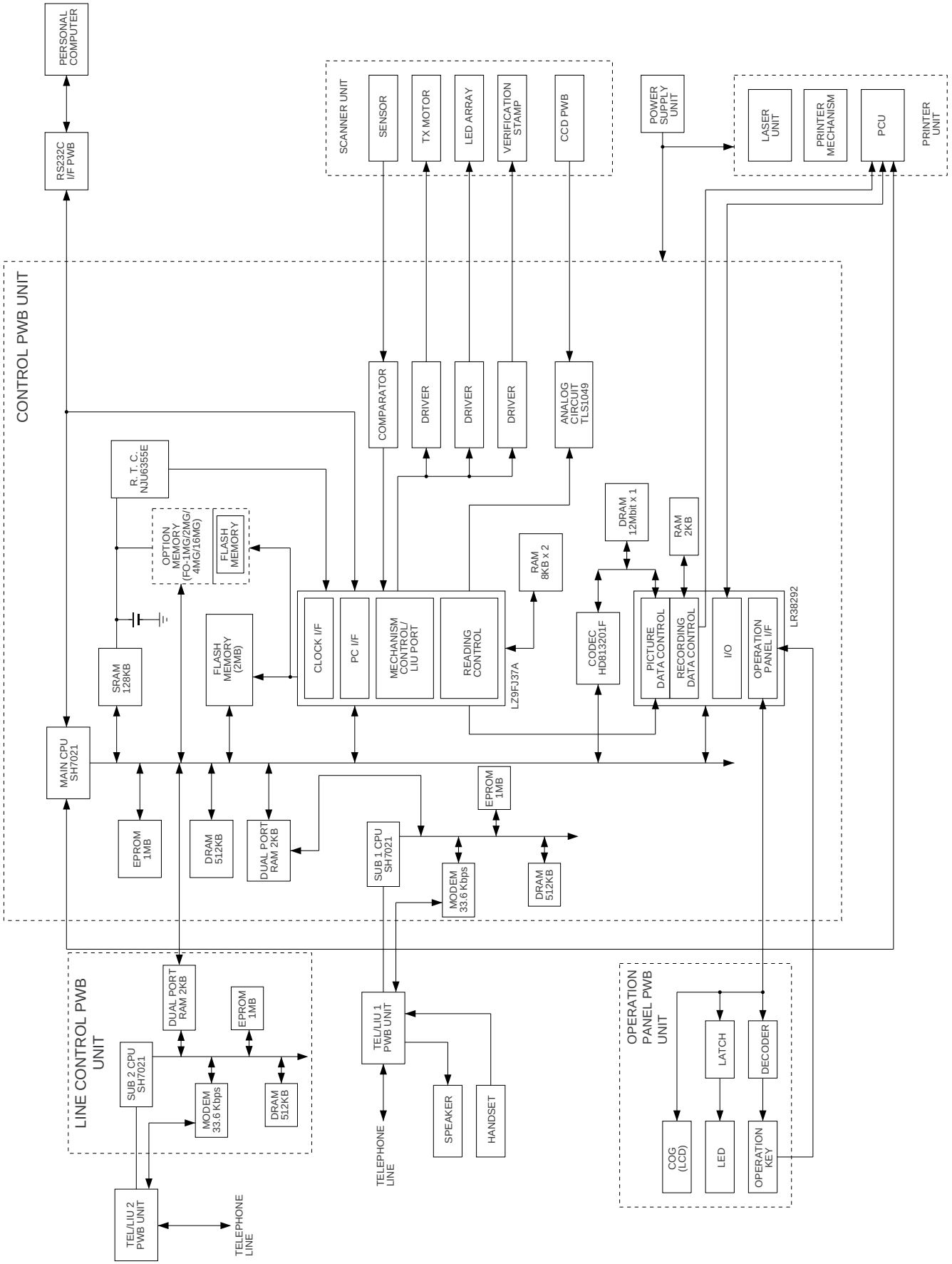
**NOTE:**

- Do not disassemble the print head unit.

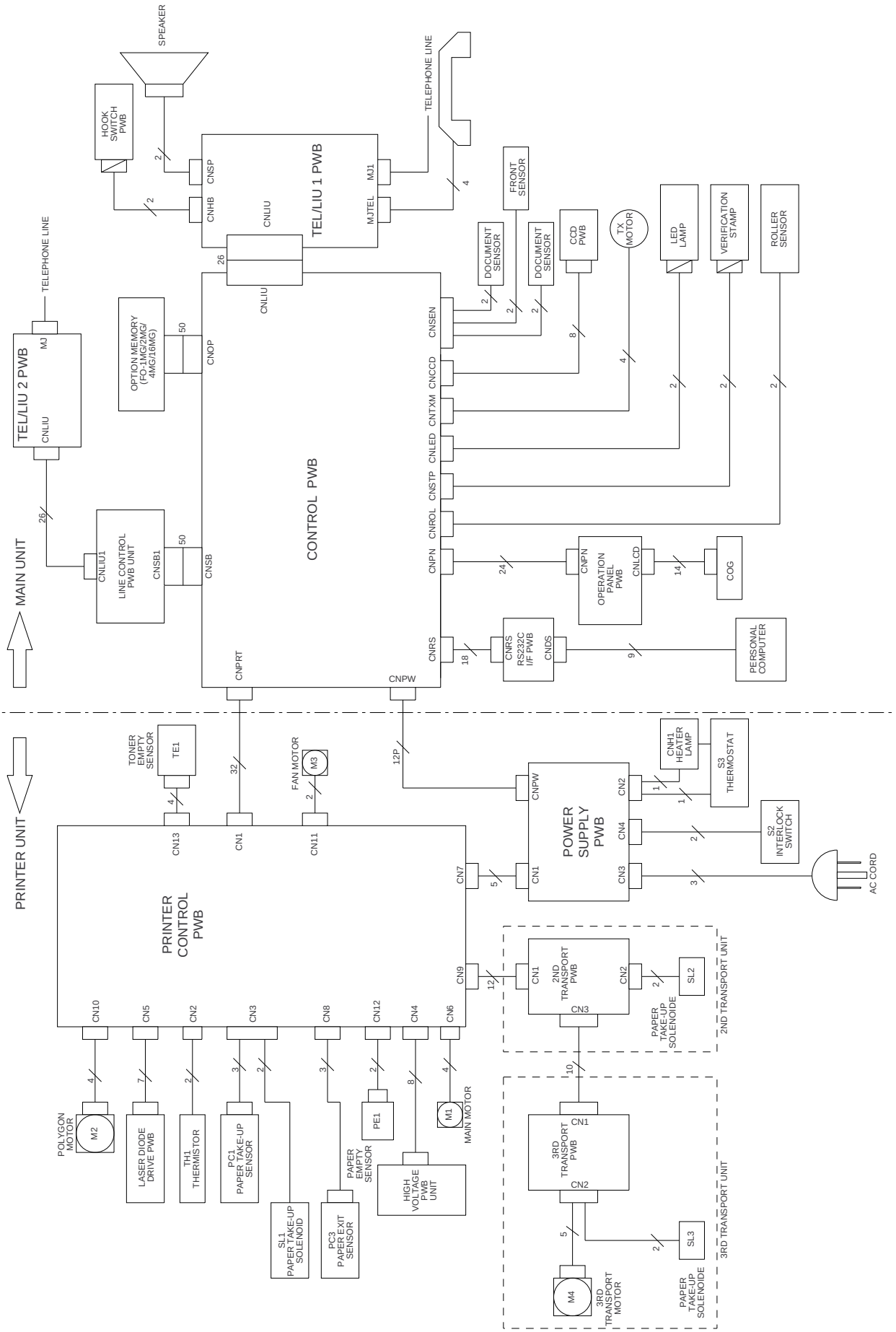
Fig. 22

# CHAPTER 4. DIAGRAMS

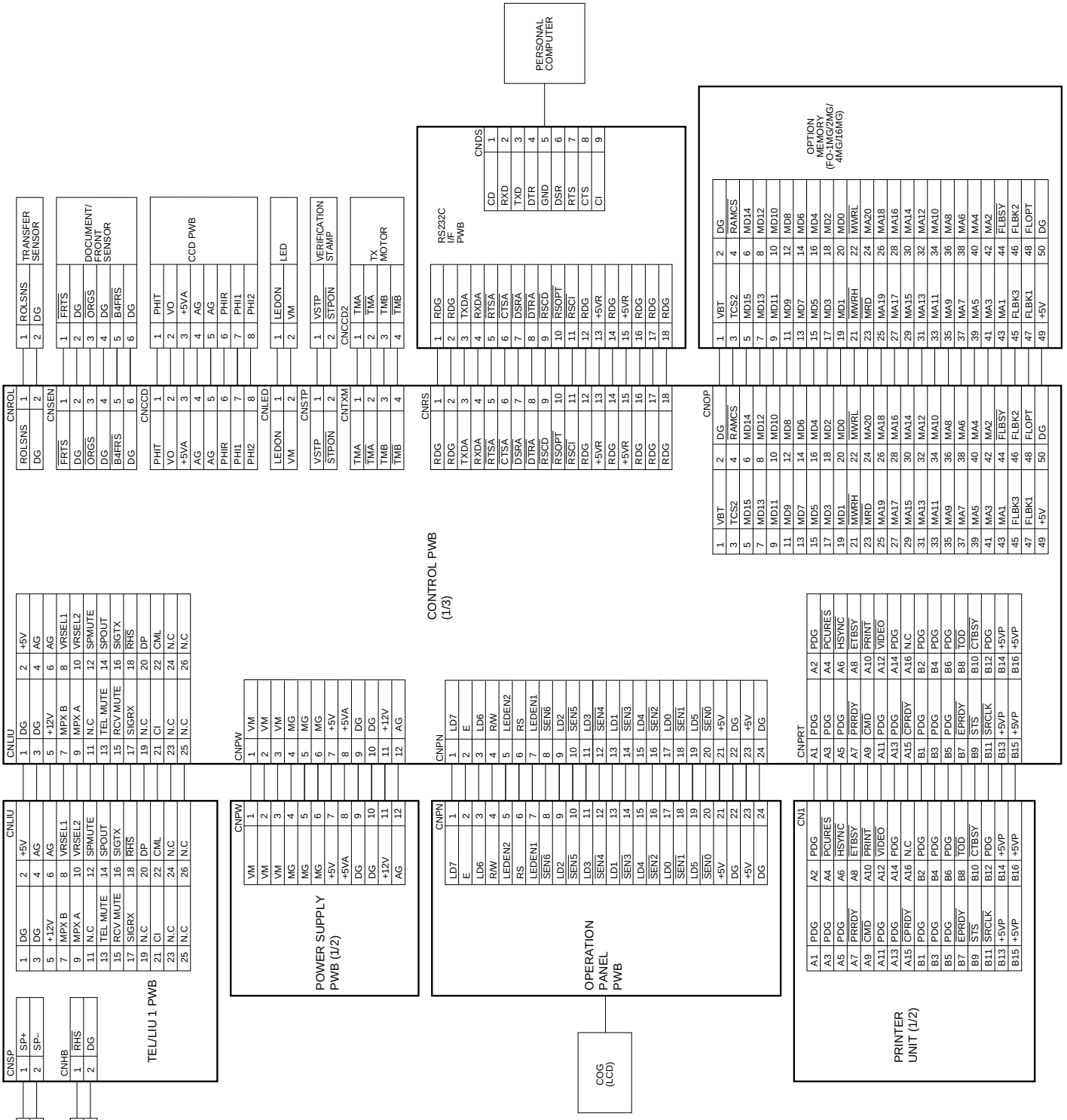
## [1] Block diagram



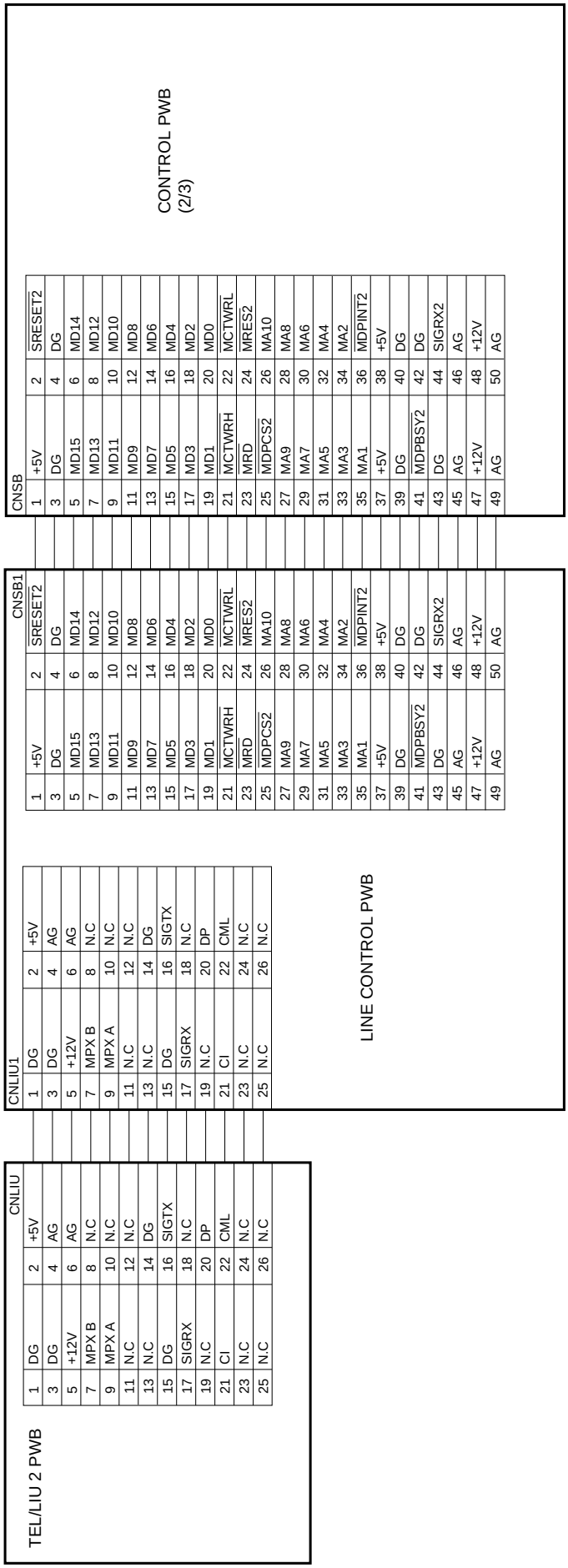
## [2] Wiring diagram



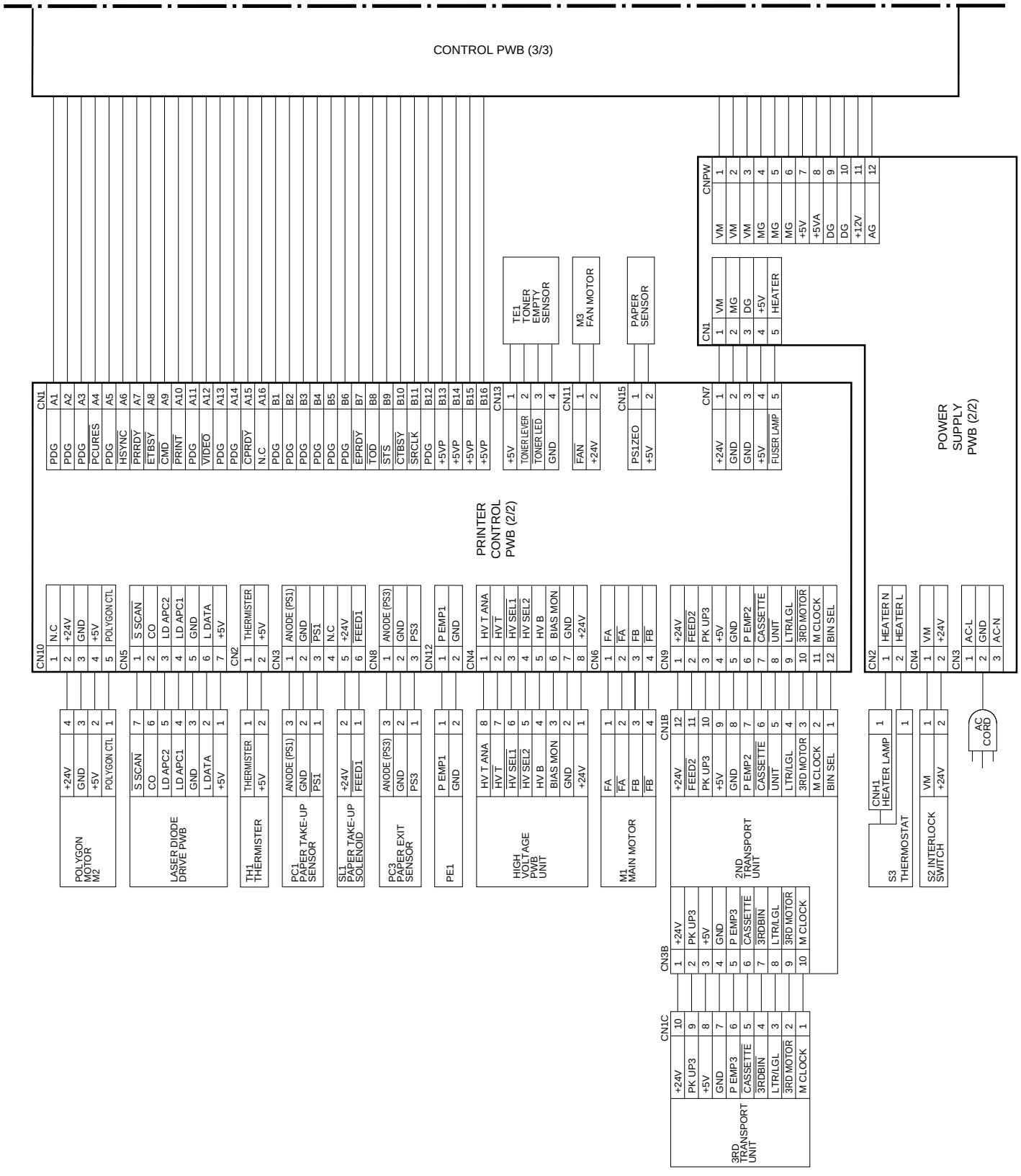
# [3] Point- to-point diagram and connector signal name (1)



## Point to point diagram and connector signal name (2)



# Point to point diagram and connector signal name (3)



M E M O

# CHAPTER 5. CIRCUIT DESCRIPTION

## [1] Circuit description

### 1. General description

In this machine, the facsimile control block except the printer control is mainly composed of the units shown in Fig. 1.

### 2. PWB configuration

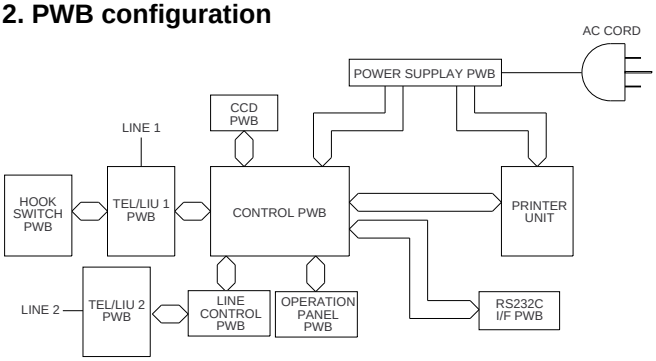



Fig. 1

#### 1) Control PWB

The control PWB controls all the other operations except the printing operation of the printer and the 2nd line control.

#### 2) Line control PWB

The line control PWB controls TX/RX of 2nd line.

#### 3) TEL/LIU 1, 2 PWB

The TEL/LIU PWB controls the I/F telephone function of the circuit with the control signals from the control PWB or the line control PWB.

#### 4) CCD PWB

CCD PWB converts the image of the sending or copying draft into the photoelectric signals and transmits the signals to the control PWB.

#### 5) Operation panel PWB

The operation panel PWB detects the key input, turns on and off LED and displays LCD according to the control signals from the control PWB.

#### 6) Power supply PWB

DC voltages (+5V, +12V, +24V) are produced from AC120V, and are supplied to the printer unit and control PWB unit.

#### 7) RS232C I/F PWB

The voltage level of the interface signals to PC is converted.

## [2] Circuit description of control PWB

### 1. General description

The control PWB is composed of the following blocks.

① Main control block
② EPROM, DRAM, RTC block
③ Image memory block
④ Modem-1 block
⑤ Reading process and mechanical control block
⑥ Gate array (A) block
⑦ Gate array (B) block
⑧ CODEC block
⑨ Page memory block
⑩ Driver block
⑪ Connector block (CNSB)
⑫ Access control block
⑬ Sub-1 CPU block
⑭ Sub-1 ROM, DRAM block
⑮ Dual port RAM-1 block
⑯ Connector block (CNLIU)
⑰ Sub-1 access control block

### 2. Description of each block

#### (1) Main control block

The main control block uses RISC microprocessor HD6437021 as CPU, being composed of ROM (1 MByte) and DRAM (512 KByte).

**1) HD6437021 (IC13): pin-100, QFP (main CPU)**

The device is a microprocessor which integrates the peripheral functions, using CPU of 32-bit RISC type as the core. In the instrument, the following peripheral functions are mainly used.

① ROM of 32 KByte and RAM of 1 KByte are integrated.
A part of programs are stored in the integrated ROM.

② DMA controller (4 channels are provided, and 2 channels alone are used.)
ch.0: Used to transmit image data between CODEC (HM514260) and DRAM(IC7).
ch.3: Used to transmit image data between CPU and DRAM(IC7).

③ Clock-synchronous type serial communication interface Commands and statuses are communicated with PCU.

④ Start-stop synchronous type serial communication interface Used for PC interface of RS232C system.

⑤ Interruption
$\overline{IRQ2}$: Interruption request from gate array (A) (LZ9FJ37A)
$\overline{IRQ3}$: Interruption request from gate array (B) (LR38292)
$\overline{IRQ4}$: Interruption request from CODEC (HD813201F)
$\overline{IRQ6}$: Interruption request from dual port RAM of sub-2 (IDT7130/ IDT7140)
$\overline{IRQ7}$: Interruption request from dual port RAM of sub-1 (IDT7130/ IDT7140)
$\overline{IRQ0}$, $\overline{IRQ1}$, $\overline{IRQ5}$: Not used.
$\overline{NMI}$ : Not used.

⑥ DRAM controller
Addressing to DRAM(IC7) of the system and control and refresh control of $\overline{RAS}$ and $\overline{CAS}$ signals are executed.

⑦ Timer and watch dog timer

⑧ General-purpose I/O port
Control of analog process of read signals are executed.

⑨ Clock oscillation
Ceramic oscillator of 19.66 MHz is connected for operation of 19.66 MHz.

#### (2) EPROM, DRAM, RTC block

**1) 27C040 (IC5, 11): pin-32, DIP (ROM)**

Programs are stored in two 4 Mbit ROM.

**2) HM514260 (IC7): pin-40, SOJ (DRAM)**

Used as the system memory of main CPU and transmission buffer of communication.

**3) NJU6355E (IC127): pin-8, SOP (Real time clock IC)**

It is oscillated with the quartz oscillator of 32.768 kHz, and the clock and calendar functions are provided. Even if the power supply of the main body is turned off, it is backed up with lithium battery. This device executes the clock-synchronous type serial communication with the gate array (A), and CPU can know the time and date through the gate array (A).

**HD6437021 (IC13) Terminal descriptions**

| Classification | Code | Terminal No. (TFP-100B) | I/O | Name | Function |
|---|---|---|---|---|---|
| Power | Vcc | 13, 38, 63, 73, 80, 88 | I | Power | Connect to the power supply.<br>Connect Vcc terminals to the power units of all systems.<br>If any open terminal is present, it will not operate |
| | Vss | 4,15,24,32, 41,50,59,70, 81,82, 92 | I | Ground | Connect to the ground.<br>Connect Vcc terminals to the power units of all systems.<br>If any open terminal is present, it will not operate. |
| Clock | EXTAL | 71 | I | External clock | Connect to the quartz oscillator. Moreover, EXTAL terminal can input the external clock.<br>Use the same frequency for the quartz oscillator, external clock and system clock. |
| | XTAL | 72 | I | Crystal | Connect the quartz oscillator. Connect the same frequency of the system clock (CK).<br>To input external clock from EXTAL terminal, open EXTAL terminal. |
| | CK | 69 | O | System clock | Supply system clock to the peripheral device. |
| System control | $\overline{\text{RES}}$ | 76 | I | Reset | If this terminal is turned to the low level when NMI is at the high level, it will be brought into the power-on state. If this terminal is turned to the low level when NMI is at the low level, it will be brought into the manual.reset state. |
| | $\overline{\text{WDTOVF}}$ | 75 | O | Watch dog timer overflow | It is overflow output signal from WDT. |
| | $\overline{\text{BREQ}}$ | 60 | I | Bus right request | Select the low level to make the external device request the release of bus right. |
| | $\overline{\text{BACK}}$ | 58 | O | Bus right request acknowledge | It indicates that the bus right is released to the external device.<br>When receiving $\overline{\text{BACK}}$ signal, the device which outputs $\overline{\text{BREQ}}$ signal can know that bus right is obtained. |
| Operation mode control | MD2~ MD0 | 79~77 | I | Mode setting | The terminal determines the operation mode.<br>During operation, don't vary any input value. The relationship between MD2 thru MD0 and operation modes are shown in the following list. |
| Interrupt | NMI | 74 | I | No-maskable interrupt | This is the interrupt request terminal which can not be masked.<br>Either leading edge or trailing edge is selected for receiving. |
| | $\overline{\text{IRQ0}}$~ $\overline{\text{IRQ7}}$ | 65,66,67,68, 97,98,99,100 | I | Interrupt request 0 thru 7 | This is the interrupt request terminal which can be masked.<br>Either level input or edge input can be selected. |
| | $\overline{\text{IRQOUT}}$ | 61 | O | Interrupt request output in the slave mode | It indicates that a factor of interrupt occurs.<br>It indicates that interrupt occurs in the bus release mode. |
| Address | A21~A0 | 45~42,40,39, 37~33,31~25, 23~20 | O | Address | Address is output. |
| Data bus | AD15~ AD0 | 19~16,14, 12~5,3~1 | I/O | Data bus | Bidirectional data bus of 16 bits<br>Multiplex is possible with the low-order 16 bits of the address. |
| | DPH | 64 | I/O | High-order side data bus parity | Parity data corresponds to D15 thru D8. |
| | DPL | 62 | I/O | Low-order side data bus parity | Parity data corresponds to D7 thru D0. |

(Continuing)

Relationship between MD2 thru MD0 and operation modes

| MD2 | MD1 | MD0 | Operation mode | IntegratedROM | Bus width of area 0 |
|---|---|---|---|---|---|
| 0 | 0 | 0 | MCU mode | Invalid | 8-bit size |
| 0 | 0 | 1 | | | 16-bit size |
| 0 | 1 | 0 | | Valid | — |
| 0 | 1 | 1 | (Reserved) | — | — |
| 1 | 0 | 0 | (Reserved) | — | — |
| 1 | 0 | 1 | (Reserved) | — | — |
| 1 | 1 | 0 | (Reserved) | — | — |
| 1 | 1 | 1 | (Reserved) | — | — |

**HD6437021 (IC13) Terminal descriptions**

| Classification | Code | Terminal No. (TFP-100B) | I/O | Name | Function |
|---|---|---|---|---|---|
| Bus control | $\overline{WAIT}$ | 54 | I | Wait | It is input to insert Tw into the bus cycle during access to the external space. |
| | $\overline{RAS}$ | 52 | O | Low address strobe | Timing signal of low address strobe of DRAM |
| | $\overline{CASH}$ | 47 | O | High-order column address strobe | Timing signal of column address strobe of DRAM<br>It is output for access to high-order 8 bits of data. |
| | $\overline{CASL}$ | 49 | O | Low-order column address strobe | Timing signal of column address strobe of DRAM<br>It is output for access to low-order 8 bits of data. |
| | $\overline{RD}$ | 57 | O | Read | It indicates that outside is read out. |
| | $\overline{WRH}$ | 56 | O | High-order write | It indicates writing at the external high-order 8 bits. |
| | $\overline{WRL}$ | 55 | O | Low-order write | It indicates writing at the external low-order 8 bits. |
| | $\overline{CS0}$~$\overline{CS7}$ | 46~49,<br>51~54 | O | Chip select 0 thru 7 | Chip select signal for external memory or device |
| | $\overline{AH}$ | 61 | O | Address hold | Address hold timing signal for device which uses multiplex bus of address/data |
| | $\overline{HBS}$,<br>$\overline{LBS}$ | 20<br>56 | O | Low-/high-order byte strobe | Strobe signal of high/low byte<br>(Commonly used with AO, $\overline{WRH}$.) |
| | $\overline{WR}$ | 55 | O | Write | Output during writing. (Commonly used with $\overline{WRL}$.) |
| DMAC | $\overline{DREQ0}$,<br>$\overline{DREQ1}$ | 66,68 | I | DMA transfer request (Channels 0 and 1) | Input terminal of DMA transfer request from external |
| | DACK0,<br>DACK1 | 65,67 | O | DMA transfer request receiving (Channels 0 and 1) | It indicates that DMA transfer request is received. |
| 16-bit integrated timer pulse unit (ITU) | TIOCA0,<br>TIOCB0 | 51,<br>53 | I/O | ITU input capture/output conveyor (Channel 0) | Output terminal of input capture input/output conveyor |
| | TIOCA1,<br>TIOCB1 | 62,<br>64 | I/O | ITU input capture/output conveyor (Channel 1) | Output terminal of input capture input/output conveyor |
| | TIOCA2,<br>TIOCB2 | 83,<br>84 | I/O | ITU input capture/output conveyor (Channel 2) | Output terminal of input capture input/output conveyor |
| | TIOCA3,<br>TIOCB3 | 85,<br>86 | I/O | ITU input capture/output conveyor (Channel 3) | Output terminal of input capture input/output conveyor |
| | TIOCA4,<br>TIOCB4 | 87,<br>89 | I/O | ITU input capture/output conveyor (Channel 4) | Output terminal of input capture input/output conveyor |
| | TOCXA4,<br>TOCXB4 | 90,<br>91 | O | ITU output conveyor (Channel 4) | Output terminal of output conveyor |
| | TCLKA~<br>TCLKD | 65,66,90,<br>91 | I | ITU timer clock input | External clock input terminal to counter of ITU |
| Timing pattern controller (TPC) | TP15~<br>TP0 | 100~93,<br>91~89,<br>87~83 | O | Timing pattern Output 15 thru 0 | Output terminal of timing pattern |
| Serial communication nterface (SCI) | TxD0,<br>TxD1 | 94,<br>96 | O | Sending data (Channels 0 and 1 | Sending data output terminal of SCI0, 1 |
| | RxD0,<br>RxD1 | 93,<br>95 | I | Receiving data (Channels 0 and 1) | Receiving data input terminal of SCI0, 1 |
| | SCK0,<br>SCK1 | 97,<br>98 | I/O | Serial clock (Channels 0 and 1) | Clock input/output terminal of SCI0, 1 |
| I/O port | PA15~<br>PA0 | 68~64,<br>62~60,<br>58~51 | I/O | Port A | Input/output terminal of 16 bits<br>Input/output can be assigned for each bit. |
| | PB15~<br>PB0 | 100~93,<br>91~89,<br>87~83 | I/O | Port B | Input/output terminal of 16 bits<br>Input/output can be assigned for each bit. |

### (3) Image memory block

This block is composed of 2 MByte flash memory and 128 KByte SRAM. Moreover, a maximum of 16 MByte (when FO-16MG is installed) of image memory can be extended by install-ing the option memory of the connector CNOP.

#### 1) LH28F016SUT (IC6) — Pin-56, TSOP (16 Mbit flash memory)

The memory is a non-volatile type whose content does not erase even if power is turned off, and stores the copied, sent and received image data. Moreover, the initially registered data, registered content of "RELAY" key and registered content of "CONF" key are stored.

#### 2) KM68512ALG-5L(IC2, IC9) — pin-32, SOP (512 Kbit SRAM)

The setting of receiving mode, optional setting content, soft switch content and dairy data are stored. Even if the power supply of the main body is turned off, it is backed up with a lithium battery.

The above functions are controlled by getting an access to the inter-face memory in the modem through the data bus from sub-1 CPU (IC4) of the control PWB. The interface memory is composed of 32 8-bit registers, and is controlled with the bank switch. Accordingly, the register is selected by the register selection signals (RS4 to RS0) of 5 bits and chip selection signal (CS). The major content controlled by these reg-isters is as follows.

#### 1) Configuration register

Mode setting of V34, V17, V29, V27, G2, FSK and tone transmission

#### 2) Option register

Equalizing method of equalizer, carrier detection threshold, addition of echo suppressor protect tone, and setting of transmission/reception mode

#### 3) Others

G2AGC control, tone frequency setting, and so on

Moreover, data is read from these registers through the data bus to monitor the statuses of the modem such as tone detection, training pattern detection and so on.

Next, transmission/reception operation is described.

During sending, the sent data is given from the control block to the modem through the data bus. Then, it is modulated and sent to TEL/LIU 1 PWB with SIGTX signal. During receiving, the received data is sent from TEL/LIU 1 PWB to the modem with SIGRX signal and is demodulated. Then, it is sent to the control block with the data bus. The above operation is done with the modem LSI (IC).

### (4) Modem-1 block

The block is mainly composed of the modem R288F (IC3), and is provided with the following modem function.

| Configuration | Modulation 1 | Carrier Frequency (Hz) ± 0.01 % | Data Rate (bps) ± 0.01 % | Symbol Rate (Symbols/Sec.) | Bits/Symbol-Data | Bits/Symbol-TCM | Constellation Points |
|---|---|---|---|---|---|---|---|
| V. 34 33600 TCM | TCM | Note 2 | 33600 | 3429 only | Note 2 | Note 2 | Note 2 |
| V. 34 31200 TCM | TCM | Note 2 | 31200 | Note 2 | Note 2 | Note 2 | Note 2 |
| V. 34 28800 TCM | TCM | Note 2 | 28800 | Note 2 | Note 2 | Note 2 | Note 2 |
| V. 34 26400 TCM | TCM | Note 2 | 26400 | Note 2 | Note 2 | Note 2 | Note 2 |
| V. 34 24000 TCM | TCM | Note 2 | 24000 | Note 2 | Note 2 | Note 2 | Note 2 |
| V. 34 21600 TCM | TCM | Note 2 | 21600 | Note 2 | Note 2 | Note 2 | Note 2 |
| V. 34 19200 TCM | TCM | Note 2 | 19200 | Note 2 | Note 2 | Note 2 | Note 2 |
| V. 34 16800 TCM | TCM | Note 2 | 16800 | Note 2 | Note 2 | Note 2 | Note 2 |
| V. 34 14400 TCM | TCM | Note 2 | 14400 | Note 2 | Note 2 | Note 2 | Note 2 |
| V. 34 12000 TCM | TCM | Note 2 | 12000 | Note 2 | Note 2 | Note 2 | Note 2 |
| V. 34 9600 TCM | TCM | Note 2 | 9600 | Note 2 | Note 2 | Note 2 | Note 2 |
| V. 34 7200 TCM | TCM | Note 2 | 7200 | Note 2 | Note 2 | Note 2 | Note 2 |
| V. 34 4800 TCM | TCM | Note 2 | 4800 | Note 2 | Note 2 | Note 2 | Note 2 |
| V. 34 2400 TCM | TCM | Note 2 | 2400 | Note 2 | Note 2 | Note 2 | Note 2 |
| V. 23 1200/75 | FSK | 1700/420 | 1200/75 | 1200 | 1 | 0 | — |
| V. 21 | FSK | 1080/1750 | 0-300 | 300 | 1 | 0 | — |
| V. 17 14400 TCM | TCM | 1800 | 14400 | 2400 | 6 | 1 | 128 |
| V. 17 12000 TCM | TCM | 1800 | 12000 | 2400 | 5 | 1 | 64 |
| V. 17 9600 TCM | TCM | 1800 | 9600 | 2400 | 4 | 1 | 32 |
| V. 17 7200 TCM | TCM | 1800 | 7200 | 2400 | 3 | 1 | 16 |
| V. 29 9600 | QAM | 1700 | 9600 | 2400 | 4 | 0 | 16 |
| V. 29 7200 | QAM | 1700 | 7200 | 2400 | 3 | 0 | 8 |
| V. 29 4800 | QAM | 1700 | 4800 | 2400 | 2 | 0 | 4 |
| V. 27 4800 | DPSK | 1800 | 4800 | 1600 | 3 | 0 | 8 |
| V. 27 2400 | DPSK | 1800 | 2400 | 1200 | 2 | 0 | 4 |
| V. 21 Channel 2 | FSK | 1750 | 300 | 300 | 1 | 0 | — |

Notes:

1. Modulation legend: TCM: Trellis-Coded Modulation QAM: Quadrature Amplitude Modulation
   FSK: Frequency Shift Keying DPSK: Differential Phase Shift Keying
2. Adaptive; established during handshake:

| | Carrier Frequency (Hz) | |
|---|---|---|
| Symbol Rate (Baud) | V. 34 Low Carrier | V. 34 High Carrier |
| 2400 | 1600 | 1800 |
| 2800 | 1680 | 1867 |
| 3000 | 1800 | 2000 |
| 3200 | 1829 | 1920 |
| 3429 | 1959 | 1959 |

## (5) Reading process and mechanical control block

### 1) Reading process block

The reading block is composed of the following blocks.

① CCD drive block (IC14: LZ9FJ37A)

② Analog process block
- Analog LSI(IC25: TLS1049)
- Tr.C/R etc

③ Binary coding block/read data control block (IC14:LZ9FJ37A)

The details of each block are described as follows.

**a) CCD drive block**

The clock signal necessary for CCD drive is supplied from gate array (A) to CCD.
Hereafter, the clocks are outlined.
- $\phi$T -- Line synchronous signal
- $\phi$1/$\phi$2 --- Transmission clock

**b) Analog process block**

The analog video signal supplied from CCD PWB is directly supplied to the analog LSI.

On the other hand, as the reference level (reference voltage) of A/D conversion, the peak voltage of the video signal detected in the peak hold circuit is supplied to the A/D conversion block in the stan-dard/ fine/ super fine mode and the fixed voltage is supplied to the block in the half tone mode. After the offset part is cut in the analog LSI, 7-bit digital video signal is supplied to the gate array by using the integrated 7-bit high speed A/D converter according to the A/D con-version clock output from the gate array.

**c) Binary coding block/read data control block**

It is composed of the processing circuit (IC14: LZ9FJ37A) which integrates various binary coding algorithms and the reading line memo-ries (IC23, IC24: LH5268TH10) which record necessary data. The digital video signal input in 7 bits is judged as 2 values (black(1) and white (0), and the data is transmitted to the gate array (B) (IC18: LR38292) in the serial mode and is stored in the page memory. The contents binary-coded here are as follows.
- Shading compensation
- Half tone process (error diffusion process)
- MTF compensation

### 2) Mechanical control block

The mechanical control block is mainly composed of the gate array (A) (IC14: LZ9FJ37A) to control the following.

**(a) Sending motor control**

The revolution speed and timing of the sending motor are controlled to output the control signals to the motor driver (IC20, IC21).

**(b) End stamp and LED lamp control**

On/off of the end stamp and LED lamp is controlled with the software.

## (6) Gate array (A) block

This block is mainly composed of the gate array (A) (IC14: LZ9FJ37A), and has the following functions.

① Mapper
Mapping is executed in the memory area of the memories, gate array (B), modem and CODEC.

② Reading process
Refer to 1) Reading process block of 2-4 Reading and mechanical control block.

③ Mechanical control block
Refer to 2) Mechanical control block of 2-5 Reading and mechani-cal control block.

④ IC interface for clock
Writing and reading to IC (IC127: NJU6355E) for clock is executed in the clock-synchronous type serial transfer mode.

⑤ PC interface
- I/O port control (communication is done with main CPU.)
- Detection of communication speed with AT command monitor

⑥ Generation of alarm sound and ringer sound
The keys on the operation panel are pressed to respectively generate the key input sound, alarm sound and ringer sound.

## LZ9FJ37A (IC14) Terminal descriptions

| PIN | I/O | Name | Function | PIN | I/O | Name | Function |
|---|---|---|---|---|---|---|---|
| 1 | O | DP | Dial pulse control | 52 | I/O | D14 | System data input/output |
| 2 | O | DT4 | Output port | 53 | I/O | D13 | System data input/output |
| 3 | O | DT3 | Output port | 54 | I/O | D12 | System data input/output |
| 4 | O | DT2 | Output port | 55 | I | XCS6 | Chip select 6 signal input |
| 5 | O | DT1 | Output port | 56 | I | XCS2 | Chip select 2 signal input |
| 6 | O | BZ | Buzzer output | 57 | I/O | D11 | System data input/output |
| 7 | O | BZSL | Output port | 58 | I/O | D10 | System data input/output |
| 8 | I | SDT | Input port | 59 | I/O | D9 | System data input/output |
| 9 | I | XRHS | Input port | 60 | I/O | D8 | System data input/output |
| 10 | I | XCI | Input port | 61 | — | GND | Ground |
| 11 | I | XHS1 | Input port | 62 | — | VDD | Power supply |
| 12 | I | XHS2 | Input port | 63 | I/O | D7 | System data input/output |
| 13 | I | XEXHS1 | Input port | 64 | I/O | D6 | System data input/output |
| 14 | I | XEXHS2 | Input port | 65 | I/O | D5 | System data input/output |
| 15 | O | CRNT | Output port | 66 | I/O | D4 | System data input/output |
| 16 | O | TXB1 | B-phase current control output 1 | 67 | I | A19 | System address input/output |
| 17 | O | TXB0 | B-phase current control output 0 | 68 | I | A20 | System address input/output |
| 18 | O | TXA1 | A-phase current control output 1 | 69 | I | A21 | System address input/output |
| 19 | O | TXA0 | A-phase current control output 0 | 70 | I/O | D3 | System data input/output |
| 20 | — | VDD | Power supply | 71 | I/O | D2 | System data input/output |
| 21 | — | GND | Ground | 72 | I/O | D1 | System data input/output |
| 22 | O | TXPB | B-phase current direction setting | 73 | I/O | D0 | System data input/output |
| 23 | O | TXPA | A-current direction setting | 74 | I | A6 | System address input/output |
| 24 | O | LEDON | LED light source control | 75 | I | A5 | System address input/output |
| 25 | O | PLG1ON | Plunger 1 control | 76 | I | A4 | System address input/output |
| 26 | O | PLG0ON | Plunger 0 control | 77 | I | A3 | System address input/output |
| 27 | — | GND | Ground | 78 | I | A2 | System address input/output |
| 28 | I | CLKR | Sending system control basic clock input | 79 | I | A1 | System address input/output |
| 29 | I | XFLBSY | Flash memory busy signal input | 80 | — | GND | Ground |
| 30 | O | FLBK1 | Bank control 1 | 81 | I | TEST | Test terminal |
| 31 | O | FLBK2 | Bank control 2 | 82 | O | XSCCLK | Reading serial clock |
| 32 | O | FLBK3 | Bank control 3 | 83 | O | XSRVID | Reading serial data |
| 33 | O | XFLOPT | Chip select (flash option) | 84 | O | XSTVD | Reading valid data output gate |
| 34 | O | XFLSTD | Chip select (flash standard) | 85 | I | TXIN | Data receiving from SH1 |
| 35 | O | XPGMSL | Chip select (EPROM) | 86 | O | RXOUT | Data sending to SH1 |
| 36 | O | XSRAM1 | Chip select (SRAM option) | 87 | O | TXOUT | Data sending signal to PC |
| 37 | O | XSRAM0 | Chip select (SRAM standard) | 88 | I | RXIN | Data receiving signal from PC |
| 38 | O | XINTRQ | Interrupt request output | 89 | O | XRTS | Sending of send-ready signal to PC |
| 39 | O | XREVSL | Chip select (spare) | 90 | O | XDSR | Sending of data terminal ready to PC |
| 40 | I | XRESET | System reset | 91 | I | XCTS | Sending request from PC |
| 41 | — | GND | Ground | 92 | I | XDTR | Data set ready sending to PC |
| 42 | I | CLKF | System clock | 93 | O | XRSCI | Call-back to PC |
| 43 | O | XCDCSL | Chip select | 94 | O | XRSCD | Carrier detection to PC |
| 44 | O | XGACSL1 | Chip select (spare) | 95 | I | XRSOPT | PCI/F presence detection |
| 45 | O | XGACSL0 | Chip select | 96 | O | RTCIO | RTC input/output control |
| 46 | O | XGABSL | Chip select (gate array B) | 97 | O | RTCCE | RTC chip select |
| 47 | O | XWR | System write output | 98 | O | RTCCK | RTC data transfer clock |
| 48 | I | XRD | System read signal | 99 | I/O | RTCDT | RTC data input/output |
| 49 | I | XWRH | System write (high-order byte) signal | 100 | — | VDD | Power supply |
| 50 | I | XWRL | System write (low-order byte) signal | 101 | — | GND | Ground |
| 51 | I/O | D15 | System data input/output | 102 | O | PHIA | CCD clock A |

## LZ9FJ37A (IC14) Terminal descriptions

| PIN | I/O | Name | Function | PIN | I/O | Name | Function |
|---|---|---|---|---|---|---|---|
| 103 | O | PHIB | CCD clock B | 154 | O | RA3 | Reading memory address output |
| 104 | O | PHIR | CCD reset signal | 155 | O | RA4 | Reading memory address output |
| 105 | O | XPHIT | CCD #T output | 156 | O | RA5 | Reading memory address output |
| 106 | I | XA3FRS | Input port | 157 | O | RA6 | Reading memory address output |
| 107 | I | XB4FRS | Input port | 158 | O | RA7 | Reading memory address output |
| 108 | I | XFRSNS | Input port | 159 | O | XMDMRST | Modem reset output |
| 109 | I | XORGSNS | Input port | 160 | — | GND | Ground |
| 110 | I | XDRSNS | Input port | | | | |
| 111 | O | XPHISH | Video sample hold | | | | |
| 112 | O | XPHIBL | Line clamp | | | | |
| 113 | O | HTEN | Half tone select output | | | | |
| 114 | O | XGTW | Peak hold gate | | | | |
| 115 | O | XPGST | Peak hold circuit clear | | | | |
| 116 | O | ADCK | ADC sampling clock output | | | | |
| 117 | I | B7 | Video data input | | | | |
| 118 | I | B6 | Video data input | | | | |
| 119 | I | B5 | Video data input | | | | |
| 120 | I | B4 | Video data input | | | | |
| 121 | — | GND | Ground | | | | |
| 122 | I | B3 | Video data input | | | | |
| 123 | I | B2 | Video data input | | | | |
| 124 | I | B1 | Video data input | | | | |
| 125 | I | B0 | Video data input | | | | |
| 126 | O | RA12 | Reading memory address output | | | | |
| 127 | O | RA11 | Reading memory address output | | | | |
| 128 | O | RA10 | Reading memory address output | | | | |
| 129 | O | RA9 | Reading memory address output | | | | |
| 130 | O | RA8 | Reading memory address output | | | | |
| 131 | O | XRWE | Reading memory write output | | | | |
| 132 | O | XROE | Reading memory read output | | | | |
| 133 | I/O | RAD15 | Reading memory data input/output | | | | |
| 134 | I/O | RAD14 | Reading memory data input/output | | | | |
| 135 | I/O | RAD13 | Reading memory data input/output | | | | |
| 136 | I/O | RAD12 | Reading memory data input/output | | | | |
| 137 | I/O | RAD11 | Reading memory data input/output | | | | |
| 138 | I/O | RAD10 | Reading memory data input/output | | | | |
| 139 | I/O | RAD9 | Reading memory data input/output | | | | |
| 140 | I/O | RAD8 | Reading memory data input/output | | | | |
| 141 | — | GND | Ground | | | | |
| 142 | — | VDD | Power supply | | | | |
| 143 | I/O | RAD7 | Reading memory data input/output | | | | |
| 144 | I/O | RAD6 | Reading memory data input/output | | | | |
| 145 | I/O | RAD5 | Reading memory data input/output | | | | |
| 146 | I/O | RAD4 | Reading memory data input/output | | | | |
| 147 | I/O | RAD3 | Reading memory data input/output | | | | |
| 148 | I/O | RAD2 | Reading memory data input/output | | | | |
| 149 | I/O | RAD1 | Reading memory data input/output | | | | |
| 150 | I/O | RAD0 | Reading memory data input/output | | | | |
| 151 | O | RA0 | Reading memory address output | | | | |
| 152 | O | RA1 | Reading memory address output | | | | |
| 153 | O | RA2 | Reading memory address output | | | | |

## (7) Gate array (B) block

The block is composed of the gate array (B) and SRAM (2 KByte).

### 1) LR38292(IC18) -- pin-160, QFP (gate array B)

The device has the following functions.

① Printing data process
The image data of the page memory for printing is converted into 400 dpi, and the smoothing and contracting processes are applied.

② Printer (PCU) interface
The control of resetting and so on to PCU and the image data processed in Item ① above are synchronized with the signal (HSYNC) from PCU and are transmitted to PCU in the serial mode.

③ DMA controller
(a) The binary-coded data of the draft transmitted in the serial mode from the gate array (A) LZ9FJ37A(IC14) and read with the scanner are transmitted to the page memory.

(b) The image data which will be printed are read from the page memory, and the process ① is applied to transmit the data to PCU in the serial mode.

④ CODEC (HD813201F) interface
(a) The timing is controlled for CPU to get an access to CODEC.

(b) The timing is controlled for CODEC to get an access to the page memory.

⑤ DRAM controller
Since DRAM is used for the page memory, and the address, RAS and CAS are controlled and refresh-controlled.

⑥ Panel interface
The key input detection on the operation panel, LED lighting con-trol and LCD display control are executed.

### 2) LH5116NA-10 (IC22) -- pin-24, SOP (16-bit SRAM)

This SRAM is a line memory for the printing data process (resolution power conversion, smoothening and contracting to 404 dpi) of the gate array (B).

**LR38292 (IC18) Terminal descriptions**

| Pin | Name | I/O | Function |
|---|---|---|---|
| 20 | VCC | | Power supply |
| 62 | VCC | | |
| 100 | VCC | | |
| 142 | VCC | | |
| 16 | GND | | Ground |
| 21 | GND | | |
| 35 | GND | | |
| 48 | GND | | |
| 61 | GND | | |
| 78 | GND | | |
| 87 | GND | | |
| 101 | GND | | |
| 125 | GND | | |
| 134 | GND | | |
| 143 | GND | | |
| 65 | MANRESB | O | Manual reset signal |
| 66 | RESETB | I | Reset signal |
| 89 | A5 | I | Address signal on the system side |
| 90 | A4 | | |
| 91 | A3 | | |
| 92 | A2 | | |
| 93 | A1 | | |
| 70 | D15 | I/O | Data bus signal on the system side |
| 71 | D14 | | |
| 72 | D13 | | |
| 73 | D12 | | |
| 74 | D11 | | |
| 75 | D10 | | |
| 76 | D9 | | |
| 77 | D8 | | |
| 79 | D7 | | |
| 80 | D6 | | |
| 81 | D5 | | |
| 82 | D4 | | |
| 83 | D3 | | |
| 84 | D2 | | |
| 85 | D1 | | |
| 86 | D0 | | |
| 88 | CSB | I | Chip select signal of gate array LR38292 |
| 97 | RDB | I | Read signal on the system bus side |
| 98 | WRB | I | Write signal on the system bus side |
| 115 | SHCK0B | O | Reversion output of clock (SHCK) from CPU |
| 116 | SHCK | I | Clock (19.6 MHz) from CPU |
| 95 | GAINTB | O | Interrupt request signal to CPU of gate array LR38292 |
| 94 | CDCINTB | O | Reversion output (to CPU) of interrupt request signal from HD813201F |
| 96 | DREQ0B | O | Reversion output (to CPU) of DMA transfer request signal from HD813201F |
| 99 | RSTCDCB | O | Reset signal to HD813201F (Default: Low) |
| 102 | CDCINT | I | Interrupt request signal from HD813201F |
| 103 | BRQT | I | Bus right request signal of image bus from HD813201F |
| 104 | BACKB | O | Bus right permission signal of image bus to HD813201F |
| 105 | DRQ0 | I | DMA transfer request signal from HD813201F |
| 106 | DACK0B | O | Acknowledge signal of DMA transfer to HD813201F |
| 107 | CSCDCB | I | Chip select signal to HD813201F |
| 108 | MDENB | I | Data enable signal of image bus from HD813201F |
| 109 | READY | O | Ready signal of image bus access to HD813201F |
| 110 | MAS | I | Address strobe signal of image bus of HD813201F |

**LR38292 (IC18) Terminal descriptions**

| Pin | Name | I/O | Function |
|---|---|---|---|
| 111 | MAENB | I | Address enable signal of image bus of HD813201F |
| 112 | CK16M | I | 16 MHz clock input |
| 113 | RDCDC | O | Register read signal (active H) of HD813201F of CPU |
| 114 | RDCDCB | O | Register read signal (active L) of HD813201F of CPU |
| 139 | MA20 | I | Address of image bus of HD813201F |
| 138 | MA19 | | |
| 137 | MA18 | | |
| 136 | MA17 | | |
| 135 | MA16 | | |
| 133 | MAD15 | I/O | Address/data of image bus of HD813201F<br>Input mode is selected when HD813201F gets an access to image bus (MAENB=L).<br>Data bus to memory (page memory) is selected when gate array LR38292 gets an access to the image bus. |
| 132 | MAD14 | | |
| 131 | MAD13 | | |
| 130 | MAD12 | | |
| 129 | MAD11 | | |
| 128 | MAD10 | | |
| 127 | MAD9 | | |
| 126 | MAD8 | | |
| 124 | MAD7 | | |
| 123 | MAD6 | | |
| 122 | MAD5 | | |
| 121 | MAD4 | | |
| 120 | MAD3 | | |
| 119 | MAD2 | | |
| 118 | MAD1 | | |
| 117 | MAD0 | | |
| 155 | DA11 | I/O | Address bus to memory of image bus (page memory)<br>When HD813201F gets an access to the image bus, address of MA21 thru MA16, MAD15 thru MAD1 are converted to Row/Column address in the page memory (DRAM) and output.<br>When gate array LR38292 gets an access to the image bus, Row/Column address is output to the page memory (DRAM). |
| 154 | DA10 | | |
| 153 | DA9 | | |
| 152 | DA8 | | |
| 151 | DA7 | | |
| 150 | DA6 | | |
| 149 | DA5 | | |
| 148 | DA4 | | |
| 147 | DA3 | | |
| 146 | DA2 | | |
| 145 | DA1 | | |
| 144 | DA0 | | |
| 156 | DWEB | O | Write signal to memory (page memory: DRAM) of image bus |
| 157 | RAS1B | O | RAS1 signal to memory (page memory: DRAM) of image bus |
| 158 | RAS0B | O | RAS0 signal to memory (page memory: DRAM) of image bus |
| 159 | CASB | O | CAS signal to memory (page memory: DRAM) of image bus |
| 140 | DRMSIZE | I | Setting of size of memory (page memory: DRAM) of image bus<br>Low: 16 Mbits<br>High: 12 Mbits |
| 141 | DRMTYPE | I | Setting of type of memory (page memory: DRAM) of image bus<br>Low: Address 8-bit type<br>High: address 12-bit type<br>(Valid only for DRMSIZE=L. Don't care for DRMSIZE=H.) |
| 67 | STVDB | I | Serial scanner data valid range signal |
| 68 | SRVID | I | Serial scanner data |
| 69 | SCCLK | I | Serial scanner data transfer clock |
| 51 | PCURESB | O | Reset signal for printer unit |
| 52 | HSYNC | I | Main scanning synchronous signal from printer unit |
| 53 | EPRDYB | I | Communication ready signal from printer unit |
| 54 | PRRDYB | I | Printing operation ready signal of printer unit |
| 55 | TODB | I | Sub-scanning synchronous signal to printer unit |

| Pin | Name | I/O | Function |
|---|---|---|---|
| 56 | ETBSYB | I | Status sending signal of printer unit |
| 57 | CTBSYB | O | Command sending signal to printer unit |
| 58 | PRINTB | O | Printing start/continuation signal to printer unit |
| 59 | PDATA | O | Printing image data to printer unit |
| 60 | CPRDYB | O | Communication ready signal to printer unit |
| 63 | XIN | I | Clock input (quartz oscillator connection) |
| 64 | XOUT | O | Clock output (quartz oscillator connection) |
| 38 | LMA10 | O | Address bus of line memory for smoothing/contracting |
| 37 | LMA9 | | |
| 36 | LMA8 | | |
| 34 | LMA7 | | |
| 33 | LMA6 | | |
| 32 | LMA5 | | |
| 31 | LMA4 | | |
| 30 | LMA3 | | |
| 29 | LMA2 | | |
| 28 | LMA1 | | |
| 27 | LMA0 | | |
| 40 | LMD7 | O | Data bus of line memory for smoothing/contracting |
| 41 | LMD6 | | |
| 42 | LMD5 | | |
| 43 | LMD4 | | |
| 44 | LMD3 | | |
| 45 | LMD2 | | |
| 46 | LMD1 | | |
| 47 | LMD0 | | |
| 39 | LMWEB | | |
| 26 | LD15 | I/O | Control/data bus and LED on/off control signal to key scan and LCD driver on the operation panel |
| 25 | LD14 | | |
| 24 | LD13 | | |
| 23 | LD12 | | |
| 22 | LD11 | | |
| 19 | LD10 | | |
| 18 | LD9 | | |
| 17 | LD8 | | |
| 15 | LD7 | | |
| 14 | LD6 | | |
| 13 | LD5 | | |
| 12 | LD4 | | |
| 11 | LD3 | | |
| 10 | LD2 | | |
| 9 | LD1 | | |
| 8 | LD0 | | |
| 160 | SEN7 | I | Key input detection signal of operation panel |
| 1 | SEN6 | | |
| 2 | SEN5 | | |
| 3 | SEN4 | | |
| 4 | SEN3 | | |
| 5 | SEN2 | | |
| 6 | SEN1 | | |
| 7 | SEN0 | | |
| 49 | MEMTST | I | Terminal for device test of integrated memory<br>Low is set except in the device test mode. |
| 50 | TEST | I | Terminal for device test<br>Low is set except in the device test mode. |

## (8) CODEC block

This block is composed of CODEC, LS374 and LS244 in order to de-modulate the contracted image data of the draft read with the scan-ner and the letter image transmitted in the DMA mode from the sys-tem memory.

### 1) HD813201F (IC19) ... pin-80, 6FP (CODEC)

It operates at 16 MHz corresponding to the ceramic oscillator (X4) of 16 MHz.

The image memory is commonly used as the page memory. The image data of the draft read with the scanner in the page memory is contracted by MMR, and is transferred to the system memory (DRAM: IC7) by the DMA transfer function of CPU. Moreover, the image data transferred in the DMA mode from the system memory are demodulated with MMR, and are developed into the page memory.

### 2) SN74LS374 (IC126) ... pin-20, SOP

The data hold time during writing from main CPU to HD813201F is as-sured.

### 3) SN74LS244 (IC128) ... pin-20, SOP

When the main CPU reads the inner register of HD813201F, it will read the data through this buffer.

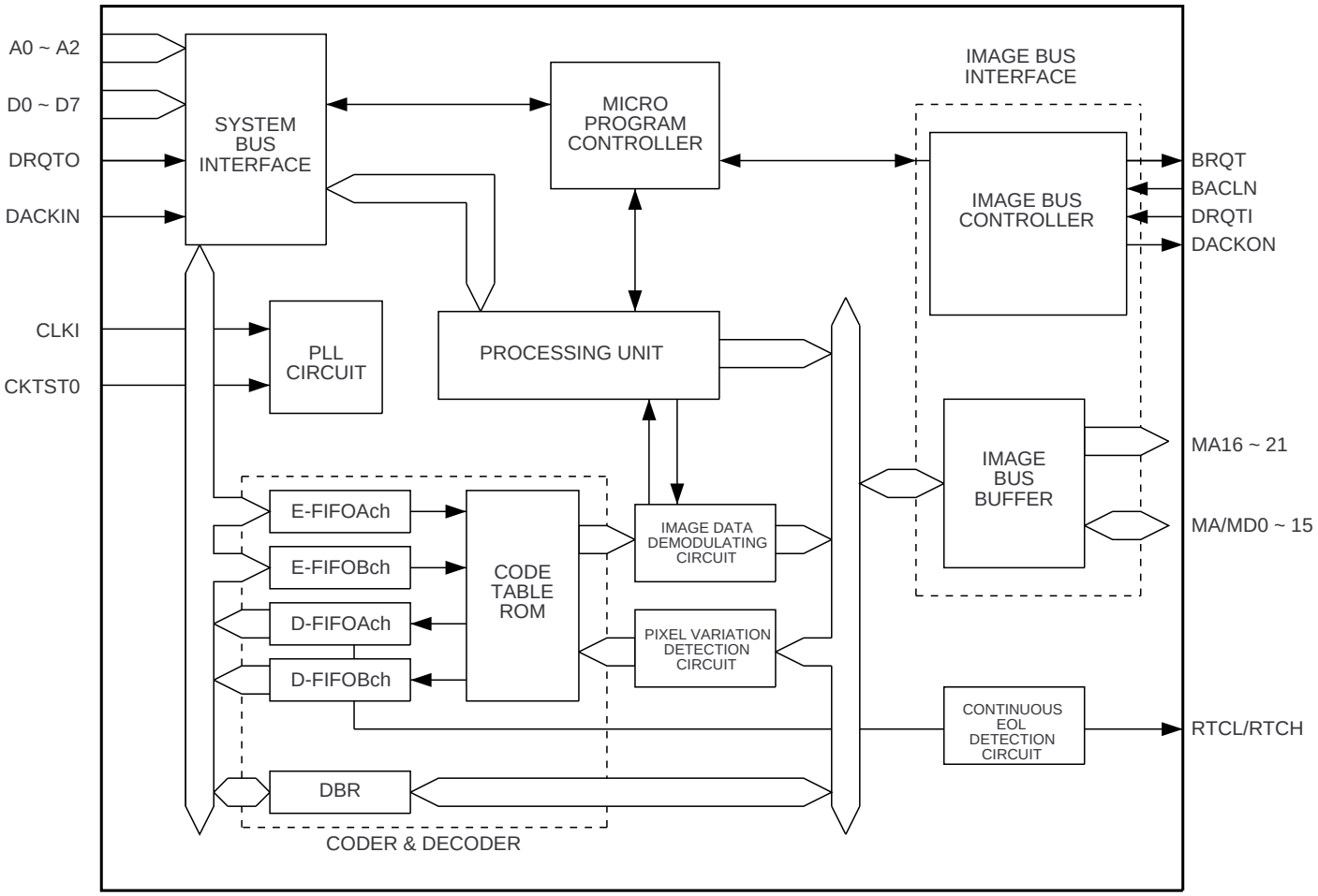



Fig. 2

**HD813201F (IC19) Terminal descriptions**

| Code | Terminal No. | I/O | Function |
|---|---|---|---|
| $\overline{68}$/80 | 56 | I | If this terminal is at "low" level, it indicates that MPU of system 88 is connected to IDP201. "High" level indicates that MPU of system 80 is connected. |
| A0 | 57 | I | Addresses 0 thru 2 (address terminals). It is connected to the low-order 3 bits of the system address bus, and MPU is used to get an access to the internal register of IDP201. |
| A1 | 54 | | |
| A2 | 55 | | |
| D0 | 64 | I/O, Three-state output | Data 0 thru 7 (data terminals). They are connected to the system data bus for bidirectional data transfer between MPU and IDP201. MPU can read and write the internal register of IDP201. |
| D1 | 62 | | |
| D2 | 65 | | |
| D3 | 63 | | |
| D4 | 67 | | |
| D5 | 66 | | |
| D6 | 68 | | |
| D7 | 69 | | |
| $\overline{CS}$ | 44 | I | Chip select (chip select terminal). When the terminal is at "low" level, it indicates that MPU gets an access to the internal register of IDP201. |
| DS | 45 | I | Data strobe (data strobe terminal). Connect $\phi$2 clock pin of MPU of system 88 or $\overline{RD}$ pin of MPU of system 80. |
| R/$\overline{W}$ | 42 | I | Read/write (read/write terminal). Connect R/$\overline{W}$ pin of MPU of system 88 or $\overline{WR}$ pin of MPU of system 80. |
| $\overline{RESET}$ | 59 | I | Reset element. If the signal of "low" level is input to the terminal, IDP201 will be initialized. |
| IRQT | 58 | O | Interrupt request (interrupt request terminal). When the signal of "high" level is output, IDP201 requests the interrupt process for MPU.<br>The factor of the interrupt is the end of the command process, the end of DMA transfer, occurrence of an error during demodulation or the receiving of RTC code.<br>MPU reads IRR (interrupt request register) which is one of the internal registers of IDP201, and can know the factor of the interrupt. When MPU reads IRR, IRQT becomes "low" level.<br>(For details of IRR, refer to "8.1.2 Interrupt request register".) |
| DRQTO | 47 | O | DMA Request Output (DMA request output terminal). In the following cases, DMA transfer can be requested for DMAC by turning DRQTO to "high".<br>(1) During coding, a code of 1 byte or more is stored in E-FIFO.<br>(2) During decoding, an empty area of 1 byte or more is present.<br>(3) During data transfer between the system bus and image bus, DBR is read to read or write. |
| $\overline{DACKI}$ | 46 | I | DMA Acknowledge Input (DMA acknowledge input terminal)<br>The response signal for DRQTO is input. If $\overline{DACKI}$ becomes "low" level during coding or decoding, the access is given to E-FIFO or D-FIFO. If $\overline{DACKI}$ becomes "low" level during data transfer between system bus and image bus, the access is given to DBR.<br>Don't make $\overline{CS}$ and $\overline{DACKI}$ "low" at the same time. |
| BRQT | 52 | O | Bus Request (Bus request terminal). IDP201 outputs the signal of "high" level from BRQT, and IDP201 requests the bus master for the device which can become another bus master on the image bus. If any other device which can become the bus master on the image bus, BRQT becomes the NC pin. |
| $\overline{BACK}$ | 48 | I | Bus Acknowledge (bus acknowledge terminal). The response signal for BRQT is input. If the signal of "low" level is input to $\overline{BACK}$, it indicates that it is approved for IDP201 to become the bus master of the image bus. If any other bus master which can become the bus master is not present except IDP201, fix this terminal at "low". |
| $\overline{MAEN}$ | 76 | O | Memory Address Enable (Memory address enable terminal). IDP201 outputs the signal of "low" level from $\overline{MAEN}$ to declare that it becomes the bus master of the image bus. When $\overline{MAEN}$ is at "high", the three-state output which is connected to the image bus becomes all into the high impedance state. |

**HD813201F (IC19) Terminal descriptions**

| Code | Terminal No. | I/O | Function |
|---|---|---|---|
| MAS | 74 | O | Memory Address Strobe (Memory address strobe terminal). When MAS becomes "high" level, it indicates that address is output to MA/MD0 thru MA/MD15 and MA16 thru MA21. |
| UDS | 27 | Three-state output | Upper Data Strobe (high-order data strobe terminal). When $\overline{\text{UDS}}$ becomes "low" level, it indicates that IDP201 uses the high-order byte of the image bus. |
| $\overline{\text{LDS}}$ | 23 | Three-state output | Upper Data Strobe (low-order data strobe terminal). When $\overline{\text{LDS}}$ becomes "low" level, it indicates that IDP201 uses the low-order byte of the image bus. |
| $\overline{\text{MDEN}}$ | 25 | O | Memory Data Bus Enable (Memory data bus enable terminal). When $\overline{\text{MDEN}}$ output terminal becomes "low" level, it indicates that valid data are present in MA/MD0 thru MA/MD15. This output terminal is used to control the output of the bidirectional bus buffer on MA/MD0 thru MA/MD15. |
| MA/MD 0 | 79 | I/O, Three-state output | Memory Address Data Bus 0 thru 15 (Memory address data bus). In this bus for image bus operation, the address and data are multiplexed. MA/MD0 thru MA/MD15 are used as follows.<br><br>(1) When $\overline{\text{MAEN}}$ is "low" and MAS is "high", it is used as the output address line.<br>(2) When both $\overline{\text{MAEN}}$ and $\overline{\text{MDEN}}$ are "low" in the reading cycle, it is used as the input data line.<br>(3) When both $\overline{\text{MAEN}}$ and $\overline{\text{MDEN}}$ are "low" in the writing cycle, it is used as the input data line. |
| MA/MD 1 | 77 | | |
| MA/MD 2 | 3 | | |
| MA/MD 3 | 78 | | |
| MA/MD 4 | 5 | | |
| MA/MD 5 | 2 | | |
| MA/MD 6 | 6 | | |
| MA/MD 7 | 4 | | |
| MA/MD 8 | 8 | | |
| MA/MD 9 | 7 | | |
| MA/MD10 | 12 | | |
| MA/MD11 | 9 | | |
| MA/MD12 | 14 | | |
| MA/MD13 | 13 | | |
| MA/MD14 | 15 | | |
| MA/MD15 | 16 | | |
| MA16 | 71 | Three-state output | Memory Address Bus 16 thru 21 (memory address bus). When $\overline{\text{MAEN}}$ is "low" and MAS is "high", it is used as the output address line. |
| MA17 | 11 | | |
| MA18 | 30 | | |
| MA19 | 31 | | |
| MA20 | 50 | | |
| MA21 | 51 | | |
| $\overline{\text{MR}}$ | 26 | Three-state output | Memory Read (Memory read terminal). When $\overline{\text{MR}}$ is turned to "low" level, IDP201 reads the data from the image memory. |
| $\overline{\text{MW}}$ | 28 | Three-state output | Memory Write (memory write terminal). When $\overline{\text{MW}}$ is turned to "low" level, IDP201 writes the data in the image memory. |
| $\overline{\text{IOR}}$ | 35 | Three-state output | I/O Read (I/O read terminal). When $\overline{\text{IOR}}$ is turned to "low" level, IDP201 reads the data from I/O device on the image bus. However, it is limited at DMA transfer during data transfer with the transfer command and the coding process. |
| $\overline{\text{IOW}}$ | 36 | Three-state output | I/O Write (I/O write terminal). When $\overline{\text{IOW}}$ is turned to "low" level, IDP201 writes the data in I/O device on the image bus. However, it is limited at DMA transfer during data transfer with the transfer command and the decoding process. |
| DRQTI | 39 | I | DMA Request Input (DMA request input terminal). When I/O device on the image bus requests DMA for IDP201, DRQTI becomes "high" level. |
| $\overline{\text{DACKO}}$ | 38 | O | DMA Acknowledge Output (DMA acknowledge output terminal). When this output terminal is turned to "low" level, IDP201 informs to the peripheral devices on the image bus that DMA operation is approved. |
| $\overline{\text{DMA}}$ | 32 | O | Direct Memory Access (Direct memory access terminal). When $\overline{\text{DMA}}$ output is turned to "low", it indicates that DMA transfer is executed.<br>In the coding process, the data is transferred from the I/O device (scanner) to the image memory.<br>In the decoding process, the data is transferred from the image memory to I/O device (printer). |

**HD813201F (IC19) Terminal descriptions**

| Code | Terminal No. | I/O | Function |
|---|---|---|---|
| DTC | 37 | O | DMA Terminal Count (DMA terminal count terminal). When DTC output is turned to "high", it indicates that DMA transfer of the setting line part is ended. |
| READY | 73 | I | Image memory or I/O device read. When READY is turned to "high" during writing, it indicates that the image memory or I/O device is ready for transmitting/receiving the data.<br>When READY is "high", IDP201 will wait until READY becomes "high". |
| <Power terminal> | | | |
| $V_{DD}$ 1 | 29 | I | Power voltage (+5V) |
| $V_{DD}$ 2 | 49 | I | |
| $V_{DD}$ 3 | 72 | I | |
| $V_{SS}$ 1 | 10 | I | |
| $V_{SS}$ 2 | 17 | I | Ground |
| $V_{SS}$ 3 | 34 | I | |
| $V_{SS}$ 4 | 53 | I | |
| $V_{SS}$ 5 | 70 | I | |
| $V_{SS}$ 6 | 75 | I | |
| <Other> | | | |
| TEST 0 | 18 | I | Fix these terminals at "low". |
| TEST 1 | 22 | I | |
| TEST 2 | 24 | I | |
| TEST 3 | 33 | I | |
| TEST 4 | 43 | I | |

| Code | Terminal No. | I/O | Name and function |
|---|---|---|---|
| CLKI | 19 | I | Quartz oscillation input terminal and external clock input terminal |
| CLKX | 20 | O | Quartz oscillation output terminal |
| CKTST1 | 1 | I | Low pass filter terminal of PLL circuit<br>Connected to capacitor (1000pF) and resistor (10kΩ) through GND. |
| CLKMOD | 40 | I | Terminal to switch quartz oscillation connection or external clock input mode.<br>"0": Quartz oscillation<br>"1": External clock |
| CKTST0 | 41 | I | Fix at "LOW" level. |
| CLKO | 21 | O | Clock output terminal. Rectangular wave which is synchronous with the internal clock of IDP201 is output. |
| CKTST2 | 80 | I | Fix at "LOW" level. |

| Code | Terminal No. | I/O | Name and function |
|---|---|---|---|
| RTCH | 60 | O | Number of transfers of EOL detected by IDP201 during RTC receiving is reflected at the terminal. |
| RTCL | 61 | O | |

## (9) Page memory block

The page memory block is composed of one DRAM of 1M × 16 bits, being commonly used as the image memory. The memory is divided into the page memory for the scanner and the page memory for printing.

The page memory for scanner is composed of the whole area of IC12. The image data of approx. one page (except in the super fine mode) of the draft read with the scanner can be stored. They are stored until they are contracted by CODEC.

The page memory for printing is composed of the remaining areas of IC12 and can store approx. one page of the image data decoded by CODEC. The data are stored until they are transferred to PCU with the gate array (B) and printed.

## (10) Driver block

Sending motor driver (IC20, IC21: PBL3717/2) ---- 16-pin DIP
This IC drives at the sending motor at the constant current with the bipolar, chopper system.

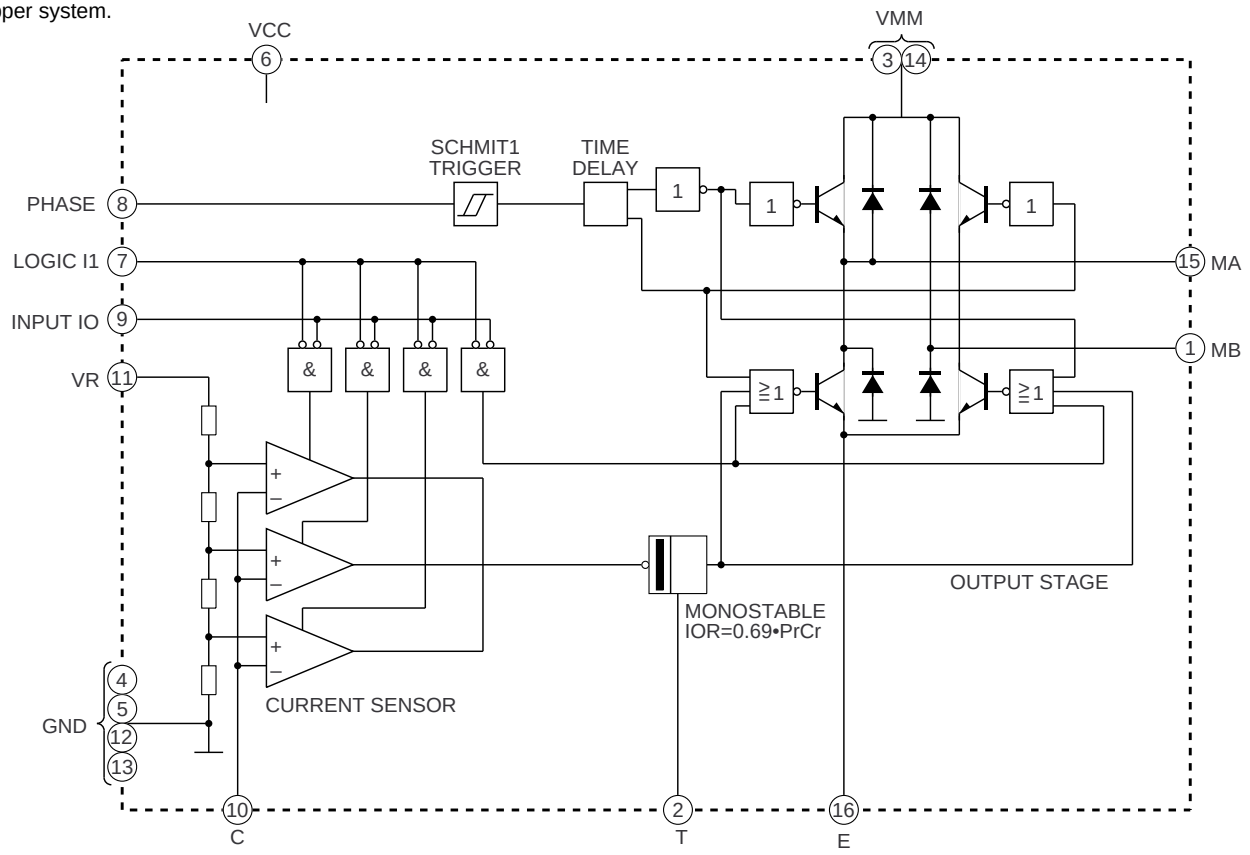



Fig. 3

- Operation description (Refer to the waveforms of the terminal voltage and current waveforms.

① The current M in the coiling of the motor is converted in the current-voltage mode with the resistors RS (R1, 2) which are connected the terminal E (pin 16), is farther transmitted to the C terminal (pin 10) through the filter Cc (C248, 252) and Rc (R399, 401). (Vc)

② The reference voltage (VR') and (Vc) voltage of each comparator are compared with the comparator which is selected with $I_0$ (pin 9) and $I_1$ (pin 7).

③ If Vc ≥ VR' is established here, the signal is output to the monostable to turn off the lower side of the bridge type output transistor only for the time (0.69CrRr) determined by CT (C251, 255) and RT (R400, 402) which are connected to the terminal T (pin 2) in order to shut down the coil current IM.

④ At this time, the counter-electromotive force is generated by the winding inductance. However, the energy is reduced with discharge through $V_{MM}$ and the diode between $M_A$ and $M_B$.

⑤ When the time (0.69CrRr) determined with the monostable has passed, the transistor on the lower side is turned on again to flow the winding current $I_M$. Being suppressed by the inductance of the motor, the current will increase and return to ① .

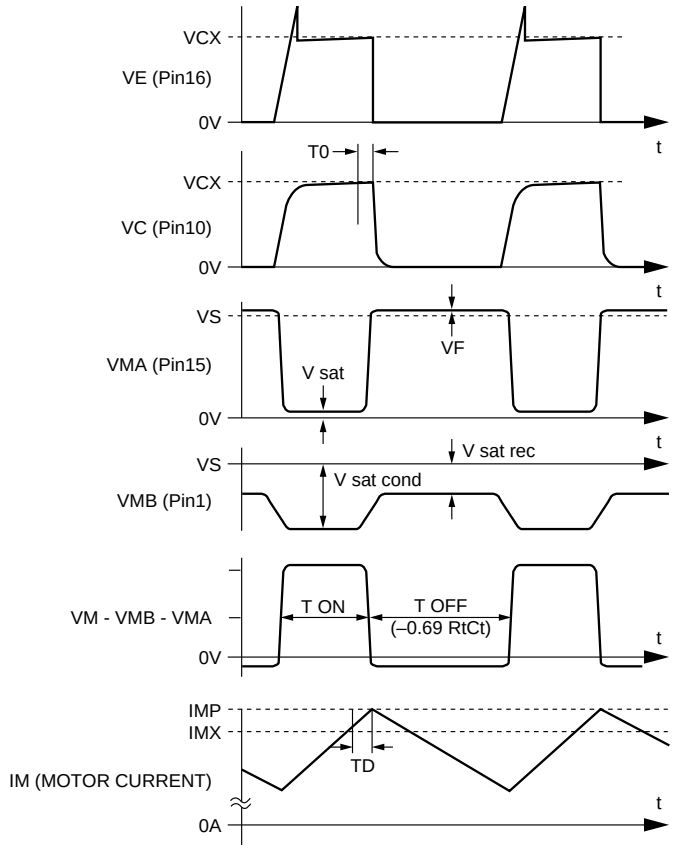



Fig. 4

**LH28F016SUT (IC6) Terminal descriptions**

| Symbol | Type | Name and function |
|---|---|---|
| A0 | I | Byte select address: The device selects the low-order or high-order byte in the ×8 mode. Not used in the ×16 mode.<br>(The $A_0$ input circuit is not activated since Byte # is high.) |
| $A_1$ - $A_{15}$ | I | Word select address: One word is selected in the 64 KByte block.<br>These addresses are latched in the data writing operation. |
| $A_{16}$ - $A_{20}$ | I | Block select address: 1/32 erasion block is selected. These addresses are latched when data writing, erasion or lock block is activated. |
| $DQ_0$ - $DQ_7$ | I/O | Low-order byte data input/output: Data and command input in the command user interface writing cycle. When various data are read, the memory array, page buffer, identifier and status data are output. It is floated when the chip is not selected or output is disable. |
| $DQ_8$ - $DQ_{15}$ | I/O | High-order byte data input/output: Same function as the low-order byte data input/output. Operable in the ×16 mode alone. It is floated in the ×8 mode. |
| $CE_0$#, $CE_1$# | I | Chip enable: The control logic, input butter, decoder and sense amplifier are made to be active. The chip is active only when both $CE_0$# and $CE_1$# are at "low". |
| RP# | I | Reset/power down: The device is brought into the deep power down state when RP# is turned to "Low". In order to recover it from the deep power down state, 400ns (ordinary lead time of +5ns for reading) is necessary. When RP# pin becomes "low", all chip operations are interrupted and reset. |
| OE# | I | Output enable: Data is output from DQ pin by turning OE# to "Low". When OE# is turned to "High", DQ pin is floated. |
| WE# | I | Write enable: The accesses to the command user interface, buffer, data cue register and address cue latch are controlled. When WE# is "Low", it becomes active to fetch the address and data at the leading edge. |
| RY/BY# | O | Ready/busy: The status of the internal write state machine is output. "Low" indicates that the write state machine is in operation. RY/BY# pin is floated when the write state machine waits for instruction of next operation, erasion is interrupted or it is in the deep power down state. |
| WP# | I | Write protect: Each block can be protected from writing/erasion by writing data into the no-volatile lock bit of the block. Writing/erasion becomes impossible for the block in which WP# is "low" and the block lock status bit (BSR.6) is protected. If WP# is "High", writing/erasion is possible regardless of the status of the lock bit. When RP# is "low" (in the deep power down state), WP# input circuit becomes disable. |
| BYTE# | I | Byte enable: When BYTE# is turned to "Low", the device is brought into the ×8 mode. At this time, DQ8-DQ15 becomes floated. The address A0 selects the high-/low-order byte. When BYTE# is "High", the device is brought into the ×16 mode, and the A0 input circuit becomes disable. |
| 3/5# | I | 3.3V/5.0V: When 3/5# is "High", the internal circuit can be operated at 3.3V, and when 3/5# is "Low", the internal circuit can be operated at 5.0V.<br>* Note: If 3/5# is turned to "High" when 5V is applied to Vcc, the device may be broken. |
| Vpp | | Writing/erasion power: 5.0±0.5V is applied during writing/erasion. |
| Vcc | | Device power: 5.0±0.5V or 3.3±0.3V |
| GND | | Ground |
| NC | | Not connected. |

**LH28F016SUT (IC6)**

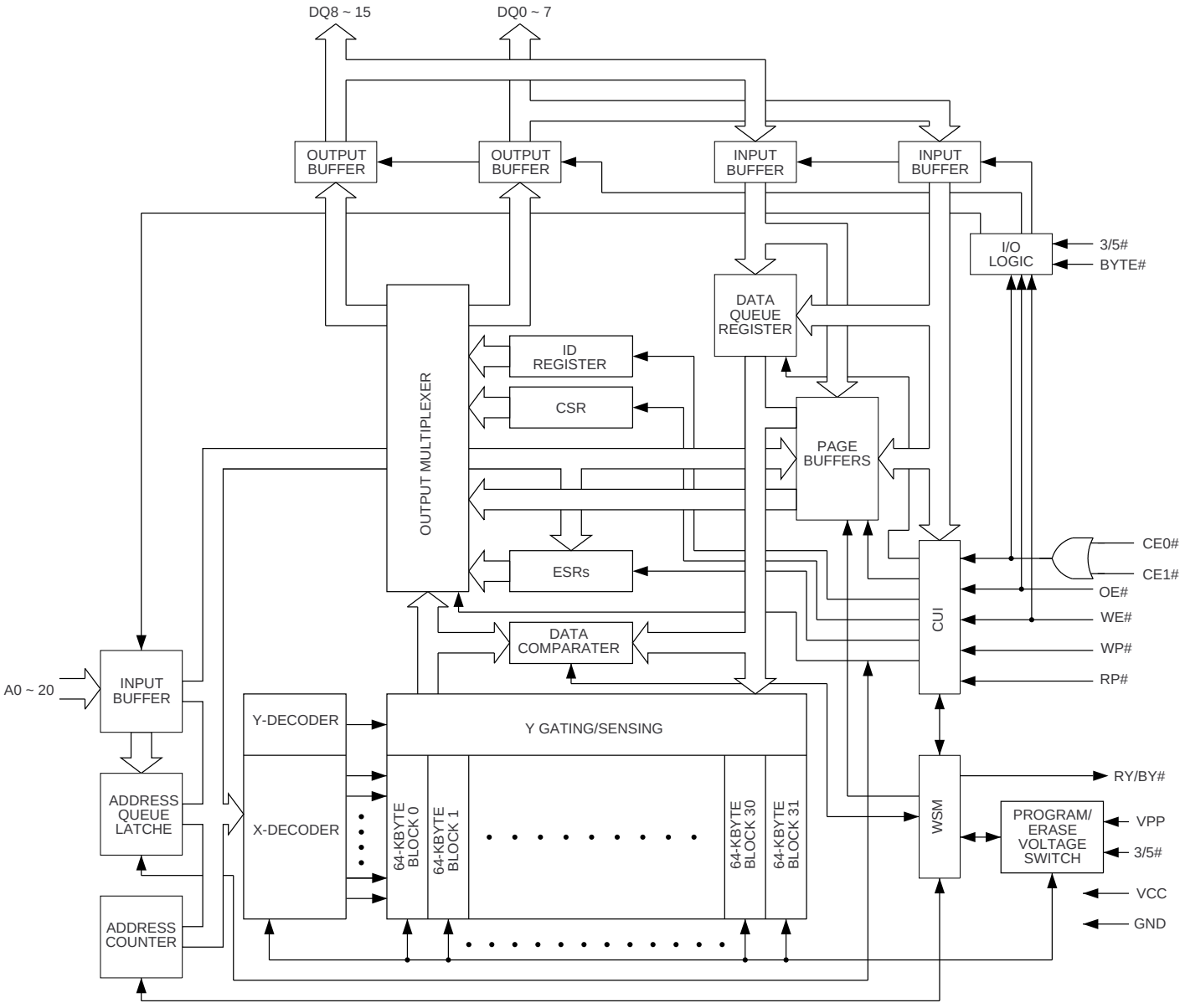
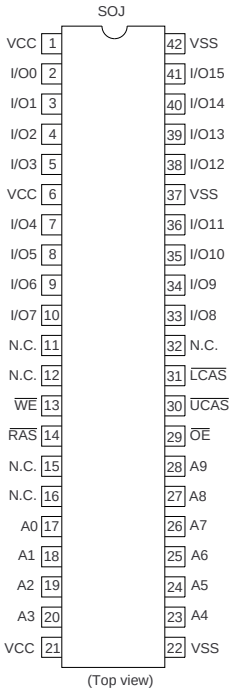



Fig. 5

**HM5118160AF-7 (IC12)**




| Pin name | Function |
|---|---|
| A0 to A9 | Address input |
| A0 to A9 | Refresh address input |
| I/O0 to I/O15 | Data-in/Data-out |
| $\overline{RAS}$ | Row address strobe |
| $\overline{UCAS}$, $\overline{LCAS}$ | Column address strobe |
| $\overline{WE}$ | Read/Write enable |
| $\overline{OE}$ | Output enable |
| Vcc | Power supply |
| Vss | Ground |
| N.C | No connection |

Fig. 6

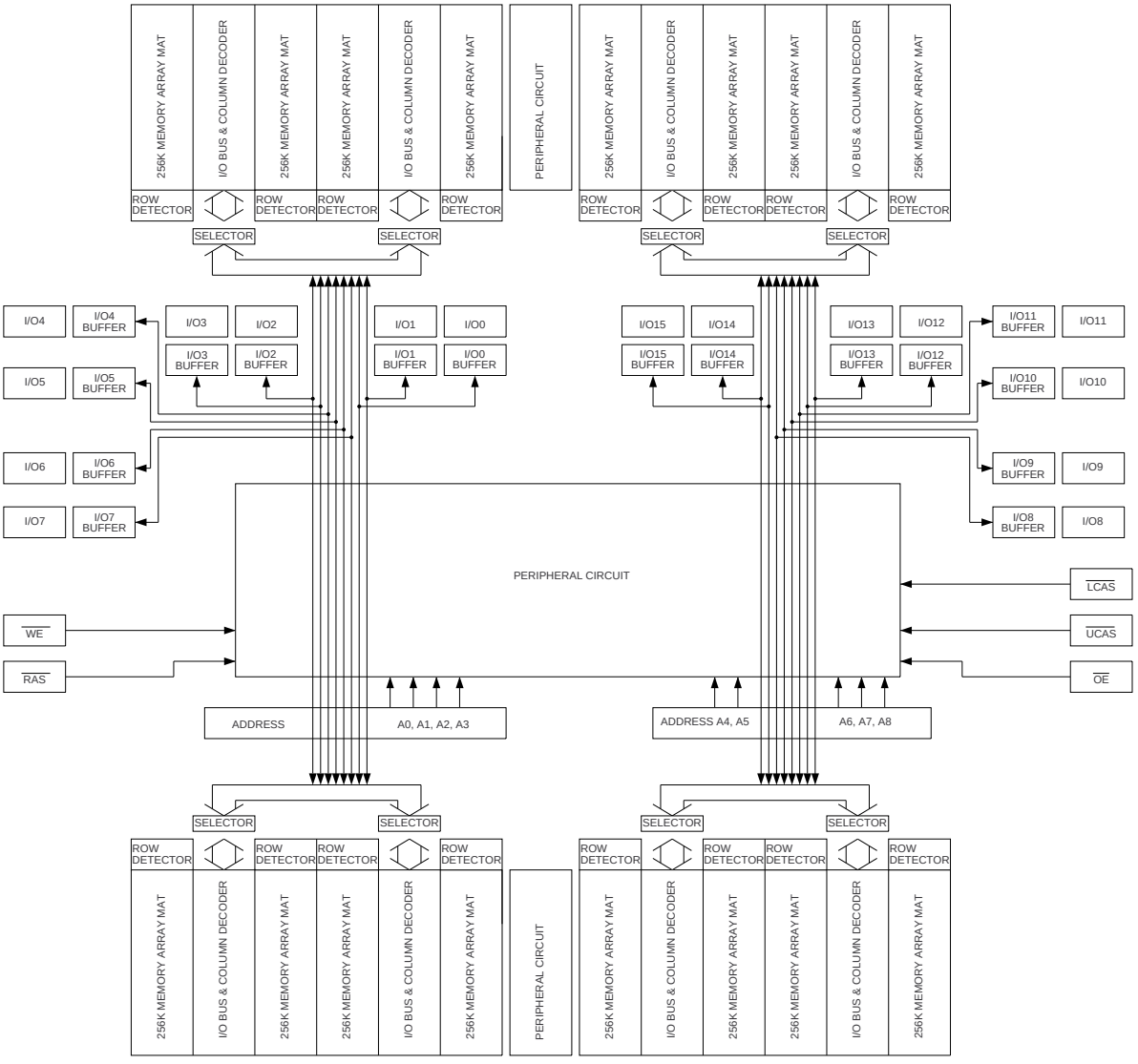



Fig. 7

### (11) Connector block (CNSB)

- CNSB of 50 pin connector connect the control PWB with the line control PWB.
- Speaker sound control

  Output of the circuit monitor sound, key input sound, alarm sound and ringer sound is switched with the analog switch (IC119: BU4053), and the sound volume is controlled with the analog switch (IC116: NJU4051).

