SHARP **SERVICE MANUAL**

No. 00ZFO4700USME

Illustration: FO-4700

FACSIMILE

MODEL FO-4700

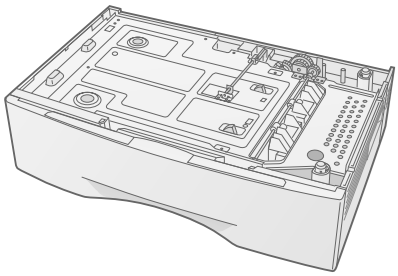


Illustration: FO-47UC

OPTION:PAPER CASSETTE

MODEL FO-47UC

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 : 0.73 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**

Automatic dialing	Rapid Key Dialing: 48 numbers Speed Dialing: 75 numbers
Memory size*	1 MB (approx. 56 pages with ECM off)
Modem speed	14,400 bps (max.) Automatic fallback to lower speeds.
Transmission time*	Approx. 6 seconds
Toner cartridge yield (4% page coverage)	**Initial starter cartridge** (included with fax machine): 3700 pages (ave.) (letter paper) **Replacement cartridge (FO-47ND):** 7500 pages (ave.) (letter paper)
Drum cartridge yield	**Initial starter cartridge** (included with fax machine): 20,000 pages (ave.) **Replacement cartridge (FO-47DR):** 20,000 pages (ave.)
Resolution	**Horizontal:** 203 pels/inch (8 pels/mm) **Vertical:** Standard: 98 lines/inch (3.85 lines/mm) Fine /Halftone: 196 lines/inch (7.7 lines/mm) Super fine: 391 lines/inch (15.4 lines mm)
Automatic document feeder	50 pages max. (20 lb letter paper)
Paper capacity	250 sheets (500-sheet cassette available as option)
Compression scheme	MMR, MR, MH, Sharp (H2)
Halftone (grayscale)	64 levels
Applicable telephone line	Public switched telephone network
Compatibility	ITU-T (CCITT) G3 mode
Printing resolution	**Horizontal:** 406 lines/inch (16 lines/mm) **Vertical:** 391 lines/inch (15.4 lines/mm) **PC Printing:** 600 dpi
Input document size	Automatic feeding: Width: 5.8 to 10.1" (148 to 256 mm) Length: 5.0 to 14.3" (128 to 364 mm) Manual feeding: Width: 5.8 to 11.0" (148 to 279 mm) Length: 5.0 to 17.0" (128 to 432 mm)

Note: This fascismile machine is Year 2000 compliant.

Effective Scanning width	8.3" (210 mm) max.
Effective Printing width	8.0" (203 mm) max.
Reception modes	Auto/Manual
Instascan speed	30 ppm (letter paper)
Full Dual Access	Yes
Copy function	Single/Multi/Sort (99 copies/page)
Power requirements	120 V AC, 60 Hz
Operating temperature	50 - 86°F (10 - 30°C)
Humidity	20 to 85% RH
Power consumption	Standby: 10 W Maximum: 580 W
Dimensions	Width: 18.1" (460 mm) Depth: 15.2" (385 mm) Height: 10.6" (270 mm)
Weight	Approx. 27.8 lbs.(12.6kg)

* 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).

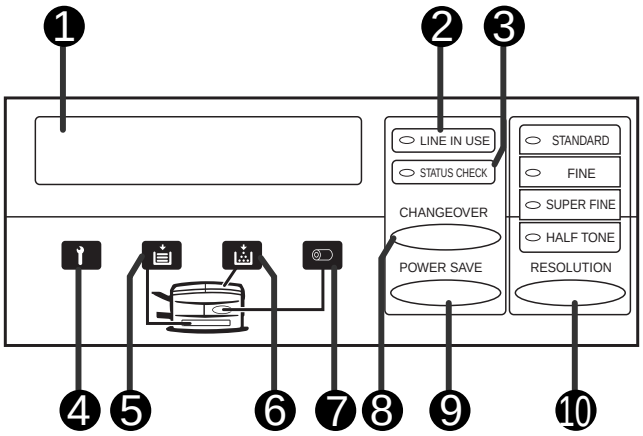
Option

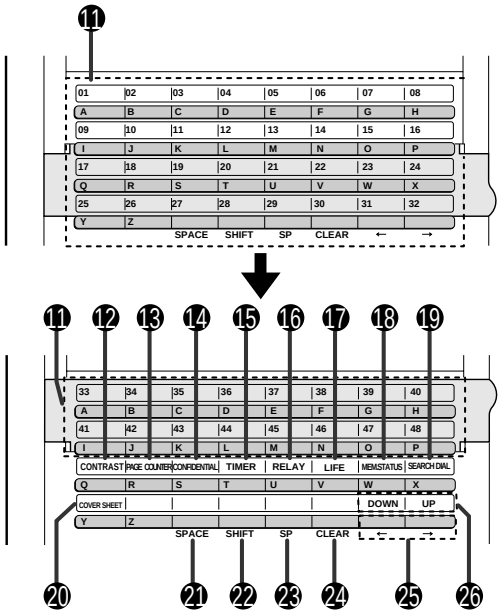
Toner cartridge	**: FO-47ND**
Drum cartridge	**: FO-47DR**
Paper cassette	**: FO-47UC**
PC interface	**: FO-47IF**
Option memory	**: FO-1MK**
Verification stamp	**: FO-45VS**

<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.

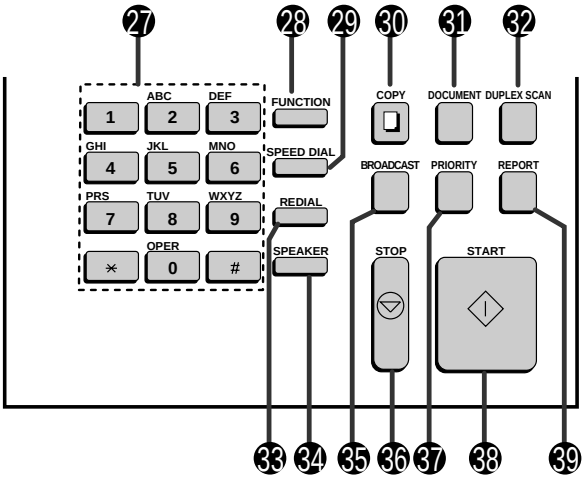
[2] Operation panel





Rapid Key overlay down

Rapid Key overlay up



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

❷ **LINE IN USE light**
This lights when the fax machine is using the telephone line.

❸ **STATUS CHECK light**
This lights when a paper size error or paper jam occurs, or when the print compartment cover is open. A message will appear in the display to indicate the problem.

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

❺ **Paper out indicator**
This lights when the fax machine is out of paper, or when the received document tray is not properly installed. If the machine has a paper cassette, the indicator blinks when one of the paper sources (tray or cassette) is out of paper, and lights steadily when all sources are out of paper.

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

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

❽ **CHANGEOVER key**
Two types of information appear in the display: prompts related to operations you are performing, and information about how the fax is using the telephone line (transmitting, receiving, etc.). Press this key to switch between the two types of information.

❾ **POWER SAVE key**
Press this key to turn on Power Save Mode, or set the Power Save Mode timer if TIMER has been selected with Option Setting 31 (Power Save Type).

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

⓫ **Rapid Dial Keys**
Press one of these keys to dial a fax number automatically. (Note that you must attach the Rapid Key labels.)

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

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

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

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

⓰ **RELAY key**
Press this key to send a document to another Sharp fax machine and have that machine in turn relay the document to one or more end receiving machines.

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

⓲ **MEM. STATUS key**
Press this key to check the status of documents waiting in memory for transmission.

⑲ **SEARCH DIAL key**
Press this key to search through your auto dial fax numbers by name.

⑳ **COVER SHEET key**
Press this key to include a cover sheet when sending a fax.

㉑ **SPACE key**
Press this key to enter a space when programming a name.

㉒ **SHIFT key**
Press this key to switch between upper and lower case letters when programming a name.

㉓ **SP key**
Press this key to enter a symbol when programming a name.

㉔ **CLEAR key**
Press this key to clear a mistake when programming a name or fax number.

㉕ **Arrow keys**
Press these keys to move the cursor forward or backward when programming a name or fax number.

㉖ **UP and DOWN keys**
Press these keys to adjust the volume of the speaker when the **SPEAKER** key has been pressed, or the volume of the ringer at all other times.

㉗ **Dial keypad (numeric keys)**
Use these keys to dial and program fax numbers.

㉘ **FUNCTION key**
Press this key to select various special functions.

㉙ **SPEED DIAL key**
Press this key to dial a Speed Dial number.

㉚ **COPY key**
Press this key to make a copy of a document.

㉛ **DOCUMENT key**
Press this key to transmit a document without reading it first into memory.

㉜ **DUPLEX SCAN key**
Press this key to transmit or copy a two-sided document.

㉝ **REDIAL key**
Press this key to automatically redial the last number dialed.

㉞ **SPEAKER key**
Press this key when transmitting a document by Normal Dialling to listen to the line and verify the response of the receiving fax machine.

㉟ **BROADCAST key**
Press this key to send a document to a group of receiving fax machines.

㊱ **STOP key**
Press this key to cancel an operation before it is completed.

㊲ **PRIORITY key**
Press this key when you need to transmit a document ahead of other documents waiting in memory for transmission.

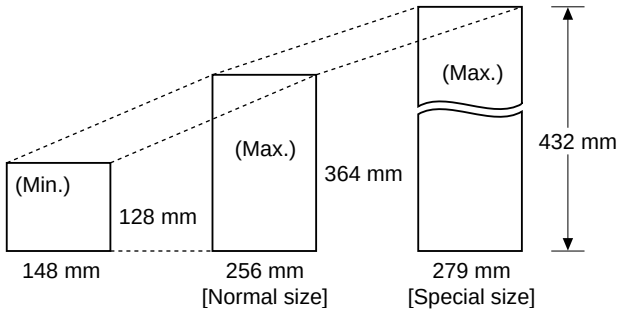
㊳ **START key**
Press this key to begin transmission when using Speed Dialling, Direct Keypad Dialling, or Normal Dialling.

㊴ **REPORT key**
Press this key to print out a report on the most recently completed transmission or reception.

[3] Transmittable documents

1. Document Sizes

Normal size	width	5.8" – 10.1" (148 – 256 mm)
	length	5.0" – 14.3" (128 – 364 mm)



* 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 (279mm × 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	

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 before 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:
- If you need to send or copy more 50 pages, place the additional pages and carefully in the feeder just before the last page is scanned. Do not try to force them in, as this may cause double-feeding or jamming.
- If your document consists of several large or thick pages which must be loaded one at a time, insert each page into the feeder as the previous page is being scanned. Insert gently to prevent doublefeeding.

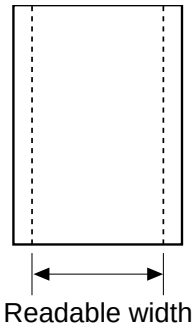
6. Readable Width & Length

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.

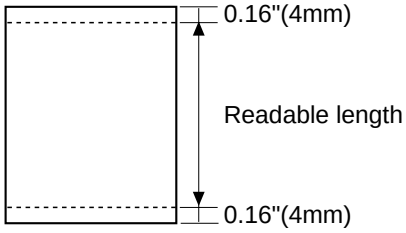
- **Readable width**

8.3" (210 mm) max.



- **Readable length**

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



[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 10° and 35°C (41° and 95°F).
- The humidity should be between 30% and 85% (without condensation).

ELECTRICITY

AC 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 speciality stores

TELEPHONE JACK

A standard RC11C 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 RC11C 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.

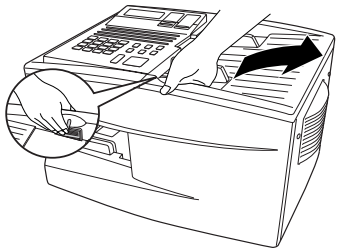
2. Installing the printer cartridges (Toner cartridge: FO-47ND/Drum cartridge: FO-47DR)

Follow the steps below to install or replace the toner and drum cartridges.

- The initial starter toner cartridge included with the fax machine can print about 3700 letter-size pages (4% coverage of each page).
- The replacement toner cartridge (FO-47ND) can print about 7500 letter-size pages.
- The drum cartridge (FO-47DR) can print about 20,000 letter-size pages.

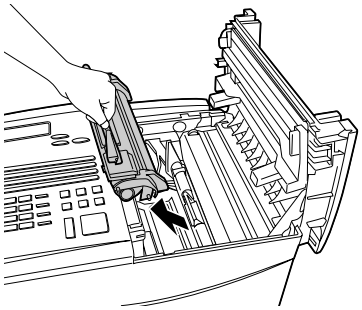
① Press the green release and open the print compartment cover.

- **Caution!** The fusing unit inside the print compartment becomes very hot during operation. Be careful not to touch the inside of the compartment.

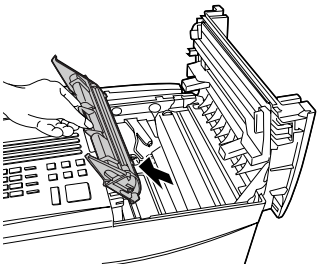


② If you are replacing the toner cartridge, remove the old cartridge and dispose of it according to local regulations. Go directly to Step 6 if you are only replacing the toner cartridge and not the drum cartridge.

- If you are replacing the drum cartridge but not the toner cartridge, remove the toner cartridge and place it on a sheet of paper.

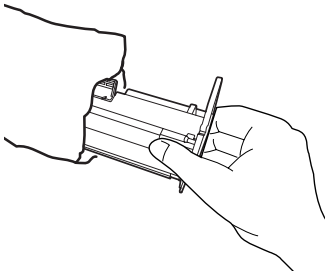


③ If you are replacing the drum cartridge, remove the old cartridge and dispose of it according to local regulations.



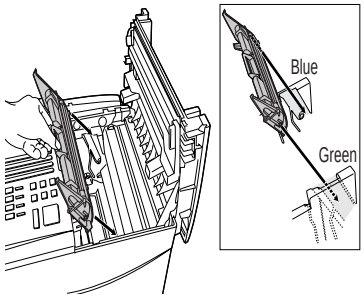
④ Remove the new drum cartridge from its packaging.

- **Caution!** Excessive exposure to light will damage the drum cartridge. Install the cartridge promptly after removing it from its packaging.

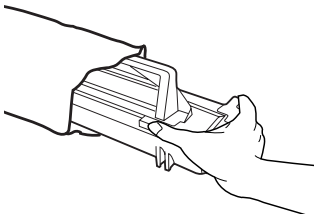


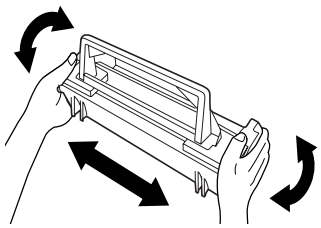
⑤ Insert the drum cartridge into the print compartment, aligning the guides on the cartridge with the grooves on the sides of the compartment.

- Insert the cartridge by aligning the colored “1” labels on the cartridge and the sides of the compartment.
- Make sure the drum cartridge is inserted in as far as it will go.



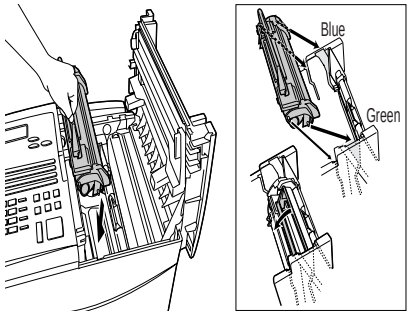
⑥ If you are installing a new toner cartridge, remove the new toner cartridge from its packaging. Shake as indicated by the arrows to distribute the toner evenly within the cartridge.





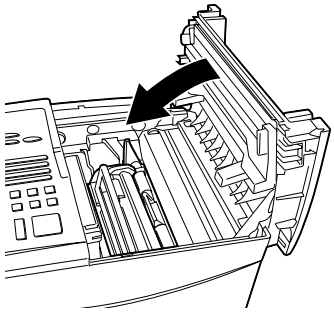
⑦ Hold the toner cartridge by the handle and lower it into the print compartment. Make sure that the four pins (two on each side) fit into the grooves on the sides of the compartment.

- Insert the cartridge by aligning the colored “2” labels on the cartridge and the side of the compartment.
- Make sure the toner cartridge clicks into place.



⑧ Close the print compartment cover.

- Press down on the dot markings at the left edge to make sure the cover is completely closed.



⑨ Reset the toner counter by pressing the **LIFE** key (flip up the Rapid Key overlay), **2**, and the **START** key.

⑩ Reset the drum counter by pressing the **LIFE** key (flip up the Rapid Key overlay), **3**, and the **START** key.

When to replace the toner cartridge
When the toner cartridge nears empty (about 100 pages can still be printed), the toner cartridge indicator on the operation panel will blink. When the toner cartridge is empty, the toner cartridge indicator will light steadily and REPLACE TONER will appear in the display. Printing will no longer be possible. Use the following replacement toner cartridge:
Sharp FO-47ND toner cartridge

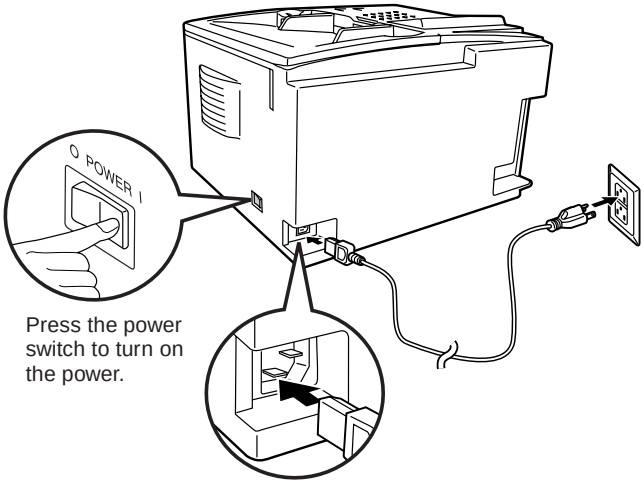
When to replace the drum cartridge
When the drum cartridge nears the end of its life, the drum cartridge indicator on the operation panel will blink. When the drum cartridge life is over, the drum cartridge indicator will light steadily and DRUM LIFE OVER will appear in the display. Use the following replacement drum cartridge:
Sharp FO-47DR drum cartridge

3. Assembly and connections

Points to keep in mind when setting up

- Do not place the machine in direct sunlight.
- Do not place the machine near heaters or air conditioners.
- Keep dust away from the machine.
- Install the machine on a level surface.

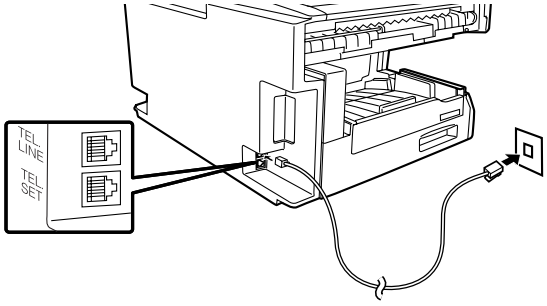
① **Connecting the power cord**
Connect the female end of the power cord to the fax machine as shown. Insert the male end into a 120 V, 60 Hz, grounded (3-prong) AC outlet.



Press the power switch to turn on the power.

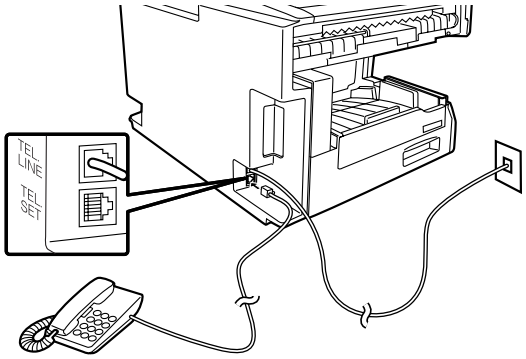
Note: If your area experiences a high incidence of lightning or power surges, we recommend that you install surge protectors for the power and telephone lines. Surge protectors can be purchased at most telephone specialty stores.

② **Connecting the telephone line cord**
Insert one end of the line cord into the jack on the back of the machine marked **TEL. LINE.** Insert the other end into a standard (RJ11C) single-line wall telephone jack.

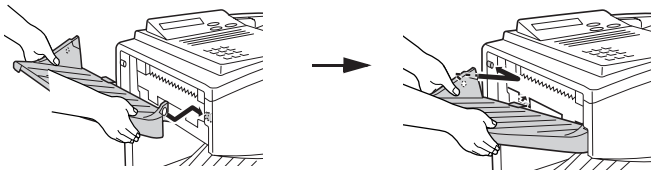


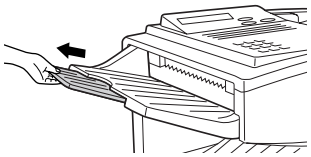
Note: The fax machine is set for touch-tone dialing. If you are on a pulse dial (rotary) line, you must set the fax machine for pulse dialing by changing Option Setting 22.

③ **Connecting a telephone (optional)**
If desired, you can connect a telephone to the **TEL. SET** jack on the back of the machine.



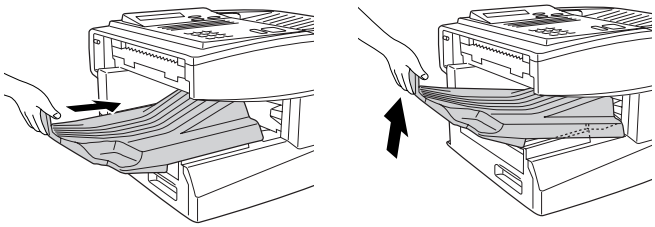
④ **Attaching the document OUT tray**
Insert the protrusion on the right side of the machine into the hole in the right side of the document OUT tray as shown, then bend the tray slightly and insert so that the protrusion on the left side of the machine goes into the hole on the left side of the document OUT tray.





Pull out the tray extension.

⑤ **Attaching the received document tray**
Slide the received document tray into the machine as shown. When it stops, lift the end slightly and push in so that the tray locks into place.



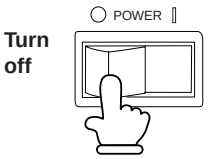
Important! The received document tray must be attached for the fax machine to operate properly.

⑥ **Connection to a computer (Option : FO-47IF)**
Note: This function is available as an option. If you wish to use it, consult your dealer to have the PC interface board installed.

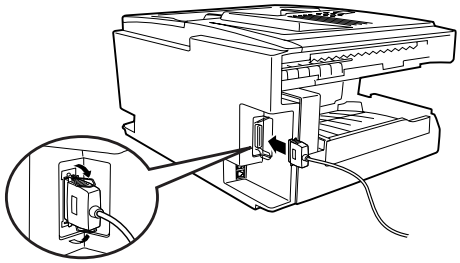
If desired, you can connect the fax machine to the parallel port of any compatible computer. Once you have installed the provided printer software in your computer, you will be able to use the fax machine as a laser printer for your computer.

Important! Use only the provided IEEE P1284 parallel cable to connect the fax machine to your computer.

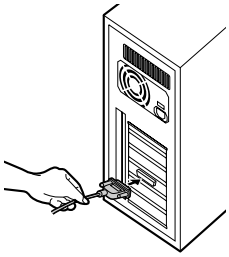
1) Make sure your computer and the fax machine are both turned off.



2) Connect one end of the cable to the port on the fax machine. Snap the clips on each side of the port onto the cable connector to secure it.

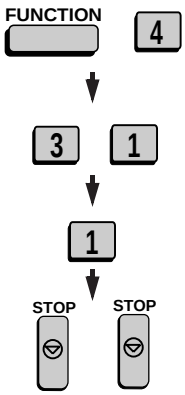


3) Connect the other end of the cable to the parallel port on the back of your computer.



4) Press the panel keys as shown to set Option Setting 31(PC Interface Mode) to ON.

- Before you can use the fax machine as a printer, you must also install the printer software. To install the software, see the documentation that accompanies it.



Note: The message PC PRINTING will appear in the display when the fax machine prints a print job from your computer. While this message appears, you will not be able to use the operation panel of the fax machine.

⑦ **Verification Stamp (Option : FO-45VS)**
Note: This function is available as an option. Consult your dealer if you wish to use it.

When transmitting a document, you can have your fax stamp each document page as it is scanned. After scanning, you can check to see if all documents have been stamped to verify that no double feeds occurred. (A double feed is when two pages are fed through the scanner at once, which means that one of the pages is not scanned.)

To use this function, have your dealer install the Verification Stamp option, and then set Option Setting 29 to ON.

4.Loading Printing Paper

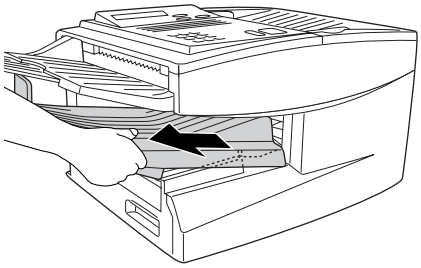
You can load up to 250 sheets of letter or legal paper (max. 20 lbs.) in the paper tray. You can load up to 500 sheets of paper in the paper cassette.

The paper cassette is available as an option.
To have the cassette installed, consult your dealer.

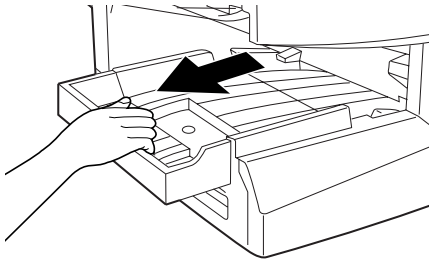
Note: To use A4 paper in the paper cassette, you must have a service technician adjust the cassette.

① **Loading paper in the paper tray**

1) Remove the received document tray.

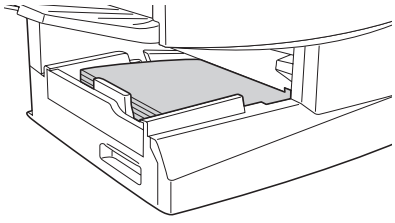


2) If you are loading legal paper, grasp the end of the paper tray and pull it out.



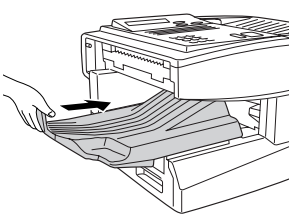
3) Insert a stack of paper into the tray, print side up.

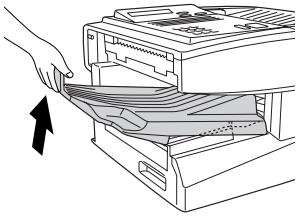
- If you loaded letter paper, make sure the end of the tray is pushed in. Otherwise a size error will result.



4) Replace the received document tray.

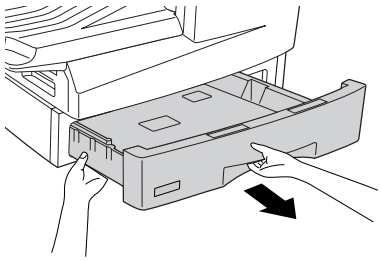
- The received document tray must be attached for the fax machine to operate properly.



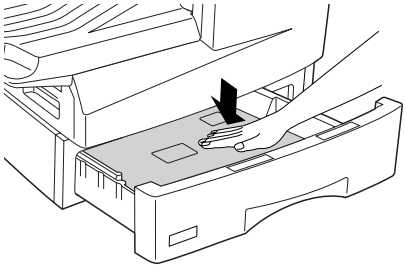


②Loading paper in the paper cassette (Option : FO-47UC)

1) Grasp the hand-hold on the cassette and pull out the cassette until it stops.

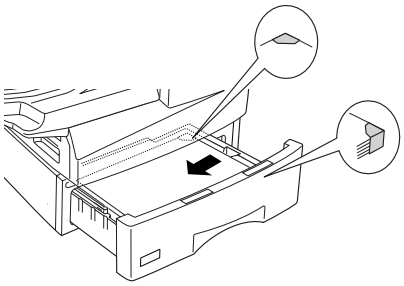


2) Push the pressure plate down until it locks into position.

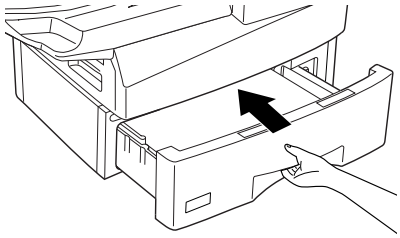


3) Place a stack of paper in the cassette, print side up.

- Make sure the stack of paper is not higher than the two tabs on the green paper guide and the metal tab. If it is, remove some of the paper.



4) Push the cassette back into the machine, making sure it clicks into place.



5. Clearing a jammed document

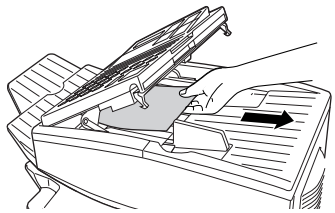
If the original document doesn't feed properly during transmission or copying, or REMOVE ORIGINAL(S) appears in the display, first try pressing the **START** key. If the document doesn't feed out, open the operation panel and remove it.

Important! Do not try to remove a document without opening the operation panel. This may damage the feeder mechanism.

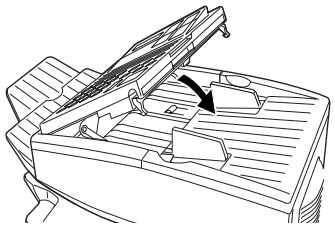
①Open the operation panel.

- Squeeze the release marked **PANEL RELEASE** and pull up.

② Remove the document.



③ Close the operation panel, making sure it clicks into place.



6. Clearing a jammed printing paper

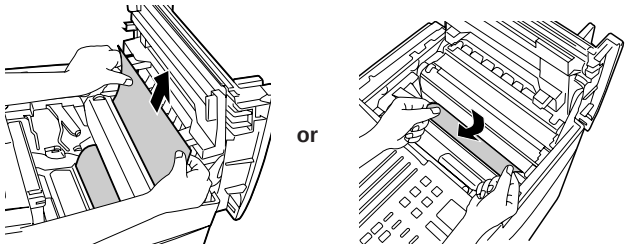
If the printing paper jams, PAPER JAM will appear in the display. Follow the steps below to clear the jam.

① Press the green release and open the print compartment cover.

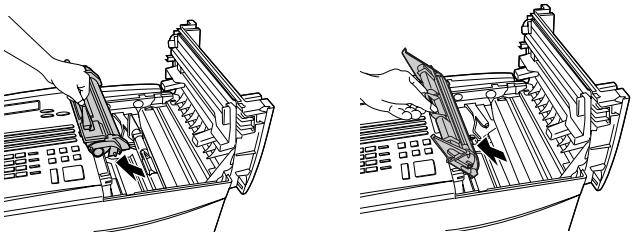
- **Caution!** The fusing unit inside the print compartment becomes very hot during operation. Be careful not to touch the inside of the compartment.

② If the jammed paper is visible in the print compartment, pull it out.

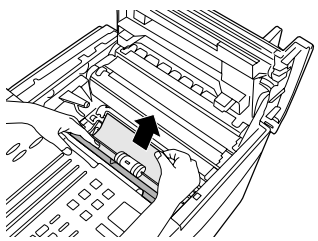
- Make sure no torn pieces of paper remain in the print compartment and rollers.



③ If the jammed paper isn't visible, remove the toner cartridge and then the drum cartridge.



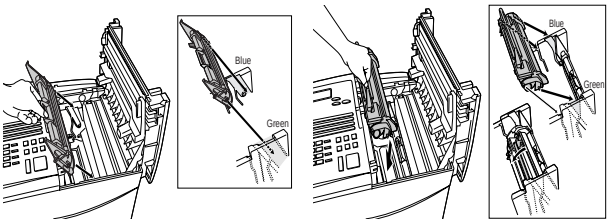
④ Open the black cover (hinged on the left) at the bottom of the compartment. If jammed paper is visible, remove it.



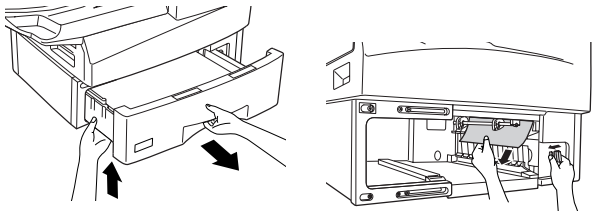
⑤ Close the black cover. Reinsert the drum cartridge and then the toner cartridge.

- Insert the drum cartridge and toner cartridge by aligning the colored numbers on the cartridges with their corresponding colored numbers on the sides of the print compartment.

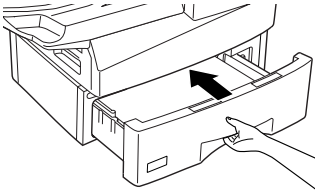
- When finished, close the print compartment cover.



⑥ If you have a paper cassette and the display still indicates that paper is jammed, open the cassette and remove the jammed paper.



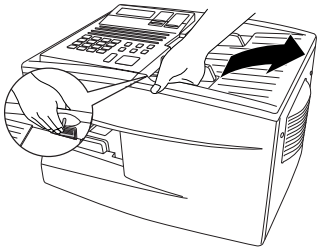
⑦ Replace the paper cassette.



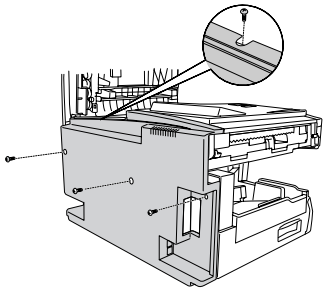
7. Instructions for installing the FO-47UC paper cassette

Important! Be sure to turn off the power and unplug the power cord before proceeding.

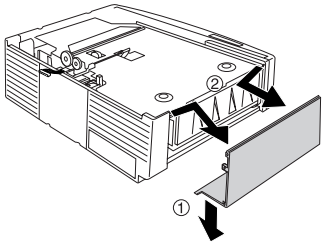
① Remove the document OUT tray (if attached). Press the green release and open the print compartment cover.



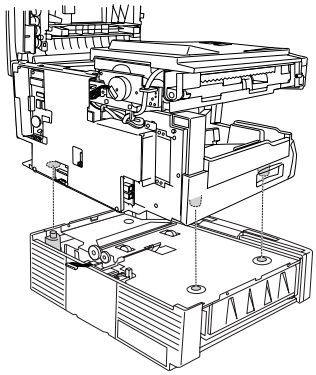
② Remove the screws (4) that secure the rear cover and then remove the rear cover.



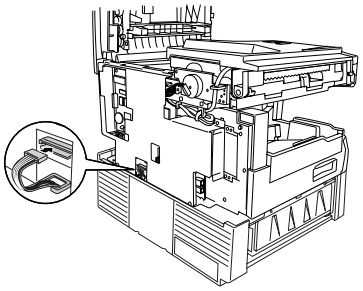
③ Pull down on the bottom edge of the side cover to release it from its catch, and then rotate the bottom edge up slightly (no more than 30°). Rehold the cover at the sides, bend it in slightly, and remove it.



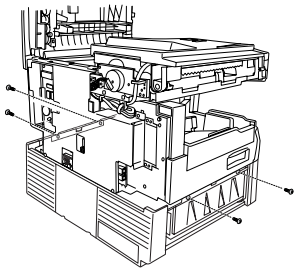
④ Pull out the connector so that it hangs over the edge of the cassette. Place the unit on the cassette, making sure that the studs go into the holes.



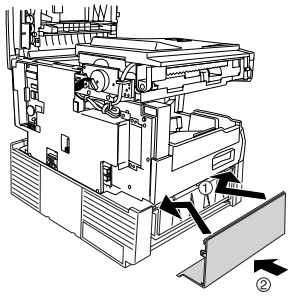
⑤ Insert the connector wires into their holder in the edge of the base plate of the unit, and then insert the connector into its socket on the printed circuit board (the white connector wire should be on the right).



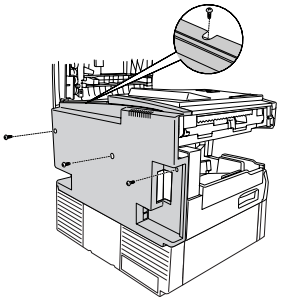
⑥ Secure the cassette to the base plate of the unit with the 4 screws as shown.



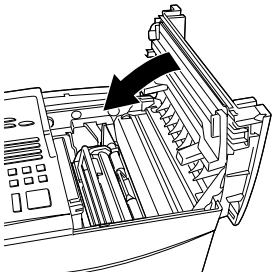
⑦ Reattach the cassette side cover.



⑧ Reattach the rear cover, securing it with the 4 screws.



⑨ Close the print compartment cover and reattach the document OUT tray.



[5] Quick reference guide

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

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 → Dial (press numeric keys) → START
Rapid Key Dialing	Load document → RESOLUTION → Press Rapid Key
Speed Dialing	Load document → RESOLUTION → 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

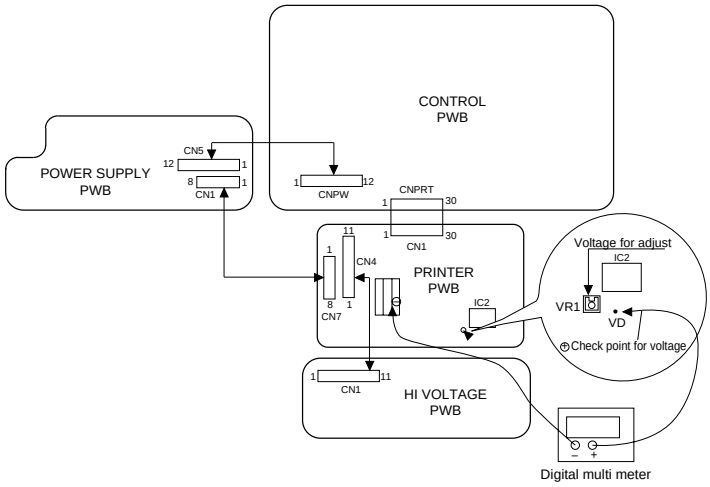


Fig. 1

Output	Voltage limits
+5V MAIN	4.845V~5.355V
+5V SUB	4.845V~5.355V
+24V MAIN	23.04V~24.96V
+24V SUB	23.04V~24.96V

Connector No. / Pin No.	CN4 / CN1
1	11 +5V
2	10 HV C HL
3	9 T VR
4	8 T REM
5	7 T MON
6	6 B MON
7	5 B VR
8	4 C REM
9	3 C MON
10	2 MG
11	1 +24

Connector No. / Pin No.	CN5 / CNPW
1	+24V SUB
2	MG
3	MG
4	MG
5	+24V MAIN
6	+24V MAIN
7	+5V SUB
8	DG
9	DG
10	DG
11	+5V MAIN
12	+5V MAIN

Connector No. / Pin No.	CN1 / CN7
1	24 MAIN
2	MG
3	DG
4	5V MAIN
5	HEATER ON
6	FAN
7	FAN LOCK
8	H RELAY OFF

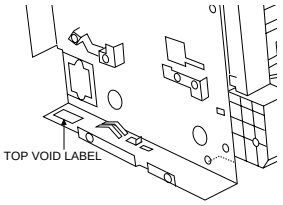


Fig. 2

ADJUST VOLTAGE LIST

Top Void Printer Label (mm.) Fig. 2	Adjust Voltage VR1 Fig. 1
5.5~6.9	4.42V
7.0~8.9	3.87V
9.0~10.9	3.14V
11.0~12.9	2.50V
13.0~14.9	1.86V
15.0~17.0	1.22V

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:

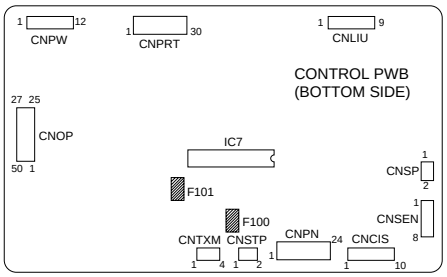


Fig. 3

(1) F100 (ICPS10) is installed in order to protect IC's from and overcurrent generated in the verification stamp drive circuit. If F100 is open, replace it with a new one.

(2) F101 (ICPS18) is installed in order to protect IC's from an overcurrent generated in the TX motor drive circuit. If F101 is open, replace it with a new one.

In addition to the replacement of F101 and F100, the factor causing F101 and F100 to open must also be repaired. If not, F101 and F100 will open again.

Replacement parts

ICPS10 (Sharp code: VHViCPS10//-1)
ICPS18 (Sharp code: VHViCPS18//-1)

3. 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".

(step 1) Select "OPTION SETTING".

KEY: [FUNCTION] (4)

DISPLAY: [4:OPTIONAL SETTING / ENTER #(01-34,✳,#)]

(step 2) Select "DIAL MODE".

KEY: (2)(2)

DISPLAY: [DIAL MODE] ⇔ [1=TONE, 2=PULSE]

Cursor
When initially registering, the mode shows 1=TONE. When registering again, the mode which was registered formerly is shown.

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

KEY: (1)

DISPLAY: [TONE SELECTED]

KEY: (2)

DISPLAY: [PULSE SELECTED]

(step 4) End, using the "STOP" key.

KEY: [STOP]

[2] Diagnostics and service soft switches

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.

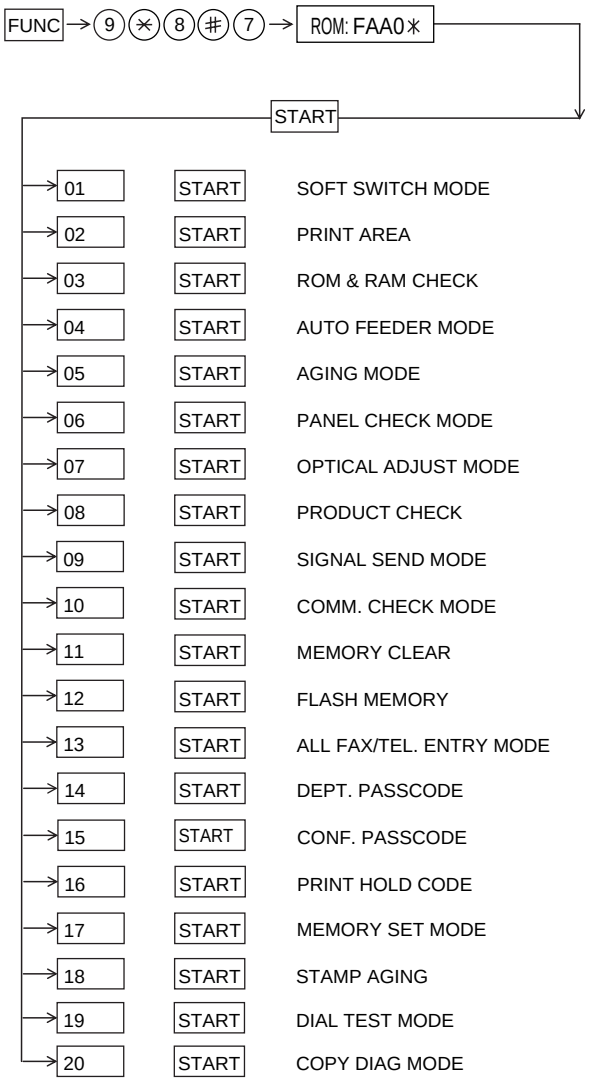
ROM: FAA0✳

FAA0✳

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

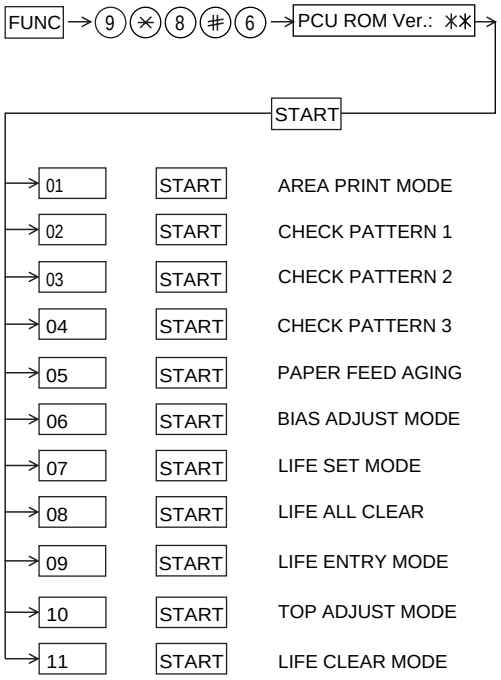
Press FUNC → 9 → ✳ → 8 → # → 6 , and the following display will appear.

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)



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.

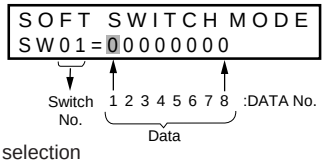
2. Diagnostic items description

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



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 and the error buzzer will sound.

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.

- Switching ON/OFF of ECM during the use of image memory.
- Switching OFF to ON of the print hold function when the print hold pass code has not yet been registered.
- Clearing the print hold pass code when print hold function is ON.
- Switching ON/OFF of the print hold function during the use of memory such as in the case of substitute receiving.
- 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 communication (including the batch communication) is set.)
  Here, the memory is usable when the telephone billing code function 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.
- Switching ON/OFF of PC interface function during the use of image memory.
- 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, registration 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

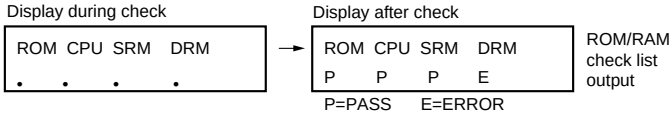
According to the size of the specified sheet, the effective printing area is printed.

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>	ROM	Main
2 times <Short sounds>	Integrated ROM	Main
3 times <Short sounds>	SRAM	Main
4 times <Short sounds>	D-RAM	Main

For the short and long sounds, one pattern is as follows.
Main system: 0.5 seconds ON/0.5 seconds OFF
Sub system: 1.00 second ON/0.5 seconds OFF
The execution state of checking is as follows. Moreover, the list of the check result is output after checking is ended.

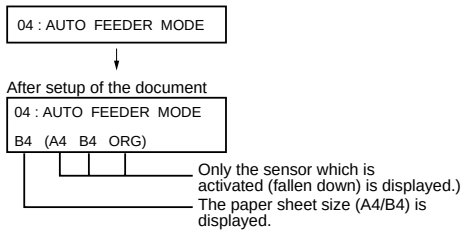


4) Auto feeder mode

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 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 matter 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 execution, the document reading lamp is turned on.
Test results are printed. (The maximum 100 input keys can be printed .)
LED repeats lighting at regular intervals in sequence. (Lighting speed is specified separately.)
In case of inputting all keys, key input OK is displayed when finishing the STOP key.
When pressing the NUMERIC key during panel check, output of DTMF corresponding with the key is started.
When pressing other keys, output is stopped.

7) Optical adjust mode

Set documents and press the START key for ordinary copying.
According to key operation, copying can be temporarily stopped.
STOP key: To temporarily stop reading documents.
START key: To start reading documents again.
When any document is not set, print area printing is performed.

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 feeding the B4 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 auto feed

⑤ ROM & RAM test check (Same as the Diagnosis 03)

⑥ Flash memory test mode (Same as Diagnosis 12)

⑦ 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

⑧ Transmission check (Same as Diagnosis 10)
The soft switches necessary for production are set.

⑨ Test result print (one sheet)

Memory clear printing
Panel test result printing
ROM & RAM test result printing

⑩ 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.

[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 line equivalence at 0 km.

After the check, it is necessary to be sure to return the aforementioned 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
9 times <Short sounds>	Flash memory(Option)

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.

① The diagnosis mode is activated. If anything is not registered in the Rapid number 01 or any program or group is not registered, it will pass the diagnosis without doing anything.

② The FAX/TEL number (including the substitutive destination) of the Rapid number 01 is copied to the Rapid numbers 02 thru 48.

③ FAX number of the Rapid number 01 is copied to SPEED key numbers 001 thru 200.

④ If any chain dial is not in the Rapid number, the Rapid numbers 02 thru 48 and SPEED key numbers 001 thru 200 are registered in the group number 01.
If any chain dial is set, the group will be not produced but the chain dial setting alone of the Rapid number 01 will be reset.
(In all others except the Rapid number 01, the chain dials will be continuously set as they are.)

Rapid key	RXX	XX	: Rapid number
SPEED key	SXXX	XXX	: Speed key number

(16th and subsequential letters of the destination name registered in the Rapid number 01 will be discarded.)

14) Dept. passcode

The department passcode list is printed.

15) 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.

16) Print hold code

The print lockout passcode No. is printed.

17) 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 (RAPID 01 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, writing/ 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.

18) Stamp aging

Diag mode is left though it doesn't have this function.

19) 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 sending 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.

20) 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 provided.

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.)

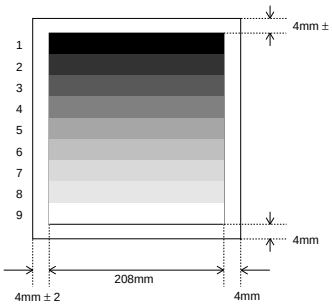
2. Try the copy in the mode fixed at COPY REDUCE 95% and fine mode/density AUTO. At this time, don't change the soft key of COPY REDUCE. (Input of the image quality/density key is invalid.)

3. Continuously try the above items 1 and 2.

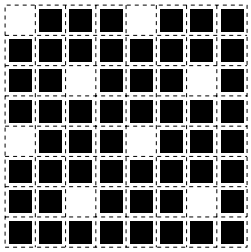
2-2. Print diagnosis

Rapid key 01: Area print mode

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

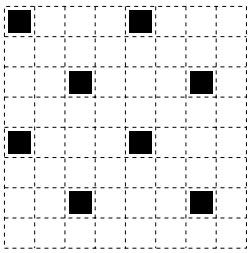


1. [Full black pattern]
2. [Intermediate tone 2 pattern]



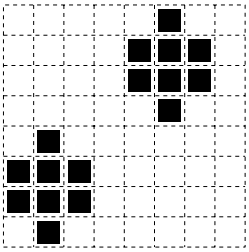
The left pattern is repeated.

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. [Longitudinal strip 1 pattern]
   Black 1 dot and white 1 dot are repeated in line.
8. [Lateral strip 1 pattern]
   Black 1 line and white 1 line are repeated.
9. [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 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 06: Bias adjust mode

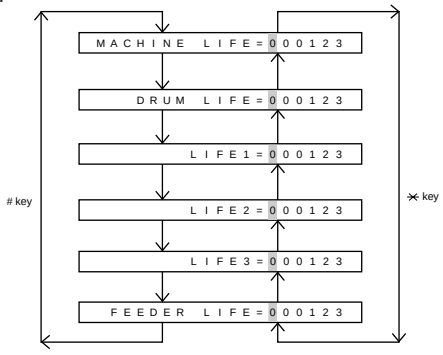
The mode is used to adjust the printing density of the printed image. The image printing density is adjustable in seven steps of 1 to 7.
For details, refer to the following table. (For selection, use the keys 1 thru 7.)

Image printing density	Thin ←					→	Thick
	1	2	3	4	5	6	7
Default value				◎			

Rapid key 07: 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.
Five 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:
This counter indicates the printer use conditions such as numbers of printed pages from the beginning of use. In the normal memory clear condition, the counter will not be reset.
In conditions including damaged memory contents caused by repairing the panel, this counter should be reset or cleared in addition to the ordinary memory clear.

Rapid key 08: Life all clear

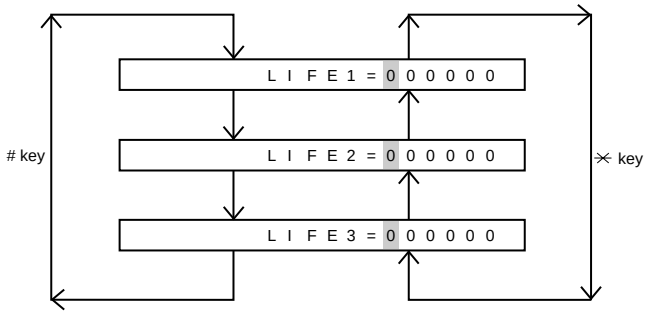
The mode is used to clear the life counter of the printer of the counter of the auto feeder.

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. Accordingly, it is necessary 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 others). The ordinary memory does not reset the counter. 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.)

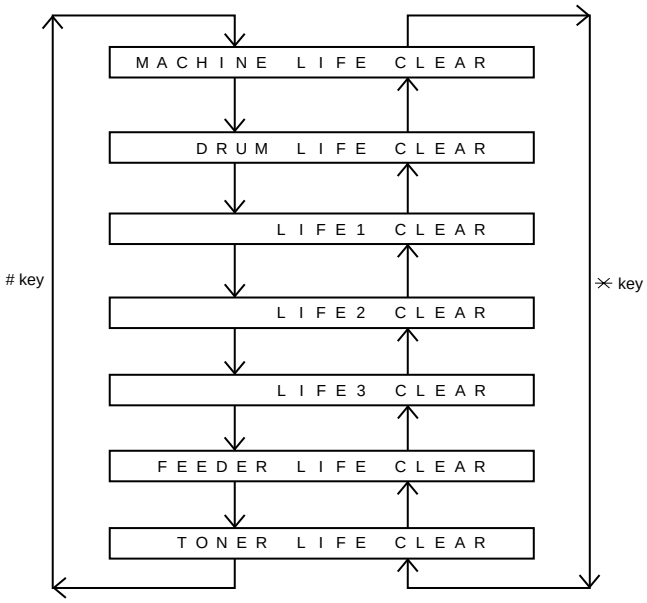
Rapid key 10: Top adjust mode

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, adjustment 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.

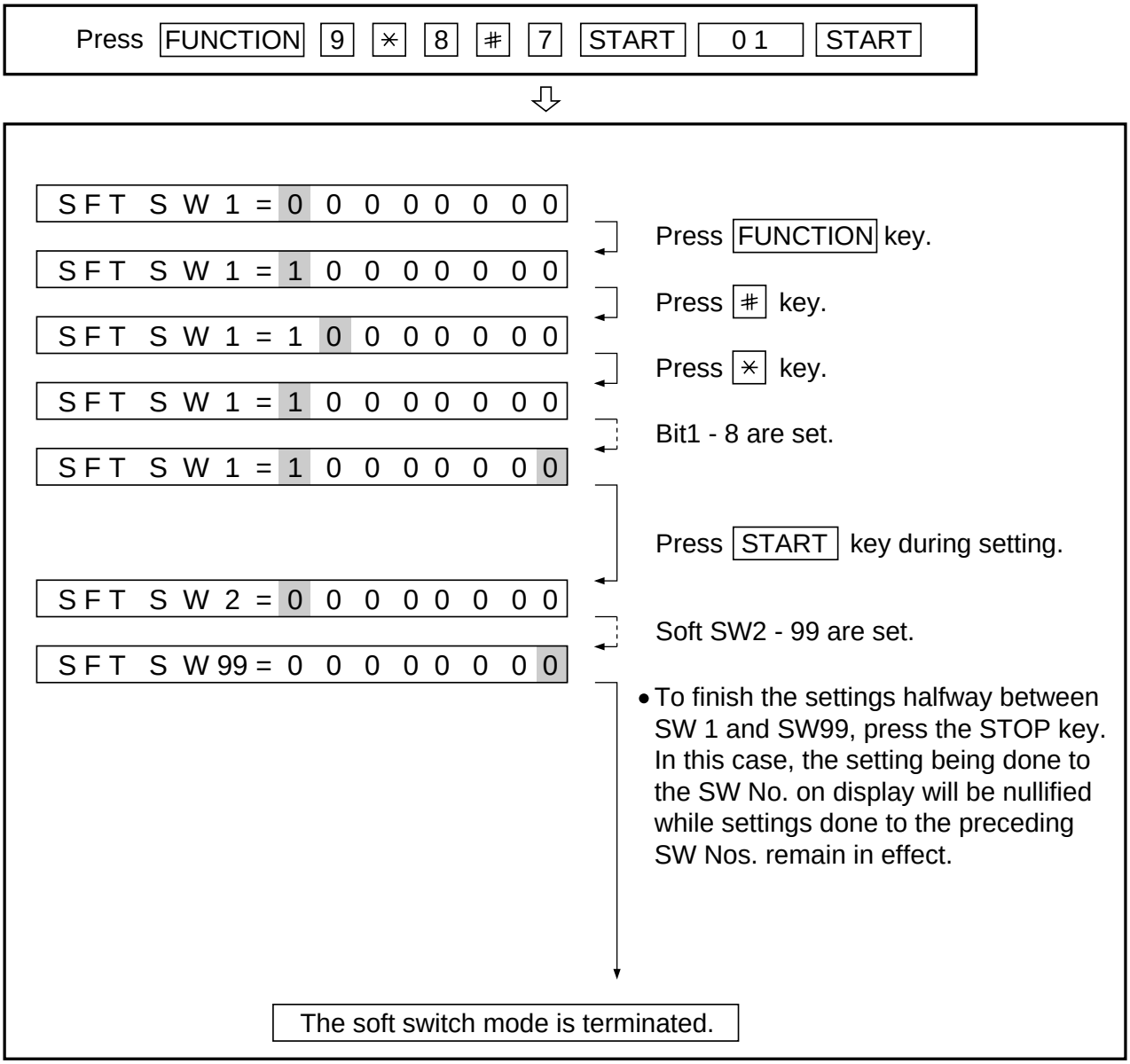


② In the state ①, input the CLEAR key, and the counter will be respectively cleared.

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 soft switch mode, make the following key entries in sequence.



4. Soft switch description

• Soft switch

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	Set to 0~14
	7		EX 0 0 1 0						1	
	8		eg. Recall attempt times is set to 2 times.						0	
SW2	1	Dial 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 0~9
	3		EX 0 0 0 1						0	
	4		eg. Number of rings for auto receive is set to 1 time.						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 0~9
	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	Reserved											0	
	2	Reserved											0	
	3	MMR	On						Off				1	
	4	MR	On						Off				1	
SW6		Modem speed		V.33		V.17				V. 29		V. 27ter		
				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 ignored.
	1		No. 1		0	1		0		1			0	
	2		No. 2		0	1		1		0			0	
	3	DIS receive acknowledge during 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	CNG send in manual transmission	On			Off							1	
	6	Protocol monitor	On			Off							0	
	7	Line monitor	On			Off							0	
	8	Max. length for TX/RX/Copy	TX: unlimited, RX: unlimited			TX/Copy: 1.0m, RX: 1.5m							0	
		Compromised equalizer			0Km	1.8Km		3.6Km		7.2Km				Valid when transmitting
	1		No. 1		0	0		1		1			0	
	2		No. 2		0	1		0		1			1	
	3	H2 mode	No			Yes							0	
SW8	4	Signal transmission level	Binary input 16 8 4 2 1										0	
	5		No. = 4 5 6 7 8 (Data No.)										1	
	6		EX 0 1 0 1 0										0	
	7		eg. Signal transmission level is set to -10dBm										1	
	8												0	

SW NO.	DATA NO.	ITEM	Switch setting and function					Initial setting	Remarks
			1		0				
SW9		CED tone signal interval		75ms	500ms	750ms	1000ms		
	1		No. 1	0	0	1	1	0	
	2		No. 2	0	1	0	1	0	
	3	Equalization freeze	On		Off			0	
	4	Equalization freeze conditions	All		7200bps			0	
	5	CED detection time	500ms		1000ms			0	
		Alarm buzzer		3sec	1sec	No BEEP	No BEEP		
	6		No. 5	0	0	1	1	0	
	7		No. 6	0	1	0	1	0	
	8	Action when RTN received	Not Error		Error			0	
SW10	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 1 0					1	
	8							0	
SW11	1	Reserved						1	
	2	Reserved						1	
	3	Reserved						1	
	4	Reserved						0	
	5	Reserved						1	
	6	Reserved						1	
	7	Reserved						1	
	8	Reserved						0	
SW12	1	Reserved						0	
	2	Reserved						0	
	3	Reserved						0	
		EOL detection timer		13sec	25sec	5sec	5sec		
	4		No. 4	0	0	1	1	0	
	5		No. 5	0	1	0	1	0	
		To process in case of DIS reception after DIS transmission		Retransmitting command	Breaking circuit	T.30	T.30+α		
	6		No. 6	0	0	1	1	0	
	7		No. 7	0	1	0	1	0	
	8	To switch from DP to PB	Yes		No			0	
SW13	1	DTMF output level (High)	Binary input 16 8 4 2 1					0	
	2		No. = 4 5 6 7 8 (Data No.) n = 0.5dBm					0	
	3		EX 0 0 1 1 0					1	
	4		eg. Signal transmission level is set to -10dBm					1	
	5							0	
	6	Reserved						0	
	7	Reserved						0	
	8	Reserved						0	
SW14	1	DTMF output level (Low)	Binary input 16 8 4 2 1					0	
	2		No. = 4 5 6 7 8 (Data No.) n = 0.5dBm					1	
	3		EX 0 1 0 0 1					0	
	4		eg. Signal transmission level is set to -10dBm					0	
	5							1	
	6	Reserved						0	
	7	Reserved						0	
	8	Reserved						0	

SW NO.	DATA NO.	ITEM	Switch setting and function										Initial setting	Remarks
			1					0						
SW15	1	Reserved											0	
	2	Dial tone detection (before auto dial)	No					Yes					0	
	3	Busy tone detection (after auto dial)	No					Yes					0	
	4	Reserved											0	
	5	Reserved											0	
	6	Reserved											0	
	7	Reserved											0	
	8	Reserved											0	
SW16		CI Signal frequency	(Hz)	11.6-76.9	14.0-76.9	14.5-76.9	15.5-76.9	20.0-58.8	20.0-66.6	19.6-76.9	25.0-58.8	35.0-76.9		
	1		No. 1	0	0	0	0	0	0	0	0	1	0	
	2		No. 2	0	0	0	0	1	1	1	1	0	0	
	3		No. 3	0	0	1	1	0	0	1	1	0	0	
	4		No. 4	0	1	0	1	0	1	0	1	0	0	
		CI Signal OFF detect enable time	(ms)	200	300	350	400	500	700	1200				
	5		No. 5	0	0	0	0	0	0	0			0	
	6		No. 6	0	0	0	0	1	1	1			1	
	7		No. 7	0	0	1	1	0	0	1			0	
	8		No. 8	0	1	0	1	0	1	0			1	
SW17	1	Reserved											0	
	2	Reserved											0	
	3	Reserved											0	
	4	Reserved											0	
		Distinctive ringing		OFF	STD	RING1	RING2	RING3	RING4	RING5				
	5		No. 5	0	0	1	0	1	0	1			0	
	6		No. 6	0	0	0	1	1	0	0			0	
	7		No. 7	0	0	0	0	0	1	1			0	
	8		No. 8	0	1	0	0	0	0	0			0	
SW18	1	Reserved											0	
	2	Reserved											0	
	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											1	
	5	Reserved											1	
	6	Reserved											0	
	7	Reserved											0	
	8	Reserved											0	
SW20	1	Reserved											0	
	2	Reserved											0	
	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				
SW21	1	Reserved							1	
	2	Reserved							0	
	3	Reserved							0	
	4	Reserved							0	
	5	Reserved							1	
	6	Reserved							0	
	7	Reserved							0	
	8	Reserved							0	
SW22		DTMF detection time		50ms	80ms	100ms	120ms			
	1		No. 1	0	0	1	1		0	
	2		No. 2	0	1	0	1		0	
	3	Reserved							0	
	4	Reserved							0	
	5	Reserved							0	
	6	Reserved							0	
	7	Reserved							0	
	8	Reserved							0	
SW23	1	Reserved							0	
	2	Reserved							0	
	3	Reserved							0	
		To set busy tone detect frequency		520~640Hz	300~600Hz	380~500Hz	reserve	reserve		
	4		No. 4	0	0	0	0	1	0	
	5		No. 5	0	0	1	1	0	0	
	6		No. 6	0	1	0	1	0	0	
	7	Reserved							0	
	8	Reserved							0	
SW24	1	Reserved							0	
	2	Reserved							0	
	3	Reserved							0	
	4	Reserved							0	
	5	Reserved							0	
	6	Reserved							0	
	7	Reserved							0	
	8	Reserved							0	
SW25	1	Reserved							0	
	2	Reserved							0	
	3	Reserved							0	
	4	Reserved							0	
	5	Reserved							0	
	6	Reserved							0	
	7	Reserved							0	
	8	Reserved							0	
SW26	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				
SW27	1	F.A.S.T (RMS) mode	On			Off			0	
	2	Reserved							0	
	3	Verification STAMP	Yes			No			0	
	4	Summer time (Day light saving)	No			Yes			1	
		Key buzzer volume		Off		HIGH	MIDDLE	LOW		
	5		No. 5	0		0	1	1	1	
	6		No. 6	0		1	0	1	0	
	7	Reserved							0	
	8	Reserved							0	
SW28		Speaker volume		HIGH		HIGH	MIDDLE	LOW		
	1		No. 1	0		0	1	1	1	
	2		No. 2	0		1	0	1	1	
	3	Reserved							1	
	4	Reserved							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	
SW29	1	Reserved							0	
	2	PC I/F mode	On			Off			1	OPTION
	3	Reserved							0	
	4	Reserved							0	
	5	Reserved							0	
	6	Reserved							0	
	7	Reserved							0	
	8	Reserved							0	
SW30	1	To register senders	Disabled			Enabled			0	
	2	Reserved							0	
	3	Reserved							0	
	4	Reserved							0	
	5	Reserved							0	
	6	Reserved							0	
	7	Reserved							0	
	8	Quick on-line function	Yes			No			1	
SW31		Performance of detail paper cassettes		Manual	Auto-1	Auto-2	Auto-3			OPTION
	1		No. 1	0	0	1	1		0	
	2		No. 2	0	1	0	1		1	
		The first priority cassette		None	Tray	1st. Cass.	2nd. Cass.	Tray		OPTION
	3		No. 3	0	0	0	0	Other	0	It is effective only when No.31-1/2 are set up of manual
	4		No. 4	0	0	1	1	Combination	1	
	5		No. 5	0	1	0	1		0	
		The second priority cassette		None	Tray	1st. Cass.	2nd. Cass.	Tray		OPTION
	6		No. 6	0	0	0	0	Other	0	It is effective only when No.31-1/2 are set up of manual
	7		No. 7	0	0	1	1	Combination	1	
	8		No. 8	0	1	0	1		1	

SW NO.	DATA NO.	ITEM	Switch setting and function						Initial setting	Remarks
			1			0				
SW32		The third priority cassette		None	Tray	1st. Cass.	2nd. Cass.	Tray		OPTION
	1		No. 1	0	0	0	0	Other	0	It is effective only when No.31-1/2 are set up of manual
	2		No. 2	0	0	1	1	Combination	0	
	3		No. 3	0	1	0	1		1	
	4	Reserved							0	
	5	Reserved							0	
	6	Reserved							0	
	7	Reserved							0	
	8	Print hold function	On			Off			0	
SW33		Heater mode		Always on		Always off				OPTION
	1		No. 1	0		0			0	
	2		No. 2	0		1			1	
		Density adjustment of print bias	Binary input 4 2 1							set to 1~7.
	3		No. = 3 4 5 (Data No.) 1: faint ~ 7: deep						1	set to 0, is
	4		EX 1 0 0						0	equal to 4
	5		eg. Bias is set to level 4.						0	(100).
		Drum life limit	Near	19000pcs		15000pcs	15000pcs	16000pcs		
			Limit	20000pcs		16000pcs	20000pcs	20000pcs		
	6		No. 6	0		0	1	1	0	
	7		No. 7	0		1	0	1	0	
	8	Reserved							0	
SW34	1	Copy default resolution	Super fine			Fine			0	OPTION
	2	Reserved							0	
	3	Reserved							0	
	4	Reserved							0	
	5	Reserved							0	
	6	Reserved							0	
	7	Reserved							0	
	8	Reserved							0	
SW35	1	Reserved							0	
	2	Reserved							1	
	3	Reserved							1	
	4	Reserved							1	
	5	Reserved							0	
	6	Reserved							1	
	7	Reserved							1	
	8	Reserved							0	
SW36	1	Reserved							0	
	2	Reserved							0	
	3	Reserved							1	
	4	Reserved							0	
	5	Reserved							0	
	6	Reserved							0	
	7	Reserved							0	
	8	Reserved							1	
SW37	1	PC delay time after PC printing	Binary input 128 64 32 16 8 4 2 1						0	
	2	(n second)	No. = 1 2 3 4 5 6 7 8 (Data No.)						0	
	3		EX 0 0 0 0 0 1 1 0 (= 6 secs)						0	
	4								0	
	5								0	
	6								1	
	7								1	
	8								0	

SW NO.	DATA NO.	ITEM	Switch setting and function			Initial setting	Remarks
			1		0		
SW38	1	Reserved				0	
	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				0	
	3	Reserved				0	
	4	Reserved				0	
	5	Reserved				0	
	6	Reserved				0	
	7	Reserved				0	
	8	Reserved				0	
SW40	1	Reserved				0	
	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				0	
	4	Reserved				0	
	5	Reserved				0	
	6	Reserved				0	
	7	Reserved				0	
	8	Reserved				0	
SW42	1	Reserved				0	
	2	Reserved				0	
	3	Reserved				0	
	4	Reserved				0	
	5	Reserved				0	
	6	Reserved				0	
	7	Reserved				0	
	8	Reserved				0	
SW43	1	Reserved				0	
	2	Reserved				0	
	3	Reserved				0	
	4	Reserved				0	
	5	Reserved				0	
		Data reduction		AUTO	100%		
	6	(Prohibition of setting except Auto and 100%)	No. 6	0	1	0	
	7		No. 7	0	0	0	
	8		No. 8	0	0	0	
SW44	1	Automatic printing of activity report	Yes (When memory full)		No (First data is cleared when memory full)	0	OPTION
	2	Print out 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 set to 3 ~ 9
	6		No. = 5 6 7 8 (Data No.)			1	
	7		EX 0 1 0 0			0	
	8		eg. Department is set to level 4.			0	

SW NO.	DATA NO.	ITEM	Switch setting and function					Initial setting	Remarks
			1				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	Overseas communication mode selection function	Yes				No	0	
	5	Reserved						0	
		Reduce ratio when copy mode		AUTO			100%		
	6	(Prohibition of setting except Auto and 100%)	No. 6	0			1	1	
	7		No. 7	0			0	0	
	8		No. 8	0			0	0	
SW46	1	Reserved						0	
	2	Reserved						0	
		Density adjustment (when Fine/STD mode)		Normal	Faint	Deep	Deep (when Dark mode) ONLY		
	3		No. 3	0	0	1	1	0	
	4		No. 4	0	1	0	1	0	
		Density adjustment (when Half-tone mode)		Normal	Faint	Deep	Deep (when Dark mode) ONLY		
	5		No. 5	0	0	1	1	0	
	6		No. 6	0	1	0	1	0	
	7	MTF correction in Half-tone mode	On				Off	1	
	8	MTF correction (dimness correction) in Half-tone mode	Strong				Weak	0	
SW47	1	Cassette define LTR/A4:Tray	A4				LTR	0	
	2	Cassette define LTR/A4:Upper	A4				LTR	0	
	3	Cassette define LTR/A4:Lower	A4				LTR	0	
	4	Reserved						0	
	5	Reserved						0	
	6	Reserved						0	
	7	Reserved						0	
	8	Reserved						0	
SW48	1	Reserved						1	
	2	Reserved						0	
	3	Reserved						0	
	4	Reserved						0	
	5	Reserved						0	
	6	Reserved						0	
	7	Reserved						0	
	8	Reserved						1	
SW49	1	Secure billing code	Yes				No	0	
	2	Pause with Z key	Yes				No	0	
	3	Reserved						0	
	4	Z key pause time (250ms unit)	Binary input 16 8 4 2 1					0	
	5		No. = 4 5 6 7 8 (Data No.)					0	
	6		EX 0 0 0 0 0					0	
	7		eg. Pause time 250ms					0	
	8		time = (n+1) x 250ms					0	
SW50	1	Separate feature	On				Off	0	
	2	Reserved						0	
	3	Reserved						0	
	4	Reserved						0	
	5	Adding header to lists	Yes				No	0	
	6	DTMF output by PANEL TEST	On				Off	0	
	7	Power save system	Real time				Timer	1	
	8	Reserved						0	

SW NO.	DATA NO.	ITEM	Switch setting and function		Initial setting	Remarks
			1	0		
SW51	1	Reserved			0	
	2	Reserved			0	
	3	Reserved			0	
	4	Reserved			0	
	5	Reserved			0	
	6	Reserved			0	
	7	Reserved			0	
	8	Reserved			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			0	
	2	Reserved			0	
	3	Reserved			0	
	4	Reserved			0	
	5	Reserved			0	
	6	Reserved			0	
	7	Reserved			0	
	8	Reserved			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			1	
	4	Reserved			0	
	5	Reserved			0	
	6	Reserved			1	
	7	Reserved			0	
	8	Reserved			1	
SW62	1	Reserved			0	
	2	Reserved			0	
	3	Reserved			0	
	4	Reserved			1	
	5	Reserved			0	
	6	Reserved			0	
	7	Reserved			0	
	8	Reserved			0	
SW63	1	Reserved			0	
	2	Reserved			1	
	3	Waiting time after dialing	90 sec	Depends on each country's specifications	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			1	
	6	Reserved			1	
	7	Reserved			0	
	8	Reserved			1	
SW66	1	Reserved			1	
	2	Reserved			1	
	3	Reserved			0	
	4	Reserved			1	
	5	Reserved			1	
	6	Reserved			1	
	7	Reserved			0	
	8	Reserved			1	
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	Reserved			0	
	2	Reserved			0	
	3	Reserved			0	
	4	Reserved			0	
	5	Reserved			0	
	6	Reserved			0	
	7	Reserved			0	
	8	Reserved			0	
SW70	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		
SW71	1	Reserved			0	
	2	Reserved			0	
	3	Reserved			0	
	4	Reserved			0	
	5	Reserved			0	
	6	Reserved			0	
	7	Reserved			0	
	8	Reserved			0	
SW72	1	Reserved			0	
	2	Reserved			0	
	3	Reserved			0	
	4	Reserved			0	
	5	Reserved			0	
	6	Reserved			0	
	7	Reserved			0	
	8	Reserved			0	
SW73	1	Reserved			0	
	2	Reserved			0	
	3	Reserved			0	
	4	Reserved			0	
	5	Reserved			0	
	6	Reserved			0	
	7	Reserved			0	
	8	Reserved			0	
SW74	1	Reserved			0	
	2	Reserved			0	
	3	Reserved			0	
	4	Reserved			0	
	5	Reserved			0	
	6	Reserved			0	
	7	Reserved			0	
	8	Reserved			0	
SW75	1	Reserved			0	
	2	Reserved			0	
	3	Reserved			0	
	4	Reserved			0	
	5	Reserved			0	
	6	Reserved			0	
	7	Reserved			0	
	8	Reserved			0	
SW76	1	Reserved			0	
	2	Reserved			0	
	3	Reserved			0	
	4	Reserved			0	
	5	Reserved			0	
	6	Reserved			0	
	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	

SW NO.	DATA NO.	ITEM	Switch setting and function		Initial setting	Remarks
			1	0		
SW78	1	Reserved			0	
	2	Reserved			0	
	3	Reserved			0	
	4	Reserved			0	
	5	Reserved			0	
	6	Reserved			0	
	7	Reserved			0	
	8	Reserved			0	
SW79	1	Reserved			0	
	2	Reserved			0	
	3	Reserved			0	
	4	Reserved			0	
	5	Reserved			0	
	6	Reserved			0	
	7	Reserved			0	
	8	Reserved			0	
SW80	1	Reserved			0	
	2	Reserved			0	
	3	Reserved			0	
	4	Reserved			0	
	5	Reserved			0	
	6	Reserved			0	
	7	Reserved			0	
	8	Reserved			0	
SW81	1	Reserved			0	
	2	Reserved			0	
	3	Reserved			0	
	4	Reserved			0	
	5	Reserved			0	
	6	Reserved			0	
	7	Reserved			0	
	8	Reserved			0	
SW82	1	Reserved			0	
	2	Reserved			0	
	3	Reserved			0	
	4	Reserved			0	
	5	Reserved			0	
	6	Reserved			0	
	7	Reserved			0	
	8	Reserved			0	
SW83	1	Reserved			0	
	2	Reserved			0	
	3	Reserved			0	
	4	Reserved			0	
	5	Reserved			0	
	6	Reserved			0	
	7	Reserved			0	
	8	Reserved			0	
SW84	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		
SW85	1	Reserved			0	
	2	Reserved			0	
	3	Reserved			0	
	4	Reserved			0	
	5	Reserved			0	
	6	Reserved			0	
	7	Reserved			0	
	8	Reserved			0	
SW86	1	Reserved			0	
	2	Reserved			0	
	3	Reserved			0	
	4	Reserved			0	
	5	Reserved			0	
	6	Reserved			0	
	7	Reserved			0	
	8	Reserved			0	
SW87	1	Reserved			0	
	2	Reserved			0	
	3	Reserved			0	
	4	Reserved			0	
	5	Reserved			0	
	6	Reserved			0	
	7	Reserved			0	
	8	Reserved			0	
SW88	1	Reserved			0	
	2	Reserved			0	
	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	

SW NO.	DATA NO.	ITEM	Switch setting and function		Initial setting	Remarks
			1	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	
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	

SW NO.	DATA NO.	ITEM	Switch setting and function		Initial setting	Remarks
			1	0		
SW97	1	Reserved			0	
	2	Reserved			0	
	3	Reserved			0	
	4	Reserved			0	
	5	Reserved			0	
	6	Reserved			0	
	7	Reserved			0	
	8	Reserved			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			1	
	8	Reserved			1	

• 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 Dial 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. 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 JUNK-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 it was set to 0 accidentally, receive ring is set to 1. If it was above 9, receive rings are set to 9.

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

This setting allows machine to switch from manual to Auto Receive mode. Setting this number to 0 forces machine to stay in 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.

0: DAY-Month-Year

1: Month-DAY-Year

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 ex-hausted 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 conditions

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, No. 2 Reserved

Set to "0".

SW6 No. 3 MMR

MMR (Modified MR) selects presence of the compression function.

SW6 No. 4 MR

MR (Modified READ) selects presence of the compression function.

SW6 No. 5 ~ No. 8 Modem speed

Used to determine the initial modem speed. The default is 14400BPS(V.17). 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 V.29 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 CNG send in manual transmission

CNG signal sending ON/OFF in case of manual transmission is set.

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 printed out. When data is received with the line monitor (SW7-No. 7) set to "1" the reception level is also printed 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 H2 mode

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

SW8 No. 4 ~ No. 8 Signal transmission level

Used to control the signal transmission level in the range of –0dB to –31dB.

SW9 No. 1, No. 2 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. 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 an 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 CED detection time

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

SW9 No. 6, No. 7 Alarm buzzer

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

SW9 No. 8 Action when RTN received

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

SW10 No. 1 ~ No. 4 Memory retransmission times

The number of memory retransmissions is set.

SW10 No. 5 ~ No. 8 Memory retransmission interval

The interval between memory retransmissions is set.

SW11 No. 1 ~ No. 3 Reserved

Set to "1".

SW11 No. 4 Reserved

Set to "0".

SW11 No. 5 ~ No. 7 Reserved

Set to "1".

SW11 No. 8 Reserved

Set to "0".

SW12 No. 1 ~ No. 3 Reserved

Set to "0".

SW12 No. 4, 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.

SW12 No. 6, No. 7 To process in case of DIS reception after DIS transmission

When receiving , operation in case of DIS reception after DIS transmission is selected.
Retransmitting command: To retransmit DIS in disregard of DIS reception.
Breaking circuit: To break circuit instantly. (Abnormal finish)
T. 30: To operate in accordance with T.30.
T. 30+α: To operate in accordance with T.30+α. (To operate differently according to cases.)

SW12 No. 8 To switch from DP to PB

When setting to 1, the mode is changed by pressing the ✳ key from the pulse dial mode to the tone dial mode.

SW13 No. 1 ~ No. 5 DTMF output level (High)

To set the level to output high group DTMF signals. –15 to 0 dBm (0.5 dBm unit)

SW13 No. 6 ~ No. 8 Reserved

Set to "0".

SW14 No. 1 ~ No. 5 DTMF output level (Low)

To set the level to output low group DTMF signals. –15 to 0 dBm (0.5 dBm unit)

SW14 No. 6 ~ No. 8 Reserved

Set to "0".

SW15 No.1 Reserved

Set to "0".

SW15 No. 2 Dial tone detection (before auto dial)

This is used to set YES/NO of dial tone detection in auto dialing.

SW15 No. 3 Busy tone detection (after auto dial)

This is used to set busy tone detection in auto dialing.

SW15 No.4 ~ No. 8 Reserved

Set to "0".

SW16 No. 1 ~ No. 4 CI Signal frequency

To set the band width of CI signals.

SW16 No. 5 ~ No. 8 CI signal OFF detect enable time

Used to set the continuous detection time during OFF period of CI signal.

SW17 No. 1 ~ No. 4 Reserved

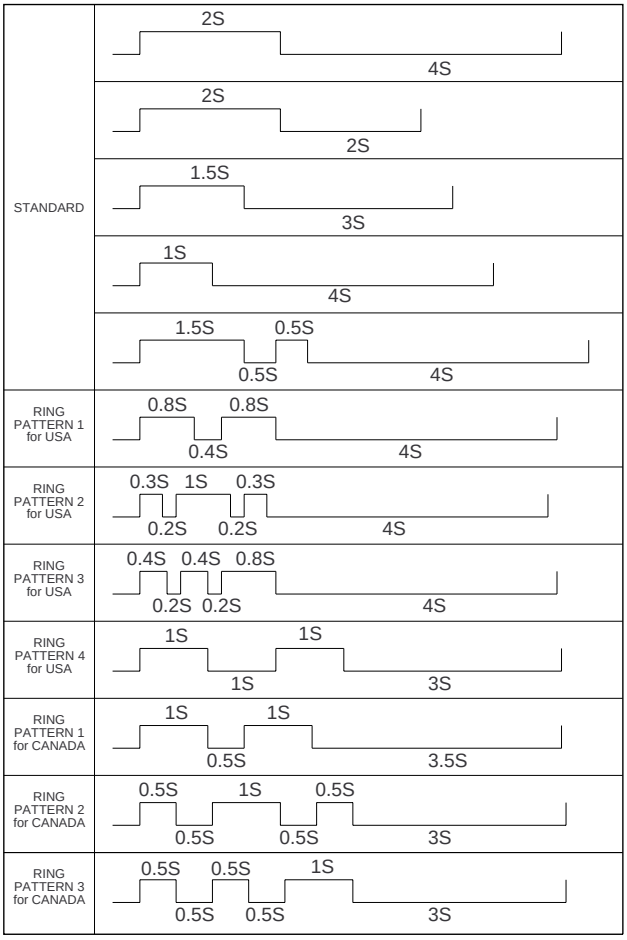
Set to "0".

SW17 No. 5 ~ No. 8 Distinctive ringing

When the ringing setting is turned off, all of the CI signal are 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.



SW18 No. 1 ~ No. 8 Reserved

Set to "0".

SW19 No. 1 ~ No. 3 Reserved

Set to "0".

SW19 No. 4 , No. 5 Reserved

Set to "1".

SW19 No. 6 ~ No. 8 Reserved

Set to "0".

SW20 No. 1 , No. 2 Reserved

Set to "0".

SW20 No. 3 , No. 4 Reserved

Set to "1".

SW20 No. 5 ~ No. 8 Reserved

Set to "0".

SW21 No. 1 Reserved

Set to "1".

SW21 No. 2 ~ No. 4 Reserved

Set to "0".

SW21 No. 5 Reserved

Set to "1".

SW21 No. 6 ~ No. 8 Reserved

Set to "0".

SW22 No. 1, No. 2 DTMF detection time

Used to set detect time of DTMF(Dual Tone Multi Frequency) used in remote reception (5**).The longer the detection time is, the error detection is caused by noises.

SW22 No. 3 ~ No. 8 Reserved

Set to "0".

SW23 No. 1 ~ No. 3 Reserved

Set to "0".

SW23 No. 4 ~ No. 6 To set busy tone detect frequency

To select frequency range of signals to be detected as Busy Tone.

SW23 No. 7, No. 8 Reserved

Set to "0".

SW24 No. 1 ~ No. 8 Reserved

Set to "0".

SW25 No. 1 ~ No. 8 Reserved

Set to "0".

SW26 No. 1 ~ No. 8 Reserved

Set to "0".

SW27 No. 1 F.A.S.T (RMS) mode

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

SW27 No. 2 Reserved

Set to "0".

SW27 No. 3 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.

SW27 No. 4 Summer time (Day light saving)

The day light saving function ON/OFF 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 Reserved

Set to "1".

SW28 No. 4 Reserved

Set to "0".

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 Reserved

Set to "0".

SW29 No. 2 PC I/F mode

The interface with the personal computer is selected.

SW29 No. 3 ~ No. 8 Reserved

Set to "0".

SW30 No. 1 To register senders

When setting this switch to "1", registering senders is protected.

SW30 No. 2 ~ No. 7 Reserved

Set to "0".

SW30 No. 8 Quick on-line function

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. 2 Performance of detail paper cassettes

To set selective modes for detail paper cassettes of the printer.

00:	Manual	To select detail paper in the first priority cassette in accordance with setting by SW31 3-8 and SW32 1-3. If the detail paper in the first priority cassette runs short, the second priority cassette will be used.
01:	Automatic 1	To automatically select detail paper with optimum size among the first to third priority cassettes in accordance with setting by SW31 3-8 and SW32 1-3. The optimum paper is selected by every page. If all the cassettes have the same size paper, paper will be selected according to the cassette priority.
10:	Automatic 2	To automatically select detail paper with optimum size among the first to third priority cassettes in accordance with setting by SW31 3-8 and SW32 1-3. At the start of printing, the optimum paper is adopted only for the first page. Thereafter the same cassette selected for the first page will be used from the second page and after. If all the cassettes have the same size paper, paper will be selected according to the cassette priority.
	Except the above	Setting forbidden (01: the same setting as in the case of Automatic 1)

SW31 No. 3 ~ No. 5 The first priority cassette

To select the first priority cassette.

001:	1st paper feeder (MP-TRAY)
010:	2nd paper feeder
011:	3rd paper feeder
Except the above	Setting forbidden (Printing started from the possible paper feeder)

SW31 No. 6 ~ No. 8 The second priority cassette

To select the second priority cassette.

000:	Not used (To set in case of using only paper feeder that has been set in the first priority cassette)
001:	1st paper feeder (MP-TRAY)
010:	2nd paper feeder
011:	3rd paper feeder
Except the above	Setting forbidden (Not used)

SW32 No. 1 ~ No. 3 The third priority cassette

To select the third priority cassette.

000:	Not used (To set in case of using only paper feeder that has been set in the first /second priority cassette)
001:	1st paper feeder (MP-TRAY)
010:	2nd paper feeder
011:	3rd paper feeder
Except the above	Setting forbidden (Not used)

SW32 No. 4 ~ No. 7 Reserved

Set to "0".

SW32 No. 8 Print hold function

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

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.)
To set performance of the heater at the printer fixing part.

00:	Normally ON (Off in case of Save Mode, giving priority to Energy Save Mode)
01:	Normally OFF
Except the above	Setting forbidden (Normally OFF)

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 Copy default resolution

In case of copying without pressing the RESOLUTION key, resolution will be super fine.

SW34 No. 2 ~ No. 8 Reserved

Set to "0".

SW35 No. 1 Reserved

Set to "0".

