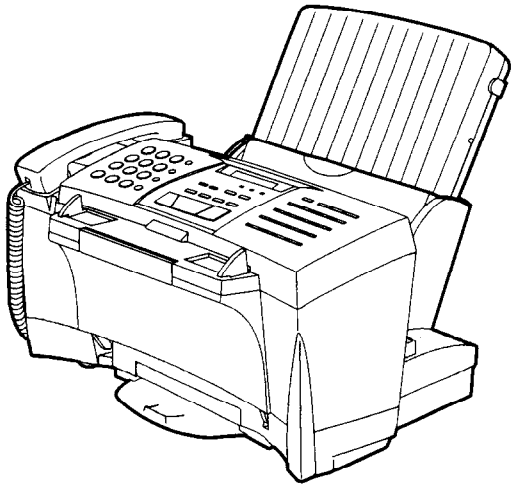
SHARP SERVICE MANUAL

No. 00ZU220CMUSME



FACSIMILE

MODEL UX-2200CM FO-2150CM

CONTENTS

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

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.

CHAPTER 1. GENERAL DESCRIPTION

[1] Specifications

Printing specifications

Print cartridges	**Color:** Sharp UX-27CC **Black:** Sharp UX-22BC
Print resolution	**High:** 600 x 600 dpi (both color and black) **Normal:** 300 x 300 dpi
Print speed	**Color:** Up to 2 pages per minute **Black:** Up to 3 pages per minute
Paper types	Index cards, envelopes, labels, transparencies, glossy film, greeting cards, iron-on transfers, plain, coated, and glossy paper.

Fax specifications

Automatic dialing	Rapid Key Dialing: 38 numbers Speed Dialing: 61 numbers
Memory size*:	512 KB (approx. 42 average pages)
Automatic document feeder	20 sheets max.
Modem speed	14400 bps with automatic fallback to 12000, 9600, 7200, 4800, or 2400 bps
Transmission time*	Approx. 6 seconds (Sharp special mode)
Display	16-digit LCD display
Reception modes	Auto/Manual
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 (transmission only): 391 lines/inch (15.4 lines/mm)
Halftone (grayscale)	64 levels
Applicable telephone line	Public switched telephone network
Compatibility	ITU-T (CCITT) G3 mode
Configuration	Half-duplex, desktop transceiver
Compression scheme	MH, MR, MMR
Scanning method	Sheet-feeder CIS (Contact Image Sensor)
Effective recording width	8" (203 mm) max.
Input document size	**Automatic feeding:** Width: 5.8 to 8.5" (148 to 216 mm) Length: 5.5 to 11" (140 to 279 mm) **Manual feeding:** Width: 5.8 to 8.5" (148 to 216 mm) Length: 5.5 to 39.4" (140 to 1000 mm)
Effective scanning width	8.3" (210 mm) max.
Contrast control	Automatic/Dark selectable

Copying specifications

Resolution	**Horizontal:** 203 pels/inch (8 pels/mm) **Vertical:** 196 lines/inch (7.7 lines/mm)
Multiple copies	Up to 99
Copy reduction/ enlargement	50%, 75%, 120%, 150%

PC monochrome scanning specifications

Resolution	Enhanced 400 dpi
Halftone (grayscale)	64 levels

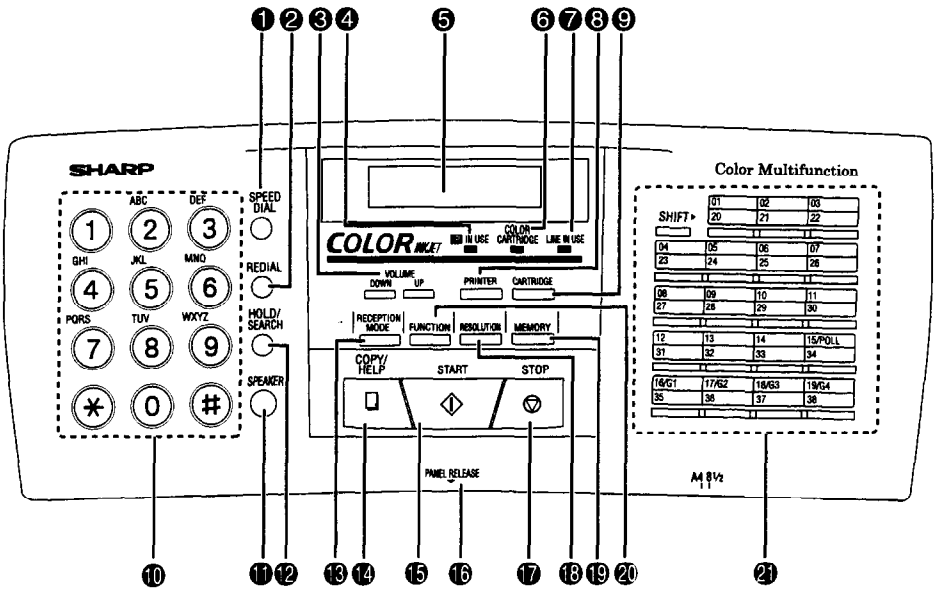
General specifications

Power requirements	120 V AC, 60 Hz
Operating temperature	10 to 35°C (10 to 35°C)
Operating humidity	30 - 80%RH
Power consumption	Stand-by: 8.5 W Maximum: 40 W
Dimensions	Width: 16.0" (406 mm) Depth: 12.0" (306 mm) Height: 10.0" (255 mm) (Without attachments)
Weight	Approx. 13.0 lbs. (5.9 kg) (without attachments)

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

As a part of our policy of continuous improvement, SHARP reserves the right to make design and specification changes for procduct improvement without prior notice. The performance specifications figures indicated are nominal values of production units. There may be some deviation from these values in individual units.

[2] Operation panel



❶ **SPEED DIAL key**
Press this key to dial a 2-digit Speed Dial number.

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

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

❹ **IR IN USE light**
This blinks while the Sharp Color MFP is receiving data by infrared transmission from a notebook computer, digital camera, or Zaurus.

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

❻ **COLOR CARTRIDGE light**
This lights when a color print cartridge is installed. Faxes are received to memory when this light is on.

❼ **LINE IN USE light**
This lights while the Sharp Color MFP is using the telephone line.

❽ **PRINTER key**
Press this key to eject paper from the machine, or reset the machine after clearing a paper jam or other printer error.

❾ **CARTRIDGE key**
Press this key to change a print cartridge or install a new print cartridge.

❿ **Number keys**
Use these keys to dial numbers, and enter numbers and letters during number/name storing procedures.

⓫ **SPEAKER key**
Press this key to hear the line and fax tones through the speaker when sending a document.
Note:**This is not a speakerphone** . You must pick up the handset to talk with the other party.

⓬ **HOLD/SEARCH key**
Press this key to search for an automatic dialing number, or, during a phone conversation, press this key to put the other party on hold.

⓭ **RECEPTION MODE key**
Press this key to select the reception mode. The selected mode will appear in the display.

⓮ **COPY/HELP key**
When a document is in the feeder, press this key to make a copy. At any other time, press this key to print out the Help List, a quick reference guide to the operation of your fax.

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

⓰ **PANEL RELEASE**
Pull this release up to open the operation panel.

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

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

⓳ **MEMORY key**
Press this key to scan a document into memory before transmitting it.

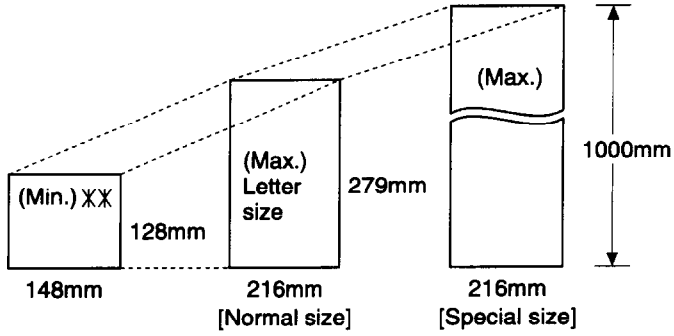
⓴ **FUNCTION key**
Press this key to select various special functions.

㉑ **Rapid Dial Keys**
Press one of these keys to dial a fax or voice number automatically. To dial the bottom number on a Rapid Key, press the **SHIFT** key before pressing the Rapid Key. (Note that you must attach the Rapid Key labels.)

[3] Transmittable documents

1. Document Sizes

Normal size	width	5.83"-8.5"(148 – 216 mm)
	length	5.04"-11"(128 – 297 mm)



※※ Use document carrier sheet for smaller documents.

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

2. Paper Thickness & Weight

Normal size	ADF 10 sheets	Thickness	$2.4x10^{-3}$ – $4.7x10^{-3}$ inch (0.06–0.12 mm)
		Weight	$0.15x10^{-3}$ lbs/inch^2 (52–104g/ m^2) (14–28 lbs)
	ADF 20 sheets	Thickness	$2.4x10^{-3}$ – $3.5x10^{-3}$ inch (0.06–0.09 mm)
		Weight	$0.77x10^{-3}$ – $0.11x10^{-3}$ inch (52–74.3g/ m^2) (14–20 lbs)
Special size		Thickness	$4.7x10^{-3}$ – $7.9x10^{-3}$ inch (0.12–0.20 mm)
		Weight	$0.15x10^{-3}$ – $0.20x10^{-3}$ lbs/inch^2 (52–157g/ m^2)

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 (blue print)

  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. ADF 20 sheets (14 lbs – 20 lbs)

Special size: single sheet only (manual feed)

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

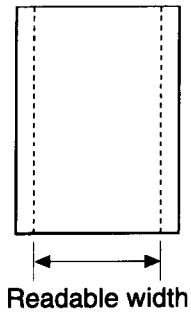
6. Readable Width & Length

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

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

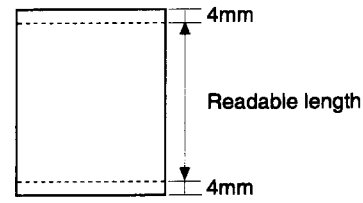
- **Readable width**

210 mm, max.



- **Readable length**

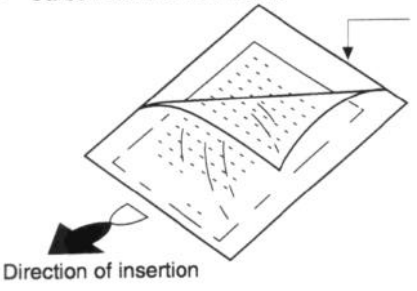
This is the length of the document sent minus 0.16" (4 mm) from the top and bottom edges.



7. Use of Document Carrier Sheet

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

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



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

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

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

[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 5° and 35°C.
- The humidity should be between 30% and 85% (without condensation).

ELECTRICITY

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

Caution!

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

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.

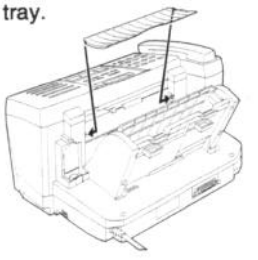
TELEPHONE JACK

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

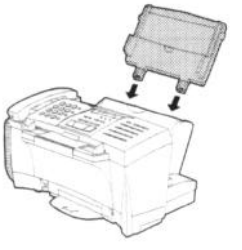
- Plugging the fax machine into a jack which is not an RJ11C jack may result in damage to the machine or your telephone system. If you do not know what kind of jack you have, or needed to have one installed, contact the telephone company.

2. Trays

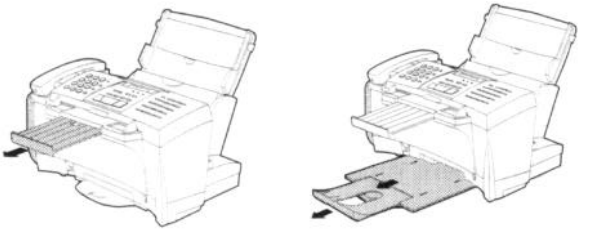
① Attach the document tray.



② Insert the paper tray into the back of the machine as shown.



③ Pull out the original document support and the output tray.



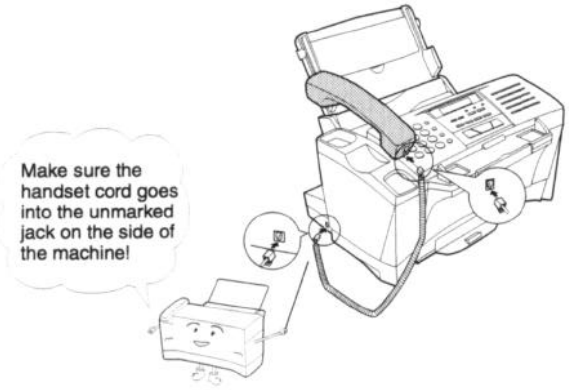
Note: When receiving faxes, copying or printing, do not let a large number of pages accumulate in the output tray. This may obstruct the outlet and cause paper jams.

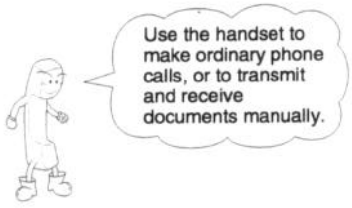
3. Connections

① Handset

Connect the handset as shown and place it on the handset rest.

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

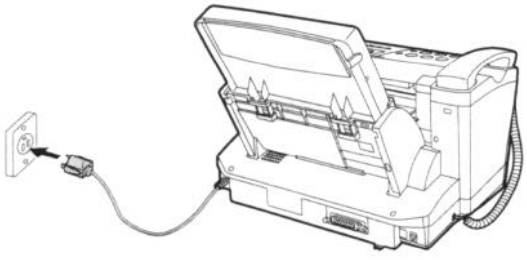


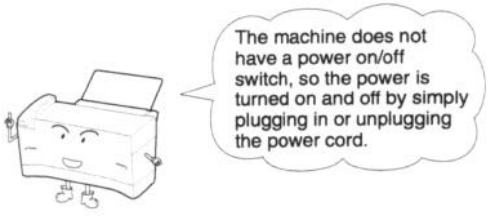


② Power cord

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

Caution!
Do not plug the power cord into any other kind of outlet. This will damage the machine and is not covered under the warranty.

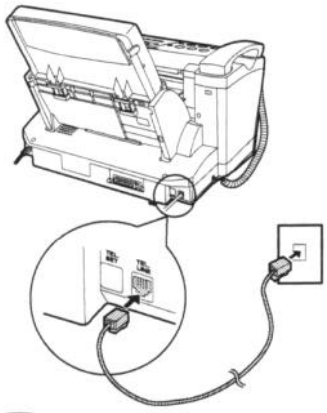


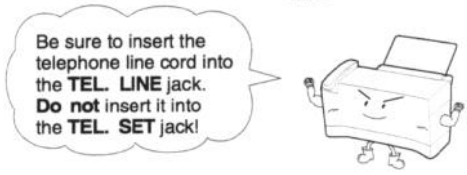


Note: If your area experiences a high incidence of lightning or power surges, we recommend that you install surge protectors for the power and telephone lines.
Surge protectors can be purchased at most telephone specialty stores.

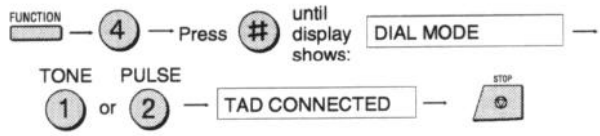
③ Telephone line cord

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.

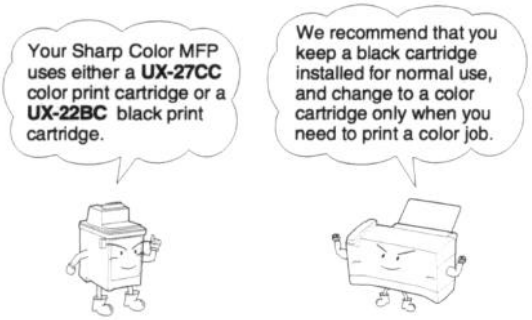




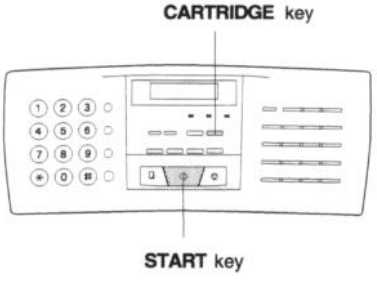
Note: The Sharp MFP is set for touch-tone dialing. If you are on a pulse dial (rotary) line, you must set the Sharp MFP for pulse dialing. Press the following keys on the operation panel:



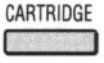
4. Installing a Print Cartrige



Note: If you receive a fax when a color print cartridge is installed, the fax will be held in memory and printed out when a black cartridge is installed.



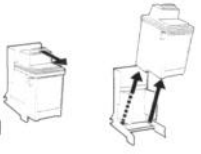
① Press the **CARTRIDGE** key.



- The cartridge carrier will move to the center of the print compartment.

② Open the front cover of the Sharp Color MFP.

Note on changing cartridges:
When you need to change a print cartridge, remove the currently installed cartridge after Step 2 above. Remove the cartridge by pulling the knob on the cartridge toward you until you hear a click.

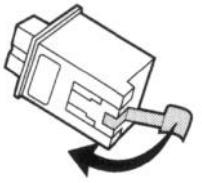


If the cartridge is still useable, insert it into the cartridge holder on the back of the machine. Push back on the cartridge until it snaps into place.

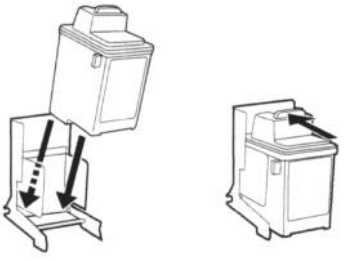
- To prevent the used print cartridge from drying out, be sure to store it in the cartridge holder.

③ Remove the new print cartridge from its packaging.

④ Gently remove the sticker and transparent tape covering the copper printhead.



⑤ Insert the print cartridge into the cartridge carrier. Push back on the cartridge until it snaps into place.



Note: If the print cartridge moves loosely in the carrier, it is not locked into place. Repeat this step.

⑥ Close the front cover.

⑦ Press the **START** key. 

The display on the Sharp Color MFP will show:

SELECT CARTRIDGE

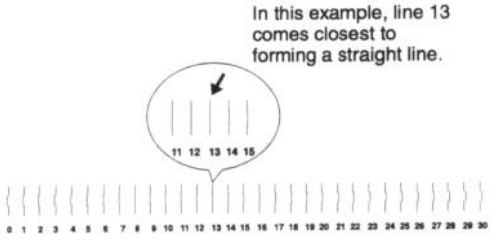
Press 1 if you installed a new cartridge, or 2 if you installed an old cartridge.

⑧ Press the **3** key if you installed a new black cartridge, or the **4** key if you installed a new color cartridge.
(When installing a previously used cartridge, press the **1** key for a used black cartridge or the **2** key for a used color cartridge.)

NEW BLACK CART. NEW COLOR CART.
(3) or (4)

- The cartridge will return to its home position. If you pressed **3** or **4** for a new cartridge, the Sharp MFP will print a test page for printhead alignment.

⑨ If you installed a new print cartridge, look at the test page and locate the line that comes closest to forming a perfectly straight line.



⑩ Press these keys on the Sharp MFP:

FUNCTION (6) (*) (*) (*)

The display will show: ALIGN CARTRIDGE
ENTER (00-30) 15
START: PRINT

⑪ Enter the two-digit number of the straightest line on the test page. (If the number is less than 10, enter a 0 before the number.)

Example: Line 13 (1) (3)

The display will show: CLEAN NOZZLES

⑫ Press the **STOP** key to return to the time and date display.

Note: If you have installed a color cartridge, the display will show the following alternating messages:

COLOR CARTRIDGE!
USE BLACK FOR RX

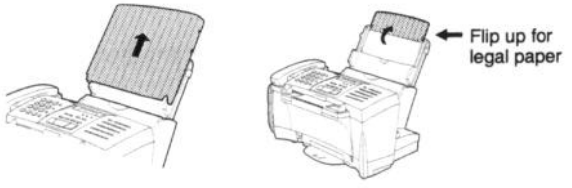
5. Loading Printing Paper

You can load letter or legal size paper in the paper tray. The maximum number of sheets is:

- **200** for paper from 16 to 20 lbs. (60 to 80 g/m^2)
- **150** for paper from 20 to 24 lbs. (90 g/m^2) (such as coated paper)

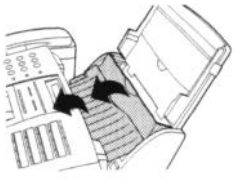
① Remove the paper cover if it is on the paper tray.

- If you are going to load legal size paper, flip up the paper tray extender.



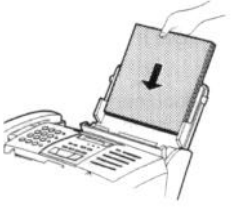
② Fan the paper, and then tap the edge against a flat surface to even the stack.

③ Pull the paper release plate toward you.

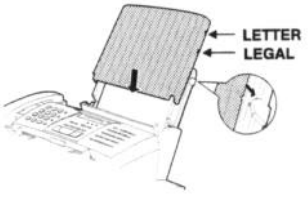


④ Insert the stack of paper into the tray, **print side up**

- If paper remains in the tray, take it out and combine it into a single stack with the new paper before adding the new paper.



⑤ Replace the paper cover on the paper tray.



⑥ Push the paper release plate back down.

- **Important** Be sure to replace the paper cover **before** you push the paper release plate down.

⑦ The Sharp Color MFP has been set at the factory to scale the size of received faxes to letter size paper. If you have loaded legal paper, you must change the paper size setting to legal. Press these keys:

FUNCTION 6 #

The display will show: PAPER SIZE

Press **1** to select LETTER, **2** to select LEGAL, or **3** to select A4.

LETTER: 1
LEGAL: 2
A4: 3

Press the **STOP** key to return to the date and time display.

STOP

Note: This setting is only for received faxes. To set the paper size for printing from your computer, see your online Operation Guide.

⑧ The Sharp Color MFP has been set at the factory to print on plain paper. If you have loaded coated paper, you must change the media type setting to COATED. Press these keys:

FUNCTION 6 # #

The display will show: MEDIA TYPE

Press **1** to select PLAIN or **2** to select COATED.

PLAIN COATED
1 or 2

Press the **STOP** key to return to the date and time display.

STOP

6. Clearing Paper Jams

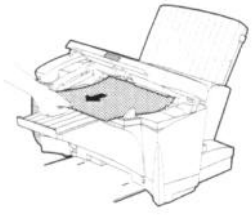
Clearing a jammed document

If the original document doesn't feed properly during transmission or copying, or DOCUMENT JAMMED 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.

① Pull the release marked **PANEL RELEASE** up and open the operation panel.

② Remove the document.

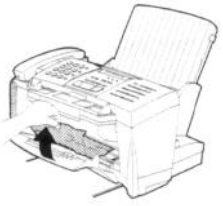


③ Close the operation panel, making sure it clicks into place.

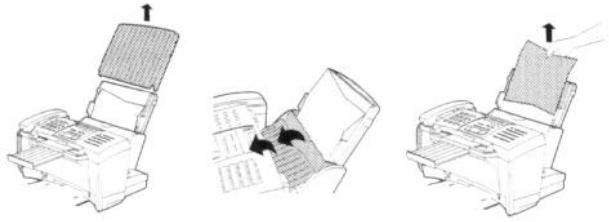
Clearing jammed prining paper

① Open the front cover of the Sharp MFP.

② Grasp the leading edge of the jammed paper and pull it out of the machine.

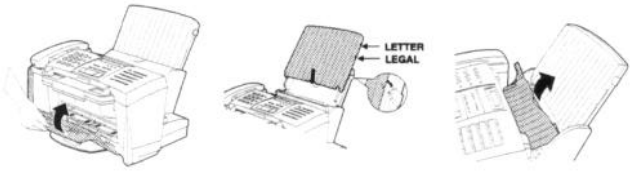


③ If it is too difficult to pull the jammed paper out from the front of the machine, remove the paper tray cover, pull the paper release plate toward you, and pull the jammed paper out from the back of the machine.



④ Make sure there are no torn pieces of paper remaining in the machine.

⑤ Close the front cover. Replace the paper tray cover (if removed), and then press the paper release plate back down.



⑥ Press the **PRINTER** key to reset the Sharp MFP.

PRINTER

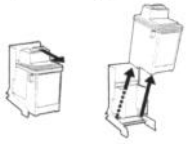
[5] Quick reference guide

CHANGING PRINT CARTRIDGES

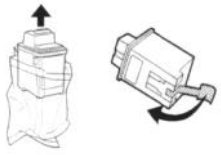
1. Press: CARTRIDGE

2. Open the front cover of the Sharp Color MFP.

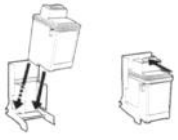
3. Remove the current print cartridge.
   - If the cartridge is still useable, insert it in the holder on the back of the machine. Push back on the cartridge until it snaps into place.



4. If you are installing a new print cartridge, remove the cartridge from its packaging. Remove the sticker and tape from the cartridge.



5. Insert the print cartridge into the cartridge carrier. Push back until it snaps into place.



6. Press: START

   Display shows:

   SELECT CARTRIDGE

7. Press **1** if you installed a new cartridge , or **2** if you installed an old cartridge.
   - If you pressed **1** for a new cartridge, then the display will ask you what type of cartridge you installed. Press the 3 key for a new black cartridge or the 4 key for a new color cartridge.

     The sharp MFP will print a test page for printhead alignment.

8. Close the front cover.

9. If you installed a new print cartridge, press:

   FUNCTION 6 * * *

   Display shows:

   ALIGN CARTRIDGE

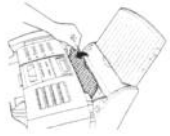
10. Enter the two-digit number of the straightest line on the test page.

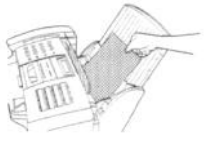
11. Press: STOP

MAKING COPIES

1. Place the document (up to 20 pages) face down in the document feeder.

2. If you are copying onto a transparency or special paper, flip up the original document output support and insert the media into the manual paper feeder.





3. Press: COPY/ HELP

4. Press **1** to use the preset copy settings, or **2** (MANU) to select each setting individually.

5. If you are making one copy per original, press the **START** key. If you are making multiple copies per original, enter the number of copies per original (if the number is less than 10, enter a "0" before the number).
   - If you selected PRESET in Step 4, go to Step 10.

6. Enter a number for the size of the printing media:
   1: LETTER
   2: LEGAL
   3: A4

7. Enter a number to select reduction/enlargement.
   1: AUTO
   2: 50%
   3: 75%
   4: 100% (no reduction or enlargement)
   5: 120%
   6: 150%

8. Select the type of media to be used:
   1: PLAIN PAPER
   2: COATED PAPER
   3: TRANSPARENCY
   (Note: Setting **3** only appears if you inserted a sheet of media in the manual feeder.)

9. Select the copy print quality. Press **1** for NORMAL or **2** for DRAFT.

10. If desired, press the **RESOLUTION** key to adjust the resolution and/or contrast (the default settings are FINE and AUTO).

11. Press **START** to begin copying.

START

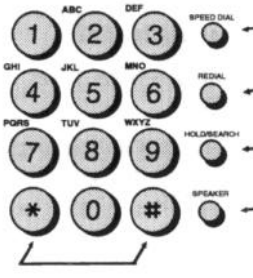
STORING AND CLEARING NUMBERS FOR AUTO DIALING

1. Press: FUNCTION (3) (#)

Display shows: FAX/TEL # MODE

2. Press **1** to store a number or **2** to clear a number.
3. Enter a 2-digit Speed Dial number (from 01 to 38 for Rapid Key Dialing, or 39 to 99 for Speed Dialing). (If you are clearing a number, go to Step 7.)
4. Enter the full telephone/fax number.
5. Press: START
6. Enter the name of the location by pressing number keys as shown below (max. of 20 characters).
   - To enter two letters in succession that require the same key, press the **SPEAKER** key after entering the first letter.

A = 2 2	J = 5 5	T = 8 8
B = 2 2 2	K = 5 5 5	U = 8 8 8
C = 2 2 2 2	L = 5 5 5 5	V = 8 8 8 6
D = 3 3	M = 6 6	W = 9 9
E = 3 3 3	N = 6 6 6	X = 9 9 9
F = 3 3 3 3	O = 6 6 6 6	Y = 9 9 9 9
G = 4 4	P = 7 7	Z = 9 9 9 9 9
H = 4 4 4	Q = 7 7 7	SPACE = 1 1
I = 4 4 4 4	R = 7 7 7 7	
	S = 7 7 7 7 7	



- Deletes highlighted letter
- Upper/lower case shift key
- Moves cursor to the left.
- Moves cursor to the right.