### (12) Access control block

This block control the with access to the dual port RAMs of sub-1 or sub-2.

### (13) Sub-1 CPU block

The main control block uses RISC microprocessor HD6437021 as CPU, being composed of ROM (1 MByte) and DRAM (512 KByte).

#### 1) HD6437021 (IC14): pin-100, QFP (main CPU)

The device is a microprocessor which integrates the peripheral functions, using CPU of 32-bit RISC type as the core. In the instrument, the following peripheral functions are mainly used.

① ROM of 32 KByte and RAM of 1 KByte are integrated.
A part of programs are stored in the integrated ROM.

② DMA controller (4 channels are provided, and 2 channels alone are used.)
ch.0: Used to transmit image data between CODEC (HM514260) and DRAM(IC15).
ch.3: Used to transmit image data between CPU and DRAM(IC15).

③ Clock-synchronous type serial communication interface Commands and statuses are communicated with PCU.

④ Start-stop synchronous type serial communication interface Used for PC interface of RS232C system.

⑤ Interruption

$\overline{IRQ6}$: Interruption request from gate array (A) (LZ9FJ37A)

$\overline{IRQ7}$: Interruption request from gate array (B) (LR38292)

$\overline{IRQ0}$, $\overline{IRQ1}$, $\overline{IRQ2}$, $\overline{IRQ3}$, $\overline{IRQ4}$, $\overline{IRQ5}$: Not used.

$\overline{NMI}$ : Not used.

⑥ DRAM controller
Addressing to DRAM(IC15) of the system and control and refresh control of $\overline{RAS}$ and $\overline{CAS}$ signals are executed.

⑦ Timer and watch dog timer

⑧ General-purpose I/O port
Control of TEL/Liu are executed.

⑨ Clock oscillation
Ceramic oscillator of 19.66 MHz is connected for operation of 19.66 MHz.

### (14) Sub-1 ROM, DRAM block

#### 1) 27C4002 (IC10): pin-40, DIP (ROM)

Programs are stored in two 4 Mbit ROM.

#### 2) HM514260 (IC15): pin-40, SOJ (DRAM)

Used as the system memory of main CPU and transmission buffer of communication.

### (15) Dual port RAM-1 block

Dual port RAMs allow main CPU and sub-1 CPU to communicate with each other by passing data through the common memory.

#### 1) IDT7130 (IC16)

#### 2) IDT7140 (IC17)

The IDT7130/IDT7140 are high-speed 1K x 8 Dual-Port Static RAMs. The IDT7130 is designed to be used as a stand-alone 8-bit Dual-Port RAM or as a "MASTER" Dual-Port RAM together with the IDT7140 "SLAVE" Dual-Port in 16-bit-or-more word width systems. Using the IDT MASTER/SLAVE Dual-Port RAM approach in 16-or-more-bit memory system applications results in full-speed, error-free operation without the need for additional discrete logic.
Both devices provide two independent ports with separate control, address, and I/O pins that permit independent asynchronous access for reads or writes to any location in memory.

### (16) Connector block (CNLIU)

CNLIU of 26 pin connector connect the control PWB with the TEL/LIU 1 PWB.

### (17) Sub-1 access control block

The block control the write access to the dual port RAMs (IC16, 17) and the modem (IC3).

## [3] Circuit description of line control PWB

### 1. General description

The line control PWB is composed of the following blocks.

① Sub-2 CPU block
② Modem-2 block
③ Sub-2 EPROM, DRAM block
④ Dual port RAM-2 block
⑤ Connector block (CNLIU1/CNSB1)
⑥ Sub-2 access control block

### (1) Sub-2 CPU block

The main control block uses RISC microprocessor HD6437021 as CPU, being composed of ROM (1 MByte) and DRAM (512 KByte).

#### 1) HD6437021 (IC7): pin-100, QFP (main CPU)

The device is a microprocessor which integrates the peripheral functions, using CPU of 32-bit RISC type as the core. In the instrument, the following peripheral functions are mainly used.

① ROM of 32 KByte and RAM of 1 KByte are integrated.
A part of programs are stored in the integrated ROM.

② DMA controller (4 channels are provided, and 2 channels alone are used.)
ch.0: Used to transmit image data between CODEC (HM514260) and DRAM(IC3).
ch.3: Used to transmit image data between CPU and DRAM(IC3).

③ Clock-synchronous type serial communication interface Commands and statuses are communicated with PCU.

④ Start-stop synchronous type serial communication interface Used for PC interface of RS232C system.

⑤ Interruption

$\overline{IRQ6}$: Interruption request from gate array (A) (LZ9FJ37A)

$\overline{IRQ7}$: Interruption request from gate array (B) (LR38292)

$\overline{IRQ0}$, $\overline{IRQ1}$, $\overline{IRQ2}$, $\overline{IRQ3}$, $\overline{IRQ4}$, $\overline{IRQ5}$: Not used.

$\overline{NMI}$ : Not used.

⑥ DRAM controller
Addressing to DRAM(IC3) of the system and control and refresh control of $\overline{RAS}$ and $\overline{CAS}$ signals are executed.

⑦ Timer and watch dog timer

⑧ General-purpose I/O port
Control of TEL/Liu are executed.

⑨ Clock oscillation
Ceramic oscillator of 19.66 MHz is connected for operation of 19.66 MHz.

## (2) Modem-2 block

The block is mainly composed of the modem R288F (IC8), and is provided with the following modem function.

| Configuration | Modulation 1 | Carrier Frequency (Hz) ± 0.01 % | Data Rate (bps) ± 0.01 % | Symbol Rate (Symbols/Sec.) | Bits/Symbol-Data | Bits/Symbol-TCM | Constellation Points |
|---|---|---|---|---|---|---|---|
| V. 34 33600 TCM | TCM | Note 2 | 33600 | 3429 only | Note 2 | Note 2 | Note 2 |
| V. 34 31200 TCM | TCM | Note 2 | 31200 | Note 2 | Note 2 | Note 2 | Note 2 |
| V. 34 28800 TCM | TCM | Note 2 | 28800 | Note 2 | Note 2 | Note 2 | Note 2 |
| V. 34 26400 TCM | TCM | Note 2 | 26400 | Note 2 | Note 2 | Note 2 | Note 2 |
| V. 34 24000 TCM | TCM | Note 2 | 24000 | Note 2 | Note 2 | Note 2 | Note 2 |
| V. 34 21600 TCM | TCM | Note 2 | 21600 | Note 2 | Note 2 | Note 2 | Note 2 |
| V. 34 19200 TCM | TCM | Note 2 | 19200 | Note 2 | Note 2 | Note 2 | Note 2 |
| V. 34 16800 TCM | TCM | Note 2 | 16800 | Note 2 | Note 2 | Note 2 | Note 2 |
| V. 34 14400 TCM | TCM | Note 2 | 14400 | Note 2 | Note 2 | Note 2 | Note 2 |
| V. 34 12000 TCM | TCM | Note 2 | 12000 | Note 2 | Note 2 | Note 2 | Note 2 |
| V. 34 9600 TCM | TCM | Note 2 | 9600 | Note 2 | Note 2 | Note 2 | Note 2 |
| V. 34 7200 TCM | TCM | Note 2 | 7200 | Note 2 | Note 2 | Note 2 | Note 2 |
| V. 34 4800 TCM | TCM | Note 2 | 4800 | Note 2 | Note 2 | Note 2 | Note 2 |
| V. 34 2400 TCM | TCM | Note 2 | 2400 | Note 2 | Note 2 | Note 2 | Note 2 |
| V. 23 1200/75 | FSK | 1700/420 | 1200/75 | 1200 | 1 | 0 | — |
| V. 21 | FSK | 1080/1750 | 0-300 | 300 | 1 | 0 | — |
| V. 17 14400 TCM | TCM | 1800 | 14400 | 2400 | 6 | 1 | 128 |
| V. 17 12000 TCM | TCM | 1800 | 12000 | 2400 | 5 | 1 | 64 |
| V. 17 9600 TCM | TCM | 1800 | 9600 | 2400 | 4 | 1 | 32 |
| V. 17 7200 TCM | TCM | 1800 | 7200 | 2400 | 3 | 1 | 16 |
| V. 29 9600 | QAM | 1700 | 9600 | 2400 | 4 | 0 | 16 |
| V. 29 7200 | QAM | 1700 | 7200 | 2400 | 3 | 0 | 8 |
| V. 29 4800 | QAM | 1700 | 4800 | 2400 | 2 | 0 | 4 |
| V. 27 4800 | DPSK | 1800 | 4800 | 1600 | 3 | 0 | 8 |
| V. 27 2400 | DPSK | 1800 | 2400 | 1200 | 2 | 0 | 4 |
| V. 21 Channel 2 | FSK | 1750 | 300 | 300 | 1 | 0 | — |

Notes:

1. Modulation legend: TCM: Trellis-Coded Modulation QAM: Quadrature Amplitude Modulation
   FSK: Frequency Shift Keying DPSK: Differential Phase Shift Keying
2. Adaptive; established during handshake:

| | Carrier Frequency (Hz) | |
|---|---|---|
| Symbol Rate (Baud) | V. 34 Low Carrier | V. 34 High Carrier |
| 2400 | 1600 | 1800 |
| 2800 | 1680 | 1867 |
| 3000 | 1800 | 2000 |
| 3200 | 1829 | 1920 |
| 3429 | 1959 | 1959 |

## (3) Sub-2 ROM, DRAM block

### 1) 27C4002 (IC6): pin-40, DIP (ROM)

Programs are stored in two 4 Mbit ROM.

### 2) HM514260 (IC3): pin-40, SOJ (DRAM)

Used as the system memory of main CPU and transmission buffer of communication.

## (4) Dual port RAM-2 block

Dual port RAMs allow main CPU and sub-2 CPU to communicate with each other by passing data through the common memory.

### 1) IDT7130 (IC11)

### 2) IDT7140 (IC12)

The IDT7130/IDT7140 are high-speed 1K x 8 Dual-Port Static RAMs. The IDT7130 is designed to be used as a stand-alone 8-bit Dual-Port RAM or as a "MASTER" Dual-Port RAM together with the IDT7140 "SLAVE" Dual-Port in 16-bit-or-more word width systems. Using the IDT MASTER/SLAVE Dual-Port RAM approach in 16-or-more-bit memory system applications results in full-speed, error-free operation without the need for additional discrete logic.
Both devices provide two independent ports with separate control, address, and I/O pins that permit independent asynchronous access for reads or writes to any location in memory.

## (5) Connector block (CNLIU1/CNSB1)

- CNLIU1 of 26 pin connector connect the control PWB with the TEL/LIU 2 PWB.
- CNSB1 of 50 pin connector connect the control PWB with the line control PWB.

## (6) Sub-2 access control block

The block control the write access to the dual port RAMs (IC11, 12) and the modem (IC8).

# [4] Circuit Description of TEL/LIU 1 PWB

## (1) TEL/LIU block operational description

### 1) Block diagram

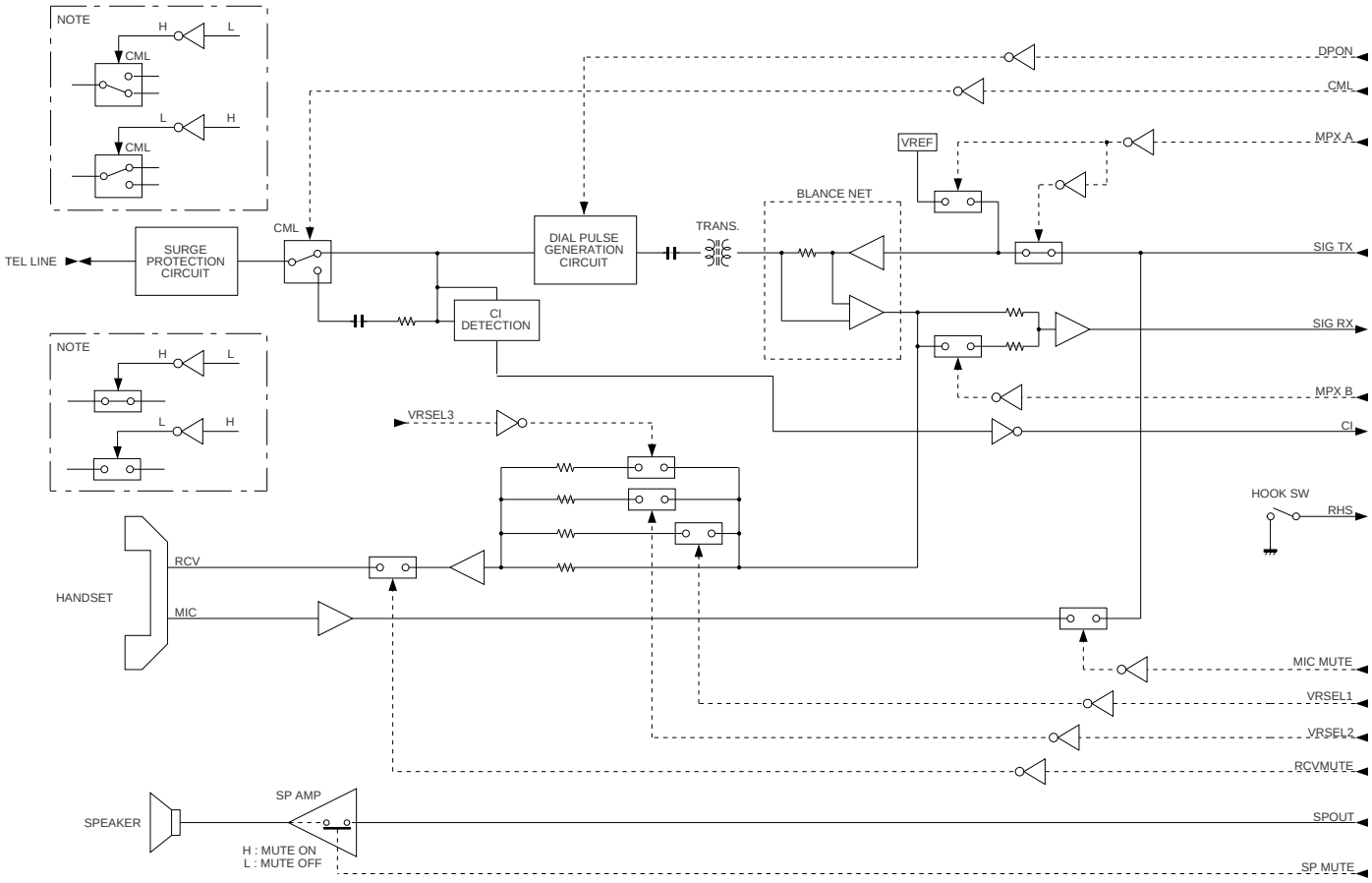



Fig. 8

### 2) Circuit description

The TEL/LIU PWB is composed of the following 12 blocks.

1. Surge protection circuit
2. Noise filter
3. On-hook status detection circuit
4. Dial pulse generation circuit
5. CML relay
6. Matching transformer
7. Hybrid circuit
8. Speaker amplifier
9. Adjustment of voice volume
10. Signal selection
11. CI detection circuit
12. Power supply and bias circuit

### 3) Block description

**1. Surg Protection circuit**

This circuit protects the circuit from the surge voltage occurring on the telephone line.

- The AR1 protects the circuit from the 390V or higher line surge voltages.
- The VA1 and VA2 protect the circuit from the 470V or higher vertical surge voltages.
- The ZD4 and ZD5 control the voltages generated on the secondary side of matching transformer to 2V.
- The VA3 protect the circuit from 100V or higher line surge voltages.

**2. Noise filter**

The noise filter comprises the RF choke coil, L1, L2, L3 and capacitor C16.

- The L1, L2, L3 and C16 prevent unnecessary radio noises from being transmitted from the telephone line.
- The C16 prevent radio pickup from the telephone line.

**3. On-hook status detection circuit**

The hook status detection circuit detects the Status of hook switch (RHS) of the Built-in telephone.

- The status of on-hook switch (RHS) is determined from the logical level of $\overline{\text{RHS}}$ signal.
  $\overline{\text{RHS}}$ LOW: OFF HOOK
  $\overline{\text{RHS}}$ HIGH: ON HOOK

**4. Dial pulse generation circuit**

The pulse dial generation circuit comprises of the photo-coupler PC2, polarity guard REC1, and transistor Q1, Q2.
The dial pulse turns on CML, controls the base current of transistor Q2 by supplying the DP signal to the photo-coupler PC2, and generates the DP signal by making the TEL circuit make and break.

**5. CML relay**

The CML relay switches over connection to the matching transformer T1 while the FAX or built-in telephone is being used.

**6. Matching transformer**

The matching transformer provides electrical insulation from the telephone line and impedance matching for transmitting the TEL/FAX signal.

**7. Hybrid circuit**

The hybrid circuit performs 2-wire-to-4-wire conversion using the IC105 and IC104 of the operational amplifier, transmits the voice transmission signal to the line, and feeds back the voice signal to the voice reception circuit as the side tone. Also, this circuit is operated with the analog switch IC104 as a half-duplex circuit while the FAX is being used, and as a full-duplex circuit while the telephone is being used.

The C11, C115, C120, C116 and C112 suppress the radio pickup from the handset.

**8. Speaker amplifier**

The speaker amplifier monitors the line under the on-hook mode, outputs the buzzer sound generated from the gate array (IC11: control PWB), ringer sound, DTMF generated from the modem (IC1: control PWB), and line sound.

**9. Adjustment of voice volume**

The voice volume can be adjusted by using the panel bottons "→" and "←".

- The reception level can be adjusted by pressing the →/← button when the handset is located in the off-hook state.

**10. Signal selection**

The following signals are used to control the transmission line of TEL/FAX signal. For details, refer to the signal selector matrix table. (See page 5-29)

- TEL MUTE: Controls the mute of handset voice transmission signal.
- RCV MUTE: Controls the mute of handset voice reception signal.
- SP MUTE: Controls the mute of speaker amplifier.
- MPX B: Switches over the gain of reception amplifier.
  H: Amplifier gain decreased
  L: Amplifier gain increased
- MPX A: Mutes the transmission drive amplifier.
  H: Selected when the telephone is being used or when the FAX signal is being transmitted
  L: Selected when the FAX signal is being received

**11.CI detection circuit**

The CI detection circuit detects the CI signals of 15.3 Hz to 68 Hz. A CI signal, which is provided to the photo-coupler PC1 through the C15 (0.82 μF), R1 (22 K), R2 (13K) and ZD3 when the ring signal is inputted from the telephone line, is filtered by the R137 and C9 and then transmitted to the control PWB through the Q110 (DTC114).

**12. Power supply and bias circuits**

The voltages of +12V and +5V are supplied from the control PWB unit. The IC104 of operational amplifier generates 6V bias voltage and supplies it to the IC104, 106, 105.

**(Example: Fax signal send)**

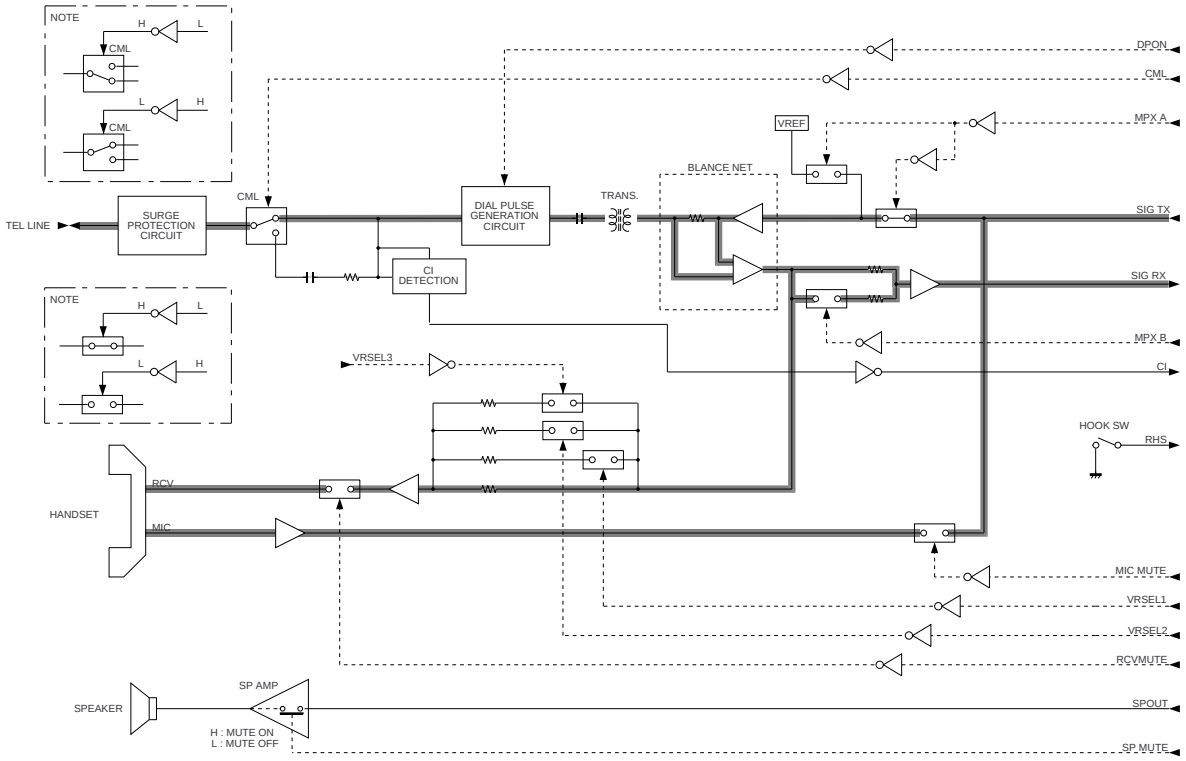



Fig. 9

Matrix table of control signals

| | | CML | MPXA | MPXB | MIC MUTE | RCV MUTE | SP MUTE |
|---|---|---|---|---|---|---|---|
| | | H: ON<br>L: OFF | H: TX LINE<br>L: OFF | H: Low gain<br>L: High gain | H: ON<br>L: OFF | H: ON<br>L: OFF | H: ON<br>L: OFF |
| Stand-by | | L | L | L | H | H | H |
| FAX signal sending | | H | H | H | H | H | H |
| FAX signal receiving | | H | L | H | H | H | H |
| Off-hook dial | Before and after dialing | H | H | H | L | L | H |
| | DP dialing | L | L | H | H | L | H |
| | DTMF dialing | H | H | H | H | L | H |
| On-hook dial | Before and after dialing | H | L | H | L | H | L |
| | DP dialing | L | L | L | H | H | L |
| | DTMF dialing | H | H | H | H | H | L |
| Auto dial | Before and after dialing | H | L | H | H | H | H |
| | 300bps check | H | L | H | H | H | H |
| | DP dialing | L | L | H | H | H | H |
| | DTMF dialing | H | H | H | H | H | H |
| Ringer ringing | | L | L | L | H | H | L |
| Key buzzer | Stand by/buzzer | L | L | L | H | H | L |
| | OFF HOOK | H | H | H | L | L | L |
| | ON HOOK | H | H | H | H | H | L |
| Holding | ON HOOK | H | H | H | H | H | L |
| | OFF HOOK | H | H | H | H | H | H |

Sound volume control signal of hand-set receiver

VRSEL1/VRSEL2/VRSEL3 Matrix

| Sound volume | High | Middle | Low | DTMF sending |
|---|---|---|---|---|
| VRSEL 1 | L | H | H | H |
| VRSEL 2 | H | L | H | H |
| VRSEL 3 | H | H | L | H |

# [5] Circuit Description of TEL/LIU 2 PWB

## (1) TEL/LIU block operational description

### 1) Block diagram

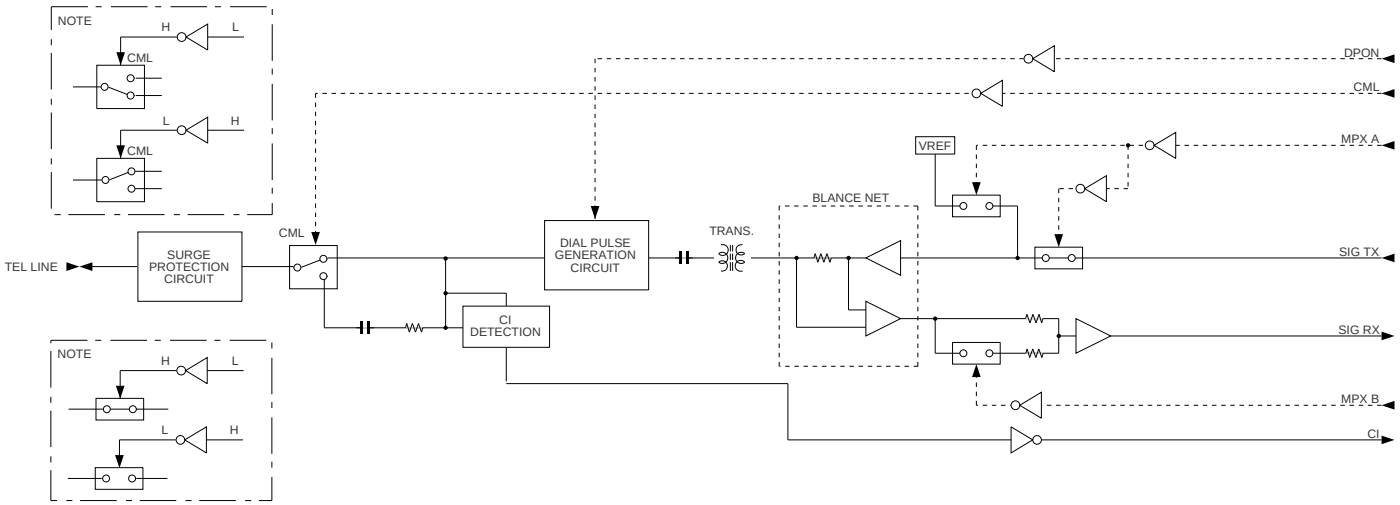



Fig. 10

### 2) Circuit description

The TEL/LIU PWB is composed of the following 9 blocks.

1. Surge protection circuit
2. Noise filter
3. Dial pulse generation circuit
4. CML relay
5. Matching transformer
6. Hybrid circuit
7. Signal selection
8. Cl detection circuit
9. Power supply and bias circuit

### 3) Block description

**1. Surg Protection circuit**

This circuit protects the circuit from the surge voltage occurring on the telephone line.

- The AR1 protects the circuit from the 390V or higher line surge voltages.
- The VA1 and VA2 protect the circuit from the 470V or higher vertical surge voltages.
- The ZD4 and ZD5 control the voltages generated on the secondary side of matching transformer to 2V.
- The VA3 protect the circuit from 100V or higher line surge voltages.

**2. Noise filter**

The noise filter comprises the RF choke coil, L1, L2, L3 and capacitor C16.

- The L1, L2, L3 and C16 prevent unnecessary radio noises from being transmitted from the telephone line.
- The C16 prevent radio pickup from the telephone line.

**3. Dial pulse generation circuit**

The pulse dial generation circuit comprises of the photo-coupler PC2, polarity guard REC1, and transistor Q1, Q2.

The dial pulse turns on CML, controls the base current of transistor Q2 by supplying the DP signal to the photo-coupler PC2, and generates the DP signal by making the TEL circuit make and break.

**4. CML relay**

The CML relay switches over connection to the matching transformer T1 while the FAX or built-in telephone is being used.

**5. Matching transformer**

The matching transformer provides electrical insulation from the telephone line and impedance matching for transmitting the TEL/FAX signal.

**6. Hybrid circuit**

The hybrid circuit performs 2-wire-to-4-wire conversion using the IC105 and IC104 of the operational amplifier, transmits the voice transmission signal to the line, and feeds back the voice signal to the voice reception circuit as the side tone. Also, this circuit is operated with the analog switch IC104 as a half-duplex circuit while the FAX is being used, and as a full-duplex circuit while the telephone is being used.

The C11, C115, C120, C116 and C112 suppress the radio pickup from the handset.

**7. Signal selection**

The following signals are used to control the transmission line of TEL/FAX signal. For details, refer to the signal selector matrix table. (See page 5-29)

- MPX B: Switches over the gain of reception amplifier.
  H: Amplifier gain decreased
  L: Amplifier gain increased
- MPX A: Mutes the transmission drive amplifier.
  H: Selected when the telephone is being used or when the FAX signal is being transmitted
  L: Selected when the FAX signal is being received

**8. CI detection circuit**

The CI detection circuit detects the CI signals of 15.3 Hz to 68 Hz. A CI signal, which is provided to the photo-coupler PC1 through the C15 (0.82 μF), R1 (22 K), R2 (13K) and ZD3 when the ring signal is inputted from the telephone line, is filtered by the R137 and C9 and then transmitted to the control PWB through the Q110 (DTC114).

**9. Power supply and bias circuits**

The voltages of +12V and +5V are supplied from the control PWB unit. The IC104 of operational amplifier generates 6V bias voltage and supplies it to the IC104, 106, 105.

**(Example: Fax signal send)**

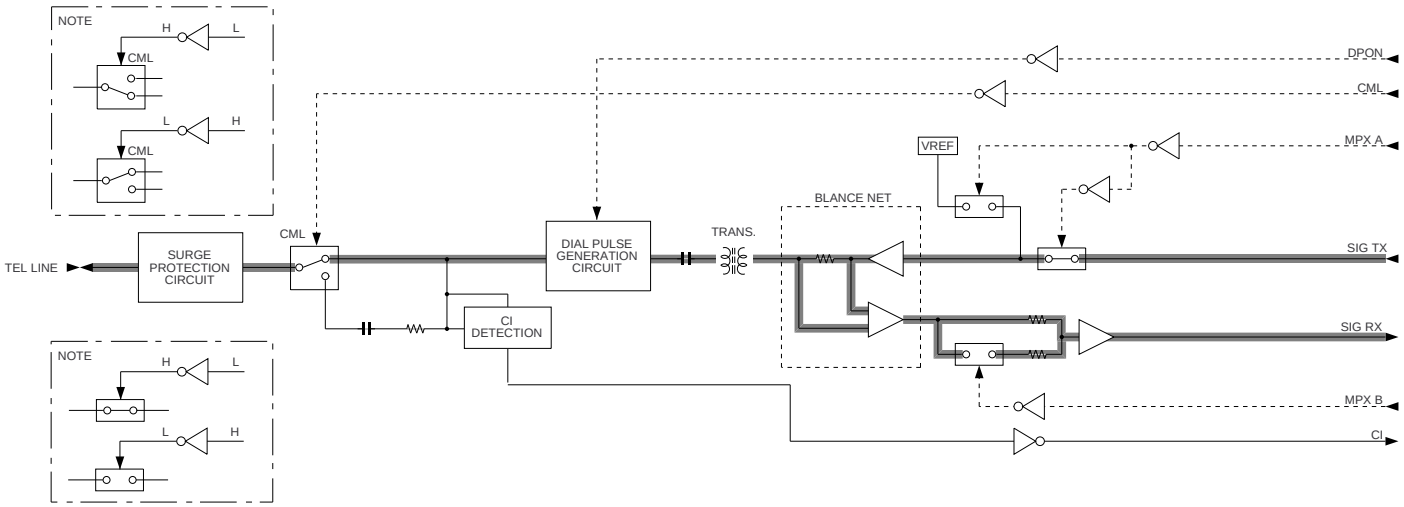



Fig. 11

Matrix table of control signals

| | | CML | MPXA | MPXB | MIC MUTE | RCV MUTE | SP MUTE |
|---|---|---|---|---|---|---|---|
| | | H: ON<br>L: OFF | H: TX LINE<br>L: OFF | H: Low gain<br>L: High gain | H: ON | H: ON | H: ON |
| Stand-by | | L | L | L | H | H | H |
| FAX signal sending | | H | H | H | H | H | H |
| FAX signal receiving | | H | L | H | H | H | H |
| Auto dial | Before and after dialing | H | L | H | H | H | H |
| | 300bps check | H | L | H | H | H | H |
| | DP dialing | L | L | H | H | H | H |
| | DTMF dialing | H | H | H | H | H | H |

# [6] Circuit description of CCD PWB

The CCD board picks up optical information from the document, converts it into an electrical (analog) signal and transfers it to the control board.

## 1. Block diagram

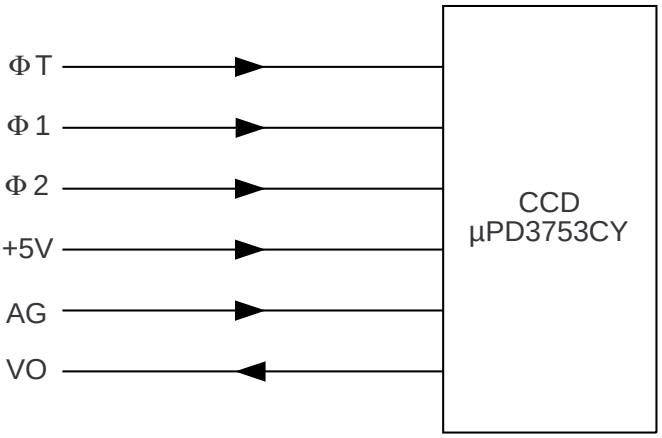



Fig.12

## 2. Description of blocks

### 1) CCD

The µPD3753CY is a highly sensitive charged coupled image sensor that consists of 2088 picture elements.
Receiving there drive signals (ϕT, ϕ2, ϕ1) from the control board.

### 2) Waveforms

1. ϕ1, ϕ2 ...signals within the control board.

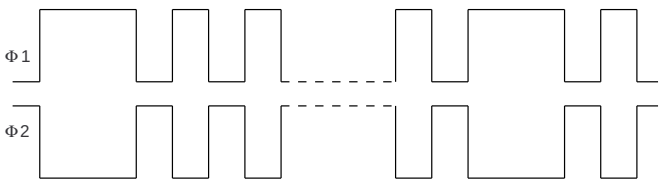



Fig. 13

# [7] Circuit description of operation PWB

## 1. Block diagram

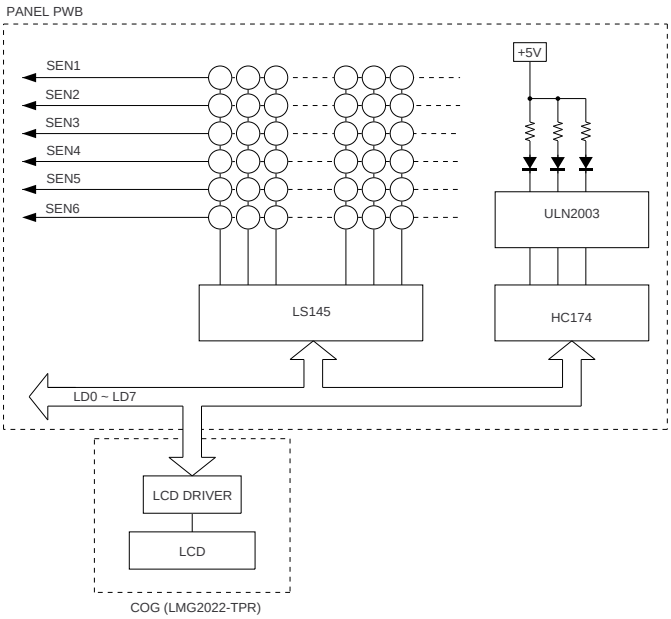



Fig. 14

## 2. Operational description

### 1) Panel PWB

The panel PWB includes the ten key scan circuit and the LED lighting circuit.The LS145 is controlled through LD0~LD3 (4 bits) and ten key detection is performed. The HC174 is controlled through LD0~LD5 (6 bits) to provide LED lighting information.

### 2) COG (LMG2022-TPR)

The COG uses the one-chip LCD driver IC to display 20 digits x 2 lines. The LCD display density is controlled with an extemal resistor.

# [8] Circuit description of power supply PWB

**DC power circuit**

The DC power circuit directly rectifies AC power, changes the voltage through switching with the DC/DC converters, and rectifies and smoothens the current again in order to produce the DC voltage. See Fig. 15.

## 1. Block diagram

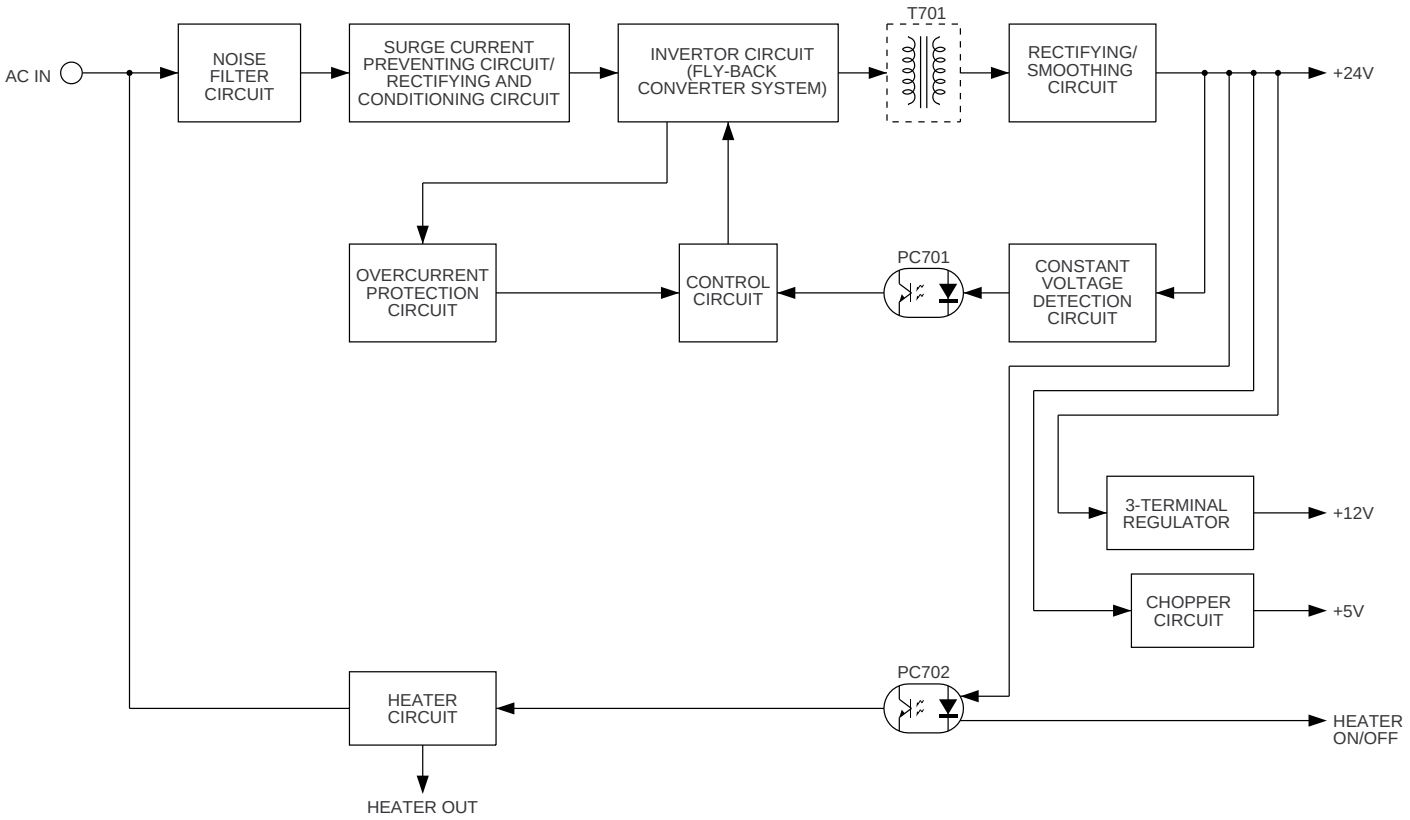



Fig. 15

## 2. Noise filter circuit

The filter circuit is composed of L and C in order to reduce the common noise and normal mode noise which flows into and out of the AC line.
The common mode noise is called the noise which generates in cach line against GND, and C703, C704, C722, C723 and C725 flows the noise component to GND.
Moreover, the normal mode noise is called the noise which is super-imposed on the AC line or output line and is attenuated with C701, L701, C702, and L702. See Fig. 16.

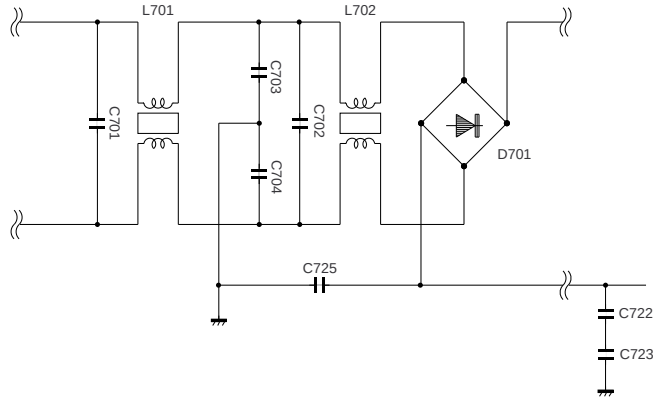



Fig. 16

## 3. Surge current preventing and rectifying/conditioning circuit

As shown in Fig. 17, AC is rectified and conditioned with D701 and C705 which include four diodes.
The power thermistor TH701 provide surge protection.

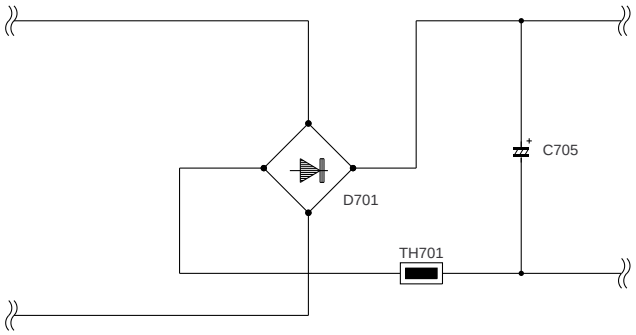



Fig. 17

## 4. Inverter and control circuit (fly-back converter system)

This circuit is called the fly-back converter which is the one-chip type separately excited DC-DC converter as shown in Fig. 18. In the circuit, IC starts oscillating to make Q701 conductive if the start voltage of IC is first applied to IC701 through R726, R794 and R705.
As the result, the voltage is applied to the primary winding of the converter transformer (T701), and the voltage is also generated in the winding which drives IC701. Thus IC701 is put into operation. Then, IC701 alternately turns on and off Q701 at the frequency (approx. 80 kHz) which is determined by C709 and R714.
When it is on, no current will flow in the secondary winding of T701 since the voltage of the secondary winding is applied in the direction opposite to the diode D707.
When it is off, the direction in which the current flows to the primary winding becomes the pole direction of the secondary winding, and D707 becomes conductive to transmit energy to the secondary side. See Fig. 18.

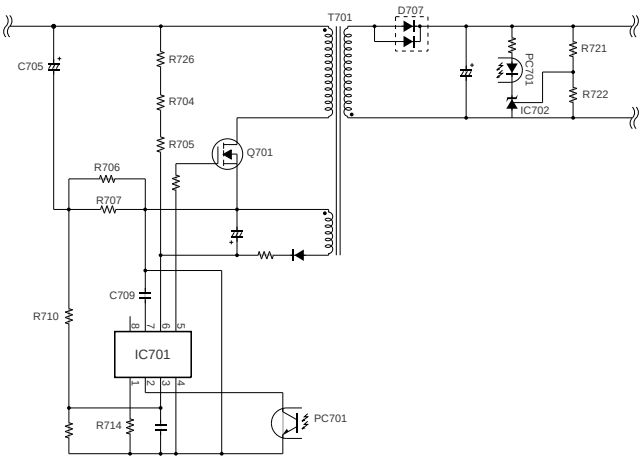



Fig. 18

The control circuit is a circuit which receives the negative feed-back is from the secondary side as shown in Fig. 18.
The photocoupler is used for insulation between the primary and secondary sides in order to feed back the control signal to the primary side. When the output voltage rises due to the energy transmission from T701, the voltage detected by R721 and R722 are compared with the reference voltage of IC702. As it is higher than the reference voltage, the current of IC702 (that is, the current of the photo diode of PC701) is increased to be transmitted to the primary side in order to reduce the potential of the feed-back terminal (2 pin) of IC701. Thus, Q701 is controlled. Accordingly, the varying rate of the output voltage on the primary side is passed through IC702 and PC701 in order to control IC701 and Q701. Thus, the output voltage is stabilized.

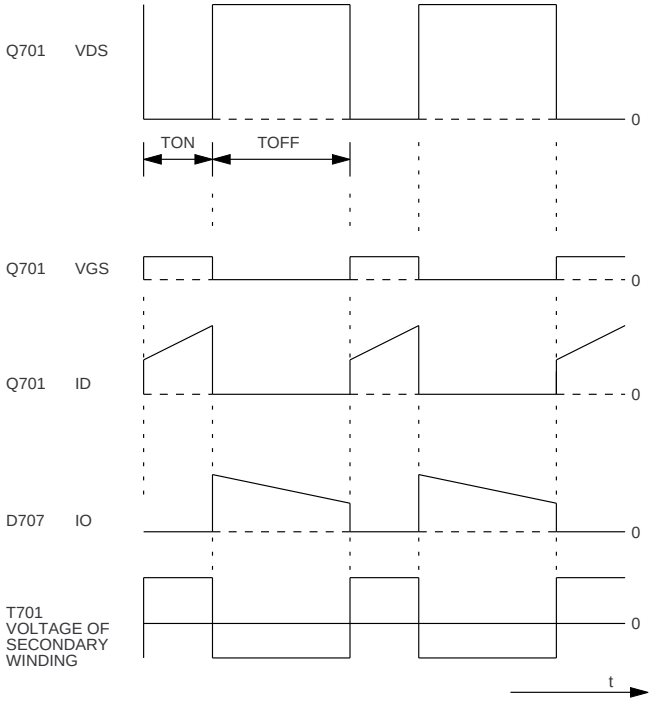



Fig. 19

**IC701**

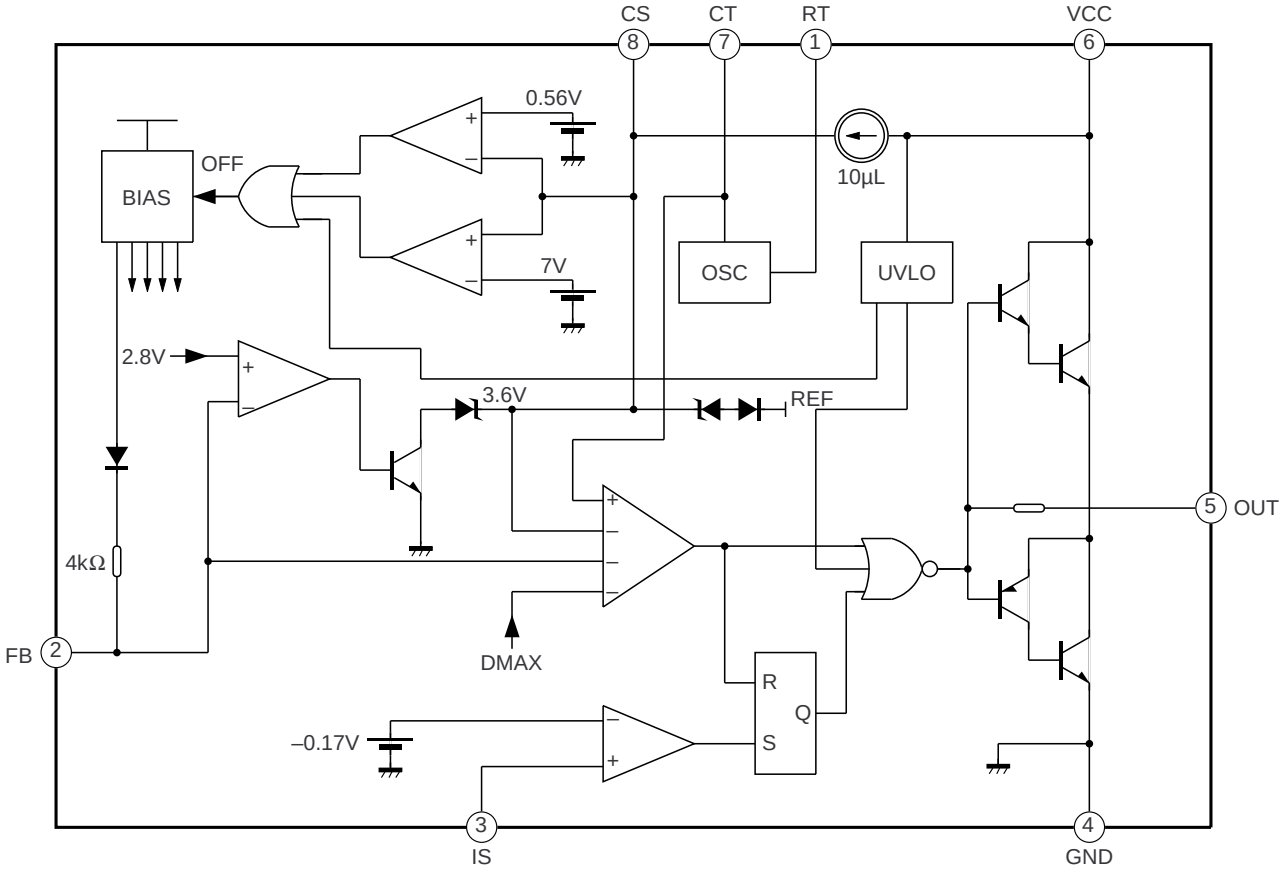



Fig. 20

## 5. Overcurrent preventive circuit (primary side)

The current detection resistors (R706 and R707) are connected to the inverter circuit on the primary side. If any overcurrent occurs on the primary side, the current of the inverter Q701 on the primary side is increased. The current is detected by R706 and R707, is passed through R710 and is input to the overcurrent restrictive terminal (3 pin) of IC701 to turn off Q701 in order to shut down the whole output. As the method to recover the power supply again, the power input is turned off again to sufficiently discharge the voltage of C705, and the power input is turned on (when 9V or less stands at the power terminal 6 pin of IC701).
A time of approx. 1 minute is necessary to discharge electricity from C705. See Fig. 18.

## 6. Rectifying/conditioning circuit (VM (+24V))

The high-frequency pulse produced in the inverter circuit is dropped by the converter transformer T701, is rectified by the high-frequency diode D707 and is moreover conditioned by C715 and 716.

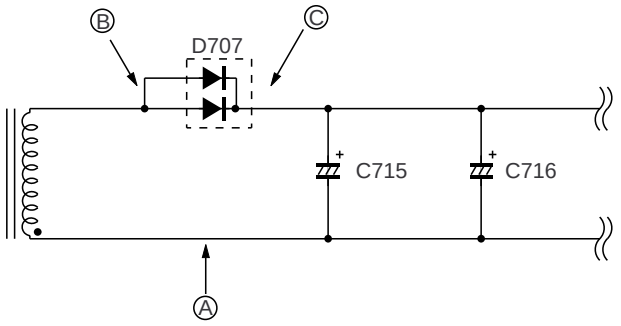



Fig. 21

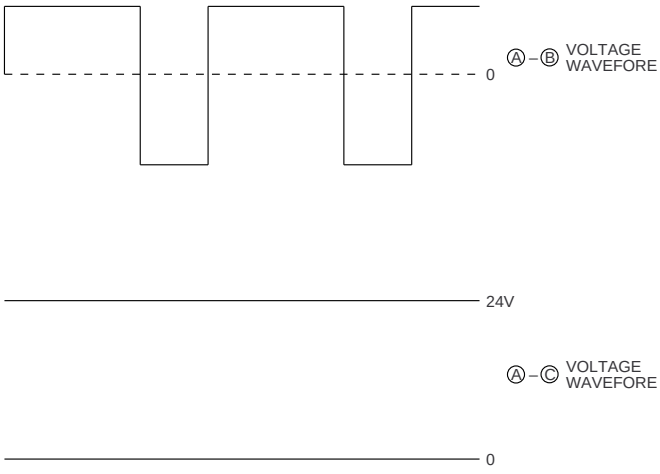



Fig. 22

## 7. 3-terminal regulator circuit (+12V system)

It is also called the dropper system. VM system (+24V) is dropped to +12V with IC704 for stabilization. Moreover, the overcurrent protective circuit is a IC integrated type with the characteristic of "#" letter.

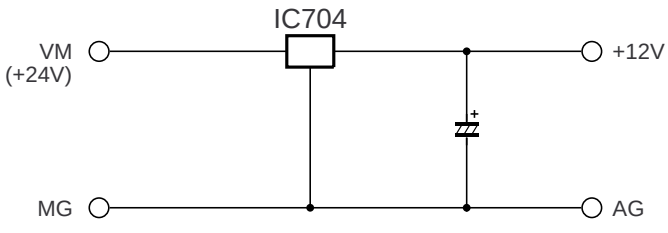



Fig. 23

## 8. Chopper circuit (+5V system)

The output voltage detected by R723 and R724 is input into the air amplifier by IC703, and is passed through the PWM comparator for PWA control of the output transistor in order to stabilize the output voltage. The oscillating frequency is set at approx. 100 kHz with the integrated oscillator. Moreover, the overcurrent-protective circuit is an IC integrated type to drop the output for the overcurrent.

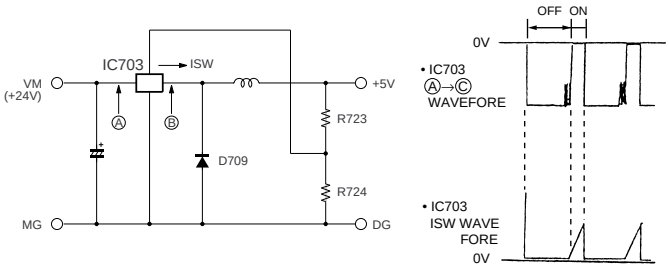



Fig. 24

**IC703**

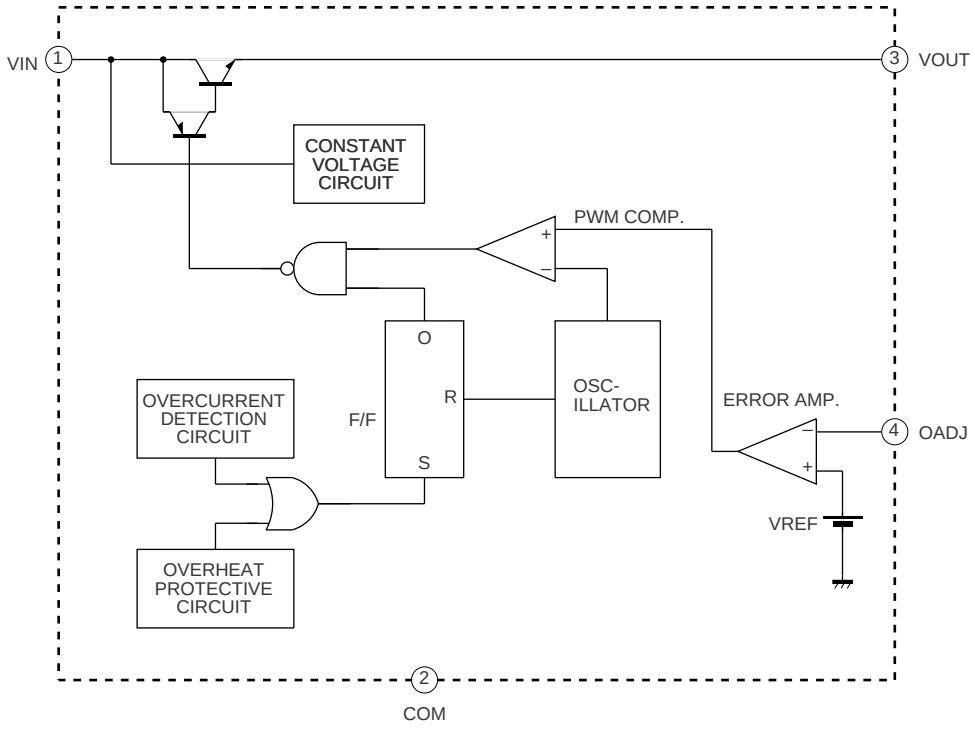



Fig. 25

## 9. Heater circuit

Though heater output is powered from AC line, the circuit is configured to allow one side of AC to be turned on and off by TR701.
When heater ON/OFF terminal is turned to LOW, the current will flow to the photo diode of PC702 to trigger the photo triac on the primary side and also turn on TR701.
This will activate the heater output. On the contrary, when the heater ON/OFF terminal is turned to HIGH, any current will not flow to the photo diode of PC702 to turn off TR701.
This will deactivate the heater output.
If TR701 is broken in the short mode, any current will not flow to the photo diode side of PC703 to turn off the photo transistor on the secondary side, and Q703 will not be turned off.
Q703 is connected to the gate cathode of SR701, and SR701 is usually turned off. However, when Q703 is turned off and the heater ON/OFF control terminal is further turned to HIGH, SR701 will be brought into the conductive state to cutoff the power supply to the heater circuit on the primary side.

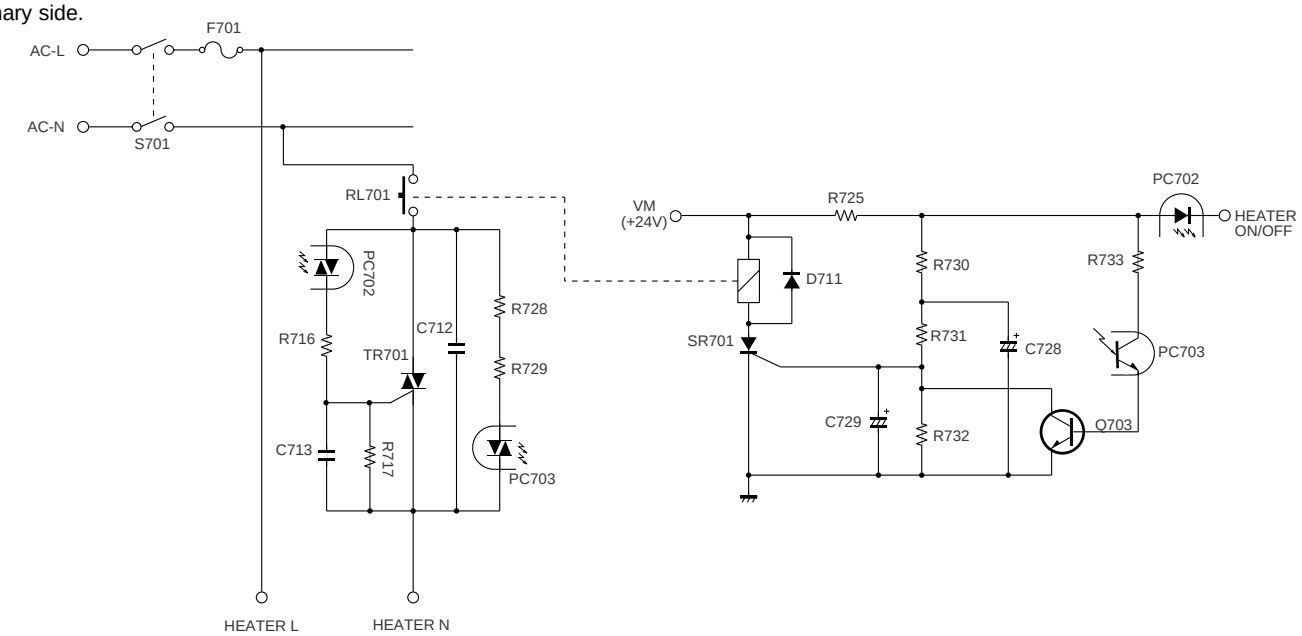



Fig. 26

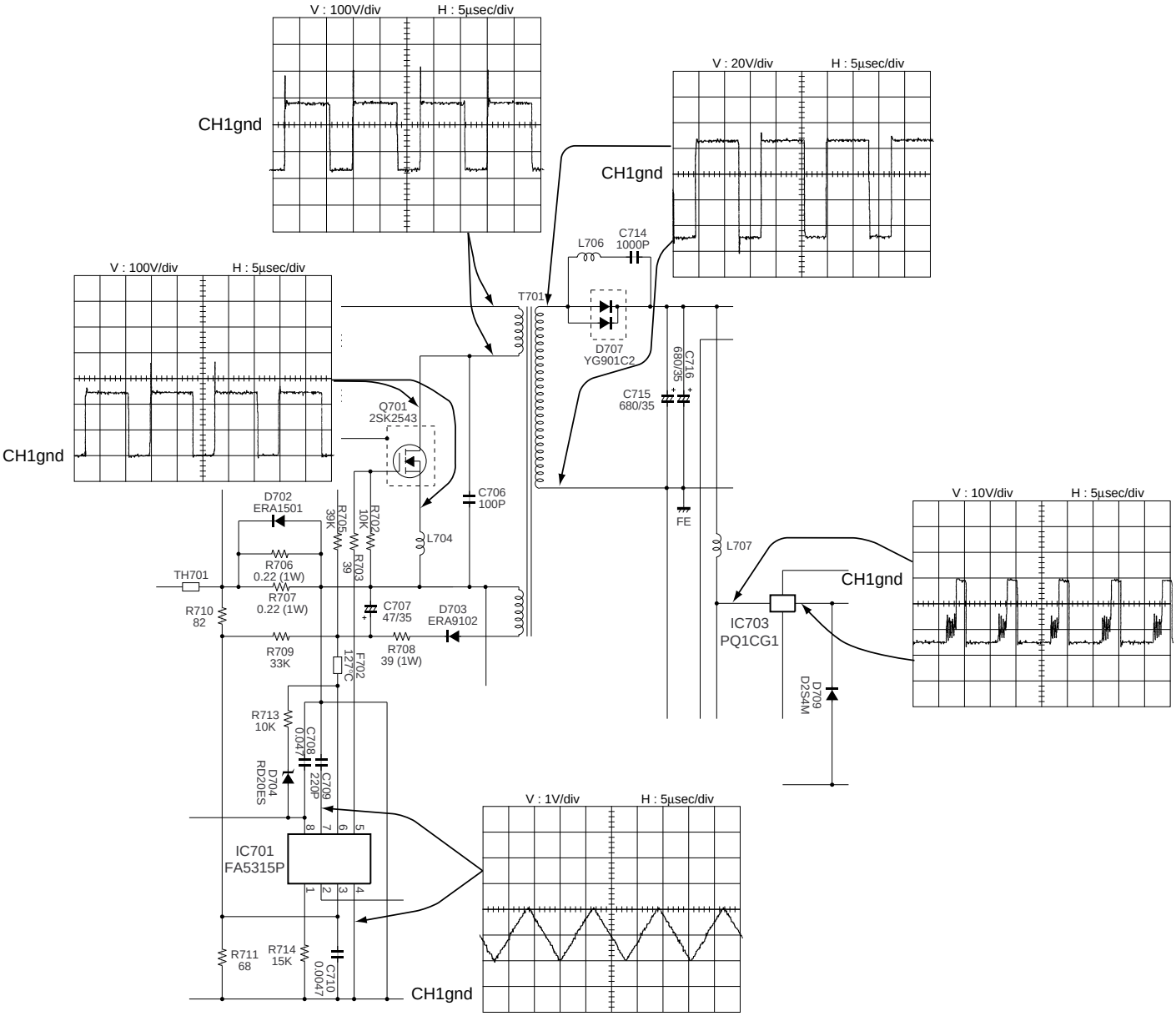
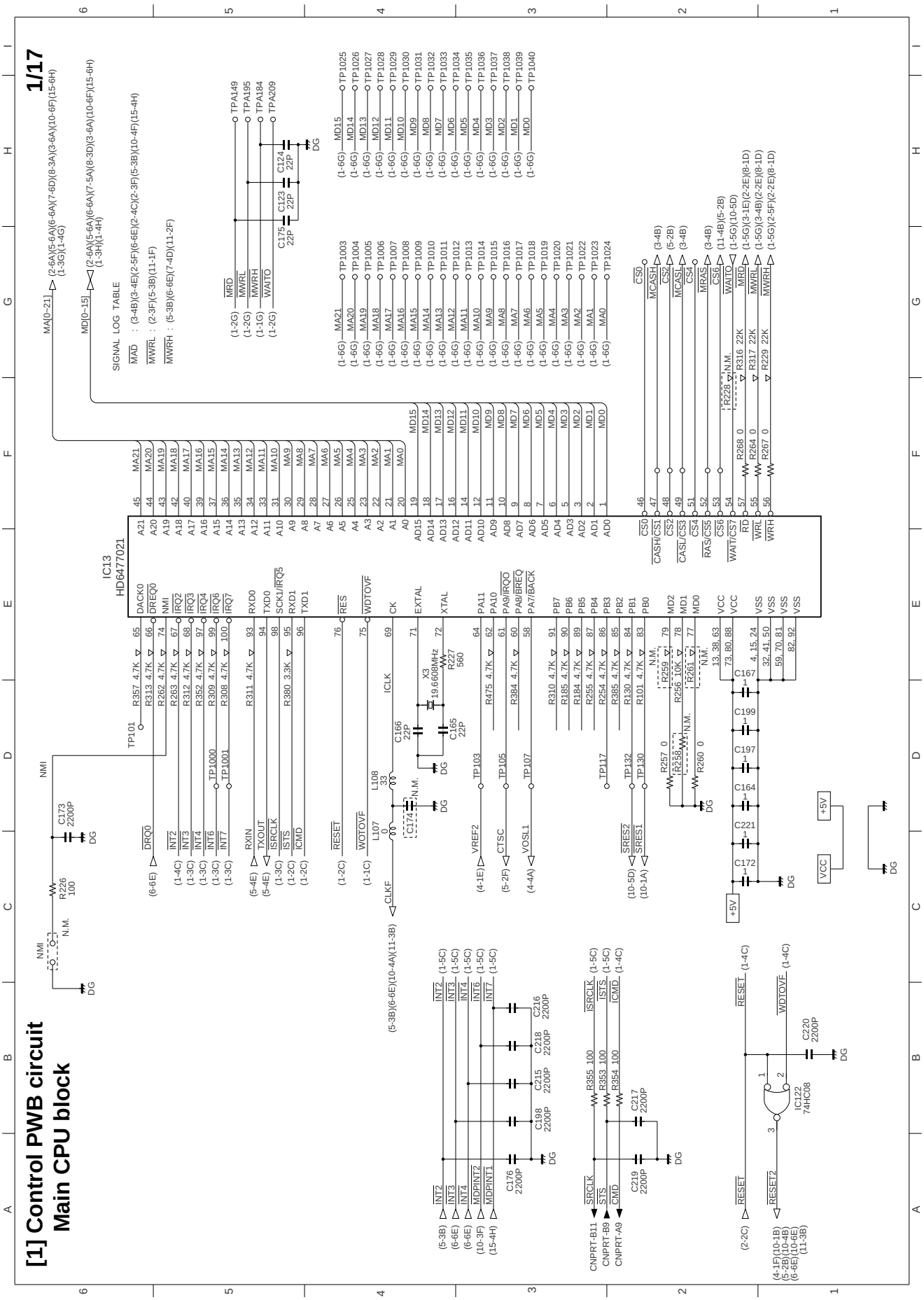



Fig. 27

## [9] Circuit description of RS232C I/F PWB

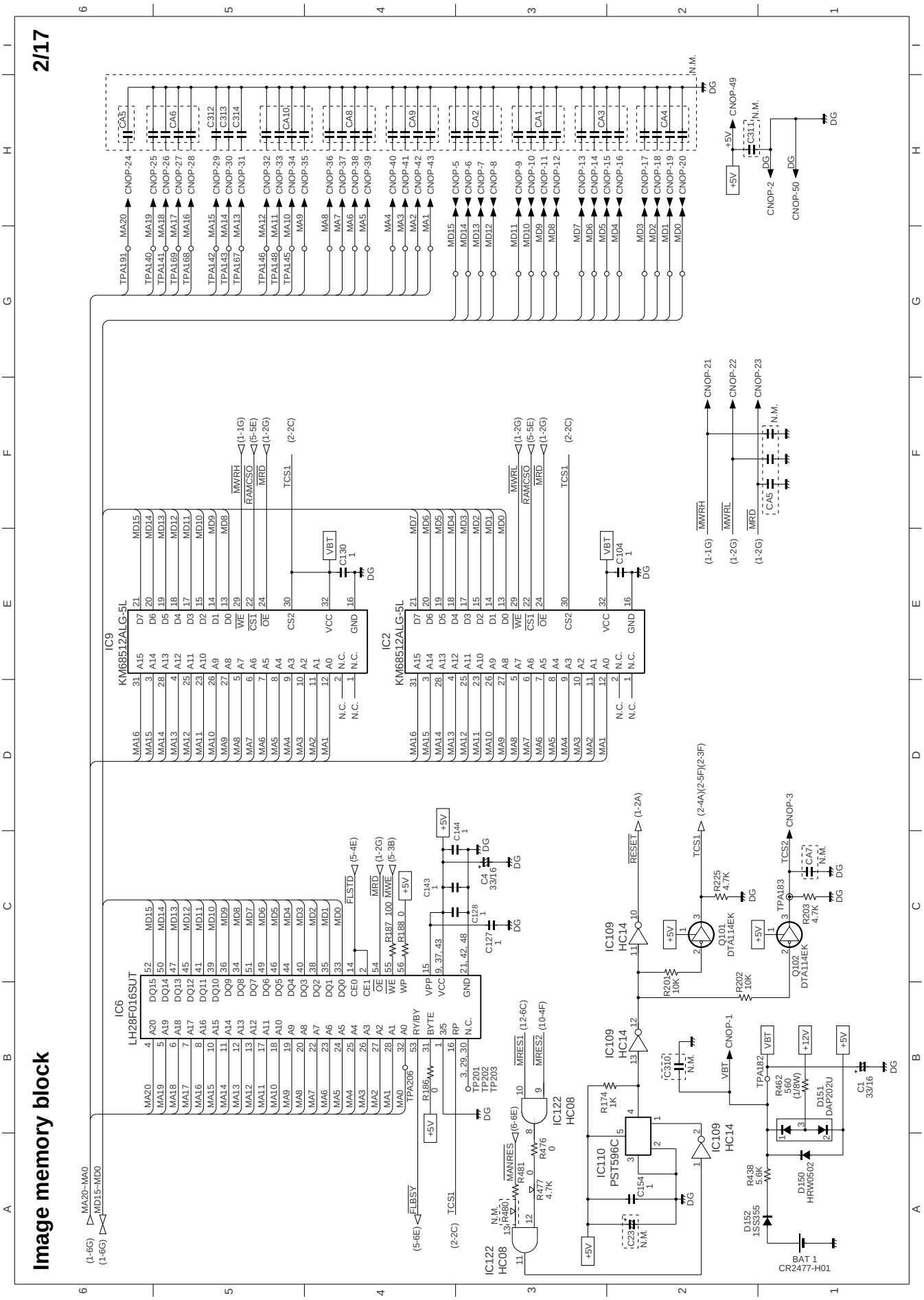
Since the PWB uses RS232C as the interface with PC, the voltage of the signal from PC to the control PWB is converted to +5V level and the voltage of the signal from the control PWB to PC is converted to +12V level with IC1 (ADM207) on the PWB.

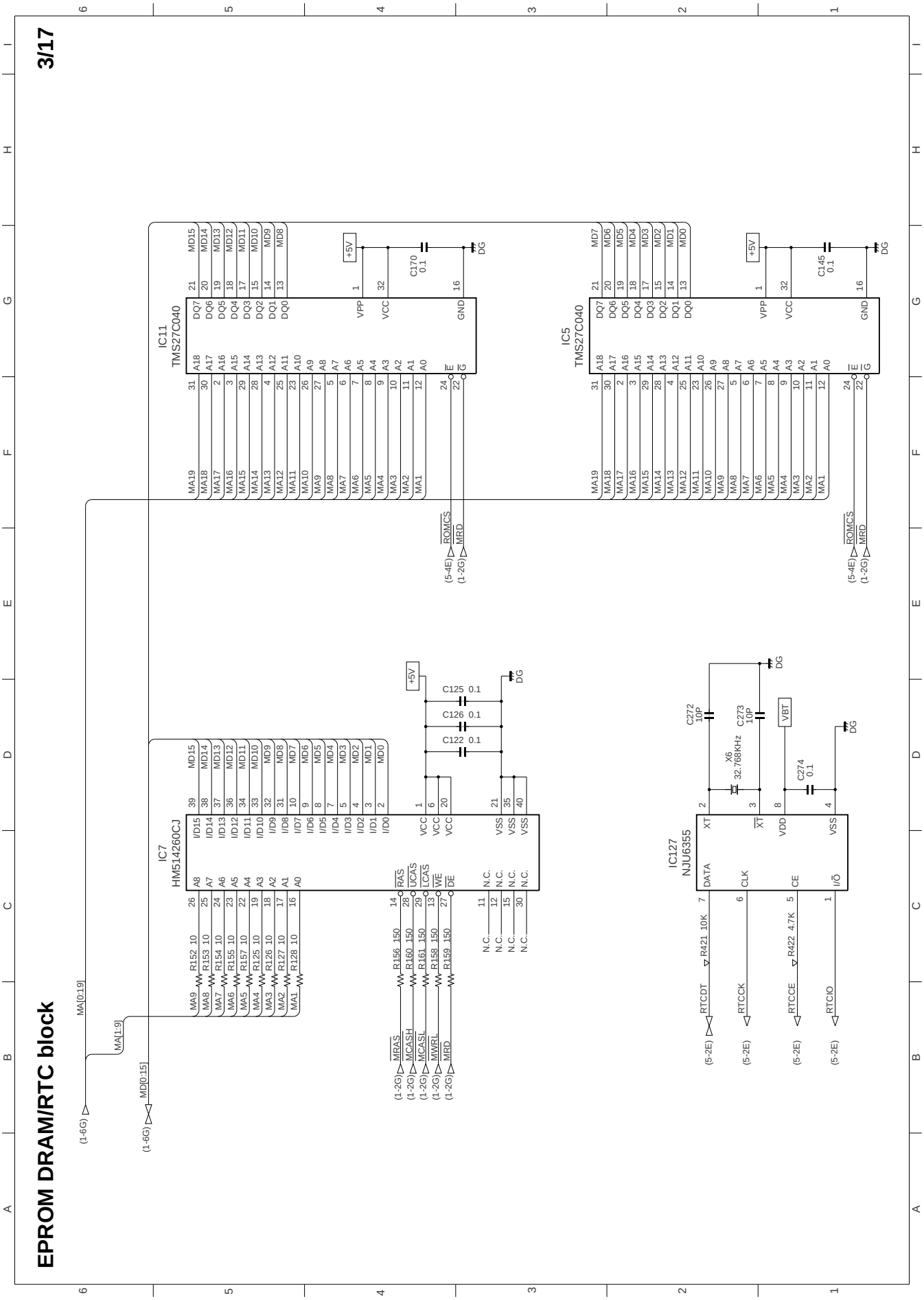
# CHAPTER 6. CIRCUIT SCHEMATICS AND PARTS LAYOUT



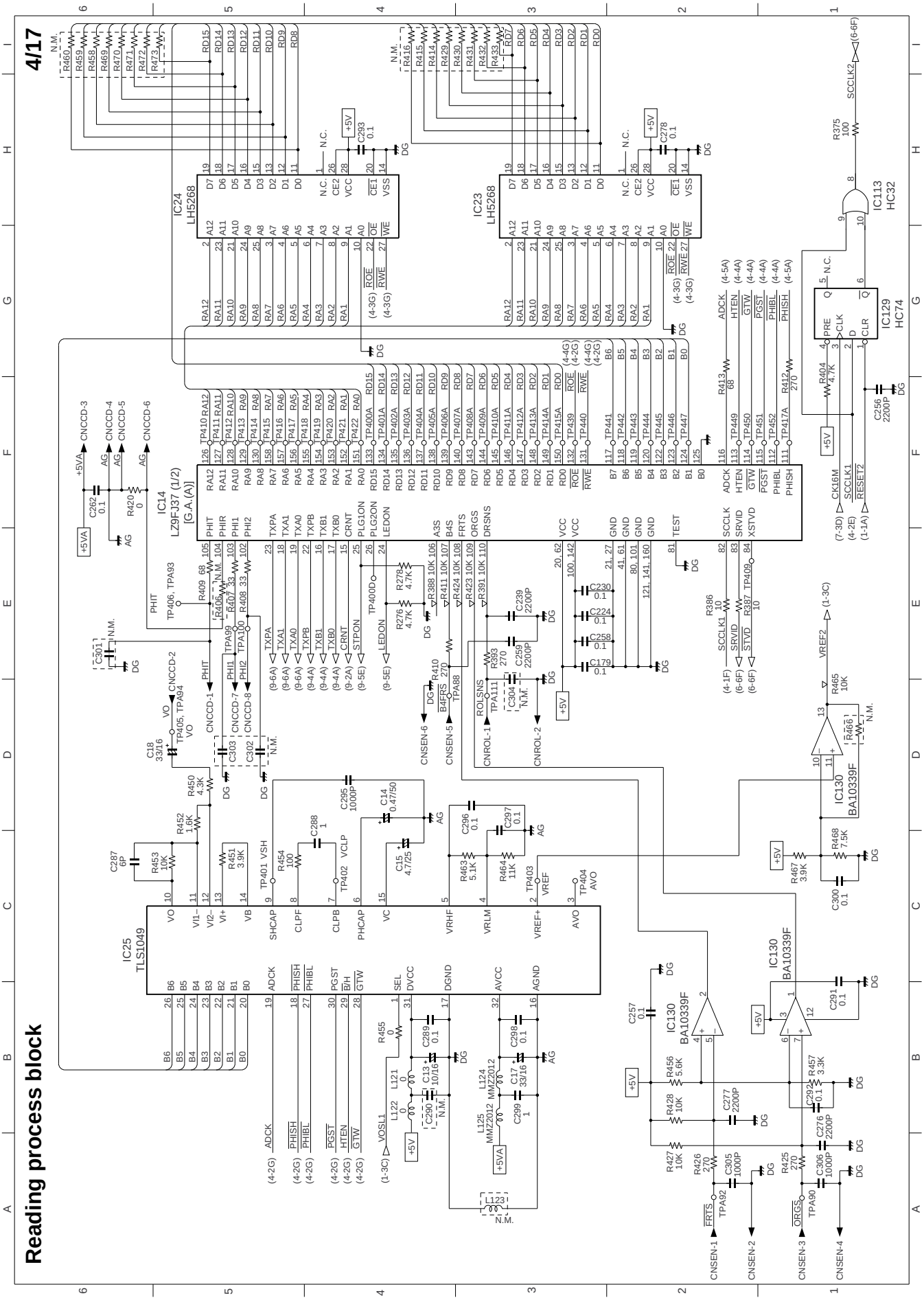
# Image memory block

2/17



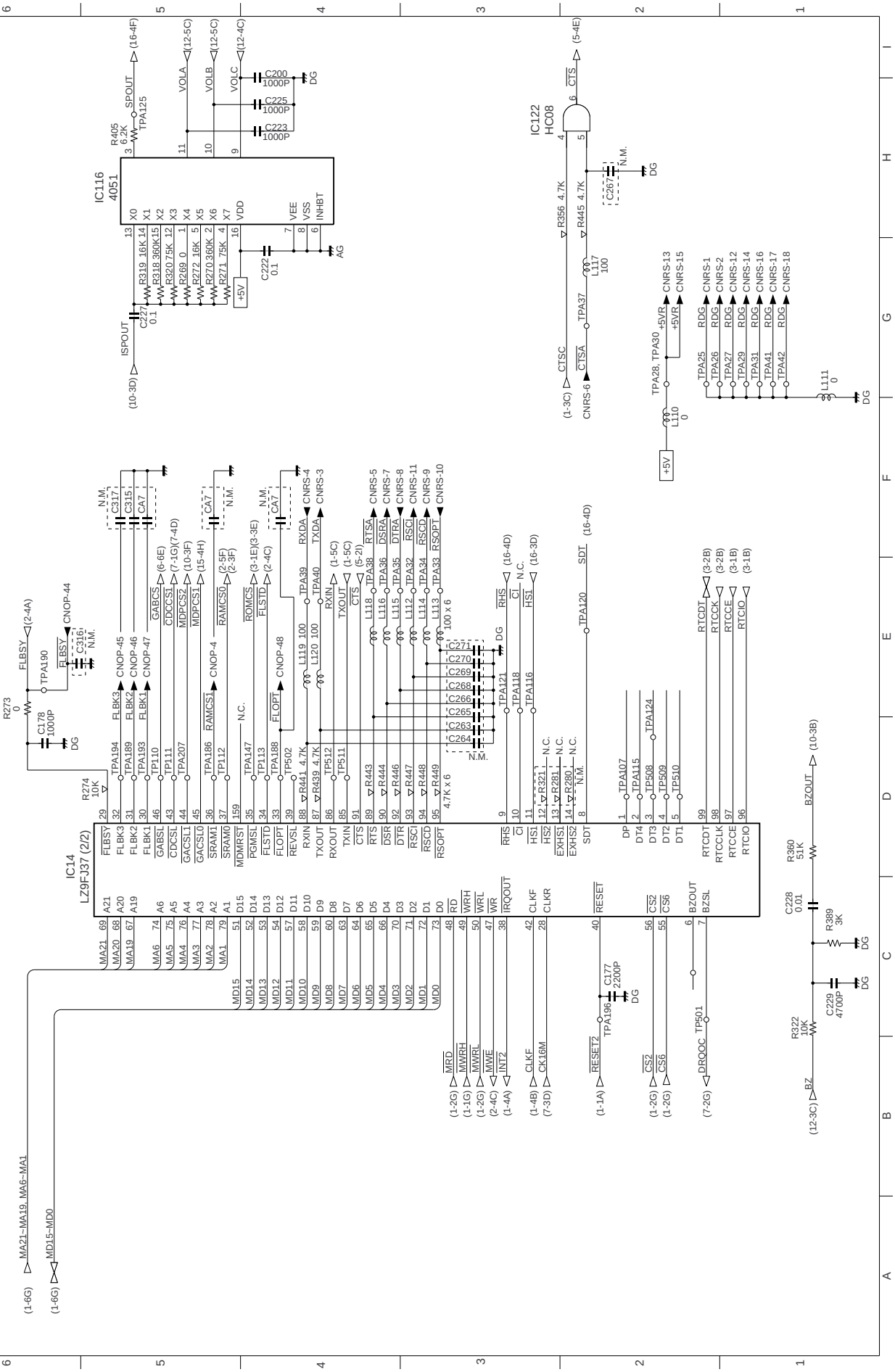

EPROM DRAM/RTC block
3/17
IC11
TMS27C040
IC5
TMS27C040
IC7
HM514260CJ
IC127
NJU6355
MA[0:19]
MA[1:9]
MD[0:15]
ROMCS
MRD
MRAS
MCASH
MCASL
MWRL
MRD
RAS
UCAS
LCAS
WE
OE
RTCDT
RTCCK
RTCCE
RTCIO
X6
32.768KHz
+5V
VBT
DG