SW35 No. 2 ~ No. 4 Reserved

Set to "1".

SW35 No. 5 Reserved

Set to "0".

SW35 No.6, No. 7 Reserved

Set to "1".

SW35 No.8 Reserved

Set to "0".

SW36 No. 1, No. 2 Reserved

Set to "0".

SW36 No. 3 Reserved

Set to "1".

SW36 No. 4 ~ No. 7 Reserved

Set to "0".

SW36 No. 8 Reserved

Set to "1".

SW37 No. 1 ~ No. 8 PC delay time after PC printing (n second)

To insert delay time after PC printing.

SW38 No. 1 ~ No. 8 Reserved

Set to "0".

SW39 No. 1 ~ No. 8 Reserved

Set to "0".

SW40 No. 1 ~ No. 8 Reserved

Set to "0".

SW41 No. 1 ~ No. 8 Reserved

Set to "0".

SW42 No. 1 ~ No. 8 Reserved

Set to "0".

SW43 No. 1 ~ No. 5 Reserved

Set to "0".

SW43 No. 6 ~ No. 8 Data reduction

Reduction ratio of receiving is set .
It can be changed even in the optional mode.
To set printing reduction rate of received images.

00:	Automatic
01:	100%
Except the above	100%

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 quality priority 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 recording, 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: Both ends are cut off and the center portion (A4 size) is inputted.

SW45 No. 4 Overseas communication mode selection function

When this switch is set to "1", the communication is 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. 5 Reserved

Set to "0".

SW45 No. 6 ~ No. 8 Reduce ratio when copy mode

Reduction ratio of copying is set .
It can 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 and No. 4.

SW46 No. 7 MTF 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 judged 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 (dimness 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, mildness of characters will be reduced. Normally set to "NO" (= 1).

SW47 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.

SW47 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.

SW47 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.

SW47 No. 4 ~ No. 8 Reserved

Set to "0".

SW48 No. 1 Reserved

Set to "1".

SW48 No. 2 ~ No. 7 Reserved

Set to "0".

SW48 No. 8 Reserved

Set to "1".

SW49 No. 1 Secure billing code

When the Tel. Billing Code function is ON, the operation of SECURE BILLING CODE is enabled .

SW49 No. 2 Pause with Z key

The Z key pause time is set.

SW49 No. 3 Reserved

Set to "0".

SW49 No. 4 ~ No. 8 Z key pause time (250ms unit)

The Z key pause time is set.

SW50 No. 1 Separate feature

The separate mode ON/OFF is set.

SW50 No. 2 ~ No. 4 Reserved

Set to "0".

SW50 No. 5 Adding header to lists

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

SW50 No. 6 DTMF output by PANEL TEST

When ten keys are pressed in the Panel Test Mode of the diagnosis, the corresponding DTMF signals are output.

SW50 No. 7 Power save system

To switch Power Save Mode system either to Real Time or to Timer.

SW50 No. 8 Reserved

Set to "0".

SW51 No. 1 ~ No. 8 Reserved

Set to "0".

SW52 No. 1 ~ No. 8 Reserved

Set to "0".

SW53 No. 1 ~ No. 8 Reserved

Set to "0".

SW54 No. 1 ~ No. 8 Reserved

Set to "0".

SW55 No. 1 ~ No. 8 Reserved

Set to "0".

SW56 No. 1 ~ No. 8 Reserved

Set to "0".

SW57 No. 1 ~ No. 8 Reserved
Set to "0".

SW58 No. 1 ~ No. 8 Reserved
Set to "0".

SW59 No. 1 ~ No. 8 Reserved
Set to "0".

SW60 No. 1 ~ No. 8 Reserved
Set to "0".

SW61 No. 1, No. 2 Reserved
Set to "0".

SW61 No. 3 Reserved
Set to "1".

SW61 No. 4, No. 5 Reserved
Set to "0".

SW61 No. 6 Reserved
Set to "1".

SW61 No. 7 Reserved
Set to "0".

SW61 No. 8 Reserved
Set to "1".

SW62 No. 1 ~ No. 3 Reserved
Set to "0".

SW62 No. 4 Reserved
Set to "1".

SW62 No. 5 ~ No. 8 Reserved
Set to "0".

SW63 No. 1 Reserved
Set to "0".

SW63 No. 2 Reserved
Set to "1".

SW63 No. 3 Waiting time after dialing
The set up of the call time of the auto dial.
90 sec. or depends on each country's specifications.

SW63 No. 4 ~ No. 8 Reserved
Set to "0".

SW64 No. 1 ~ No. 8 Reserved
Set to "0".

SW65 No. 1 ~ No. 4 Reserved
Set to "0".

SW65 No. 5, No. 6 Reserved
Set to "1".

SW65 No. 7 Reserved
Set to "0".

SW65 No. 8 Reserved
Set to "1".

SW66 No. 1, No. 2 Reserved
Set to "1".

SW66 No. 3 Reserved
Set to "0".

SW66 No. 4 ~ No. 6 Reserved
Set to "1".

SW66 No. 7 Reserved
Set to "0".

SW66 No. 8 Reserved
Set to "1".

SW67 No. 1 ~ No. 8 Reserved
Set to "0".

SW68 No. 1 ~ No. 8 Reserved
Set to "0".

SW69 No. 1 ~ No. 8 Reserved
Set to "0".

SW70 No. 1 ~ No. 8 Reserved
Set to "0".

SW71 No. 1 ~ No. 8 Reserved
Set to "0".

SW72 No. 1 ~ No. 8 Reserved
Set to "0".

SW73 No. 1 ~ No. 8 Reserved
Set to "0".

SW74 No. 1 ~ No. 8 Reserved
Set to "0".

SW75 No. 1 ~ No. 8 Reserved
Set to "0".

SW76 No. 1 ~ No. 8 Reserved
Set to "0".

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

SW78 No. 1 ~ No. 8 Reserved
Set to "0".

SW79 No. 1 ~ No. 8 Reserved
Set to "0".

SW80 No. 1 ~ No. 8 Reserved
Set to "0".

SW81 No. 1 ~ No. 8 Reserved
Set to "0".

SW82 No. 1 ~ No. 8 Reserved
Set to "0".

SW83 No. 1 ~ No. 8 Reserved
Set to "0".

SW84 No. 1 ~ No. 8 Reserved
Set to "0".

SW85 No. 1 ~ No. 8 Reserved
Set to "0".

SW86 No. 1 ~ No. 8 Reserved
Set to "0".

SW87 No. 1 ~ No. 8 Reserved
Set to "0".

SW88 No. 1 ~ No. 8 Reserved
Set to "0".

SW89 No. 1 ~ No. 8 Reserved
Set to "0".

SW90 No. 1 ~ No. 8 Reserved
Set to "0".

SW91 No. 1 ~ No. 8 Reserved

Set to "0".

SW92 No. 1 ~ No. 8 Reserved

Set to "0".

SW93 No. 1 ~ No. 8 Reserved

Set to "0".

SW94 No. 1 ~ No. 8 Reserved

Set to "0".

SW95 No. 1 ~ No. 8 Reserved

Set to "0".

SW96 No. 1 ~ No. 8 Reserved

Set to "0".

SW97 No. 1 ~ No. 8 Reserved

Set to "0".

SW98 No. 1 ~ No. 8 Reserved

Set to "0".

SW99 No. 1 ~ No. 6 Reserved

Set to "0".

SW99 No. 7, No. 8 Reserved

Set to "1".

[3] Troubleshooting

1. Fax troubleshooting

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

[1] A communication error occurs.

[2] Image distortion produced.

[3] Unable to do overseas communication.

[4] Communication speed slow due to FALLBACK.

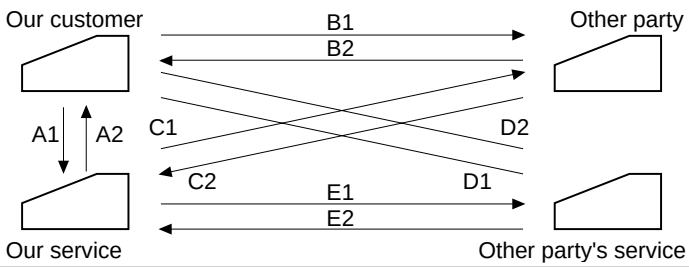
- Increase the transmission level SOFT SWITCH 8-4, 5, 6, 7, 8
  May be used in case [1] [2] [3].
- Decrease the transmission level SOFT SWITCH 8-4, 5, 6, 7, 8
  May be used in case [3].
- Apply line equalization SOFT SWITCH 8-1, 2
  May be used in all cases.
- Slow down the transmission speed SOFT SWITCH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

* If transmission problems still exist on the machine, use the following 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
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. ****

[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. Cannot recognize NSS signal (FIF code etc)
2	CFR	Disconnects line during reception (carrier missing etc)
3	FTT	Disconnects line by fallback
4	MCF	Disconnects line during reception of multi page 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 on 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 attempted.
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 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.

2. Service call error massage

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

CHAPTER 3. MECHANICAL DESCRIPTION

[1] Mechanical description

1. Facsimile block

1-1. Document feed block and diagram

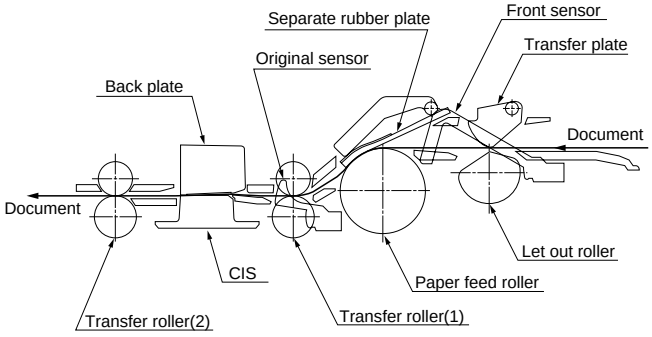


Fig. 1

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 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 roller.

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

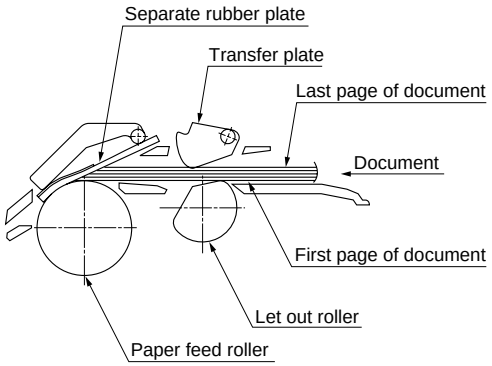


Fig. 3

3-3. 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.

- Adjust the document guides to the document width.
- 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.

NOTE: 1) Curled edge of documents, if any, must be straighten out.
2) Do not load the documents of different sizes and/or thicknesses together.

3-4. 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	

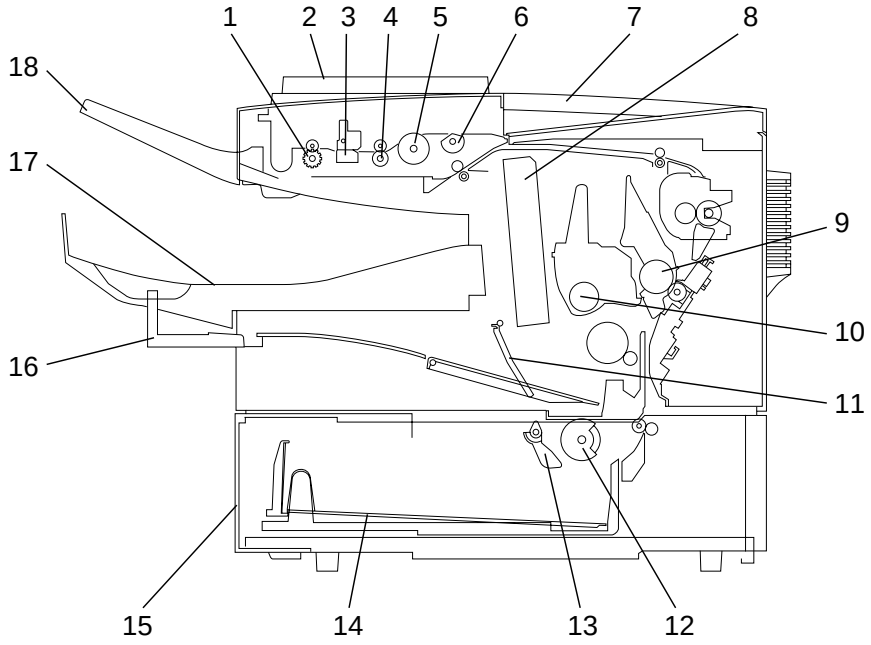
NOTE: Double-side coated documents and documents on facsimile recording paper should be inserted manually.

Documents corresponding to a paper weight heavier than 90kg and lighter than 135kg 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.

[2] Printer description

1. COMPONENTS LAYOUT



1. Scanner Drive Roller 2
2. Operation Panel
3. CIS
4. Scanner Drive Roller 1
5. Scanner Feed Roller
6. Transfer Roller
7. Upper Cover
8. Printer Head
9. Drum Cartridge
10. Toner Cartridge
11. Micro Switch Empty (PE1)
12. 2nd PU Roller
13. 2nd Paper Sensor lever
14. Cassette Push Up Plate
15. Paper Cassette (Option : FO-47UC)
16. Extension Paper Feed Tray
17. Paper Stock Tray
18. Document Tray

Fig. 1

2. DRIVE SECTION

2-1. Overview

The printer motor (M1) transmits the drive to the rollers of the printer and the paper cassette unit via each gear as shown below.

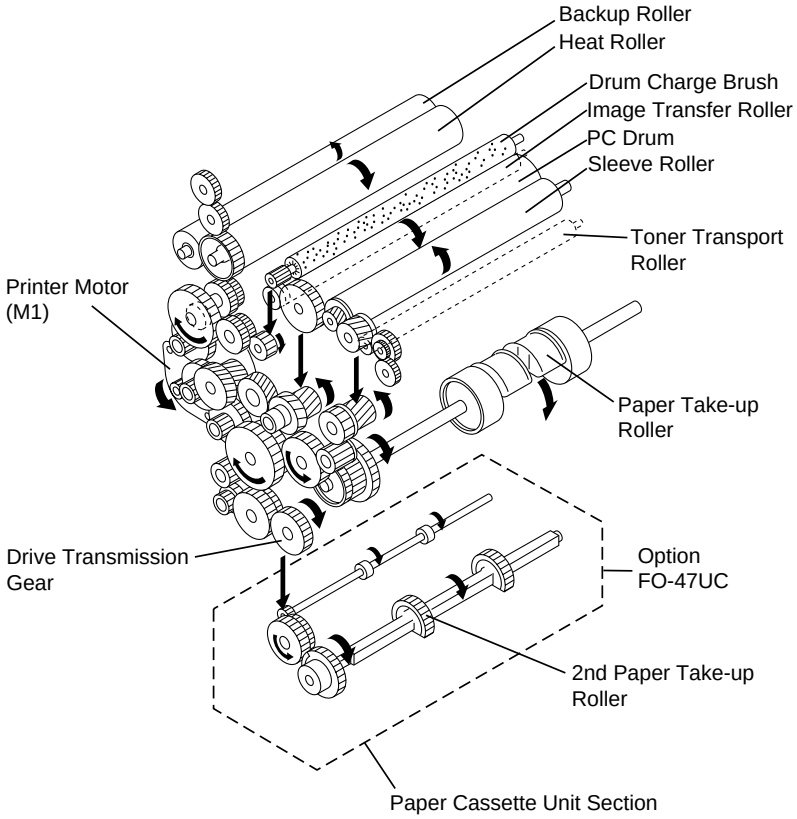


Fig. 2

3. PRINTER ENGINE ELECTRICAL COMPONENTS LAYOUT

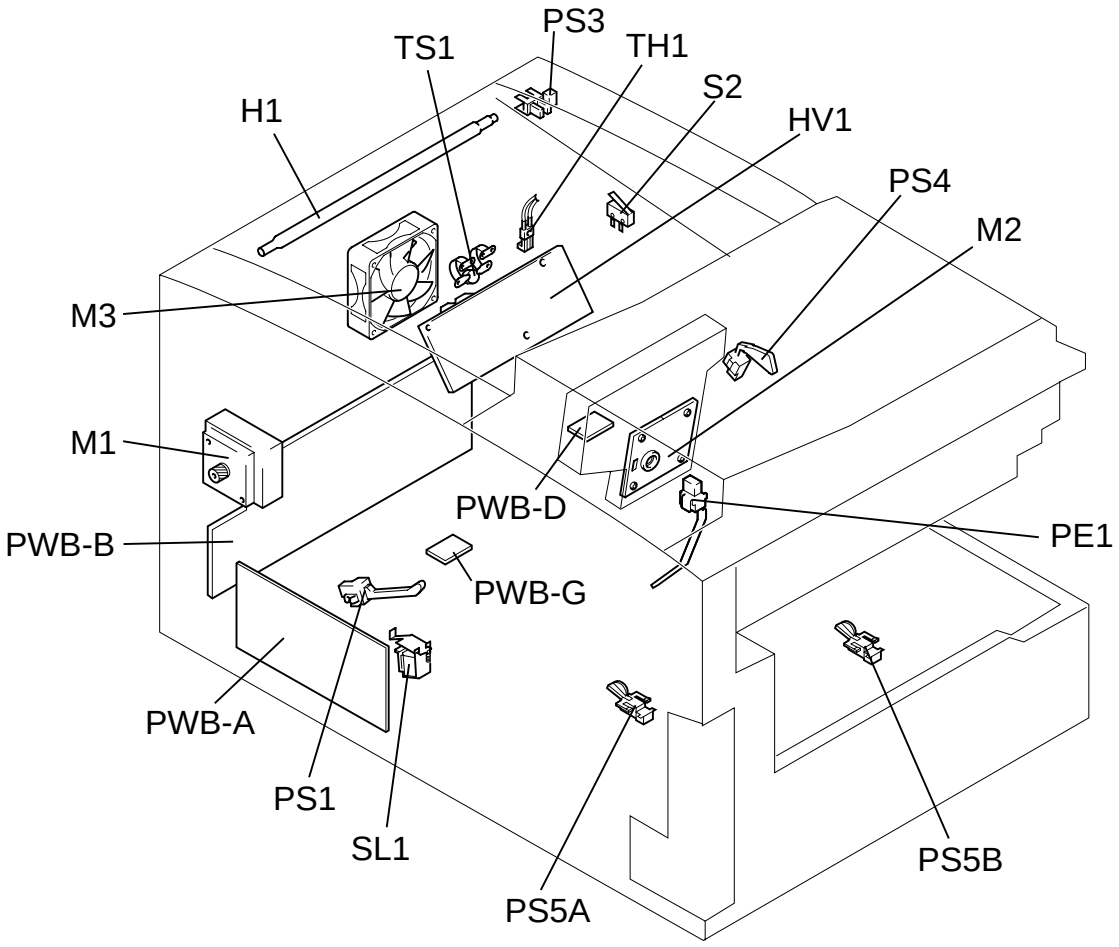


Fig. 3

4. ELECTRICAL PARTS IDENTIFICATION

Symbol	Name	Function
PWB-A	Printer PWB unit	Communicates with the control PWB and controls all printer operation.
PWB-B	Power Supply PWB unit	Converts the power voltage from AC voltage into DC voltage and supplies that to H1.
PWB-D	Laser Diode Drive PWB unit (Inside of the Print Head Unit)	Detects the start position of the image by the laser diode and the SOS sensor.
PWB-G	Toner Empty PWB unit	Toner quantity is read by the analog signal. (Use of LED)
M1	Printer Motor	Is the drive source of the printer.
M2	Polygon Motor (Inside of the Print Head Unit)	Rotates at high speed and makes the laser scan in scanning direction.
M3	Fan Motor	Exhausts the heated air out of the printer.
H1	Heater Lamp	A halogen lamp that supplies heat to the fusing rollers.
HV1	High Voltage PWB unit	Applies voltage respectively to the rotating charge brush, the sleeve roller, the toner regulation plate, the toner collecting plate and the image transfer roller.
PE1	Paper Empty Sensor	Detects the presence of paper. The signal is L when the paper is detected.
PS1	Paper Take-Up Sensor Switch	Detects when the paper is picked up and the paper length. The signal is L when the paper is detected.
PS3	Paper Exit Sensor	Detects when the paper is fed out. The signal is H when the paper is detected.
PS4	Paper Out Sensor	Paper out detection signal. The signal L when the paper is detected.
PS5A	Tray Cover Sensor	The signal is L when there is a tray cover.
PS5B	Paper Size Sensor	Detects the size of the paper. Letter: signal L, Legal: signal H.
S2	Interlock Switch	Detects the opening or closing of the upper unit.
SL1	Paper Take-Up Solenoid	Transmits the drive of the printer motor to the paper take-up roller.
TH1	Thermistor	Detects the temperature of the heat roller.
TS1	Thermostat	Cuts off the current to the heater lamp (H1) when it detects overheating.

5. PAPER PATH

Paper can be fed into the printer from the Multi Purpose Tray (250 sheets) or from the Manual Feed Port (1 sheet).

Installing the Paper Cassette Unit (500sheets) adds another feeding method.

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

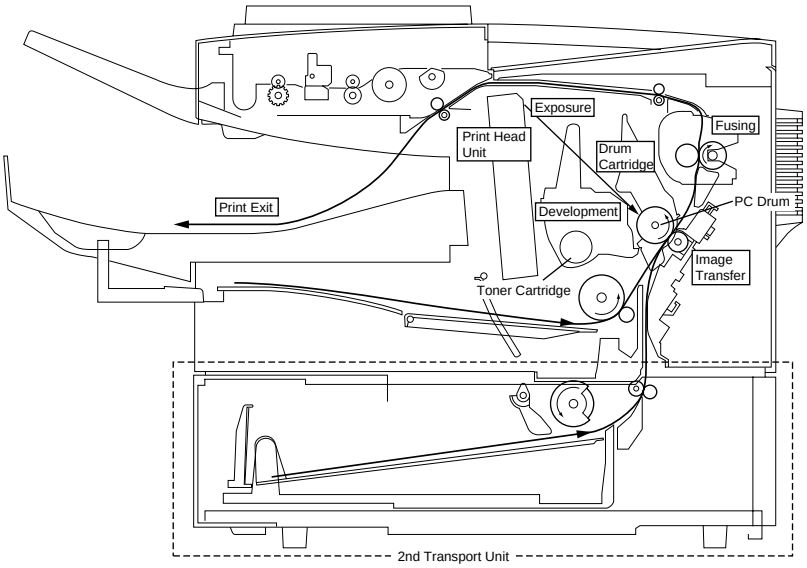


Fig. 4

6. PAPER TAKE-UP SECTION

6-1. Multi-Purpose Tray

When the Paper Take-Up Solenoid (SL1) is energized, the drive of the Printer Motor (M1) is transmitted to the Paper Take-Up Roller via the Paper Take-Up Clutch (one-way clutch) to turn the Paper Take-Up Roller one revolution. At the same time, the Depressing Cam turns and lifts the Paper Tray 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 sheet.

The printer has no paper size detecting mechanism. It recognizes the paper size by the paper length which is calculated by the Paper Take-Up Sensor (PS1) activation timing. Therefore, paper having different widths are recognized as the same paper size if they have the same length

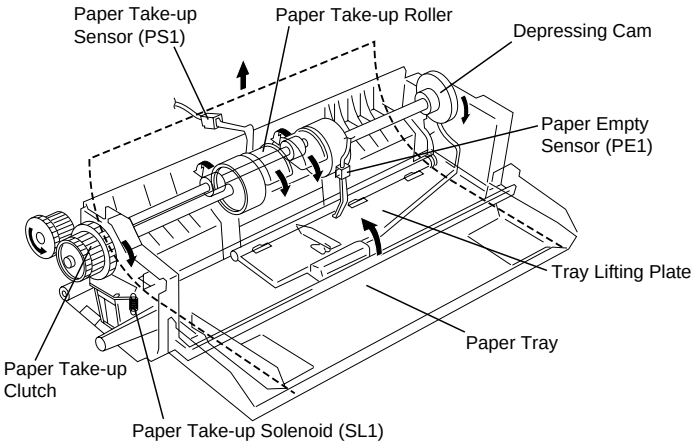


Fig. 5

7. 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 applied 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 supplies the charge to the Rotating Charge Brush to improve the charging efficiency.

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

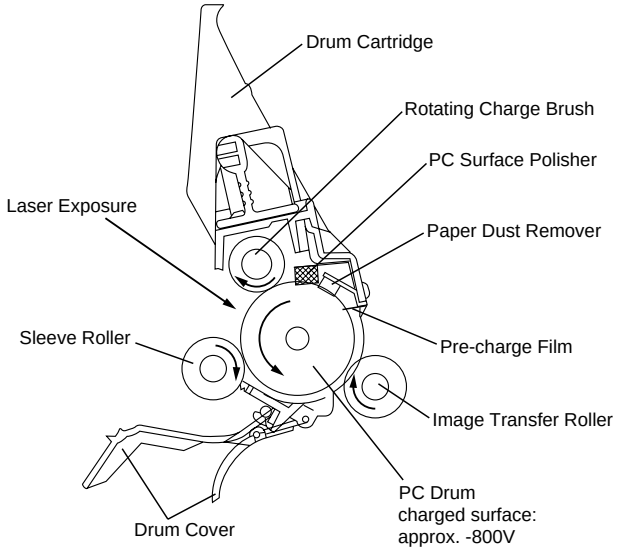


Fig. 6

8. LASER EXPOSURE

Laser exposure is the process of creating an invisible static image on the PC Drum 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 Printer Motor rotate and the paper is fed into the printer.
The printing in the sub-scanning direction is started when the Printer PWB (PWB-A) 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 PWB (PWB-D) to unify the laser emission timing for each scan line.

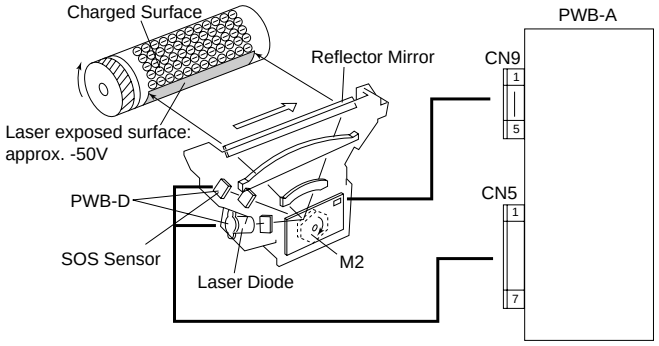


Fig. 7

9. DEVELOPMENT

9-1. Overview

Toner is applied to the invisible static image on the PC Drum and a toner image is created on the surface.

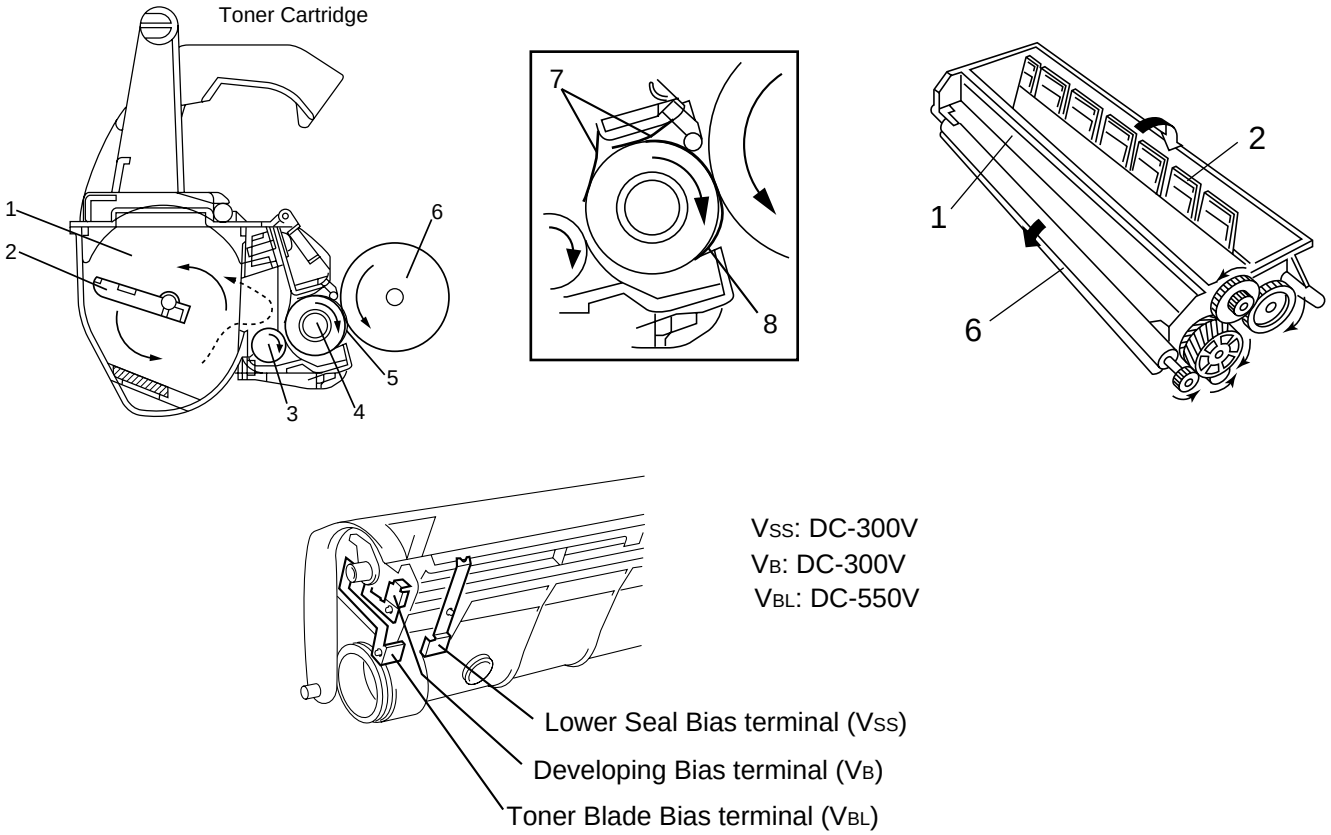


Fig. 8

No.	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	Sleeve Roller	Turns the Resin Sleeve.
5	Resin Sleeve	Carries the toner to the PC Drum surface for development.
6	PC Drum	Exposed to laser to create an invisible image and rotates to carry the developed image to the paper surface.
7	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.
8	Bias Seal	Collects the toner remaining on the Resin Sleeve and neutralizes charge.

10. IMAGE TRANSFER

10-1. Overview

Image transfer is the process of transferring the toner image created on the PC Drum in the developing process to paper. Roller Image Transfer is used 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.

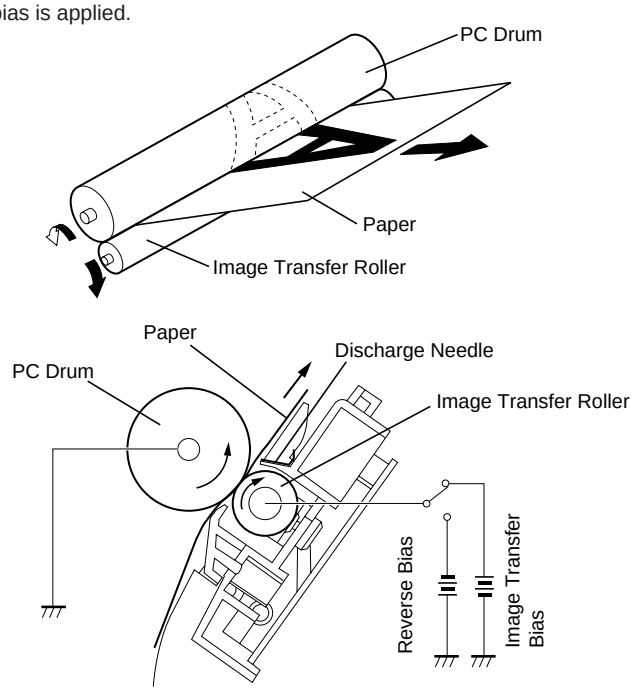


Fig. 9

11. FUSING

11-1. Overview

The toner image transferred onto the paper is securely fixed to the paper.
A heat roller system is used as the fusing system. The toner image is fused by the Heat roller heated by the Heater Lamp, and securely fixed by the pressure between the Heat Roller and Backup Roller.
A Thermistor (TH1) detects the Heat Roller temperature.
The Thermostat (TS1) contacts open when the temperature becomes approx. 195˚C and shuts down the power to the Heater Lamp.

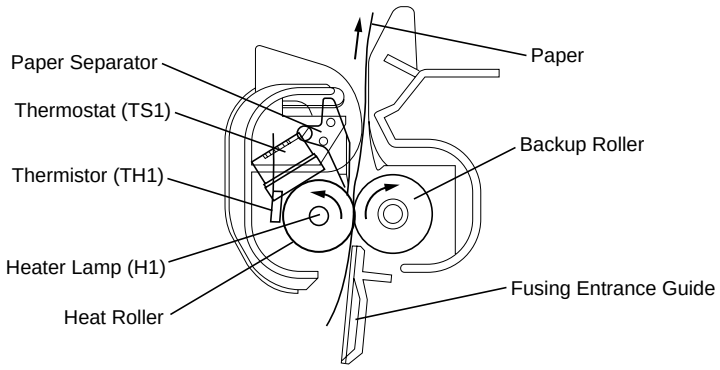


Fig. 10

11-2. Fusing Temperature Control Circuit

The Thermistor (TH1) detects the surface temperature of the Upper Fusing Roller and inputs that analog voltage into IC2-78. Corresponding to this data, the Heater Lamp ON/OFF signal is output from IC2-55, 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 210˚C), the signal from IC2-79 changes from L to H to turn OFF the Heater Lamp forcibly.

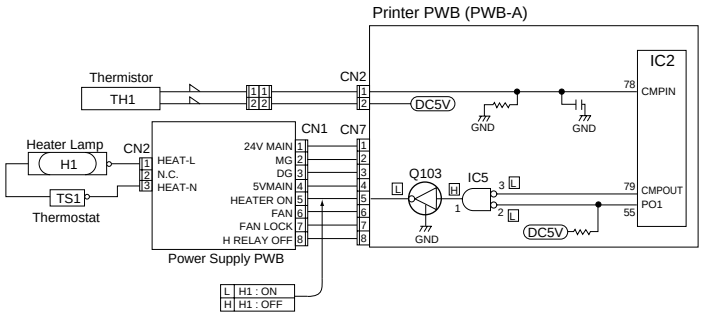


Fig. 11

The following three different temperature control modes are provided for the Heater Roller.

1) Mode 1 — The temperature is controlled to maintain 105˚C during standby and 185˚C during printing. If this mode continues for 45 seconds, it will shift to mode 2.

2) Mode 2 — The temperature of the Heat Roller falls gradually to about 175˚C from about 185˚C. If this mode continues for 208 seconds, it will shift to mode 3

3) Mode 3 — The temperature is controlled to maintain 105˚C during standby and 175˚C during printing. Unless an error occurs or an top cover is opened, this mode is maintained.

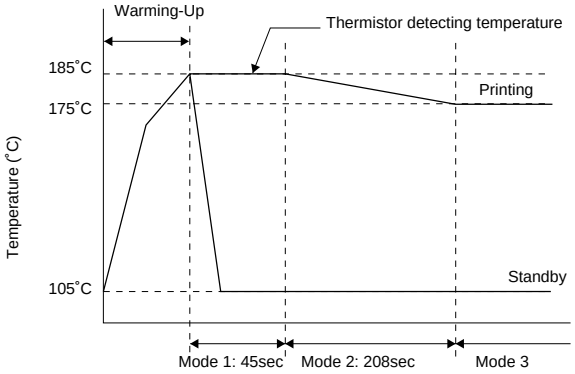


Fig. 12

	Temperature immediately after temperature control start		
The state before discontinuation of temperature control	less than 50˚C	50˚C or more, less than 100˚C	100˚C or more
Mode 1	Mode 1		
Mode 2, 3 or Power OFF	Mode 1	Mode 2	Mode 3

12. PRINT SEQUENCE

Printing is carried out following communication between the engine and controller that determines the timing to be used.
A general outline of the printing sequence is described below.

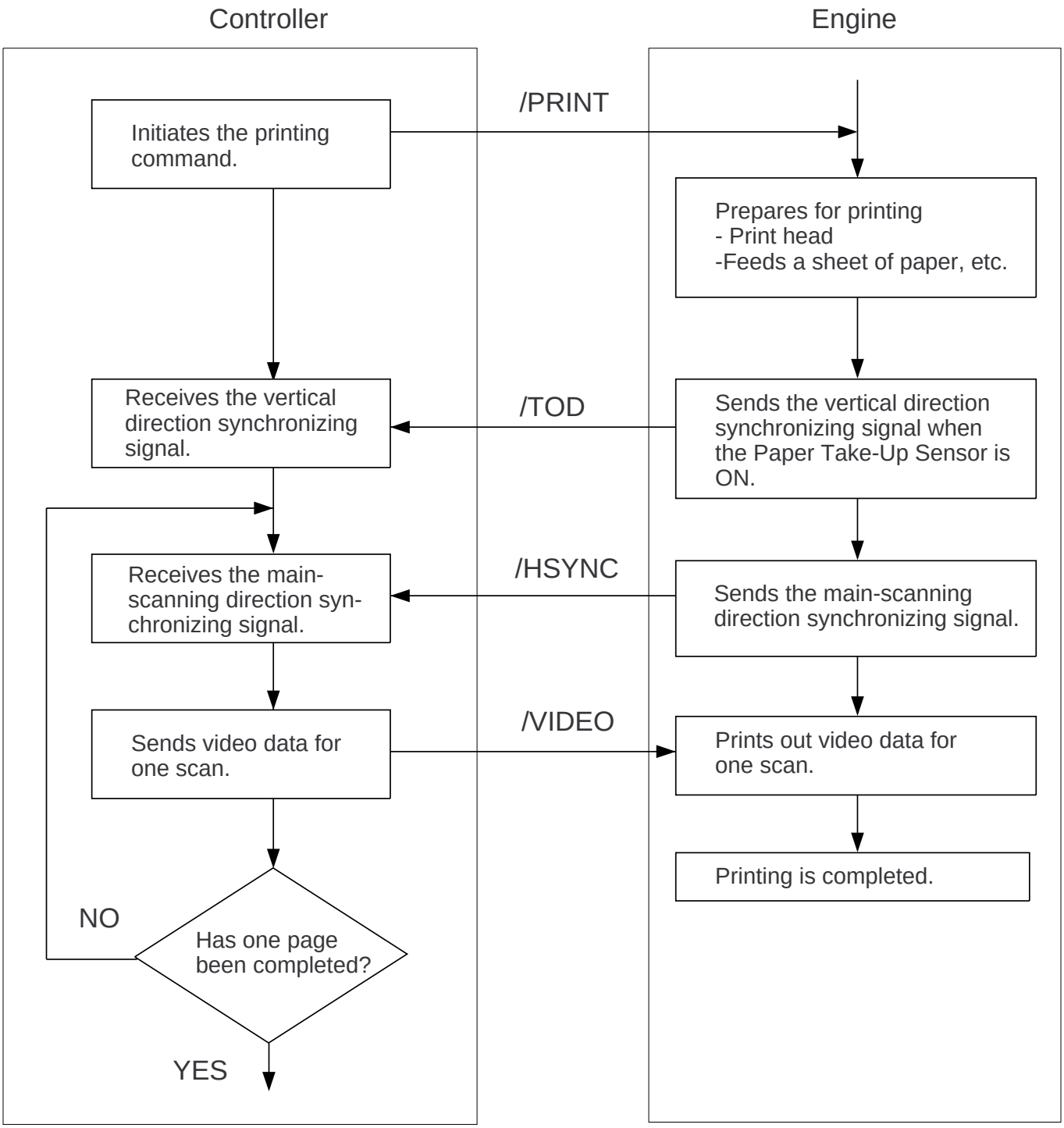


Fig. 13

13. Timing chart

13-1. Print Starting

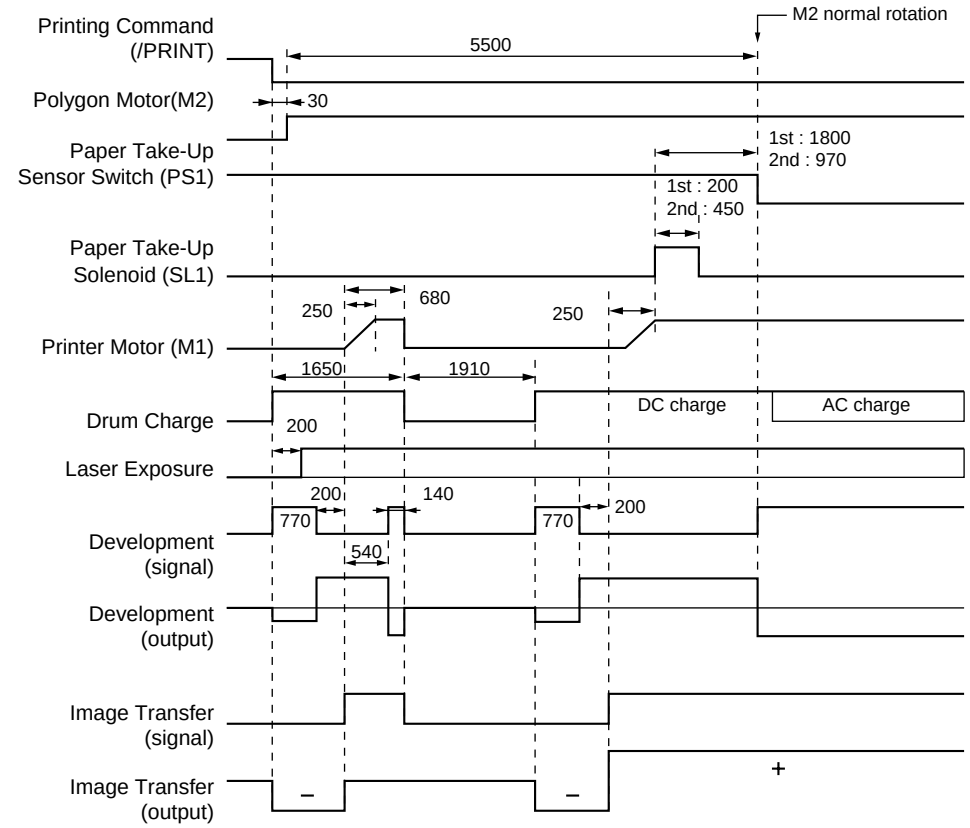


Fig. 14

13-2. Print Ending

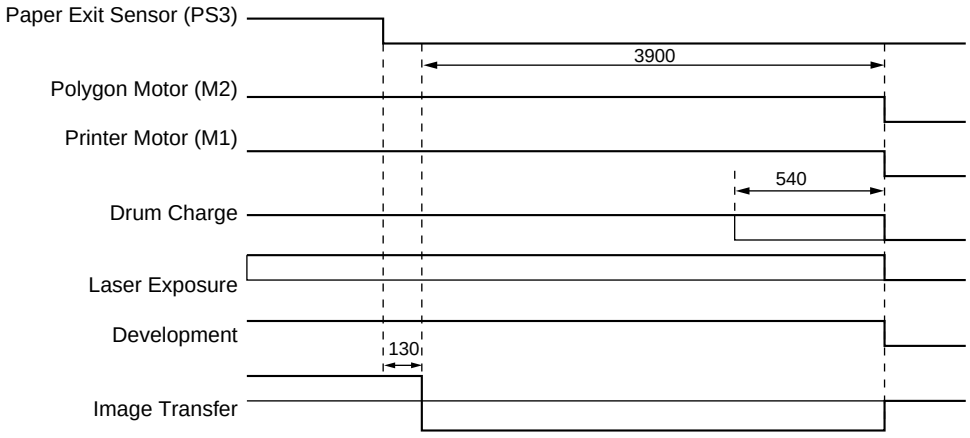


Fig. 15

[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.

1	**Front cabinet**

Parts list (Fig. 1)

No.	Part name	Q'ty
1	Main unit	1
2	Screw (3×10)	3
3	Front cabinet	1

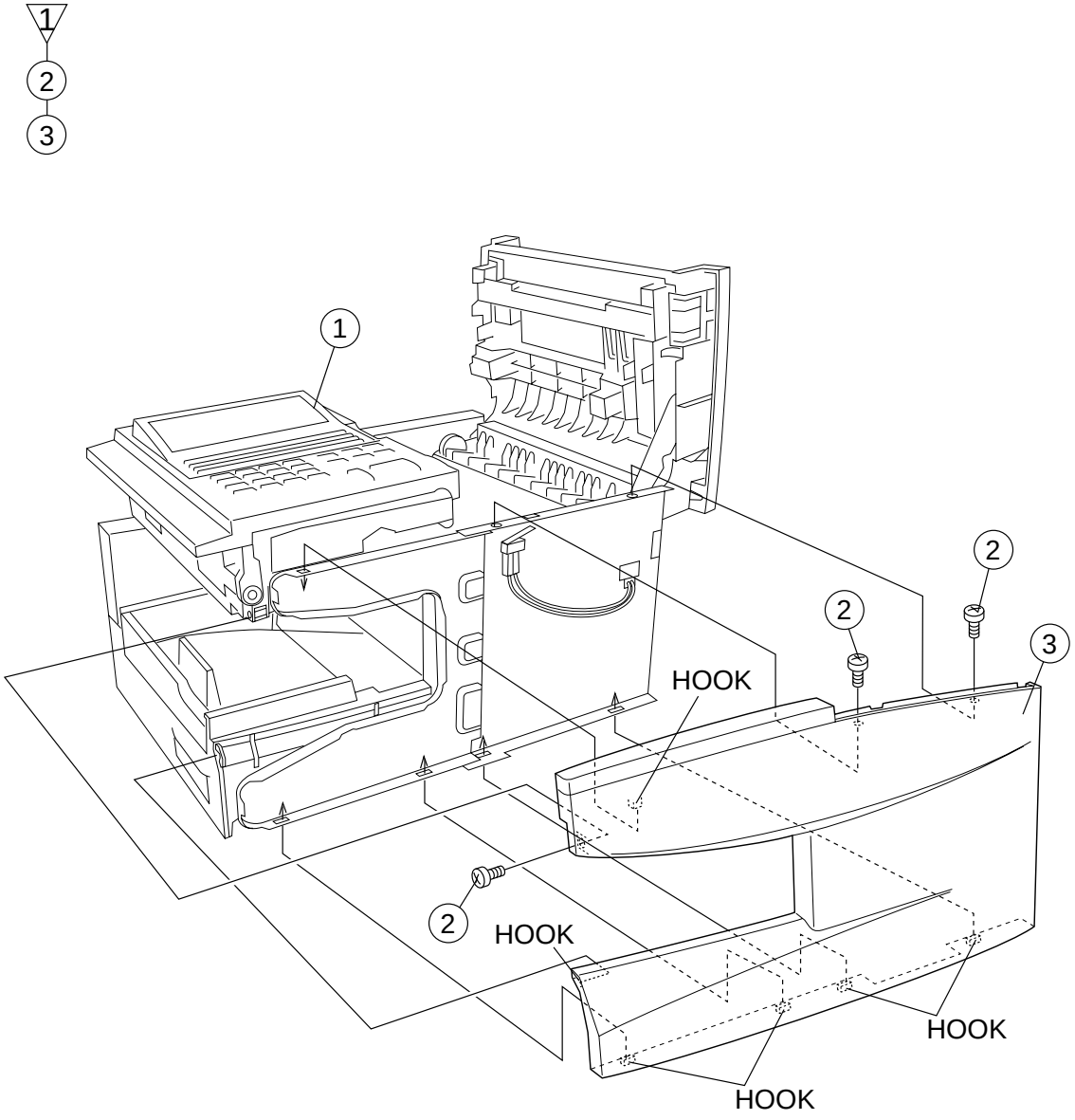


Fig. 1

2 Rear cabinet

Parts list (Fig. 2)

No.	Part name	Q'ty
1	Main unit	1
2	Screw (3×10)	4
3	Rear cabinet	1
4	Screw (3×10)	1
5	PWB cover	1
6	Sheet A	2

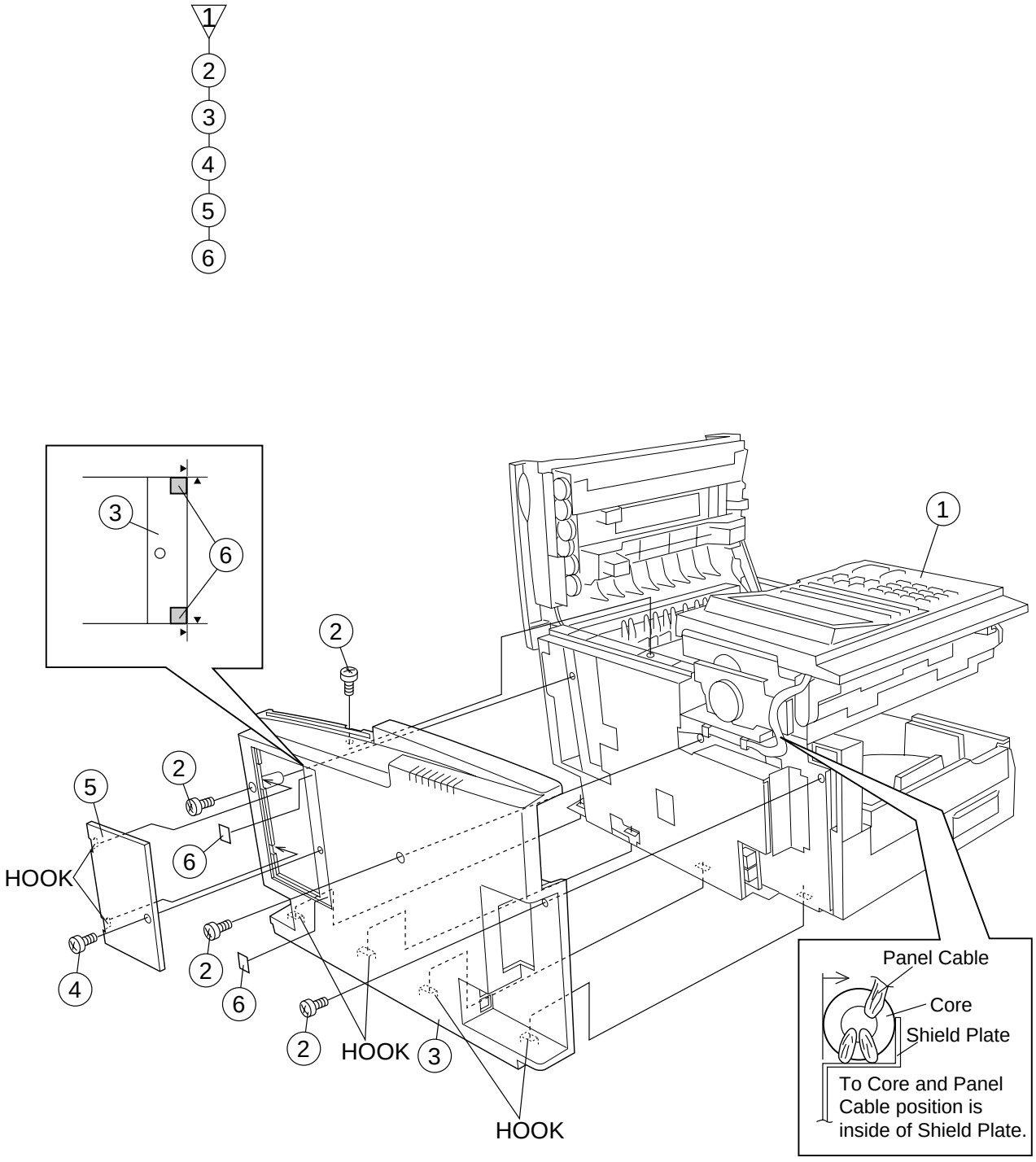


Fig. 2

3	**Shield plate, Right cabinet**

Parts list (Fig. 3)

No.	Part name	Q'ty
1	Main unit	1
2	Screw (3×6)	7
3	Shield plate	1
4	Screw (3×10)	2
5	Right cabinet	1
6	Sheet	1

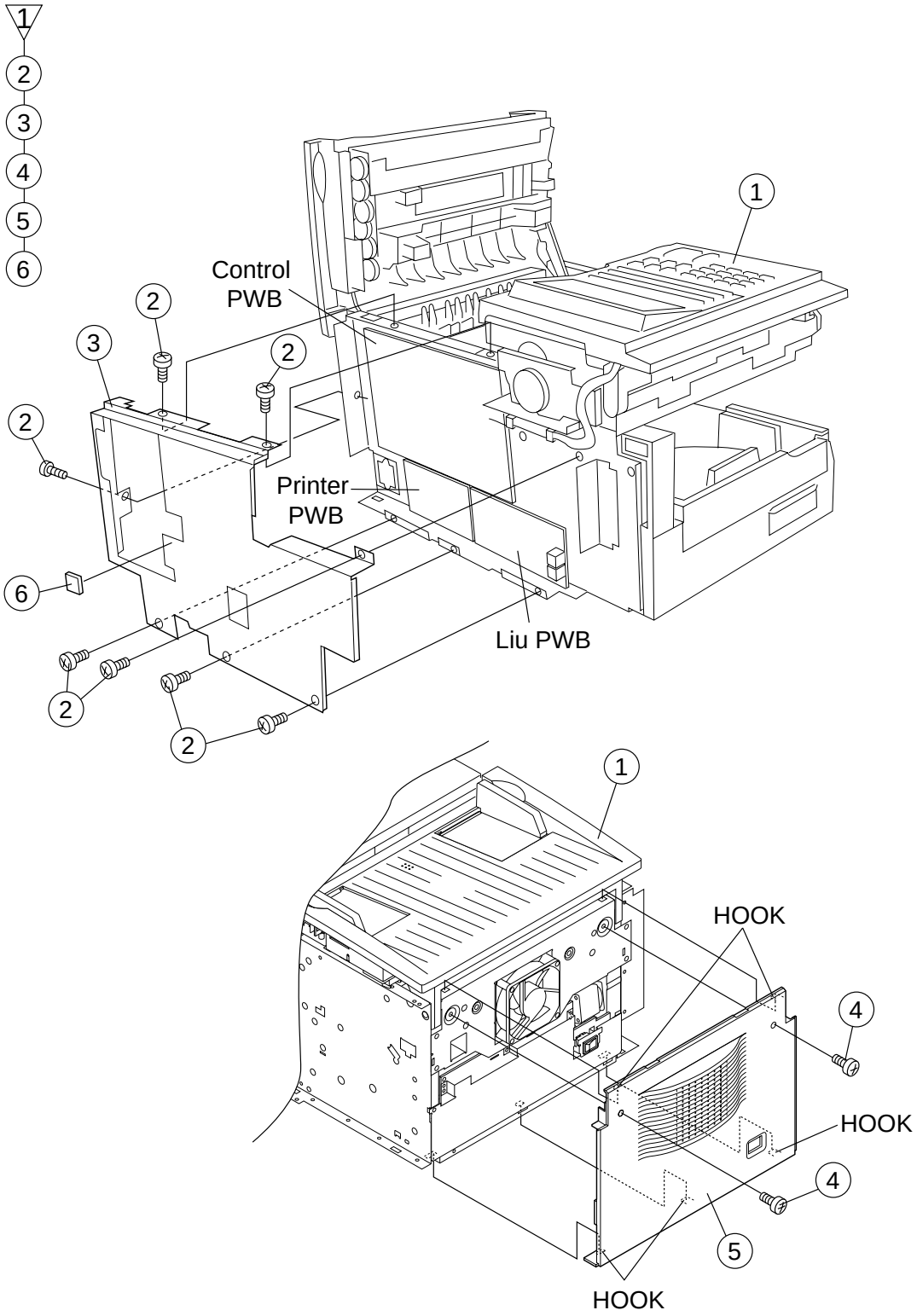


Fig. 3

4	**Control PWB unit, Liu PWB unit, Printer PWB unit**

Parts list (Fig. 4)

No.	Part name	Q'ty
1	Main unit	1
2	Screw (3×6)	11
3	PC I/F bracket	1
4	Liu PWB unit	1
5	Printer PWB unit	1
6	Control PWB unit	1
7	PWB cushion	1
8	Sheet A	1

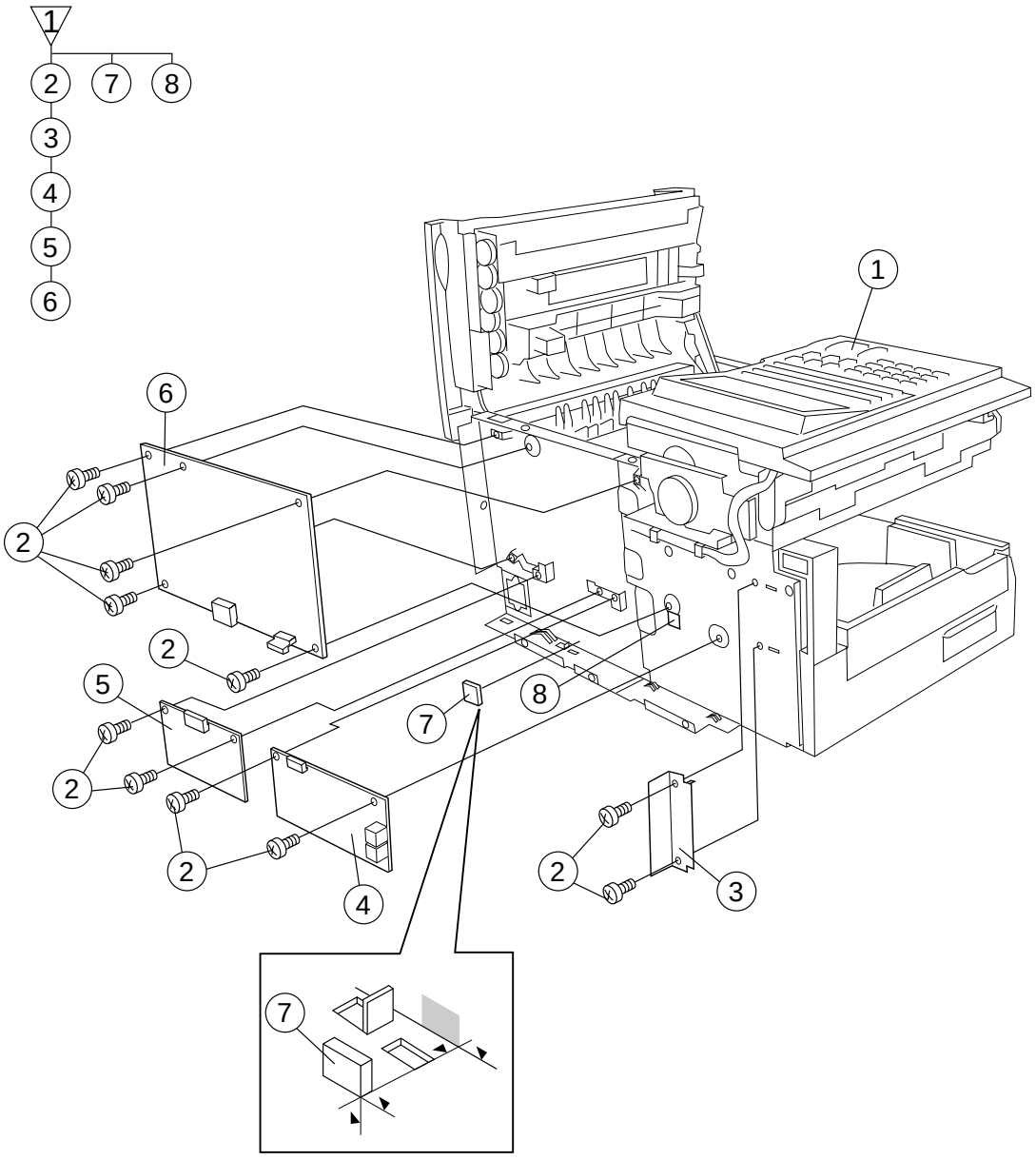


Fig. 4

5 Operation panel unit, Upper cover unit

Parts list (Fig. 5)

No.	Part name	Q'ty
1	Printer unit	1
2	Screw (3×10)	3
3	Screw (3×6)	6
4	Operation panel unit	1
5	Screw (3×8)	1
6	Upper cover unit	1

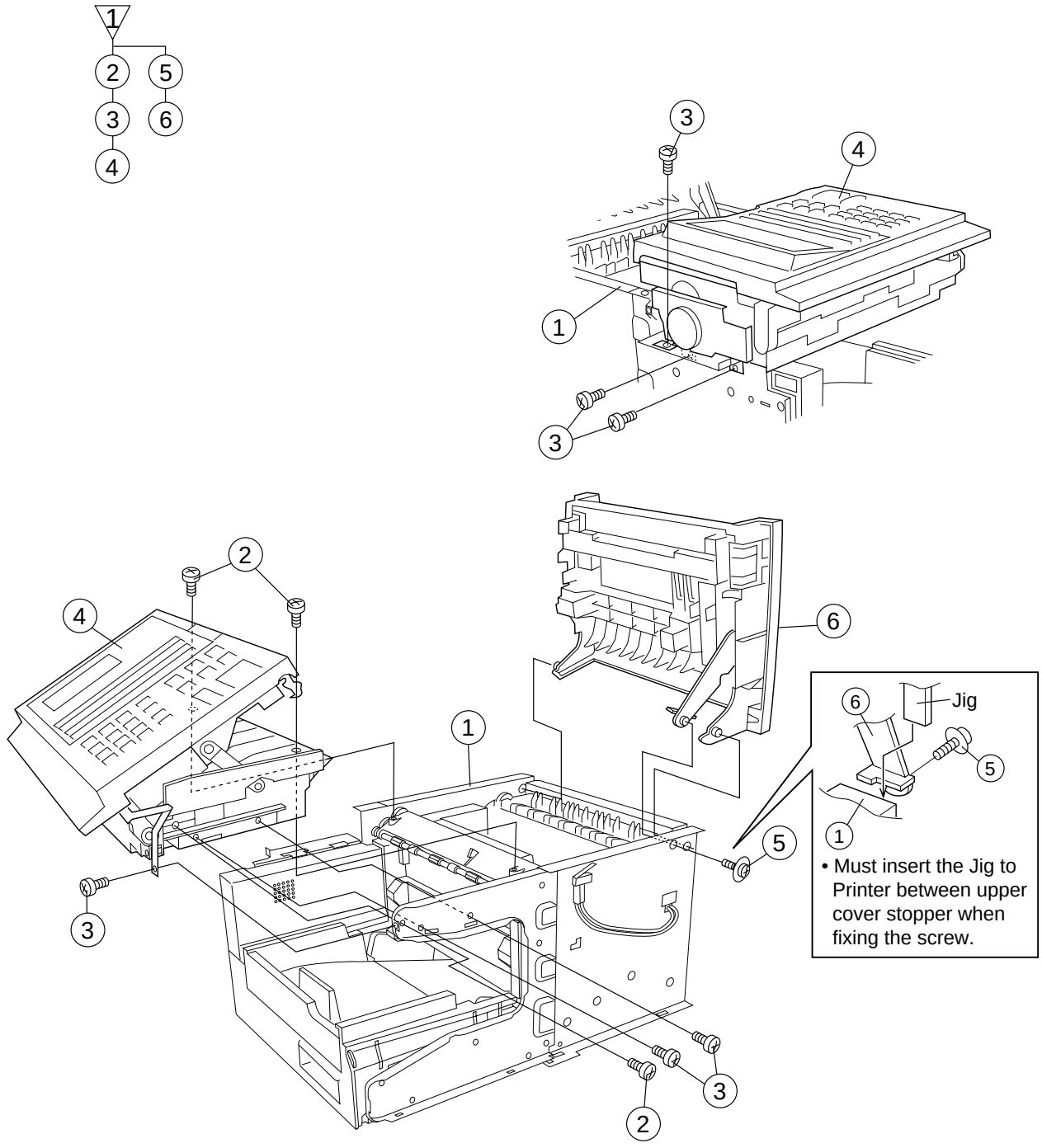


Fig. 5

6 Left front frame, Paper feed tray unit

Parts list (Fig. 6)

No.	Part name	Q'ty	No.	Part name	Q'ty
1	Printer unit	1	12	Filament tape	1
2	Screw (3×6)	5	13	Paper feed tray unit	1
3	Screw (3×10)	2	14	Screw (3×10)	1
4	Left front frame	1	15	Tray back guide	1
5	Screw (3×10)	4	16	Extension paper feed tray	1
6	Screw (3×6)	1	17	Tray width sponge	1
7	Speaker holder plate spring	1	18	Tray width guide	1
8	Speaker ass'y	1	19	Paper limit label 1	1
9	Inner front cabinet	1	20	Tray size switch cable	1
10	Sheet B	1	21	Paper size sensor	2
11	Sheet A	2	22	Paper feed tray	1

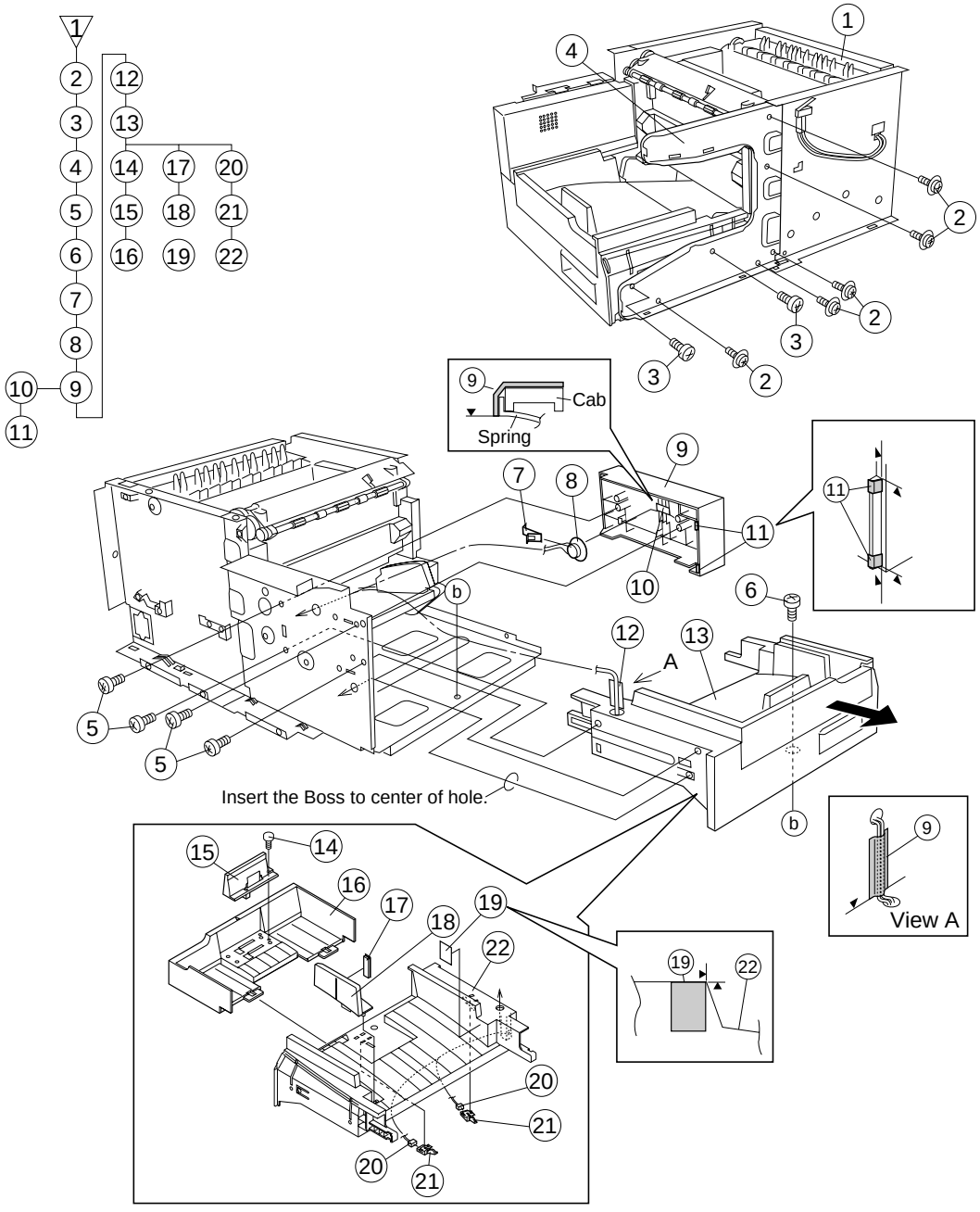


Fig. 6

7	**Left rear frame, Left bottom frame**

Parts list (Fig. 7)

No.	Part name	Q'ty
1	Printer unit	1
2	Screw (3×6)	7
3	Left rear frame	1
4	Left bottom frame	1
5	Foot	2

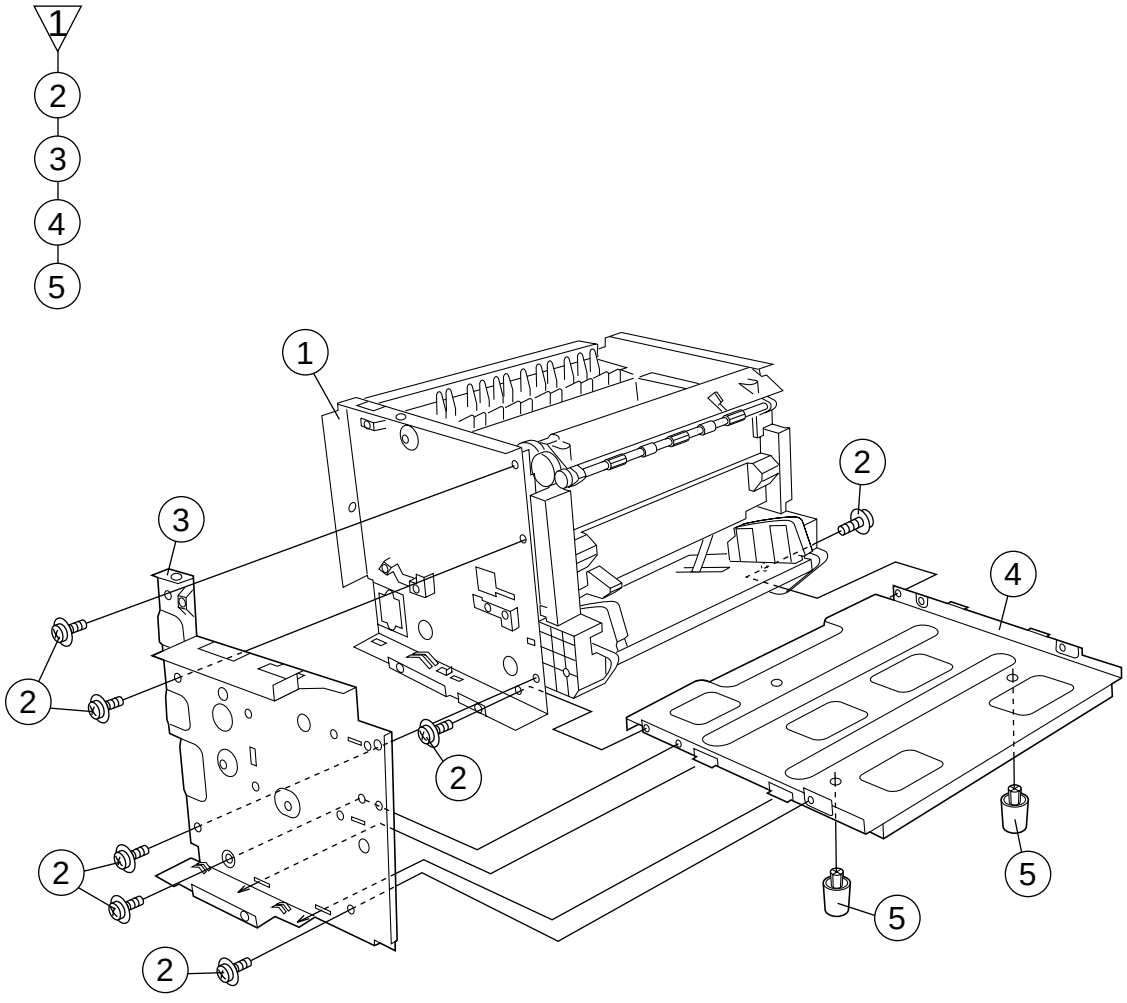


Fig. 7

8 Left cabinet unit, Lifting plate unit

Parts list (Fig. 8)

No.	Part name	Q'ty	No.	Part name	Q'ty
1	Printer unit	1	10	Holder	1
2	Left cabinet unit	1	11	Holder	1
3	Tapping screw	4	12	Regulating plate	1
4	Lifting plate unit	1	13	Guide	2
5	Screw (3×6)	1	14	Sheet	1
6	Paper out sensor cable	1	15	Lifting plate	1
7	Paper out sensor	1	16	Idler gear	2
8	PS4 bracket	1	17	Left cabinet roller	1
9	Tapping screw	1	18	Left cabinet	1

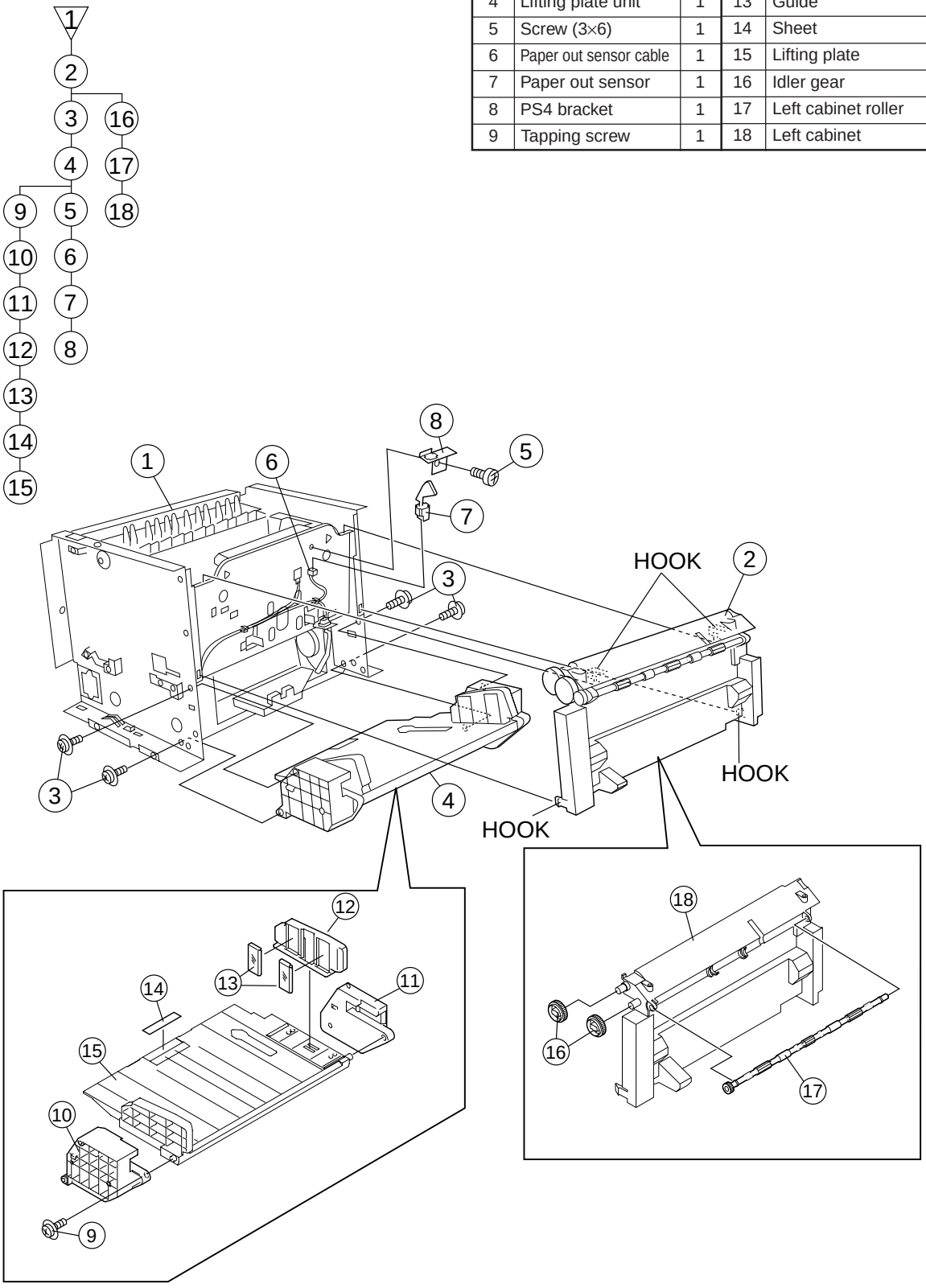


Fig. 8

9 Power supply PWB unit

Parts list (Fig. 9)

No.	Part name	Q'ty	No.	Part name	Q'ty
1	Printer unit	1	7	Power supply unit	1
2	Screw (2.3×8)	1	8	Screw (4×6)	1
3	Safety switch cable	1	9	Screw (3×6)	3
4	Safety switch	1	10	Power supply cable	2
5	Screw (3×6)	4	11	Power supply PWB unit	1
6	Cable	3	12	Wire holder	3
			13	Power supply bracket	1

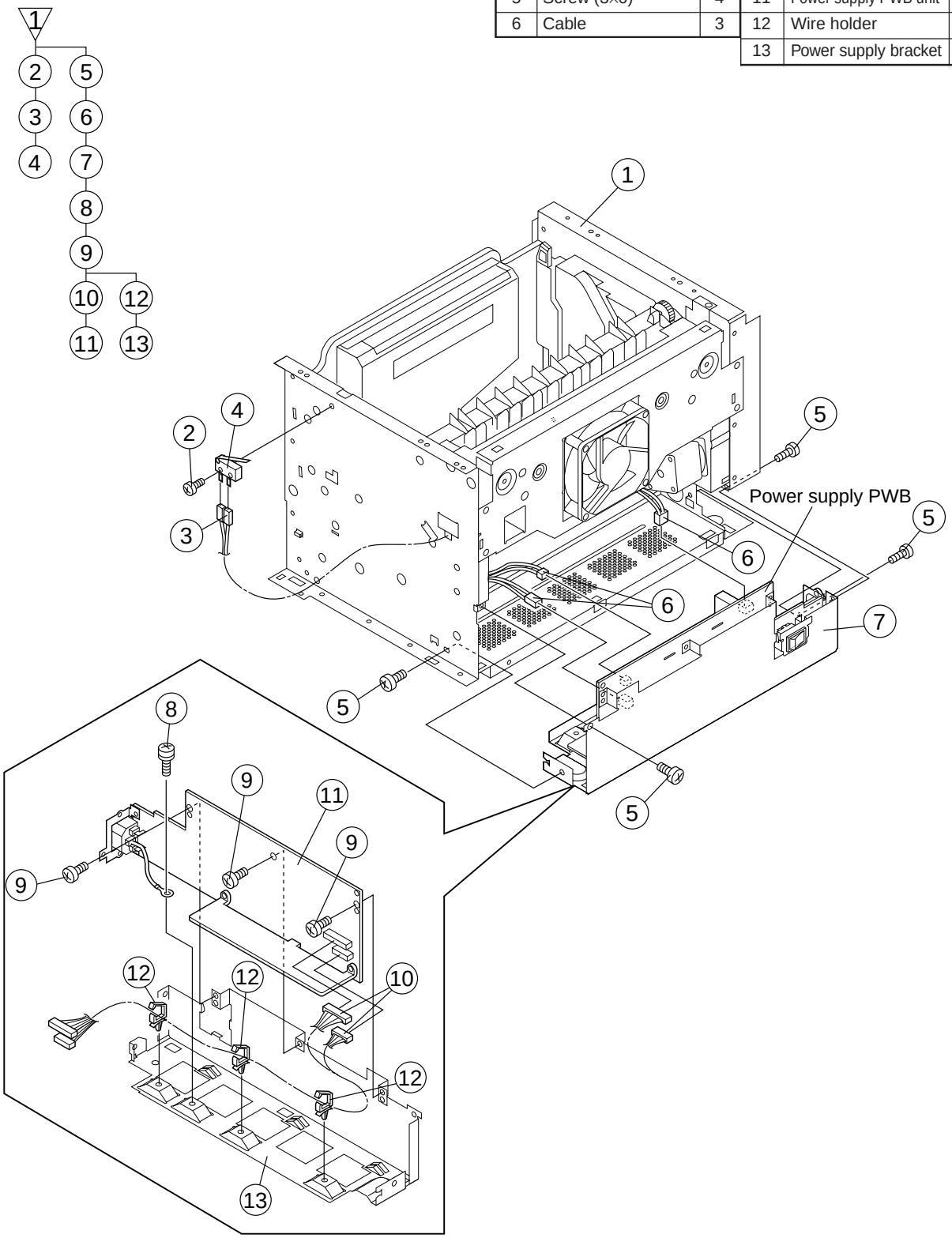


Fig. 9

10	Scanner frame unit (1/2)

Parts list (Fig. 10)

No.	Part name	Q'ty
1	Scanner frame unit	1
2	Operation panel unit	1
3	Screw (3×10)	5
4	Document guide under	1

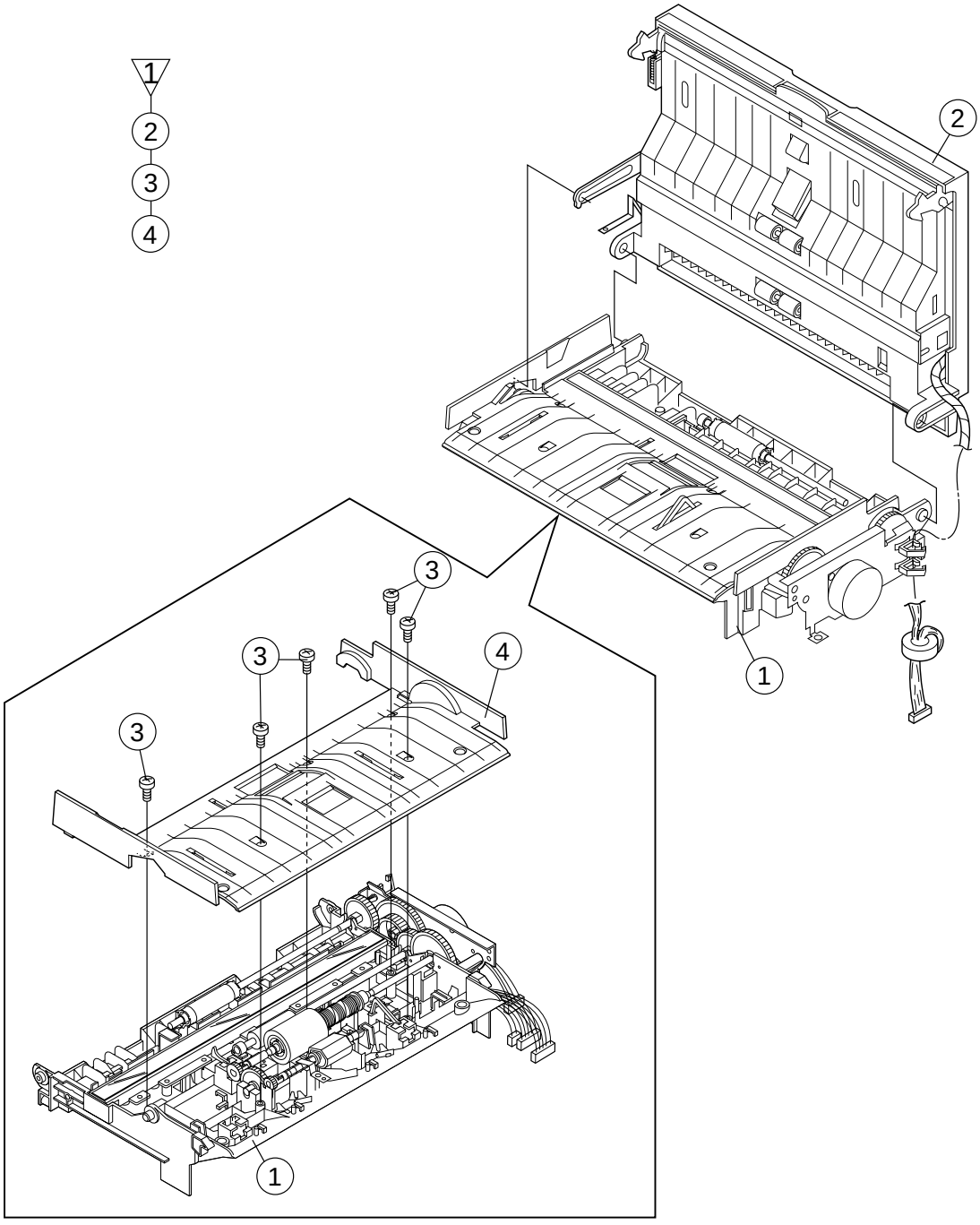


Fig. 10

11 Scanner frame unit (2/2)

Parts list (Fig. 11)

No.	Part name	Q'ty	No.	Part name	Q'ty	No.	Part name	Q'ty
1	Scanner frame unit	1	17	Stopper spring	1	33	Document sensor switch	1
2	Scanner bearing 2	2	18	Transfer idler gear	1	34	Transfer sensor switch	1
3	Drive gear (49z)	2	19	Screw (3×10)	3	35	Front sensor switch	1
4	DR bearing	2	20	Scanner drive unit	1	36	Document sensor cable	1
5	Scanner drive roller 2	1	21	Transfer roller	1	37	Pinch roller spring	2
6	Scanner drive roller 1	1	22	ADF transfer gear	1	38	Pinch roller	2
7	Scanner bearing 1	2	23	CIS unit	1	39	Screw (3×10)	2
8	Paper feed gear (73z)	1	24	CIS cable	1	40	Scanner support plate	1
9	Bearing	1	25	Core	1	41	Paper earth brush	1
10	Scanner feed shaft 2	1	26	CIS spring	2	42	Screw (3×10)	2
11	Scanner feed clutch	1	27	Screw (3×6)	1	43	Anti curl piece	2
12	Scanner feed roller	1	28	SD2 earth spring	1	44	Screw (3×6)	2
13	E type ring (5mm)	1	29	Screw (3×6)	1	45	Transfer motor	1
14	ADF feed gear	1	30	Screw (3×10)	1	46	RS gear (50/87z)	1
15	Scanner feed shaft	1	31	FD1 earth spring	1	47	RS gear (18/60z)	1
16	Screw (3×10)	1	32	Verification stamp (FO-45VS)	1	48	Clamp	2
						49	Drive system plate	1