Press either key one or more times to select and enter a symbol.

7. Press: START STOP

SENDING DOCUMENTS

Place the document (up to 20 pages) face down in the document feeder.

Normal Dialing

1. Lift the handset or press SPEAKER
2. Dial the fax number.
3. Wait for the reception tone (if a person answers, ask them to press their Start key).
4. Press: START

Rapid Key Dialing

Press the appropriate Rapid Key (if the Rapid Key is from 20 to 38, press the **SHIFT** key first). Transmission will begin automatically.

Speed Dialing

1. Press: SPEED DIAL
2. Enter 2-digit Speed Dial number.
3. Press: START

RECEIVING DOCUMENTS

Press: RECEPTION MODE

JAN05 10:41 AUTO
↓ ↑
JAN05 10:41 MANU

AUTO mode: The fax automatically answers on four rings and receives the incoming document.

MANU mode: → Fax tone → START → RECEIVING →

Selecting the receiving unit

1. Press: FUNCTION (#)
2. Press **1** for fax reception to the Sharp MFP, or **2** for fax reception to your computer.

Note: For your computer to receive faxes automatically, the Color MFP reception mode must be set to AUTO.

CHAPTER 2. ADJUSTMENTS

[1] Adjustments

General

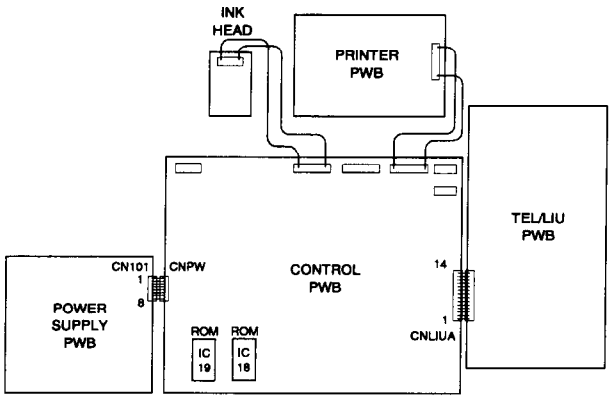
Since the following adjustments and settings are provided for this model, make adjustments and/or setup as necessary.

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



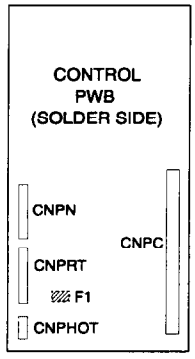
Output	Voltage limits
+5V	4.75V ~ 5.25V
V-REG	5.5V ~ 7.0V
+24V	23.52V ~ 24.48V

Connector No. / Pin No.	CNPW
1	MG
2	MG
3	+24V
4	+24V
5	DG
6	+5V
7	DG
8	VREG

2. IC protectors replacement

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

The location of ICPs are shown below.



(1) F1 (ICP-S07) is installed in order to protect IC's from an over-current generated in the motor drive circuit. If F1 is open, replace it with a new one.

3. Settings

(1) Dial mode selector

DIAL mode (Soft Switch No. SW2 DATA No. 1)

(step 1) Select "OPTION SETTING".

KEY: [FUNCTION] (4)

DISPLAY: [OPTION SETTING] ⇔ [PRESS ✳ OR #]

(step 2) Select "DIAL MODE".

KEY: (#)(#)(#)(#)(#)(#)(#)(#)

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

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

(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 switch

1. Operating procedure

(1) Entering the diagnostic mode

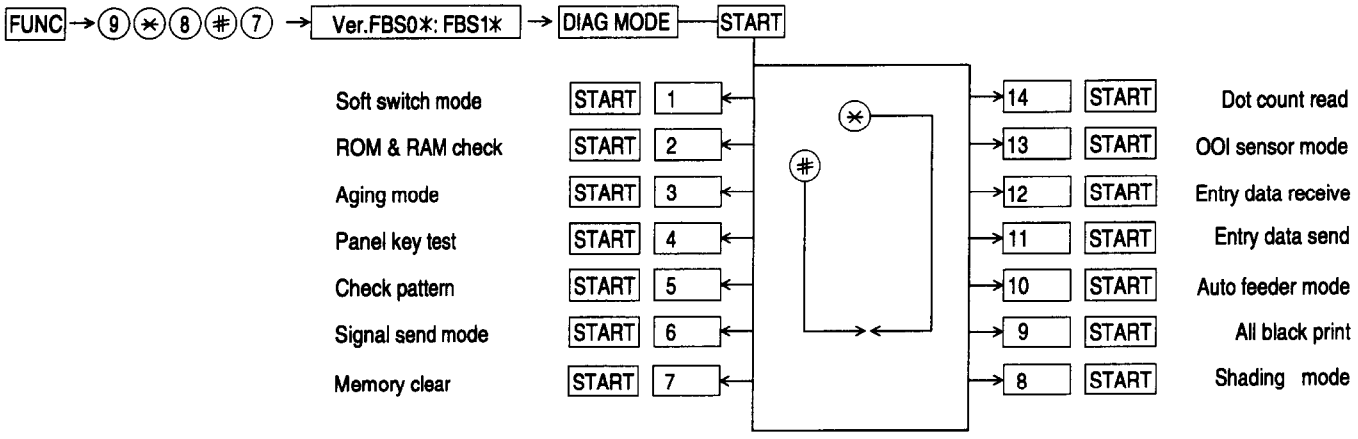
Press [FUNC] → [9] → [✳] → [8] → [#] → [7], and the following display will appear.

[ROM Ver. FBS0✳: FBS1✳] After 2 sec: [DIAG MODE]

FBS0✳ : FBS1✳

Then press the [START] key and country name selected by country select will appear. Select the desired item with the [✳] key or the [#] key or select with the rapid key. Enter the mode with the START key.

(Diag•specifications)



If the dial mode cannot be set, repeat the dial mode operation, performing the following operation.

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 ?

Press the START key when " MEMORY CLEAR? "appears.

START KEY + STOP KEY → "Power ON" → START

2. Diagnostic items

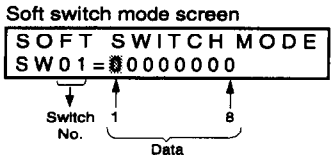
ITEM No.	DIRECT key	Contents	Function
1	1	SOFT SWITCH MODE	Soft switches are displayed and changed. List can be output.
2	2	ROM & RAM CHECK	ROM is sum-checked, and RAM is matched. Result list is output.
3	3	AGING MODE	10 sheets of check patterns are output every 5 minutes per sheet.
4	4	PANEL KEY TEST	Panel keys are tested.
5	5	CHECK PATTERN	Check pattern is output.
6	6	SIGNAL SEND MODE	Various signals of FAX communication are output.
7	7	MEMORY CLEAR	Back-up memory is cleared, and is set at delivery.
8	8	SHADING MODE	Store the shading waveform according to the specified shading document.
9	9	ALL BLACK PRINT	To check the print head, whole dots are printed over the interval of 2 m.
10	10	AUTO FEEDER MODE	Insertion and discharge of document are tested.
11	11	ENTRY DATA SEND	Resisterd content is sent.
12	12	ENTRY DATA RECEIVE	Resisterd content is received and its list is output.
13	13	OOI SENSOR MODE	Check whether the ink sensor can detect nonexistence of ink correctly.
14	14	DOT COUNT READ	Check the ink consumption count value.

3. Diagnostic items description

3. 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 en tered, key error buzzer sounds to reject the input.

② Data number selecton

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, prssing # key shifts the cursor to data number 1 of the next switch number. If the switch number is the final , pressing # key will exit the soft switch mode.
Pressing ⋊ key moves the cursor to the left. If, however, the cursor is on data number 1,Pressing ⋊ key shifts the cursor to data number 1 of the former switch number. If the switch number is 1, pressing ⋊ key will not move the cursor.

③ Data setting method

Press the FUNCTION key, and the data at the position of the cursor will be reversed to 0 when it is 1,or to 1 when it is 0.

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.

3. 2. ROM & RAM check

ROM executes the sum check, and RAM executes the matching test.
The result will be notified with the number of short sounds of the buzzer as well as by printing the ROM & RAM check list.
If error does not occur, the buzzer does not sound.
(As for the print format refer to the list function specification.)

No.	Check device	Number of short sounds of buzzer
1	MAIN ROM1	1
2	MAIN ROM2	2
3	CPU ROM/RAM	3
4	S-RAM	4
5	D-RAM	5

The once buzzer sounding pattern is 0.25 sec. ON / 0.25 sec.OFF.

3. 3. Aging mode

If any document is first present, copying will be executed sheet by sheet. If no document is present, the check pattern will be printed sheet by sheet. This operation will be executed at a rate of one sheet per 5minutes, and will be ended at a total of 10 sheets.

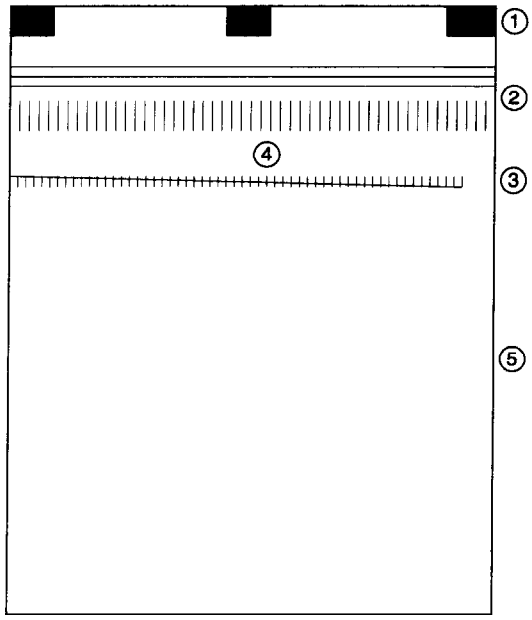
3. 4. Panel key test

The mode is used to check whether each key properly operates or not. Since the key is displayed on LCD when the key on the operation panel is pressed, press all the keys. Here, finally press STOP key.
When STOP key is pressed, the keys not judged as "pressed" are output in the result list. Here, three LED ports can be turned on alternately during the time from the start of the panel check mode to the end with the stop key.

3. 5. Check pattern

The mode is used to check the state of the printing head. It is ended with the following pattern printed on one printing sheet.

① All white
② Checkered pattern
③ Nozzle test
④ All white
⑤ Frame line



3. 6. Signal send mode

The mode is used to send various signals to the circuit during FAX communication. Every push of START key sends a signal in the following sequence. Moreover, the signal sound is also output to the speaker when the line monitor of the soft switch is on.

[1] No signal (CML signal turned on)
[2] 14400BPS (V.33)
[3] 12000BPS (V.33)
[4] 14400BPS (V.17)
[5] 12000BPS (V.17)
[6] 9600BPS (V.17)
[7] 7200BPS (V.17)
[8] 9600BPS (V.29)
[9] 7200BPS (V.29)
[10] 4800BPS (V27 ter)
[11] 2400BPS (V27 ter)
[12] 300BPS (FLAG)
[13] 2100Hz(CED)
[14] 1100Hz(CNG)

3. 7. Memory clear

This mode is used to clear the backup memory and reset to the default settings.

3. 8. Shading mode

This mode is used to store the shading waveform according to the specified shading document.

3. 9. All black print

This mode is used to check the state of the printing head and intentionally overheat it. Press STOP key for the end.

3. 10. Auto feeder mode

This mode is used to check the auto feed function by inserting and discharging the document. In this mode, the feed of the document will be automatically tested if the document is set. Moreover, the number of fed documents will be counted and be displayed on LCD.

3. 11. Entry data send

This mode is used to send the registered data to the remote machine and make the remote machine copy the registered information. When this mode is used for sending, the remote machine must be set to the entry data receive mode.

This information to be sent is as follows.

1. TELEPHONE NUMBER LIST
2. PASSCOD LIST
3. OPTION LIST
4. ANTI JUNK LIST
5. GROUP LIST
6. PRINT SET UP LIST
7. SOFT SW LIST

3. 12. Entry data receive

This mode is used to receive the registered data which is sent from the remote machine and to register the received data in the machine.When this mode is used to receive the information, the remote machine must be set to the entry data send mode

The information to be sent is as follows.

1. TELEPHONE NUMBER LIST
2. PASSCOD LIST
3. OPTION LIST
4. ANTI JUNK LIST
5. GROUP LIST
6. PRINT SET UP LIST
7. SOFT SW LIST

3. 13. OOI sensor mode

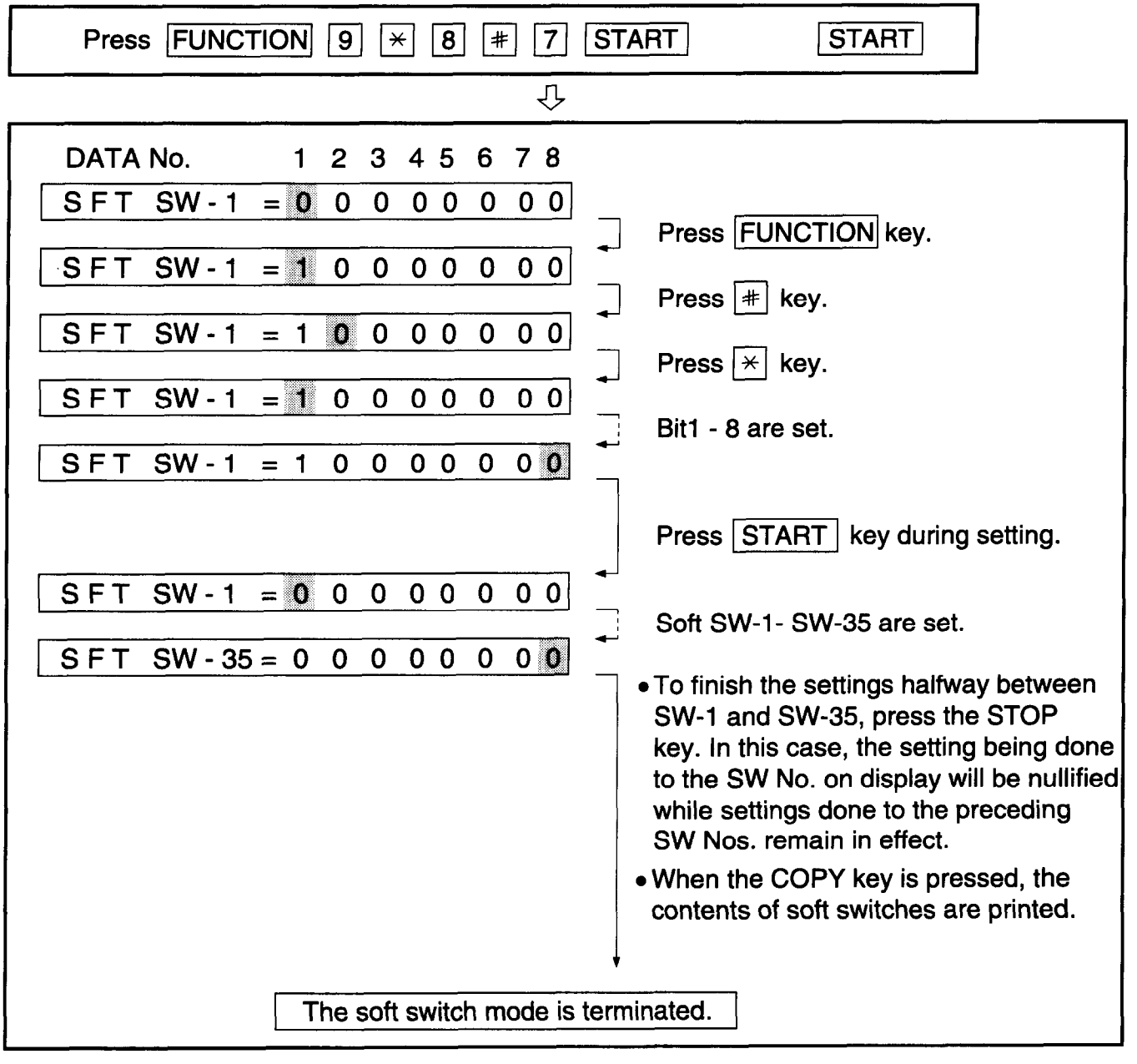
This mode is used to check whether the ink sensor can detect nonexistence of ink correctly.

3. 14. DOT COUNT READ

The black, cyan, magenta and yellow ink consumption counter value is indicated.

4. How to make soft switch setting

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



5. Soft switch description

- **Soft switch**

SW NO.	DATA NO.	ITEM	Switch setting and function		Initial setting	Remarks
			1	0		
SW 1 1	1	Recall interval	Binary input 8 4 2 1 No. = 1 2 3 4 0 1 0 1 (5x60sec=5min)		0	OPTION
	2				1	(1~15)
	3				0	
	4				1	
	5	Recall times	Binary input 8 4 2 1 No. = 5 6 7 8 0 0 1 0 (Twice)		0	OPTION
	6				0	(0~10)
	7				1	
	8				0	
SW 1 2	1	Dial mode	Pulse	Tone	0	OPTION
	2	Reception mode	Auto	Manual	1	Recep key
	3	ECM mode	No	Yes	0	OPTION
	4	CNG detection in Standby mode	No	Yes	0	OPTION
	5	Polling Security	On	Off	0	FUNC+3
	6	Automatic Cover Sheet	No	Yes	1	OPTION
	7	Junk fax function in manual reception	Yes	No	0	
	8	Anti Junk fax function	Yes	No	0	OPTION
SW 1 3	1	Number of rings for auto receive	Binary input 8 4 2 1 No. = 1 2 3 4 0 1 0 0 (4 times)		0	OPTION
	2				1	(1~5)
	3				0	
	4				0	
	5	Automatic switching manual to auto receive mode (0:OFF)	Binary input 8 4 2 1 No. = 5 6 7 8 0 0 0 0 (Off)		0	
	6				0	
	7				0	
	8				0	
SW 1 4	1	Communication results printout (Transaction report)	No.1: Error 0 / Err/Tmr/Mem 0 / Send only 0 / No print 1 / Always 1		0	OPTION
	2		No.2: Error 0 / Err/Tmr/Mem 0 / Send only 1 / No print 0 / Always 1		0	
	3		No.3: Error 1 / Err/Tmr/Mem 0 / Send only 0 / No print 0 / Always 0		1	
	4	Delay timer before line connect in auto dial	3sec	0sec	0	
	5	Delay timer of after line connect in auto dial	No.5: 3.6sec 1 / 3.0sec 1 / 1.7sec 0 / 3.0sec 0		0	
	6		No.6: 3.6sec 1 / 3.0sec 0 / 1.7sec 1 / 3.0sec 0		1	
	7	Number of CNG detect (STAND-BY mode)	No.7: 1pulse 0 / 2pulses 0 / 3pulses 1 / 4pulses 1		0	
	8		No.8: 1pulse 0 / 2pulses 1 / 3pulses 0 / 4pulses 1		1	
SW 1 5	1	Time format	24-hours	12-hours	0	
	2	Date format	Month-Day-Year	Day-Month-Year	1	
	3	Sender's information transmit	Off	On	0	
	4	Footer Print	On	Off	0	
	5	Reserved	—	—	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					
SW I 6	1	H2 mode	No						Yes				0	
	2	MH fixed	Yes						No (depend on remote machine)				0	
	3	Reserved	—						—				0	
	4	Reserved	—						—				0	
		Modem speed (DCS data reception speed)									V.33 14400	V.33 12000		
	5		No.5								0	0		
	6		No.6								1	1		
	7		No.7								0	1		
	8		No.8								0	0		
				V.17 14400	V.17 12000	V.17 9600	V.17 7200	V.29 9600	V.29 7200	V.27ter 4800	V.27ter 2400			
	5		No.5	1	1	1	1	0	0	0	0		1	
	6		No.6	0	0	0	0	0	0	0	0		0	
	7		No.7	0	1	0	1	0	1	1	0		0	
	8		No.8	0	0	1	1	1	1	0	0		0	
SW I 7		Reception speed fixed		NO		V.17-14400PS		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 acknowledgement during G3 transmission	Twice					0					0	
	4	Non modulated carrier for V29 transmission	On					Off					0	
	5	EOL detect timer	25 sec					13sec					0	
	6	Reserved LINE + PROTOCOL MONITOR	— ON					— OFF					0	
	7	Reserved	—					—					0	
	8	Length limitation of copy/send/receive	No limit					Copy/Send:1m Receive:1.5m					0	
SW I 8		Digital line equalization setting (Reception)		0Km		1.8Km		3.6Km		7.2Km				
	1		No.1	0		0		1		1			0	
	2		No.2	0		1		0		1			1	
	3	Dial pausing(sec/pause)	2sec					4sec					1	
	4	Signal transmission level	Binary input 16 8 4 2 1										0	
	5		No. = 4 5 6 7 8										1	
	6		0 1 0 0 0 (-8dBm)										0	
	7												0	
	8												0	
SW I 9		CED tone signal interval		1000ms		750ms		500ms		75ms				
	1		No.1	1		1		0		0			0	
	2		No.2	1		0		1		0			0	
	3	Equalizer freeze control(MODEM)	On					Off					0	
	4	Equalizer freeze conditions	All					7200bps					0	
	5	CED detection time	500ms					1000ms					0	
	6	Reserved	—					—					0	
	7	Reserved	—					—					0	
	8	Busy tone detection (after auto dial)	Yes					No					0	U : 0 / C : 1
SW I 10	1	Reserved	—					—					0	
	2	Reserved	—					—					0	
		CI off detection timer		1200ms		1000ms		700ms		350ms				
	3	(Distinctive ring setting off only)	No.3	0		1		0		1			0	
	4		No.4	0		0		1		1			1	
		Distinctive ringing setting		OFF		STANDARD		RING1		RING2		RING3		OPTION
	5	Factory setting : OFF	No.5	0		0		1		0		1	0	
	6		No.6	0		0		0		1		1	0	
	7		No.7	0		0		0		0		0	0	
	8		No.8	0		1		0		0		0	0	

SW NO.	DATA NO.	ITEM	Switch setting and function					Initial setting	Remarks
			1			0			
SW I 11		END Buzzer		3sec	1sec	No BEEP	No BEEP		
	1		No.1	0	0	1	1	0	
	2		No.2	0	1	0	1	0	
	3	Communication error treatment in RTN sending mode (reception)	No communication error		Communication error			0	
	4	CNG transmission	No		Yes			0	
	5	Error criterion	10~20%		5~10%			0	
	6	Pulse to Tone change by ✳ key	On		Off			0	
	7	CNG transmission in manual trasmission.	No		Yes			0	
	8	Reserved	—		—			0	
SW I 12	1	DTMF signal transmission level (Low)	Binary input 16 8 4 2 1 No. = 1 2 3 4 5 0 1 0 1 0 (–5dBm)					0	
	2							1	
	3							0	
	4							1	
	5							0	
	6	not used	—		—			0	
	7	not used	—		—			0	
	8	not used	—		—			0	
SW I 13	1	DTMF signal transmission level (High)	Binary input 16 8 4 2 1 No. = 1 2 3 4 5 0 0 1 1 1 (–3.5dBm)					0	
	2							0	
	3							1	
	4							1	
	5							1	
	6	not used	—		—			0	
	7	not used	—		—			0	
	8	not used	—		—			0	
SW I 14	1	Reserved	—		—			0	
	2	Reserved	—		—			0	
	3	Reserved	—		—			0	
	4	Reserved	—		—			1	
	5	Reserved	—		—			1	
	6	Reserved	—		—			0	
	7	Reserved	—		—			0	
	8	Reserved	—		—			0	
SW I 15	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 I 16	1	Reserved	—		—			1	
	2	Reserved	—		—			0	
	3	Reserved	—		—			0	
	4	Reserved	—		—			0	
	5	Reserved	—		—			1	
	6	Reserved	—		—			0	
	7	Reserved	—		—			0	
	8	Reserved	—		—			0	

SW NO.	DATA NO.	ITEM	Switch setting and function					Initial setting	Remarks
			1			0			
SW I 17		Speaker volume (3stages)		HIGH	HIGH	MIDDLE	LOW		
	1		NO.1	0	0	1	1	1	
	2		NO.2	0	1	0	1	0	
		Hand-set receiver volume (2stages)		HIGH	HIGH	LOW	LOW		
	3		NO.3	0	0	1	1	1	
	4		NO.4	0	1	0	1	0	
		Ringer volume (4stages)		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	
SW I 18	1	PC I/F mode	Yes		No			1	
	2	Auto reception in PC I/F mode	FAX		PC			1	FUNC+#
	3	Summer time setting	No		Yes			1	FUNC+3
	4	Sender's phone number setting	Cannot change		Change allowed			0	
	5	Polling key	Yes		No			0	OPTION
	6	Activity report print	Automatic printout		No printout when memory full			0	OPTION
	7	Total communication hours and pages print	Off		On			0	
	8	Line density selecton	Fine		Standard			0	OPTION
SW I 19		Density adjustment		Normal	Faint	Deep	Deep(when Dark Mode)		
	1	(when Fine/STD mode)	No.1	0	0	1	1	0	
	2		No.2	0	1	0	1	0	
		Density adjustment		Normal	Faint	Deep	Deep(when Dark Mode)		
	3	(when Half-tone mode)	No.3	0	0	1	1	0	
	4		No.4	0	1	0	1	0	
	5	HTF correction in Half-tone mode	On		Off			1	
	6	MTF correction in Half-tone mode	Strong		Weak			0	
	7	Separation of image area in the half-tone	On		Off			1	
	8	Removal of notch in the binary mode	On		Off			1	
SW I 20		Paper set size		LETTER	LEGAL	A4	Letter		FUNC+6
	1		No.1	0	0	1	1	0	
	2		No.2	0	1	0	1	0	
		Media type		Plain	Coated	—	—	—	
	3		No.3	0	0	—	—	—	0	FUNC+6
	4		No.4	0	0	—	—	—	0	
	5		No.5	0	1	—	—	—	0	
		Print quality when fax printing		—	Normal	Fast Draft	Normal		FUNC+6
	6		No.6	—	0	1	1	0	
	7		No.7	—	1	0	1	1	
	8	Reserved	—		—			0	
SW I 21	1	Reserved	—		—			0	
	2	Reserved	—		—			0	
	3	Reserved	—		—			0	
	4	Reserved	—		—			0	
	5	Reserved	—		—			0	
	6	Reserved	—		—			0	
	7	Reserved	—		—			1	
	8	Reserved	—		—			0	
SW I 22	1	Reserved	—		—			0	
	2	Reserved	—		—			1	
	3	Half tone Copy Resolution	200DPIX200DPI		203DPIX196DPI			0	
	4	Reserved	—		—			0	
	5	Reserved	—		—			0	
		Copy Ratio for B/W copy		AUTO		100%			FUNC+6
	6		No.6	0		0		0	
	7		No.7	0		0		1	
	8		No.8	0		1		0	

SW NO.	DATA NO.	ITEM	Switch setting and function		Initial setting	Remarks
			1	0		
SW I 23	1	Reserved	—	—	0	
	2	Reserved	—	—	0	
	3	Reserved	—	—	0	
	4	Reserved	—	—	0	
	5	Reserved	—	—	0	
	6	Reserved	—	—	0	
	7	Reserved	—	—	1	
	8	Reserved	—	—	0	
SW I 24	1	Align cartridge (1~30) for color cartridge	Binary input 16 8 4 2 1 No. = 1 2 3 4 5 0 1 1 1 1 (15)		0	FUNC+6
	2				1	
	3				1	
	4				1	
	5				1	
	6	FAX printing with paper from manual feeder	Yes	No	0	
	7	FAX printing with color cartridge	Yes	No	0	
	8	FAX printing when low ink detected	Yes	No	0	
SW I 25	1	Align cartridge (1~30) for black cartridge	Binary input 16 8 4 2 1 No. = 1 2 3 4 5 0 1 1 1 1 (15)		0	FUNC+6
	2				1	
	3				1	
	4				1	
	5				1	
	6	Cartridge alarm	Off	On	0	
	7	Low ink detection in black cartridge	Yes	No	1	
	8	Low ink detection in color cartridge	Yes	No	0	
SW I 26	1	Automatic Reduce of receive	Auto	100%	1	FUNC+6
	2	Cut off mode (COPY mode)	Continue	Cut-off	0	FUNC+6
	3	Reserved	—	—	0	
	4	IrDA selection	No.4: 0	PCprint: 0, ZAURUS print: 0, File Transfer: 0, DG camera: 0, Off: 1	0	OPTION
	5		No.5: 0	PCprint: 0, ZAURUS print: 0, File Transfer: 1, DG camera: 1, Off: 0	0	
	6		No.6: 0	PCprint: 0, ZAURUS print: 1, File Transfer: 0, DG camera: 1, Off: 0	0	
	7	Reserved	—	—	0	
	8	Reserved	—	—	0	
SW I 27		DTMF detection time		50ms / 80ms / 100ms / 120ms		
	1		No.1: 0	0 / 1 / 1	0	
	2		No.2: 0	1 / 0 / 1	0	
	3	Protection of remote reception (5 ✳ ✳) detect	Yes	No	0	OPTION
	4	Remote reception with GE telephone	Compatible	Not compatible	1	
	5	Remote operation code figures by external tel (0~9)	Binary input 8 4 2 1 No. = 5 6 7 8 (Data No.) Ex 0 1 0 1		0	OPTION
	6				1	
	7				0	
	8				1	
SW I 28	1	Busy tone detection ON/OFF time (Shorter duration)	350ms	150ms	0	
		Busy tone detection ON/OFF time (Longer duration)		650ms / 900ms / 2700ms / 900ms		
	2		No.2: 0	0 / 1 / 1	0	
	3		No.3: 0	1 / 0 / 1	1	
	4	Busy tone continuous sound detect time	5sec	10sec	1	
	5	Busy tone detect continuation sound detect	No	Yes	0	
	6	Busy tone detect intermittent sound detect	No	Yes	0	
		Busy tone detection pulse number		2pulses / 4pulses / 6pulses / 10pulses		
	7		No.7: 0	0 / 1 / 1	0	
	8		No.8: 0	1 / 0 / 1	1	

SW NO.	DATA NO.	ITEM	Switch setting and function					Initial setting	Remarks
			1				0		
SW I 29	1	TAD connect	Yes				No	0	OPTION
	2	Fax switching when A.M. full	Yes				No	0	OPTION
		Section time of quiet detection		30s	40s	50s	60s		
	3		No.3	0	0	1	1	0	
	4		No.4	0	1	0	1	1	
		Number of CNG detect (AM mode)		1pulse	2pulses	3pulses	4pulses		
	5		No.5	0	0	1	1	0	
	6		No.6	0	1	0	1	1	
	7	Reserved	—				—	0	
	8	Reserved	—				—	0	
SW I 30	1	Quiet detect time	Binary input 8 4 2 1 No. = 1 2 3 4 0 1 0 0 (4sec)					0 1 0 0	OPTION
	2								
	3								
	4								
	5	Quiet detect start timing	Binary input 8 4 2 1 No. = 5 6 7 8 0 1 0 1 (5sec)					0 1 0 1	
	6								
	7								
	8								
SW I 31 ~ 34	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 I 35	1	Reserved	—				—	0	
	2	Reserved	—				—	0	
	3	Reserved	—				—	0	
	4	Reserved	—				—	1	
	5	Reserved	—				—	0	
	6	Reserved	—				—	0	
	7	Reserved	—				—	0	
	8	Reserved	—				—	0	

• Soft switch function description

SW1 No. 1 ~ No. 4 Recall interval

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

SW1 No. 5 ~ No. 8 Recall times

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.