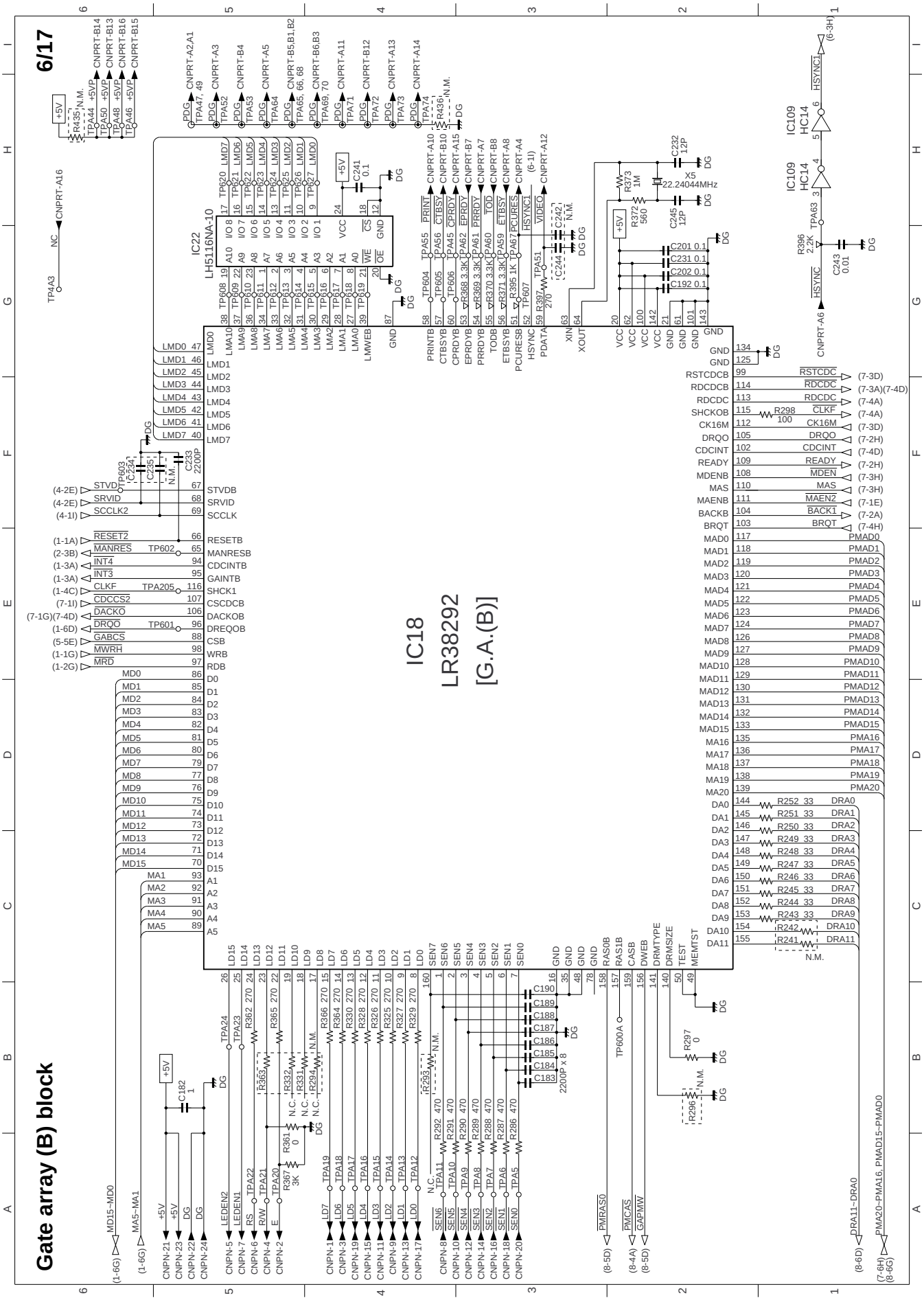
# Reading process block



# Gate array (A) block

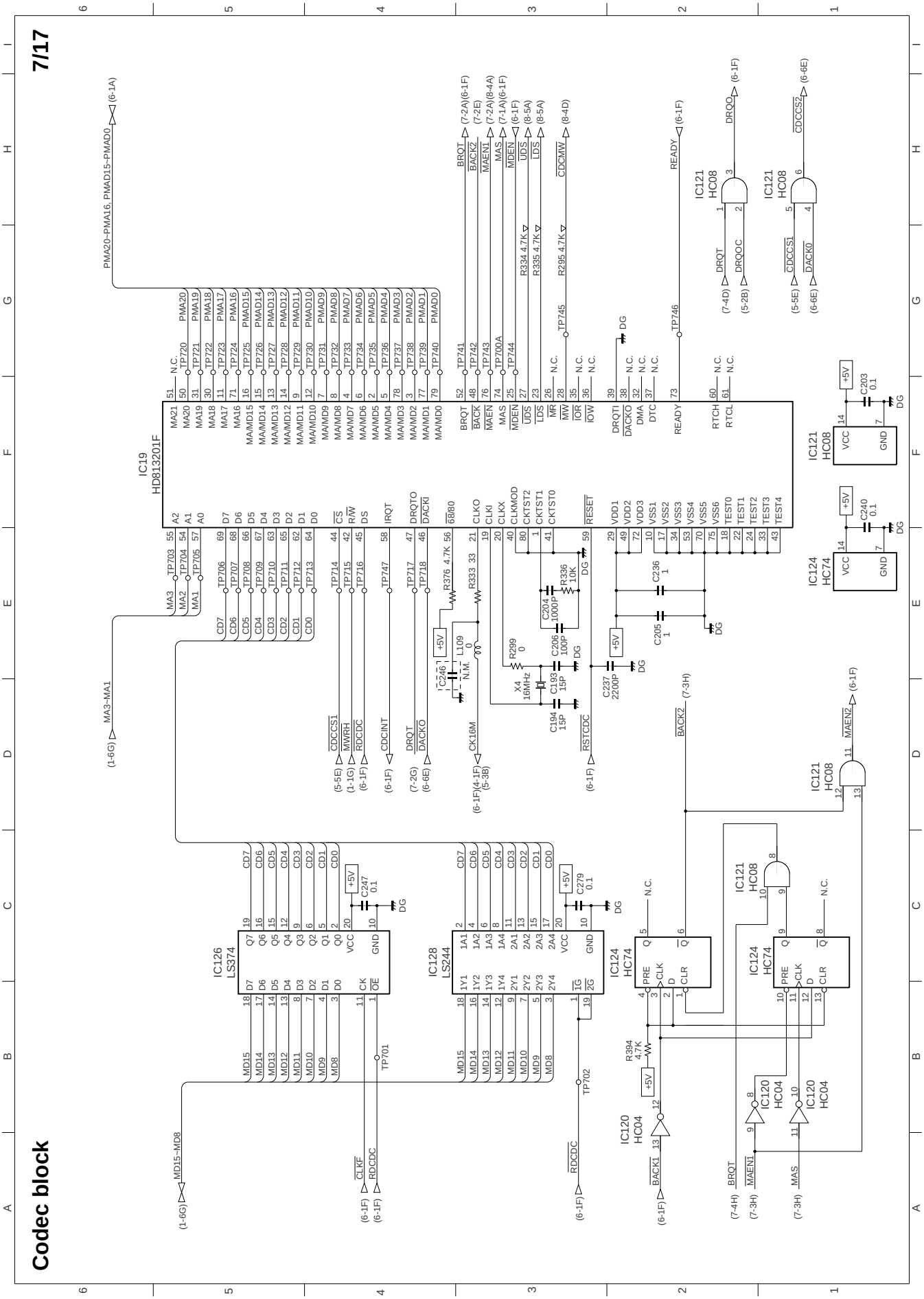
5/17

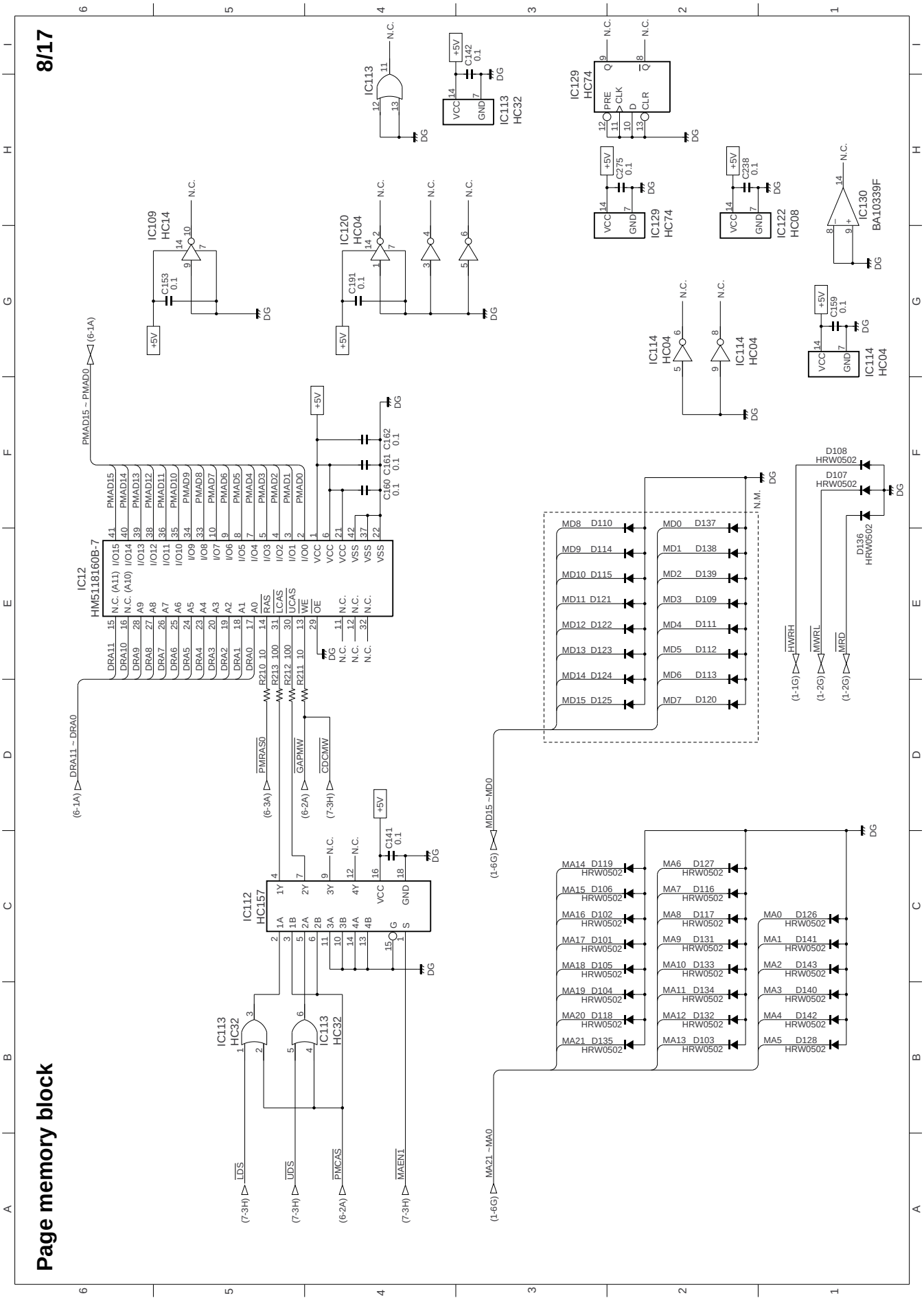


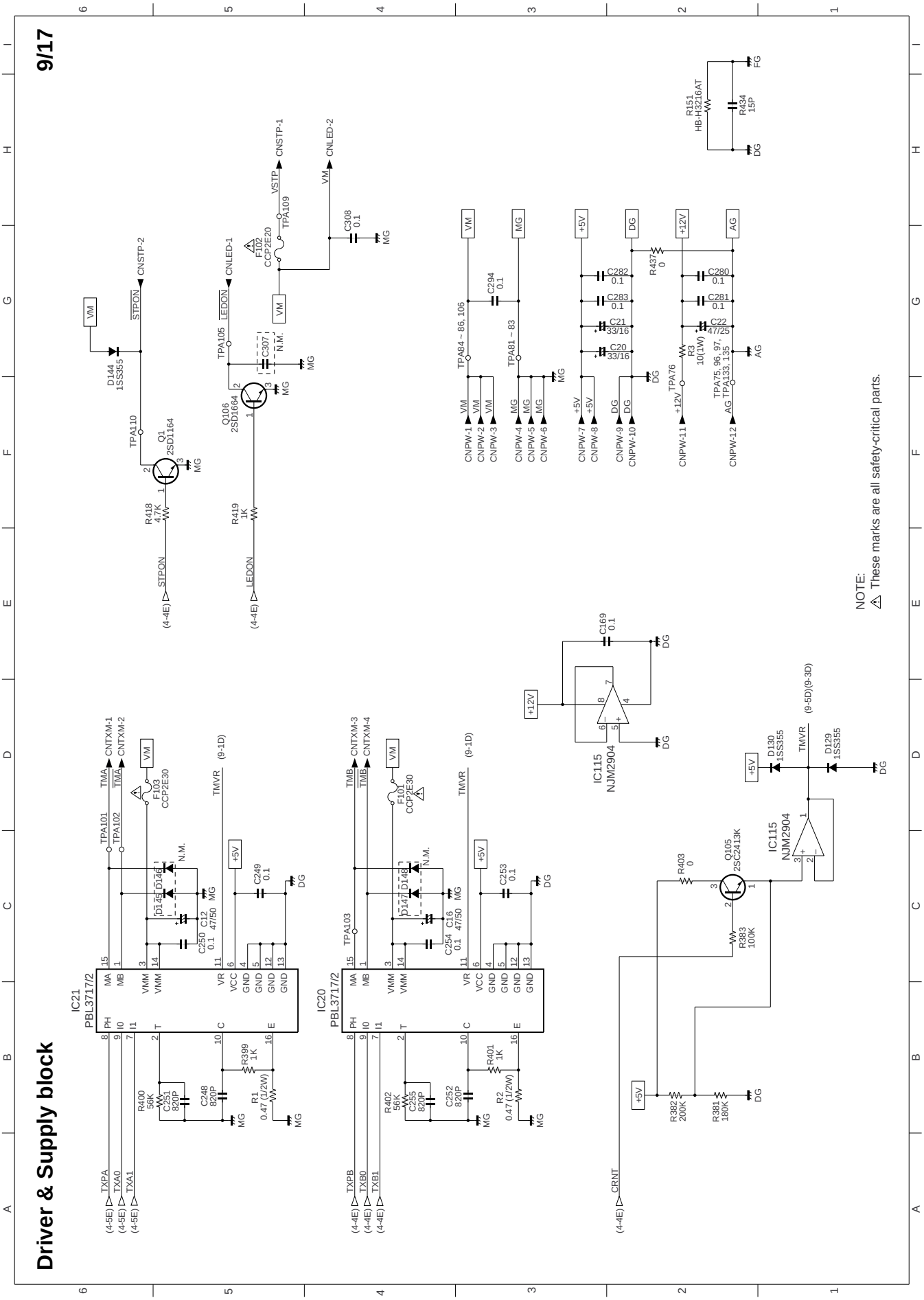

6/17
Gate array (B) block
IC18
LR38292
[G.A.(B)]
IC22
LH5116NA-10
IC109
HC14
X5
22.24044MHz
+5V
DG
N.M.
N.C.
LMD0
LMD1
LMD2
LMD3
LMD4
LMD5
LMD6
LMD7
STVD
SRVID
SCCLK
RESETB
MANRESB
CDCINTB
GAINTB
SHCK1
CSCDCB
DACKOB
DREQOB
CSB
WRB
RDB
D0
D1
D2
D3
D4
D5
D6
D7
D8
D9
D10
D11
D12
D13
D14
D15
A1
A2
A3
A4
A5
MD0
MD1
MD2
MD3
MD4
MD5
MD6
MD7
MD8
MD9
MD10
MD11
MD12
MD13
MD14
MD15
MA1
MA2
MA3
MA4
MA5
PRINTB
CTBSYB
CPRDYB
EPRDYB
PRRDYB
TODB
ETBSYB
PCURESB
HSYNC
PDATA
XIN
XOUT
VCC
GND
RSTCDCB
RDCDCB
RDCDC
SHCKOB
CK16M
DRQO
CDCINT
READY
MDENB
MAS
MAENB
BACKB
BRQT
MAD0
MAD1
MAD2
MAD3
MAD4
MAD5
MAD6
MAD7
MAD8
MAD9
MAD10
MAD11
MAD12
MAD13
MAD14
MAD15
MA16
MA17
MA18
MA19
MA20
DA0
DA1
DA2
DA3
DA4
DA5
DA6
DA7
DA8
DA9
DA10
DA11
SEN7
SEN6
SEN5
SEN4
SEN3
SEN2
SEN1
SEN0
RAS0B
RAS1B
CASB
DWEB
DRMTYPE
DRMSIZE
TEST
MEMTST
PMPAS0
PMCAS
GAPMW
MD15–MD0
MA5–MA1
DRA11–DRA0
PMA20–PMA16, PMAD15–PMAD0
CNPRT-A16
CNPRT-A2,A1
CNPRT-A3
CNPRT-B4
CNPRT-A5
CNPRT-B5,B1,B2
CNPRT-B6,B3
CNPRT-A11
CNPRT-B12
CNPRT-A13
CNPRT-A14
CNPRT-B14
CNPRT-B13
CNPRT-B16
CNPRT-B15
CNPRT-A10
CNPRT-B10
CNPRT-A15
CNPRT-B7
CNPRT-A7
CNPRT-B8
CNPRT-A8
CNPRT-A4
CNPRT-A12
CNPRT-A6
HSYNC1
HSYNC
RSTCDC
RDCDC
CLKF
CK16M
DRQO
CDCINT
READY
MDEN
MAS
MAEN2
BACK1
BRQT
PMAD0
PMAD1
PMAD2
PMAD3
PMAD4
PMAD5
PMAD6
PMAD7
PMAD8
PMAD9
PMAD10
PMAD11
PMAD12
PMAD13
PMAD14
PMAD15
PMA16
PMA17
PMA18
PMA19
PMA20
DRA0
DRA1
DRA2
DRA3
DRA4
DRA5
DRA6
DRA7
DRA8
DRA9
DRA10
DRA11
TP600A
2200P × 8

# Codec block

7/17

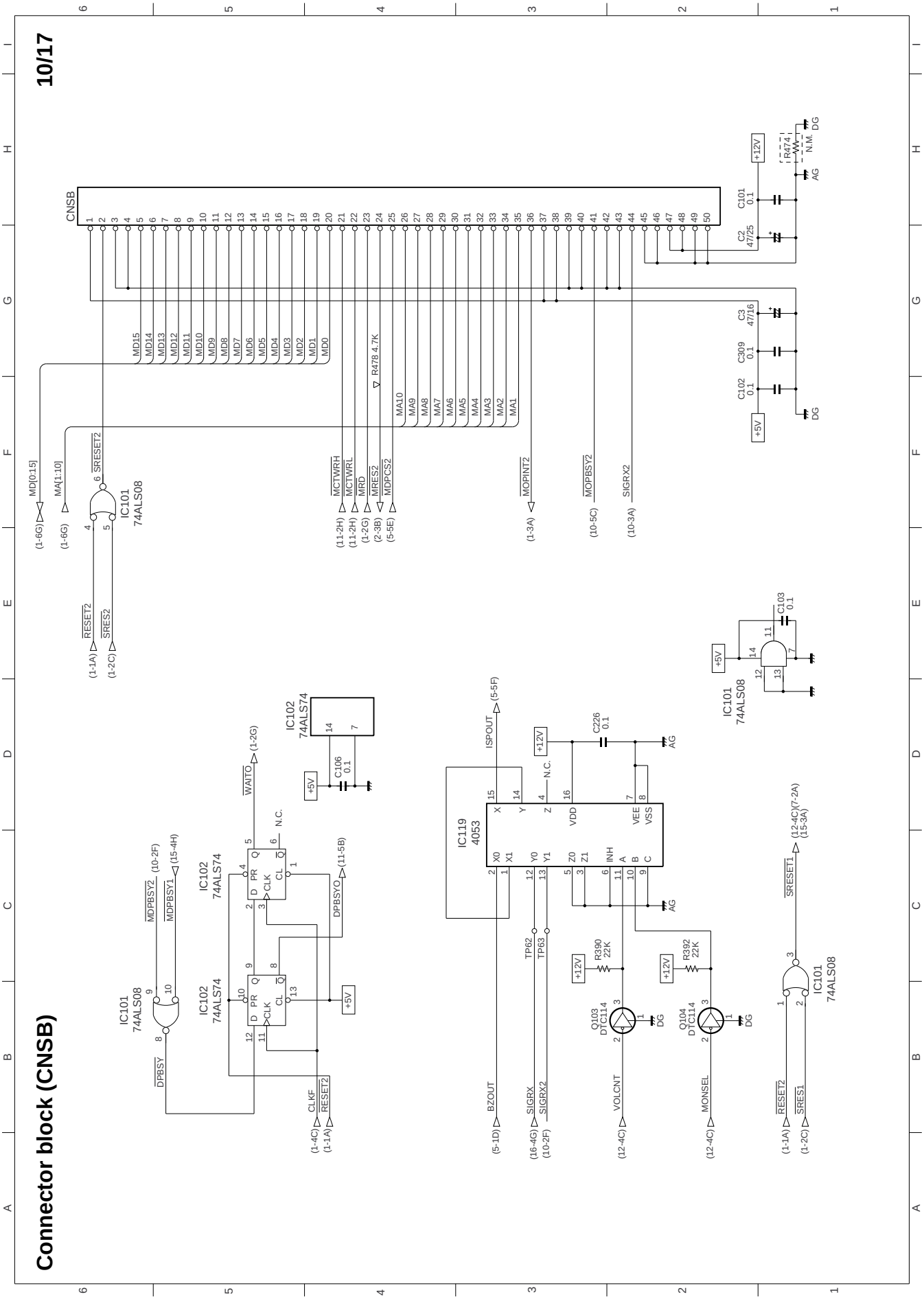


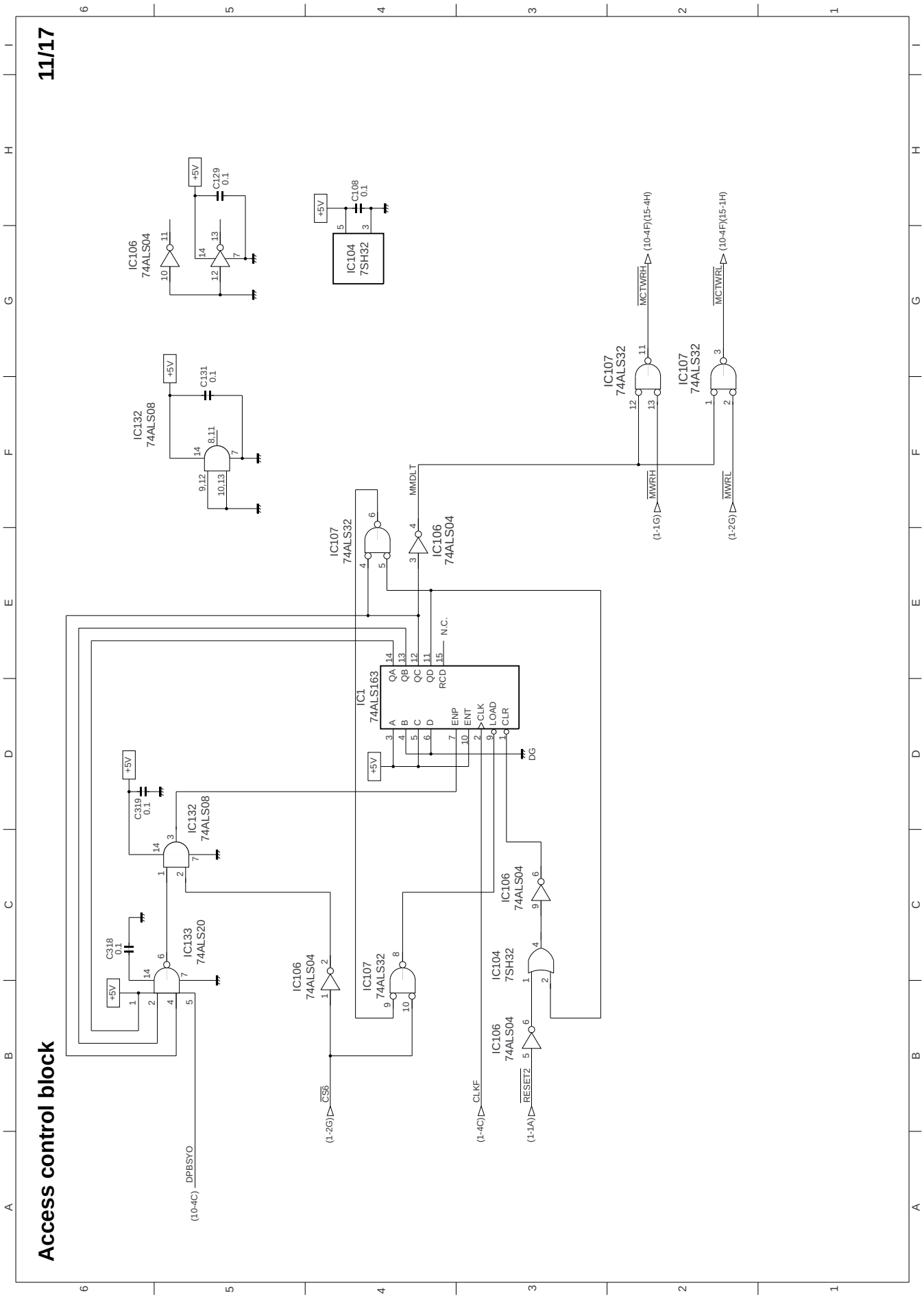

8/17
Page memory block
IC12
HM5118160B-7
IC109
HC14
IC113
HC32
IC120
HC04
IC129
HC74
IC122
HC08
IC130
BA10339F
IC114
HC04
IC112
HC157
D108
HRW0502
D107
HRW0502
D136
HRW0502
PMAD15 – PMAD0
DRA11 – DRA0
MD15 –MD0
MA21 –MA0
PMRAS0
GAPMW
CDCMW
LDS
UDS
PMCAS
MAEN1
HWRH
MWRL
MRD
+5V
DG
N.C.
N.M.

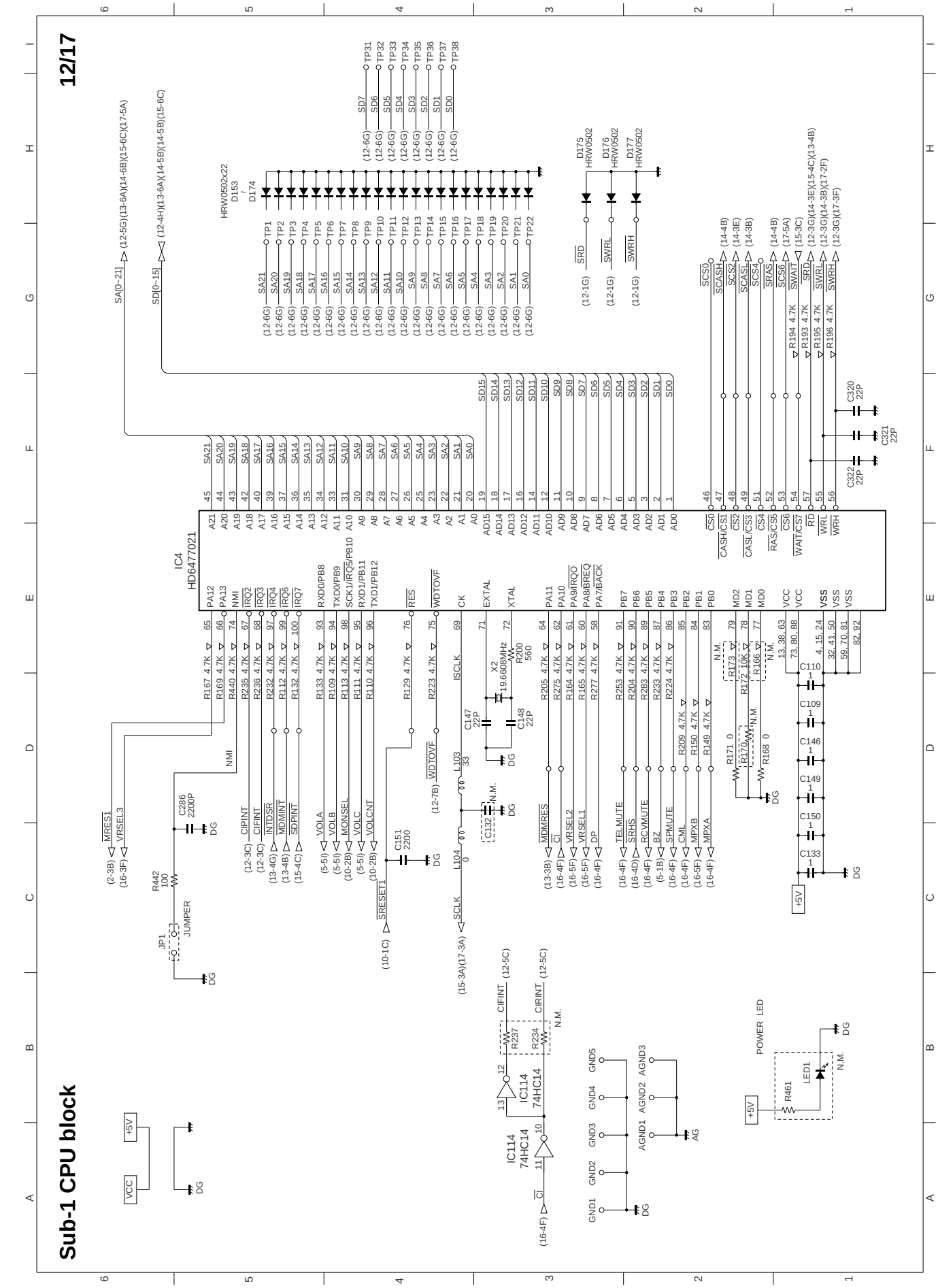

9/17
Driver & Supply block
NOTE:
⚠ These marks are all safety-critical parts.
IC21 PBL3717/2
IC20 PBL3717/2
IC115 NJM2904
IC115 NJM2904
Q1 2SD1164
Q106 2SD1664
Q105 2SC2413K
D144 1SS355
D145 D146 D147 D148
D130 1SS355
D129 1SS355
F101 CCP2E30
F102 CCP2E20
F103 CCP2E30
R151 HB-H3216AT
R434 15P
R418 4.7K
R419 1K
R403 0
R437 0
R400 56K
R402 56K
R399 1K
R401 1K
R1 0.47 (1/2W)
R2 0.47 (1/2W)
R382 200K
R383 100K
R381 180K
R3 10(1W)
C12 47/50
C16 47/50
C20 33/16
C21 33/16
C22 47/25
C248 820P
C251 820P
C252 820P
C255 820P
C250 0.1
C254 0.1
C249 0.1
C253 0.1
C280 0.1
C281 0.1
C282 0.1
C283 0.1
C294 0.1
C307 N.M.
C308 0.1
C169 0.1
TXPA
TXA0
TXA1
TXPB
TXB0
TXB1
CRNT
CNTXM-1
CNTXM-2
CNTXM-3
CNTXM-4
CNSTP-1
CNSTP-2
CNLED-1
CNLED-2
CNPW-1
CNPW-2
CNPW-3
CNPW-4
CNPW-5
CNPW-6
CNPW-7
CNPW-8
CNPW-9
CNPW-10
CNPW-11
CNPW-12
TPA101
TPA102
TPA103
TPA105
TPA109
TPA110
TPA84 ~ 86, 106
TPA81 ~ 83
TPA76
TPA75, 96, 97, TPA133, 135
STPON
LEDON
TMA
TMB
TMVR
VSTP
VM
+5V
+12V
DG
MG
AG
FG
N.M.
(4-4E)
(4-5E)
(9-1D)
(9-5D)(9-3D)

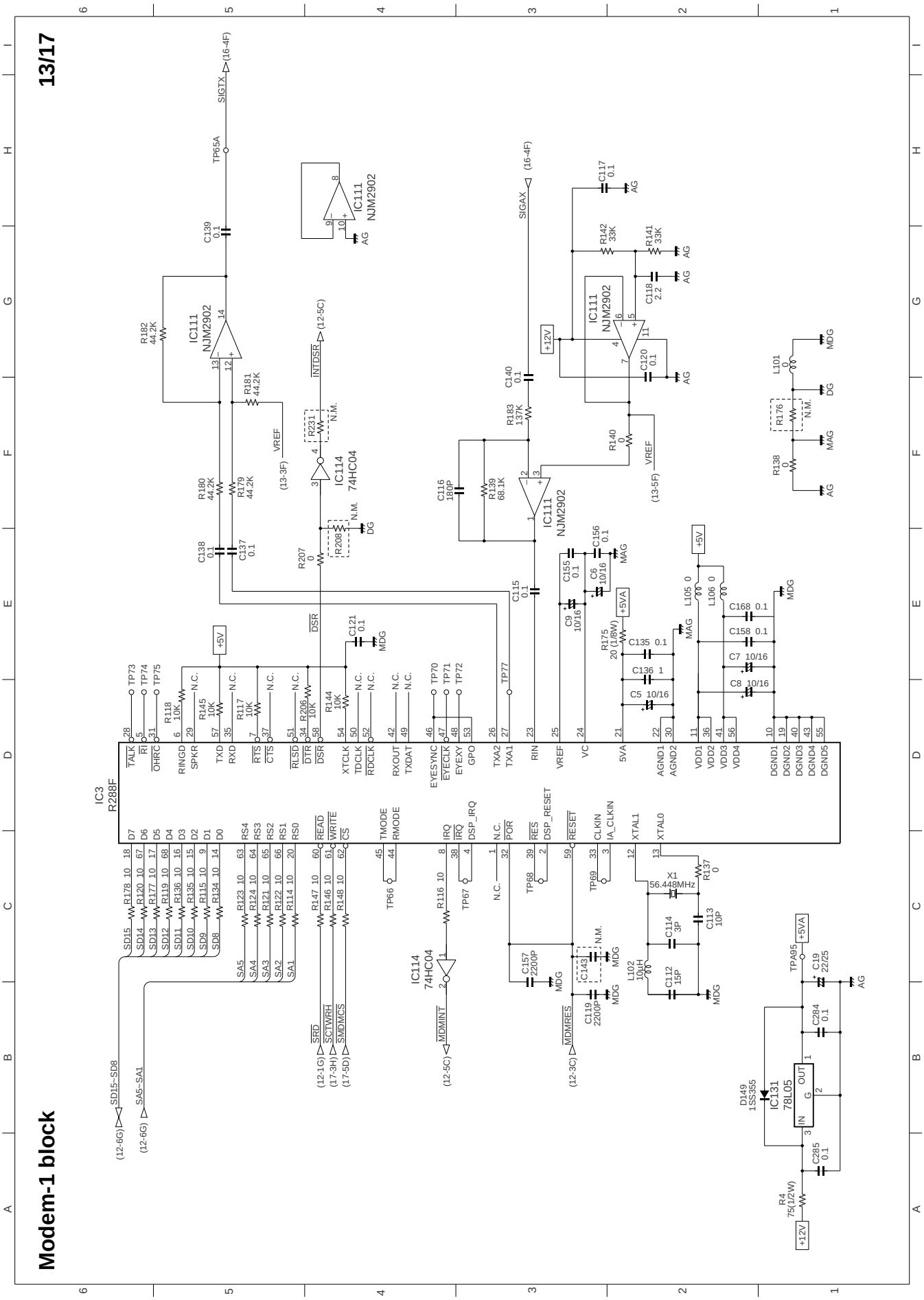
# Connector block (CNSB)

10/17



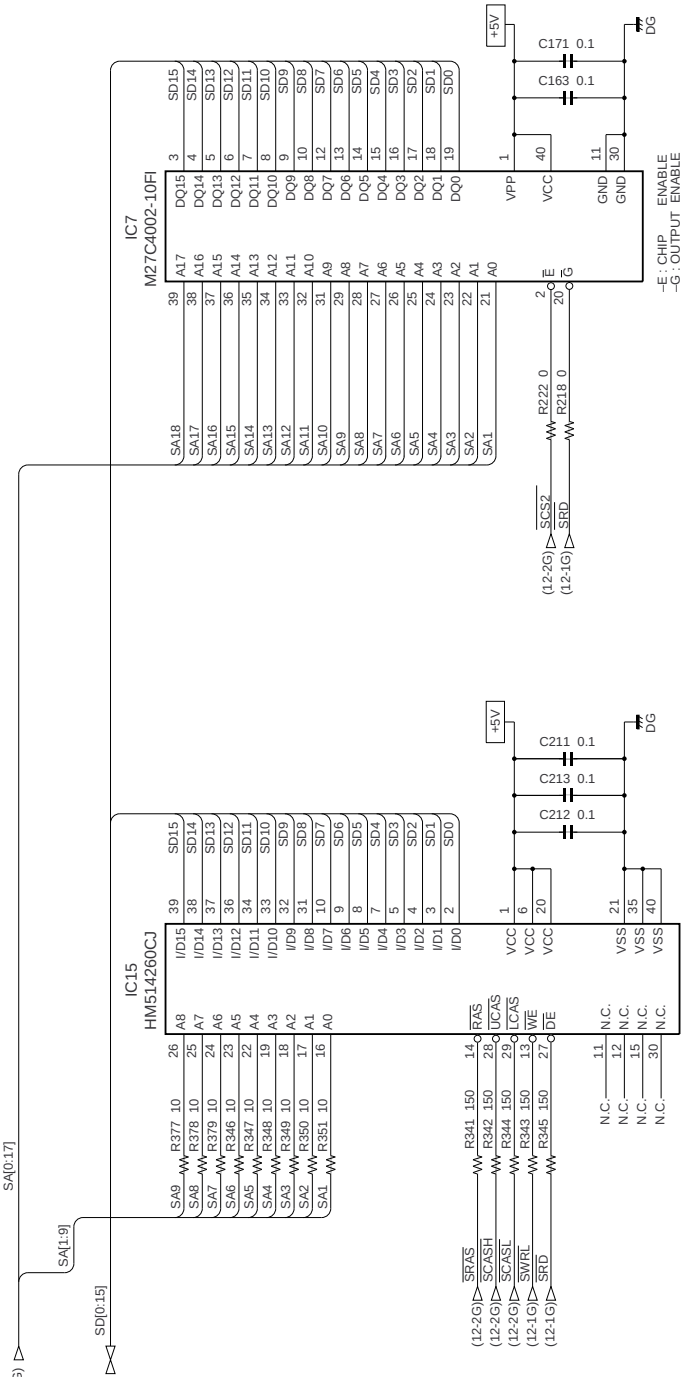

11/17
Access control block
IC106 74ALS04
IC104 7SH32
IC107 74ALS32
IC132 74ALS08
IC133 74ALS20
IC1 74ALS163
C129 0.1
C108 0.1
C131 0.1
C319 0.1
C318 0.1
+5V
MMDLT
MCTWRH
MCTWRL
MWRH
MWRL
(10-4F)(15-4H)
(10-4F)(15-1H)
(1-1G)
(1-2G)
DPBSYO
(10-4C)
CS6
CLKF
(1-4C)
RESET2
(1-1A)
DG
N.C.


12/17
Sub-1 CPU block
IC4
HD6477021
IC114
74HC14
SA[0-21]
SD[0-15]
HRW0502x22
D153
D174
D175
HRW0502
D176
HRW0502
D177
HRW0502
POWER LED
LED1
R461
JP1
JUMPER
R442
100
C286
2200P
C151
2200
C147
22P
C148
22P
X2
19.6608MHz
R200
560
L103
33
L104
0
C132
N.M.
C320
22P
C321
22P
C322
22P
R193 4.7K
R194 4.7K
R195 4.7K
R196 4.7K
R171 0
R170
N.M.
R172 10K
R166
N.M.
R168 0
R173
N.M.
C110
C109
C146
C149
C150
C133
R237
R234
N.M.
+5V
VCC
DG
AG
MRES1
VRSEL3
NMI
SRESET1
WDTOVF
SCLK
ISCLK
MDMRES
VRSEL2
VRSEL1
DP
TELMUTE
SRHS
RCVMUTE
BZ
SPMUTE
CML
MPXB
MPXA
CIFINT
CIRINT
CI
VOLA
VOLB
MONSEL
VOLC
VOLCNT
CIPINT
CIFINT
INTDSR
MDMINT
SDPINT
SRD
SWRL
SWRH
SCS0
CASH/CS1
CS2
CASL/CS3
CS4
RAS/CS5
CS6
WAIT/CS7
RD
WRL
WRH
SRD
SWRL
SWRH
SWAIT
SCS0
SCS2
SCS4
SCS6
SCASH
SCASL
SRAS
GND1
GND2
GND3
GND4
GND5
AGND1
AGND2
AGND3


Modem-1 block
13/17
IC3
R288F
IC111
NJM2902
IC114
74HC04
IC131
78L05
X1
56.448MHz
SD15–SD8
SA5–SA1
SIGTX
SIGAX
VREF
INTDSR
DSR
SRD
SCTWRH
SMDMCS
MDMINT
MDMRES
READ
WRITE
CS
TMODE
RMODE
DSP_IRQ
DSP_RESET
CLKIN
IA_CLKIN
XTAL1
XTAL0
+5V
+12V
+5VA
AG
MDG
MAG
DG
N.M.

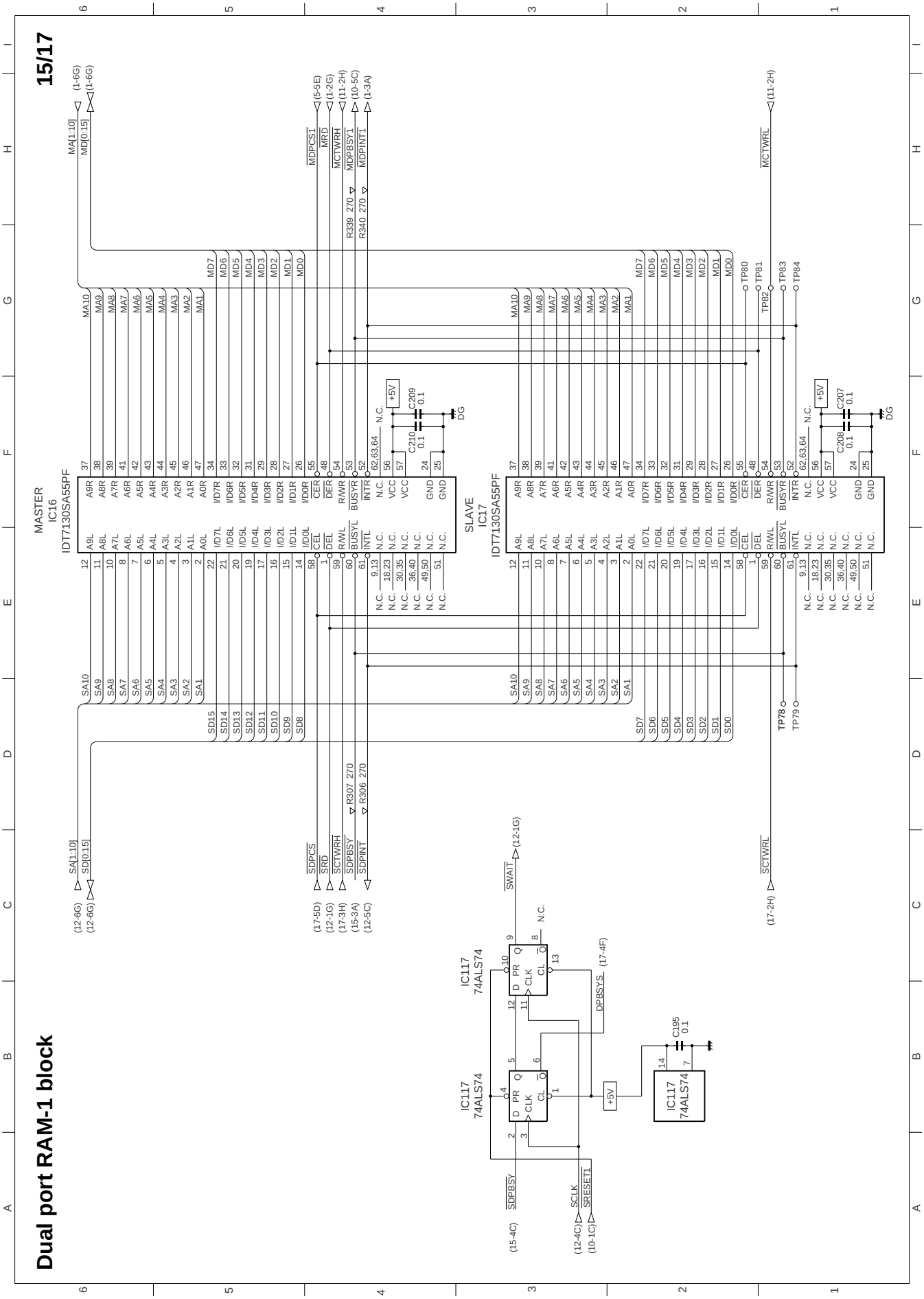
# Sub-1 ROM/DRAM block

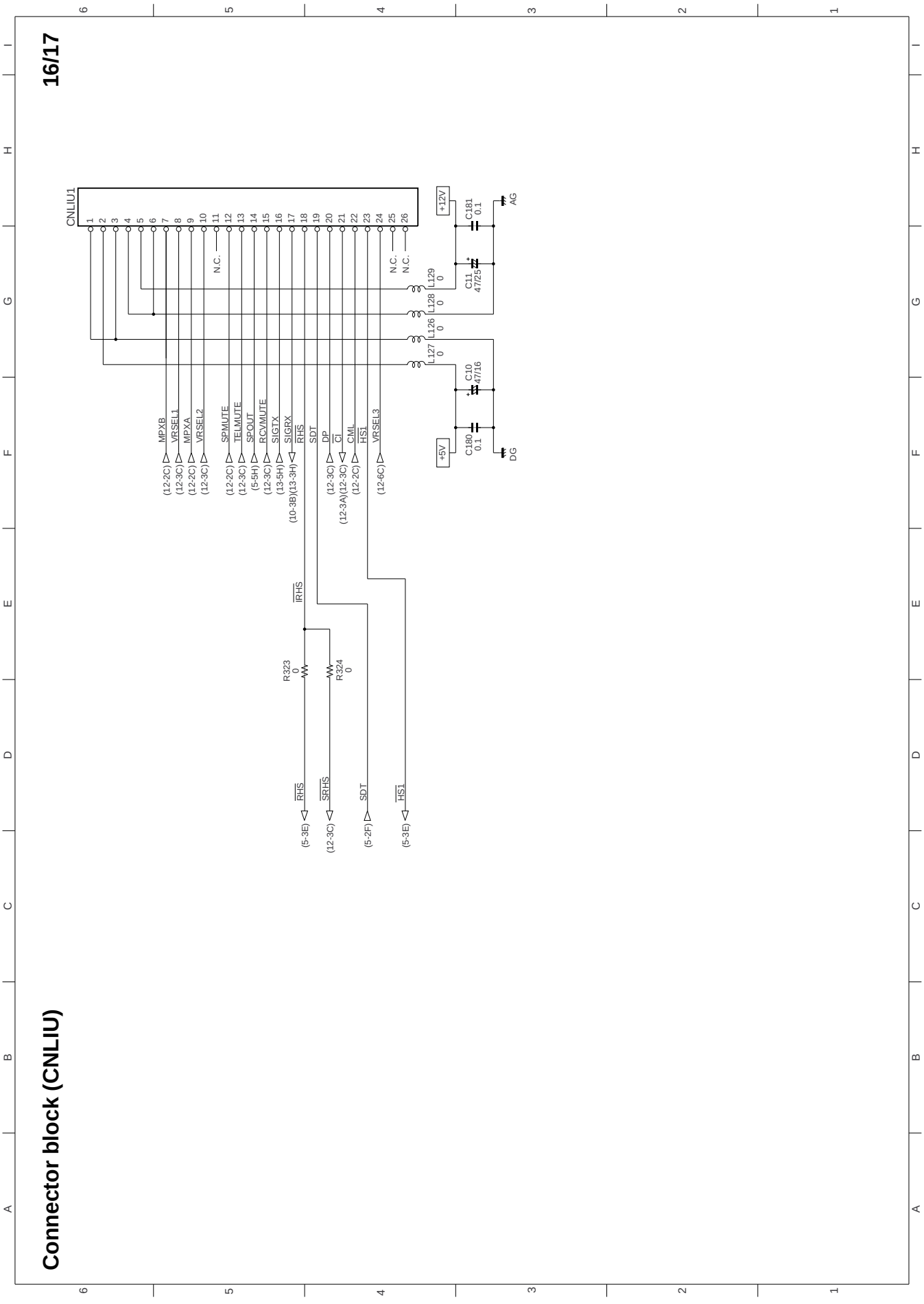
14/17

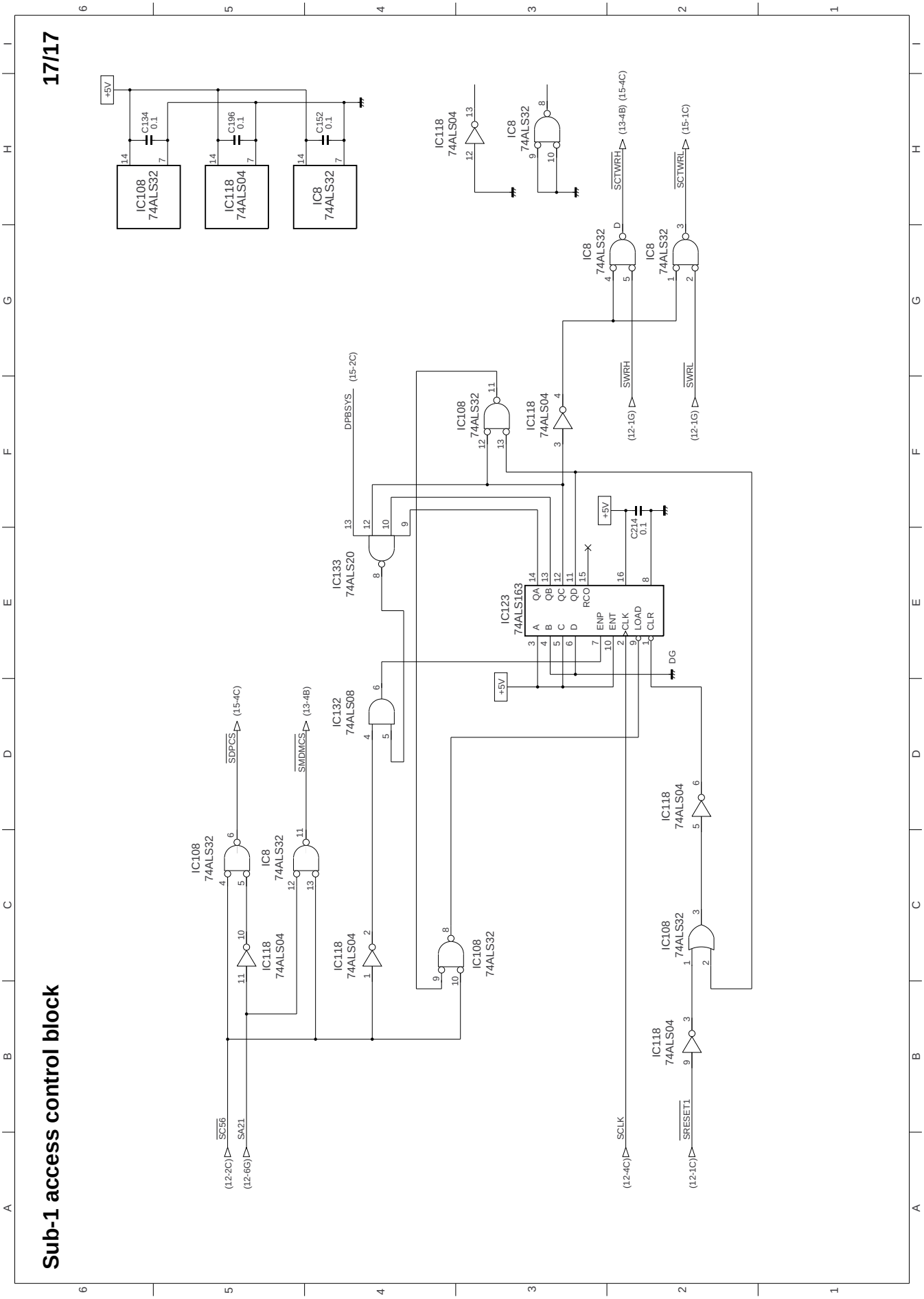


# Dual port RAM-1 block

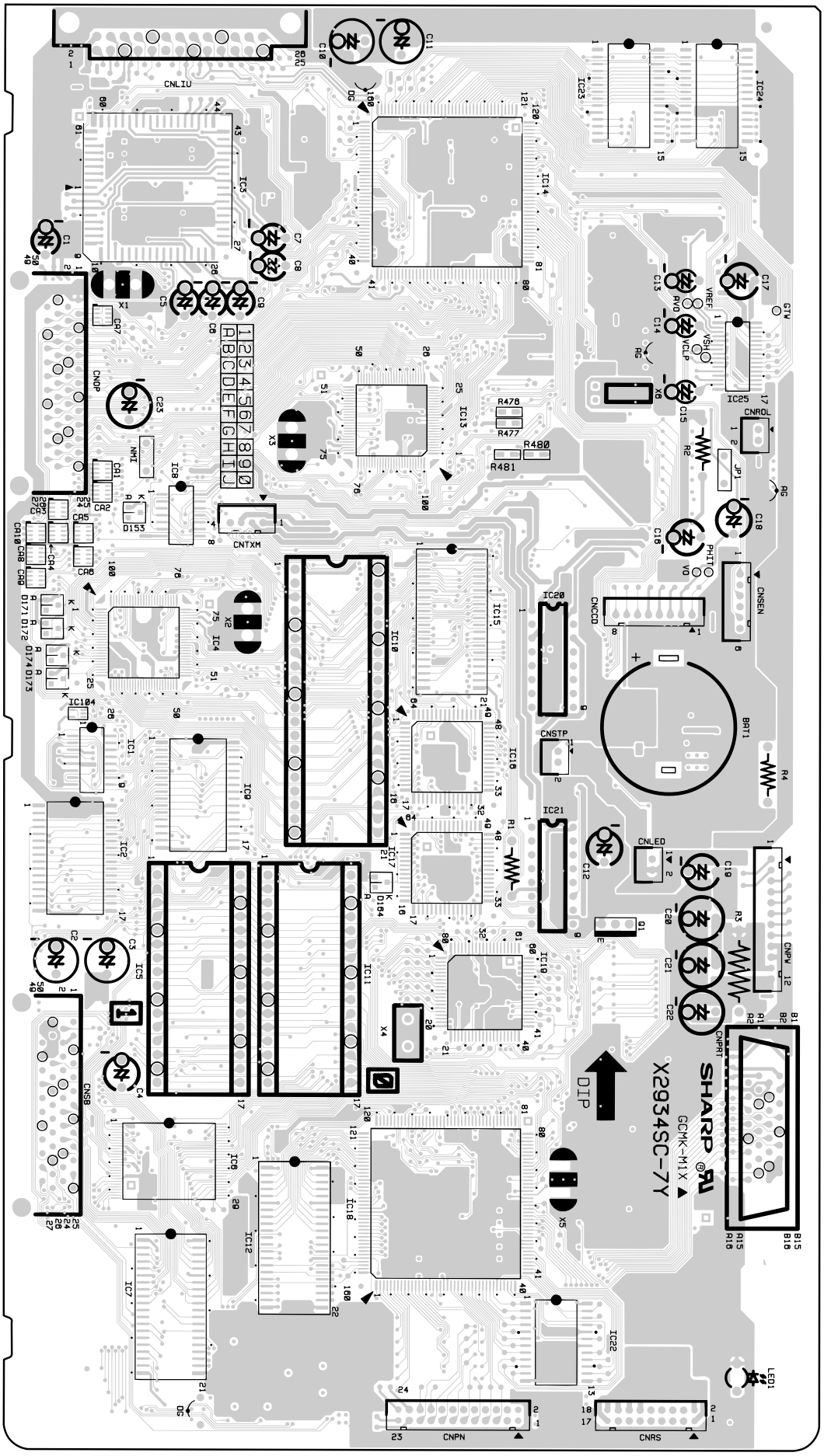
15/17



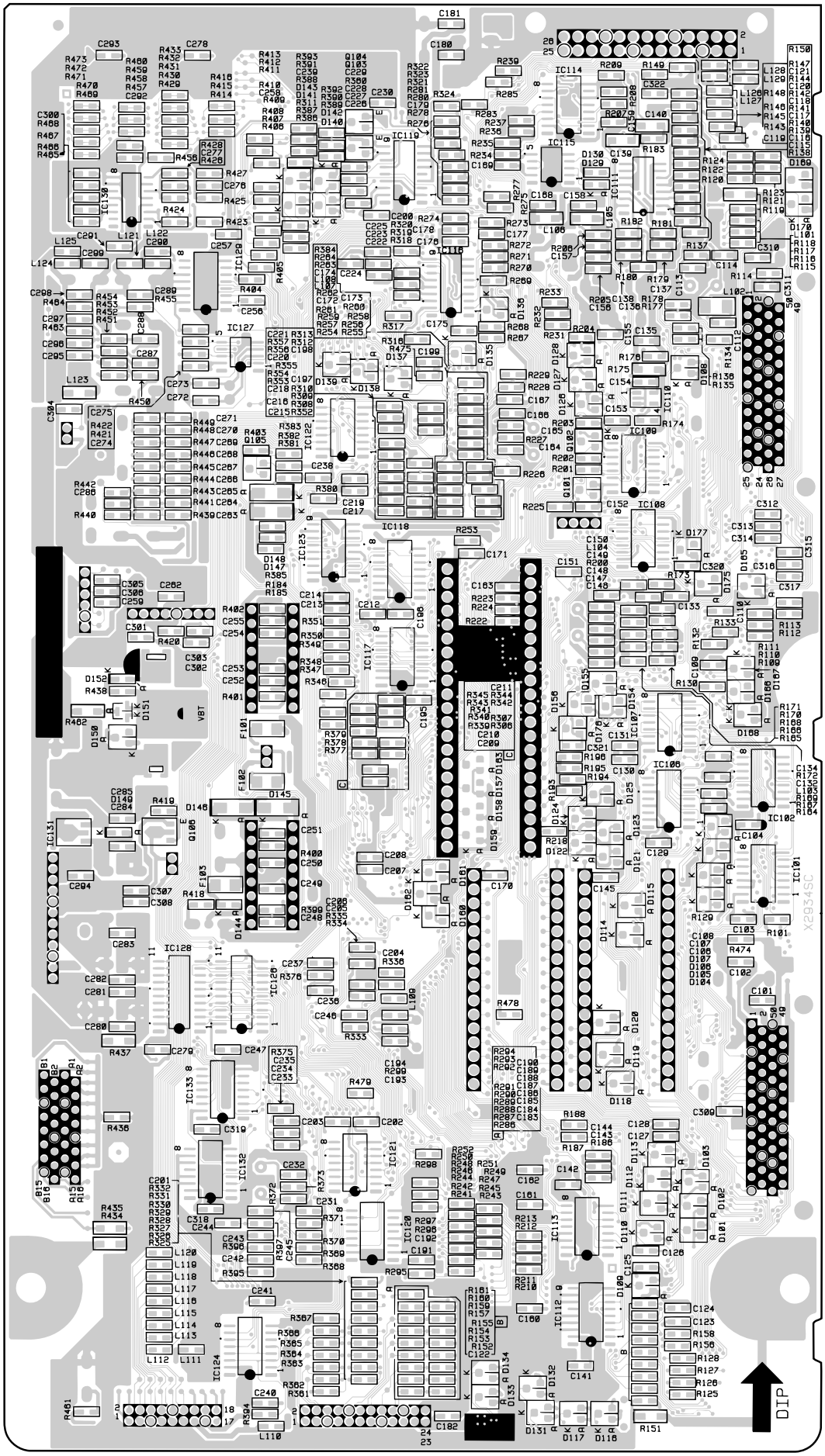

16/17
Connector block (CNLIU)
CNLIU1
MPXB
VRSEL1
MPXA
VRSEL2
SPMUTE
TELMUTE
SPOUT
RCVMUTE
SIGTX
SIGRX
RHS
SDT
DP
CI
CML
HS1
VRSEL3
N.C.
N.C.
N.C.
(12-2C)
(12-3C)
(10-3B)(13-3H)
(5-5H)
(13-5H)
(12-6C)
(12-3A)(12-3C)
L129 0
L128 0
L126 0
L127 0
C11 47/25
C10 47/16
C180 0.1
C181 0.1
+12V
+5V
AG
DG
R323 0
R324 0
IRHS
RHS
SRHS
HS1
(5-3E)
(12-3C)
(5-2F)

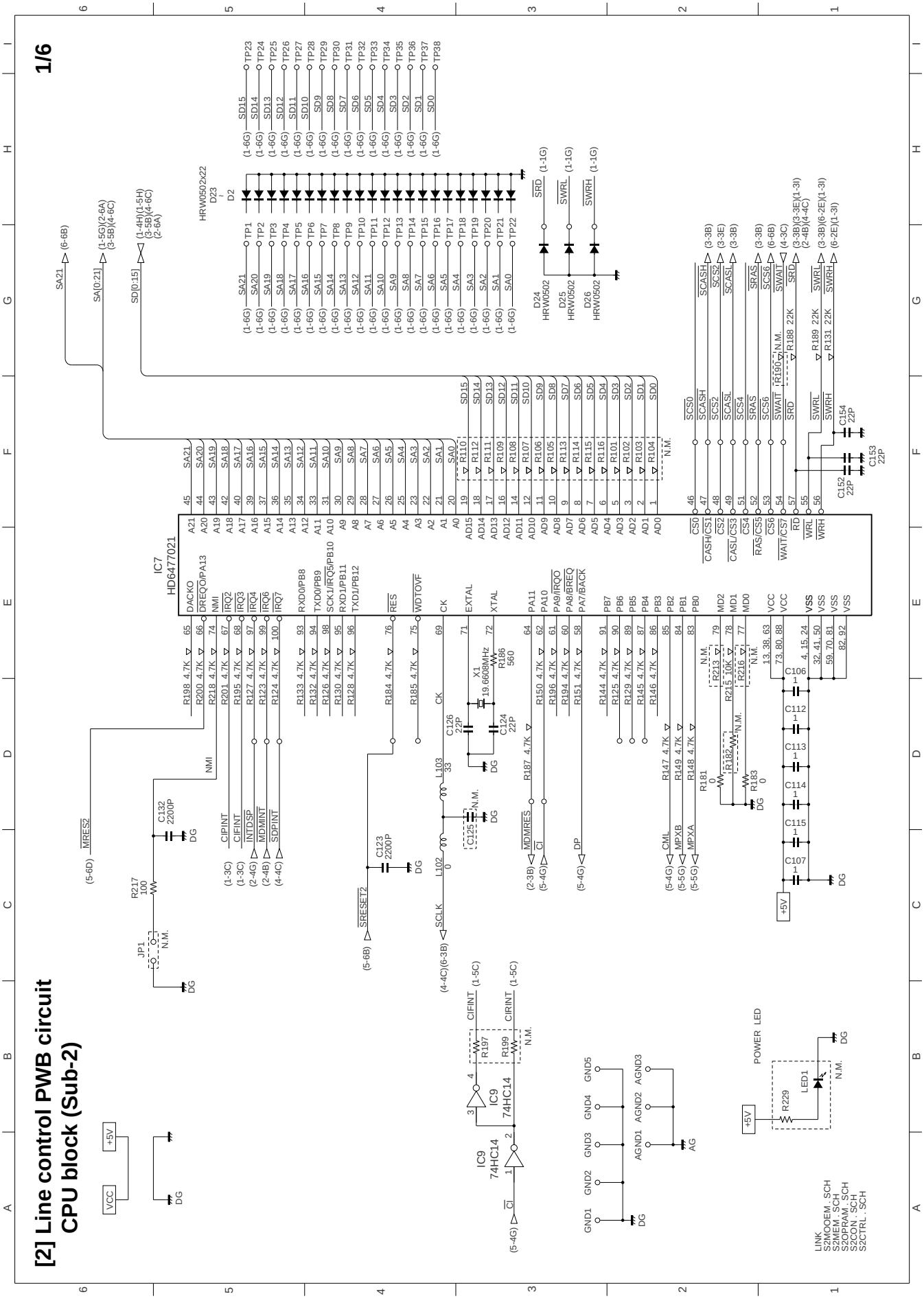

17/17
Sub-1 access control block
+5V
C134 0.1
C196 0.1
C152 0.1
IC108 74ALS32
IC118 74ALS04
IC8 74ALS32
C214 0.1
IC123 74ALS163
IC133 74ALS20
IC132 74ALS08
DPBSYS
(15-2C)
SDPCS
(15-4C)
SMDMCS
(13-4B)
SCTWRH
SCTWRL
SWRH
SWRL
(12-1G)
DG
SCLK
(12-4C)
SRESET1
(12-1C)
SC56
SA21
(12-2C)
(12-6G)

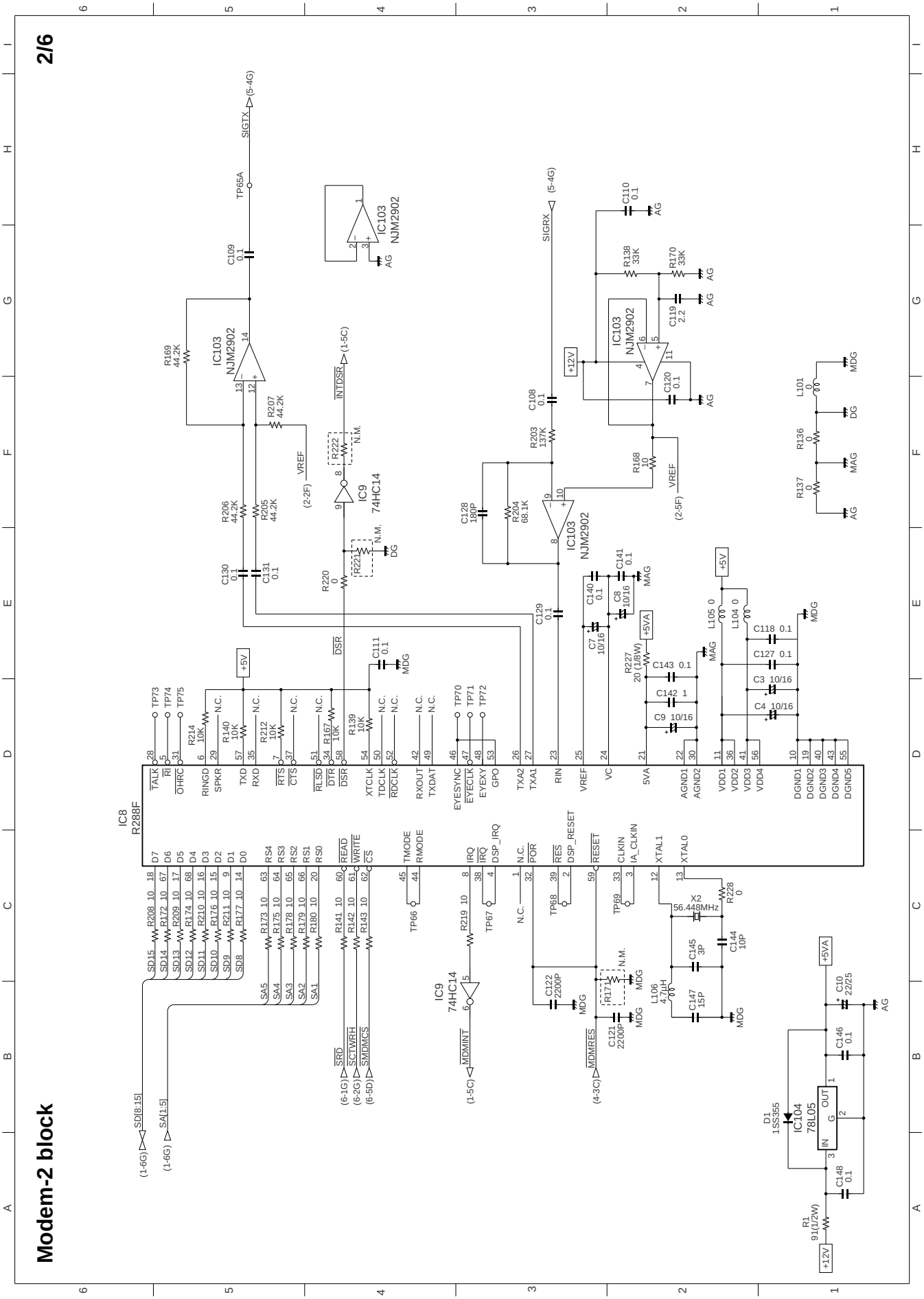
## Control PWB parts layout (Top side)

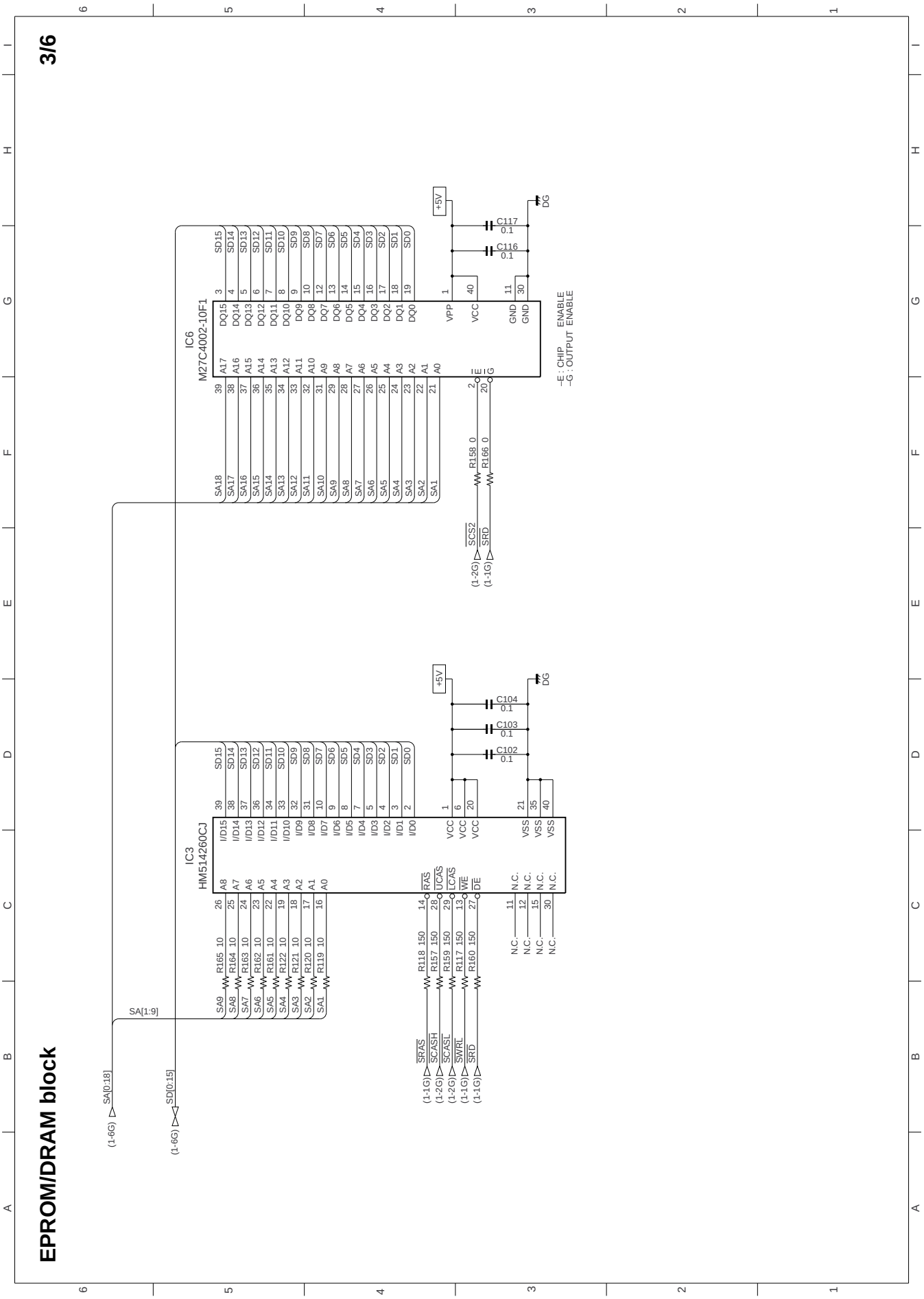


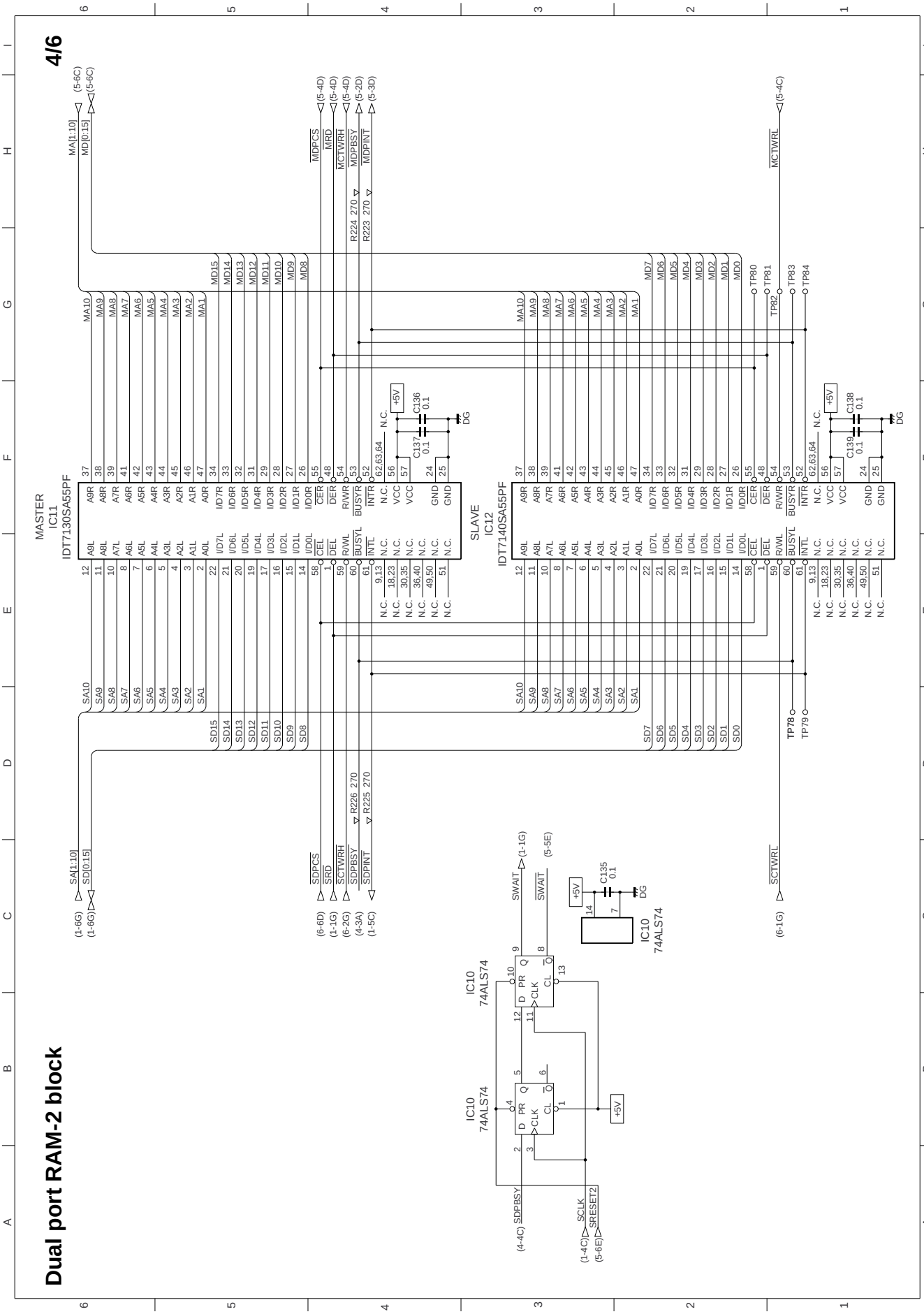
## Control PWB parts layout (Bottom side)




[2] Line control PWB circuit
CPU block (Sub-2)
1/6
IC7
HD6477021
IC9
74HC14
HRW0502x22
POWER LED
LED1
R229
JP1
N.M.
LINK
S2MOOEM . SCH
S2MEM . SCH
S2OPRAM. SCH
S2CON . SCH
S2CTRL . SCH

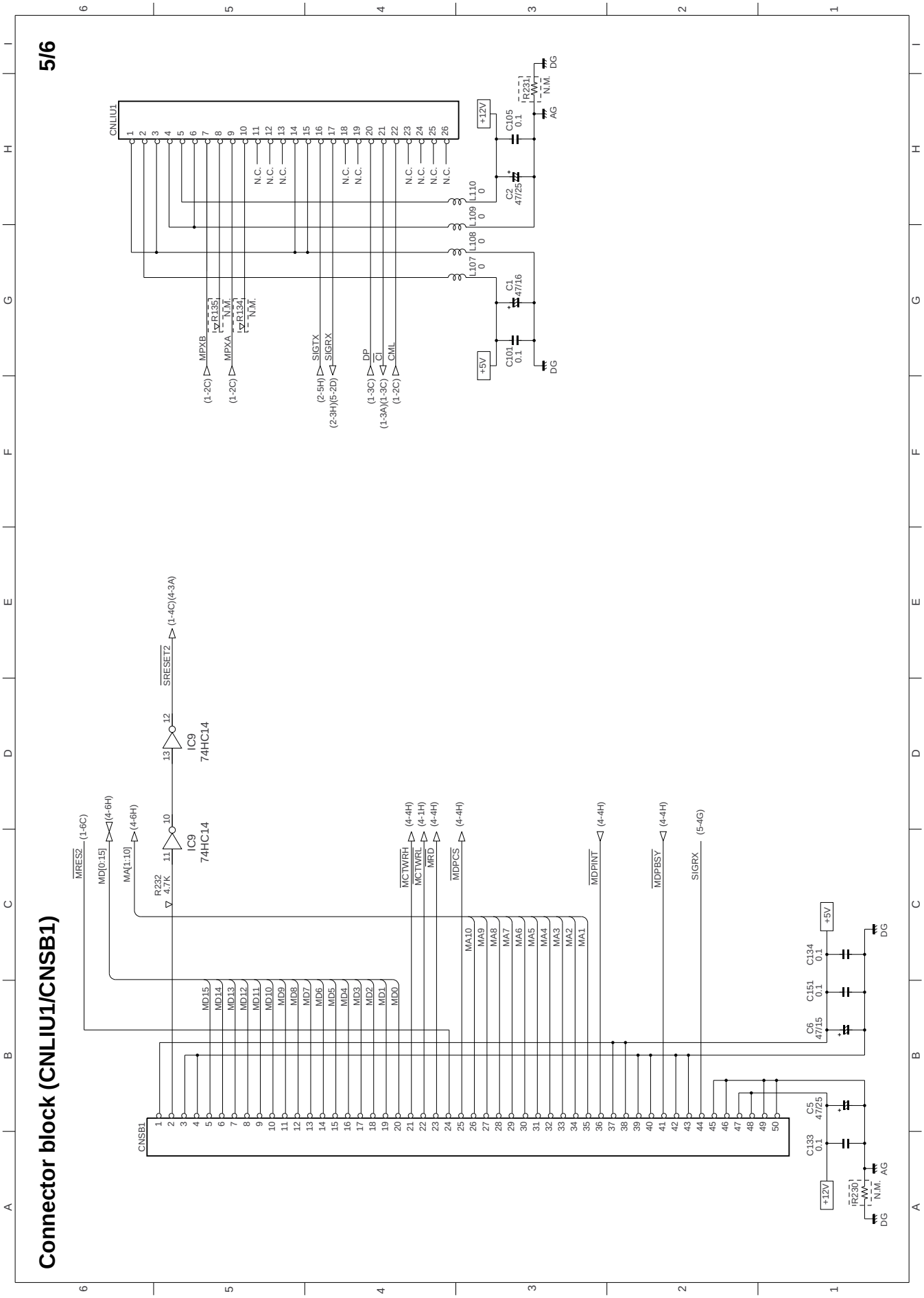

Modem-2 block
2/6
IC8
R288F
IC9
74HC14
IC103
NJM2902
IC104
78L05
X2
56.448MHz
SIGTX
SIGRX
VREF
+5V
+12V
+5VA
AG
DG
MAG
MDG
N.M.
N.C.