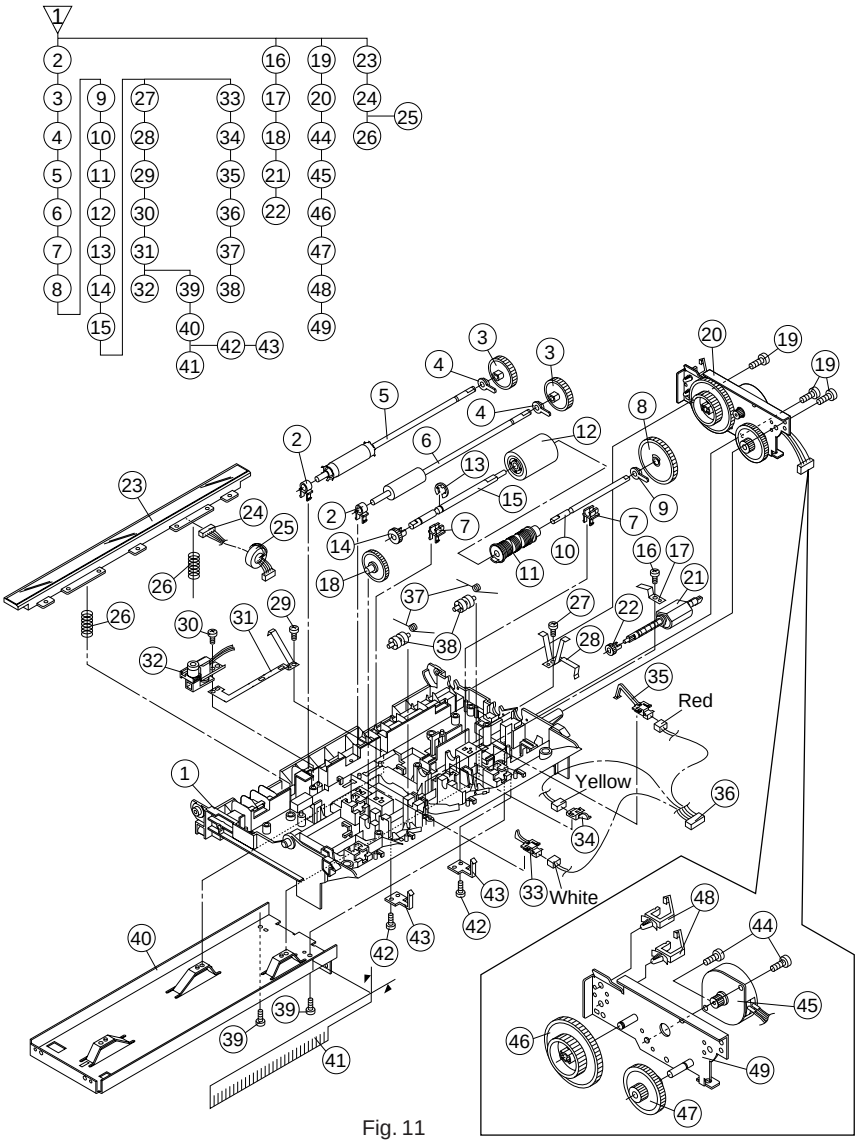


Fig. 11

12 Document guide upper unit, Operation panel unit

Parts list (Fig. 12)

No.	Part name	Q'ty	No.	Part name	Q'ty	No.	Part name	Q'ty
1	Operation panel unit	1	14	Pinch roller	4	27	Operation panel PWB unit	1
2	Screw (3×10)	3	15	Separate plate	1	28	Change key	1
3	Document guide upper unit	1	16	Separate gum	1	29	Direct key	1
4	Release lever	1	17	Separate sheet	1	30	12key	1
5	Release lever spring	1	18	Let out piece	1	31	Mode key	1
6	Screw (3×8)	1	19	Input pressure spring	1	32	Stop key	1
7	Document guide stopper	1	20	Back sheet	1	33	Start key	1
8	Screw (3×10)	2	21	Paper brush	1	34	Scan wide sheet	2
9	Document upper plate	1	22	Back guide	1	35	Page plate	1
10	Brush earth spring	1	23	Back bracket	1	36	Decoration panel	1
11	Separate spring	1	24	Document guide upper unit	1	37	LCD	1
12	Pinch roller spring 2	4	25	Screw (2×6)	6	38	LCD cushion	2
13	Pinch roller shaft	2	26	Panel cable	1	39	Panel case	1

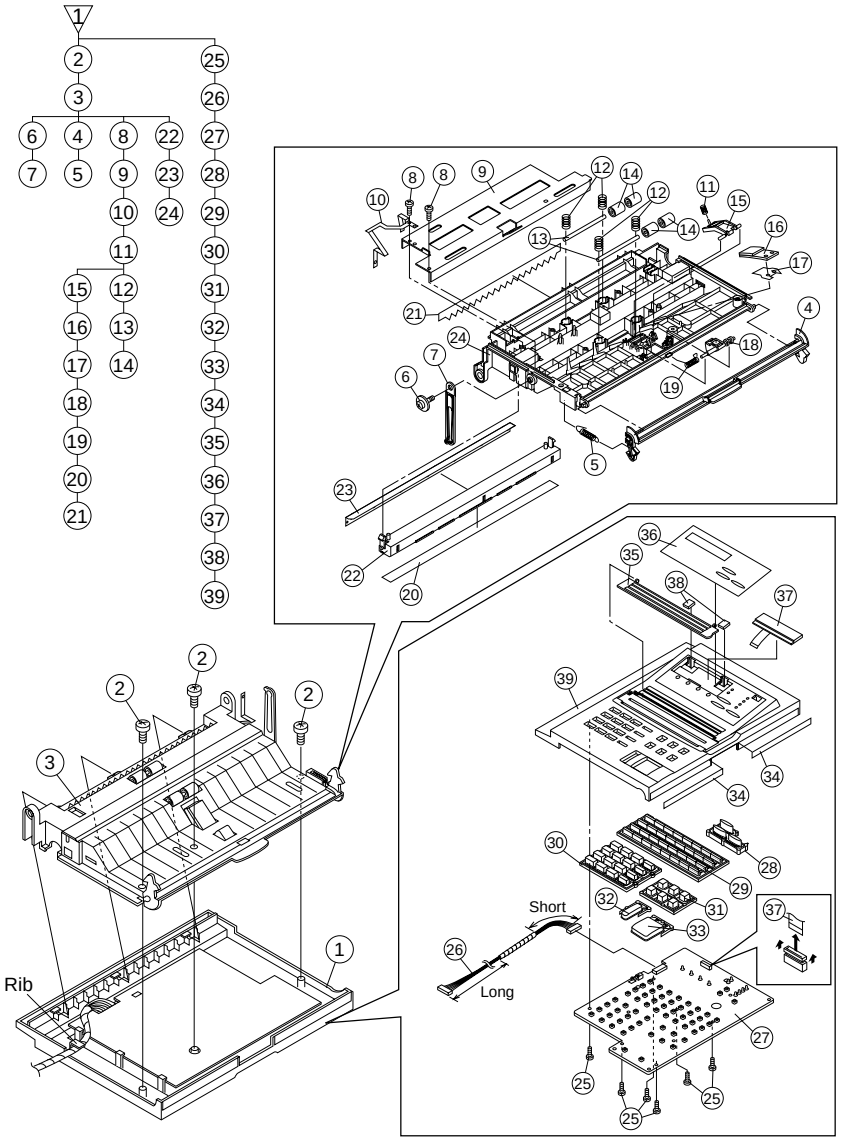
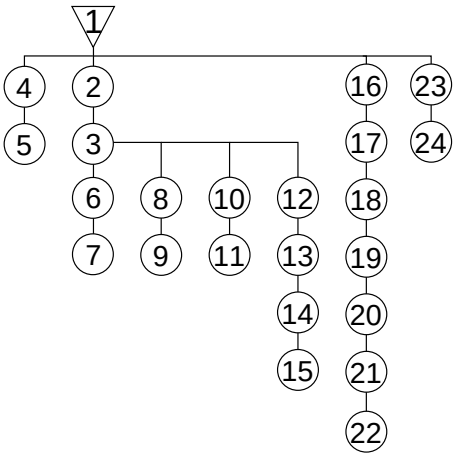


Fig. 12

13 Upper cover

Parts list (Fig. 13)

No.	Part name	Q'ty	No.	Part name	Q'ty
1	Upper cover	1	12	Idler gear (32z)	6
2	Screw (3×10)	4	13	Upper cover roller	1
3	Upper cover guide under	1	14	Upper cover gear bracket	1
4	Upper cover lock button	1	15	Gear bracket spring	1
5	Upper cover stopper	1	16	Paper exit guide upper	1
6	Reflection sheet	1	17	Pinch roller ass'y	2
7	Press spring	2	18	Screw (3×8)	1
8	Screw (3×8)	2	19	Pinion gear	1
9	Upper cover lock nail	1	20	Hopper spring	1
10	DRUM detect lever spring	1	21	Hopper guide left	1
11	DRUM detect lever	1	22	Hopper guide right	1
			23	Upper cover cushion	1



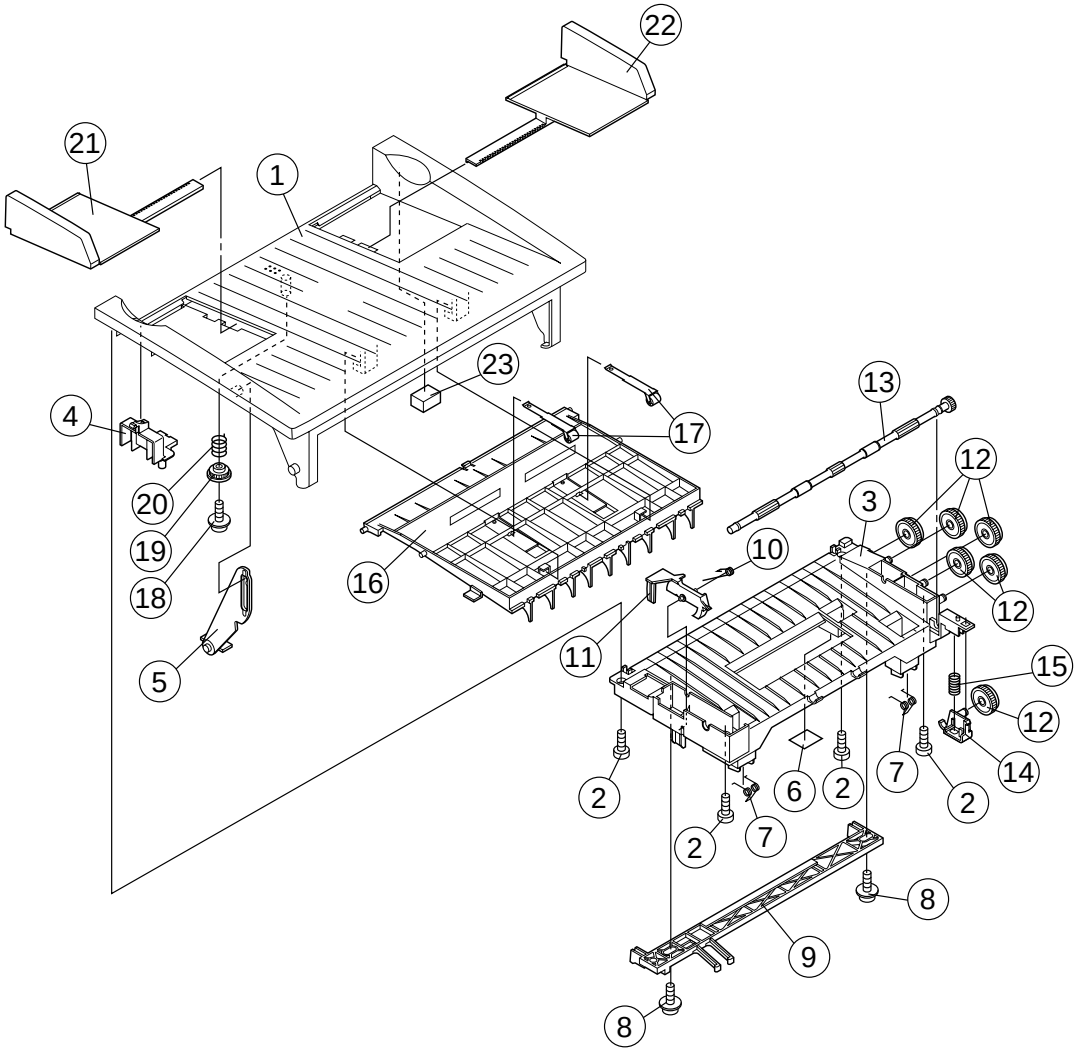


Fig. 13

14 Wire treatment

Parts list (Fig. 14)

No.	Part name	Q'ty
1	Band	2
2	Core	2

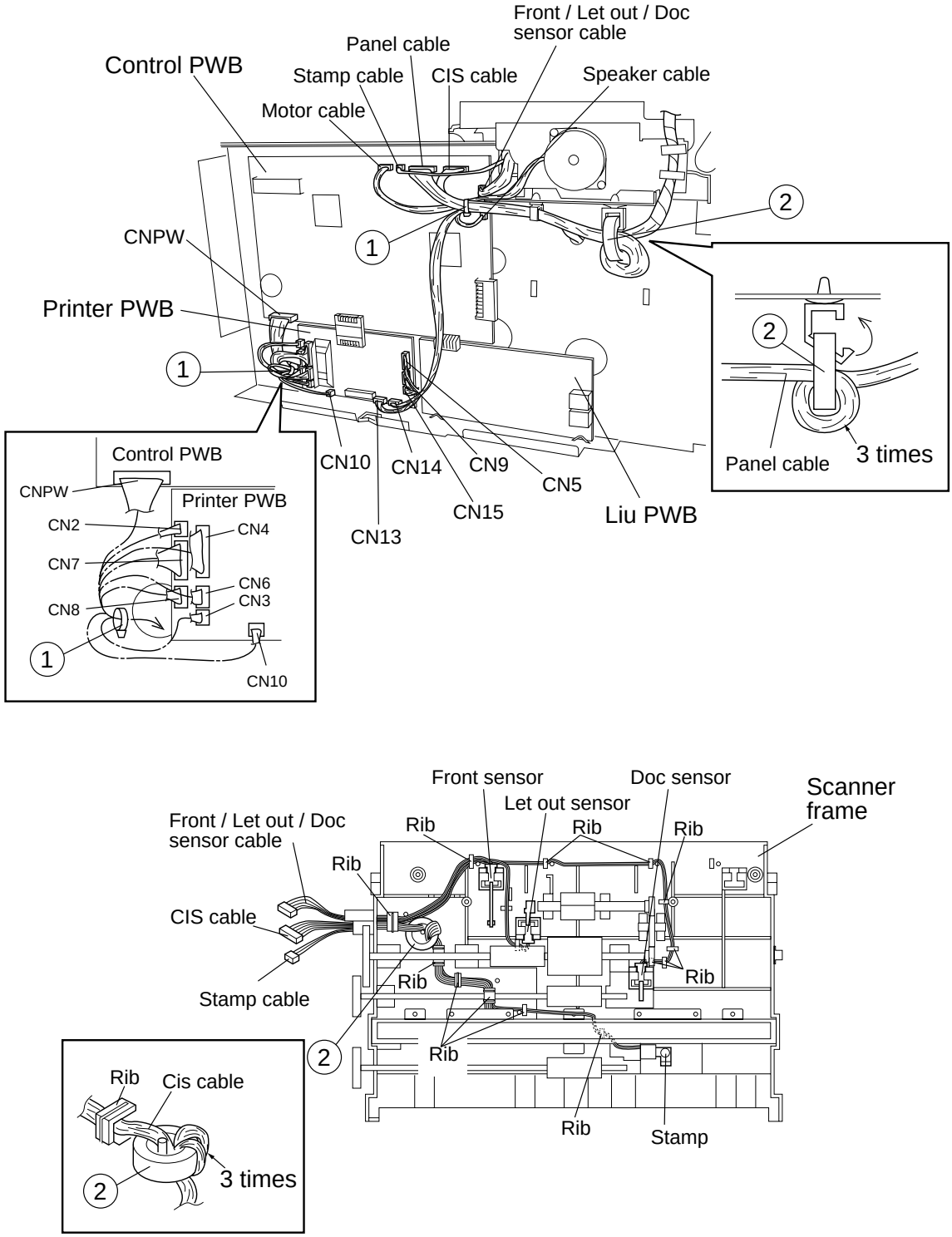
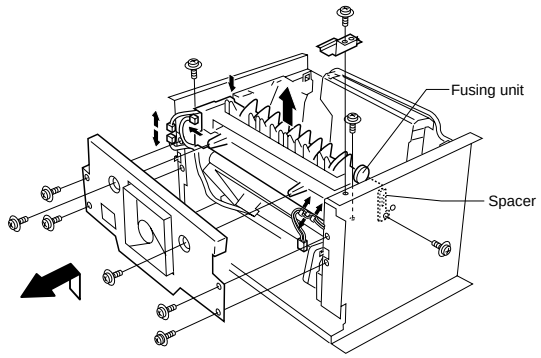


Fig. 14

15 Rear cover, Fusing unit (1/2)

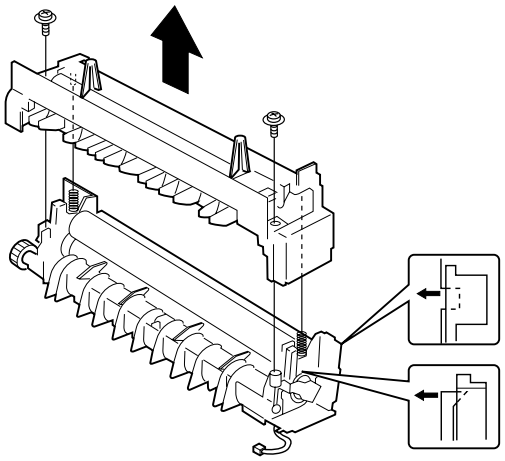


Replace the Fusing unit about every 50,000 sheets of print.

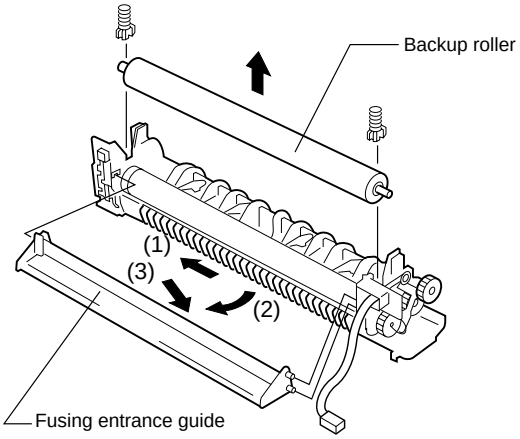
1. Remove the Rear cover. (6 screws)
2. Remove the Fusing unit. (4 screws, 3 connectors)

NOTE:

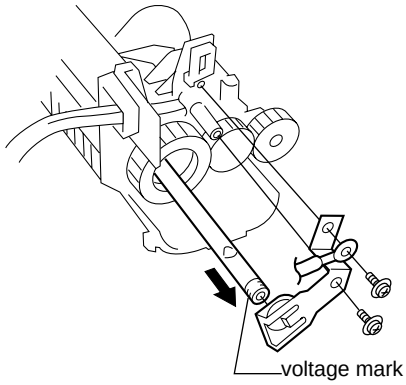
- **Once the Fusing unit is removed, use the following instructions to make repairs when image quality problems or parts failure occurs.**



3. Remove two screws.
4. To release the upper unit, push in the clip in the upper mid section of each end, then free the button to the side of each end.



5. Remove the Backup roller.
6. Remove the Fusing entrance guide.
   (1) Push the guide to the left.
   (2) Pull the right end out.
   (3) Pull out the left end.



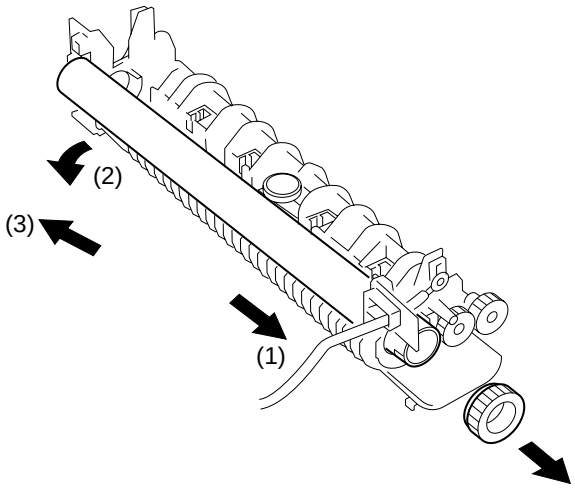
7. Remove the Lamp holder. (2 screws)
8. Pull out the Heater lamp.

NOTE:

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

Fig. 15

16 Fusing unit (2/2)



1. Remove fusing drive gear from the Heater roller.
2. Remove the Heater roller from the Fusing unit.
   (1) Slide the roller to the right.
   (2) Swing out the left end.
   (3) Slide out the right end.

NOTE:

- **In order not to scratch the surface of the Heater roller with the Fusing separators, lift the separators as much as possible when removing or installing the roller.**

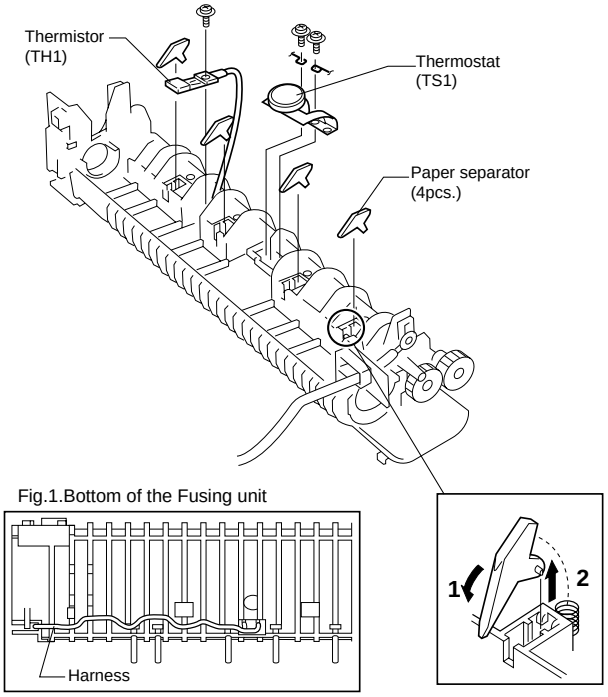


Fig.1.Bottom of the Fusing unit

3. Remove the four Fusing paper separators.
4. Remove the Thermistor (TH1). (1 screw)

NOTE:

- **Route the harness along the bottom of the Fusing unit when attaching the Thermistor, as shown in Fig. 1.**

5. Remove the Thermostat (TS1). (2 screws)

Fig. 16

17 Print head unit

1. Unplug the one connector from the PWB and remove the wiring from the cord holders.
2. Remove the Print head unit. (5 screws)

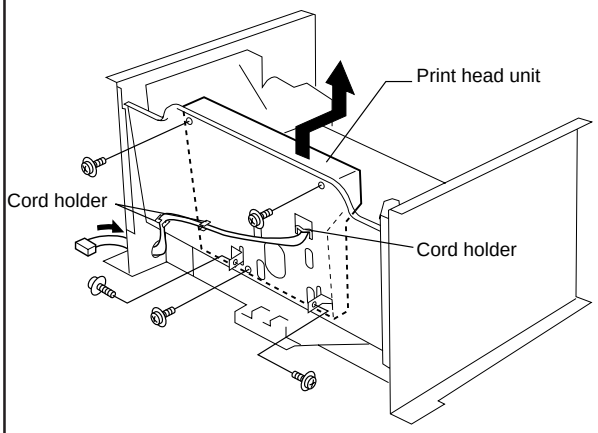


Fig. 17

18 High voltage PWB unit (HV1)

1. Remove the High voltage PWB. (HV1) (2 screws, 1 connector)

NOTE:

- **When mounting HV1, be sure to secure it to the bracket shown in Fig. 1.**

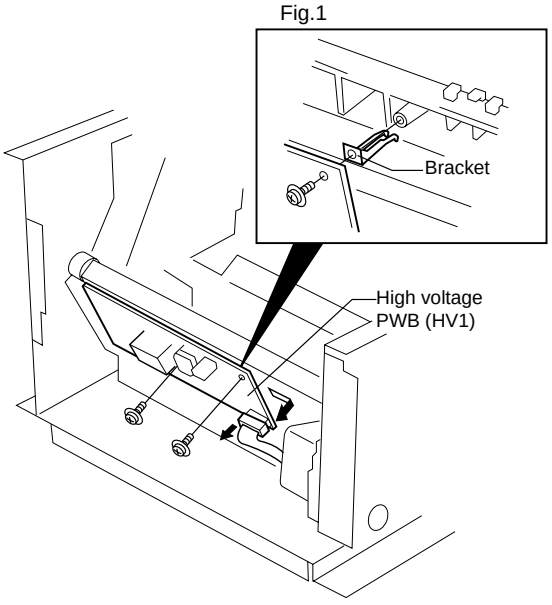
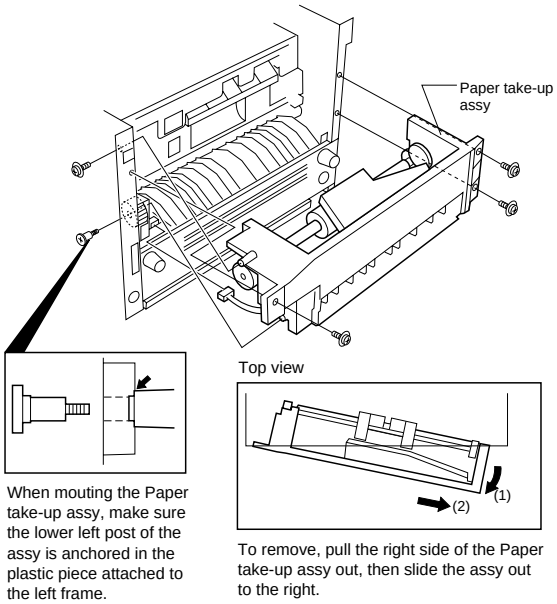


Fig. 18

19 Paper take-up ass'y, Paper take-up sensor (PS1)

1. Turn the machine over on its back side and then remove the Paper take-up ass'y. (5 screws, 1 connector)



When mouting the Paper take-up assy, make sure the lower left post of the assy is anchored in the plastic piece attached to the left frame.

To remove, pull the right side of the Paper take-up assy out, then slide the assy out to the right.

2. Remove the Paper take-up assembly.
3. Remove the Paper take-up sensor (PS1) and unplug the connector.

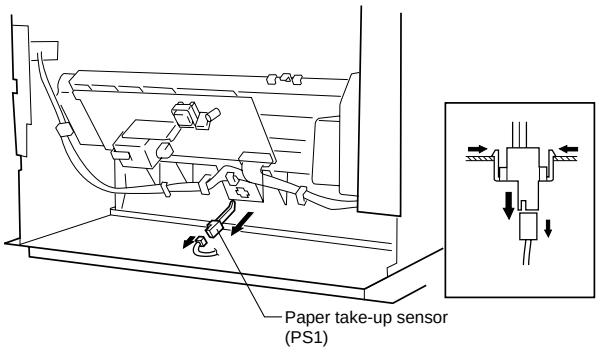


Fig. 19

20 Paper empty sensor (PE1)

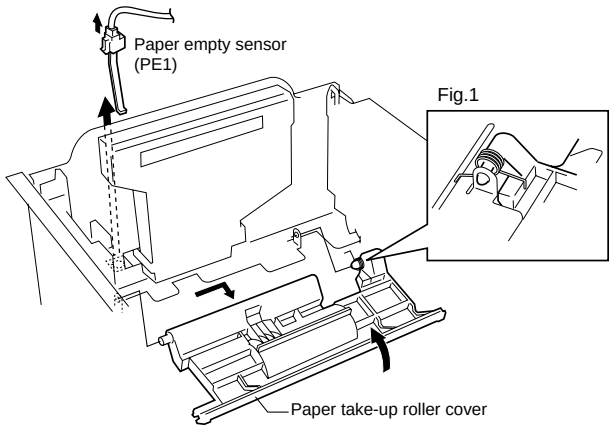


Fig. 20

1. Remove the Paper take-up roller cover.

NOTE:

- **When attaching the cover, hook the spring of the cover as shown in Fig. 1.**

2. Remove the Paper empty sensor (PE1) and unplug the connector.

21 Printer motor (M1)

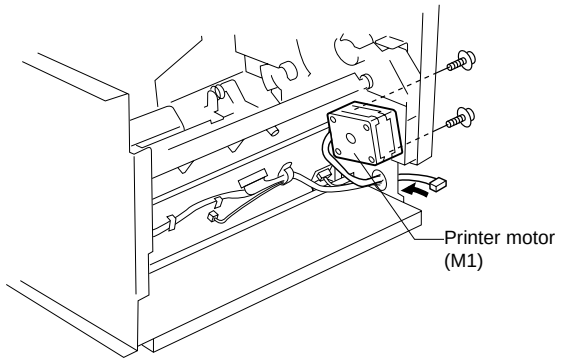


Fig. 21

1. Remove the Printer motor. (2 screws, 1 connector)

22 Cassette unit, 2nd. cassette PWB unit

Parts list (Fig. 22)

No.	Part name	Q'ty
1	2nd. paper feed ass'y	1
2	Cassette unit	1
3	Screw (3×10)	1
4	PWB cover	1
5	Screw (3×6)	1
6	Lever bracket	1
7	2nd. paper sensor lever	1
8	Screw (3×10)	2
9	Cassette connect cable	1
10	2nd. cassette PWB unit	1
11	Bearing sheet	2

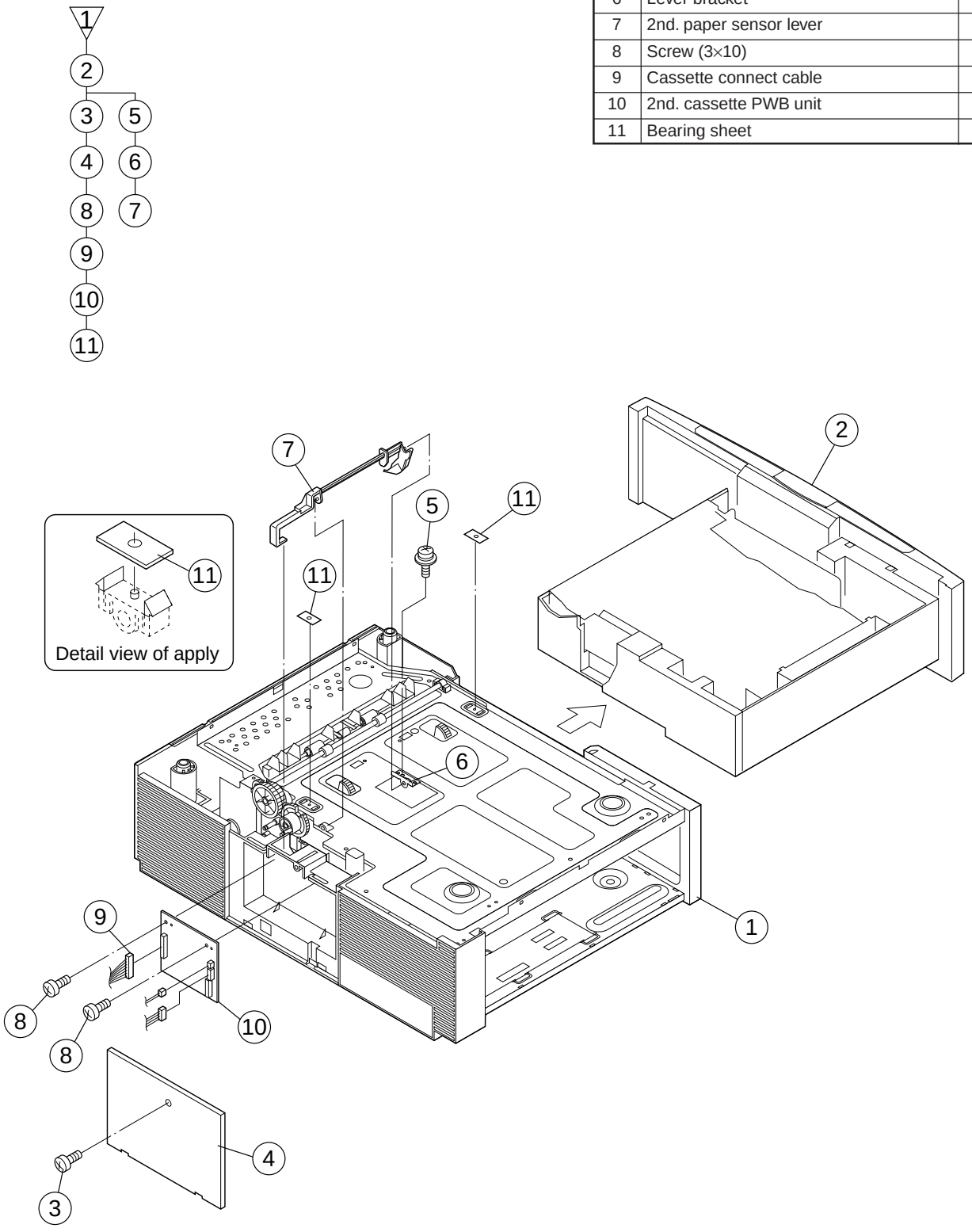


Fig. 22

23	2nd. drive unit

Parts list (Fig. 23)

No.	Part name	Q'ty
1	2nd. paper feed ass'y	1
2	Docking gear	1
3	2nd. clutch spring	1
4	Paper feed clutch gear	1
5	Roller pin	1
6	2nd. PU roller	1
7	2nd. drive bearing	1
8	2nd. drive bearing	2
9	Paper drive gear	1
10	2nd. drive roller	1
11	Screw (3×6)	3
12	Screw (3×10)	1
13	2nd. drive unit	1

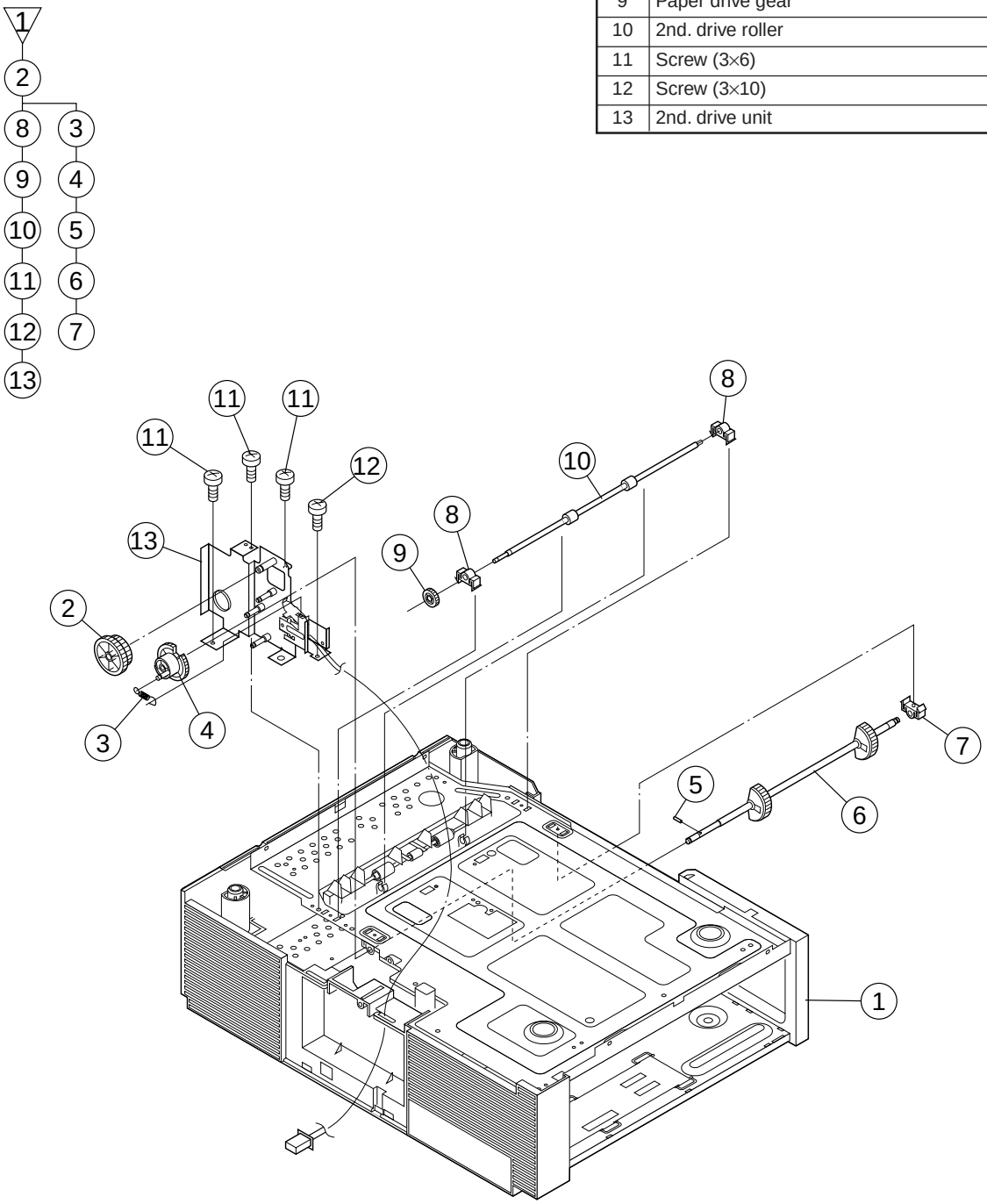


Fig. 23

24	2nd. top plate

Parts list (Fig. 24)

No.	Part name	Q'ty
1	2nd. paper feed ass'y	1
2	Screw (3×6)	4
3	Screw (3×10)	2
4	Slide frame plate	1
5	Slide frame cover	1
6	Screw (3×10)	7
7	2nd. top plate	1
8	2nd. guide upper	1
9	2nd. drive bearing	1

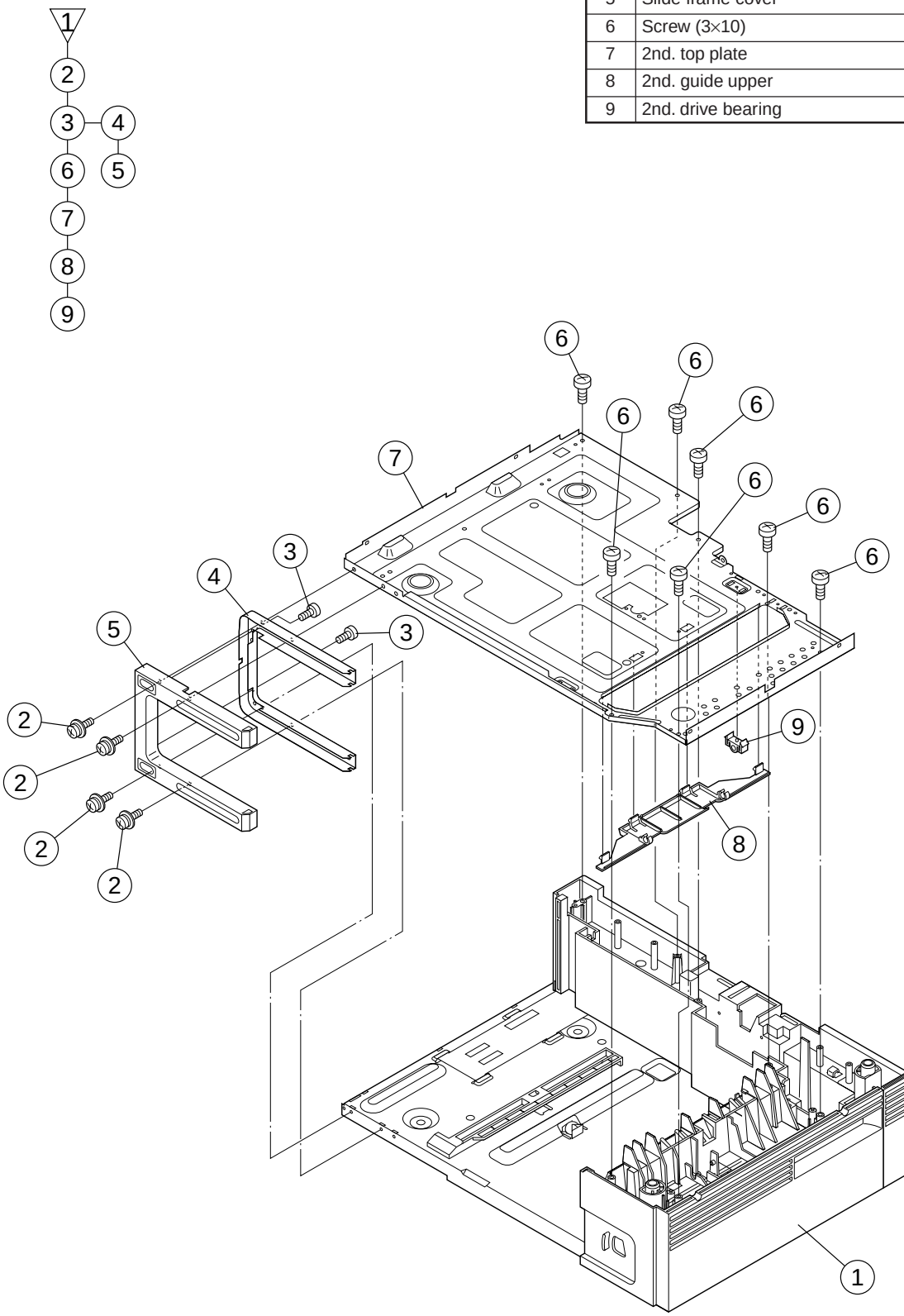


Fig. 24

25 2nd. right cabinet unit, 2nd. rear cabinet

Parts list (Fig. 25)

No.	Part name	Q'ty
1	2nd. paper feed ass'y	1
2	Cassette sensor cover	1
3	Sensor sheet	1
4	Cassette size sensor	1
5	2nd. paper size cable	1
6	Screw (3×6)	6
7	Screw (3×10)	2
8	2nd. rear cabinet	1
9	2nd. right cabinet unit	1

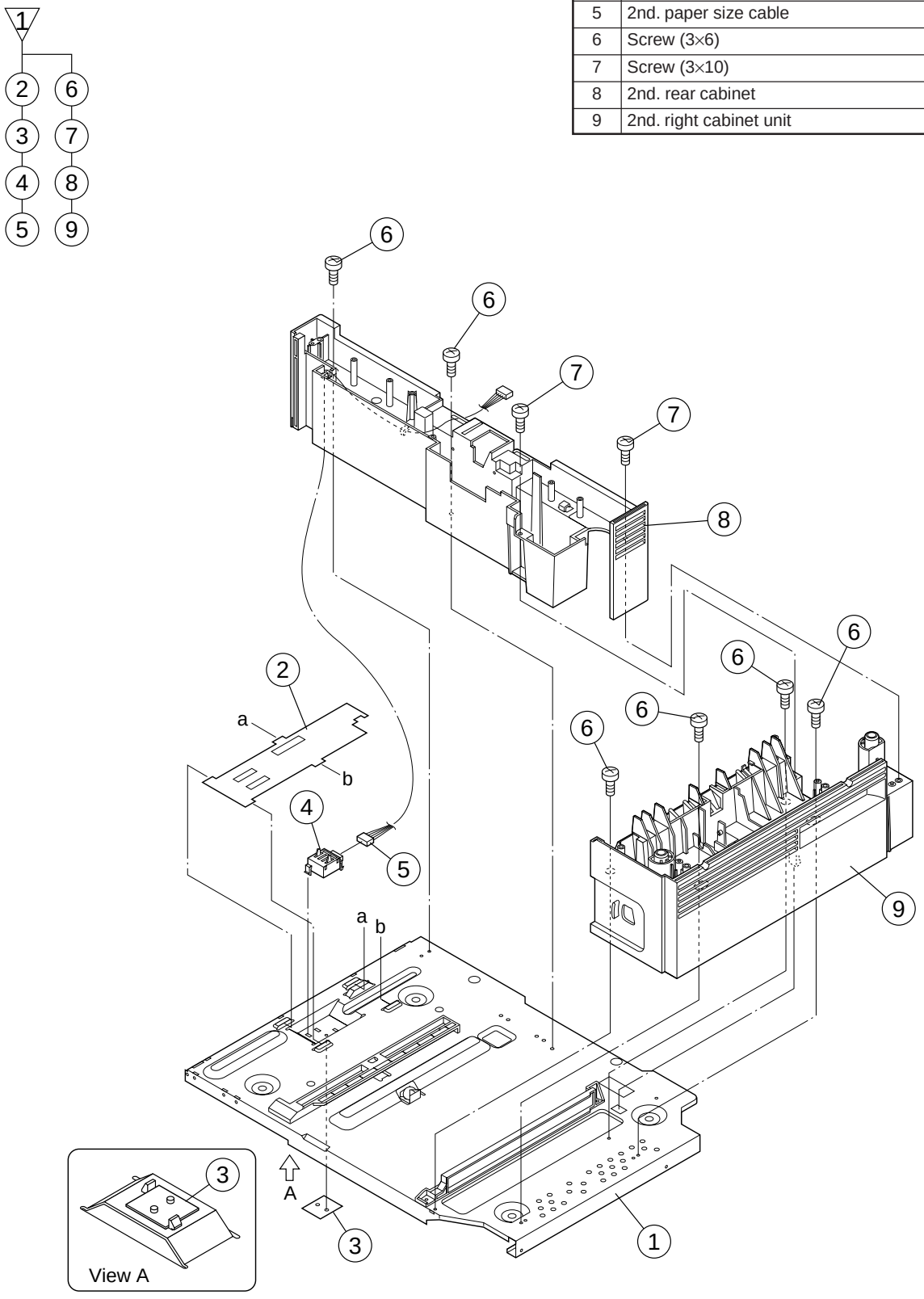
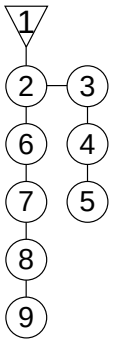


Fig. 25

26 2nd. bottom plate

Parts list (Fig. 26)

No.	Part name	Q'ty
1	2nd. bottom plate	1
2	Screw (3×6)	4
3	2nd. cassette rail left	1
4	Cassette lock spring	1
5	Cassette lock piece	1
6	2nd. cassette rail right	1
7	Foot	4
8	Screw (3×10)	1
9	Separate nail rear cap	1



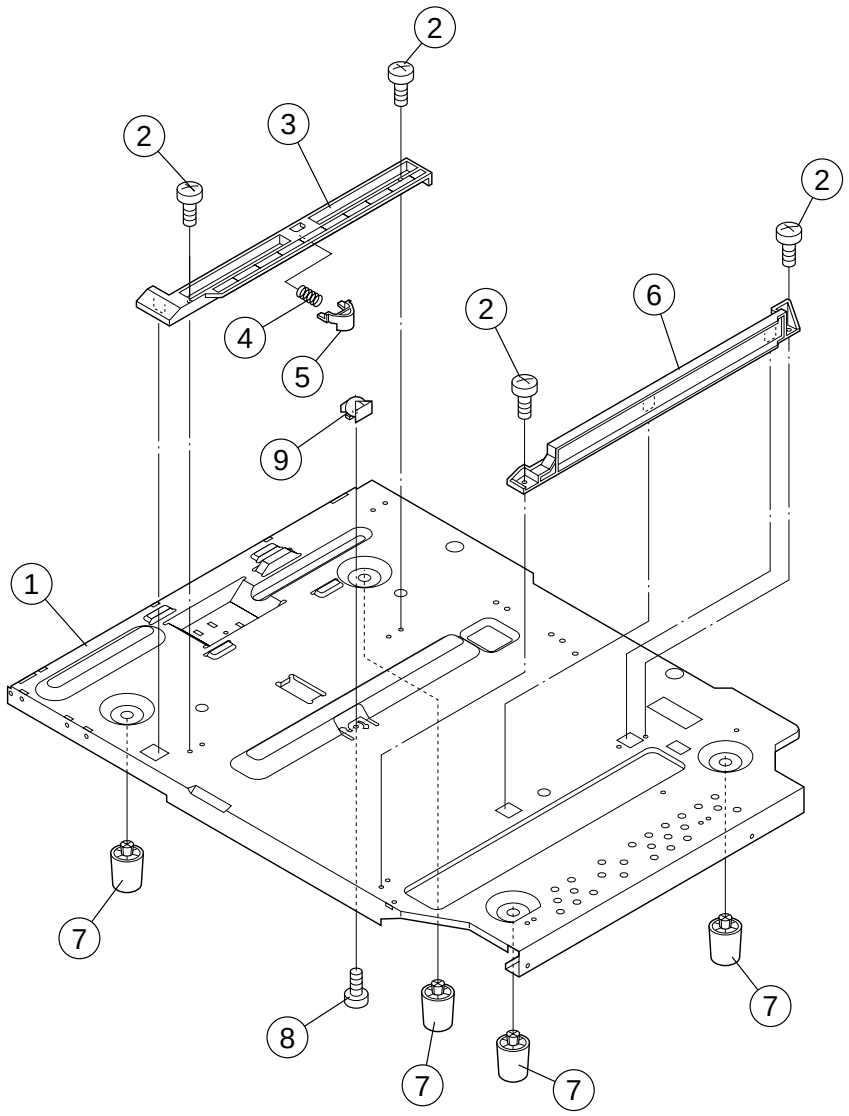


Fig. 26

27 2nd. right cabinet

Parts list (Fig. 27)

No.	Part name	Q'ty
1	2nd. right cabinet	1
2	2nd. release shaft	1
3	2nd. release lever	1
4	2nd. lever joint 2	1
5	2nd. release lever spring	1
6	2nd. pinch roller shaft	1
7	Pinch roller	2
8	2nd. lever joint 1	1
9	2nd. pinch roller spring	2

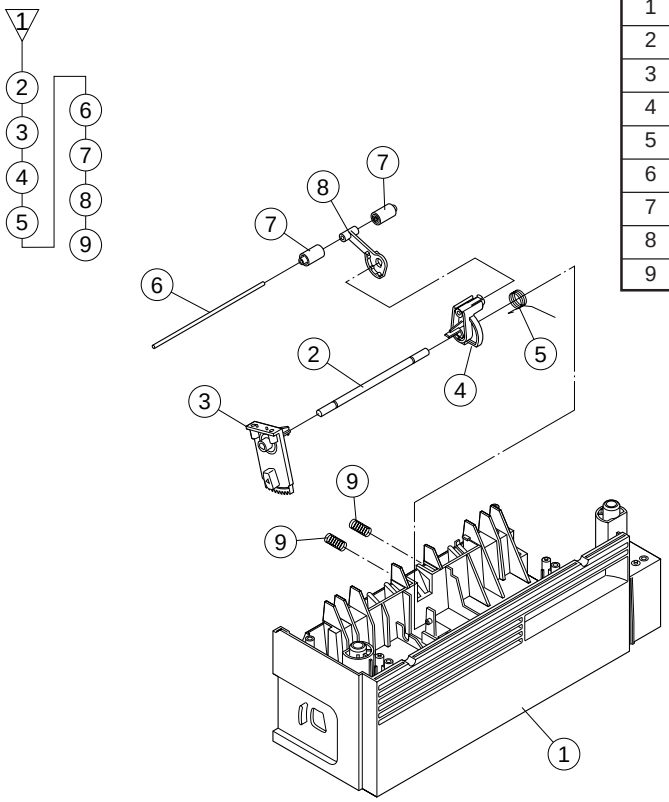


Fig. 27

28 2nd. drive system plate

Parts list (Fig. 28)

No.	Part name	Q'ty
1	2nd. drive system plate	1
2	Screw (3×6)	1
3	Solenoid	1

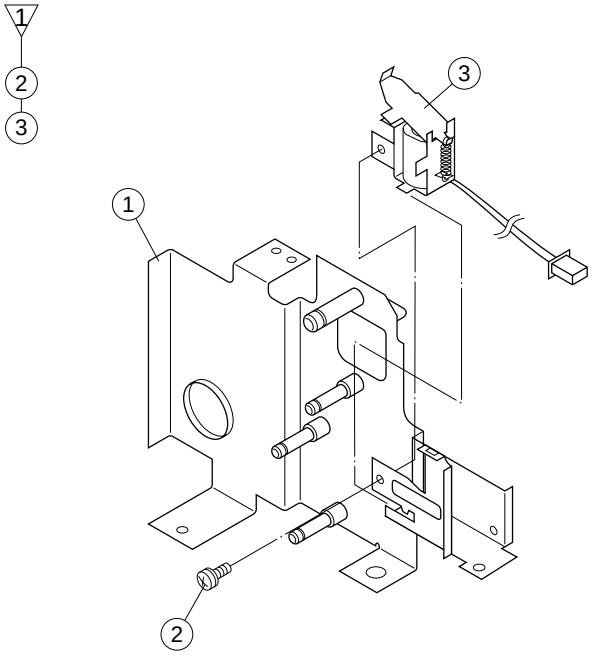


Fig. 28

29 Cassette unit (1/2)

Parts list (Fig. 29)

No.	Part name	Q'ty
1	Cassette unit	1
2	Cassette push up plate	1
3	Cork sheet	2
4	Cassette push setting label	1
5	Push up plate spring	2
6	Paper limit label 2	1
7	Cassette blind sheet left	1
8	Cassette blind sheet right	1

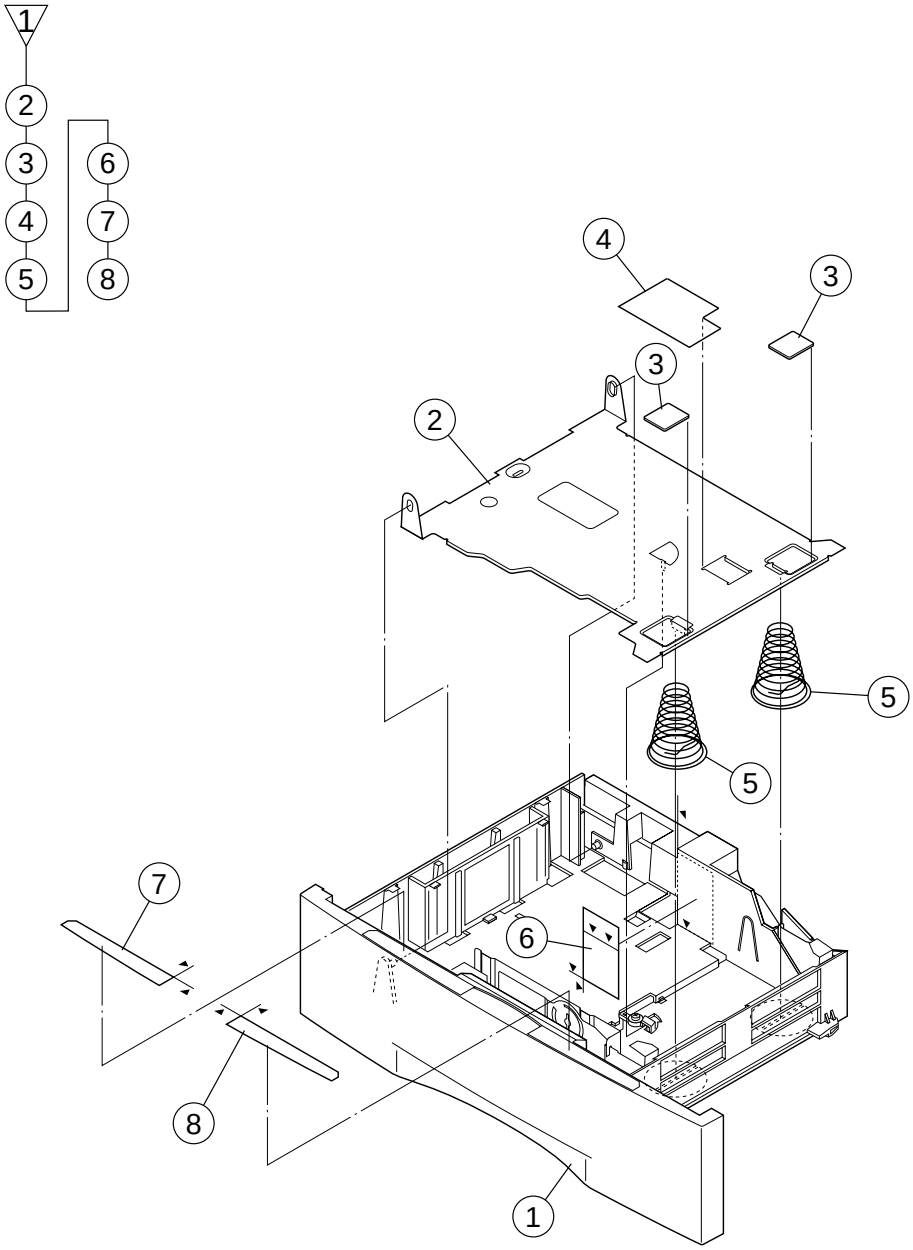
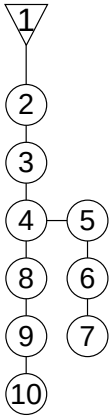


Fig. 29

30	Cassette unit (2/2)

Parts list (Fig. 30)

No.	Part name	Q'ty
1	Cassette unit	1
2	Cassette back guide	1
3	Cassette back sponge	2
4	Screw (3×10)	2
5	Cassette width guide	1
6	Separate nail front	1
7	Cassette width sponge A	2
8	Screw (3×8)	1
9	Separate nail rear	1
10	Separate nail rear cap	1



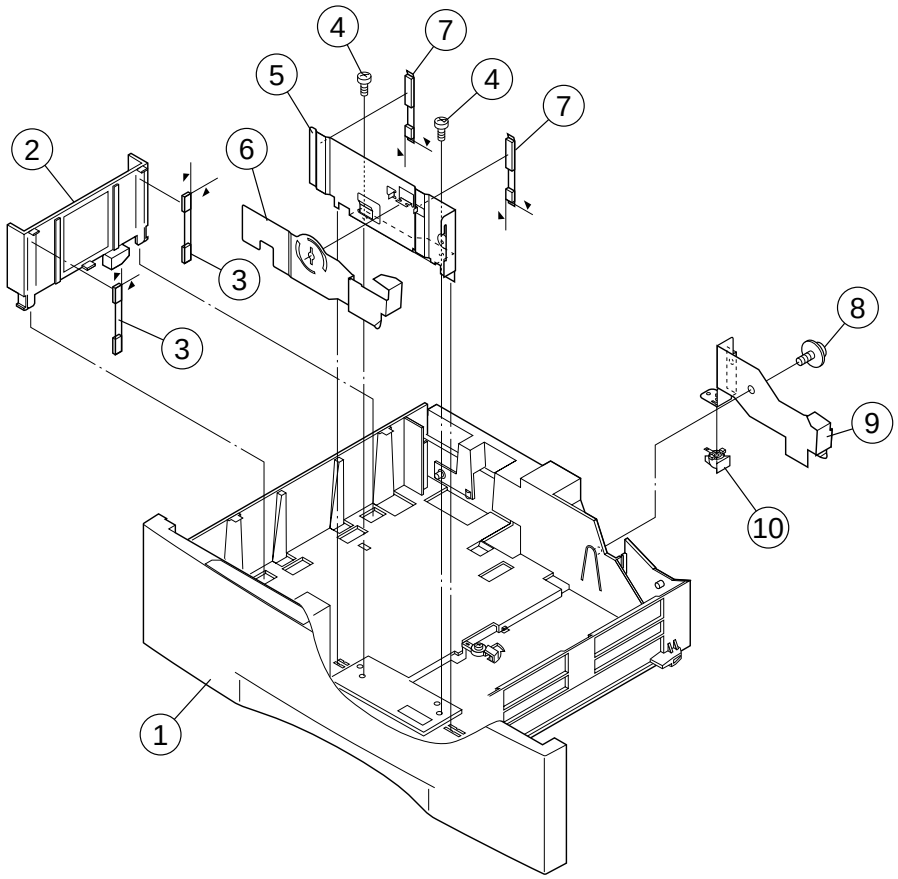
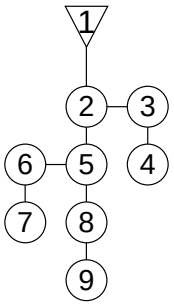


Fig. 30

31 Cassette case

Parts list (Fig. 31)

No.	Part name	Q'ty
1	Cassette case	1
2	Screw (3×10)	4
3	Ext. cassette case	1
4	Cassette back sponge	2
5	Screw (3×8)	1
6	Lock down piece	1
7	Lock down spring	1
8	Cassette width sponge C	1
9	Cassette width sponge B	1



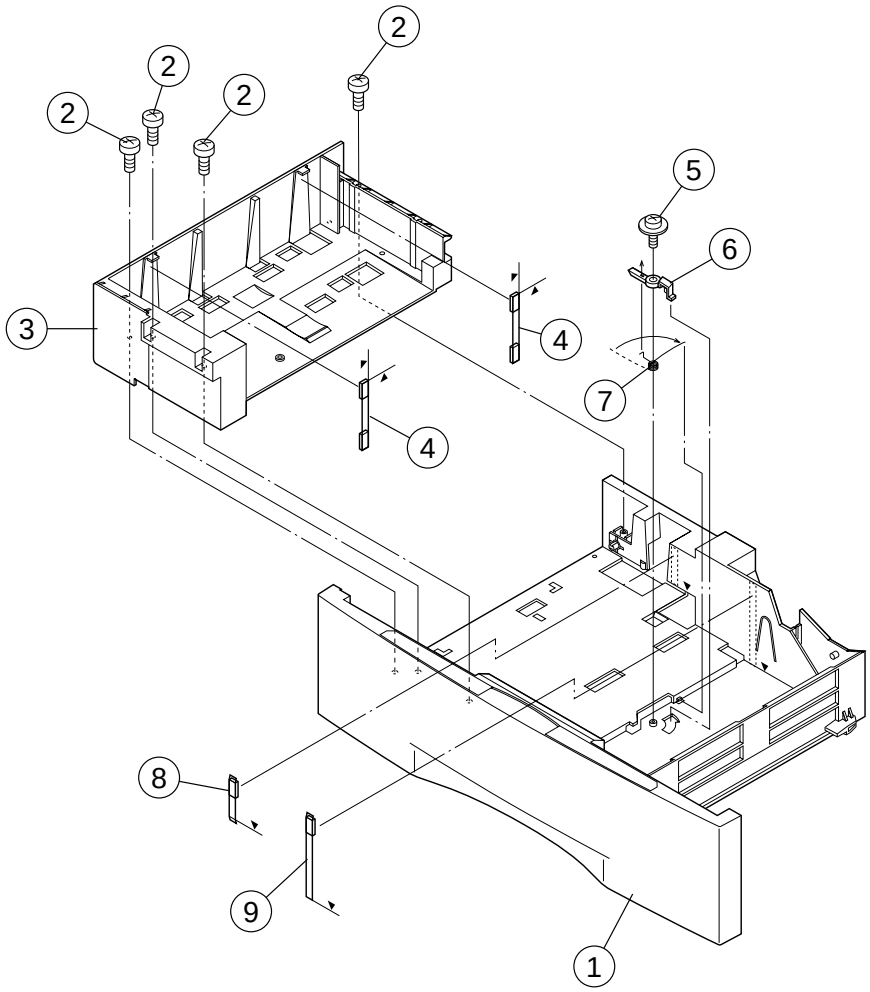
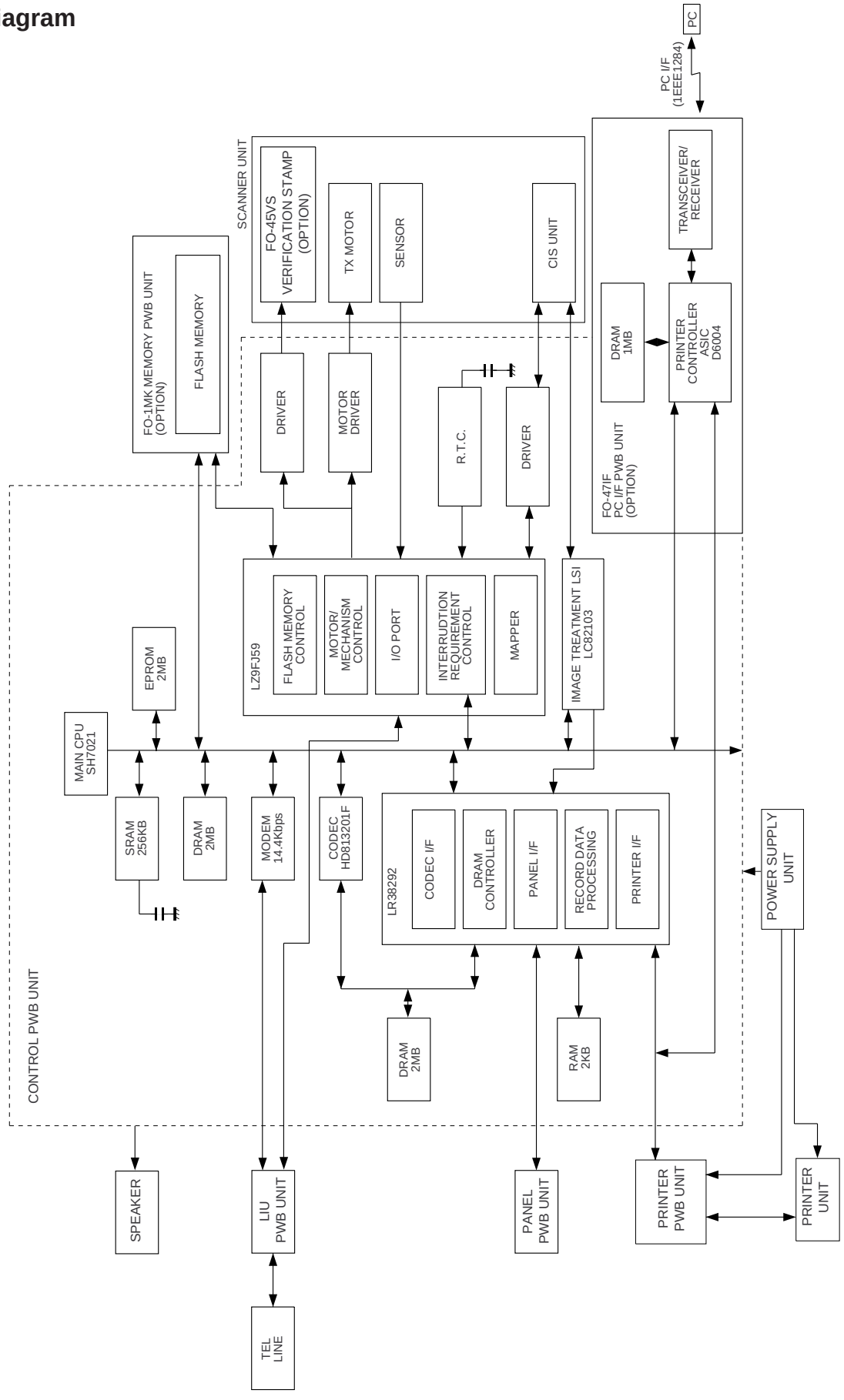


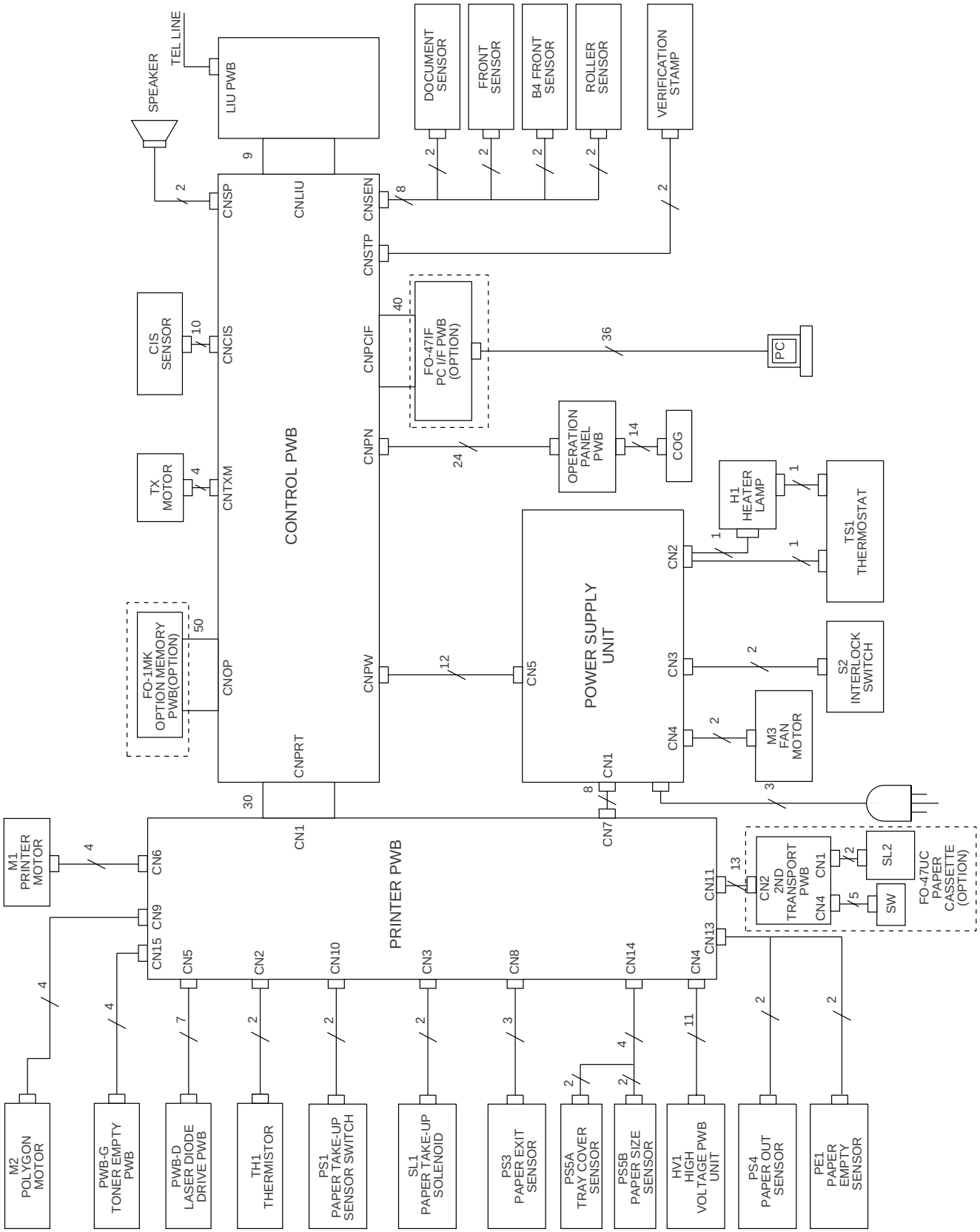
Fig. 31

CHAPTER 4. DIAGRAMS

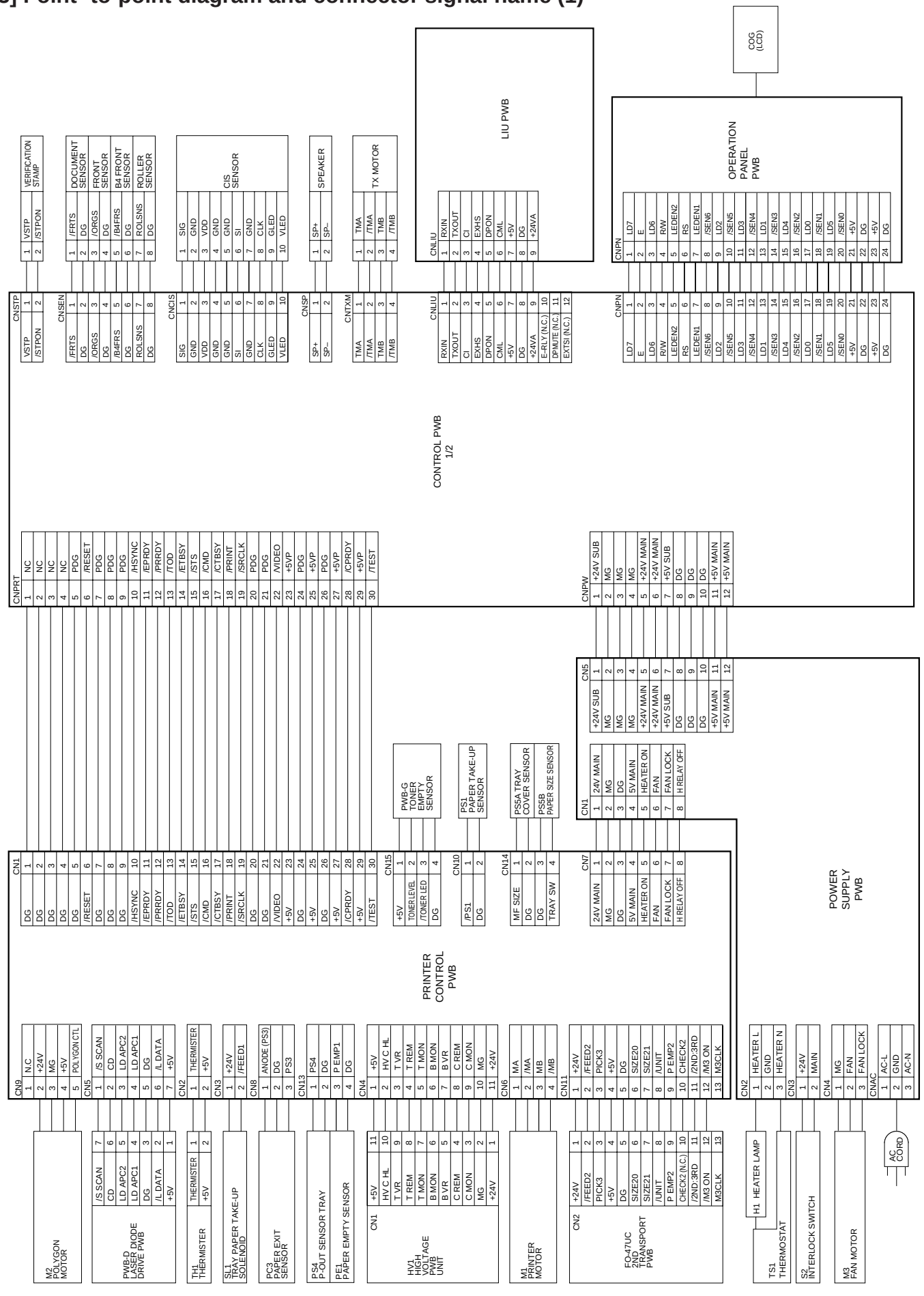
[1] Block diagram



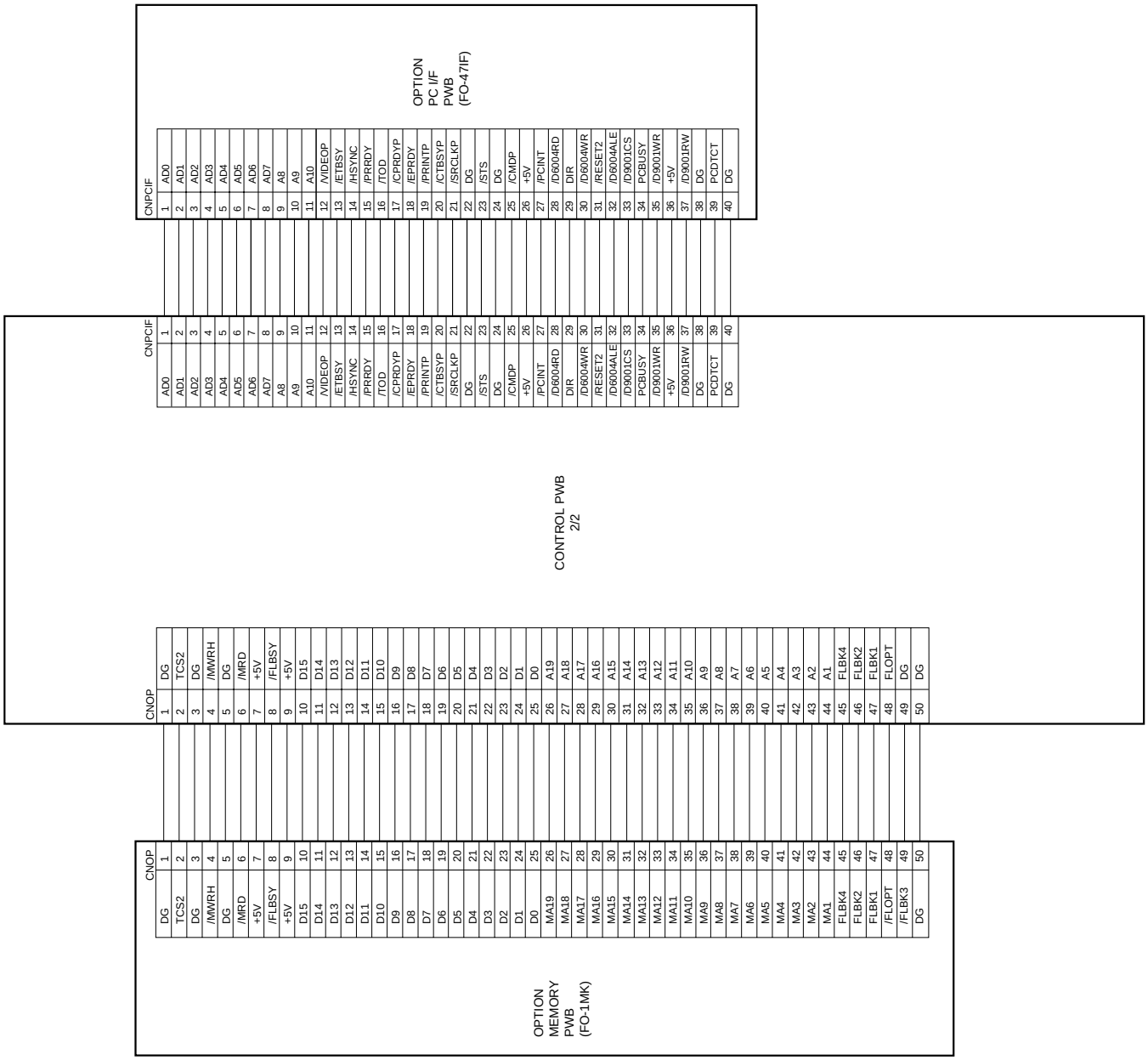
[2] Wiring diagram



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



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



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

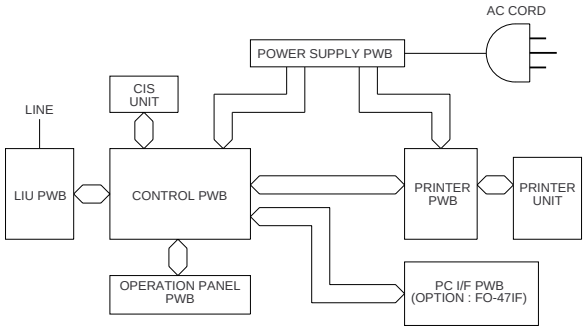


Fig. 1

1) Control PWB

The control PWB controls all the other operations except the printing operation of the printer.

2) LIU PWB

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

3) CIS UNIT

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

4) 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.

5) Power supply PWB

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

6) PC I/F PWB (Option : FO-47IF)

An interface to PC is done by IEEE1284, and image data (bitmap) from PC are outputted to the printer.

[2] Circuit description of control PWB

1. General description

The control PWB is composed of the following blocks.

① Main control block
② Image memory block
③ Modem block
④ Image signal process block
⑤ Speaker amplifier
⑥ Reading process and mechanical control block
⑦ Gate array (A) block
⑧ Gate array (B) block
⑨ CODEC block
⑩ Page memory block
⑪ Drive block

2. Description of each block

(1) Main control block

The main control block uses RISC microprocessor HD6437021 as CPU, being composed of ROM (2 MByte) and DRAM (2 MByte).
DRAM uses 1 MByte out of 2 MByte as an image memory. (Refer to the (2) image memory block)

1) SH7021 (IC27): 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 (HD813201F) and DRAM(IC16).
ch.2: Used to transmit image data between Flash memory (option) and DRAM(IC16).

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

④ Interruption
$\overline{IRQ4}$, $\overline{IRQ7}$: Interruption request from gate array (A) (LZ9FJ59)
$\overline{IRQ6}$: Interruption request from gate array (B) (LR38292)
$\overline{IRQ0}$, $\overline{IRQ1}$, $\overline{IRQ2}$, $\overline{IRQ3}$, $\overline{IRQ5}$, $\overline{IRQ7}$: Not used.
$\overline{NMI}$: Not used.

⑤ DRAM controller
Addressing to DRAM(IC16) of the system and control and refresh control of $\overline{RAS}$ and $\overline{CAS}$ signals are executed.

⑥ Timer and watch dog timer

⑦ General-purpose I/O port
Control of Liu and control of analog process of read signals are executed.

⑧ Clock oscillation
Crystal oscillator of 19.66 MHz is connected for operation of 19.66 MHz.

⑨ Generation of alarm sound and ringer sound
The keys on the operation panel are pressed to respectively generate the key input sound, alam sound and ringer sound.

2) 27C160 (IC4): pin-42, DIP (EPROM)

Programs are stored in a 16 Mbit ROM.

3) HY5118164 or MSM5118165 (IC16): pin-42, SOJ (DRAM)

Used as the system memory of main CPU and transmission buffer of communication. (Use only 1 MByte)
Used as the image memory area 1MByte.
Total 2 MByte is being used when it is summed up with other system memory and the work memory.

4) SM8578BV (IC30): 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).

SH7021 (IC27) 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. Connect Vcc terminals to the power units of all systems. 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. Connect Vcc terminals to the power units of all systems. 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. 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). 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. 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. 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. 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. 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. 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 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)	—	—

SH7021 (IC27) 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 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 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, 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
	$\overline{HBS}$, $\overline{LBS}$	20 56	O	Low-/high-order byte strobe	Strobe signal of high/low byte (Commonly used with AO, $\overline{WRH}$.)
	$\overline{WR}$	55	O	Write	Output during writing. (Commonly used with $\overline{WRL}$.)
DMAC	$\overline{DREQ0}$, $\overline{DREQ1}$	66,68	I	DMA transfer request (Channels 0 and 1)	Input terminal of DMA transfer request from external
	DACK0, 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, TIOCB0	51, 53	I/O	ITU input capture/output conveyor (Channel 0)	Output terminal of input capture input/output conveyor
	TIOCA1, TIOCB1	62, 64	I/O	ITU input capture/output conveyor (Channel 1)	Output terminal of input capture input/output conveyor
	TIOCA2, TIOCB2	83, 84	I/O	ITU input capture/output conveyor (Channel 2)	Output terminal of input capture input/output conveyor
	TIOCA3, TIOCB3	85, 86	I/O	ITU input capture/output conveyor (Channel 3)	Output terminal of input capture input/output conveyor
	TIOCA4, TIOCB4	87, 89	I/O	ITU input capture/output conveyor (Channel 4)	Output terminal of input capture input/output conveyor
	TOCXA4, TOCXB4	90, 91	O	ITU output conveyor (Channel 4)	Output terminal of output conveyor
	TCLKA~ TCLKD	65,66,90, 91	I	ITU timer clock input	External clock input terminal to counter of ITU
Timing pattern controller (TPC)	TP15~ TP0	100~93, 91~89, 87~83	O	Timing pattern Output 15 thru 0	Output terminal of timing pattern
Serial communication nterface (SCI)	TxD0, TxD1	94, 96	O	Sending data (Channels 0 and 1	Sending data output terminal of SCI0, 1
	RxD0, RxD1	93, 95	I	Receiving data (Channels 0 and 1)	Receiving data input terminal of SCI0, 1
	SCK0, SCK1	97, 98	I/O	Serial clock (Channels 0 and 1)	Clock input/output terminal of SCI0, 1
I/O port	PA15~ PA0	68~64, 62~60, 58~51	I/O	Port A	Input/output terminal of 16 bits Input/output can be assigned for each bit.
	PB15~ PB0	100~93, 91~89, 87~83	I/O	Port B	Input/output terminal of 16 bits Input/output can be assigned for each bit.

(2) Image memory block

This block is composed of 2 MByte DRAM memory and 256 KByte SRAM. Moreover, a maximum of 2 MByte (when FO-1MK is installed) of image memory can be extended by installing the option memory of the connector CNOP.

1) HY5118164 or MSM5118165 (IC16) ... pin-42, 80J

The memory which the image data of the copy, transmission and reception are stored in. The capacity of 1 MByte is assigned. The rest 1 MByte is a system memory. (Refer to the (1) Main control block)

2) W24010S-70L(IC21, IC36) ... pin-32, SOP (1 Mbit 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.

(3) Modem block

The block is mainly composed of the modem R144AFXL (IC24), and is provided with the following modem function.

No.	Communication mode	Baud rate	Modulation system	Modulation rate	Transmission frequency	ITU-T recommendation
1	G3	14400bps	128-value TCM	2400baud	1800Hz	V33, V17
2	G3	12000	64-value TCM	2400	1800	V33, V17
3	G3	9600	16-value QAM	2400	1700	V29, V17
4	G3	7200	8-phase PSK	2400	1700	V29
5	G3	4800	8-phase PSK	1600	1800	V27ter
6	G3	2400	4-phase PSK	1200	1800	V27ter
7	G3	300	FSK	300	1650/ 1850	V21
8	G2		AM•PM• VSB		2100	T3

In addition to the above functions, the following tone transfer/tone detection functions are also provided.

No.	Signal name	Frequency
1	CED	2100Hz
2	G1	1850
3	GC	2100
4	CFR	1650
5	MCF	1650
6	LCS	1100
7	EOM	1100
8	PIS	462

No.	Signal name	Frequency
1	G1	1850Hz
2	CFR,MCF	1650
3	GC	2100

The above functions are controlled by getting an access to the interface memory in the modem through the data bus from CPU (IC27) 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 registers is as follows.

1) Configuration register

Mode setting of 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 LIU PWB with SIGTX signal. During receiving, the received data is sent from LIU 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) Image signal process block

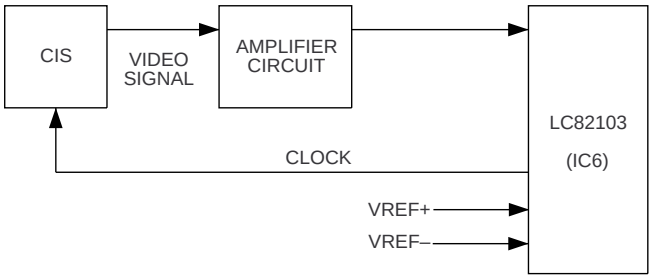


Fig. 2

The CIS is driven by the LSI (LC82103), and the output video signal from the CIS is input into the LC82103 through the amplifying circuit. The ADC and buffer are provided in the LC82103, and the digital image processing is performed.

(5) Speaker amplifier

The speaker amplifier monitors the line under the on-hook mode, outputs the buzzer sound generated from the SH7021, ringer sound, DTMF generated from the modem, and line sound.

(6) Reading process and mechanical control block

1) Mechanical control block

The mechanical control block is mainly composed of the gate array (A) (IC17: LZ9FJ59) 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 (IC7).

(b) End stamp and LED lamp control

On/off of the end stamp and LED lamp is controlled with the software.

(7) Gate array (A) block

This block is mainly composed of the gate array (A) (IC17: LZ9FJ59), and has the following functions.

① Mapper
Mapping is executed in the memory area of the memories, gate array (B), modem, CODEC and reading process LSI (LC82103).

② Mechanical control block
Refer to 1) Mechanical control block of 2-6 Reading and mechani-cal control block.

③ IC interface for clock
Writing and reading to IC (IC30: SM8578BV) for clock is executed in the clock-synchronous type serial transfer mode.