1 : PULSE DIAL
0 : TONE DIAL

SW2 No. 2 Reception mode

Auto/manual receiving mode is set.

SW2 No. 3 ECM mode

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

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

(Depending on remote machine)

SW2 No. 4 CNG detection in Standby mode

When setting to "1", the CNG signal detection function during standby stops.

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 Automatic Cover Sheet

When "0" (=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 Anti 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 mached with fax number of the station registered.

0 : No
1 : Yes

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

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

SW3 No. 5 ~ No. 8 Automatic switching manual to auto receive mode (0 : OFF)

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

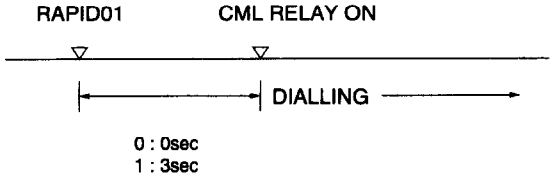
SW4 No. 1 ~ No. 3 Communication results printout (Transaction report)

Every communication, the result can be output. As usual, it is set to print the timer sending communication error alone. If No.1 : 0 No.2 : 0 No.3 : 1 are set, printing is always on (printed ever if it is normally ended).

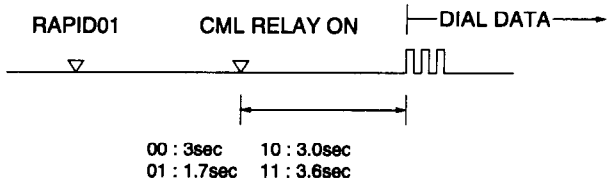
000 : Error, timer and memory sending/receiving
010 : Sending
110 : Continuous printing
100 : Not printed
001 : Communication error

SW4 No. 4 Delay timer before line connect in auto dial

Delay time between the dial key input and line connection under the auto dial mode.



SW4 No. 5, No. 6 Delay timer of after line connect in auto dial
Delay time between the line connection and dial data output under the auto dial mode.



SW4 No. 7, No. 8 Number of CNG detect (STAND-BY mode)

Used for detection of CNG in 1 to 4 pulses.

SW5 No. 1 Date format

Used to select date display/print formats.

SW5 No. 2 Time format

When this switch is set to "0", time is displayed in 12-hour system.
When set to "1",24-hour system.

SW5 No. 3 Sender's information transmit

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 applide.

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 Reserved

Set to "0".

SW5 No. 6 Substitute reception

Selection of substitute reception in the case of recording paper exhausted or paper jam. If set to "NO", auto receive is disabled even when the receive memory is ready to receive.
Substitute reception is not performed even during receive operation.

SW5 No. 7 Substitute reception 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 H2 mode

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

SW6 No. 2 MH fixed

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

SW6 No. 3, No. 4 Reserved

Set to "0".

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

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

SW7 No. 1, No. 2 Reception speed fixed

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

SW7 No. 3 DIS receive acknowledgement 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 usefull for overseas communication to avoid an echo suppression problem, if set to 1.

SW7 No. 4 Non modulated carrier in V29 transmission

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 usefull for overseas communication to avoid an echo suppression problem, if set to 1.

SW7 No. 5 EOL detect timer

Used to make a choice of whether to use the 25-second or 13-second timer for detection of End of line.
This is effective to override communication failures with some facsimile models that have longer End of line detection.

SW7 No. 6, No. 7 Reserved

Set to "0". LINE + PROTOCOL MONITOR (1) ON

SW7 No. 8 Length limitation of copy/send/receive

Used to set the maximum page length.
To avoid possible paper jam, the page length is normally limited to 1 meter for copy or transmit, and 1.5 meters for receive.
It is possible to set it to "No limit" to transmit a long document, such as a computer print form, etc. (In this case, the receiver must also be set to no limit.)

SW8 No. 1 , No. 2 Digital line equalization setting (Reception)

Needs to be set to the line characteristics. A guide line is the distance between the exchange office and the telephone terminal. Since it needs not to be set in the normal case since it has been set to 1.8Km, it should be corrected in case communication failures occur frequently.

SW8 No. 3 Dialing pausing (sec/pause)

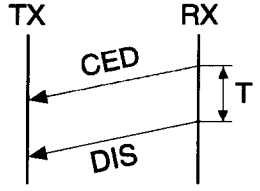
Pauses can be inserted between telephone numbers of direct dial connection. Selection of 4 sec or 2 sec pause is available.

SW8 No. 4 ~ No. 8 Signal transmission level

Used to control the signal transmission level in the range of-0dB to-31dB. The factory setting is at-10dB (MODEM output).

SW9 No. 1, No. 2 CED tone signal interval

For international communication, the 2100Hz CED tone may act as an echo suppression switch, causing a communication problem.
Though SW9 No.1 , No.2 are normally set to 0, it should be changed this time between the CED tone signal to eliminate the communication problem caused by echo.



SW9 No. 3 Equalizer freeze control (MODEM)

This switch is used to perform reception operation by fixing the equalizer control of modem for the line which is always in unfavorable state and picture cannnot be received.Usually, the control is executed according to the state of line where the equalizer setting is changed always.

SW9 No. 4 Equalizer 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 Reserved

Set to "0".

SW9 No. 8 Busy tone detection (after auto dial)

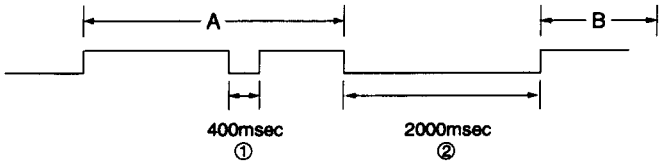
Use to set busy tone detection in auto dialing.

SW10 No. 1, No. 2 Reserved

Set to "0".

SW10 No. 3, No. 4 CI off detection timer (Distinctive ring setting off only)

Set the minimum time period of CI signal interruption which affords to be judged as a CI OFF section.

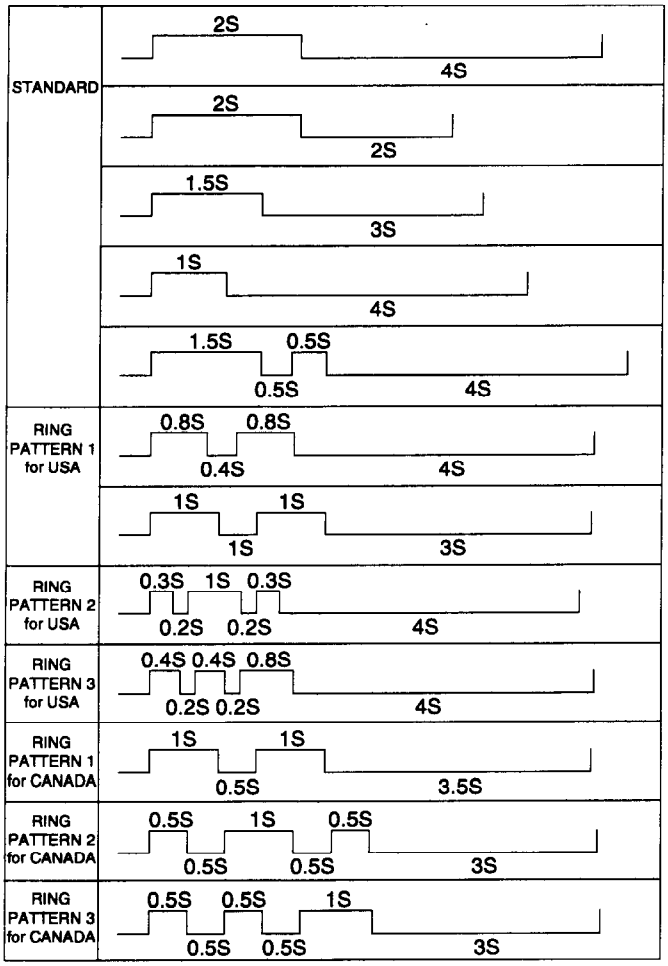


SW10 No. 5 ~ No. 8 Distinctive ringing setting (Factory setting:OFF)

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 through7. The standard pattern is the conventional one.



SW11 No. 1 , No. 2 End buzzer

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

SW11 No. 3 Communication error treatment in RTN sending mode (reception)

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

SW11 No. 4 CNG transmission

When set to "0", this model allows CNG transmission by pressing the Start key in the key pad dialing mode. When set to "1", CNG transmission in the key pad dialing mode cannot be performed. In either case. CNG transmission can be performed in the auto dial mode.

SW11 No. 5 Error criterion

Used to select error criterion for sending back RNT when receiving image data.

SW11 No. 6 Pulse to Tone change by ✳ key

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

SW11 No. 7 CNG transmission in manual transmission

In case of CCITT there is no need to send the CNG signal in manual transmission mode .This setting allows this signal to be sent in case of manual transmission so as to inform the other party's machine that the machine is FAX.

SW11 No. 8 Reserved

Set to "0".

SW12 No. 1 ~ No. 5 DTMF signal transmission level (Low)

The transmission level of DTMF signal is adjusted. (lower frequency)

00000 : 0 dBm

↓

11111 : -15.5 dBm

SW12 No. 6 ~ No. 8 not used

Set to "0".

SW13 No. 1 ~ No. 5 DTMF signal transmission level (High)

The transmission level of DTMF signal is adjusted. (higher frequency)

00000 : 0 dBm

↓

11111 : -15.5 dBm

SW13 No. 6 ~ No. 8 not used

Set to "0".

SW14 No. 1 ~ No. 3 Reserved

Set to "0".

SW14 No. 4 , No. 5 Reserved

Set to "1".

SW14 No. 6 ~ No. 8 Reserved

Set to "0".

SW15 No. 1 ~ No. 8 Reserved

Set to "0".

SW16 No. 1 Reserved

Set to "1".

SW16 No. 2 ~ No. 4 Reserved

Set to "0".

SW16 No. 5 Reserved

Set to "1".

SW16 No. 6 ~ No. 8 Reserved

Set to "0".

SW17 No. 1, No. 2 Speaker volume (3stages)

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

SW17 No. 3, No. 4 Hand-set receiver volume (2stages)

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

SW17 No. 5, No. 6 Ringer volume (4stages)

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

SW17 No. 7, No. 8 Reserved

Set to "0".

SW18 No. 1 PC I/F mode

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

SW18 No. 2 Auto reception in PC I/F mode

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

SW18 No. 3 Summer time setting

This is used to set YES/NO of automatic clock adjustment for summer time.

SW18 No. 4 Sender's phone number setting

Used to make a choice of whether the registered sender's phone number can be changed or not. If the switch is set to "1", new registration of the sender's phone number is disabled to prevent accidental wrong input.

SW18 No. 5 Polling key

If this switch is set to 1, the last of Rapid key works as polling key.

SW18 No. 6 Activity report print

This soft switch is used to select : whether or not to print out the activity report when the memory is full. An activity report can be printed when the following key entry command is made.

"FUNCTION", "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 the memory will be deleted from the oldest as it reaches the maximum memory capacity.

SW18 No. 7 Total communication hours and pages print

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

SW18 No. 8 Line density selection

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

SW19 No. 1, No. 2 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.

SW19 No. 3, No. 4 Density adjustment (when Half-tone mode)

This is used for density adjustment in the half tone.

SW19 No. 5 HTF correction in Half-tone mode

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

SW19 No. 6 MTF correction in Half-tone mode

This allows selection of MTF correction (dimness correction) in the half tone mode. When "Strong" (= 1) is selected, the whole image becomes soft and mild, On the contrary, however, clearness of characters will be reduced. Normally set to "Strong" (= 1).

SW19 No. 7 Separation of image area in the half tone

This allows selection of MTF correction (dimness correction) in the half tone mode. When "NO" (= 1) is selected, the whole image becomes soft and mild, On the contrary, however, clearness of characters will be reduced. Normally set to "NO" (= 0).

SW19 No. 8 Removal of notch in the binary mode

The notch signal is removed in the binary mode.

SW20 No. 1, No. 2 Paper set size

Set the size of recording paper for reception and list print.

SW20 No. 3~ No. 5 Media type

Set the type of recording paper for reception and list print.

SW20 No. 6 , No.7 Print quality when fax printing

Set the printing method for reception and list print.

SW20 No. 8 Reserved

Set to "0".

SW21 No. 1 ~ No. 6 Reserved

Set to "0".

SW21 No. 7 Reserved

Set to "1".

SW21 No. 8 Reserved

Set to "0".

SW22 No. 1 Reserved

Set to "0".

SW22 No. 2 Reserved

Set to "1".

SW22 No. 3 Half tone copy resolution

The image resolution conversion rate is set in the copy mode.
0 : 203 DPI X 196 DPI (1.53 times X 1.47 times)
1 : 200 DPI X 200 DPI (1.50 times X 1.50 times)

SW22 No. 4, No. 5 Reserved

Set to "0".

SW22 No. 6 ~ No.8 Copy Ratio for B/W copy

Set the magnification when "PRESET" is selected in copy mode.

SW23 No. 1 ~ No. 6 Reserved

Set to "0".

SW23 No. 7 Reserved

Set to "1".

SW23 No. 8 Reserved

Set to "0".

SW24 No. 1 ~ No. 5 Align cartridge (1~30) for color cartridge

After the color cartridge has been mounted press

"FUNCTION", "6", "✂", "✂", "✂", "START"

to print Bidirectional Alignment Pattern.
On the printed test page, locate the number under the Bidirectional Alignment pattern that comes closest to forming a perfectly straight line.

SW24 No. 6 Fax printing with paper from manual feeder

To print the received picture in hand paper feed mode, set "1".

SW24 No. 7 Fax printing with color cartridge

To print the received picture with the color cartridge set "1".

SW24 No. 8 Fax printing when low ink detected

To print the received picture in "Low Ink" state, set "1'.

SW25 No. 1 ~ No. 5 Align cartridge (1~30) for black cartridge

After the black cartridge has been mounted press

"FUNCTION", "6", "><", "><", "><", "START"

to print Bidirectional Alignment Pattern.
On the printed test page, locate the number under the Bidirectional Alignment pattern that comes closest to forming a perfectly straight line.

SW25 No. 6 Cartridge alarm

Set existence/nonexistence of alarm tone alarming the failure of return of cartridge to the home position.

SW25 No. 7 Low ink detection in black cartridge

Set detection/nondetection of black ink "Low ink".

SW25 No. 8 Low ink detection in color cartridge

Set detection/nondetection of color ink "Low ink".

SW26 No. 1 Automatic reduce of receive

If set to 1, it is reduced automatically when receiving.

SW26 No. 2 Cut off mode (COPY mode)

Whether the excessive part is printed on the next recording paper or discarded is selected to copy a document which is longer than the recording paper.

SW26 No. 3 Reserved

Set to "0".

SW26 No. 4 ~ No. 6 IrDA selection

Set the other party of Ir communication.

SW26 No. 7, No. 8 Reserved

Set to "0".

SW27 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 detect time is, the less the error detection is caused by noises.

SW27 No. 3 Protection of remote reception (5 >< ><) detect

Used to set the function of remote reception (5 >< ><). When set to "1", the remote reception funcion is disabled.

SW27 No. 4 Remote reception with GE telephone

(Corresponding to TEL made by GE) P.B.X.
"1": Compatible with TEL mode by GE
"0": Not compatible

- When sending (5 >< ><) for remote reception with a GE manufactured telephone remote reception may not take place because of special specifications in their DTMF.
  To overcome this, a soft SW is provided to change the modem setting to allow for remote reception.
- If this soft SW is set to "1", other telephone sets may be adversely affected.

SW27 No. 5 ~ No. 8 Remote operation code figures by external tel (0~9)

Remote operation codes can be changes from 0 through 9. If set to greater than 9, it defaults to 9. The "5 >< ><" is not changed.
Ex-7>< >< (Default : 5 >< ><).

SW28 No. 1 Busy tone detection ON/OFF time (Shorter duration)

The initial value of detection is set according to electric condition.
The set value is changed according to the local switch board. (Erroneous detection of sound is reduced.)
Normally the upper limit is set to 2700msec. and the lower limit to 150msec.
If erroneous detection is caused by sound, etc., adjust the detection range.
The lower limit can be set in the range of 350msec to 150msec.

SW28 No. 2, No. 3 Busy tone detection ON/OFF time (Longer duration)

Similarly to SW-28 No.1, the set value can be varied.
The upper limit can be set in the range of 650msec to 2700msec.

SW28 No. 4 Busy tone continuous sound detect time

Set detecting time busy tone for 5 seconds or as is PTT.

SW28 No. 5 Busy tone detect continuation sound detect

Used to select detection of the continuous sound of certain frequency.

SW28 No. 6 Busy tone detect intermittent sound detect

Used to select detection of the intermittent sound of certain frequency.

SW28 No. 7, No. 8 Busy tone detection pulse number

Used to set detection of Busy tone intermittent sounds.

SW29 No. 1 TAD connect

When connecting the answering machine to the extension telephone jack.
Set to "1".

SW29 No. 2 Fax switching when A.M.full

If the answering machine's memory (tape) is full and there is no response, the machine automatically switches to Fax reception.

SW29 No. 3, No. 4 Section time of quiet detection

The switch which sets the time from the start of detection function to the end of the function.

SW29 No. 5, No. 6 Number of CNG detect (AM mode)

Used for detection of CNG in 1 to 4 pulses.

SW29 No. 7, No. 8 Reserved

Set to "0".

SW30 No. 1 ~ No. 4 Quiet detect time

When an answering machine is connected, if a no sound state is detected for a certain period of time, the machine judges it as a transmission from a facsimile machine and automatically swiches to the Fax mode.

SW30 No. 5 ~ No. 8 Quiet detect start timing

Inserts a pause before commencing quiet detection.

SW31 No. 1 ~ No. 8 Reserved

Set to "0".

SW32 No. 1 ~ No. 8 Reserved

Set to "0".

SW33 No. 1 ~ No. 8 Reserved

Set to "0".

SW34 No. 1 ~ No. 8 Reserved

Set to "0".

SW35 No. 1 ~ No. 3 Reserved

Set to "0".

SW35 No. 4 Reserved

Set to "1".

SW35 No. 5 ~ No. 8 Reserved

Set to "0".

[3] Troubleshooting

Refer to the following actions to troubleshoot any of 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.
  5. May be used in case [3].
- Apply line equalization SOFT SWITCH 8-1, 2.
  May be used in case [1] [2] [3] [4].
- Slow down the transmission speed SOFT SWITCH 6-5, 6, 7, 8.
  May be used in case [2] [3].
- Replace the TEL/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. :

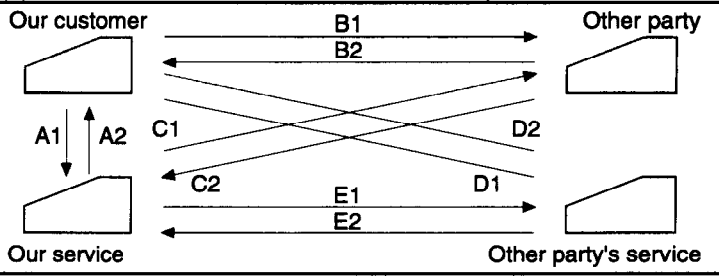
CC: ATT: Date :

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	Model: 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. ****

* Please complete this report before calling the "TAC" hotline if problem still occurs.

[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 fall back
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 in receiver side or DCN signal received* (transmitter side)
8	–	Owing to error in some page the error could not be corrected although the specified number of error retransmission was at tempted.
11	–	Error occurred after or while reception by the remote (receiving) machine was revealed to be impossible.
12	–	Error occurred just after fallback.
13	–	Error occurred after a response to retransmission end command was received.

G3 Reception

Code	Final received signal	Error Condition (Receiver side)
0	Incomplete signal frame	Cannot recognize bit stream after flag
1	NSS, DCS	Cannot recognize CFR or FTT signal 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.

CHAPTER 3. MECHANISM BLOCKS

[1] General description

1. Document feed block and diagram

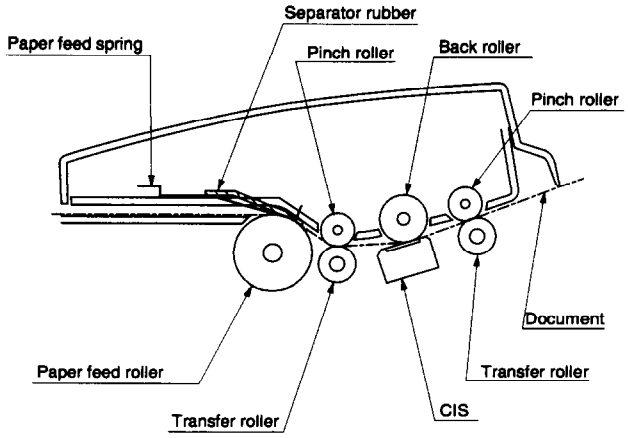


Fig. 1

2. Document feed operation

1) The document placed in the hopper actuates the document sensor. After one second, the pulse motor starts to the paper feed roller. The document is automatically taken up into the mashine, and stopped at the document sensor.
2) When a specified number of pulses are received from the document sensor after the document lead edge is sensed.scanning is started.
3) When a specified number of pulses are received from the document sensor after the document rear edge is sensed. Scanning is terminated and the document is fed through.
4) If the document sensor is active (i.e.,another document is in the hopper), when the preceding document scanning is completed and it is fed out, the next document is taken up into the machine. If the document sensor is not active (i.e.,there is no document in the hopper), when the document is fed out , the operation is terminated.

3. Hopper mechanism

3-1. General view

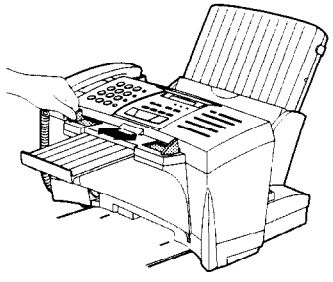


Fig. 2

The hopper is used to align documents with the document guides adjusted to the paper width.
NOTE: Adjust the document guide after setting up the document.

3-2. Automatic document feed

1) Use of the paper feed roller and separation rubber plate ensures error-free transport and separation of documents. The plate spring presses the document to the paper feed roller to assure smooth feeding of the document.
2) Document separation method: Separation rubber plate

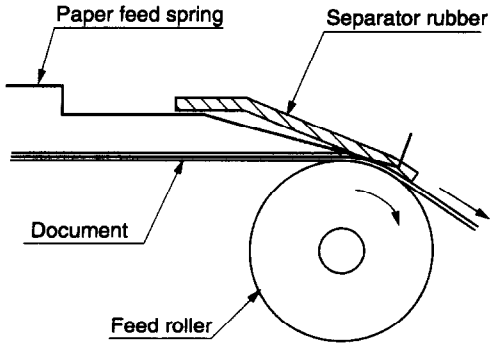


Fig. 3

3-3. Documents applicable for automatic feed

	Minimum	Maximum
Weight	45kg 52g/m² 14LB	70kg 80(81)g/m² 20(21.7)LB
Thickness	0.06mm 0.0024"	0.1(0.09)mm 0.0035"
Document size	B6(148mmx128mm) ~ LGL(216mmx355.6mm) A4(210mmx297mm) LTR(216mmx279mm)	
Capacity	B6 ~ LTR/A4	20sheets
Manual	More than 90kg(104g/m²)	1sheet
	Below 135kg(157kg/m²)	1sheet
	*One page is supported for 1m length paper max.(hold paper by hand)	

NOTE: Double-side coated documents and documents on facsimile recording paper should be inserted manually. The document feed quantity may be changed according to the document thickness.

Documents corresponding to a paper weight heavier than 64.3kg (74.3g/m²) and lighter than 135kg (157g/m²) are acceptable for manual feed.

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

3-4. Loading the documents

1) Make sure that the documents are of suitable size and thickness, and free from creases, folds, curls, wet glue, wet ink, clips, staples and pins.
2) Place documents face down in the hopper.
   i) Adjust the document guides to the document size.
   ii) Align the top edge of documents and gently place them into the hopper. The first page under the stack will be taken up by the feed roller to get ready for transmission.

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

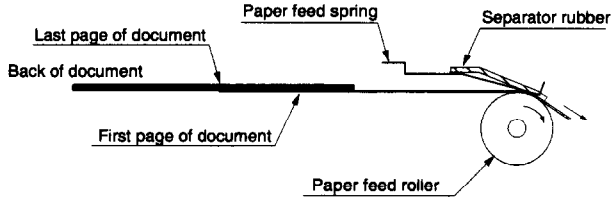


Fig. 4

3-5. Documents requiring use of document carrier

1) Documents smaller than B6 (128mm x 182mm).
2) Documents thinner than the thickness of 0.06mm.
3) Documents containing creases, folds, or curls, especially those whose surface is curled (maximum allowable curl is 5mm).
4) Documents containing tears.
5) Carbon-backed documents. (Insert a white sheet of paper between the carbon back and the document carrier to avoid transfer of carbon to the carrier.)
6) Documents containing an easily separable writing material (e.g., those written with a lead pencil).
7) Transparent documents.
8) Folded or glued documents.

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

4. Document release

4-1. General

When the release lever is pulled by hand in the direction of arrow, the latch is released and the upper document guide moves on its axis in the derection of the arrow. The feed rollers, the separation rubber plate, and the pinch rollers become free to make it possible to remove the document.