EPROM/DRAM block
3/6
IC3
HM514260CJ
IC6
M27C4002-10F1
SA[1:9]
SA[0:18]
SD[0:15]
(1-6G)
(1-6G)
(1-1G)
(1-2G)
(1-2G)
(1-1G)
(1-1G)
SRAS
SCASH
SCASL
SWRL
SRD
RAS
UCAS
LCAS
WE
DE
SCS2
SRD
(1-2G)
(1-1G)
+5V
DG
C102 0.1
C103 0.1
C104 0.1
C116 0.1
C117 0.1
R158 0
R166 0
N.C.
VCC
VSS
VPP
GND
E : CHIP ENABLE
G : OUTPUT ENABLE


4/6
Dual port RAM-2 block
MASTER
IC11
IDT7130SA55PF
SLAVE
IC12
IDT7140SA55PF
IC10
74ALS74
MA[1:10]
MD[0:15]
SA[1:10]
SD[0:15]
MDPCS
MRD
MCTWRH
MDPBSY
MDPINT
MCTWRL
SCTWRL
SDPCS
SRD
SCTWRH
SDPBSY
SDPINT
SWAIT
SCLK
SRESET2
+5V
DG
C135 0.1
C136 0.1
C137 0.1
C138 0.1
C139 0.1
R224 270
R223 270
R226 270
R225 270
TP78
TP79
TP80
TP81
TP82
TP83
TP84

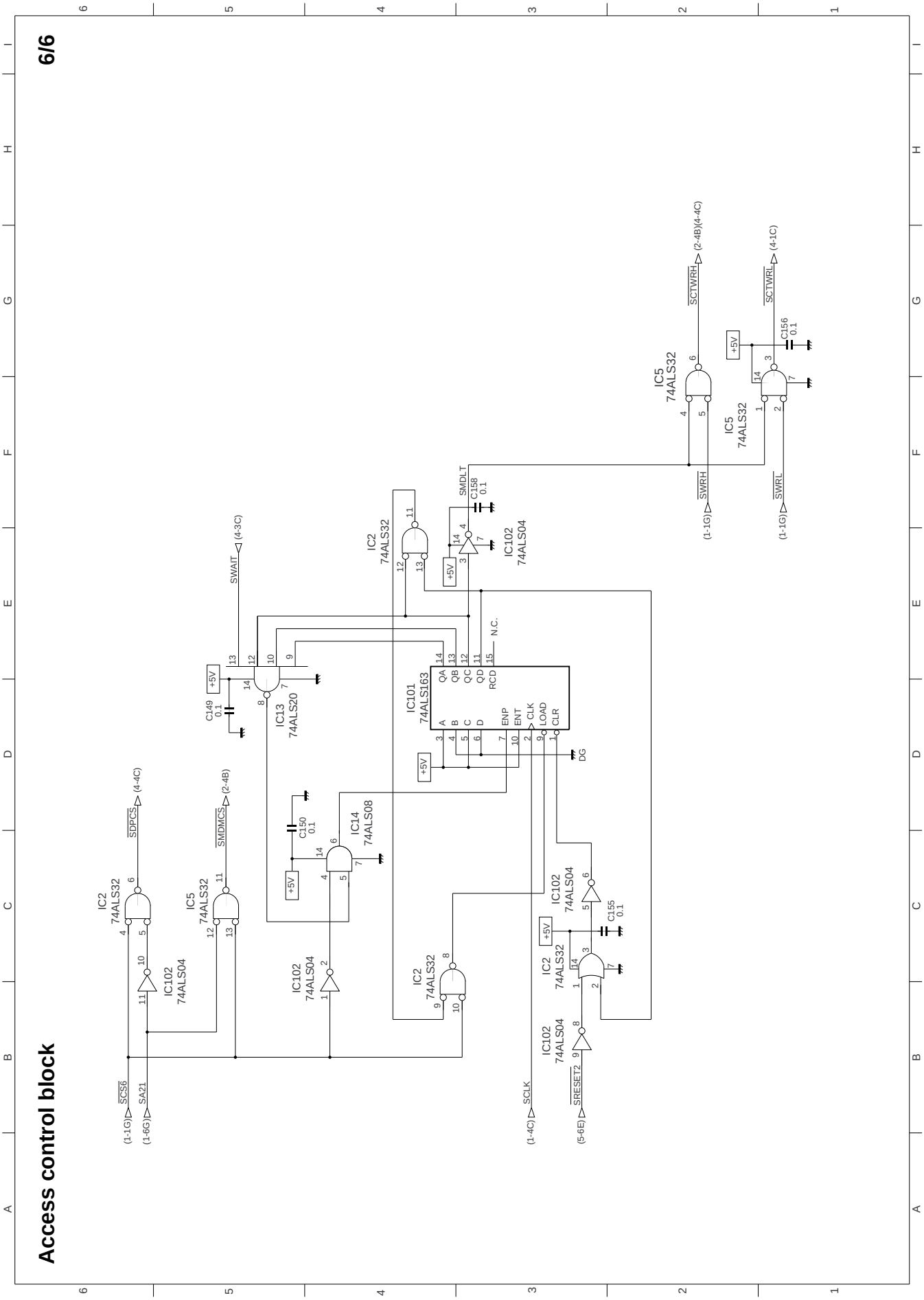
# Connector block (CNLIU1/CNSB1)

5/6

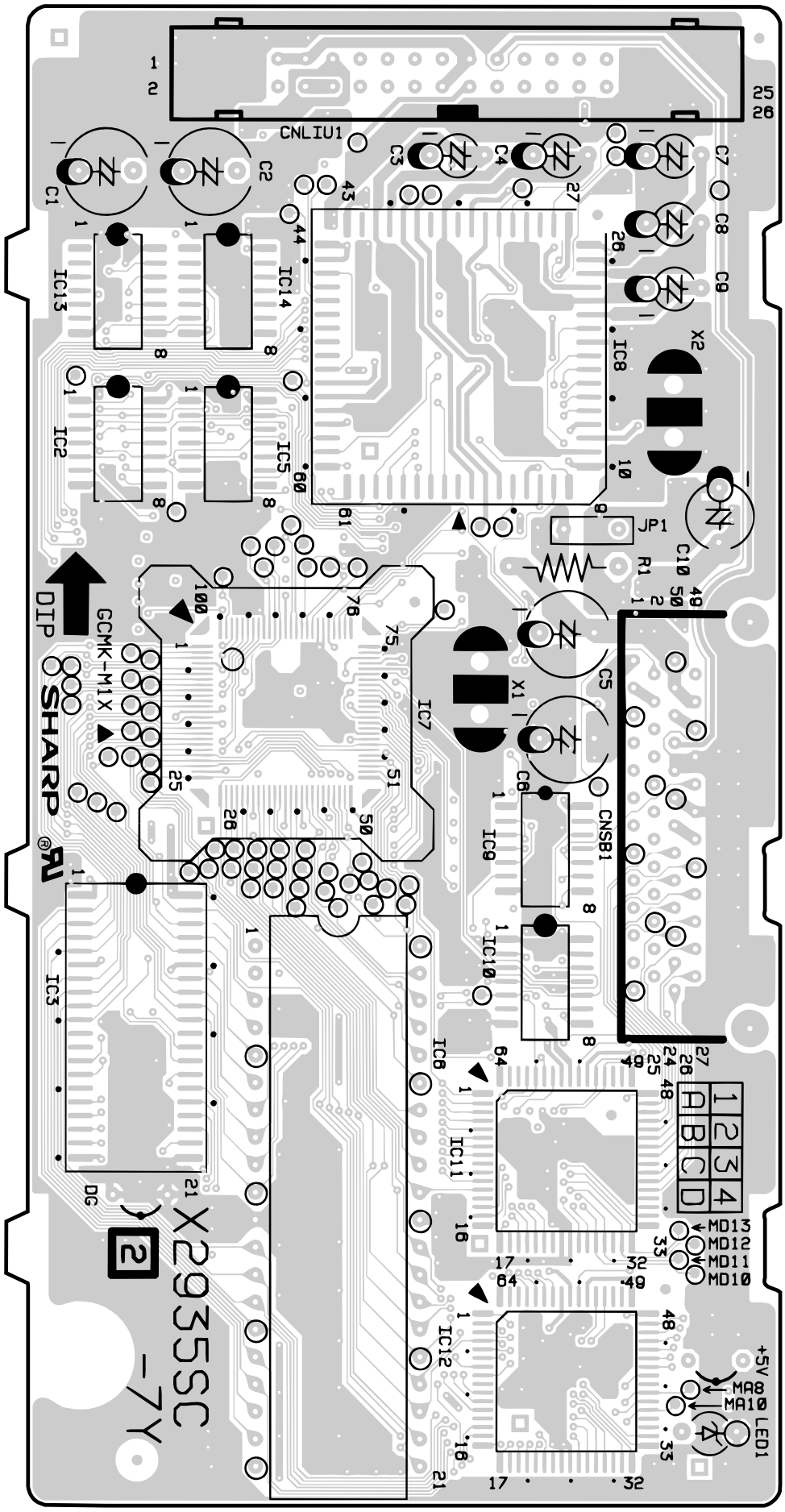


# Access control block

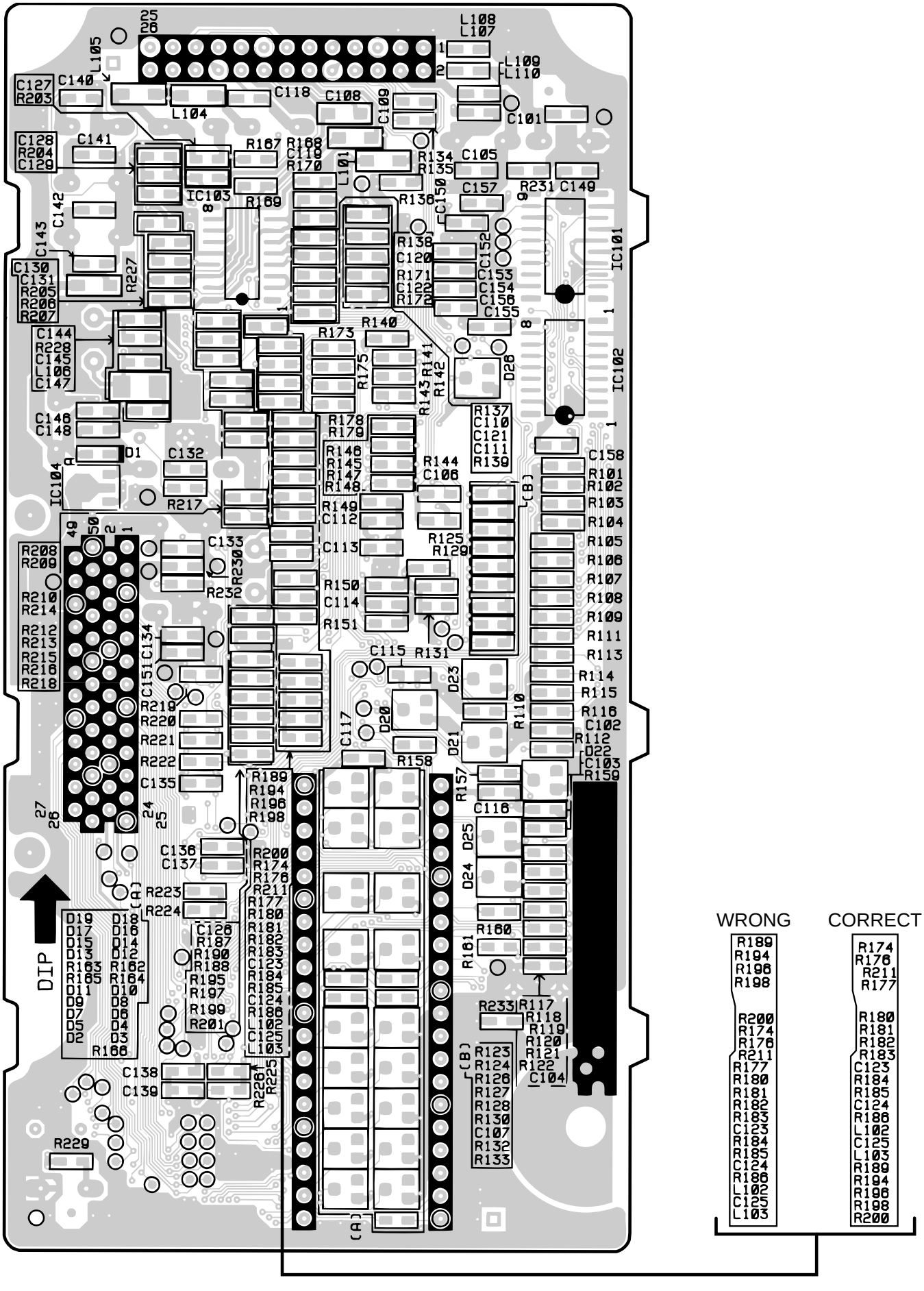
6/6

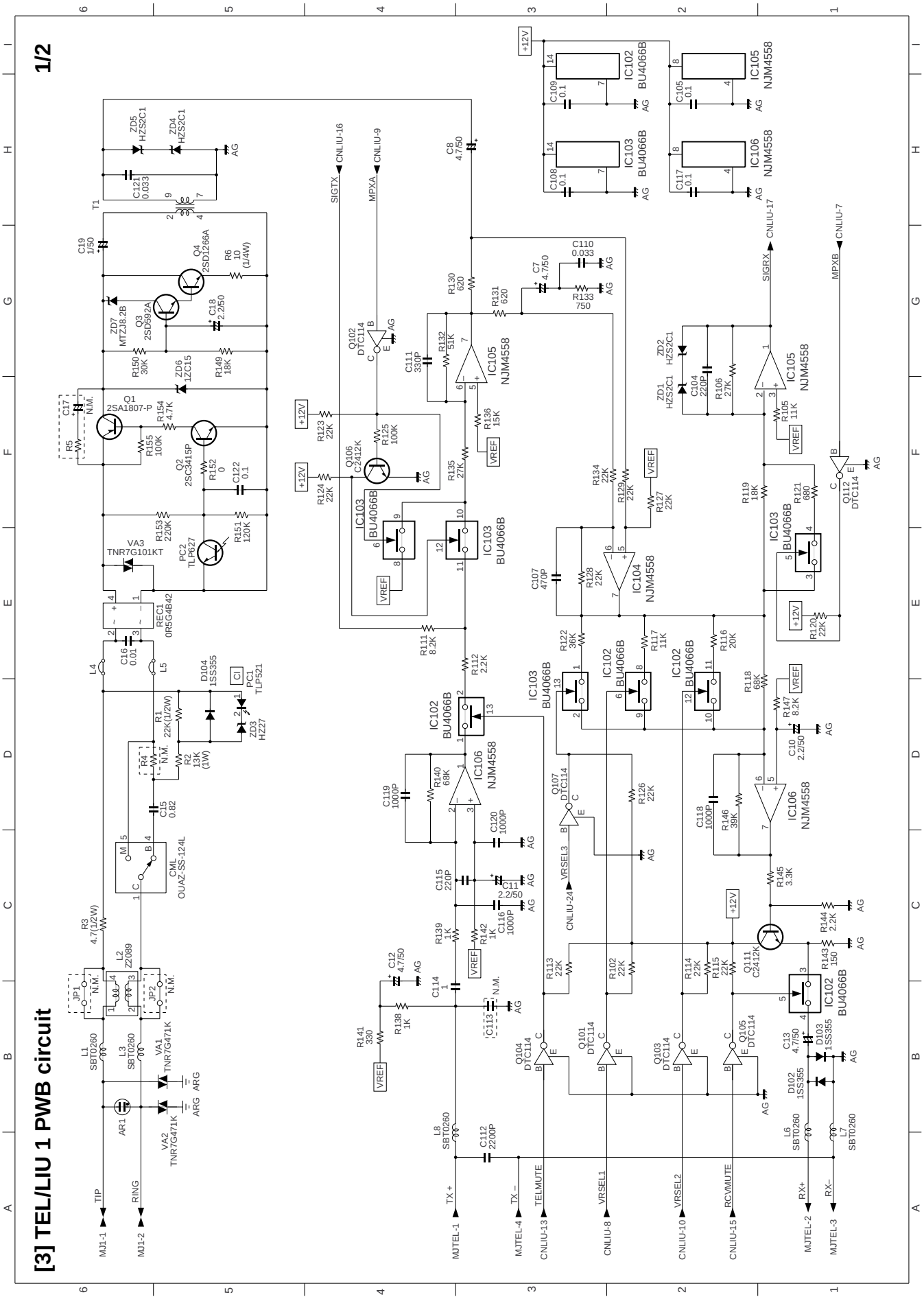


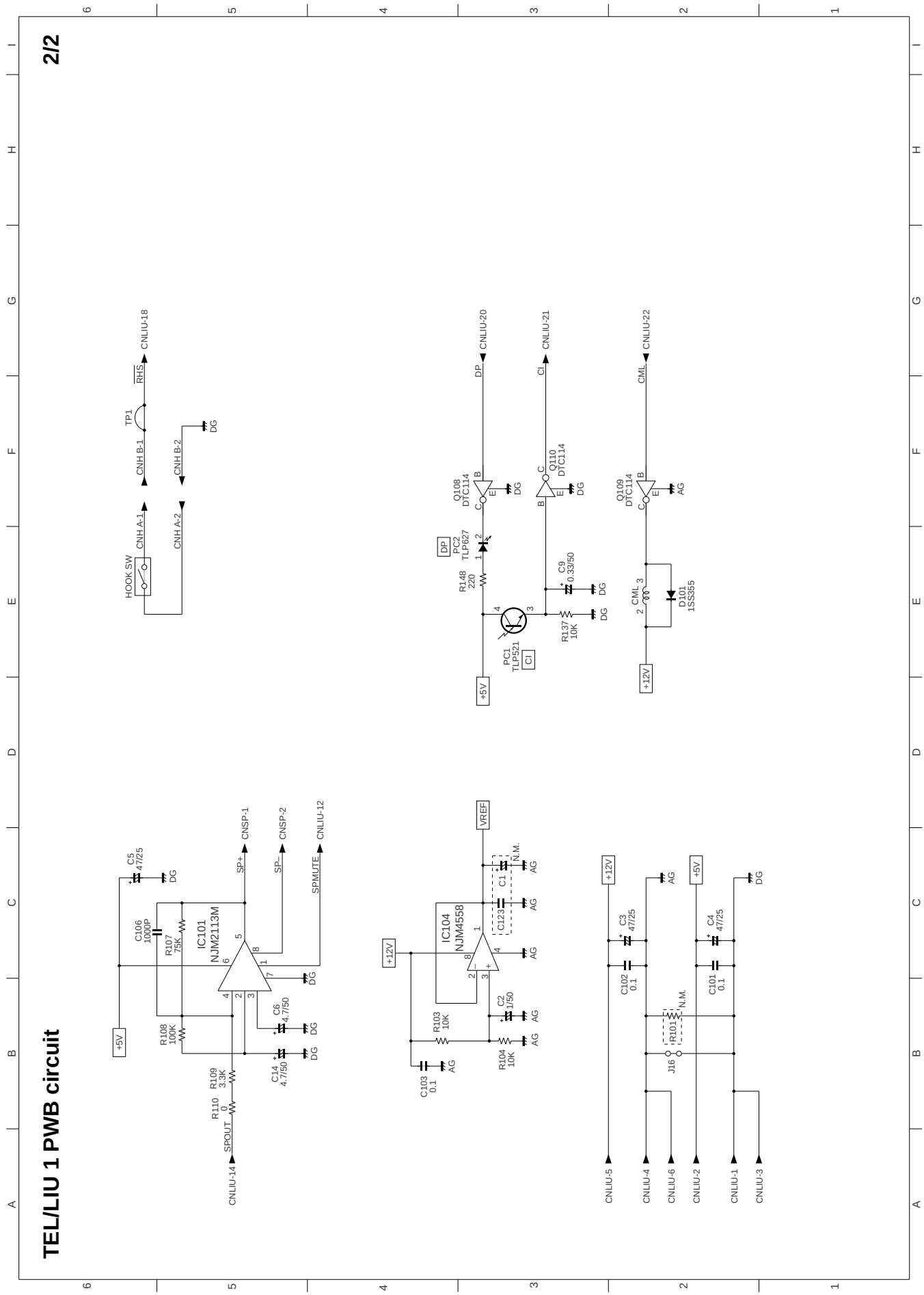
## Line Control PWB parts layout (Top side)

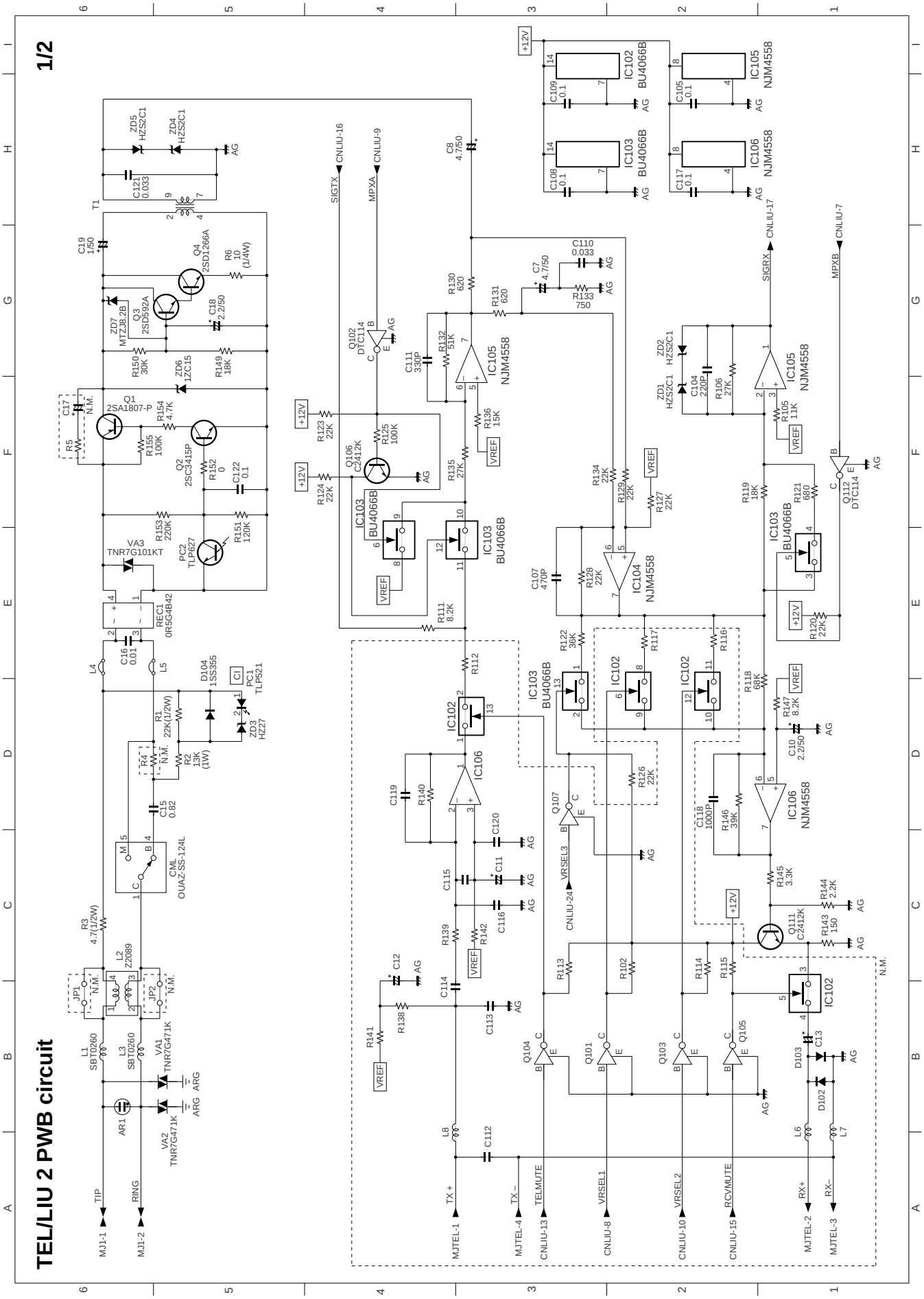


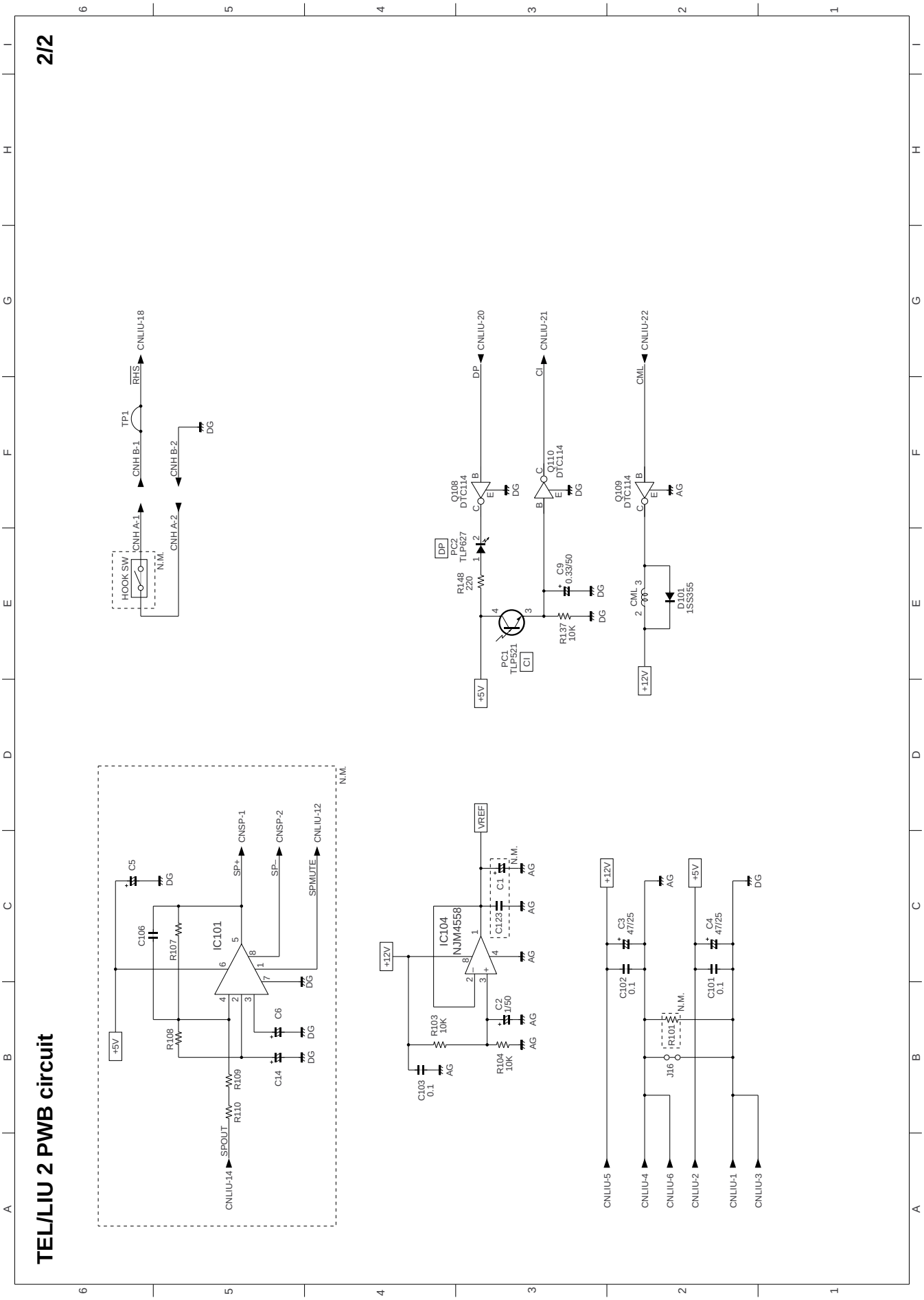
## Line Control PWB parts layout (Bottom side)



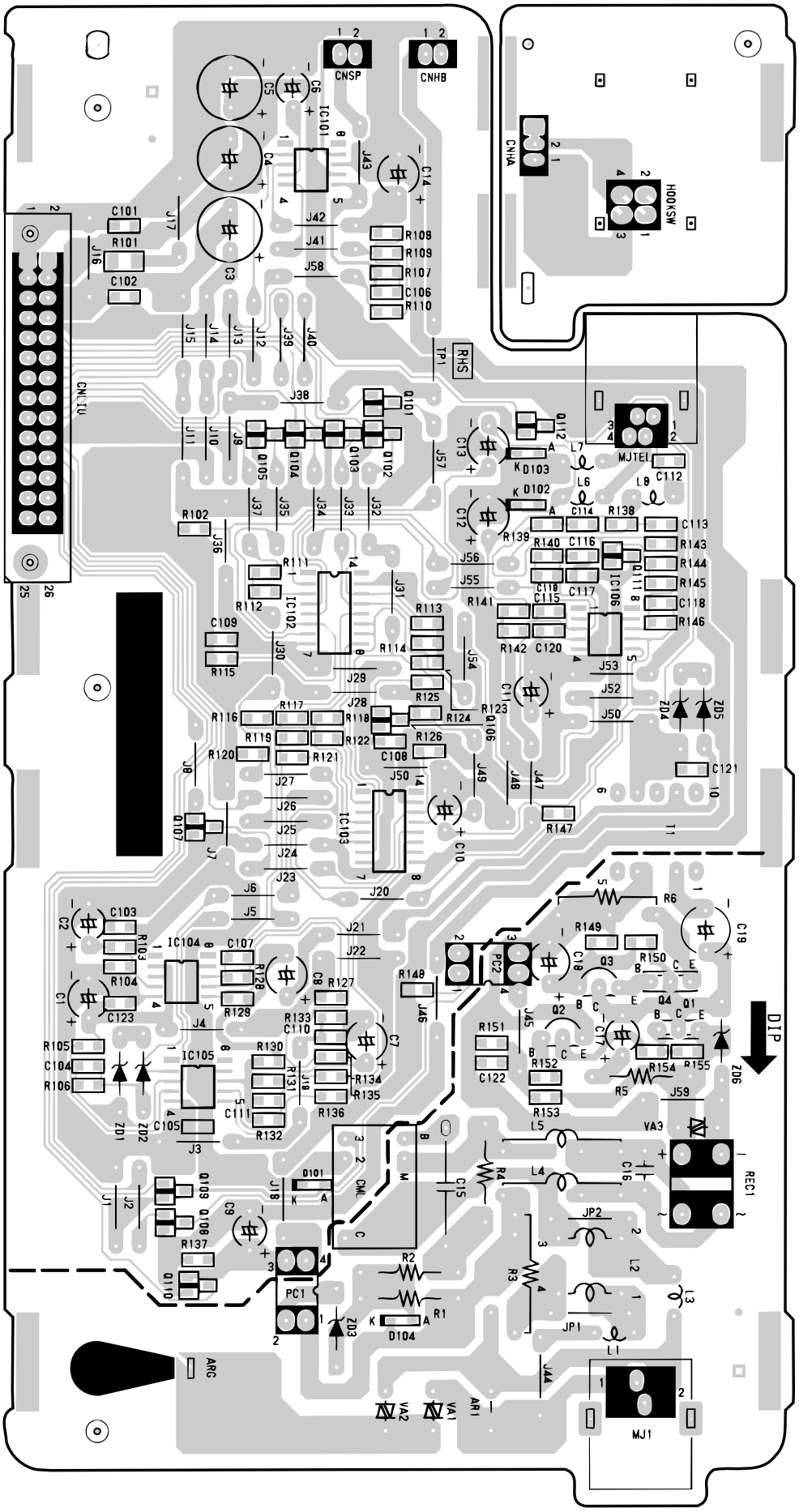

[3] TEL/LIU 1 PWB circuit
1/2
TIP
RING
MJ1-1
MJ1-2
JP1
JP2
L1
L2
L3
L4
L5
L6
L7
L8
AR1
VA1
VA2
VA3
REC1
PC1
PC2
CML
OUAZ-SS-124L
IC102
IC103
IC104
IC105
IC106
BU4066B
NJM4558
TX+
TX–
TELMUTE
VRSEL1
VRSEL2
RCVMUTE
RX+
RX–
MJTEL-1
MJTEL-4
CNLIU-13
CNLIU-8
CNLIU-10
CNLIU-15
MJTEL-2
MJTEL-3
SIGTX
MPXA
SIGRX
MPXB
CNLIU-16
CNLIU-9
CNLIU-17
CNLIU-7
CNLIU-24
VREF
+12V
AG
ARG

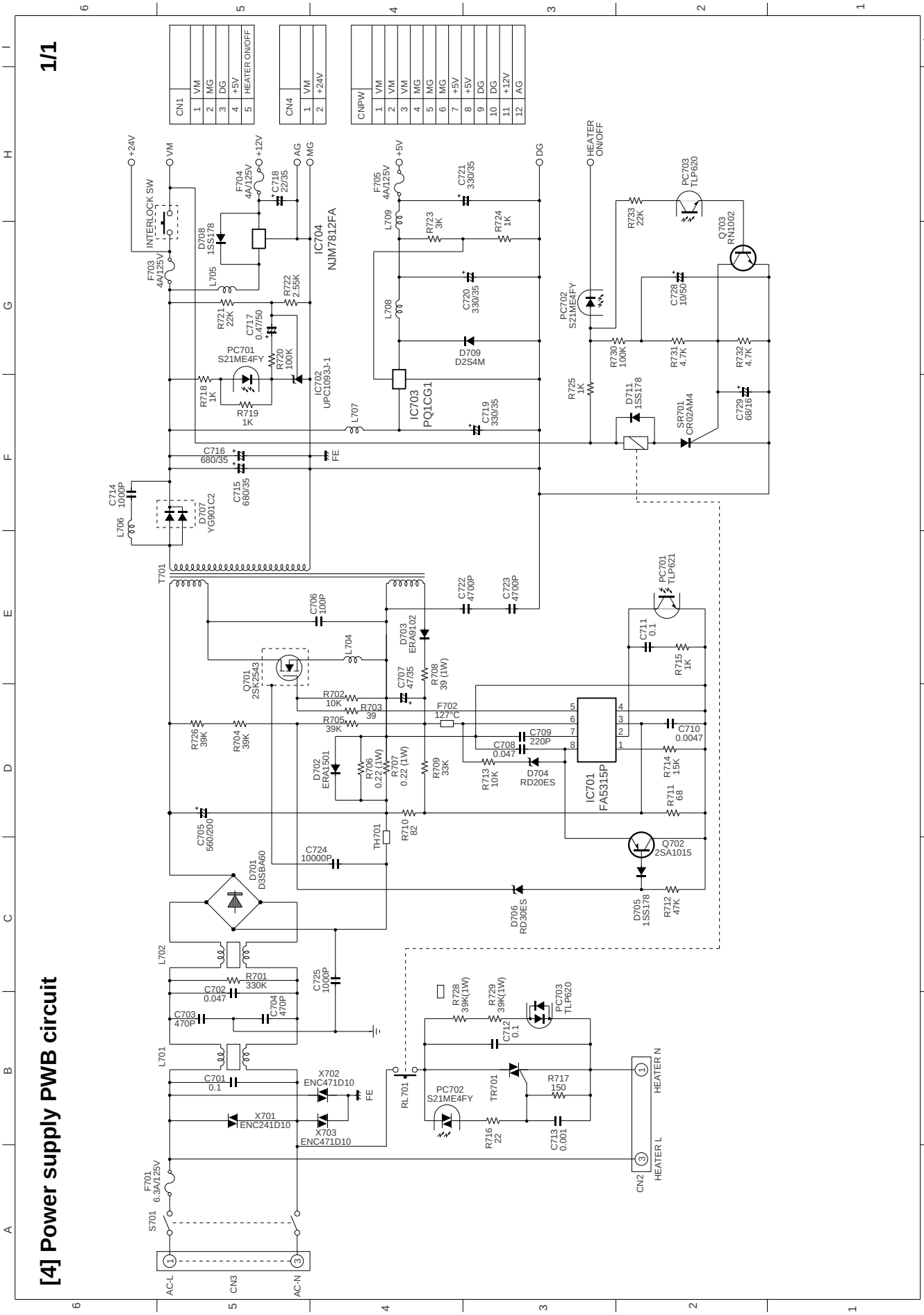

TEL/LIU 1 PWB circuit
2/2
HOOK SW
CNH A-1
CNH A-2
CNH B-1
CNH B-2
TP1
RHS
CNLIU-18
DG
Q108 DTC114
Q110 DTC114
Q109 DTC114
DP
CI
CML
CNLIU-20
CNLIU-21
CNLIU-22
PC2 TLP627
PC1 TLP521
R148 220
R137 10K
C9 0.33/50
D101 1SS355
+5V
+12V
IC101 NJM2113M
C5 47/25
C106 1000P
R107 75K
R108 100K
R109 3.3K
R110 0
C6 4.7/50
C14 4.7/50
SP+
SP−
SPMUTE
SPOUT
CNSP-1
CNSP-2
CNLIU-12
CNLIU-14
IC104 NJM4558
VREF
C1
C123
C2 1/50
R103 10K
R104 10K
C103 0.1
N.M.
AG
C3 47/25
C4 47/25
C102 0.1
C101 0.1
R101
J16
CNLIU-5
CNLIU-4
CNLIU-6
CNLIU-2
CNLIU-1
CNLIU-3


TEL/LIU 2 PWB circuit
1/2
TIP
RING
MJ1-1
MJ1-2
JP1
JP2
L1
L2
L3
L4
L5
L6
L7
L8
AR1
VA1
VA2
VA3
R1
R2
R3
R4
R5
C1
C2
C3
C4
C5
C6
C7
C8
C9
C10
C11
C12
C13
C15
C16
C17
C18
C19
C104
C105
C106
C107
C108
C109
C110
C111
C112
C113
C114
C115
C116
C117
C118
C119
C120
C121
C122
Q1
Q2
Q3
Q4
Q101
Q102
Q103
Q104
Q105
Q106
Q107
Q111
Q112
T1
REC1
PC1
PC2
ZD1
ZD2
ZD3
ZD4
ZD5
ZD6
ZD7
D102
D103
D104
IC102
IC103
IC104
IC105
IC106
BU4066B
NJM4558
CML OUAZ-SS-124L
SIGTX
MPXA
SIGRX
MPXB
CNLIU-16
CNLIU-9
CNLIU-17
CNLIU-7
CNLIU-24
VREF
+12V
AG
ARG
N.M.
TX+
TX–
TELMUTE
VRSEL1
VRSEL2
RCVMUTE
RX+
RX–
MJTEL-1
MJTEL-4
CNLIU-13
CNLIU-8
CNLIU-10
CNLIU-15
MJTEL-2
MJTEL-3

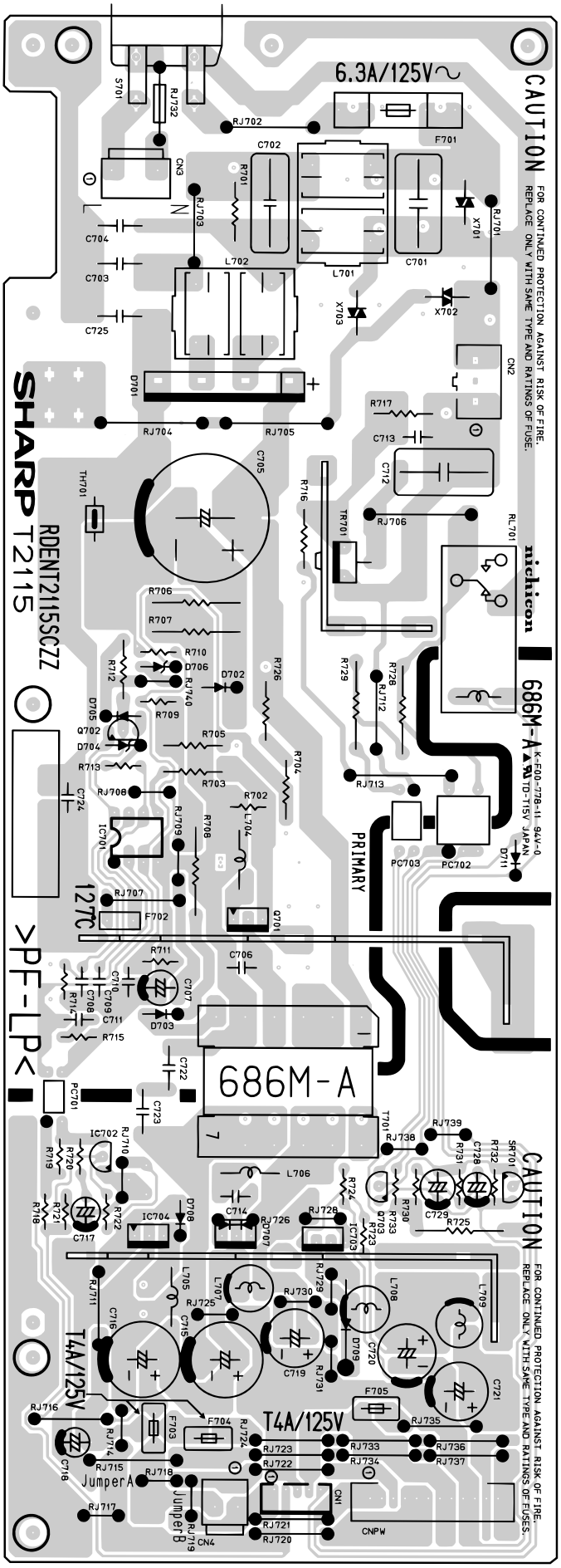

TEL/LIU 2 PWB circuit
2/2
HOOK SW
N.M.
CNH A-1
CNH A-2
CNH B-1
CNH B-2
TP1
RHS
CNLIU-18
DG
DP
CI
CML
CNLIU-20
CNLIU-21
CNLIU-22
Q108 DTC114
Q110 DTC114
Q109 DTC114
PC2 TLP627
PC1 TLP521
R148 220
R137 10K
C9 0.33/50
D101 1SS355
+5V
+12V
AG
IC101
C5
C106
R107
R108
R109
R110
C6
C14
SP+
SP-
SPMUTE
SPOUT
CNSP-1
CNSP-2
CNLIU-12
CNLIU-14
IC104 NJM4558
VREF
C1
C123
C2
R103 10K
R104 10K
C103 0.1
C3 47/25
C4 47/25
C102 0.1
C101 0.1
R101
J16
CNLIU-5
CNLIU-4
CNLIU-6
CNLIU-2
CNLIU-1
CNLIU-3

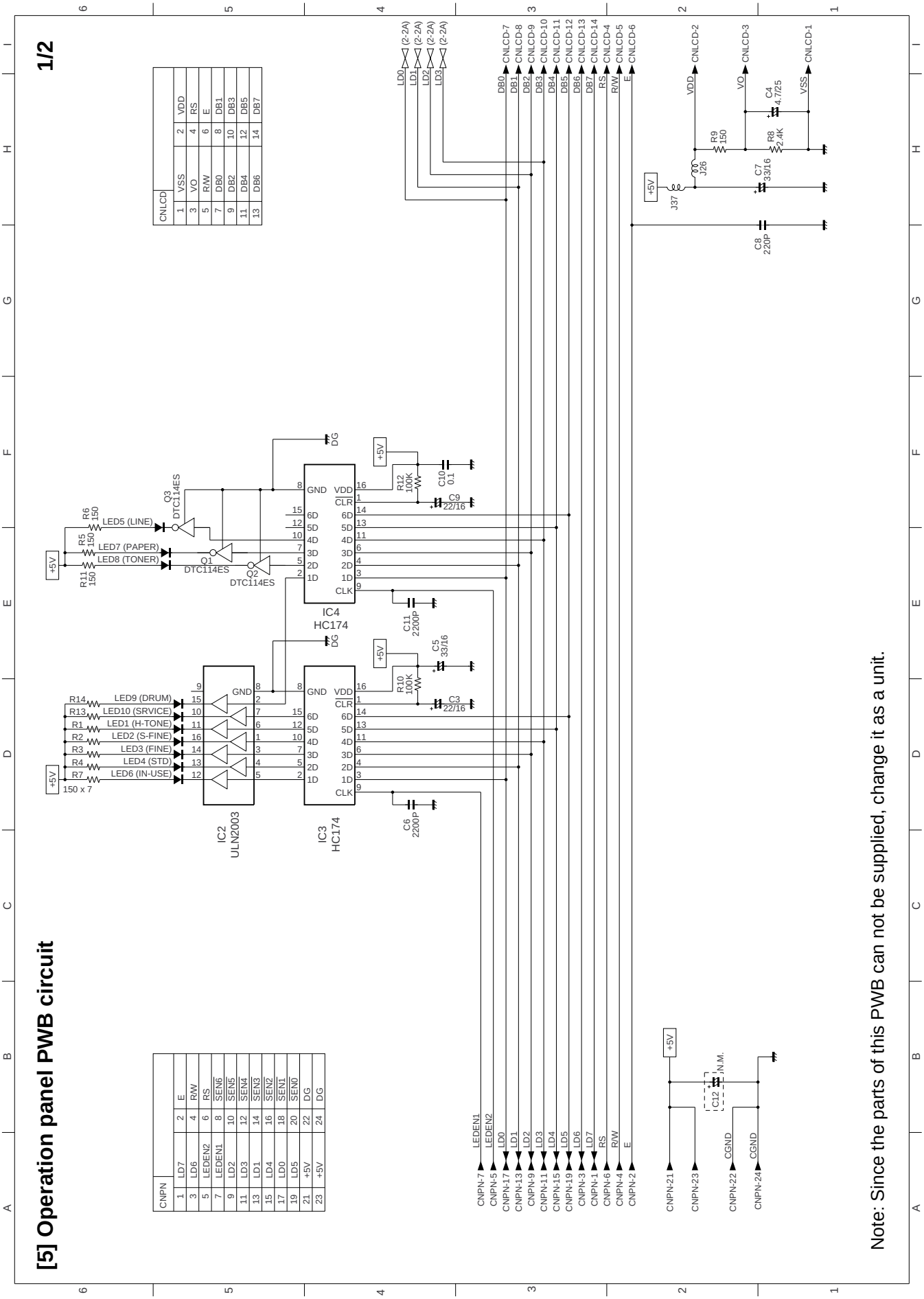
## TEL/LIU 1, 2 PWB parts layout




1/1
[4] Power supply PWB circuit
CN1
1 VM
2 MG
3 DG
4 +5V
5 HEATER ON/OFF
CN4
1 VM
2 +24V
CNPW
1 VM
2 VM
3 VM
4 MG
5 MG
6 MG
7 +5V
8 +5V
9 DG
10 DG
11 +12V
12 AG
IC704 NJM7812FA
IC703 PQ1CG1
IC702 UPC1093J-1
IC701 FA5315P
INTERLOCK SW
F703 4A/125V
F704 4A/125V
F705 4A/125V
F701 6.3A/125V
F702 127°C
D708 1SS178
D709 D2S4M
D707 YG901C2
D703 ERA9102
D702 ERA1501
D704 RD20ES
D706 RD30ES
D705 1SS178
D711 1SS178
SR701 CR02AM4
D701 D3SBA60
PC701 S21ME4FY
PC702 S21ME4FY
PC703 TLP620
PC701 TLP621
Q701 2SK2543
Q702 2SA1015
Q703 RN1002
TH701
RL701
TR701
X701 ENC241D10
X702 ENC471D10
X703 ENC471D10
T701
L701
L702
L704
L705
L706
L707
L708
L709
S701
CN2
CN3
HEATER N
HEATER L
AC-L
AC-N
+24V
VM
+12V
AG
MG
+5V
DG
HEATER ON/OFF
FE

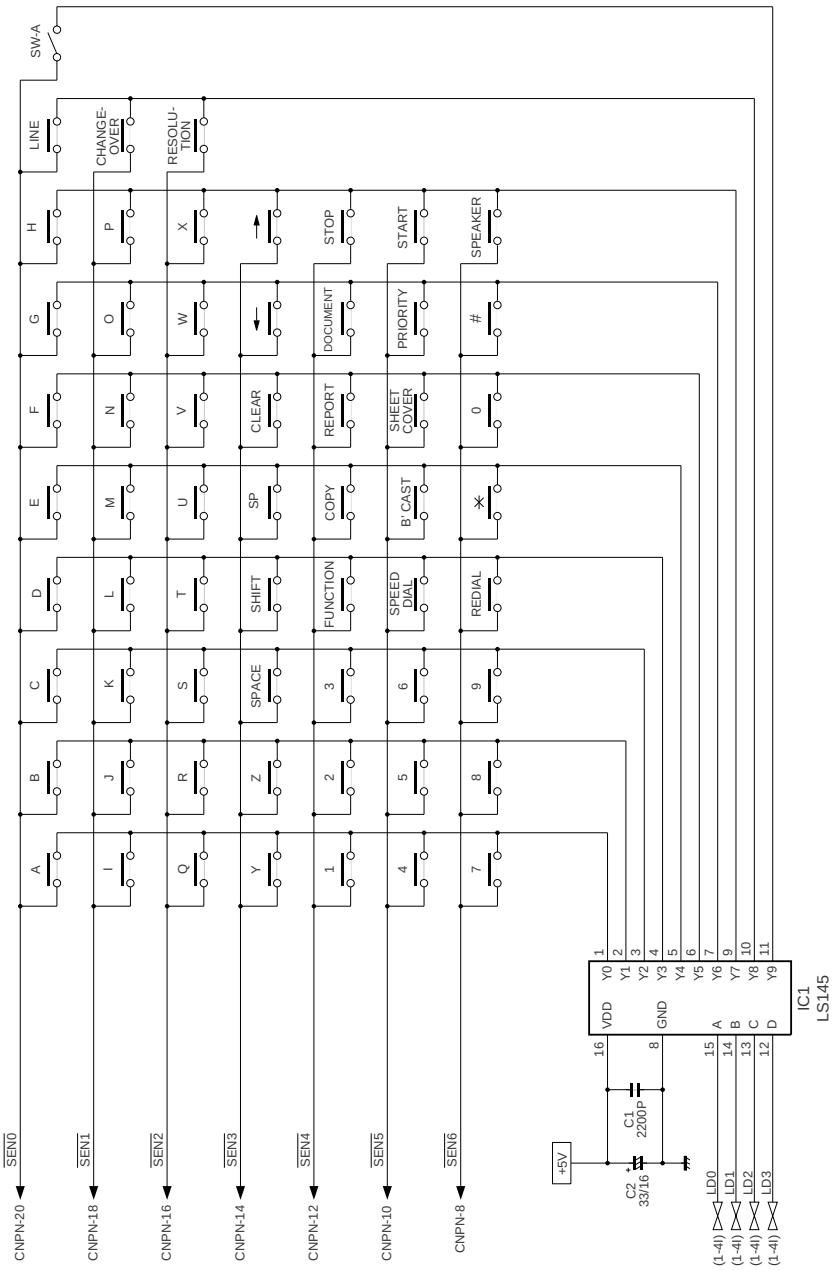
## Power supply PWB parts layout




[5] Operation panel PWB circuit
1/2
CNLCD
1 VSS
2 VDD
3 VO
4 RS
5 R/W
6 E
7 DB0
8 DB1
9 DB2
10 DB3
11 DB4
12 DB5
13 DB6
14 DB7
CNPN
1 LD7
2 E
3 LD6
4 R/W
5 LEDEN2
6 RS
7 LEDEN1
8 SEN6
9 LD2
10 SEN5
11 LD3
12 SEN4
13 LD1
14 SEN3
15 LD4
16 SEN2
17 LD0
18 SEN1
19 LD5
20 SEN0
21 +5V
22 DG
23 +5V
24 DG
IC2 ULN2003
IC3 HC174
IC4 HC174
LED5 (LINE)
LED7 (PAPER)
LED8 (TONER)
LED9 (DRUM)
LED10 (SRVICE)
LED1 (H-TONE)
LED2 (S-FINE)
LED3 (FINE)
LED4 (STD)
LED6 (IN-USE)
150 x 7
Q1 DTC114ES
Q2 DTC114ES
Q3 DTC114ES
(2-2A)
J26
J37
N.M.
Note: Since the parts of this PWB can not be supplied, change it as a unit.

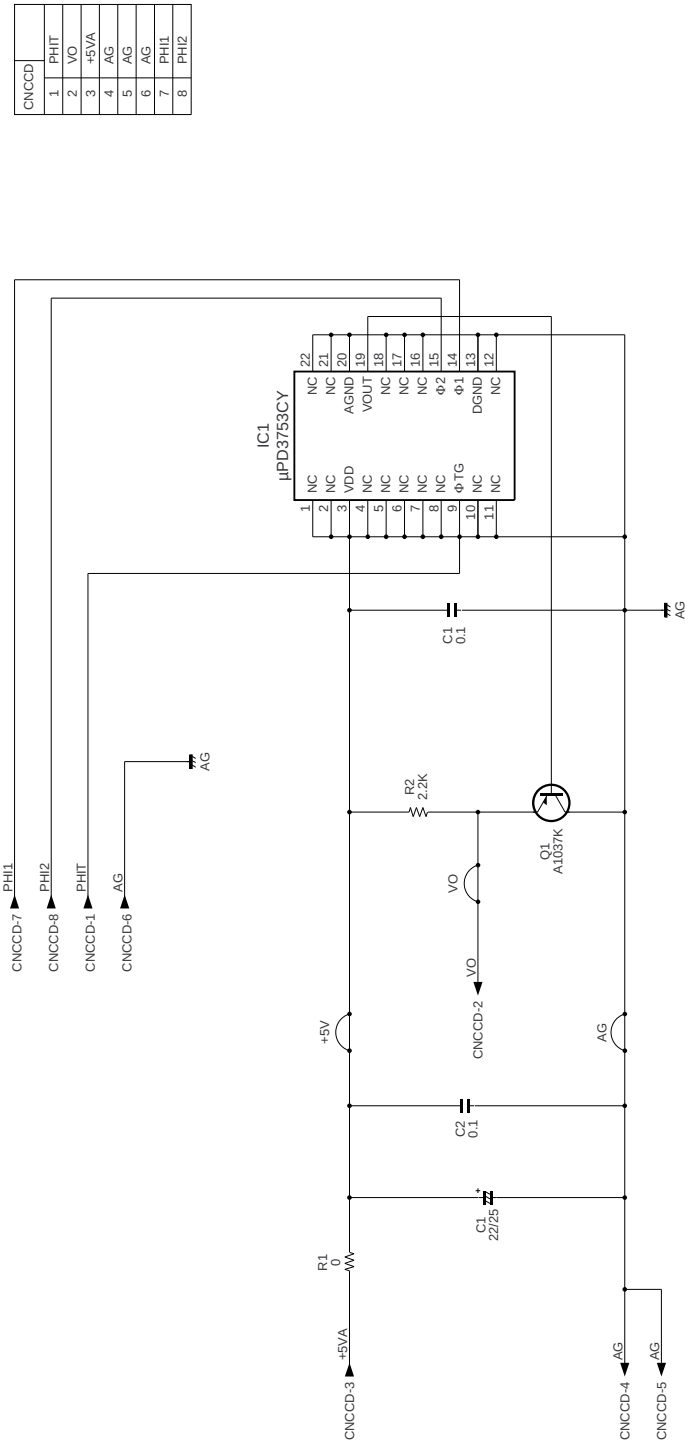
## Operation panel PWB circuit

2/2

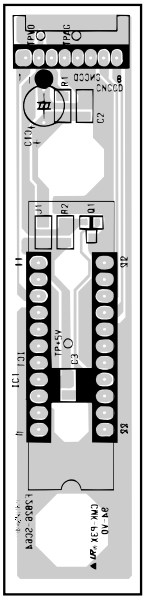



Note: Since the parts of this PWB can not be supplied, change it as a unit.

## [6] CCD PWB circuit

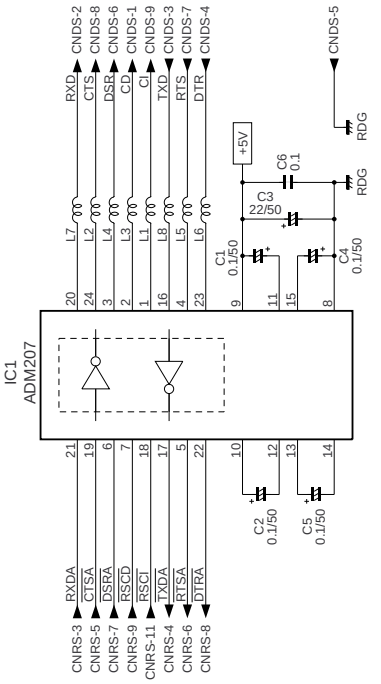



## CCD PWB parts layout



# [7] RS232C I/F PWB circuit

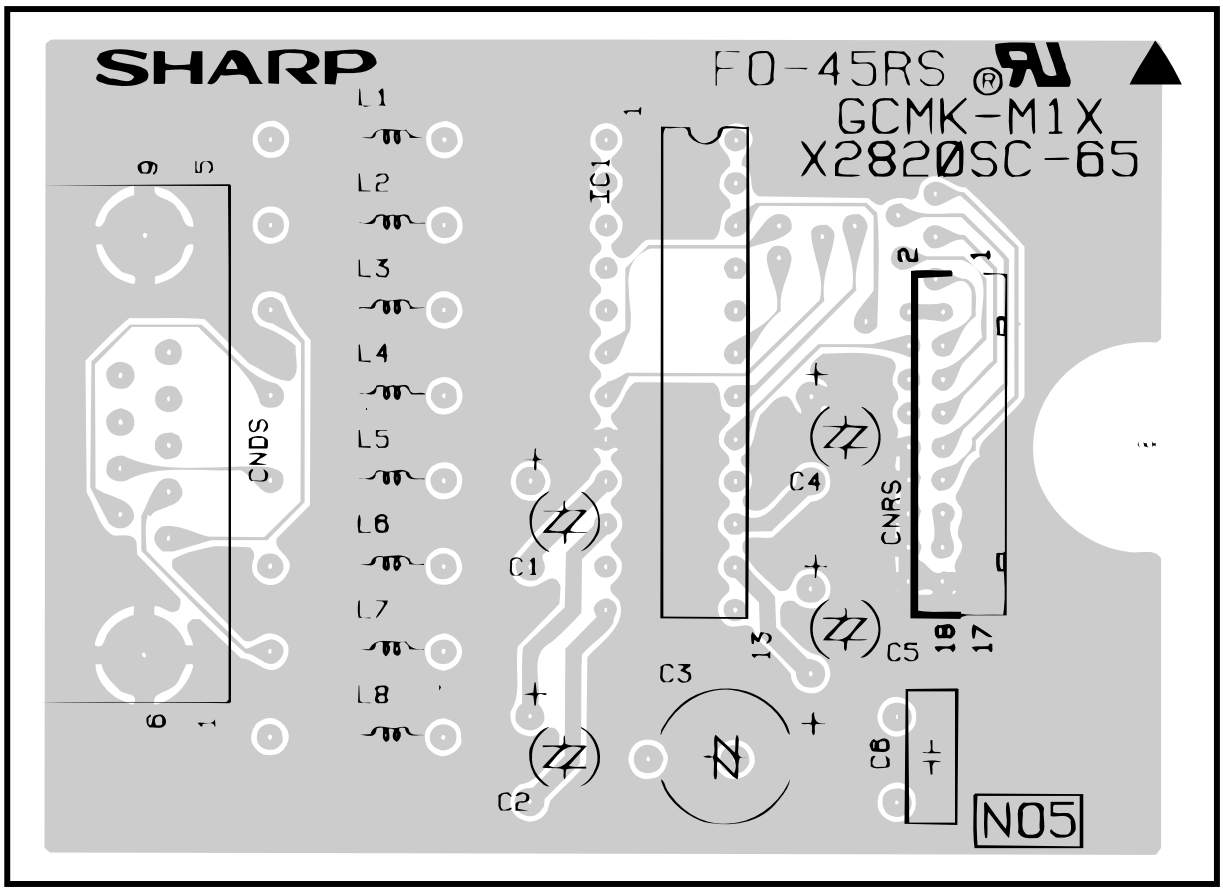
1/1



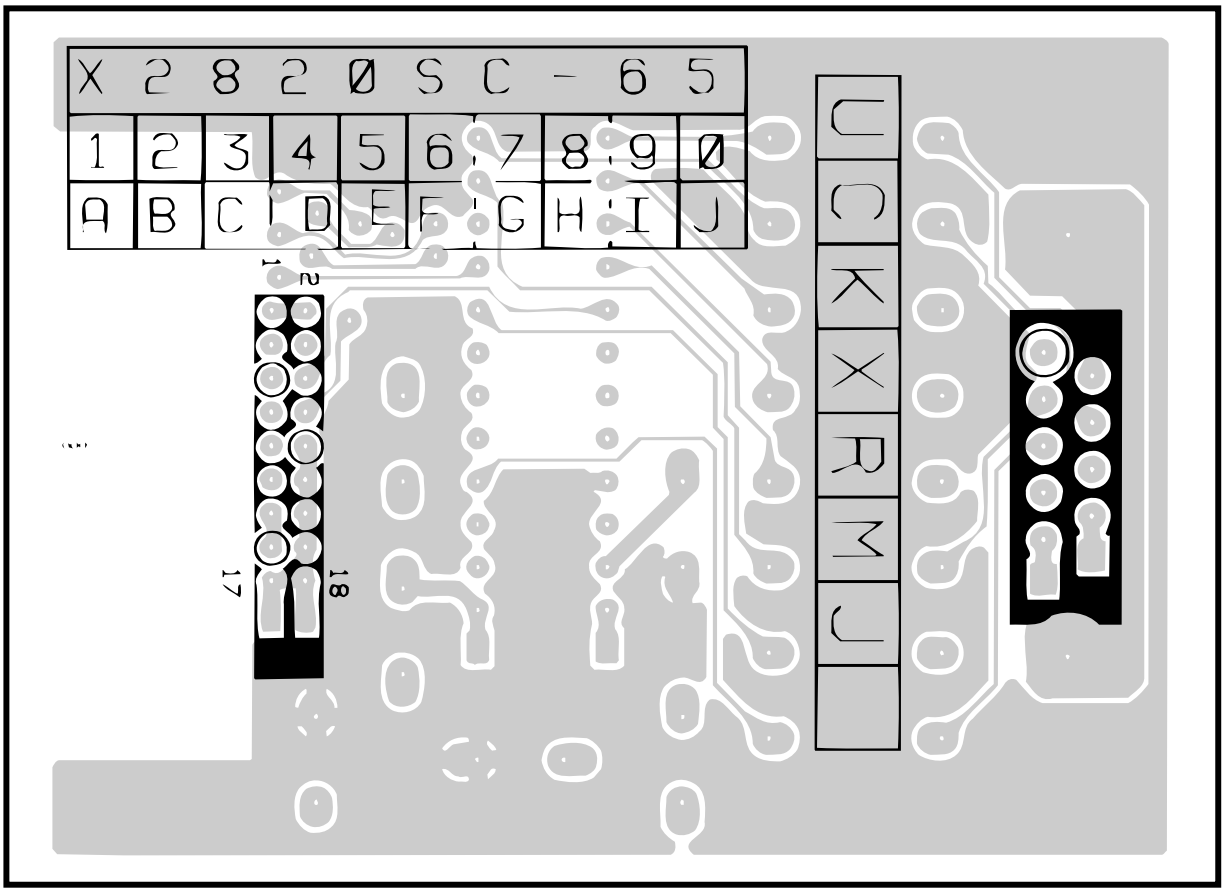

| CNRS | | | |
|---|---|---|---|
| 1 | RDG | 2 | RDG |
| 3 | RXDA | 4 | TXDA |
| 5 | CTSA | 6 | RTSA |
| 7 | DSRA | 8 | DTRA |
| 9 | RSCD | 10 | RSOPT |
| 11 | RSCI | 12 | RDG |
| 13 | +5VR | 14 | RDG |
| 15 | +5VR | 16 | RDG |
| 17 | RDG | 18 | RDG |

| CNDS | |
|---|---|
| 1 | CD |
| 2 | RXD |
| 3 | TXD |
| 4 | DTR |
| 5 | GND |
| 6 | DSR |
| 7 | RTS |
| 8 | CTS |
| 9 | CI |

## RS232C I/F PWB parts layout (Top side)

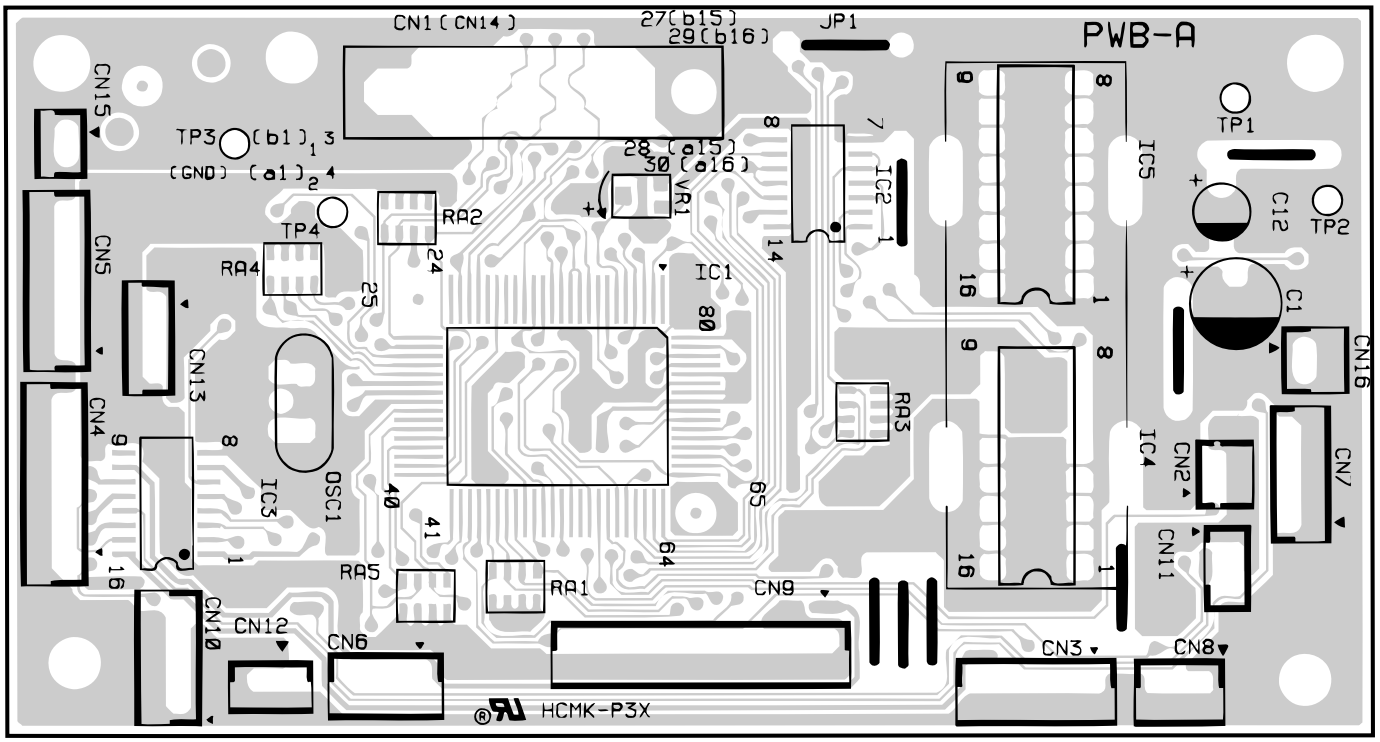



## RS232C I/F PWB parts layout (Bottom side)



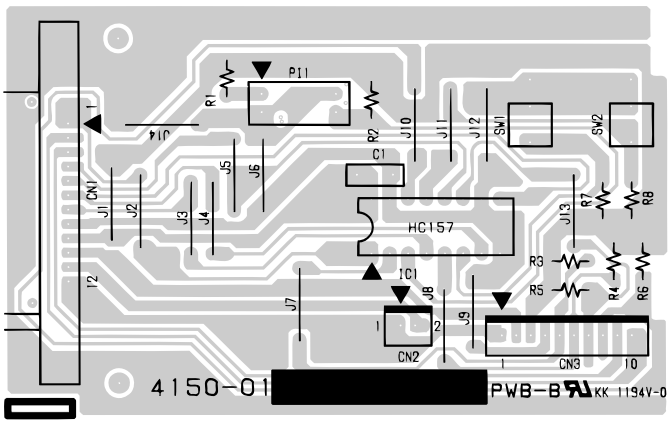
## [8] Printer control PWB parts layout

Note: Since the parts of this PWB can not be supplied, change it as a unit.



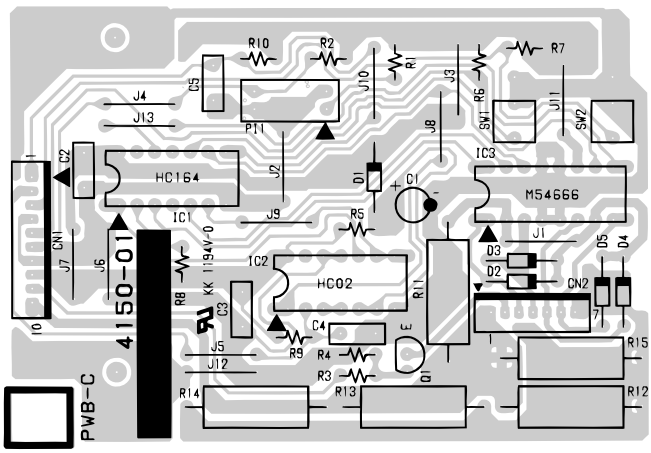

## Printer 2nd transport PWB parts layout

Note: Since the parts of this PWB can not be supplied, change it as a unit.



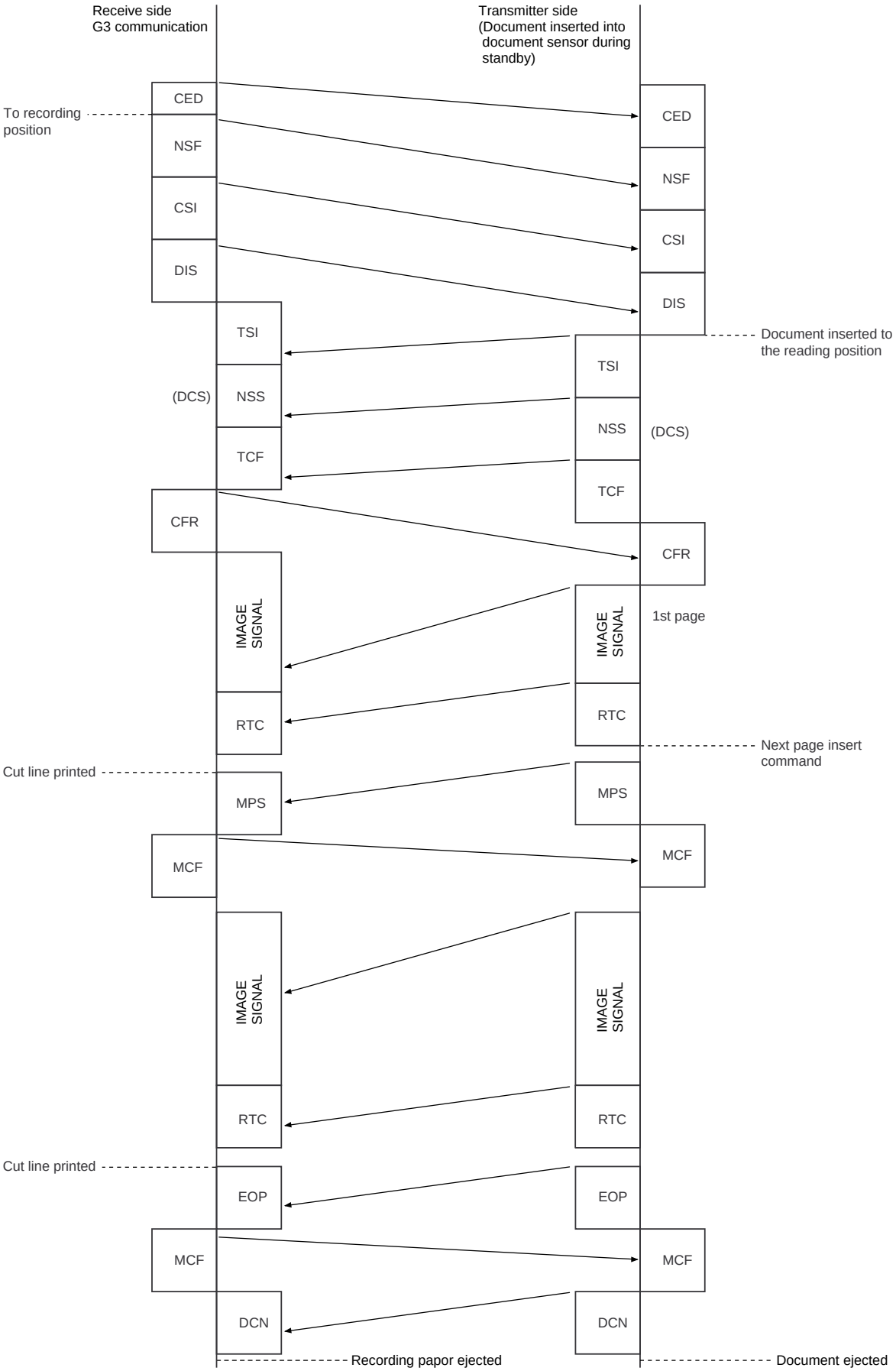

## Printer 3rd transport PWB parts layout

Note: Since the parts of this PWB can not be supplied, change it as a unit.

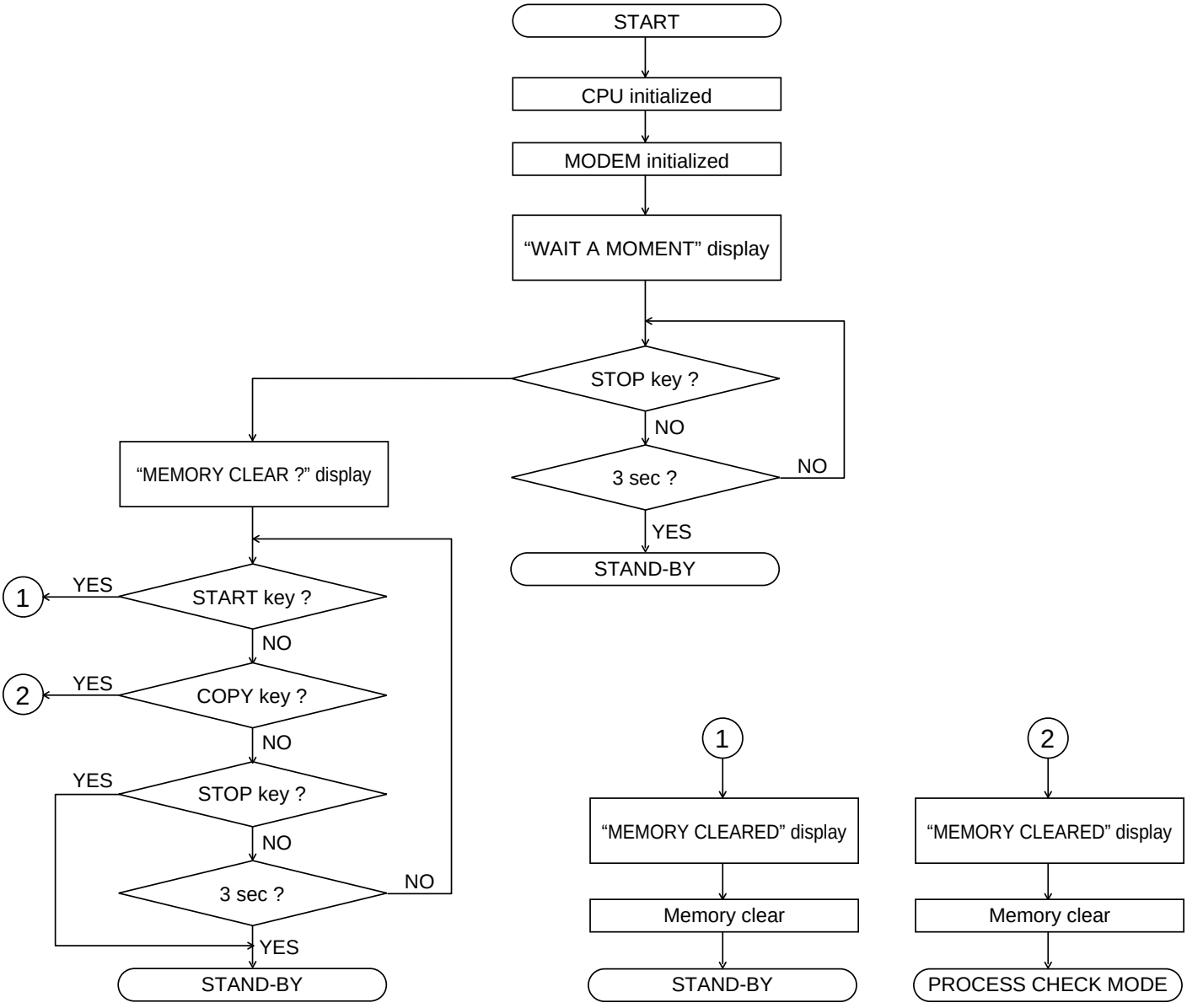


# CHAPTER 7. OPERATION FLOWCHART

## [1] Protocol



## [2] Power on sequence



# CHAPTER 8. OTHERS

## [1] Service Tools

### 1. List

| NO. | PARTS CODE | DESCRIPTION | Q'TY | PRICE RANK |
|---|---|---|---|---|
| 1 | CPWBX2835SC02 | Extension board unit (EXT-A) and (EXT-B) | 1 | CN |
| 2 | UKOGM2058SCZZ | Optical adjustment jig | 1 | BR |

### 2. Description

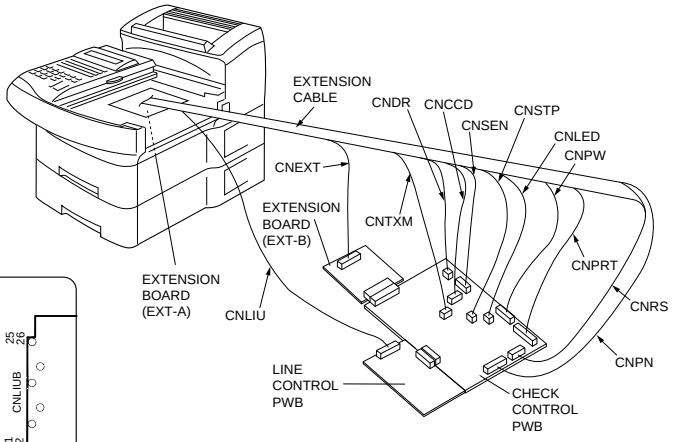
#### 2-1. Extension board unit

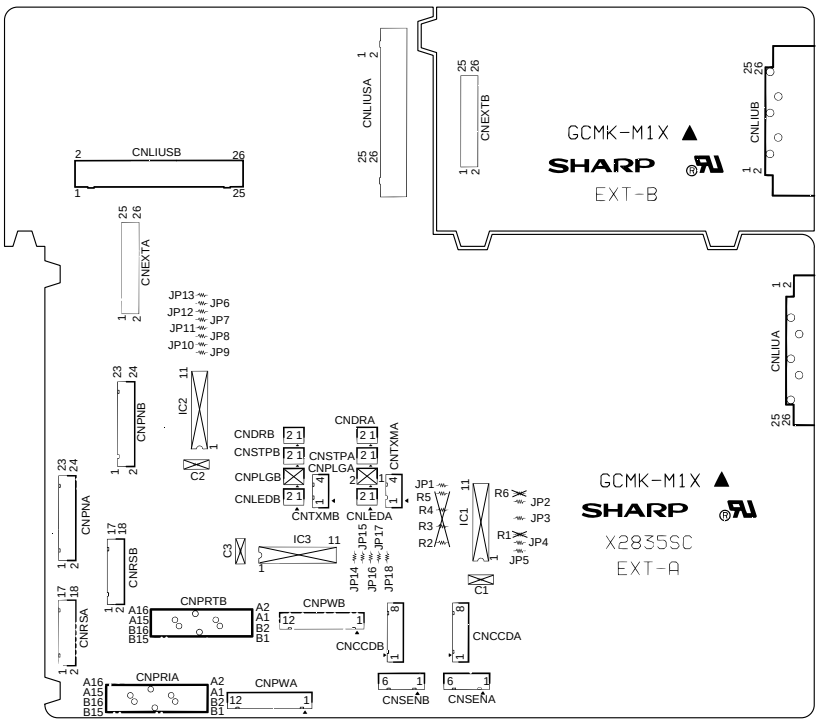
[For inspection of control/line control PWB]

1) Remove the inner tray from the unit, and remove the control/line control PWB.
2) Mount the extension board (EXT-A) in the place where the control/line control PWB has been removed. At that time, the connector (CNLIU) of extension board (EXT-A) must be inserted into the TEL/LIU 1 PWB.
3) Connect the cables from the unit to the connectors (A side) (CNSENA, CNCCDA, CNPWA, CNPRTA, CNRSA, CNPNA, CNTXMA, CNLEDA, CNSTPA, CNDRA, CNLIUSA) of extension board (EXT-A) as on the control/line control PWB.
4) Connect the extension cables (12 types) to the connectors (B side) of extension board (EXT-A).
5) Remove the ROM cover of inner tray, pull out the extension cables (12 types) from the ROM replacing window, and mount the inner tray on the unit.
6) Connect the extension cable (QCNW-4608SCZZ) pulled out to the connector (CNEXTB) of extension board (EXT-B).
7) Connect the extension board (EXT-B) to the connector (CNLIU) of control PWB.
8) Connect the extension cables (11 types (except CNEXTB)) pulled out from the unit to the control/line control PWB.

| Cable parts code | Connector | Remark |
|---|---|---|
| QCNW – 4597SCZZ | CNCCD | Control PWB |
| QCNW – 4598SCZZ | CNSEN | |
| QCNW – 4599SCZZ | CNPW | |
| QCNW – 4600SCZZ | CNRS | |
| QCNW – 4601SCZZ | CNPN | |
| QCNW – 4602SCZZ | CNLED | |
| QCNW – 4604SCZZ | CNSTP | |
| QCNW – 4605SCZZ | CNROL | |
| QCNW – 4606SCZZ | CNTXM | |
| QCNW – 4608SCZZ | CNEXTB | Extension PWB (EXT-B) |
| QCNW – 4609SCZZ | CNPRT | Control PWB |
| QCNW – 4828SCZZ | CNLIU1 | Line control PWB |

**Extension board connection diagram**



[For inspection of TEL/LIU 1 PWB]

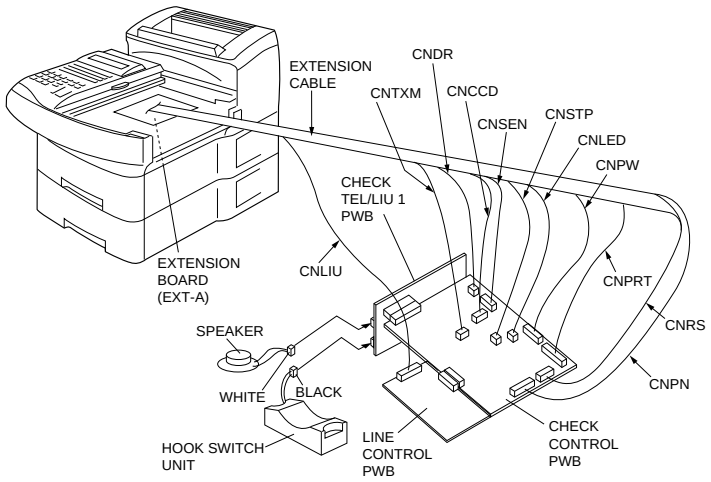
1) Remove the left side panel.
2) Remove the inner tray from the unit, and remove the control/line control PWB.
3) Mount the extension board (EXT-A) in the place where the control/line control PWB has been removed.
4) Connect the cables from the unit to the connectors (A side) (CNSENA, CNCCDA, CNPWA, CNPRTA, CNRSA, CNPNA, CNTXMA, CNLEDA, CNSTPA, CNDRA, CNLIUSA) of extension board (EXT-A) as on the control/line control PWB.
5) Connect the extension cables (11 types) to the connectors (B side) of extension board (EXT-A).
6) Remove the ROM cover of inner tray, pull out the extension cables (11 types) from the ROM replacing window, and mount the inner tray on the unit.

* When checking the TEL/LIU 1 PWB, the extension cable (QCNW-4608SCZZ) and extension board (EXT-B) are not used.

7) Connect the TEL/LIU 1 PWB to be checked to the connector (CNLIU) of control PWB.
8) Connect the extension cables (11 types) pulled out from the unit to the control/line control PWB.
9) Fit the speaker unit and hook switch unit of left upper panel as an assembly in the TEL/LIU 1 PWB to be checked.

| Cable parts code | Connector | Remark |
|---|---|---|
| QCNW – 4597SCZZ | CNCCD | Control PWB |
| QCNW – 4598SCZZ | CNSEN | |
| QCNW – 4599SCZZ | CNPW | |
| QCNW – 4600SCZZ | CNRS | |
| QCNW – 4601SCZZ | CNPN | |
| QCNW – 4602SCZZ | CNLED | |
| QCNW – 4604SCZZ | CNSTP | |
| QCNW – 4605SCZZ | CNROL | |
| QCNW – 4606SCZZ | CNTXM | |
| QCNW – 4609SCZZ | CNPRT | |
| QCNW – 4828SCZZ | CNLIU1 | Line control PWB |

**Extension board connection diagram (TEL/LIU 1 PWB)**




[For inspection of TEL/LIU 2 PWB]

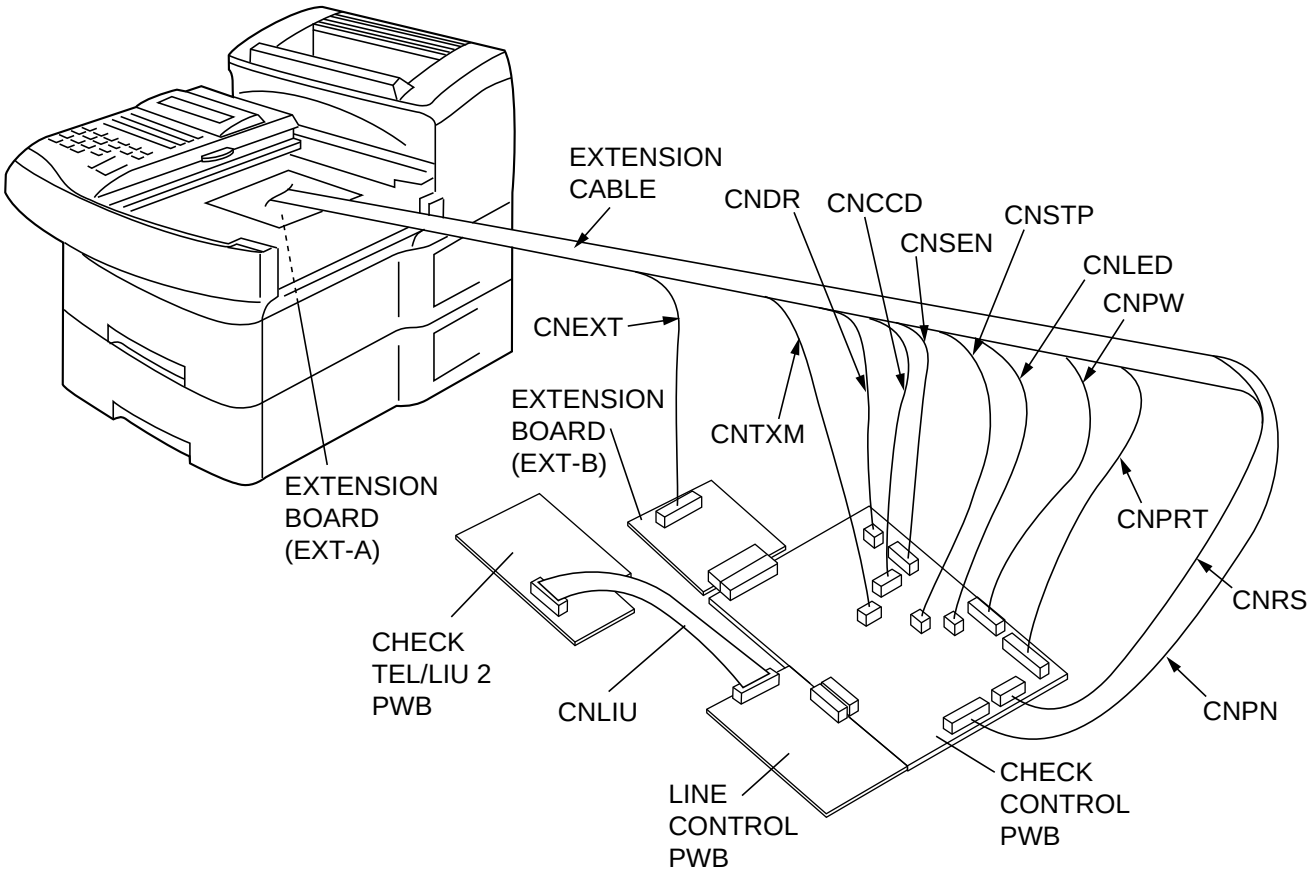
1) Remove the left side panel.
2) Remove the inner tray from the unit, and remove the control/line control PWB.
3) Mount the extension board (EXT-A) in the place where the control/line control PWB has been removed.
   At that time, the connector (CNLIU) of extension board (EXT-A) must be inserted into the TEL/LIU 2 PWB.
4) Connect the cables from the unit to the connectors (A side) (CNSENA, CNCCDA, CNPWA, CNPRTA, CNRSA, CNPNA, CNTXMA, CNLEDA, CNSTPA, CNDRA) of extension board (EXT-A) as on the control/line control PWB (Non connection CNLIUSA).
5) Connect the extension cables (11 types) to the connectors (B side) of extension board (EXT-A).

* When checking the TEL/LIU 2 PWB, the extension cable (QCNW-4828SCZZ) and extension board (EXT-A) are not connect.

6) Remove the ROM cover of inner tray, pull out the extension cables (11 types) from the ROM replacing window, and mount the inner tray on the unit.
7) Connect the extension cable (QCNW-4608SCZZ) pulled out to the connector (CNEXTB) of extension board (EXT-B).
8) Connect the extension board (EXT-B) to the connector (CNLIU) of control PWB.
9) Connect the extension cables (10 types (except CNEXTB)) pulled out from the unit to the control/line control PWB.
10) Connect the CNLIU1 connector of line control PWB to the CNLIU connector of TEL/LIU 2 PWB through the extension cable (QCNW-4828SCZZ).

| Cable parts code | Connector | Remark |
|---|---|---|
| QCNW – 4597SCZZ | CNCCD | Control PWB |
| QCNW – 4598SCZZ | CNSEN | |
| QCNW – 4599SCZZ | CNPW | |
| QCNW – 4600SCZZ | CNRS | |
| QCNW – 4601SCZZ | CNPN | |
| QCNW – 4602SCZZ | CNLED | |
| QCNW – 4604SCZZ | CNSTP | |
| QCNW – 4605SCZZ | CNROL | |
| QCNW – 4606SCZZ | CNTXM | |
| QCNW – 4608SCZZ | CNEXTB | Extension PWB (EXT-B) |
| QCNW – 4609SCZZ | CNPRT | Control PWB |
| QCNW – 4828SCZZ | CNLIU1 | Line control PWB |

**Extension board connection diagram (TEL/LIU 2 PWB)**




| NO. | PARTS CODE | DESCRIPTION | Q'TY | PRICE RANK |
|---|---|---|---|---|
| 1 | QCNCM7014SC0H | CONNECTOR 8pin (CNCCDA, CNCCDB) | 2 | AB |
| 2 | QCNCM7014SC0F | CONNECTOR 6pin (CNSENA, CNSENB) | 2 | AB |
| 3 | QCNCM7014SC1B | CONNECTOR 12pin (CNPWA, CNPWB) | 2 | AD |
| 4 | QCNCM2482SC1H | CONNECTOR 18pin (CNRSA, CNRSB) | 2 | AE |
| 5 | QCNCM2482SC2D | CONNECTOR 24pin (CNPNA, CNPNB) | 2 | AB |
| 6 | QCNCM2401SC0B | CONNECTOR 2pin (CNLEDA, CNLEDB) | 2 | AA |
| 7 | QCNCM7014SC0B | CONNECTOR 2pin (CNSTPA, CNSTPB) | 2 | AD |
| 8 | QCNCM705BAF06 | CONNECTOR 2pin (CNDRA, CNDRB) | 2 | AB |
| 9 | QCNCM7014SC0D | CONNECTOR 4pin (CNTXMA, CNTXMB) | 2 | AB |
| 10 | QCNCM2482SC2F | CONNECTOR 26pin (CNEXTA, CNEXTB) | 2 | AG |
| 11 | QCNCM2524SC3B | CONNECTOR 32pin (CNPRTA, CNPRTB) | 2 | AP |
| 12 | QCNCW2436SC2F | CONNECTOR 26pin (CNLIUA) | 1 | AG |
| 13 | QCNCM2531SC2F | CONNECTOR 26pin (CNLIUB) | 1 | AK |
| 14 | QCNCM2558SC2F | CONNECTOR 26pin (CNLIUSA, CNLIUSB) | 2 | AK |
| 15 | QCNW–4597SCZZ | CABLE 8pin (CNCCD) | 1 | AN |
| 16 | QCNW–4598SCZZ | CABLE 6pin (CNSEN) | 1 | AL |
| 17 | QCNW–4599SCZZ | CABLE 12pin (CNPW) | 1 | AQ |
| 18 | QCNW–4600SCZZ | CABLE 18pin (CNRS) | 1 | AU |
| 19 | QCNW–4601SCZZ | CABLE 24pin (CNPN) | 1 | AX |
| 20 | QCNW–4602SCZZ | CABLE 2pin (CNLED) | 1 | AG |
| 21 | QCNW–4604SCZZ | CABLE 2pin (CNSTP) | 1 | AG |
| 22 | QCNW–4605SCZZ | CABLE 2pin (CNDR) | 1 | AG |
| 23 | QCNW–4606SCZZ | CABLE 4pin (CNTXM) | 1 | AK |
| 24 | QCNW–4608SCZZ | CABLE 26pin (CNEXT) | 1 | AX |
| 25 | QCNW–4609SCZZ | CABLE 32pin (CNPRT) | 1 | BD |
| 26 | QCNW–4828SCZZ | CABLE 26pin (CNLIU) | 1 | AX |

### 2-2. Optical adjust plate

## 1. General

This procedure defines the in-field adjustment method for the FO-6500 series scanner optical system – CCD, lenses, mirrors, etc. – which may be required when the optical system is removed for servic-ing. This adjustment needs the use of a special in-field scanner opti-cal sysem adjust tool and a dual beam oscilloscope.

## 2. Adjustment

1) Remove the left cabinet, scanner front cover, inner tray, and printer front cover. As shown in Fig. 6, incline the scanner unit.

2) Connect the oscilloscope as follows: –
CH1 to video signal (AVO) on control board
CH2 to sync signal (PHIT) on control board
GND to test point ground (DG) on control board.

3) Turn machine power on.

4) Select the optical adjust mode of diagnostics then press the START/ COPY key.

5) Open Operation Panel. Then unit the optical adjustment tool on the lower document guide. (Fig. 7)

6) Remove the lock paint of CCD board holding screws. Then loosen one screw at a time and adjust the location of the CCD board so that the CCD output is as shown in Fig. 2. Also ensure that the centre black level trough is delayed 528msec from the trigger sync signal fT (PHIT). See Fig. 5.

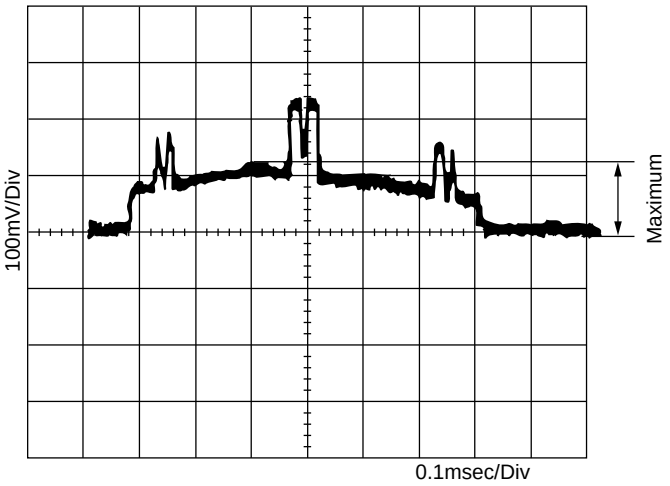



Fig. 1

Note: Above shows correct CCD output but focus need adjusting as in step 8.

7) If after adjusting CCD output in step 6) scope reads the same as in Fig. 2 run a test copy. (Focus should be OK)

Note: If the lens and lens holder have not been moved. You may skip step 8.

8) Remove the lock paint of lens. Adjust the location of the lens so that the difference between A and B of CCD output should be the largest, then secure the lens on that position. The output signal waveform must be symmetrical. After it has been complete, secure the screws with the lock paint. with this, lens focus adjustment is complete. (Fig. 2)

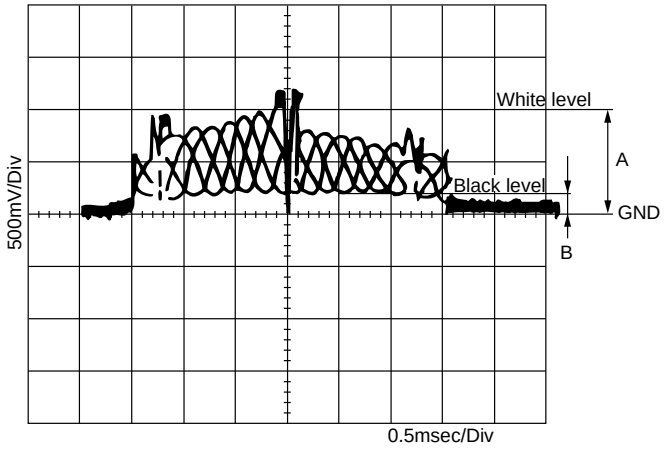



Fig. 2

9) Press STOP key again after completion of the adjustments. The mode is shifted to the diagnostic STANDBY MODE.

Notes:

1) Adjust the optical adjustment tool in the slant state as shown in Fig. 6. After the adjustment, the waveform will slightyl vary if it is stood up as shown in Fig. 8.