④ LIU control port

⑤ PC interface

- Control of PC I/F Asic (FO-47IF)

LC82103 (IC6)

Type					
I	INPUT	B	BIDIRECTION	NC	NOT CONNECT
O	OUTPUT	P	POWER		

PIN	I/O	Name	Function
1	B	D7	CPU interface data bus pin D7 is the MSB pin, and D0 is the LSB pin.
2	B	D6	
3	B	D5	
4	B	D4	
5	B	D3	
6	B	D2	
7	B	D1	
8	B	D0	
9	P	DGND	Digital system ground pin.
10	P	DVDD	Digital system power supply pin.
11	I	A8	CPU interface address bus pin A12 is the MSB pin, and A0 is the LSB pin.
12	I	A7	
13	I	A6	
14	I	A5	
15	I	A4	
16	I	A3	
17	P	DGND	Digital system ground pin.
18	I	A2	CPU interface address bus pin.
19	I	A1	
20	I	A0	
21	I	$\overline{WR}$	CPU interface write signal pin.
22	I	$\overline{RD}$	CPU interface read signal pin.
23	I	A12	CPU interface address bus pin.
24	P	DVDD	Digital system power supply pin.
25	I	CLKIN	System clock input pin.
26	I	A11	CPU interface address bus pin.
27	I	A10	
28	I	A9	
29	I	$\overline{CS}$	CPU interface chip select signal pin.
30	I	ICLK	External sampling point signal input pin.
31	I	TRIG	External trigger signal input pin.
32	I	$\overline{RESET}$	System reset pin.
33	O	SAMP/LININT	A/D converter sampling point monitor signal output pin/LINE signal output pin.
34	I	TEST	Test pin (Connect to ground in normal use.)
35	I	$\overline{REF}$	DRAM refresh signal input pin.
36	P	AGND	Analog system ground pin.
37	I	DALRL	D/A converter low reference voltage pin for A/D converter low reference voltage.
38	I	DAHRL	D/A converter low reference voltage pin for A/D converter high reference voltage.
39	I	AIN	Sensor signal input pin.
40	I	TEMP	Temperature signal input pin.
41	O	ATAPH	D/A converter monitor signal output pin for A/D converter high reference voltage.
42	I	DAHRH	D/A converter high reference voltage pin for A/D converter high reference voltage.
43	P	AVDD	Analog system power supply pin.
44	I	DALRH	D/A converter high reference voltage pin for A/D converter low reference voltage.
45	O	ATAPL	D/A converter monitor signal output pin for A/D converter low reference voltage.
46	P	AGND	Analog system ground pin.
47	B	PD7/SD	DMA output pin/serial data output pin.
48	B	PD6/SDCK	DMA output pin/serial data transmission clock pin.
49	P	DGND	Digital system ground pin.
50	B	PD5/SDE	DMAoutput pin/serial date output valid period signal pin.
51	B	PD4/PP4	DMA output pin/general-purpose I/O port pin.
52	B	$\overline{PD3}$/PP3	
53	B	PD2/PP2	
54	B	PD1/PP1	
55	B	PD0/PP0	
56	P	DVDD	Digital system power supply pin.
57	B	DACK/PP5	DMA data acknowledge signal input pin/general-purpose I/O port pin.
58	B	DREQ/PP6	DMA data request signal output pin/ general-purpose I/O port pin.
59	B	MTP/PP7	Moter drive timing signal output pin/ general-purpose I/O port pin.
60	O	CLK2	Sensor drive timing signal output pin.
61	O	CLK1	
62	O	RS	
63	O	SH	
64	P	DGND	Digital system ground pin.

Note : Not using the input pins must be connected to “Digital system power supply or ground”.

LZ9FJ59 (IC17) Terminal list

PIN	I/O	Name	Function	PIN	I/O	Name	Function
1	IO2M	RTCDT	RTC data input/output	51	IO2M	D12	System data input/output
2	O2M	RTCCK	RTC data transfer clock	52	IO2M	D11	System data input/output
3	O2M	RTCCE	RTC chip select	53	IO2M	D10	System data input/output
4	O2M	RTCIO	RTC inout/output control	54	I	A7	System address input
5	TO	GAIN	Output port	55	I	A6	System address input
6	I	MTSTART	Input port	56	I	A5	System address input
7	I	LCINT	Interrupt request signal from LC82103	57	I	A4	System address input
8	O2M	XLCCS	Chip select signal to LC82103	58	I	A3	System address input
9	O	AO9	Reading/QM-coder LSI address output	59	I	A2	System address input
10	O	AO10	Reading/QM-coder LSI address output	60	IS	SHCK	Clock (19.6MHz) from CPU
11	–	GND	Ground	61	–	GND	Ground
12	O	AO11	Reading/QM-coder LSI address output	62	–	VDD	Power supply
13	O	AO12	Reading/QM-coder LSI address output	63	I	A1	System address input
14	O2M	XLCRD	Read signal to LC82103	64	I	A0	System address input
15	O2M	XLCWR	Write signal to LC82103	65	IO2M	D9	System data input/output
16	O	AO0	Reading/QM-coder LSI address output	66	IO2M	D8	System data input/output
17	O	AO1	Reading/QM-coder LSI address output	67	IO2M	D7	System data input/output
18	O	AO2	Reading/QM-coder LSI address output	68	IO2M	D6	System data input/output
19	O	AO3	Reading/QM-coder LSI address output	69	IO2M	D5	System data input/output
20	–	VDD	Power supply	70	IO2M	D4	System data input/output
21	–	GND	Ground	71	IO2M	D3	System data input/output
22	O	AO4	Reading/QM-coder LSI address output	72	IO2M	D2	System data input/output
23	O	AO5	Reading/QM-coder LSI address output	73	IO2M	D1	System data input/output
24	O	AO6	Reading/QM-coder LSI address output	74	IO2M	D0	System data input/output
25	O	AO7	Reading/QM-coder LSI address output	75	–	GND	Ground
26	O	AO8	Reading/QM-coder LSI address output	76	IS	XRESET	Reset signal
27	O	CRNT	Output port	77	O2M	XINT7	Interrrupt request signal to CPU
28	–	GND	Ground	78	O2M	XINT4	Interrrupt request signal to CPU
29	O	TXB1	B-phase current control output 1	79	O2M	XWAIT	Wait request signal to CPU
30	O	TXB0	B-phase current control output 0	80	I	XRAS	Input RAS signal from CPU
31	O	TXA1	A-phase current control output 1	81	I	A18	System address input
32	O	TXA0	A-phase current control output 0	82	I	A19	System address input
33	O	TXPB	B-phase current direction setting	83	I	A20	System address input
34	O	TXPA	A-phase current direction setting	84	I	A21	System address input
35	I	A12	System address input	85	I	XCS2	Chip select 2 signal input
36	I	A11	System address input	86	I	XCS6	Chip select 6 signal input
37	I	A10	System address input	87	I	XWRL	System write (high-order byte) signal
38	I	A9	System address input	88	I	XWRH	System write (low-order byte) signal
39	I	A8	System address input	89	I	XRD	System read signal
40	–	GND	Ground	90	I	XDACK0	DMA acknowledge 0 input from CPU
41	ID	QMPDRQ	DMA request input (QM-coder)	91	O2M	XDREQ0	DMA request 0 output to CPU
42	O2M	XQMPDAK	DMA acknowledge output (QM-coder)	92	I	XDACK1	DMA acknowledge 1 input from CPU
43	ID	QMCDRQ	DMA request input (QM-coder)	93	O2M	XDREQ1	DMA request 1 output to CPU
44	O2M	XQMCDAK	DMA acknowledge output (QM-coder)	94	O2M	XGABCS	Chip select (gate array B)
45	O2M	XQMRD	Read signal to QM-coder	95	O2M	XSRAMCS	Chip select (SRAM)
46	O2M	XQMWR	Write signal to QM-coder	96	O2M	XPGMCS	Chip select (ROM)
47	O2M	XQMCS	Chip select signal to QM-coder	97	I	XMDMINT	Interrupt request signal from Modem
48	IO2M	D15	System data input/output	98	O2M	XMDMCS	Chip select (Modem)
49	IO2M	D14	System data input/output	99	O	XMDMRST	Modem reset output
50	IO2M	D13	System data input/output	100	–	VDD	Power supply

LZ9FJ59 (IC17) Terminal list

PIN	I/O	Name	Function	PIN	I/O	Name	Function
101	–	GND	Ground	131	O2M	XD6004RD	Read signal to D6004 (PC I/F)
102	O2M	XEXCS	Chip select (spare)	132	O2M	XD6004WR	Write signal to D6004 (PC I/F)
103	I	XCDCINT	Interrupt request signal from CODEC	133	O2M	D6004ALE	Address strobe signal to D6004 (PC I/F)
104	I	XCDCDRQ	DMA request signal (CODEC)	134	–	GND	Ground
105	O2M	XCDCCS	Chip select (CODEC)	135	IO	AD7	PC I/F address/data input/output
106	O	XWR	System write output	136	IO	AD6	PC I/F address/data input/output
107	O2M	FLBK4	Bank control 4	137	IO	AD5	PC I/F address/data input/output
108	O2M	FLBK3	Bank control 3	138	IO	AD4	PC I/F address/data input/output
109	O2M	FLBK2	Bank control 2	139	IO	AD3	PC I/F address/data input/output
110	O2M	FLBK1	Bank control 1	140	IO	AD2	PC I/F address/data input/output
111	IU	XFLBSY	Flash memory busy signal input	141	–	GND	Ground
112	IU	FLSZ0	Input port	142	–	VDD	Power supply
113	IU	FLSZ1	Input port	143	IS	CK16M	16MHz clock input
114	O2M	XFLSTD	Chip select (flash standard)	144	ID	TEST1	Test terminal
115	O2M	XFLOPT	Chip select (flash option)	145	IO	AD1	PC I/F address/data input/output
116	IU	XCI	Input port	146	IO	AD0	PC I/F address/data input/output
117	IU	XRHS	Input port	147	IU	XB4FRS	Input port
118	IU	XEXHS	Input port	148	IU	XFRSNS	Input port
119	TO	DPON	Output port	149	IU	XORGSNS	Input port
120	–	GND	Ground	150	IU	XROLSNS	Input port
121	TO	TXMUTE	Output port	151	I	PRTSNS1	Input port
122	IU	HSDTCT	Input port	152	TO	CDCMSK	Output port
123	TO	MPXC	Output port	153	TO	PLG0ON	Plunger 0 control
124	TO	MPXB	Output port	154	TO	PLG1ON	Plunger 1 control
125	TO	DPMUTE	Output port	155	TO	LEDON	CIS LED light source control
126	IU	PCDTCT	Input port	156	IU	XEXINT0	Interrupt request signal from PC I/F
127	TO	FAXPCSL	Output port	157	IU	XEXINT1	Interrupt request signal (spare)
128	O2M	XD9001CS	Chip select (PC I/F D9001)	158	I	PCIFSL	PC I/F select signal input
129	O2M	XD9001RW	Read signal to D9001 (PC I/F)	159	IO2M	IOP0	Input port (spare)
130	O2M	XD9001WR	Write signal to D9001 (PC I/F)	160	–	GND	Ground

I : Input terminal (TTL level input)
IS : Input terminal (TTL level schmitt input)
IU : Input terminal (TTL level input, pull up resistor 250 KΩ building in)
ID : Input terminal (TTL level input, pull down resistor 250 KΩ building in)
IO : Input/output terminal (TTL level input, output electric current: I_{OL}=4.0 mA)
IO2M : Input/output terminal (TTL level input, output electric current : I_{OL}=2.0 mA)
O : Output terminal (Output electric current: I_{OL}=4.0 mA)
O2M : Output terminal (Output electric current: I_{OL}=2.0 mA)
TO : Try-state output terminal (Output electric current: I_{OL}=4.0 mA)
VDD : Power supply
GND : Ground

(8) Gate array (B) block

The block is composed of the gate array (B) and SRAM (2 KByte).

1) LR38292(IC10) ... 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) LZ9FJ59(IC17) 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 (IC3) -- pin-24, SOP (16-Kbit 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 (IC10) 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 (IC10) 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 Input mode is selected when HD813201F gets an access to image bus (MAENB=L). 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) 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. 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 Low: 16 Mbits High: 12 Mbits
141	DRMTYPE	I	Setting of type of memory (page memory: DRAM) of image bus Low: Address 8-bit type High: address 12-bit type (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 Low is set except in the device test mode.
50	TEST	I	Terminal for device test Low is set except in the device test mode.

(9) CODEC block

This block is composed of CODEC, LS374 and LS244 in order to demodulate the contracted image data of the draft read with the scanner and the letter image transmitted in the DMA mode from the system memory.

1) HD813201F (IC12) ... pin-80, 6FP (CODEC)

It operates at 16 MHz corresponding to the crystal oscillator (X2) 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: IC16) 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) HD74LS374 (IC18) ... pin-20, SOP

The data hold time during writing from main CPU to HD813201F is assured.

3) HD74LS244 (IC20) ... pin-20, SOP

When the main CPU reads the inner register of HD813201F, it will read the data through this buffer.

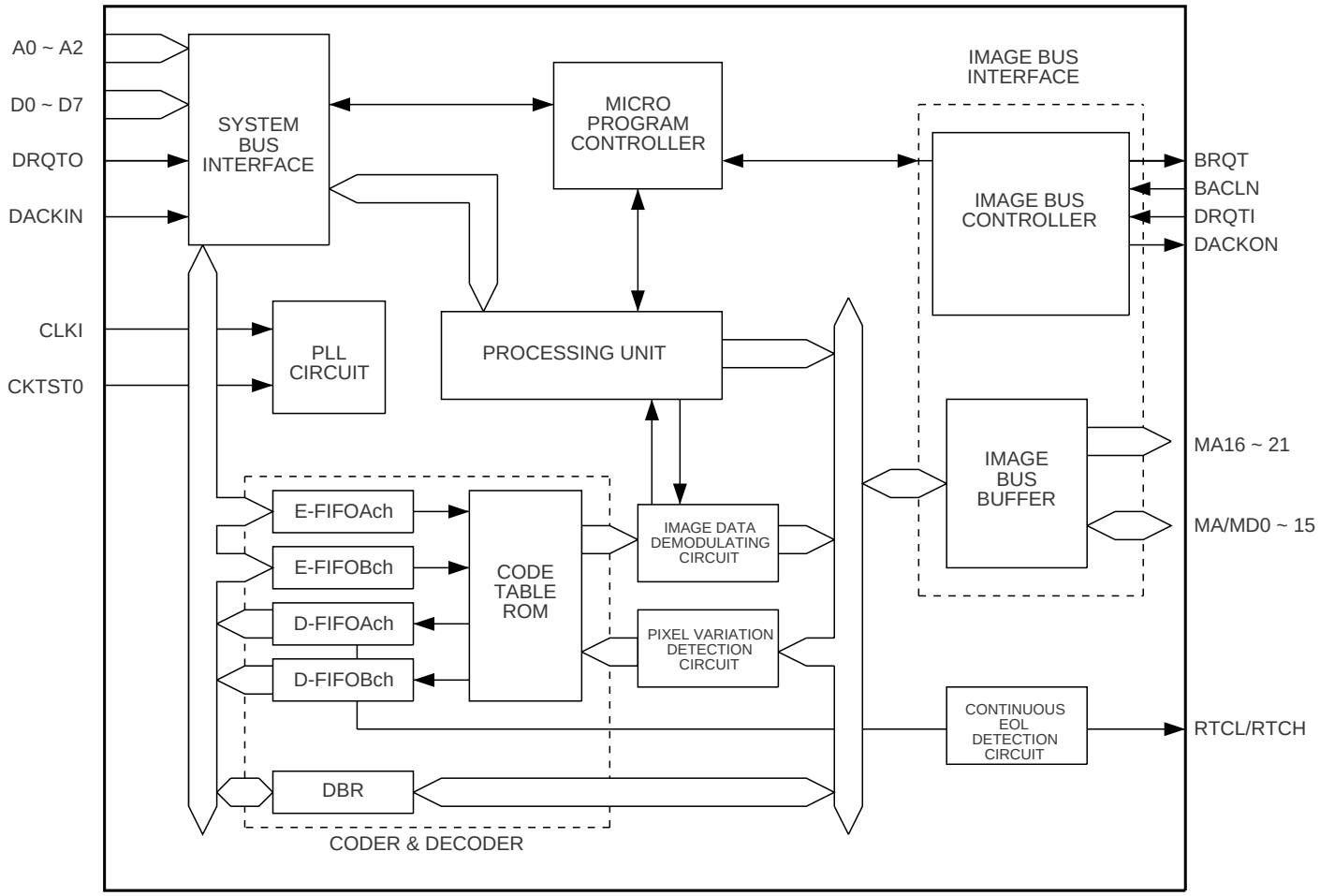


Fig. 3

HD813201F (IC12) 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 ϕ2 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. 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. 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. (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". (1) During coding, a code of 1 byte or more is stored in E-FIFO. (2) During decoding, an empty area of 1 byte or more is present. (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) 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. 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 (IC12) 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. (1) When $\overline{\text{MAEN}}$ is "low" and MAS is "high", it is used as the output address line. (2) When both $\overline{\text{MAEN}}$ and $\overline{\text{MDEN}}$ are "low" in the reading cycle, it is used as the input data line. (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. In the coding process, the data is transferred from the I/O device (scanner) to the image memory. In the decoding process, the data is transferred from the image memory to I/O device (printer).

HD813201F (IC12) 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. 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 Connected to capacitor (1000pF) and resistor (10kΩ) through GND.
CLKMOD	40	I	Terminal to switch quartz oscillation connection or external clock input mode. "0": Quartz oscillation "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	

(10) 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 partial area of IC9. 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 IC9 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.

(11) Driver block

Sending motor driver (IC7: LB1845) ---- 28-pin DIP
This IC driver at the sending motor at the constant current with the bipolar, chopper system.

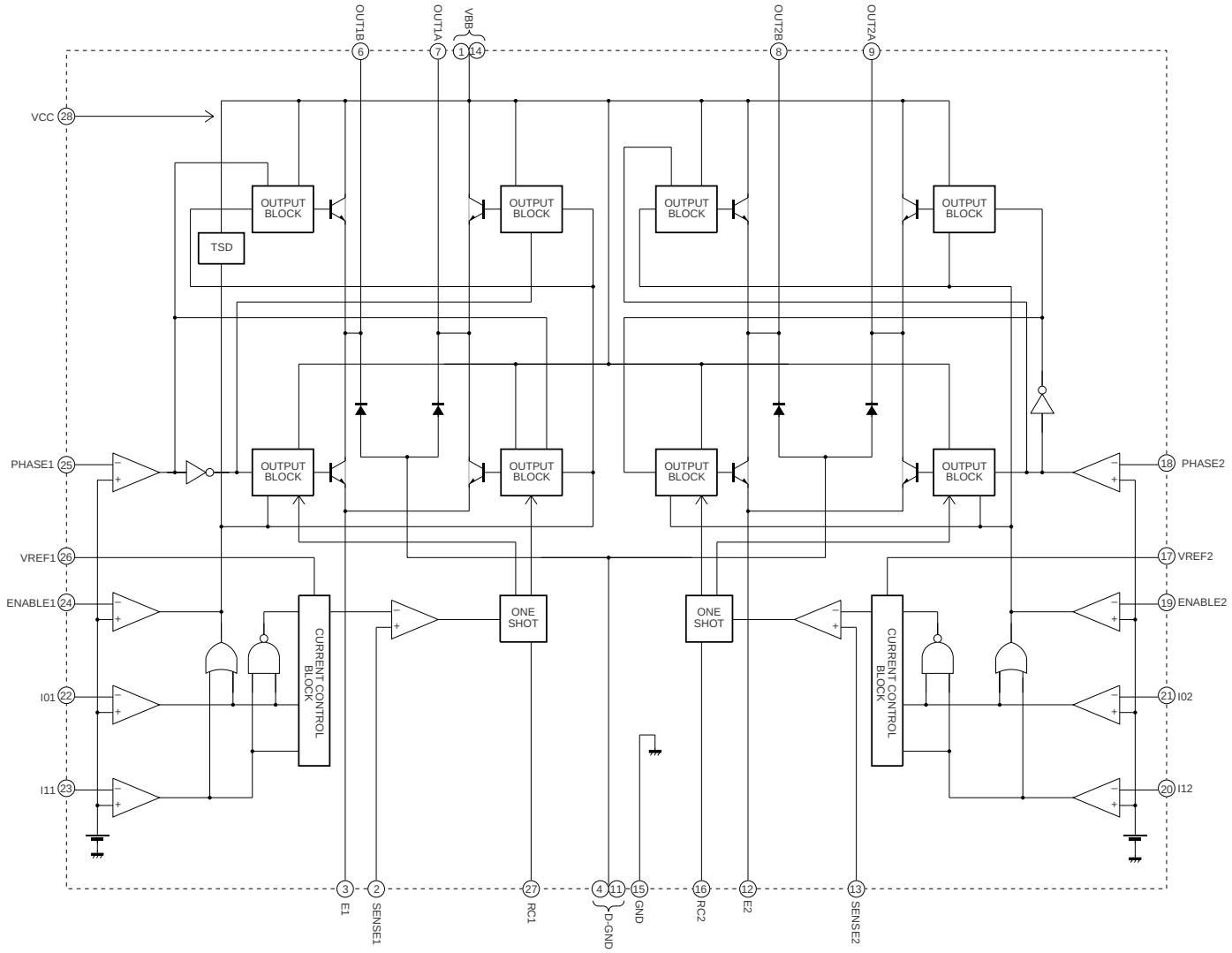


Fig. 4

[Truth Table]

ENABLE	PHASE	OUTA	OUTB
L	H	H	L
L	L	L	H
H	–	OFF	OFF

I_0	I_1	Output Current
L	L	Vref/ (10 x R_E) = I_{OUT}
H	L	Vref/ (15 x R_E) = I_{OUT} x 2/3
L	H	Vref/ (30 x R_E) = I_{OUT} x 1/3
H	H	0

Note: When ENABLE = H or I_0 = I_1 = H, the output is in OFF state.

[Pin Functions]

Pin name	Pin No.	Pin Description
VBB	1, 14	Output stage power-supply voltage
SENSE1 SENSE2	2 13	Set current detection pins. Connect these pins, fed back through noise filters, to E1, and E2.
E1 E2	3 12	Current control pins by connecting between this pin and GND.
DGND	4,11	Internal diode anode connection
OUT1B OUT1A OUT2B OUT2A	6 7 8 9	Output pins
GND	15	Ground
RC1 RC2	27 16	Used to set the output off time for the switched output signals. The fixed off times are set by the capacitors and resistors connected to these pins. t off ≒ CR
Vref1 Vref2	26 17	Output current settings The output current is determined by the voltage (in the range 1.5 to 7.5V) input to these pins.
PHASE1 PHASE2	25 18	Output phase switching inputs. [H] input : OUT A = high, OUT B = low [L] input : OUT A = low, OUT B = high
ENABLE1 ENABLE2	24 19	Output on/off settings [H] input : output OFF [L] input : output ON
I01, I11 I02, I12	22, 23 21, 20	Digital inputs that set the output current The output currents can be set to 1/3, 2/3, or full by setting these pins to appropriate combinations of high and low levels.
VCC	28	Logic block power supply.

[3] Circuit description of LIU PWB

(1) LIU block operational description

1) Block diagram

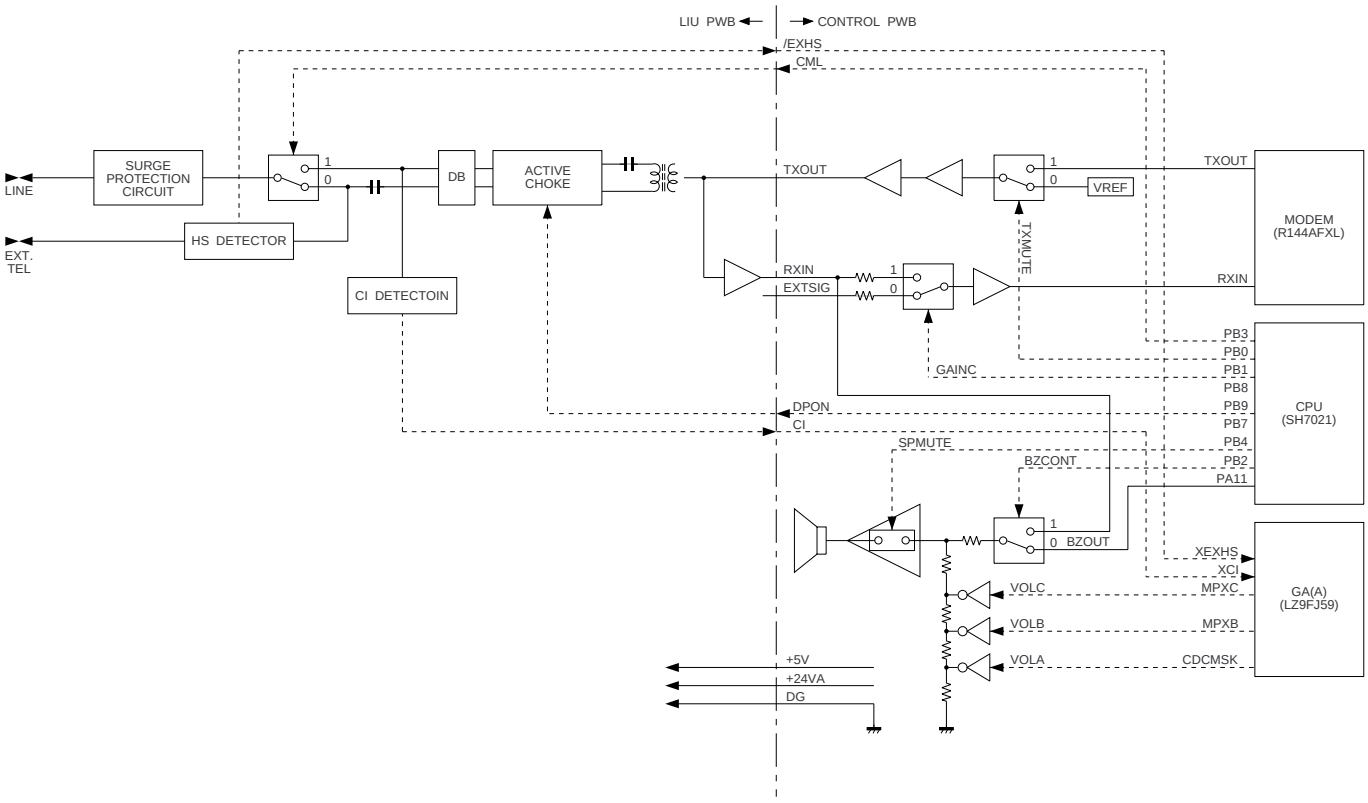


Fig. 5

2) Circuit description

The LIU PWB is composed of the following 9 blocks.

1. Surge protection circuit
2. On-hook status detection circuit
3. Dial puse generation circuit
4. CML relay
5. Matching transformer
6. Hybrid circuit
7. Signal selection
8. CI detection circuit
9. Power supply and bias circuit

3) Block description

1. Surge Protection circuit

This circuit protects the circuit from the surge voltage occurring on the telephone line.

- The AR1 pretects 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 ZD6 and ZD7 control the voltage generated on the secondary side of matching transfomer to 2V.
- The VA3 protect the circuit from 100V or higher line surge voltage.

2. On-hook status detection circuit

The on-hook status detection circuit detects the Status of the push speaker key, and the status of the hook of a telephone externally connected.

- External telephone hook status detection circut ($\overline{\text{EXHS}}$)

This circut comprises the photo-coupler PC3, resistors R13 and R12, Zener diodes ZD1 and ZD2.
When an external telephone is connected and enters the on-hook mode, the LED of photo-coupler PC3 emits light and the light receiving element tums on. The status signal $\overline{\text{EXHS}}$ is input to the pin118 of (G/A-A)(IC17:control PWB).

$\overline{\text{EXHS}}$ LOW : EXT. TEL OFF-HOOK
$\overline{\text{EXHS}}$ HIGH: EXT. TEL ON-HOOK

3. Dial pulse generation ciruit

The pulse dial generation circuit comprises the photo-coupler PC2, polarity guard REC, and transistor Q3.
The dial pulse turns on CML, controls the base current of PC2 and 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 is being used.

5. Matching transfomer

The matching transformer performs electrical insulation from the telephone line and impedance matching for transmitting the FAX signal.

6. Hybrid circuit

The hybrid circuit performs 2-wire-to-4-wire conversion using the IC of 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.

7. Signal selection

The follwing signals are used to control the transmission line of FAX signal. For details, refer to the signal selector matrix table.

[Control signals from output port]

Signal Name	Description
CML	Line connecting relay and DP generating relay H: Line make L: Line brask
SP MUTE	Speaker tone mute control signal H: Muting (Power down mode) L: Muting cacel (Normal operation)
VOL A VOL B VOL C (the circuit is located in the control PWB.)	Speaker volume control signal, VRSEL1 VRSEL2 matrix
TXMUTE (the circuit is located in the control PWB.)	TXOUT mute signal H: Signal sending, when transmitting L: During reception, transmission mute, (durung standby)
GAIN-C (the circuit is located in the control PWB.)	Reception gain switching signal L: When connected to line, 1:1 gain H: When not connected to line, 1:1 gain
BZCONT (the circuit is located in the control PWB.)	Speaker output signal switching H: Buzzer signal output L: When monitoring line signal

	VOL A	VOL B	VOL C	RING./ Receiving	Buzzer	DTMF
	L	L	L	High	–	High
	H	L	L	Middle	High	Middle
	L	L	H	Low	Low	Low

[SIgnals for status recognition according to input signals]

Signal Name	Function
CI	Incoming call (CI) detection signal
$\overline{\text{EXHS}}$	H: The handset or external telephone is in the on-hook state. L: The handset or external telephone in the off-hook state.
DPON	H: Active choke ON L: Active choke OFF

[Other signals]

Signal Name	Function
TXOUT	Transmission (DTMF) analog signal output from modem
RXIN	Reception (DTMF, others) analog signal input into modem

NO	Signal Name(CNLIU)	NO	Signal Name(CNLIU)
1	RXIN	6	CNL
2	TXOUT	7	+5V
3	CI	8	DG
4	$\overline{\text{EXHS}}$	9	+24VA
5	DPON		

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 C1 (0.82 uF), R6 (22K), and ZD3 and R5 (13K) when the ring signal is inputted from the telephone line.

9. Power supply and bias circuits

The voltages of +5V and +24VA are supplied from the control PWB unit.

(Example: Fax signal send)

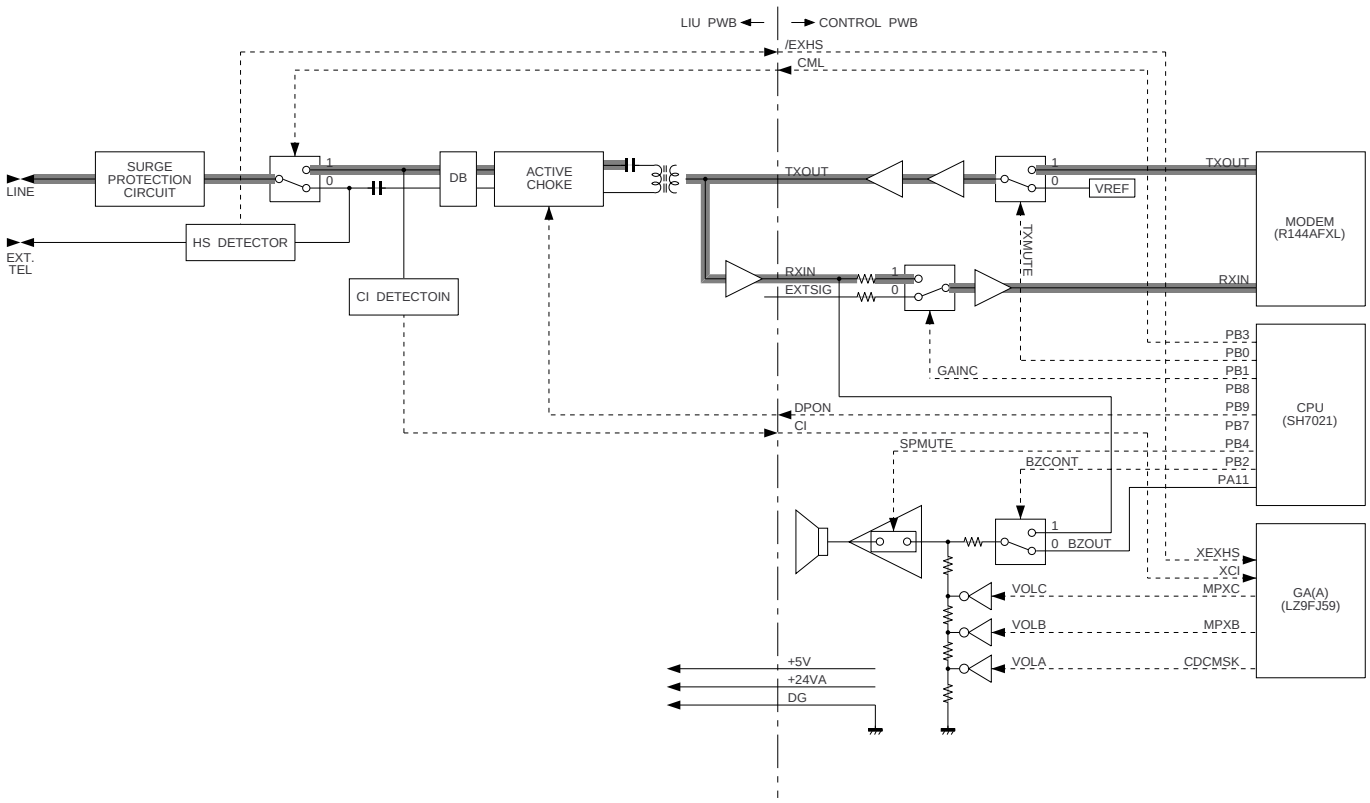


Fig. 6

[4] Circuit description of operation PWB

1. Block diagram

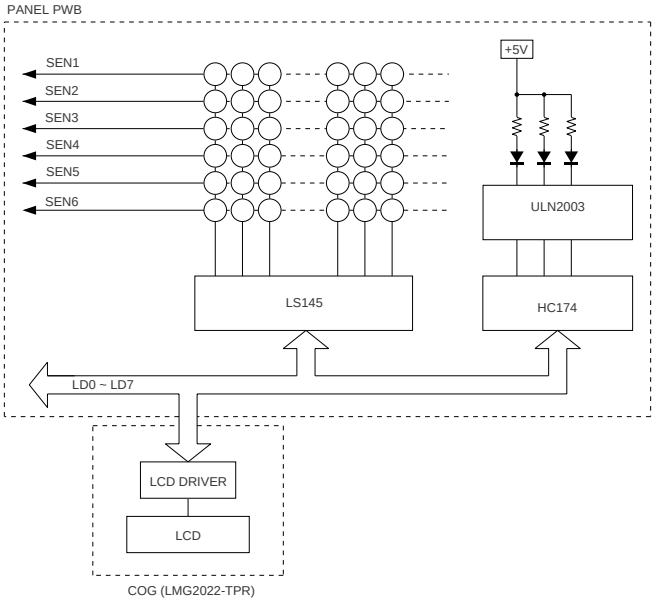


Fig. 7

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.

[5] Circuit description of power supply PWB

In the AC power supply unit, in order to gain DC voltage(+24V/+5V), AC input is processed directly by rectification smoothing; the voltage is transformed through a transformer by a switching method and, after that, the AC input is processed again by rectification smoothing.
The block diagrams of those operations are shown and the details of those circuits are described below:

1. Noise filter circuit

This circuit reduces the normal mode noise and common mode noise that come from an AC line. The normal mode noise is the noise weighted to an output line and is attenuated by L1, C1 and C2. The common noise is the noise generated between the AC line and ground (GND) and flows into the ground through C3 and C4.

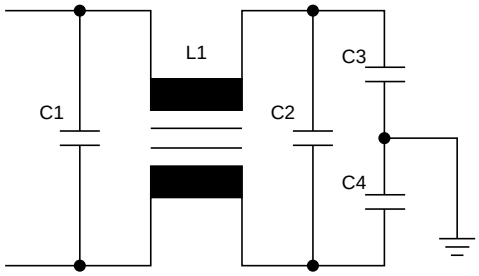


Fig. 8

2. Rush current prevention circuit

When the power turns on, if this circuit cannot be utilized, considerably excessive rush current flows into a condenser because the AC input is processed directly by rectification smoothing. This may damage a switch contact point. The powerthermistor TH1 between the rectifier DB2 and smoothing capacitor C6 limits the amount of the inrush current.
The resistance of TH1 decreases as its temperature rises and nearly 0-ohm at high temperature.

3. Primary rectification smoothing circuit

It is full wave rectification circuit, which converts the AC voltage of 50/60Hz into DC voltage. The solid line and dotted line shown in the undermentioned figure indicate a charging route of C6.

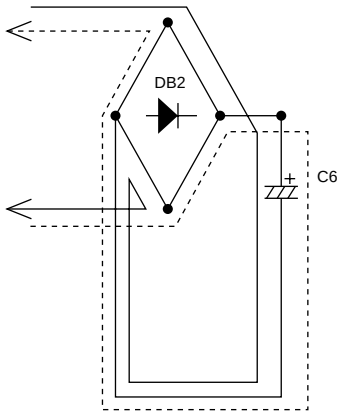


Fig. 9

4. Inverter circuit

In the RCC system, FET, which is connected to a converter transformer in series, performs an ON/OFF switching operation and the energy stored in the transformer upon ON is supplied to the secondary side upon OFF. That is, the DC voltage in the rectification smoothing circuit is converted into the switching pulse by a switching operation of Q10 controlled through a signal from a control circuit and the high frequency power is supplied to the secondary side through T1.

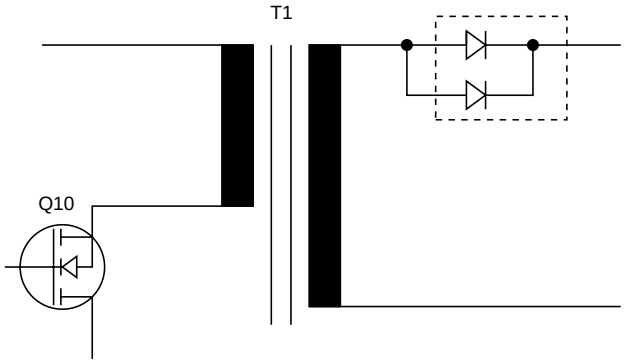


Fig. 10

5. Secondary rectification and smoothing circuit

Voltage of high frequency pulse generated by an inverted circuit is decreased by a converter transformer, the pulse is rectified by a high frequency diode D3 and is smoothed into +5V by C17, +24V circuit also performs the same operation.

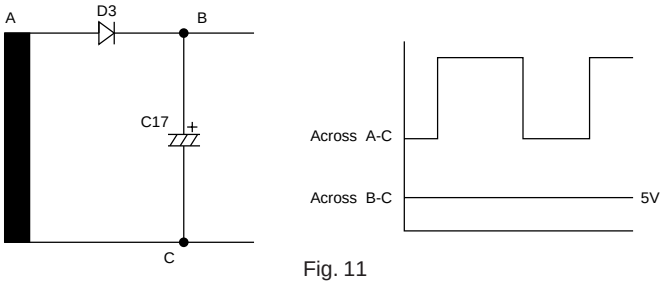


Fig. 11

6. Control circuit

This circuit performs the RCC method through the primary control system, which uses the power MOS. FET as switching element. Therefore, an output detection circuit detects the secondary output voltage and a detection signal is sent to a control circuit to stabilize an output voltage through a photo-coupler (PC1).

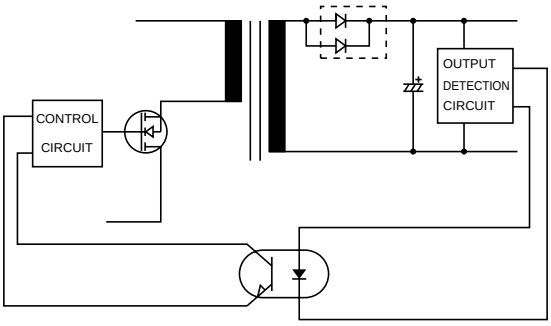


Fig. 12

7. Over-current prevention circuit

Any over-current of FET is detected and a signal is sent to a control circuit to drop the secondary output.

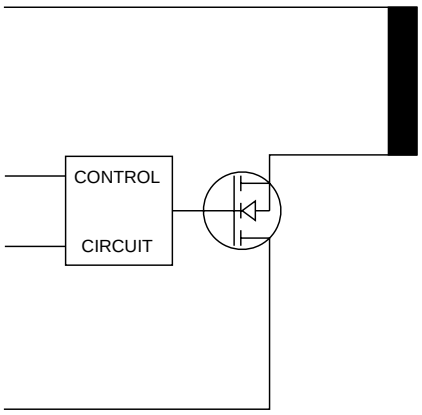


Fig. 13

8. Output detection circuit

R18, VR1 and R16 detect any 5V-system output voltage. The detected voltage is compared with the reference voltage in IC1. Varying controls the output voltage the cathode current of IC1, i.e., the current of light emitter of PC1, based on such comparison and by sending a signal to the primary control.

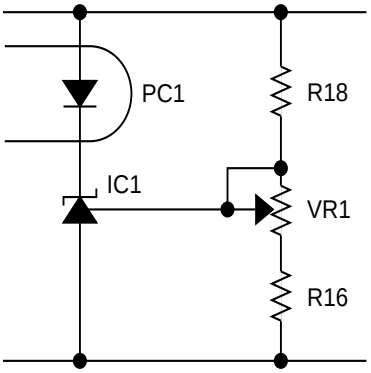
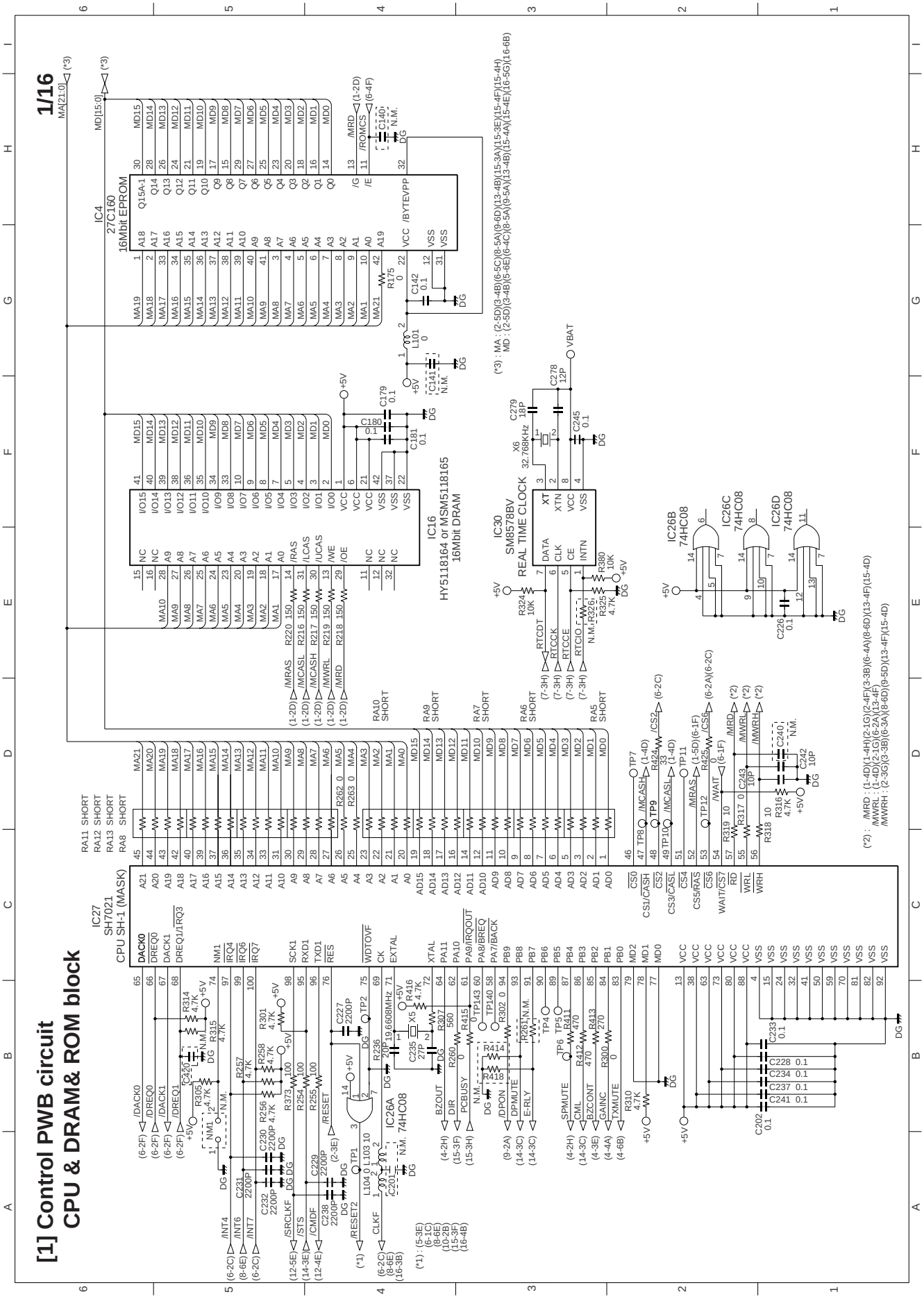


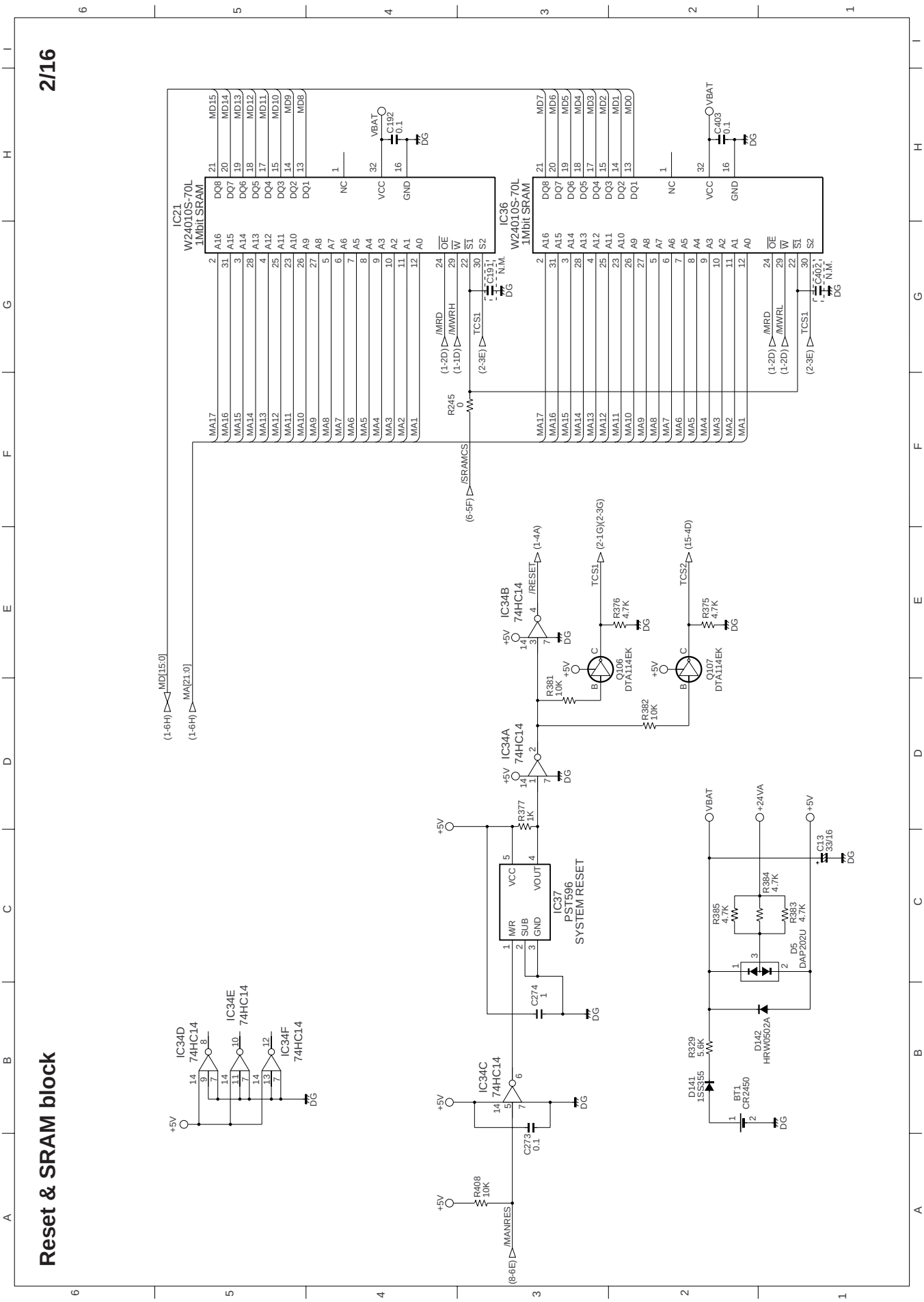
Fig. 14

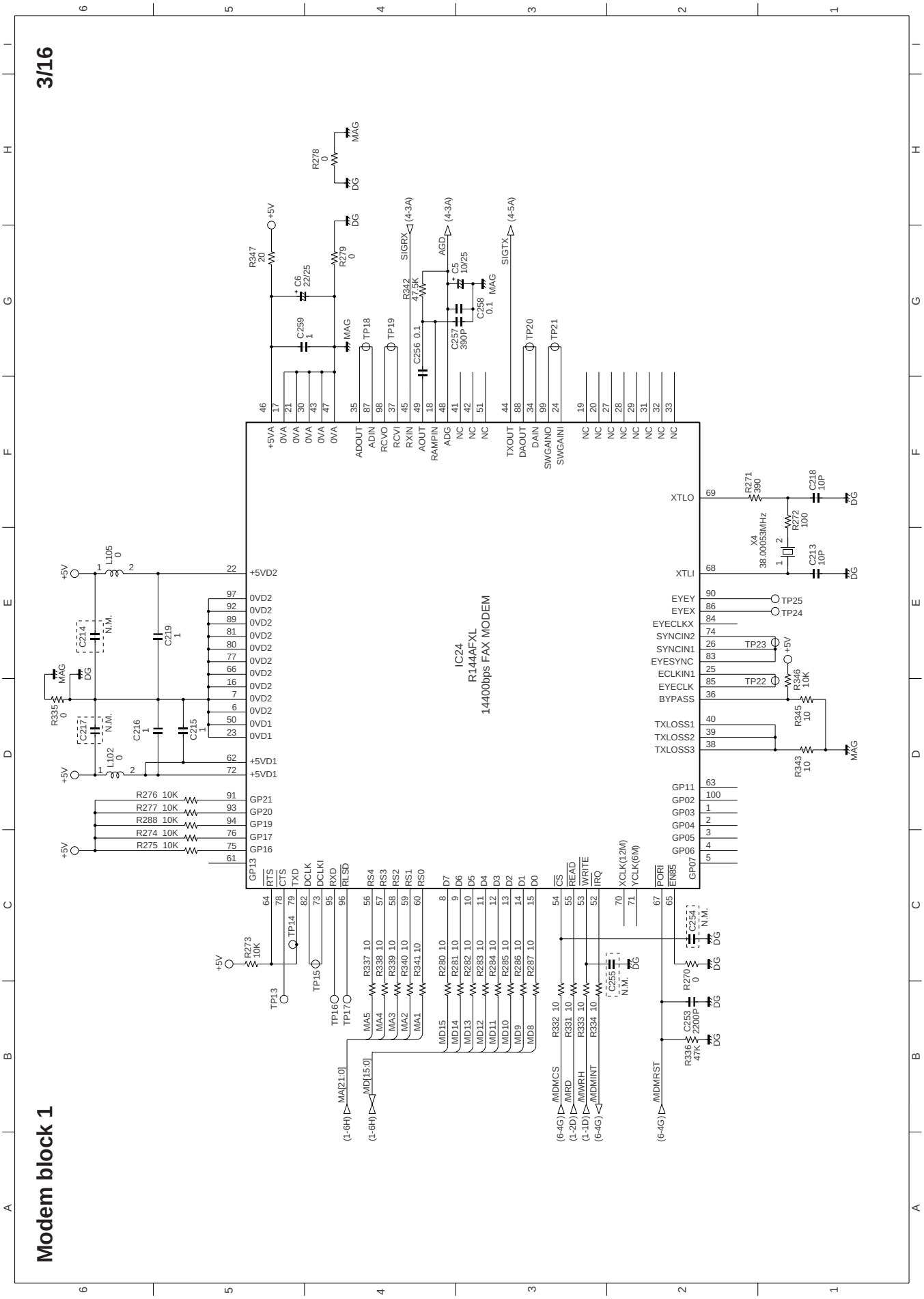
[6] Circuit description of RS232C I/F PWB (Option : FO-47IF)

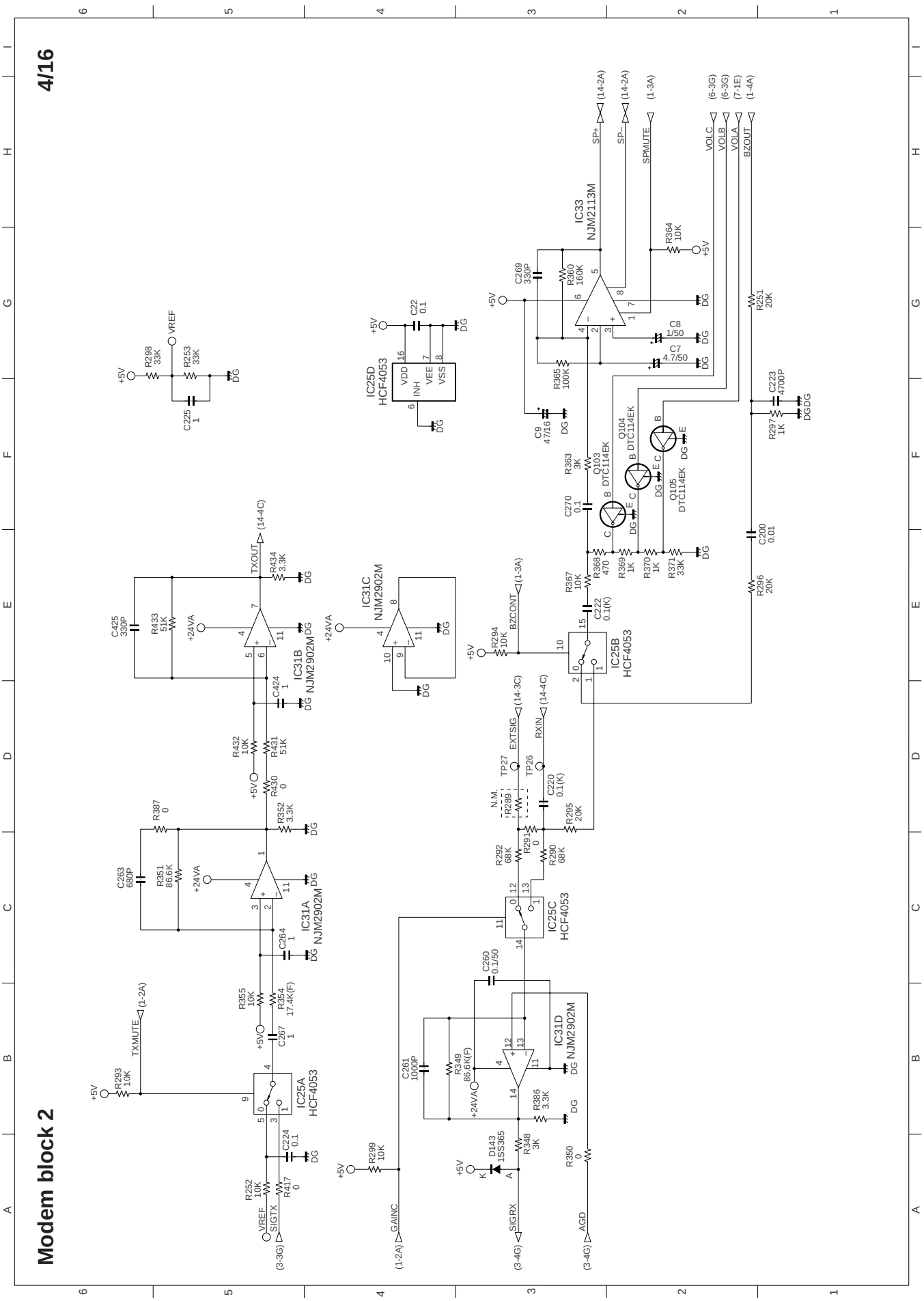
Since the PWB uses RS232C as the interface with PC, the voltage of the signal from PC to the control PWB is converted to +5V level and the voltage of the signal from the control PWB to PC is converted to +12V level with IC1 (ADM207) on the PWB.

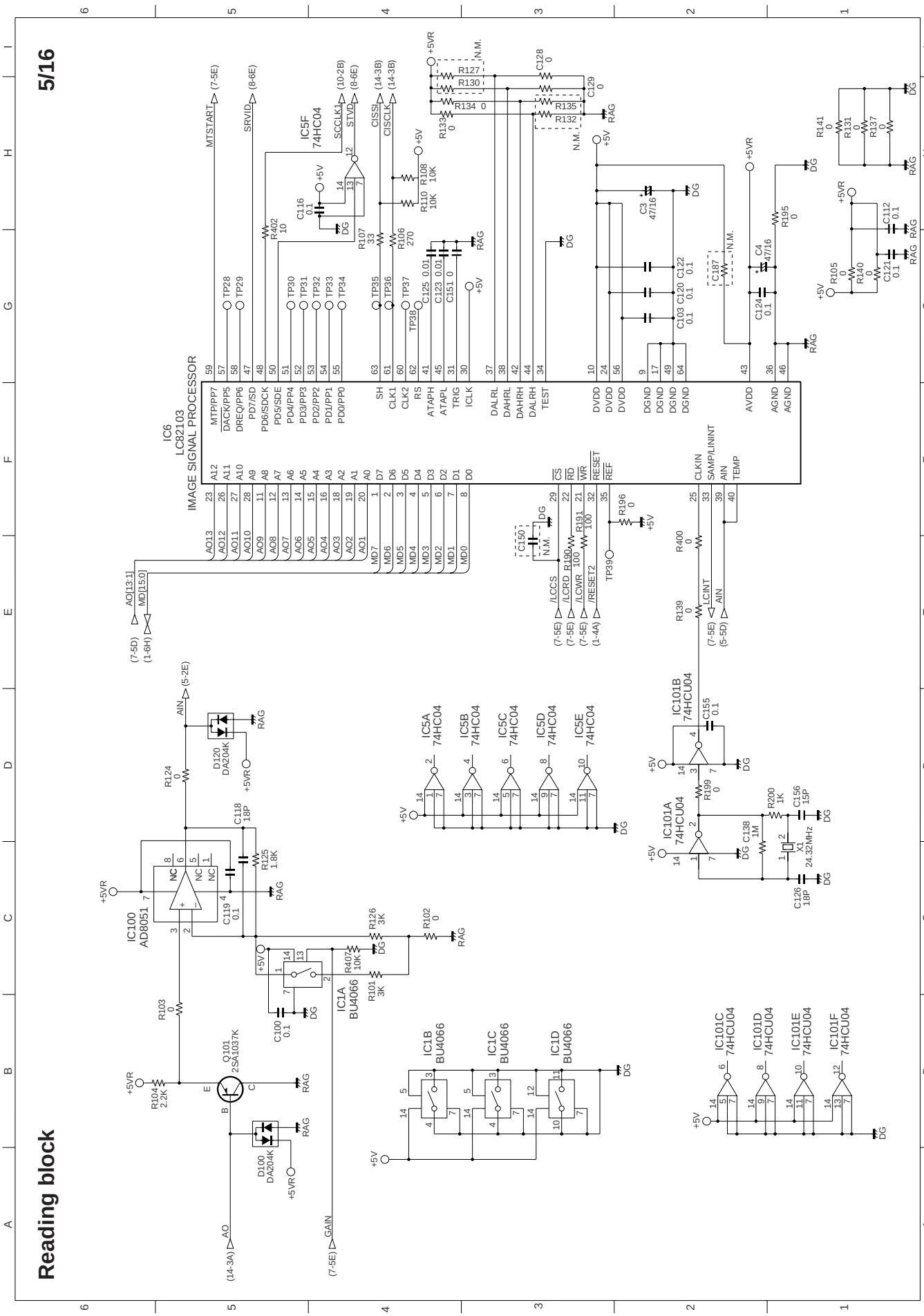
CHAPTER 6. CIRCUIT SCHEMATICS AND PARTS LAYOUT

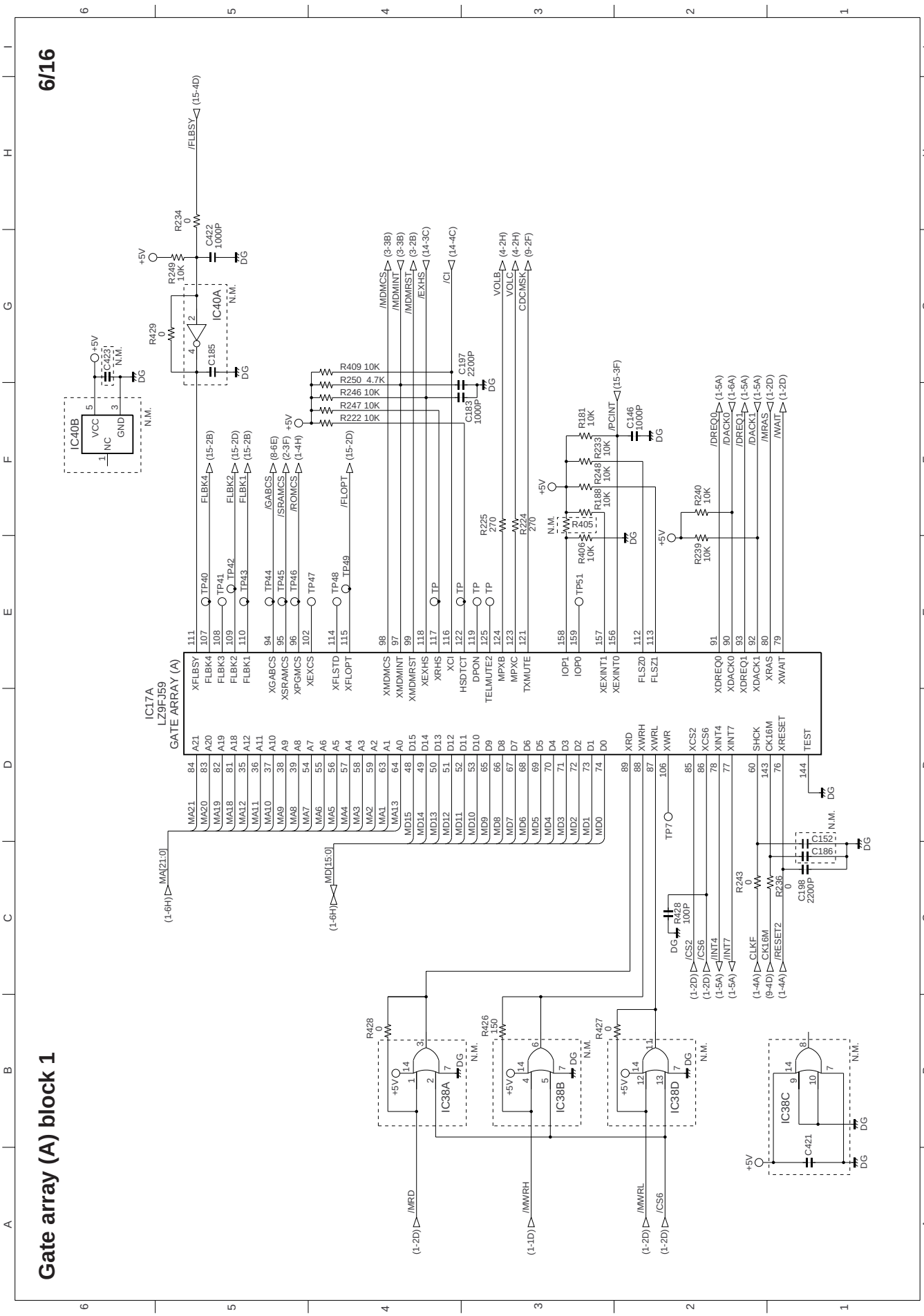



2/16
Reset & SRAM block
IC21
W24010S-70L
1Mbit SRAM
IC36
W24010S-70L
1Mbit SRAM
IC34A 74HC14
IC34B 74HC14
IC34C 74HC14
IC34D 74HC14
IC34E 74HC14
IC34F 74HC14
IC37
PST596
SYSTEM RESET
Q106
DTA114EK
Q107
DTA114EK
D5
DAP202U
D141
1SS355
D142
HRW0502A
BT1
CR2450
MD[15:0]
MA[21:0]
/SRAMCS
/MRD
/MWRH
/MWRL
TCS1
TCS2
/RESET
/MANRES
VBAT
+5V
+24VA
DG


3/16
Modem block 1
IC24
R144AFXL
14400bps FAX MODEM

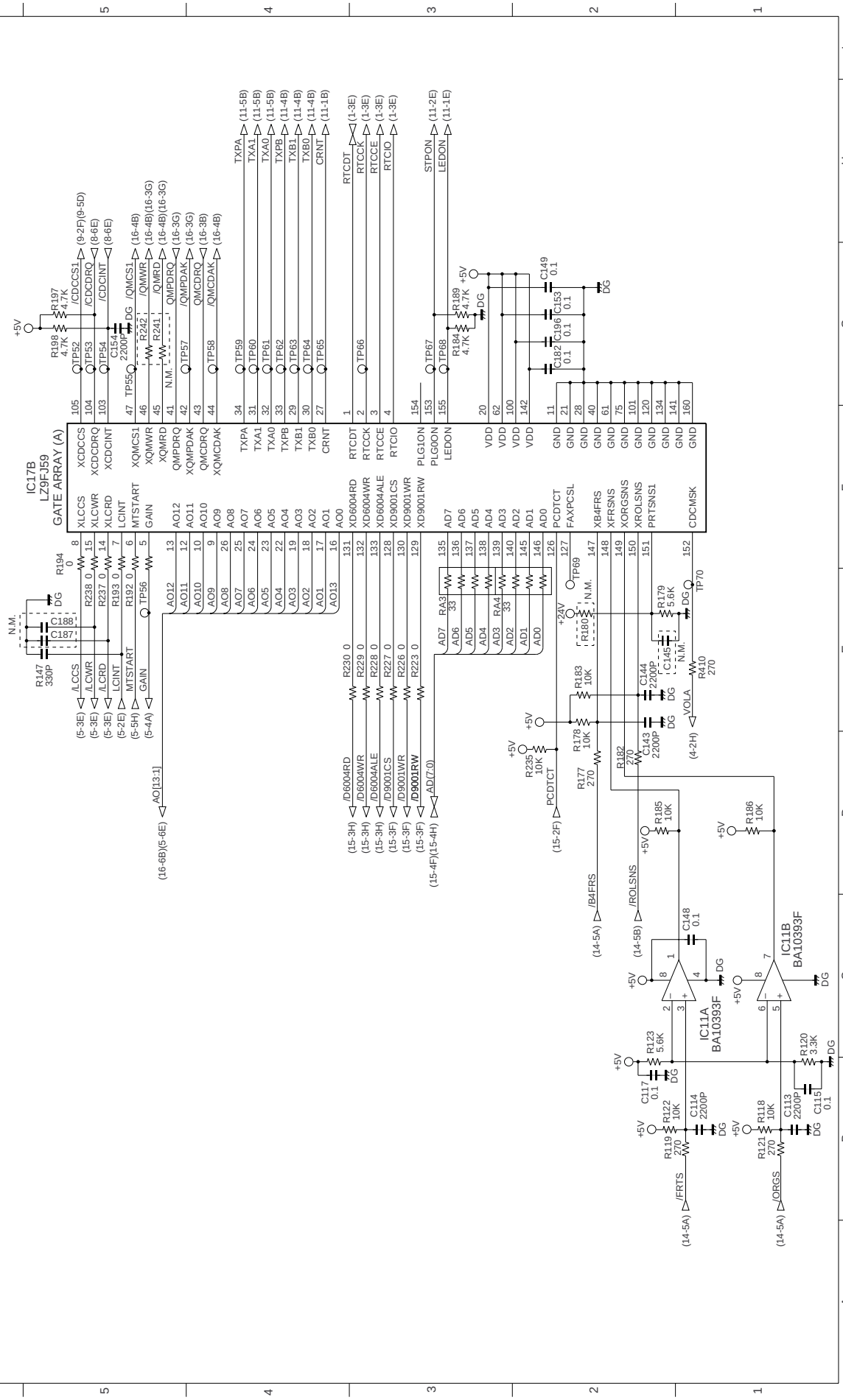

4/16
Modem block 2
IC25A HCF4053
IC25B HCF4053
IC25C HCF4053
IC25D HCF4053
IC31A NJM2902M
IC31B NJM2902M
IC31C NJM2902M
IC31D NJM2902M
IC33 NJM2113M
Q103 DTC114EK
Q104 DTC114EK
Q105 DTC114EK
D143 1SS365
TXMUTE
SIGTX
SIGRX
GAINC
AGD
EXTSIG
RXIN
BZCONT
SP+
SP−
SPMUTE
VOLC
VOLB
VOLA
BZOUT
VREF
+5V
+24VA
DG

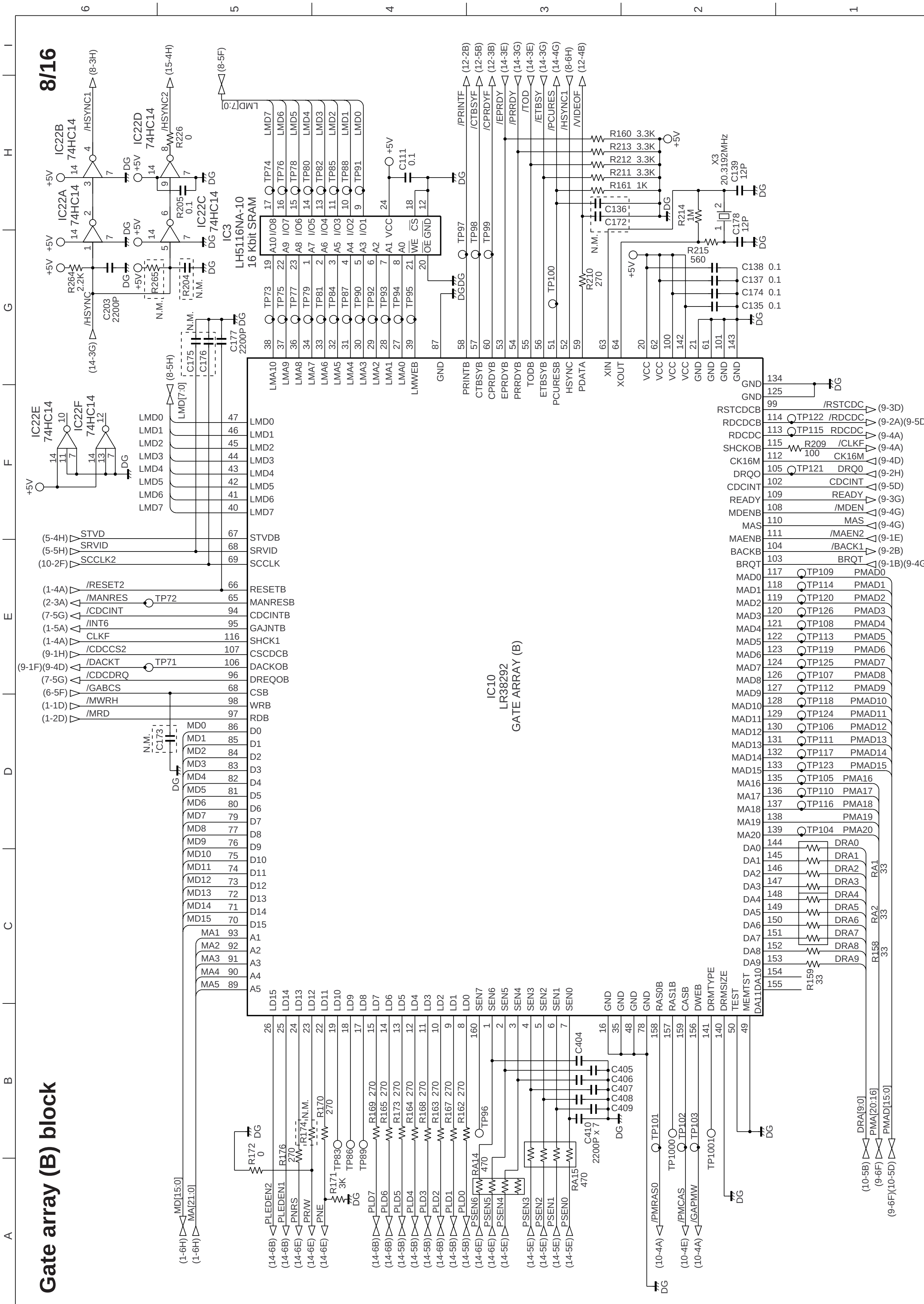

5/16
Reading block
IC6
LC82103
IMAGE SIGNAL PROCESSOR
IC5F
74HC04
IC100
AD8051
Q101
2SA1037K
IC1A
BU4066
IC1B
BU4066
IC1C
BU4066
IC1D
BU4066
IC5A
74HC04
IC5B
74HC04
IC5C
74HC04
IC5D
74HC04
IC5E
74HC04
IC101A
74HCU04
IC101B
74HCU04
IC101C
74HCU04
IC101D
74HCU04
IC101E
74HCU04
IC101F
74HCU04
D120
DA204K
D100
DA204K
X1
24.32MHz
MTSTART
SRVID
SCCLK1
STVD
CISSI
CISCLK
AO[13:1]
MD[15:0]
AIN
AO
GAIN
/LCCS
/LCRD
/LCWR
/RESET2
CINT
AIN
+5V
+5VR
RAG
DG

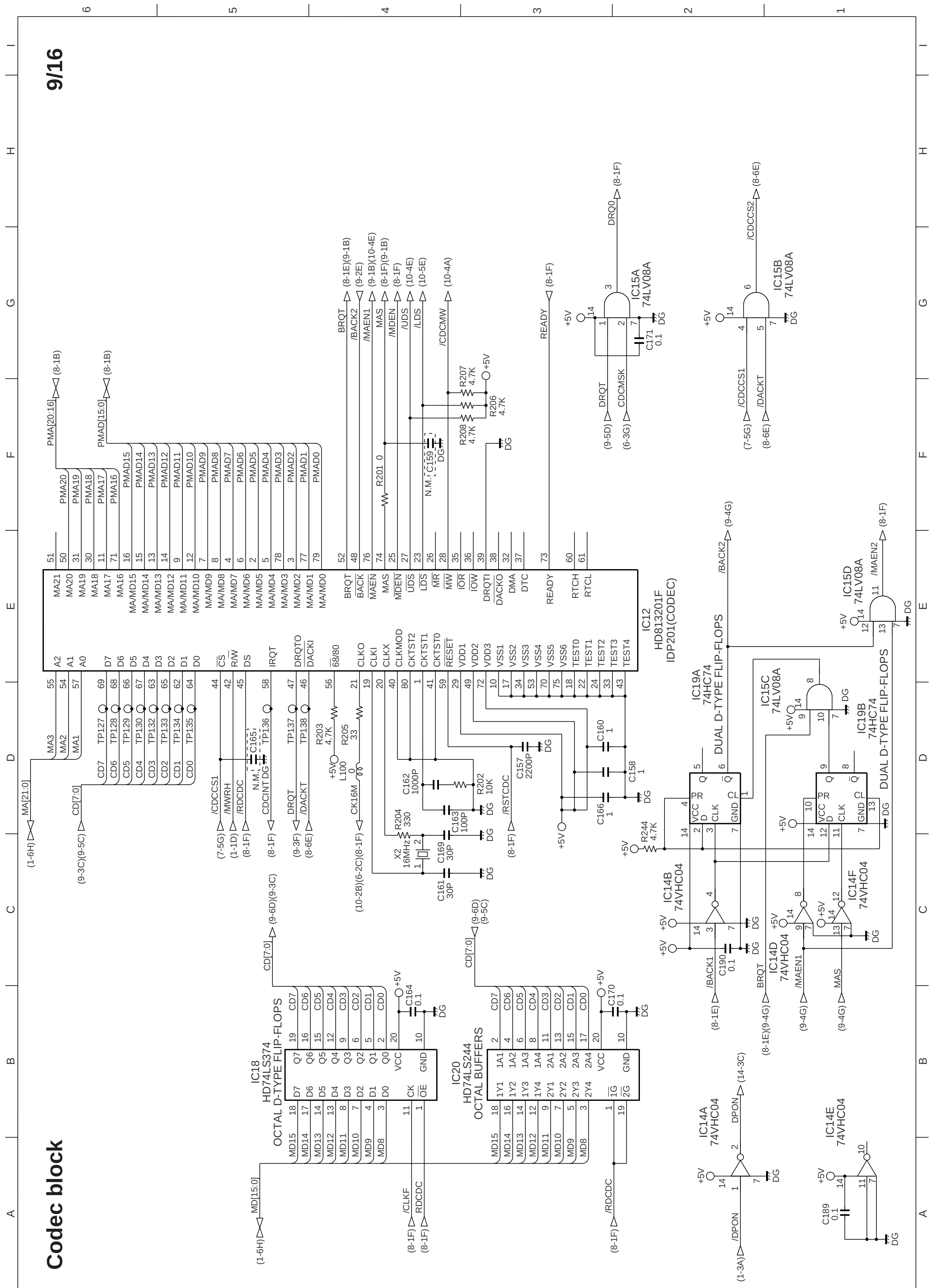

6/16
Gate array (A) block 1
IC17A
LZ9FJ59
GATE ARRAY (A)
IC40A
IC40B
IC38A
IC38B
IC38C
IC38D
R409 10K
R250 4.7K
R246 10K
R247 10K
R222 10K
R234 0
R249 10K
R429 0
C422 1000P
C185
C423
C197 2200P
C183 1000P
R225 270
R224 270
R405
R406 10K
R188 10K
R248 10K
R233 10K
R181 10K
R240 10K
R239 10K
C146 1000P
R428 0
R426 150
R427 0
R428 100P
R243 0
R236 0
C198 2200P
C152
C186
C421
/FLBSY (15-4D)
/MDMCS (3-3B)
/MDMINT (3-3B)
/MDMRST (3-2B)
/EXHS (14-3C)
/CI (14-4C)
VOLB (4-2H)
VOLC (4-2H)
CDCMSK (9-2F)
/PCINT (15-3F)
/DREQ0 (1-5A)
/DACK0 (1-6A)
/DREQ1 (1-5A)
/DACK1 (1-5A)
/MRAS (1-2D)
/WAIT (1-2D)
FLBK4 (15-2B)
FLBK2 (15-2D)
FLBK1 (15-2B)
/FLOPT (15-2D)
/GABCS (8-6E)
/SRAMCS (2-3F)
/ROMCS (1-4H)
MA[21:0] (1-6H)
MD[15:0] (1-6H)
/MRD (1-2D)
/MWRH (1-1D)
/MWRL (1-2D)
/CS6 (1-2D)
/CS2 (1-2D)
/INT4 (1-5A)
/INT7 (1-5A)
CLKF (1-4A)
CK16M (9-4D)
/RESET2 (1-4A)
N.M.
DG

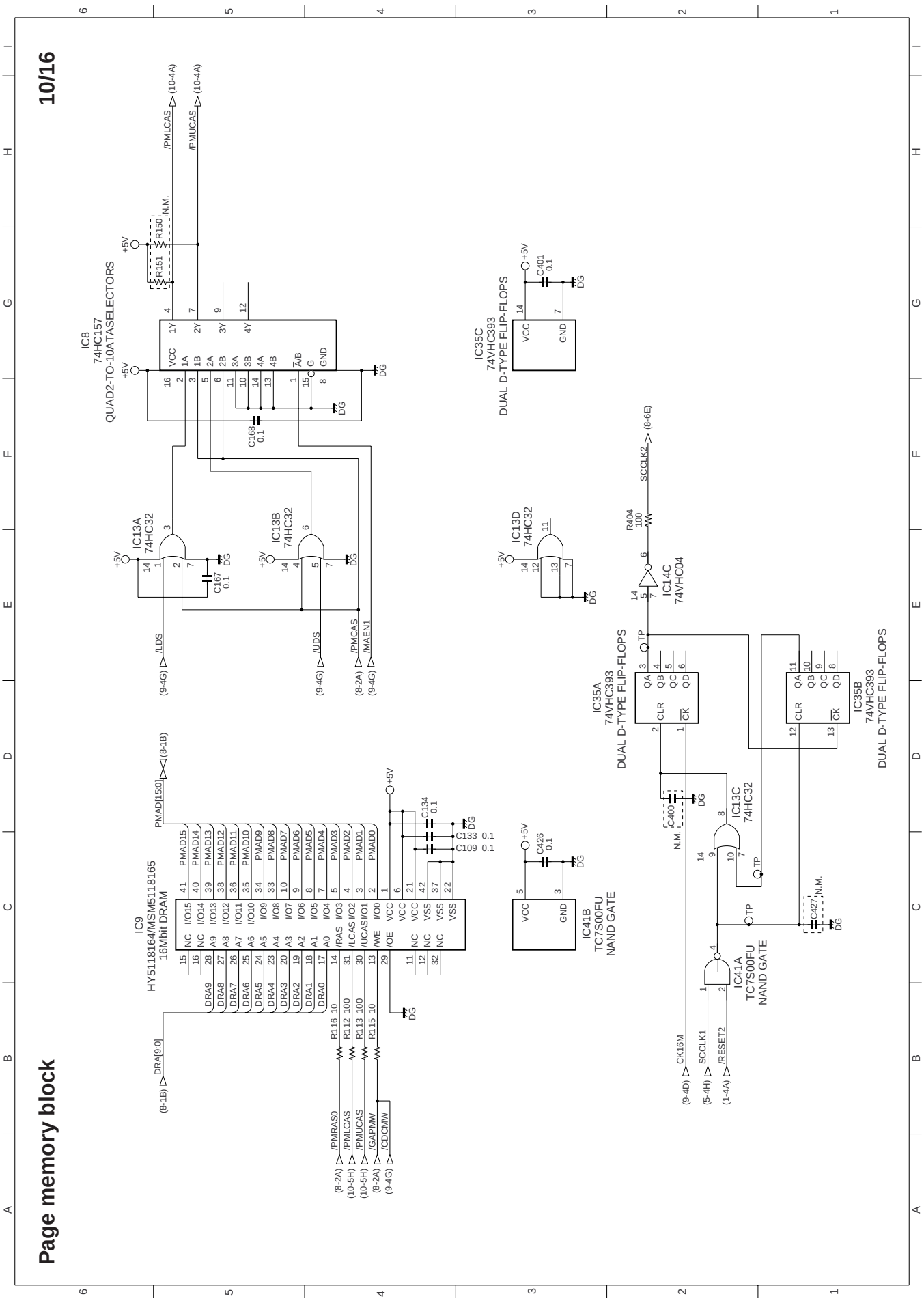
Gate array (A) block 2

7/16



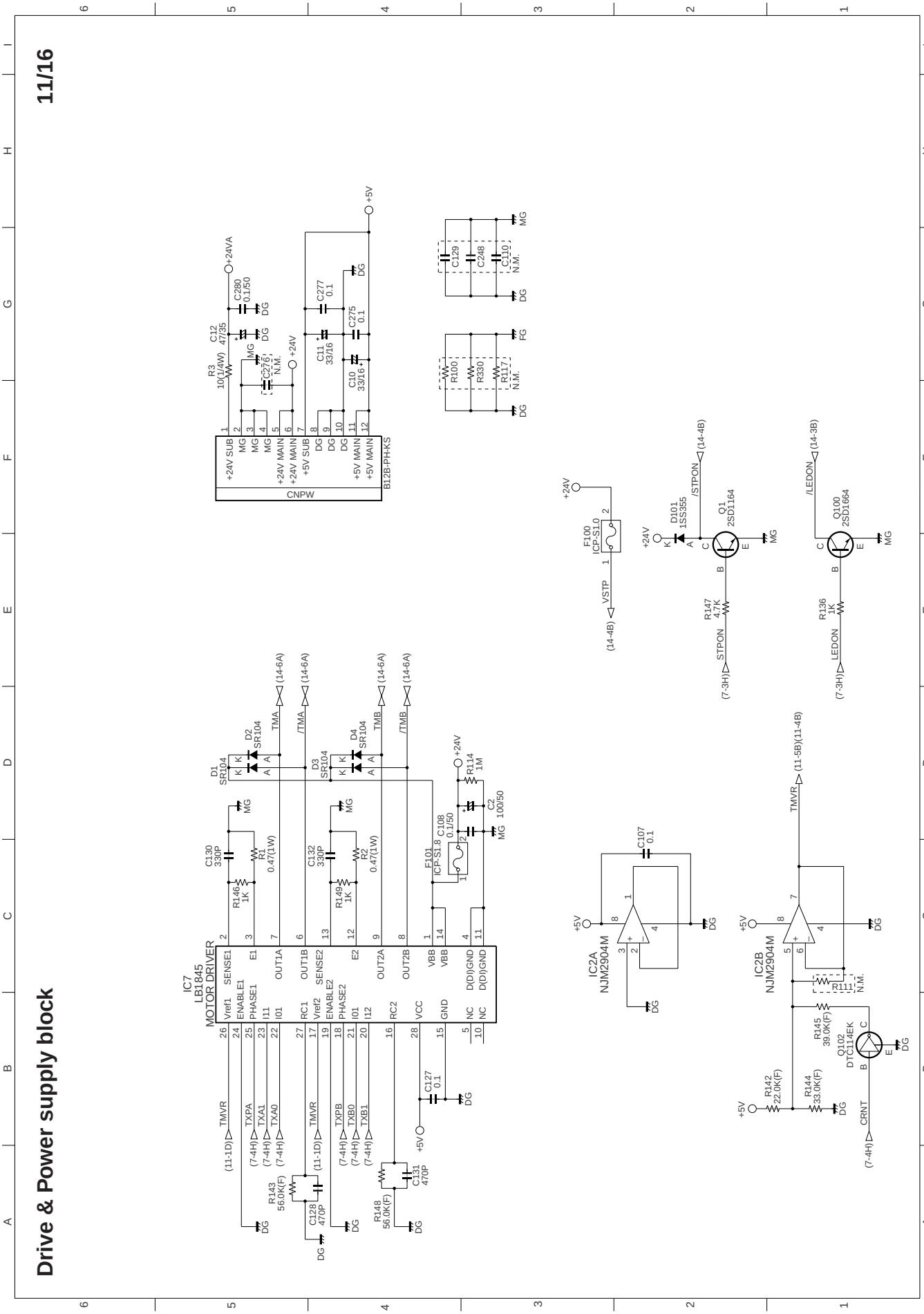

Gate array (B) block
8/16
IC10
LR38292
GATE ARRAY (B)
IC3
LH5116NA-10
16 Kbit SRAM
IC22A 74HC14
IC22B 74HC14
IC22C 74HC14
IC22D 74HC14
IC22E 74HC14
IC22F 74HC14
X3
20.3192MHz


Codec block
9/16
IC12
HD813201F
IDP201(CODEC)
IC18
HD74LS374
OCTAL D-TYPE FLIP-FLOPS
IC20
HD74LS244
OCTAL BUFFERS
IC19A
74HC74
DUAL D-TYPE FLIP-FLOPS
IC19B
74HC74
DUAL D-TYPE FLIP-FLOPS
IC15A
74LV08A
IC15B
74LV08A
IC15C
74LV08A
IC15D
74LV08A
IC14A
74VHC04
IC14B
74VHC04
IC14D
74VHC04
IC14E
74VHC04
IC14F
74VHC04


Page memory block
10/16
IC8
74HC157
QUAD2-TO-10ATASELECTORS
IC13A
74HC32
IC13B
74HC32
IC13C
74HC32
IC13D
74HC32
IC9
HY5118164/MSM5118165
16Mbit DRAM
IC35A
74VHC393
DUAL D-TYPE FLIP-FLOPS
IC35B
74VHC393
DUAL D-TYPE FLIP-FLOPS
IC35C
74VHC393
DUAL D-TYPE FLIP-FLOPS
IC14C
74VHC04
IC41A
TC7S00FU
NAND GATE
IC41B
TC7S00FU
NAND GATE
/PMLCAS
/PMUCAS
/LDS
/UDS
/PMCAS
/MAEN1
PMAD[15:0]
DRA[9:0]
/PMRAS0
/PMLCAS
/PMUCAS
/GAPMW
/CDCMW
SCCLK2
CK16M
SCCLK1
/RESET2
+5V
DG
N.M.