4-2. Cross section view

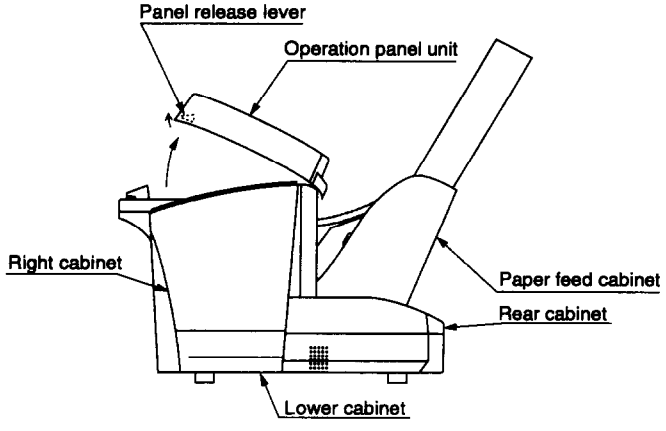


Fig. 5

5. Paper feed

5-1. ASF

As a result of reception motor drive the reduction gear, idler gear, planetary gear, and paper feed gear are synchronized. Since the Pu roller rotates, the paper sensor is turned on and advanced until it engages with the feed roller, Then, the motor is inverted to feed to the print position with the feed roller.

5-2. Manual paper feed

Insert the paper, aligning with the right side of paper feed cab until the paper sensor is turned on and the feed roller catches. It is sent to the print position by the feed roller.

5-3. Print

The ink cartridge is moved from the right side to the left side by the carriage motor. At this time ink is ejected from the ink cartridge to print on the paper.

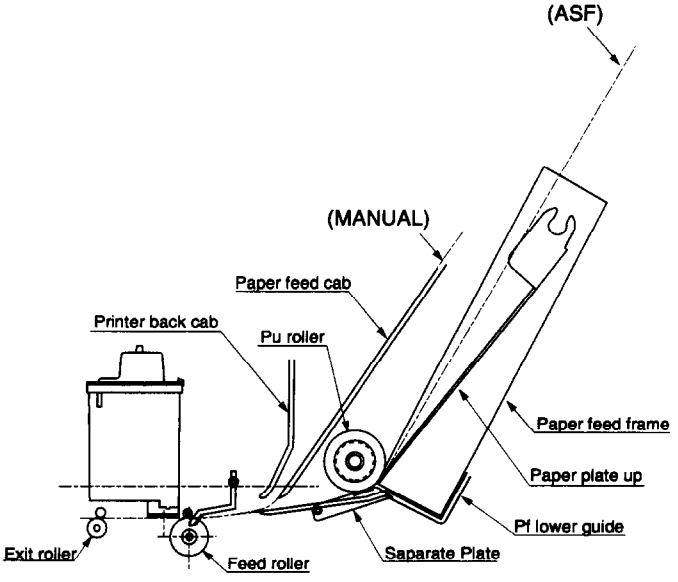


Fig. 6

5-4. ASF sequence

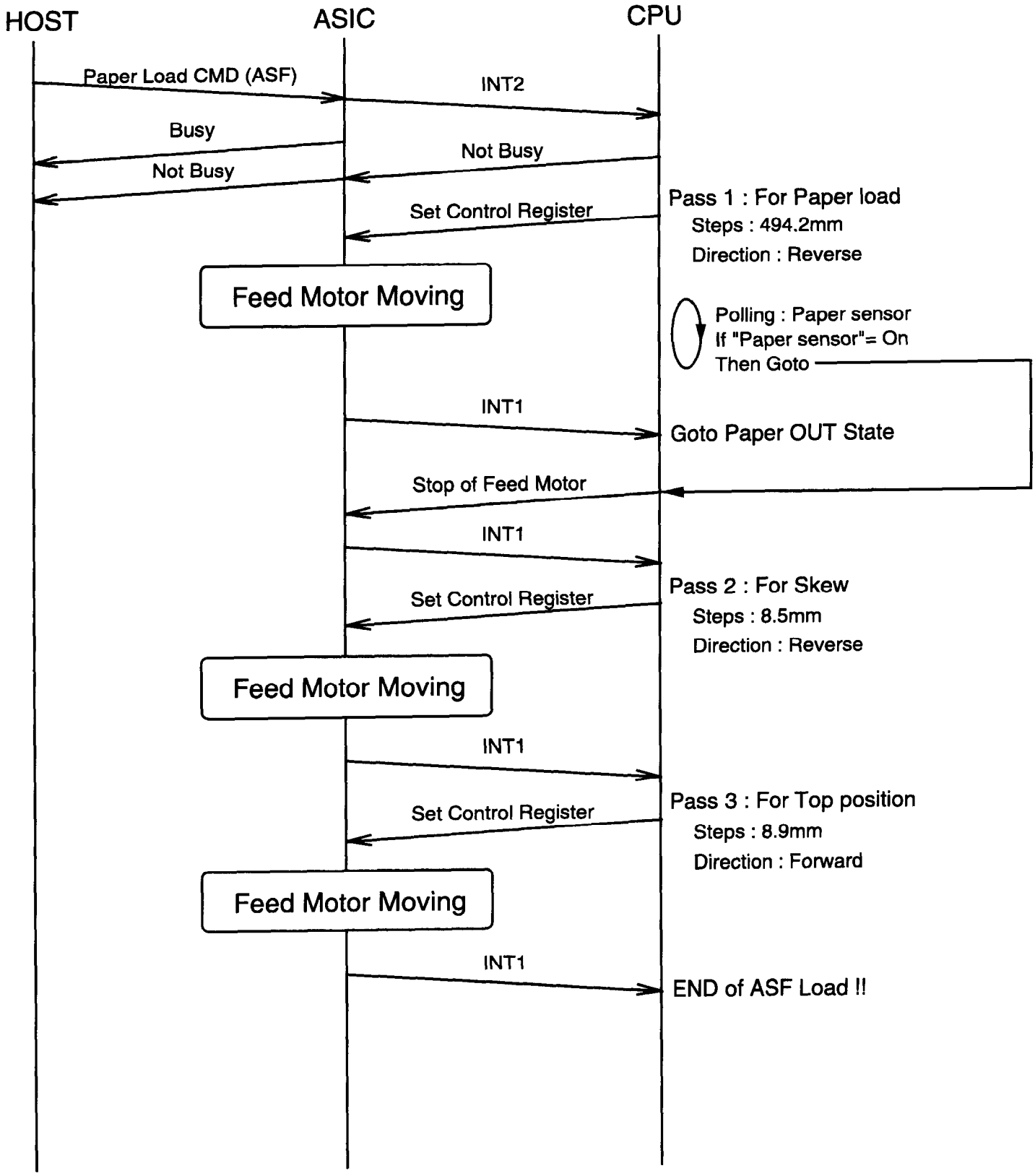


Fig. 7

[2] 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.
- Note on changing cartridges : To prevent the used print cartridge from drying out, be sure to store it in the cartridge holder.

1 Rear Cabinet, Paper Feed Unit Handdet Holder,Printer Back Cabinet

Disassembly procedures (Fig. 1)

STEP	REMOVAL	PROCEDURE
1	Rear Cabinet	1. Screw (3x12) ..... (A1) x 2
2	Document Tray	1. Push inside the Document Tray arms .....ⓐ
3	Paper Feed Unit	1. Screw (3x6) ..... (B1) x 1
4	Handset Holder	1. Open the Operation Panel Unit 2. Screw (3x12) ..... (C1) x 1 3. Release the Handset Holder lock nails ..ⓑ
5	Printer Back Cabinet	1. Screw (3x10) ..... (D1) x 2

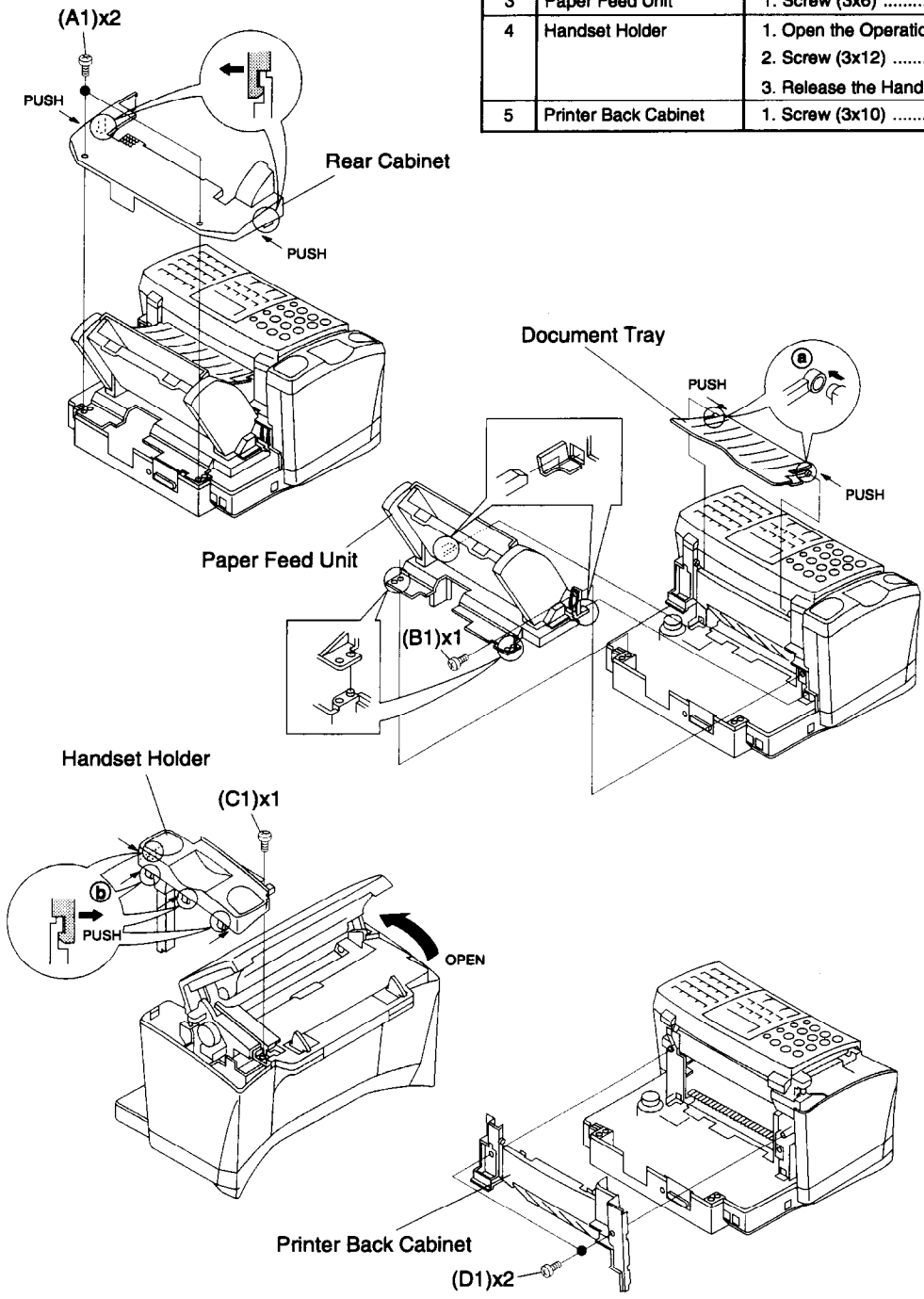


Fig. 1

2 Left Cabinet, Right Cabinet, Front cover

Disassembly procedures (Fig. 2)

STEP	REMOVAL	PROCEDURE
1	Left Cabinet	1. Screw (3x12) ..... (A1) x 2 2. Release the Left Cabinet lock nails .....ⓐ
2	Right Cabinet	1. Screw (3x12) ..... (B1) x 1 2. Release the Right Cabinet lock nails .....ⓑ
3	Front Cover	1. Push inside the Front Cover arms .....ⓒ

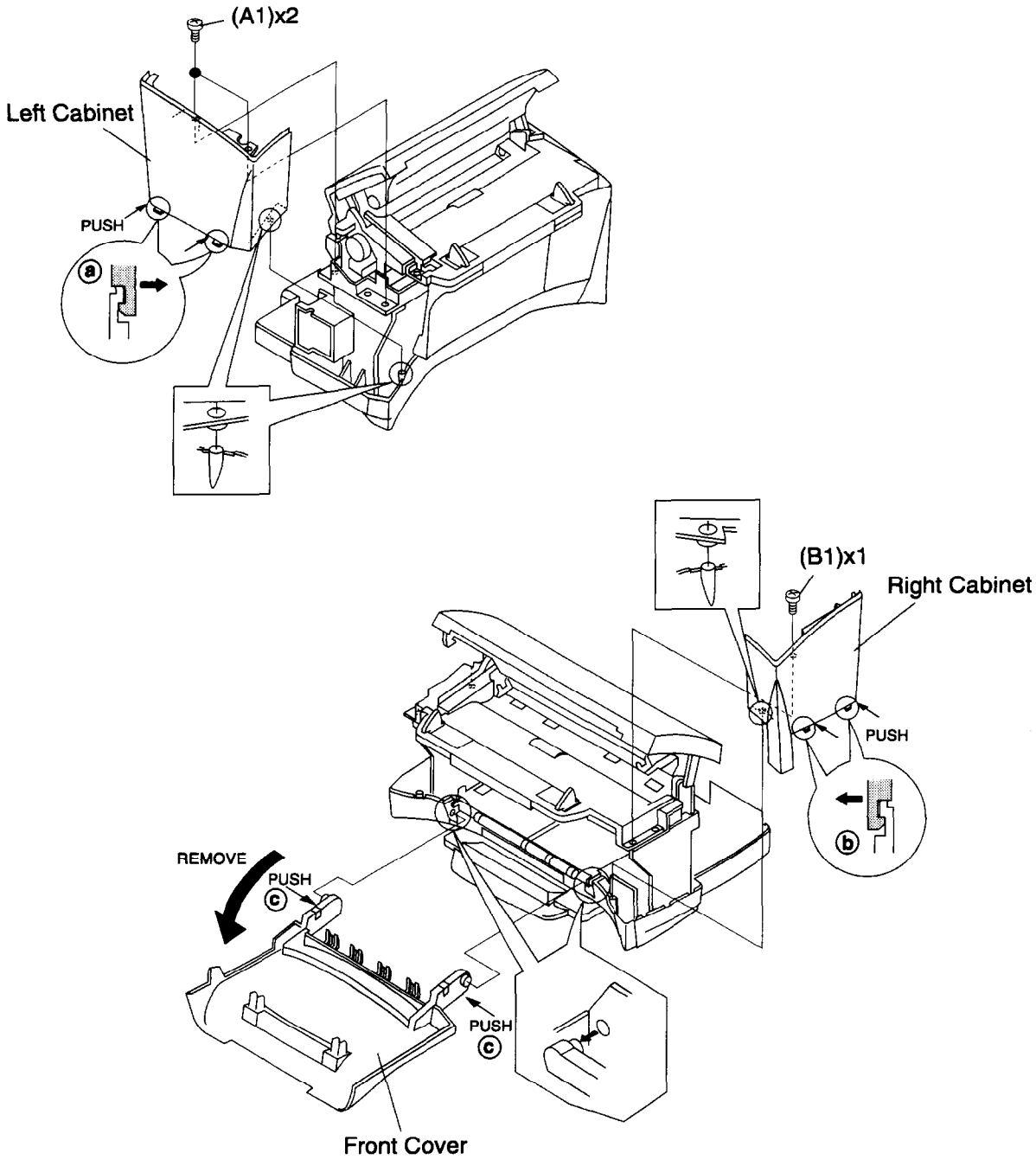


Fig. 2

3 Operation panel Unit

Disassembly procedures (Fig. 3)

STEP	REMOVAL	PROCEDURE
1	Operation Panel Unit	1. Push the Operation Panel Unit arms .....ⓐ
2	Panel Cabinet Upper Document Guide	1. Screw (3x10) ..... (B1) x 3 2. Socket ..... (B2) x 1 3. Push the Upper Document Guide arms .ⓑ
3	Panel PWB Unit, 12Key, Direct Key, Start Key, Stop Key, Mode Key, Insulation Sheet, LCD PWB Unit	1. Screw (2x6) ..... (C1) x 6 2. Push outside the LCD PWB Hook .....ⓒ

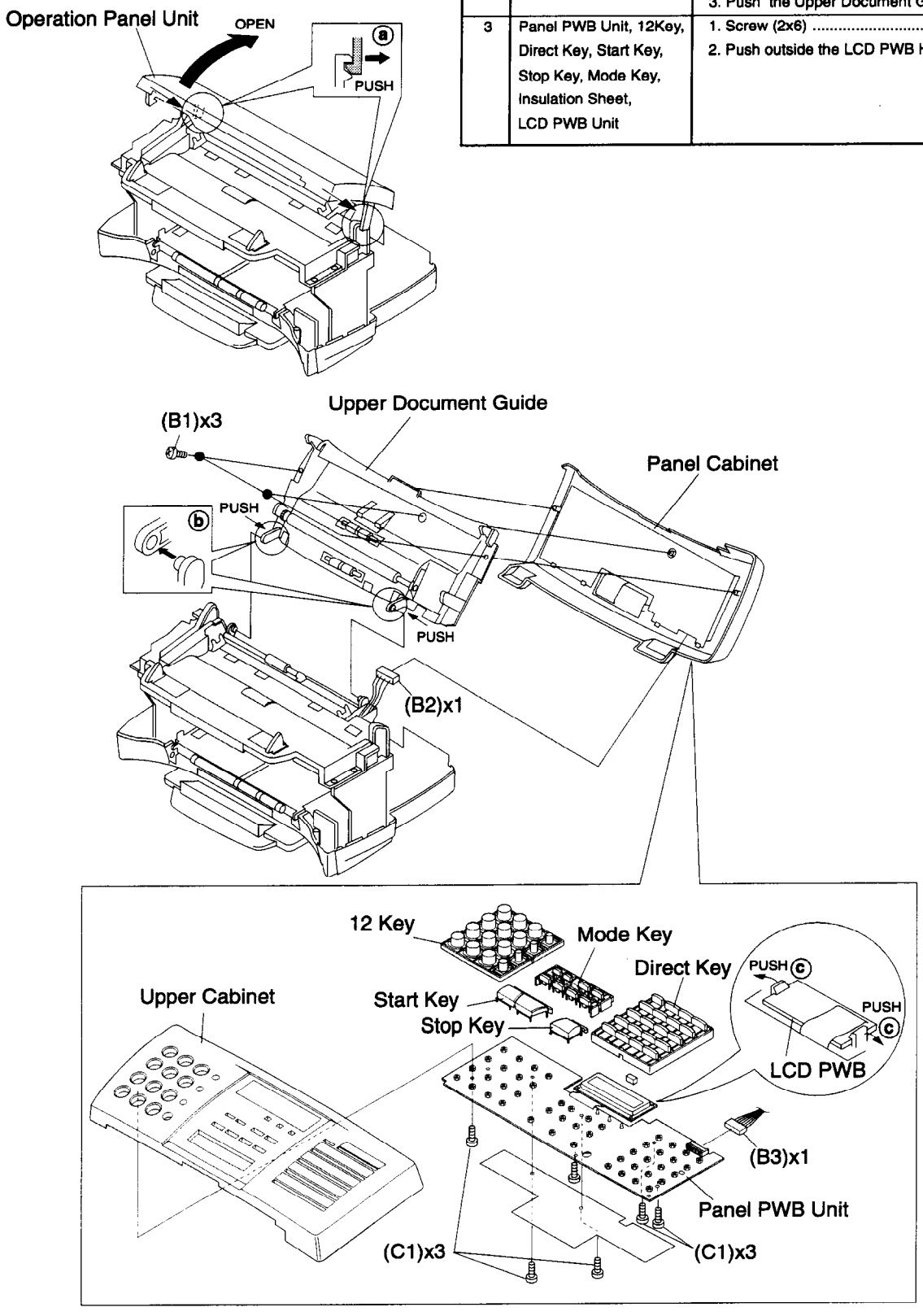


Fig. 3

4 Paper Feed Cabinet

Disassembly procedures (Fig. 4)

STEP	REMOVAL	PROCEDURE
1	Paper Feed Cabinet	1. Screw (3x10) ..... (A1) x 2
2	Paper Feed Roller Holder	1. Screw (3x10) ..... (B1) x 2
3	Paper Up Roller Ass'y	1. Remove the Paper Feed Gear 2. Pull forward the shaft holder ..... ⓐ 3. Remove the Paper Up Roller Shaft
4	Paper Feed Frame	1. Screw (3x10) ..... (C1) x 2 2. Screw (3x10) ..... (C2) x 2 3. Remove the RP Release Gear 4. Remove the RP Release Plate 5. Remove the Paper Up Plate

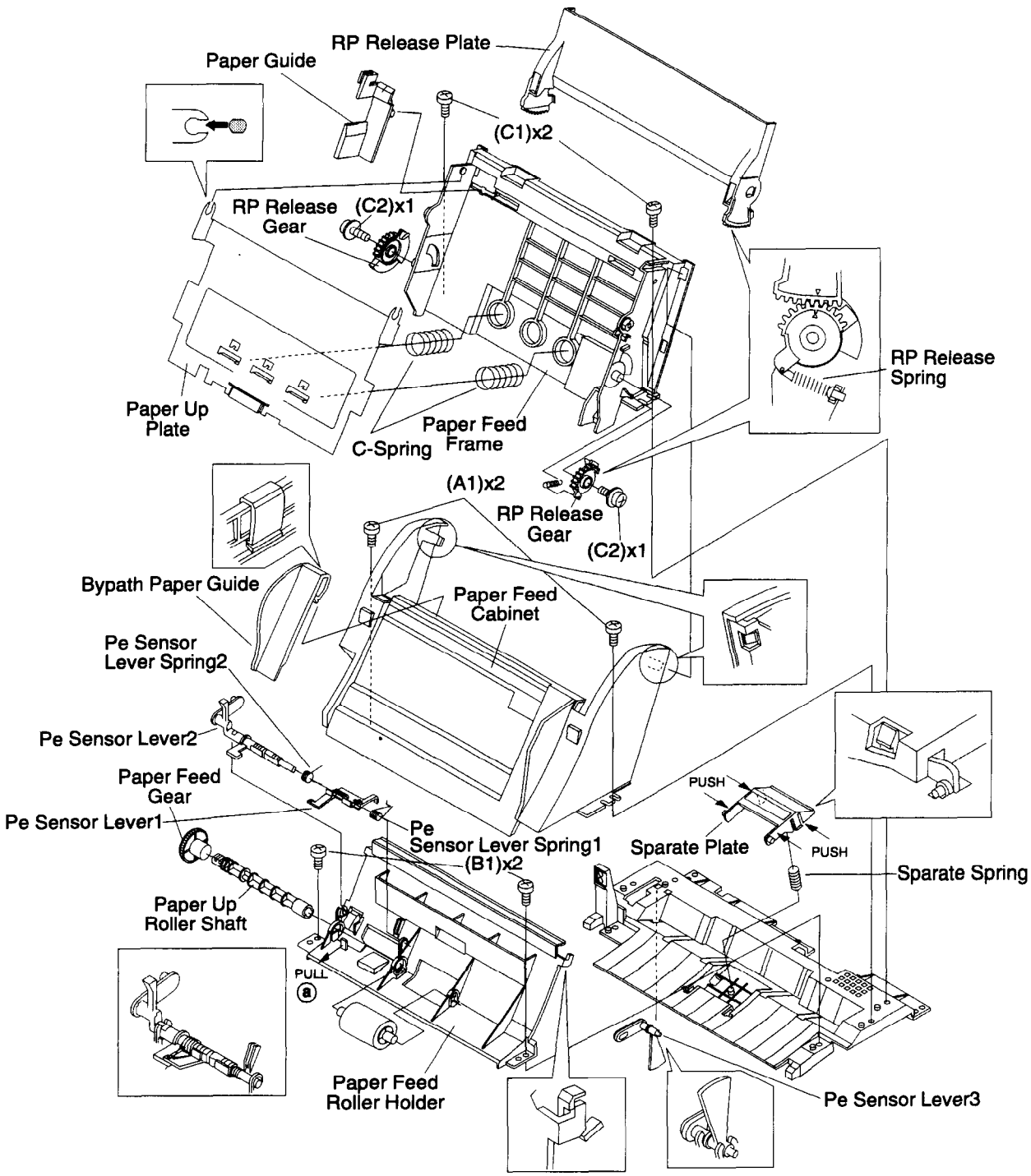


Fig. 4

5 Upper Document Guide

Disassembly procedures (Fig. 5)

STEP	REMOVAL	PROCEDURE
1	Strength Angle	1. Screw (3x10) ..... (A1) x 1 2. Screw (3x10) ..... (A2) x 1
2	Strengthen Plate	1. Screw (3x10) ..... (A3) x 2
3	Pinch Roller Shaft Pinch Roller	1. Remove springs .....ⓐ
4	Document Out Spring	1. Screw (3x6) ..... (A4) x 1
5	Panel Lock Lever	1. Remove spring .....ⓑ 2. Remove the Panel Lock Lever .....ⓒ

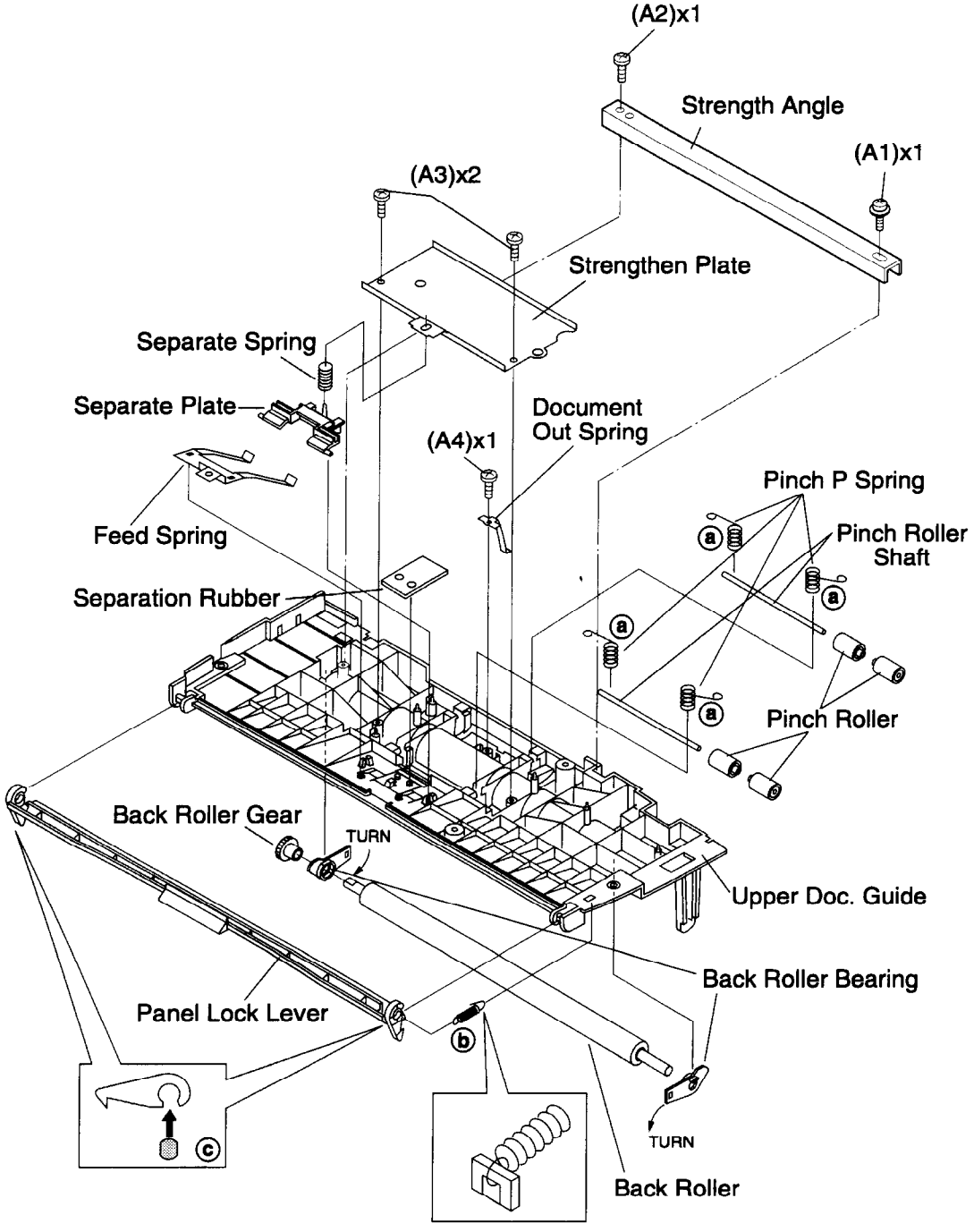


Fig. 5

6 Lower Document Guide, CIS Unit

Disassembly procedures (Fig. 6)