2) Use the optical adjustment tool by pressing it in the arrow direc-tion. If it is floated, the proper adjustment is impossible. (Fig. 3)

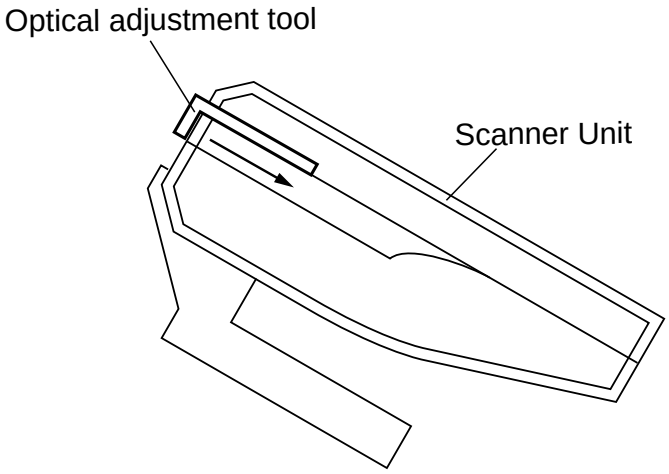



Fig. 3

### 3. Relationship of adjusting plate and oscilloscope output

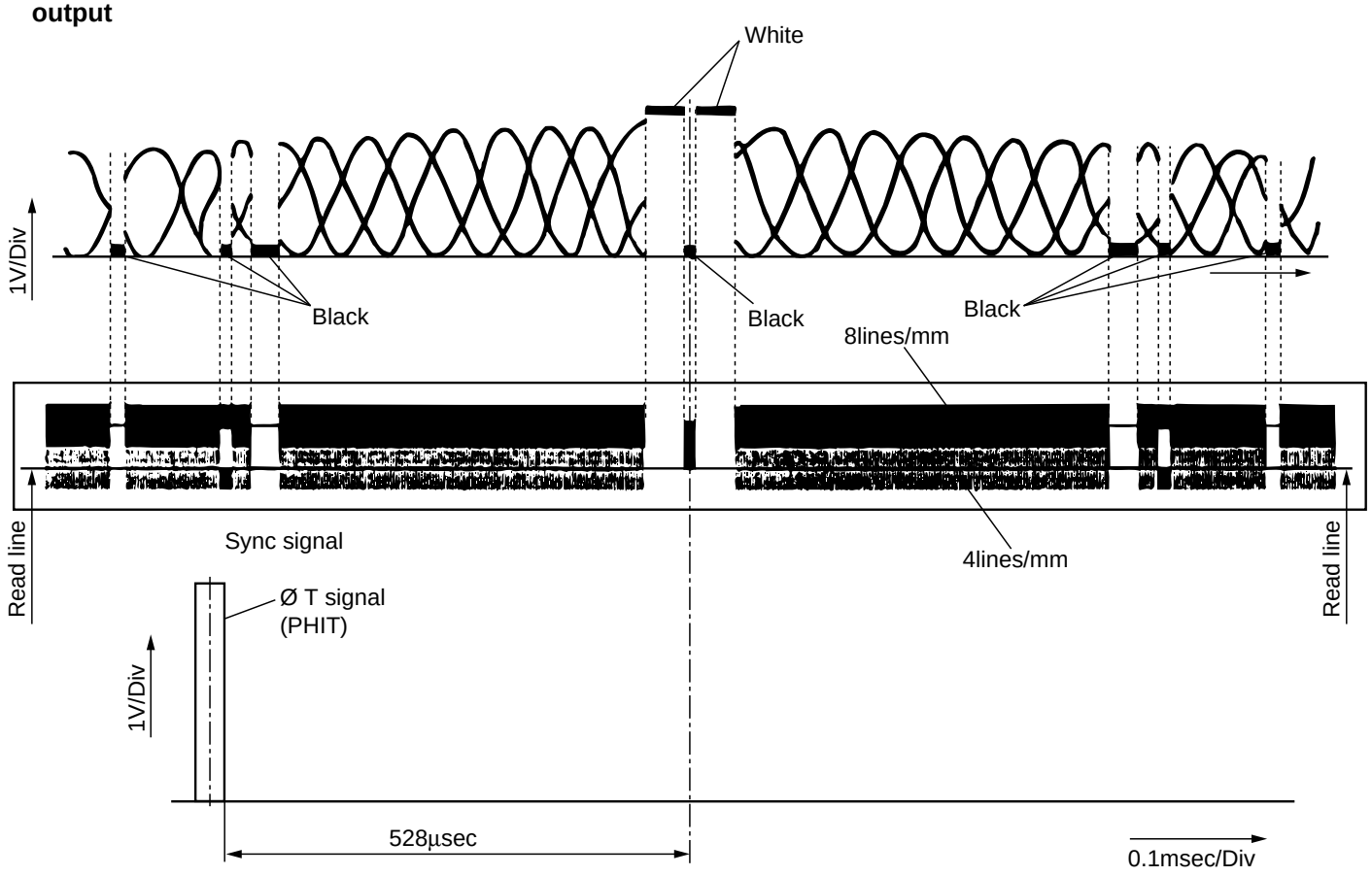



Fig. 4

Note: The CCD output must be adjusted to produce a white level at the center and black levels near the center and 8 lines/mm black and white pattern in other locations. Adjustment should be made so that the center of the white level signal is delayed 528msec from the sync signal PHIT. If this is not obtained the copy image may be shifted left or right causing incouplete scanning.

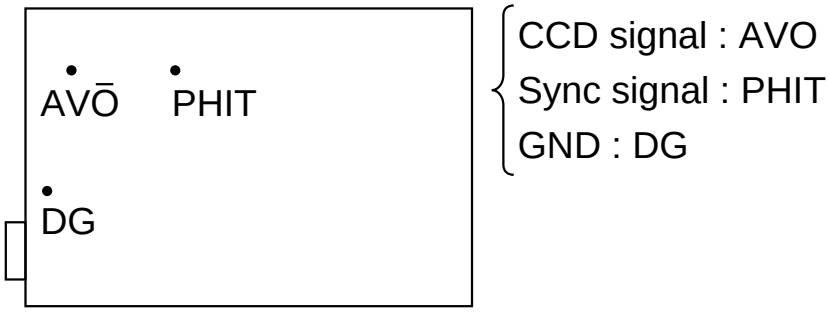



Fig. 5

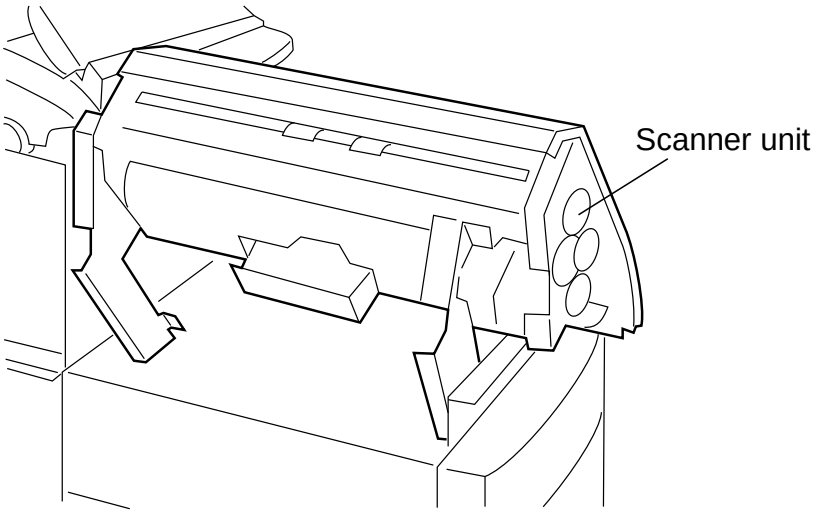



Fig. 6

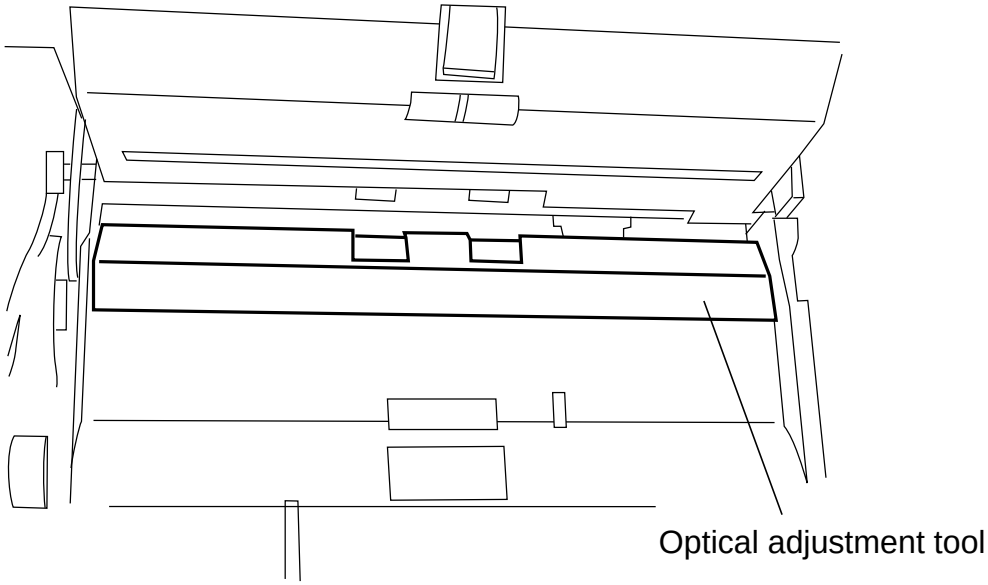



Fig. 7

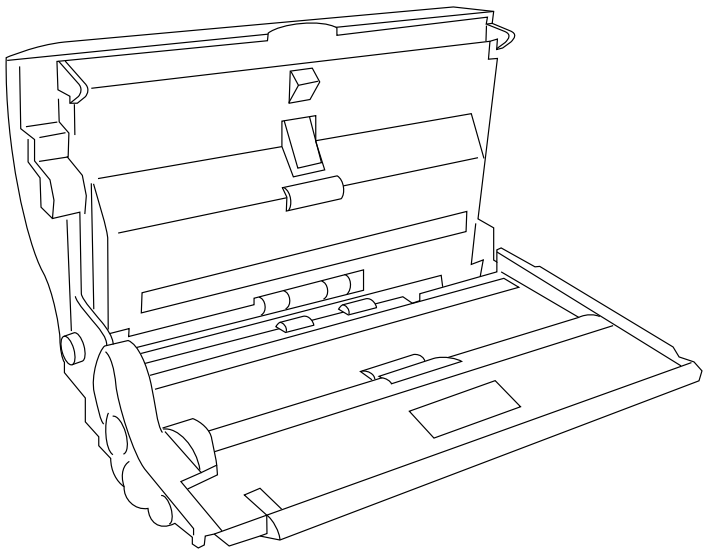
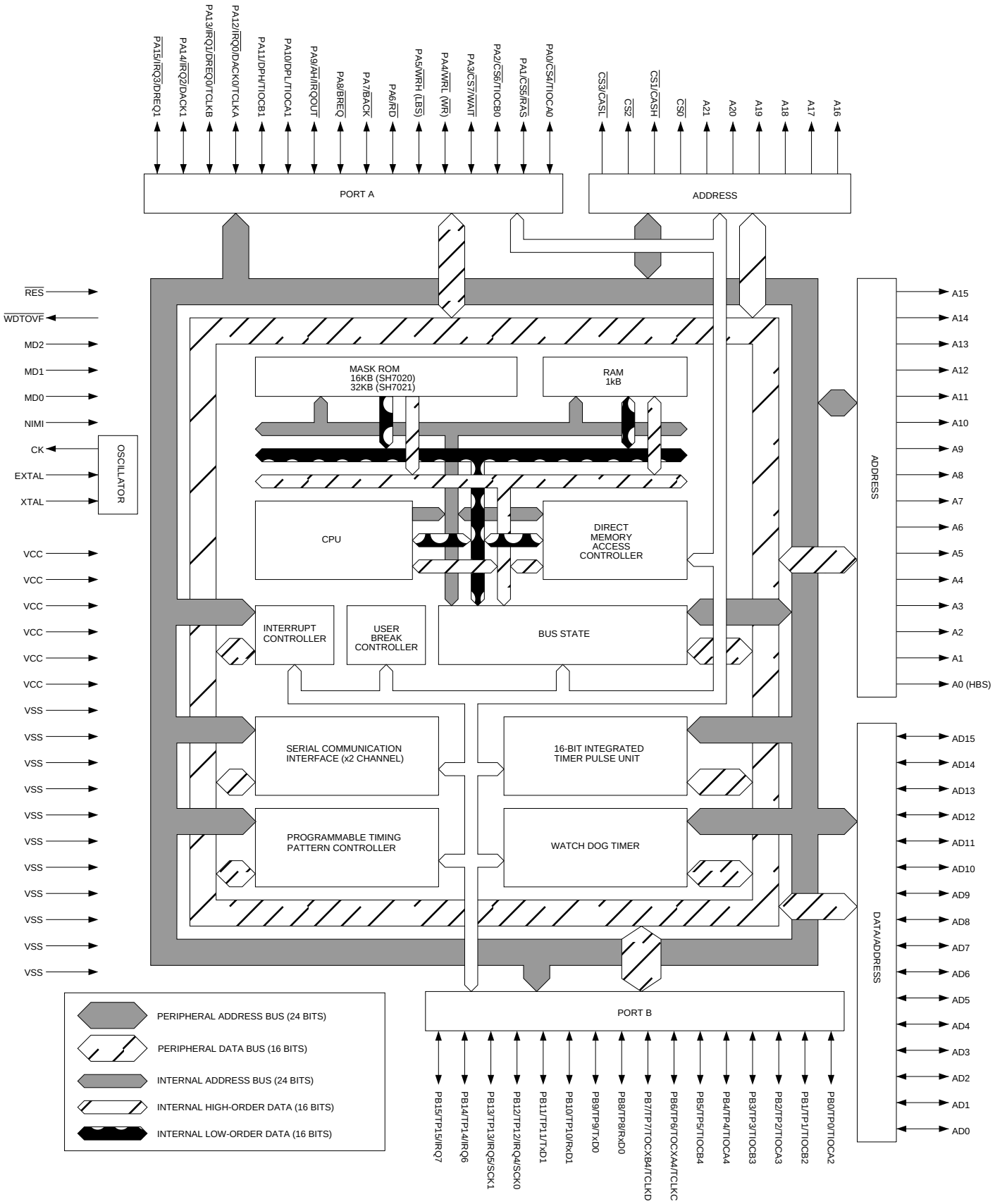


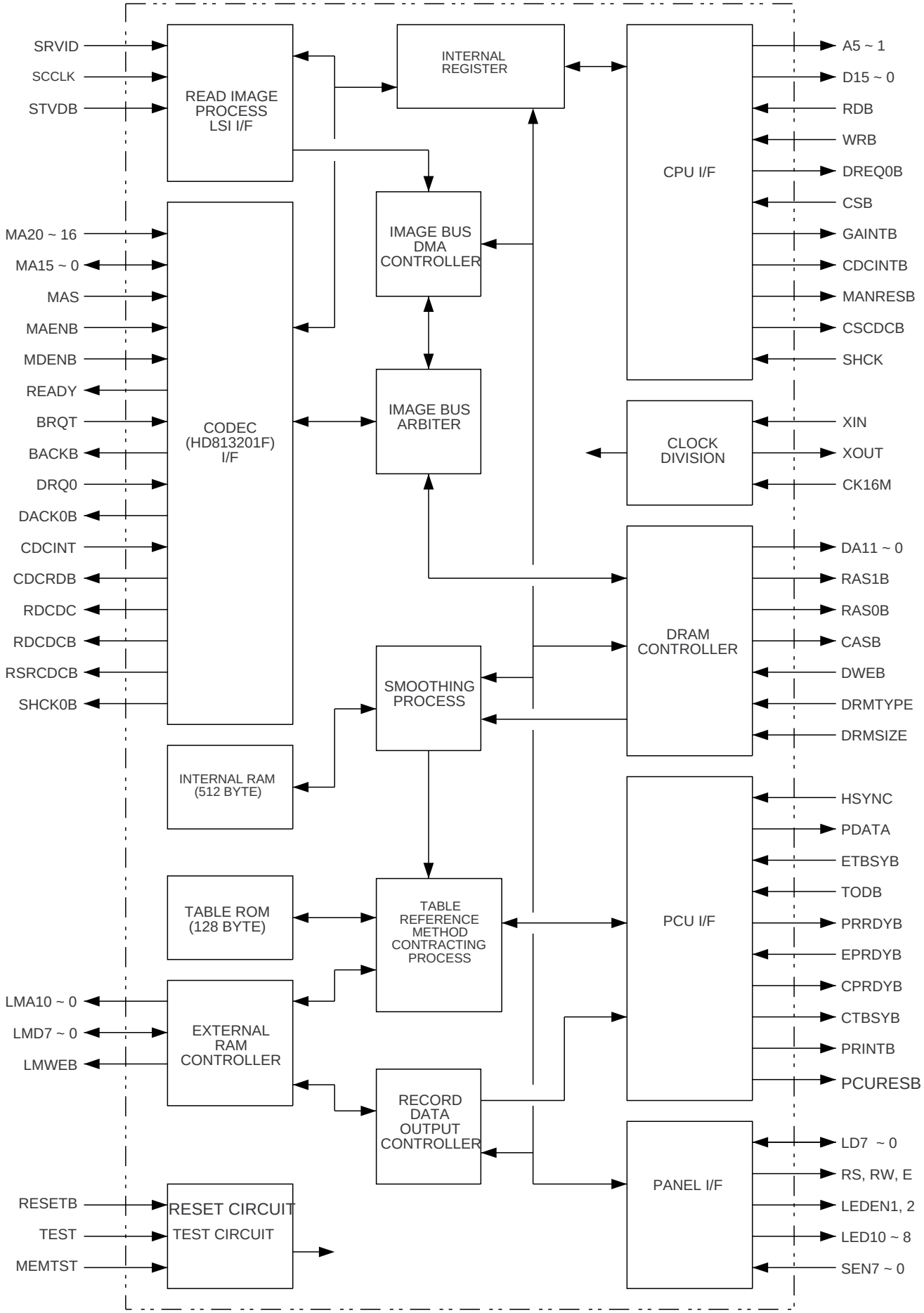
Fig. 8

# [2] IC signal name

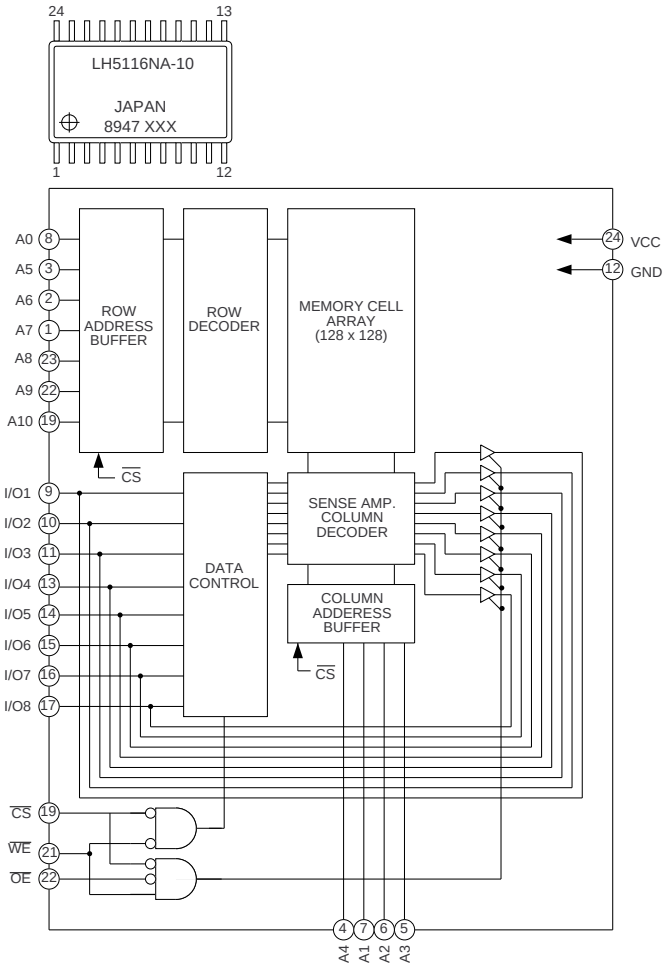
## IC4, 13: VHi02120FAB0A



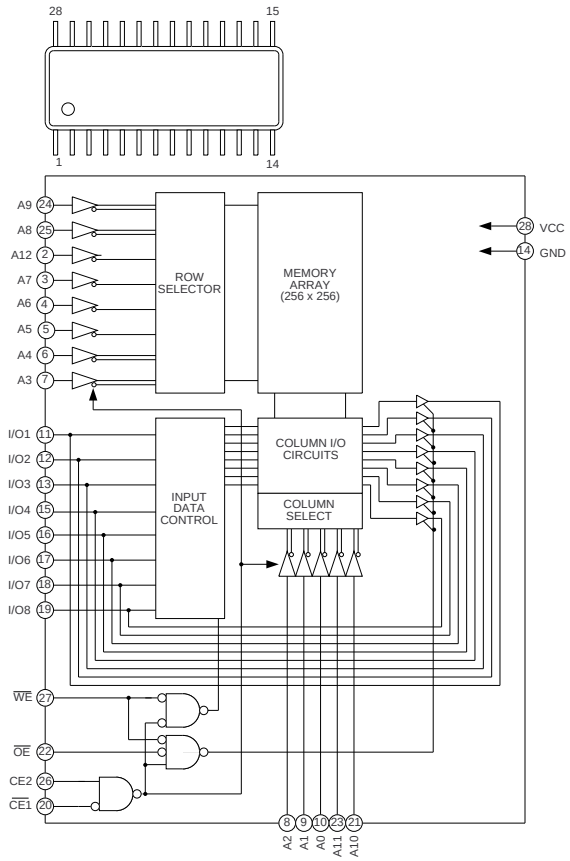
**IC18: VHiLR38292/-1 (LR38292)**



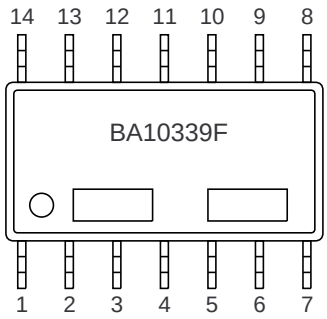
### IC22: VHiLH5116NA10 (LH5116NA-10)

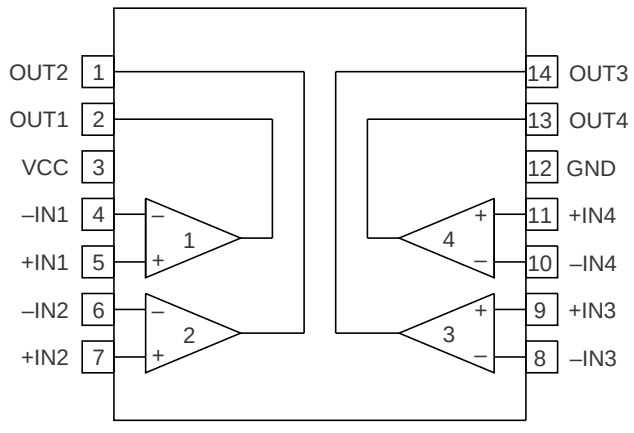



### IC23, 24: VHiLH5268TH10 (LH5268)



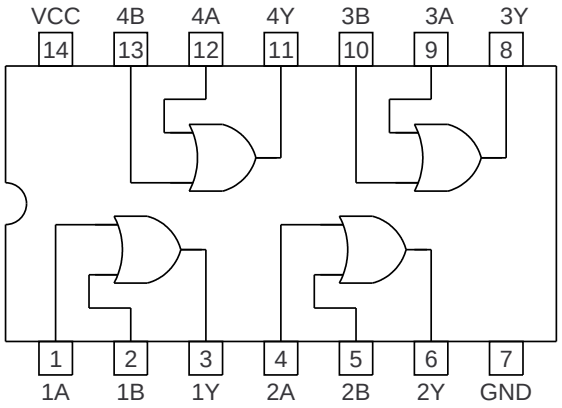

### IC130: VHiBA10339F-1 (BA10339F)



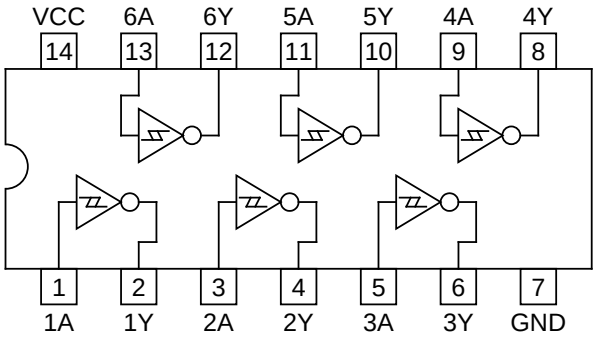




PIN DESCRIPTION

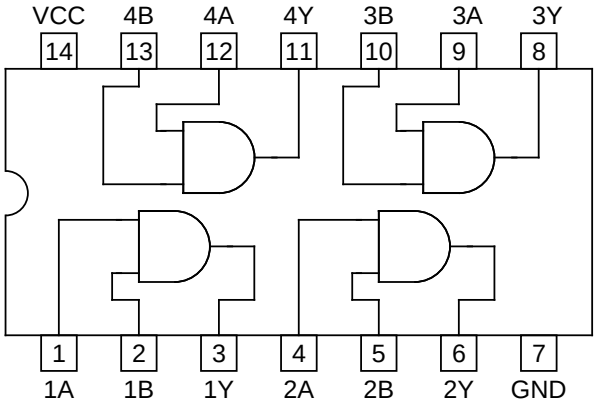
**IC113: VHiMC74HC32F- (MC74HC32AF)**



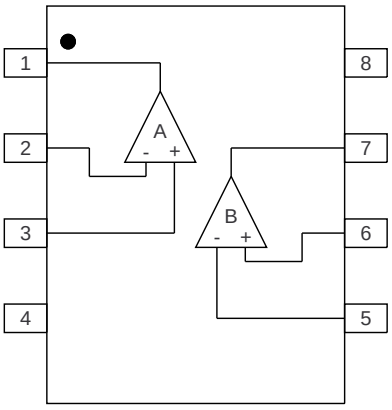

**IC109: VHiMC74HC14F- (MC74HC14AF)**



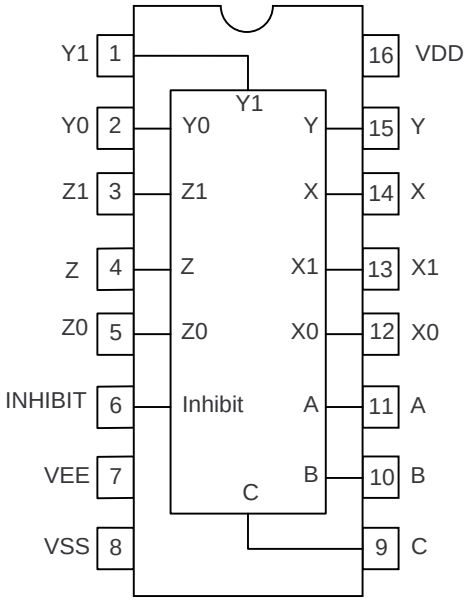

**IC121, 122: VHiMC74HC08F- (MC74HC08AF)**




**IC111: VHiNJM2902M-1 (NJM2902M)**
**IC115: VHiNJM2904M-1 (NJM2904M)**

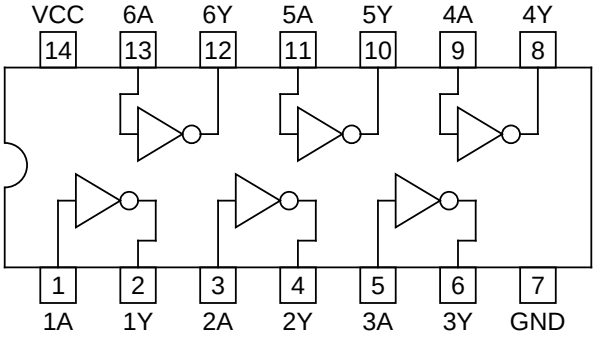



**IC119: VHiBU4053BCF1 (BU4053BCF)**

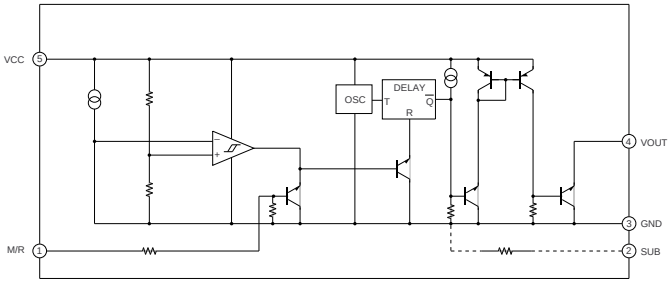



(TOP VIEW)

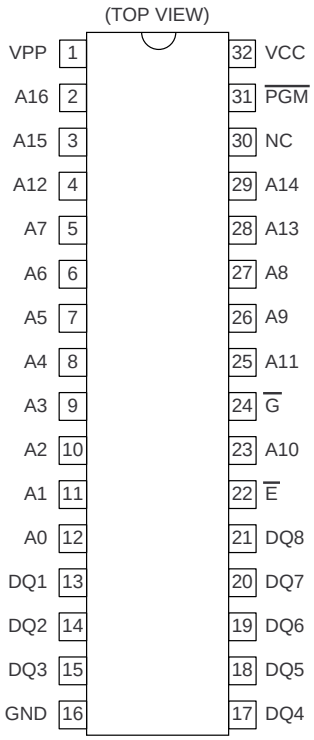
**IC114, 120: VHiMC74HC04F- (MC74HC04AF)**




**IC110: VHiPST596CMT1 (PST596CNR)**



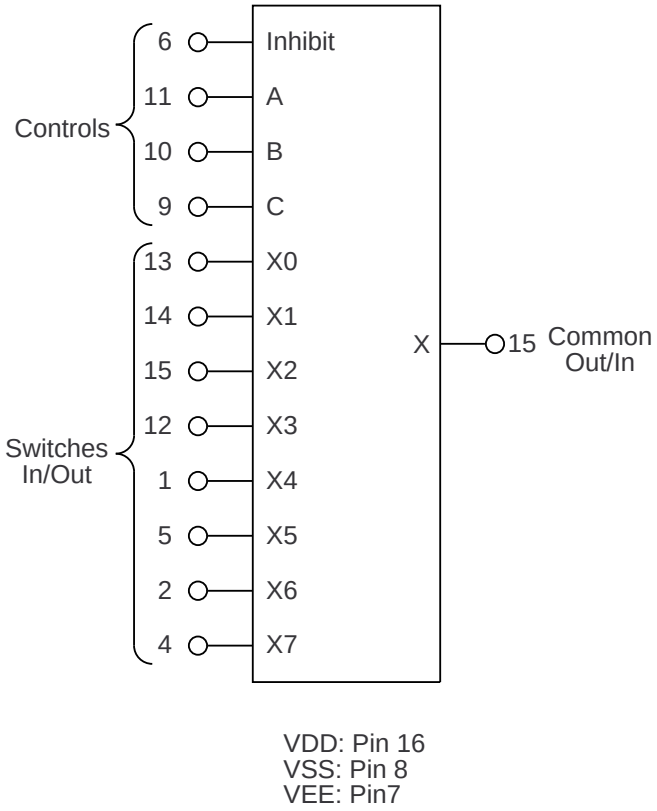
## IC5, 11: VHi27C04010Ti (27C040)



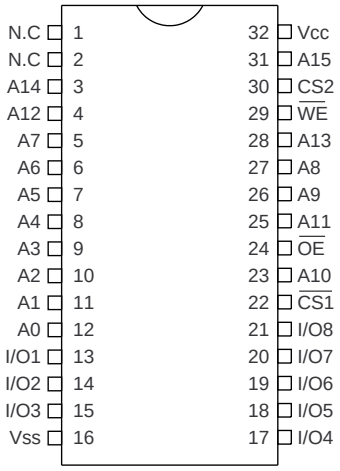

| Pin name | Signal |
|---|---|
| A0~A16 | Address input |
| $\overline{E}$ | Chip enable |
| $\overline{G}$ | Output enable |
| GND | Ground |
| $\overline{PGM}$ | Program |
| DQ1~DQ8 | Data output (Program input) |
| VCC | +5V power |
| VPP | +12.5V power(*) |

(*) Only in the program mode

## IC116: VHiNJU4051M-1 (NJU4051BM)

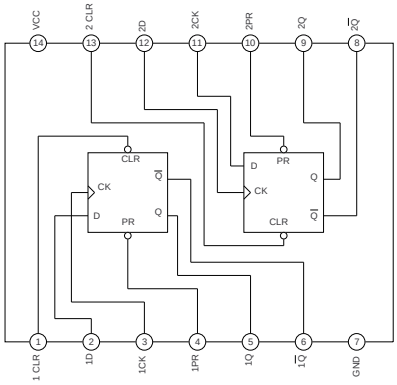



## IC2, 9: VHiKM68512G5L (KM68512ALG-5L)




| Name | Function |
|---|---|
| A0~A15 | Address Inputs |
| $\overline{WE}$ | Write Enable Input |
| $\overline{CS1}$,CS2 | Chip Select Input |
| $\overline{OE}$ | Output Enable Input |
| I/O1~I/O8 | Date Input/Output |
| Vcc | Power |
| Vss | Ground |
| N.C | No Connection |

## IC124, 129: VHiMC74HC74F- (MC74HC74AF)




| INPUT | | | | OUTPUT | |
|---|---|---|---|---|---|
| $\overline{PR}$ | $\overline{R}$ | CLK | D | Q | $\overline{Q}$ |
| L | H | X | X | H | Q |
| H | L | X | X | L | L |
| L | L | X | X | H* | H* |
| H | H | ↑ | H | H | L |
| H | H | ↑ | L | L | H |
| H | H | ↓ | X | NO Change | |

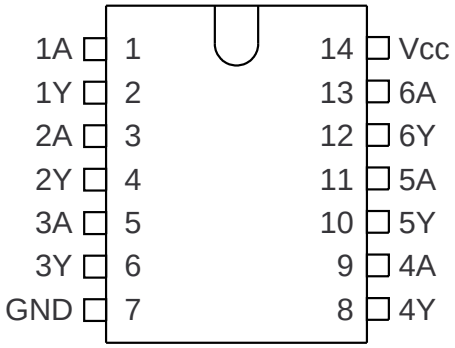
H:High L:Low X:H or L

## IC25: VHiTLS1049/-1 (TLS1049)

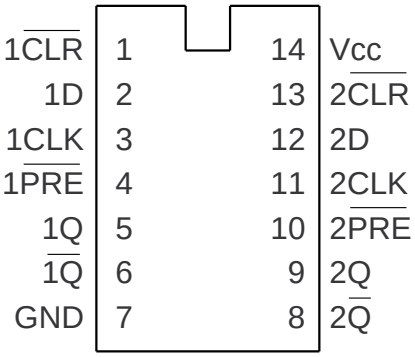

| No | Terminal Name | Type | | Function |
|---|---|---|---|---|
| 1 | SEL | IN | D | Input pre-amp gain switching terminal.<br>L: Internal, H: External |
| 2 | VREF+ | OUT | A | VREF upper voltage monitor terminal for AD. |
| 3 | AVO | OUT | A | AD input monitor terminal. |
| 4 | VRLM | IN | A | In the binary mode, upper voltage minimum limit setting terminal for AD. |
| 5 | VRHF | IN | A | In the halftone mode, upper voltage setting terminal for AD. |
| 6 | PHCAP | I/O | A | External capacitor connecting terminal for AGC. |
| 7 | CLPB | IN | A | DC clamp, offset canceler, and signal input. |
| 8 | CLPF | OUT | A | Sample hold buffer output. |
| 9 | SHCAP | I/O | A | For sample hold, external capacitor connecting terminal. |
| 10 | VO | OUT | A | Input pre-amp output |
| 11 | M-EX | IN | A | When setting the external gain, minus input of input pre-amp. |
| 12 | VI | IN | A | Video signal input. |
| 13 | VC | I/O | A | Internal reference voltage smoothing terminal.<br>External capacitor 1mF connection. |
| 14 | VH | OUT | A | Voltage output for VRHF and VRLM generation.<br>Terminal voltage: 3.65V |
| 15 | AGND | PS | – | Analog GND power supply. |
| 16 | DGND | PS | – | Digital GND power supply. |
| 17 | $\overline{\text{PHISH}}$ | IN | D | Control input for sample hold. L: Sample, H: Hold |
| 18 | ADCK | IN | D | Reference clock input for AD converter. |
| 19 | B0 | OUT | D | AD converter data output B0. LSB |
| 20 | B1 | OUT | D | AD converter data output B1. |
| 21 | B2 | OUT | D | AD converter data output B2. |
| 22 | B3 | OUT | D | AD converter data output B3. |
| 23 | B4 | OUT | D | AD converter data output B4. |
| 24 | B5 | OUT | D | AD converter data output B5. MSB |
| 25 | $\overline{\text{PHIBL}}$ | IN | D | Control input for DC clamp. L: Clamp |
| 26 | $\overline{\text{GTW}}$ | IN | D | Binary setting voltage switching control input for AGC.<br>H: Binary minimum limit, L: AVO |
| 27 | $\overline{\text{B}}$/H | IN | D | Halftone, binary setting voltage switching terminal for AGC.<br>H: Halftone, L: Binary minimum limit, AVO |
| 28 | PGST | IN | D | External capacitor discharge control input for AGC.<br>L: Discharge |
| 29 | DVCC | PS | – | Digital VCC power supply. |
| 30 | AVCC | PS | – | Analog VCC power supply. |

(Note 16) The abbreviations in the column of "Type"S are as follows; IN: Input, OUT: Output, I/O: Input/Output, A: Analog, D: Digital, PS: Power supply pin.

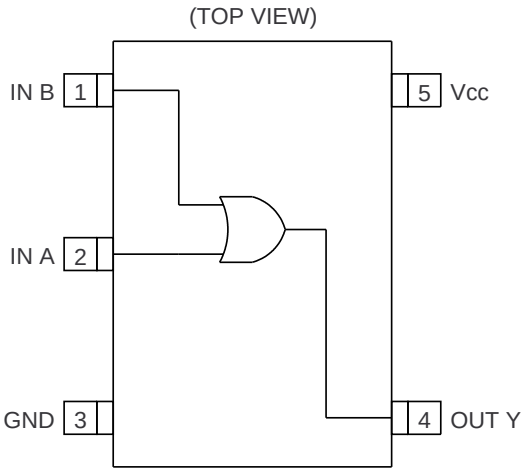
**IC106, 118: VHiALS04BNS-1 (SN74ALS04BNS)**



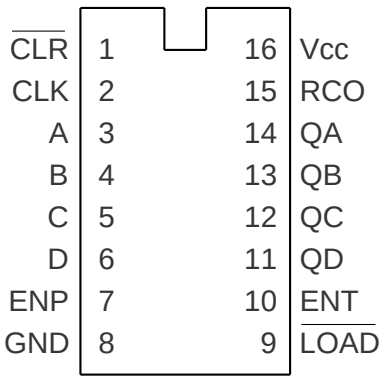

**IC102, 117: VHiALS74ANS-1 (SN74ALS74ANS)**



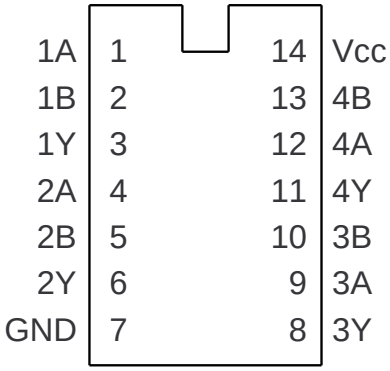

**IC104: VHiTC7SH32FU/ (TC7SH32FU)**



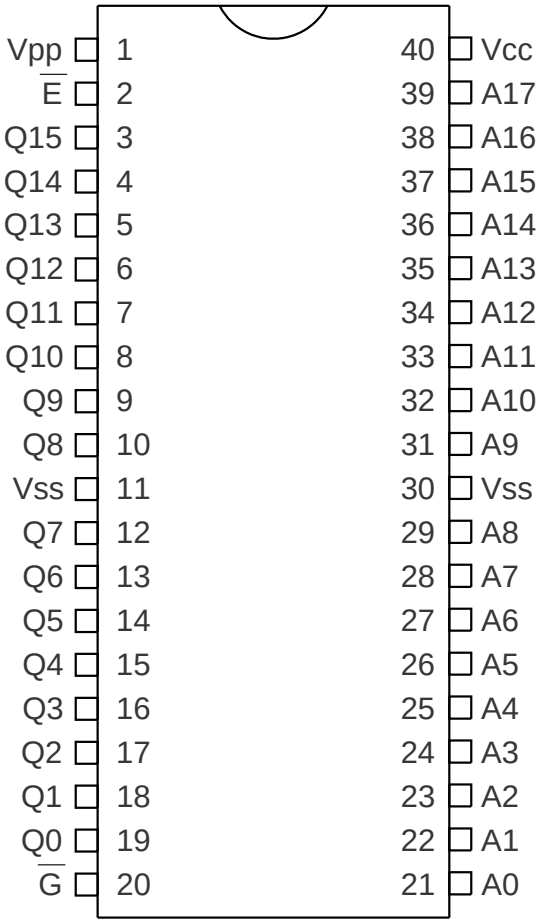

**IC1: VHiALS163BNS/ (SN74ALS163BNS)**



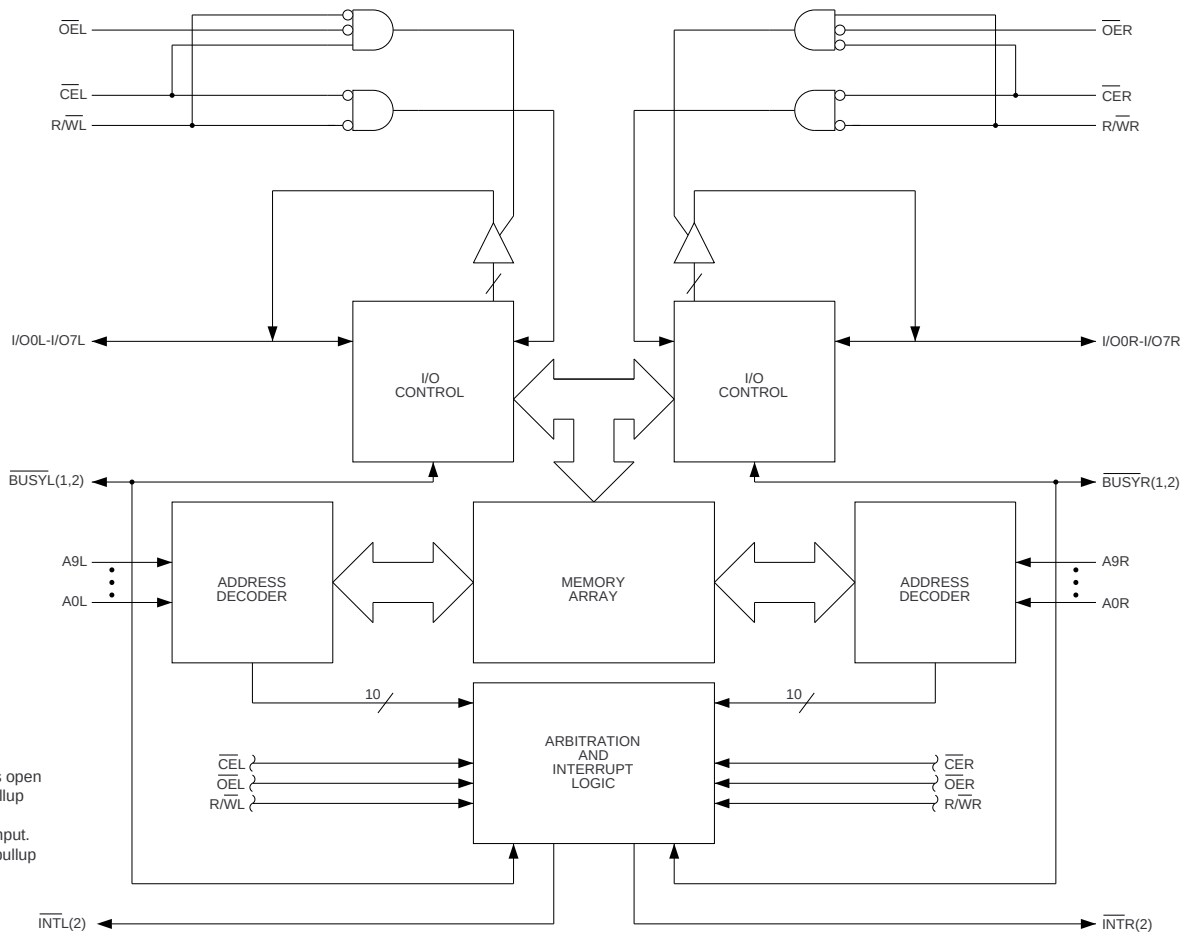

**IC107, 108: VHiALS32NS/-1 (SN74ALS32NS)**
**IC101, 132: VHiALS08NS/-1 (SN74ALS08NS)**
**IC133: VHiALS20ANS-1 (SN74ALS20ANS)**



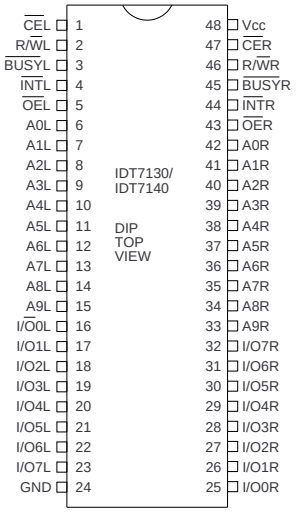

**IC10: VHiM27C400210 (M27C4002-10F1)**



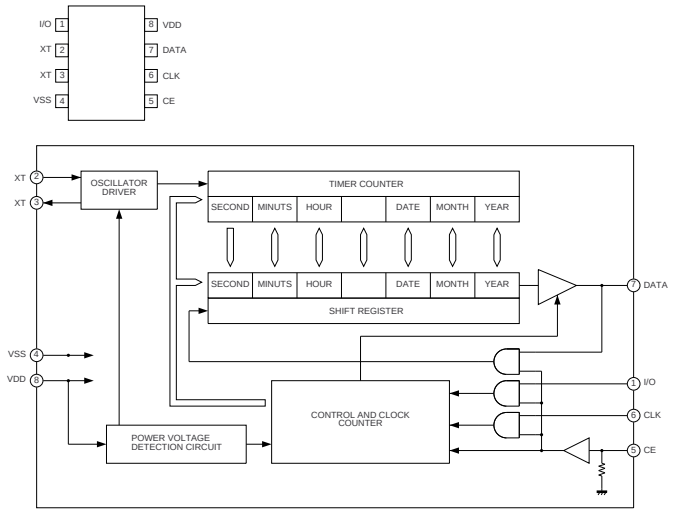
## IC16: VHiiDT7130-55 (IDT7130SA55PF)
## IC17: VHiiDT7140-55 (IDT7140SA55PF)




NOTES:
1. IDT7130(MASTER):BUSY is open drain output and requires pullup resistor of 270Ω. IDT7140(SLAVE):BUSY is input.
2. Open drain output:requires pullup resistor of 270Ω.



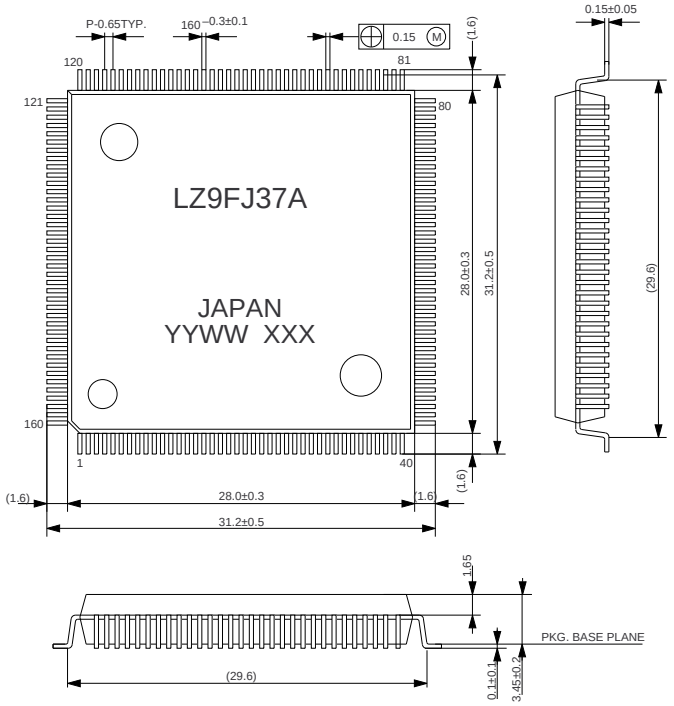
## IC127: VHiNJU6355E-1 (NJU6355E)




| No. | Function | Description |
|---|---|---|
| 1 | I/$\overline{O}$ | DATA pin I/O select pin "H": Data input<br>"L": Data output<br>When, however, CE pin is in "L", DATA pin is in high impedance |
| 2<br>3 | XT<br>XT | Crystal oscillator connection pin (f=32.768KHz)<br>For the capacity of Cg and Cd, refer to the series composition table |
| 5 | CE | Chip enable input pin (built-in pull-down resistor),<br>"H": DATA pin allows data input/output<br>"L": DATA pin is in high impedance |
| 6 | CLK | Clock input pin: Data are inputted or output in synchronization with this clock<br>When, however, CE pin is in "L", DATA pin is in high impedance |
| 7 | DATA | Serial timer data I/O pin |
| 8<br>4 | VDD<br>VSS | Power pin +5V<br>Power pin GND |

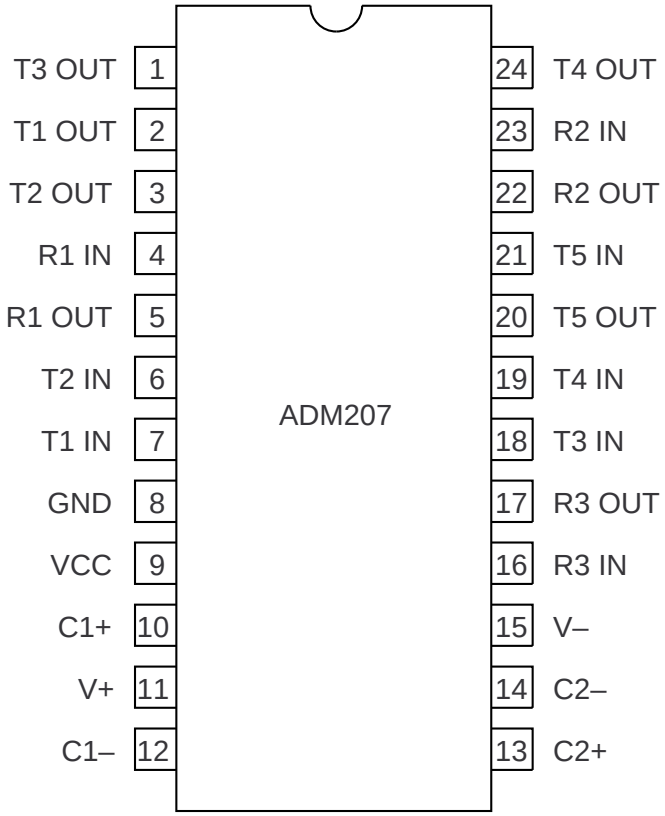
| I/O | CE | DATA pin |
|---|---|---|
| H | H | Input |
| L | H | Output |
| H | L | High impedance |
| L | L | High impedance |

## IC14: VHiLZ9FJ37/-1 (LZ9FJ37A)




## RS232C I/F PWB

## IC1: VHiADM207AN-1 (ADM207AM)



M E M O

# SHARP PARTS GUIDE

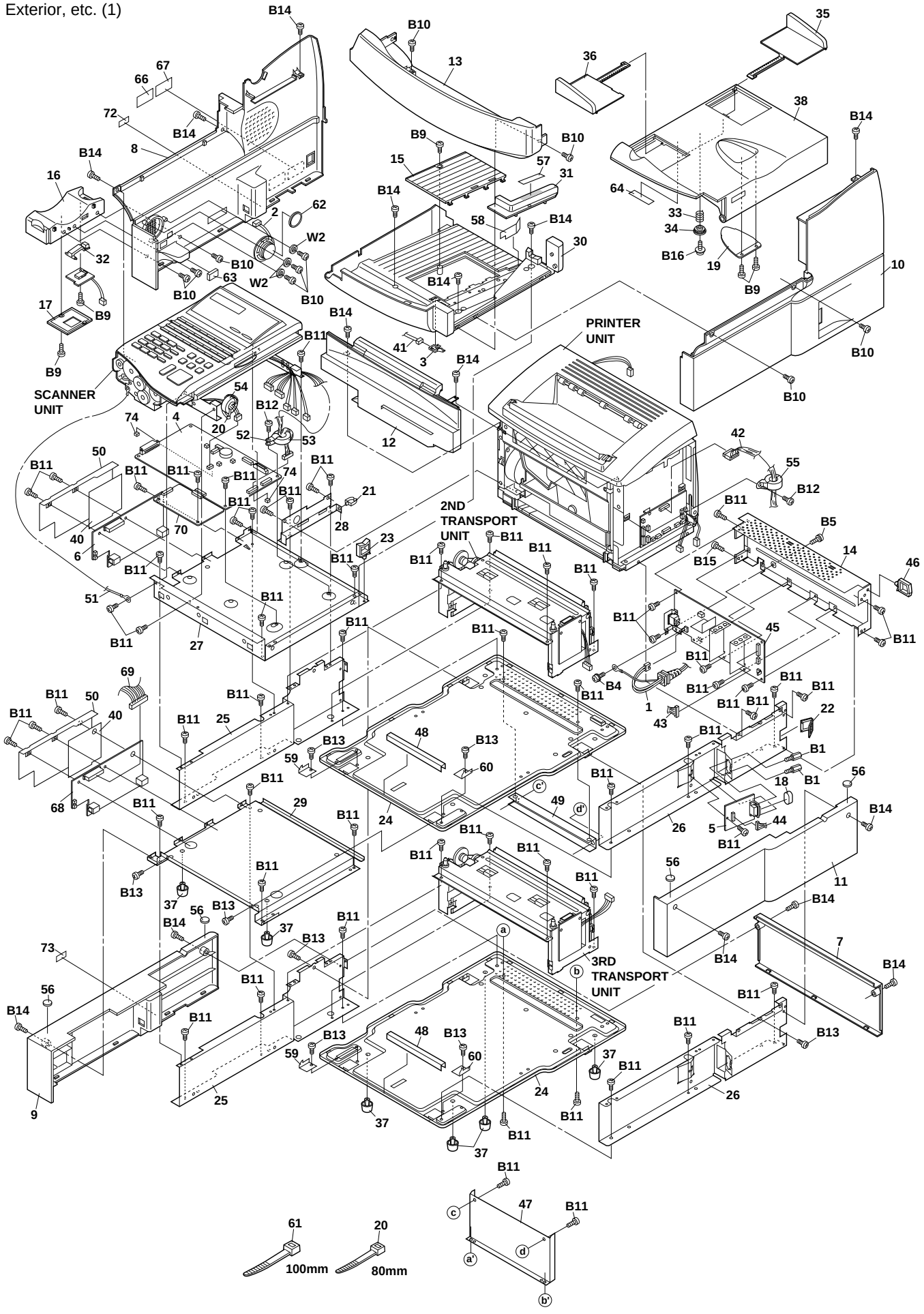
## MODEL FO-6600

CONTENTS



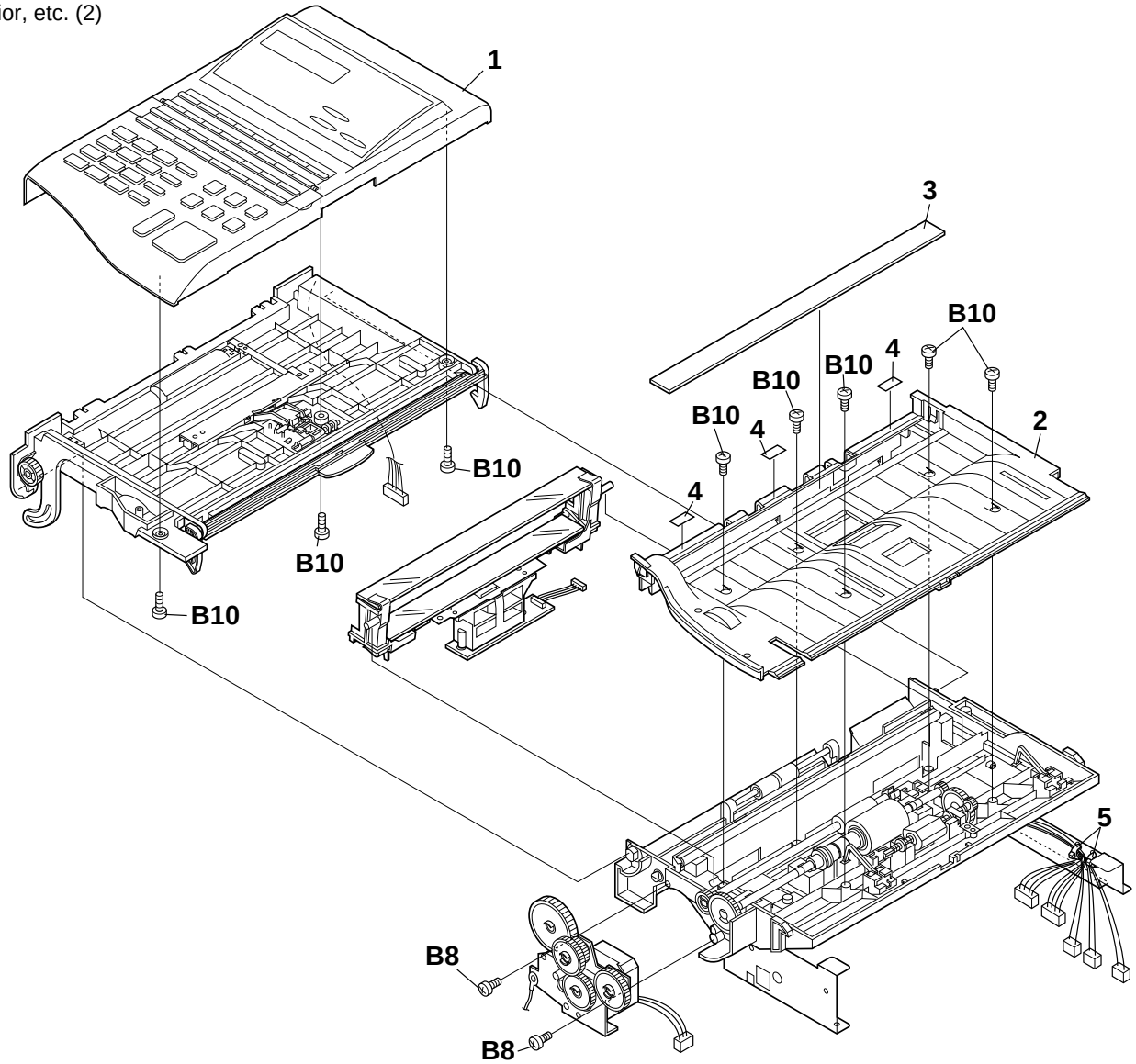
Because parts marked with "⚠" is indispensable for the machine safety maintenance and operation, it must be replaced with the parts specifi to the product specification.

[1] Exterior, etc. (1)

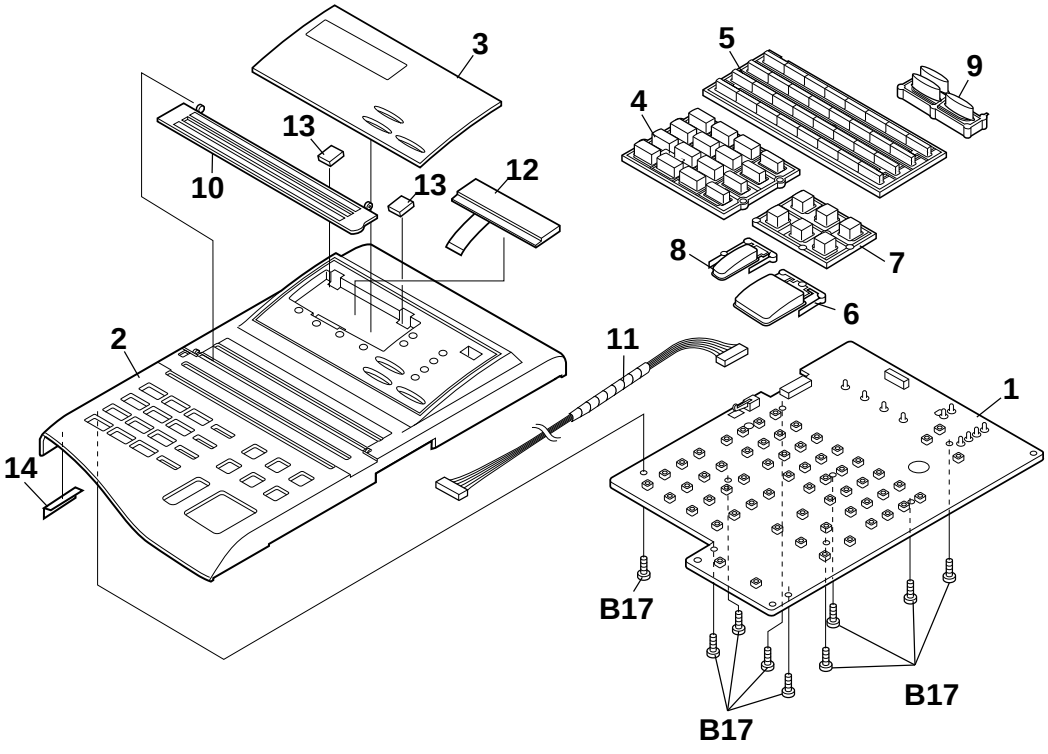


| NO. | PARTS CODE | PRICE RANK | NEW MARK | PART RANK | DESCRIPTION |
|---|---|---|---|---|---|
| [1] Exterior, etc.(1) | | | | | |
| 1 | CCNW-4276XH01 | AU | | C | AC cord ass'y |
| 2 | CCNW-4557SC01 | AM | | C | Speaker ass'y |
| 3 | CSW-M2222SC01 | AE | | B | Paper sensor ass'y |
| 4 | DCEKC081KSCZZ | CR | N | E | Control PWB unit(Within ROM) |
| 5 | DCEKI497ASC01 | BC | | E | RS232C I/F PWB unit |
| 6 | DCEKL341BSC01 | BG | | E | TEL-Liu 1/Hook switch PWB unit |
| 7 | GCABB2276SCZZ | AN | | D | Rear panel |
| 8 | GCABL2272SCZZ | AW | | D | Left side panel, top |
| 9 | GCABL2275SCZZ | AS | | D | Left side panel, bottom |
| 10 | GCABR2273SCZZ | AW | | D | Right side panel, top |
| 11 | GCABR2274SCZZ | AS | | D | Right side panel, bottom |
| 12 | GCOVA2363SCZZ | AQ | | C | Printer front cover |
| 13 | GCOVA2364SCUZ | AT | N | C | Scanner cover |
| 14 | GCOVA2367SCZA | AP | | C | Power supply PWB cover |
| 15 | GCOVA2371SCZZ | AL | | C | ROM cover |
| 16 | GDAI-2074SCZZ | AK | | C | Handset cover, top |
| 17 | GDAI-2075SCZZ | AE | | C | Handset cover, bottom |
| 18 | GFTAF2110SCZZ | AC | | C | I/F cap |
| 19 | GMADZ2024SCZZ | AF | | C | Hopper window |
| 20 | LBNDJ2007SCZZ | AA | | C | Band(80mm) |
| 21 | LHLDW1006FCZZ | AA | | C | Mini clamp(UAMS-09-0) |
| 22 | LHLDW2156SCZZ | AC | | C | Edge holder |
| 23 | LHLDW2157SCZZ | AC | | C | Wire holder |
| 24 | LPLTM2806SCZZ | AY | | C | Bottom plate |
| 25 | LPLTM2807SCZZ | AT | | C | Left side chassis |
| 26 | LPLTM2808SCZZ | AU | | C | Right side chassis |
| 27 | LPLTM2809SCZZ | AX | | C | Top plate, top |
| 28 | LPLTM2810SCZZ | AG | | C | Printer bracket |
| 29 | LPLTM2827SCZZ | AU | | C | Top plate, bottom |
| 30 | LPLTP2811SCZZ | AY | | C | Inner tray |
| 31 | LPLTP2812SCZB | AL | N | C | Paper setting plate |
| 32 | MLEVP2229SCZZ | AE | | C | Hook switch lever |
| 33 | MSPRC2856SCZZ | AC | | C | Hopper spring |
| 34 | NGERP2287SCZZ | AC | | C | Pinion gear |
| 35 | PGIDP2454SCZZ | AG | | C | Hopper guide, right |
| 36 | PGIDP2455SCZZ | AF | | C | Hopper guide, left |
| 37 | PGUMS2135SCZZ | AC | | C | Foot |
| 38 | PHOP-2091SCZZ | AU | | C | Hopper |
| 40 | PSHEZ3225SCZZ | AF | | C | TEL-Liu 1 PWB sheet |
| 41 | QCNW-4558SCZZ | AE | | C | Paper sensor cable |
| 42 | QCNW-4559SCZZ | BA | | C | Printer cable |
| 43 | QCNW-4563SCZZ | AP | | C | Power cable |
| 44 | QCNW-4564SCZZ | AS | | C | I/F cable |
| ⚠ 45 | RDENT2115SCZZ | BR | N | E | Power supply PWB unit |
| 46 | LHLDW2158SCZZ | AC | | C | Wire holder |
| 47 | LPLTM2857SCZZ | AL | | C | Bottom plate bracket, bottom |
| 48 | PHOG-2073SCZZ | AF | | C | Edging |
| 49 | LPLTM2856SCZZ | AG | | C | Bottom plate braket, top |
| 50 | LPLTM2854SCZZ | AK | | C | TEL-Liu PWB bracket |
| 51 | QCNW-4668SCZZ | AC | | C | Earth cable |
| 52 | LHLDW0004SCZZ | AB | | C | Clamp |
| ⚠ 53 | RCORF2064SCZZ | AE | | B | Core |
| ⚠ 54 | RCORF2094SCZZ | AE | | B | Core |
| ⚠ 55 | RCORF7009XCZZ | AR | | B | Core |
| 56 | PSHEZ3264SCZZ | AC | | C | Spacer |
| 57 | TLABH4066SCZZ | AC | | D | Paper setting plate label |
| 58 | PSHEZ3267SCZA | AG | N | C | Inner tray sheet |
| 59 | PTME-2051SCLZ | AE | | C | Cassette lock plate, left |
| 60 | PTME-2051SCRZ | AE | | C | Cassette lock plate, right |
| 61 | LBNDJ2006SCZZ | AA | | C | Band(100mm) |
| 62 | PCUSG2070SCZZ | AB | | C | Speaker cushion |
| 63 | PCUSS2103SCZZ | AC | N | C | Left side top panel cushion |
| 64 | PSHEZ3273SCZZ | AC | N | C | Hopper sheet |
| 66 | TLABS4434SCZZ | AE | N | D | FDA label |
| 67 | TSPC-3741SCZZ | AD | N | D | Specifications label |
| 68 | DCEKL341BSC02 | BG | N | E | TEL-Liu 2 PWB unit |
| 69 | QCNW-4781SCZZ | AY | N | C | TEL-Liu 2 cable |
| 70 | DCEKC082KSCZZ | CC | N | E | Line control PWB unit |
| 72 | TLABZ4507SCZZ | AC | N | D | Line 1 label |
| 73 | TLABZ4508SCZZ | AC | N | D | Line 2 label |
| 74 | PCUSS2110SCZA | AC | N | C | PWB cushion |

[2] Exterior, etc. (2)

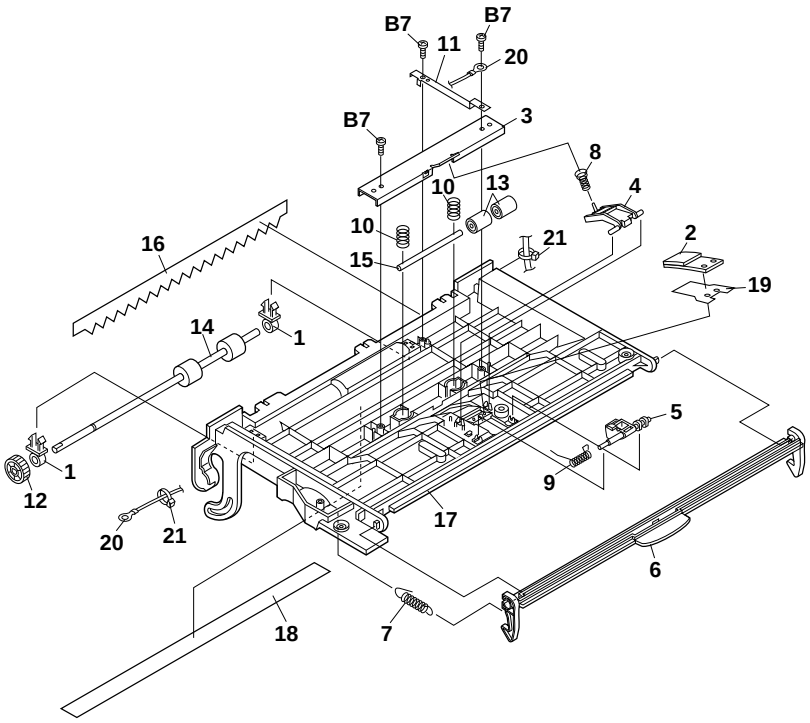



[3] Operation panel unit

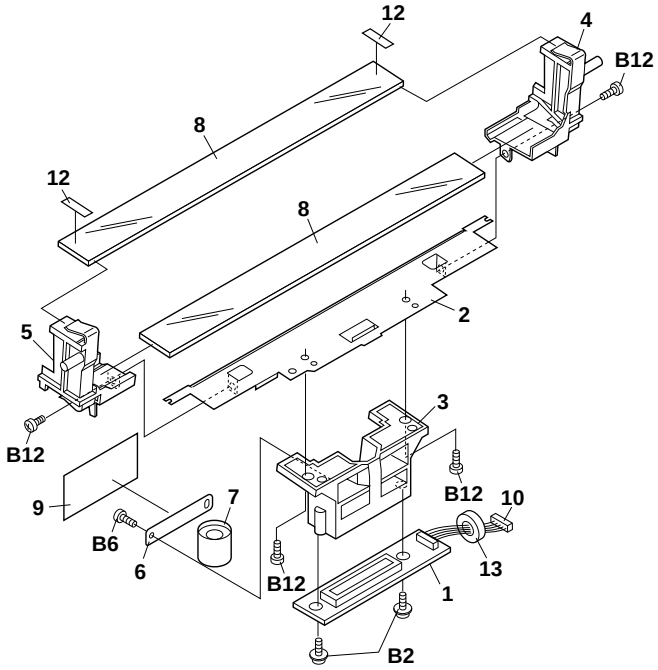


| NO. | PARTS CODE | PRICE RANK | NEW MARK | PART RANK | DESCRIPTION |
|---|---|---|---|---|---|
| [2] Exterior, etc.(2) | | | | | |
| 1 | CCASP2083SC56 | BP | N | E | Operation panel unit |
| 2 | PGIDP2459SCZZ | AS | | C | Document guide lower |
| 3 | PGLS-2057SCZA | AF | N | C | Reader glass |
| 4 | PSHEZ3254SCZZ | AC | | C | Dustproof sheet |
| 5 | LBNDJ2007SCZZ | AA | | C | Band |
| [3] Operation panel unit | | | | | |
| 1 | DCEKP496ASC02 | BE | N | E | Operation panel PWB unit |
| 2 | GCASP2083SCZZ | AT | | D | Panel case |
| 3 | HPNLC2386SCZZ | AL | N | C | Decoration panel |
| 4 | JBTN-2184SCZZ | AK | | C | 12 key |
| 5 | JBTN-2185SCZZ | AH | | C | Direct key |
| 6 | JBTN-2186SCZZ | AE | | C | Start key |
| 7 | JBTN-2187SCZZ | AE | | C | Stop key |
| 8 | JBTN-2188SCZZ | AE | | C | Mode key |
| 9 | JBTN-2189SCZA | AE | N | C | Change key |
| 10 | LPLTP2823SCZZ | AF | | C | Page plate |
| 11 | QCNW-4554SCZZ | AU | | C | Panel cable |
| 12 | VVLLMG2025TPR | BA | | B | LCD |
| 13 | PCUSS2097SCZZ | AC | | C | LCD cushion |
| 14 | PSHEZ3270SCZZ | AC | | C | Panel sheet |
| | (Unit) | | | | |
| 901 | CCASP2083SC56 | BP | | E | Operation panel unit |

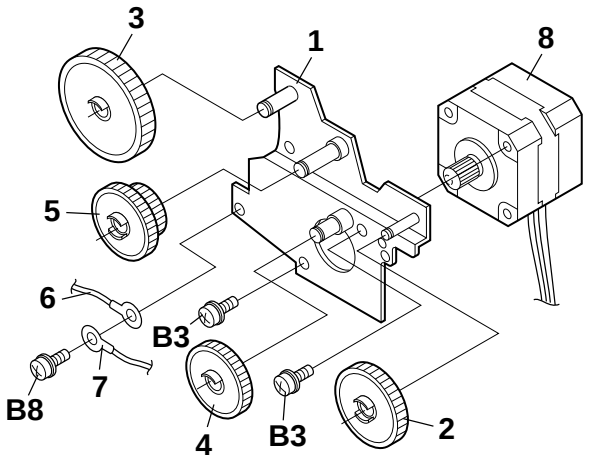
[4] Document guide upper unit




[5] Optical unit

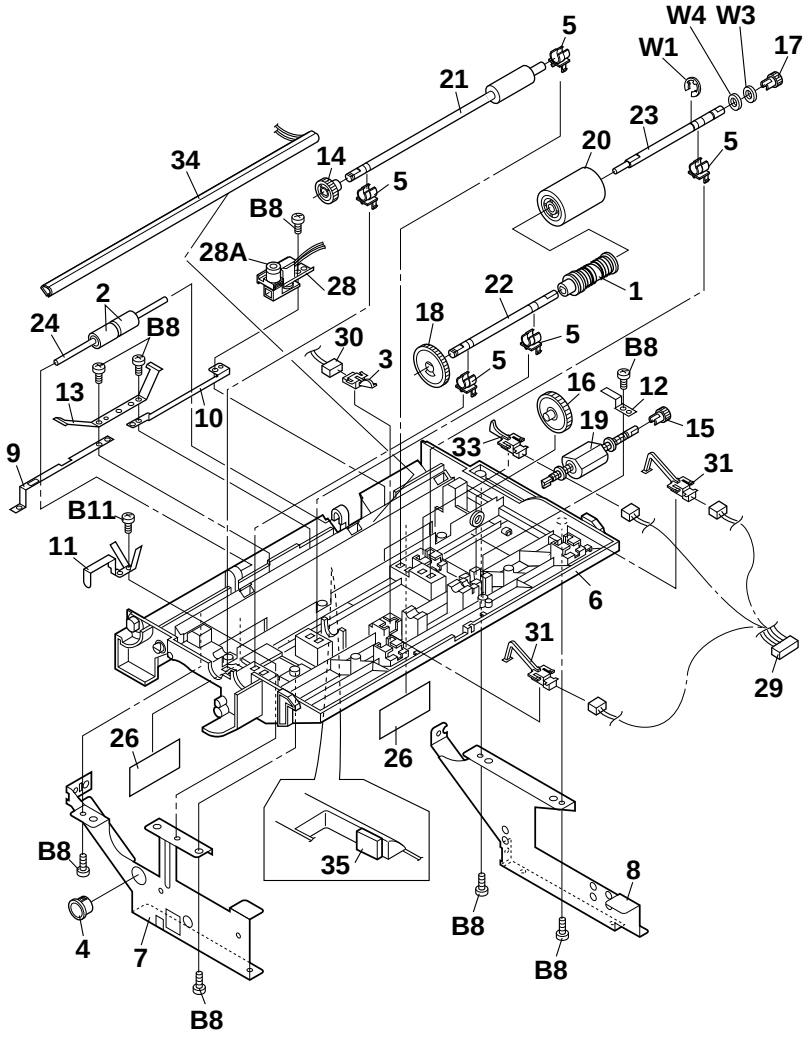



[6] Drive unit

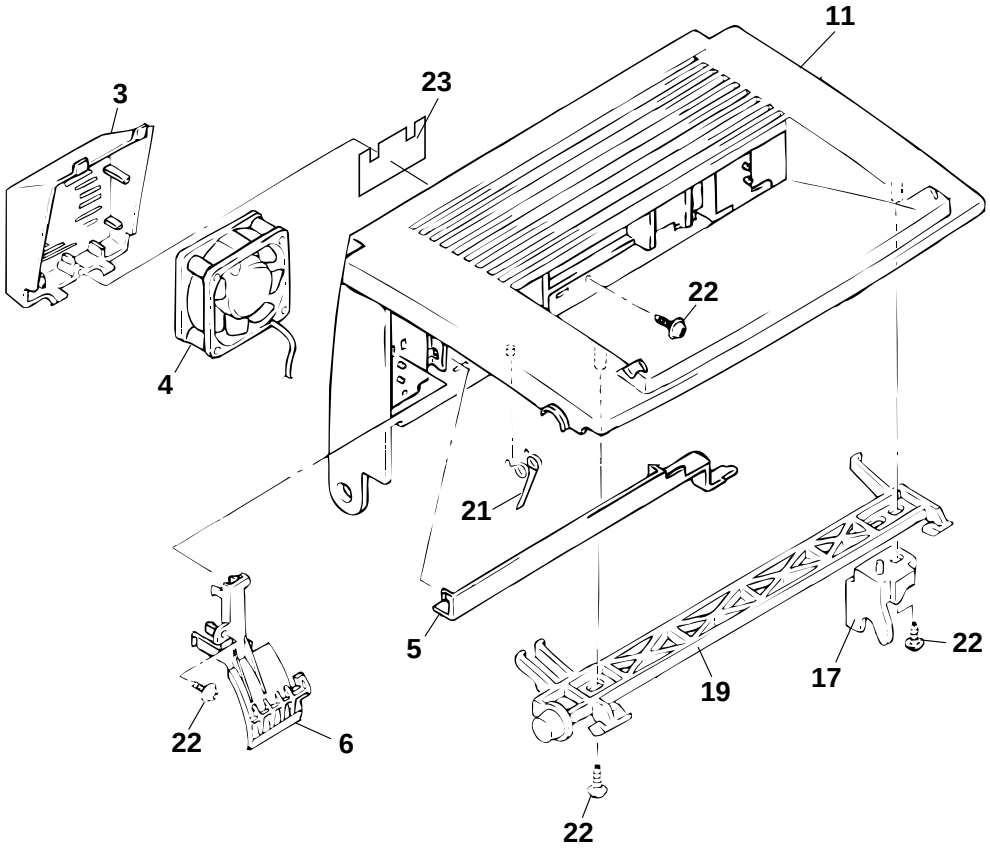


| NO. | PARTS CODE | PRICE RANK | NEW MARK | PART RANK | DESCRIPTION |
|---|---|---|---|---|---|
| [4] Document guide upper unit | | | | | |
| 1 | LBSHP2067SCZZ | AC | | C | Bearing |
| 2 | LPLTG2820SCZZ | AH | | C | Separator rubber |
| 3 | LPLTM2822SCZZ | AF | | C | Reinforcement bracket |
| 4 | LPLTP2819SCZZ | AD | | C | Separator plate |
| 5 | LPLTP2821SCZZ | AD | | C | Transfer plate |
| 6 | MLEVP2230SCZZ | AG | | C | Release lever |
| 7 | MSPRC2843SCZZ | AC | | C | Release lever spring |
| 8 | MSPRC2844SCZZ | AA | | C | Separate spring |
| 9 | MSPRC2845SCZZ | AC | | C | Paper feed pressure spring |
| 10 | MSPRC2867SCZZ | AB | | C | Pinch roller spring |
| 11 | MSPRP2846SCZZ | AD | | C | Earth plate spring 4 |
| 12 | NGERH2327SCZZ | AC | | C | Transfer roller gear |
| 13 | NROLP2300XHZZ | AC | | C | Pinch roller |
| 14 | NROLR2336SCZZ | AM | | C | Transfer roller |
| 15 | NSFTZ2263SCZZ | AD | | C | Pinch roller shaft |
| 16 | PBRS-2047SCZZ | AG | | C | Electro-static discharger brush |
| 17 | PGIDP2456SCZZ | AT | | C | Document guide upper |
| 18 | PSHEZ3205SCZZ | AD | | C | Rear sheet |
| 19 | PSHEZ3249SCZZ | AC | | C | Separator sheet |
| 20 | QCNW-4560SCZZ | AD | | C | Electro-static discharger cable |
| 21 | LBNDJ2007SCZZ | AA | | C | Band |
| [5] Optical unit | | | | | |
| 1 | DCEKD495ASC01 | AZ | | E | CCD PWB unit |
| 2 | LANGH2803SCZZ | AF | | C | Lens holder plate |
| 3 | LHLDP2155SCZZ | AG | | C | Lens holder |
| 4 | LPLTP2832SCZA | AF | | C | Mirror hold plate, left |
| 5 | LPLTP2833SCZA | AF | | C | Mirror hold plate, right |
| 6 | MSPRP2842SCZZ | AC | | C | Lens holding spring |
| 7 | PLNS-2050SCZZ | AY | | C | Lens |
| 8 | PMIR-2073SCZZ | AL | | C | Mirror |
| 9 | PSHEZ3204SCZZ | AC | | C | Shading sheet |
| 10 | QCNW-4555SCZZ | AL | | C | CCD cable |
| 12 | PSHEZ3263SCZZ | AC | | C | Mirror lock sheet |
| ⚠ 13 | RCORF2063SCZZ | AE | | B | Core |
| | (Unit) | | | | |
| 901 | DCYOD495ASC01 | BN | N | E | Optical unit |
| [6] Drive unit | | | | | |
| 1 | LPLTM2834SCZZ | AQ | | C | Motor plate |
| 2 | NGERH2239SCZZ | AC | | C | Reduction gear(14/50) |
| 3 | NGERH2324SCZZ | AD | | C | Idler gear 70 |
| 4 | NGERH2326SCZZ | AD | | C | Idler gear 45 |
| 5 | NGERH2330SCZZ | AE | | C | Slowdown gear |
| 6 | QCNW-4560SCZZ | AD | | C | Electro-static discharger cable |
| 7 | QCNW-4668SCZZ | AC | | C | Earth cable |
| 8 | RMOTZ2124SCZZ | BF | | B | Transfer motor |

[7] Scanner frame unit

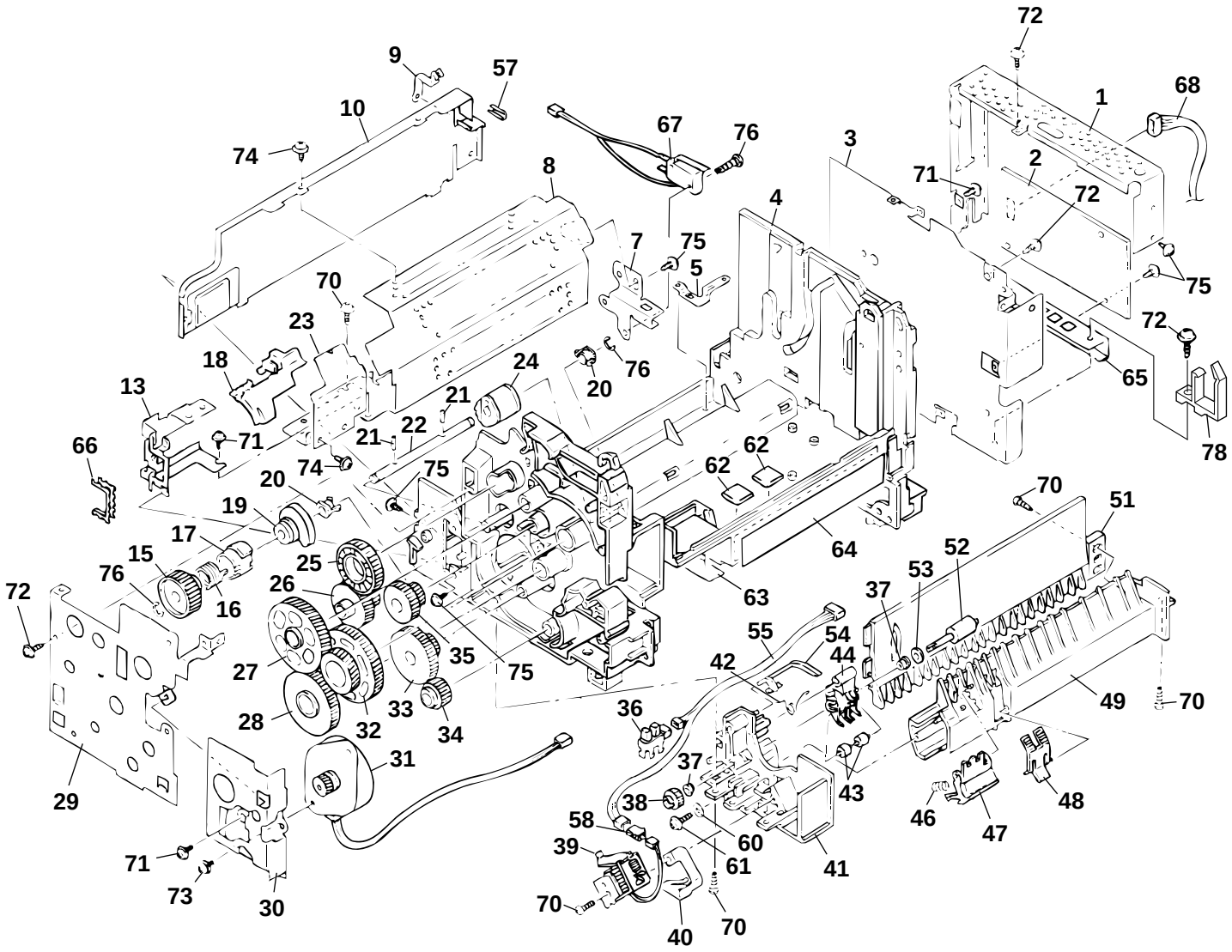



[8] Housing unit



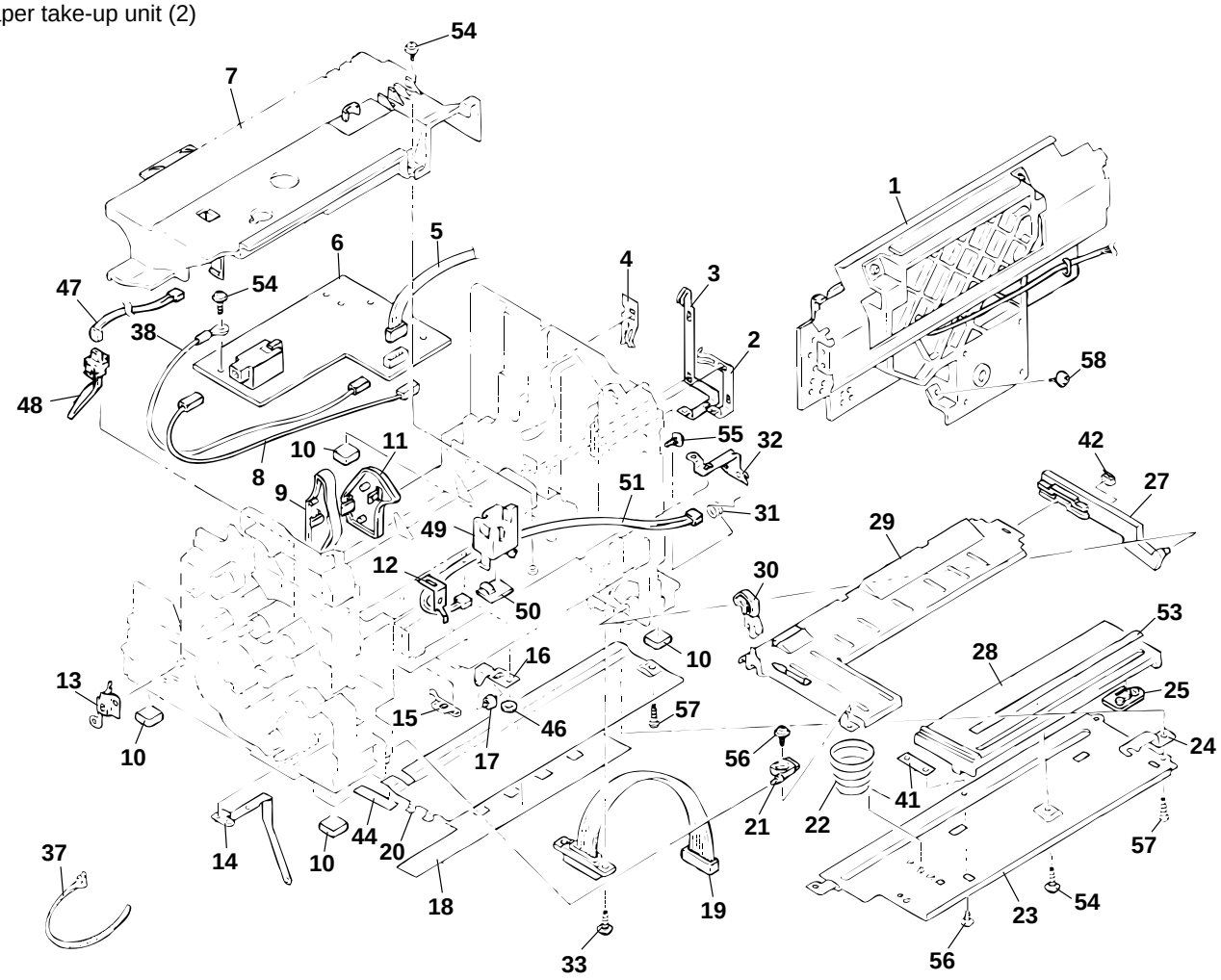
| NO. | PARTS CODE | PRICE RANK | NEW MARK | PART RANK | DESCRIPTION |
|---|---|---|---|---|---|
| [7] Scanner frame unit | | | | | |
| 1 | CBSHP2079SC01 | AK | | C | Paper feed clutch unit |
| 2 | CROLP2300SC01 | AF | | C | Pinch roller |
| 3 | CSW-M2222SC01 | AE | | B | Transfer sensor ass'y |
| 4 | LBSHC2084SCZZ | AC | | C | Bushing |
| 5 | LBSHP2066SCZZ | AC | | C | Bearing |
| 6 | LFRM-2167SCZZ | AW | | C | Scanner frame |
| 7 | LPLTM2813SCZZ | AK | | C | Scanner frame bracket, front |
| 8 | LPLTM2814SCZZ | AK | | C | Scanner frame bracket, rear |
| 9 | MSPRP2838SCZZ | AC | | C | Earth plate spring 1 |
| 10 | MSPRP2839SCZZ | AD | | C | Earth plate spring 2 |
| 11 | MSPRP2840SCZZ | AD | | C | Earth plate spring 3 |
| 12 | MSPRP2841SCZZ | AC | | C | Stopper spring |
| 13 | MSPRP2850SCZZ | AD | | C | Pinch roller spring 2 |
| 14 | NGERH2177SCZZ | AC | | C | Transfer gear 1 |
| 15 | NGERH2319SCZZ | AC | | C | ADF transfer gear |
| 16 | NGERH2320SCZZ | AD | | C | Transfer idler gear |
| 17 | NGERH2322SCZZ | AC | | C | ADF paper feed gear |
| 18 | NGERH2323SCZZ | AD | | C | Paper feed gear |
| 19 | NROLR2337SCZZ | AH | | C | Transfer roller |
| 20 | NROLR2338SCZZ | AK | | C | Paper feed roller |
| 21 | NROLR2339SCZZ | AM | | C | Transfer roller 1 |
| 22 | NSFTZ2260SCZZ | AG | | C | Paper feed roller shaft 1 |
| 23 | NSFTZ2261SCZZ | AH | | C | Paper feed roller shaft 2 |
| 24 | NSFTZ2262SCZZ | AE | | C | Pinch roller shaft |
| 26 | PSHEZ3208SCZZ | AC | | C | Dustproof sheet |
| 28 | PSTM-2015SCZZ | AX | | C | Verification stamp |
| | UINK-2009SCZZ | BW | N | S | Stamp ink cartridge only,(1packx2pcs.)x10=20pcs. |
| 29 | QCNW-4562SCZZ | AK | | C | Document/Front sensor cable |
| 30 | QCNW-4612SCZZ | AE | | C | Transfer sensor cable |
| 31 | QSW-Z2236SCZZ | AE | | B | Front sensor |
| 33 | QSW-Z2237SCZZ | AE | | B | Document sensor |
| 34 | VHPSNL14A70-1 | BC | | B | LED |
| 35 | PCUSU2101SCZZ | AC | | C | Scanner frame cushion |
| [8] Housing | | | | | |
| 3 | 0KW0992180302 | AQ | | C | Duct |
| 4 | 0KW0997610201 | BC | | B | Fan motor [M3] |
| 5 | 0KW0992231002 | AG | | C | Cover |
| 6 | 0KW0992230413 | AG | | C | Cover |
| 11 | 0KW0992180104 | BH | N | C | Top cover |
| 17 | 0KW0992100601 | AF | | C | Actuator |
| 19 | 0KW0992180401 | AL | | C | Lock lever |
| 21 | 0KW0992180501 | AF | | C | Torsion spring |
| 22 | 0KW9739030813 | AB | | C | Screw |
| 23 | 0KW0992180701 | AE | | C | Sheet |