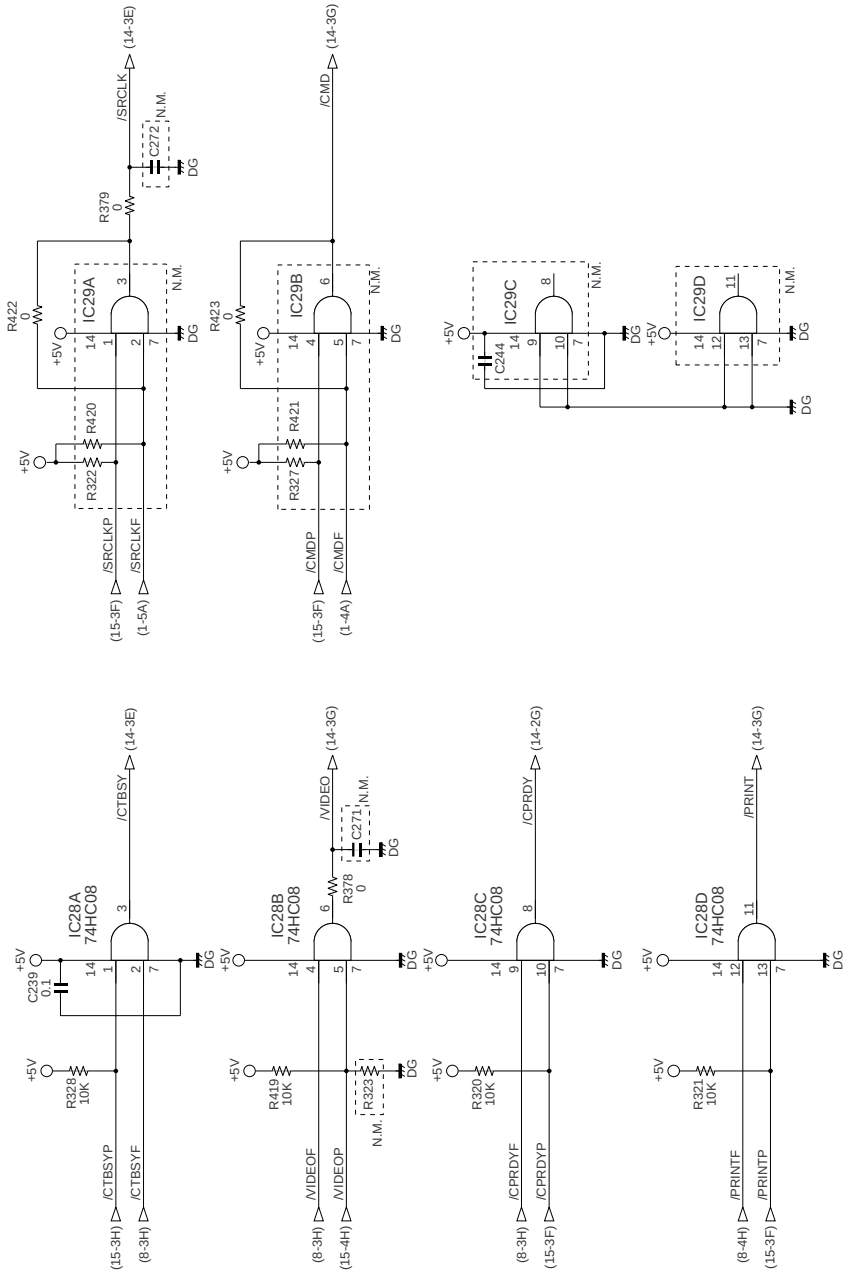
Drive & Power supply block

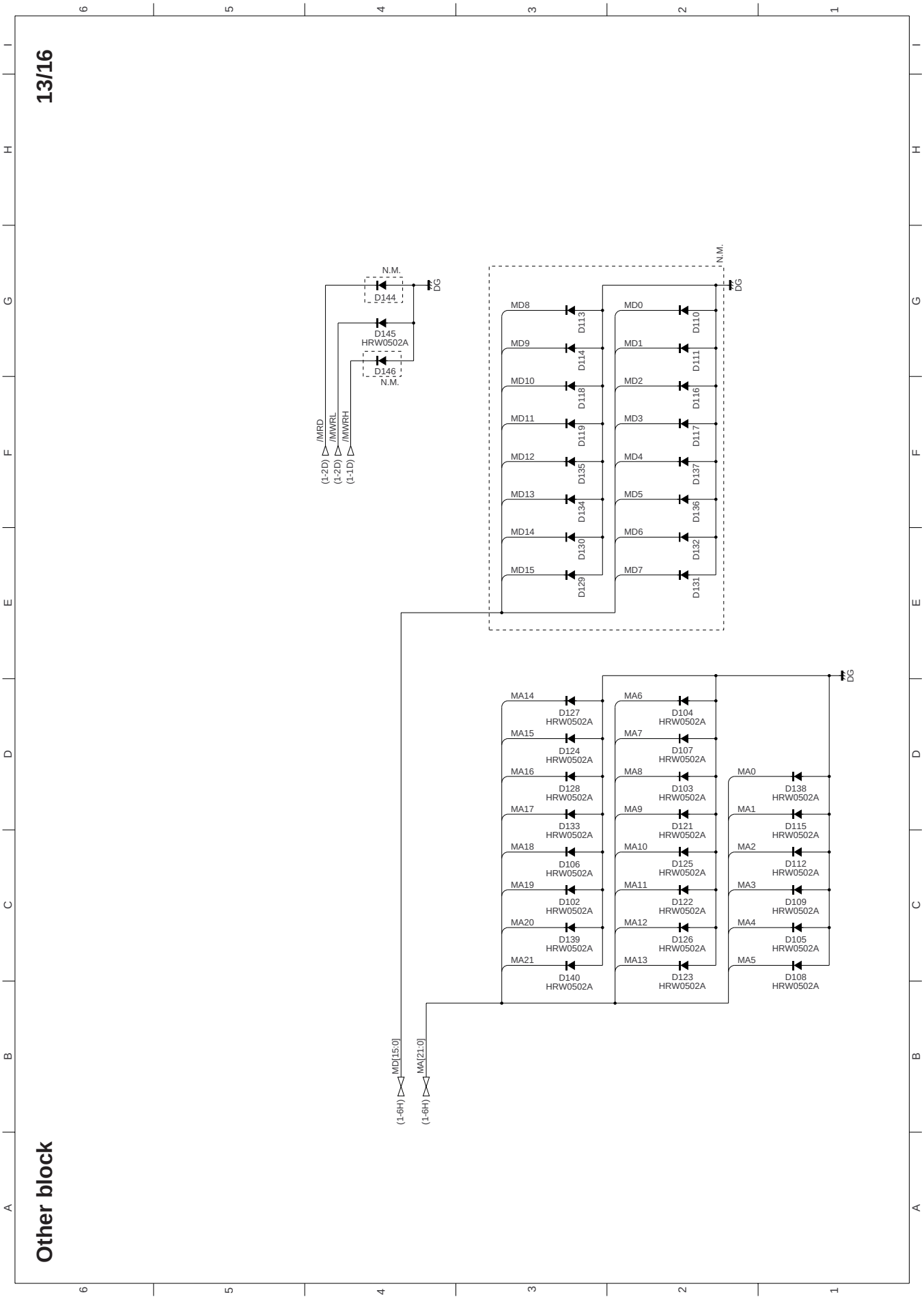
11/16



Selector block

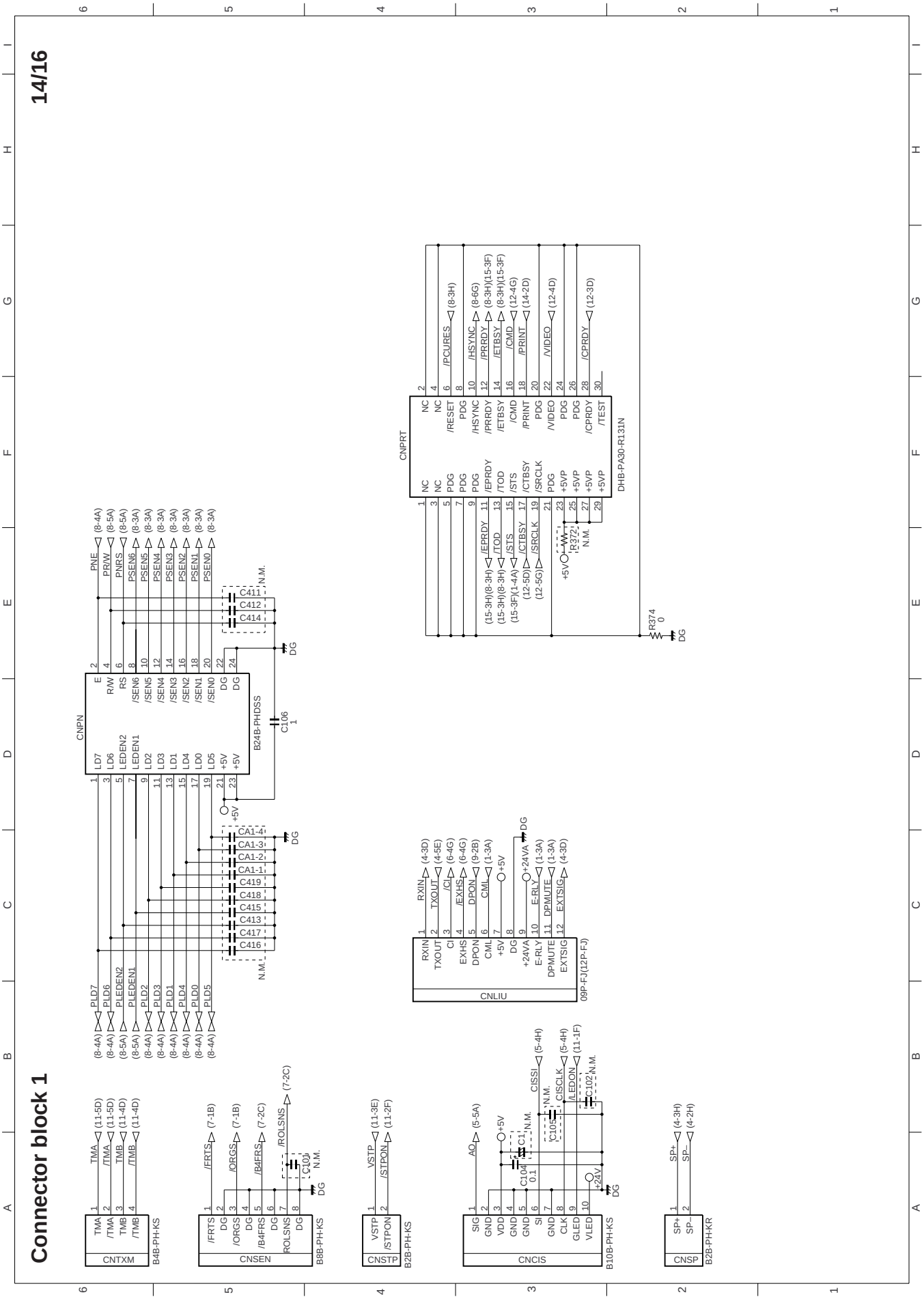
12/16




13/16
Other block
N.M.
D144
D145
HRW0502A
D146
N.M.
DG
/MRD
/MWRL
/MWRH
(1-2D)
(1-2D)
(1-1D)
MD8
MD9
MD10
MD11
MD12
MD13
MD14
MD15
MD0
MD1
MD2
MD3
MD4
MD5
MD6
MD7
D113
D114
D118
D119
D135
D134
D130
D129
D110
D111
D116
D117
D137
D136
D132
D131
MA14
MA15
MA16
MA17
MA18
MA19
MA20
MA21
MA6
MA7
MA8
MA9
MA10
MA11
MA12
MA13
MA0
MA1
MA2
MA3
MA4
MA5
D127
D124
D128
D133
D106
D102
D139
D140
D104
D107
D103
D121
D125
D122
D126
D123
D138
D115
D112
D109
D105
D108
HRW0502A
MD[15:0]
MA[21:0]
(1-6H)
(1-6H)

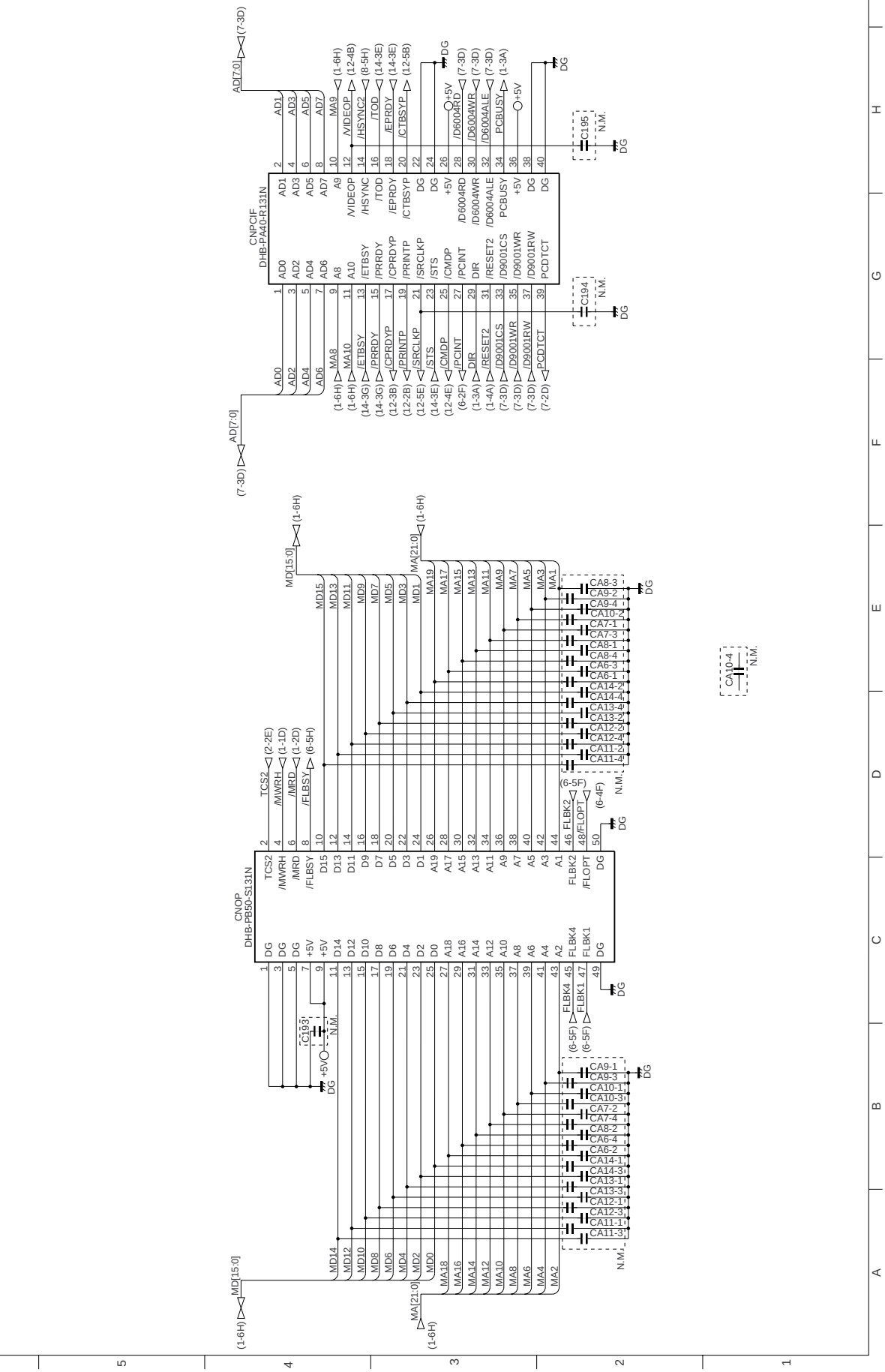
Connector block 1

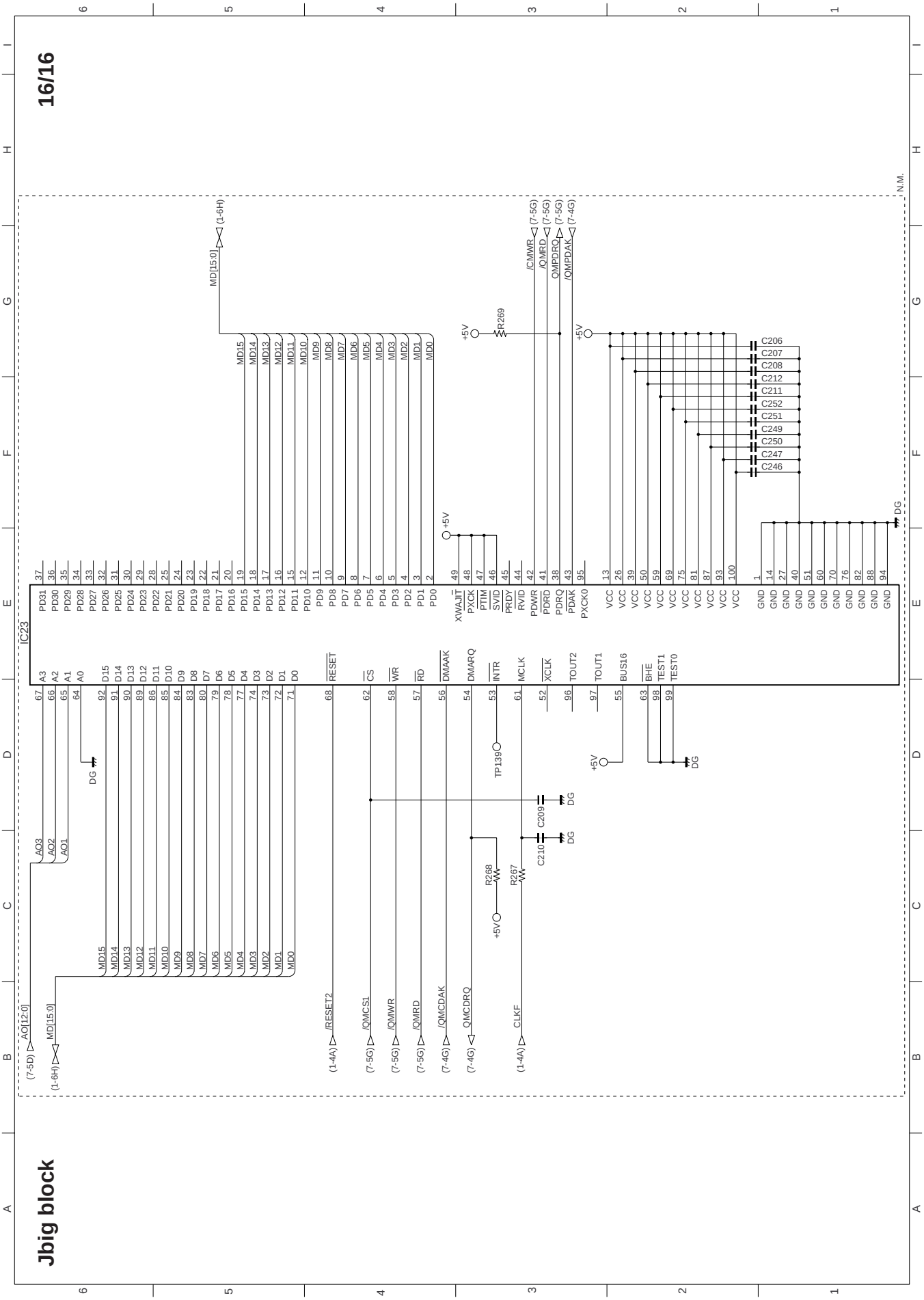
14/16



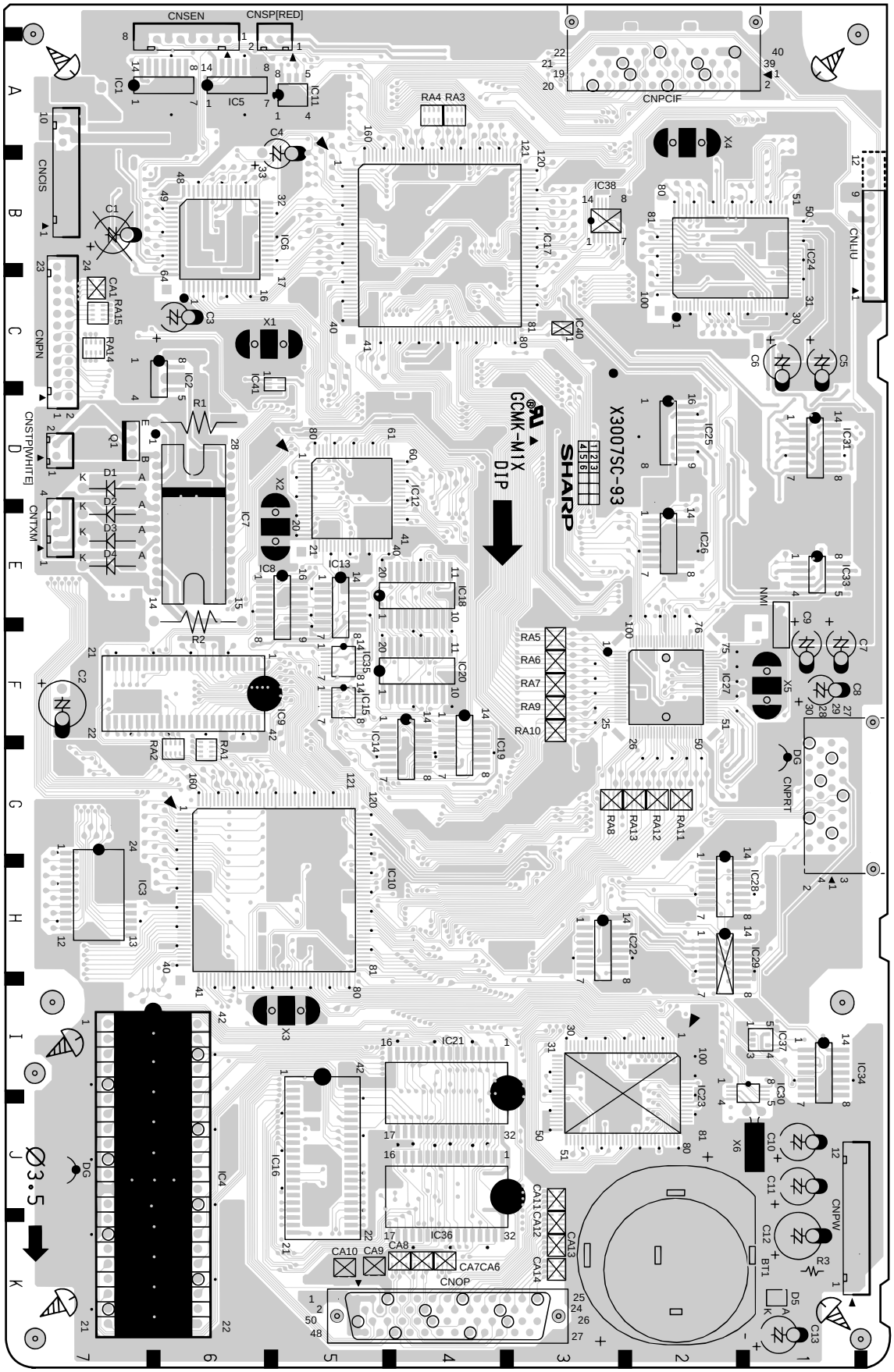
15/16

Connector block 2

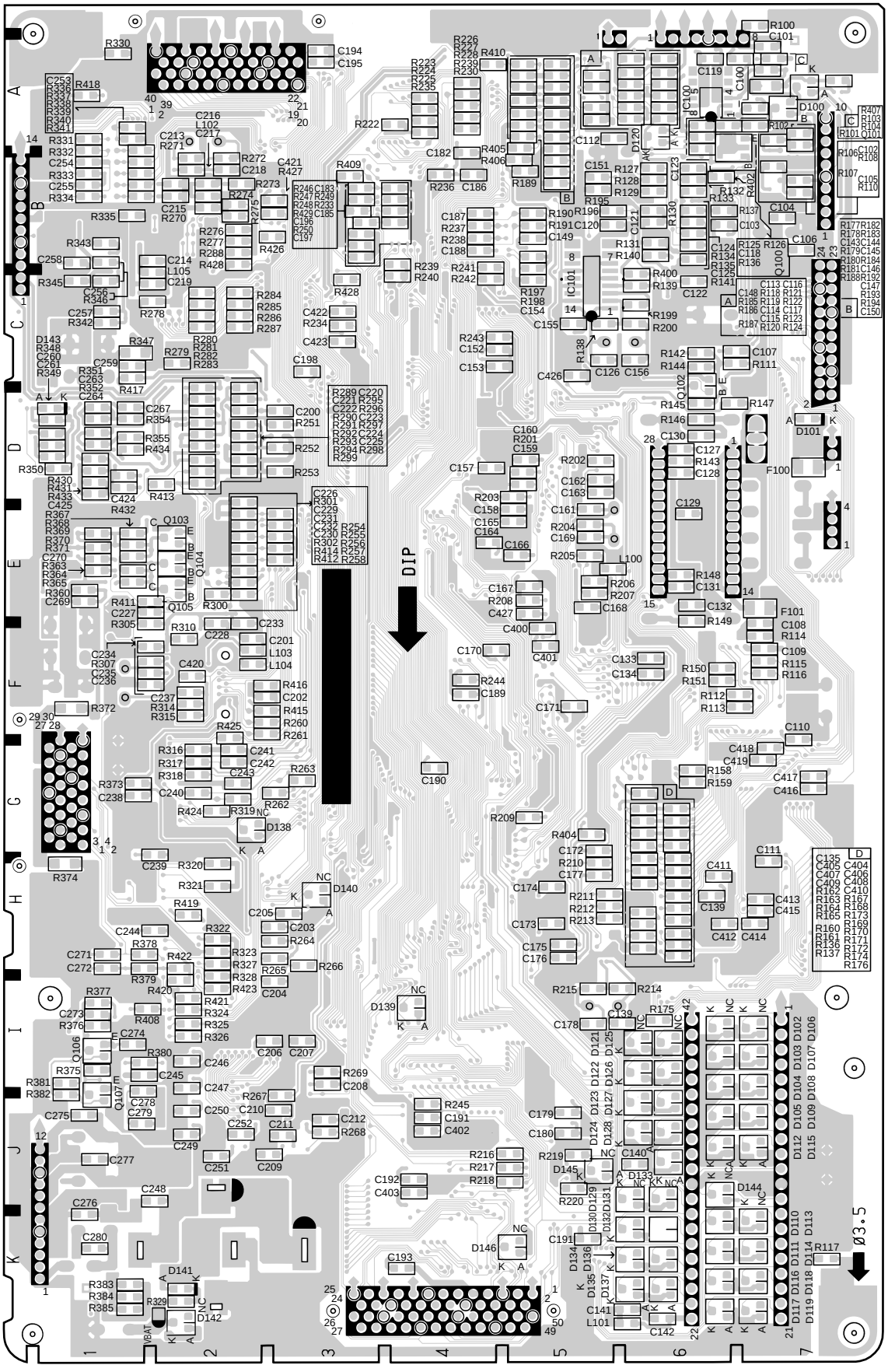



16/16
Jbig block
IC23
N.M.
MD[15:0]
(1-6H)
+5V
R269
/CMWR (7-5G)
/OMRD (7-5G)
OMPDRQ (7-5G)
/OMPDAK (7-4G)
C206
C207
C208
C212
C211
C252
C251
C249
C250
C247
C246
DG
PD31 PD30 PD29 PD28 PD27 PD26 PD25 PD24 PD23 PD22 PD21 PD20 PD19 PD18 PD17 PD16 PD15 PD14 PD13 PD12 PD11 PD10 PD9 PD8 PD7 PD6 PD5 PD4 PD3 PD2 PD1 PD0
XWAJIT PXCK PTIM SVID PRDY RVID PDWR PDRD PDRQ PDAK PXCK0
VCC GND
A3 A2 A1 A0
D15 D14 D13 D12 D11 D10 D9 D8 D7 D6 D5 D4 D3 D2 D1 D0
RESET CS WR RD DMAAK DMARQ INTR MCLK XCLK TOUT2 TOUT1 BUS16 BHE TEST1 TEST0
AO[12:0]
MD[15:0]
AO3 AO2 AO1
(7-5D)
(1-6H)
/RESET2 (1-4A)
/QMCS1 (7-5G)
/QMWR (7-5G)
/QMRD (7-5G)
/QMCDAK (7-4G)
QMCDRQ (7-4G)
CLKF (1-4A)
TP139
R268
R267
C209
C210

Control PWB parts layout (Top side)

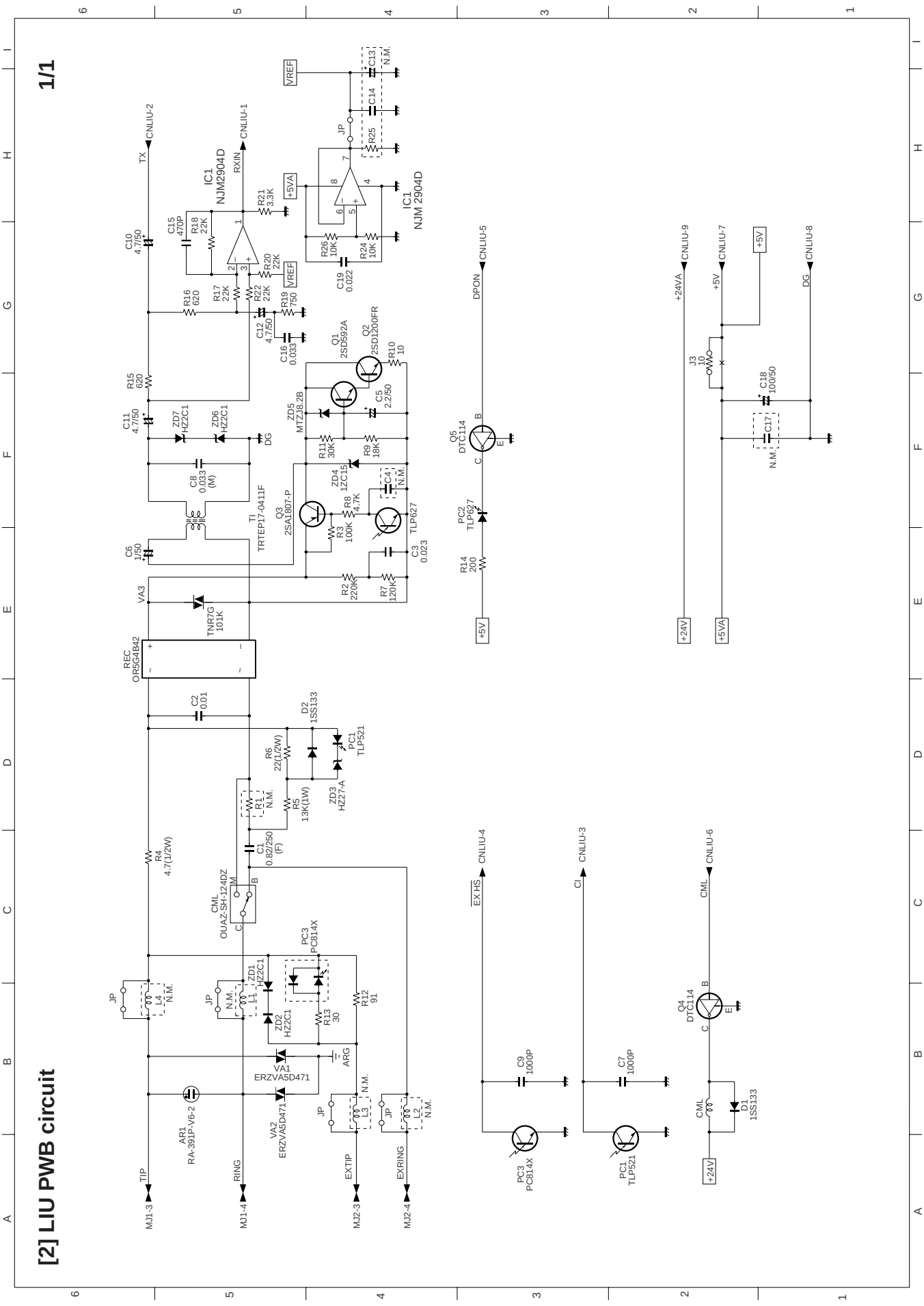


Control PWB parts layout (Bottom side)

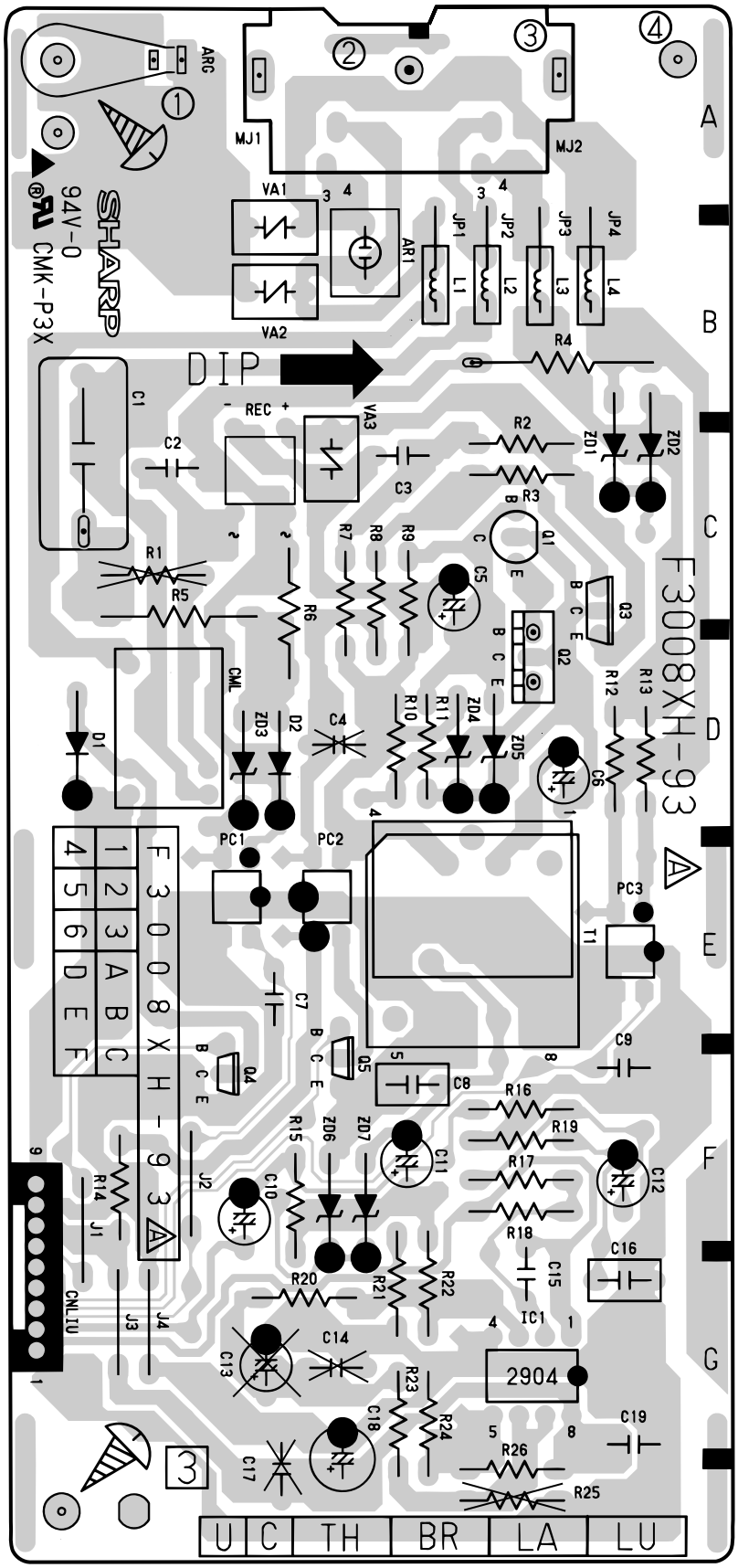


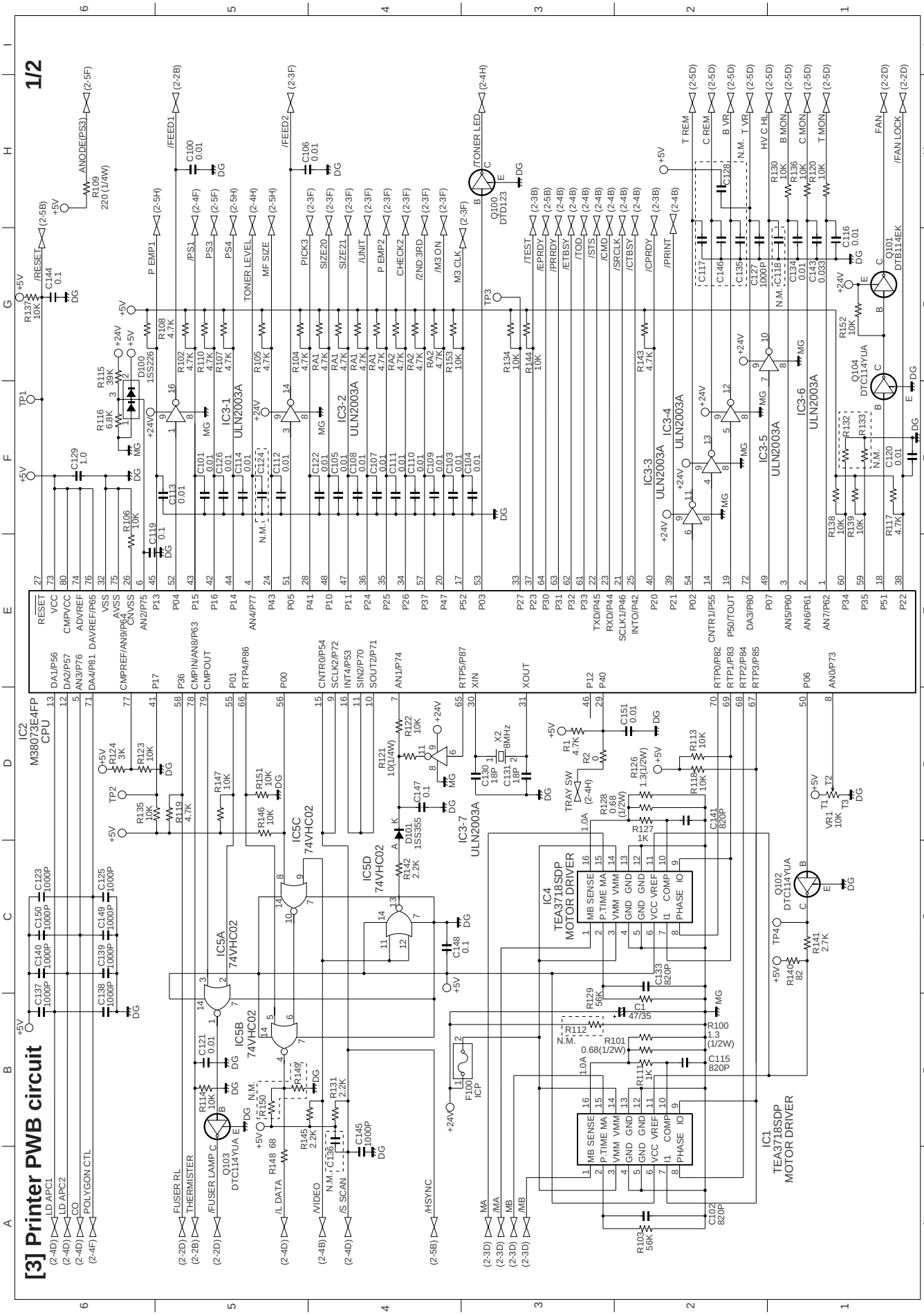
[2] LIU PWB circuit

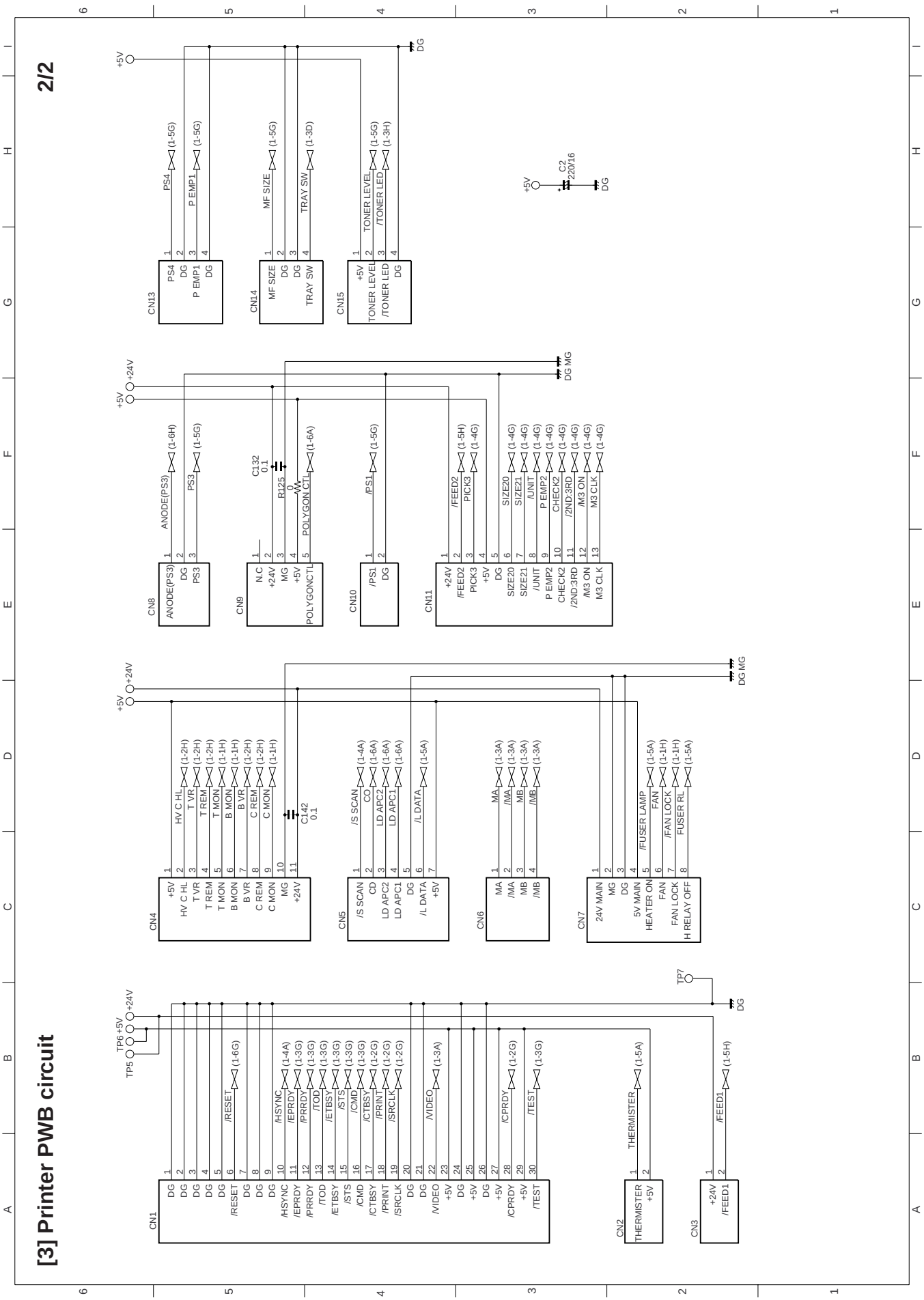
1/1



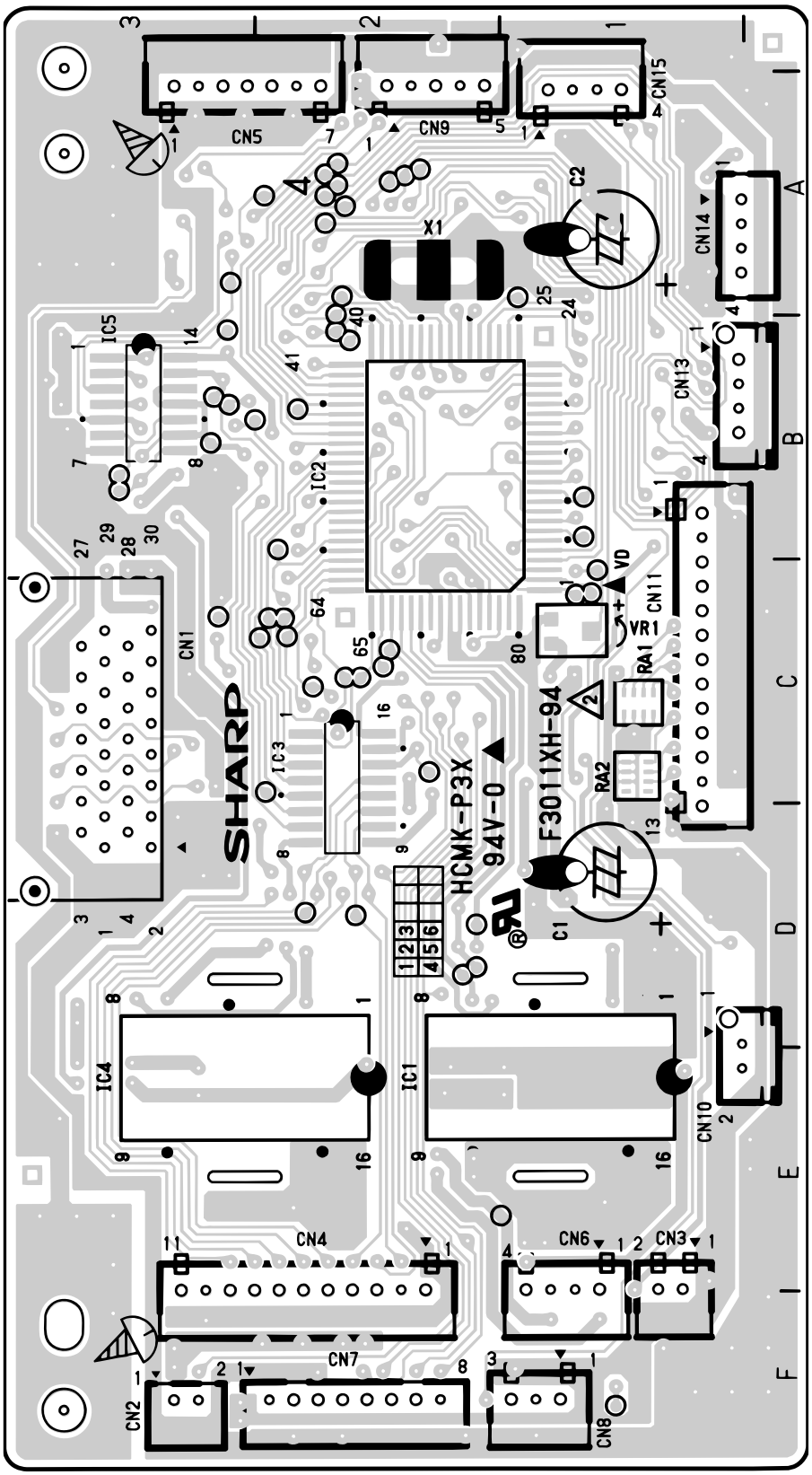
LIU PWB parts layout



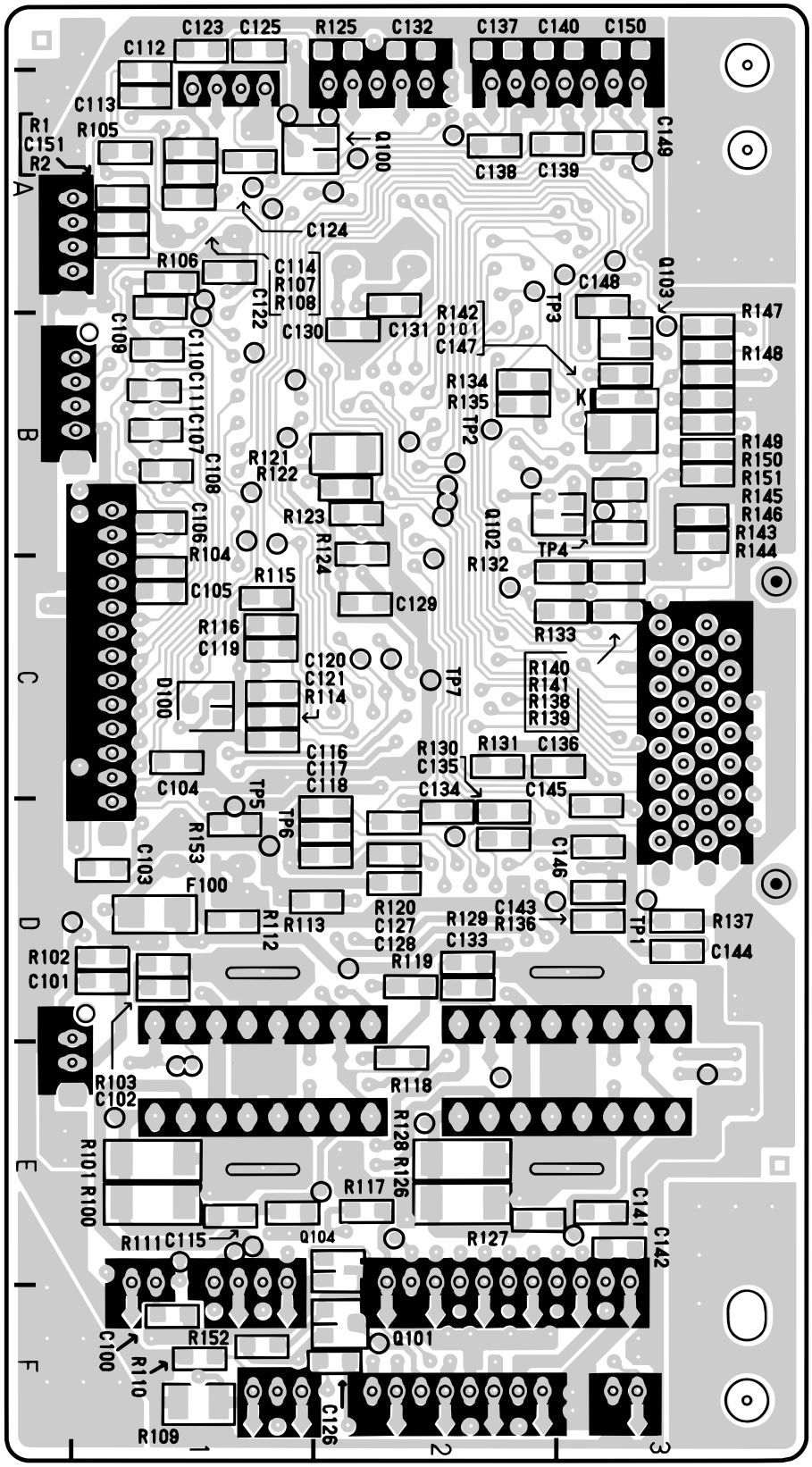

[3] Printer PWB circuit
1/2
IC2
M38073E4FP
CPU
IC1
TEA3718SDP
MOTOR DRIVER
IC3-1
IC3-2
IC3-3
IC3-4
IC3-5
IC3-6
IC3-7
ULN2003A
IC4
TEA3718SDP
MOTOR DRIVER
IC5A
74VHC02
IC5B
74VHC02
IC5C
74VHC02
IC5D
74VHC02
LD APC1
LD APC2
CO
POLYGON CTL
FUSER RL
THERMISTER
/FUSER LAMP
/L DATA
/VIDEO
/S SCAN
/HSYNC
MA
/MA
MB
/MB
ANODE(PS3)
/RESET
/FEED1
/FEED2
P EMP1
/PS1
PS3
PS4
TONER LEVEL
MF SIZE
PICK3
SIZE20
SIZE21
/UNIT
P EMP2
CHECK2
/2ND.3RD
/M3.ON
M3 CLK
/TONER LED
/TEST
/EPRDY
/PRRDY
/ETBSY
/TOD
/STS
/CMD
/SRCLK
/CTBSY
/CPRDY
/PRINT
T REM
C REM
B VR
T VR
HV C HL
B MON
C MON
T MON
FAN
/FAN LOCK
TRAY SW
F100
ICP
X2
8MHz
Q100
DTD123
Q101
DTB114EK
Q102
DTC114YUA
Q103
DTC114YUA
Q104
DTC114YUA
D100
1SS226
D101
1SS355
TP1
TP2
TP3
TP4
VR1
10K
N.M.

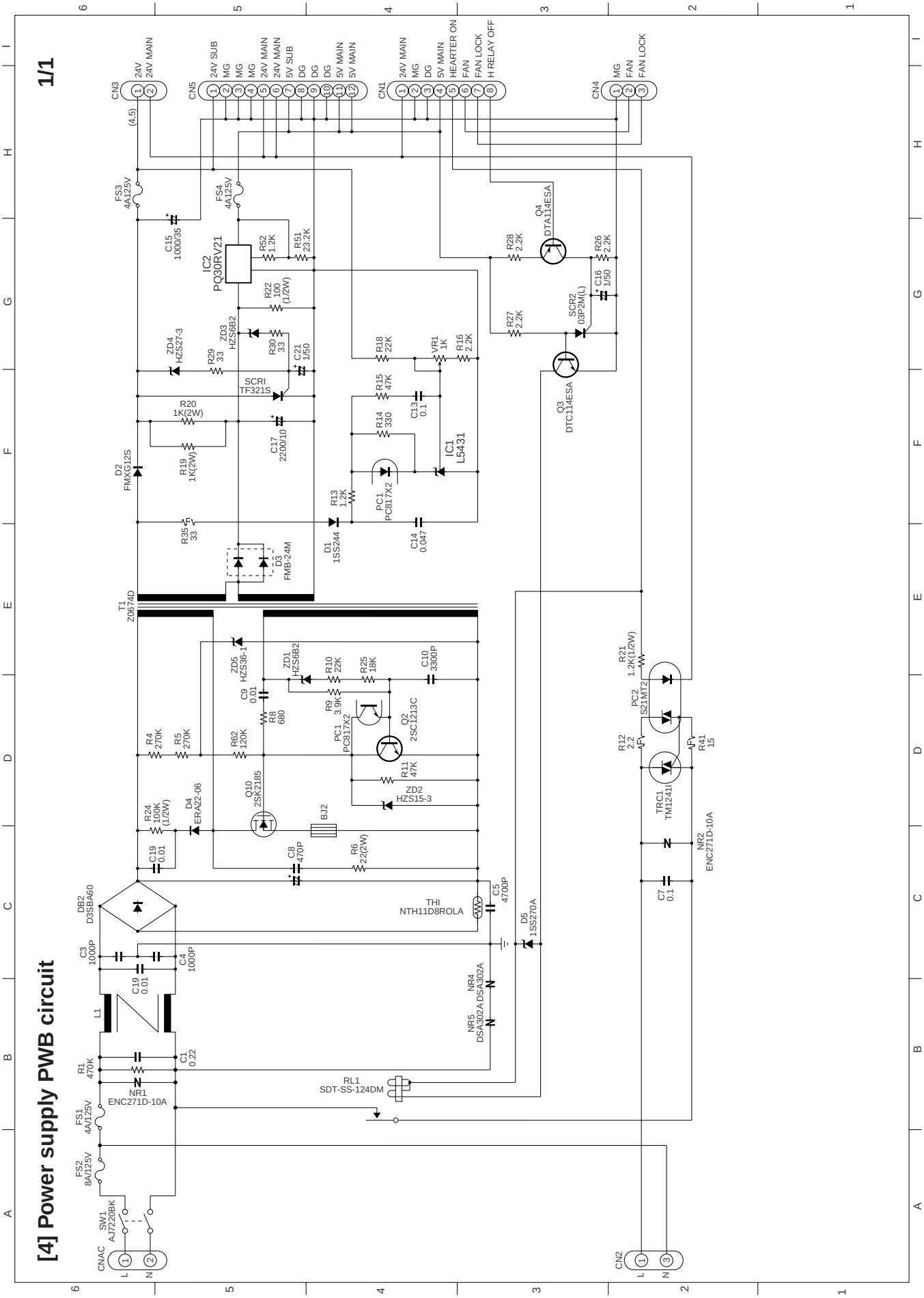

[3] Printer PWB circuit
2/2
CN1
CN2
CN3
CN4
CN5
CN6
CN7
CN8
CN9
CN10
CN11
CN13
CN14
CN15
TP5
TP6 +5V
TP7
+24V
+5V
DG
DG MG
THERMISTER
/FEED1
/RESET
/HSYNC
/EPRDY
/PRRDY
/TOD
/ETBSY
/STS
/CMD
/CTBSY
/PRINT
/SRCLK
/VIDEO
/CPRDY
/TEST
HV C HL
T VR
T REM
T MON
B MON
B VR
C REM
C MON
/S SCAN
CD
LD APC2
LD APC1
/L DATA
MA
/MA
MB
/MB
24V MAIN
MG
5V MAIN
/FUSER LAMP
HEATER ON
FAN
/FAN LOCK
H RELAY OFF
FUSER RL
ANODE(PS3)
PS3
N.C
R125
POLYGONCTL
/PS1
/FEED2
PICK3
SIZE20
SIZE21
/UNIT
P EMP2
CHECK2
/2ND.3RD
/M3 ON
M3 CLK
C132
C142
C2
220/16
PS4
P EMP1
MF SIZE
TRAY SW
TONER LEVEL
/TONER LED

Printer PWB parts layout (Top side)

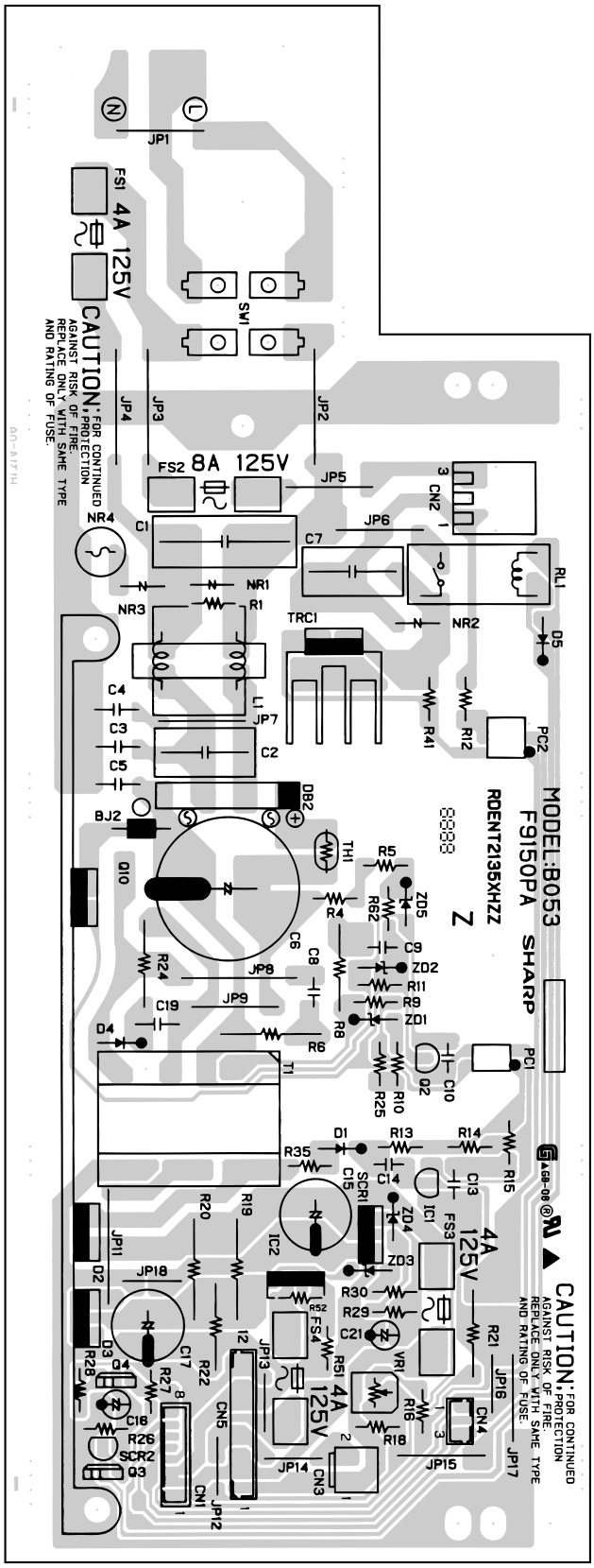


Printer PWB parts layout (Bottom side)



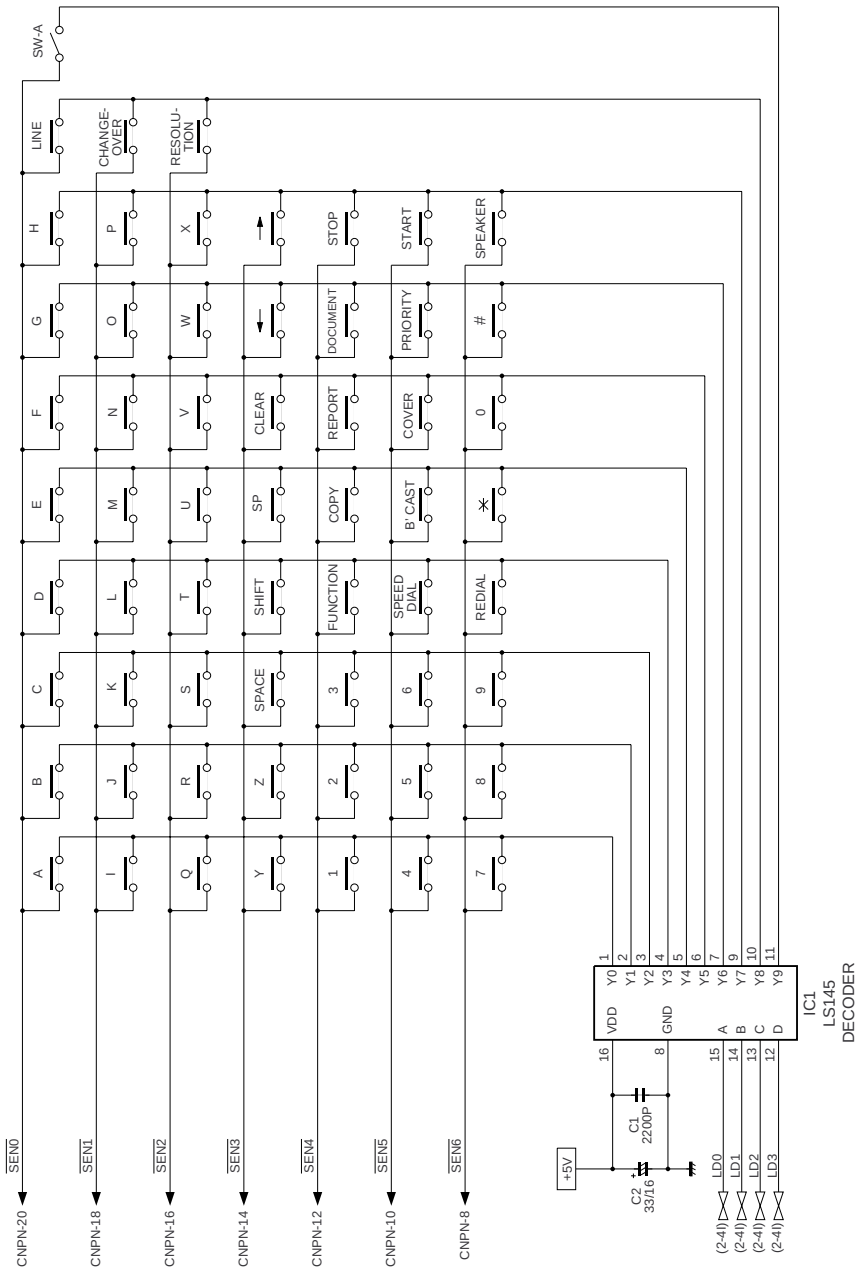

[4] Power supply PWB circuit
1/1
CN3
CN5
CN1
CN4
CN2
CNAC
IC1 L5431
IC2 PQ30RV21
T1 Z0674D
RL1 SDT-SS-124DM
THI NTH11D8ROLA
SCR1 TF321S
SCR2 03P2M(L)
Q2 2SC1213C
Q3 DTC114ESA
Q4 DTA114ESA
Q10 2SK2185
PC1 PC817X2
PC2 S21MT2
TRC1 TM12411
D1 1SS244
D2 FMXG12S
D3 FMB-24M
D4 ERA22-06
D5 1SS270A
DB2 D3SBA60
SW1 AJ7220BK
NR1 ENC271D-10A
NR2 ENC271D-10A
NR4 DSA302A
NR5 DSA302A

Power supply PWB parts layout

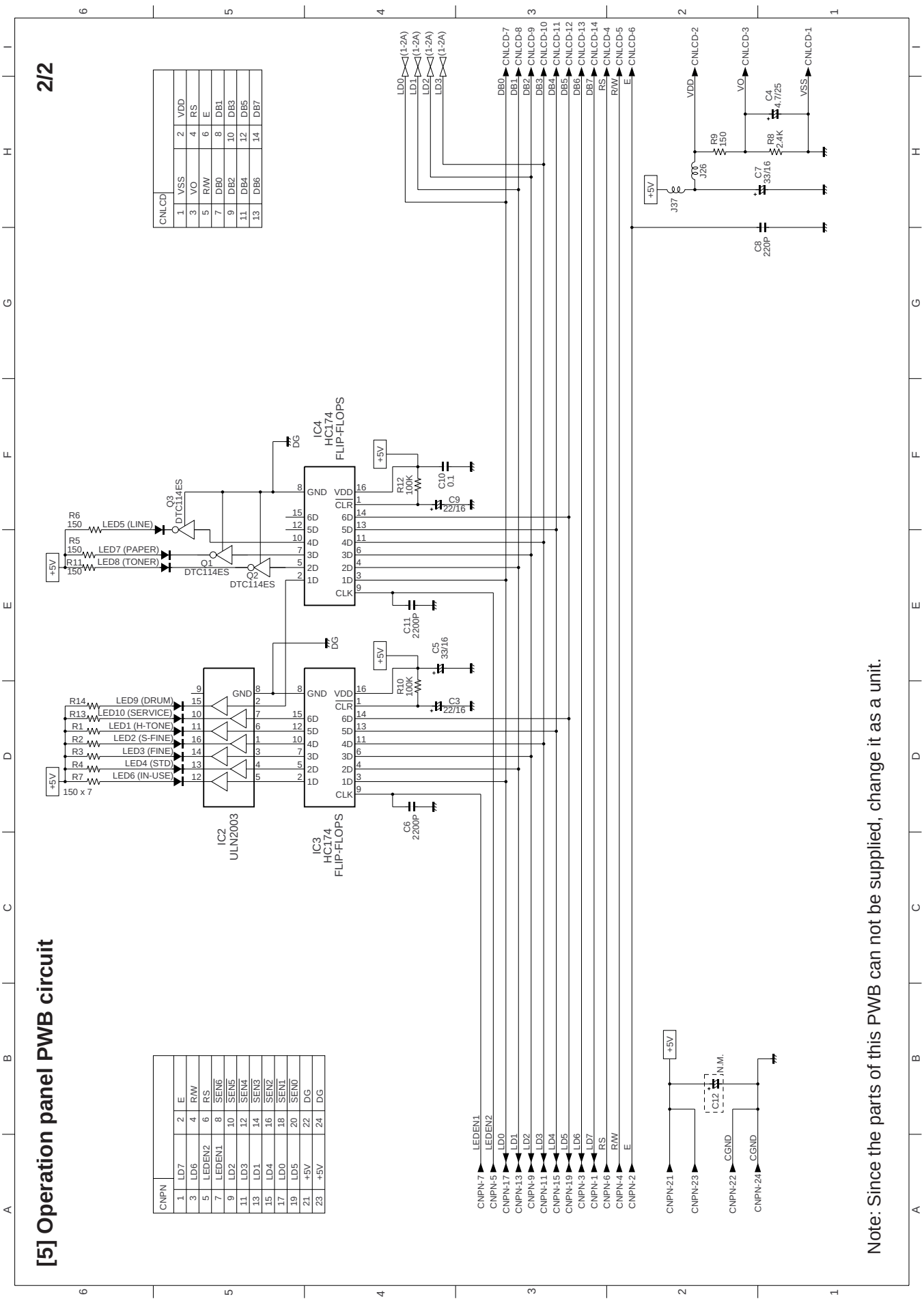


[5] Operation panel PWB circuit

1/2

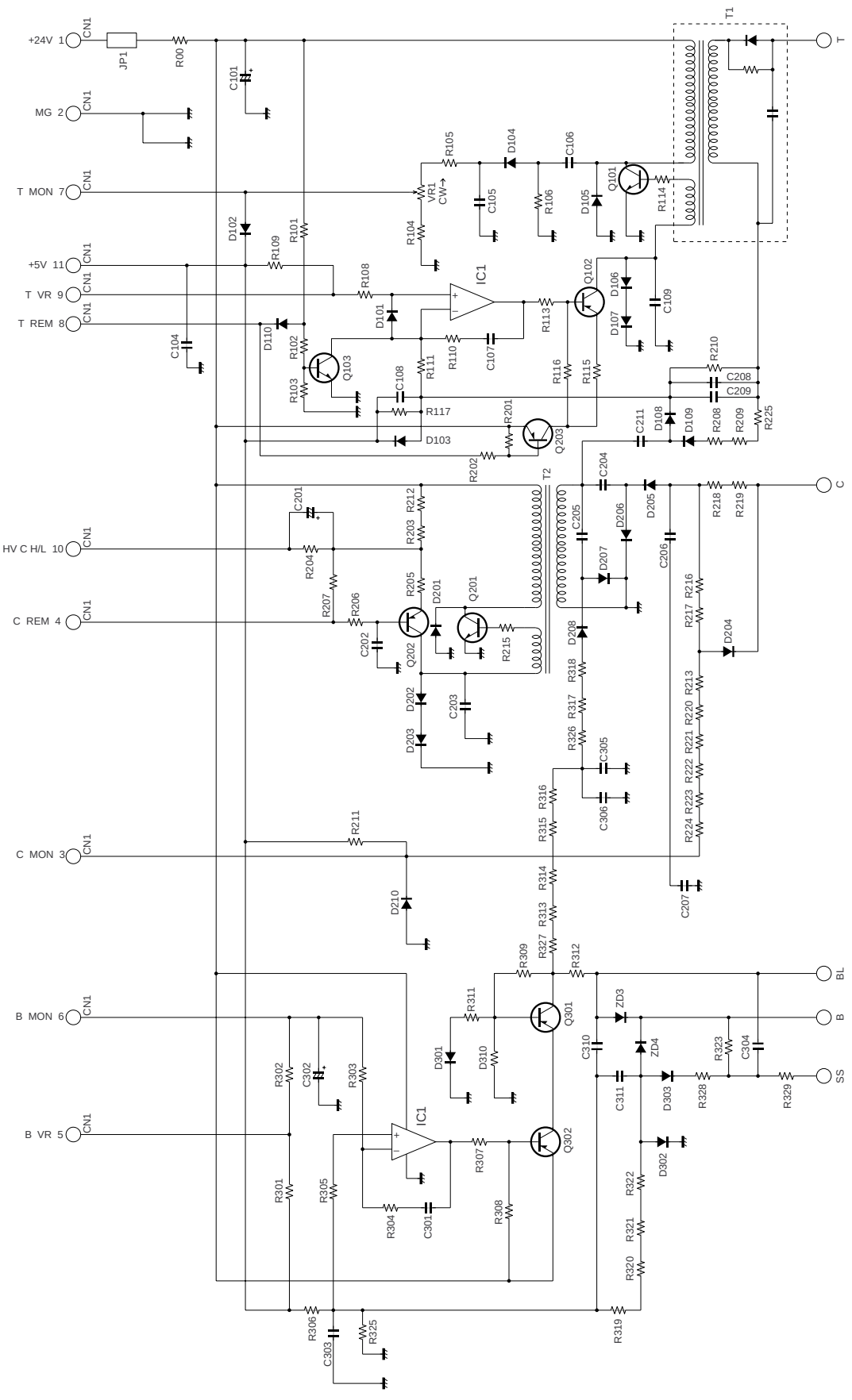


Note: Since the parts of this PWB can not be supplied, change it as a unit.


[5] Operation panel PWB circuit
2/2
CNPN
1 LD7
3 LD6
5 LEDEN2
7 LEDEN1
9 LD2
11 LD3
13 LD1
15 LD4
17 LD0
19 LD5
21 +5V
23 +5V
2 E
4 R/W
6 RS
8 SEN6
10 SEN5
12 SEN4
14 SEN3
16 SEN2
18 SEN1
20 SEN0
22 DG
24 DG
CNLCD
1 VSS
3 VO
5 R/W
7 DB0
9 DB2
11 DB4
13 DB6
2 VDD
4 RS
6 E
8 DB1
10 DB3
12 DB5
14 DB7
IC2 ULN2003
IC3 HC174 FLIP-FLOPS
IC4 HC174 FLIP-FLOPS
Q1 DTC114ES
Q2 DTC114ES
Q3 DTC114ES
LED1 (H-TONE)
LED2 (S-FINE)
LED3 (FINE)
LED4 (STD)
LED5 (LINE)
LED6 (IN-USE)
LED7 (PAPER)
LED8 (TONER)
LED9 (DRUM)
LED10 (SERVICE)
150 x 7
+5V
DG
CGND
N.M.
CNPN-1
CNPN-2
CNPN-3
CNPN-4
CNPN-5
CNPN-6
CNPN-7
CNPN-9
CNPN-11
CNPN-13
CNPN-15
CNPN-17
CNPN-19
CNPN-21
CNPN-22
CNPN-23
CNPN-24
CNLCD-1
CNLCD-2
CNLCD-3
CNLCD-4
CNLCD-5
CNLCD-6
CNLCD-7
CNLCD-8
CNLCD-9
CNLCD-10
CNLCD-11
CNLCD-12
CNLCD-13
CNLCD-14
Note: Since the parts of this PWB can not be supplied, change it as a unit.

[6] High voltage PWB circuit

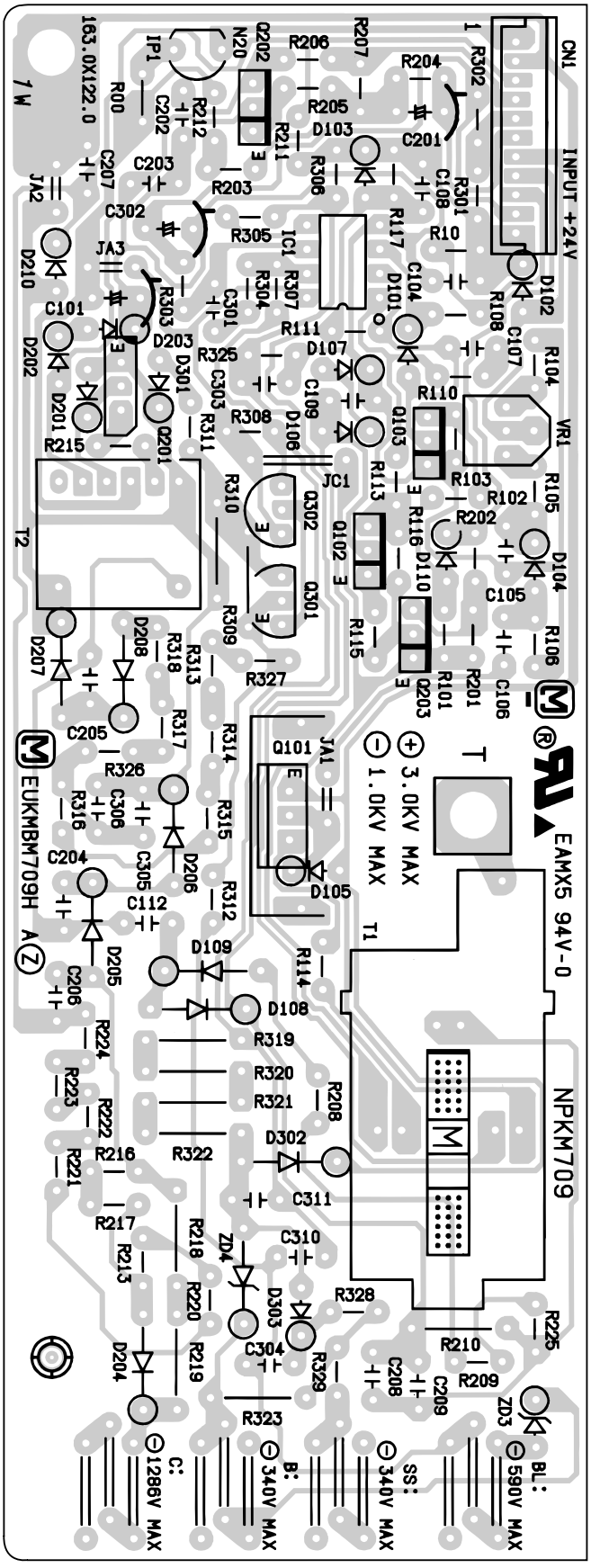
1/1



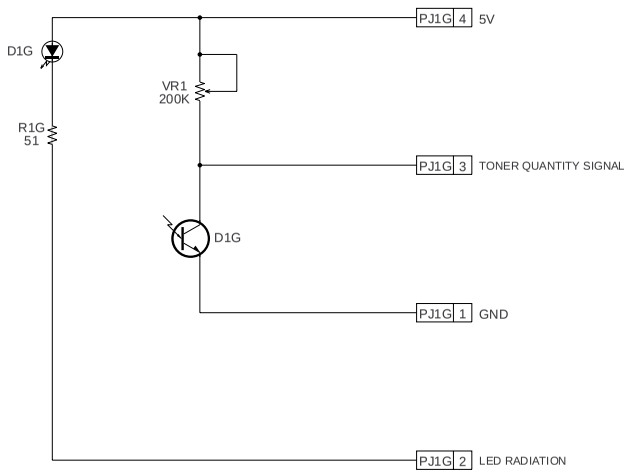
Note: Since the parts of this PWB can not be supplied, change it as a unit.

High voltage PWB parts layout

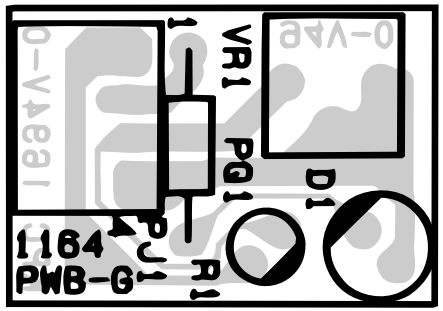
Note: Since the parts of this PWB can not be supplied, change it as a unit.



[7] Toner empty PWB circuit



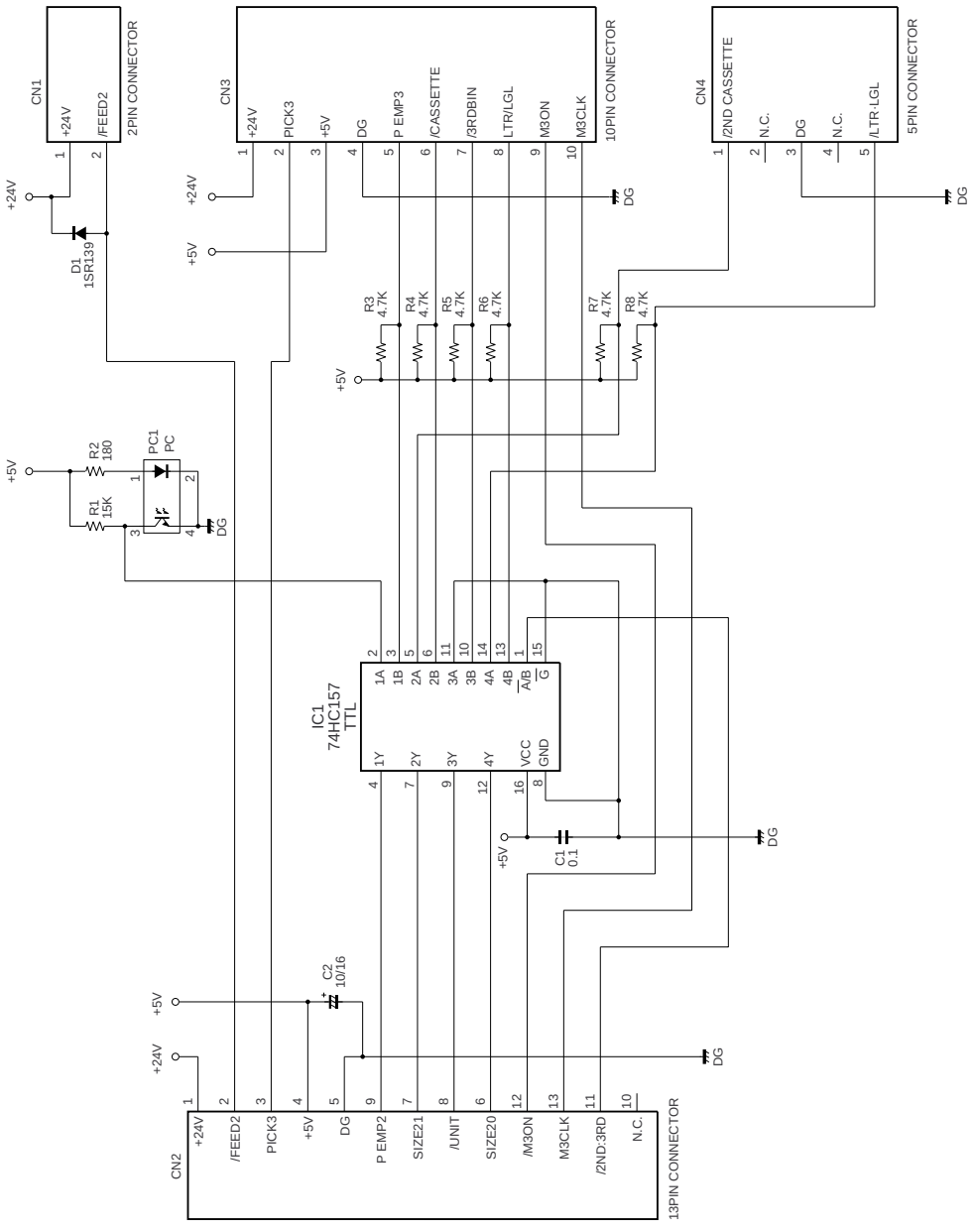
Toner empty PWB parts layout



Note: Since the parts of this PWB can not be supplied, change it as a unit.

[8] Option:Paper cassette PWB circuit (FO-47UC)

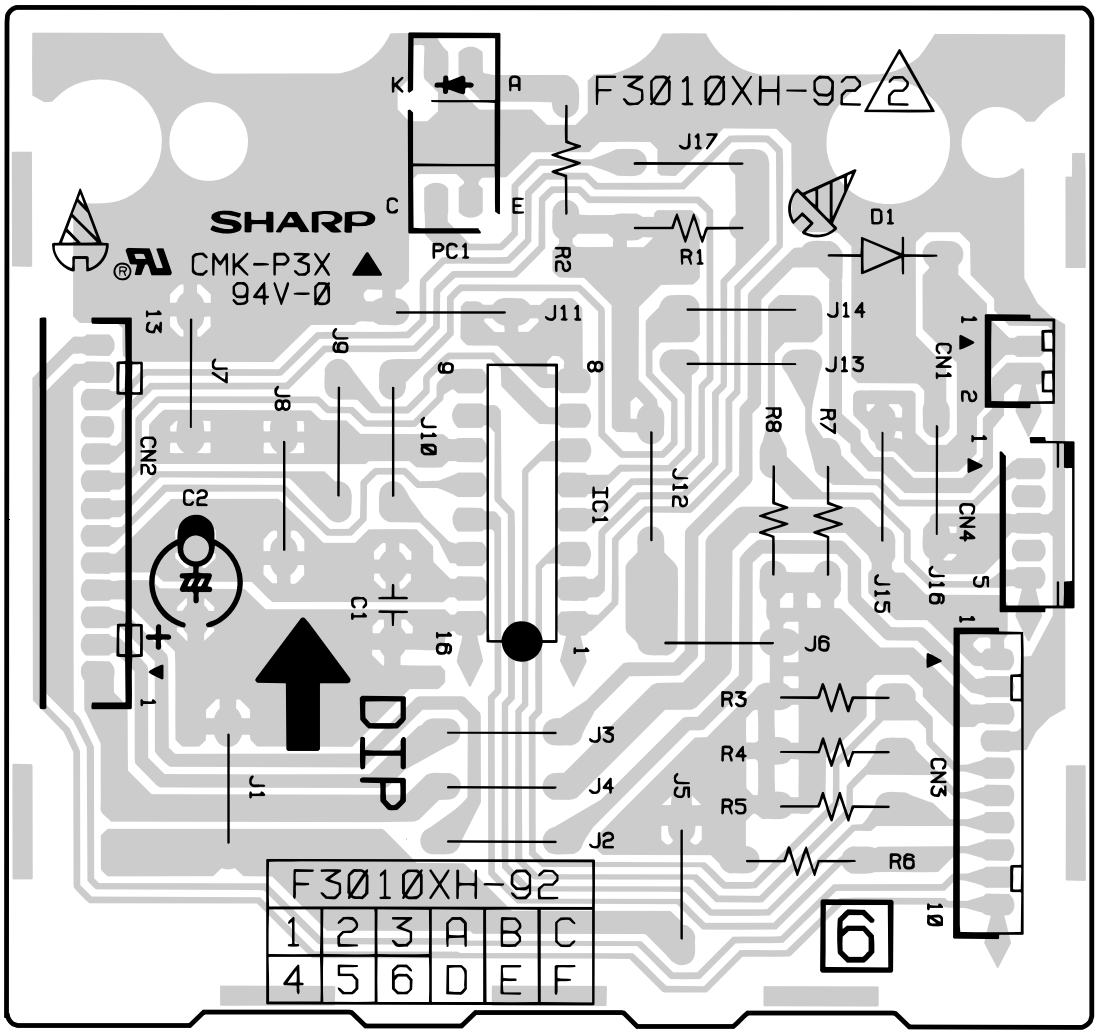
1/1



Note: Since the parts of this PWB can not be supplied, change it as a unit.