STEP	REMOVAL	PROCEDURE
1	Lower Document Guide	1. Screw (3x10) ..... (A1) x 1 2. Pull the Lower Document Guide latch .....ⓐ
2	CIS Unit Ass'y	1. Pull outside the CIS Unit hook .....ⓑ 2. Socket ..... (B1) x 1 3. Remove the CIS Holder

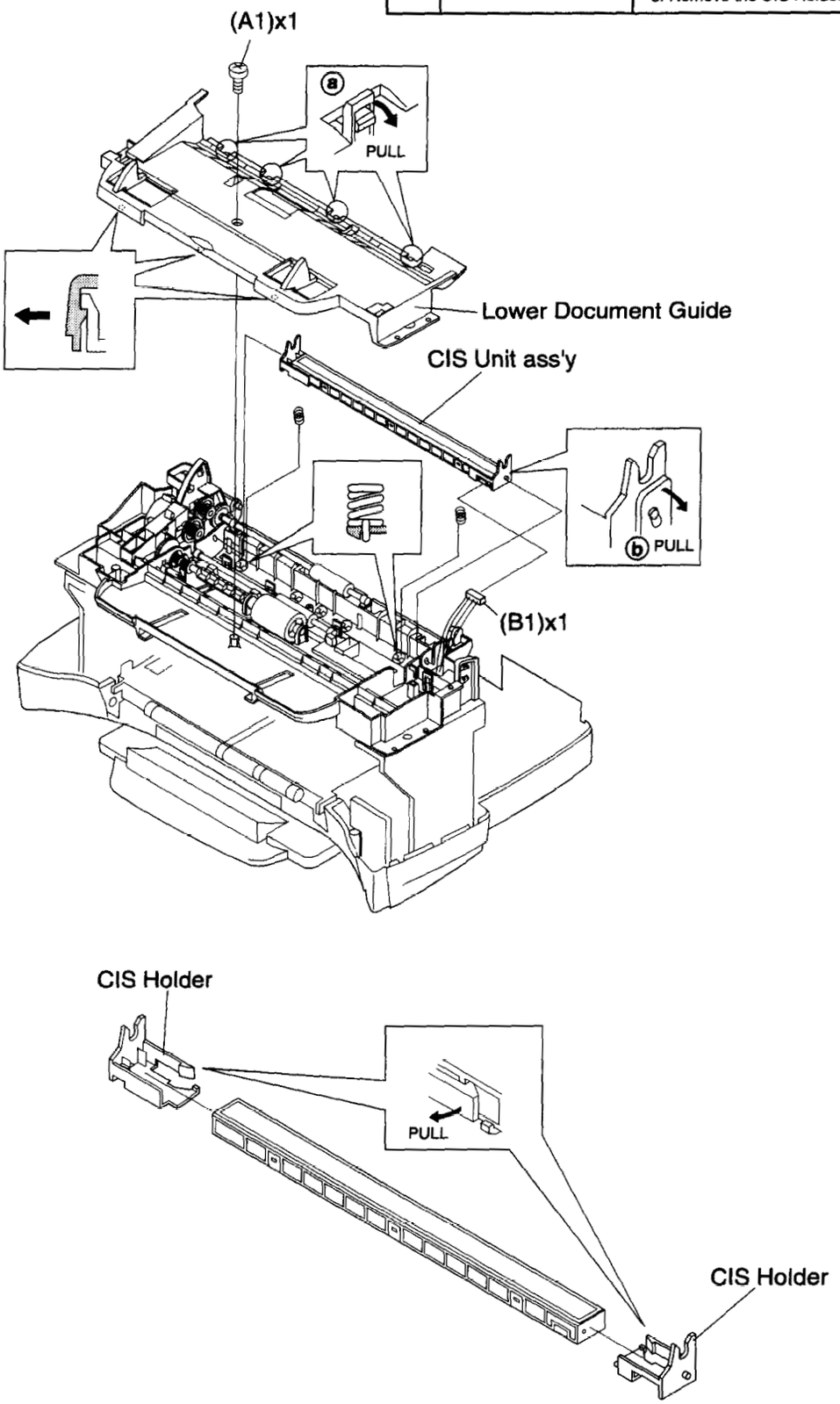
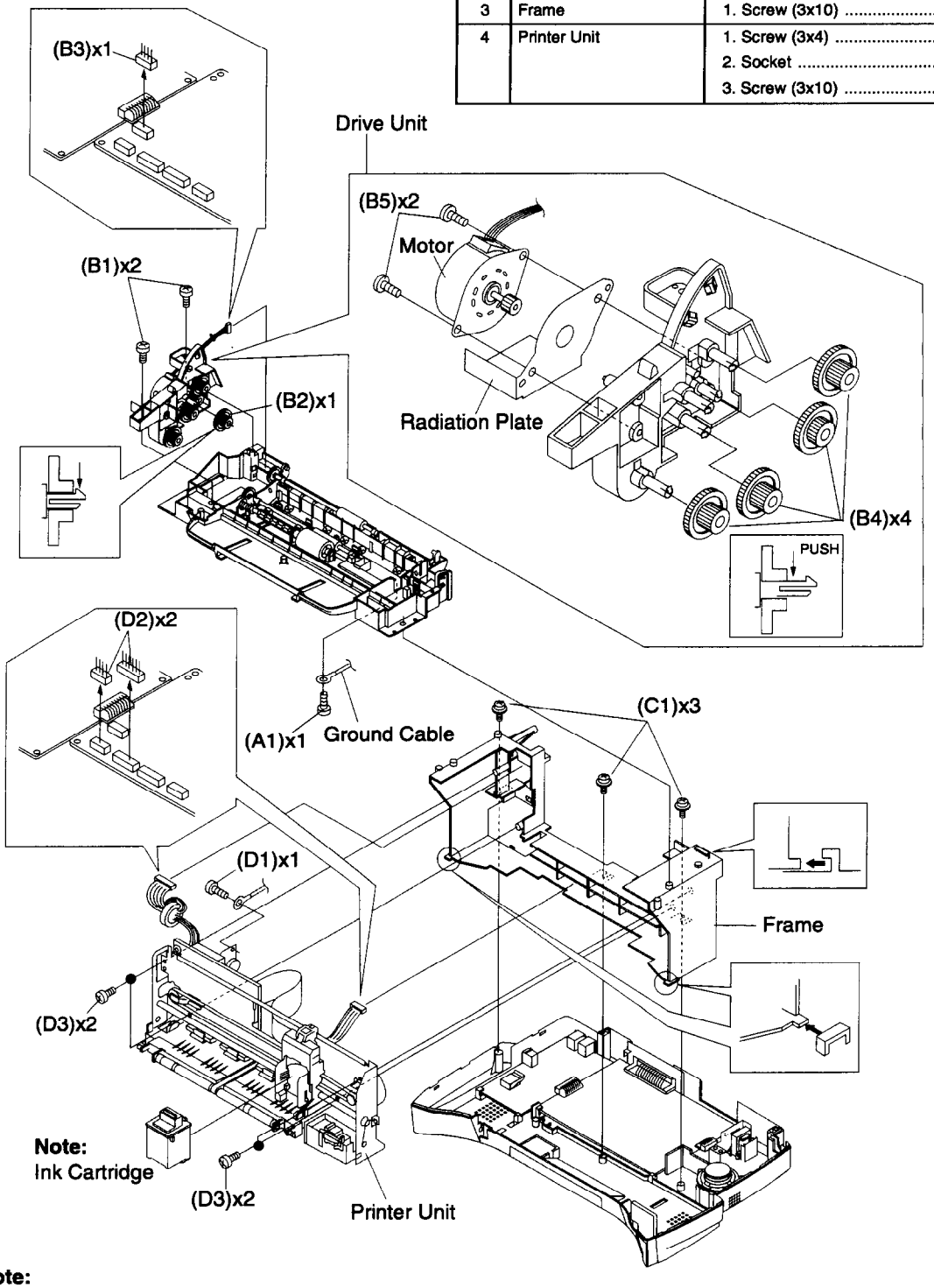


Fig. 6

7 Drive Unit, Printer Unit

Disassembly procedures (Fig. 7)

STEP	REMOVAL	PROCEDURE
1	Ground Cable	1. Screw (3x4) ..... (A1) x 1
2	Drive Unit	1. Screw (3x10) ..... (B1) x 2 2. Gear (18/35z) ..... (B2) x 1 3. Socket ..... (B3) x 1 4. Gear (18/36z) ..... (B4) x 4 5. Screw (3x10) ..... (B5) x 2 6. Remove the Motor and the Radiation Plate
3	Frame	1. Screw (3x10) ..... (C1) x 3
4	Printer Unit	1. Screw (3x4) ..... (D1) x 1 2. Socket ..... (D2) x 2 3. Screw (3x10) ..... (D3) x 4



Note:
To prevent the used print cartridge from drying out, be sure to store it in the cartridge holder.

Fig. 7

8 Scaner Unit

Disassembly procedures (Fig. 8)

STEP	REMOVAL	PROCEDURE
1	Transfer Roller	1. Remove the Transfer Roller
2	Feed Roller	1. Screw (3x30) ..... (A1) x 1
3	Extension Hopper	1. Slide the Extension Hopper
4	Sub Base Plate	1. Push the Sub Base Plate latch .....ⓐ 2. Slide the Sub Base Plate .....ⓑ

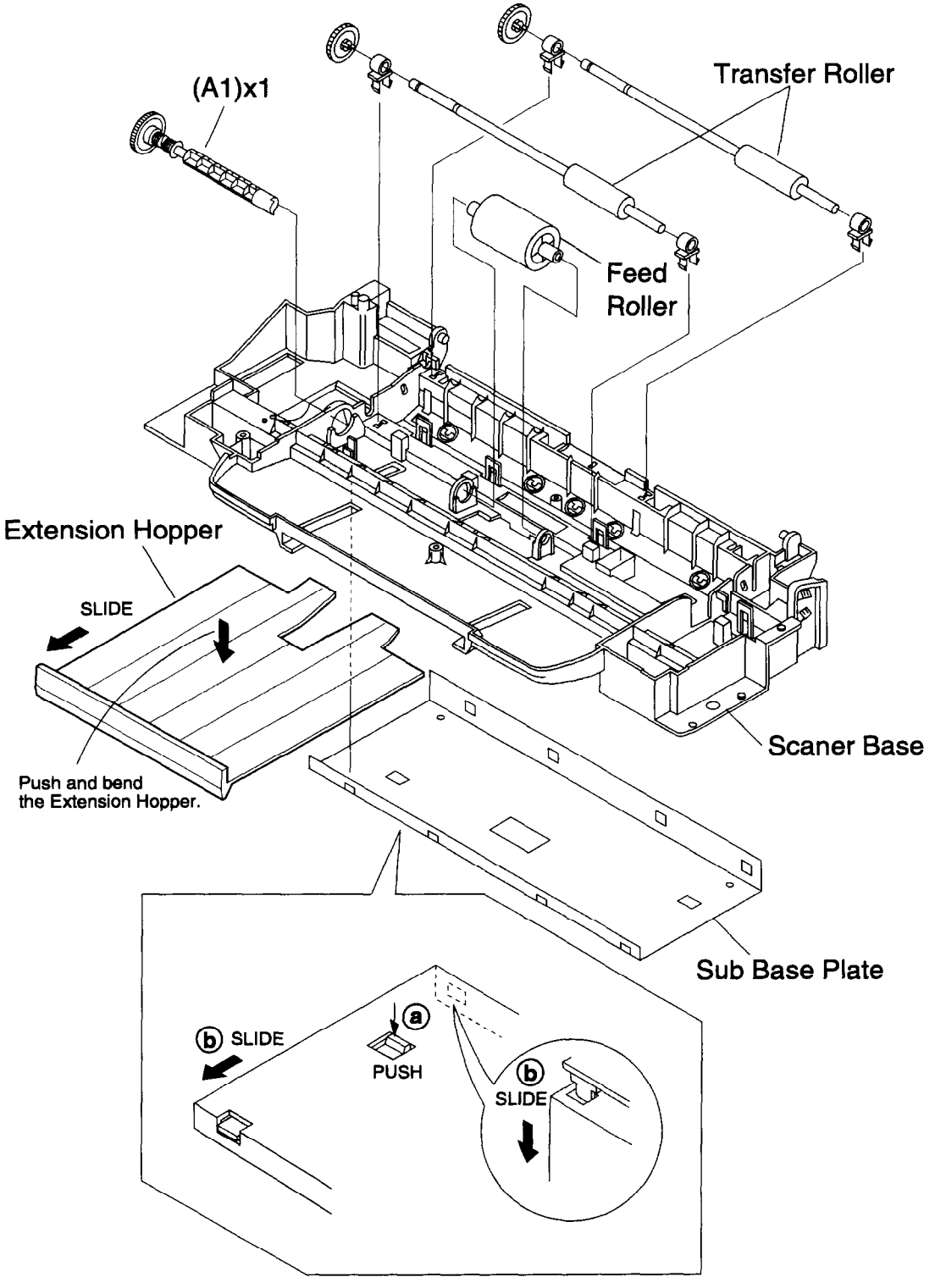


Fig. 8

9 Printer Unit

Disassembly procedures (Fig. 9)

STEP	REMOVAL	PROCEDURE
1	Steping CR Motor	1. Socket ..... (A1) x 1
		2. Screw (2x5) ..... (A2) x 2
2	Ink Carrier	1. Socket ..... (B1) x 2
		2. Holder ..... (B2) x 1
		3. Remove the Main Shaft
		4. Screw (2x5) ..... (B3) x 1
3	Paper Feed Motor	1. Socket ..... (C1) x 1
		2. Screw (3x4) ..... (C2) x 2
4	Maintenance Base	1. Screw (1x6) ..... (D1) x 1
5	Motor Bracket	1. Screw (3x6) ..... (E1) x 1
	Base Frame	2. Screw (3x4) ..... (E2) x 2
	INK PWB Unit	3. Remove Bearing ..... ⓐ
		4. Screw (3x10) ..... (E3) x 1
6	Printer PWB Unit	1. Screw (3x4) ..... (F1) x 3

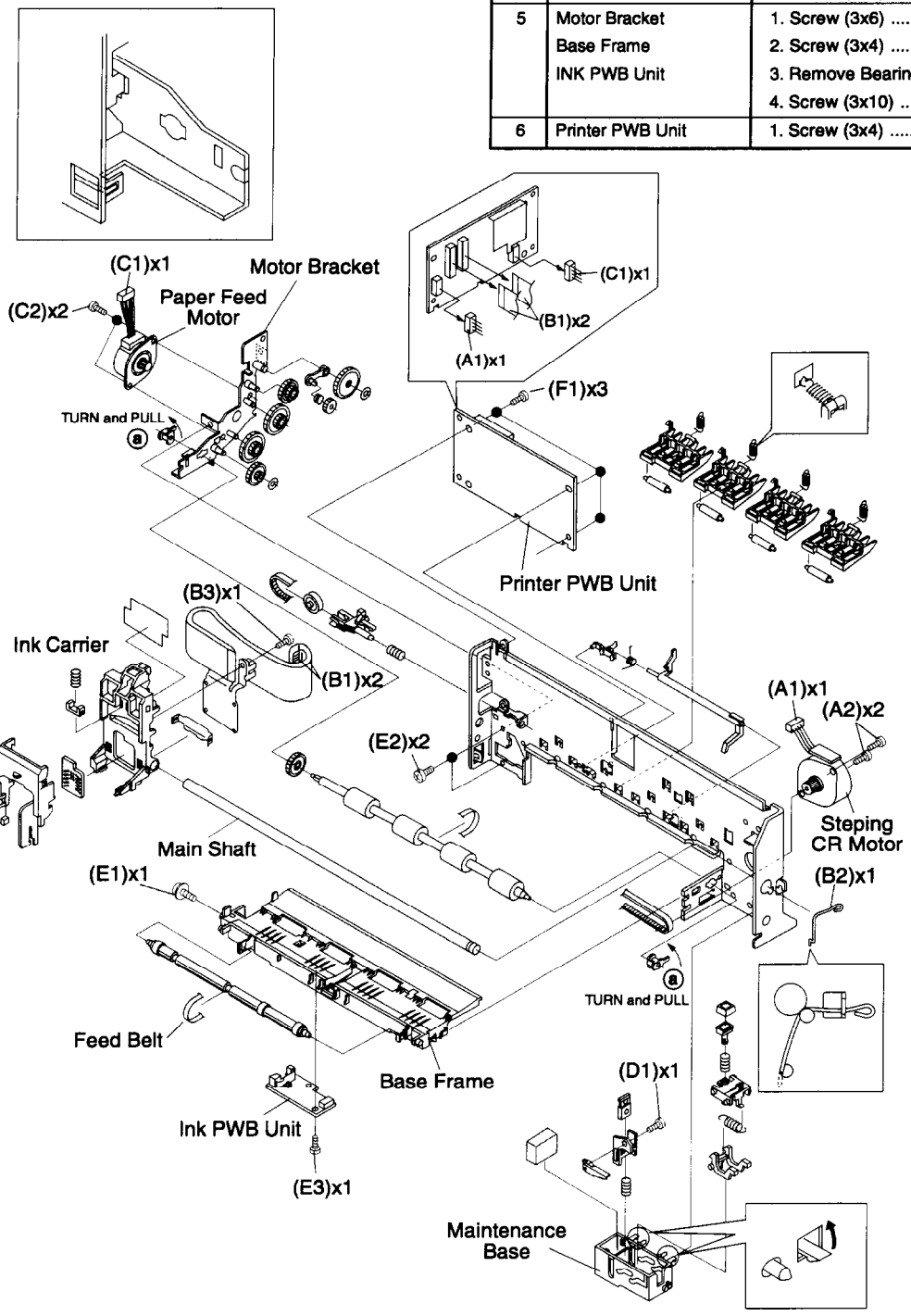


Fig. 9

10 IrDA PWB Unit, Control PWB Unit, TEL/Liu PWB Unit, Power Supply PWB Unit

Disassembly procedures (Fig. 10)

STEP	REMOVAL	PROCEDURE
1	IrDA PWB Unit	1. Socket ..... (A1) x 1
		2. Screw (3 x 10) ..... (A2) x 1
2	Speaker Ass'y	1. Socket ..... (B1) x 1
		2. Screw (3 x 10) ..... (B2) x 3
3	Control PWB Unit	1. Screw (3 x 10) ..... (C1) x 7
	TEL/Liu PWB Unit	2. Screw (3 x 6) ..... (C2) x 1
	Power Supply PWB Unit	3. Screw (3 x 6) ..... (C3) x 2
	Shield Plate	4. Screw (3 x 6) ..... (D1) x 1
		5. Screw (4 x 6) ..... (D2) x 1
		6. Screw (3 x 6) ..... (D3) x 1
		7. Socket ..... (D4) x 1

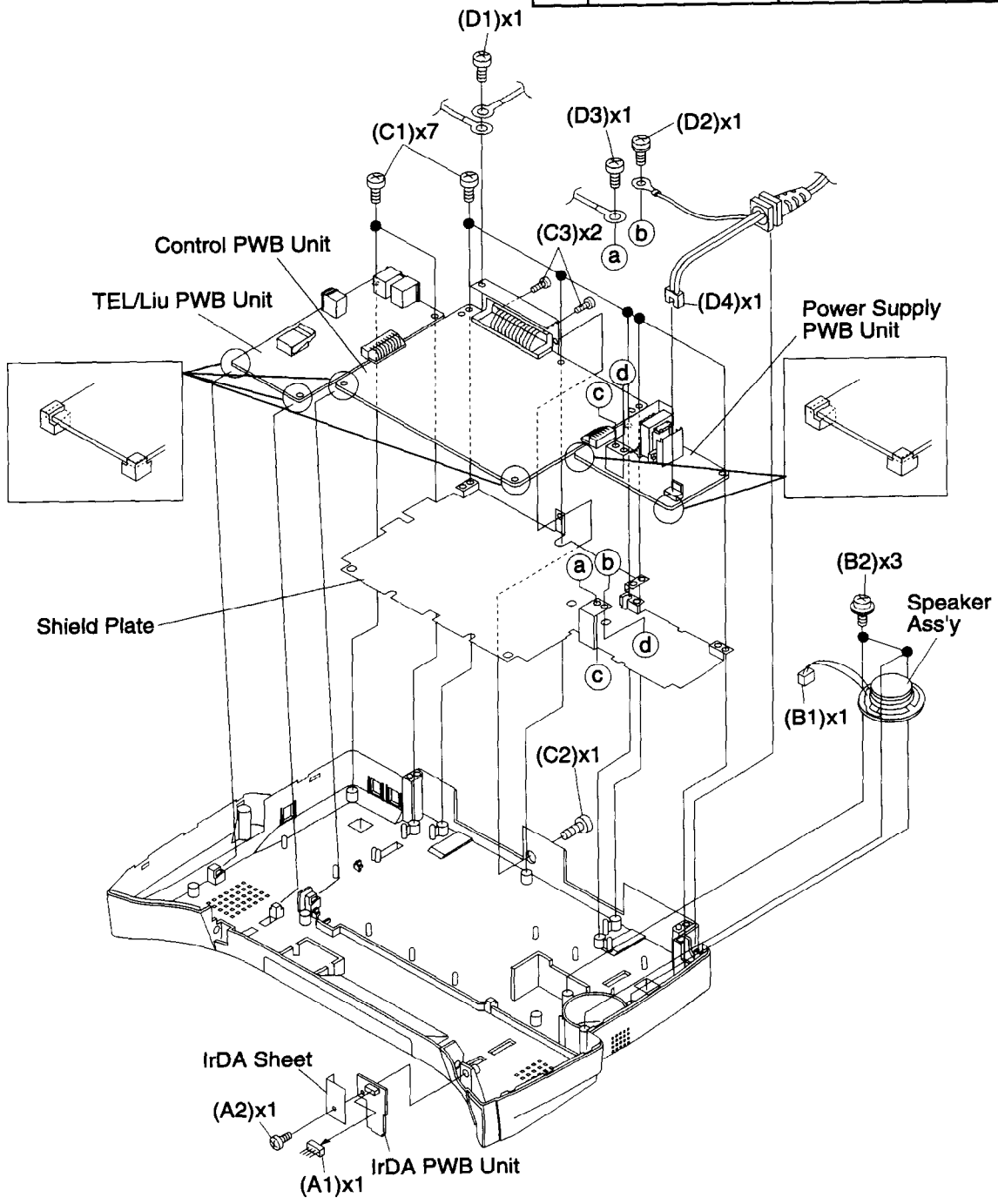


Fig. 10

11	Wire treatment

Parts list (Fig. 11)

No.	Part name	Q'ty
1	Band	3
2	Core (RCORF2064XHZZ)	2
3	Core (RCORF2096FFZZ)	1
4	Core (RCORF2063XHZZ)	2

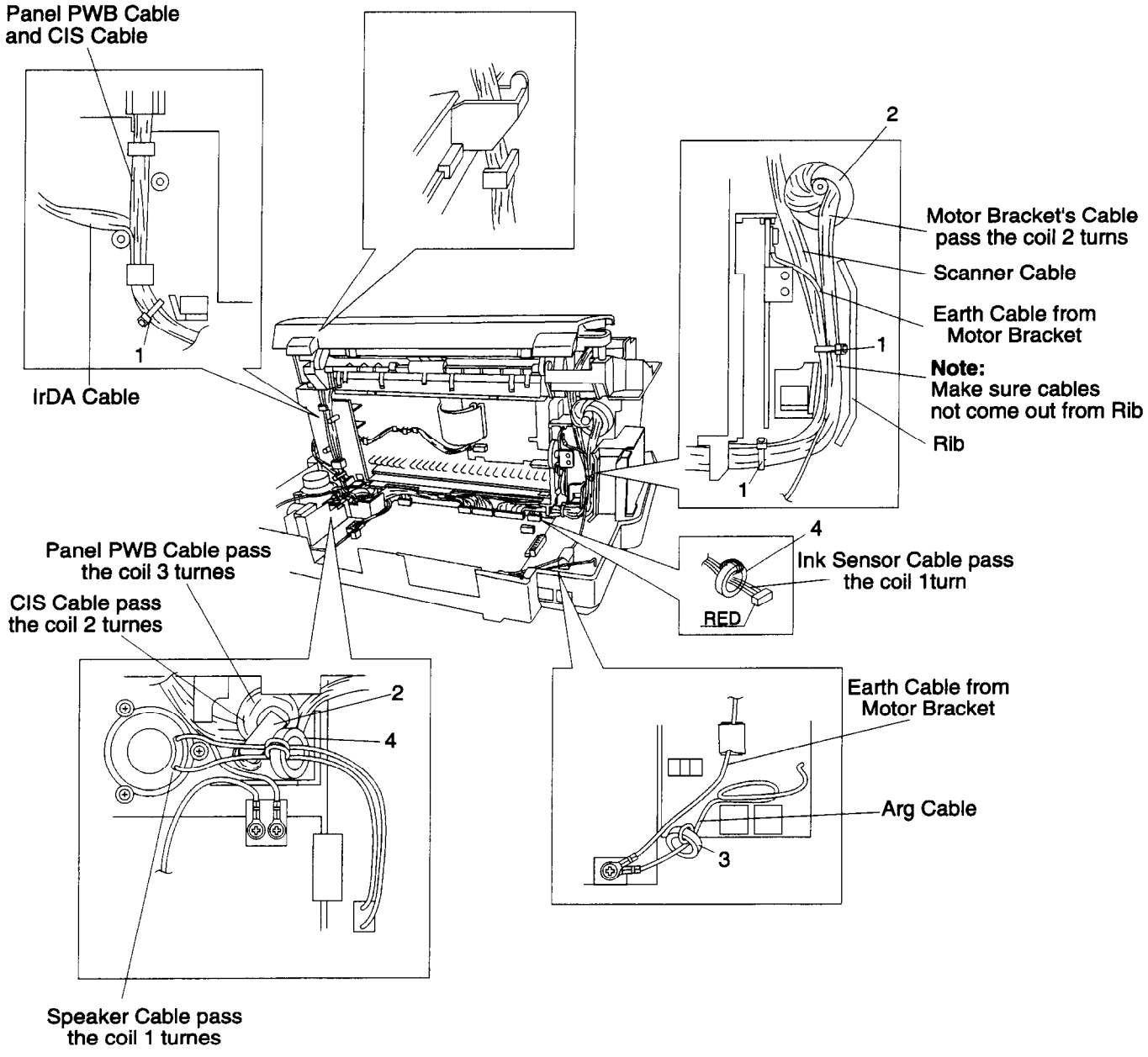
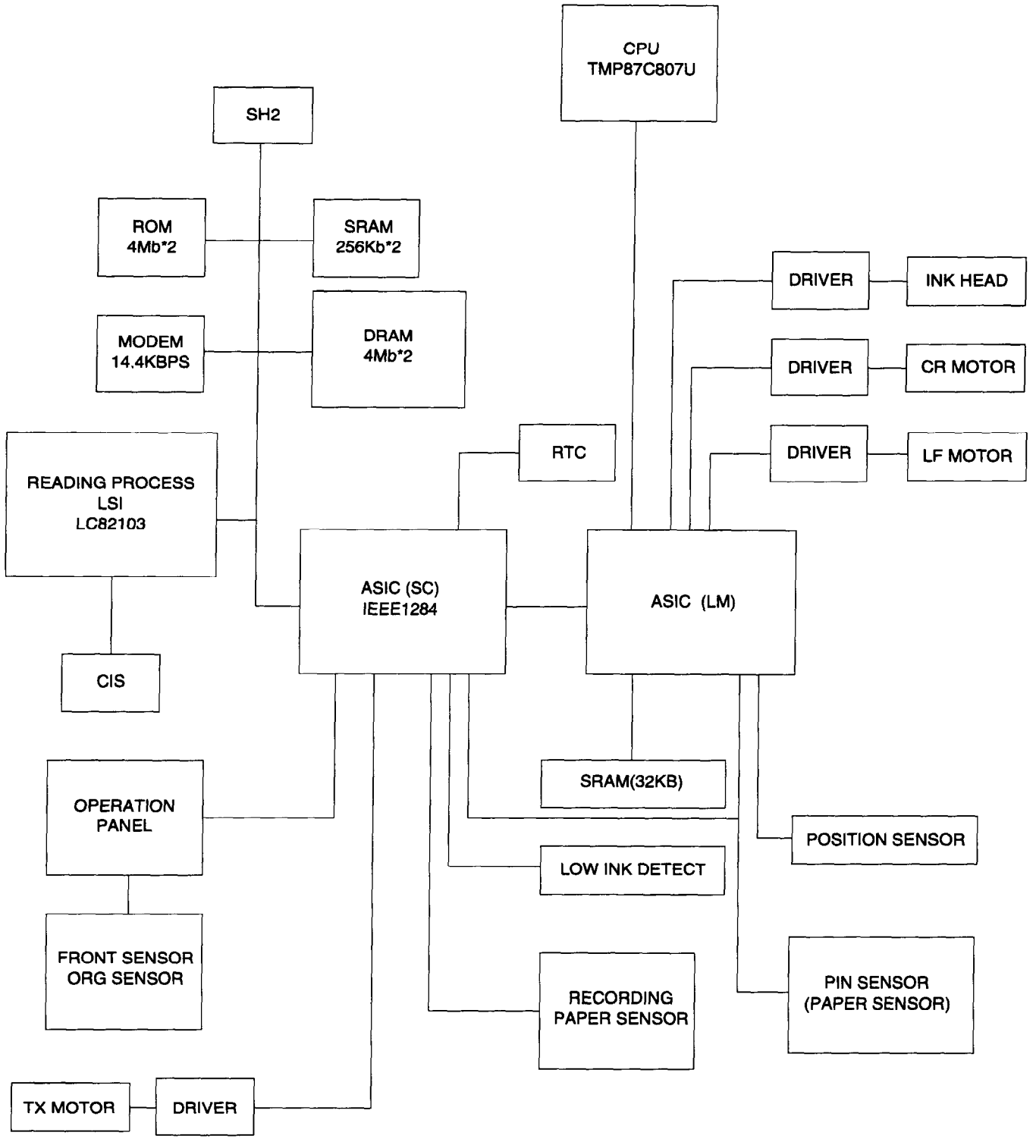