[9] Drive/Paper take-up unit (1)

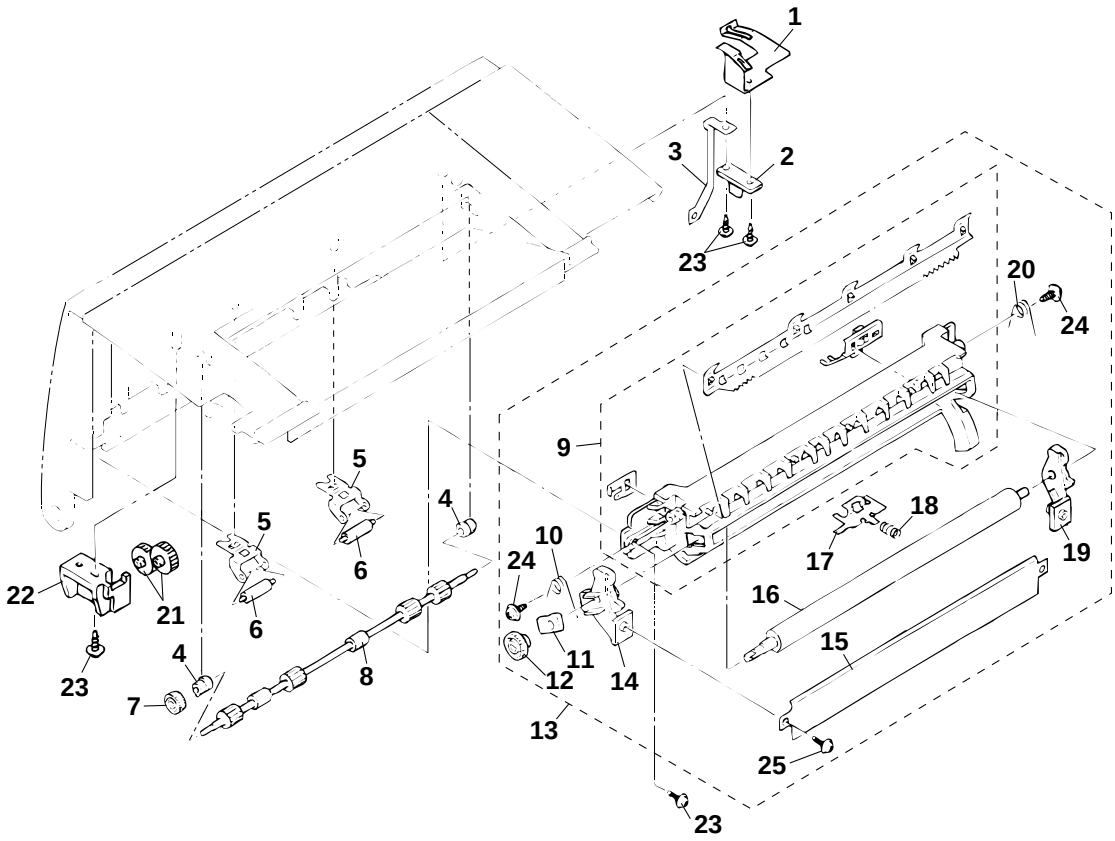


| NO. | PARTS CODE | PRICE RANK | NEW MARK | PART RANK | DESCRIPTION |
|---|---|---|---|---|---|
| [9] Drive/Paper take-up unit(1) | | | | | |
| 1 | 0KW0992230712 | AP | | C | Bracket |
| 2 | 0KW0992011903 | CA | | E | Printer control PWB [PWB-A] |
| 3 | 0KW0992200512 | AQ | | C | Right frame |
| 4 | 0KW0992200117 | BG | | D | Base |
| 5 | 0KW0992202301 | AD | | C | Ground plate |
| 7 | 0KW0992232012 | AD | | C | Plate nut |
| 8 | 0KW0992280102 | AX | | C | Frame |
| 9 | 0KW0992241402 | AD | | C | Ground plate |
| 10 | 0KW0992280201 | AQ | | C | Rear frame |
| 13 | 0KW0992230514 | AF | | C | Bracket, switch |
| 15 | 0KW0992301012 | AG | | C | Gear 40T |
| 16 | 0KW0992301901 | AF | | C | Clutch spring |
| 17 | 0KW0992301502 | AD | | C | Holder |
| 18 | 0KW0992230825 | AH | | C | Cover |
| 19 | 0KW0992300802 | AF | | C | Cam |
| 20 | 0KW0992300901 | AD | | C | Bushing |
| 21 | 0KW0992304001 | AC | | C | Pin |
| 22 | 0KW0992302902 | AM | | C | Shaft |
| 23 | 0KW0992231314 | AF | | C | Frame |
| 24 | 0KW0992300124 | AQ | | C | Roller, Take-up |
| 25 | 0KW0992250301 | AG | | C | Gear 50T |
| 26 | 0KW0992250401 | AG | | C | Gear 22/45T |
| 27 | 0KW0992250213 | AH | | C | Gear 25/72T |
| 28 | 0KW0992250512 | AH | | C | Gear 29/65T |
| 29 | 0KW0992200412 | AL | | C | Left frame |
| 30 | 0KW0992203401 | AQ | | C | Heat-sink |
| 31 | 0KW0992610401 | BF | | B | Motor [M1] |
| 32 | 0KW0992250102 | AL | | C | Gear 44/109T |
| 33 | 0KW0992250701 | AG | | C | Gear 22/57T |
| 34 | 0KW0992251401 | AF | | C | Gear 29T |
| 35 | 0KW0992250601 | AF | | C | Gear 20/41T |
| 36 | 0KW9335141031 | BA | | B | Photo interrupter [PC1] |
| 37 | 0KW0992301401 | AD | | C | Bushing |
| 38 | 0KW0992301102 | AD | | C | Gear 16T |
| 39 | 0KW0992622201 | AV | N | B | Solenoid [SL1] |
| 40 | 0KW0992350301 | AD | | C | Ground plate |
| 41 | 0KW0992350205 | AN | | C | Holder |
| 42 | 0KW0992301804 | AD | | C | Torsion spring |
| 43 | 0KW0992300601 | AD | | C | Roll |
| 44 | 0KW0992303505 | AF | | C | Holder, Roll |
| 46 | 0KW0992304101 | AC | | C | Pressure spring |
| 47 | 0KW0992075101 | BB | | C | Separator, Take-up |
| 48 | 0KW0992302202 | AF | | C | Stopper |
| 49 | 0KW0992350102 | AR | | C | Guide |
| 51 | 0KW0992410112 | AP | | C | Guide |
| 52 | 0KW0992300202 | AR | | C | Roller, Transport |
| 53 | 0KW1200123602 | AC | | C | Washer |
| 54 | 0KW0992302112 | AF | | C | Actuator |
| 55 | 0KW0992605202 | AL | | C | Harness |
| 57 | 0KW0992203301 | AC | | C | Edge cover |
| 58 | 0KW9383251011 | AD | | C | Connector |
| 60 | 0KW0992305201 | AC | | C | Washer |
| 61 | 0KW0992231101 | AC | | C | Shoulder screw |
| 62 | 0KW0956202701 | AF | | C | Rubber foot |
| 63 | 0KW0992203801 | AD | | C | Seal |
| 64 | 0KW0992242301 | AF | | D | Label |
| 65 | 0KW0992281201 | AH | | C | Mounting plate |
| 66 | 0KW0992280301 | AF | | C | Grommet |
| 67 | 0KW0992012102 | AX | | B | Microswitch ass'y [S2] |
| 68 | 0KW0992606801 | AQ | | C | Harness |
| 70 | 0KW9742030813 | AB | | C | Screw |
| 71 | 0KW9735030613 | AB | | C | Screw |
| 72 | 0KW9739030813 | AB | | C | Screw |
| 73 | 0KW9646030813 | AB | | C | Screw |
| 74 | 0KW9770030813 | AC | | C | Screw |
| 75 | 0KW9735030813 | AC | | C | Screw |
| 76 | 0KW9733031413 | AB | | C | Screw |
| 77 | 0KW9721040001 | AB | | C | Washer |
| 78 | 0KW0992280401 | AE | | C | Wiring saddle |

[10] Paper take-up unit (2)

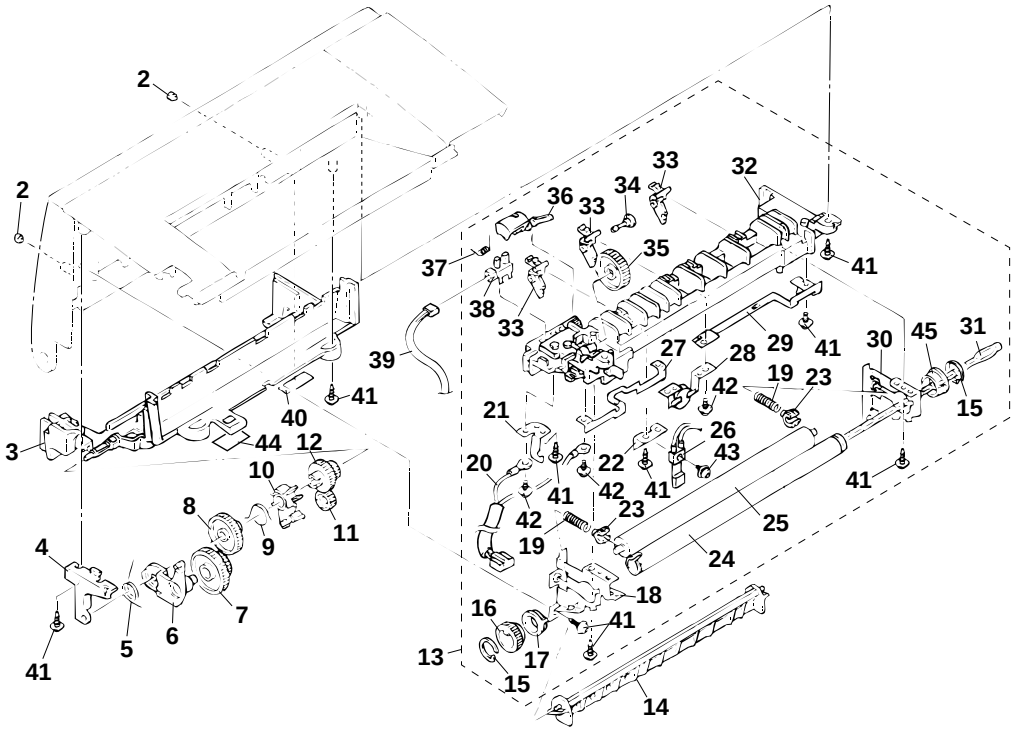



[11] Transfer unit



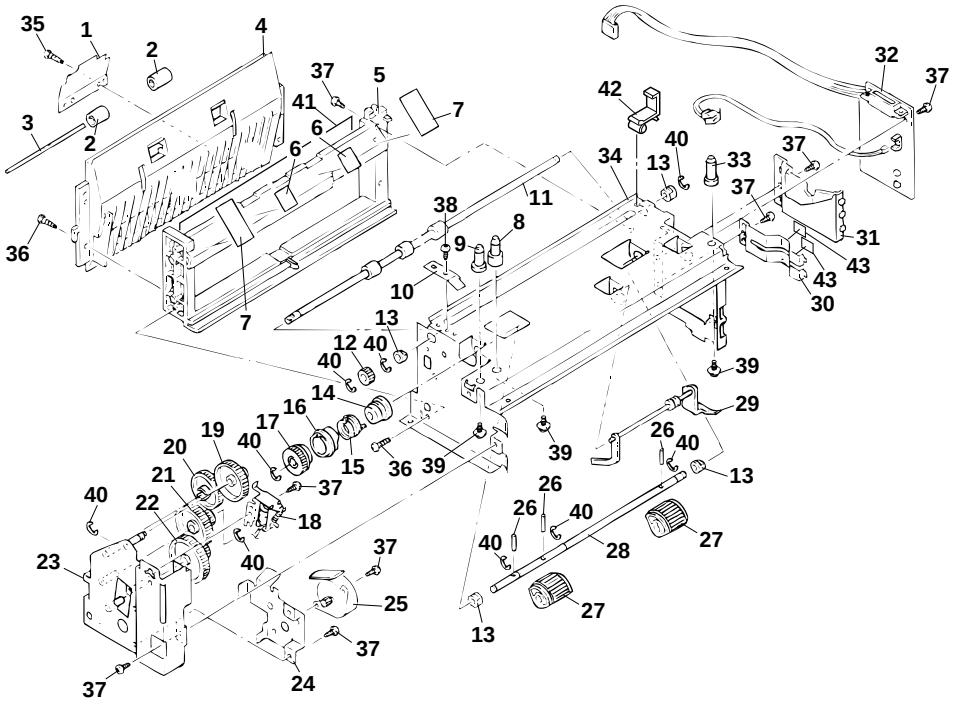
| NO. | PARTS CODE | PRICE RANK | NEW MARK | PART RANK | DESCRIPTION |
|---|---|---|---|---|---|
| [10] Paper take-up unit(2) | | | | | |
| 1 | 0KW0992053901 | CA | N | E | Print head unit |
| 2 | 0KW0992200701 | AD | | C | Terminal |
| 3 | 0KW0992200603 | AF | | C | Terminal |
| 4 | 0KW0992201201 | AD | | C | Terminal |
| 5 | 0KW0992605601 | AN | | C | Harness |
| 6 | 0KW0997621204 | BV | | E | High voltage PWB unit(with IC) [PWB-F] |
| 7 | 0KW0992044301 | AS | | C | Cover |
| 8 | 0KW0992605413 | AQ | | C | Harness |
| 9 | 0KW0992201902 | AF | | C | Guide |
| 11 | 0KW0992202014 | AD | | C | Guide |
| 12 | 0KW0992202101 | AC | | C | Bracket, Print head |
| 13 | 0KW0992241302 | AF | | C | Plate spring |
| 14 | 0KW0992241202 | AF | | C | Plate spring |
| 15 | 0KW0992305036 | AD | | C | Plate spring |
| 16 | 0KW0992304513 | AD | | C | Holder, Roll |
| 17 | 0KW0992300601 | AD | | C | Roll |
| 18 | 0KW0992320701 | AF | | C | Sheet |
| 19 | 0KW0992605501 | AU | | C | Harness |
| 20 | 0KW0992320102 | AG | | C | Guide plate |
| 21 | 0KW0992300701 | AD | | C | Support |
| 22 | 0KW0992301603 | AD | | C | Pressure spring |
| 23 | 0KW0992302401 | AN | | C | Holder |
| 24 | 0KW0992202401 | AD | | C | Ground plate |
| 27 | 0KW0992300301 | AF | | C | Lever |
| 28 | 0KW0992310401 | AL | | C | Cover |
| 29 | 0KW0992075201 | AZ | | C | Lifting plate |
| 30 | 0KW0992302501 | AD | | C | Cam |
| 31 | 0KW0992201304 | AD | | C | Torsion spring |
| 32 | 0KW0992202202 | AF | | C | Ground plate |
| 33 | 0KW0992231101 | AC | | C | Shoulder screw |
| 37 | 0KW9384131111 | AC | | C | Cable tie 104L |
| 38 | 0KW0992606101 | AN | | C | Harness |
| 41 | 0KW0992305301 | AC | | C | Plate |
| 42 | 0KW0992305501 | AG | | C | Sponge |
| 44 | 0KW0992320801 | AC | | C | Polyester film |
| 46 | 0KW0910362001 | AC | | C | C-Ring |
| 47 | 0KW0997605201 | AM | | C | Harness |
| 48 | 0KW0997630101 | AN | | B | Photo interrupter |
| 49 | 0KW0997231203 | AH | | C | Holder |
| 50 | 0KW0957010101 | AZ | | E | Laser diode drive PWB [PWB-G] |
| 51 | 0KW0997605101 | AL | | C | Harness |
| 53 | 0KW0992380301 | AF | | C | Sheet |
| 54 | 0KW9739030813 | AB | | C | Screw |
| 55 | 0KW9735030813 | AC | | C | Screw |
| 56 | 0KW9735030613 | AB | | C | Screw |
| 57 | 0KW9742030813 | AB | | C | Screw |
| 58 | 0KW9735031213 | AB | | C | Screw |
| | | | | | |
| | | | | | |
| | | | | | |
| [11] Transfer unit | | | | | |
| 1 | 0KW0992381501 | AL | | C | Ground plate |
| 2 | 0KW0992010224 | AV | | E | Resistor PWB(NO IC) [PWB-R] |
| 3 | 0KW0992371101 | AD | | C | Ground plate |
| 4 | 0KW0957321501 | AE | | C | Bushing |
| 5 | 0KW0992370901 | AD | | C | Holder |
| 6 | 0KW0992370701 | AD | | C | Roll |
| 7 | 0KW0957320801 | AF | | C | Gear 15T |
| 8 | 0KW0992382013 | AV | | C | Roller |
| 9 | 0KW0992075901 | BA | | C | Holder |
| 10 | 0KW0992420712 | AD | | C | Torsion spring |
| 11 | 0KW0992421001 | AH | | C | Ring |
| 12 | 0KW0992420601 | AG | | C | Gear 21T |
| 13 | 0KW0992039101 | BQ | | E | Transfer unit |
| 14 | 0KW0992420512 | AG | | C | Bushing |
| 15 | 0KW0992420301 | AS | | C | Guide plate |
| 16 | 0KW0992420101 | BL | | C | Roller |
| 17 | 0KW0992421301 | AG | | C | Plate |
| 18 | 0KW0992421402 | AC | | C | Pressure spring |
| 19 | 0KW0992420412 | AH | | C | Bushing |
| 20 | 0KW0992420812 | AC | | C | Torsion spring |
| 21 | 0KW0992380101 | AF | | C | Gear 20T |
| 22 | 0KW0992380202 | AH | | C | Holder |
| 23 | 0KW9739030813 | AB | | C | Screw |
| 24 | 0KW9739030613 | AB | | C | Screw |
| 25 | 0KW9742030813 | AB | | C | Screw |
| | | | | | |
| | | | | | |
| | | | | | |

[12] Fusing unit



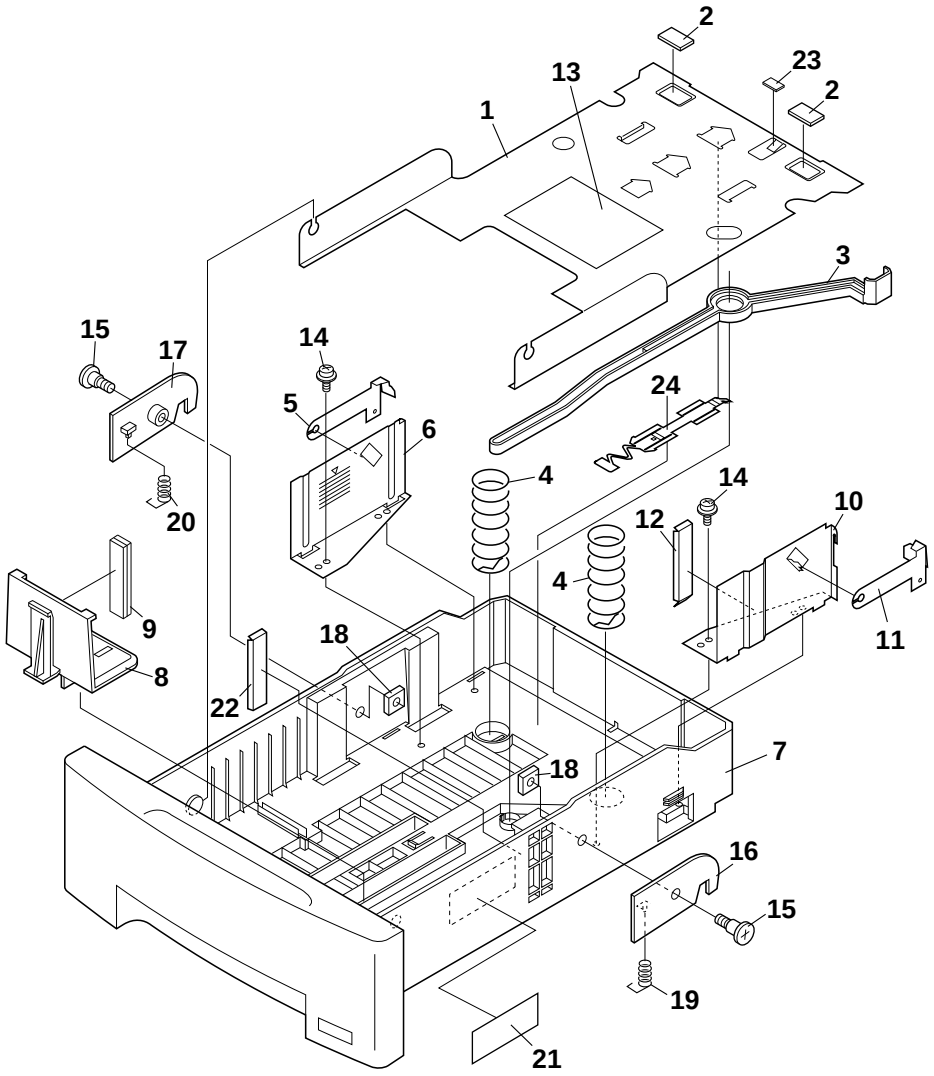

| NO. | PARTS CODE | PRICE RANK | NEW MARK | PART RANK | DESCRIPTION |
|---|---|---|---|---|---|
| [12] Fusing unit | | | | | |
| 2 | 0KW0992101703 | AC | | C | Pin |
| 3 | 0KW0992180226 | AY | | C | Cover |
| 4 | 0KW0992255202 | AF | | C | Holder |
| 5 | 0KW0992255101 | AC | | C | Torsion spring |
| 6 | 0KW0992255001 | AF | | C | Arm |
| 7 | 0KW0992250813 | AG | | C | Gear 20/50T |
| 8 | 0KW0992250901 | AF | | C | Gear 44T |
| 9 | 0KW0992251301 | AC | | C | Torsion spring |
| 10 | 0KW0992251212 | AF | | C | Lever |
| 11 | 0KW0992251112 | AD | | C | Gear 22T |
| 12 | 0KW0992251001 | AN | | C | Gear 21/38T |
| 13 | 0KW0992048203 | CD | | E | Fusing unit |
| 14 | 0KW0992401503 | AH | | C | Guide |
| 15 | 0KW0972553101 | AE | | C | C-Ring |
| 16 | 0KW0992551201 | AL | | C | Gear 30T |
| 17 | 0KW0992552101 | AH | | C | Bushing |
| 18 | 0KW0992553103 | AF | | C | Frame-LFT |
| 19 | 0KW0992551713 | AC | | C | Pressure spring |
| 20 | 0KW0992606604 | AQ | | C | Harness |
| 21 | 0KW0992552401 | AD | | C | Terminal |
| 22 | 0KW0992563401 | AD | | C | Bracket |
| 23 | 0KW0957551101 | AK | | C | Bushing |
| 24 | 0KW0992554001 | BF | | C | Fusing roller-UPR |
| 25 | 0KW0992554101 | BR | | C | Fusing roller-LWR |
| 26 | 0KW0992671501 | AZ | | B | Thermistor [TH1] |
| 27 | 0KW0992562601 | AN | | C | Terminal |
| 28 | 0KW0992671301 | BB | | B | Thermostat [S3] |
| 29 | 0KW0992562501 | AQ | | C | Terminal |
| 30 | 0KW0992553201 | AD | | C | Frame-RT |
| 31 | 0KW0992650501 | BE | | B | Tube lamp [H1] |
| 32 | 0KW0992580602 | BT | | C | Holder |
| 33 | 0KW0992553303 | AH | | C | Separator |
| 34 | 0KW0957552702 | AF | | C | Separator roll |
| 35 | 0KW0992370601 | AF | | C | Gear 40T |
| 36 | 0KW0992551801 | AD | | C | Actuator |
| 37 | 0KW0992551901 | AC | | C | Torsion spring |
| 38 | 0KW9335141031 | BA | | B | Photo interrupter [PC3] |
| 39 | 0KW0992605301 | AG | | C | Harness |
| 40 | 0KW0992731201 | AF | | D | Label |
| 41 | 0KW9739030813 | AB | | C | Screw |
| 42 | 0KW9646030613 | AB | | C | Screw |
| 43 | 0KW9733031013 | AB | | C | Screw |
| 44 | 0KW0992180601 | AE | | C | Sheet |
| 45 | 0KW0992554501 | AU | | C | Bushing |
| | | | | | |
| | | | | | |
| | | | | | |

[13] 2nd/3rd transport unit



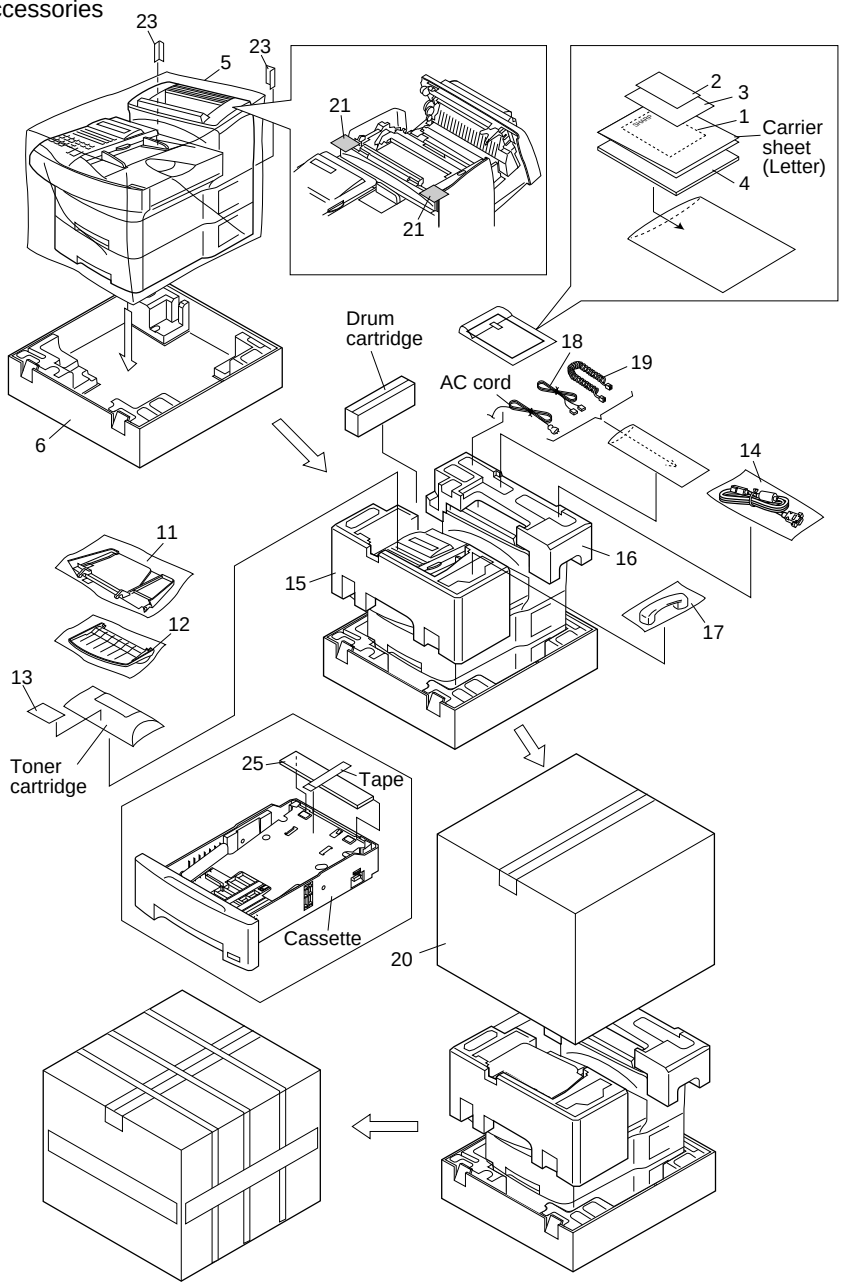

| NO. | PARTS CODE | PRICE RANK | NEW MARK | PART RANK | DESCRIPTION |
|---|---|---|---|---|---|
| [13] 2nd/3rd Transport unit | | | | | |
| 1 | 0KW4150181301 | AG | | C | Plate spring |
| 2 | 0KW0933384002 | AF | | C | Roll |
| 3 | 0KW0933382612 | AH | | C | Shaft |
| 4 | 0KW4150180201 | AX | | C | Guide |
| 5 | 0KW4150180103 | AU | | C | Guide |
| 6 | 0KW4150184501 | AD | | C | Sheet |
| 7 | 0KW4150184601 | AD | | C | Sheet [2ND] |
| 8 | 0KW4150184201 | AT | | C | Pin [3RD] |
| 9 | 0KW4150180912 | AP | N | C | Pin [2ND] |
| 10 | 0KW4150184102 | AH | | C | Plate spring [3RD] |
| 11 | 0KW4150182001 | AV | | C | Roller |
| 12 | 0KW0928300602 | AG | | C | Gear 14T |
| 13 | 0KW1200312003 | AD | | C | Bushing |
| 14 | 0KW4150183201 | AF | | C | Boss |
| 15 | 0KW0928301902 | AL | | C | Clutch spring |
| 16 | 0KW4150183101 | AG | | C | Holder |
| 17 | 0KW4150183301 | AF | | C | Gear 18T |
| 18 | 0KW4150620101 | BT | | B | Solenoid |
| 19 | 0KW4150102902 | AH | | C | Gear 13/45T [2ND] |
| 20 | 0KW0957251103 | AG | | C | Gear 41T |
| 21 | 0KW4150183701 | AG | | C | Gear 20/50T [3RD] |
| 22 | 0KW4150183801 | AG | | C | Gear 18/84T [3RD] |
| 23 | 0KW4150020201 | AX | | C | Mounting plate [2ND] |
| | 0KW4150020301 | AZ | | C | Mounting plate [3RD] |
| 24 | 0KW4150183502 | AM | | C | Bracket [3RD] |
| 25 | 0KW9314131061 | BE | | B | Motor [3RD] |
| 26 | 0KW0992304001 | AC | | C | Pin |
| 27 | 0KW4150104301 | AR | | C | Roller |
| 28 | 0KW4150181901 | AP | | C | Shaft |
| 29 | 0KW4150183602 | AH | | C | Actuator |
| 30 | 0KW4150181703 | AN | | C | Plate spring |
| 31 | 0KW4150182201 | AL | | C | Cover |
| 32 | 0KW4150010103 | BS | | E | 2nd bin PWB [PWB-B][2ND] |
| | 0KW4150010203 | BV | | E | 3rd bin PWB [PWB-C][3RD] |
| 33 | 0KW4150181012 | AP | N | C | Pin [2ND] |
| | 0KW4150184301 | AT | | C | Pin [3RD] |
| 34 | 0KW4150180303 | AY | | C | Frame |
| 35 | 0KW9742030813 | AB | | C | Screw |
| 36 | 0KW9742031013 | AB | | C | Screw |
| 37 | 0KW9743030813 | AB | | C | Screw |
| 38 | 0KW9770030613 | AC | | C | Screw |
| 39 | 0KW9646040813 | AC | | C | Screw |
| 40 | 0KW9721040001 | AB | | C | Washer |
| 41 | 0KW4150184701 | AF | | C | Sheet [2ND] |
| 42 | 0KW9384131091 | AC | | C | Clamp |
| 43 | 0KW4150185001 | AD | | C | Sheet |
| | | | | | |

[14] Cassette




| NO. | PARTS CODE | PRICE RANK | NEW MARK | PART RANK | DESCRIPTION |
|---|---|---|---|---|---|
| [14] Cassette | | | | | |
| 1 | 0KW4150180714 | BC | | C | Lifting plate |
| 2 | 0KW4150180812 | AE | | C | Pad |
| 3 | 0KW4150181801 | AQ | | C | Lever |
| 4 | 0KW4150182402 | AL | | C | Pressure spring |
| 5 | 0KW0933392201 | AN | | C | Separator |
| 6 | 0KW0933390202 | AT | | C | Regulating plate |
| 7 | 0KW4150182518 | BL | | C | Cassette body |
| 8 | 0KW4150181502 | AN | | C | Guide |
| 9 | 0KW4150182602 | AF | | C | Guide cushion |
| 10 | 0KW0933390302 | AT | | C | Regulating plate |
| 11 | 0KW0933392301 | AN | | C | Separator |
| 12 | 0KW4150182712 | AK | | C | Guide |
| 13 | 0KW4150731312 | AF | | D | Label |
| 14 | 0KW9739030813 | AB | | C | Screw |
| 15 | LX-BZ0175FCZZ | AB | | C | Screw |
| 16 | MLEVP2242SCRZ | AF | | C | Cassette lock lever, right |
| 17 | MLEVP2242SCLZ | AF | | C | Cassette lock lever, left |
| 18 | 0KW4150186601 | AF | | C | Plate nut |
| 19 | MSPRC2888SCZZ | AC | | C | Lever rturn spring, right |
| 20 | MSPRC2889SCZZ | AD | | C | Lever rturn spring, left |
| 21 | TLABH4065SCZZ | AD | | D | Lever label |
| 22 | 0KW4150182801 | AE | | C | Guide |
| 23 | 0KW4150185101 | AD | | C | Spacer |
| 24 | 0KW4150187501 | AL | | C | Lever |

[15] Packing material & Accessories




| NO. | PARTS CODE | PRICE RANK | NEW MARK | PART RANK | DESCRIPTION |
|---|---|---|---|---|---|
| [15] Packing material & Accessories | | | | | |
| 1 | TCADZ2136SCZZ | AB | | D | Explanation card |
| 2 | TLABP3937SCZZ | AE | | D | Paper size label |
| 3 | TLABZ3935SCZZ | AE | | D | Rapid key labels |
| 4 | TINSE3815SCZZ | AZ | N | D | Operation manual |
| 5 | SPAKP4946SCZZ | AP | | D | Vinyl cover |
| 6 | CPAKA4863SC02 | BB | | D | Packing case, bottom ass'y |
| 11 | CPLTP2803SC01 | AU | | C | Document tray ass'y |
| 12 | CPLTP2805SC01 | AQ | | C | Paper tray ass'y |
| 13 | TLABZ4016SCZZ | AD | | D | IC component label |
| 14 | QCNW-4320SCZZ | BB | | C | RS232C I/F cable |
| 15 | SPAKA4861SCZZ | AQ | | D | Packing add., top, right |
| 16 | SPAKA4944SCZZ | AR | | D | Packing add., top, left |
| 17 | DUNTK4925XHW2 | AY | | E | Handset |
| 18 | QCNW-3975XHGY | AG | | C | Telephone line cord |
| 19 | QCNW-3976XHOG | AT | | C | Handset cord |
| 20 | SPAKC281ASCZZ | AX | N | D | Packing case, top |
| 21 | SPAKA4996SCZZ | AC | | D | Printer sheet |
| 23 | SPAKA006ASCZZ | AC | | C | Sheet |
| 25 | SPAKA010ASCZZ | AC | | D | Cassette pad |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| NO. | PARTS CODE | PRICE RANK | NEW MARK | PART RANK | DESCRIPTION | |
|---|---|---|---|---|---|---|
| [16] Control PWB unit | | | | | | |
| 1 | UBAT-A005PRE0 | AN | | B | Battery(CR2477-H01) | [BAT1] |
| 2 | VCEAEA1CW336M | AB | | C | Capacitor(16WV 33µF) | [C1] |
| 3 | VCEAEA1EW476M | AB | | C | Capacitor(25WV 47µF) | [C2] |
| 4 | VCEAEA1CW476M | AA | | C | Capacitor(16WV 47µF) | [C3] |
| 5 | VCEAEA1CW336M | AB | | C | Capacitor(16WV 33µF) | [C4] |
| 6 | VCEAEA1CW106M | AC | | C | Capacitor(16WV 10µF) | [C5] |
| 7 | VCEAEA1CW106M | AC | | C | Capacitor(16WV 10µF) | [C6] |
| 8 | VCEAEA1CW106M | AC | | C | Capacitor(16WV 10µF) | [C7] |
| 9 | VCEAEA1CW106M | AC | | C | Capacitor(16WV 10µF) | [C8] |
| 10 | VCEAEA1CW106M | AC | | C | Capacitor(16WV 10µF) | [C9] |
| 11 | VCEAEA1CW476M | AA | | C | Capacitor(16WV 47µF) | [C10] |
| 12 | VCEAEA1EW476M | AB | | C | Capacitor(25WV 47µF) | [C11] |
| 13 | VCEAEA1HW476M | AC | | C | Capacitor(50WV 47µF) | [C12] |
| 14 | VCEAEA1CW106M | AC | | C | Capacitor(16WV 10µF) | [C13] |
| 15 | VCEAEA1HW474M | AA | | C | Capacitor(50WV 0.47µF) | [C14] |
| 16 | VCEAEA1EW475M | AA | | C | Capacitor(25WV 4.7µF) | [C15] |
| 17 | VCEAEA1HW476M | AC | | C | Capacitor(50WV 47µF) | [C16] |
| 18 | VCEAEA1CW336M | AB | | C | Capacitor(16WV 33µF) | [C17] |
| 19 | VCEAEA1CW336M | AB | | C | Capacitor(16WV 33µF) | [C18] |
| 20 | VCEAEA1EW226M | AA | | C | Capacitor(25WV 22µF) | [C19] |
| 21 | VCEAEA1CW336M | AB | | C | Capacitor(16WV 33µF) | [C20] |
| 22 | VCEAEA1CW336M | AB | | C | Capacitor(16WV 33µF) | [C21] |
| 23 | VCEAEA1EW476M | AB | | C | Capacitor(25WV 47µF) | [C22] |
| 24 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1µF) | [C101] |
| 25 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1µF) | [C102] |
| 26 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1µF) | [C103] |
| 27 | VCKYTV1CF105Z | AB | | C | Capacitor(16WV 1µF) | [C104] |
| 28 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1µF) | [C106] |
| 29 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1µF) | [C107] |
| 30 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1µF) | [C108] |
| 31 | VCKYTV1CF105Z | AB | | C | Capacitor(16WV 1µF) | [C109] |
| 32 | VCKYTV1CF105Z | AB | | C | Capacitor(16WV 1µF) | [C110] |
| 33 | VCCCTV1HH150J | AA | | C | Capacitor(50WV 15PF) | [C112] |
| 34 | VCCCTV1HH100D | AA | | C | Capacitor(50WV 10PF) | [C113] |
| 35 | VCCCTV1HH3R0C | AA | | C | Capacitor(50WV 3PF) | [C114] |
| 36 | VCKYTV1EB104K | AA | | C | Capacitor(25WV 0.1µF) | [C115] |
| 37 | VCCSTV1HL181J | AD | | C | Capacitor(50WV 180PF) | [C116] |
| 38 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1µF) | [C117] |
| 39 | VCKYTV1CF225Z | AD | | C | Capacitor(16WV 2.2µF) | [C118] |
| 40 | VCKYTV1HB222K | AA | | C | Capacitor(50WV 2200PF) | [C119] |
| 41 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1µF) | [C120] |
| 42 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1µF) | [C121] |
| 43 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1µF) | [C122] |
| 44 | VCCCTV1HH220J | AA | | C | Capacitor(50WV 22PF) | [C123] |
| 45 | VCCCTV1HH220J | AA | | C | Capacitor(50WV 22PF) | [C124] |
| 46 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1µF) | [C125] |
| 47 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1µF) | [C126] |
| 48 | VCKYTV1CF105Z | AB | | C | Capacitor(16WV 1µF) | [C127] |
| 49 | VCKYTV1CF105Z | AB | | C | Capacitor(16WV 1µF) | [C128] |
| 50 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1µF) | [C129] |
| 51 | VCKYTV1CF105Z | AB | | C | Capacitor(16WV 1µF) | [C130] |
| 52 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1µF) | [C131] |
| 53 | VCKYTV1CF105Z | AB | | C | Capacitor(16WV 1µF) | [C133] |
| 54 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1µF) | [C134] |
| 55 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1µF) | [C135] |
| 56 | VCKYTV1CF105Z | AB | | C | Capacitor(16WV 1µF) | [C136] |
| 57 | VCKYTV1EB104K | AA | | C | Capacitor(25WV 0.1µF) | [C137] |
| 58 | VCKYTV1EB104K | AA | | C | Capacitor(25WV 0.1µF) | [C138] |
| 59 | VCKYTQ1EB104K | AA | | C | Capacitor(25WV 0.1µF) | [C139] |
| 60 | VCKYTQ1EB104K | AA | | C | Capacitor(25WV 0.1µF) | [C140] |
| 61 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1µF) | [C141] |
| 62 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1µF) | [C142] |
| 63 | VCKYTV1CF105Z | AB | | C | Capacitor(16WV 1µF) | [C143] |
| 64 | VCKYTV1CF105Z | AB | | C | Capacitor(16WV 1µF) | [C144] |
| 65 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1µF) | [C145] |
| 66 | VCKYTV1CF105Z | AB | | C | Capacitor(16WV 1µF) | [C146] |
| 67 | VCCCTV1HH220J | AA | | C | Capacitor(50WV 22PF) | [C147] |
| 68 | VCCCTV1HH220J | AA | | C | Capacitor(50WV 22PF) | [C148] |
| 69 | VCKYTV1CF105Z | AB | | C | Capacitor(16WV 1µF) | [C149] |
| 70 | VCKYTV1CF105Z | AB | | C | Capacitor(16WV 1µF) | [C150] |
| 71 | VCKYTV1HB222K | AA | | C | Capacitor(50WV 2200PF) | [C151] |
| 72 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1µF) | [C152] |
| 73 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1µF) | [C153] |
| 74 | VCKYTV1CF105Z | AB | | C | Capacitor(16WV 1µF) | [C154] |
| 75 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1µF) | [C155] |
| 76 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1µF) | [C156] |
| 77 | VCKYTV1HB222K | AA | | C | Capacitor(50WV 2200PF) | [C157] |
| 78 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1µF) | [C158] |
| 79 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1µF) | [C159] |
| 80 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1µF) | [C160] |

| NO. | PARTS CODE | PRICE RANK | NEW MARK | PART RANK | DESCRIPTION | |
|---|---|---|---|---|---|---|
| [16] Control PWB unit | | | | | | |
| 81 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1μF) | [C161] |
| 82 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1μF) | [C162] |
| 83 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1μF) | [C163] |
| 84 | VCKYTV1CF105Z | AB | | C | Capacitor(16WV 1μF) | [C164] |
| 85 | VCCCTV1HH220J | AA | | C | Capacitor(50WV 22PF) | [C165] |
| 86 | VCCCTV1HH220J | AA | | C | Capacitor(50WV 22PF) | [C166] |
| 87 | VCKYTV1CF105Z | AB | | C | Capacitor(16WV 1μF) | [C167] |
| 88 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1μF) | [C168] |
| 89 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1μF) | [C169] |
| 90 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1μF) | [C170] |
| 91 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1μF) | [C171] |
| 92 | VCKYTV1CF105Z | AB | | C | Capacitor(16WV 1μF) | [C172] |
| 93 | VCKYTV1HB222K | AA | | C | Capacitor(50WV 2200PF) | [C173] |
| 94 | VCCCTV1HH220J | AA | | C | Capacitor(50WV 22PF) | [C175] |
| 95 | VCKYTV1HB222K | AA | | C | Capacitor(50WV 2200PF) | [C176] |
| 96 | VCKYTV1HB222K | AA | | C | Capacitor(50WV 2200PF) | [C177] |
| 97 | VCCSTV1HL102J | AA | | C | Capacitor(50WV 1000PF) | [C178] |
| 98 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1μF) | [C179] |
| 99 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1μF) | [C180] |
| 100 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1μF) | [C181] |
| 101 | VCKYTV1CF105Z | AB | | C | Capacitor(16WV 1μF) | [C182] |
| 102 | VCKYTV1HB222K | AA | | C | Capacitor(50WV 2200PF) | [C183] |
| 103 | VCKYTV1HB222K | AA | | C | Capacitor(50WV 2200PF) | [C184] |
| 104 | VCKYTV1HB222K | AA | | C | Capacitor(50WV 2200PF) | [C185] |
| 105 | VCKYTV1HB222K | AA | | C | Capacitor(50WV 2200PF) | [C186] |
| 106 | VCKYTV1HB222K | AA | | C | Capacitor(50WV 2200PF) | [C187] |
| 107 | VCKYTV1HB222K | AA | | C | Capacitor(50WV 2200PF) | [C188] |
| 108 | VCKYTV1HB222K | AA | | C | Capacitor(50WV 2200PF) | [C189] |
| 109 | VCKYTV1HB222K | AA | | C | Capacitor(50WV 2200PF) | [C190] |
| 110 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1μF) | [C191] |
| 111 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1μF) | [C192] |
| 112 | VCCCTV1HH150J | AA | | C | Capacitor(50WV 15PF) | [C193] |
| 113 | VCCCTV1HH150J | AA | | C | Capacitor(50WV 15PF) | [C194] |
| 114 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1μF) | [C195] |
| 115 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1μF) | [C196] |
| 116 | VCKYTV1CF105Z | AB | | C | Capacitor(16WV 1μF) | [C197] |
| 117 | VCKYTV1HB222K | AA | | C | Capacitor(50WV 2200PF) | [C198] |
| 118 | VCKYTV1CF105Z | AB | | C | Capacitor(16WV 1μF) | [C199] |
| 119 | VCCSTV1HL102J | AA | | C | Capacitor(50WV 1000PF) | [C200] |
| 120 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1μF) | [C201] |
| 121 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1μF) | [C202] |
| 122 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1μF) | [C203] |
| 123 | VCCSTV1HL102J | AA | | C | Capacitor(50WV 1000PF) | [C204] |
| 124 | VCKYTV1CF105Z | AB | | C | Capacitor(16WV 1μF) | [C205] |
| 125 | VCCCTV1HH101J | AA | | C | Capacitor(50WV 100PF) | [C206] |
| 126 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1μF) | [C207] |
| 127 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1μF) | [C208] |
| 128 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1μF) | [C209] |
| 129 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1μF) | [C210] |
| 130 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1μF) | [C211] |
| 131 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1μF) | [C212] |
| 132 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1μF) | [C213] |
| 133 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1μF) | [C214] |
| 134 | VCKYTV1HB222K | AA | | C | Capacitor(50WV 2200PF) | [C215] |
| 135 | VCKYTV1HB222K | AA | | C | Capacitor(50WV 2200PF) | [C216] |
| 136 | VCKYTV1HB222K | AA | | C | Capacitor(50WV 2200PF) | [C217] |
| 137 | VCKYTV1HB222K | AA | | C | Capacitor(50WV 2200PF) | [C218] |
| 138 | VCKYTV1HB222K | AA | | C | Capacitor(50WV 2200PF) | [C219] |
| 139 | VCKYTV1HB222K | AA | | C | Capacitor(50WV 2200PF) | [C220] |
| 140 | VCKYTV1CF105Z | AB | | C | Capacitor(16WV 1μF) | [C221] |
| 141 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1μF) | [C222] |
| 142 | VCCSTV1HL102J | AA | | C | Capacitor(50WV 1000PF) | [C223] |
| 143 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1μF) | [C224] |
| 144 | VCCSTV1HL102J | AA | | C | Capacitor(50WV 1000PF) | [C225] |
| 145 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1μF) | [C226] |
| 146 | VCKYTV1EB104K | AA | | C | Capacitor(25WV 0.1μF) | [C227] |
| 147 | VCKYTV1HB103K | AB | | C | Capacitor(50WV 0.01μF) | [C228] |
| 148 | VCKYTV1HB472K | AA | | C | Capacitor(50WV 4700PF) | [C229] |
| 149 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1μF) | [C230] |
| 150 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1μF) | [C231] |
| 151 | VCCCTV1HH120J | AA | | C | Capacitor(50WV 12PF) | [C232] |
| 152 | VCKYTV1HB222K | AA | | C | Capacitor(50WV 2200PF) | [C233] |
| 153 | VCKYTV1CF105Z | AB | | C | Capacitor(16WV 1μF) | [C236] |
| 154 | VCKYTV1HB222K | AA | | C | Capacitor(50WV 2200PF) | [C237] |
| 155 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1μF) | [C238] |
| 156 | VCKYTV1HB222K | AA | | C | Capacitor(50WV 2200PF) | [C239] |
| 157 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1μF) | [C240] |
| 158 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1μF) | [C241] |
| 159 | VCKYTV1HB103K | AB | | C | Capacitor(50WV 0.01μF) | [C243] |
| 160 | VCCCTV1HH120J | AA | | C | Capacitor(50WV 12PF) | [C245] |

| NO. | PARTS CODE | PRICE RANK | NEW MARK | PART RANK | DESCRIPTION | |
|---|---|---|---|---|---|---|
| [16] Control PWB unit | | | | | | |
| 161 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1μF) | [C247] |
| 162 | VCKYTV1HB821K | AA | | C | Capacitor(50WV 820PF) | [C248] |
| 163 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1μF) | [C249] |
| 164 | VCKYTV1HF104Z | AA | | C | Capacitor(50WV 0.1μF) | [C250] |
| 165 | VCKYTV1HB821K | AA | | C | Capacitor(50WV 820PF) | [C251] |
| 166 | VCKYTV1HB821K | AA | | C | Capacitor(50WV 820PF) | [C252] |
| 167 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1μF) | [C253] |
| 168 | VCKYTV1HF104Z | AA | | C | Capacitor(50WV 0.1μF) | [C254] |
| 169 | VCKYTV1HB821K | AA | | C | Capacitor(50WV 820PF) | [C255] |
| 170 | VCKYTV1HB222K | AA | | C | Capacitor(50WV 2200PF) | [C256] |
| 171 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1μF) | [C257] |
| 172 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1μF) | [C258] |
| 173 | VCKYTV1HB222K | AA | | C | Capacitor(50WV 2200PF) | [C259] |
| 174 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1μF) | [C262] |
| 175 | VCCCTV1HH100D | AA | | C | Capacitor(50WV 10PF) | [C272] |
| 176 | VCCCTV1HH120J | AA | | C | Capacitor(50WV 12PF) | [C273] |
| 177 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1μF) | [C274] |
| 178 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1μF) | [C275] |
| 179 | VCKYTV1HB222K | AA | | C | Capacitor(50WV 2200PF) | [C276] |
| 180 | VCKYTV1HB222K | AA | | C | Capacitor(50WV 2200PF) | [C277] |
| 181 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1μF) | [C278] |
| 182 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1μF) | [C279] |
| 183 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1μF) | [C280] |
| 184 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1μF) | [C281] |
| 185 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1μF) | [C282] |
| 186 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1μF) | [C283] |
| 187 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1μF) | [C284] |
| 188 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1μF) | [C285] |
| 189 | VCKYTV1HB222K | AA | | C | Capacitor(50WV 2200PF) | [C286] |
| 190 | VCCCTV1HH6R0C | AB | | C | Capacitor(50WV 6.0PF) | [C287] |
| 191 | VCKYTV1CF105Z | AB | | C | Capacitor(16WV 1μF) | [C288] |
| 192 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1μF) | [C289] |
| 193 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1μF) | [C291] |
| 194 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1μF) | [C292] |
| 195 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1μF) | [C293] |
| 196 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1μF) | [C294] |
| 197 | VCCSTV1HL102J | AA | | C | Capacitor(50WV 1000PF) | [C295] |
| 198 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1μF) | [C296] |
| 199 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1μF) | [C297] |
| 200 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1μF) | [C298] |
| 201 | VCKYTV1CF105Z | AB | | C | Capacitor(16WV 1μF) | [C299] |
| 202 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1μF) | [C300] |
| 203 | VCCSTV1HL102J | AA | | C | Capacitor(50WV 1000PF) | [C305] |
| 204 | VCCSTV1HL102J | AA | | C | Capacitor(50WV 1000PF) | [C306] |
| 205 | VCKYTV1HF104Z | AA | | C | Capacitor(50WV 0.1μF) | [C308] |
| 206 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1μF) | [C309] |
| 207 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1μF) | [C318] |
| 208 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1μF) | [C319] |
| 209 | VCCCTV1HH220J | AA | | C | Capacitor(50WV 22PF) | [C320] |
| 210 | VCCCTV1HH220J | AA | | C | Capacitor(50WV 22PF) | [C321] |
| 211 | VCCCTV1HH220J | AA | | C | Capacitor(50WV 22PF) | [C322] |
| 212 | QCNCM7014SC0H | AB | | C | Connector(8pin) | [CNCCD] |
| 213 | QCNCM2401SC0B | AA | | C | Connector(2pin) | [CNLED] |
| 214 | QCNCW2436SC2F | AG | | C | Connector(26pin) | [CNLIU] |
| 215 | QCNCM2525SC5J | AK | | C | Connector(50PIN) | [CNOP] |
| 216 | QCNCM2482SC2D | AB | | C | Connector(24pin) | [CNPN] |
| 217 | QCNCM2524SC3B | AP | | C | Connector(32PIN) | [CNPRT] |
| 218 | QCNCM7014SC1B | AD | | C | Connector(12pin) | [CNPW] |
| 219 | QCNCM2442SC0B | AB | | C | Conector(2pin) | [CNROL] |
| 220 | QCNCM2482SC1H | AE | | C | Connector(18pin) | [CNRS] |
| 221 | QCNCW2527SC5J | AK | | C | Connector(50pin) | [CNSB1] |
| 222 | QCNCM7014SC0F | AB | | C | Connector(6pin) | [CNSEN] |
| 223 | QCNCM7014SC0B | AD | | C | Connector(2pin) | [CNSTP] |
| 224 | QCNCM7014SC0D | AB | | C | Connector(4pin) | [CNTXM] |
| 225 | VHDHRW0502A-1 | AD | N | B | Diode(HRW0502A) | [D101] |
| 226 | VHDHRW0502A-1 | AD | N | B | Diode(HRW0502A) | [D102] |
| 227 | VHDHRW0502A-1 | AD | N | B | Diode(HRW0502A) | [D103] |
| 228 | VHDHRW0502A-1 | AD | N | B | Diode(HRW0502A) | [D104] |
| 229 | VHDHRW0502A-1 | AD | N | B | Diode(HRW0502A) | [D105] |
| 230 | VHDHRW0502A-1 | AD | N | B | Diode(HRW0502A) | [D106] |
| 231 | VHDHRW0502A-1 | AD | N | B | Diode(HRW0502A) | [D107] |
| 232 | VHDHRW0502A-1 | AD | N | B | Diode(HRW0502A) | [D108] |
| 233 | VHDHRW0502A-1 | AD | N | B | Diode(HRW0502A) | [D116] |
| 234 | VHDHRW0502A-1 | AD | N | B | Diode(HRW0502A) | [D117] |
| 235 | VHDHRW0502A-1 | AD | N | B | Diode(HRW0502A) | [D118] |
| 236 | VHDHRW0502A-1 | AD | N | B | Diode(HRW0502A) | [D119] |
| 237 | VHDHRW0502A-1 | AD | N | B | Diode(HRW0502A) | [D126] |
| 238 | VHDHRW0502A-1 | AD | N | B | Diode(HRW0502A) | [D127] |
| 239 | VHDHRW0502A-1 | AD | N | B | Diode(HRW0502A) | [D128] |
| 240 | VHD1SS355//-1 | AB | | B | Diode(1SS355) | [D129] |

| NO. | PARTS CODE | PRICE RANK | NEW MARK | PART RANK | DESCRIPTION | |
|---|---|---|---|---|---|---|
| [16] Control PWB unit | | | | | | |
| 241 | VHD1SS355//-1 | AB | | B | Diode(1SS355) | [D130] |
| 242 | VHDHRW0502A-1 | AD | N | B | Diode(HRW0502A) | [D131] |
| 243 | VHDHRW0502A-1 | AD | N | B | Diode(HRW0502A) | [D132] |
| 244 | VHDHRW0502A-1 | AD | N | B | Diode(HRW0502A) | [D133] |
| 245 | VHDHRW0502A-1 | AD | N | B | Diode(HRW0502A) | [D134] |
| 246 | VHDHRW0502A-1 | AD | N | B | Diode(HRW0502A) | [D135] |
| 247 | VHDHRW0502A-1 | AD | N | B | Diode(HRW0502A) | [D136] |
| 248 | VHDHRW0502A-1 | AD | N | B | Diode(HRW0502A) | [D140] |
| 249 | VHDHRW0502A-1 | AD | N | B | Diode(HRW0502A) | [D141] |
| 250 | VHDHRW0502A-1 | AD | N | B | Diode(HRW0502A) | [D142] |
| 251 | VHDHRW0502A-1 | AD | N | B | Diode(HRW0502A) | [D143] |
| 252 | VHD1SS355//-1 | AB | | B | Diode(1SS355) | [D144] |
| 253 | VHD1SS355//-1 | AB | | B | Diode(1SS355) | [D149] |
| 254 | VHDHRW0502A-1 | AD | N | B | Diode(HRW0502A) | [D150] |
| 255 | VHDDAP202U/-1 | AB | | B | Diode(DAP202U) | [D151] |
| 256 | VHD1SS355//-1 | AB | | B | Diode(1SS355) | [D152] |
| 257 | VHDHRW0502A-1 | AD | N | B | Diode(HRW0502A) | [D153] |
| 258 | VHDHRW0502A-1 | AD | N | B | Diode(HRW0502A) | [D154] |
| 259 | VHDHRW0502A-1 | AD | N | B | Diode(HRW0502A) | [D155] |
| 260 | VHDHRW0502A-1 | AD | N | B | Diode(HRW0502A) | [D156] |
| 261 | VHDHRW0502A-1 | AD | N | B | Diode(HRW0502A) | [D157] |
| 262 | VHDHRW0502A-1 | AD | N | B | Diode(HRW0502A) | [D158] |
| 263 | VHDHRW0502A-1 | AD | N | B | Diode(HRW0502A) | [D159] |
| 264 | VHDHRW0502A-1 | AD | N | B | Diode(HRW0502A) | [D160] |
| 265 | VHDHRW0502A-1 | AD | N | B | Diode(HRW0502A) | [D161] |
| 266 | VHDHRW0502A-1 | AD | N | B | Diode(HRW0502A) | [D162] |
| 267 | VHDHRW0502A-1 | AD | N | B | Diode(HRW0502A) | [D163] |
| 268 | VHDHRW0502A-1 | AD | N | B | Diode(HRW0502A) | [D164] |
| 269 | VHDHRW0502A-1 | AD | N | B | Diode(HRW0502A) | [D165] |
| 270 | VHDHRW0502A-1 | AD | N | B | Diode(HRW0502A) | [D166] |
| 271 | VHDHRW0502A-1 | AD | N | B | Diode(HRW0502A) | [D167] |
| 272 | VHDHRW0502A-1 | AD | N | B | Diode(HRW0502A) | [D168] |
| 273 | VHDHRW0502A-1 | AD | N | B | Diode(HRW0502A) | [D169] |
| 274 | VHDHRW0502A-1 | AD | N | B | Diode(HRW0502A) | [D170] |
| 275 | VHDHRW0502A-1 | AD | N | B | Diode(HRW0502A) | [D171] |
| 276 | VHDHRW0502A-1 | AD | N | B | Diode(HRW0502A) | [D172] |
| 277 | VHDHRW0502A-1 | AD | N | B | Diode(HRW0502A) | [D173] |
| 278 | VHDHRW0502A-1 | AD | N | B | Diode(HRW0502A) | [D174] |
| 279 | VHDHRW0502A-1 | AD | N | B | Diode(HRW0502A) | [D175] |
| 280 | VHDHRW0502A-1 | AD | N | B | Diode(HRW0502A) | [D176] |
| 281 | VHDHRW0502A-1 | AD | N | B | Diode(HRW0502A) | [D177] |
| ⚠ 282 | VHVCCP2E30/-1 | AE | | B | IC protector(CCP2E30) | [F101] |
| ⚠ 283 | VHVCCP2E20/-1 | AE | | B | IC protector(CCP2E20) | [F102] |
| ⚠ 284 | VHVCCP2E30/-1 | AE | | B | IC protector(CCP2E30) | [F103] |
| 285 | VHIALS163BNS/ | AK | N | B | IC(SN74ALS163BNS) | [IC1] |
| 286 | VHIKM68512G5L | AW | N | B | IC(KM68512ALG-5L) | [IC2] |
| 287 | VHIR288F24/-1 | BW | N | B | IC(R288F-24) | [IC3] |
| 288 | VHIHD7021606A | BE | | B | IC(HD6437021C21X) | [IC4] |
| 289 | QSOCZ2051SC32 | AC | | C | IC socket(32pin) | [IC5] |
| 290 | VHI27040FBQ1C | BH | | B | IC,EPROM(4M) | [IC5] |
| 291 | VHILH28F016SU | BR | | B | IC(LH28FO16SUT) | [IC6] |
| 292 | VHI4M16SOJ-70 | BG | | B | IC(514260-70J) | [IC7] |
| 293 | VHIALS32NS/-1 | AD | N | B | IC(SN74ALS32NS) | [IC8] |
| 294 | VHIKM68512G5L | AW | N | B | IC(KM68512ALG-5L) | [IC9] |
| 295 | QSOCZ2058SC40 | AH | N | C | IC socket(40pin) | [IC10] |
| 296 | VHI27040FBR0B | BA | N | B | IC,EPROM(256Kx16) | [IC10] |
| 297 | QSOCZ2051SC32 | AC | | C | IC socket(32pin) | [IC11] |
| 298 | VHI27040FBQ0C | BH | | B | IC,EPROM(4M) | [IC11] |
| 299 | VHI18160-6/7/ | BY | | B | IC(HM5118160AF-7) | [IC12] |
| 300 | VHIHD7021606A | BE | | B | IC(HD6437021C21X) | [IC13] |
| 301 | VHILZ9FJ37/-1 | AY | | B | IC(LZ9FJ37A) | [IC14] |
| 302 | VHI4M16SOJ-70 | BG | | B | IC(514260-70J) | [IC15] |
| 303 | VHIIDT7130-55 | AY | N | B | IC(IDT7130SA55PF) | [IC16] |
| 304 | VHIIDT7140-55 | AY | N | B | IC(IDT7140SA55PF) | [IC17] |
| 305 | VHILR38292/-1 | AY | | B | IC(LR38292) | [IC18] |
| 306 | VHIHD813201F1 | BE | | B | IC(HD813201F) | [IC19] |
| 307 | VHIPBL3717/-2 | AL | | B | IC(PBL3717/2) | [IC20] |
| 308 | VHIPBL3717/-2 | AL | | B | IC(PBL3717/2) | [IC21] |
| 309 | VHILH5116NA10 | AL | | B | IC(LH5116NA-10) | [IC22] |
| 310 | VHILH5268TH10 | AR | | B | IC(LH5268) | [IC23] |
| 311 | VHILH5268TH10 | AR | | B | IC(LH5268) | [IC24] |
| 312 | VHITLS1049/-1 | AV | | B | IC(TLS1049) | [IC25] |
| 313 | VHIALS08NS/-1 | AF | N | B | IC(SN74ALS08NS) | [IC101] |
| 314 | VHIALS74ANS-1 | AE | N | B | IC(SN74ALS74ANS) | [IC102] |
| 315 | VHITC7SH32FU/ | AS | N | B | IC(TC7SH32FU) | [IC104] |
| 316 | VHIALS04BNS-1 | AF | N | B | IC(SN74ALS04BNS) | [IC106] |
| 317 | VHIALS32NS/-1 | AD | N | B | IC(SN74ALS32NS) | [IC107] |
| 318 | VHIALS32NS/-1 | AD | N | B | IC(SN74ALS32NS) | [IC108] |
| 319 | VHIMC74HC14F- | AD | | B | IC(MC74HC14AF) | [IC109] |
| 320 | VHIPST596CMT1 | AF | | B | IC(PST596CNR) | [IC110] |

| NO. | PARTS CODE | PRICE RANK | NEW MARK | PART RANK | DESCRIPTION | |
|---|---|---|---|---|---|---|
| [16] Control PWB unit | | | | | | |
| 321 | VHINJM2902M-1 | AF | | B | IC(NJM2902M) | [IC111] |
| 322 | VHIMC74HC157F | AD | | B | IC(MC74HC157AF) | [IC112] |
| 323 | VHIMC74HC32F- | AC | | B | IC(MC74HC32AF) | [IC113] |
| 324 | VHIMC74HC04F- | AC | | B | IC(MC74HC04AF) | [IC114] |
| 325 | VHINJM2904M-1 | AE | | B | IC(NJM2904M) | [IC115] |
| 326 | VHINJU4051M-1 | AG | | B | IC(NJU4051BM) | [IC116] |
| 327 | VHIALS74ANS-1 | AE | N | B | IC(SN74ALS74ANS) | [IC117] |
| 328 | VHIALS04BNS-1 | AF | N | B | IC(SN74ALS04BNS) | [IC118] |
| 329 | VHIBU4053BCF1 | AE | | B | IC(BU4053BCF) | [IC119] |
| 330 | VHIMC74HC04F- | AC | | B | IC(MC74HC04AF) | [IC120] |
| 331 | VHIMC74HC08F- | AC | | B | IC(MC74HC08AF) | [IC121] |
| 332 | VHIMC74HC08F- | AC | | B | IC(MC74HC08AF) | [IC122] |
| 333 | VHIALS163BNS/ | AK | N | B | IC(SN74ALS163BNS) | [IC123] |
| 334 | VHIMC74HC74F- | AD | | B | IC(MC74HC74AF) | [IC124] |
| 335 | VHISN74LS374NR | AF | | B | IC(SN74LS374) | [IC126] |
| 336 | VHINJU6355E-1 | AM | | B | IC(NJU6355M) | [IC127] |
| 337 | VHISN74LS244NR | AG | | B | IC(SN74LS244) | [IC128] |
| 338 | VHIMC74HC74F- | AD | | B | IC(MC74HC74AF) | [IC129] |
| 339 | VHIBA10339F-1 | AD | | B | IC(BA10339F) | [IC130] |
| 340 | VHIN78L05UA-1 | AK | | B | IC(NJU78L05UA) | [IC131] |
| 341 | VHIALS08NS/-1 | AF | N | B | IC(SN74ALS08NS) | [IC132] |
| 342 | VHIALS20ANS-1 | AF | N | B | IC(SN74ALS20ANS) | [IC133] |
| 343 | VRS-TQ2BB000J | AA | | C | Resistor(1/8W 0Ω ±5%) | [L101] |
| 344 | VP-1M4R7J0000 | AG | N | C | Coil(4.7μH) | [L102] |
| 345 | VRS-TV2AB000J | AA | | C | Resistor(1/10W 0Ω ±5%) | [L103] |
| 346 | VRS-TV2AB000J | AA | | C | Resistor(1/10W 0Ω ±5%) | [L104] |
| 347 | VRS-TQ2BB000J | AA | | C | Resistor(1/8W 0Ω ±5%) | [L105] |
| 348 | VRS-TQ2BB000J | AA | | C | Resistor(1/8W 0Ω ±5%) | [L106] |
| 349 | VRS-TV2AB000J | AA | | C | Resistor(1/10W 0Ω ±5%) | [L107] |
| 350 | VRS-TV2AB330J | AD | | C | Resistor(1/10W 33Ω ±5%) | [L108] |
| 351 | VRS-TV2AB000J | AA | | C | Resistor(1/10W 0Ω ±5%) | [L109] |
| 352 | VRS-TV2AB000J | AA | | C | Resistor(1/10W 0Ω ±5%) | [L110] |
| 353 | VRS-TV2AB000J | AA | | C | Resistor(1/10W 0Ω ±5%) | [L111] |
| 354 | VRS-TV2AB101J | AA | | C | Resistor(1/10W 100Ω ±5%) | [L112] |
| 355 | VRS-TV2AB101J | AA | | C | Resistor(1/10W 100Ω ±5%) | [L113] |
| 356 | VRS-TV2AB101J | AA | | C | Resistor(1/10W 100Ω ±5%) | [L114] |
| 357 | VRS-TV2AB101J | AA | | C | Resistor(1/10W 100Ω ±5%) | [L115] |
| 358 | VRS-TV2AB101J | AA | | C | Resistor(1/10W 100Ω ±5%) | [L116] |
| 359 | VRS-TV2AB101J | AA | | C | Resistor(1/10W 100Ω ±5%) | [L117] |
| 360 | VRS-TV2AB101J | AA | | C | Resistor(1/10W 100Ω ±5%) | [L118] |
| 361 | VRS-TV2AB101J | AA | | C | Resistor(1/10W 100Ω ±5%) | [L119] |
| 362 | VRS-TV2AB101J | AA | | C | Resistor(1/10W 100Ω ±5%) | [L120] |
| 363 | VRS-TV2AB000J | AA | | C | Resistor(1/10W 0Ω ±5%) | [L121] |
| 364 | VRS-TV2AB000J | AA | | C | Resistor(1/10W 0Ω ±5%) | [L122] |
| 365 | RCILZ2104SCZZ | AK | | C | Coil(Z2104) | [L124] |
| 366 | RCILZ2104SCZZ | AK | | C | Coil(Z2104) | [L125] |
| 367 | VRS-TV2AB000J | AA | | C | Resistor(1/10W 0Ω ±5%) | [L126] |
| 368 | VRS-TV2AB000J | AA | | C | Resistor(1/10W 0Ω ±5%) | [L127] |
| 369 | VRS-TV2AB000J | AA | | C | Resistor(1/10W 0Ω ±5%) | [L128] |
| 370 | VRS-TV2AB000J | AA | | C | Resistor(1/10W 0Ω ±5%) | [L129] |
| 371 | VS2SD1164//-1 | AE | | B | Transistor(2SD1164) | [Q1] |
| 372 | VSDTA114EK/-1 | AB | | B | Transistor(DTA114EK) | [Q101] |
| 373 | VSDTA114EK/-1 | AB | | B | Transistor(DTA114EK) | [Q102] |
| 374 | VSDTC114EK/-1 | AB | | B | Transistor(DTC114EK) | [Q103] |
| 375 | VSDTC114EK/-1 | AB | | B | Transistor(DTC114EK) | [Q104] |
| 376 | VS2SC2413KP-1 | AC | | B | Transistor(2SC2413K) | [Q105] |
| 377 | VS2SD1664Q/-1 | AD | | B | Transistor(2SD1664Q) | [Q106] |
| 378 | VRS-HT2HAR47J | AB | | C | Resistor(1/2W 0.47Ω ±5%) | [R1] |
| 379 | VRS-HT2HAR47J | AB | | C | Resistor(1/2W 0.47Ω ±5%) | [R2] |
| 380 | VRS-HT3AA100J | AC | | C | Resistor(1W 10Ω ±5%) | [R3] |
| 381 | VRD-HT2HY750J | AA | | C | Resistor(1/2W 75Ω ±5%) | [R4] |
| 382 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R101] |
| 383 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R109] |
| 384 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R110] |
| 385 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R111] |
| 386 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R112] |
| 387 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R113] |
| 388 | VRS-TV2AB100J | AD | | C | Resistor(1/10W 10Ω ±5%) | [R114] |
| 389 | VRS-TV2AB100J | AD | | C | Resistor(1/10W 10Ω ±5%) | [R115] |
| 390 | VRS-TV2AB100J | AD | | C | Resistor(1/10W 10Ω ±5%) | [R116] |
| 391 | VRS-TV2AB103J | AA | | C | Resistor(1/10W 10KΩ ±5%) | [R117] |
| 392 | VRS-TV2AB103J | AA | | C | Resistor(1/10W 10KΩ ±5%) | [R118] |
| 393 | VRS-TV2AB100J | AD | | C | Resistor(1/10W 10Ω ±5%) | [R119] |
| 394 | VRS-TV2AB100J | AD | | C | Resistor(1/10W 10Ω ±5%) | [R120] |
| 395 | VRS-TV2AB100J | AD | | C | Resistor(1/10W 10Ω ±5%) | [R121] |
| 396 | VRS-TV2AB100J | AD | | C | Resistor(1/10W 10Ω ±5%) | [R122] |
| 397 | VRS-TV2AB100J | AD | | C | Resistor(1/10W 10Ω ±5%) | [R123] |
| 398 | VRS-TV2AB100J | AD | | C | Resistor(1/10W 10Ω ±5%) | [R124] |
| 399 | VRS-TV2AB100J | AD | | C | Resistor(1/10W 10Ω ±5%) | [R125] |
| 400 | VRS-TV2AB100J | AD | | C | Resistor(1/10W 10Ω ±5%) | [R126] |

| NO. | PARTS CODE | PRICE RANK | NEW MARK | PART RANK | DESCRIPTION | |
|---|---|---|---|---|---|---|
| [16] Control PWB unit | | | | | | |
| 401 | VRS-TV2AB100J | AD | | C | Resistor(1/10W 10Ω ±5%) | [R127] |
| 402 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R129] |
| 403 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R130] |
| 404 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R132] |
| 405 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R133] |
| 406 | VRS-TV2AB100J | AD | | C | Resistor(1/10W 10Ω ±5%) | [R134] |
| 407 | VRS-TV2AB100J | AD | | C | Resistor(1/10W 10Ω ±5%) | [R135] |
| 408 | VRS-TV2AB100J | AD | | C | Resistor(1/10W 10Ω ±5%) | [R136] |
| 409 | VRS-TV2AB000J | AA | | C | Resistor(1/10W 0Ω ±5%) | [R137] |
| 410 | VRS-TV2AB000J | AA | | C | Resistor(1/10W 0Ω ±5%) | [R138] |
| 411 | VRSTS2AD6812F | AA | | C | Resistor(1/10W 68.1KΩ ±1%) | [R139] |
| 412 | VRS-TV2AB000J | AA | | C | Resistor(1/10W 0Ω ±5%) | [R140] |
| 413 | VRS-TV2AB333J | AD | | C | Resistor(1/10W 33KΩ ±5%) | [R141] |
| 414 | VRS-TV2AB333J | AD | | C | Resistor(1/10W 33KΩ ±5%) | [R142] |
| 415 | VRS-TV2AB103J | AA | | C | Resistor(1/10W 10KΩ ±5%) | [R144] |
| 416 | VRS-TV2AB103J | AA | | C | Resistor(1/10W 10KΩ ±5%) | [R145] |
| 417 | VRS-TV2AB100J | AD | | C | Resistor(1/10W 10Ω ±5%) | [R146] |
| 418 | VRS-TV2AB100J | AD | | C | Resistor(1/10W 10Ω ±5%) | [R147] |
| 419 | VRS-TV2AB100J | AD | | C | Resistor(1/10W 10Ω ±5%) | [R148] |
| 420 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R149] |
| 421 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R150] |
| 422 | RCORF2091SCZZ | AD | | C | Coil | [R151] |
| 423 | VRS-TV2AB100J | AD | | C | Resistor(1/10W 10Ω ±5%) | [R152] |
| 424 | VRS-TV2AB100J | AD | | C | Resistor(1/10W 10Ω ±5%) | [R153] |
| 425 | VRS-TV2AB100J | AD | | C | Resistor(1/10W 10Ω ±5%) | [R154] |
| 426 | VRS-TV2AB100J | AD | | C | Resistor(1/10W 10Ω ±5%) | [R155] |
| 427 | VRS-TV2AB151J | AA | | C | Resistor(1/10W 150Ω ±5%) | [R156] |
| 428 | VRS-TV2AB100J | AD | | C | Resistor(1/10W 10Ω ±5%) | [R157] |
| 429 | VRS-TV2AB151J | AA | | C | Resistor(1/10W 150Ω ±5%) | [R158] |
| 430 | VRS-TV2AB151J | AA | | C | Resistor(1/10W 150Ω ±5%) | [R159] |
| 431 | VRS-TV2AB151J | AA | | C | Resistor(1/10W 150Ω ±5%) | [R160] |
| 432 | VRS-TV2AB151J | AA | | C | Resistor(1/10W 150Ω ±5%) | [R161] |
| 433 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R164] |
| 434 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R165] |
| 435 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R167] |
| 436 | VRS-TV2AB000J | AA | | C | Resistor(1/10W 0Ω ±5%) | [R168] |
| 437 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R169] |
| 438 | VRS-TV2AB000J | AA | | C | Resistor(1/10W 0Ω ±5%) | [R171] |
| 439 | VRS-TV2AB103J | AA | | C | Resistor(1/10W 10KΩ ±5%) | [R172] |
| 440 | VRS-TV2AB102J | AA | | C | Resistor(1/10W 1KΩ ±5%) | [R174] |
| 441 | VRS-TQ2BB200J | AA | | C | Resistor(1/8W 20Ω ±5%) | [R175] |
| 442 | VRS-TV2AB100J | AD | | C | Resistor(1/10W 10Ω ±5%) | [R177] |
| 443 | VRS-TV2AB100J | AD | | C | Resistor(1/10W 10Ω ±5%) | [R178] |
| 444 | VRSTS2AD4422F | AA | | C | Resistor(1/10W 44.2KΩ ±1%) | [R179] |
| 445 | VRSTS2AD4422F | AA | | C | Resistor(1/10W 44.2KΩ ±1%) | [R180] |
| 446 | VRSTS2AD4422F | AA | | C | Resistor(1/10W 44.2KΩ ±1%) | [R181] |
| 447 | VRSTS2AD4422F | AA | | C | Resistor(1/10W 44.2KΩ ±1%) | [R182] |
| 448 | VRSTS2AD1373F | AA | | C | Resistor(1/10W 137KΩ ±1%) | [R183] |
| 449 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R184] |
| 450 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R185] |
| 451 | VRS-TV2AB000J | AA | | C | Resistor(1/10W 0Ω ±5%) | [R186] |
| 452 | VRS-TV2AB101J | AA | | C | Resistor(1/10W 100Ω ±5%) | [R187] |
| 453 | VRS-TV2AB000J | AA | | C | Resistor(1/10W 0Ω ±5%) | [R188] |
| 454 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R193] |
| 455 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R194] |
| 456 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R195] |
| 457 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R196] |
| 458 | VRS-TV2AB561J | AD | | C | Resistor(1/10W 560Ω ±5%) | [R200] |
| 459 | VRS-TV2AB103J | AA | | C | Resistor(1/10W 10KΩ ±5%) | [R201] |
| 460 | VRS-TV2AB103J | AA | | C | Resistor(1/10W 10KΩ ±5%) | [R202] |
| 461 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R203] |
| 462 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R204] |
| 463 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R205] |
| 464 | VRS-TV2AB103J | AA | | C | Resistor(1/10W 10KΩ ±5%) | [R206] |
| 465 | VRS-TV2AB000J | AA | | C | Resistor(1/10W 0Ω ±5%) | [R207] |
| 466 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R209] |
| 467 | VRS-TV2AB100J | AD | | C | Resistor(1/10W 10Ω ±5%) | [R210] |
| 468 | VRS-TV2AB100J | AD | | C | Resistor(1/10W 10Ω ±5%) | [R211] |
| 469 | VRS-TV2AB101J | AA | | C | Resistor(1/10W 100Ω ±5%) | [R212] |
| 470 | VRS-TV2AB101J | AA | | C | Resistor(1/10W 100Ω ±5%) | [R213] |
| 471 | VRS-TV2AB000J | AA | | C | Resistor(1/10W 0Ω ±5%) | [R218] |
| 472 | VRS-TV2AB000J | AA | | C | Resistor(1/10W 0Ω ±5%) | [R222] |
| 473 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R223] |
| 474 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R224] |
| 475 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R225] |
| 476 | VRS-TV2AB101J | AA | | C | Resistor(1/10W 100Ω ±5%) | [R226] |
| 477 | VRS-TV2AB561J | AD | | C | Resistor(1/10W 560Ω ±5%) | [R227] |
| 478 | VRS-TV2AB223J | AA | | C | Resistor(1/10W 22KΩ ±5%) | [R229] |
| 479 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R232] |
| 480 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R233] |

| NO. | PARTS CODE | PRICE RANK | NEW MARK | PART RANK | DESCRIPTION | |
|---|---|---|---|---|---|---|
| [16] Control PWB unit | | | | | | |
| 481 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R235] |
| 482 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R236] |
| 483 | VRS-TV2AB330J | AD | | C | Resistor(1/10W 33Ω ±5%) | [R243] |
| 484 | VRS-TV2AB330J | AD | | C | Resistor(1/10W 33Ω ±5%) | [R244] |
| 485 | VRS-TV2AB330J | AD | | C | Resistor(1/10W 33Ω ±5%) | [R245] |
| 486 | VRS-TV2AB330J | AD | | C | Resistor(1/10W 33Ω ±5%) | [R246] |
| 487 | VRS-TV2AB330J | AD | | C | Resistor(1/10W 33Ω ±5%) | [R247] |
| 488 | VRS-TV2AB330J | AD | | C | Resistor(1/10W 33Ω ±5%) | [R248] |
| 489 | VRS-TV2AB330J | AD | | C | Resistor(1/10W 33Ω ±5%) | [R249] |
| 490 | VRS-TV2AB330J | AD | | C | Resistor(1/10W 33Ω ±5%) | [R250] |
| 491 | VRS-TV2AB330J | AD | | C | Resistor(1/10W 33Ω ±5%) | [R251] |
| 492 | VRS-TV2AB330J | AD | | C | Resistor(1/10W 33Ω ±5%) | [R252] |
| 493 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R253] |
| 494 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R254] |
| 495 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R255] |
| 496 | VRS-TV2AB103J | AA | | C | Resistor(1/10W 10KΩ ±5%) | [R256] |
| 497 | VRS-TV2AB000J | AA | | C | Resistor(1/10W 0Ω ±5%) | [R257] |
| 498 | VRS-TV2AB000J | AA | | C | Resistor(1/10W 0Ω ±5%) | [R260] |
| 499 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R262] |
| 500 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R263] |
| 501 | VRS-TV2AB000J | AA | | C | Resistor(1/10W 0Ω ±5%) | [R264] |
| 502 | VRS-TV2AB000J | AA | | C | Resistor(1/10W 0Ω ±5%) | [R267] |
| 503 | VRS-TV2AB000J | AA | | C | Resistor(1/10W 0Ω ±5%) | [R268] |
| 504 | VRS-TV2AB000J | AA | | C | Resistor(1/10W 0Ω ±5%) | [R269] |
| 505 | VRS-TV2AB364J | AA | | C | Resistor(1/10W 360KΩ ±5%) | [R270] |
| 506 | VRS-TV2AB753J | AA | | C | Resistor(1/10W 75KΩ ±5%) | [R271] |
| 507 | VRS-TV2AB163J | AA | | C | Resistor(1/10W 16KΩ ±5%) | [R272] |
| 508 | VRS-TV2AB000J | AA | | C | Resistor(1/10W 0Ω ±5%) | [R273] |
| 509 | VRS-TV2AB103J | AA | | C | Resistor(1/10W 10KΩ ±5%) | [R274] |
| 510 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R275] |
| 511 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R276] |
| 512 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R277] |
| 513 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R278] |
| 514 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R283] |
| 515 | VRS-TV2AB471J | AA | | C | Resistor(1/10W 470Ω ±5%) | [R286] |
| 516 | VRS-TV2AB471J | AA | | C | Resistor(1/10W 470Ω ±5%) | [R287] |
| 517 | VRS-TV2AB471J | AA | | C | Resistor(1/10W 470Ω ±5%) | [R288] |
| 518 | VRS-TV2AB471J | AA | | C | Resistor(1/10W 470Ω ±5%) | [R289] |
| 519 | VRS-TV2AB471J | AA | | C | Resistor(1/10W 470Ω ±5%) | [R290] |
| 520 | VRS-TV2AB471J | AA | | C | Resistor(1/10W 470Ω ±5%) | [R291] |
| 521 | VRS-TV2AB471J | AA | | C | Resistor(1/10W 470Ω ±5%) | [R292] |
| 522 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R295] |
| 523 | VRS-TV2AB000J | AA | | C | Resistor(1/10W 0Ω ±5%) | [R297] |
| 524 | VRS-TV2AB101J | AA | | C | Resistor(1/10W 100Ω ±5%) | [R298] |
| 525 | VRS-TV2AB000J | AA | | C | Resistor(1/10W 0Ω ±5%) | [R299] |
| 526 | VRS-TV2AB271J | AA | | C | Resistor(1/10W 270Ω ±5%) | [R306] |
| 527 | VRS-TV2AB271J | AA | | C | Resistor(1/10W 270Ω ±5%) | [R307] |
| 528 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R308] |
| 529 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R309] |
| 530 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R310] |
| 531 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R311] |
| 532 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R312] |
| 533 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R313] |
| 534 | VRS-TV2AB223J | AA | | C | Resistor(1/10W 22KΩ ±5%) | [R316] |
| 535 | VRS-TV2AB223J | AA | | C | Resistor(1/10W 22KΩ ±5%) | [R317] |
| 536 | VRS-TV2AB364J | AA | | C | Resistor(1/10W 360KΩ ±5%) | [R318] |
| 537 | VRS-TV2AB163J | AA | | C | Resistor(1/10W 16KΩ ±5%) | [R319] |
| 538 | VRS-TV2AB753J | AA | | C | Resistor(1/10W 75KΩ ±5%) | [R320] |
| 539 | VRS-TV2AB103J | AA | | C | Resistor(1/10W 10KΩ ±5%) | [R322] |
| 540 | VRS-TV2AB000J | AA | | C | Resistor(1/10W 0Ω ±5%) | [R323] |
| 541 | VRS-TV2AB000J | AA | | C | Resistor(1/10W 0Ω ±5%) | [R324] |
| 542 | VRS-TV2AB271J | AA | | C | Resistor(1/10W 270Ω ±5%) | [R325] |
| 543 | VRS-TV2AB271J | AA | | C | Resistor(1/10W 270Ω ±5%) | [R326] |
| 544 | VRS-TV2AB271J | AA | | C | Resistor(1/10W 270Ω ±5%) | [R327] |
| 545 | VRS-TV2AB271J | AA | | C | Resistor(1/10W 270Ω ±5%) | [R328] |
| 546 | VRS-TV2AB271J | AA | | C | Resistor(1/10W 270Ω ±5%) | [R329] |
| 547 | VRS-TV2AB271J | AA | | C | Resistor(1/10W 270Ω ±5%) | [R330] |
| 548 | VRS-TV2AB330J | AD | | C | Resistor(1/10W 33Ω ±5%) | [R333] |
| 549 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R334] |
| 550 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R335] |
| 551 | VRS-TV2AB103J | AA | | C | Resistor(1/10W 10KΩ ±5%) | [R336] |
| 552 | VRS-TV2AB271J | AA | | C | Resistor(1/10W 270Ω ±5%) | [R339] |
| 553 | VRS-TV2AB271J | AA | | C | Resistor(1/10W 270Ω ±5%) | [R340] |
| 554 | VRS-TV2AB151J | AA | | C | Resistor(1/10W 150Ω ±5%) | [R341] |
| 555 | VRS-TV2AB151J | AA | | C | Resistor(1/10W 150Ω ±5%) | [R342] |
| 556 | VRS-TV2AB151J | AA | | C | Resistor(1/10W 150Ω ±5%) | [R343] |
| 557 | VRS-TV2AB151J | AA | | C | Resistor(1/10W 150Ω ±5%) | [R344] |
| 558 | VRS-TV2AB151J | AA | | C | Resistor(1/10W 150Ω ±5%) | [R345] |
| 559 | VRS-TV2AB100J | AD | | C | Resistor(1/10W 10Ω ±5%) | [R346] |
| 560 | VRS-TV2AB100J | AD | | C | Resistor(1/10W 10Ω ±5%) | [R347] |