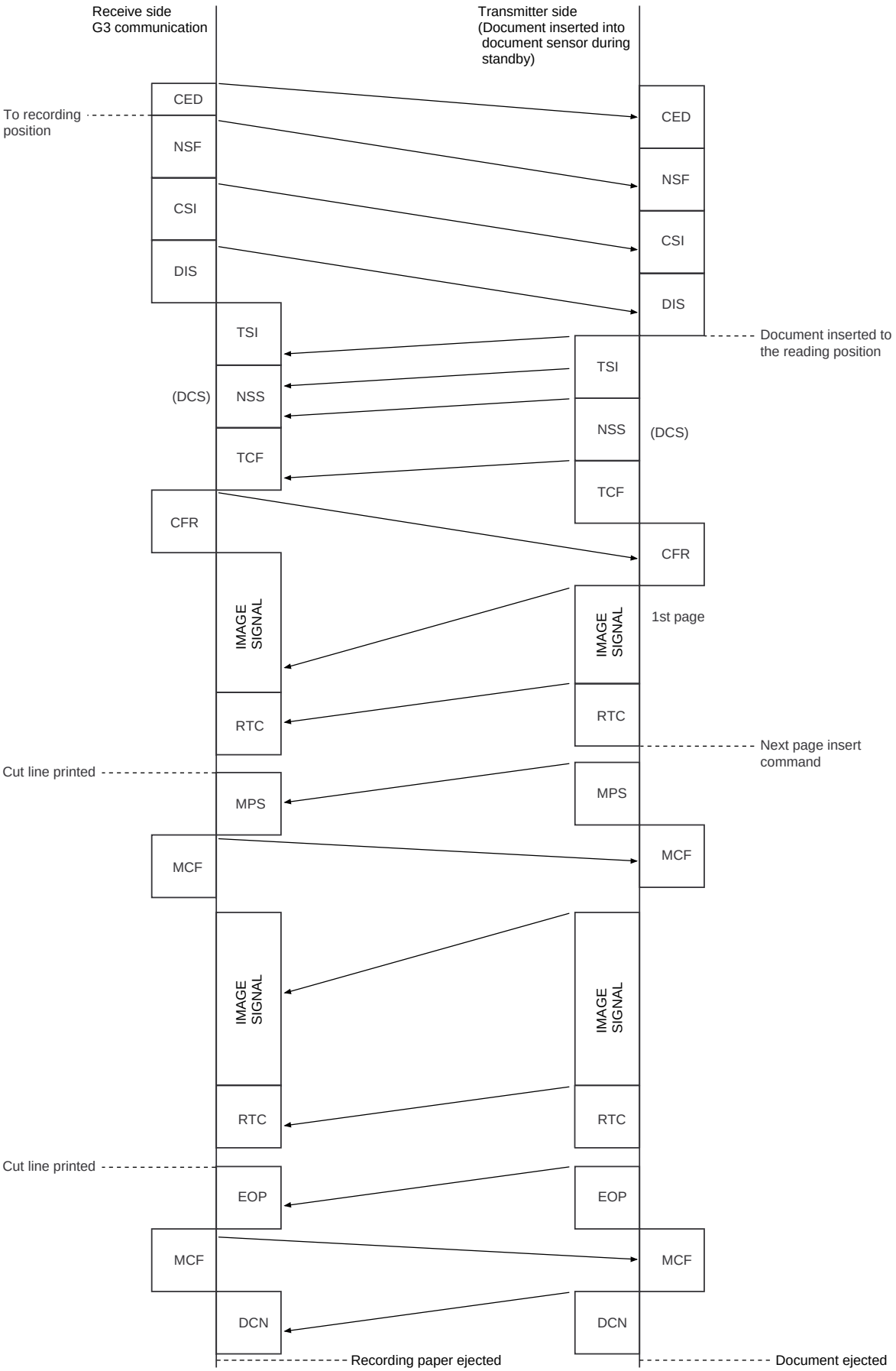
Option:Paper cassette PWB parts layout (FO-47UC)

Note: Since the parts of this PWB can not be supplied, change it as a unit.

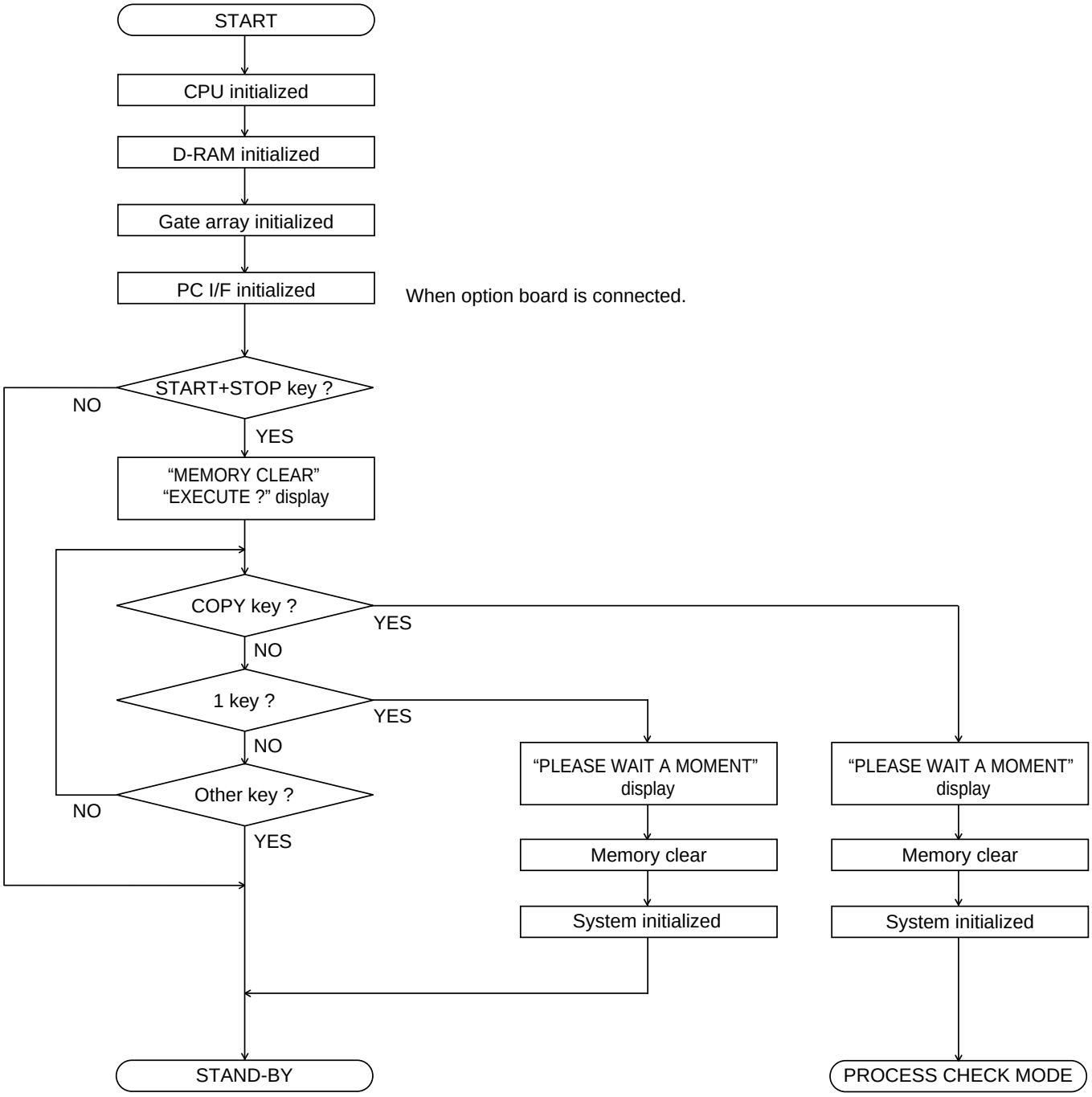


CHAPTER 7. OPERATION FLOWCHART

[1] Protocol



[2] Power on sequence



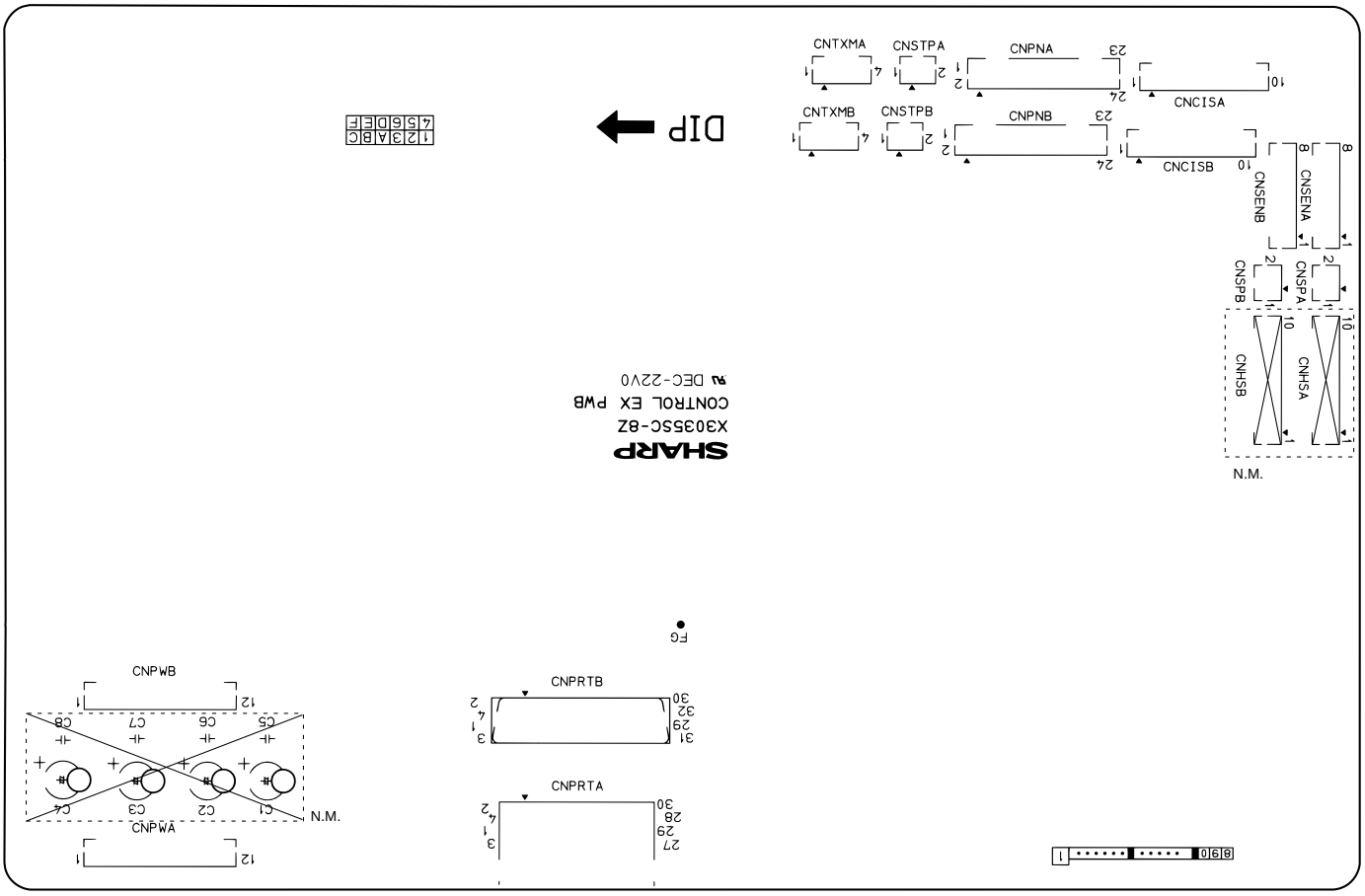
CHAPTER 8. OTHERS

[1] Service Tools

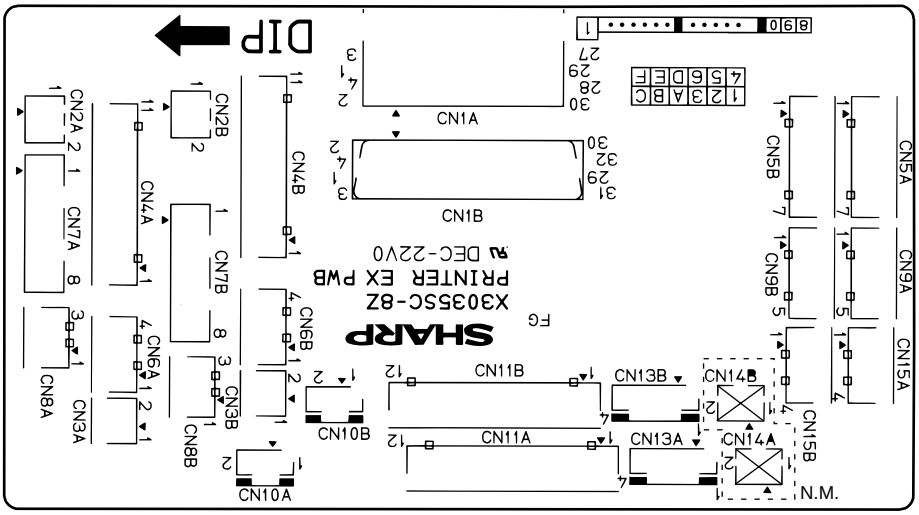
1. List

NO.	PARTS CODE	DESCRIPTION	Q'TY	PRICE RANK
1	CPWBX3035SC01	Extension board unit (Control-EX) / (Printer-EX) and cables	1	CL

CONTROL EXTENSION BOARD



PRINTER EXTENSION BOARD



2. Description

2-1. Extension board unit

[For inspection of control PWB, LIU PWB]

1) Remove the rear cabinet and shield plate from the unit, and remove the check control PWB and check LIU PWB.
2) Mount the extension board (Control-EX) in the place where the control PWB has been removed. At that time, the connector (CNPRT) of extension board (Control-EX) must be inserted into the printer PWB. Connect the cables from the unit to the connectors (A side) (CNTXMA, CNCISA, CNSPA, CNSENA, CNSTPA, CNPNA, CNPWA) of extension board (Control-EX) .
3) Connect the extension cables to the connectors (B side) of extension board (Control-EX) as shown in Fig. 1.
4) The connector (CN1A) of the extension board (Printer-EX) must be inserted into the connector (CNPRT) of the check control PWB.
5) Connect the extension PWB cable (QCNW-4559SCZZ) to the connector (CNPRTB) of extension board (Control-EX) and the connector (CN1B) of extension board (Printer-EX).
6) The connector (CNLIU) of check LIU PWB must be inserted into the check control PWB, and connect the line cable to the LIU PWB.
7) Connect the extension cables (7 types except extension cable) pulled out from the unit to the check control PWB. (CNTXM, CNCIS, CNSP, CNSEN, CNSTP, CNPN, CNPW)

Extension board connection diagram

Ref No.	Cable parts code	Description
CNPRT	QCNW – 4559SCZZ	EX. Cable, 32-32 PIN
CNTXM	QCNW – 4973SCZZ	EX. Cable, 4-4 PIN
CNCIS	QCNW – 4974SCZZ	EX. Cable, 10-10 PIN
CNSP	QCNW – 4976SCZZ	EX. Cable, 2-2 PIN
CNSEN	QCNW – 4977SCZZ	EX. Cable, 8-8 PIN
CNSTP	QCNW – 4978SCZZ	EX. Cable, 2-2 PIN
CNPN	QCNW – 4979SCZZ	EX. Cable, 24-24 PIN
CNPW	QCNW – 4980SCZZ	EX. Cable,12-12 PIN

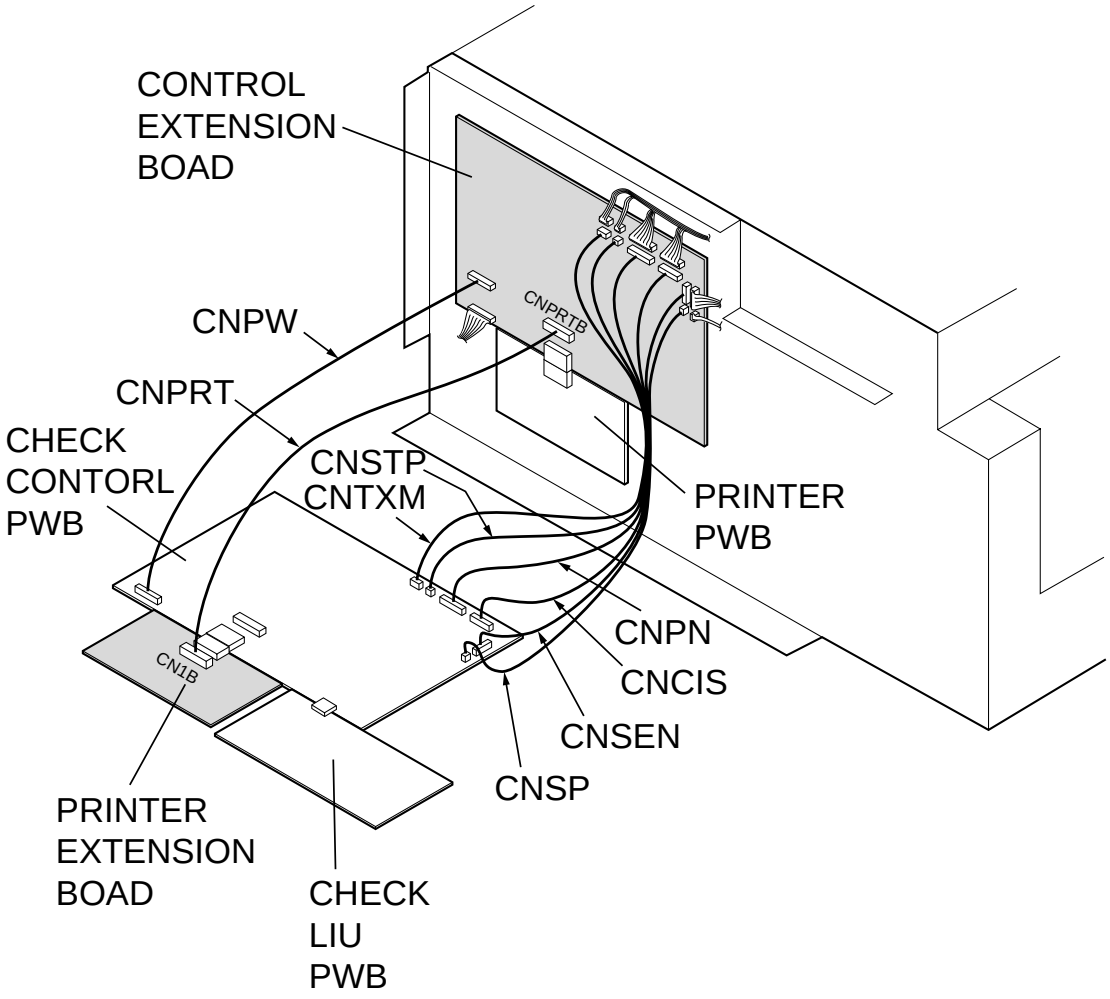


Fig. 1

[For inspection of printer PWB]

1) Remove the rear cabinet and shield plate from the unit, and remove the printer PWB .

2) Mount the extension board (Printer-EX) in the place where the printer PWB has been removed. At that time, the connector (CN1A) of extension board (Printer-EX) must be inserted into the connector (CNPRT) of control PWB.
   Connect the cables from the unit to the connectors (A side) (CN2A, CN3A, CN4A, CN5A, CN6A, CN7A, CN8A, CN9A, CN10A, CN13A, CN15A) of extension board (Printer-EX).
   Connect the extension tray paper size cable (QCNW-4992SCZZ) to the connector (CN14) of the check printer PWB and cable from the unit.

3) Connect the extension cables to the connectors (B side) of extension board (Printer-EX) as shown in Fig 2.

4) Connect the extension PWB cable (QCNW-4559SCZZ) to the connector (CNPRTB) of extension board (Control-EX) and the connector (CN1B) of extension board (Printer-EX).

5) Connect the extension cables pulled out from the unit to the check printer PWB. (CN2, CN3, CN4, CN5, CN6, CN7, CN8, CN9, CN10, CN13, CN15)

Ref No.	Cable parts code	Description
CNPRT	QCNW – 4559SCZZ	EX. Cable, 32-32 PIN
CN2	QCNW – 4981SCZZ	EX. Cable, 2-2 PIN
CN3	QCNW – 4982SCZZ	EX. Cable, 2-2 PIN
CN4	QCNW – 4983SCZZ	EX. Cable, 11-11 PIN
CN5	QCNW – 4984SCZZ	EX. Cable, 7-7 PIN
CN6	QCNW – 4985SCZZ	EX. Cable, 4-4 PIN
CN7	QCNW – 4986SCZZ	EX. Cable, 8-8 PIN
CN8	QCNW – 4987SCZZ	EX. Cable, 3-3 PIN
CN9	QCNW – 4988SCZZ	EX. Cable, 5-5 PIN
CN10	QCNW – 4989SCZZ	EX. Cable, 2-2 PIN
CN13	QCNW – 4991SCZZ	EX. Cable, 4-4 PIN
CN14	QCNW – 4992SCZZ	EX. Cable, 4-4 PIN
CN15	QCNW – 4993SCZZ	EX. Cable, 4-4 PIN

Extension board connection diagram

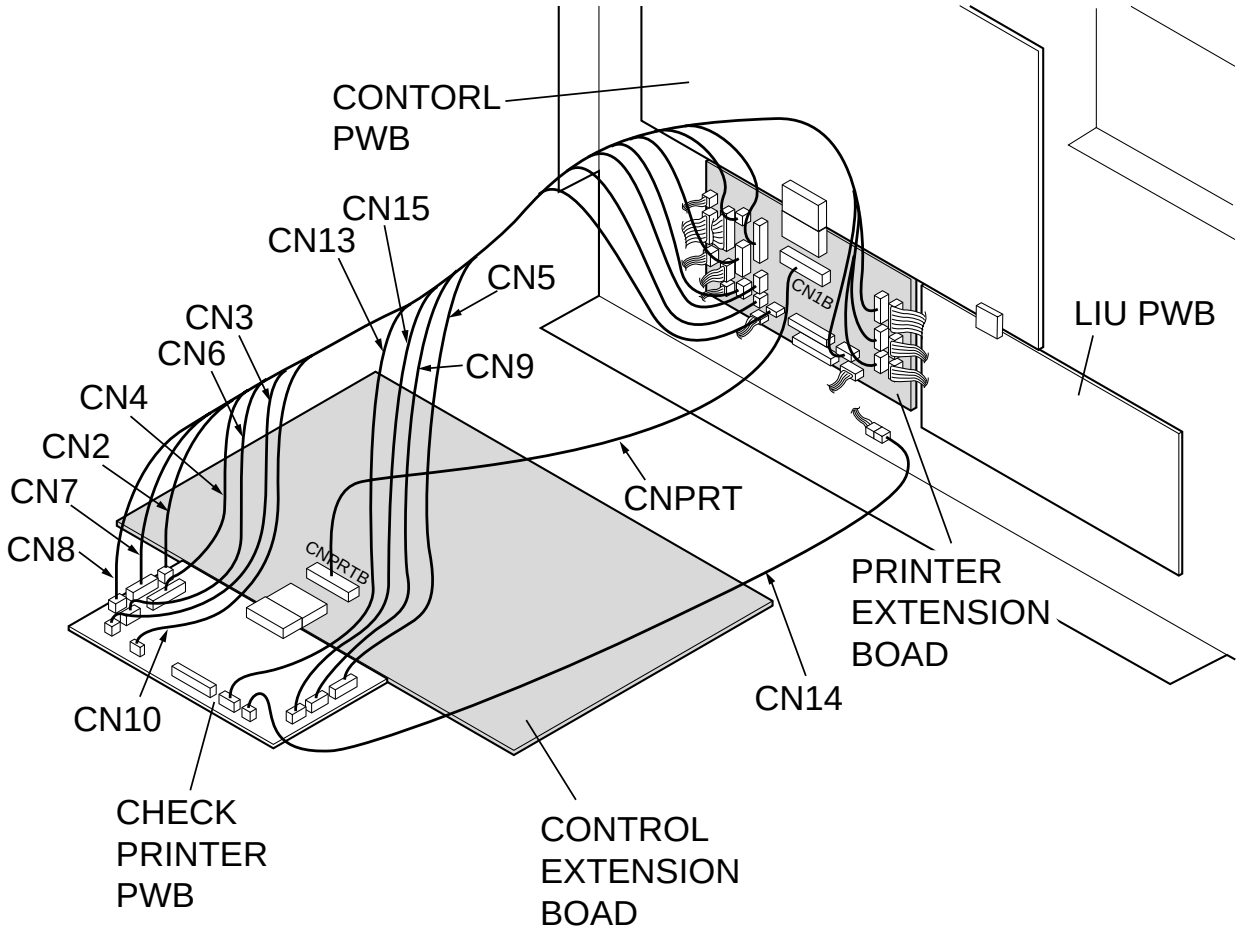


Fig. 2

[For inspection of PC-IF PWB (FO-47IF)]

1) Connect all cables to the connectors of extension boards and check PWBs as shown in Fig.1 on page 8-2
   The connector (CNPCIF) of check PC-IF PWB must be inserted into the check control PWB.
2) Connect the ARG cable (QCNW-4994SCZZ) to FG of the extension board (Printer-EX) and FG GND of the check PC-IF PWB.

Ref No.	Cable parts code	Description
FG	QCNW – 4994SCZZ	EX. Cable, 1-1 PIN

Extension board connection diagram

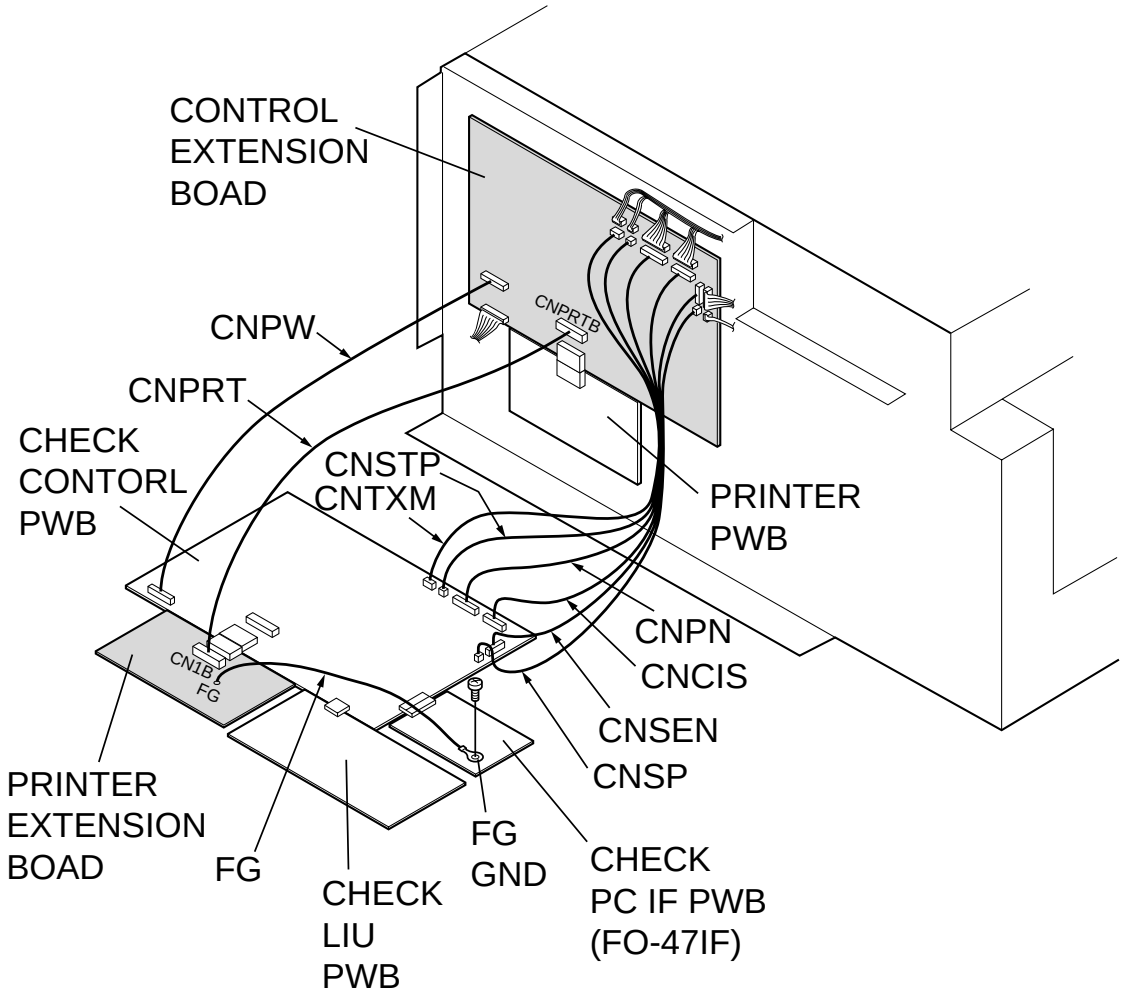


Fig. 3

[For inspection of Paper cassette PWB (FO-47UC)]

1) Connect all cables to the connectors of extension boards and check PWB as shown in Fig.2 on page 8-3.
2) Connect the cable from the paper cassette to the connector (CN11A) of the extension board (Printer-EX).
3) Connect extension transport cable (QCNW-4990SCZZ) to CN11B of the extension board (Printer-EX) and CN11 of the check printer PWB.

Ref No.	Cable parts code	Description
CN11	QCNW – 4990SCZZ	EX. Cable, 13-13 PIN

Extension board connection diagram

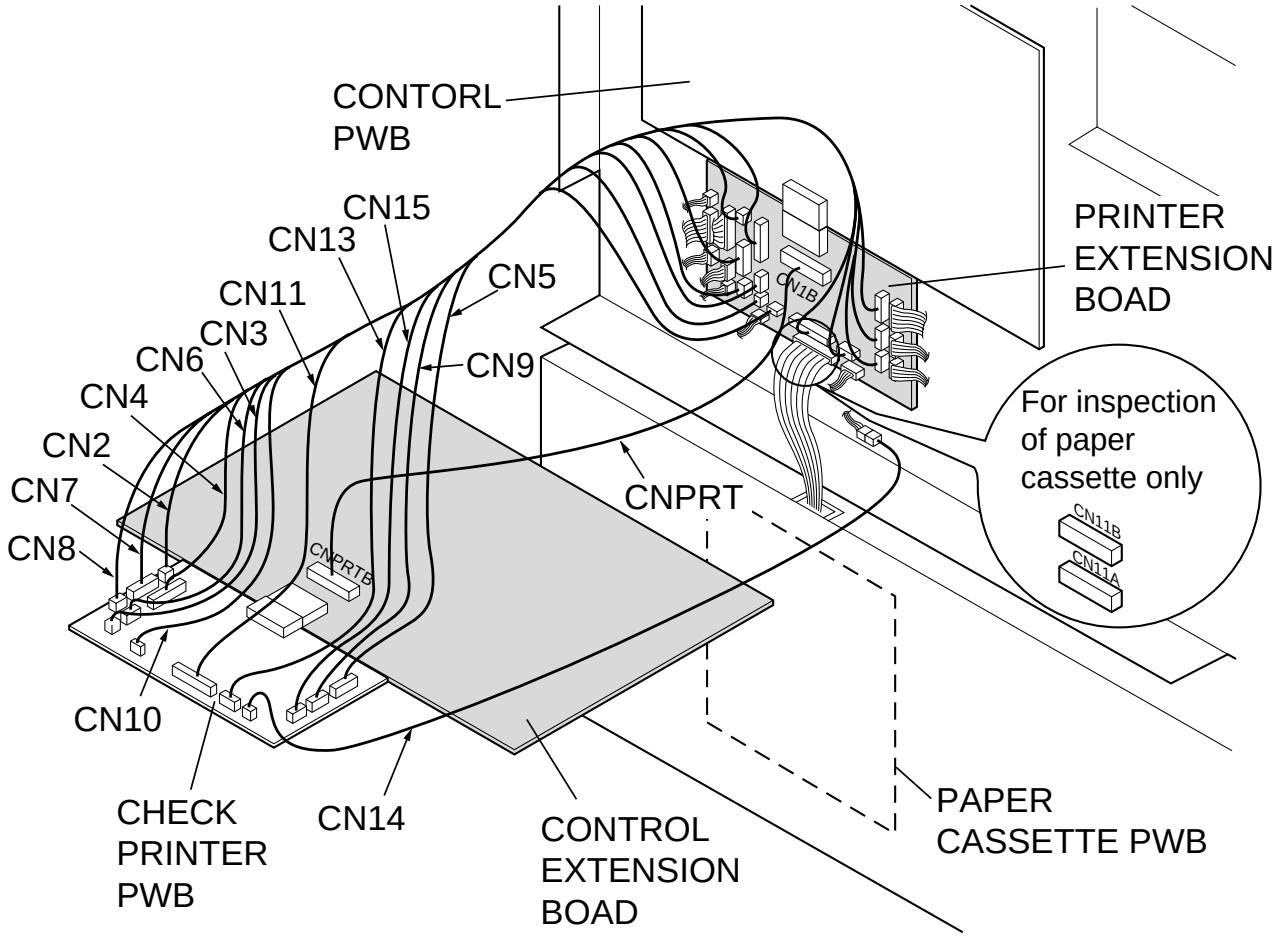


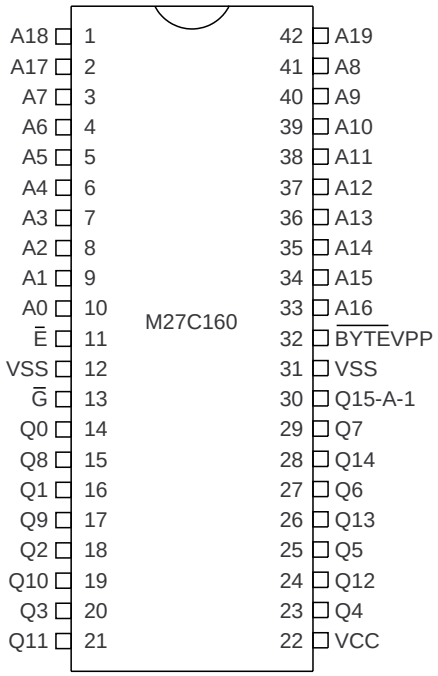
Fig. 4

NO.	PARTS CODE	DESCRIPTION	REF NO.	Q'TY	PRICE RANK
1	QCNCM2525SC3J	CONNECTOR 30pin , BLACK	CNPRTA	1	AH
2	QCNCM2524SC3B	CONNECTOR 32pin , BLACK	CNPRTB	1	AP
3	QCNCM7014SC0D	CONNECTOR 4pin , WHITE	CNTXMA, CNTXMB	2	AB
4	QCNCM7014SC1J	CONNECTOR 10pin , WHITE	CNCISA, CNCISB	2	AC
5	QCNCM2401SC0B	CONNECTOR 2pin , RED	CNSPA, CNSPB	2	AA
6	QCNCM7014SC0H	CONNECTOR 8pin , WHITE	CNSENA, CNSENB	2	AB
7	QCNCM7014SC0B	CONNECTOR 2pin , WHITE	CNSTPA, CNSTPB	2	AD
8	QCNCM2482SC2D	CONNECTOR 24pin , WHITE	CNPNA, CNPNB	2	AB
9	QCNCM7014SC1B	CONNECTOR 12pin , WHITE	CNPWA, CNPWB	2	AD
10	QCNCW2527SC3J	CONNECTOR 30pin , BLACK	CN1A	1	AM
11	QCNCM2524SC3B	CONNECTOR 32pin , BLACK	CN1B	1	AP
12	QCNCM2484SC0B	CONNECTOR 2pin , BLACK	CN2A, CN2B	2	AB
13	QCNCM2584SC0B	CONNECTOR 2pin , WHITE	CN3A, CN3B	2	AC
14	QCNCM2584SC1A	CONNECTOR 11pin , WHITE	CN4A, CN4B	2	AG
15	QCNCM2584SC0G	CONNECTOR 7pin , WHITE	CN5A, CN5B	2	AE
16	QCNCM2584SC0D	CONNECTOR 4pin , WHITE	CN6A, CN6B	2	AD
17	QCNCM2484SC0H	CONNECTOR 8pin , BLACK	CN7A, CN7B	2	AD
18	QCNCM2584SC0C	CONNECTOR 3pin , WHITE	CN8A, CN8B	2	AC
19	QCNCM2584SC0E	CONNECTOR 5pin , WHITE	CN9A, CN9B	2	AD
20	QCNCM2498SC0B	CONNECTOR 2pin , WHITE	CN10A, CN10B	2	AB
21	QCNCM2584SC1C	CONNECTOR 13pin , WHITE	CN11A, CN11B	2	AG
22	QCNCM2498SC0D	CONNECTOR 4pin , WHITE	CN13A, CN13B	2	AD
23	QCNCM2585SC0D	CONNECTOR 4pin , BLUE	CN15A, CN15B	2	AD
24	QCNW–4559SCZZ	PWB CABLE 32-32pin	CNPRT	1	BA
25	QCNW–4973SCZZ	TX MOTOR CABLE 4-4pin	CNTXM	1	AH
26	QCNW–4974SCZZ	CIS SENSOR CABLE 10-10pin	CNCIS	1	AP
27	QCNW–4976SCZZ	SPEAKER CABLE 2-2pin	CNSP	1	AF
28	QCNW–4977SCZZ	PAPER SENSOR CABLE 8-8pin	CNSEN	1	AN
29	QCNW–4978SCZZ	VERIFICATION STAMP CABLE 2-2pin	CNSTP	1	AF
30	QCNW–4979SCZZ	OPERATION PANEL CABLE 24-24pin	CNPN	1	AV
31	QCNW–4980SCZZ	POWER SUPPLY CABLE 12-12pin	CNPW	1	AQ
32	QCNW–4981SCZZ	TH1 THERMISTOR PWB CABLE 2-2pin	CN2	1	AF
33	QCNW–4982SCZZ	TRAY PAPER TAKE-UP SOLENOID CABLE 2-2pin	CN3	1	AF
34	QCNW–4983SCZZ	HIGH VOLTAGE PWB UNIT CABLE 11-11pin	CN4	1	AP
35	QCNW–4984SCZZ	LASER DIODE DRIVE PWB CABLE 7-7pin	CN5	1	AL
36	QCNW–4985SCZZ	PRINT MOTOR CABLE 4-4pin	CN6	1	AH
37	QCNW–4986SCZZ	MECHA PS CABLE 8-8pin	CN7	1	AN
38	QCNW–4987SCZZ	PS3 PAPER EXIT SENSOR CABLE 3-3pin	CN8	1	AG
39	QCNW–4988SCZZ	POLYGON MOTOR CABLE 5-5pin	CN9	1	AK
40	QCNW–4989SCZZ	PS1 PAPER TAKE-UP SENSOR CABLE 2-2pin	CN10	1	AF
41	QCNW–4990SCZZ	TRANSPORT PWB CABLE 13-13pin	CN11	1	AQ
42	QCNW–4991SCZZ	PS4 PAPER OUT SENSOR & TRAY EMPTY SENSOR CABLE 4-4pin	CN13	1	AH
43	QCNW–4992SCZZ	TRAY PAPER SIZE SENSOR CABLE 4-4pin	CN14	1	AN
44	QCNW–4993SCZZ	TONER EMPTY SENSOR CABLE 4-4pin	CN15	1	AH
45	QCNW–4994SCZZ	ARG CABLE 1-1pin	FG	1	AD

[2] IC signal name

CONTROL PWB UNIT

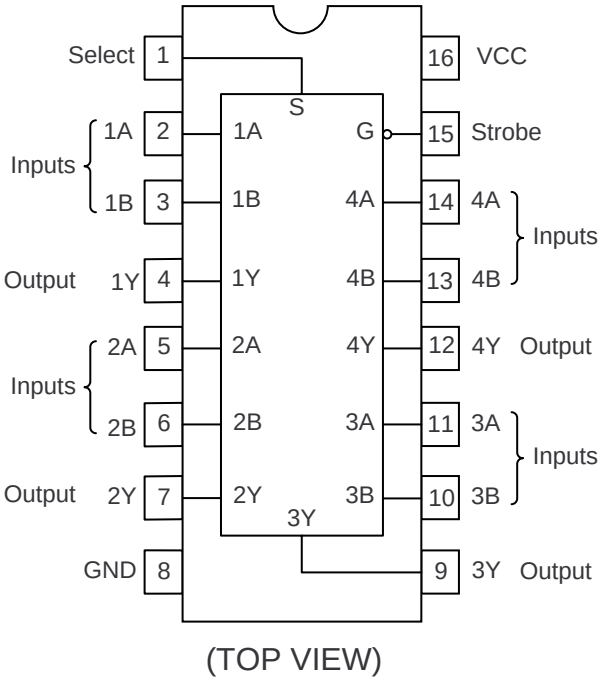
IC4: VHiM27C16010F(M27C160-100F1)



Signal names

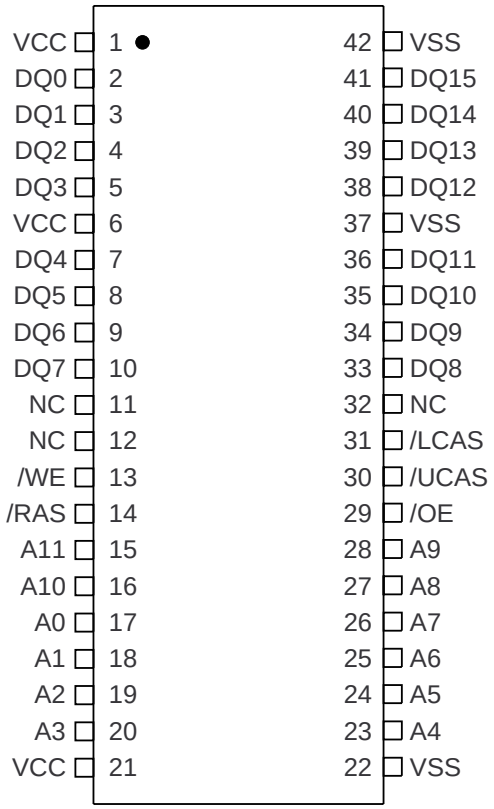
Name	Function
A0~A19	Address Inputs
Q0~Q7	Data Outputs
Q8~Q14	Data Outputs
Q15A-1	Data Output/Address Input
$\overline{E}$	Chip Enable
$\overline{G}$	Output Enable
$\overline{BYTE}VPP$	Byte Mode/Program Supply
VCC	Supply Voltage
VSS	Ground

IC8:VHiHD74HC157F(74HC157)

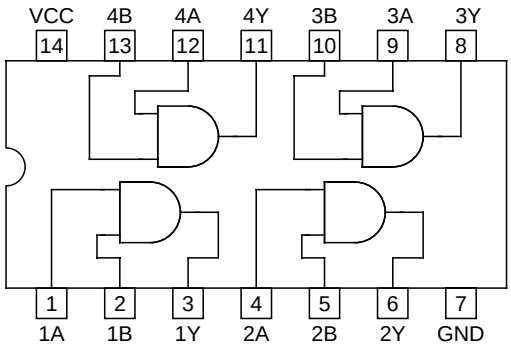


(TOP VIEW)

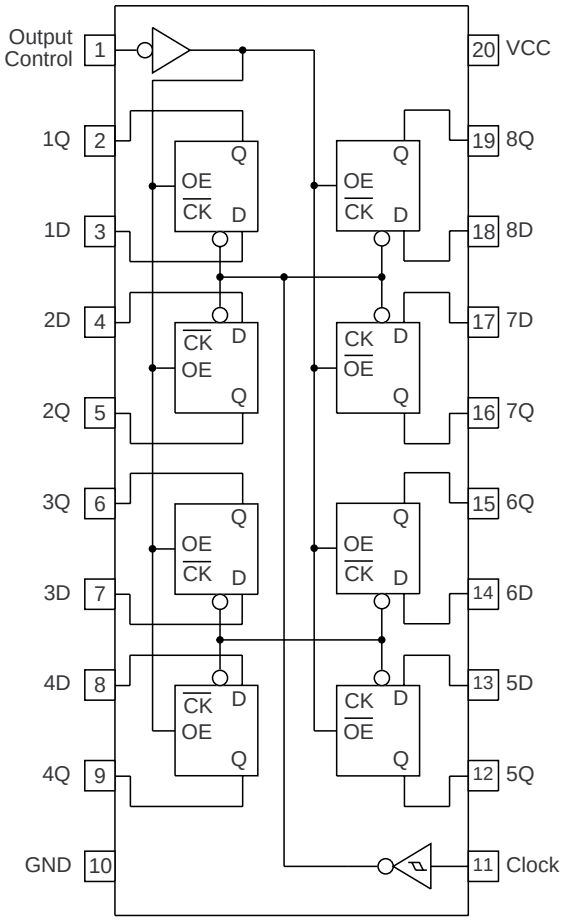
IC9,16:VHi1M16E//J-6 (HY5118164 or MSM5118165)



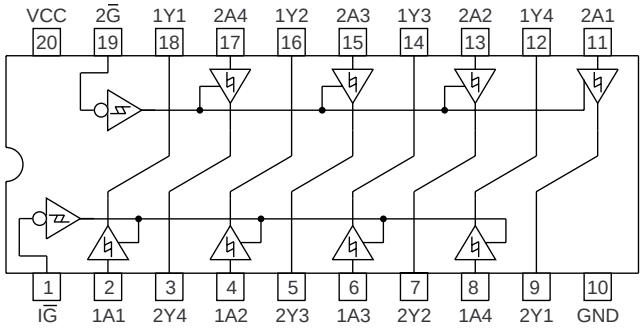
IC15: VHiHD74LV08T1(74LV08A)



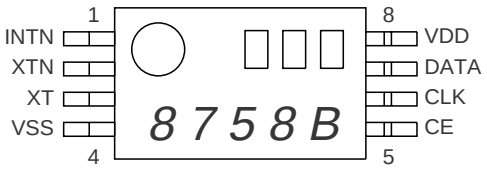
IC18: VHiHD74LS374F(HD74LS374)



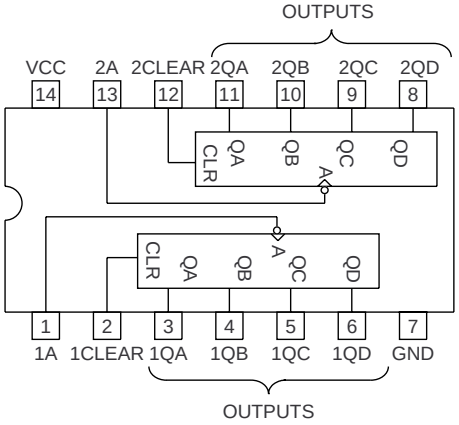
IC20: VHiHD74LS244F(HD74LS244)



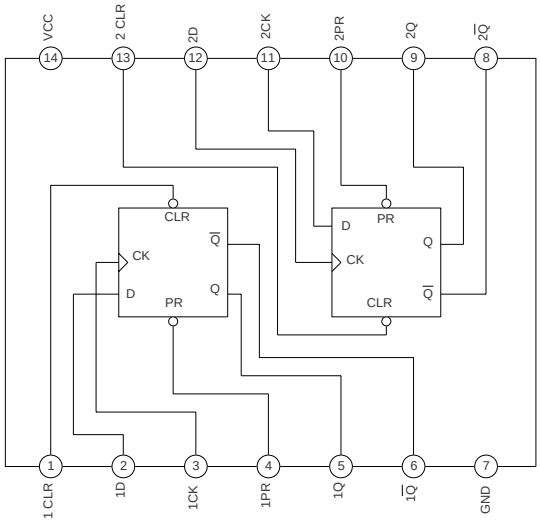
IC30: VHiSM8578BV-1(SM8578BV)



IC35: VHi74VHC393FT(74VHC393)



IC19: VHiHD74HC74FM(74HC74)

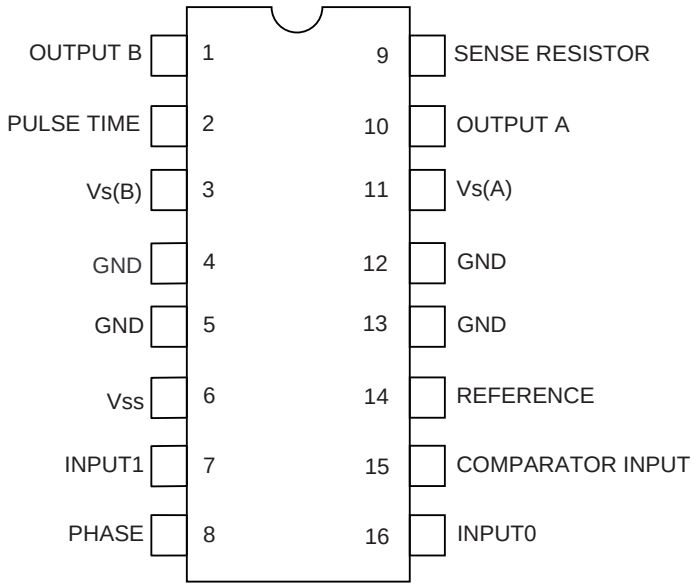


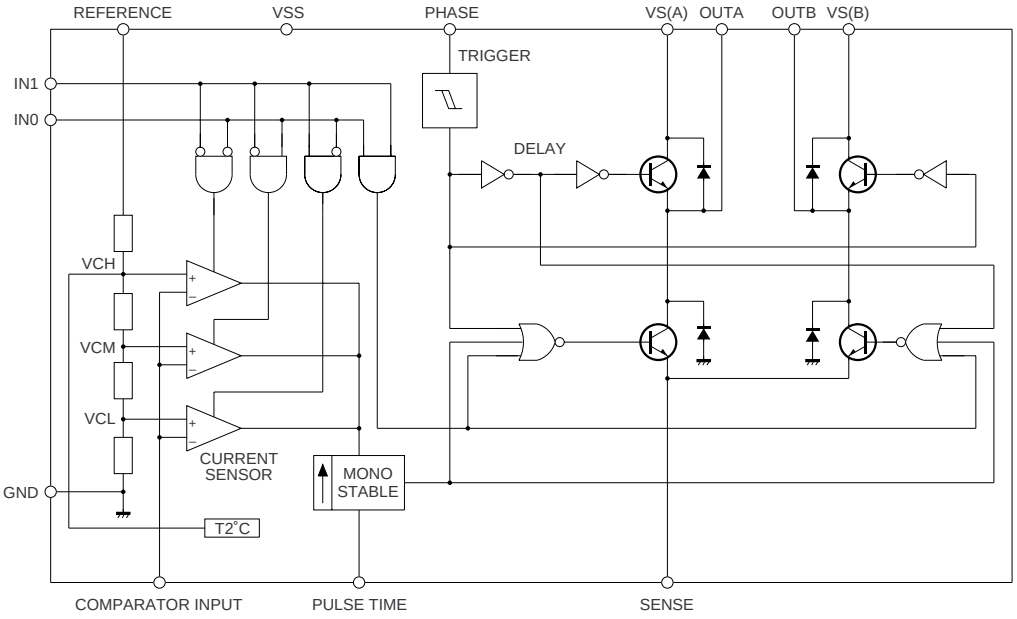
INPUT				OUTPUT	
$\overline{PR}$	$\overline{R}$	CLK	D	Q	$\overline{Q}$
L	H	X	X	H	Q
H	L	X	X	L	L
L	L	X	X	H*	H*
H	H	↑	H	H	L
H	H	↑	L	L	H
H	H	↓	X	NO Change	

H:High L:Low X:H or L

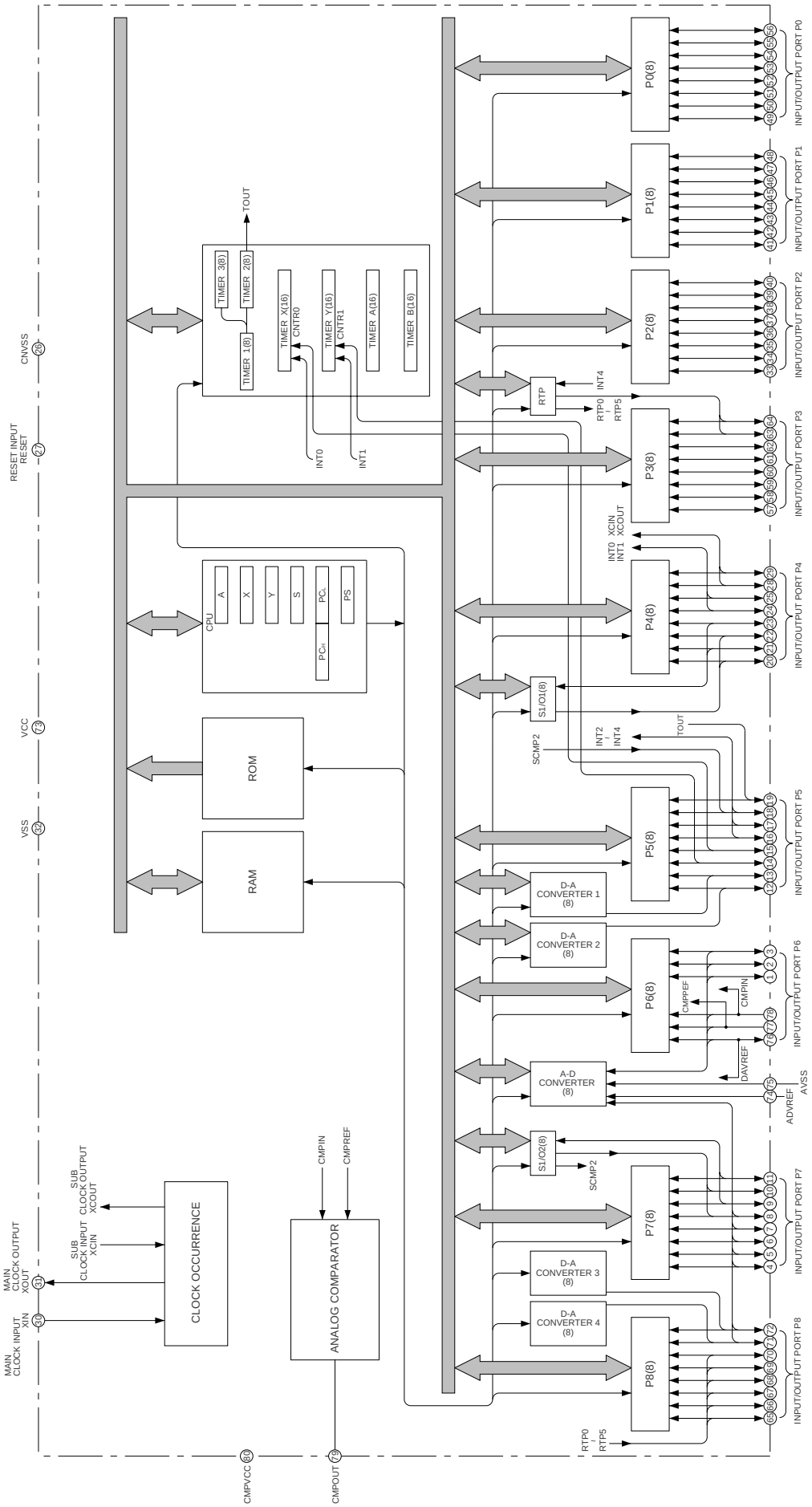
PRINTER PWB UNIT

IC1,IC4: VHiTEA3718SDP(TEA3718SDP)





IC2: VHiM38073M/-1(M38073E4FP)



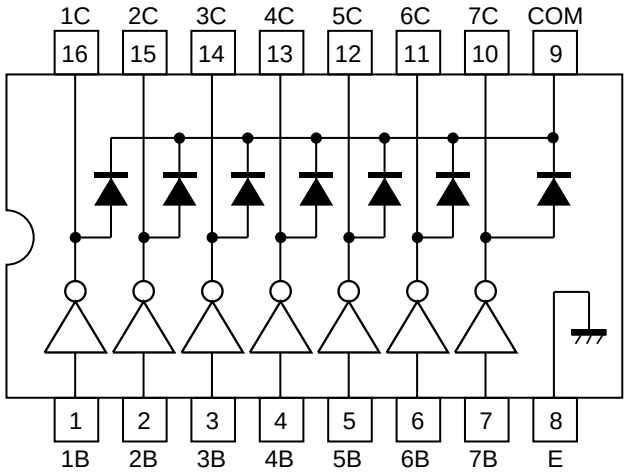
Terminal description

Terminal name	Name	Function	Function except for the port
VCC, VSS	Power supply input	VCC 2.7V~5.5V, VSS 0V input.	
CMPVCC	Analog comparator power supply input	Power supply input terminal of analog comparator.	
CNVSS	CNVss	It is the terminal which controls the movement mode of the chip. Connect this terminal to VSS. When it is connected to VCC, the internal ROM is prohibited, and it accesses the external memory.	
ADVREF	Standard voltage input	Standard voltage input terminal of A–D converter.	
AVSS	Analog power supply input	Power supply input terminal of A–D converter, D-A converter and analog comparator. Connect this terminal to VSS.	
CMPOUT	Analog comparator output	Output terminal of analog comparator.	
$\overline{\text{RESET}}$	Reset input	Reset input terminal of active “ L ”.	
XIN	Clock input	Input/output terminal of clock occurrence circuit. Ceramic oscillator or crystal oscillator is connected between XIN and XOUT. When using the external clock, connect clock oscillator to XIN and XOUT is open.	
XOUT	Clock output		
P00 ~ P07	Input/output port P0	8bit input/output port. Input and output can be specified in the bit unit by program. Pull up control is possible. It functions as address bus and date bus when the external memory is connected. Output form is SMOS 3 state in the CMOS input level. Port P2 is possible to switch CMOS/TTL input level.	
P10 ~ P17	Input/output port P1		
P20 ~ P27	Input/output port P2		
P30/RTP6, P31/RTP7	Input/output port P3	8bit input/output port. Input/output can be specifiled in the bit unit by program. It functions as a control bus when the external memory is connected. Output form is SMOS 3 state in the CMOS input level. Port P32 is possible to switch CMOS/TTL input level.	Real time port function terminal
P34/CKOUT			Clock output function terminal
P32,P33, P35 ~ P37			
P40/XCOUT, P41/XCIN	input/output port P4	8bit input/output port which has the similar function of P0. Output form is CMOS3 state in the CMOS input level.	Sub clock occurrence input/ output terminal (Oscillator is connected)
P42/INT0 P43/INT1			Interruption input terminal Timer X, timer Y function terminal (INT0,INT1)
P44/RXD, P45/TXD, P46/SCLK1, P47/$\overline{\text{SRDY1}}$,			Function terminal of serial I/ 01.
P50/TOUT	Input/output port5	8bit input/output port which has the similar function of P0. Output form is CMOS3 state in the CMOS input level.	Timer 2, output terminal
P51/ SCMP2/ INT2			Interruption input terminal Serial I/02 function terminal
P52/INT3, P53/INT4			Interruption input terminal Real time port function terminal (INT4)
P54/CNTR0 P55/CNTR1			Timer X, timer Y function terminal

Terminal description

Terminal name	Name	Function	Function except for the port
P56/DA1, P57/DA2	Input/output port P5	8bit input/output port which has the similar function of P0. Output form is CMOS3 state in the CMOS input level.	D-A converter output terminal
P60/AN5~ P62/AN7	Input/output port P6	3bit input/output port which has the similar function of P0. Output form is CMOS3 state in the CMOS input level.	A-D converter input terminal
P63/CMPIN/ AN8	Input port P6	2bit input port which is CMOS input level.	Input terminal of analog comparator A-D converter input terminal
P64/CMPREF /AN9			Standard voltage input terminal of analog comparator A-D converter input terminal
P65/DAVREF /AN10	Input/output port P6	1bit input/output port which has the similar function of P0. Output form is CMOS3 state in the CMOS input level.	D-A converter power supply input terminal A-D converter input terminal
P70/SIN2 P71/SOUT2 P72/SCLK2	Input/output port P7	8bit input/output port which has the similar function of P0. Output form is CMOS3 state in the CMOS input level.	Serial I/02 function terminal
P73/$\overline{\text{SRDY2}}$ /ADT/AN0			Serial I/02 function terminal A-D converter input terminal A-D trigger input terminal
P74/AN1~ P77/AN4			A-D converter input terminal
P80/DA3 /AN11, P81/DA4 /AN12	Input/output port P8	8bit input/output port which has the similar function of P0. Output form is CMOS3 state in the CMOS input level.	D-A converter output terminal A-D converter input terminal
P82/RTP0~ P87/RTP5			Real time port function terminal

IC3: VHiULN2003ADR(ULN2003A)



SHARP PARTS GUIDE

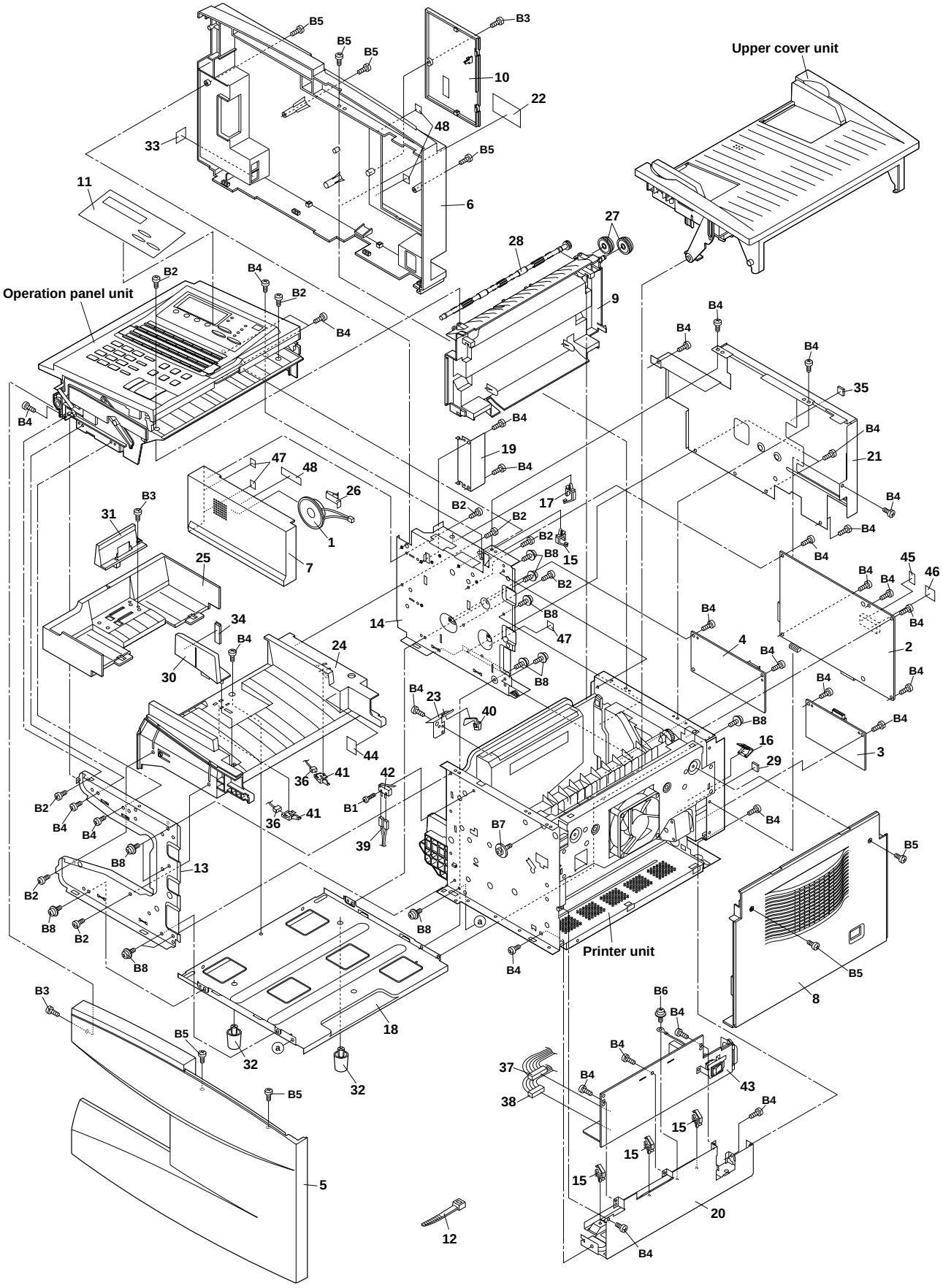
MODEL FO-4700

MODEL FO-47UC

CONTENTS

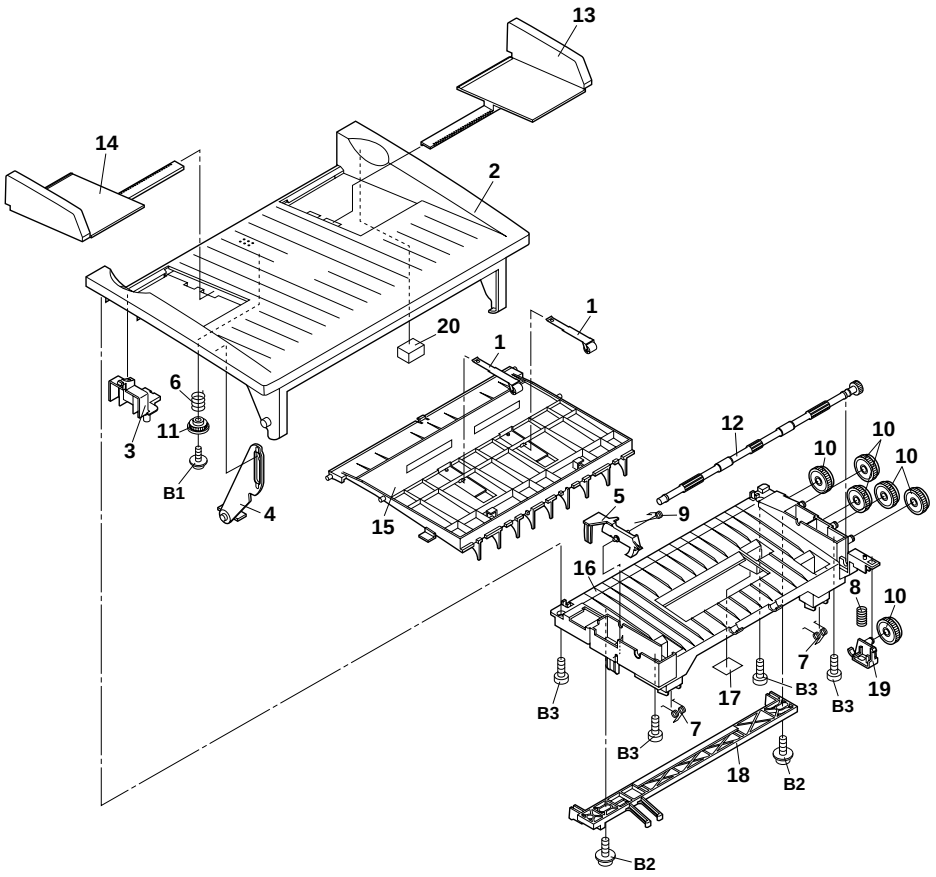
Because parts marked with "⚠" is indispensable for the machine safety maintenance and operation, it must be replaced with the parts specifi to the product specification.

[1] Exterior, etc. (1)

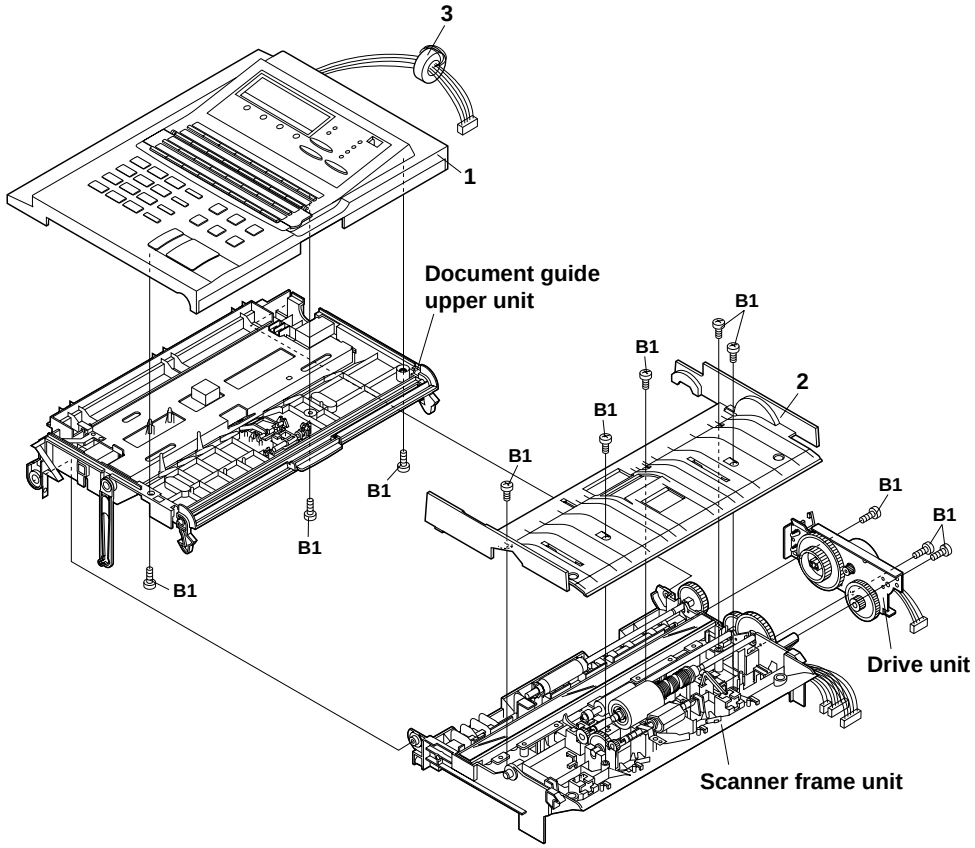


NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION	
[1] Exterior etc.(1)						
1	CCNW-4955XH01	AG	N	C	Speaker ass'y	
2	DCEKC082MXHZZ	CE	N	E	Control PWB unit(Within ROM)	
3	DCEKC470BXH01	BR	N	E	Printer PWB unit	
4	DCEKL471BXH01	AZ	N	E	LIU PWB unit	
5	GCABA2327XHSA	AQ	N	D	Front cabinet	
6	GCABB2328XHSA	AU	N	D	Rear cabinet	
7	GCABC2329XHSA	AG	N	D	Inner front cabinet	
8	GCABD2330XHSA	AL	N	D	Right cabinet	
9	GCABE2331XHSA	AK	N	C	Left cabinet	
10	GCOVA2408XHSA	AH	N	D	PWB cover	
11	HPNLC2390XHSA	AG	N	C	Decoration panel	
12	LBNDJ2006XHZZ	AA		C	Band(100mm)	
13	LFRM-2202XHZZ	AP	N	C	Left front frame	
14	LFRM-2203XHZZ	AQ	N	C	Left rear frame	
15	LHLDW2158SCZZ	AC		C	Wire holder	
16	LHLDW2182SCZZ	AC	N	C	Edge holder	
17	LHLDW2183SCZZ	AD	N	C	Wire holder	
18	LPLTM3014XHZZ	AS	N	C	Left bottom frame	
19	LPLTM3015XHZZ	AE	N	C	PC I/F bracket	
20	LPLTM3018XHZZ	AN	N	C	Power supply bracket	
21	LPLTM3034XHZZ	AQ	N	C	Shield plate	
22	TLABS4812XHZZ	AC	N	D	FDA label	
23	LPLTM3037XHZZ	AD	N	C	PS4 bracket	
24	LPLTP3016XHSA	AN	N	C	Paper feed tray	
25	LPLTP3017XHSA	AH	N	C	Extension paper feed tray	
26	MSPRP3055XHFJ	AD	N	C	Speaker holder plate spring	
27	NGERH2466XHZZ	AE	N	C	Idler gear(32Z)	
28	NROLP2420XHZZ	AM	N	C	Left cabinet roller	
29	PCUSS2122XHZZ	AC	N	C	PWB cushion	
30	PGIDM2542XHSA	AD	N	C	Tray width guide	
31	PGIDM2543XHSA	AD	N	C	Tray back guide	
32	PLEGP2071XHZZ	AE	N	C	Foot	
33	PSHEZ3410XHZZ	AB		C	Jack sheet	
34	PSPO-2001XHZZ	AD	N	C	Tray width sponge	
35	PCUSU2126XHZZ	AC	N	C	Sheet	
36	QCNW-4952XHZZ	AF	N	C	Tray size switch cable	
37	QCNW-4956XHZZ	AK	N	C	Power supply cable	
38	QCNW-4957XHZZ	AL	N	C	Mechanism connect power supply cable	
39	QCNW-4960XHZZ	AD	N	C	Safety switch cable	
40	QSW-M2255SCZZ	AF	N	C	Paper out sensor	[PS4]
41	QSW-M2296XHZZ	AD	N	C	Tray cover sensor/Paper size sensor	[PS5A,B]
42	QSW-Z2285SCZZ	AK	N	C	Interlock switch	[S2]
⚠ 43	RDENT2135XHZZ	BM	N	E	Power supply PWB unit	
44	TLABH262AXHZZ	AE	N	D	Paper limit label 1	
45	TLABN1235CCZZ	AA		D	EPROM label	
46	TLABP3078SCZZ	AA		D	Shading label	
47	PSHEZ3473XHZZ	AN	N	C	Sheet A	
48	PSHEZ3474XHZZ	AF	N	C	Sheet B	
B1	XBBSD23P08000	AA	N	C	Screw(2.3x8)	
B2	XEBSD30P10000	AA		C	Screw(3x10)	
B3	XEBSE30P10000	AA		C	Screw(3x10)	
B4	XHBSD30P06000	AA		C	Screw(3x6)	
B5	XHBSE30P10000	AA		C	Screw(3x10)	
B6	XBPSN40P06K00	AA		C	Screw(4x6)	
B7	LX-BZ2205XHZZ	AC	N	C	Screw(3x8)	
B8	LX-BZ2241XHZZ	AC	N	C	Screw(3x6)	

[2] Exterior, etc. (2)

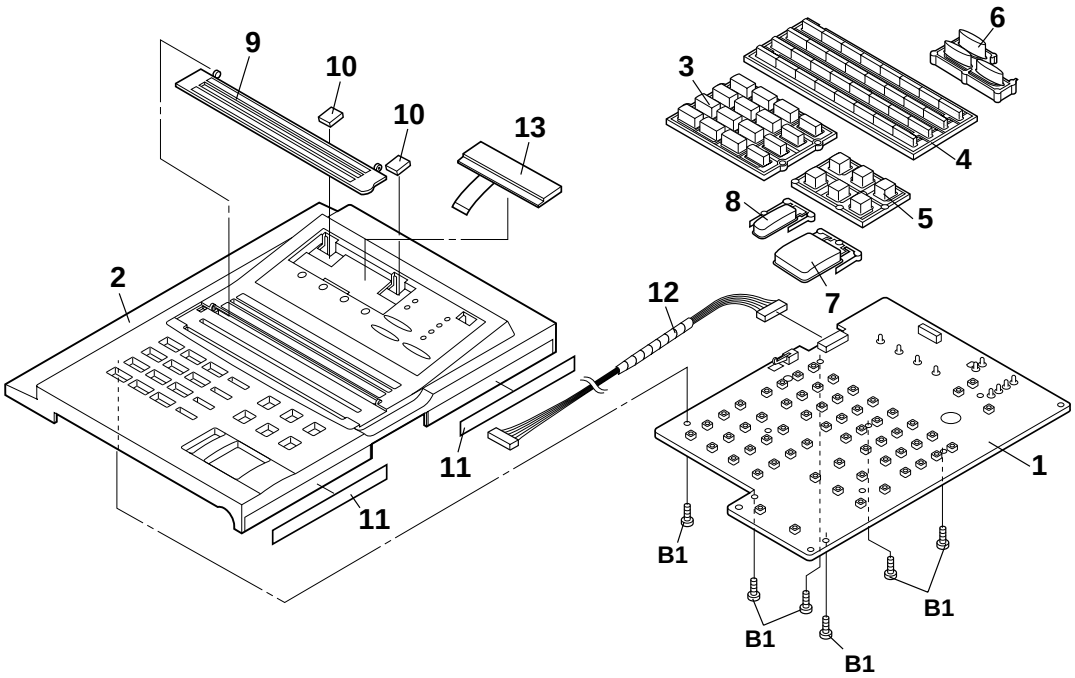


[3] Exterior, etc. (3)

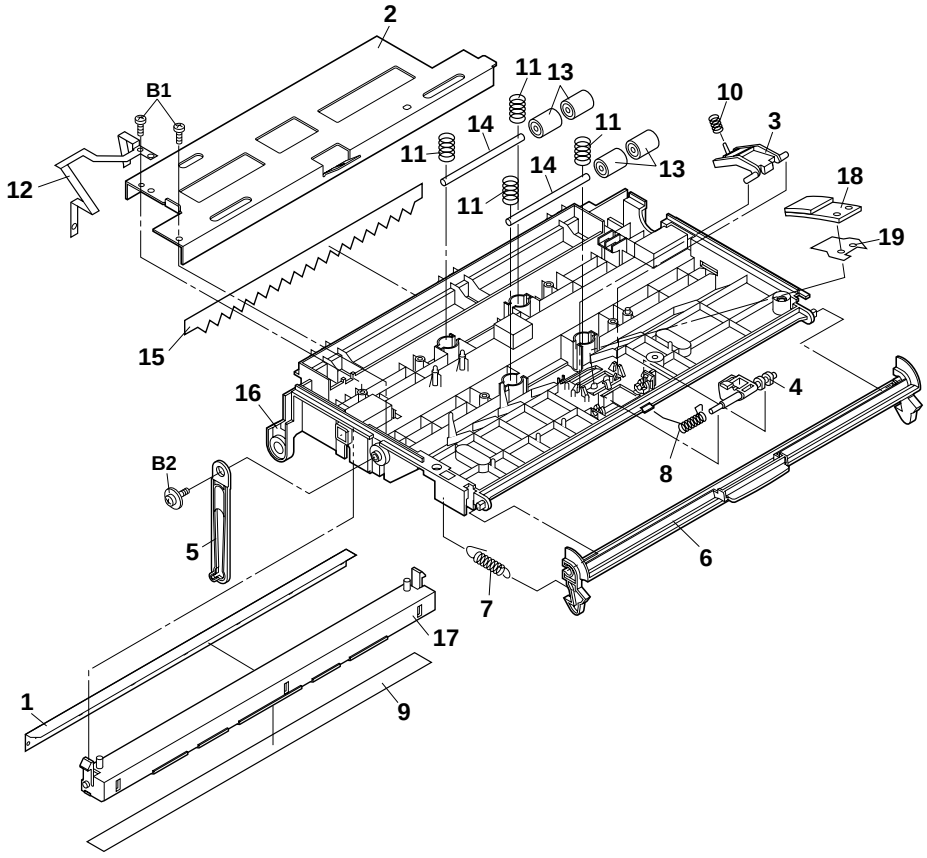


NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
[2] Exterior etc.(2)					
1	CROLP2320XH01	AZ	N	C	Pinch roller ass'y
2	GCOVA2405XHSA	AK	N	C	Upper cover
3	JBTN-2255XHSA	AD	N	C	Upper cover lock button
4	LPLTM3019XHZZ	AD	N	C	Upper cover stopper
5	MLEVP2305XHZZ	AD	N	C	DRUM detect lever
6	MSPRC3149XHZZ	AB	N	C	Hopper spring
7	MSPRC3090XHZZ	AH	N	C	Press spring
8	MSPRC3100XHZZ	AF	N	C	Gear bracket spring
9	MSPRD3091XHZZ	AF	N	C	DRUM detect lever spring
10	NGERH2466XHZZ	AE	N	C	Idler gear(32Z)
11	NGERP2318XHZZ	AD		C	Pinion gear
12	NROLP2421XHZZ	AM	N	C	Upper cover roller
13	PGIDM2544XHSA	AE	N	C	Hopper guide,right
14	PGIDM2545XHSA	AC	N	C	Hopper guide,left
15	PGIDM2546XHZZ	AH	N	C	Paper exit guide upper
16	PGIDM2547XHZZ	AK	N	C	Upper cover guide under
17	PSHEZ3455XHZZ	AF	N	C	Reflection sheet
18	PTME-2060XHZZ	AF	N	C	Upper cover lock nail
19	LPLTM3036XHZZ	AH	N	C	Upper cover gear bracket
20	PCUSS2127XHZZ	AC		C	Upper cover cushion
B1	LX-BZ2138XHZZ	AB		C	Screw(3x8)
B2	LX-BZ2205XHZZ	AC		C	Screw(3x8)
B3	XEBSD30P10000	AA		C	Screw(3x10)
[3] Exterior etc.(3)					
1	CCASP2107XH51	BF	N	E	Operation panel unit
2	PGIDM2541XHSA	AK	N	C	Document guide under
⚠ 3	RCORF2125XHZZ	AE		B	Core
B1	XEBSD30P10000	AA		C	Screw(3x10)

[4] Operation panel unit

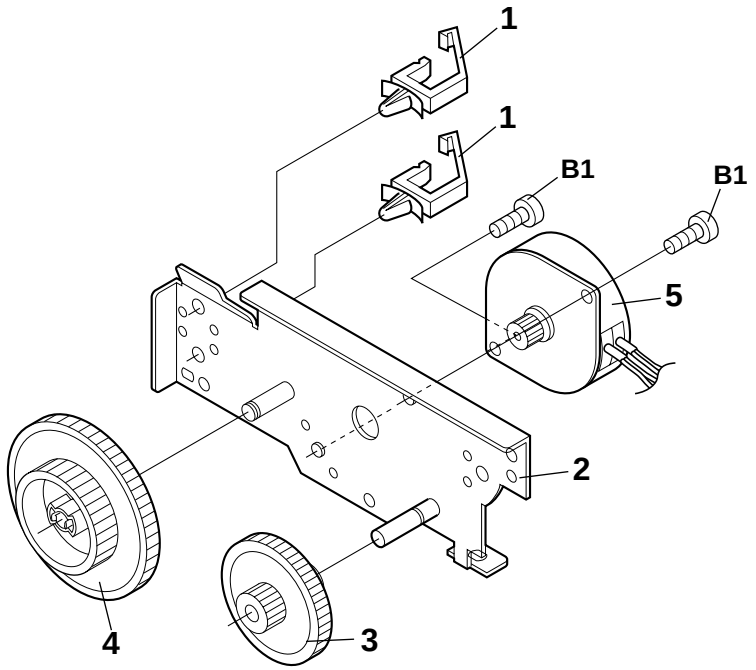


[5] Document guide upper unit

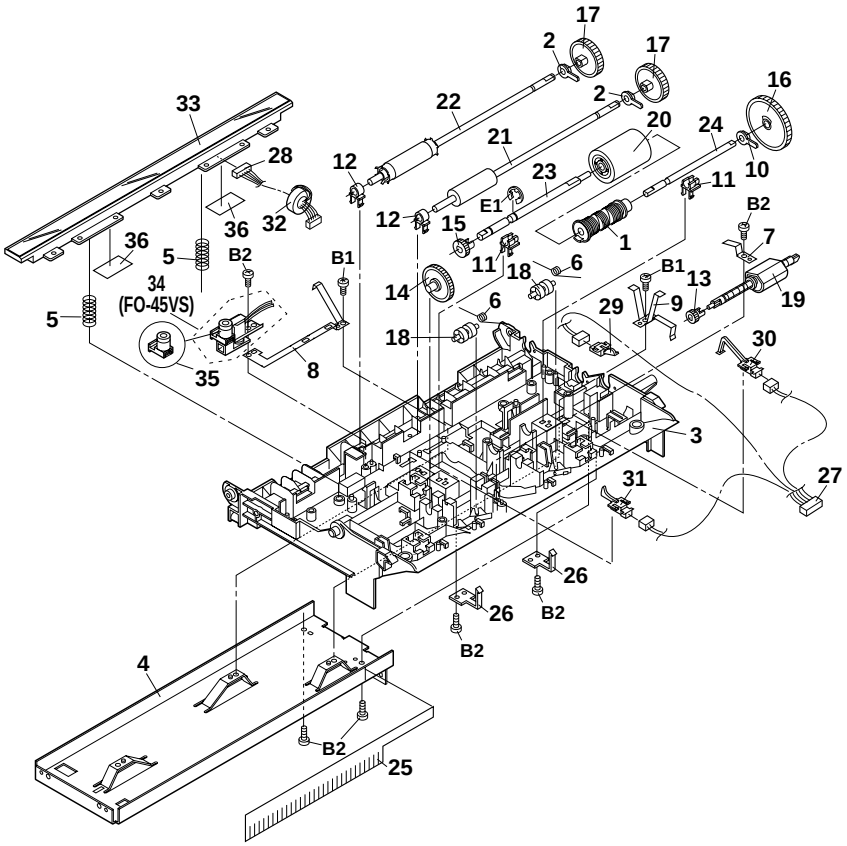


NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
[4] Operation panel unit					
1	DCEKP496AXH03	BC	N	E	Operation panel PWB unit
2	GCASP2107XHZZ	AM	N	D	Panel case
3	JBTN-2184XHZZ	AK	N	C	10 key
4	JBTN-2185XHZZ	AH	N	C	Direct key
5	JBTN-2187XHZZ	AE	N	C	Mode key
6	JBTN-2189XHZC	AC	N	C	Change key
7	JBTN-2253XHSA	AC	N	C	Start key
8	JBTN-2254XHSA	AC	N	C	Stop key
9	LPLTP2823XHZZ	AF	N	C	Page plate
10	PCUSS2097XHZZ	AC	N	C	LCD cushion
11	PSHEZ3416XHSA	AH	N	C	Scan wide sheet
12	QCNW-4949XHZZ	AR	N	C	Panel cable
13	VVLLMG2025TPR	BA		B	LCD
B1	XUBSD20P06000	AA		C	Screw(2x6)
	(Unit)				
901	CCASP2107XH51	BF	N	E	Operation panel unit
[5] Document guide upper unit					
1	LANGF2819XHZZ	AF	N	C	Back bracket
2	LPLTM3011XHZZ	AK	N	C	Document upper plate
3	LPLTP2819XHZZ	AD	N	C	Separator plate
4	LPLTP2821XHZZ	AD	N	C	Transfer piece
5	LSTPP2052XHZZ	AD	N	C	Document guide stopper
6	MLEVP2304XHSA	AE	N	C	Release lever
7	MSPRC2843XHZZ	AC		C	Release lever spring
8	MSPRC2845XHZZ	AC		C	Input pressure spring
9	PSHEZ3418XHZZ	AC	N	C	Back sheet
10	MSPRC3107XHZZ	AF	N	C	Separate spring
11	MSPRC3126XHZZ	AG	N	C	Pinch roller spring 2
12	MSPRP3083XHZZ	AF	N	C	Brush earth spring
13	NROLP2334XHZA	AC		C	Pinch roller
14	NSFTZ2306XHZZ	AD	N	C	Pinch roller shaft
15	PBRS-2047SCZZ	AG		C	Paper brush
16	PGIDM2539XHZZ	AL	N	C	Document guide upper
17	PGIDM2540XHZZ	AF	N	C	Back guide
18	PGUMM2162XHZZ	AF	N	C	Separate gum
19	PSHEZ3419XHZZ	AB	N	C	Separate sheet
B1	XEBSD30P10000	AA		C	Screw(3x10)
B2	LX-BZ2205XHZZ	AC		C	Screw(3x8)
	(Unit)				
901	CGIDM2539XH01	AY	N	E	Document guide upper unit