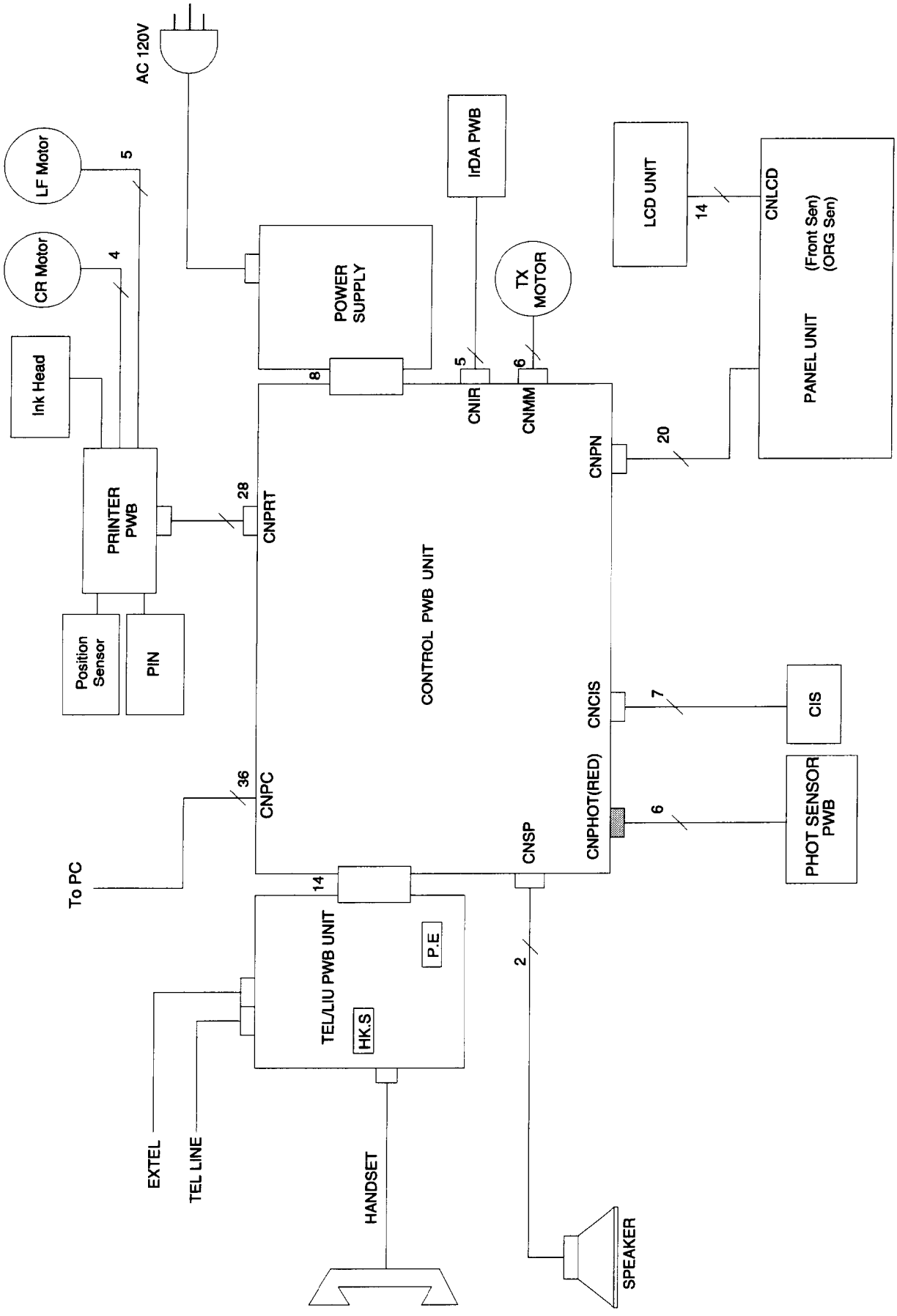
Fig. 11

CHAPTER 4. DIAGRAMS

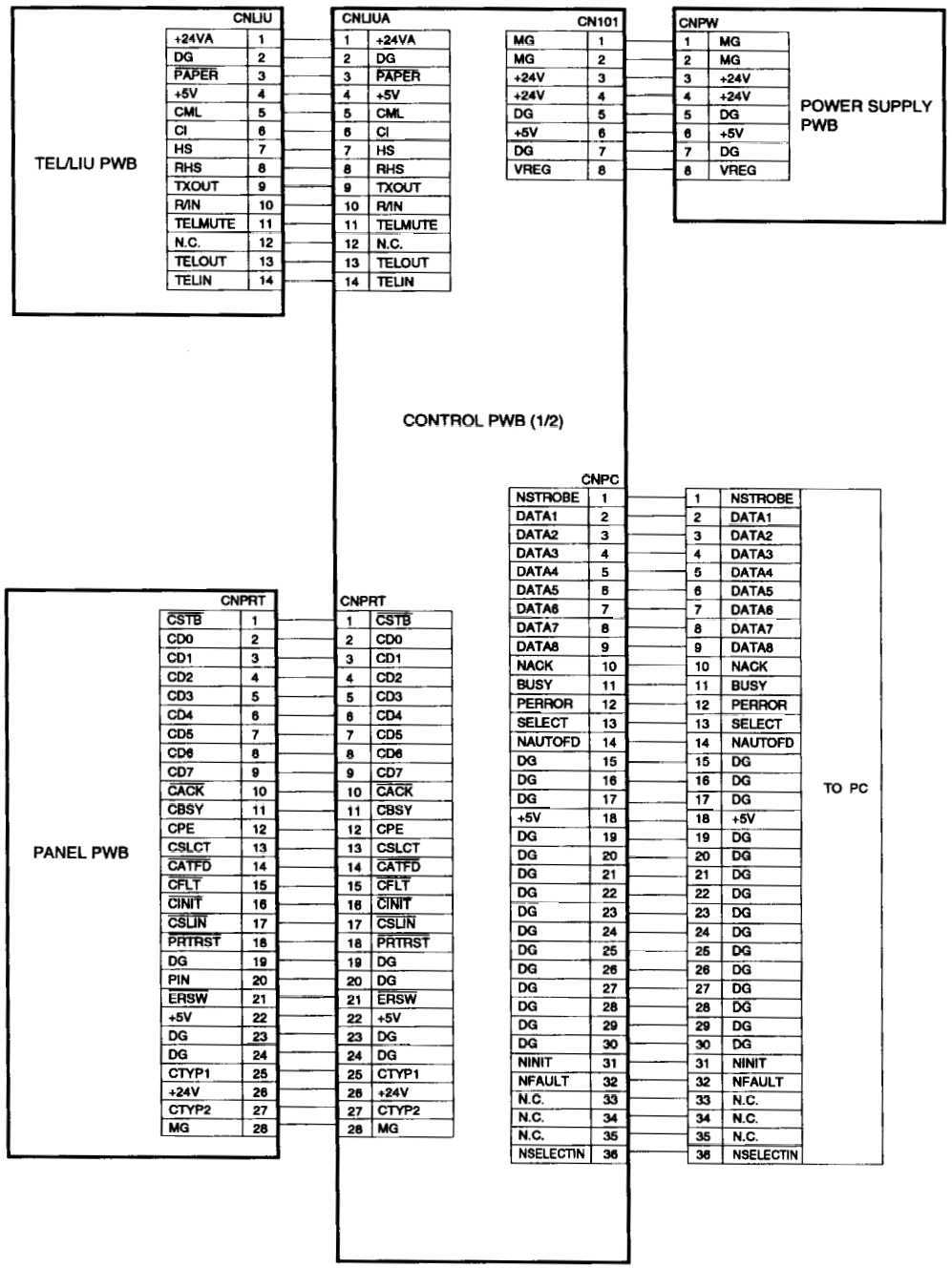
[1] Block diagram



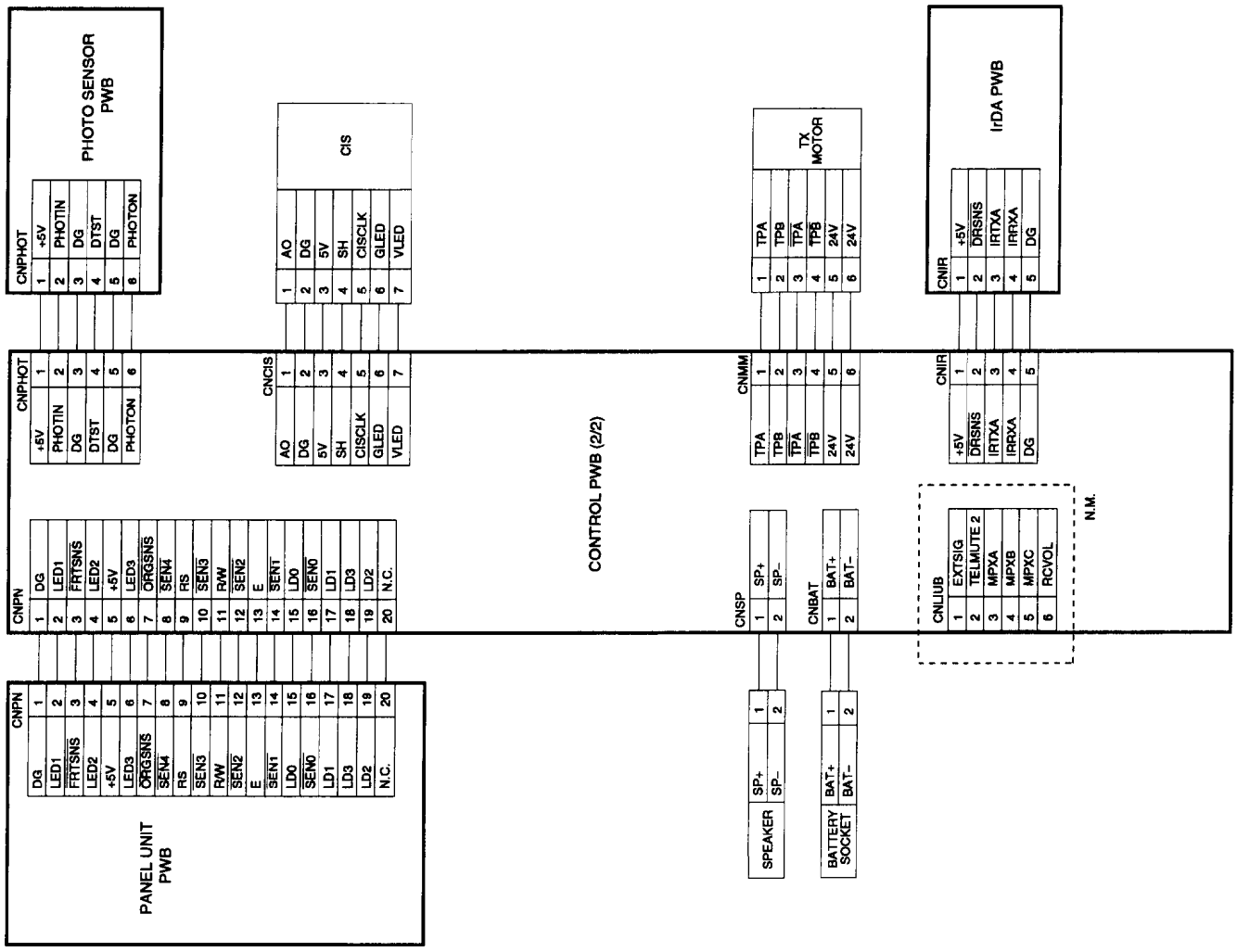
[2] Wiring diagram



[3] Point- to-point diagram



[3] Point- to-point diagram



CHAPTER 5. CIRCUIT DESCRIPTION

[1] Circuit description

1. General description

The compact design of the control PWB is obtained by using Risc Processor (CPU) in the main control section and high density printing of surface mounting parts. Each PWB is independent according to its function as shown in Fig. 1.

2. PWB configuration

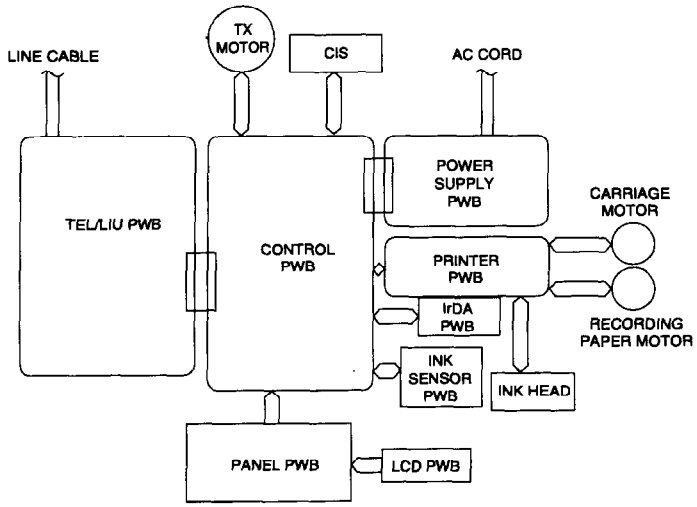


Fig. 1

1) Control PWB

The control PWB controls peripheral PWBs, mechanical parts, transmission, and performs overall control of the unit.
This machine employs a 1-chip modem (R144AFXL) which is in-stalled on the control PWB.

2) TEL/LIU PWB

This PWB controls connection of the telephone line to the unit.

3) Power supply PWB

This PWB provides voltages of +5V, VREG and +24V to the another PWB.

4) Panel PWB

The panel PWB allows input of the operation keys.

5) Printer PWB

This PWB controls the printer mechanical parts.
This PWB employs 8bit CPU that is installed on printer PWB.
This CPU control a printer mechanical parts.

6) LCD PWB

This PWB controls the LCD display.

7) IrDA PWB

This PWB employs led and sensor.

8)Ink sensor PWB

This PWB examine the ink level of the cartridge.

3. Operational description

Operational descriptions are given below:

- Transmission operation

  When a document is loaded in standby mode, the state of the document sensor is sensed via the CPU (SH2).
  If the sensor signal was on, the motor is started to bring the document into the standby position. With depression of the START key in the off-hook state, transmission takes place.

  Then, the procedure is sent out from the modem and the motor is rotated to move the document down to the scan line. In the scan processor, the signal scanned by the CIS is sent to the internal image processor and the AD converter to convert the analog signal into binary data. This binary data is transferred from the scan processor to the image buffer within the RAM and encoded and stored in the transmit buffer of the RAM. The data is then con-verted from parallel to serial form by the modem where the serial data is modulated and sent onto the line.

- Receive operation

  There are two ways of starting reception, manual and automatic. Depression of the START key in the off-hook mode in the case of manual receive mode, or CI signal detection by the LIU in the automatic receive mode.

  First, the CPU(SH2) controls the procedure signals from the modem to be ready to receive data. When the program goes into phase C, the serial data from the modem is converted to parallel form in the modem interface of the 1 fax CPU(SH2) which is stored in the receive buffer of the RAM. The data in the receive buffer is decoded software-wise to reproduce it as binary image data in the image buffer. The data is DMA transferred to the recording processor within the printer control gate array which is on printer PWB and sent to the ink head. The data is printed by printer gate arrey and fine signal.

- Copy operation

  To make a copy on this facsimile, the COPY key is pressed when the machine is in stand-by with a document on the document table and the telephone set is in the on-hook state.

  First, depression of the COPY key advances the document to the scan line. Similar to the transmitting operation, the image signal from the CIS is converted to a binary signal in the DMA mode via the reading processor which is then sent to the image buffer of the RAM. Next, the data is transferred to the recording processor in the DMA mode to send the image data to the ink head which is printed swath by swath. The copying takes place as the operation is repeated.

[2] Circuit description of control PWB

1. General description

Fig. 2 shows the functional blocks of the control PWB, which is composed of 5 blocks.

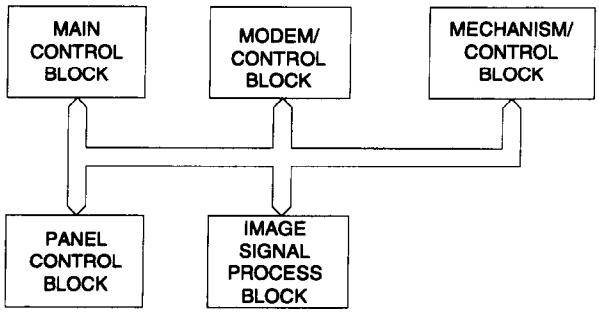


Fig. 2 Control PWB functional block diagram

2. Description of each block

(1) Main control block

The main control block is composed of HITACHI CPU (SH2), ROMX2 (256KByte), RAMX2 (32KByte), DRAMX2 (512KByte). Devices are connected to the bus to control the whole unit.

1) SH7040 (IC12) : pin-112 QFP (SH7040)

The CPU Integrated Facsimile Controllers.

SH7040(SH2), contains an internal 32 bit microprocessor with an external 16 bit address space and dedicated circuitry optimized for facsimile image processing and facsimile machine control and monitoring.

2) M27C4001 (IC18, IC19): pin-32 DIP (ROM)

EPROM of 2Mbit equipped with software for the main CPU.

3) SRM2B257SLMX70 (IC17, IC24): pin-28 SOP (RAM)

Line memory for the main CPU system RAM area and coding/decoding process. Used as the transmission buffer.

Memory of recorded data such as daily report and auto dials. When the power is turned off, this memory is backed up by the lithium battery.

4) MSM514800 (IC16, IC23): pin-28 SOJ (RAM)

Image memory for recording process.

- Memory for recording pixel data at without paper.

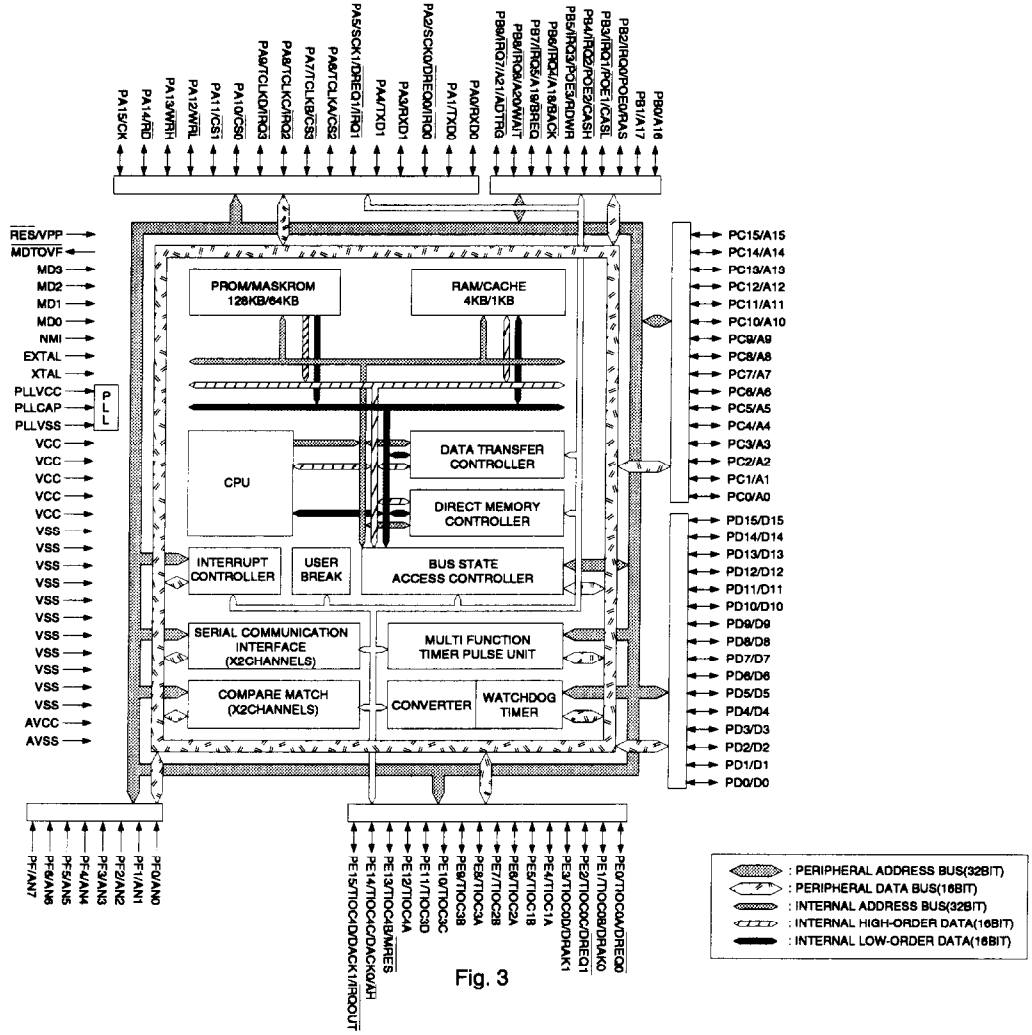


Fig. 3

SH7040 (IC12) Terminal list

QFP112 Pin No.	MCU MODE	PROM MODE
1	PE14/TIOC4C/DACK0/$\overline{AH}$	VCC
2	PE15/TIOC4D/DACK1/$\overline{IRQOUT}$	$\overline{CE}$
3	VSS	VSS
4	PC0/A0	A0
5	PC1/A1	A1
6	PC2/A2	A2
7	PC3/A3	A3
8	PC4/A4	A4
9	PC5/A5	A5
10	PC6/A6	A6
11	PC7/A7	A7
12	PC8/A8	A8
13	PC9/A9	N.C.
14	PC10/A10	A10
15	PC11/A11	A11
16	PC12/A12	A12
17	PC13/A13	A13
18	PC14/A14	A14
19	PC15/A15	A15
20	PB0/A16	A16
21	VCC	VCC
22	PB1/A17	N.C.
23	VSS	VSS
24	PB2/$\overline{IRQ0}$/$\overline{POE0}$/$\overline{RAS}$	N.C.
25	PB3/$\overline{IRQ1}$/$\overline{POE1}$/$\overline{CASL}$	$\overline{OE}$
26	PB4/$\overline{IRQ2}$/$\overline{POE2}$/$\overline{CASH}$	$\overline{PGM}$
27	VSS	VSS
28	PB5/$\overline{IRQ3}$/$\overline{POE3}$/RDWR	VCC
29	PB6/$\overline{IRQ4}$/A18/$\overline{BACK}$	N.C.
30	PB7/$\overline{IRQ5}$/A19/$\overline{BREQ}$	N.C.
31	PB8/$\overline{IRQ6}$/A20/$\overline{WAIT}$	N.C.
32	PB9/$\overline{IRQ7}$/A21/$\overline{ADTRG}$	N.C.
33	VSS	VSS
34	PA14/$\overline{RD}$	N.C.
35	$\overline{WDTOVF}$	N.C.
36	PA13/$\overline{WRH}$	N.C.
37	VCC	VCC
38	PA12/$\overline{WRL}$	N.C.
39	VSS	VSS
40	PA11/$\overline{CS1}$	N.C.
41	PA10/$\overline{CS0}$	N.C.
42	PA9/TCLKD/$\overline{IRQ3}$	N.C.
43	PA8/TCLKC/$\overline{IRQ2}$	N.C.
44	PA7/TCLKB/$\overline{CS3}$	N.C.
45	PA6/TCLKA/$\overline{CS2}$	N.C.
46	PA5/SCK1/$\overline{DREQ1}$/$\overline{IRQ1}$	N.C.
47	PA4/TXD1	N.C.
48	PA3/RXD1	N.C.
49	PA2/SCK0/$\overline{DREQ0}$/$\overline{IRQ0}$	N.C.
50	PA1/TXD0	N.C.
51	PA0/RXD0	N.C.
52	PD15/D15	N.C.
53	PD14/D14	N.C.
54	PD13/D13	N.C.
55	VSS	VSS
56	PD12/D12	N.C.
57	PD11/D11	N.C.
58	PD10/D10	N.C.
59	PD9/D9	N.C.

Pin No.	MCU MODE	PROM MODE
60	$\overline{PD8}$/D8	N.C.
61	VSS	VSS
62	PD7/D7	D7
63	PD6/D6	D6
64	PD5/D5	D5
65	VCC	VCC
66	PD4/D4	D4
67	PD3/D3	D3
68	PD2/D2	D2
69	PD1/D1	D1
70	PD0/D0	D0
71	VSS	VSS
72	XTAL	N.C.
73	MD3	VCC
74	EXTAL	VSS
75	MD2	VCC
76	NMI	A9
77	VCC	VCC
78	MD1	VCC
79	MD0	VCC
80	PLLVCC	VCC
81	PLLCAP	VSS
82	PLLVSS	VSS
83	PA15/CK	N.C.
84	$\overline{RES}$	VPP
85	PE0/TIOC0A/$\overline{DREQ0}$	N.C.
86	PE1/TIOC0B/DRAK0	N.C.
87	PE2/TIOC0C/$\overline{DREQ1}$	N.C.
88	PE3/TIOC0D/DRAK1	N.C.
89	PE4/TIOC1A	N.C.
90	VSS	VSS
91	PF0/AN0	VSS
92	PF1/AN1	VSS
93	PF2/AN2	VSS
94	PF3/AN3	VSS
95	PF4/AN4	VSS
96	PF5/AN5	VSS
97	AVSS	VSS
98	PF6/AN6	VSS
99	PF7/AN7	VSS
100	AVCC	VCC
101	VSS	VSS
102	PE5/TIOC1B	N.C.
103	VCC	VCC
104	PE6/TIOC2A	N.C.
105	PE7/TIOC2B	N.C.
106	PE8/TIOC3A	N.C.
107	PE9/TIOC3B	N.C.
108	PE10/TIOC3C	N.C.
109	VSS	VSS
110	PE11/TIOC3D	N.C.
111	PE12/TIOC4A	N.C.
112	PE13/TIOC4B/$\overline{MRES}$	N.C.