| NO. | PARTS CODE | PRICE RANK | NEW MARK | PART RANK | DESCRIPTION | |
|---|---|---|---|---|---|---|
| [16] Control PWB unit | | | | | | |
| 561 | VRS-TV2AB100J | AD | | C | Resistor(1/10W 10Ω ±5%) | [R348] |
| 562 | VRS-TV2AB100J | AD | | C | Resistor(1/10W 10Ω ±5%) | [R349] |
| 563 | VRS-TV2AB100J | AD | | C | Resistor(1/10W 10Ω ±5%) | [R350] |
| 564 | VRS-TV2AB100J | AD | | C | Resistor(1/10W 10Ω ±5%) | [R351] |
| 565 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R352] |
| 566 | VRS-TV2AB100J | AD | | C | Resistor(1/10W 10Ω ±5%) | [R353] |
| 567 | VRS-TV2AB100J | AD | | C | Resistor(1/10W 10Ω ±5%) | [R354] |
| 568 | VRS-TV2AB100J | AD | | C | Resistor(1/10W 10Ω ±5%) | [R355] |
| 569 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R356] |
| 570 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R357] |
| 571 | VRS-TV2AB513J | AA | | C | Resistor(1/10W 51KΩ ±5%) | [R360] |
| 572 | VRS-TV2AB000J | AA | | C | Resistor(1/10W 0Ω ±5%) | [R361] |
| 573 | VRS-TV2AB271J | AA | | C | Resistor(1/10W 270Ω ±5%) | [R362] |
| 574 | VRS-TV2AB271J | AA | | C | Resistor(1/10W 270Ω ±5%) | [R364] |
| 575 | VRS-TV2AB271J | AA | | C | Resistor(1/10W 270Ω ±5%) | [R365] |
| 576 | VRS-TV2AB271J | AA | | C | Resistor(1/10W 270Ω ±5%) | [R366] |
| 577 | VRS-TV2AB302J | AA | | C | Resistor(1/10W 3KΩ ±5%) | [R367] |
| 578 | VRS-TV2AB332J | AA | | C | Resistor(1/10W 3.3KΩ ±5%) | [R368] |
| 579 | VRS-TV2AB332J | AA | | C | Resistor(1/10W 3.3KΩ ±5%) | [R369] |
| 580 | VRS-TV2AB332J | AA | | C | Resistor(1/10W 3.3KΩ ±5%) | [R370] |
| 581 | VRS-TV2AB332J | AA | | C | Resistor(1/10W 3.3KΩ ±5%) | [R371] |
| 582 | VRS-TV2AB561J | AD | | C | Resistor(1/10W 560Ω ±5%) | [R372] |
| 583 | VRS-TV2AB105J | AA | | C | Resistor(1/10W 1.0MΩ ±5%) | [R373] |
| 584 | VRS-TV2AB101J | AA | | C | Resistor(1/10W 100Ω ±5%) | [R375] |
| 585 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R376] |
| 586 | VRS-TV2AB100J | AD | | C | Resistor(1/10W 10Ω ±5%) | [R377] |
| 587 | VRS-TV2AB100J | AD | | C | Resistor(1/10W 10Ω ±5%) | [R378] |
| 588 | VRS-TV2AB100J | AD | | C | Resistor(1/10W 10Ω ±5%) | [R379] |
| 589 | VRS-TV2AB332J | AA | | C | Resistor(1/10W 3.3KΩ ±5%) | [R380] |
| 590 | VRS-TV2AB184J | AD | | C | Resistor(1/10W 180KΩ ±5%) | [R381] |
| 591 | VRS-TV2AB204J | AA | | C | Resistor(1/10W 200KΩ ±5%) | [R382] |
| 592 | VRS-TV2AB104J | AA | | C | Resistor(1/10W 100KΩ ±5%) | [R383] |
| 593 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R384] |
| 594 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R385] |
| 595 | VRS-TV2AB100J | AD | | C | Resistor(1/10W 10Ω ±5%) | [R386] |
| 596 | VRS-TV2AB100J | AD | | C | Resistor(1/10W 10Ω ±5%) | [R387] |
| 597 | VRS-TV2AB103J | AA | | C | Resistor(1/10W 10KΩ ±5%) | [R388] |
| 598 | VRS-TV2AB302J | AA | | C | Resistor(1/10W 3KΩ ±5%) | [R389] |
| 599 | VRS-TV2AB223J | AA | | C | Resistor(1/10W 22KΩ ±5%) | [R390] |
| 600 | VRS-TV2AB103J | AA | | C | Resistor(1/10W 10KΩ ±5%) | [R391] |
| 601 | VRS-TV2AB223J | AA | | C | Resistor(1/10W 22KΩ ±5%) | [R392] |
| 602 | VRS-TV2AB271J | AA | | C | Resistor(1/10W 270Ω ±5%) | [R393] |
| 603 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R394] |
| 604 | VRS-TV2AB102J | AA | | C | Resistor(1/10W 1KΩ ±5%) | [R395] |
| 605 | VRS-TV2AB222J | AA | | C | Resistor(1/10W 2.2KΩ ±5%) | [R396] |
| 606 | VRS-TV2AB271J | AA | | C | Resistor(1/10W 270Ω ±5%) | [R397] |
| 607 | VRS-TV2AB102J | AA | | C | Resistor(1/10W 1KΩ ±5%) | [R399] |
| 608 | VRS-TV2AB563J | AA | | C | Resistor(1/10W 56KΩ ±5%) | [R400] |
| 609 | VRS-TV2AB102J | AA | | C | Resistor(1/10W 1KΩ ±5%) | [R401] |
| 610 | VRS-TV2AB563J | AA | | C | Resistor(1/10W 56KΩ ±5%) | [R402] |
| 611 | VRS-TV2AB000J | AA | | C | Resistor(1/10W 0Ω ±5%) | [R403] |
| 612 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R404] |
| 613 | VRS-TV2AB622J | AA | | C | Resistor(1/10W 6.2KΩ ±5%) | [R405] |
| 614 | VRS-TV2AB330J | AD | | C | Resistor(1/10W 33Ω ±5%) | [R407] |
| 615 | VRS-TV2AB330J | AD | | C | Resistor(1/10W 33Ω ±5%) | [R408] |
| 616 | VRS-TV2AB680J | AA | | C | Resistor(1/10W 68Ω ±5%) | [R409] |
| 617 | VRS-TV2AB271J | AA | | C | Resistor(1/10W 270Ω ±5%) | [R410] |
| 618 | VRS-TV2AB103J | AA | | C | Resistor(1/10W 10KΩ ±5%) | [R411] |
| 619 | VRS-TV2AB271J | AA | | C | Resistor(1/10W 270Ω ±5%) | [R412] |
| 620 | VRS-TV2AB680J | AA | | C | Resistor(1/10W 68Ω ±5%) | [R413] |
| 621 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R418] |
| 622 | VRS-TV2AB102J | AA | | C | Resistor(1/10W 1KΩ ±5%) | [R419] |
| 623 | VRS-TV2AB000J | AA | | C | Resistor(1/10W 0Ω ±5%) | [R420] |
| 624 | VRS-TV2AB103J | AA | | C | Resistor(1/10W 10KΩ ±5%) | [R421] |
| 625 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R422] |
| 626 | VRS-TV2AB103J | AA | | C | Resistor(1/10W 10KΩ ±5%) | [R423] |
| 627 | VRS-TV2AB103J | AA | | C | Resistor(1/10W 10KΩ ±5%) | [R424] |
| 628 | VRS-TV2AB271J | AA | | C | Resistor(1/10W 270Ω ±5%) | [R425] |
| 629 | VRS-TV2AB271J | AA | | C | Resistor(1/10W 270Ω ±5%) | [R426] |
| 630 | VRS-TV2AB103J | AA | | C | Resistor(1/10W 10KΩ ±5%) | [R427] |
| 631 | VRS-TV2AB103J | AA | | C | Resistor(1/10W 10KΩ ±5%) | [R428] |
| 632 | VCCCTV1HH150J | AA | | C | Capacitor(50WV 15PF) | [R434] |
| 633 | VRS-TQ2BB000J | AA | | C | Resistor(1/8W 0Ω ±5%) | [R437] |
| 634 | VRS-TV2AB562J | AA | | C | Resistor(1/10W 5.6KΩ ±5%) | [R438] |
| 635 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R439] |
| 636 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R440] |
| 637 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R441] |
| 638 | VRS-TV2AB101J | AA | | C | Resistor(1/10W 100Ω ±5%) | [R442] |
| 639 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R443] |
| 640 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R444] |

| NO. | PARTS CODE | PRICE RANK | NEW MARK | PART RANK | DESCRIPTION | |
|---|---|---|---|---|---|---|
| [16] Control PWB unit | | | | | | |
| 641 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R445] |
| 642 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R446] |
| 643 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R447] |
| 644 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R448] |
| 645 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R449] |
| 646 | VRS-TV2AB432J | AA | | C | Resistor(1/10W 4.3KΩ ±5%) | [R450] |
| 647 | VRS-TV2AB392J | AD | | C | Resistor(1/10W 3.9KΩ ±5%) | [R451] |
| 648 | VRS-TV2AB162J | AA | | C | Resistor(1/10W 1.6KΩ ±5%) | [R452] |
| 649 | VRS-TV2AB103J | AA | | C | Resistor(1/10W 10KΩ ±5%) | [R453] |
| 650 | VRS-TV2AB101J | AA | | C | Resistor(1/10W 100Ω ±5%) | [R454] |
| 651 | VRS-TV2AB000J | AA | | C | Resistor(1/10W 0Ω ±5%) | [R455] |
| 652 | VRS-TV2AB562J | AA | | C | Resistor(1/10W 5.6KΩ ±5%) | [R456] |
| 653 | VRS-TV2AB332J | AA | | C | Resistor(1/10W 3.3KΩ ±5%) | [R457] |
| 654 | VRS-TQ2BB561J | AA | | C | Resistor(1/8W 560Ω ±5%) | [R462] |
| 655 | VRS-TV2AB512J | AA | | C | Resistor(1/10W 5.1KΩ ±5%) | [R463] |
| 656 | VRS-TV2AB113J | AA | | C | Resistor(1/10W 11KΩ ±5%) | [R464] |
| 657 | VRS-TV2AB103J | AA | | C | Resistor(1/10W 10KΩ ±5%) | [R465] |
| 658 | VRS-TV2AB392J | AD | | C | Resistor(1/10W 3.9KΩ ±5%) | [R467] |
| 659 | VRS-TV2AB752J | AA | | C | Resistor(1/10W 7.5KΩ ±5%) | [R468] |
| 660 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R475] |
| 661 | VRS-TV2AB000J | AA | | C | Resistor(1/10W 0Ω ±5%) | [R476] |
| 662 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R477] |
| 663 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R478] |
| 664 | VRS-TV2AB000J | AA | | C | Resistor(1/10W 0Ω ±5%) | [R479] |
| 665 | VRS-TV2AB000J | AA | | C | Resistor(1/10W 0Ω ±5%) | [R481] |
| 666 | RCRSQ2126SCZZ | AH | N | B | Crystal(56.448MHz) | [X1] |
| 667 | RCRSQ2114SCZZ | AG | | B | Crystal(19.6608MHz) | [X2] |
| 668 | RCRSQ2114SCZZ | AG | | B | Crystal(19.6608MHz) | [X3] |
| 669 | RCRSZ7008SCZZ | AD | | B | Crystal(16.0MHz) | [X4] |
| 670 | RCRSQ2110SCZZ | AG | | B | Crystal(22.24044MHz) | [X5] |
| 671 | RCRSP0074AFZZ | AE | | B | Crystal(32.768kHz) | [X6] |
| 672 | TLABP3078SCZZ | AA | N | D | Shading label(for EP-ROM) | |
| | (Unit) | | | | | |
| 901 | DCEKC081KSCZZ | CR | N | E | Control PWB unit(Within ROM) | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| [17] Line control PWB unit | | | | | | |
| 1 | VCEAEA1CW476M | AA | | C | Capacitor(16WV 47µF) | [C1] |
| 2 | VCEAEA1EW476M | AB | | C | Capacitor(25WV 47µF) | [C2] |
| 3 | VCEAEA1CW106M | AC | | C | Capacitor(16WV 10µF) | [C3] |
| 4 | VCEAEA1CW106M | AC | | C | Capacitor(16WV 10µF) | [C4] |
| 5 | VCEAEA1EW476M | AB | | C | Capacitor(25WV 47µF) | [C5] |
| 6 | VCEAEA1CW476M | AA | | C | Capacitor(16WV 47µF) | [C6] |
| 7 | VCEAEA1CW106M | AC | | C | Capacitor(16WV 10µF) | [C7] |
| 8 | VCEAEA1CW106M | AC | | C | Capacitor(16WV 10µF) | [C8] |
| 9 | VCEAEA1CW106M | AC | | C | Capacitor(16WV 10µF) | [C9] |
| 10 | VCEAEA1EW226M | AA | | C | Capacitor(25WV 22µF) | [C10] |
| 11 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1µF) | [C101] |
| 12 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1µF) | [C102] |
| 13 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1µF) | [C103] |
| 14 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1µF) | [C104] |
| 15 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1µF) | [C105] |
| 16 | VCKYTV1CF105Z | AB | | C | Capacitor(16WV 1µF) | [C106] |
| 17 | VCKYTV1CF105Z | AB | | C | Capacitor(16WV 1µF) | [C107] |
| 18 | VCKYTQ1EB104K | AA | | C | Capacitor(25WV 0.1µF) | [C108] |
| 19 | VCKYTQ1EB104K | AA | | C | Capacitor(25WV 0.1µF) | [C109] |
| 20 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1µF) | [C110] |
| 21 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1µF) | [C111] |
| 22 | VCKYTV1CF105Z | AB | | C | Capacitor(16WV 1µF) | [C112] |
| 23 | VCKYTV1CF105Z | AB | | C | Capacitor(16WV 1µF) | [C113] |
| 24 | VCKYTV1CF105Z | AB | | C | Capacitor(16WV 1µF) | [C114] |
| 25 | VCKYTV1CF105Z | AB | | C | Capacitor(16WV 1µF) | [C115] |
| 26 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1µF) | [C116] |
| 27 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1µF) | [C117] |
| 28 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1µF) | [C118] |
| 29 | VCKYTV1CF225Z | AD | | C | Capacitor(16WV 2.2µF) | [C119] |
| 30 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1µF) | [C120] |
| 31 | VCKYTV1HB222K | AA | | C | Capacitor(50WV 2200PF) | [C121] |
| 32 | VCKYTV1HB222K | AA | | C | Capacitor(50WV 2200PF) | [C122] |
| 33 | VCKYTV1HB222K | AA | | C | Capacitor(50WV 2200PF) | [C123] |
| 34 | VCCCTV1HH220J | AA | | C | Capacitor(50WV 22PF) | [C124] |
| 35 | VCCCTV1HH220J | AA | | C | Capacitor(50WV 22PF) | [C126] |
| 36 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1µF) | [C127] |
| 37 | VCCSTV1HL181J | AD | | C | Capacitor(50WV 180PF) | [C128] |
| 38 | VCKYTV1EB104K | AA | | C | Capacitor(25WV 0.1µF) | [C129] |
| 39 | VCKYTV1EB104K | AA | | C | Capacitor(25WV 0.1µF) | [C130] |
| 40 | VCKYTV1EB104K | AA | | C | Capacitor(25WV 0.1µF) | [C131] |

| NO. | PARTS CODE | PRICE RANK | NEW MARK | PART RANK | DESCRIPTION | |
|---|---|---|---|---|---|---|
| [17] Line control PWB unit | | | | | | |
| 41 | VCKYTV1HB222K | AA | | C | Capacitor(50WV 2200PF) | [C132] |
| 42 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1µF) | [C133] |
| 43 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1µF) | [C134] |
| 44 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1µF) | [C135] |
| 45 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1µF) | [C136] |
| 46 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1µF) | [C137] |
| 47 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1µF) | [C138] |
| 48 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1µF) | [C139] |
| 49 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1µF) | [C140] |
| 50 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1µF) | [C141] |
| 51 | VCKYTV1CF105Z | AB | | C | Capacitor(16WV 1µF) | [C142] |
| 52 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1µF) | [C143] |
| 53 | VCCCTV1HH100D | AA | | C | Capacitor(50WV 10PF) | [C144] |
| 54 | VCCCTV1HH3R0C | AA | | C | Capacitor(50WV 3PF) | [C145] |
| 55 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1µF) | [C146] |
| 56 | VCCCTV1HH150J | AA | | C | Capacitor(50WV 15PF) | [C147] |
| 57 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1µF) | [C148] |
| 58 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1µF) | [C149] |
| 59 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1µF) | [C150] |
| 60 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1µF) | [C151] |
| 61 | VCCCTV1HH220J | AA | | C | Capacitor(50WV 22PF) | [C152] |
| 62 | VCCCTV1HH220J | AA | | C | Capacitor(50WV 22PF) | [C153] |
| 63 | VCCCTV1HH220J | AA | | C | Capacitor(50WV 22PF) | [C154] |
| 64 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1µF) | [C155] |
| 65 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1µF) | [C156] |
| 66 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1µF) | [C157] |
| 67 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1µF) | [C158] |
| 68 | QCNCM2558SC2F | AK | N | C | Connector(26pin) | [CNLIU1] |
| 69 | QCNCM2525SC5J | AK | | C | Connector(50pin) | [CNSB1] |
| 70 | VHD1SS355//-1 | AB | | B | Diode(1SS355) | [D1] |
| 71 | VHDHRW0502A-1 | AD | N | B | Diode(HRW0502A) | [D2] |
| 72 | VHDHRW0502A-1 | AD | N | B | Diode(HRW0502A) | [D3] |
| 73 | VHDHRW0502A-1 | AD | N | B | Diode(HRW0502A) | [D4] |
| 74 | VHDHRW0502A-1 | AD | N | B | Diode(HRW0502A) | [D5] |
| 75 | VHDHRW0502A-1 | AD | N | B | Diode(HRW0502A) | [D6] |
| 76 | VHDHRW0502A-1 | AD | N | B | Diode(HRW0502A) | [D7] |
| 77 | VHDHRW0502A-1 | AD | N | B | Diode(HRW0502A) | [D8] |
| 78 | VHDHRW0502A-1 | AD | N | B | Diode(HRW0502A) | [D9] |
| 79 | VHDHRW0502A-1 | AD | N | B | Diode(HRW0502A) | [D10] |
| 80 | VHDHRW0502A-1 | AD | N | B | Diode(HRW0502A) | [D11] |
| 81 | VHDHRW0502A-1 | AD | N | B | Diode(HRW0502A) | [D12] |
| 82 | VHDHRW0502A-1 | AD | N | B | Diode(HRW0502A) | [D13] |
| 83 | VHDHRW0502A-1 | AD | N | B | Diode(HRW0502A) | [D14] |
| 84 | VHDHRW0502A-1 | AD | N | B | Diode(HRW0502A) | [D15] |
| 85 | VHDHRW0502A-1 | AD | N | B | Diode(HRW0502A) | [D16] |
| 86 | VHDHRW0502A-1 | AD | N | B | Diode(HRW0502A) | [D17] |
| 87 | VHDHRW0502A-1 | AD | N | B | Diode(HRW0502A) | [D18] |
| 88 | VHDHRW0502A-1 | AD | N | B | Diode(HRW0502A) | [D19] |
| 89 | VHDHRW0502A-1 | AD | N | B | Diode(HRW0502A) | [D20] |
| 90 | VHDHRW0502A-1 | AD | N | B | Diode(HRW0502A) | [D21] |
| 91 | VHDHRW0502A-1 | AD | N | B | Diode(HRW0502A) | [D22] |
| 92 | VHDHRW0502A-1 | AD | N | B | Diode(HRW0502A) | [D23] |
| 93 | VHDHRW0502A-1 | AD | N | B | Diode(HRW0502A) | [D24] |
| 94 | VHDHRW0502A-1 | AD | N | B | Diode(HRW0502A) | [D25] |
| 95 | VHDHRW0502A-1 | AD | N | B | Diode(HRW0502A) | [D26] |
| 96 | VHIALS32NS/-1 | AD | N | B | IC(SN74ALS32NS) | [IC2] |
| 97 | VHI4M16SOJ-70 | BG | | B | IC(514260-70J) | [IC3] |
| 98 | VHIALS32NS/-1 | AD | N | B | IC(SN74ALS32NS) | [IC5] |
| 99 | QSOCZ2058SC40 | AH | N | C | IC socket(40pin) | [IC6] |
| 100 | VHI27040FBR0B | BA | N | B | IC,EPROM(256x16) | [IC6] |
| 101 | VHIHD7021606A | BE | N | B | IC(HD6437021C21X) | [IC7] |
| 102 | VHIR288F24/-1 | BW | N | B | IC(R288F-24) | [IC8] |
| 103 | VHIMC74HC14F- | AD | | B | IC(MC74HC14AF) | [IC9] |
| 104 | VHIALS74ANS-1 | AE | N | B | IC(SN74ALS74ANS) | [IC10] |
| 105 | VHIIDT7130-55 | AY | N | B | IC(IDT7130SA55PF) | [IC11] |
| 106 | VHIIDT7140-55 | AY | N | B | IC(IDT7140SA55PF) | [IC12] |
| 107 | VHIALS20ANS-1 | AF | N | B | IC(SN74ALS20ANS) | [IC13] |
| 108 | VHIALS08NS/-1 | AF | N | B | IC(SN74ALS08NS) | [IC14] |
| 109 | VHIALS163BNS/ | AK | N | B | IC(SN74ALS163BNS) | [IC101] |
| 110 | VHIALS04BNS-1 | AF | N | B | IC(SN74ALS04BNS) | [IC102] |
| 111 | VHINJM2902M-1 | AF | | B | IC(NJM2902M) | [IC103] |
| 112 | VHIN78L05UA-1 | AK | | B | IC(NJU78L05UA) | [IC104] |
| 113 | VRS-TQ2BB000J | AA | | C | Resistor(1/8W 0Ω ±5%) | [L101] |
| 114 | VRS-TV2AB000J | AA | | C | Resistor(1/10W 0Ω ±5%) | [L102] |
| 115 | VRS-TV2AB330J | AD | | C | Resistor(1/10W 33Ω ±5%) | [L103] |
| 116 | VRS-TQ2BB000J | AA | | C | Resistor(1/8W 0Ω ±5%) | [L104] |
| 117 | VRS-TQ2BB000J | AA | | C | Resistor(1/8W 0Ω ±5%) | [L105] |
| 118 | VP-1M4R7J0000 | AG | N | C | (4.7µH) | [L106] |
| 119 | VRS-TV2AB000J | AA | | C | Resistor(1/10W 0Ω ±5%) | [L107] |
| 120 | VRS-TV2AB000J | AA | | C | Resistor(1/10W 0Ω ±5%) | [L108] |

| NO. | PARTS CODE | PRICE RANK | NEW MARK | PART RANK | DESCRIPTION | |
|---|---|---|---|---|---|---|
| [17] Line control PWB unit | | | | | | |
| 121 | VRS-TV2AB000J | AA | | C | Resistor(1/10W 0Ω ±5%) | [L109] |
| 122 | VRS-TV2AB000J | AA | | C | Resistor(1/10W 0Ω ±5%) | [L110] |
| 123 | VRD-HT2HY910J | AA | | C | Resistor(1/2W 91Ω ±5%) | [R1] |
| 124 | VRS-TV2AB151J | AA | | C | Resistor(1/10W 150Ω ±5%) | [R117] |
| 125 | VRS-TV2AB151J | AA | | C | Resistor(1/10W 150Ω ±5%) | [R118] |
| 126 | VRS-TV2AB100J | AD | | C | Resistor(1/10W 10Ω ±5%) | [R119] |
| 127 | VRS-TV2AB100J | AD | | C | Resistor(1/10W 10Ω ±5%) | [R120] |
| 128 | VRS-TV2AB100J | AD | | C | Resistor(1/10W 10Ω ±5%) | [R121] |
| 129 | VRS-TV2AB100J | AD | | C | Resistor(1/10W 10Ω ±5%) | [R122] |
| 130 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R123] |
| 131 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R124] |
| 132 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R125] |
| 133 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R126] |
| 134 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R127] |
| 135 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R128] |
| 136 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R129] |
| 137 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R130] |
| 138 | VRS-TV2AB223J | AA | | C | Resistor(1/10W 22KΩ ±5%) | [R131] |
| 139 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R132] |
| 140 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R133] |
| 141 | VRS-TV2AB000J | AA | | C | Resistor(1/10W 0Ω ±5%) | [R136] |
| 142 | VRS-TV2AB000J | AA | | C | Resistor(1/10W 0Ω ±5%) | [R137] |
| 143 | VRS-TV2AB333J | AD | | C | Resistor(1/10W 33KΩ ±5%) | [R138] |
| 144 | VRS-TV2AB103J | AA | | C | Resistor(1/10W 10KΩ ±5%) | [R139] |
| 145 | VRS-TV2AB103J | AA | | C | Resistor(1/10W 10KΩ ±5%) | [R140] |
| 146 | VRS-TV2AB100J | AD | | C | Resistor(1/10W 10Ω ±5%) | [R141] |
| 147 | VRS-TV2AB100J | AD | | C | Resistor(1/10W 10Ω ±5%) | [R142] |
| 148 | VRS-TV2AB100J | AD | | C | Resistor(1/10W 10Ω ±5%) | [R143] |
| 149 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R144] |
| 150 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R145] |
| 151 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R146] |
| 152 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R147] |
| 153 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R148] |
| 154 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R149] |
| 155 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R150] |
| 156 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R151] |
| 157 | VRS-TV2AB151J | AA | | C | Resistor(1/10W 150Ω ±5%) | [R157] |
| 158 | VRS-TV2AB000J | AA | | C | Resistor(1/10W 0Ω ±5%) | [R158] |
| 159 | VRS-TV2AB151J | AA | | C | Resistor(1/10W 150Ω ±5%) | [R159] |
| 160 | VRS-TV2AB151J | AA | | C | Resistor(1/10W 150Ω ±5%) | [R160] |
| 161 | VRS-TV2AB100J | AD | | C | Resistor(1/10W 10Ω ±5%) | [R161] |
| 162 | VRS-TV2AB100J | AD | | C | Resistor(1/10W 10Ω ±5%) | [R162] |
| 163 | VRS-TV2AB100J | AD | | C | Resistor(1/10W 10Ω ±5%) | [R163] |
| 164 | VRS-TV2AB100J | AD | | C | Resistor(1/10W 10Ω ±5%) | [R164] |
| 165 | VRS-TV2AB100J | AD | | C | Resistor(1/10W 10Ω ±5%) | [R165] |
| 166 | VRS-TV2AB000J | AA | | C | Resistor(1/10W 0Ω ±5%) | [R166] |
| 167 | VRS-TV2AB103J | AA | | C | Resistor(1/10W 10KΩ ±5%) | [R167] |
| 168 | VRS-TV2AB100J | AD | | C | Resistor(1/10W 10Ω ±5%) | [R168] |
| 169 | VRSTS2AD4422F | AA | | C | Resistor(1/10W 44.2KΩ ±1%) | [R169] |
| 170 | VRS-TV2AB333J | AD | | C | Resistor(1/10W 33KΩ ±5%) | [R170] |
| 171 | VRS-TV2AB100J | AD | | C | Resistor(1/10W 10Ω ±5%) | [R172] |
| 172 | VRS-TV2AB100J | AD | | C | Resistor(1/10W 10Ω ±5%) | [R173] |
| 173 | VRS-TV2AB100J | AD | | C | Resistor(1/10W 10Ω ±5%) | [R174] |
| 174 | VRS-TV2AB100J | AD | | C | Resistor(1/10W 10Ω ±5%) | [R175] |
| 175 | VRS-TV2AB100J | AD | | C | Resistor(1/10W 10Ω ±5%) | [R176] |
| 176 | VRS-TV2AB100J | AD | | C | Resistor(1/10W 10Ω ±5%) | [R177] |
| 177 | VRS-TV2AB100J | AD | | C | Resistor(1/10W 10Ω ±5%) | [R178] |
| 178 | VRS-TV2AB100J | AD | | C | Resistor(1/10W 10Ω ±5%) | [R179] |
| 179 | VRS-TV2AB100J | AD | | C | Resistor(1/10W 10Ω ±5%) | [R180] |
| 180 | VRS-TV2AB000J | AA | | C | Resistor(1/10W 0Ω ±5%) | [R181] |
| 181 | VRS-TV2AB000J | AA | | C | Resistor(1/10W 0Ω ±5%) | [R183] |
| 182 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R184] |
| 183 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R185] |
| 184 | VRS-TV2AB561J | AD | | C | Resistor(1/10W 560Ω ±5%) | [R186] |
| 185 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R187] |
| 186 | VRS-TV2AB223J | AA | | C | Resistor(1/10W 22KΩ ±5%) | [R188] |
| 187 | VRS-TV2AB223J | AA | | C | Resistor(1/10W 22KΩ ±5%) | [R189] |
| 188 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R194] |
| 189 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R195] |
| 190 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R196] |
| 191 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R198] |
| 192 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R200] |
| 193 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R201] |
| 194 | VRSTS2AD1373F | AA | | C | Resistor(1/10W 137KΩ ±1%) | [R203] |
| 195 | VRSTS2AD6812F | AA | | C | Resistor(1/10W 68.1KΩ ±1%) | [R204] |
| 196 | VRSTS2AD4422F | AA | | C | Resistor(1/10W 44.2KΩ ±1%) | [R205] |
| 197 | VRSTS2AD4422F | AA | | C | Resistor(1/10W 44.2KΩ ±1%) | [R206] |
| 198 | VRSTS2AD4422F | AA | | C | Resistor(1/10W 44.2KΩ ±1%) | [R207] |
| 199 | VRS-TV2AB100J | AD | | C | Resistor(1/10W 10Ω ±5%) | [R208] |
| 200 | VRS-TV2AB100J | AD | | C | Resistor(1/10W 10Ω ±5%) | [R209] |

| NO. | PARTS CODE | PRICE RANK | NEW MARK | PART RANK | DESCRIPTION | |
|---|---|---|---|---|---|---|
| [17] Line control PWB unit | | | | | | |
| 201 | VRS-TV2AB100J | AD | | C | Resistor(1/10W 10Ω ±5%) | [R210] |
| 202 | VRS-TV2AB100J | AD | | C | Resistor(1/10W 10Ω ±5%) | [R211] |
| 203 | VRS-TV2AB103J | AA | | C | Resistor(1/10W 10KΩ ±5%) | [R212] |
| 204 | VRS-TV2AB103J | AA | | C | Resistor(1/10W 10KΩ ±5%) | [R214] |
| 205 | VRS-TV2AB103J | AA | | C | Resistor(1/10W 10KΩ ±5%) | [R215] |
| 206 | VRS-TV2AB101J | AA | | C | Resistor(1/10W 100Ω ±5%) | [R217] |
| 207 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R218] |
| 208 | VRS-TV2AB100J | AD | | C | Resistor(1/10W 10Ω ±5%) | [R219] |
| 209 | VRS-TV2AB000J | AA | | C | Resistor(1/10W 0Ω ±5%) | [R220] |
| 210 | VRS-TV2AB271J | AA | | C | Resistor(1/10W 270Ω ±5%) | [R223] |
| 211 | VRS-TV2AB271J | AA | | C | Resistor(1/10W 270Ω ±5%) | [R224] |
| 212 | VRS-TV2AB271J | AA | | C | Resistor(1/10W 270Ω ±5%) | [R225] |
| 213 | VRS-TV2AB271J | AA | | C | Resistor(1/10W 270Ω ±5%) | [R226] |
| 214 | VRS-TQ2BB200J | AA | | C | Resistor(1/8W 20Ω ±5%) | [R227] |
| 215 | VRS-TV2AB000J | AA | | C | Resistor(1/10W 0Ω ±5%) | [R228] |
| 216 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R232] |
| 217 | RCRSQ2114SCZZ | AG | | B | Crystal(19.6608MHz) | [X1] |
| 218 | RCRSQ2126SCZZ | AH | N | B | Crystal(56.448MHz) | [X2] |
| 219 | TLABP3078SCZZ | AA | | D | Shading label(for EP-ROM) | |
| | (Unit) | | | | | |
| 901 | DCEKC082KSCZZ | CC | N | E | Line control PWB unit | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| [18] TEL-Liu 1 PWB unit | | | | | | |
| 1 | VHVRA391PV6-1 | AE | | B | Varistor | [AR1] |
| 2 | QTANZ2042SCZZ | AB | | C | Terminal | [ARG] |
| 3 | VCEAGA1HW105M | AB | | C | Capacitor(50WV 1.0μF) | [C2] |
| 4 | VCEAGA1EW476M | AA | | C | Capacitor(25WV 47μF) | [C3] |
| 5 | VCEAGA1EW476M | AA | | C | Capacitor(25WV 47μF) | [C4] |
| 6 | VCEAGA1EW476M | AA | | C | Capacitor(25WV 47μF) | [C5] |
| 7 | VCEAGA1HW475M | AA | | C | Capacitor(50WV 4.7μF) | [C6] |
| 8 | VCEAGA1HW475M | AA | | C | Capacitor(50WV 4.7μF) | [C7] |
| 9 | VCEAGA1HW475M | AA | | C | Capacitor(50WV 4.7μF) | [C8] |
| 10 | VCEAGA1HW334M | AC | | C | Capacitor(50WV 0.33μF) | [C9] |
| 11 | VCEAGA1HW225M | AA | | C | Capacitor(50WV 2.2μF) | [C10] |
| 12 | VCEAGA1HW225M | AA | | C | Capacitor(50WV 2.2μF) | [C11] |
| 13 | VCEAGA1HW475M | AA | | C | Capacitor(50WV 4.7μF) | [C12] |
| 14 | VCEAGA1HW475M | AA | | C | Capacitor(50WV 4.7μF) | [C13] |
| 15 | VCEAGA1HW475M | AA | | C | Capacitor(50WV 4.7μF) | [C14] |
| 16 | RC-FZ2021SCZZ | AC | | C | Capacitor(250WV 0.82μF) | [C15] |
| 17 | VCKYPU1HB103K | AA | | C | Capacitor(50WV 0.010μF) | [C16] |
| 18 | VCEAGA1HW225M | AA | | C | Capacitor(50WV 2.2μF) | [C18] |
| 19 | VCEAGA1HW105M | AB | | C | Capacitor(50WV 1.0μF) | [C19] |
| 20 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.10μF) | [C101] |
| 21 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.10μF) | [C102] |
| 22 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.10μF) | [C103] |
| 23 | VCKYTV1HB221K | AA | | C | Capacitor(50WV 220PF) | [C104] |
| 24 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.10μF) | [C105] |
| 25 | VCKYTV1HB102K | AA | | C | Capacitor(50WV 1000PF) | [C106] |
| 26 | VCKYTV1HB471K | AA | | C | Capacitor(50WV 470PF) | [C107] |
| 27 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.10μF) | [C108] |
| 28 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.10μF) | [C109] |
| 29 | VCKYTV1HB333K | AA | | C | Capacitor(50WV 0.033μF) | [C110] |
| 30 | VCKYTV1HB331K | AA | | C | Capacitor(50WV 330PF) | [C111] |
| 31 | VCKYTV1HB222K | AA | | C | Capacitor(50WV 2200PF) | [C112] |
| 32 | VCKYTV1CF105Z | AB | | C | Capacitor(16WV 1.0μF) | [C114] |
| 33 | VCKYTV1HB221K | AA | | C | Capacitor(50WV 220PF) | [C115] |
| 34 | VCKYTV1HB102K | AA | | C | Capacitor(50WV 1000PF) | [C116] |
| 35 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.10μF) | [C117] |
| 36 | VCKYTV1HB102K | AA | | C | Capacitor(50WV 1000PF) | [C118] |
| 37 | VCKYTV1HB102K | AA | | C | Capacitor(50WV 1000PF) | [C119] |
| 38 | VCKYTV1HB102K | AA | | C | Capacitor(50WV 1000PF) | [C120] |
| 39 | VCKYTV1HB333K | AA | | C | Capacitor(50WV 0.033μF) | [C121] |
| 40 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.10μF) | [C122] |
| 41 | RRLYZ0166AFZZ | AH | | B | Relay | [CML] |
| 42 | QCNW-4561SCZZ | AE | | C | Cable(2pin) | [CNHA] |
| 43 | QCNCM2528SC0B | AC | | C | Connector(2pin) | [CNHB] |
| 44 | QCNCM2456SC2F | AG | | C | Connector(26pin) | [CNLIU] |
| 45 | QCNCM688BAFZZ | AC | | C | Connector(2pin) | [CNSP] |
| 46 | VHD1SS355//-1 | AB | | B | Diode(1SS355) | [D101] |
| 47 | VHD1SS355//-1 | AB | | B | Diode(1SS355) | [D102] |
| 48 | VHD1SS355//-1 | AB | | B | Diode(1SS355) | [D103] |
| 49 | VHD1SS355//-1 | AB | | B | Diode(1SS355) | [D104] |
| 50 | VHINJM2113M-1 | AG | | B | IC(NJM2113M) | [IC101] |
| 51 | VHIBU4066BCF1 | AD | | B | IC(BU4066BCF) | [IC102] |
| 52 | VHIBU4066BCF1 | AD | | B | IC(BU4066BCF) | [IC103] |
| 53 | VHINJM4558MF- | AC | | B | IC(NJM4558M) | [IC104] |

| NO. | PARTS CODE | PRICE RANK | NEW MARK | PART RANK | DESCRIPTION | |
|---|---|---|---|---|---|---|
| [18] TEL-Liu 1 PWB unit | | | | | | |
| 54 | VHINJM4558MF- | AC | | B | IC(NJM4558M) | [IC105] |
| 55 | VHINJM4558MF- | AC | | B | IC(NJM4558M) | [IC106] |
| 56 | RFILN2011SCZZ | AC | | C | Coil(N2011) | [L1] |
| 57 | RCILZ2089SCZZ | AG | | C | Coil(Z2089) | [L2] |
| 58 | RFILN2011SCZZ | AC | | C | Coil(N2011) | [L3] |
| 59 | RFILN2011SCZZ | AC | | C | Coil(N2011) | [L6] |
| 60 | RFILN2011SCZZ | AC | | C | Coil(N2011) | [L7] |
| 61 | RFILN2011SCZZ | AC | | C | Coil(N2011) | [L8] |
| 62 | QJAKZ2060SC0B | AD | | C | Jack | [MJ1] |
| 63 | QJAKZ2061SC0D | AE | | C | Jack | [MJTEL] |
| 64 | VHPTLP521-1BL | AE | | B | Photo coupler(TLP521) | [PC1] |
| 65 | VHPTLP627//-1 | AH | | B | Photo coupler(TLP627) | [PC2] |
| 66 | VS2SA1807-P-1 | AE | | B | Transistor(2SA1807-P) | [Q1] |
| 67 | VS2SC3415-P-1 | AP | | B | Transistor(2SC3415-P) | [Q2] |
| 68 | VS2SD592A-S-1 | AK | | B | Transistor(2SD592A-S) | [Q3] |
| 69 | VS2SD1266A15/ | AF | | B | Transistor(2SD1266A-O) | [Q4] |
| 70 | VSDTC114EK/-1 | AB | | B | Transistor(DTC114EK) | [Q101] |
| 71 | VSDTC114EK/-1 | AB | | B | Transistor(DTC114EK) | [Q102] |
| 72 | VSDTC114EK/-1 | AB | | B | Transistor(DTC114EK) | [Q103] |
| 73 | VSDTC114EK/-1 | AB | | B | Transistor(DTC114EK) | [Q104] |
| 74 | VSDTC114EK/-1 | AB | | B | Transistor(DTC114EK) | [Q105] |
| 75 | VS2SC2412KR-1 | AD | | B | Transistor(2SC2412K) | [Q106] |
| 76 | VSDTC114EK/-1 | AB | | B | Transistor(DTC114EK) | [Q107] |
| 77 | VSDTC114EK/-1 | AB | | B | Transistor(DTC114EK) | [Q108] |
| 78 | VSDTC114EK/-1 | AB | | B | Transistor(DTC114EK) | [Q109] |
| 79 | VSDTC114EK/-1 | AB | | B | Transistor(DTC114EK) | [Q110] |
| 80 | VS2SC2412KR-1 | AD | | B | Transistor(2SC2412K) | [Q111] |
| 81 | VSDTC114EK/-1 | AB | | B | Transistor(DTC114EK) | [Q112] |
| 82 | VRD-HT2HY223J | AA | | C | Resistor(1/2W 22KΩ ±5%) | [R1] |
| 83 | VRD-HT3AA133J | AC | | C | Resistor(1W 13KΩ ±5%) | [R2] |
| 84 | RR-HZ3011SCZZ | AC | | C | Resistor(1/2W 4.7Ω ±5%) | [R3] |
| 85 | VRD-HT2EY100J | AA | | C | Resistor(1/4W 10Ω ±5%) | [R6] |
| 86 | VRS-TV2AB223J | AA | | C | Resistor(1/10W 22KΩ ±5%) | [R102] |
| 87 | VRS-TV2AB103J | AA | | C | Resistor(1/10W 10KΩ ±5%) | [R103] |
| 88 | VRS-TV2AB103J | AA | | C | Resistor(1/10W 10KΩ ±5%) | [R104] |
| 89 | VRS-TV2AB113J | AA | | C | Resistor(1/10W 11KΩ ±5%) | [R105] |
| 90 | VRS-TV2AB273J | AD | | C | Resistor(1/10W 27KΩ ±5%) | [R106] |
| 91 | VRS-TV2AB753J | AA | | C | Resistor(1/10W 75KΩ ±5%) | [R107] |
| 92 | VRS-TV2AB104J | AA | | C | Resistor(1/10W 100KΩ ±5%) | [R108] |
| 93 | VRS-TV2AB332J | AA | | C | Resistor(1/10W 3.3KΩ ±5%) | [R109] |
| 94 | VRS-TV2AB000J | AA | | C | Resistor(1/10W 0Ω ±5%) | [R110] |
| 95 | VRS-TV2AB822J | AA | | C | Resistor(1/10W 8.2KΩ ±5%) | [R111] |
| 96 | VRS-TV2AB222J | AA | | C | Resistor(1/10W 2.2KΩ ±5%) | [R112] |
| 97 | VRS-TV2AB223J | AA | | C | Resistor(1/10W 22KΩ ±5%) | [R113] |
| 98 | VRS-TV2AB223J | AA | | C | Resistor(1/10W 22KΩ ±5%) | [R114] |
| 99 | VRS-TV2AB223J | AA | | C | Resistor(1/10W 22KΩ ±5%) | [R115] |
| 100 | VRS-TV2AB203J | AA | | C | Resistor(1/10W 20KΩ ±5%) | [R116] |
| 101 | VRS-TV2AB113J | AA | | C | Resistor(1/10W 11KΩ ±5%) | [R117] |
| 102 | VRS-TV2AB683J | AD | | C | Resistor(1/10W 68KΩ ±5%) | [R118] |
| 103 | VRS-TV2AB183J | AD | | C | Resistor(1/10W 18KΩ ±5%) | [R119] |
| 104 | VRS-TV2AB223J | AA | | C | Resistor(1/10W 22KΩ ±5%) | [R120] |
| 105 | VRS-TV2AB681J | AA | | C | Resistor(1/10W 680KΩ ±5%) | [R121] |
| 106 | VRS-TV2AB363J | AA | | C | Resistor(1/10W 36KΩ ±5%) | [R122] |
| 107 | VRS-TV2AB223J | AA | | C | Resistor(1/10W 22KΩ ±5%) | [R123] |
| 108 | VRS-TV2AB223J | AA | | C | Resistor(1/10W 22KΩ ±5%) | [R124] |
| 109 | VRS-TV2AB104J | AA | | C | Resistor(1/10W 100KΩ ±5%) | [R125] |
| 110 | VRS-TV2AB223J | AA | | C | Resistor(1/10W 22KΩ ±5%) | [R126] |
| 111 | VRS-TV2AB223J | AA | | C | Resistor(1/10W 22KΩ ±5%) | [R127] |
| 112 | VRS-TV2AB223J | AA | | C | Resistor(1/10W 22KΩ ±5%) | [R128] |
| 113 | VRS-TV2AB223J | AA | | C | Resistor(1/10W 22KΩ ±5%) | [R129] |
| 114 | VRS-TV2AB621J | AA | | C | Resistor(1/10W 620Ω ±5%) | [R130] |
| 115 | VRS-TV2AB621J | AA | | C | Resistor(1/10W 620Ω ±5%) | [R131] |
| 116 | VRS-TV2AB513J | AA | | C | Resistor(1/10W 51KΩ ±5%) | [R132] |
| 117 | VRS-TV2AB751J | AA | | C | Resistor(1/10W 750Ω ±5%) | [R133] |
| 118 | VRS-TV2AB223J | AA | | C | Resistor(1/10W 22KΩ ±5%) | [R134] |
| 119 | VRS-TV2AB273J | AD | | C | Resistor(1/10W 27KΩ ±5%) | [R135] |
| 120 | VRS-TV2AB153J | AD | | C | Resistor(1/10W 15KΩ ±5%) | [R136] |
| 121 | VRS-TV2AB103J | AA | | C | Resistor(1/10W 10KΩ ±5%) | [R137] |
| 122 | VRS-TV2AB102J | AA | | C | Resistor(1/10W 1.0KΩ ±5%) | [R138] |
| 123 | VRS-TV2AB102J | AA | | C | Resistor(1/10W 1.0KΩ ±5%) | [R139] |
| 124 | VRS-TV2AB683J | AD | | C | Resistor(1/10W 68KΩ ±5%) | [R140] |
| 125 | VRS-TV2AB331J | AD | | C | Resistor(1/10W 330Ω ±5%) | [R141] |
| 126 | VRS-TV2AB102J | AA | | C | Resistor(1/10W 1.0KΩ ±5%) | [R142] |
| 127 | VRS-TV2AB151J | AA | | C | Resistor(1/10W 150Ω ±5%) | [R143] |
| 128 | VRS-TV2AB222J | AA | | C | Resistor(1/10W 2.2KΩ ±5%) | [R144] |
| 129 | VRS-TV2AB332J | AA | | C | Resistor(1/10W 3.3KΩ ±5%) | [R145] |
| 130 | VRS-TV2AB393J | AD | | C | Resistor(1/10W 39KΩ ±5%) | [R146] |
| 131 | VRS-TV2AB822J | AA | | C | Resistor(1/10W 8.2KΩ ±5%) | [R147] |
| 132 | VRS-TV2AB221J | AA | | C | Resistor(1/10W 220Ω ±5%) | [R148] |
| 133 | VRS-TV2AB183J | AD | | C | Resistor(1/10W 18KΩ ±5%) | [R149] |

| NO. | PARTS CODE | PRICE RANK | NEW MARK | PART RANK | DESCRIPTION | |
|---|---|---|---|---|---|---|
| [18] TEL-Liu 1 PWB unit | | | | | | |
| 134 | VRS-TV2AB303J | AA | | C | Resistor(1/10W 30KΩ ±5%) | [R150] |
| 135 | VRS-TV2AB124J | AA | | C | Resistor(1/10W 120KΩ ±5%) | [R151] |
| 136 | VRS-TV2AB000J | AA | | C | Resistor(1/10W 0Ω ±5%) | [R152] |
| 137 | VRS-TV2AB224J | AA | | C | Resistor(1/10W 220KΩ ±5%) | [R153] |
| 138 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R154] |
| 139 | VRS-TV2AB104J | AA | | C | Resistor(1/10W 100KΩ ±5%) | [R155] |
| 140 | VHD0R5G4B42-1 | AF | | B | Bridge diode(0R5G4B42) | [REC1] |
| 141 | QSW-Z2232SCZZ | AE | | B | Hook switch | [RHS] |
| 142 | RTRNZ2157XHZZ | AF | | B | Transformer(600Ω) | [T1] |
| 143 | VHVTN07G471-1 | AB | | B | Varistor(TNR7G471KT2) | [VA1] |
| 144 | VHVTN07G471-1 | AB | | B | Varistor(TNR7G471KT2) | [VA2] |
| 145 | VHVTN07G101-1 | AB | | B | Varistor(TNR7G101KT2) | [VA3] |
| 146 | VHEHZS2C1//-1 | AB | | B | Zener diode(HZS2C1) | [ZD1] |
| 147 | VHEHZS2C1//-1 | AB | | B | Zener diode(HZS2C1) | [ZD2] |
| 148 | VHEHZ27-1//-1 | AB | | B | Zener diode(HZ27C) | [ZD3] |
| 149 | VHEHZS2C1//-1 | AB | | B | Zener diode(HZS2C1) | [ZD4] |
| 150 | VHEHZS2C1//-1 | AB | | B | Zener diode(HZS2C1) | [ZD5] |
| 151 | VHE1ZC15///-1 | AC | | B | Zener diode(1ZC15) | [ZD6] |
| 152 | VHEMTZJ8.2B-1 | AB | | B | Zener diode(MTZJ8.2B) | [ZD7] |
| | (Unit) | | | | | |
| 901 | DCEKL341BSC01 | BG | | E | TEL-Liu/Hook switch PWB unit | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| [19] TEL-Liu 2 PWB unit | | | | | | |
| 1 | VHVRA391PV6-1 | AE | | B | Varistor | [AR1] |
| 2 | QTANZ2042SCZZ | AB | | C | Terminal | [ARG] |
| 3 | VCEAGA1HW105M | AB | | C | Capacitor(50WV 1.0μF) | [C2] |
| 4 | VCEAGA1EW476M | AA | | C | Capacitor(25WV 47μF) | [C3] |
| 5 | VCEAGA1EW476M | AA | | C | Capacitor(25WV 47μF) | [C4] |
| 6 | VCEAGA1HW475M | AA | | C | Capacitor(50WV 4.7μF) | [C7] |
| 7 | VCEAGA1HW475M | AA | | C | Capacitor(50WV 4.7μF) | [C8] |
| 8 | VCEAGA1HW334M | AC | | C | Capacitor(50WV 0.33μF) | [C9] |
| 9 | VCEAGA1HW225M | AA | | C | Capacitor(50WV 2.2μF) | [C10] |
| 10 | RC-FZ2021SCZZ | AC | | C | Capacitor(250WV 0.82μF) | [C15] |
| 11 | VCKYPU1HB103K | AA | | C | Capacitor(50WV 0.010μF) | [C16] |
| 12 | VCEAGA1HW225M | AA | | C | Capacitor(50WV 2.2μF) | [C18] |
| 13 | VCEAGA1HW105M | AB | | C | Capacitor(50WV 1.0μF) | [C19] |
| 14 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.10μF) | [C101] |
| 15 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.10μF) | [C102] |
| 16 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.10μF) | [C103] |
| 17 | VCKYTV1HB221K | AA | | C | Capacitor(50WV 220PF) | [C104] |
| 18 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.10μF) | [C105] |
| 19 | VCKYTV1HB471K | AA | | C | Capacitor(50WV 470PF) | [C107] |
| 20 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.10μF) | [C108] |
| 21 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.10μF) | [C109] |
| 22 | VCKYTV1HB333K | AA | | C | Capacitor(50WV 0.033μF) | [C110] |
| 23 | VCKYTV1HB331K | AA | | C | Capacitor(50WV 330PF) | [C111] |
| 24 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.10μF) | [C117] |
| 25 | VCKYTV1HB102K | AA | | C | Capacitor(50WV 1000PF) | [C118] |
| 26 | VCKYTV1HB333K | AA | | C | Capacitor(50WV 0.033μF) | [C121] |
| 27 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.10μF) | [C122] |
| 28 | RRLYZ0166AFZZ | AH | | B | Relay | [CML] |
| 29 | QCNCM2558SC2F | AK | N | C | Connector(26pin) | [CNLIU] |
| 30 | VHD1SS355//-1 | AB | | B | Diode(1SS355) | [D101] |
| 31 | VHD1SS355//-1 | AB | | B | Diode(1SS355) | [D104] |
| 32 | VHIBU4066BCF1 | AD | | B | IC(BU4066BCF) | [IC103] |
| 33 | VHINJM4558MF- | AC | | B | IC(NJM4558M) | [IC104] |
| 34 | VHINJM4558MF- | AC | | B | IC(NJM4558M) | [IC105] |
| 35 | VHINJM4558MF- | AC | | B | IC(NJM4558M) | [IC106] |
| 36 | RFILN2011SCZZ | AC | | C | Coil(N2011) | [L1] |
| 37 | RCILZ2089SCZZ | AG | | C | Coil(Z2089) | [L2] |
| 38 | RFILN2011SCZZ | AC | | C | Coil(N2011) | [L3] |
| 39 | QJAKZ2060SC0B | AD | | C | Jack | [MJ1] |
| 40 | VHPTLP521-1BL | AE | | B | Photo coupler(TLP521) | [PC1] |
| 41 | VHPTLP627//-1 | AH | | B | Photo coupler(TLP627) | [PC2] |
| 42 | VS2SA1807-P-1 | AE | | B | Transistor(2SA1807-P) | [Q1] |
| 43 | VS2SC3415-P-1 | AP | | B | Transistor(2SC3415-P) | [Q2] |
| 44 | VS2SD592A-S-1 | AK | | B | Transistor(2SD592A-S) | [Q3] |
| 45 | VS2SD1266A15/ | AF | | B | Transistor(2SD1266A-O) | [Q4] |
| 46 | VSDTC114EK/-1 | AB | | B | Transistor(DTC114EK) | [Q102] |
| 47 | VS2SC2412KR-1 | AD | | B | Transistor(2SC2412K) | [Q106] |
| 48 | VSDTC114EK/-1 | AB | | B | Transistor(DTC114EK) | [Q108] |
| 49 | VSDTC114EK/-1 | AB | | B | Transistor(DTC114EK) | [Q109] |
| 50 | VSDTC114EK/-1 | AB | | B | Transistor(DTC114EK) | [Q110] |
| 51 | VS2SC2412KR-1 | AD | | B | Transistor(2SC2412K) | [Q111] |
| 52 | VSDTC114EK/-1 | AB | | B | Transistor(DTC114EK) | [Q112] |
| 53 | VRD-HT2HY223J | AA | | C | Resistor(1/2W 22KΩ ±5%) | [R1] |

| NO. | PARTS CODE | PRICE RANK | NEW MARK | PART RANK | DESCRIPTION | |
|---|---|---|---|---|---|---|
| [19] TEL-Liu 2 PWB unit | | | | | | |
| 54 | VRD-HT3AA133J | AC | | C | Resistor(1W 13KΩ ±5%) | [R2] |
| 55 | RR-HZ3011SCZZ | AC | | C | Resistor(1/2W 4.7Ω ±5%) | [R3] |
| 56 | VRD-HT2EY100J | AA | | C | Resistor(1/4W 10Ω ±5%) | [R6] |
| 57 | VRS-TV2AB103J | AA | | C | Resistor(1/10W 10KΩ ±5%) | [R103] |
| 58 | VRS-TV2AB103J | AA | | C | Resistor(1/10W 10KΩ ±5%) | [R104] |
| 59 | VRS-TV2AB113J | AA | | C | Resistor(1/10W 11KΩ ±5%) | [R105] |
| 60 | VRS-TV2AB273J | AD | | C | Resistor(1/10W 27KΩ ±5%) | [R106] |
| 61 | VRS-TV2AB822J | AA | | C | Resistor(1/10W 8.2KΩ ±5%) | [R111] |
| 62 | VRS-TV2AB683J | AD | | C | Resistor(1/10W 68KΩ ±5%) | [R118] |
| 63 | VRS-TV2AB183J | AD | | C | Resistor(1/10W 18KΩ ±5%) | [R119] |
| 64 | VRS-TV2AB223J | AA | | C | Resistor(1/10W 22KΩ ±5%) | [R120] |
| 65 | VRS-TV2AB681J | AA | | C | Resistor(1/10W 680KΩ ±5%) | [R121] |
| 66 | VRS-TV2AB363J | AA | | C | Resistor(1/10W 36KΩ ±5%) | [R122] |
| 67 | VRS-TV2AB223J | AA | | C | Resistor(1/10W 22KΩ ±5%) | [R123] |
| 68 | VRS-TV2AB223J | AA | | C | Resistor(1/10W 22KΩ ±5%) | [R124] |
| 69 | VRS-TV2AB104J | AA | | C | Resistor(1/10W 100KΩ ±5%) | [R125] |
| 70 | VRS-TV2AB223J | AA | | C | Resistor(1/10W 22KΩ ±5%) | [R126] |
| 71 | VRS-TV2AB223J | AA | | C | Resistor(1/10W 22KΩ ±5%) | [R127] |
| 72 | VRS-TV2AB223J | AA | | C | Resistor(1/10W 22KΩ ±5%) | [R128] |
| 73 | VRS-TV2AB223J | AA | | C | Resistor(1/10W 22KΩ ±5%) | [R129] |
| 74 | VRS-TV2AB621J | AA | | C | Resistor(1/10W 620Ω ±5%) | [R130] |
| 75 | VRS-TV2AB621J | AA | | C | Resistor(1/10W 620Ω ±5%) | [R131] |
| 76 | VRS-TV2AB513J | AA | | C | Resistor(1/10W 51KΩ ±5%) | [R132] |
| 77 | VRS-TV2AB751J | AA | | C | Resistor(1/10W 750Ω ±5%) | [R133] |
| 78 | VRS-TV2AB223J | AA | | C | Resistor(1/10W 22KΩ ±5%) | [R134] |
| 79 | VRS-TV2AB273J | AD | | C | Resistor(1/10W 27KΩ ±5%) | [R135] |
| 80 | VRS-TV2AB153J | AD | | C | Resistor(1/10W 15KΩ ±5%) | [R136] |
| 81 | VRS-TV2AB103J | AA | | C | Resistor(1/10W 10KΩ ±5%) | [R137] |
| 82 | VRS-TV2AB683J | AD | | C | Resistor(1/10W 68KΩ ±5%) | [R140] |
| 83 | VRS-TV2AB102J | AA | | C | Resistor(1/10W 1.0KΩ ±5%) | [R142] |
| 84 | VRS-TV2AB151J | AA | | C | Resistor(1/10W 150Ω ±5%) | [R143] |
| 85 | VRS-TV2AB222J | AA | | C | Resistor(1/10W 2.2KΩ ±5%) | [R144] |
| 86 | VRS-TV2AB332J | AA | | C | Resistor(1/10W 3.3KΩ ±5%) | [R145] |
| 87 | VRS-TV2AB393J | AD | | C | Resistor(1/10W 39KΩ ±5%) | [R146] |
| 88 | VRS-TV2AB822J | AA | | C | Resistor(1/10W 8.2KΩ ±5%) | [R147] |
| 89 | VRS-TV2AB221J | AA | | C | Resistor(1/10W 220Ω ±5%) | [R148] |
| 90 | VRS-TV2AB183J | AD | | C | Resistor(1/10W 18KΩ ±5%) | [R149] |
| 91 | VRS-TV2AB303J | AA | | C | Resistor(1/10W 30KΩ ±5%) | [R150] |
| 92 | VRS-TV2AB124J | AA | | C | Resistor(1/10W 120KΩ ±5%) | [R151] |
| 93 | VRS-TV2AB000J | AA | | C | Resistor(1/10W 0Ω ±5%) | [R152] |
| 94 | VRS-TV2AB224J | AA | | C | Resistor(1/10W 220KΩ ±5%) | [R153] |
| 95 | VRS-TV2AB472J | AA | | C | Resistor(1/10W 4.7KΩ ±5%) | [R154] |
| 96 | VRS-TV2AB104J | AA | | C | Resistor(1/10W 100KΩ ±5%) | [R155] |
| 97 | VHD0R5G4B42-1 | AF | | B | Bridge diode(0R5G4B42) | [REC1] |
| 98 | RTRNZ2157XHZZ | AF | | B | Transformer(600Ω) | [T1] |
| 99 | VHVTN07G471-1 | AB | | B | Varistor(TNR7G471KT2) | [VA1] |
| 100 | VHVTN07G471-1 | AB | | B | Varistor(TNR7G471KT2) | [VA2] |
| 101 | VHVTN07G101-1 | AB | | B | Varistor(TNR7G101KT2) | [VA3] |
| 102 | VHEHZS2C1//-1 | AB | | B | Zener diode(HZS2C1) | [ZD1] |
| 103 | VHEHZS2C1//-1 | AB | | B | Zener diode(HZS2C1) | [ZD2] |
| 104 | VHEHZ27-1//-1 | AB | | B | Zener diode(HZ27C) | [ZD3] |
| 105 | VHEHZS2C1//-1 | AB | | B | Zener diode(HZS2C1) | [ZD4] |
| 106 | VHEHZS2C1//-1 | AB | | B | Zener diode(HZS2C1) | [ZD5] |
| 107 | VHE1ZC15///-1 | AC | | B | Zener diode(1ZC15) | [ZD6] |
| 108 | VHEMTZJ8.2B-1 | AB | | B | Zener diode(MTZJ8.2B) | [ZD7] |
| | (Unit) | | | | | |
| 901 | DCEKL341BSC02 | BG | N | E | TEL-Liu 2 PWB unit | |
| [20] Power supply PWB unit | | | | | | |
| 1 | 0AV1540000003 | AE | | C | Capacitor(250WV 0.1μF) | [C701] |
| 2 | 0AV1540000004 | AF | | C | Capacitor(250WV 0.047μF) | [C702] |
| 3 | 0AV1610000046 | AD | | C | Capacitor(470PF(KC)) | [C703] |
| 4 | 0AV1610000046 | AD | | C | Capacitor(470PF(KC)) | [C704] |
| 5 | 0AV1390000105 | AS | | C | Capacitor(200WV 560μF) | [C705] |
| 6 | 0AV1610000045 | AC | | C | Capacitor(1KWV 100PF) | [C706] |
| 7 | 0AV1390000109 | AC | | C | Capacitor(35WV 47μF) | [C707] |
| 8 | 0AV1610000054 | AD | | C | Capacitor(50WV 0.047μF) | [C708] |
| 9 | 0AV1610000060 | AC | | C | Capacitor(50WV 220PF) | [C709] |
| 10 | 0AV1474720090 | AB | | C | Capacitor(100WV 0.0047μF) | [C710] |
| 11 | 0AV1610000061 | AD | | C | Capacitor(50WV 0.1μF) | [C711] |
| 12 | 0AV1540000003 | AE | | C | Capacitor(250WV 0.1μF) | [C712] |
| 13 | 0AV1471020090 | AB | | C | Capacitor(100WV 0.001μF) | [C713] |
| 14 | 0AV1610000029 | AC | | C | Capacitor(1KWV 1000PF) | [C714] |
| 15 | 0AV1390000110 | AF | | C | Capacitor(35WV 680μF) | [C715] |
| 16 | 0AV1390000110 | AF | | C | Capacitor(35WV 680μF) | [C716] |
| 17 | 0AV1390000107 | AC | | C | Capacitor(50WV 0.47μF) | [C717] |

| NO. | PARTS CODE | PRICE RANK | NEW MARK | PART RANK | DESCRIPTION | |
|---|---|---|---|---|---|---|
| [20] Power supply PWB unit | | | | | | |
| 18 | 0AV1390000108 | AC | | C | Capacitor(35WV 22μF) | [C718] |
| 19 | 0AV1390000106 | AE | | C | Capacitor(35WV 330μF) | [C719] |
| 20 | 0AV1390000106 | AE | | C | Capacitor(35WV 330μF) | [C720] |
| 21 | 0AV1390000106 | AE | | C | Capacitor(35WV 330μF) | [C721] |
| 22 | 0AV1650000001 | AF | | C | Capacitor(4700PF(KC)) | [C722] |
| 23 | 0AV1650000001 | AF | | C | Capacitor(4700PF(KC)) | [C723] |
| 24 | 0AV1610000062 | AE | | C | Capacitor(250WV 10000PF) | [C724] |
| 25 | 0AV1610000004 | AC | | C | Capacitor(1000PF(KC)) | [C725] |
| 26 | 0AV1390000125 | AC | | C | Capacitor(50WV 10μF) | [C728] |
| 27 | 0AV1390000126 | AC | | C | Capacitor(16WV 68μF) | [C729] |
| 28 | 0AV5030090000 | AD | | C | Connector | [CN1] |
| 29 | 0AV5030091000 | AE | | C | Connector | [CN2] |
| 30 | 0AV5030036000 | AC | | C | Connector | [CN3] |
| 31 | 0AV5030088000 | AD | | C | Connector | [CN4] |
| 32 | 0AV5030089000 | AG | | C | Connector | [CNPW] |
| 33 | 0AV3060038000 | AH | | B | Diode(D3SBA60) | [D701] |
| 34 | 0AV3060021000 | AB | | B | Diode(ERA15-01) | [D702] |
| 35 | 0AV3050019000 | AF | | B | Diode(ERA91-02) | [D703] |
| 36 | 0AV3070093000 | AC | | B | Zener diode(RD20ES) | [D704] |
| 37 | 0AV3050030000 | AA | | B | Diode(1SS178) | [D705] |
| 38 | 0AV3070094000 | AC | | B | Zener diode(RD30ES) | [D706] |
| 39 | 0AV3050066000 | AH | | B | Diode(YG901C2) | [D707] |
| 40 | 0AV3050030000 | AA | | B | Diode(1SS178) | [D708] |
| 41 | 0AV3050075000 | AF | | B | Diode(D2S4M-4004P15) | [D709] |
| 42 | 0AV3050030000 | AA | | B | Diode(1SS178) | [D711] |
| 43 | 0AV5060031000 | AG | | A | Fuse(125V 6.3A) | [F701] |
| 44 | 0AV5070000012 | AF | | A | Thermal cutoff(127Åé) | [F702] |
| 45 | 0AV5060067000 | AF | | A | Fuse(125V 4A) | [F703] |
| 46 | 0AV5060067000 | AF | | A | Fuse(125V 4A) | [F704] |
| 47 | 0AV5060067000 | AF | | A | Fuse(125V 4A) | [F705] |
| 48 | 0AV3090056000 | AP | | B | IC(FA5315P) | [IC701] |
| 49 | 0AV3090041000 | AF | | B | IC(μPC1093J-1) | [IC702] |
| 50 | 0AV3090060000 | AR | | B | IC(PQ1CG1) | [IC703] |
| 51 | 0AV3090016000 | AG | | B | IC(NJM7812FA) | [IC704] |
| 52 | 0AV4070044000 | AK | | C | Coil | [L701] |
| 53 | 0AV4070044000 | AK | | C | Coil | [L702] |
| 54 | 0AV4120002000 | AC | | C | Coil | [L704] |
| 55 | 0AV4120002000 | AC | | C | Coil | [L705] |
| 56 | 0AV4120002000 | AC | | C | Coil | [L706] |
| 57 | 0AV4050014000 | AE | | C | Coil | [L707] |
| 58 | 0AV4050013000 | AE | | C | Coil | [L708] |
| 59 | 0AV4050014000 | AE | | C | Coil | [L709] |
| 60 | 0AV3080621200 | AF | | B | Photo coupler(TLP621GR) | [PC701] |
| 61 | 0AV3180000003 | AP | | B | Photo triac coupler(S21ME4FY) | [PC702] |
| 62 | 0AV3080620100 | AH | | B | Photo cupler(TLP620) | [PL703] |
| 63 | 0AV3042543000 | AQ | | B | FET(2SK2543) | [Q701] |
| 64 | 0AV3001015500 | AC | | B | Transistor(2SA1015-Y) | [Q702] |
| 65 | 0AV3021002999 | AD | | B | Transistor(RN1002) | [Q703] |
| 66 | 0AV2013343020 | AB | | C | Resistor(1/4W 330KΩ ±5%) | [R701] |
| 67 | 0AV2011033010 | AA | | C | Resistor(1/6W 10KΩ ±5%) | [R702] |
| 68 | 0AV2013903020 | AB | | C | Resistor(1/4W 39Ω ±5%) | [R703] |
| 69 | 0AV2013933020 | AB | | C | Resistor(1/4W 39KΩ ±5%) | [R704] |
| 70 | 0AV2013933020 | AB | | C | Resistor(1/4W 39KΩ ±5%) | [R705] |
| 71 | 0AV2024783040 | AC | | C | Resistor(1W 0.22Ω ±5%) | [R706] |
| 72 | 0AV2024783040 | AC | | C | Resistor(1W 0.22Ω ±5%) | [R707] |
| 73 | 0AV2023903040 | AC | | C | Resistor(1W 39Ω ±5%) | [R708] |
| 74 | 0AV2013333010 | AA | | C | Resistor(1/6W 33KΩ ±5%) | [R709] |
| 75 | 0AV2048203010 | AC | | C | Fusing resistor(1/6W 82Ω ±5%) | [R710] |
| 76 | 0AV2046803010 | AC | | C | Fusing resistor(1/6W 68Ω ±5%) | [R711] |
| 77 | 0AV2014733020 | AB | | C | Resistor(1/4W 47KΩ ±5%) | [R712] |
| 78 | 0AV2011033010 | AA | | C | Resistor(1/6W 10KΩ ±5%) | [R713] |
| 79 | 0AV2011533010 | AA | | C | Resistor(1/6W 15KΩ ±5%) | [R714] |
| 80 | 0AV2011023010 | AA | | C | Resistor(1/6W 1KΩ ±5%) | [R715] |
| 81 | 0AV2042203020 | AC | | C | Fusing resistor(1/4W 22Ω ±5%) | [R716] |
| 82 | 0AV2041513020 | AC | | C | Fusing resistor(1/4W 150Ω ±5%) | [R717] |
| 83 | 0AV2011023010 | AA | | C | Resistor(1/6W 1KΩ ±5%) | [R718] |
| 84 | 0AV2011023010 | AA | | C | Resistor(1/6W 1KΩ ±5%) | [R719] |
| 85 | 0AV2011043010 | AA | | C | Resistor(1/6W 100KΩ ±5%) | [R720] |
| 86 | 0AV2990015000 | AC | | C | Resistor(1/6W 22KΩ ±0.5%) | [R721] |
| 87 | 0AV2990010000 | AC | | C | Resistor(1/6W 2.55KΩ ±0.5%) | [R722] |
| 88 | 0AV2990014000 | AC | | C | Resistor(1/6W 3KΩ ±0.5%) | [R723] |
| 89 | 0AV2990002000 | AB | | C | Resistor(1/6W 1KΩ ±0.5%) | [R724] |
| 90 | 0AV2021023040 | AB | | C | Resistor(1W 1KΩ ±5%) | [R725] |
| 91 | 0AV2013933020 | AB | | C | Resistor(1/4W 39KΩ ±5%) | [R726] |
| 92 | 0AV2023933040 | AC | | C | Resistor(1W 39KΩ ±5%) | [R728] |
| 93 | 0AV2023933040 | AC | | C | Resistor(1W 39KΩ ±5%) | [R729] |
| 94 | 0AV2011043010 | AA | | C | Resistor(1/6W 100KΩ ±5%) | [R730] |
| 95 | 0AV2014723010 | AA | | C | Resistor(1/6W 4.7KΩ ±5%) | [R731] |
| 96 | 0AV2014723010 | AA | | C | Resistor(1/6W 4.7KΩ ±5%) | [R732] |
| 97 | 0AV2012233010 | AA | | C | Resistor(1/6W 22KΩ ±5%) | [R733] |

| NO. | PARTS CODE | PRICE RANK | NEW MARK | PART RANK | DESCRIPTION | |
|---|---|---|---|---|---|---|
| [20] Power supply PWB unit | | | | | | |
| 98 | 0AV5080007000 | AT | | B | Relay | [RL701] |
| 99 | 0AV5040010000 | AP | | B | Switch | [S701] |
| 100 | 0AV3170001000 | AE | | B | Thyristor(CR02AM4) | [SR701] |
| 101 | 0AV4000094411 | AX | | B | Transformer | [T701] |
| 102 | 0AV5140017000 | AE | | B | Thermistor | [TH701] |
| 103 | 0AV3160025000 | AN | | B | Triac | [TR701] |
| 104 | 0AV5190018000 | AE | | B | Varistor | [X701] |
| 105 | 0AV5190003000 | AF | | B | Varistor | [X702] |
| 106 | 0AV5190003000 | AF | | B | Varistor | [X703] |
| 107 | 0AV5050008000 | AC | | C | Holder | |
| 108 | 0AV5180006000 | AD | | C | Terminal | |
| 109 | 0AV6114084711 | AH | | C | Heat sink | |
| 110 | 0AV6114085811 | AK | | C | Install bracket | |
| 111 | 0AV6114086811 | AE | | C | Heat sink | |
| 112 | 0AV7510013000 | AB | | C | Tube | |
| 113 | 0AV7700017000 | AD | | C | Bush | |
| 114 | 0AV8117730514 | AB | | C | Screw(B3x10) | |
| 115 | 0AV8130730414 | AB | | C | Screw(B3x8) | |
| | (Unit) | | | | | |
| ⚠ 901 | RDENT2115SCZZ | BR | N | E | Power supply PWB unit | |
| [21] RS232C I/F PWB unit | | | | | | |
| 1 | VCEAEA1HW104M | AB | | C | Capacitor(50WV 0.10µF) | [C1] |
| 2 | VCEAEA1HW104M | AB | | C | Capacitor(50WV 0.10µF) | [C2] |
| 3 | VCEAEA1HW226M | AB | | C | Capacitor(50WV 22µF) | [C3] |
| 4 | VCEAEA1HW104M | AB | | C | Capacitor(50WV 0.10µF) | [C4] |
| 5 | VCEAEA1HW104M | AB | | C | Capacitor(50WV 0.10µF) | [C5] |
| 6 | VCTYPA1HF104Z | AC | | C | Capacitor(50WV 0.10µF) | [C6] |
| 7 | QCNCW2488SC0I | AF | | C | Connector(9pin) | [CNDS] |
| 8 | QCNCM2482SC1H | AE | | C | Connector(18pin) | [CNRS] |
| 9 | VHIADM207AN-1 | AT | | B | IC(ADM207AN) | [IC1] |
| 10 | RCORF5002BCZT | AA | | B | Core | [L1] |
| 11 | RCORF5002BCZT | AA | | B | Core | [L2] |
| 12 | RCORF5002BCZT | AA | | B | Core | [L3] |
| 13 | RCORF5002BCZT | AA | | B | Core | [L4] |
| 14 | RCORF5002BCZT | AA | | B | Core | [L5] |
| 15 | RCORF5002BCZT | AA | | B | Core | [L6] |
| 16 | RCORF5002BCZT | AA | | B | Core | [L7] |
| 17 | RCORF5002BCZT | AA | | B | Core | [L8] |
| | (Unit) | | | | | |
| 901 | DCEKI497ASC01 | BC | | E | RS232C I/F PWB unit | |
| [22] CCD PWB unit | | | | | | |
| 1 | VCEAEA1EW226M | AA | | C | Capacitor(25WV 22µF) | [C1] |
| 2 | VCKYTQ1EF104Z | AA | | C | Capacitor(25WV 0.1µF) | [C2] |
| 3 | VCKYTQ1EF104Z | AA | | C | Capacitor(25WV 0.1µF) | [C3] |
| 4 | QCNCM704HAFZZ | AD | | C | Connector(8pin) | [CNCCD] |
| 5 | VHIUPD3753CY1 | AY | | B | IC(UPD3753CY) | [IC1] |
| 6 | VRS-TP2BD000J | AA | | C | Resistor(1/8W 0Ω ±5%) | [J1] |
| 7 | VS2SA1037KS-1 | AB | | B | Transistor(2SA1037KS) | [Q1] |
| 8 | VRS-TP2BD000J | AA | | C | Resistor(1/8W 0Ω ±5%) | [R1] |
| 9 | VRS-TP2BD222J | AA | | C | Resistor(1/8W 2.2KΩ ±5%) | [R2] |
| | (Unit) | | | | | |
| 901 | DCEKD495ASC01 | AZ | | E | CCD PWB unit | |
| [50] Hardware parts | | | | | | |
| B1 | LX-BZ2200SCZZ | AB | | C | Screw | |
| B2 | LX-BZ2217SCZZ | AB | | C | Screw | |
| B3 | XBPSD30P06K00 | AA | | C | Screw(M3x6K) | |
| B4 | XBPSD40P08K00 | AA | | C | Screw(M4x8K) | |
| B5 | XBPSE30P08K00 | AA | | C | Screw(3x8K) | |
| B6 | XEBSD30P06000 | AA | | C | Screw(M3x6) | |
| B7 | XEBSD30P08000 | AA | | C | Screw(M3x8) | |
| B8 | XEBSD30P10000 | AA | | C | Screw(M3x10) | |
| B9 | XEBSE30P08000 | AA | | C | Screw(M3x8) | |
| B10 | XEBSE30P10000 | AA | | C | Screw(M3x10) | |
| B11 | XHBSD30P06000 | AA | | C | Screw(3x6) | |
| B12 | XHBSD30P08000 | AA | | C | Screw(M3x8) | |

| NO. | PARTS CODE | PRICE RANK | NEW MARK | PART RANK | DESCRIPTION |
|---|---|---|---|---|---|
| [50] Hardware parts | | | | | |
| B13 | XHBSE30P06000 | AA | | C | Screw(M3x6) |
| B14 | XHBSE30P10000 | AA | | C | Screw(3x10) |
| B15 | XHPSD30P08K00 | AA | | C | Screw(M3x8K) |
| B16 | XEPSD30P06X00 | AA | | C | Screw(3x6) |
| B17 | XUBSD20P06000 | AA | | C | Screw(2x6) |
| W1 | XRESJ50-06000 | AA | | C | E type ring(5mm) |
| W2 | XWHSD30-08100 | AA | | C | Washer(ø3) |
| W3 | LX-WZ2009SCZZ | AA | | C | Washer(t0.5) |
| W4 | XWHJZ62-02512 | AA | N | C | Washer(t0.25) |