[6] Drive unit

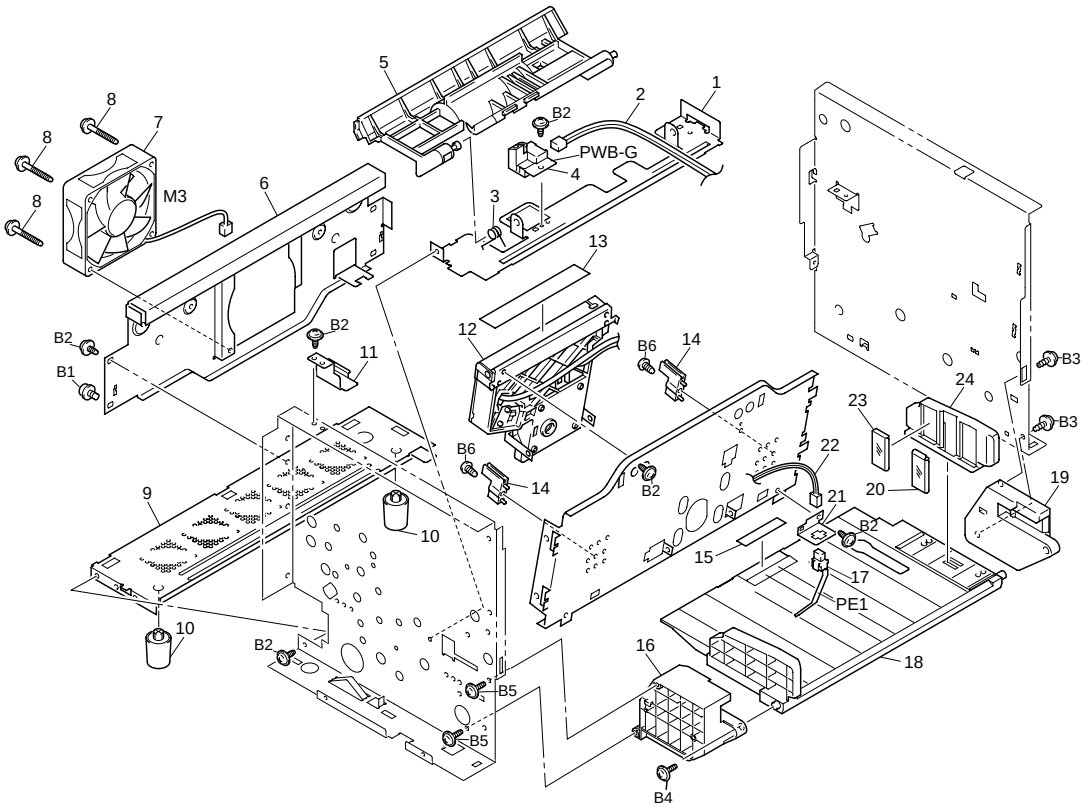


[7] Scanner frame unit

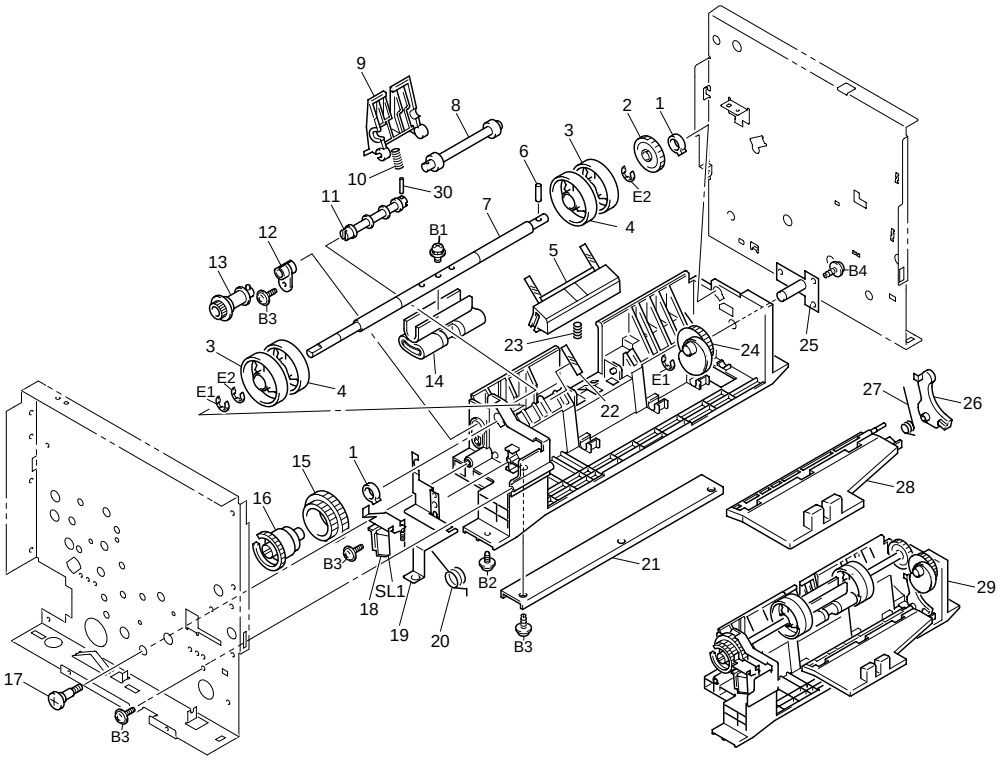


NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
[6] Drive unit					
1	LHLDW2183SCZZ	AD	N	C	Clamp
2	LPLTM3013XHZZ	AK	N	C	Drive system plate
3	NGERH2464XHZZ	AC	N	C	RS gear(18/60Z)
4	NGERH2465XHZZ	AC	N	C	RS gear(50/87Z)
5	RMOTZ2146XHZZ	AW	N	B	Transfer motor
B1	XHBSD30P06000	AA		C	Screw(3x6)
[7] Scanner frame unit					
1	CBSHP2079SC02	AL	N	C	Scanner feed clutch
2	LBSHP2113XHZZ	AH	N	C	DR bearing
3	LFRM-2201XHZZ	AL	N	C	Scanner frame
4	LPLTM3012XHZZ	AL	N	C	Scanner support plate
5	MSPRC3138XHZZ	AE	N	C	CIS spring
6	MSPRD3086XHZZ	AH	N	C	Pinch roller spring
7	MSPRP2841XHZZ	AC	N	C	Stopper spring
8	MSPRP3087XHZZ	AF	N	C	FD1 earth spring
9	MSPRP3088XHZZ	AF	N	C	SD2 earth spring
10	NBRGP2128XHZA	AE	N	C	Bearing
11	NBRGP2138XHZZ	AD	N	C	Scanner bearing 1
12	NBRGP2141XHZZ	AH		C	Scanner bearing 2
13	NGERH2319XHZZ	AD		C	ADF transfer gear
14	NGERH2320XHZZ	AD		C	Transfer idler gear
15	NGERH2322XHZZ	AC		C	ADF feed gear
16	NGERH2462XHZZ	AC	N	C	Feed gear(73Z)
17	NGERH2463XHZZ	AC	N	C	Drive gear(49Z)
18	NROLP2332XHZZ	AD		C	Pinch roller
19	NROLR2417XHZZ	AH	N	C	Transfer roller
20	NROLR2338XHZZ	AK	N	C	Scanner feed roller
21	NROLR2418XHZZ	AL	N	C	Scanner drive roller 1
22	NROLR2419XHZZ	AK	N	C	Scanner drive roller 2
23	NSFTZ2307XHZZ	AK	N	C	Scanner feed shaft 1
24	NSFTZ2308XHZZ	AL	N	C	Scanner feed shaft 2
25	PBRS-2048XHZZ	AD	N	C	Paper earth brush
26	PTME-2067XHZZ	AK	N	C	Anti curl piece
27	QCNW-4950XHZZ	AF	N	C	Document sensor cable
28	QCNW-4953XHZZ	AK	N	C	CIS cable
29	QSW-M2296XHZZ	AD	N	C	Transfer sensor switch
30	QSW-M2298XHZZ	AE	N	C	Front sensor switch
31	QSW-Z2237SCZZ	AE		B	Document sensor switch
⚠ 32	RCORF2124XHZZ	AE		B	Core
33	RUNTZ2038SCA4	AZ	N	E	CIS(Contact image sensor)unit
34	PSTM-2015SCZZ	AX		E	Verification stamp(FO-45VS)
35	UINK-2009SC01	BA		C	Stamp only(20 pieces)
36	PSHEZ3479XHZZ	AB		C	CIS sheet
B1	XHBSD30P06000	AA		C	Screw(3x6)
B2	XEBSD30P10000	AA		C	Screw(3x10)
E1	XRESJ50-06000	AA		C	E type ring(5mm)
	(Unit)				
901	CFRM-2201XH01	AL	N	E	Scanner frame unit

[8] Frames

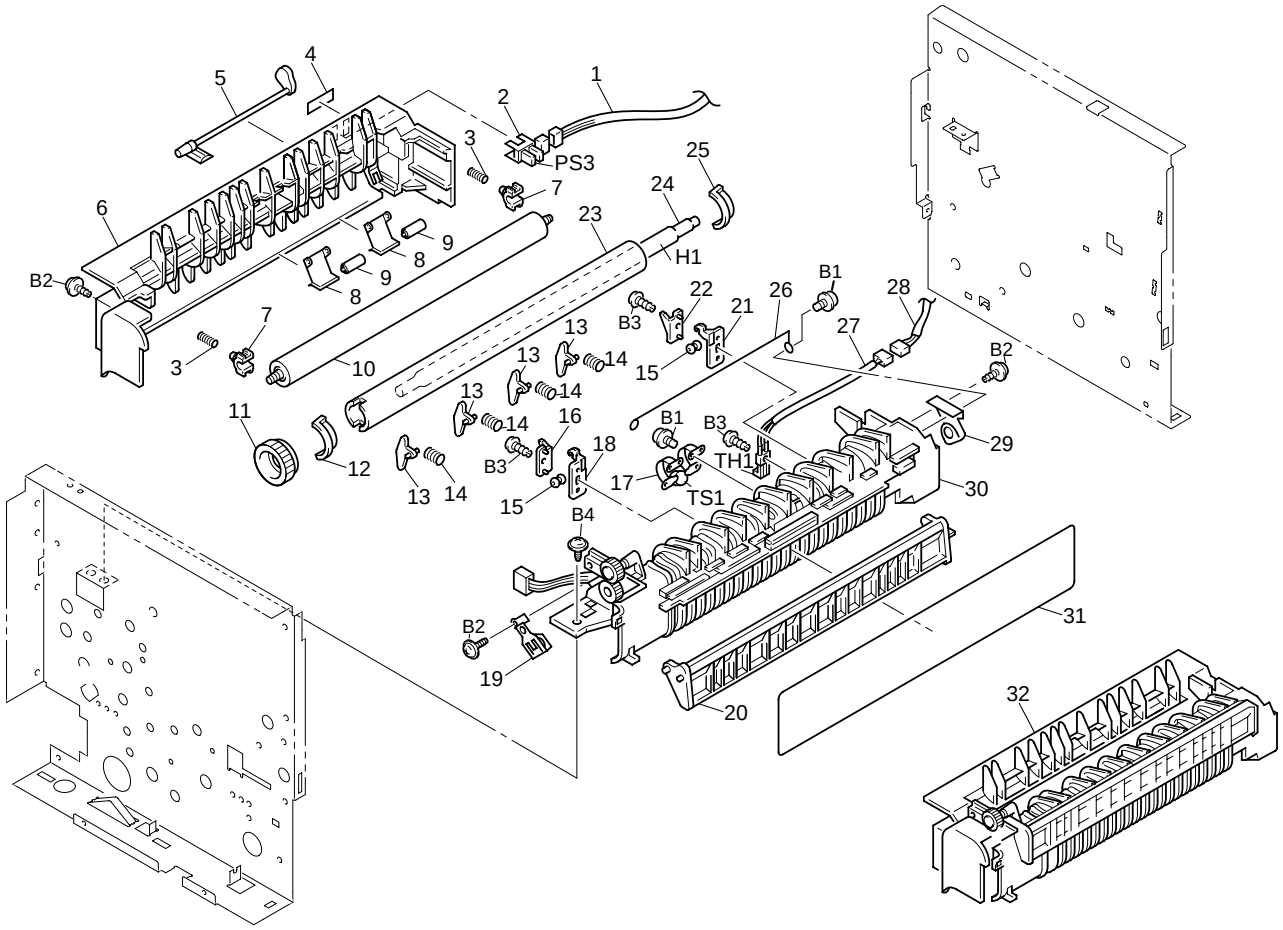


[9] Paper take up section



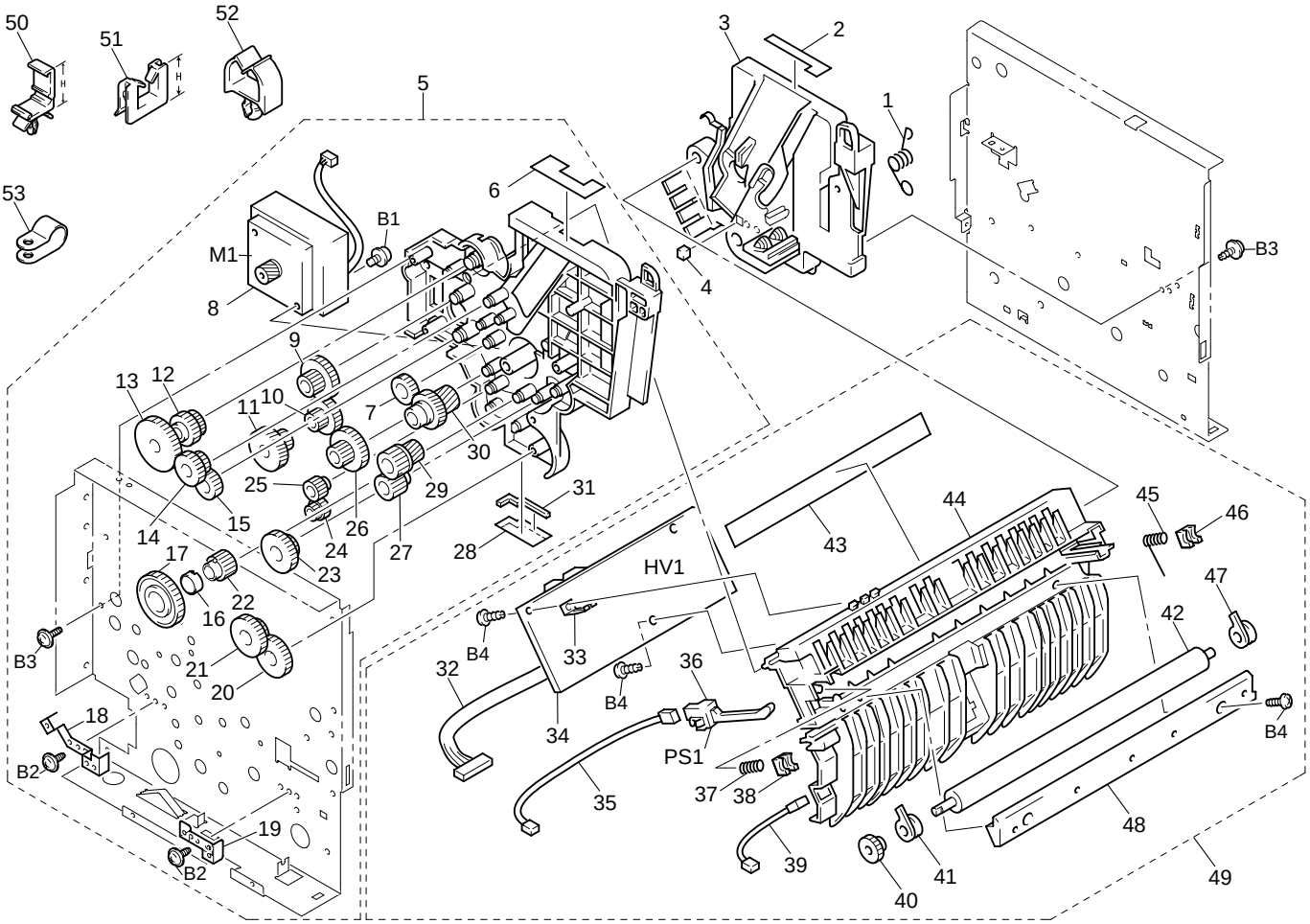
NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
[8] Frames					
1	0KW4122207102	AM	N	C	Reinforce plate
2	0KW4122681702	AN	N	C	Wire harness assy
3	0KW4109302202	AC	N	C	Torsion spring
4	0KW4122010202	BD	N	E	Toner empty PWB unit [PWB-G]
5	0KW4109302005	AL	N	C	Guide
6	0KW4122207801	BB	N	C	Bracket
7	0KW4122610101	BP	N	B	Fan motor [M3]
8	0KW0993204501	AC	N	C	Screw,special
9	0KW4122207902	AQ	N	C	Reinforce plate
10	0KW4122235001	AF	N	C	Rubber foot
11	0KW4122207001	AD	N	C	Bracket
12	0KW4109053103	BY	N	E	Print head unit
13	0KW4109202401	AF	N	D	Label
14	0KW4109202102	AD	N	C	Holder
15	0KW4109301302	AD	N	C	Sheet
16	0KW4122206901	AG	N	C	Holder
17	0KW4122630401	AL	N	B	Paper empty sensor [PE1]
18	0KW4122360502	AQ	N	C	Lifting plate
19	0KW4122206801	AQ	N	C	Holder
20	0KW4122340401	AD	N	C	Guide
21	0KW4122207601	AD	N	C	Bracket
22	0KW4122681401	AL	N	C	Wire harness assy
23	0KW4122340501	AD	N	C	Guide
24	0KW4122340201	AF	N	C	Regulating plate
B1	0KW9646030613	AB		C	Screw
B2	0KW9735030613	AB		C	Tapping screw
B3	0KW9739030813	AB		C	Tapping screw
B4	0KW9739030613	AB		C	Tapping screw
B5	0KW9739030813	AB		C	Tapping screw
B6	0KW9743030813	AB		C	Tapping screw
[9] Paper take-up section					
1	0KW0972300901	AF		C	Bushing
2	0KW4122360701	AF	N	C	Gear(28T)
3	0KW4122305601	AH	N	C	Roll
4	0KW4122305501	AL	N	C	Roll
5	0KW4110075101	AT	N	C	Separated pad
6	0KW0957304001	AE		C	Pin
7	0KW4122362902	AQ	N	C	Shaft
8	0KW4122300201	BK	N	C	Roller
9	0KW4109350203	AH	N	C	Holder
10	0KW4110301801	AC	N	C	Pressure spring
11	0KW4109303301	AF	N	C	Joint
12	0KW4109301514	AD	N	C	Bushing
13	0KW4109301412	AD	N	C	Gear(18T)
14	0KW4122300101	AU	N	C	Roller
15	0KW4109303413	AF	N	C	Gear(36/54T)
16	0KW4109301003	AF	N	C	Gear(36T)
17	0KW4109305101	AD	N	C	Shoulder screw
18	0KW4122620101	BC	N	B	Paper take up solenoid [SL1]
19	0KW4122365001	AG	N	C	Earth ground
20	0KW4122361902	AC	N	C	Torsion spring
21	0KW4109305201	AG	N	C	Plate
22	0KW4110350301	AC	N	C	Polyester film
23	0KW4109304103	AC	N	C	Pressure spring
24	0KW4122355602	AG	N	C	Cam gear(28T)
25	0KW4122020101	AG	N	C	Bracket
26	0KW4122364201	AG	N	C	Arm
27	0KW4122361602	AD	N	C	Torsion spring
28	0KW4122364301	AR	N	C	Lever
29	0KW4122033102	BT	N	E	Paper take-up unit
30	0KW9751301050	BG	N	C	Pin
B1	0KW9646030813	AB		C	Screw
B2	0KW9735030613	AB		C	Tapping screw
B3	0KW9739030813	AB		C	Tapping screw
B4	0KW9739030613	AB		C	Tapping screw
E1	0KW9721050001	AU	N	C	Retaining ring
E2	0KW9721090001	BB	N	C	Retaining ring

[10] Fusing unit



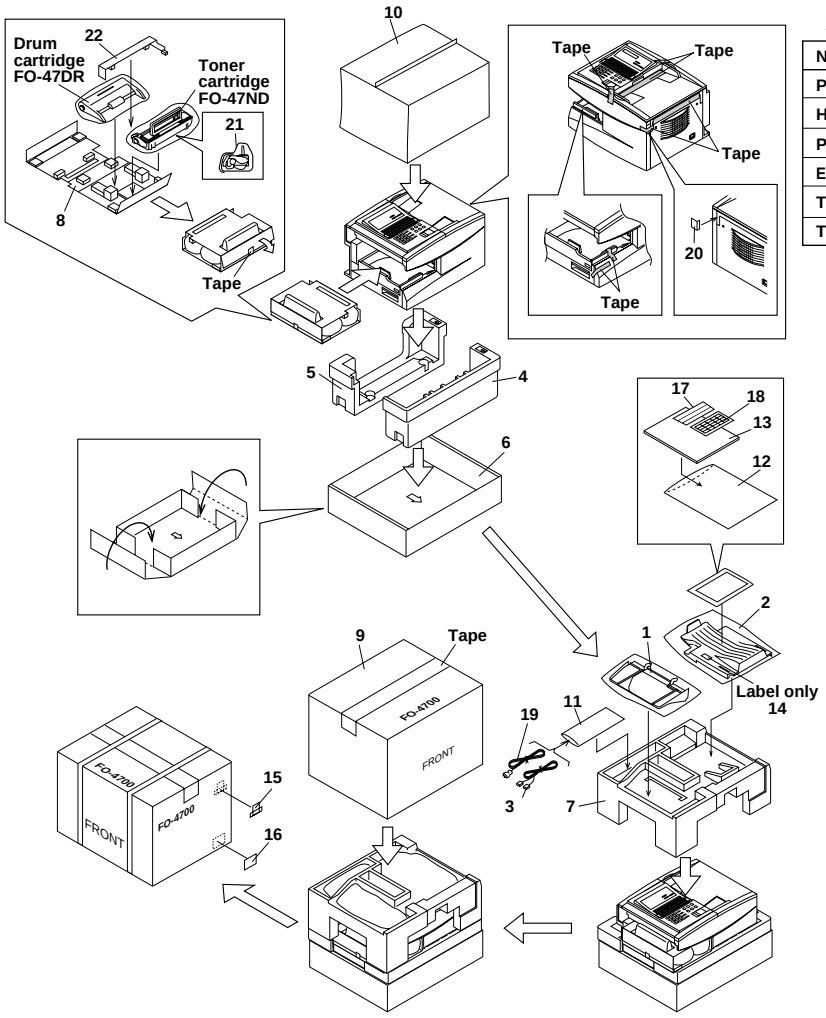
NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
[10] Fusing unit					
1	0KW4122680302	AM	N	C	Wire harness assy
2	0KW9335141031	BA		B	Paper exit sensor [PS3]
3	0KW4109551701	AC	N	C	Pressure spring
4	0KW4109553001	AC	N	C	Stopper
5	0KW4109551801	AF	N	C	Actuator
6	0KW4109550503	BA	N	C	Guide
7	0KW4110551101	AH	N	C	Bushing
8	0KW4110553501	AH	N	C	Holder
9	0KW4110553601	AS	N	C	Roll
10	0KW4109550201	BD	N	C	Fusing roller
11	0KW4109551201	AL	N	C	Gear(36T)
12	0KW4109552101	AK	N	C	Bushing
13	0KW4109553301	AL	N	C	Separator
14	0KW4109551601	AC	N	C	Pressure spring
15	0KW0957551601	AG	N	C	Separator roll
16	0KW4109554301	AD	N	C	Stopper
17	0KW4109630201	AY	N	B	Thermostat [TS1]
18	0KW4109554101	AD	N	C	Holder
19	0KW4109552402	AG	N	C	Holder
20	0KW4109550312	AN	N	C	Guide
21	0KW4109554201	AD	N	C	Holder
22	0KW4109554401	AD	N	C	Stopper
23	0KW4109550101	BF	N	C	Fusing roller
24	0KW4109650201	BB	N	B	Tube lamp,Heater 120V [H1]
25	0KW4109552201	AL	N	C	Bushing
26	0KW4109552601	AF	N	C	Terminal
27	0KW4109670101	AY	N	B	Thermistor [TH1]
28	0KW4122680701	AL	N	C	Wire harness assy
29	0KW4109552501	AG	N	C	Holder
30	0KW4109075404	BD	N	C	Housing assy
31	0KW4109555001	AQ	N	C	Protection
32	0KW4122035201	BV	N	E	Fusing unit,120V
B1	0KW9646030613	AB		C	Screw
B2	0KW9739030813	AB		C	Tapping screw
B3	0KW9742031013	AB		C	Tapping screw
B4	0KW9735030813	AC		C	Tapping screw

[11] Drive/Transfer section



NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
[11] Drive/Transfer section					
1	0KW4109201301	AF	N	C	Torsion spring
2	0KW4109202201	AC	N	D	Label(Right)
3	0KW4109075605	BC	N	E	Frame ass'y
4	0KW4109201502	AC	N	C	Rubber strip
5	0KW4122030102	BU	N	E	Drive unit
6	0KW4109202301	AD	N	D	Label(Left)
7	0KW4109250301	AH	N	C	Gear(40T)
8	0KW4122610501	BN	N	B	Printer motor [M1]
9	0KW4109250501	AF	N	C	Gear(18/50T)
10	0KW4109250101	AL	N	C	Gear(20/44T)
11	0KW4109250201	AL	N	C	Gear(20/52T)
12	0KW4109250701	AF	N	C	Gear(24/30T)
13	0KW4109250601	AF	N	C	Gear(20/48T)
14	0KW4109251401	AF	N	C	Gear(20/32T)
15	0KW4109251501	AD	N	C	Gear(26T)
16	0KW4122252201	AN	N	C	Collar
17	0KW4122252001	AV	N	C	Gear(50T)
18	0KW4122233101	AC	N	C	Bracket
19	0KW4122233001	AC	N	C	Bracket
20	0KW4109251901	AF	N	C	Gear(27T)
21	0KW4109251801	AF	N	C	Gear(17/42T)
22	0KW4122252101	AD	N	C	Gear(21T)
23	0KW4109251001	AF	N	C	Gear(18/42T)
24	0KW4109251701	AF	N	C	Gear(17/25T)
25	0KW4109251601	AD	N	C	Gear(17T)
26	0KW4109250801	AG	N	C	Gear(21/56T)
27	0KW4109251101	AF	N	C	Gear(20T)
28	0KW4109203902	AG	N	C	Polyester film
29	0KW4109251201	AL	N	C	Gear(20/28T)
30	0KW4109250401	AK	N	C	Gear(22/43T)
31	0KW4109206001	AF	N	C	Sponge
32	0KW4122680602	AV	N	C	Wire harness assy
33	0KW4109411201	AD	N	C	Plate
34	0KW4109620201	BR	N	E	High voltage PWB unit [HV1]
35	0KW4122681302	AH	N	C	Wire harness assy
36	0KW4109630101	AN	N	C	Paper take up sensor switch [PS1]
37	0KW4109410802	AC	N	C	Pressure spring
38	0KW4109411503	AF	N	C	Bushing
39	0KW4122680502	AL	N	C	Wire harness assy
40	0KW4109411102	AF	N	C	Gear(21T)
41	0KW4109411702	AH	N	C	Bushing
42	0KW4109410301	BF	N	C	Roller
43	0KW4109411803	AD	N	C	Polyester film
44	0KW4109075501	BD	N	C	Guide assy
45	0KW4109410703	AC	N	C	Pressure spring
46	0KW4109411403	AF	N	C	Bushing
47	0KW4109410403	AH	N	C	Bushing
48	0KW4109076001	BB	N	C	Guide
49	0KW4122039102	CS	N	E	Transfer unit
50	0KW9384131091	AC		C	Wiring saddle(18.5H)
51	0KW9384201021	AD	N	C	Edge cover(8.5H)
52	0KW9384171111	AD	N	C	Wire saddle
53	0KW9384170024	AF	N	C	P-Clip
B1	0KW9646030813	AB		C	Screw
B2	0KW9735030613	AB		C	Tapping screw
B3	0KW9739030813	AB		C	Tapping screw
B4	0KW9742030813	AB		C	Tapping screw

[12] Packing material & Accessories

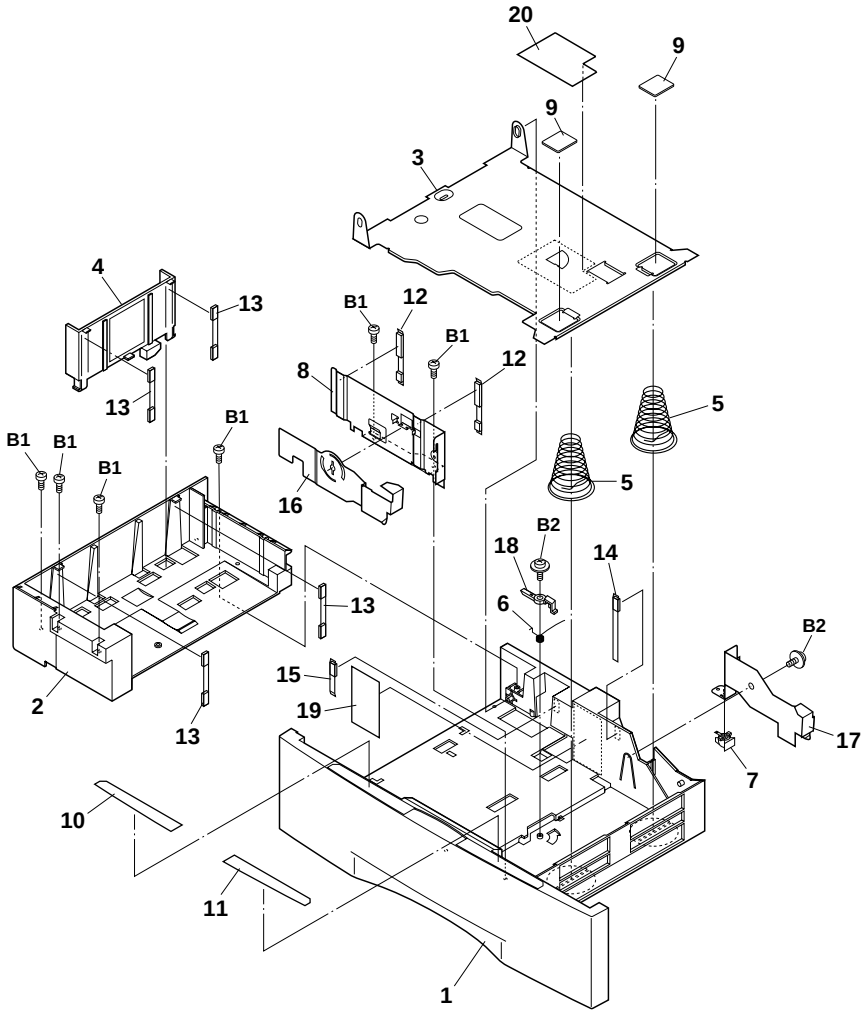


Setting Position Before Packing

Name	Setting Position
Power SW	OFF
Hopper Guide	Setting to Wide Side
Page plate	Normal Position
Ext Paper Feed Tray	LTR
Tray Back Guide	LTR
Tray Width Guide	LTR

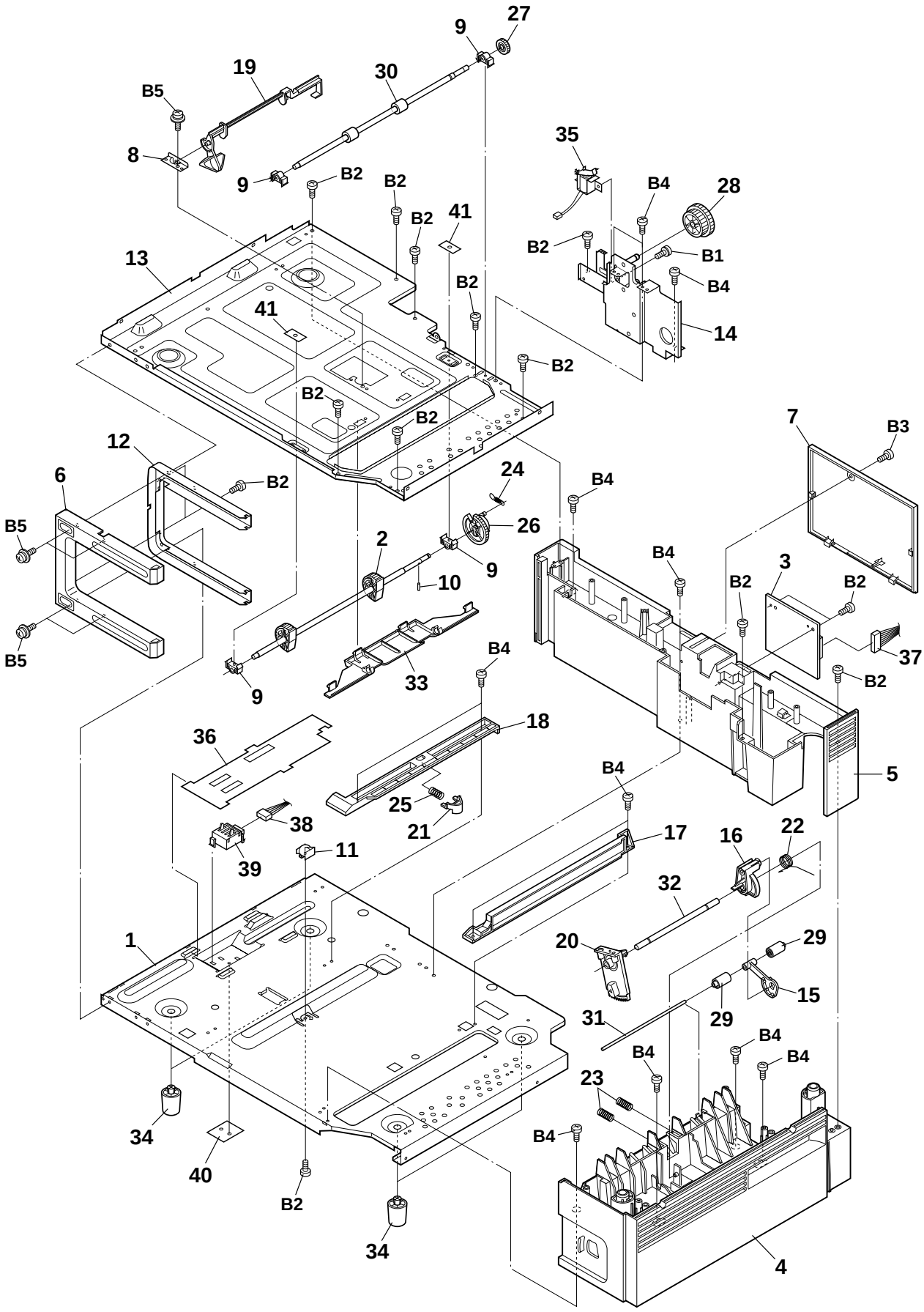
NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
[12] Packing material & Accessories					
1	CPLTP2803XHC3	AV	N	C	Document tray ass'y
2	CPLTP3009XH01	AR	N	C	Paper stock tray with label ass'y
3	QCNW-4786XHGY	AL	N	C	Line cable
4	SPAKA129BXH01	AH	N	D	Packing add.,bottom front
5	SPAKA129BXH02	AH	N	D	Packing add.,bottom back
6	SPAKA130BXHZZ	AH	N	C	Bottom tray
7	SPAKA505AXHZZ	AF	N	D	Packing add.,top
8	SPAKA506AXHZZ	AP	N	D	Packing add
9	SPAKC508AXHZZ	AR	N	D	Packing case,top(Made in Thailand)
	SPAKC508ASCZZ	AR	N	D	Packing case,top(Made in Japan)
10	SPAKP261BXHZZ	AM	N	D	Vinyl cover
11	SSAKA1430QCZZ	AB		D	Vinyl bag
12	SSAKA2003XHZZ	AA		D	Vinyl bag(240x360mm)
13	TINSE3926XHZZ	AS	N	D	Operation manual
14	TLABH4813XHSA	AE	N	D	Tray caution label
15	TLABM2506XHZZ	AB	N	D	TH No. label
16	TLABM4804XHZZ	AA	N	D	Code 39 label
17	TLABP3937XHZZ	AD	N	D	Paper size label
18	TLABZ3935XHZZ	AF	N	D	Rapid key labels
⚠ 19	QACCD7618QCZZ	AQ	N	C	AC cord
20	SPAKA006AXHZZ	AC		C	Protection sheet
21	SPAKA241BXHZZ	AH	N	C	Air sheet
22	SPAKA166BXHZZ	AH	N	C	Protection Sheet

[13] Option:Paper cassette (1)



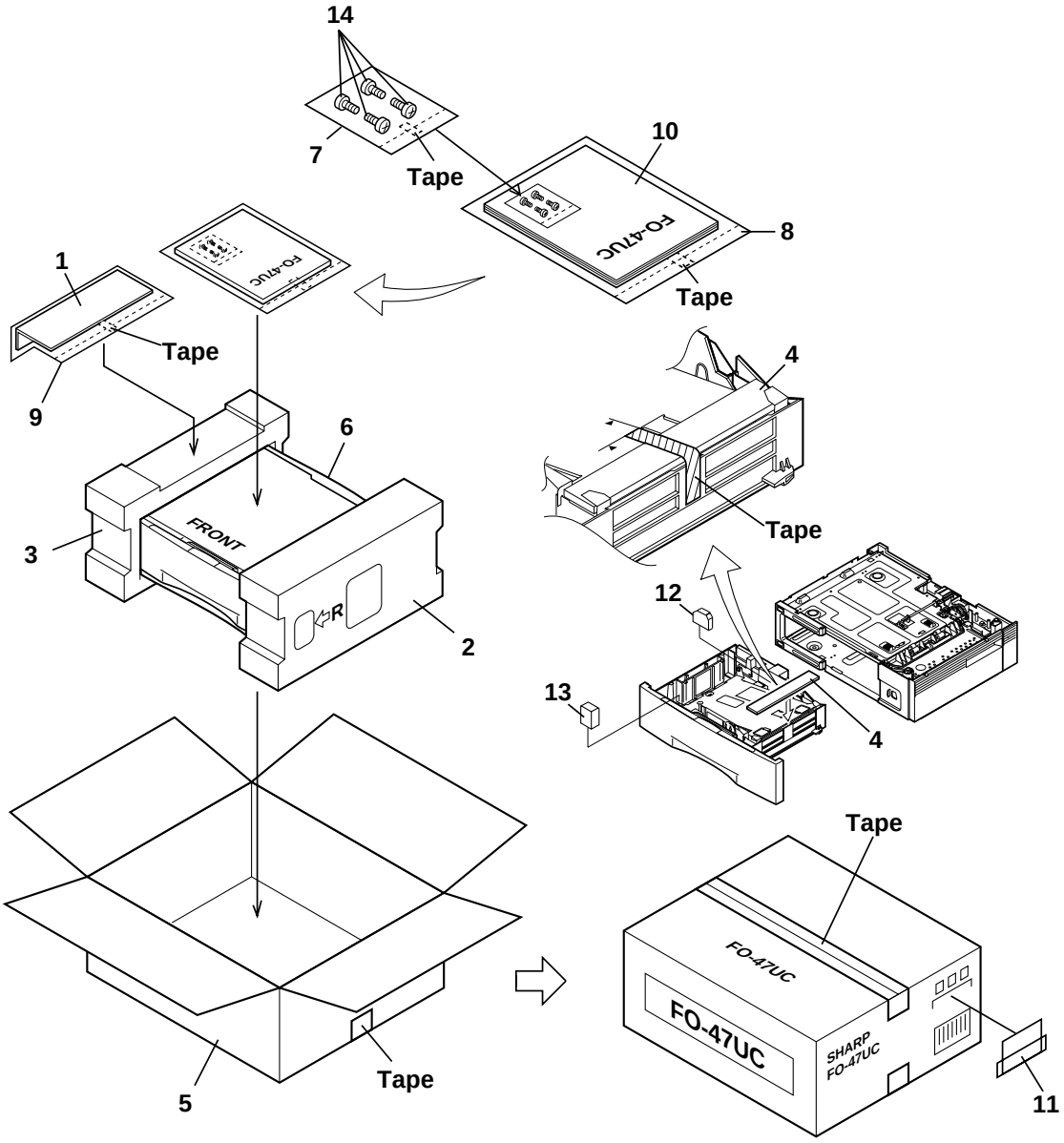
NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
[13] Option:Paper cassette(FO-47UC)(1)					
1	GCASP2108XHSA	AT	N	C	Cassette case
2	GCASP2109XHSA	AM	N	C	Ext. cassette case
3	LPLTM3022XHZZ	AS	N	C	Cassette push up plate
4	LPLTP3021XHZZ	AF	N	C	Cassette back guide
5	MSPRC3092XHZZ	AD	N	C	Push up plate spring
6	MSPRD3125XHZZ	AD	N	C	Lock down spring
7	PCAPH2032XHZZ	AC	N	C	Separate nail rear cap
8	PGIDM2549XHZZ	AQ	N	C	Cassette width guide
9	PSEL-2017XHZZ	AE	N	D	Cork sheet
10	PSHEZ3449XHZL	AF	N	D	Cassette blind sheet Left
11	PSHEZ3449XHZR	AF	N	D	Cassette blind sheet Right
12	PSPO-2002XHZZ	AF	N	C	Cassette width sponge A
13	PSPO-2003XHZZ	AF	N	C	Cassette back sponge
14	PSPO-2004XHZZ	AF	N	C	Cassette width sponge B
15	PSPO-2005XHZZ	AF	N	C	Cassette width sponge C
16	PTME-2062XHZZ	AF	N	C	Separate nail front
17	PTME-2063XHZZ	AF	N	C	Separate nail rear
18	PTME-2064XHZZ	AF	N	C	Lock down piece
19	TLABH263AXHZZ	AE	N	D	Paper limit label 2
20	TLABH4815XHSA	AE	N	D	Cassette push setting label
B1	XEBSD30P10000	AA		C	Screw(3x10)
B2	LX-BZ2205XHZZ	AC		C	Screw(3x8)
	(Unit)				
901	CCASP2108XH01	BE	N	E	Cassette unit

[14] Option:Paper cassette (2)



NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
[14] Option:Paper cassette(FO-47UC)(2)					
1	LPLTM3024XHZZ	AX	N	C	2nd. bottom plate
2	CROLR2423XH01	AV	N	C	2nd. PU roller
3	DCEKZ472BXH01	AT	N	E	2nd. cassette PWB unit
4	GCABG2333XHSA	AQ	N	C	2nd. right cabinet
5	GCABH2334XHSA	AN	N	C	2nd. rear cabinet
6	GCOVA2407XHSA	AH	N	C	Slide frame cover
7	GCOVA2408XHSA	AH	N	C	PWB cover
8	LANGF2825XHZZ	AF	N	C	Lever bracket
9	LBSHP2109XHZZ	AF	N	C	2nd. drive bearing
10	LPINS2032XHZZ	AF	N	C	Roller pin
11	PCAPH2032XHZZ	AC	N	C	Separate nail rear cap
12	LPLTM3025XHZZ	AS	N	C	Slide frame plate
13	LPLTM3027XHZZ	AW	N	C	2nd. top plate
14	LPLTM3028XHZZ	AN	N	C	2nd. Drive system plate
15	LPLTP3023XHZZ	AF	N	C	2nd. lever joint 1
16	LPLTP3044XHZZ	AF	N	C	2nd. lever joint 2
17	LRALP2023XHZZ	AD	N	C	2nd. cassette rail right
18	LRALP2024XHZZ	AD	N	C	2nd. cassette rail left
19	MLEVP2308XHZZ	AD	N	C	2nd. paper sensor lever
20	MLEVP2309XHZZ	AE	N	C	2nd. release lever
21	MLOK-2008XHZZ	AC	N	C	Cassette lock piece
22	MSPRD3093XHZZ	AG	N	C	2nd. release lever spring
23	MSPRC3095XHZZ	AD	N	C	2nd. pinch roller spring
24	MSPRC3096XHZZ	AC	N	C	2nd. clutch spring
25	MSPRC3097XHZZ	AD	N	C	Cassette lock spring
26	NGERH2469XHZZ	AC	N	C	Paper feed clutch gear
27	NGERH2470XHZZ	AC	N	C	Paper drive gear
28	NGERH2471XHZZ	AE	N	C	Docking gear
29	NROLP2334XHZA	AC		C	Pinch roller
30	NROLR2422XHZZ	AN	N	C	2nd. drive roller
31	NSFTZ2309XHZZ	AC	N	C	2nd. pinch roller shaft
32	NSFTZ2312XHZZ	AC	N	C	2nd. release shaft
33	PGIDM2552XHZZ	AM	N	C	2nd. guide upper
34	PLEGP2071XHZZ	AE	N	C	Foot
35	PMAGE2056XHZZ	AN	N	C	Solenoid
36	PSHEZ3437XHZZ	AF	N	C	Cassette sensor cover
37	QCNW-4962XHZZ	AF	N	C	Cassette connect cable
38	QCNW-4964XHZZ	AF	N	C	2nd. paper size cable
39	QSW-Z2286XHZZ	AH	N	C	Cassette size sensor
40	PSHEZ3478XHZZ	AB	N	C	Sensor sheet
41	PSHEZ3477XHZZ	AB	N	C	Bearing sheet
B1	XBPSD30P06K00	AA		C	Screw(3x6)
B2	XEBSD30P10000	AA		C	Screw(3x10)
B3	XEBSE30P10000	AA		C	Screw(3x10)
B4	XHBSD30P06000	AA		C	Screw(3x6)
B5	LX-BZ2240XHZZ	AB	N	C	Screw(3x6)

[15] Option:Paper cassette packing material & Accessories



NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
[15] Option:Paper cassette Packing material & Accessories					
1	GCOVA2406XHSA	AF	N	C	Left cover
2	SPAKA120BXHZZ	AH	N	D	Packing add., right
3	SPAKA121BXHZZ	AH	N	D	Packing add., left
4	SPAKA146BXHZZ	AH	N	D	Cassette protection
5	SPAKC122BXHZZ	AN	N	D	Packing case
6	SPAKP123BXHZZ	AN	N	D	Vinyl cover
7	SSAKA0006UCZZ	AA		D	Vinyl bag,screw
8	SSAKA2340QCZZ	AA		D	Vinyl bag,operation manual
9	SSAKA2342QCZZ	AA		D	Vinyl bag,left cover
10	TINSE4011XHZZ	AQ	N	D	Operation manual
11	TLABM2506XHZZ	AB	N	D	TH No. label
12	SPAKA229BXHZZ	AE	N	C	Cassette protection pad A
13	SPAKA230BXHZZ	AE	N	C	Cassette protection pad B
14	XHBSE30P06000	AA		C	Screw(3x6)

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION	
[16] Control PWB unit						
1	UBATL2071XHZZ	AL	N	B	Battery	[BT1]
2	VCEAGA1HW107M	AA		C	Capacitor(50WV 100μF)	[C2]
3	VCEAGA1CW476M	AB		C	Capacitor(16WV 47μF)	[C3]
4	VCEAGA1CW476M	AB		C	Capacitor(16WV 47μF)	[C4]
5	VCEAGA1EW106M	AA	N	C	Capacitor(25WV 10μF)	[C5]
6	VCEAGA1EW226M	AB		C	Capacitor(25WV 22μF)	[C6]
7	VCEAGA1HW475M	AA		C	Capacitor(50WV 4.7μF)	[C7]
8	VCEAGA1HW105M	AB		C	Capacitor(50WV 1μF)	[C8]
9	VCEAGA1CW476M	AB		C	Capacitor(16WV 47μF)	[C9]
10	VCEAEA1CW336M	AB		C	Capacitor(16WV 33μF)	[C10]
11	VCEAEA1CW336M	AB		C	Capacitor(16WV 33μF)	[C11]
12	VCEAEA1VW476M	AH		C	Capacitor(35WV 47μF)	[C12]
13	VCEAEA1CW336M	AB		C	Capacitor(16WV 33μF)	[C13]
14	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C100]
15	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C103]
16	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C104]
17	VCKYTV1CF105Z	AB		C	Capacitor(16WV 1μF)	[C106]
18	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C107]
19	VCKYTV1HF104Z	AA	N	C	Capacitor(50WV 0.1μF)	[C108]
20	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C109]
21	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C111]
22	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C112]
23	VCKYTV1HB222K	AA		C	Capacitor(50WV 2200PF)	[C113]
24	VCKYTV1HB222K	AA		C	Capacitor(50WV 2200PF)	[C114]
25	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C115]
26	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C116]
27	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C117]
28	VCCCTV1HH180J	AA		C	Capacitor(50WV 18PF)	[C118]
29	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C119]
30	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C120]
31	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C121]
32	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C122]
33	VCKYTV1HF103Z	AA	N	C	Capacitor(50WV 0.01μF)	[C123]
34	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C124]
35	VCKYTV1HF103Z	AA	N	C	Capacitor(50WV 0.01μF)	[C125]
36	VCCCTV1HH180J	AA		C	Capacitor(50WV 18PF)	[C126]
37	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C127]
38	VCCSTV1HL471J	AC	N	C	Capacitor(50WV 470PF)	[C128]
39	VCCSTV1HL331J	AA		C	Capacitor(50WV 330PF)	[C130]
40	VCCSTV1HL471J	AC	N	C	Capacitor(50WV 470PF)	[C131]
41	VCCSTV1HL331J	AA		C	Capacitor(50WV 330PF)	[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)	[C137]
46	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C138]
47	VCCCTV1HH120J	AA		C	Capacitor(50WV 12PF)	[C139]
48	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C142]
49	VCKYTV1HB222K	AA		C	Capacitor(50WV 2200PF)	[C143]
50	VCKYTV1HB222K	AA		C	Capacitor(50WV 2200PF)	[C144]
51	VCKYTV1HB102K	AA		C	Capacitor(50WV 1000PF)	[C146]
52	VCCSTV1HL331J	AA		C	Capacitor(50WV 330PF)	[C147]
53	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C148]
54	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C149]
55	VRS-TS2AD100J	AA		C	Resistor(1/10W 10Ω ±5%)	[C151]
56	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C153]
57	VCKYTV1HB222K	AA		C	Capacitor(50WV 2200PF)	[C154]
58	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C155]
59	VCCCTV1HH150J	AA		C	Capacitor(50WV 15PF)	[C156]
60	VCKYTV1HB222K	AA		C	Capacitor(50WV 2200PF)	[C157]
61	VCKYTV1CF105Z	AB		C	Capacitor(16WV 1μF)	[C158]
62	VCKYTV1CF105Z	AB		C	Capacitor(16WV 1μF)	[C160]
63	VCCCTV1HH300J	AA		C	Capacitor(50WV 30PF)	[C161]
64	VCCSTV1HL102J	AA		C	Capacitor(50WV 1000PF)	[C162]
65	VCCCTV1HH101J	AA		C	Capacitor(50WV 100PF)	[C163]
66	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C164]
67	VCKYTV1CF105Z	AB		C	Capacitor(16WV 1μF)	[C166]
68	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C167]
69	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C168]
70	VCCCTV1HH300J	AA		C	Capacitor(50WV 30PF)	[C169]
71	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C170]
72	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C171]
73	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C174]
74	VCKYTV1HB222K	AA		C	Capacitor(50WV 2200PF)	[C177]
75	VCCCTV1HH120J	AA		C	Capacitor(50WV 12PF)	[C178]
76	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C179]
77	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C180]
78	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C181]
79	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C182]
80	VCKYTV1HB102K	AA		C	Capacitor(50WV 1000PF)	[C183]

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION	
[16] Control PWB unit						
81	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1µF)	[C189]
82	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1µF)	[C190]
83	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1µF)	[C192]
84	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1µF)	[C196]
85	VCKYTV1HB222K	AA		C	Capacitor(50WV 2200PF)	[C197]
86	VCKYTV1HB222K	AA		C	Capacitor(50WV 2200PF)	[C198]
87	VCKYTV1HB103K	AB		C	Capacitor(50WV 0.01µF)	[C200]
88	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1µF)	[C202]
89	VCKYTV1HB222K	AA		C	Capacitor(50WV 2200PF)	[C203]
90	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1µF)	[C205]
91	VCCCTV1HH100D	AA		C	Capacitor(50WV 10PF)	[C213]
92	VCKYTV1CF105Z	AB		C	Capacitor(16WV 1µF)	[C215]
93	VCKYTV1CF105Z	AB		C	Capacitor(16WV 1µF)	[C216]
94	VCCCTV1HH100D	AA		C	Capacitor(50WV 10PF)	[C218]
95	VCKYTV1CF105Z	AB		C	Capacitor(16WV 1µF)	[C219]
96	VCKYTV1EB104K	AA		C	Capacitor(25WV 0.1µF)	[C220]
97	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1µF)	[C221]
98	VCKYTV1EB104K	AA		C	Capacitor(25WV 0.1µF)	[C222]
99	VCKYTV1HB472K	AA		C	Capacitor(50WV 4700PF)	[C223]
100	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1µF)	[C224]
101	VCKYTV1CF105Z	AB		C	Capacitor(16WV 1µF)	[C225]
102	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1µF)	[C226]
103	VCKYTV1HB222K	AA		C	Capacitor(50WV 2200PF)	[C227]
104	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1µF)	[C228]
105	VCKYTV1HB222K	AA		C	Capacitor(50WV 2200PF)	[C229]
106	VCKYTV1HB222K	AA		C	Capacitor(50WV 2200PF)	[C230]
107	VCKYTV1HB222K	AA		C	Capacitor(50WV 2200PF)	[C231]
108	VCKYTV1HB222K	AA		C	Capacitor(50WV 2200PF)	[C232]
109	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1µF)	[C233]
110	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1µF)	[C234]
111	VCCCTV1HH270J	AC		C	Capacitor(50WV 27PF)	[C235]
112	VCCCTV1HH200J	AA		C	Capacitor(50WV 20PF)	[C236]
113	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1µF)	[C237]
114	VCKYTV1HB222K	AA		C	Capacitor(50WV 2200PF)	[C238]
115	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1µF)	[C239]
116	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1µF)	[C241]
117	VCCCTV1HH100D	AA		C	Capacitor(50WV 10PF)	[C242]
118	VCCCTV1HH100D	AA		C	Capacitor(50WV 10PF)	[C243]
119	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1µF)	[C245]
120	VCKYTV1HB222K	AA		C	Capacitor(50WV 2200PF)	[C253]
121	VCKYTV1EB104K	AA		C	Capacitor(25WV 0.1µF)	[C256]
122	VCCSTV1HL391J	AA		C	Capacitor(50WV 390PF)	[C257]
123	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1µF)	[C258]
124	VCKYTV1CF105Z	AB		C	Capacitor(16WV 1µF)	[C259]
125	VCKYTV1HF104Z	AA		C	Capacitor(50WV 0.1µF)	[C260]
126	VCCSTV1HL102J	AA		C	Capacitor(50WV 1000PF)	[C261]
127	VCCSTV1HL681J	AB		C	Capacitor(50WV 680PF)	[C263]
128	VCKYTV1CF105Z	AB		C	Capacitor(16WV 1µF)	[C264]
129	VCKYTV1CF105Z	AB		C	Capacitor(16WV 1µF)	[C267]
130	VCCSTV1HL331J	AA		C	Capacitor(50WV 330PF)	[C269]
131	VCKYTV1EB104K	AA		C	Capacitor(25WV 0.1µF)	[C270]
132	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1µF)	[C273]
133	VCKYTV1CF105Z	AB		C	Capacitor(16WV 1µF)	[C274]
134	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1µF)	[C275]
135	VCCCTV1HH120J	AA		C	Capacitor(50WV 12PF)	[C278]
136	VCCCTV1HH180J	AA		C	Capacitor(50WV 18PF)	[C279]
137	VCKYTV1HF104Z	AA		C	Capacitor(50WV 0.1µF)	[C280]
138	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1µF)	[C401]
139	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1µF)	[C403]
140	VCKYTV1HB222K	AA		C	Capacitor(50WV 2200PF)	[C404]
141	VCKYTV1HB222K	AA		C	Capacitor(50WV 2200PF)	[C405]
142	VCKYTV1HB222K	AA		C	Capacitor(50WV 2200PF)	[C406]
143	VCKYTV1HB222K	AA		C	Capacitor(50WV 2200PF)	[C407]
144	VCKYTV1HB222K	AA		C	Capacitor(50WV 2200PF)	[C408]
145	VCKYTV1HB222K	AA		C	Capacitor(50WV 2200PF)	[C409]
146	VCKYTV1HB222K	AA		C	Capacitor(50WV 2200PF)	[C410]
147	VCKYTV1HB102K	AA		C	Capacitor(50WV 1000PF)	[C422]
148	VCKYTV1CF105Z	AB		C	Capacitor(16WV 1µF)	[C424]
149	VCCSTV1HL331J	AA		C	Capacitor(50WV 330PF)	[C425]
150	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1µF)	[C426]
151	VCCCTV1HH101J	AA		C	Capacitor(50WV 100PF)	[C428]
152	QCNCM7014SC1J	AC	N	C	Connector(10pin)	[CNCIS]
153	QCNCM2499SC0I	AE	N	C	Connector(9pin)	[CNLIU]
154	QCNCM2589SC5J	AL	N	C	Connector(50pin)	[CNOP]
155	QCNCM2525SC4J	AK	N	C	Connector(40pin)	[CNPCIF]
156	QCNCM2482SC2D	AB		C	Connector(24pin)	[CNPN]
157	QCNCM2525SC3J	AH	N	C	Connector(30pin)	[CNPRT]
158	QCNCM7014SC1B	AD		C	Connector(12pin)	[CNPW]
159	QCNCM7014SC0H	AB		C	Connector(8pin)	[CNSEN]
160	QCNCM2401SC0B	AA		C	Connector(2pin)	[CNSP]

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION	
[16] Control PWB unit						
161	QCNCM7014SC0B	AD		C	Connector(2pin)	[CNSTP]
162	QCNCM7014SC0D	AB		C	Connector(4pin)	[CNTXM]
163	VHDSR104///-1	AF	N	B	Diode(SR104)	[D1]
164	VHDSR104///-1	AF	N	B	Diode(SR104)	[D2]
165	VHDSR104///-1	AF	N	B	Diode(SR104)	[D3]
166	VHDSR104///-1	AF	N	B	Diode(SR104)	[D4]
167	VHDDAP202U/-1	AB		B	Diode(DAP202U)	[D5]
168	VHDDA204K//-1	AC		B	Diode(DA204K)	[D100]
169	VHD1SS355//-1	AB		B	Diode(1SS355)	[D101]
170	VHDHRW0502A-1	AD		B	Diode(HRW0502A)	[D102]
171	VHDHRW0502A-1	AD		B	Diode(HRW0502A)	[D103]
172	VHDHRW0502A-1	AD		B	Diode(HRW0502A)	[D104]
173	VHDHRW0502A-1	AD		B	Diode(HRW0502A)	[D105]
174	VHDHRW0502A-1	AD		B	Diode(HRW0502A)	[D106]
175	VHDHRW0502A-1	AD		B	Diode(HRW0502A)	[D107]
176	VHDHRW0502A-1	AD		B	Diode(HRW0502A)	[D108]
177	VHDHRW0502A-1	AD		B	Diode(HRW0502A)	[D109]
178	VHDHRW0502A-1	AD		B	Diode(HRW0502A)	[D112]
179	VHDHRW0502A-1	AD		B	Diode(HRW0502A)	[D115]
180	VHDDA204K//-1	AC		B	Diode(DA204K)	[D120]
181	VHDHRW0502A-1	AD		B	Diode(HRW0502A)	[D121]
182	VHDHRW0502A-1	AD		B	Diode(HRW0502A)	[D122]
183	VHDHRW0502A-1	AD		B	Diode(HRW0502A)	[D123]
184	VHDHRW0502A-1	AD		B	Diode(HRW0502A)	[D124]
185	VHDHRW0502A-1	AD		B	Diode(HRW0502A)	[D125]
186	VHDHRW0502A-1	AD		B	Diode(HRW0502A)	[D126]
187	VHDHRW0502A-1	AD		B	Diode(HRW0502A)	[D127]
188	VHDHRW0502A-1	AD		B	Diode(HRW0502A)	[D128]
189	VHDHRW0502A-1	AD		B	Diode(HRW0502A)	[D133]
190	VHDHRW0502A-1	AD		B	Diode(HRW0502A)	[D138]
191	VHDHRW0502A-1	AD		B	Diode(HRW0502A)	[D139]
192	VHDHRW0502A-1	AD		B	Diode(HRW0502A)	[D140]
193	VHD1SS355//-1	AB		B	Diode(1SS355)	[D141]
194	VHDHRW0502A-1	AD		B	Diode(HRW0502A)	[D142]
195	VHD1SS355//-1	AB		B	Diode(1SS355)	[D143]
196	VHDHRW0502A-1	AD		B	Diode(HRW0502A)	[D145]
197	VHVICPS10//-1	AG		B	Varistor	[F100]
198	VHVICPS18//-1	AE	N	B	Varistor	[F101]
199	VHIBU4066BCF1	AD		B	IC,ANALOG SW(BU4066)	[IC1]
200	VHINJM2904M-1	AE		B	IC,DUAL OP AMP.(NJM2904M)	[IC2]
201	VHILH5116NA10	AL		B	IC,16Kbit SRAM(LH5116NA-10)	[IC3]
202	QSOCZ2066SC42	AP	N	C	IC Socket(42pin)	[IC4]
203	VHIM2716FAA0A	BN	N	B	IC,16Mbit EPROM(16MB)	[IC4]
204	VHIHD74HC04FM	AC	N	B	IC,HEX INVERTER(74HC04)	[IC5]
205	VHILC82103/-1	BA		B	IC,IMAGE SIGNAL PROCESSOR(LC82103)	[IC6]
206	VHILB1845//-1	AY		B	IC,Motor Driver(LB1845)	[IC7]
207	VHIHD74HC157F	AH	N	B	IC,QUAD2-TO-10ATASELECTORS(74HC157)	[IC8]
208	VHI1M16E//J-6	AZ		B	IC,16Mbit DRAM(HY5118164)	[IC9]
209	VHILR38292/-1	AY		B	IC,Gate Array(B)(LR38292)	[IC10]
210	VHIBA10393F-1	AC	N	B	IC,COMPARATOR(BA10393F)	[IC11]
211	VHIHD813201F1	BE		B	IC,IDP201(CODEC)(HD813201F)	[IC12]
212	VHIHD74HC32FM	AC		B	IC,QUADRUPLE 2-INPUT OR GATE(74HC32)	[IC13]
213	VHI74VHC04F-1	AE	N	B	IC,HEX INVERTER(74VHC04)	[IC14]
214	VHIHD74LV08T1	AE	N	B	IC,QUADRUPLE 2-INPUT AND GATE(74LV08A)	[IC15]
215	VHI1M16E//J-6	AZ		B	IC,16Mbit DRAM(HY5118164)	[IC16]
216	VHILZ9FJ59/-1	AX	N	B	IC,Gate Array(A)(LZ9FJ59)	[IC17]
217	VHIHD74LS374F	AF	N	B	IC,OCTAL D-TYPE FLIP-FLOPS(HD74LS374)	[IC18]
218	VHIHD74HC74FM	AD	N	B	IC,DUAL D-TYPE FLIP-FLOPS(74HC74)	[IC19]
219	VHIHD74LS244F	AF	N	B	IC,OCTAL BUFFERS(HD74LS244)	[IC20]
220	VHIW24010S7LE	AZ	N	B	IC,1Mbit SRAM(W24010S-70L)	[IC21]
221	VHIHD74HC14FM	AF		B	IC,SCHMITT-TRIGER INVERTER(74HC14)	[IC22]
222	VHIR144AFXL/1	BM		B	IC,14400bps FAX MODEM(R144AFXL)	[IC24]
223	VHIHCF4053M1T	AG		B	IC,2ch. ANALOG MULTIPLEXER(HCF4053)	[IC25]
224	VHIHD74HC08FM	AF	N	B	IC,QUADRUPLE 2-INPUT AND GATE(74HC08)	[IC26]
225	VHIHD7021606A	BE	N	B	IC,CPU SH-1(MASK)(SH7021)	[IC27]
226	VHIHD74HC08FM	AF	N	B	IC,QUADRUPLE 2-INPUT AND GATE(74HC08)	[IC28]
227	VHISM8578BV-1	AK	N	B	IC,Real Time clock(SM8578BV)	[IC30]
228	VHINJM2902M-1	AF		B	IC,QUADRUPLE OP AMP.(NJM2902M)	[IC31]
229	VHINJM2113M-1	AG		B	IC,SPEAKER AMP.(NJM2113M)	[IC33]
230	VHIHD74HC14FM	AF		B	IC,SCHMITT-TRIGER INVERTER(74HC14)	[IC34]
231	VHI74VHC393FT	AK	N	B	IC,DUAL D-TYPE FLIP-FLOPS(74VHC393)	[IC35]
232	VHIW24010S7LE	AZ		B	IC,1Mbit SRAM(W24010S-70L)	[IC36]
233	VHIPST596CMT1	AF		B	IC,SYSTEM RESET(PST596)	[IC37]
234	VHITC7S00FU-1	AE		B	IC,NAND GATE(TC7S00FU)	[IC41]
235	VHIAD8051//-1	AN		B	IC,OP AMP.(AD8051)	[IC100]
236	VHITC74HCU04F	AE		B	IC,INVERTER(74HCU04)	[IC101]
237	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%)	[L100]
238	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%)	[L101]
239	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%)	[L102]
240	VRS-TS2AD100J	AA		C	Resistor(1/10W 10Ω ±5%)	[L103]

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION	
[16] Control PWB unit						
241	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%)	[L104]
242	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%)	[L105]
243	VS2SD1164//-1	AE		B	Transistor(2SD1164)	[Q1]
244	VS2SD1664Q/-1	AD		B	Transistor(2SD1664Q)	[Q100]
245	VS2SA1037KR-1	AB		C	Transistor(2SA1037K)	[Q101]
246	VSDTC114EK/-1	AB		B	Transistor(DTC114EK)	[Q102]
247	VSDTC114EK/-1	AB		B	Transistor(DTC114EK)	[Q103]
248	VSDTC114EK/-1	AB		B	Transistor(DTC114EK)	[Q104]
249	VSDTC114EK/-1	AB		B	Transistor(DTC114EK)	[Q105]
250	VSDTA114EK/-1	AB		B	Transistor(DTA114EK)	[Q106]
251	VSDTA114EK/-1	AB		B	Transistor(DTA114EK)	[Q107]
252	VRS-HT3AAR47J	AC	N	C	Resistor(1W 0.47Ω ±5%)	[R1]
253	VRS-HT3AAR47J	AC	N	C	Resistor(1W 0.47Ω ±5%)	[R2]
254	VRD-HT2EY100J	AA		C	Resistor(1/4W 10Ω ±5%)	[R3]
255	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R101]
256	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%)	[R102]
257	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%)	[R103]
258	VRS-TP2BD222J	AA		C	Resistor(1/8W 2.2KΩ ±5%)	[R104]
259	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%)	[R105]
260	VRS-TS2AD271J	AA		C	Resistor(1/10W 270Ω ±5%)	[R106]
261	VRS-TS2AD330J	AA		C	Resistor(1/10W 33Ω ±5%)	[R107]
262	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R108]
263	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R110]
264	VRS-TS2AD101J	AA		C	Resistor(1/10W 100Ω ±5%)	[R112]
265	VRS-TS2AD101J	AA		C	Resistor(1/10W 100Ω ±5%)	[R113]
266	VRS-TS2AD105J	AA		C	Resistor(1/10W 1.0MΩ ±5%)	[R114]
267	VRS-TS2AD100J	AA		C	Resistor(1/10W 10Ω ±5%)	[R115]
268	VRS-TS2AD100J	AA		C	Resistor(1/10W 10Ω ±5%)	[R116]
269	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R118]
270	VRS-TS2AD271J	AA		C	Resistor(1/10W 270Ω ±5%)	[R119]
271	VRS-TS2AD332J	AA		C	Resistor(1/10W 3.3KΩ ±5%)	[R120]
272	VRS-TS2AD271J	AA		C	Resistor(1/10W 270Ω ±5%)	[R121]
273	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R122]
274	VRS-TS2AD562J	AA		C	Resistor(1/10W 5.6KΩ ±5%)	[R123]
275	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%)	[R124]
276	VRS-TS2AD182J	AA		C	Resistor(1/10W 1.8KΩ ±5%)	[R125]
277	VRS-TS2AD302J	AA		C	Resistor(1/10W 3KΩ ±5%)	[R126]
278	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%)	[R128]
279	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%)	[R129]
280	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%)	[R131]
281	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%)	[R133]
282	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%)	[R134]
283	VRS-TS2AD102J	AA		C	Resistor(1/10W 1KΩ ±5%)	[R136]
284	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%)	[R137]
285	VRS-TS2AD105J	AA		C	Resistor(1/10W 1.0MΩ ±5%)	[R138]
286	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%)	[R139]
287	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%)	[R140]
288	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%)	[R141]
289	VRS-TS2AD223F	AA		C	Resistor(1/10W 22KΩ ±1%)	[R142]
290	VRS-TS2AD563F	AA		C	Resistor(1/10W 56KΩ ±1%)	[R143]
291	VRS-TS2AD333F	AB		C	Resistor(1/10W 33KΩ ±1%)	[R144]
292	VRS-TS2AD393F	AA		C	Resistor(1/10W 39KΩ ±1%)	[R145]
293	VRS-TS2AD102J	AA		C	Resistor(1/10W 1KΩ ±5%)	[R146]
294	VRS-TS2AD472J	AA		C	Resistor(1/10W 4.7KΩ ±5%)	[R147]
295	VRS-TS2AD563F	AA		C	Resistor(1/10W 56KΩ ±1%)	[R148]
296	VRS-TS2AD102J	AA		C	Resistor(1/10W 1KΩ ±5%)	[R149]
297	VRS-TS2AD330J	AA		C	Resistor(1/10W 33Ω ±5%)	[R158]
298	VRS-TS2AD330J	AA		C	Resistor(1/10W 33Ω ±5%)	[R159]
299	VRS-TS2AD332J	AA		C	Resistor(1/10W 3.3KΩ ±5%)	[R160]
300	VRS-TS2AD102J	AA		C	Resistor(1/10W 1KΩ ±5%)	[R161]
301	VRS-TS2AD271J	AA		C	Resistor(1/10W 270Ω ±5%)	[R162]
302	VRS-TS2AD271J	AA		C	Resistor(1/10W 270Ω ±5%)	[R163]
303	VRS-TS2AD271J	AA		C	Resistor(1/10W 270Ω ±5%)	[R164]
304	VRS-TS2AD271J	AA		C	Resistor(1/10W 270Ω ±5%)	[R165]
305	VRS-TS2AD271J	AA		C	Resistor(1/10W 270Ω ±5%)	[R167]
306	VRS-TS2AD271J	AA		C	Resistor(1/10W 270Ω ±5%)	[R168]
307	VRS-TS2AD271J	AA		C	Resistor(1/10W 270Ω ±5%)	[R169]
308	VRS-TS2AD271J	AA		C	Resistor(1/10W 270Ω ±5%)	[R170]
309	VRS-TS2AD302J	AA		C	Resistor(1/10W 3KΩ ±5%)	[R171]
310	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%)	[R172]
311	VRS-TS2AD271J	AA		C	Resistor(1/10W 270Ω ±5%)	[R173]
312	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%)	[R175]
313	VRS-TS2AD271J	AA		C	Resistor(1/10W 270Ω ±5%)	[R176]
314	VRS-TS2AD271J	AA		C	Resistor(1/10W 270Ω ±5%)	[R177]
315	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R178]
316	VRS-TS2AD562J	AA		C	Resistor(1/10W 5.6KΩ ±5%)	[R179]
317	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R181]
318	VRS-TS2AD271J	AA		C	Resistor(1/10W 270Ω ±5%)	[R182]
319	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R183]
320	VRS-TS2AD472J	AA		C	Resistor(1/10W 4.7KΩ ±5%)	[R184]

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION	
[16] Control PWB unit						
321	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R185]
322	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R186]
323	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R188]
324	VRS-TS2AD472J	AA		C	Resistor(1/10W 4.7KΩ ±5%)	[R189]
325	VRS-TS2AD101J	AA		C	Resistor(1/10W 100Ω ±5%)	[R190]
326	VRS-TS2AD101J	AA		C	Resistor(1/10W 100Ω ±5%)	[R191]
327	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%)	[R192]
328	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%)	[R193]
329	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%)	[R194]
330	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%)	[R195]
331	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%)	[R196]
332	VRS-TS2AD472J	AA		C	Resistor(1/10W 4.7KΩ ±5%)	[R197]
333	VRS-TS2AD472J	AA		C	Resistor(1/10W 4.7KΩ ±5%)	[R198]
334	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%)	[R199]
335	VRS-TS2AD102J	AA		C	Resistor(1/10W 1KΩ ±5%)	[R200]
336	VRS-TS2AD331J	AA		C	Resistor(1/10W 330Ω ±5%)	[R201]
337	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R202]
338	VRS-TS2AD472J	AA		C	Resistor(1/10W 4.7KΩ ±5%)	[R203]
339	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%)	[R204]
340	VRS-TS2AD330J	AA		C	Resistor(1/10W 33Ω ±5%)	[R205]
341	VRS-TS2AD472J	AA		C	Resistor(1/10W 4.7KΩ ±5%)	[R206]
342	VRS-TS2AD472J	AA		C	Resistor(1/10W 4.7KΩ ±5%)	[R207]
343	VRS-TS2AD472J	AA		C	Resistor(1/10W 4.7KΩ ±5%)	[R208]
344	VRS-TS2AD101J	AA		C	Resistor(1/10W 100Ω ±5%)	[R209]
345	VRS-TS2AD271J	AA		C	Resistor(1/10W 270Ω ±5%)	[R210]
346	VRS-TS2AD332J	AA		C	Resistor(1/10W 3.3KΩ ±5%)	[R211]
347	VRS-TS2AD332J	AA		C	Resistor(1/10W 3.3KΩ ±5%)	[R212]
348	VRS-TS2AD332J	AA		C	Resistor(1/10W 3.3KΩ ±5%)	[R213]
349	VRS-TS2AD105J	AA		C	Resistor(1/10W 1.0MΩ ±5%)	[R214]
350	VRS-TS2AD561J	AA		C	Resistor(1/10W 560Ω ±5%)	[R215]
351	VRS-TS2AD151J	AA		C	Resistor(1/10W 150Ω ±5%)	[R216]
352	VRS-TS2AD151J	AA		C	Resistor(1/10W 150Ω ±5%)	[R217]
353	VRS-TS2AD151J	AA		C	Resistor(1/10W 150Ω ±5%)	[R218]
354	VRS-TS2AD151J	AA		C	Resistor(1/10W 150Ω ±5%)	[R219]
355	VRS-TS2AD151J	AA		C	Resistor(1/10W 150Ω ±5%)	[R220]
356	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R222]
357	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%)	[R223]
358	VRS-TS2AD271J	AA		C	Resistor(1/10W 270Ω ±5%)	[R224]
359	VRS-TS2AD271J	AA		C	Resistor(1/10W 270Ω ±5%)	[R225]
360	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%)	[R226]
361	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%)	[R227]
362	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%)	[R228]
363	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%)	[R229]
364	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%)	[R230]
365	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R233]
366	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%)	[R234]
367	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R235]
368	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%)	[R236]
369	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%)	[R237]
370	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%)	[R238]
371	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R239]
372	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R240]
373	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%)	[R243]
374	VRS-TS2AD472J	AA		C	Resistor(1/10W 4.7KΩ ±5%)	[R244]
375	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%)	[R245]
376	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R246]
377	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R247]
378	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R248]
379	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R249]
380	VRS-TS2AD472J	AA		C	Resistor(1/10W 4.7KΩ ±5%)	[R250]
381	VRS-TS2AD203J	AA		C	Resistor(1/10W 20KΩ ±5%)	[R251]
382	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R252]
383	VRS-TS2AD333J	AA		C	Resistor(1/10W 33KΩ ±5%)	[R253]
384	VRS-TS2AD101J	AA		C	Resistor(1/10W 100Ω ±5%)	[R254]
385	VRS-TS2AD101J	AA		C	Resistor(1/10W 100Ω ±5%)	[R255]
386	VRS-TS2AD472J	AA		C	Resistor(1/10W 4.7KΩ ±5%)	[R256]
387	VRS-TS2AD472J	AA		C	Resistor(1/10W 4.7KΩ ±5%)	[R257]
388	VRS-TS2AD472J	AA		C	Resistor(1/10W 4.7KΩ ±5%)	[R258]
389	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%)	[R260]
390	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%)	[R262]
391	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%)	[R263]
392	VRS-TS2AD222J	AA		C	Resistor(1/10W 2.2KΩ ±5%)	[R264]
393	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%)	[R266]
394	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%)	[R270]
395	VRS-TS2AD391J	AA		C	Resistor(1/10W 390Ω ±5%)	[R271]
396	VRS-TS2AD101J	AA		C	Resistor(1/10W 100Ω ±5%)	[R272]
397	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R273]
398	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R274]
399	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R275]
400	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R276]

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION	
[16] Control PWB unit						
401	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R277]
402	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%)	[R278]
403	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%)	[R279]
404	VRS-TS2AD100J	AA		C	Resistor(1/10W 10Ω ±5%)	[R280]
405	VRS-TS2AD100J	AA		C	Resistor(1/10W 10Ω ±5%)	[R281]
406	VRS-TS2AD100J	AA		C	Resistor(1/10W 10Ω ±5%)	[R282]
407	VRS-TS2AD100J	AA		C	Resistor(1/10W 10Ω ±5%)	[R283]
408	VRS-TS2AD100J	AA		C	Resistor(1/10W 10Ω ±5%)	[R284]
409	VRS-TS2AD100J	AA		C	Resistor(1/10W 10Ω ±5%)	[R285]
410	VRS-TS2AD100J	AA		C	Resistor(1/10W 10Ω ±5%)	[R286]
411	VRS-TS2AD100J	AA		C	Resistor(1/10W 10Ω ±5%)	[R287]
412	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R288]
413	VRS-TS2AD683J	AA		C	Resistor(1/10W 68KΩ ±5%)	[R290]
414	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%)	[R291]
415	VRS-TS2AD683J	AA		C	Resistor(1/10W 68KΩ ±5%)	[R292]
416	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R293]
417	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R294]
418	VRS-TS2AD203J	AA		C	Resistor(1/10W 20KΩ ±5%)	[R295]
419	VRS-TS2AD203J	AA		C	Resistor(1/10W 20KΩ ±5%)	[R296]
420	VRS-TS2AD102J	AA		C	Resistor(1/10W 1KΩ ±5%)	[R297]
421	VRS-TS2AD333J	AA		C	Resistor(1/10W 33KΩ ±5%)	[R298]
422	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R299]
423	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%)	[R300]
424	VRS-TS2AD472J	AA		C	Resistor(1/10W 4.7KΩ ±5%)	[R301]
425	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%)	[R302]
426	VRS-TS2AD472J	AA		C	Resistor(1/10W 4.7KΩ ±5%)	[R305]
427	VRS-TS2AD561J	AA		C	Resistor(1/10W 560Ω ±5%)	[R307]
428	VRS-TS2AD472J	AA		C	Resistor(1/10W 4.7KΩ ±5%)	[R310]
429	VRS-TS2AD472J	AA		C	Resistor(1/10W 4.7KΩ ±5%)	[R314]
430	VRS-TS2AD472J	AA		C	Resistor(1/10W 4.7KΩ ±5%)	[R315]
431	VRS-TS2AD472J	AA		C	Resistor(1/10W 4.7KΩ ±5%)	[R316]
432	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%)	[R317]
433	VRS-TS2AD100J	AA		C	Resistor(1/10W 10Ω ±5%)	[R318]
434	VRS-TS2AD100J	AA		C	Resistor(1/10W 10Ω ±5%)	[R319]
435	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R320]
436	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R321]
437	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R324]
438	VRS-TS2AD472J	AA		C	Resistor(1/10W 4.7KΩ ±5%)	[R325]
439	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R328]
440	VRS-TS2AD562J	AA		C	Resistor(1/10W 5.6KΩ ±5%)	[R329]
441	VRS-TS2AD100J	AA		C	Resistor(1/10W 10Ω ±5%)	[R331]
442	VRS-TS2AD100J	AA		C	Resistor(1/10W 10Ω ±5%)	[R332]
443	VRS-TS2AD100J	AA		C	Resistor(1/10W 10Ω ±5%)	[R333]
444	VRS-TS2AD100J	AA		C	Resistor(1/10W 10Ω ±5%)	[R334]
445	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%)	[R335]
446	VRS-TS2AD473J	AA		C	Resistor(1/10W 47KΩ ±5%)	[R336]
447	VRS-TS2AD100J	AA		C	Resistor(1/10W 10Ω ±5%)	[R337]
448	VRS-TS2AD100J	AA		C	Resistor(1/10W 10Ω ±5%)	[R338]
449	VRS-TS2AD100J	AA		C	Resistor(1/10W 10Ω ±5%)	[R339]
450	VRS-TS2AD100J	AA		C	Resistor(1/10W 10Ω ±5%)	[R340]
451	VRS-TS2AD100J	AA		C	Resistor(1/10W 10Ω ±5%)	[R341]
452	VRSTS2AD4752F	AA		C	Resistor(1/10W 47.5KΩ ±1%)	[R342]
453	VRS-TS2AD100J	AA		C	Resistor(1/10W 10Ω ±5%)	[R343]
454	VRS-TS2AD100J	AA		C	Resistor(1/10W 10Ω ±5%)	[R345]
455	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R346]
456	VRS-TP2BD200J	AA		C	Resistor(1/8W 20Ω ±5%)	[R347]
457	VRS-TS2AD302J	AA		C	Resistor(1/10W 3KΩ ±5%)	[R348]
458	VRSTS2AD8662F	AA		C	Resistor(1/10W 86.6KΩ ±1%)	[R349]
459	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%)	[R350]
460	VRSTS2AD8662F	AA		C	Resistor(1/10W 86.6KΩ ±1%)	[R351]
461	VRS-TS2AD332J	AA		C	Resistor(1/10W 3.3KΩ ±5%)	[R352]
462	VRSTS2AD1742F	AA		C	Resistor(1/10W 17.4KΩ ±1%)	[R354]
463	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R355]
464	VRS-TS2AD154J	AA		C	Resistor(1/10W 150KΩ ±5%)	[R360]
465	VRS-TS2AD302J	AA		C	Resistor(1/10W 3KΩ ±5%)	[R363]
466	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R364]
467	VRS-TS2AD104J	AA		C	Resistor(1/10W 100KΩ ±5%)	[R365]
468	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R367]
469	VRS-TS2AD471J	AA		C	Resistor(1/10W 470Ω ±5%)	[R368]
470	VRS-TS2AD102J	AA		C	Resistor(1/10W 1KΩ ±5%)	[R369]
471	VRS-TS2AD102J	AA		C	Resistor(1/10W 1KΩ ±5%)	[R370]
472	VRS-TS2AD333J	AA		C	Resistor(1/10W 33KΩ ±5%)	[R371]
473	VRS-TS2AD101J	AA		C	Resistor(1/10W 100Ω ±5%)	[R373]
474	VRS-TP2BD000J	AA		C	Resistor(1/8W 0Ω ±5%)	[R374]
475	VRS-TS2AD472J	AA		C	Resistor(1/10W 4.7KΩ ±5%)	[R375]
476	VRS-TS2AD472J	AA		C	Resistor(1/10W 4.7KΩ ±5%)	[R376]
477	VRS-TS2AD102J	AA		C	Resistor(1/10W 1KΩ ±5%)	[R377]
478	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%)	[R378]
479	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%)	[R379]
480	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R380]