SH7040 (IC12) Terminal function

Classification	Symbol	Input/Output	Name	Function
Power	Vcc	Input	Power	Connect the Vcc terminal to the power of all systems. Operation is not performed if there is open terminal.
	Vss	Input	Ground	Connect to the ground. Connect the Vss terminal to the ground of all systems. Operation is not performed if there is open terminal.
	Vpp	Input	Program power	In case of normal operation connect to the power (Vcc). In the PROM mode 12.5V is applied.
Clock	PLLVcc	Input	Power for PLL	Power for built-in PLL oscillator.
	PLLVss	Input	Ground for PLL	Ground for built-in PLL oscillator.
	PLLCAP	Input	Capacity for PLL	Externally provided capacity terminal for built-in PLL oscillator.
	EXTAL	Input	External clock	Connect the crystal oscillator. It is possible to input also the external clock to the EXTAL terminal.
	EXTAL	Input	Crystal	Connect the crystal oscillator.
	CK	Output	System clock	The system clock is supplied to the peripheral device.
System control	$\overline{RES}$	Input	Power-on reset	When Low Level is applied to this terminal, power-on reset state is generated.
	$\overline{MRES}$	Input	Manual reset	When Low Level is applied to this terminal, the manual reset state is generated.
	$\overline{WDTOVF}$	Output	Watch dog timer overflow	Overflow output signal from WDT.
	$\overline{BREQ}$	Input	Bus right request	Low level is generated when the external device requestes release of bus right.
	$\overline{BACK}$	Output	Bus right request acknowledge	It is indicated that the bus right has been released for the external device. The device whitch output the BREQ signal receives the BACK signal, thereby allowing to know that the bus right has been obtained.
Operation mode control	MD0 ~ MD3	Input	Mode setting	Terminal to decide the operation mode. During operation do not change the input value.
Interruption	NMI	Input	Nonmaskable interruption	Nonmaskable interruption request terminal. It is possible to select reception at rise edge or fall edge.
	$\overline{IRQ0}$ ~ $\overline{IRQ7}$	Input	Interruption request 0 to 7	Maskable interruption request terminal. It is possible to select level input and edge input.
	$\overline{IRQOUT}$	Output	Interruption request output	Indicates occurrence of interruption factor. Occurrence of interruption can be known also during bus release.
Address bus	A0 ~ A21	Output	Address bus	Address is output.
Data bus	D0 ~ D15 (QFP-112) D0 ~ D31 (QFP-144)	Output	Data bus	16-bit (QFP-112 pin type) or 32-bit (QFP-144 pin type) two-direction data bus.
Bus control	$\overline{CS0}$ ~ $\overline{CS3}$	Output	Chip selection 0 to 3	Chip selection signal for external memory or device.
	$\overline{RD}$	Output	Reading	Indicates reading from the external device.
	$\overline{WRH}$	Output	High-order side writing	Indicates writing into high-order 8 bits (bit 15 to 8) of external data.
	$\overline{WRL}$	Output	Low-order side writing	Indicates writing into Low-order 8 bits (bit 7 to 0) of external data.
	$\overline{WAIT}$	Input	Wight	Input to insert the weight cycle into bus cycle when access to the external space is made.
	$\overline{RAS}$	Output	Low address strobe	Dram low address strobe timing signal.

SH7040 (IC12) Terminal function

Classification	Symbol	Input/Output	Name	Function
Bus control	$\overline{CASH}$	Output	High-order column address strobe	DRAM column address strobe timing signal. It is output when access to high-order 8bits of data is made.
	$\overline{CASL}$	Output	Low order column address strobe	DRAM column address strobe timing signal.
	RDWR	Output	Dram reading/writing	DRAM writing strobe signal.
	$\overline{AH}$	Output	Address hold	Address hold timing signal for the device which used address/data multiplex bus.
	$\overline{WRHH}$(QFP-144)	Output	HHside writting	Indicates that bit 24 is written from bit 31 of external data.
	$\overline{WRHL}$(QFP-144)	Output	HLside writting	Indicates that bit 15 is written from bit 23 of external data.
	$\overline{CASHH}$(QFP-144)	Output	HH side column address strobe	DRAM column address strobe timing signal. It is output when access to bit 24 from bit 31 of data is made.
	$\overline{CASHL}$(QFP-144)	Output	HL side column address strobe	DRAM column address strobe timing signal. It is output when access to bit 16 from bit 23 of data is made.
Multifunction timer pulse unit	TCLKA TCLKB TCLKC TCLKD	Input	MTU timer clock input	MTU counter external clock input terminal.
	TIOC0A TIOC0B TIOC0C TIOC0D	Input/output	MTU input capture/ output conveyer (channel 0)	Channel 0 input capture input/output conveyer output/PWM output terminal.
	TIOC1A TIOC1B	Input/output	MTU input capture/ output conveyer (channel 1)	Channel 1 input capture input/output conveyer output/PWM output terminal.
	TIOC2A TIOC2B	Input/output	MTU input capture/ output conveyer (channel 2)	Channel 2 input capture input/output conveyer output/PWM output terminal.
	TIOC1A TIOC1B	Input/output	MTU input capture/ output conveyer (channel 3)	Channel 3 input capture input/output conveyer output/PWM output terminal.
	TIOC1A TIOC1B	Input/output	MTU input capture/ output conveyer (channel 4)	Channel 4 input capture input/output conveyer output/PWM output terminal.
Direct memory access controller (DMAC)	DREQ0 DREQ1	Input	DMA transfer request (channel 0,1)	From-external DMA transfer request input terminal.
	DRAK0 DRAK1	Output	DREQ request reception (channel 0,1)	From-external DMA transfer request input sampling reception is output.
	DACK0 DACK1	Output	DMA transfer strobe (channel 0,1)	From-external DMA transfer request external I/O strobe is output.
Serial communication interface (SCI)	TxD0 TxD1	Output	Transmission data (channel 0 to 1)	SCI 0 and 1 transmission data output terminal.
	RxD0 RxD1	Input	Reception data (channel 0 to 1)	SCI 0 and 1 reception data input terminal.
	SCK0 SCK1	Input/output	Serial clock (channel 0 to 1)	SCI 0 and 1 clock input/output terminal.
A.D converter	AVcc	Input	Analog power	Analog power Vcc potential is connected.
	AVss	Input	Analog ground	Analog power Vss potential is connected.
	AVref (QFP-144)	Input	Analog reference power	Analog reference power input terminal.
	AN0 ~ AN7	Input	Analog input	Analog signal input terminal.
	ADTRG	Input	A/D conversion trigger input	A/D conversion state external trigger input.

SH7040 (IC12) Terminal function

Classification	Symbol	Input/Output	Name	Function
I/O port	POE0 ~ POE3	Input	Port output enable	Input terminal to perform port terminal drive control when the general-use port is set to output.
	PA0 ~ PA15 (QFP-112) PA0 ~ PA23 (QFP-144)	Input/output	General use port	General-use input/output port terminal. It is possible to specify input/output for each bit.
	PB0 ~ PB9	Input/output	General use port	General-use input/output port terminal. It is possible to specify input/output for each bit.
	PC0 ~ PC15	Input/output	General use port	General-use input/output port terminal. It is possible to specify input/output for each bit.
	PD0 ~ PD15 (QFP-112) PD0 ~ PD31 (QFP-144)	Input/output	General use port	General-use input/output port terminal. It is possible to specify input/output for each bit.
	PE0 ~ PE15	Input/output	General use port	General-use input/output port terminal. It is possible to specify input/output for each bit.
	PF0 ~ PF7	Input	General use port	General-use input port terminal.

(2) Panel control block

The following controls are performed by the Gate array (LZ9FJ49).

- Operation panel key scanning
- Operation panel LCD display

(3) Mechanism/recording control block

The following controls are performed by Gate array (LZ9FJ49).

- TX Motor control

The following controls are performed by CPU (SH2).

- Sensor detection

The following controls are performed by Gate array (TC160G33:PRINTER PWB).

- Carrier Motor control
- Feed Motor control

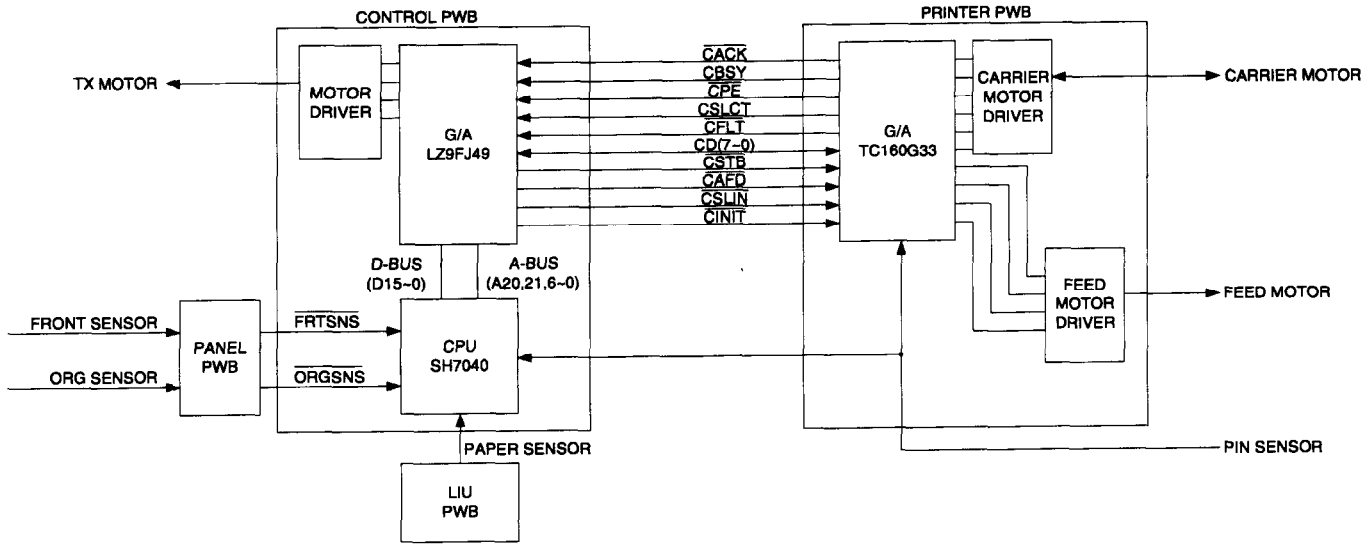


Fig. 4

(4) Modem (R144EFXL) block

INTRODUCTION

The Rockwell R144EFXL MONOFAX modem is a synchronous 14400 bits per second (bps) half-duplex modem with error detection and DTMF reception. It has low power consumption and requires only a single +5V DC power supply. The modem is housed in a single VLSI device package.

The modem can operate over the public switched telephone network (PSTN) through line terminations provided by a data access arrangement (DAA).

The R144EFXL is designed for use in Group 3 facsimile ma-chines.

The modem satisfies the requirements specified in CCITT recommendations V.29, V.27 ter, V.21 Channel 2 and T.4, and meets the binary signaling requirements of T.30.

The modem can operate at 14400, 9600, 7200, 4800, 2400, or 300 bps, and also includes the V.27 ter short training sequence option.

The modem can also perform HDLC framing according to T.30 at 14400, 9600, 7200, 4800, 2400, or 300 bps.

The modem features a programmable DTMF receiver and three programmable tone detectors which operate concurrently with the V.21 channel 2 receiver.

The voice mode allows the host computer to efficiently transmit and receive audio signals and messages.

The modem is available in either a 100-pin plastic quad flat pack (PQFP) or a 64-pin quad in-line package (QUIP).

General purpose input/output (GPIO) pins are available for host as signment in the 100-pin PQFP.

The modem's small size, single voltage supply, and low power consumption allow the design of compact system enclosures for use in both office and home environments.

MONOFAX is a registered trademark of Rockwell International.

FEATURES

- Group 3 facsimile transmission/reception
  - ITU-TS V.29, V.27 ter, T.30, V.21 Channel 2, T.4
  - HDLC Framing at all speeds
- V.27 ter short train
- Concurrent DTMF, FSK, and tone reception
- Voice mode transmission/reception
- Half-duplex (2-wire)
- Programmable maximum transmit level:
  0 dBm to –15 dBm
- Programmable transmit analog attenuation:
  0 dB to 14 dB in 2 dB steps
- Receive dynamic range: 0 dBm to –43 dBm
- Programmable dual tone generation
- Programmable tone detection
- Programmable turn-on and turn-off thresholds
- Programmable interface memory interrupt
- Diagnostic capability
  - Allows telephone line quality monitoring
- Equalization
  - Automatic adaptive equalizer
  - Fixed digital compromise equalizer
- DTE interface: two alternate ports
  - Selectable microprocessor bus (6500 or 8085)
  - CCITT V.24 (EIA-232-D compatible) interface
- TTL and CMOS compatible
- Low power consumption: 275 mW (typical)
- Single Package
  - 100-pin PQFP
  - 64-pin QUIP
- Single +5VDC power supply

R96DFXL-CID (IC11) Hardware Interface Signals

Pin No.	Signal Name	I/O Type
1	GP03	IA/OB
2	GP04	IA/OB
3	GP05	IA/OB
4	GP06	IA/OB
5	GP07	IA/OB
6	0VD2	GND
7	0VD2	GND
8	D7	IA/OB
9	D6	IA/OB
10	D5	IA/OB
11	D4	IA/OB
12	D3	IA/OB
13	D2	IA/OB
14	D1	IA/OB
15	D0	IA/OB
16	0VD2	GND
17	0VA	GND
18	RAMPIN	R
19	NC	
20	NC	
21	0VA	GND
22	+5VD2	PWR
23	0VD1	GND
24	SWGAINI	R
25	ECLKIN1	R
26	SYNCIN1	R
27	NC	
28	NC	
29	NC	
30	0VA	GND
31	NC	
32	NC	
33	NC	
34	DAIN	R
35	ADOUT	R
36	BYPASS	IC
37	RCVI	R
38	TXLOSS3	IC
39	TXLOSS2	IC
40	TXLOSS1	IC
41	NC	
42	NC	
43	0VA	GND
44	TXOUT	AA
45	RXIN	AB
46	+5VA	PWR
47	0VA	GND
48	AGD	R
49	AOUT	R
50	0VD1	GND
51	NC	
52	$\overline{\text{IRQ}}$	OC
53	$\overline{\text{WRITE-R/W}}$	IA
54	$\overline{\text{CS}}$	IA
55	$\overline{\text{READ}}$-ϕ2	IA
56	RS4	IA
57	RS3	IA
58	RS2	IA
59	RS1	IA

Pin No.	Signal Name	I/O Type
60	RS0	IA
61	GP13	IA/OB
62	NC	
63	GP11	IA/OB
64	$\overline{\text{RTS}}$	IA
65	$\overline{\text{EN85}}$	R
66	0VD2	GND
67	$\overline{\text{PORI}}$	ID
68	XTLI	R
69	XTLO	R
70	XCLK	OD
71	YCLK	OD
72	+5VD1	PWR
73	DCLK1	R
74	SYNCIN2	R
75	GP16	IA/OB
76	GP17	IA/OB
77	0VD2	GND
78	$\overline{\text{CTS}}$	OA
79	TXD	IA
80	0VD2	GND
81	0VD2	GND
82	DCLK	OA
83	EYESYNC	OA
84	EYECLKX	OA
85	EYECLK	OA
86	EYEX	OA
87	ADIN	R
88	DAOUT	R
89	0VD2	GND
90	EYEY	OA
91	GP21	IA/OB
92	0VD2	GND
93	GP20	IA/OB
94	GP19	IA/OB
95	RXD	OA
96	$\overline{\text{RLSD}}$	OA
97	0VD2	GND
98	RCVO	R
99	SWGAINO	R
100	GP02	IA/OB

Notes:

1. NC = No connection; leave pin disconnected (open).
2. I/O Type: = Digital signals: see Table 9;
   Analog signals: see Table 10.
3. R = Required modem inter-connection; no connection to host equipment.

(5) Image signal process block

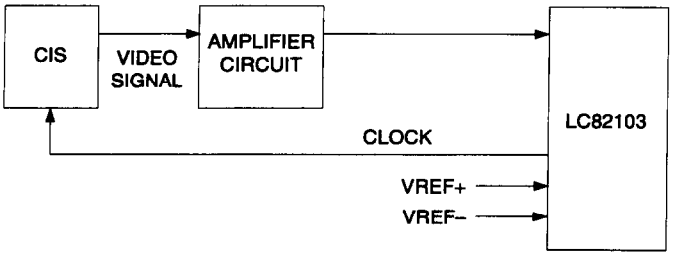


Fig. 5

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.

(6) Speaker amplifier

The speaker amplifier monitors the line under the on-hook mode, outputs the buzzer sound generated from the SH7040, ringer sound, DTMF generated from the modem, and line sound.

(7) Adjustment of voice/ringer volume

The voice/ringer volume can be adjusted by using the panel bottons "UP" and "DOWN".

- The ringer volume can be adjusted in the Stand-by mode by pressing the UP/DOWN button.
- The reception level can be adjusted by pressing the UP/DOWN button when the handset is located in the off-hook state.
- The speaker volume can be adjusted by using the speaker key.

[3] Circuit description of TEL/LIU PWB

(1) TEL/LIU block operational description

1) Block diagram

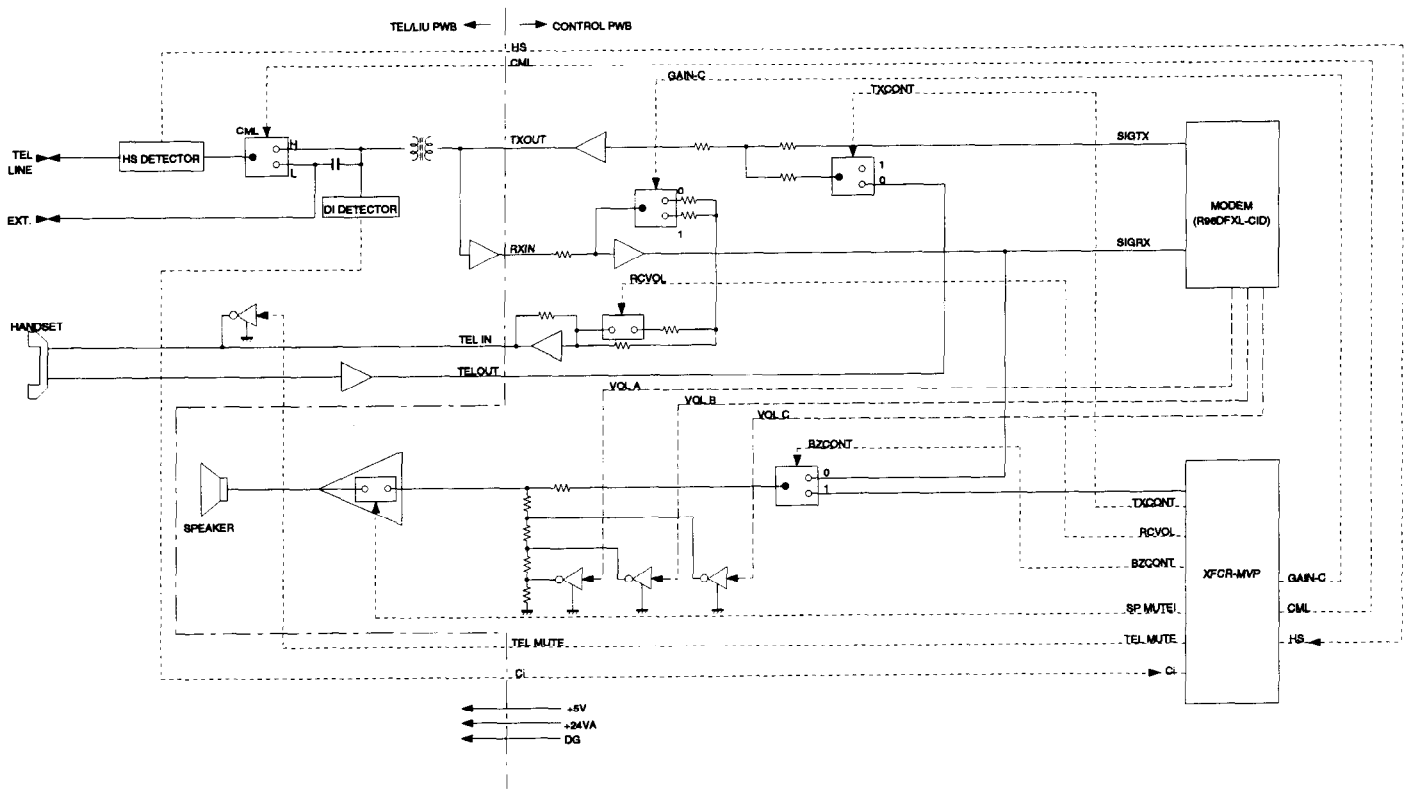


Fig. 6

2) Circuit description

The TEL/LIU PWB is composed of the following 10 blocks.

1. Surge protection circuit
2. On-hook status detection circuit
3. Dial pulse generation circuit
4. CML relay
5. Matching transformer
6. Hybrid circuit
7. Signal selection
8. Sensor circuit
9. CI detection circuit
10. 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 protects the circuit from the 390V or higher line surge voltages.
- The VA1 and VA2 protect the circuit from the 470V or higher vertical surge voltages.

2. On-hook status detection circuit

The on-hook status detection circuit detects the Status of the hook switch (RHS) of Built-in telephone, and the status of the hook of a telephone externally connected.

- The status of on-hook switch (RHS) is determined from the logical level of $\overline{RHS}$ signal.

  $\overline{RHS}$ LOW : ON-HOOK

  $\overline{RHS}$ HIGH : OFF-HOOK

- External telephone hook status detection circuit ($\overline{HS1}$)

This circuit comprises the photo-coupler PC1, resistors R3 and R4, Zener diodes ZD1 and ZD2.

When an external telephone is connected and enters the on-hook mode, the LED of photo-coupler PC1 emits light and the light receiv ing element turns on. The status signal $\overline{HS1}$ is input to the pin 84 of (XFCR-MVP) (IC4: control PWB).

$\overline{HS1}$ LOW : EXT. TEL OFF-HOOK

$\overline{HS1}$ HIGH : EXT. TEL ON-HOOK

3. Dial pulse generation circuit

The pulse dial generation circuit comprises the CML relay.

4. CML relay

The CML relay switches over connection to the matching transformer T1 while the FAX or built-in telephone is being used.

5. Matching transformer

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

6. Hybrid circuit

The hybrid circuit performs 2-wire-to-4-wire conversion using the IC2 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 following signals are used to control the transmission line of TEL/FAX signal. For details, refer to the signal selector matrix table.

[Control signals from output port]

<table>
<tr><th>Signal Name</th><th>Description</th></tr>
<tr><td>CML</td><td>Line connecting relay and DP generating relay
H: Line make
L: Line break</td></tr>
<tr><td>SP MUTE</td><td>Speaker tone mute control signal
H: Muting (Power down mode)
L: Muting cancel (Normal operation)</td></tr>
<tr><td>TEL MUTE</td><td>Handset reception mute control signal
H: Muting
L: Muting cancel</td></tr>
<tr><td>RCVOL

(The circuit is located in the control PWB.)</td><td>Handset receiver volume control signal
<table>
<tr><th>Volume</th><th>High</th><th>Middle</th><th>DTMF sending</th></tr>
<tr><td>RCVOL</td><td>H</td><td>L</td><td>L</td></tr>
<tr><td></td><td></td><td></td><td></td></tr>
</table>
SIDE KICK is two-stage switching.
Note: The DTMF sending listed above is DTMF signal sending in the handset OFF-HOOK mode.</td></tr>
<tr><td>VOL A
VOL B
VOL C

(The circuit is located in the control PWB.)</td><td>Speaker volume control signal
VRSEL1 VRSEL2 matrix
<table>
<tr><th></th><th>VOL A</th><th>VOL B</th><th>VOL C</th><th>RING./ Receiving</th><th>Buzzer</th><th>DTMF</th></tr>
<tr><td></td><td>L</td><td>L</td><td>L</td><td>High</td><td>—</td><td>High</td></tr>
<tr><td></td><td>H</td><td>L</td><td>L</td><td>Middle</td><td>Fixed</td><td>Middle</td></tr>
<tr><td></td><td>L</td><td>L</td><td>H</td><td>Low</td><td>—</td><td>Low</td></tr>
</table></td></tr>
<tr><td>TXCONT
(The circuit is located in the control PWB.)</td><td>TXOUT mute signal
H: Signal sending, when transmitting
L: During reception, transmission mute, (during standby)</td></tr>
<tr><td>GAIN-C
(The circuit is located in the control PWB.)</td><td>Reception gain switching signal
L: When connected to line, 1: 1 gain
H: When not connected to line, HIGH gain</td></tr>
<tr><td>MPX A
(The circuit is located in the control PWB.)</td><td>Transmission/transfer switching signal
H: When transmitting modem signal (during standby)
L: When transferring</td></tr>
<tr><td>BZCONT
(The circuit is located in the control PWB.)</td><td>Speaker output signal switching
H: Buzzer signal output
L: When monitoring line signal</td></tr>
</table>

[Signals for status recognition according to input signals]

Signal Name	Function
$\overline{RHS}$	H: The handset is in the on-hook state. L: The handset is in the off-hook state.
CI	Incoming call (CI) detection signal.
$\overline{HS}$	H: The handset or external telephone is in the on-hook state. L: The handset or external telephone is in the off-hook state.
P.E	L: No recording paper. H: Recording paper exists.
DRSNS	H: Door open. L: Door close.

[Other signals]

Signal Name	Function
TEL IN	Receiving signal from line or modem
TEL OUT	Transfer signal to line
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	+24VA	8	RHS
2	DG	9	TXOUT
3	$\overline{PE}$	10	RXIN
4	+5V	11	TELMUTE
5	CML	12	N.C.
6	CI	13	TELOUT
7	HS	14	TELIN

8. Sensor circuit

For the recording paper sensor (P.E), when there is recording paper, the photo transistor in the light receiving side is ON and the detection level is LOW. When there is no recording paper, the photo transistor in the light receiving side is OFF and the detection level is HIGH.

9. CI detection circuit

The CI detection circuit detects the CI signals of 15.3Hz to 68Hz.
A CI signal, which is provided to the photo-coupler PC1 through the C1 (0.82 uF), R3 (22 K), and ZD3 when the ring signal is inputted from the telephone line.

10. Power supply and bias circuits

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

(Example: Fax signal send)

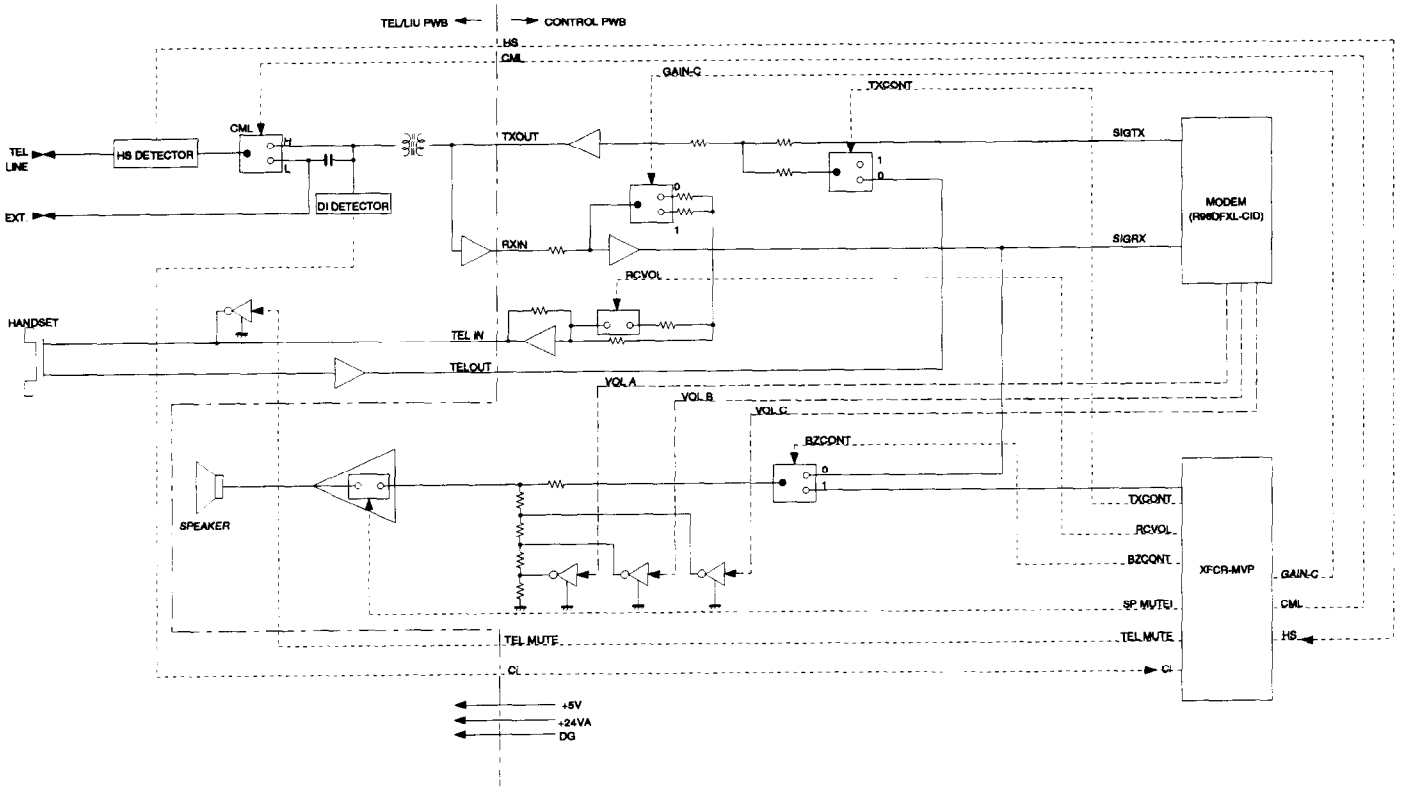


Fig. 7

[4] Circuit description of power supply PWB

1. Block diagram

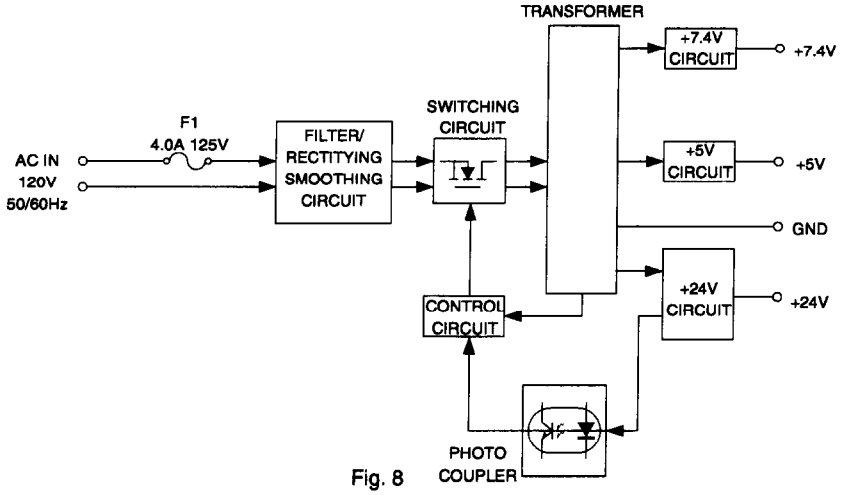


Fig. 8

The power unit intakes input of AC 120V, 50/60 Hz and supplies output of +24V, +7.4V and +5V as shown in the block diagram. (See Fig. 8.)