## ■ I n d e x

| PARTS CODE | No. | PRICE RANK | NEW MARK | PART RANK |
|---|---|---|---|---|
| [C] | | | | |
| CBSHP2079SC01 | 7-1 | AK | | C |
| CCASP2083SC56 | 2-1 | BP | N | E |
| 〃 | 3-901 | BP | | E |
| CCNW-4276XH01 | 1-1 | AU | | C |
| CCNW-4557SC01 | 1-2 | AM | | C |
| CPAKA4863SC02 | 15-6 | BB | | D |
| CPLTP2803SC01 | 15-11 | AU | | C |
| CPLTP2805SC01 | 15-12 | AQ | | C |
| CROLP2300SC01 | 7-2 | AF | | C |
| CSW-M2222SC01 | 1-3 | AE | | B |
| 〃 | 7-3 | AE | | B |
| [D] | | | | |
| DCEKC081KSCZZ | 1-4 | CR | N | E |
| 〃 | 16-901 | CR | N | E |
| DCEKC082KSCZZ | 1-70 | CC | N | E |
| 〃 | 17-901 | CC | N | E |
| DCEKD495ASC01 | 5-1 | AZ | | E |
| 〃 | 22-901 | AZ | | E |
| DCEKI497ASC01 | 1-5 | BC | | E |
| 〃 | 21-901 | BC | | E |
| DCEKL341BSC01 | 1-6 | BG | | E |
| 〃 | 18-901 | BG | | E |
| DCEKL341BSC02 | 1-68 | BG | N | E |
| 〃 | 19-901 | BG | N | E |
| DCEKP496ASC02 | 3-1 | BE | N | E |
| DCYOD495ASC01 | 5-901 | BN | N | E |
| DUNTK4925XHW2 | 15-17 | AY | | E |
| [G] | | | | |
| GCABB2276SCZZ | 1-7 | AN | | D |
| GCABL2272SCZZ | 1-8 | AW | | D |
| GCABL2275SCZZ | 1-9 | AS | | D |
| GCABR2273SCZZ | 1-10 | AW | | D |
| GCABR2274SCZZ | 1-11 | AS | | D |
| GCASP2083SCZZ | 3-2 | AT | | D |
| GCOVA2363SCZZ | 1-12 | AQ | | C |
| GCOVA2364SCUZ | 1-13 | AT | N | C |
| GCOVA2367SCZA | 1-14 | AP | | C |
| GCOVA2371SCZZ | 1-15 | AL | | C |
| GDAI-2074SCZZ | 1-16 | AK | | C |
| GDAI-2075SCZZ | 1-17 | AE | | C |
| GFTAF2110SCZZ | 1-18 | AC | | C |
| GMADZ2024SCZZ | 1-19 | AF | | C |
| [H] | | | | |
| HPNLC2386SCZZ | 3-3 | AL | N | C |
| [J] | | | | |
| JBTN-2184SCZZ | 3-4 | AK | | C |
| JBTN-2185SCZZ | 3-5 | AH | | C |
| JBTN-2186SCZZ | 3-6 | AE | | C |
| JBTN-2187SCZZ | 3-7 | AE | | C |
| JBTN-2188SCZZ | 3-8 | AE | | C |
| JBTN-2189SCZA | 3-9 | AE | N | C |
| [L] | | | | |
| LANGH2803SCZZ | 5-2 | AF | | C |
| LBNDJ2006SCZZ | 1-61 | AA | | C |
| LBNDJ2007SCZZ | 1-20 | AA | | C |
| 〃 | 2-5 | AA | | C |
| 〃 | 4-21 | AA | | C |
| LBSHC2084SCZZ | 7-4 | AC | | C |
| LBSHP2066SCZZ | 7-5 | AC | | C |
| LBSHP2067SCZZ | 4-1 | AC | | C |
| LFRM-2167SCZZ | 7-6 | AW | | C |
| LHLDP2155SCZZ | 5-3 | AG | | C |
| LHLDW0004SCZZ | 1-52 | AB | | C |
| LHLDW1006FCZZ | 1-21 | AA | | C |
| LHLDW2156SCZZ | 1-22 | AC | | C |
| LHLDW2157SCZZ | 1-23 | AC | | C |
| LHLDW2158SCZZ | 1-46 | AC | | C |
| LPLTG2820SCZZ | 4-2 | AH | | C |
| LPLTM2806SCZZ | 1-24 | AY | | C |
| LPLTM2807SCZZ | 1-25 | AT | | C |
| LPLTM2808SCZZ | 1-26 | AU | | C |
| LPLTM2809SCZZ | 1-27 | AX | | C |
| LPLTM2810SCZZ | 1-28 | AG | | C |
| LPLTM2813SCZZ | 7-7 | AK | | C |
| LPLTM2814SCZZ | 7-8 | AK | | C |
| LPLTM2822SCZZ | 4-3 | AF | | C |
| LPLTM2827SCZZ | 1-29 | AU | | C |
| LPLTM2834SCZZ | 6-1 | AQ | | C |
| LPLTM2854SCZZ | 1-50 | AK | | C |

| PARTS CODE | No. | PRICE RANK | NEW MARK | PART RANK |
|---|---|---|---|---|
| LPLTM2856SCZZ | 1-49 | AG | | C |
| LPLTM2857SCZZ | 1-47 | AL | | C |
| LPLTP2811SCZZ | 1-30 | AY | | C |
| LPLTP2812SCZB | 1-31 | AL | N | C |
| LPLTP2819SCZZ | 4-4 | AD | | C |
| LPLTP2821SCZZ | 4-5 | AD | | C |
| LPLTP2823SCZZ | 3-10 | AF | | C |
| LPLTP2832SCZA | 5-4 | AF | | C |
| LPLTP2833SCZA | 5-5 | AF | | C |
| LX-BZ0175FCZZ | 14-15 | AB | | C |
| LX-BZ2200SCZZ | 50-B1 | AB | | C |
| LX-BZ2217SCZZ | 50-B2 | AB | | C |
| LX-WZ2009SCZZ | 50-W3 | AA | | C |
| [M] | | | | |
| MLEVP2229SCZZ | 1-32 | AE | | C |
| MLEVP2230SCZZ | 4-6 | AG | | C |
| MLEVP2242SCLZ | 14-17 | AF | | C |
| MLEVP2242SCRZ | 14-16 | AF | | C |
| MSPRC2843SCZZ | 4-7 | AC | | C |
| MSPRC2844SCZZ | 4-8 | AA | | C |
| MSPRC2845SCZZ | 4-9 | AC | | C |
| MSPRC2856SCZZ | 1-33 | AC | | C |
| MSPRC2867SCZZ | 4-10 | AB | | C |
| MSPRC2888SCZZ | 14-19 | AC | | C |
| MSPRC2889SCZZ | 14-20 | AD | | C |
| MSPRP2838SCZZ | 7-9 | AC | | C |
| MSPRP2839SCZZ | 7-10 | AD | | C |
| MSPRP2840SCZZ | 7-11 | AD | | C |
| MSPRP2841SCZZ | 7-12 | AC | | C |
| MSPRP2842SCZZ | 5-6 | AC | | C |
| MSPRP2846SCZZ | 4-11 | AD | | C |
| MSPRP2850SCZZ | 7-13 | AD | | C |
| [N] | | | | |
| NGERH2177SCZZ | 7-14 | AC | | C |
| NGERH2239SCZZ | 6-2 | AC | | C |
| NGERH2319SCZZ | 7-15 | AC | | C |
| NGERH2320SCZZ | 7-16 | AD | | C |
| NGERH2322SCZZ | 7-17 | AC | | C |
| NGERH2323SCZZ | 7-18 | AD | | C |
| NGERH2324SCZZ | 6-3 | AD | | C |
| NGERH2326SCZZ | 6-4 | AD | | C |
| NGERH2327SCZZ | 4-12 | AC | | C |
| NGERH2330SCZZ | 6-5 | AE | | C |
| NGERP2287SCZZ | 1-34 | AC | | C |
| NROLP2300XHZZ | 4-13 | AC | | C |
| NROLR2336SCZZ | 4-14 | AM | | C |
| NROLR2337SCZZ | 7-19 | AH | | C |
| NROLR2338SCZZ | 7-20 | AK | | C |
| NROLR2339SCZZ | 7-21 | AM | | C |
| NSFTZ2260SCZZ | 7-22 | AG | | C |
| NSFTZ2261SCZZ | 7-23 | AH | | C |
| NSFTZ2262SCZZ | 7-24 | AE | | C |
| NSFTZ2263SCZZ | 4-15 | AD | | C |
| [P] | | | | |
| PBRS-2047SCZZ | 4-16 | AG | | C |
| PCUSG2070SCZZ | 1-62 | AB | | C |
| PCUSS2097SCZZ | 3-13 | AC | | C |
| PCUSS2103SCZZ | 1-63 | AC | N | C |
| PCUSS2110SCZA | 1-74 | AC | N | C |
| PCUSU2101SCZZ | 7-35 | AC | | C |
| PGIDP2454SCZZ | 1-35 | AG | | C |
| PGIDP2455SCZZ | 1-36 | AF | | C |
| PGIDP2456SCZZ | 4-17 | AT | | C |
| PGIDP2459SCZZ | 2-2 | AS | | C |
| PGLS-2057SCZA | 2-3 | AF | N | C |
| PGUMS2135SCZZ | 1-37 | AC | | C |
| PHOG-2073SCZZ | 1-48 | AF | | C |
| PHOP-2091SCZZ | 1-38 | AU | | C |
| PLNS-2050SCZZ | 5-7 | AY | | C |
| PMIR-2073SCZZ | 5-8 | AL | | C |
| PSHEZ3204SCZZ | 5-9 | AC | | C |
| PSHEZ3205SCZZ | 4-18 | AD | | C |
| PSHEZ3208SCZZ | 7-26 | AC | | C |
| PSHEZ3225SCZZ | 1-40 | AF | | C |
| PSHEZ3249SCZZ | 4-19 | AC | | C |
| PSHEZ3254SCZZ | 2-4 | AC | | C |
| PSHEZ3263SCZZ | 5-12 | AC | | C |
| PSHEZ3264SCZZ | 1-56 | AC | | C |
| PSHEZ3267SCZA | 1-58 | AG | N | C |
| PSHEZ3270SCZZ | 3-14 | AC | | C |

| PARTS CODE | No. | PRICE RANK | NEW MARK | PART RANK |
|---|---|---|---|---|
| PSHEZ3273SCZZ | 1-64 | AC | N | C |
| PSTM-2015SCZZ | 7-28 | AX | | C |
| PTME-2051SCLZ | 1-59 | AE | | C |
| PTME-2051SCRZ | 1-60 | AE | | C |
| [Q] | | | | |
| QCNCM2401SC0B | 16-213 | AA | | C |
| QCNCM2442SC0B | 16-219 | AB | | C |
| QCNCM2456SC2F | 18-44 | AG | | C |
| QCNCM2482SC1H | 16-220 | AE | | C |
| 〃 | 21-8 | AE | | C |
| QCNCM2482SC2D | 16-216 | AB | | C |
| QCNCM2524SC3B | 16-217 | AP | | C |
| QCNCM2525SC5J | 16-215 | AK | | C |
| 〃 | 17-69 | AK | | C |
| QCNCM2528SC0B | 18-43 | AC | | C |
| QCNCM2558SC2F | 17-68 | AK | N | C |
| 〃 | 19-29 | AK | N | C |
| QCNCM688BAFZZ | 18-45 | AC | | C |
| QCNCM7014SC0B | 16-223 | AD | | C |
| QCNCM7014SC0D | 16-224 | AB | | C |
| QCNCM7014SC0F | 16-222 | AB | | C |
| QCNCM7014SC0H | 16-212 | AB | | C |
| QCNCM7014SC1B | 16-218 | AD | | C |
| QCNCM704HAFZZ | 22-4 | AD | | C |
| QCNCW2436SC2F | 16-214 | AG | | C |
| QCNCW2488SC0I | 21-7 | AF | | C |
| QCNCW2527SC5J | 16-221 | AK | | C |
| QCNW-3975XHGY | 15-18 | AG | | C |
| QCNW-3976XHOG | 15-19 | AT | | C |
| QCNW-4320SCZZ | 15-14 | BB | | C |
| QCNW-4554SCZZ | 3-11 | AU | | C |
| QCNW-4555SCZZ | 5-10 | AL | | C |
| QCNW-4558SCZZ | 1-41 | AE | | C |
| QCNW-4559SCZZ | 1-42 | BA | | C |
| QCNW-4560SCZZ | 4-20 | AD | | C |
| 〃 | 6-6 | AD | | C |
| QCNW-4561SCZZ | 18-42 | AE | | C |
| QCNW-4562SCZZ | 7-29 | AK | | C |
| QCNW-4563SCZZ | 1-43 | AP | | C |
| QCNW-4564SCZZ | 1-44 | AS | | C |
| QCNW-4612SCZZ | 7-30 | AE | | C |
| QCNW-4668SCZZ | 1-51 | AC | | C |
| 〃 | 6-7 | AC | | C |
| QCNW-4781SCZZ | 1-69 | AY | N | C |
| QJAKZ2060SC0B | 18-62 | AD | | C |
| 〃 | 19-39 | AD | | C |
| QJAKZ2061SC0D | 18-63 | AE | | C |
| QSOCZ2051SC32 | 16-289 | AC | | C |
| 〃 | 16-297 | AC | | C |
| QSOCZ2058SC40 | 16-295 | AH | N | C |
| 〃 | 17-99 | AH | N | C |
| QSW-Z2232SCZZ | 18-141 | AE | | B |
| QSW-Z2236SCZZ | 7-31 | AE | | B |
| QSW-Z2237SCZZ | 7-33 | AE | | B |
| QTANZ2042SCZZ | 18-2 | AB | | C |
| 〃 | 19-2 | AB | | C |
| [R] | | | | |
| RC-FZ2021SCZZ | 18-16 | AC | | C |
| 〃 | 19-10 | AC | | C |
| RCILZ2089SCZZ | 18-57 | AG | | C |
| 〃 | 19-37 | AG | | C |
| RCILZ2104SCZZ | 16-365 | AK | | C |
| 〃 | 16-366 | AK | | C |
| RCORF2063SCZZ | 5-13 | AE | | B |
| RCORF2064SCZZ | 1-53 | AE | | B |
| RCORF2091SCZZ | 16-422 | AD | | C |
| RCORF2094SCZZ | 1-54 | AE | | B |
| RCORF5002BCZT | 21-10 | AA | | B |
| 〃 | 21-11 | AA | | B |
| 〃 | 21-12 | AA | | B |
| 〃 | 21-13 | AA | | B |
| 〃 | 21-14 | AA | | B |
| 〃 | 21-15 | AA | | B |
| 〃 | 21-16 | AA | | B |
| 〃 | 21-17 | AA | | B |
| RCORF7009XCZZ | 1-55 | AR | | B |
| RCRSP0074AFZZ | 16-671 | AE | | B |
| RCRSQ2110SCZZ | 16-670 | AG | | B |
| RCRSQ2114SCZZ | 16-667 | AG | | B |
| 〃 | 16-668 | AG | | B |

| PARTS CODE | No. | PRICE RANK | NEW MARK | PART RANK |
|---|---|---|---|---|
| RCRSQ2114SCZZ | 17-217 | AG | | B |
| RCRSQ2126SCZZ | 16-666 | AH | N | B |
| 〃 | 17-218 | AH | N | B |
| RCRSZ7008SCZZ | 16-669 | AD | | B |
| RDENT2115SCZZ | 1-45 | BR | N | E |
| 〃 | 20-901 | BR | N | E |
| RFILN2011SCZZ | 18-56 | AC | | C |
| 〃 | 18-58 | AC | | C |
| 〃 | 18-59 | AC | | C |
| 〃 | 18-60 | AC | | C |
| 〃 | 18-61 | AC | | C |
| 〃 | 19-36 | AC | | C |
| 〃 | 19-38 | AC | | C |
| RMOTZ2124SCZZ | 6-8 | BF | | B |
| RR-HZ3011SCZZ | 18-84 | AC | | C |
| 〃 | 19-55 | AC | | C |
| RRLYZ0166AFZZ | 18-41 | AH | | B |
| 〃 | 19-28 | AH | | B |
| RTRNZ2157XHZZ | 18-142 | AF | | B |
| 〃 | 19-98 | AF | | B |
| [S] | | | | |
| SPAKA006ASCZZ | 15-23 | AC | | C |
| SPAKA010ASCZZ | 15-25 | AC | | D |
| SPAKA4861SCZZ | 15-15 | AQ | | D |
| SPAKA4944SCZZ | 15-16 | AR | | D |
| SPAKA4996SCZZ | 15-21 | AC | | D |
| SPAKC281ASCZZ | 15-20 | AX | N | D |
| SPAKP4946SCZZ | 15-5 | AP | | D |
| [T] | | | | |
| TCADZ2136SCZZ | 15-1 | AB | | D |
| TINSE3815SCZZ | 15-4 | AZ | N | D |
| TLABH4065SCZZ | 14-21 | AD | | D |
| TLABH4066SCZZ | 1-57 | AC | | D |
| TLABP3078SCZZ | 16-672 | AA | N | D |
| 〃 | 17-219 | AA | | D |
| TLABP3937SCZZ | 15-2 | AE | | D |
| TLABS4434SCZZ | 1-66 | AE | N | D |
| TLABZ3935SCZZ | 15-3 | AE | | D |
| TLABZ4016SCZZ | 15-13 | AD | | D |
| TLABZ4507SCZZ | 1-72 | AC | N | D |
| TLABZ4508SCZZ | 1-73 | AC | N | D |
| TSPC-3741SCZZ | 1-67 | AD | N | D |
| [U] | | | | |
| UBAT-A005PRE0 | 16-1 | AN | | B |
| UINK-2009SCZZ | 7-28 | BW | N | S |
| [V] | | | | |
| VCCCTV1HH100D | 16-34 | AA | | C |
| 〃 | 16-175 | AA | | C |
| 〃 | 17-53 | AA | | C |
| VCCCTV1HH101J | 16-125 | AA | | C |
| VCCCTV1HH120J | 16-151 | AA | | C |
| 〃 | 16-160 | AA | | C |
| 〃 | 16-176 | AA | | C |
| VCCCTV1HH150J | 16-33 | AA | | C |
| 〃 | 16-112 | AA | | C |
| 〃 | 16-113 | AA | | C |
| 〃 | 16-632 | AA | | C |
| 〃 | 17-56 | AA | | C |
| VCCCTV1HH220J | 16-44 | AA | | C |
| 〃 | 16-45 | AA | | C |
| 〃 | 16-67 | AA | | C |
| 〃 | 16-68 | AA | | C |
| 〃 | 16-85 | AA | | C |
| 〃 | 16-86 | AA | | C |
| 〃 | 16-94 | AA | | C |
| 〃 | 16-209 | AA | | C |
| 〃 | 16-210 | AA | | C |
| 〃 | 16-211 | AA | | C |
| 〃 | 17-34 | AA | | C |
| 〃 | 17-35 | AA | | C |
| 〃 | 17-61 | AA | | C |
| 〃 | 17-62 | AA | | C |
| 〃 | 17-63 | AA | | C |
| VCCCTV1HH3R0C | 16-35 | AA | | C |
| 〃 | 17-54 | AA | | C |
| VCCCTV1HH6R0C | 16-190 | AB | | C |
| VCCSTV1HL102J | 16-97 | AA | | C |
| 〃 | 16-119 | AA | | C |
| 〃 | 16-123 | AA | | C |
| 〃 | 16-142 | AA | | C |

| PARTS CODE | No. | PRICE RANK | NEW MARK | PART RANK |
|---|---|---|---|---|
| VCCSTV1HL102J | 16-144 | AA | | C |
| 〃 | 16-197 | AA | | C |
| 〃 | 16-203 | AA | | C |
| 〃 | 16-204 | AA | | C |
| VCCSTV1HL181J | 16-37 | AD | | C |
| 〃 | 17-37 | AD | | C |
| VCEAEA1CW106M | 16-6 | AC | | C |
| 〃 | 16-7 | AC | | C |
| 〃 | 16-8 | AC | | C |
| 〃 | 16-9 | AC | | C |
| 〃 | 16-10 | AC | | C |
| 〃 | 16-14 | AC | | C |
| 〃 | 17-3 | AC | | C |
| 〃 | 17-4 | AC | | C |
| 〃 | 17-7 | AC | | C |
| 〃 | 17-8 | AC | | C |
| 〃 | 17-9 | AC | | C |
| VCEAEA1CW336M | 16-2 | AB | | C |
| 〃 | 16-5 | AB | | C |
| 〃 | 16-18 | AB | | C |
| 〃 | 16-19 | AB | | C |
| 〃 | 16-21 | AB | | C |
| 〃 | 16-22 | AB | | C |
| VCEAEA1CW476M | 16-4 | AA | | C |
| 〃 | 16-11 | AA | | C |
| 〃 | 17-1 | AA | | C |
| 〃 | 17-6 | AA | | C |
| VCEAEA1EW226M | 16-20 | AA | | C |
| 〃 | 17-10 | AA | | C |
| 〃 | 22-1 | AA | | C |
| VCEAEA1EW475M | 16-16 | AA | | C |
| VCEAEA1EW476M | 16-3 | AB | | C |
| 〃 | 16-12 | AB | | C |
| 〃 | 16-23 | AB | | C |
| 〃 | 17-2 | AB | | C |
| 〃 | 17-5 | AB | | C |
| VCEAEA1HW104M | 21-1 | AB | | C |
| 〃 | 21-2 | AB | | C |
| 〃 | 21-4 | AB | | C |
| 〃 | 21-5 | AB | | C |
| VCEAEA1HW226M | 21-3 | AB | | C |
| VCEAEA1HW474M | 16-15 | AA | | C |
| VCEAEA1HW476M | 16-13 | AC | | C |
| 〃 | 16-17 | AC | | C |
| VCEAGA1EW476M | 18-4 | AA | | C |
| 〃 | 18-5 | AA | | C |
| 〃 | 18-6 | AA | | C |
| 〃 | 19-4 | AA | | C |
| 〃 | 19-5 | AA | | C |
| VCEAGA1HW105M | 18-3 | AB | | C |
| 〃 | 18-19 | AB | | C |
| 〃 | 19-3 | AB | | C |
| 〃 | 19-13 | AB | | C |
| VCEAGA1HW225M | 18-11 | AA | | C |
| 〃 | 18-12 | AA | | C |
| 〃 | 18-18 | AA | | C |
| 〃 | 19-9 | AA | | C |
| 〃 | 19-12 | AA | | C |
| VCEAGA1HW334M | 18-10 | AC | | C |
| 〃 | 19-8 | AC | | C |
| VCEAGA1HW475M | 18-7 | AA | | C |
| 〃 | 18-8 | AA | | C |
| 〃 | 18-9 | AA | | C |
| 〃 | 18-13 | AA | | C |
| 〃 | 18-14 | AA | | C |
| 〃 | 18-15 | AA | | C |
| 〃 | 19-6 | AA | | C |
| 〃 | 19-7 | AA | | C |
| VCKYPU1HB103K | 18-17 | AA | | C |
| 〃 | 19-11 | AA | | C |
| VCKYTQ1EB104K | 16-59 | AA | | C |
| 〃 | 16-60 | AA | | C |
| 〃 | 17-18 | AA | | C |
| 〃 | 17-19 | AA | | C |
| VCKYTQ1EF104Z | 22-2 | AA | | C |
| 〃 | 22-3 | AA | | C |
| VCKYTV1CF105Z | 16-27 | AB | | C |
| 〃 | 16-31 | AB | | C |
| 〃 | 16-32 | AB | | C |
| 〃 | 16-48 | AB | | C |

| PARTS CODE | No. | PRICE RANK | NEW MARK | PART RANK |
|---|---|---|---|---|
| VCKYTV1CF105Z | 16-49 | AB | | C |
| 〃 | 16-51 | AB | | C |
| 〃 | 16-53 | AB | | C |
| 〃 | 16-56 | AB | | C |
| 〃 | 16-63 | AB | | C |
| 〃 | 16-64 | AB | | C |
| 〃 | 16-66 | AB | | C |
| 〃 | 16-69 | AB | | C |
| 〃 | 16-70 | AB | | C |
| 〃 | 16-74 | AB | | C |
| 〃 | 16-84 | AB | | C |
| 〃 | 16-87 | AB | | C |
| 〃 | 16-92 | AB | | C |
| 〃 | 16-101 | AB | | C |
| 〃 | 16-116 | AB | | C |
| 〃 | 16-118 | AB | | C |
| 〃 | 16-124 | AB | | C |
| 〃 | 16-140 | AB | | C |
| 〃 | 16-153 | AB | | C |
| 〃 | 16-191 | AB | | C |
| 〃 | 16-201 | AB | | C |
| 〃 | 17-16 | AB | | C |
| 〃 | 17-17 | AB | | C |
| 〃 | 17-22 | AB | | C |
| 〃 | 17-23 | AB | | C |
| 〃 | 17-24 | AB | | C |
| 〃 | 17-25 | AB | | C |
| 〃 | 17-51 | AB | | C |
| 〃 | 18-32 | AB | | C |
| VCKYTV1CF225Z | 16-39 | AD | | C |
| 〃 | 17-29 | AD | | C |
| VCKYTV1EB104K | 16-36 | AA | | C |
| 〃 | 16-57 | AA | | C |
| 〃 | 16-58 | AA | | C |
| 〃 | 16-146 | AA | | C |
| 〃 | 17-38 | AA | | C |
| 〃 | 17-39 | AA | | C |
| 〃 | 17-40 | AA | | C |
| VCKYTV1EF104Z | 16-24 | AA | | C |
| 〃 | 16-25 | AA | | C |
| 〃 | 16-26 | AA | | C |
| 〃 | 16-28 | AA | | C |
| 〃 | 16-29 | AA | | C |
| 〃 | 16-30 | AA | | C |
| 〃 | 16-38 | AA | | C |
| 〃 | 16-41 | AA | | C |
| 〃 | 16-42 | AA | | C |
| 〃 | 16-43 | AA | | C |
| 〃 | 16-46 | AA | | C |
| 〃 | 16-47 | AA | | C |
| 〃 | 16-50 | AA | | C |
| 〃 | 16-52 | AA | | C |
| 〃 | 16-54 | AA | | C |
| 〃 | 16-55 | AA | | C |
| 〃 | 16-61 | AA | | C |
| 〃 | 16-62 | AA | | C |
| 〃 | 16-65 | AA | | C |
| 〃 | 16-72 | AA | | C |
| 〃 | 16-73 | AA | | C |
| 〃 | 16-75 | AA | | C |
| 〃 | 16-76 | AA | | C |
| 〃 | 16-78 | AA | | C |
| 〃 | 16-79 | AA | | C |
| 〃 | 16-80 | AA | | C |
| 〃 | 16-81 | AA | | C |
| 〃 | 16-82 | AA | | C |
| 〃 | 16-83 | AA | | C |
| 〃 | 16-88 | AA | | C |
| 〃 | 16-89 | AA | | C |
| 〃 | 16-90 | AA | | C |
| 〃 | 16-91 | AA | | C |
| 〃 | 16-98 | AA | | C |
| 〃 | 16-99 | AA | | C |
| 〃 | 16-100 | AA | | C |
| 〃 | 16-110 | AA | | C |
| 〃 | 16-111 | AA | | C |
| 〃 | 16-114 | AA | | C |
| 〃 | 16-115 | AA | | C |
| 〃 | 16-120 | AA | | C |
| 〃 | 16-121 | AA | | C |

| PARTS CODE | No. | PRICE RANK | NEW MARK | PART RANK |
|---|---|---|---|---|
| VCKYTV1EF104Z | 16-122 | AA | | C |
| 〃 | 16-126 | AA | | C |
| 〃 | 16-127 | AA | | C |
| 〃 | 16-128 | AA | | C |
| 〃 | 16-129 | AA | | C |
| 〃 | 16-130 | AA | | C |
| 〃 | 16-131 | AA | | C |
| 〃 | 16-132 | AA | | C |
| 〃 | 16-133 | AA | | C |
| 〃 | 16-141 | AA | | C |
| 〃 | 16-143 | AA | | C |
| 〃 | 16-145 | AA | | C |
| 〃 | 16-149 | AA | | C |
| 〃 | 16-150 | AA | | C |
| 〃 | 16-155 | AA | | C |
| 〃 | 16-157 | AA | | C |
| 〃 | 16-158 | AA | | C |
| 〃 | 16-161 | AA | | C |
| 〃 | 16-163 | AA | | C |
| 〃 | 16-167 | AA | | C |
| 〃 | 16-171 | AA | | C |
| 〃 | 16-172 | AA | | C |
| 〃 | 16-174 | AA | | C |
| 〃 | 16-177 | AA | | C |
| 〃 | 16-178 | AA | | C |
| 〃 | 16-181 | AA | | C |
| 〃 | 16-182 | AA | | C |
| 〃 | 16-183 | AA | | C |
| 〃 | 16-184 | AA | | C |
| 〃 | 16-185 | AA | | C |
| 〃 | 16-186 | AA | | C |
| 〃 | 16-187 | AA | | C |
| 〃 | 16-188 | AA | | C |
| 〃 | 16-192 | AA | | C |
| 〃 | 16-193 | AA | | C |
| 〃 | 16-194 | AA | | C |
| 〃 | 16-195 | AA | | C |
| 〃 | 16-196 | AA | | C |
| 〃 | 16-198 | AA | | C |
| 〃 | 16-199 | AA | | C |
| 〃 | 16-200 | AA | | C |
| 〃 | 16-202 | AA | | C |
| 〃 | 16-206 | AA | | C |
| 〃 | 16-207 | AA | | C |
| 〃 | 16-208 | AA | | C |
| 〃 | 17-11 | AA | | C |
| 〃 | 17-12 | AA | | C |
| 〃 | 17-13 | AA | | C |
| 〃 | 17-14 | AA | | C |
| 〃 | 17-15 | AA | | C |
| 〃 | 17-20 | AA | | C |
| 〃 | 17-21 | AA | | C |
| 〃 | 17-26 | AA | | C |
| 〃 | 17-27 | AA | | C |
| 〃 | 17-28 | AA | | C |
| 〃 | 17-30 | AA | | C |
| 〃 | 17-36 | AA | | C |
| 〃 | 17-42 | AA | | C |
| 〃 | 17-43 | AA | | C |
| 〃 | 17-44 | AA | | C |
| 〃 | 17-45 | AA | | C |
| 〃 | 17-46 | AA | | C |
| 〃 | 17-47 | AA | | C |
| 〃 | 17-48 | AA | | C |
| 〃 | 17-49 | AA | | C |
| 〃 | 17-50 | AA | | C |
| 〃 | 17-52 | AA | | C |
| 〃 | 17-55 | AA | | C |
| 〃 | 17-57 | AA | | C |
| 〃 | 17-58 | AA | | C |
| 〃 | 17-59 | AA | | C |
| 〃 | 17-60 | AA | | C |
| 〃 | 17-64 | AA | | C |
| 〃 | 17-65 | AA | | C |
| 〃 | 17-66 | AA | | C |
| 〃 | 17-67 | AA | | C |
| 〃 | 18-20 | AA | | C |
| 〃 | 18-21 | AA | | C |
| 〃 | 18-22 | AA | | C |
| 〃 | 18-24 | AA | | C |

| PARTS CODE | No. | PRICE RANK | NEW MARK | PART RANK |
|---|---|---|---|---|
| VCKYTV1EF104Z | 18-27 | AA | | C |
| 〃 | 18-28 | AA | | C |
| 〃 | 18-35 | AA | | C |
| 〃 | 18-40 | AA | | C |
| 〃 | 19-14 | AA | | C |
| 〃 | 19-15 | AA | | C |
| 〃 | 19-16 | AA | | C |
| 〃 | 19-18 | AA | | C |
| 〃 | 19-20 | AA | | C |
| 〃 | 19-21 | AA | | C |
| 〃 | 19-24 | AA | | C |
| 〃 | 19-27 | AA | | C |
| VCKYTV1HB102K | 18-25 | AA | | C |
| 〃 | 18-34 | AA | | C |
| 〃 | 18-36 | AA | | C |
| 〃 | 18-37 | AA | | C |
| 〃 | 18-38 | AA | | C |
| 〃 | 19-25 | AA | | C |
| VCKYTV1HB103K | 16-147 | AB | | C |
| 〃 | 16-159 | AB | | C |
| VCKYTV1HB221K | 18-23 | AA | | C |
| 〃 | 18-33 | AA | | C |
| 〃 | 19-17 | AA | | C |
| VCKYTV1HB222K | 16-40 | AA | | C |
| 〃 | 16-71 | AA | | C |
| 〃 | 16-77 | AA | | C |
| 〃 | 16-93 | AA | | C |
| 〃 | 16-95 | AA | | C |
| 〃 | 16-96 | AA | | C |
| 〃 | 16-102 | AA | | C |
| 〃 | 16-103 | AA | | C |
| 〃 | 16-104 | AA | | C |
| 〃 | 16-105 | AA | | C |
| 〃 | 16-106 | AA | | C |
| 〃 | 16-107 | AA | | C |
| 〃 | 16-108 | AA | | C |
| 〃 | 16-109 | AA | | C |
| 〃 | 16-117 | AA | | C |
| 〃 | 16-134 | AA | | C |
| 〃 | 16-135 | AA | | C |
| 〃 | 16-136 | AA | | C |
| 〃 | 16-137 | AA | | C |
| 〃 | 16-138 | AA | | C |
| 〃 | 16-139 | AA | | C |
| 〃 | 16-152 | AA | | C |
| 〃 | 16-154 | AA | | C |
| 〃 | 16-156 | AA | | C |
| 〃 | 16-170 | AA | | C |
| 〃 | 16-173 | AA | | C |
| 〃 | 16-179 | AA | | C |
| 〃 | 16-180 | AA | | C |
| 〃 | 16-189 | AA | | C |
| 〃 | 17-31 | AA | | C |
| 〃 | 17-32 | AA | | C |
| 〃 | 17-33 | AA | | C |
| 〃 | 17-41 | AA | | C |
| 〃 | 18-31 | AA | | C |
| VCKYTV1HB331K | 18-30 | AA | | C |
| 〃 | 19-23 | AA | | C |
| VCKYTV1HB333K | 18-29 | AA | | C |
| 〃 | 18-39 | AA | | C |
| 〃 | 19-22 | AA | | C |
| 〃 | 19-26 | AA | | C |
| VCKYTV1HB471K | 18-26 | AA | | C |
| 〃 | 19-19 | AA | | C |
| VCKYTV1HB472K | 16-148 | AA | | C |
| VCKYTV1HB821K | 16-162 | AA | | C |
| 〃 | 16-165 | AA | | C |
| 〃 | 16-166 | AA | | C |
| 〃 | 16-169 | AA | | C |
| VCKYTV1HF104Z | 16-164 | AA | | C |
| 〃 | 16-168 | AA | | C |
| 〃 | 16-205 | AA | | C |
| VCTYPA1HF104Z | 21-6 | AC | | C |
| VHDDAP202U/-1 | 16-255 | AB | | B |
| VHDHRW0502A-1 | 16-225 | AD | N | B |
| 〃 | 16-226 | AD | N | B |
| 〃 | 16-227 | AD | N | B |
| 〃 | 16-228 | AD | N | B |
| 〃 | 16-229 | AD | N | B |

| PARTS CODE | No. | PRICE RANK | NEW MARK | PART RANK |
|---|---|---|---|---|
| VHDHRW0502A-1 | 16-230 | AD | N | B |
| 〃 | 16-231 | AD | N | B |
| 〃 | 16-232 | AD | N | B |
| 〃 | 16-233 | AD | N | B |
| 〃 | 16-234 | AD | N | B |
| 〃 | 16-235 | AD | N | B |
| 〃 | 16-236 | AD | N | B |
| 〃 | 16-237 | AD | N | B |
| 〃 | 16-238 | AD | N | B |
| 〃 | 16-239 | AD | N | B |
| 〃 | 16-242 | AD | N | B |
| 〃 | 16-243 | AD | N | B |
| 〃 | 16-244 | AD | N | B |
| 〃 | 16-245 | AD | N | B |
| 〃 | 16-246 | AD | N | B |
| 〃 | 16-247 | AD | N | B |
| 〃 | 16-248 | AD | N | B |
| 〃 | 16-249 | AD | N | B |
| 〃 | 16-250 | AD | N | B |
| 〃 | 16-251 | AD | N | B |
| 〃 | 16-254 | AD | N | B |
| 〃 | 16-257 | AD | N | B |
| 〃 | 16-258 | AD | N | B |
| 〃 | 16-259 | AD | N | B |
| 〃 | 16-260 | AD | N | B |
| 〃 | 16-261 | AD | N | B |
| 〃 | 16-262 | AD | N | B |
| 〃 | 16-263 | AD | N | B |
| 〃 | 16-264 | AD | N | B |
| 〃 | 16-265 | AD | N | B |
| 〃 | 16-266 | AD | N | B |
| 〃 | 16-267 | AD | N | B |
| 〃 | 16-268 | AD | N | B |
| 〃 | 16-269 | AD | N | B |
| 〃 | 16-270 | AD | N | B |
| 〃 | 16-271 | AD | N | B |
| 〃 | 16-272 | AD | N | B |
| 〃 | 16-273 | AD | N | B |
| 〃 | 16-274 | AD | N | B |
| 〃 | 16-275 | AD | N | B |
| 〃 | 16-276 | AD | N | B |
| 〃 | 16-277 | AD | N | B |
| 〃 | 16-278 | AD | N | B |
| 〃 | 16-279 | AD | N | B |
| 〃 | 16-280 | AD | N | B |
| 〃 | 16-281 | AD | N | B |
| 〃 | 17-71 | AD | N | B |
| 〃 | 17-72 | AD | N | B |
| 〃 | 17-73 | AD | N | B |
| 〃 | 17-74 | AD | N | B |
| 〃 | 17-75 | AD | N | B |
| 〃 | 17-76 | AD | N | B |
| 〃 | 17-77 | AD | N | B |
| 〃 | 17-78 | AD | N | B |
| 〃 | 17-79 | AD | N | B |
| 〃 | 17-80 | AD | N | B |
| 〃 | 17-81 | AD | N | B |
| 〃 | 17-82 | AD | N | B |
| 〃 | 17-83 | AD | N | B |
| 〃 | 17-84 | AD | N | B |
| 〃 | 17-85 | AD | N | B |
| 〃 | 17-86 | AD | N | B |
| 〃 | 17-87 | AD | N | B |
| 〃 | 17-88 | AD | N | B |
| 〃 | 17-89 | AD | N | B |
| 〃 | 17-90 | AD | N | B |
| 〃 | 17-91 | AD | N | B |
| 〃 | 17-92 | AD | N | B |
| 〃 | 17-93 | AD | N | B |
| 〃 | 17-94 | AD | N | B |
| 〃 | 17-95 | AD | N | B |
| VHD0R5G4B42-1 | 18-140 | AF | | B |
| 〃 | 19-97 | AF | | B |
| VHD1SS355//-1 | 16-240 | AB | | B |
| 〃 | 16-241 | AB | | B |
| 〃 | 16-252 | AB | | B |
| 〃 | 16-253 | AB | | B |
| 〃 | 16-256 | AB | | B |
| 〃 | 17-70 | AB | | B |
| 〃 | 18-46 | AB | | B |

| PARTS CODE | No. | PRICE RANK | NEW MARK | PART RANK |
|---|---|---|---|---|
| VHD1SS355//-1 | 18-47 | AB | | B |
| 〃 | 18-48 | AB | | B |
| 〃 | 18-49 | AB | | B |
| 〃 | 19-30 | AB | | B |
| 〃 | 19-31 | AB | | B |
| VHEHZS2C1//-1 | 18-146 | AB | | B |
| 〃 | 18-147 | AB | | B |
| 〃 | 18-149 | AB | | B |
| 〃 | 18-150 | AB | | B |
| 〃 | 19-102 | AB | | B |
| 〃 | 19-103 | AB | | B |
| 〃 | 19-105 | AB | | B |
| 〃 | 19-106 | AB | | B |
| VHEHZ27-1//-1 | 18-148 | AB | | B |
| 〃 | 19-104 | AB | | B |
| VHEMTZJ8.2B-1 | 18-152 | AB | | B |
| 〃 | 19-108 | AB | | B |
| VHE1ZC15///-1 | 18-151 | AC | | B |
| 〃 | 19-107 | AC | | B |
| VHIADM207AN-1 | 21-9 | AT | | B |
| VHIALS04BNS-1 | 16-316 | AF | N | B |
| 〃 | 16-328 | AF | N | B |
| 〃 | 17-110 | AF | N | B |
| VHIALS08NS/-1 | 16-313 | AF | N | B |
| 〃 | 16-341 | AF | N | B |
| 〃 | 17-108 | AF | N | B |
| VHIALS163BNS/ | 16-285 | AK | N | B |
| 〃 | 16-333 | AK | N | B |
| 〃 | 17-109 | AK | N | B |
| VHIALS20ANS-1 | 16-342 | AF | N | B |
| 〃 | 17-107 | AF | N | B |
| VHIALS32NS/-1 | 16-293 | AD | N | B |
| 〃 | 16-317 | AD | N | B |
| 〃 | 16-318 | AD | N | B |
| 〃 | 17-96 | AD | N | B |
| 〃 | 17-98 | AD | N | B |
| VHIALS74ANS-1 | 16-314 | AE | N | B |
| 〃 | 16-327 | AE | N | B |
| 〃 | 17-104 | AE | N | B |
| VHIBA10339F-1 | 16-339 | AD | | B |
| VHIBU4053BCF1 | 16-329 | AE | | B |
| VHIBU4066BCF1 | 18-51 | AD | | B |
| 〃 | 18-52 | AD | | B |
| 〃 | 19-32 | AD | | B |
| VHIHD7021606A | 16-288 | BE | | B |
| 〃 | 16-300 | BE | | B |
| 〃 | 17-101 | BE | N | B |
| VHIHD813201F1 | 16-306 | BE | | B |
| VHIIDT7130-55 | 16-303 | AY | N | B |
| 〃 | 17-105 | AY | N | B |
| VHIIDT7140-55 | 16-304 | AY | N | B |
| 〃 | 17-106 | AY | N | B |
| VHIKM68512G5L | 16-286 | AW | N | B |
| 〃 | 16-294 | AW | N | B |
| VHILH28F016SU | 16-291 | BR | | B |
| VHILH5116NA10 | 16-309 | AL | | B |
| VHILH5268TH10 | 16-310 | AR | | B |
| 〃 | 16-311 | AR | | B |
| VHILR38292/-1 | 16-305 | AY | | B |
| VHILZ9FJ37/-1 | 16-301 | AY | | B |
| VHIMC74HC04F- | 16-324 | AC | | B |
| 〃 | 16-330 | AC | | B |
| VHIMC74HC08F- | 16-331 | AC | | B |
| 〃 | 16-332 | AC | | B |
| VHIMC74HC14F- | 16-319 | AD | | B |
| 〃 | 17-103 | AD | | B |
| VHIMC74HC157F | 16-322 | AD | | B |
| VHIMC74HC32F- | 16-323 | AC | | B |
| VHIMC74HC74F- | 16-334 | AD | | B |
| 〃 | 16-338 | AD | | B |
| VHINJM2113M-1 | 18-50 | AG | | B |
| VHINJM2902M-1 | 16-321 | AF | | B |
| 〃 | 17-111 | AF | | B |
| VHINJM2904M-1 | 16-325 | AE | | B |
| VHINJM4558MF- | 18-53 | AC | | B |
| 〃 | 18-54 | AC | | B |
| 〃 | 18-55 | AC | | B |
| 〃 | 19-33 | AC | | B |
| 〃 | 19-34 | AC | | B |
| 〃 | 19-35 | AC | | B |

| PARTS CODE | No. | PRICE RANK | NEW MARK | PART RANK |
|---|---|---|---|---|
| VHINJU4051M-1 | 16-326 | AG | | B |
| VHINJU6355E-1 | 16-336 | AM | | B |
| VHIN78L05UA-1 | 16-340 | AK | | B |
| 〃 | 17-112 | AK | | B |
| VHIPBL3717/-2 | 16-307 | AL | | B |
| 〃 | 16-308 | AL | | B |
| VHIPST596CMT1 | 16-320 | AF | | B |
| VHIR288F24/-1 | 16-287 | BW | N | B |
| 〃 | 17-102 | BW | N | B |
| VHISN74LS244NR | 16-337 | AG | | B |
| VHISN74LS374NR | 16-335 | AF | | B |
| VHITC7SH32FU/ | 16-315 | AS | N | B |
| VHITLS1049/-1 | 16-312 | AV | | B |
| VHIUPD3753CY1 | 22-5 | AY | | B |
| VHI18160-6/7/ | 16-299 | BY | | B |
| VHI27040FBQ1C | 16-290 | BH | | B |
| VHI27040FBQ0C | 16-298 | BH | | B |
| VHI27040FBR0B | 16-296 | BA | N | B |
| VHI27040FBR0B | 17-100 | BA | N | B |
| VHI4M16SOJ-70 | 16-292 | BG | | B |
| 〃 | 16-302 | BG | | B |
| 〃 | 17-97 | BG | | B |
| VHPSNL14A70-1 | 7-34 | BC | | B |
| VHPTLP521-1BL | 18-64 | AE | | B |
| 〃 | 19-40 | AE | | B |
| VHPTLP627//-1 | 18-65 | AH | | B |
| 〃 | 19-41 | AH | | B |
| VHVCCP2E20/-1 | 16-283 | AE | | B |
| VHVCCP2E30/-1 | 16-282 | AE | | B |
| 〃 | 16-284 | AE | | B |
| VHVRA391PV6-1 | 18-1 | AE | | B |
| 〃 | 19-1 | AE | | B |
| VHVTN07G101-1 | 18-145 | AB | | B |
| 〃 | 19-101 | AB | | B |
| VHVTN07G471-1 | 18-143 | AB | | B |
| 〃 | 18-144 | AB | | B |
| 〃 | 19-99 | AB | | B |
| 〃 | 19-100 | AB | | B |
| VP-1M4R7J0000 | 16-344 | AG | N | C |
| 〃 | 17-118 | AG | N | C |
| VRD-HT2EY100J | 18-85 | AA | | C |
| 〃 | 19-56 | AA | | C |
| VRD-HT2HY223J | 18-82 | AA | | C |
| 〃 | 19-53 | AA | | C |
| VRD-HT2HY750J | 16-381 | AA | | C |
| VRD-HT2HY910J | 17-123 | AA | | C |
| VRD-HT3AA133J | 18-83 | AC | | C |
| 〃 | 19-54 | AC | | C |
| VRS-HT2HAR47J | 16-378 | AB | | C |
| 〃 | 16-379 | AB | | C |
| VRS-HT3AA100J | 16-380 | AC | | C |
| VRS-TP2BD000J | 22-6 | AA | | C |
| 〃 | 22-8 | AA | | C |
| VRS-TP2BD222J | 22-9 | AA | | C |
| VRS-TQ2BB000J | 16-343 | AA | | C |
| 〃 | 16-347 | AA | | C |
| 〃 | 16-348 | AA | | C |
| 〃 | 16-633 | AA | | C |
| 〃 | 17-113 | AA | | C |
| 〃 | 17-116 | AA | | C |
| 〃 | 17-117 | AA | | C |
| VRS-TQ2BB200J | 16-441 | AA | | C |
| 〃 | 17-214 | AA | | C |
| VRS-TQ2BB561J | 16-654 | AA | | C |
| VRS-TV2AB000J | 16-345 | AA | | C |
| 〃 | 16-346 | AA | | C |
| 〃 | 16-349 | AA | | C |
| 〃 | 16-351 | AA | | C |
| 〃 | 16-352 | AA | | C |
| 〃 | 16-353 | AA | | C |
| 〃 | 16-363 | AA | | C |
| 〃 | 16-364 | AA | | C |
| 〃 | 16-367 | AA | | C |
| 〃 | 16-368 | AA | | C |
| 〃 | 16-369 | AA | | C |
| 〃 | 16-370 | AA | | C |
| 〃 | 16-409 | AA | | C |
| 〃 | 16-410 | AA | | C |
| 〃 | 16-412 | AA | | C |
| 〃 | 16-436 | AA | | C |

| PARTS CODE | No. | PRICE RANK | NEW MARK | PART RANK |
|---|---|---|---|---|
| VRS-TV2AB000J | 16-438 | AA | | C |
| 〃 | 16-451 | AA | | C |
| 〃 | 16-453 | AA | | C |
| 〃 | 16-465 | AA | | C |
| 〃 | 16-471 | AA | | C |
| 〃 | 16-472 | AA | | C |
| 〃 | 16-497 | AA | | C |
| 〃 | 16-498 | AA | | C |
| 〃 | 16-501 | AA | | C |
| 〃 | 16-502 | AA | | C |
| 〃 | 16-503 | AA | | C |
| 〃 | 16-504 | AA | | C |
| 〃 | 16-508 | AA | | C |
| 〃 | 16-523 | AA | | C |
| 〃 | 16-525 | AA | | C |
| 〃 | 16-540 | AA | | C |
| 〃 | 16-541 | AA | | C |
| 〃 | 16-572 | AA | | C |
| 〃 | 16-611 | AA | | C |
| 〃 | 16-623 | AA | | C |
| 〃 | 16-651 | AA | | C |
| 〃 | 16-661 | AA | | C |
| 〃 | 16-664 | AA | | C |
| 〃 | 16-665 | AA | | C |
| 〃 | 17-114 | AA | | C |
| 〃 | 17-119 | AA | | C |
| 〃 | 17-120 | AA | | C |
| 〃 | 17-121 | AA | | C |
| 〃 | 17-122 | AA | | C |
| 〃 | 17-141 | AA | | C |
| 〃 | 17-142 | AA | | C |
| 〃 | 17-158 | AA | | C |
| 〃 | 17-166 | AA | | C |
| 〃 | 17-180 | AA | | C |
| 〃 | 17-181 | AA | | C |
| 〃 | 17-209 | AA | | C |
| 〃 | 17-215 | AA | | C |
| 〃 | 18-94 | AA | | C |
| 〃 | 18-136 | AA | | C |
| 〃 | 19-93 | AA | | C |
| VRS-TV2AB100J | 16-388 | AD | | C |
| 〃 | 16-389 | AD | | C |
| 〃 | 16-390 | AD | | C |
| 〃 | 16-393 | AD | | C |
| 〃 | 16-394 | AD | | C |
| 〃 | 16-395 | AD | | C |
| 〃 | 16-396 | AD | | C |
| 〃 | 16-397 | AD | | C |
| 〃 | 16-398 | AD | | C |
| 〃 | 16-399 | AD | | C |
| 〃 | 16-400 | AD | | C |
| 〃 | 16-401 | AD | | C |
| 〃 | 16-406 | AD | | C |
| 〃 | 16-407 | AD | | C |
| 〃 | 16-408 | AD | | C |
| 〃 | 16-417 | AD | | C |
| 〃 | 16-418 | AD | | C |
| 〃 | 16-419 | AD | | C |
| 〃 | 16-423 | AD | | C |
| 〃 | 16-424 | AD | | C |
| 〃 | 16-425 | AD | | C |
| 〃 | 16-426 | AD | | C |
| 〃 | 16-428 | AD | | C |
| 〃 | 16-442 | AD | | C |
| 〃 | 16-443 | AD | | C |
| 〃 | 16-467 | AD | | C |
| 〃 | 16-468 | AD | | C |
| 〃 | 16-559 | AD | | C |
| 〃 | 16-560 | AD | | C |
| 〃 | 16-561 | AD | | C |
| 〃 | 16-562 | AD | | C |
| 〃 | 16-563 | AD | | C |
| 〃 | 16-564 | AD | | C |
| 〃 | 16-566 | AD | | C |
| 〃 | 16-567 | AD | | C |
| 〃 | 16-568 | AD | | C |
| 〃 | 16-586 | AD | | C |
| 〃 | 16-587 | AD | | C |
| 〃 | 16-588 | AD | | C |
| 〃 | 16-595 | AD | | C |

| PARTS CODE | No. | PRICE RANK | NEW MARK | PART RANK |
|---|---|---|---|---|
| VRS-TV2AB100J | 16-596 | AD | | C |
| 〃 | 17-126 | AD | | C |
| 〃 | 17-127 | AD | | C |
| 〃 | 17-128 | AD | | C |
| 〃 | 17-129 | AD | | C |
| 〃 | 17-146 | AD | | C |
| 〃 | 17-147 | AD | | C |
| 〃 | 17-148 | AD | | C |
| 〃 | 17-161 | AD | | C |
| 〃 | 17-162 | AD | | C |
| 〃 | 17-163 | AD | | C |
| 〃 | 17-164 | AD | | C |
| 〃 | 17-165 | AD | | C |
| 〃 | 17-168 | AD | | C |
| 〃 | 17-171 | AD | | C |
| 〃 | 17-172 | AD | | C |
| 〃 | 17-173 | AD | | C |
| 〃 | 17-174 | AD | | C |
| 〃 | 17-175 | AD | | C |
| 〃 | 17-176 | AD | | C |
| 〃 | 17-177 | AD | | C |
| 〃 | 17-178 | AD | | C |
| 〃 | 17-179 | AD | | C |
| 〃 | 17-199 | AD | | C |
| 〃 | 17-200 | AD | | C |
| 〃 | 17-201 | AD | | C |
| 〃 | 17-202 | AD | | C |
| 〃 | 17-208 | AD | | C |
| VRS-TV2AB101J | 16-354 | AA | | C |
| 〃 | 16-355 | AA | | C |
| 〃 | 16-356 | AA | | C |
| 〃 | 16-357 | AA | | C |
| 〃 | 16-358 | AA | | C |
| 〃 | 16-359 | AA | | C |
| 〃 | 16-360 | AA | | C |
| 〃 | 16-361 | AA | | C |
| 〃 | 16-362 | AA | | C |
| 〃 | 16-452 | AA | | C |
| 〃 | 16-469 | AA | | C |
| 〃 | 16-470 | AA | | C |
| 〃 | 16-476 | AA | | C |
| 〃 | 16-524 | AA | | C |
| 〃 | 16-584 | AA | | C |
| 〃 | 16-638 | AA | | C |
| 〃 | 16-650 | AA | | C |
| 〃 | 17-206 | AA | | C |
| VRS-TV2AB102J | 16-440 | AA | | C |
| 〃 | 16-604 | AA | | C |
| 〃 | 16-607 | AA | | C |
| 〃 | 16-609 | AA | | C |
| 〃 | 16-622 | AA | | C |
| 〃 | 18-122 | AA | | C |
| 〃 | 18-123 | AA | | C |
| 〃 | 18-126 | AA | | C |
| 〃 | 19-83 | AA | | C |
| VRS-TV2AB103J | 16-391 | AA | | C |
| 〃 | 16-392 | AA | | C |
| 〃 | 16-415 | AA | | C |
| 〃 | 16-416 | AA | | C |
| 〃 | 16-439 | AA | | C |
| 〃 | 16-459 | AA | | C |
| 〃 | 16-460 | AA | | C |
| 〃 | 16-464 | AA | | C |
| 〃 | 16-496 | AA | | C |
| 〃 | 16-509 | AA | | C |
| 〃 | 16-539 | AA | | C |
| 〃 | 16-551 | AA | | C |
| 〃 | 16-597 | AA | | C |
| 〃 | 16-600 | AA | | C |
| 〃 | 16-618 | AA | | C |
| 〃 | 16-624 | AA | | C |
| 〃 | 16-626 | AA | | C |
| 〃 | 16-627 | AA | | C |
| 〃 | 16-630 | AA | | C |
| 〃 | 16-631 | AA | | C |
| 〃 | 16-649 | AA | | C |
| 〃 | 16-657 | AA | | C |
| 〃 | 17-144 | AA | | C |
| 〃 | 17-145 | AA | | C |
| 〃 | 17-167 | AA | | C |

| PARTS CODE | No. | PRICE RANK | NEW MARK | PART RANK |
|---|---|---|---|---|
| VRS-TV2AB103J | 17-203 | AA | | C |
| 〃 | 17-204 | AA | | C |
| 〃 | 17-205 | AA | | C |
| 〃 | 18-87 | AA | | C |
| 〃 | 18-88 | AA | | C |
| 〃 | 18-121 | AA | | C |
| 〃 | 19-57 | AA | | C |
| 〃 | 19-58 | AA | | C |
| 〃 | 19-81 | AA | | C |
| VRS-TV2AB104J | 16-592 | AA | | C |
| 〃 | 18-92 | AA | | C |
| 〃 | 18-109 | AA | | C |
| 〃 | 18-139 | AA | | C |
| 〃 | 19-69 | AA | | C |
| 〃 | 19-96 | AA | | C |
| VRS-TV2AB105J | 16-583 | AA | | C |
| VRS-TV2AB113J | 16-656 | AA | | C |
| 〃 | 18-89 | AA | | C |
| 〃 | 18-101 | AA | | C |
| 〃 | 19-59 | AA | | C |
| VRS-TV2AB124J | 18-135 | AA | | C |
| 〃 | 19-92 | AA | | C |
| VRS-TV2AB151J | 16-427 | AA | | C |
| 〃 | 16-429 | AA | | C |
| 〃 | 16-430 | AA | | C |
| 〃 | 16-431 | AA | | C |
| 〃 | 16-432 | AA | | C |
| 〃 | 16-554 | AA | | C |
| 〃 | 16-555 | AA | | C |
| 〃 | 16-556 | AA | | C |
| 〃 | 16-557 | AA | | C |
| 〃 | 16-558 | AA | | C |
| 〃 | 17-124 | AA | | C |
| 〃 | 17-125 | AA | | C |
| 〃 | 17-157 | AA | | C |
| 〃 | 17-159 | AA | | C |
| 〃 | 17-160 | AA | | C |
| 〃 | 18-127 | AA | | C |
| 〃 | 19-84 | AA | | C |
| VRS-TV2AB153J | 18-120 | AD | | C |
| 〃 | 19-80 | AD | | C |
| VRS-TV2AB162J | 16-648 | AA | | C |
| VRS-TV2AB163J | 16-507 | AA | | C |
| 〃 | 16-537 | AA | | C |
| VRS-TV2AB183J | 18-103 | AD | | C |
| 〃 | 18-133 | AD | | C |
| 〃 | 19-63 | AD | | C |
| 〃 | 19-90 | AD | | C |
| VRS-TV2AB184J | 16-590 | AD | | C |
| VRS-TV2AB203J | 18-100 | AA | | C |
| VRS-TV2AB204J | 16-591 | AA | | C |
| VRS-TV2AB221J | 18-132 | AA | | C |
| 〃 | 19-89 | AA | | C |
| VRS-TV2AB222J | 16-605 | AA | | C |
| 〃 | 18-96 | AA | | C |
| 〃 | 18-128 | AA | | C |
| 〃 | 19-85 | AA | | C |
| VRS-TV2AB223J | 16-478 | AA | | C |
| 〃 | 16-534 | AA | | C |
| 〃 | 16-535 | AA | | C |
| 〃 | 16-599 | AA | | C |
| 〃 | 16-601 | AA | | C |
| 〃 | 17-138 | AA | | C |
| 〃 | 17-186 | AA | | C |
| 〃 | 17-187 | AA | | C |
| 〃 | 18-86 | AA | | C |
| 〃 | 18-97 | AA | | C |
| 〃 | 18-98 | AA | | C |
| 〃 | 18-99 | AA | | C |
| 〃 | 18-104 | AA | | C |
| 〃 | 18-107 | AA | | C |
| 〃 | 18-108 | AA | | C |
| 〃 | 18-110 | AA | | C |
| 〃 | 18-111 | AA | | C |
| 〃 | 18-112 | AA | | C |
| 〃 | 18-113 | AA | | C |
| 〃 | 18-118 | AA | | C |
| 〃 | 19-64 | AA | | C |
| 〃 | 19-67 | AA | | C |
| 〃 | 19-68 | AA | | C |

| PARTS CODE | No. | PRICE RANK | NEW MARK | PART RANK |
|---|---|---|---|---|
| VRS-TV2AB223J | 19-70 | AA | | C |
| 〃 | 19-71 | AA | | C |
| 〃 | 19-72 | AA | | C |
| 〃 | 19-73 | AA | | C |
| 〃 | 19-78 | AA | | C |
| VRS-TV2AB224J | 18-137 | AA | | C |
| 〃 | 19-94 | AA | | C |
| VRS-TV2AB271J | 16-526 | AA | | C |
| 〃 | 16-527 | AA | | C |
| 〃 | 16-542 | AA | | C |
| 〃 | 16-543 | AA | | C |
| 〃 | 16-544 | AA | | C |
| 〃 | 16-545 | AA | | C |
| 〃 | 16-546 | AA | | C |
| 〃 | 16-547 | AA | | C |
| 〃 | 16-552 | AA | | C |
| 〃 | 16-553 | AA | | C |
| 〃 | 16-573 | AA | | C |
| 〃 | 16-574 | AA | | C |
| 〃 | 16-575 | AA | | C |
| 〃 | 16-576 | AA | | C |
| 〃 | 16-602 | AA | | C |
| 〃 | 16-606 | AA | | C |
| 〃 | 16-617 | AA | | C |
| 〃 | 16-619 | AA | | C |
| 〃 | 16-628 | AA | | C |
| 〃 | 16-629 | AA | | C |
| 〃 | 17-210 | AA | | C |
| 〃 | 17-211 | AA | | C |
| 〃 | 17-212 | AA | | C |
| 〃 | 17-213 | AA | | C |
| VRS-TV2AB273J | 18-90 | AD | | C |
| 〃 | 18-119 | AD | | C |
| 〃 | 19-60 | AD | | C |
| 〃 | 19-79 | AD | | C |
| VRS-TV2AB302J | 16-577 | AA | | C |
| 〃 | 16-598 | AA | | C |
| VRS-TV2AB303J | 18-134 | AA | | C |
| 〃 | 19-91 | AA | | C |
| VRS-TV2AB330J | 16-350 | AD | | C |
| 〃 | 16-483 | AD | | C |
| 〃 | 16-484 | AD | | C |
| 〃 | 16-485 | AD | | C |
| 〃 | 16-486 | AD | | C |
| 〃 | 16-487 | AD | | C |
| 〃 | 16-488 | AD | | C |
| 〃 | 16-489 | AD | | C |
| 〃 | 16-490 | AD | | C |
| 〃 | 16-491 | AD | | C |
| 〃 | 16-492 | AD | | C |
| 〃 | 16-548 | AD | | C |
| 〃 | 16-614 | AD | | C |
| 〃 | 16-615 | AD | | C |
| 〃 | 17-115 | AD | | C |
| VRS-TV2AB331J | 18-125 | AD | | C |
| VRS-TV2AB332J | 16-578 | AA | | C |
| 〃 | 16-579 | AA | | C |
| 〃 | 16-580 | AA | | C |
| 〃 | 16-581 | AA | | C |
| 〃 | 16-589 | AA | | C |
| 〃 | 16-653 | AA | | C |
| 〃 | 18-93 | AA | | C |
| 〃 | 18-129 | AA | | C |
| 〃 | 19-86 | AA | | C |
| VRS-TV2AB333J | 16-413 | AD | | C |
| 〃 | 16-414 | AD | | C |
| 〃 | 17-143 | AD | | C |
| 〃 | 17-170 | AD | | C |
| VRS-TV2AB363J | 18-106 | AA | | C |
| 〃 | 19-66 | AA | | C |
| VRS-TV2AB364J | 16-505 | AA | | C |
| 〃 | 16-536 | AA | | C |
| VRS-TV2AB392J | 16-647 | AD | | C |
| 〃 | 16-658 | AD | | C |
| VRS-TV2AB393J | 18-130 | AD | | C |
| 〃 | 19-87 | AD | | C |
| VRS-TV2AB432J | 16-646 | AA | | C |
| VRS-TV2AB471J | 16-515 | AA | | C |
| 〃 | 16-516 | AA | | C |
| 〃 | 16-517 | AA | | C |

| PARTS CODE | No. | PRICE RANK | NEW MARK | PART RANK |
|---|---|---|---|---|
| VRS-TV2AB471J | 16-518 | AA | | C |
| 〃 | 16-519 | AA | | C |
| 〃 | 16-520 | AA | | C |
| 〃 | 16-521 | AA | | C |
| VRS-TV2AB472J | 16-382 | AA | | C |
| 〃 | 16-383 | AA | | C |
| 〃 | 16-384 | AA | | C |
| 〃 | 16-385 | AA | | C |
| 〃 | 16-386 | AA | | C |
| 〃 | 16-387 | AA | | C |
| 〃 | 16-402 | AA | | C |
| 〃 | 16-403 | AA | | C |
| 〃 | 16-404 | AA | | C |
| 〃 | 16-405 | AA | | C |
| 〃 | 16-420 | AA | | C |
| 〃 | 16-421 | AA | | C |
| 〃 | 16-433 | AA | | C |
| 〃 | 16-434 | AA | | C |
| 〃 | 16-435 | AA | | C |
| 〃 | 16-437 | AA | | C |
| 〃 | 16-449 | AA | | C |
| 〃 | 16-450 | AA | | C |
| 〃 | 16-454 | AA | | C |
| 〃 | 16-455 | AA | | C |
| 〃 | 16-456 | AA | | C |
| 〃 | 16-457 | AA | | C |
| 〃 | 16-461 | AA | | C |
| 〃 | 16-462 | AA | | C |
| 〃 | 16-463 | AA | | C |
| 〃 | 16-466 | AA | | C |
| 〃 | 16-473 | AA | | C |
| 〃 | 16-474 | AA | | C |
| 〃 | 16-475 | AA | | C |
| 〃 | 16-479 | AA | | C |
| 〃 | 16-480 | AA | | C |
| 〃 | 16-481 | AA | | C |
| 〃 | 16-482 | AA | | C |
| 〃 | 16-493 | AA | | C |
| 〃 | 16-494 | AA | | C |
| 〃 | 16-495 | AA | | C |
| 〃 | 16-499 | AA | | C |
| 〃 | 16-500 | AA | | C |
| 〃 | 16-510 | AA | | C |
| 〃 | 16-511 | AA | | C |
| 〃 | 16-512 | AA | | C |
| 〃 | 16-513 | AA | | C |
| 〃 | 16-514 | AA | | C |
| 〃 | 16-522 | AA | | C |
| 〃 | 16-528 | AA | | C |
| 〃 | 16-529 | AA | | C |
| 〃 | 16-530 | AA | | C |
| 〃 | 16-531 | AA | | C |
| 〃 | 16-532 | AA | | C |
| 〃 | 16-533 | AA | | C |
| 〃 | 16-549 | AA | | C |
| 〃 | 16-550 | AA | | C |
| 〃 | 16-565 | AA | | C |
| 〃 | 16-569 | AA | | C |
| 〃 | 16-570 | AA | | C |
| 〃 | 16-585 | AA | | C |
| 〃 | 16-593 | AA | | C |
| 〃 | 16-594 | AA | | C |
| 〃 | 16-603 | AA | | C |
| 〃 | 16-612 | AA | | C |
| 〃 | 16-621 | AA | | C |
| 〃 | 16-625 | AA | | C |
| 〃 | 16-635 | AA | | C |
| 〃 | 16-636 | AA | | C |
| 〃 | 16-637 | AA | | C |
| 〃 | 16-639 | AA | | C |
| 〃 | 16-640 | AA | | C |
| 〃 | 16-641 | AA | | C |
| 〃 | 16-642 | AA | | C |
| 〃 | 16-643 | AA | | C |
| 〃 | 16-644 | AA | | C |
| 〃 | 16-645 | AA | | C |
| 〃 | 16-660 | AA | | C |
| 〃 | 16-662 | AA | | C |
| 〃 | 16-663 | AA | | C |
| 〃 | 17-130 | AA | | C |

| PARTS CODE | No. | PRICE RANK | NEW MARK | PART RANK |
|---|---|---|---|---|
| VRS-TV2AB472J | 17-131 | AA | | C |
| 〃 | 17-132 | AA | | C |
| 〃 | 17-133 | AA | | C |
| 〃 | 17-134 | AA | | C |
| 〃 | 17-135 | AA | | C |
| 〃 | 17-136 | AA | | C |
| 〃 | 17-137 | AA | | C |
| 〃 | 17-139 | AA | | C |
| 〃 | 17-140 | AA | | C |
| 〃 | 17-149 | AA | | C |
| 〃 | 17-150 | AA | | C |
| 〃 | 17-151 | AA | | C |
| 〃 | 17-152 | AA | | C |
| 〃 | 17-153 | AA | | C |
| 〃 | 17-154 | AA | | C |
| 〃 | 17-155 | AA | | C |
| 〃 | 17-156 | AA | | C |
| 〃 | 17-182 | AA | | C |
| 〃 | 17-183 | AA | | C |
| 〃 | 17-185 | AA | | C |
| 〃 | 17-188 | AA | | C |
| 〃 | 17-189 | AA | | C |
| 〃 | 17-190 | AA | | C |
| 〃 | 17-191 | AA | | C |
| 〃 | 17-192 | AA | | C |
| 〃 | 17-193 | AA | | C |
| 〃 | 17-207 | AA | | C |
| 〃 | 17-216 | AA | | C |
| 〃 | 18-138 | AA | | C |
| 〃 | 19-95 | AA | | C |
| VRS-TV2AB512J | 16-655 | AA | | C |
| VRS-TV2AB513J | 16-571 | AA | | C |
| 〃 | 18-116 | AA | | C |
| 〃 | 19-76 | AA | | C |
| VRS-TV2AB561J | 16-458 | AD | | C |
| 〃 | 16-477 | AD | | C |
| 〃 | 16-582 | AD | | C |
| 〃 | 17-184 | AD | | C |
| VRS-TV2AB562J | 16-634 | AA | | C |
| 〃 | 16-652 | AA | | C |
| VRS-TV2AB563J | 16-608 | AA | | C |
| 〃 | 16-610 | AA | | C |
| VRS-TV2AB621J | 18-114 | AA | | C |
| 〃 | 18-115 | AA | | C |
| 〃 | 19-74 | AA | | C |
| 〃 | 19-75 | AA | | C |
| VRS-TV2AB622J | 16-613 | AA | | C |
| VRS-TV2AB680J | 16-616 | AA | | C |
| 〃 | 16-620 | AA | | C |
| VRS-TV2AB681J | 18-105 | AA | | C |
| 〃 | 19-65 | AA | | C |
| VRS-TV2AB683J | 18-102 | AD | | C |
| 〃 | 18-124 | AD | | C |
| 〃 | 19-62 | AD | | C |
| 〃 | 19-82 | AD | | C |
| VRS-TV2AB751J | 18-117 | AA | | C |
| 〃 | 19-77 | AA | | C |
| VRS-TV2AB752J | 16-659 | AA | | C |
| VRS-TV2AB753J | 16-506 | AA | | C |
| 〃 | 16-538 | AA | | C |
| 〃 | 18-91 | AA | | C |
| VRS-TV2AB822J | 18-95 | AA | | C |
| 〃 | 18-131 | AA | | C |
| 〃 | 19-61 | AA | | C |
| 〃 | 19-88 | AA | | C |
| VRSTS2AD1373F | 16-448 | AA | | C |
| 〃 | 17-194 | AA | | C |
| VRSTS2AD4422F | 16-444 | AA | | C |
| 〃 | 16-445 | AA | | C |
| 〃 | 16-446 | AA | | C |
| 〃 | 16-447 | AA | | C |
| 〃 | 17-169 | AA | | C |
| 〃 | 17-196 | AA | | C |
| 〃 | 17-197 | AA | | C |
| 〃 | 17-198 | AA | | C |
| VRSTS2AD6812F | 16-411 | AA | | C |
| 〃 | 17-195 | AA | | C |
| VSDTA114EK/-1 | 16-372 | AB | | B |
| 〃 | 16-373 | AB | | B |
| VSDTC114EK/-1 | 16-374 | AB | | B |

| PARTS CODE | No. | PRICE RANK | NEW MARK | PART RANK |
|---|---|---|---|---|
| VSDTC114EK/-1 | 16-375 | AB | | B |
| 〃 | 18-70 | AB | | B |
| 〃 | 18-71 | AB | | B |
| 〃 | 18-72 | AB | | B |
| 〃 | 18-73 | AB | | B |
| 〃 | 18-74 | AB | | B |
| 〃 | 18-76 | AB | | B |
| 〃 | 18-77 | AB | | B |
| 〃 | 18-78 | AB | | B |
| 〃 | 18-79 | AB | | B |
| 〃 | 18-81 | AB | | B |
| 〃 | 19-46 | AB | | B |
| 〃 | 19-48 | AB | | B |
| 〃 | 19-49 | AB | | B |
| 〃 | 19-50 | AB | | B |
| 〃 | 19-52 | AB | | B |
| VS2SA1037KS-1 | 22-7 | AB | | B |
| VS2SA1807-P-1 | 18-66 | AE | | B |
| 〃 | 19-42 | AE | | B |
| VS2SC2412KR-1 | 18-75 | AD | | B |
| 〃 | 18-80 | AD | | B |
| 〃 | 19-47 | AD | | B |
| 〃 | 19-51 | AD | | B |
| VS2SC2413KP-1 | 16-376 | AC | | B |
| VS2SC3415-P-1 | 18-67 | AP | | B |
| 〃 | 19-43 | AP | | B |
| VS2SD1164//-1 | 16-371 | AE | | B |
| VS2SD1266A15/ | 18-69 | AF | | B |
| 〃 | 19-45 | AF | | B |
| VS2SD1664Q/-1 | 16-377 | AD | | B |
| VS2SD592A-S-1 | 18-68 | AK | | B |
| 〃 | 19-44 | AK | | B |
| VVLLMG2025TPR | 3-12 | BA | | B |
| [X] | | | | |
| XBPSD30P06K00 | 50-B3 | AA | | C |
| XBPSD40P08K00 | 50-B4 | AA | | C |
| XBPSE30P08K00 | 50-B5 | AA | | C |
| XEBSD30P06000 | 50-B6 | AA | | C |
| XEBSD30P08000 | 50-B7 | AA | | C |
| XEBSD30P10000 | 50-B8 | AA | | C |
| XEBSE30P08000 | 50-B9 | AA | | C |
| XEBSE30P10000 | 50-B10 | AA | | C |
| XEPSD30P06X00 | 50-B16 | AA | | C |
| XHBSD30P06000 | 50-B11 | AA | | C |
| XHBSD30P08000 | 50-B12 | AA | | C |
| XHBSE30P06000 | 50-B13 | AA | | C |
| XHBSE30P10000 | 50-B14 | AA | | C |
| XHPSD30P08K00 | 50-B15 | AA | | C |
| XRESJ50-06000 | 50-W1 | AA | | C |
| XUBSD20P06000 | 50-B17 | AA | | C |
| XWHJZ62-02512 | 50-W4 | AA | N | C |
| XWHSD30-08100 | 50-W2 | AA | | C |
| [0] | | | | |
| 0AV1390000105 | 20-5 | AS | | C |
| 0AV1390000106 | 20-19 | AE | | C |
| 〃 | 20-20 | AE | | C |
| 〃 | 20-21 | AE | | C |
| 0AV1390000107 | 20-17 | AC | | C |
| 0AV1390000108 | 20-18 | AC | | C |
| 0AV1390000109 | 20-7 | AC | | C |
| 0AV1390000110 | 20-15 | AF | | C |
| 〃 | 20-16 | AF | | C |
| 0AV1390000125 | 20-26 | AC | | C |
| 0AV1390000126 | 20-27 | AC | | C |
| 0AV1471020090 | 20-13 | AB | | C |
| 0AV1474720090 | 20-10 | AB | | C |
| 0AV1540000003 | 20-1 | AE | | C |
| 〃 | 20-12 | AE | | C |
| 0AV1540000004 | 20-2 | AF | | C |
| 0AV1610000004 | 20-25 | AC | | C |
| 0AV1610000029 | 20-14 | AC | | C |
| 0AV1610000045 | 20-6 | AC | | C |
| 0AV1610000046 | 20-3 | AD | | C |
| 〃 | 20-4 | AD | | C |
| 0AV1610000054 | 20-8 | AD | | C |
| 0AV1610000060 | 20-9 | AC | | C |
| 0AV1610000061 | 20-11 | AD | | C |
| 0AV1610000062 | 20-24 | AE | | C |
| 0AV1650000001 | 20-22 | AF | | C |
| 〃 | 20-23 | AF | | C |

| PARTS CODE | No. | PRICE RANK | NEW MARK | PART RANK |
|---|---|---|---|---|
| 0AV2011023010 | 20-80 | AA | | C |
| 〃 | 20-83 | AA | | C |
| 〃 | 20-84 | AA | | C |
| 0AV2011033010 | 20-67 | AA | | C |
| 〃 | 20-78 | AA | | C |
| 0AV2011043010 | 20-85 | AA | | C |
| 〃 | 20-94 | AA | | C |
| 0AV2011533010 | 20-79 | AA | | C |
| 0AV2012233010 | 20-97 | AA | | C |
| 0AV2013333010 | 20-74 | AA | | C |
| 0AV2013343020 | 20-66 | AB | | C |
| 0AV2013903020 | 20-68 | AB | | C |
| 0AV2013933020 | 20-69 | AB | | C |
| 〃 | 20-70 | AB | | C |
| 〃 | 20-91 | AB | | C |
| 0AV2014723010 | 20-95 | AA | | C |
| 〃 | 20-96 | AA | | C |
| 0AV2014733020 | 20-77 | AB | | C |
| 0AV2021023040 | 20-90 | AB | | C |
| 0AV2023903040 | 20-73 | AC | | C |
| 0AV2023933040 | 20-92 | AC | | C |
| 〃 | 20-93 | AC | | C |
| 0AV2024783040 | 20-71 | AC | | C |
| 〃 | 20-72 | AC | | C |
| 0AV2041513020 | 20-82 | AC | | C |
| 0AV2042203020 | 20-81 | AC | | C |
| 0AV2046803010 | 20-76 | AC | | C |
| 0AV2048203010 | 20-75 | AC | | C |
| 0AV2990002000 | 20-89 | AB | | C |
| 0AV2990010000 | 20-87 | AC | | C |
| 0AV2990014000 | 20-88 | AC | | C |
| 0AV2990015000 | 20-86 | AC | | C |
| 0AV3001015500 | 20-64 | AC | | B |
| 0AV3021002999 | 20-65 | AD | | B |
| 0AV3042543000 | 20-63 | AQ | | B |
| 0AV3050019000 | 20-35 | AF | | B |
| 0AV3050030000 | 20-37 | AA | | B |
| 〃 | 20-40 | AA | | B |
| 〃 | 20-42 | AA | | B |
| 0AV3050066000 | 20-39 | AH | | B |
| 0AV3050075000 | 20-41 | AF | | B |
| 0AV3060021000 | 20-34 | AB | | B |
| 0AV3060038000 | 20-33 | AH | | B |
| 0AV3070093000 | 20-36 | AC | | B |
| 0AV3070094000 | 20-38 | AC | | B |
| 0AV3080620100 | 20-62 | AH | | B |
| 0AV3080621200 | 20-60 | AF | | B |
| 0AV3090016000 | 20-51 | AG | | B |
| 0AV3090041000 | 20-49 | AF | | B |
| 0AV3090056000 | 20-48 | AP | | B |
| 0AV3090060000 | 20-50 | AR | | B |
| 0AV3160025000 | 20-103 | AN | | B |
| 0AV3170001000 | 20-100 | AE | | B |
| 0AV3180000003 | 20-61 | AP | | B |
| 0AV4000094411 | 20-101 | AX | | B |
| 0AV4050013000 | 20-58 | AE | | C |
| 0AV4050014000 | 20-57 | AE | | C |
| 〃 | 20-59 | AE | | C |
| 0AV4070044000 | 20-52 | AK | | C |
| 〃 | 20-53 | AK | | C |
| 0AV4120002000 | 20-54 | AC | | C |
| 〃 | 20-55 | AC | | C |
| 〃 | 20-56 | AC | | C |
| 0AV5030036000 | 20-30 | AC | | C |
| 0AV5030088000 | 20-31 | AD | | C |
| 0AV5030089000 | 20-32 | AG | | C |
| 0AV5030090000 | 20-28 | AD | | C |
| 0AV5030091000 | 20-29 | AE | | C |
| 0AV5040010000 | 20-99 | AP | | B |
| 0AV5050008000 | 20-107 | AC | | C |
| 0AV5060031000 | 20-43 | AG | | A |
| 0AV5060067000 | 20-45 | AF | | A |
| 〃 | 20-46 | AF | | A |
| 〃 | 20-47 | AF | | A |
| 0AV5070000012 | 20-44 | AF | | A |
| 0AV5080007000 | 20-98 | AT | | B |
| 0AV5140017000 | 20-102 | AE | | B |
| 0AV5180006000 | 20-108 | AD | | C |
| 0AV5190003000 | 20-105 | AF | | B |
| 〃 | 20-106 | AF | | B |

| PARTS CODE | No. | PRICE RANK | NEW MARK | PART RANK |
|---|---|---|---|---|
| 0AV5190018000 | 20-104 | AE | | B |
| 0AV6114084711 | 20-109 | AH | | C |
| 0AV6114085811 | 20-110 | AK | | C |
| 0AV6114086811 | 20-111 | AE | | C |
| 0AV7510013000 | 20-112 | AB | | C |
| 0AV7700017000 | 20-113 | AD | | C |
| 0AV8117730514 | 20-114 | AB | | C |
| 0AV8130730414 | 20-115 | AB | | C |
| 0KW0910362001 | 10-46 | AC | | C |
| 0KW0928300602 | 13-12 | AG | | C |
| 0KW0928301902 | 13-15 | AL | | C |
| 0KW0933382612 | 13-3 | AH | | C |
| 0KW0933384002 | 13-2 | AF | | C |
| 0KW0933390202 | 14-6 | AT | | C |
| 0KW0933390302 | 14-10 | AT | | C |
| 0KW0933392201 | 14-5 | AN | | C |
| 0KW0933392301 | 14-11 | AN | | C |
| 0KW0956202701 | 9-62 | AF | | C |
| 0KW0957010101 | 10-50 | AZ | | E |
| 0KW0957251103 | 13-20 | AG | | C |
| 0KW0957320801 | 11-7 | AF | | C |
| 0KW0957321501 | 11-4 | AE | | C |
| 0KW0957551101 | 12-23 | AK | | C |
| 0KW0957552702 | 12-34 | AF | | C |
| 0KW0972553101 | 12-15 | AE | | C |
| 0KW0992010224 | 11-2 | AV | | E |
| 0KW0992011903 | 9-2 | CA | | E |
| 0KW0992012102 | 9-67 | AX | | B |
| 0KW0992039101 | 11-13 | BQ | | E |
| 0KW0992044301 | 10-7 | AS | | C |
| 0KW0992048203 | 12-13 | CD | | E |
| 0KW0992053901 | 10-1 | CA | N | E |
| 0KW0992075101 | 9-47 | BB | | C |
| 0KW0992075201 | 10-29 | AZ | | C |
| 0KW0992075901 | 11-9 | BA | | C |
| 0KW0992100601 | 8-17 | AF | | C |
| 0KW0992101703 | 12-2 | AC | | C |
| 0KW0992180104 | 8-11 | BH | N | C |
| 0KW0992180226 | 12-3 | AY | | C |
| 0KW0992180302 | 8-3 | AQ | | C |
| 0KW0992180401 | 8-19 | AL | | C |
| 0KW0992180501 | 8-21 | AF | | C |
| 0KW0992180601 | 12-44 | AE | | C |
| 0KW0992180701 | 8-23 | AE | | C |
| 0KW0992200117 | 9-4 | BG | | D |
| 0KW0992200412 | 9-29 | AL | | C |
| 0KW0992200512 | 9-3 | AQ | | C |
| 0KW0992200603 | 10-3 | AF | | C |
| 0KW0992200701 | 10-2 | AD | | C |
| 0KW0992201201 | 10-4 | AD | | C |
| 0KW0992201304 | 10-31 | AD | | C |
| 0KW0992201902 | 10-9 | AF | | C |
| 0KW0992202014 | 10-11 | AD | | C |
| 0KW0992202101 | 10-12 | AC | | C |
| 0KW0992202202 | 10-32 | AF | | C |
| 0KW0992202301 | 9-5 | AD | | C |
| 0KW0992202401 | 10-24 | AD | | C |
| 0KW0992203301 | 9-57 | AC | | C |
| 0KW0992203401 | 9-30 | AQ | | C |
| 0KW0992203801 | 9-63 | AD | | C |
| 0KW0992230413 | 8-6 | AG | | C |
| 0KW0992230514 | 9-13 | AF | | C |
| 0KW0992230712 | 9-1 | AP | | C |
| 0KW0992230825 | 9-18 | AH | | C |
| 0KW0992231002 | 8-5 | AG | | C |
| 0KW0992231101 | 9-61 | AC | | C |
| 〃 | 10-33 | AC | | C |
| 0KW0992231314 | 9-23 | AF | | C |
| 0KW0992232012 | 9-7 | AD | | C |
| 0KW0992241202 | 10-14 | AF | | C |
| 0KW0992241302 | 10-13 | AF | | C |
| 0KW0992241402 | 9-9 | AD | | C |
| 0KW0992242301 | 9-64 | AF | | D |
| 0KW0992250102 | 9-32 | AL | | C |
| 0KW0992250213 | 9-27 | AH | | C |
| 0KW0992250301 | 9-25 | AG | | C |
| 0KW0992250401 | 9-26 | AG | | C |
| 0KW0992250512 | 9-28 | AH | | C |
| 0KW0992250601 | 9-35 | AF | | C |
| 0KW0992250701 | 9-33 | AG | | C |

| PARTS CODE | No. | PRICE RANK | NEW MARK | PART RANK |
|---|---|---|---|---|
| 0KW0992250813 | 12-7 | AG | | C |
| 0KW0992250901 | 12-8 | AF | | C |
| 0KW0992251001 | 12-12 | AN | | C |
| 0KW0992251112 | 12-11 | AD | | C |
| 0KW0992251212 | 12-10 | AF | | C |
| 0KW0992251301 | 12-9 | AC | | C |
| 0KW0992251401 | 9-34 | AF | | C |
| 0KW0992255001 | 12-6 | AF | | C |
| 0KW0992255101 | 12-5 | AC | | C |
| 0KW0992255202 | 12-4 | AF | | C |
| 0KW0992280102 | 9-8 | AX | | C |
| 0KW0992280201 | 9-10 | AQ | | C |
| 0KW0992280301 | 9-66 | AF | | C |
| 0KW0992280401 | 9-78 | AE | | C |
| 0KW0992281201 | 9-65 | AH | | C |
| 0KW0992300124 | 9-24 | AQ | | C |
| 0KW0992300202 | 9-52 | AR | | C |
| 0KW0992300301 | 10-27 | AF | | C |
| 0KW0992300601 | 9-43 | AD | | C |
| 〃 | 10-17 | AD | | C |
| 0KW0992300701 | 10-21 | AD | | C |
| 0KW0992300802 | 9-19 | AF | | C |
| 0KW0992300901 | 9-20 | AD | | C |
| 0KW0992301012 | 9-15 | AG | | C |
| 0KW0992301102 | 9-38 | AD | | C |
| 0KW0992301401 | 9-37 | AD | | C |
| 0KW0992301502 | 9-17 | AD | | C |
| 0KW0992301603 | 10-22 | AD | | C |
| 0KW0992301804 | 9-42 | AD | | C |
| 0KW0992301901 | 9-16 | AF | | C |
| 0KW0992302112 | 9-54 | AF | | C |
| 0KW0992302202 | 9-48 | AF | | C |
| 0KW0992302401 | 10-23 | AN | | C |
| 0KW0992302501 | 10-30 | AD | | C |
| 0KW0992302902 | 9-22 | AM | | C |
| 0KW0992303505 | 9-44 | AF | | C |
| 0KW0992304001 | 9-21 | AC | | C |
| 〃 | 13-26 | AC | | C |
| 0KW0992304101 | 9-46 | AC | | C |
| 0KW0992304513 | 10-16 | AD | | C |
| 0KW0992305036 | 10-15 | AD | | C |
| 0KW0992305201 | 9-60 | AC | | C |
| 0KW0992305301 | 10-41 | AC | | C |
| 0KW0992305501 | 10-42 | AG | | C |
| 0KW0992310401 | 10-28 | AL | | C |
| 0KW0992320102 | 10-20 | AG | | C |
| 0KW0992320701 | 10-18 | AF | | C |
| 0KW0992320801 | 10-44 | AC | | C |
| 0KW0992350102 | 9-49 | AR | | C |
| 0KW0992350205 | 9-41 | AN | | C |
| 0KW0992350301 | 9-40 | AD | | C |
| 0KW0992370601 | 12-35 | AF | | C |
| 0KW0992370701 | 11-6 | AD | | C |
| 0KW0992370901 | 11-5 | AD | | C |
| 0KW0992371101 | 11-3 | AD | | C |
| 0KW0992380101 | 11-21 | AF | | C |
| 0KW0992380202 | 11-22 | AH | | C |
| 0KW0992380301 | 10-53 | AF | | C |
| 0KW0992381501 | 11-1 | AL | | C |
| 0KW0992382013 | 11-8 | AV | | C |
| 0KW0992401503 | 12-14 | AH | | C |
| 0KW0992410112 | 9-51 | AP | | C |
| 0KW0992420101 | 11-16 | BL | | C |
| 0KW0992420301 | 11-15 | AS | | C |
| 0KW0992420412 | 11-19 | AH | | C |
| 0KW0992420512 | 11-14 | AG | | C |
| 0KW0992420601 | 11-12 | AG | | C |
| 0KW0992420712 | 11-10 | AD | | C |
| 0KW0992420812 | 11-20 | AC | | C |
| 0KW0992421001 | 11-11 | AH | | C |
| 0KW0992421301 | 11-17 | AG | | C |
| 0KW0992421402 | 11-18 | AC | | C |
| 0KW0992551201 | 12-16 | AL | | C |
| 0KW0992551713 | 12-19 | AC | | C |
| 0KW0992551801 | 12-36 | AD | | C |
| 0KW0992551901 | 12-37 | AC | | C |
| 0KW0992552101 | 12-17 | AH | | C |
| 0KW0992552401 | 12-21 | AD | | C |
| 0KW0992553103 | 12-18 | AF | | C |
| 0KW0992553201 | 12-30 | AD | | C |

| PARTS CODE | No. | PRICE RANK | NEW MARK | PART RANK |
|---|---|---|---|---|
| 0KW0992553303 | 12-33 | AH | | C |
| 0KW0992554001 | 12-24 | BF | | C |
| 0KW0992554101 | 12-25 | BR | | C |
| 0KW0992554501 | 12-45 | AU | | C |
| 0KW0992562501 | 12-29 | AQ | | C |
| 0KW0992562601 | 12-27 | AN | | C |
| 0KW0992563401 | 12-22 | AD | | C |
| 0KW0992580602 | 12-32 | BT | | C |
| 0KW0992605202 | 9-55 | AL | | C |
| 0KW0992605301 | 12-39 | AG | | C |
| 0KW0992605413 | 10-8 | AQ | | C |
| 0KW0992605501 | 10-19 | AU | | C |
| 0KW0992605601 | 10-5 | AN | | C |
| 0KW0992606101 | 10-38 | AN | | C |
| 0KW0992606604 | 12-20 | AQ | | C |
| 0KW0992606801 | 9-68 | AQ | | C |
| 0KW0992610401 | 9-31 | BF | | B |
| 0KW0992622201 | 9-39 | AV | N | B |
| 0KW0992650501 | 12-31 | BE | | B |
| 0KW0992671301 | 12-28 | BB | | B |
| 0KW0992671501 | 12-26 | AZ | | B |
| 0KW0992731201 | 12-40 | AF | | D |
| 0KW0997231203 | 10-49 | AH | | C |
| 0KW0997605101 | 10-51 | AL | | C |
| 0KW0997605201 | 10-47 | AM | | C |
| 0KW0997610201 | 8-4 | BC | | B |
| 0KW0997621204 | 10-6 | BV | | E |
| 0KW0997630101 | 10-48 | AN | | B |
| 0KW1200123602 | 9-53 | AC | | C |
| 0KW1200312003 | 13-13 | AD | | C |
| 0KW4150010103 | 13-32 | BS | | E |
| 0KW4150010203 | 13-32 | BV | | E |
| 0KW4150020201 | 13-23 | AX | | C |
| 0KW4150020301 | 13-23 | AZ | | C |
| 0KW4150102902 | 13-19 | AH | | C |
| 0KW4150104301 | 13-27 | AR | | C |
| 0KW4150180103 | 13-5 | AU | | C |
| 0KW4150180201 | 13-4 | AX | | C |
| 0KW4150180303 | 13-34 | AY | | C |
| 0KW4150180714 | 14-1 | BC | | C |
| 0KW4150180812 | 14-2 | AE | | C |
| 0KW4150180912 | 13-9 | AP | N | C |
| 0KW4150181012 | 13-33 | AP | N | C |
| 0KW4150181301 | 13-1 | AG | | C |
| 0KW4150181502 | 14-8 | AN | | C |
| 0KW4150181703 | 13-30 | AN | | C |
| 0KW4150181801 | 14-3 | AQ | | C |
| 0KW4150181901 | 13-28 | AP | | C |
| 0KW4150182001 | 13-11 | AV | | C |
| 0KW4150182201 | 13-31 | AL | | C |
| 0KW4150182402 | 14-4 | AL | | C |
| 0KW4150182518 | 14-7 | BL | | C |
| 0KW4150182602 | 14-9 | AF | | C |
| 0KW4150182712 | 14-12 | AK | | C |
| 0KW4150182801 | 14-22 | AE | | C |
| 0KW4150183101 | 13-16 | AG | | C |
| 0KW4150183201 | 13-14 | AF | | C |
| 0KW4150183301 | 13-17 | AF | | C |
| 0KW4150183502 | 13-24 | AM | | C |
| 0KW4150183602 | 13-29 | AH | | C |
| 0KW4150183701 | 13-21 | AG | | C |
| 0KW4150183801 | 13-22 | AG | | C |
| 0KW4150184102 | 13-10 | AH | | C |
| 0KW4150184201 | 13-8 | AT | | C |
| 0KW4150184301 | 13-33 | AT | | C |
| 0KW4150184501 | 13-6 | AD | | C |
| 0KW4150184601 | 13-7 | AD | | C |
| 0KW4150184701 | 13-41 | AF | | C |
| 0KW4150185001 | 13-43 | AD | | C |
| 0KW4150185101 | 14-23 | AD | | C |
| 0KW4150186601 | 14-18 | AF | | C |
| 0KW4150187501 | 14-24 | AL | | C |
| 0KW4150620101 | 13-18 | BT | | B |
| 0KW4150731312 | 14-13 | AF | | D |
| 0KW9314131061 | 13-25 | BE | | B |
| 0KW9335141031 | 9-36 | BA | | B |
| 〃 | 12-38 | BA | | B |
| 0KW9383251011 | 9-58 | AD | | C |
| 0KW9384131091 | 13-42 | AC | | C |
| 0KW9384131111 | 10-37 | AC | | C |

| PARTS CODE | No. | PRICE RANK | NEW MARK | PART RANK |
|---|---|---|---|---|
| 0KW9646030613 | 12-42 | AB | | C |
| 0KW9646030813 | 9-73 | AB | | C |
| 0KW9646040813 | 13-39 | AC | | C |
| 0KW9721040001 | 9-77 | AB | | C |
| 〃 | 13-40 | AB | | C |
| 0KW9733031013 | 12-43 | AB | | C |
| 0KW9733031413 | 9-76 | AB | | C |
| 0KW9735030613 | 9-71 | AB | | C |
| 〃 | 10-56 | AB | | C |
| 0KW9735030813 | 9-75 | AC | | C |
| 〃 | 10-55 | AC | | C |
| 0KW9735031213 | 10-58 | AB | | C |
| 0KW9739030613 | 11-24 | AB | | C |
| 0KW9739030813 | 8-22 | AB | | C |
| 〃 | 9-72 | AB | | C |
| 〃 | 10-54 | AB | | C |
| 〃 | 11-23 | AB | | C |
| 〃 | 12-41 | AB | | C |
| 〃 | 14-14 | AB | | C |
| 0KW9742030813 | 9-70 | AB | | C |
| 〃 | 10-57 | AB | | C |
| 〃 | 11-25 | AB | | C |
| 〃 | 13-35 | AB | | C |
| 0KW9742031013 | 13-36 | AB | | C |
| 0KW9743030813 | 13-37 | AB | | C |
| 0KW9770030613 | 13-38 | AC | | C |
| 0KW9770030813 | 9-74 | AC | | C |

| PARTS CODE | No. | PRICE RANK | NEW MARK | PART RANK |
|---|---|---|---|---|

M E M O

## CAUTION FOR BATTERY REPLACEMENT

(Danish) ADVARSEL !
Lithiumbatteri-Eksplosionsfare ved fejlagtig håndtering.
Udskiftning må kun ske med batteri
af samme fabrikat og type.
Levér det brugte batteri tilbage til leverandoren.

(English) Caution !
Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type
recommended by the equipment manufacturer.
Discard used batteries according to manufacturer's instructions.

(Finnish) VAROITUS
Paristo voi räjähtää, jos se on virheellisesti asennettu.
Vaihda paristo ainoastaan laitevalmistajan suosittelemaan
tyyppiin. Hävitä käytetty paristo valmistajan ohjeiden
mukaisesti.

(French) ATTENTION
Il y a danger d'explosion s' il y a remplacement incorrect
de la batterie. Remplacer uniquement avec une batterie du
même type ou d'un type recommandé par le constructeur.
Mettre au rébut les batteries usagées conformément aux
instructions du fabricant.

(Swedish) VARNING
Explosionsfare vid felaktigt batteribyte.
Använd samma batterityp eller en ekvivalent
typ som rekommenderas av apparattillverkaren.
Kassera använt batteri enligt fabrikantens
instruktion.

(German) Achtung
Explosionsgefahr bei Verwendung inkorrekter Batterien.
Als Ersatzbatterien dürfen nur Batterien vom gleichen Typ oder
vom Hersteller empfohlene Batterien verwendet werden.
Entsorgung der gebrauchten Batterien nur nach den vom
Hersteller angegebenen Anweisungen.

SHARP



**SHARP CORPORATION**
**Communication Systems Group**
**Quality & Reliability Control Center**
**Higashihiroshima, Hiroshima 739-0192, Japan**
**Printed in U.S.A**

**A9803-1879NS•IS•J**