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION	
[16] Control PWB unit						
481	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R381]
482	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R382]
483	VRS-TS2AD472J	AA		C	Resistor(1/10W 4.7KΩ ±5%)	[R383]
484	VRS-TS2AD472J	AA		C	Resistor(1/10W 4.7KΩ ±5%)	[R384]
485	VRS-TS2AD472J	AA		C	Resistor(1/10W 4.7KΩ ±5%)	[R385]
486	VRD-HT2EY332J	AA		C	Resistor(1/4W 3.3KΩ ±5%)	[R386]
487	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%)	[R387]
488	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%)	[R400]
489	VRS-TS2AD100J	AA		C	Resistor(1/10W 10Ω ±5%)	[R402]
490	VRS-TS2AD101J	AA		C	Resistor(1/10W 100Ω ±5%)	[R404]
491	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R406]
492	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R407]
493	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R408]
494	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R409]
495	VRS-TS2AD271J	AA		C	Resistor(1/10W 270Ω ±5%)	[R410]
496	VRS-TS2AD471J	AA		C	Resistor(1/10W 470Ω ±5%)	[R411]
497	VRS-TS2AD471J	AA		C	Resistor(1/10W 470Ω ±5%)	[R412]
498	VRS-TS2AD271J	AA		C	Resistor(1/10W 270Ω ±5%)	[R413]
499	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%)	[R415]
500	VRS-TS2AD472J	AA		C	Resistor(1/10W 4.7KΩ ±5%)	[R416]
501	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%)	[R417]
502	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R419]
503	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%)	[R422]
504	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%)	[R423]
505	VRS-TS2AD330J	AA		C	Resistor(1/10W 33Ω ±5%)	[R424]
506	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%)	[R425]
507	VRS-TS2AD151J	AA		C	Resistor(1/10W 150Ω ±5%)	[R426]
508	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%)	[R427]
509	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%)	[R428]
510	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%)	[R429]
511	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%)	[R430]
512	VRS-TS2AD513J	AA		C	Resistor(1/10W 51KΩ ±5%)	[R431]
513	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R432]
514	VRS-TS2AD513J	AA		C	Resistor(1/10W 51KΩ ±5%)	[R433]
515	VRS-TS2AD332J	AA		C	Resistor(1/10W 3.3KΩ ±5%)	[R434]
516	RR-TZ3016SCZZ	AA	N	C	Resistor(33Ωx4)	[RA1]
517	RR-TZ3016SCZZ	AA		C	Resistor(33Ωx4)	[RA2]
518	RR-TZ3016SCZZ	AA		C	Resistor(33Ωx4)	[RA3]
519	RR-TZ3016SCZZ	AA		C	Resistor(33Ωx4)	[RA4]
520	RR-TZ3018SCZZ	AC	N	C	Block resistor(470Ωx4)	[RA14]
521	RR-TZ3018SCZZ	AC		C	Block resistor(470Ωx4)	[RA15]
522	RCRSZ2150XHZZ	AF	N	B	Crystal(24.32MHz)	[X1]
523	RCRSZ2158XHZZ	AF	N	B	Crystal(16.00MHz)	[X2]
524	RCRSZ2151XHZZ	AF	N	B	Crystal(20.31092MHz)	[X3]
525	RCRSQ2109SCZZ	AL		B	Crystal(38.00053MHz)	[X4]
526	RCRSZ2152XHZZ	AF	N	B	Crystal(19.6608MHz)	[X5]
527	RCRSP0074AFZZ	AE		B	Crystal(32.768kHz)	[X6]
	(Unit)					
901	DCEKC082MXHZZ	CE	N	E	Control PWB unit(Within ROM)	
[17] Liu PWB unit						
1	VHVRA391PV6-1	AE		B	Varistor(RA391PV6)	[AR1]
2	QTANZ2042SCZZ	AB		C	Terminal	[ARG]
3	RC-FZ3024SCZZ	AG		C	Capacitor(250WV 0.82μF)	[C1]
4	VCKYPU1HB103K	AA		C	Capacitor(50WV 0.010μF)	[C2]
5	VCKYPU1HF223Z	AA		C	Capacitor(50WV 0.022μF)	[C3]
6	VCEAGA1HW225M	AA		C	Capacitor(50WV 2.2μF)	[C5]
7	VCEAGA1HW105M	AB		C	Capacitor(50WV 1μF)	[C6]
8	VCKYPU1HB102K	AA		C	Capacitor(50WV 1000PF)	[C7]
9	VCQYNA1HM333K	AA		C	Capacitor(50WV 0.033μF)	[C8]
10	VCKYPU1HB102K	AA		C	Capacitor(50WV 1000PF)	[C9]
11	VCEAGA1HW475M	AA		C	Capacitor(50WV 4.7μF)	[C10]
12	VCEAGA1HW475M	AA		C	Capacitor(50WV 4.7μF)	[C11]
13	VCEAGA1HW475M	AA		C	Capacitor(50WV 4.7μF)	[C12]
14	VCKYPU1HB471K	AA		C	Capacitor(50WV 470PF)	[C15]
15	VCQYNA1HM333K	AA		C	Capacitor(50WV 0.033μF)	[C16]
16	VCEAGA1HW107M	AA		C	Capacitor(50WV 100μF)	[C18]
17	VCKYPU1HF223Z	AA		C	Capacitor(50WV 0.022μF)	[C19]
18	RRLYD3433XHZZ	AH	N	B	Relay	[CML]
19	QCNCW2500SC0I	AF		C	Connector(9pin)	[CNLIU]
20	VHDDSS133//-1	AA		B	Diode(1SS133)	[D1]
21	VHDDSS133//-1	AA		B	Diode(1SS133)	[D2]
22	VHINJM2904D-1	AG		B	IC,OP AMP.(NJM2904D)	[IC1]
23	VRD-HT2EY100J	AA		C	Resistor(1/4W 10W ±5%)	[J3]
24	QJAKZ2046SCBB	AH		C	Jack(2pin)	[MJI-2]
25	VHPTLP521-1BL	AE		B	Photo coupler(TLP521)	[PC1]
26	VHPTLP627//-1	AH		B	Photo coupler(TLP627)	[PC2]

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION	
[17] Liu PWB unit						
27	VHPPC814X//-1	AE		B	Photo transistor(PC814X)	[PC3]
28	VS2SD592A-S-1	AK		B	Transistor(2SD592A-S)	[Q1]
29	VS2SD1200FR-1	AE	N	B	Transistor(2SD1200FR)	[Q2]
30	VS2SA1807-P-1	AE		B	Transistor(2SA1807)	[Q3]
31	VSDTC114ES/-1	AB		B	Transistor(DTC114ES)	[Q4]
32	VSDTC114ES/-1	AB		B	Transistor(DTC114ES)	[Q5]
33	VRD-HT2EY224J	AA	N	C	Resistor(1/4W 220KΩ ±5%)	[R2]
34	VRD-HT2EY104J	AA		C	Resistor(1/4W 100KΩ ±5%)	[R3]
35	RR-HZ3011SCZZ	AC		C	Resistor(1/2W 4.7Ω ±5%)	[R4]
36	VRS-HT3AA133J	AB	N	C	Resistor(1W 13KΩ ±5%)	[R5]
37	VRD-HT2HY223J	AA		C	Resistor(1/2W 22KΩ ±5%)	[R6]
38	VRD-HT2EY124J	AA	N	C	Resistor(1/4W 120KΩ ±5%)	[R7]
39	VRD-HT2EY472J	AA		C	Resistor(1/4W 4.7KΩ ±5%)	[R8]
40	VRD-HT2EY183J	AA		C	Resistor(1/4W 18KΩ ±5%)	[R9]
41	VRD-HT2EY100J	AA		C	Resistor(1/4W 10Ω ±5%)	[R10]
42	VRD-HT2EY303J	AA		C	Resistor(1/4W 30KΩ ±5%)	[R11]
43	VRD-HT2EY910J	AA		C	Resistor(1/4W 91Ω ±5%)	[R12]
44	VRD-HT2EY300J	AA		C	Resistor(1/4W 30Ω ±5%)	[R13]
45	VRD-HT2EY201J	AA		C	Resistor(1/4W 200Ω ±5%)	[R14]
46	VRD-HT2EY621J	AA	N	C	Resistor(1/4W 620Ω ±5%)	[R15]
47	VRD-HT2EY621J	AA	N	C	Resistor(1/4W 620Ω ±5%)	[R16]
48	VRD-HT2EY223J	AA		C	Resistor(1/4W 22KΩ ±5%)	[R17]
49	VRD-HT2EY223J	AA		C	Resistor(1/4W 22KΩ ±5%)	[R18]
50	VRD-HT2EY751J	AA		C	Resistor(1/4W 750Ω ±5%)	[R19]
51	VRD-HT2EY223J	AA		C	Resistor(1/4W 22KΩ ±5%)	[R20]
52	VRD-HT2EY332J	AA		C	Resistor(1/4W 3.3KΩ ±5%)	[R21]
53	VRD-HT2EY223J	AA		C	Resistor(1/4W 22KΩ ±5%)	[R22]
54	VRD-HT2EY103J	AA		C	Resistor(1/4W 10KΩ ±5%)	[R24]
55	VRD-HT2EY103J	AA		C	Resistor(1/4W 10KΩ ±5%)	[R26]
56	VHD0R5G4B42-1S	AF		B	Bridge diode(0R5G4B42)	[REC]
⚠ 57	RTRNZ2163SCZZ	AH	N	B	Transformer	[T1]
58	VHVERZV5D471/	AC		B	Varistor(ERZVA5D471)	[VA1]
59	VHVERZV5D471/	AC		B	Varistor(ERZVA5D471)	[VA2]
60	VHVTN07G101-1	AB		B	Varistor(TNR7G101KT2)	[VA3]
61	VHEHZ2C1///-1	AA		B	Zener diode(HZ2C1-TA)	[ZD1]
62	VHEHZ2C1///-1	AA		B	Zener diode(HZ2C1-TA)	[ZD2]
63	VHEHZ27-1//-1	AB		B	Zener diode(HZ27C-1TA)	[ZD3]
64	VHE1ZC15///-1	AC	N	B	Zener diode(1ZC15)	[ZD4]
65	VHEMTZJ8R2B-1	AC		B	Zener diode(MTZJ8R2B)	[ZD5]
66	VHEHZ2C1///-1	AA		B	Zener diode(HZ2C1-TA)	[ZD6]
67	VHEHZ2C1///-1	AA		B	Zener diode(HZ2C1-TA)	[ZD7]
	(Unit)					
901	DCEKL471BXH01	AZ	N	E	LIU PWB unit	
[18] Printer PWB unit						
1	VCEAGA1VW476M	AB	N	C	Capacitor(35WV 47μF)	[C1]
2	VCEAGA1CW227M	AB		C	Capacitor(16WV 220μF)	[C2]
3	VCKYTV1EF103Z	AA	N	C	Capacitor(25WV 0.010μF)	[C100]
4	VCKYTV1EF103Z	AA	N	C	Capacitor(25WV 0.010μF)	[C101]
5	VCKYTV1EB821K	AC	N	C	Capacitor(25WV 820PF)	[C102]
6	VCKYTV1EF103Z	AA	N	C	Capacitor(25WV 0.010μF)	[C103]
7	VCKYTV1EB102K	AD	N	C	Capacitor(25WV 1000PF)	[C104]
8	VCKYTV1EF103Z	AA	N	C	Capacitor(25WV 0.010μF)	[C105]
9	VCKYTV1EF103Z	AA	N	C	Capacitor(25WV 0.010μF)	[C106]
10	VCKYTV1EF103Z	AA	N	C	Capacitor(25WV 0.010μF)	[C107]
11	VCKYTV1EF103Z	AA	N	C	Capacitor(25WV 0.010μF)	[C108]
12	VCKYTV1EF103Z	AA	N	C	Capacitor(25WV 0.010μF)	[C109]
13	VCKYTV1EF103Z	AA	N	C	Capacitor(25WV 0.010μF)	[C110]
14	VCKYTV1EF103Z	AA	N	C	Capacitor(25WV 0.010μF)	[C111]
15	VCKYTV1EF103Z	AA	N	C	Capacitor(25WV 0.010μF)	[C112]
16	VCKYTV1EF103Z	AA	N	C	Capacitor(25WV 0.010μF)	[C113]
17	VCKYTV1EF103Z	AA	N	C	Capacitor(25WV 0.010μF)	[C114]
18	VCKYTV1EB821K	AC	N	C	Capacitor(25WV 820PF)	[C115]
19	VCKYTV1EF103Z	AA	N	C	Capacitor(25WV 0.010μF)	[C116]
20	VCKYTV1HF104Z	AA		C	Capacitor(50WV 0.1μF)	[C119]
21	VCKYTV1EF103Z	AA	N	C	Capacitor(25WV 0.010μF)	[C120]
22	VCKYTV1EF103Z	AA	N	C	Capacitor(25WV 0.010μF)	[C121]
23	VCKYTV1EF103Z	AA	N	C	Capacitor(25WV 0.010μF)	[C122]
24	VCKYTV1EB102K	AD	N	C	Capacitor(25WV 1000PF)	[C123]
25	VCKYTV1EB102K	AD	N	C	Capacitor(25WV 1000PF)	[C125]
26	VCKYTV1EF103Z	AA	N	C	Capacitor(25WV 0.010μF)	[C126]
27	VCKYTV1EB102K	AD	N	C	Capacitor(25WV 1000PF)	[C127]
28	VCKYTV1CF105Z	AB		C	Capacitor(16WV 1μF)	[C129]
29	VCCCTV1HH180J	AA		C	Capacitor(50WV 18PF)	[C130]
30	VCCCTV1HH180J	AA		C	Capacitor(50WV 18PF)	[C131]
31	VCKYTV1HF104Z	AA		C	Capacitor(50WV 0.1μF)	[C132]
32	VCKYTV1EB821K	AC	N	C	Capacitor(25WV 820PF)	[C133]
33	VCKYTV1EF103Z	AA	N	C	Capacitor(25WV 0.010μF)	[C134]

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION	
[18] Printer PWB unit						
34	VCKYTV1EB102K	AD	N	C	Capacitor(25WV 1000PF)	[C137]
35	VCKYTV1EB102K	AD	N	C	Capacitor(25WV 1000PF)	[C138]
36	VCKYTV1EB102K	AD	N	C	Capacitor(25WV 1000PF)	[C139]
37	VCKYTV1EB102K	AD	N	C	Capacitor(25WV 1000PF)	[C140]
38	VCKYTV1EB821K	AC	N	C	Capacitor(25WV 820PF)	[C141]
39	VCKYTV1HF104Z	AA		C	Capacitor(50WV 0.1µF)	[C142]
40	VCKYTV1EF333Z	AB	N	C	Capacitor(25WV 0.033µF)	[C143]
41	VCKYTV1HF104Z	AA		C	Capacitor(50WV 0.1µF)	[C144]
42	VCKYTV1EB102K	AD	N	C	Capacitor(25WV 1000PF)	[C145]
43	RC-FZ3039XHZZ	AB	N	C	Capacitor	[C147]
44	VCKYTV1HF104Z	AA		C	Capacitor(50WV 0.1µF)	[C148]
45	VCKYTV1EB102K	AD	N	C	Capacitor(25WV 1000PF)	[C149]
46	VCKYTV1EB102K	AD	N	C	Capacitor(25WV 1000PF)	[C150]
47	VCKYTV1EF103Z	AA	N	C	Capacitor(25WV 0.010µF)	[C151]
48	QCNCW2527SC3J	AM	N	C	Connector(30pin)	[CN1]
49	QCNCM2484SC0B	AB		C	Connector(2pin)	[CN2]
50	QCNCM2584SC0B	AC	N	C	Connector(2pin)	[CN3]
51	QCNCM2584SC1A	AG	N	C	Connector(11pin)	[CN4]
52	QCNCM2584SC0G	AE	N	C	Connector(7pin)	[CN5]
53	QCNCM2584SC0D	AD	N	C	Connector(4pin)	[CN6]
54	QCNCM2484SC0H	AD	N	C	Connector(8pin)	[CN7]
55	QCNCM2584SC0C	AC	N	C	Connector(3pin)	[CN8]
56	QCNCM2584SC0E	AD	N	C	Connector(5pin)	[CN9]
57	QCNCM2498SC0B	AB	N	C	Connector(2pin)	[CN10]
58	QCNCM2584SC1C	AG	N	C	Connector(13pin)	[CN11]
59	QCNCM2498SC0D	AD	N	C	Connector(4pin)	[CN13]
60	QCNCM2401SC0D	AC		C	Connector(4pin)	[CN14]
61	QCNCM2585SC0D	AD	N	C	Connector(4pin)	[CN15]
62	VHD1SS226//-1	AB	N	B	Diode(1SS226)	[D100]
63	VHD1SS355//-1	AB		B	Diode(1SS355)	[D101]
64	VHVICPS18//-1	AE	N	B	Varistor	[F100]
65	LPLTM3029XHZZ	AF	N	C	Heat sink	[H1]
66	VHITEA3718SDP	BA	N	B	IC,MOTOR DRIVER(TEA3718SDP)	[IC1]
67	VHIM38073M/-1	BK	N	B	IC,CPU(M38073E4FP)	[IC2]
68	VHIULN2003ADR	AF	N	B	IC,TRANSISTOR ARRAY(ULN2003A)	[IC3]
69	VHITEA3718SDP	BA	N	B	IC,MOTOR DRIVER(TEA3718SDP)	[IC4]
70	VHI74VHC02F-1	AF	N	B	IC,HCMOS(74VHC02)	[IC5]
71	VSDTD123YK/-1	AC	N	B	Transistor(DTD123YK)	[Q100]
72	VSDTB114EK/-1	AD	N	B	Transistor(DTB114EK)	[Q101]
73	VSDTC114YU/-1	AC		B	Transistor(DTC114YU)	[Q102]
74	VSDTC114YU/-1	AC		B	Transistor(DTC114YU)	[Q103]
75	VSDTC114YU/-1	AC		B	Transistor(DTC114YU)	[Q104]
76	VRS-TS2AD472J	AA		C	Resistor(1/10W 4.7KΩ ±5%)	[R1]
77	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%)	[R2]
78	VRS-TW2HF1R3J	AC	N	C	Resistor(1/2W 1.3Ω ±5%)	[R100]
79	VRS-TW2HFR68J	AC	N	C	Resistor(1/2W 0.68Ω ±5%)	[R101]
80	VRS-TS2AD472J	AA		C	Resistor(1/10W 4.7KΩ ±5%)	[R102]
81	VRS-TS2AD563J	AA		C	Resistor(1/10W 56KΩ ±5%)	[R103]
82	VRS-TS2AD472J	AA		C	Resistor(1/10W 4.7KΩ ±5%)	[R104]
83	VRS-TS2AD472J	AA		C	Resistor(1/10W 4.7KΩ ±5%)	[R105]
84	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R106]
85	VRS-TS2AD472J	AA		C	Resistor(1/10W 4.7KΩ ±5%)	[R107]
86	VRS-TS2AD472J	AA		C	Resistor(1/10W 4.7KΩ ±5%)	[R108]
87	VRS-TW2EE221J	AB		C	Resistor(1/4W 220Ω ±5%)	[R109]
88	VRS-TS2AD473J	AA		C	Resistor(1/10W 47KΩ ±5%)	[R110]
89	VRS-TS2AD102J	AA		C	Resistor(1/10W 1KΩ ±5%)	[R111]
90	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R113]
91	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R114]
92	VRS-TS2AD393J	AA		C	Resistor(1/10W 39KΩ ±5%)	[R115]
93	VRS-TS2AD682J	AA		C	Resistor(1/10W 6.8KΩ ±5%)	[R116]
94	VRS-TS2AD472J	AA		C	Resistor(1/10W 4.7KΩ ±5%)	[R117]
95	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R118]
96	VRS-TS2AD472J	AA		C	Resistor(1/10W 4.7KΩ ±5%)	[R119]
97	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R120]
98	VRS-TW2EE100J	AB	N	C	Resistor(1/4W 10Ω ±5%)	[R121]
99	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R122]
100	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R123]
101	VRS-TS2AD302J	AA		C	Resistor(1/10W 3KΩ ±5%)	[R124]
102	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%)	[R125]
103	VRS-TW2HF1R3J	AC	N	C	Resistor(1/2W 1.3Ω ±5%)	[R126]
104	VRS-TS2AD102J	AA		C	Resistor(1/10W 1KΩ ±5%)	[R127]
105	VRS-TW2HFR68J	AC	N	C	Resistor(1/2W 0.68Ω ±5%)	[R128]
106	VRS-TS2AD563J	AA		C	Resistor(1/10W 56KΩ ±5%)	[R129]
107	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R130]
108	VRS-TS2AD222J	AA		C	Resistor(1/10W 2.2KΩ ±5%)	[R131]
109	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R134]
110	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R135]
111	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R136]
112	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R137]
113	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R138]

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION	
[18] Printer PWB unit						
114	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R139]
115	VRS-TS2AD820J	AA		C	Resistor(1/10W 82Ω ±5%)	[R140]
116	VRS-TS2AD272J	AA		C	Resistor(1/10W 2.7KΩ ±5%)	[R141]
117	VRS-TS2AD222F	AA	N	C	Resistor(1/10W 2.2KΩ ±1%)	[R142]
118	VRS-TS2AD472J	AA		C	Resistor(1/10W 4.7KΩ ±5%)	[R143]
119	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R144]
120	VRS-TS2AD222J	AA		C	Resistor(1/10W 2.2KΩ ±5%)	[R145]
121	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R146]
122	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R147]
123	VRS-TS2AD680J	AA		C	Resistor(1/10W 68Ω ±5%)	[R148]
124	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R151]
125	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R152]
126	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R153]
127	RR-TZ3019SCZZ	AA	N	C	Resistor	[RA1]
128	RR-TZ3019SCZZ	AA		C	Resistor	[RA2]
129	RVR-Z2004SCZZ	AD	N	B	Variable resistor	[VR1]
130	RCRSQ5030XHZZ	AF	N	B	Crystal(8MHz)	[X1]
	(Unit)					
901	DCEKC470BXH01	BR	N	E	Printer PWB unit	
[19] Power supply PWB unit						
1	LANGK8132PAZZ	AC	N	C	Bracket	
2	LANGK8223PAZZ	AE	N	C	SW bracket	
3	LANGK8224PAZZ	AE	N	C	Inlet bracket	
4	PRDAR0331PAZZ	AE		C	Heat sink	
5	PRDAR0570PAZZ	AK	N	C	Heat sink	
6	RCORF0071PAZZ	AB		C	Ferrite beads	[BJ2]
7	RC-FZ138DPAZZ	AE		C	Capacitor(250WV 0.22μF)	[C1]
8	RC-FZ137DPAZZ	AE		C	Capacitor(250WV 0.1μF)	[C2]
9	RC-QZ0173PAZZ	AC	N	C	Capacitor(125WV 1000PF)	[C3]
10	RC-QZ0173PAZZ	AC	N	C	Capacitor(125WV 1000PF)	[C4]
11	RC-QZ0176PAZZ	AD	N	C	Capacitor(125WV 4700PF)	[C5]
12	RC-EZ0425PAZZ	AR		C	Capacitor(200WV 470μF)	[C6]
13	RC-FZ137DPAZZ	AE		C	Capacitor(250WV 0.1μF)	[C7]
14	RC-KZ0074PAZZ	AB		C	Capacitor(500WV 470PF)	[C8]
15	RC-QZ0226PAZZ	AB	N	C	Capacitor(50WV 0.01μF)	[C9]
16	RC-QZ0227PAZZ	AB	N	C	Capacitor(50WV 3300PF)	[C10]
17	RC-QZS104PARK	AC	N	C	Capacitor(50WV 0.1μF)	[C13]
18	RC-QZS473PARK	AB	N	C	Capacitor(50WV 0.047μF)	[C14]
19	VCEAFU1VM108M	AF		C	Capacitor(35WV 1000μF)	[C15]
20	VCEAFU1HM105M	AC		C	Capacitor(50WV 1μF)	[C16]
21	VCEAFU1AM228M	AF		C	Capacitor(10WV 2200μF)	[C17]
22	RC-QZ0221PAZZ	AD		C	Capacitor(250WV 0.01μF)	[C19]
23	VCEAFU1HM105M	AC		C	Capacitor(50WV 1μF)	[C21]
24	QPLGZ0587PAZZ	AE	N	C	Connector(8pin)	[CN1]
25	QPLGZ0526PAZZ	AD	N	C	Connector(3pin)	[CN2]
26	QPLGJ2217YAZZ	AC	N	C	Connector(2pin)	[CN3]
27	QPLGJ2672YAZZ	AD	N	C	Connector(3pin)	[CN4]
28	QPLGZ0347PAZZ	AF	N	C	Connector(12pin)	[CN5]
29	QSOCA0030PAZZ	AG	N	C	AC socket	[CNAC]
30	VHD1SS244//-1	AC		B	Diode(1SS244)	[D1]
31	VHDFMXG12S/-1	AG		B	Diode(FMXG12S)	[D2]
32	VHDFMB-24M/-1	AF	N	B	Diode(FMB-24M)	[D3]
33	VHDERA2206/-1	AD		B	Diode(ERA22-06)	[D4]
34	VHD1SS270A/-1	AA		B	Diode(1SS270A)	[D5]
35	VHDD3SBA60/-1	AG		B	Diode(D3SBA60)	[DB2]
36	QFS-F0046PAZZ	AD	N	A	Fuse(125V 4A)	[FS1]
37	QFSHA0016PAZZ	AC	N	C	Fuse-holder	[FS1]
38	QFS-F0020PAZZ	AD	N	A	Fuse(125V 8A)	[FS2]
39	QFSHA0016PAZZ	AC	N	C	Fuse-holder	[FS2]
40	QFS-F0046PAZZ	AD	N	A	Fuse(125V 4A)	[FS3]
41	QFSHA0016PAZZ	AC	N	C	Fuse-holder	[FS3]
42	QFS-F0046PAZZ	AD	N	A	Fuse(125V 4A)	[FS4]
43	QFSHA0016PAZZ	AC	N	C	Fuse-holder	[FS4]
44	RH-IX0783PAZZ	AD		B	IC(L5431)	[IC1]
45	RH-IX1659PAZZ	AP	N	B	IC(PQ30RV21)	[IC2]
46	RTRNZ0577PACT	AK	N	C	Line-Filter	[L1]
47	VHVC271D10A-1	AD		B	Varistor(ENC271D-10A)	[NR1]
48	VHVC271D10A-1	AD		B	Varistor(ENC271D-10A)	[NR2]
49	VHVC271D10A-1	AD		B	Varistor(ENC271D-10A)	[NR3]
50	QSPGH0007PAZZ	AK	N	C	Varistor(DSA302A)	[NR4]
51	RH-PX0296PAZZ	AF		B	Photo coupler(PC817X2)	[PC1]
52	VHRS21MT2//-1	AK	N	B	Photo coupler(S21MT2)	[PC2]
53	VS2SC1213-C1A	AC		B	Transistor(2SC1213C)	[Q2]
54	VSDTC114ESA-1	AC	N	B	Transistor(DTC114ESA)	[Q3]
55	VSDTA114ESA-1	AC	N	B	Transistor(DTA114ESA)	[Q4]

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
[19] Power supply PWB unit					
56	VS2SK2185//-1	AL	N	B	Transistor(2SK2185) [Q10]
57	VRD-ST2CD474J	AA		C	Resistor(1/6W 470KΩ ±5%) [R1]
58	VRD-ST2CD274J	AB		C	Resistor(1/6W 270KΩ ±5%) [R4]
59	VRD-ST2CD274J	AB		C	Resistor(1/6W 270KΩ ±5%) [R5]
60	VRS-FT3DD220J	AC		C	Resistor(2W 22Ω ±5%) [R6]
61	VRD-ST2HF681J	AB		C	Resistor(1/2W 680Ω ±5%) [R8]
62	RR-NZ0065PAZZ	AB	N	C	Resistor(1/4W 3.9KΩ) [R9]
63	VRD-ST2CD223J	AA		C	Resistor(1/6W 22KΩ ±5%) [R10]
64	VRD-ST2CD473J	AA		C	Resistor(1/6W 47KΩ ±5%) [R11]
65	RR-XZ0065PAZZ	AC	N	C	Fusing resistor(1/6W 2.2Ω) [R12]
66	VRD-ST2CD122J	AA		C	Resistor(1/6W 1.2KΩ ±5%) [R13]
67	VRD-ST2CD331J	AA		C	Resistor(1/6W 330Ω ±5%) [R14]
68	VRD-ST2CD473J	AA		C	Resistor(1/6W 47KΩ ±5%) [R15]
69	VRD-ST2CD222J	AA		C	Resistor(1/6W 2.2KΩ ±5%) [R16]
70	VRD-ST2CD223J	AA		C	Resistor(1/6W 22KΩ ±5%) [R18]
71	RR-SZ0074PAZZ	AB	N	C	Resistor(2W 1KΩ) [R19]
72	RR-SZ0074PAZZ	AB	N	C	Resistor(2W 1KΩ) [R20]
73	VRD-ST2HF122J	AA		C	Resistor(1/2W 1.2KΩ ±5%) [R21]
74	VRD-ST2HF101J	AA		C	Resistor(1/2W 100Ω ±5%) [R22]
75	VRD-ST2HF104J	AA		C	Resistor(1/2W 100KΩ ±5%) [R24]
76	VRD-ST2CD183J	AA		C	Resistor(1/6W 18KΩ ±5%) [R25]
77	VRD-ST2CD222J	AA		C	Resistor(1/6W 2.2KΩ ±5%) [R26]
78	VRD-ST2CD222J	AA		C	Resistor(1/6W 2.2KΩ ±5%) [R27]
79	VRD-ST2CD222J	AA		C	Resistor(1/6W 2.2KΩ ±5%) [R28]
80	VRD-ST2CD330J	AA		C	Resistor(1/6W 33Ω ±5%) [R29]
81	VRD-ST2CD330J	AA		C	Resistor(1/6W 33Ω ±5%) [R30]
82	RR-XZ0078PAZZ	AC		C	Fusing resistor(1/6W 33Ω) [R35]
83	RR-XZ0076PAZZ	AC	N	C	Fusing resistor(1/6W 15Ω) [R41]
84	RR-SN2322PA6F	AB	N	C	Resistor(1/6W 23.2KΩ) [R51]
85	RR-NZ0064PAZZ	AB	N	C	Resistor(1/4W 1.2KΩ) [R52]
86	VRD-ST2CD124J	AB	N	C	Resistor(1/6W 120KΩ ±5%) [R62]
87	RRLYZ0101PAZZ	AK	N	B	Relay(SDT-SS-124DM) [RL1]
88	VHSTF321S//-1	AG		B	Thyristor(TF321S) [SCR1]
89	VHS03P2M///-3	AG	N	B	Thyristor(03P2M(L)) [SCR2]
90	QSW-C0048PAZZ	AN	N	C	Switch(AJ7220BK) [SW1]
91	RTRNZ0674PACD	AQ	N	B	Trans former [T1]
92	VHH11D8R0LA-1	AF	N	B	Thermistor(NTH11D8R0LA) [TH1]
93	VHSTM1241I/-1	AN	N	B	Thyristor(TM1241I) [TRC1]
94	RVR-M0390PAZZ	AD		C	Variable resistor [VR1]
95	VHEHZS6B2//-1	AC		B	Zener diode(HZS6B2) [ZD1]
96	VHEHZS15-3/-1	AC		B	Zener diode(HZS15-3) [ZD2]
97	VHEHZS6B2//-1	AC		B	Zener diode(HZS6B2) [ZD3]
98	VHEHZS27-3/-1	AC	N	B	Zener diode(HZS27-3) [ZD4]
99	VHEHZS36-1/-1	AC	N	B	Zener diode(HZS36-1) [ZD5]
100	QLUGZ0008PAZZ	AC	N	C	SW LUG
B1	LX-BZ0241PAZZ	AA		C	Screw(3x8)
B2	LX-BZ0254PAZZ	AB	N	C	Screw(3x6)
B3	LX-BZ0273PAZZ	AB	N	C	Screw(3x6)
B4	LX-BZ0427PAZZ	AB	N	C	Screw(3x14)
B5	XBSSN30P06000	AA		C	Screw(3x6)
	(Unit)				
⚠ 901	RDENT2135XHZZ	BM	N	E	Power supply PWB unit
[20] Operation panel PWB unit					
	(Unit)				
901	DCEKP496AXH03	BC	N	E	Operation panel PWB unit
[21] High voltage PWB unit					
	(Unit)				
901	0KW4109620201	BR	N	E	High voltage PWB unit
[22] Toner empty PWB unit					
	(Unit)				
901	0KW4122010202	BD	N	E	Toner empty PWB unit
[23] Option:Paper cassette PWB unit(FO-47UC)					
1	VCKYPA1HF223Z	AA		C	Capacitor(50WV 0.022µF) [C1]

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
[23] Option:Paper cassette PWB unit(FO-47UC)					
2	QCNCM7014SC0B	AD		C	Connector(2pin) [CN1]
3	QCNCM2584SC1C	AG	N	C	Connector(13pin) [CN2]
4	QCNCM7014SC1J	AC		C	Connector(10pin) [CN3]
5	QCNCM2498SC0E	AH	N	C	Connector(5pin) [CN4]
6	VHD1SR139-400	AB		B	Diode(1SR139-400) [D1]
7	VHISN74HC157N	AE	N	B	IC,TTL(74HC157) [IC1]
8	VHPSG206S//-1	AG		B	Photo transistor(SG206S) [PC1]
9	VRD-HT2EY153J	AA		C	Resistor(1/4W 15KΩ ±5%) [R1]
10	VRD-HT2EY181J	AA		C	Resistor(1/4W 180Ω ±5%) [R2]
11	VRD-HT2EY472J	AA		C	Resistor(1/4W 4.7KΩ ±5%) [R3]
12	VRD-HT2EY472J	AA		C	Resistor(1/4W 4.7KΩ ±5%) [R4]
13	VRD-HT2EY472J	AA		C	Resistor(1/4W 4.7KΩ ±5%) [R5]
14	VRD-HT2EY472J	AA		C	Resistor(1/4W 4.7KΩ ±5%) [R6]
15	VRD-HT2EY472J	AA		C	Resistor(1/4W 4.7KΩ ±5%) [R7]
16	VRD-HT2EY472J	AA		C	Resistor(1/4W 4.7KΩ ±5%) [R8]
	(Unit)				
901	DCEKZ472BXH01	AT	N	E	Option cassette PWB unit

■ I n d e x

PARTS CODE	No.	PRICE RANK	NEW MARK	PART RANK
[C]				
CBSHP2079SC02	7-1	AL	N	C
CCASP2107XH51	3-1	BF	N	E
〃	4-901	BF	N	E
CCASP2108XH01	13-901	BE	N	E
CCNW-4955XH01	1-1	AG	N	C
CFRM-2201XH01	7-901	AL	N	E
CGIDM2539XH01	5-901	AY	N	E
CPLTP2803XHC3	12-1	AV	N	C
CPLTP3009XH01	12-2	AR	N	C
CROLP2320XH01	2-1	AZ	N	C
CROLR2423XH01	14-2	AV	N	C
[D]				
DCEKC082MXHZZ	1-2	CE	N	E
〃	16-901	CE	N	E
DCEKC470BXH01	1-3	BR	N	E
〃	18-901	BR	N	E
DCEKL471BXH01	1-4	AZ	N	E
〃	17-901	AZ	N	E
DCEKP496AXH03	4-1	BC	N	E
〃	20-901	BC	N	E
DCEKZ472BXH01	14-3	AT	N	E
〃	23-901	AT	N	E
[G]				
GCABA2327XHSA	1-5	AQ	N	D
GCABB2328XHSA	1-6	AU	N	D
GCABC2329XHSA	1-7	AG	N	D
GCABD2330XHSA	1-8	AL	N	D
GCABE2331XHSA	1-9	AK	N	C
GCABG2333XHSA	14-4	AQ	N	C
GCABH2334XHSA	14-5	AN	N	C
GCASP2107XHZZ	4-2	AM	N	D
GCASP2108XHSA	13-1	AT	N	C
GCASP2109XHSA	13-2	AM	N	C
GCOVA2405XHSA	2-2	AK	N	C
GCOVA2406XHSA	15-1	AF	N	C
GCOVA2407XHSA	14-6	AH	N	C
GCOVA2408XHSA	1-10	AH	N	D
〃	14-7	AH	N	C
[H]				
HPNLC2390XHSA	1-11	AG	N	C
[J]				
JBTN-2184XHZZ	4-3	AK	N	C
JBTN-2185XHZZ	4-4	AH	N	C
JBTN-2187XHZZ	4-5	AE	N	C
JBTN-2189XHZC	4-6	AC	N	C
JBTN-2253XHSA	4-7	AC	N	C
JBTN-2254XHSA	4-8	AC	N	C
JBTN-2255XHSA	2-3	AD	N	C
[L]				
LANGF2819XHZZ	5-1	AF	N	C
LANGF2825XHZZ	14-8	AF	N	C
LANGK8132PAZZ	19-1	AC	N	C
LANGK8223PAZZ	19-2	AE	N	C
LANGK8224PAZZ	19-3	AE	N	C
LBNDJ2006XHZZ	1-12	AA		C
LBSHP2109XHZZ	14-9	AF	N	C
LBSHP2113XHZZ	7-2	AH	N	C
LFRM-2201XHZZ	7-3	AL	N	C
LFRM-2202XHZZ	1-13	AP	N	C
LFRM-2203XHZZ	1-14	AQ	N	C
LHLDW2158SCZZ	1-15	AC		C
LHLDW2182SCZZ	1-16	AC	N	C
LHLDW2183SCZZ	1-17	AD	N	C
〃	6-1	AD	N	C
LPINS2032XHZZ	14-10	AF	N	C
LPLTM3011XHZZ	5-2	AK	N	C
LPLTM3012XHZZ	7-4	AL	N	C
LPLTM3013XHZZ	6-2	AK	N	C
LPLTM3014XHZZ	1-18	AS	N	C
LPLTM3015XHZZ	1-19	AE	N	C
LPLTM3018XHZZ	1-20	AN	N	C
LPLTM3019XHZZ	2-4	AD	N	C
LPLTM3022XHZZ	13-3	AS	N	C
LPLTM3024XHZZ	14-1	AX	N	C
LPLTM3025XHZZ	14-12	AS	N	C
LPLTM3027XHZZ	14-13	AW	N	C
LPLTM3028XHZZ	14-14	AN	N	C
LPLTM3029XHZZ	18-65	AF	N	C
LPLTM3034XHZZ	1-21	AQ	N	C
LPLTM3036XHZZ	2-19	AH	N	C
LPLTM3037XHZZ	1-23	AD	N	C
LPLTP2819XHZZ	5-3	AD	N	C
LPLTP2821XHZZ	5-4	AD	N	C
LPLTP2823XHZZ	4-9	AF	N	C
LPLTP3016XHSA	1-24	AN	N	C
LPLTP3017XHSA	1-25	AH	N	C
LPLTP3021XHZZ	13-4	AF	N	C
LPLTP3023XHZZ	14-15	AF	N	C
LPLTP3044XHZZ	14-16	AF	N	C
LRALP2023XHZZ	14-17	AD	N	C
LRALP2024XHZZ	14-18	AD	N	C
LSTPP2052XHZZ	5-5	AD	N	C
LX-BZ0241PAZZ	19-B1	AA		C
LX-BZ0254PAZZ	19-B2	AB	N	C
LX-BZ0273PAZZ	19-B3	AB	N	C
LX-BZ0427PAZZ	19-B4	AB	N	C
LX-BZ2138XHZZ	2-B1	AB		C
LX-BZ2205XHZZ	1-B7	AC	N	C
〃	2-B2	AC		C
〃	5-B2	AC		C
〃	13-B2	AC		C
LX-BZ2240XHZZ	14-B5	AB	N	C
LX-BZ2241XHZZ	1-B8	AC	N	C
[M]				
MLEVP2304XHSA	5-6	AE	N	C
MLEVP2305XHZZ	2-5	AD	N	C
MLEVP2308XHZZ	14-19	AD	N	C
MLEVP2309XHZZ	14-20	AE	N	C
MLOK-2008XHZZ	14-21	AC	N	C
MSPRC2843XHZZ	5-7	AC		C
MSPRC2845XHZZ	5-8	AC		C
MSPRC3090XHZZ	2-7	AH	N	C
MSPRC3092XHZZ	13-5	AD	N	C
MSPRC3095XHZZ	14-23	AD	N	C
MSPRC3096XHZZ	14-24	AC	N	C
MSPRC3097XHZZ	14-25	AD	N	C
MSPRC3100XHZZ	2-8	AF	N	C
MSPRC3107XHZZ	5-10	AF	N	C
MSPRC3126XHZZ	5-11	AG	N	C
MSPRC3138XHZZ	7-5	AE	N	C
MSPRC3149XHZZ	2-6	AB	N	C
MSPRD3086XHZZ	7-6	AH	N	C
MSPRD3091XHZZ	2-9	AF	N	C
MSPRD3093XHZZ	14-22	AG	N	C
MSPRD3125XHZZ	13-6	AD	N	C
MSPRP2841XHZZ	7-7	AC	N	C
MSPRP3055XHFJ	1-26	AD	N	C
MSPRP3083XHZZ	5-12	AF	N	C
MSPRP3087XHZZ	7-8	AF	N	C
MSPRP3088XHZZ	7-9	AF	N	C
[N]				
NBRGP2128XHZA	7-10	AE	N	C
NBRGP2138XHZZ	7-11	AD	N	C
NBRGP2141XHZZ	7-12	AH		C
NGERH2319XHZZ	7-13	AD		C
NGERH2320XHZZ	7-14	AD		C
NGERH2322XHZZ	7-15	AC		C
NGERH2462XHZZ	7-16	AC	N	C
NGERH2463XHZZ	7-17	AC	N	C
NGERH2464XHZZ	6-3	AC	N	C
NGERH2465XHZZ	6-4	AC	N	C
NGERH2466XHZZ	1-27	AE	N	C
〃	2-10	AE	N	C
NGERH2469XHZZ	14-26	AC	N	C
NGERH2470XHZZ	14-27	AC	N	C
NGERH2471XHZZ	14-28	AE	N	C
NGERP2318XHZZ	2-11	AD		C
NROLP2332XHZZ	7-18	AD		C
NROLP2334XHZA	5-13	AC		C
〃	14-29	AC		C
NROLP2420XHZZ	1-28	AM	N	C
NROLP2421XHZZ	2-12	AM	N	C
NROLR2338XHZZ	7-20	AK	N	C
NROLR2417XHZZ	7-19	AH	N	C
NROLR2418XHZZ	7-21	AL	N	C
NROLR2419XHZZ	7-22	AK	N	C
NROLR2422XHZZ	14-30	AN	N	C
NSFTZ2306XHZZ	5-14	AD	N	C
NSFTZ2307XHZZ	7-23	AK	N	C
NSFTZ2308XHZZ	7-24	AL	N	C
NSFTZ2309XHZZ	14-31	AC	N	C
NSFTZ2312XHZZ	14-32	AC	N	C
[P]				
PBRS-2047SCZZ	5-15	AG		C
PBRS-2048XHZZ	7-25	AD	N	C
PCAPH2032XHZZ	13-7	AC	N	C
〃	14-11	AC	N	C
PCUSS2097XHZZ	4-10	AC	N	C
PCUSS2122XHZZ	1-29	AC	N	C
PCUSS2127XHZZ	2-20	AC		C
PCUSU2126XHZZ	1-35	AC	N	C
PGIDM2539XHZZ	5-16	AL	N	C
PGIDM2540XHZZ	5-17	AF	N	C
PGIDM2541XHSA	3-2	AK	N	C
PGIDM2542XHSA	1-30	AD	N	C
PGIDM2543XHSA	1-31	AD	N	C
PGIDM2544XHSA	2-13	AE	N	C
PGIDM2545XHSA	2-14	AC	N	C
PGIDM2546XHZZ	2-15	AH	N	C
PGIDM2547XHZZ	2-16	AK	N	C
PGIDM2549XHZZ	13-8	AQ	N	C
PGIDM2552XHZZ	14-33	AM	N	C
PGUMM2162XHZZ	5-18	AF	N	C
PLEGP2071XHZZ	1-32	AE	N	C
〃	14-34	AE	N	C
PMAGE2056XHZZ	14-35	AN	N	C
PRDAR0331PAZZ	19-4	AE		C
PRDAR0570PAZZ	19-5	AK	N	C
PSEL-2017XHZZ	13-9	AE	N	D
PSHEZ3410XHZZ	1-33	AB		C
PSHEZ3416XHSA	4-11	AH	N	C
PSHEZ3418XHZZ	5-9	AC	N	C
PSHEZ3419XHZZ	5-19	AB	N	C
PSHEZ3437XHZZ	14-36	AF	N	C
PSHEZ3449XHZL	13-10	AF	N	D
PSHEZ3449XHZR	13-11	AF	N	D
PSHEZ3455XHZZ	2-17	AF	N	C
PSHEZ3473XHZZ	1-47	AN	N	C
PSHEZ3474XHZZ	1-48	AF	N	C
PSHEZ3477XHZZ	14-41	AB	N	C
PSHEZ3478XHZZ	14-40	AB	N	C
PSHEZ3479XHZZ	7-36	AB		C
PSPO-2001XHZZ	1-34	AD	N	C
PSPO-2002XHZZ	13-12	AF	N	C
PSPO-2003XHZZ	13-13	AF	N	C
PSPO-2004XHZZ	13-14	AF	N	C
PSPO-2005XHZZ	13-15	AF	N	C
PSTM-2015SCZZ	7-34	AX		E
PTME-2060XHZZ	2-18	AF	N	C
PTME-2062XHZZ	13-16	AF	N	C
PTME-2063XHZZ	13-17	AF	N	C
PTME-2064XHZZ	13-18	AF	N	C
PTME-2067XHZZ	7-26	AK	N	C
[Q]				
QACCD7618QCZZ	12-19	AQ	N	C
QCNCM2401SC0B	16-160	AA		C
QCNCM2401SC0D	18-60	AC		C
QCNCM2482SC2D	16-156	AB		C
QCNCM2484SC0B	18-49	AB		C
QCNCM2484SC0H	18-54	AD	N	C
QCNCM2498SC0B	18-57	AB	N	C
QCNCM2498SC0D	18-59	AD	N	C
QCNCM2498SC0E	23-5	AH	N	C
QCNCM2499SC0I	16-153	AE	N	C
QCNCM2525SC3J	16-157	AH	N	C
QCNCM2525SC4J	16-155	AK	N	C
QCNCM2584SC0B	18-50	AC	N	C
QCNCM2584SC0C	18-55	AC	N	C
QCNCM2584SC0D	18-53	AD	N	C
QCNCM2584SC0E	18-56	AD	N	C
QCNCM2584SC0G	18-52	AE	N	C
QCNCM2584SC1A	18-51	AG	N	C
QCNCM2584SC1C	18-58	AG	N	C
〃	23-3	AG	N	C
QCNCM2585SC0D	18-61	AD	N	C
QCNCM2589SC5J	16-154	AL	N	C
QCNCM7014SC0B	16-161	AD		C
〃	23-2	AD		C
QCNCM7014SC0D	16-162	AB		C

PARTS CODE	No.	PRICE RANK	NEW MARK	PART RANK
QCNCM7014SC0H	16-159	AB		C
QCNCM7014SC1B	16-158	AD		C
QCNCM7014SC1J	16-152	AC	N	C
〃	23-4	AC		C
QCNCW2500SC0I	17-19	AF		C
QCNCW2527SC3J	18-48	AM	N	C
QCNW-4786XHGY	12-3	AL	N	C
QCNW-4949XHZZ	4-12	AR	N	C
QCNW-4950XHZZ	7-27	AF	N	C
QCNW-4952XHZZ	1-36	AF	N	C
QCNW-4953XHZZ	7-28	AK	N	C
QCNW-4956XHZZ	1-37	AK	N	C
QCNW-4957XHZZ	1-38	AL	N	C
QCNW-4960XHZZ	1-39	AD	N	C
QCNW-4962XHZZ	14-37	AF	N	C
QCNW-4964XHZZ	14-38	AF	N	C
QFS-F0020PAZZ	19-38	AD	N	A
QFS-F0046PAZZ	19-36	AD	N	A
〃	19-40	AD	N	A
〃	19-42	AD	N	A
QFSHA0016PAZZ	19-37	AC	N	C
〃	19-39	AC	N	C
〃	19-41	AC	N	C
〃	19-43	AC	N	C
QJAKZ2046SCBB	17-24	AH		C
QLUGZ0008PAZZ	19-100	AC	N	C
QPLGJ2217YAZZ	19-26	AC	N	C
QPLGJ2672YAZZ	19-27	AD	N	C
QPLGZ0347PAZZ	19-28	AF	N	C
QPLGZ0526PAZZ	19-25	AD	N	C
QPLGZ0587PAZZ	19-24	AE	N	C
QSOCA0030PAZZ	19-29	AG	N	C
QSOCZ2066SC42	16-202	AP	N	C
QSPGH0007PAZZ	19-50	AK	N	C
QSW-C0048PAZZ	19-90	AN	N	C
QSW-M2255SCZZ	1-40	AF	N	C
QSW-M2296XHZZ	1-41	AD	N	C
〃	7-29	AD	N	C
QSW-M2298XHZZ	7-30	AE	N	C
QSW-Z2237SCZZ	7-31	AE		B
QSW-Z2285SCZZ	1-42	AK	N	C
QSW-Z2286XHZZ	14-39	AH	N	C
QTANZ2042SCZZ	17-2	AB		C
[R]				
RC-EZ0425PAZZ	19-12	AR		C
RC-FZ137DPAZZ	19-8	AE		C
〃	19-13	AE		C
RC-FZ138DPAZZ	19-7	AE		C
RC-FZ3024SCZZ	17-3	AG		C
RC-FZ3039XHZZ	18-43	AB	N	C
RC-KZ0074PAZZ	19-14	AB		C
RC-QZS104PARK	19-17	AC	N	C
RC-QZS473PARK	19-18	AB	N	C
RC-QZ0173PAZZ	19-9	AC	N	C
〃	19-10	AC	N	C
RC-QZ0176PAZZ	19-11	AD	N	C
RC-QZ0221PAZZ	19-22	AD		C
RC-QZ0226PAZZ	19-15	AB	N	C
RC-QZ0227PAZZ	19-16	AB	N	C
RCORF0071PAZZ	19-6	AB		C
RCORF2124XHZZ	7-32	AE		B
RCORF2125XHZZ	3-3	AE		B
RCRSP0074AFZZ	16-527	AE		B
RCRSQ2109SCZZ	16-525	AL		B
RCRSQ5030XHZZ	18-130	AF	N	B
RCRSZ2150XHZZ	16-522	AF	N	B
RCRSZ2151XHZZ	16-524	AF	N	B
RCRSZ2152XHZZ	16-526	AF	N	B
RCRSZ2158XHZZ	16-523	AF	N	B
RDENT2135XHZZ	1-43	BM	N	E
〃	19-901	BM	N	E
RH-IX0783PAZZ	19-44	AD		B
RH-IX1659PAZZ	19-45	AP	N	B
RH-PX0296PAZZ	19-51	AF		B
RMOTZ2146XHZZ	6-5	AW	N	B
RR-HZ3011SCZZ	17-35	AC		C
RR-NZ0064PAZZ	19-85	AB	N	C
RR-NZ0065PAZZ	19-62	AB	N	C
RR-SN2322PA6F	19-84	AB	N	C
RR-SZ0074PAZZ	19-71	AB	N	C

PARTS CODE	No.	PRICE RANK	NEW MARK	PART RANK
RR-SZ0074PAZZ	19-72	AB	N	C
RR-TZ3016SCZZ	16-516	AA	N	C
〃	16-517	AA		C
〃	16-518	AA		C
〃	16-519	AA		C
RR-TZ3018SCZZ	16-520	AC	N	C
〃	16-521	AC		C
RR-TZ3019SCZZ	18-127	AA	N	C
〃	18-128	AA		C
RR-XZ0065PAZZ	19-65	AC	N	C
RR-XZ0076PAZZ	19-83	AC	N	C
RR-XZ0078PAZZ	19-82	AC		C
RRLYD3433XHZZ	17-18	AH	N	B
RRLYZ0101PAZZ	19-87	AK	N	B
RTRNZ0577PACT	19-46	AK	N	C
RTRNZ0674PACD	19-91	AQ	N	B
RTRNZ2163SCZZ	17-57	AH	N	B
RUNTZ2038SCA4	7-33	AZ	N	E
RVR-M0390PAZZ	19-94	AD		C
RVR-Z2004SCZZ	18-129	AD	N	B
[S]				
SPAKA006AXHZZ	12-20	AC		C
SPAKA120BXHZZ	15-2	AH	N	D
SPAKA121BXHZZ	15-3	AH	N	D
SPAKA129BXH01	12-4	AH	N	D
SPAKA129BXH02	12-5	AH	N	D
SPAKA130BXHZZ	12-6	AH	N	C
SPAKA146BXHZZ	15-4	AH	N	D
SPAKA166BXHZZ	12-22	AH	N	C
SPAKA229BXHZZ	15-12	AE	N	C
SPAKA230BXHZZ	15-13	AE	N	C
SPAKA241BXHZZ	12-21	AH	N	C
SPAKA505AXHZZ	12-7	AF	N	D
SPAKA506AXHZZ	12-8	AP	N	D
SPAKC122BXHZZ	15-5	AN	N	D
SPAKC508ASCZZ	12-9	AR	N	D
SPAKC508AXHZZ	12-9	AR	N	D
SPAKP123BXHZZ	15-6	AN	N	D
SPAKP261BXHZZ	12-10	AM	N	D
SSAKA0006UCZZ	15-7	AA		D
SSAKA1430QCZZ	12-11	AB		D
SSAKA2003XHZZ	12-12	AA		D
SSAKA2340QCZZ	15-8	AA		D
SSAKA2342QCZZ	15-9	AA		D
[T]				
TINSE3926XHZZ	12-13	AS	N	D
TINSE4011XHZZ	15-10	AQ	N	D
TLABH262AXHZZ	1-44	AE	N	D
TLABH263AXHZZ	13-19	AE	N	D
TLABH4813XHSA	12-14	AE	N	D
TLABH4815XHSA	13-20	AE	N	D
TLABM2506XHZZ	12-15	AB	N	D
〃	15-11	AB	N	D
TLABM4804XHZZ	12-16	AA	N	D
TLABN1235CCZZ	1-45	AA		D
TLABP3078SCZZ	1-46	AA		D
TLABP3937XHZZ	12-17	AD	N	D
TLABS4812XHZZ	1-22	AC	N	D
TLABZ3935XHZZ	12-18	AF	N	D
[U]				
UBATL2071XHZZ	16-1	AL	N	B
UINK-2009SC01	7-35	BA		C
[V]				
VCCCTV1HH100D	16-91	AA		C
〃	16-94	AA		C
〃	16-117	AA		C
〃	16-118	AA		C
VCCCTV1HH101J	16-65	AA		C
〃	16-151	AA		C
VCCCTV1HH120J	16-47	AA		C
〃	16-75	AA		C
〃	16-135	AA		C
VCCCTV1HH150J	16-59	AA		C
VCCCTV1HH180J	16-28	AA		C
〃	16-36	AA		C
〃	16-136	AA		C
〃	18-29	AA		C
〃	18-30	AA		C
VCCCTV1HH200J	16-112	AA		C
VCCCTV1HH270J	16-111	AC		C

PARTS CODE	No.	PRICE RANK	NEW MARK	PART RANK
VCCCTV1HH300J	16-63	AA		C
〃	16-70	AA		C
VCCSTV1HL102J	16-64	AA		C
〃	16-126	AA		C
VCCSTV1HL331J	16-39	AA		C
〃	16-41	AA		C
〃	16-52	AA		C
〃	16-130	AA		C
〃	16-149	AA		C
VCCSTV1HL391J	16-122	AA		C
VCCSTV1HL471J	16-38	AC	N	C
〃	16-40	AC	N	C
VCCSTV1HL681J	16-127	AB		C
VCEAEA1CW336M	16-10	AB		C
〃	16-11	AB		C
〃	16-13	AB		C
VCEAEA1VW476M	16-12	AH		C
VCEAFU1AM228M	19-21	AF		C
VCEAFU1HM105M	19-20	AC		C
〃	19-23	AC		C
VCEAFU1VM108M	19-19	AF		C
VCEAGA1CW227M	18-2	AB		C
VCEAGA1CW476M	16-3	AB		C
〃	16-4	AB		C
〃	16-9	AB		C
VCEAGA1EW106M	16-5	AA	N	C
VCEAGA1EW226M	16-6	AB		C
VCEAGA1HW105M	16-8	AB		C
〃	17-7	AB		C
VCEAGA1HW107M	16-2	AA		C
〃	17-16	AA		C
VCEAGA1HW225M	17-6	AA		C
VCEAGA1HW475M	16-7	AA		C
〃	17-11	AA		C
〃	17-12	AA		C
〃	17-13	AA		C
VCEAGA1VW476M	18-1	AB	N	C
VCKYPA1HF223Z	23-1	AA		C
VCKYPU1HB102K	17-8	AA		C
〃	17-10	AA		C
VCKYPU1HB103K	17-4	AA		C
VCKYPU1HB471K	17-14	AA		C
VCKYPU1HF223Z	17-5	AA		C
〃	17-17	AA		C
VCKYTV1CF105Z	16-17	AB		C
〃	16-61	AB		C
〃	16-62	AB		C
〃	16-67	AB		C
〃	16-92	AB		C
〃	16-93	AB		C
〃	16-95	AB		C
〃	16-101	AB		C
〃	16-124	AB		C
〃	16-128	AB		C
〃	16-129	AB		C
〃	16-133	AB		C
〃	16-148	AB		C
〃	18-28	AB		C
VCKYTV1EB102K	18-7	AD	N	C
〃	18-24	AD	N	C
〃	18-25	AD	N	C
〃	18-27	AD	N	C
〃	18-34	AD	N	C
〃	18-35	AD	N	C
〃	18-36	AD	N	C
〃	18-37	AD	N	C
〃	18-42	AD	N	C
〃	18-45	AD	N	C
〃	18-46	AD	N	C
VCKYTV1EB104K	16-96	AA		C
〃	16-98	AA		C
〃	16-121	AA		C
〃	16-131	AA		C
VCKYTV1EB821K	18-5	AC	N	C
〃	18-18	AC	N	C
〃	18-32	AC	N	C
〃	18-38	AC	N	C
VCKYTV1EF103Z	18-3	AA	N	C
〃	18-4	AA	N	C
〃	18-6	AA	N	C

PARTS CODE	No.	PRICE RANK	NEW MARK	PART RANK
VCKYTV1EF103Z	18-8	AA	N	C
〃	18-9	AA	N	C
〃	18-10	AA	N	C
〃	18-11	AA	N	C
〃	18-12	AA	N	C
〃	18-13	AA	N	C
〃	18-14	AA	N	C
〃	18-15	AA	N	C
〃	18-16	AA	N	C
〃	18-17	AA	N	C
〃	18-19	AA	N	C
〃	18-21	AA	N	C
〃	18-22	AA	N	C
〃	18-23	AA	N	C
〃	18-26	AA	N	C
〃	18-33	AA	N	C
〃	18-47	AA	N	C
VCKYTV1EF104Z	16-14	AA		C
〃	16-15	AA		C
〃	16-16	AA		C
〃	16-18	AA		C
〃	16-20	AA		C
〃	16-21	AA		C
〃	16-22	AA		C
〃	16-25	AA		C
〃	16-26	AA		C
〃	16-27	AA		C
〃	16-29	AA		C
〃	16-30	AA		C
〃	16-31	AA		C
〃	16-32	AA		C
〃	16-34	AA		C
〃	16-37	AA		C
〃	16-42	AA		C
〃	16-43	AA		C
〃	16-44	AA		C
〃	16-45	AA		C
〃	16-46	AA		C
〃	16-48	AA		C
〃	16-53	AA		C
〃	16-54	AA		C
〃	16-56	AA		C
〃	16-58	AA		C
〃	16-66	AA		C
〃	16-68	AA		C
〃	16-69	AA		C
〃	16-71	AA		C
〃	16-72	AA		C
〃	16-73	AA		C
〃	16-76	AA		C
〃	16-77	AA		C
〃	16-78	AA		C
〃	16-79	AA		C
〃	16-81	AA		C
〃	16-82	AA		C
〃	16-83	AA		C
〃	16-84	AA		C
〃	16-88	AA		C
〃	16-90	AA		C
〃	16-97	AA		C
〃	16-100	AA		C
〃	16-102	AA		C
〃	16-104	AA		C
〃	16-109	AA		C
〃	16-110	AA		C
〃	16-113	AA		C
〃	16-115	AA		C
〃	16-116	AA		C
〃	16-119	AA		C
〃	16-123	AA		C
〃	16-132	AA		C
〃	16-134	AA		C
〃	16-138	AA		C
〃	16-139	AA		C
〃	16-150	AA		C
VCKYTV1EF333Z	18-40	AB	N	C
VCKYTV1HB102K	16-51	AA		C
〃	16-80	AA		C
〃	16-147	AA		C
VCKYTV1HB103K	16-87	AB		C

PARTS CODE	No.	PRICE RANK	NEW MARK	PART RANK
VCKYTV1HB222K	16-23	AA		C
〃	16-24	AA		C
〃	16-49	AA		C
〃	16-50	AA		C
〃	16-57	AA		C
〃	16-60	AA		C
〃	16-74	AA		C
〃	16-85	AA		C
〃	16-86	AA		C
〃	16-89	AA		C
〃	16-103	AA		C
〃	16-105	AA		C
〃	16-106	AA		C
〃	16-107	AA		C
〃	16-108	AA		C
〃	16-114	AA		C
〃	16-120	AA		C
〃	16-140	AA		C
〃	16-141	AA		C
〃	16-142	AA		C
〃	16-143	AA		C
〃	16-144	AA		C
〃	16-145	AA		C
〃	16-146	AA		C
VCKYTV1HB472K	16-99	AA		C
VCKYTV1HF103Z	16-33	AA	N	C
〃	16-35	AA	N	C
VCKYTV1HF104Z	16-19	AA	N	C
〃	16-125	AA		C
〃	16-137	AA		C
〃	18-20	AA		C
〃	18-31	AA		C
〃	18-39	AA		C
〃	18-41	AA		C
〃	18-44	AA		C
VCQYNA1HM333K	17-9	AA		C
〃	17-15	AA		C
VHDDAP202U/-1	16-167	AB		B
VHDDA204K//-1	16-168	AC		B
〃	16-180	AC		B
VHDDSS133//-1	17-20	AA		B
〃	17-21	AA		B
VHDD3SBA60/-1	19-35	AG		B
VHDERA2206/-1	19-33	AD		B
VHDFMB-24M/-1	19-32	AF	N	B
VHDFMXG12S/-1	19-31	AG		B
VHDHRW0502A-1	16-170	AD		B
〃	16-171	AD		B
〃	16-172	AD		B
〃	16-173	AD		B
〃	16-174	AD		B
〃	16-175	AD		B
〃	16-176	AD		B
〃	16-177	AD		B
〃	16-178	AD		B
〃	16-179	AD		B
〃	16-181	AD		B
〃	16-182	AD		B
〃	16-183	AD		B
〃	16-184	AD		B
〃	16-185	AD		B
〃	16-186	AD		B
〃	16-187	AD		B
〃	16-188	AD		B
〃	16-189	AD		B
〃	16-190	AD		B
〃	16-191	AD		B
〃	16-192	AD		B
〃	16-194	AD		B
〃	16-196	AD		B
VHDSR104///-1	16-163	AF	N	B
〃	16-164	AF	N	B
〃	16-165	AF	N	B
〃	16-166	AF	N	B
VHD0R5G4B42-1S	17-56	AF		B
VHD1SR139-400	23-6	AB		B
VHD1SS226//-1	18-62	AB	N	B
VHD1SS244//-1	19-30	AC		B
VHD1SS270A/-1	19-34	AA		B
VHD1SS355//-1	16-169	AB		B

PARTS CODE	No.	PRICE RANK	NEW MARK	PART RANK
VHD1SS355//-1	16-193	AB		B
〃	16-195	AB		B
〃	18-63	AB		B
VHEHZS15-3/-1	19-96	AC		B
VHEHZS27-3/-1	19-98	AC	N	B
VHEHZS36-1/-1	19-99	AC	N	B
VHEHZS6B2//-1	19-95	AC		B
〃	19-97	AC		B
VHEHZ2C1///-1	17-61	AA		B
〃	17-62	AA		B
〃	17-66	AA		B
〃	17-67	AA		B
VHEHZ27-1//-1	17-63	AB		B
VHEMTZJ8R2B-1	17-65	AC		B
VHE1ZC15///-1	17-64	AC	N	B
VHH11D8R0LA-1	19-92	AF	N	B
VHIAD8051//-1	16-235	AN		B
VHIBA10393F-1	16-210	AC	N	B
VHIBU4066BCF1	16-199	AD		B
VHIHCF4053M1T	16-223	AG		B
VHIHD7021606A	16-225	BE	N	B
VHIHD74HC04FM	16-204	AC	N	B
VHIHD74HC08FM	16-224	AF	N	B
〃	16-226	AF	N	B
VHIHD74HC14FM	16-221	AF		B
〃	16-230	AF		B
VHIHD74HC157F	16-207	AH	N	B
VHIHD74HC32FM	16-212	AC		B
VHIHD74HC74FM	16-218	AD	N	B
VHIHD74LS244F	16-219	AF	N	B
VHIHD74LS374F	16-217	AF	N	B
VHIHD74LV08T1	16-214	AE	N	B
VHIHD813201F1	16-211	BE		B
VHILB1845//-1	16-206	AY		B
VHILC82103/-1	16-205	BA		B
VHILH5116NA10	16-201	AL		B
VHILR38292/-1	16-209	AY		B
VHILZ9FJ59/-1	16-216	AX	N	B
VHIM2716FAA0A	16-203	BN	N	B
VHIM38073M/-1	18-67	BK	N	B
VHINJM2113M-1	16-229	AG		B
VHINJM2902M-1	16-228	AF		B
VHINJM2904D-1	17-22	AG		B
VHINJM2904M-1	16-200	AE		B
VHIPST596CMT1	16-233	AF		B
VHIR144AFXL/1	16-222	BM		B
VHISM8578BV-1	16-227	AK	N	B
VHISN74HC157N	23-7	AE	N	B
VHITC7S00FU-1	16-234	AE		B
VHITC74HCU04F	16-236	AE		B
VHITEA3718SDP	18-66	BA	N	B
〃	18-69	BA	N	B
VHIULN2003ADR	18-68	AF	N	B
VHIW24010S7LE	16-220	AZ	N	B
〃	16-232	AZ		B
VHI1M16E//J-6	16-208	AZ		B
〃	16-215	AZ		B
VHI74VHC02F-1	18-70	AF	N	B
VHI74VHC04F-1	16-213	AE	N	B
VHI74VHC393FT	16-231	AK	N	B
VHPPC814X//-1	17-27	AE		B
VHPSG206S//-1	23-8	AG		B
VHPTLP521-1BL	17-25	AE		B
VHPTLP627//-1	17-26	AH		B
VHRS21MT2//-1	19-52	AK	N	B
VHSTF321S//-1	19-88	AG		B
VHSTM1241I/-1	19-93	AN	N	B
VHS03P2M///-3	19-89	AG	N	B
VHVC271D10A-1	19-47	AD		B
〃	19-48	AD		B
〃	19-49	AD		B
VHVERZV5D471/	17-58	AC		B
〃	17-59	AC		B
VHVICPS10//-1	16-197	AG		B
VHVICPS18//-1	16-198	AE	N	B
〃	18-64	AE	N	B
VHVRA391PV6-1	17-1	AE		B
VHVTN07G101-1	17-60	AB		B
VRD-HT2EY100J	16-254	AA		C
〃	17-23	AA		C

PARTS CODE	No.	PRICE RANK	NEW MARK	PART RANK
VRD-HT2EY100J	17-41	AA		C
VRD-HT2EY103J	17-54	AA		C
″	17-55	AA		C
VRD-HT2EY104J	17-34	AA		C
VRD-HT2EY124J	17-38	AA	N	C
VRD-HT2EY153J	23-9	AA		C
VRD-HT2EY181J	23-10	AA		C
VRD-HT2EY183J	17-40	AA		C
VRD-HT2EY201J	17-45	AA		C
VRD-HT2EY223J	17-48	AA		C
″	17-49	AA		C
″	17-51	AA		C
″	17-53	AA		C
VRD-HT2EY224J	17-33	AA	N	C
VRD-HT2EY300J	17-44	AA		C
VRD-HT2EY303J	17-42	AA		C
VRD-HT2EY332J	16-486	AA		C
″	17-52	AA		C
VRD-HT2EY472J	17-39	AA		C
″	23-11	AA		C
″	23-12	AA		C
″	23-13	AA		C
″	23-14	AA		C
″	23-15	AA		C
″	23-16	AA		C
VRD-HT2EY621J	17-46	AA	N	C
″	17-47	AA	N	C
VRD-HT2EY751J	17-50	AA		C
VRD-HT2EY910J	17-43	AA		C
VRD-HT2HY223J	17-37	AA		C
VRD-ST2CD122J	19-66	AA		C
VRD-ST2CD124J	19-86	AB	N	C
VRD-ST2CD183J	19-76	AA		C
VRD-ST2CD222J	19-69	AA		C
″	19-77	AA		C
″	19-78	AA		C
″	19-79	AA		C
VRD-ST2CD223J	19-63	AA		C
″	19-70	AA		C
VRD-ST2CD274J	19-58	AB		C
″	19-59	AB		C
VRD-ST2CD330J	19-80	AA		C
″	19-81	AA		C
VRD-ST2CD331J	19-67	AA		C
VRD-ST2CD473J	19-64	AA		C
″	19-68	AA		C
VRD-ST2CD474J	19-57	AA		C
VRD-ST2HF101J	19-74	AA		C
VRD-ST2HF104J	19-75	AA		C
VRD-ST2HF122J	19-73	AA		C
VRD-ST2HF681J	19-61	AB		C
VRS-FT3DD220J	19-60	AC		C
VRS-HT3AAR47J	16-252	AC	N	C
″	16-253	AC	N	C
VRS-HT3AA133J	17-36	AB	N	C
VRS-TP2BD000J	16-474	AA		C
VRS-TP2BD200J	16-456	AA		C
VRS-TP2BD222J	16-258	AA		C
VRS-TS2AD000J	16-237	AA		C
″	16-238	AA		C
″	16-239	AA		C
″	16-241	AA		C
″	16-242	AA		C
″	16-256	AA		C
″	16-257	AA		C
″	16-259	AA		C
″	16-275	AA		C
″	16-278	AA		C
″	16-279	AA		C
″	16-280	AA		C
″	16-281	AA		C
″	16-282	AA		C
″	16-284	AA		C
″	16-286	AA		C
″	16-287	AA		C
″	16-288	AA		C
″	16-310	AA		C
″	16-312	AA		C
″	16-327	AA		C
″	16-328	AA		C

PARTS CODE	No.	PRICE RANK	NEW MARK	PART RANK
VRS-TS2AD000J	16-329	AA		C
″	16-330	AA		C
″	16-331	AA		C
″	16-334	AA		C
″	16-339	AA		C
″	16-357	AA		C
″	16-360	AA		C
″	16-361	AA		C
″	16-362	AA		C
″	16-363	AA		C
″	16-364	AA		C
″	16-366	AA		C
″	16-368	AA		C
″	16-369	AA		C
″	16-370	AA		C
″	16-373	AA		C
″	16-375	AA		C
″	16-389	AA		C
″	16-390	AA		C
″	16-391	AA		C
″	16-393	AA		C
″	16-394	AA		C
″	16-402	AA		C
″	16-403	AA		C
″	16-414	AA		C
″	16-423	AA		C
″	16-425	AA		C
″	16-432	AA		C
″	16-445	AA		C
″	16-459	AA		C
″	16-478	AA		C
″	16-479	AA		C
″	16-487	AA		C
″	16-488	AA		C
″	16-499	AA		C
″	16-501	AA		C
″	16-503	AA		C
″	16-504	AA		C
″	16-506	AA		C
″	16-508	AA		C
″	16-509	AA		C
″	16-510	AA		C
″	16-511	AA		C
″	18-77	AA		C
″	18-102	AA		C
VRS-TS2AD100J	16-55	AA		C
″	16-240	AA		C
″	16-267	AA		C
″	16-268	AA		C
″	16-404	AA		C
″	16-405	AA		C
″	16-406	AA		C
″	16-407	AA		C
″	16-408	AA		C
″	16-409	AA		C
″	16-410	AA		C
″	16-411	AA		C
″	16-433	AA		C
″	16-434	AA		C
″	16-441	AA		C
″	16-442	AA		C
″	16-443	AA		C
″	16-444	AA		C
″	16-447	AA		C
″	16-448	AA		C
″	16-449	AA		C
″	16-450	AA		C
″	16-451	AA		C
″	16-453	AA		C
″	16-454	AA		C
″	16-489	AA		C
VRS-TS2AD101J	16-264	AA		C
″	16-265	AA		C
″	16-325	AA		C
″	16-326	AA		C
″	16-344	AA		C
″	16-384	AA		C
″	16-385	AA		C
″	16-396	AA		C
″	16-473	AA		C

PARTS CODE	No.	PRICE RANK	NEW MARK	PART RANK
VRS-TS2AD101J	16-490	AA		C
VRS-TS2AD102J	16-283	AA		C
″	16-293	AA		C
″	16-296	AA		C
″	16-300	AA		C
″	16-335	AA		C
″	16-420	AA		C
″	16-470	AA		C
″	16-471	AA		C
″	16-477	AA		C
″	18-89	AA		C
″	18-104	AA		C
VRS-TS2AD103J	16-255	AA		C
″	16-262	AA		C
″	16-263	AA		C
″	16-269	AA		C
″	16-273	AA		C
″	16-315	AA		C
″	16-317	AA		C
″	16-319	AA		C
″	16-321	AA		C
″	16-322	AA		C
″	16-323	AA		C
″	16-337	AA		C
″	16-356	AA		C
″	16-365	AA		C
″	16-367	AA		C
″	16-371	AA		C
″	16-372	AA		C
″	16-376	AA		C
″	16-377	AA		C
″	16-378	AA		C
″	16-379	AA		C
″	16-382	AA		C
″	16-397	AA		C
″	16-398	AA		C
″	16-399	AA		C
″	16-400	AA		C
″	16-401	AA		C
″	16-412	AA		C
″	16-416	AA		C
″	16-417	AA		C
″	16-422	AA		C
″	16-435	AA		C
″	16-436	AA		C
″	16-437	AA		C
″	16-439	AA		C
″	16-455	AA		C
″	16-463	AA		C
″	16-466	AA		C
″	16-468	AA		C
″	16-480	AA		C
″	16-481	AA		C
″	16-482	AA		C
″	16-491	AA		C
″	16-492	AA		C
″	16-493	AA		C
″	16-494	AA		C
″	16-502	AA		C
″	16-513	AA		C
″	18-84	AA		C
″	18-90	AA		C
″	18-91	AA		C
″	18-95	AA		C
″	18-97	AA		C
″	18-99	AA		C
″	18-100	AA		C
″	18-107	AA		C
″	18-109	AA		C
″	18-110	AA		C
″	18-111	AA		C
″	18-112	AA		C
″	18-113	AA		C
″	18-114	AA		C
″	18-119	AA		C
″	18-121	AA		C
″	18-122	AA		C
″	18-124	AA		C
″	18-125	AA		C
″	18-126	AA		C

PARTS CODE	No.	PRICE RANK	NEW MARK	PART RANK
VRS-TS2AD104J	16-467	AA		C
VRS-TS2AD105J	16-266	AA		C
〃	16-285	AA		C
〃	16-349	AA		C
VRS-TS2AD151J	16-351	AA		C
〃	16-352	AA		C
〃	16-353	AA		C
〃	16-354	AA		C
〃	16-355	AA		C
〃	16-507	AA		C
VRS-TS2AD154J	16-464	AA		C
VRS-TS2AD182J	16-276	AA		C
VRS-TS2AD203J	16-381	AA		C
〃	16-418	AA		C
〃	16-419	AA		C
VRS-TS2AD222F	18-117	AA	N	C
VRS-TS2AD222J	16-392	AA		C
〃	18-108	AA		C
〃	18-120	AA		C
VRS-TS2AD223F	16-289	AA		C
VRS-TS2AD271J	16-260	AA		C
〃	16-270	AA		C
〃	16-272	AA		C
〃	16-301	AA		C
〃	16-302	AA		C
〃	16-303	AA		C
〃	16-304	AA		C
〃	16-305	AA		C
〃	16-306	AA		C
〃	16-307	AA		C
〃	16-308	AA		C
〃	16-311	AA		C
〃	16-313	AA		C
〃	16-314	AA		C
〃	16-318	AA		C
〃	16-345	AA		C
〃	16-358	AA		C
〃	16-359	AA		C
〃	16-495	AA		C
〃	16-498	AA		C
VRS-TS2AD272J	18-116	AA		C
VRS-TS2AD302J	16-277	AA		C
〃	16-309	AA		C
〃	16-457	AA		C
〃	16-465	AA		C
〃	18-101	AA		C
VRS-TS2AD330J	16-261	AA		C
〃	16-297	AA		C
〃	16-298	AA		C
〃	16-340	AA		C
〃	16-505	AA		C
VRS-TS2AD331J	16-336	AA		C
VRS-TS2AD332J	16-271	AA		C
〃	16-299	AA		C
〃	16-346	AA		C
〃	16-347	AA		C
〃	16-348	AA		C
〃	16-461	AA		C
〃	16-515	AA		C
VRS-TS2AD333F	16-291	AB		C
VRS-TS2AD333J	16-383	AA		C
〃	16-421	AA		C
〃	16-472	AA		C
VRS-TS2AD391J	16-395	AA		C
VRS-TS2AD393F	16-292	AA		C
VRS-TS2AD393J	18-92	AA		C
VRS-TS2AD471J	16-469	AA		C
〃	16-496	AA		C
〃	16-497	AA		C
VRS-TS2AD472J	16-294	AA		C
〃	16-320	AA		C
〃	16-324	AA		C
〃	16-332	AA		C
〃	16-333	AA		C
〃	16-338	AA		C
〃	16-341	AA		C
〃	16-342	AA		C
〃	16-343	AA		C
〃	16-374	AA		C
〃	16-380	AA		C

PARTS CODE	No.	PRICE RANK	NEW MARK	PART RANK
VRS-TS2AD472J	16-386	AA		C
〃	16-387	AA		C
〃	16-388	AA		C
〃	16-424	AA		C
〃	16-426	AA		C
〃	16-428	AA		C
〃	16-429	AA		C
〃	16-430	AA		C
〃	16-431	AA		C
〃	16-438	AA		C
〃	16-475	AA		C
〃	16-476	AA		C
〃	16-483	AA		C
〃	16-484	AA		C
〃	16-485	AA		C
〃	16-500	AA		C
〃	18-76	AA		C
〃	18-80	AA		C
〃	18-82	AA		C
〃	18-83	AA		C
〃	18-85	AA		C
〃	18-86	AA		C
〃	18-94	AA		C
〃	18-96	AA		C
〃	18-118	AA		C
VRS-TS2AD473J	16-446	AA		C
〃	18-88	AA		C
VRS-TS2AD513J	16-512	AA		C
〃	16-514	AA		C
VRS-TS2AD561J	16-350	AA		C
〃	16-427	AA		C
VRS-TS2AD562J	16-274	AA		C
〃	16-316	AA		C
〃	16-440	AA		C
VRS-TS2AD563F	16-290	AA		C
〃	16-295	AA		C
VRS-TS2AD563J	18-81	AA		C
〃	18-106	AA		C
VRS-TS2AD680J	18-123	AA		C
VRS-TS2AD682J	18-93	AA		C
VRS-TS2AD683J	16-413	AA		C
〃	16-415	AA		C
VRS-TS2AD820J	18-115	AA		C
VRS-TW2EE100J	18-98	AB	N	C
VRS-TW2EE221J	18-87	AB		C
VRS-TW2HFR68J	18-79	AC	N	C
〃	18-105	AC	N	C
VRS-TW2HF1R3J	18-78	AC	N	C
〃	18-103	AC	N	C
VRSTS2AD1742F	16-462	AA		C
VRSTS2AD4752F	16-452	AA		C
VRSTS2AD8662F	16-458	AA		C
〃	16-460	AA		C
VSDTA114EK/-1	16-250	AB		B
〃	16-251	AB		B
VSDTA114ESA-1	19-55	AC	N	B
VSDTB114EK/-1	18-72	AD	N	B
VSDTC114EK/-1	16-246	AB		B
〃	16-247	AB		B
〃	16-248	AB		B
〃	16-249	AB		B
VSDTC114ES/-1	17-31	AB		B
〃	17-32	AB		B
VSDTC114ESA-1	19-54	AC	N	B
VSDTC114YU/-1	18-73	AC		B
〃	18-74	AC		B
〃	18-75	AC		B
VSDTD123YK/-1	18-71	AC	N	B
VS2SA1037KR-1	16-245	AB		C
VS2SA1807-P-1	17-30	AE		B
VS2SC1213-C1A	19-53	AC		B
VS2SD1164//-1	16-243	AE		B
VS2SD1200FR-1	17-29	AE	N	B
VS2SD1664Q/-1	16-244	AD		B
VS2SD592A-S-1	17-28	AK		B
VS2SK2185//-1	19-56	AL	N	B
VVLLMG2025TPR	4-13	BA		B
[X]				
XBBSD23P08000	1-B1	AA	N	C
XBPSD30P06K00	14-B1	AA		C

PARTS CODE	No.	PRICE RANK	NEW MARK	PART RANK
XBPSN40P06K00	1-B6	AA		C
XBSSN30P06000	19-B5	AA		C
XEBSD30P10000	1-B2	AA		C
〃	2-B3	AA		C
〃	3-B1	AA		C
〃	5-B1	AA		C
〃	7-B2	AA		C
〃	13-B1	AA		C
〃	14-B2	AA		C
XEBSE30P10000	1-B3	AA		C
〃	14-B3	AA		C
XHBSD30P06000	1-B4	AA		C
〃	6-B1	AA		C
〃	7-B1	AA		C
〃	14-B4	AA		C
XHBSE30P06000	15-14	AA		C
XHBSE30P10000	1-B5	AA		C
XRESJ50-06000	7-E1	AA		C
XUBSD20P06000	4-B1	AA		C
[0]				
0KW0957304001	9-6	AE		C
0KW0957551601	10-15	AG	N	C
0KW0972300901	9-1	AF		C
0KW0993204501	8-8	AC	N	C
0KW4109053103	8-12	BY	N	E
0KW4109075404	10-30	BD	N	C
0KW4109075501	11-44	BD	N	C
0KW4109075605	11-3	BC	N	E
0KW4109076001	11-48	BB	N	C
0KW4109201301	11-1	AF	N	C
0KW4109201502	11-4	AC	N	C
0KW4109202102	8-14	AD	N	C
0KW4109202201	11-2	AC	N	D
0KW4109202301	11-6	AD	N	D
0KW4109202401	8-13	AF	N	D
0KW4109203902	11-28	AG	N	C
0KW4109206001	11-31	AF	N	C
0KW4109250101	11-10	AL	N	C
0KW4109250201	11-11	AL	N	C
0KW4109250301	11-7	AH	N	C
0KW4109250401	11-30	AK	N	C
0KW4109250501	11-9	AF	N	C
0KW4109250601	11-13	AF	N	C
0KW4109250701	11-12	AF	N	C
0KW4109250801	11-26	AG	N	C
0KW4109251001	11-23	AF	N	C
0KW4109251101	11-27	AF	N	C
0KW4109251201	11-29	AL	N	C
0KW4109251401	11-14	AF	N	C
0KW4109251501	11-15	AD	N	C
0KW4109251601	11-25	AD	N	C
0KW4109251701	11-24	AF	N	C
0KW4109251801	11-21	AF	N	C
0KW4109251901	11-20	AF	N	C
0KW4109301003	9-16	AF	N	C
0KW4109301302	8-15	AD	N	C
0KW4109301412	9-13	AD	N	C
0KW4109301514	9-12	AD	N	C
0KW4109302005	8-5	AL	N	C
0KW4109302202	8-3	AC	N	C
0KW4109303301	9-11	AF	N	C
0KW4109303413	9-15	AF	N	C
0KW4109304103	9-23	AC	N	C
0KW4109305101	9-17	AD	N	C
0KW4109305201	9-21	AG	N	C
0KW4109350203	9-9	AH	N	C
0KW4109410301	11-42	BF	N	C
0KW4109410403	11-47	AH	N	C
0KW4109410703	11-45	AC	N	C
0KW4109410802	11-37	AC	N	C
0KW4109411102	11-40	AF	N	C
0KW4109411201	11-33	AD	N	C
0KW4109411403	11-46	AF	N	C
0KW4109411503	11-38	AF	N	C
0KW4109411702	11-41	AH	N	C
0KW4109411803	11-43	AD	N	C
0KW4109550101	10-23	BF	N	C
0KW4109550201	10-10	BD	N	C
0KW4109550312	10-20	AN	N	C
0KW4109550503	10-6	BA	N	C

PARTS CODE	No.	PRICE RANK	NEW MARK	PART RANK
0KW4109551201	10-11	AL	N	C
0KW4109551601	10-14	AC	N	C
0KW4109551701	10-3	AC	N	C
0KW4109551801	10-5	AF	N	C
0KW4109552101	10-12	AK	N	C
0KW4109552201	10-25	AL	N	C
0KW4109552402	10-19	AG	N	C
0KW4109552501	10-29	AG	N	C
0KW4109552601	10-26	AF	N	C
0KW4109553001	10-4	AC	N	C
0KW4109553301	10-13	AL	N	C
0KW4109554101	10-18	AD	N	C
0KW4109554201	10-21	AD	N	C
0KW4109554301	10-16	AD	N	C
0KW4109554401	10-22	AD	N	C
0KW4109555001	10-31	AQ	N	C
0KW4109620201	11-34	BR	N	E
〃	21-901	BR	N	E
0KW4109630101	11-36	AN	N	C
0KW4109630201	10-17	AY	N	B
0KW4109650201	10-24	BB	N	B
0KW4109670101	10-27	AY	N	B
0KW4110075101	9-5	AT	N	C
0KW4110301801	9-10	AC	N	C
0KW4110350301	9-22	AC	N	C
0KW4110551101	10-7	AH	N	C
0KW4110553501	10-8	AH	N	C
0KW4110553601	10-9	AS	N	C
0KW4122010202	8-4	BD	N	E
〃	22-901	BD	N	E
0KW4122020101	9-25	AG	N	C
0KW4122030102	11-5	BU	N	E
0KW4122033102	9-29	BT	N	E
0KW4122035201	10-32	BV	N	E
0KW4122039102	11-49	CS	N	E
0KW4122206801	8-19	AQ	N	C
0KW4122206901	8-16	AG	N	C
0KW4122207001	8-11	AD	N	C
0KW4122207102	8-1	AM	N	C
0KW4122207601	8-21	AD	N	C
0KW4122207801	8-6	BB	N	C
0KW4122207902	8-9	AQ	N	C
0KW4122233001	11-19	AC	N	C
0KW4122233101	11-18	AC	N	C
0KW4122235001	8-10	AF	N	C
0KW4122252001	11-17	AV	N	C
0KW4122252101	11-22	AD	N	C
0KW4122252201	11-16	AN	N	C
0KW4122300101	9-14	AU	N	C
0KW4122300201	9-8	BK	N	C
0KW4122305501	9-4	AL	N	C
0KW4122305601	9-3	AH	N	C
0KW4122340201	8-24	AF	N	C
0KW4122340401	8-20	AD	N	C
0KW4122340501	8-23	AD	N	C
0KW4122355602	9-24	AG	N	C
0KW4122360502	8-18	AQ	N	C
0KW4122360701	9-2	AF	N	C
0KW4122361602	9-27	AD	N	C
0KW4122361902	9-20	AC	N	C
0KW4122362902	9-7	AQ	N	C
0KW4122364201	9-26	AG	N	C
0KW4122364301	9-28	AR	N	C
0KW4122365001	9-19	AG	N	C
0KW4122610101	8-7	BP	N	B
0KW4122610501	11-8	BN	N	B
0KW4122620101	9-18	BC	N	B
0KW4122630401	8-17	AL	N	B
0KW4122680302	10-1	AM	N	C
0KW4122680502	11-39	AL	N	C
0KW4122680602	11-32	AV	N	C
0KW4122680701	10-28	AL	N	C
0KW4122681302	11-35	AH	N	C
0KW4122681401	8-22	AL	N	C
0KW4122681702	8-2	AN	N	C
0KW9335141031	10-2	BA		B
0KW9384131091	11-50	AC		C
0KW9384170024	11-53	AF	N	C
0KW9384171111	11-52	AD	N	C
0KW9384201021	11-51	AD	N	C

PARTS CODE	No.	PRICE RANK	NEW MARK	PART RANK
0KW9646030613	8-B1	AB		C
〃	10-B1	AB		C
0KW9646030813	9-B1	AB		C
〃	11-B1	AB		C
0KW9721050001	9-E1	AU	N	C
0KW9721090001	9-E2	BB	N	C
0KW9735030613	8-B2	AB		C
〃	9-B2	AB		C
〃	11-B2	AB		C
0KW9735030813	10-B4	AC		C
0KW9739030613	8-B4	AB		C
〃	9-B4	AB		C
0KW9739030813	8-B3	AB		C
〃	8-B5	AB		C
〃	9-B3	AB		C
〃	10-B2	AB		C
〃	11-B3	AB		C
0KW9742030813	11-B4	AB		C
0KW9742031013	10-B3	AB		C
0KW9743030813	8-B6	AB		C
0KW9751301050	9-30	BG	N	C

PARTS CODE	No.	PRICE RANK	NEW MARK	PART RANK

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

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