2-1. Filter, rectifying and smoothening circuit

In the filter section, the noise generated from the power unit is eliminated from being discharged to the external, and external noise is prevented from entering. Thunder or other excessive surge is prevented by the varistor Z1.
In the rectifying and smoothening section, AC input is rectified by the diodes D10, 11, 12 and 13, and is smoothened by the capacitor C5. Thus, DC voltage is supplied to the switching section. Moreover, the thermistor NTC1 prevents surge current when the power is turned on.

2-2. Switching section

The circuit uses the ringing choke converter of a self-excited type. Since MOS.
FETQ1 is repeatedly turned on and off in this system, the DC voltage supplied from the rectifying and smoothening section is converted into the high frequency pulses. While Q1 is on, energy is accumulated in the primary winding of the transformer T1, and while Q1 is off, energy is discharged to the secondary side. Thus, the power is supplied.
Moreover, the frequency is varied depending on the load of the output. As the load becomes the heavier, the frequency becomes the smaller to extend the ON period.
The constant voltage is controlled by applying the feedback to the control circuit through the photo coupler PC1 from +24V output. The overcurrent-protective circuit detects that the ON period becomes the wider as the output load becomes the heavier. For the control, the OFF period is extended by the control circuit to squeeze the energy which is accumulated in the primary winding of the transformer T1.
For protection against overvoltage, the rise of the output voltage of +24V on the secondary side is brought into the overcurrent state through the continuity of the power zener diode D104 between +24V output and GND. Thus, the overcurrent-protective circuit of the control circuit is activated for the protection.

2-3. +24V circuit

Output is supplied by rectifying and smoothening the output of the transformer T1 with the diode D101 and capacitor C101.

2-4. +5V circuit

+5 V output is generated by rectifying and smoothening the output of the transformer T1 with the diode D102 and capacitor C102 and stabilizing it with the 3-terminal regulator IC103.

2-5. +7.4V circuit

This circuit rectificats and smoothings the high-frequency pulse voltage, and output the DC +7.4V to the equipment.

[5] Circuit description of CIS PWB

The CIS board picks up optical information from the document, converts it into an electrical (analog) signal and transfers it to the control board.

(1) Block diagram

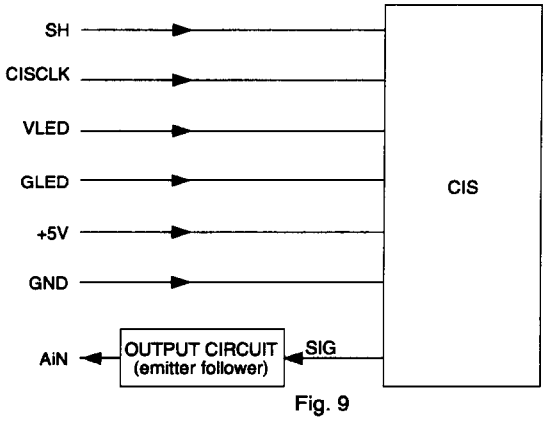


Fig. 9

(2) Description of blocks

1. CIS

The DL100-05AUJS is a highly sensitive charged coupled image sensor that consists of 2160 picture elements.

Receiving four drive signal (SI,CLK) from the control board, the tranferred photoelectric analog signal SIG is impedance converted, and the signal AiN, is supplied to the control board.

2. Waveforms

1. CLK, SI, SIG signals within the control board.

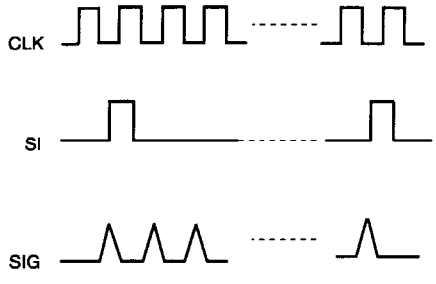
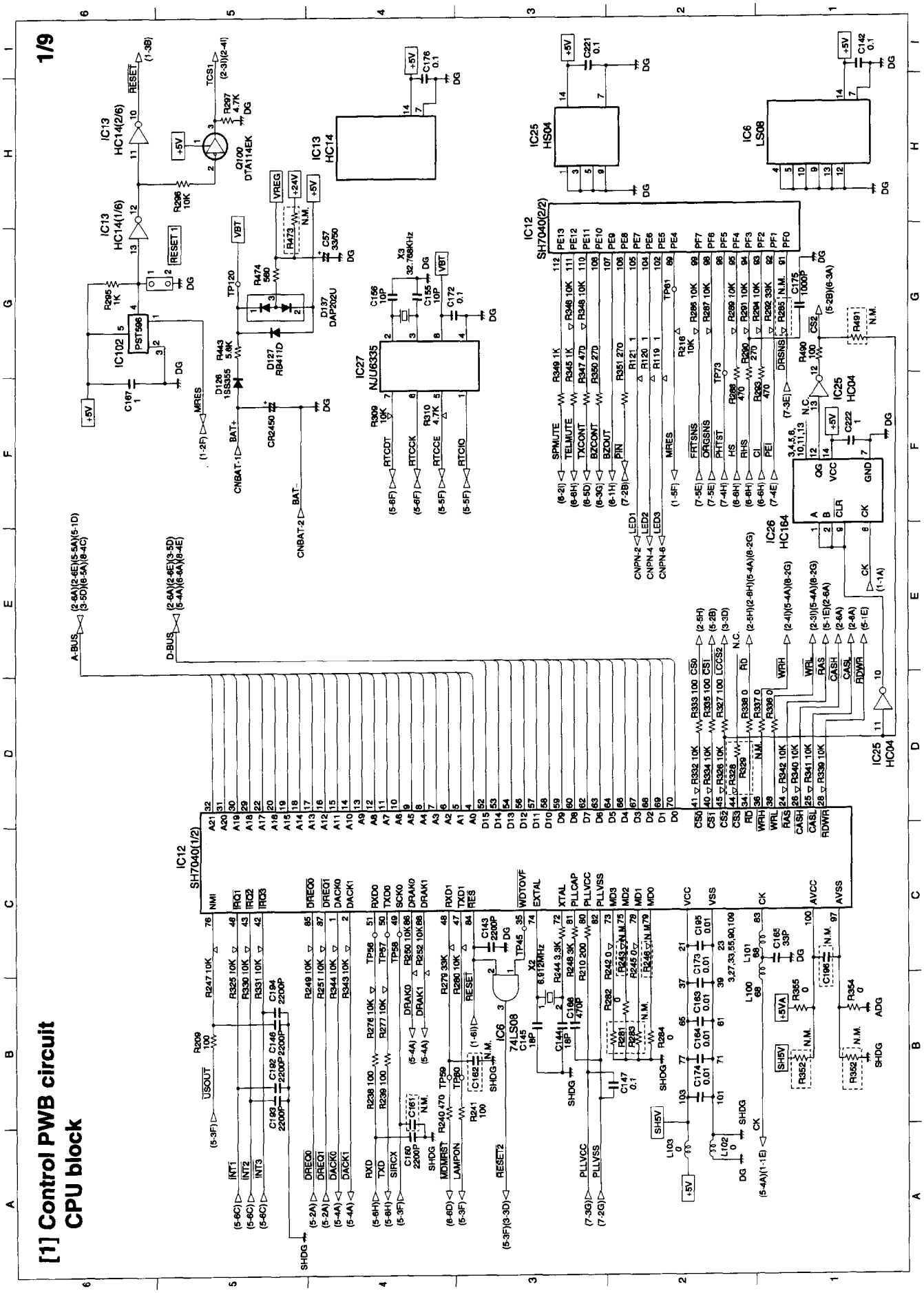


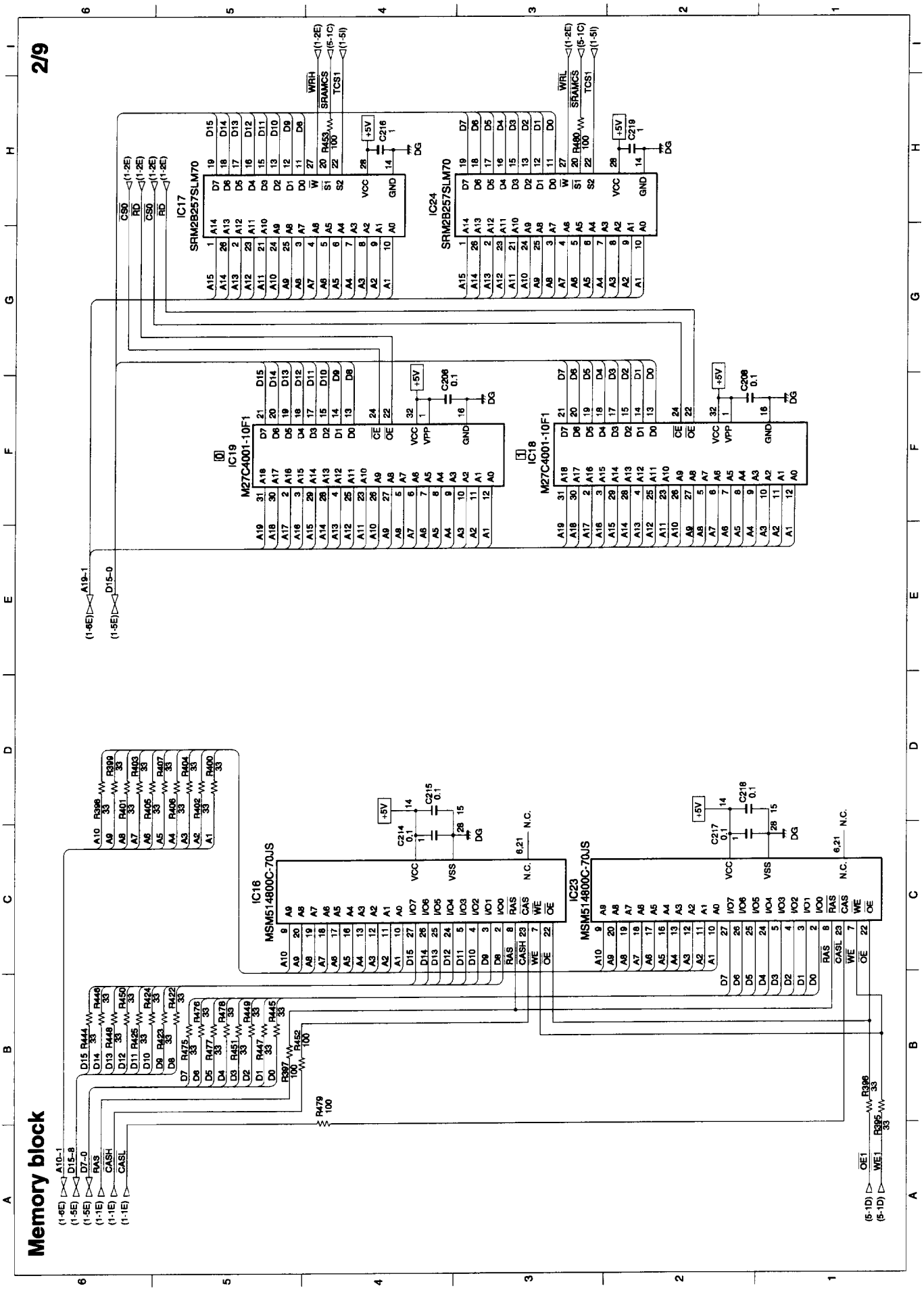
Fig. 10

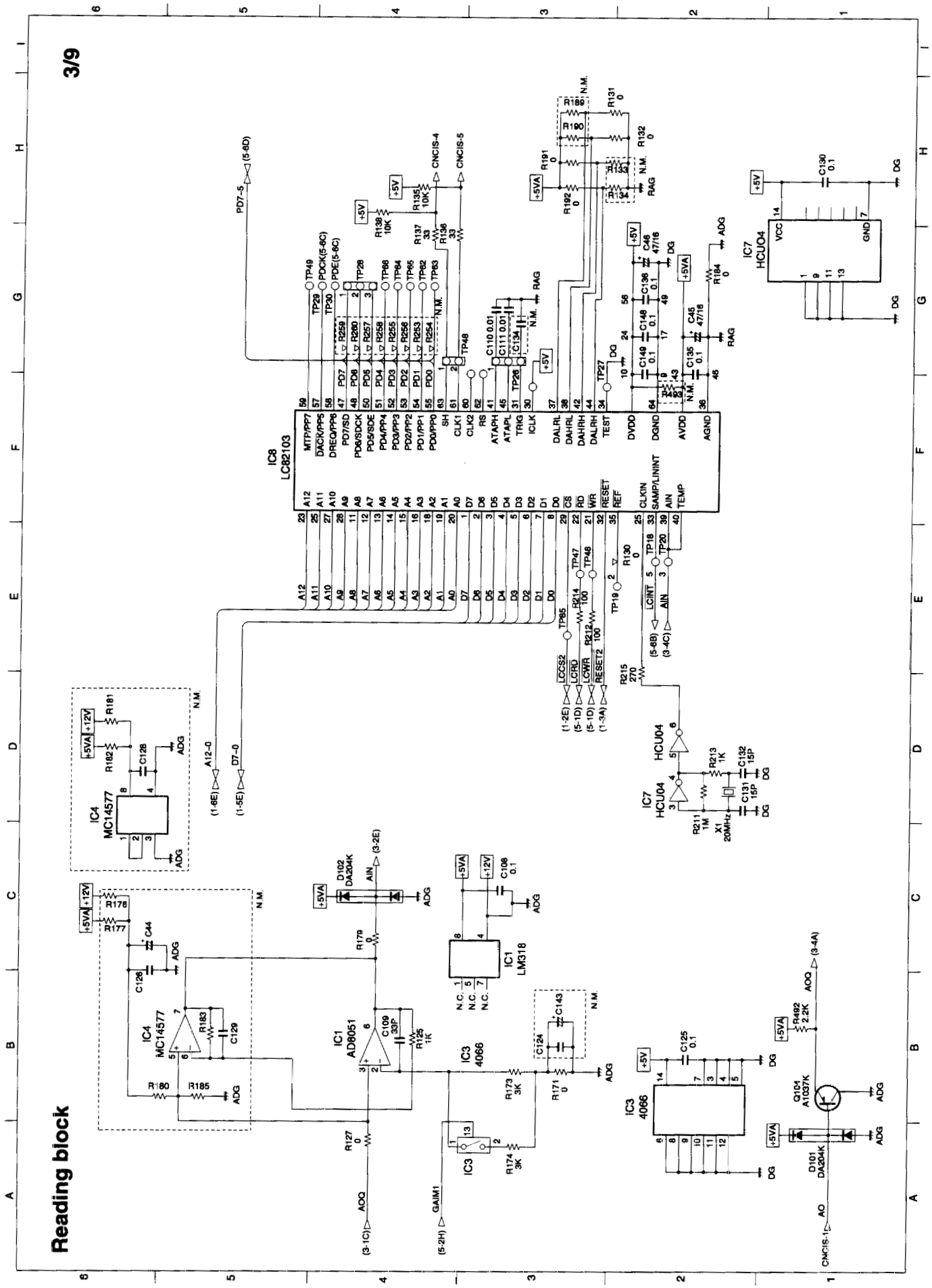
CHAPTER 6. CIRCUIT SCHEMATICS AND PARTS LAYOUT

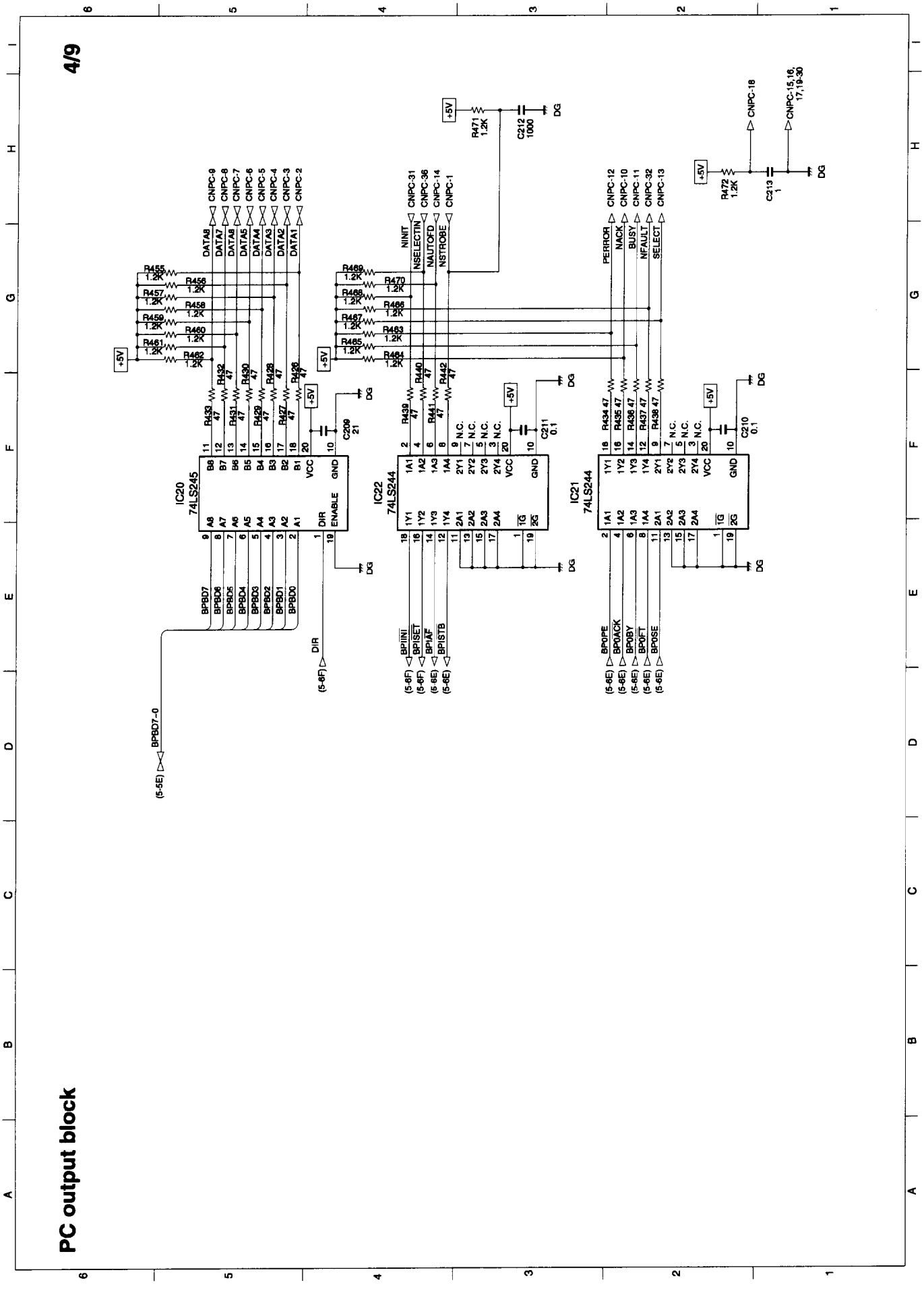
[1] Control PWB circuit
CPU block

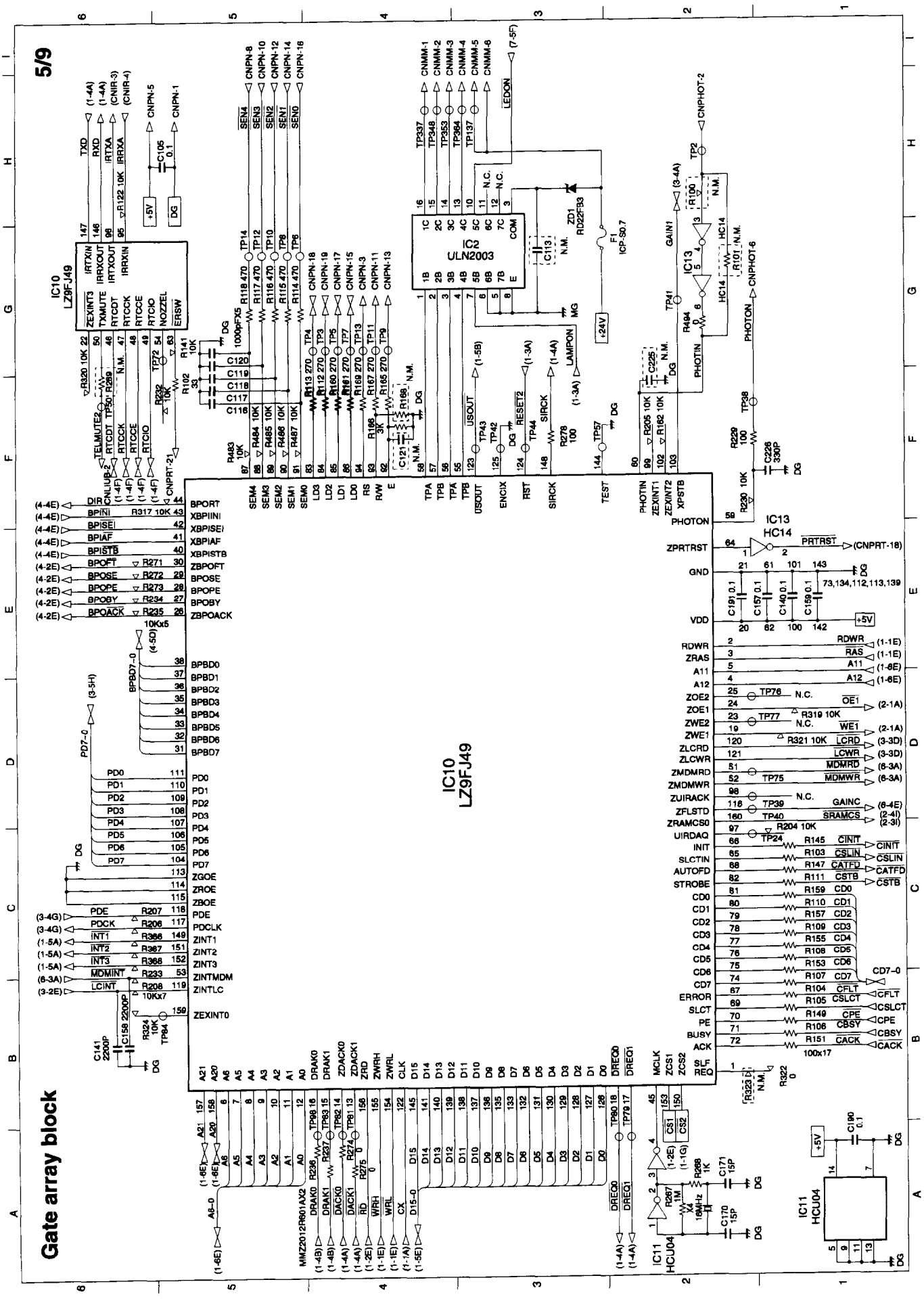
1/9

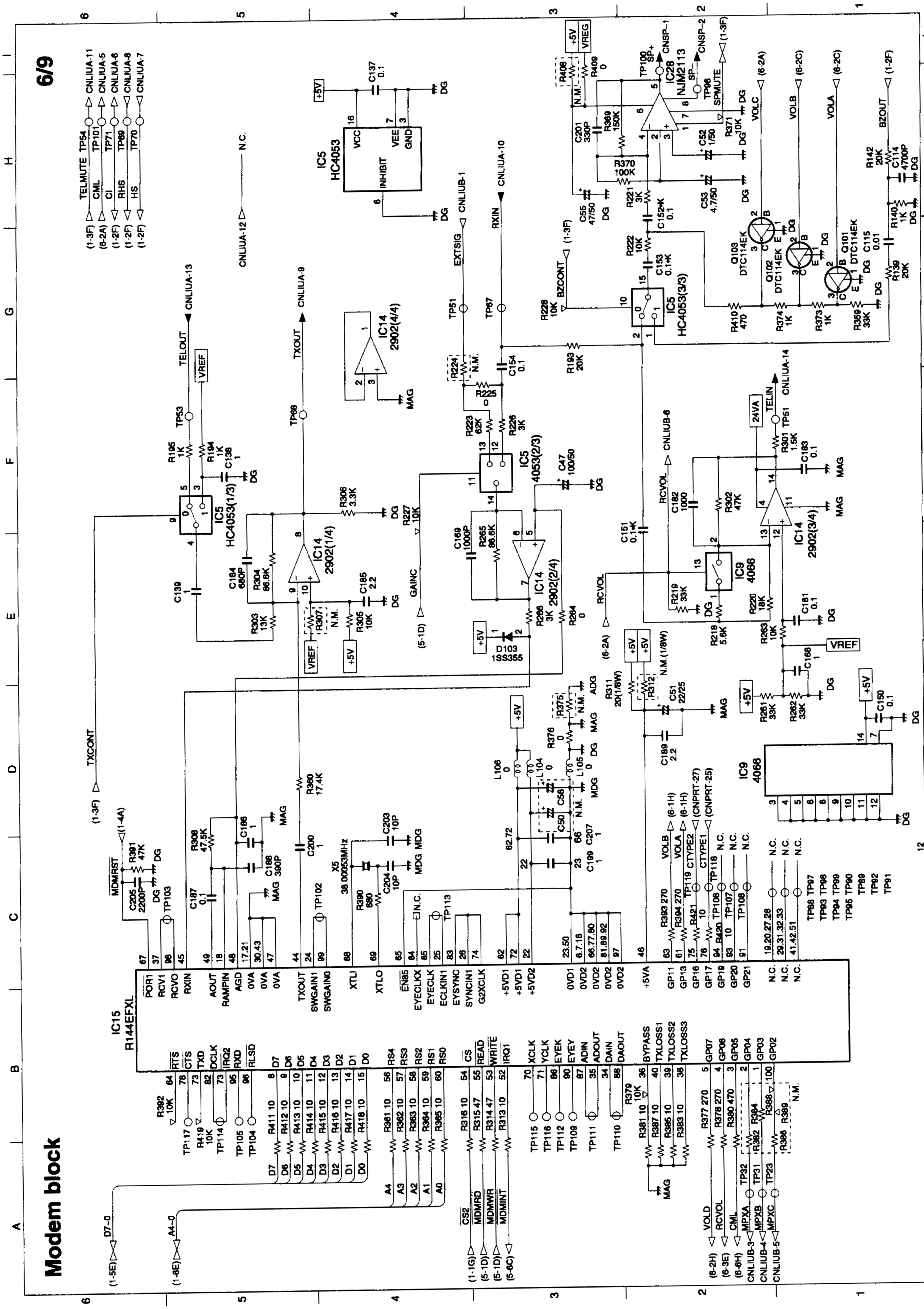


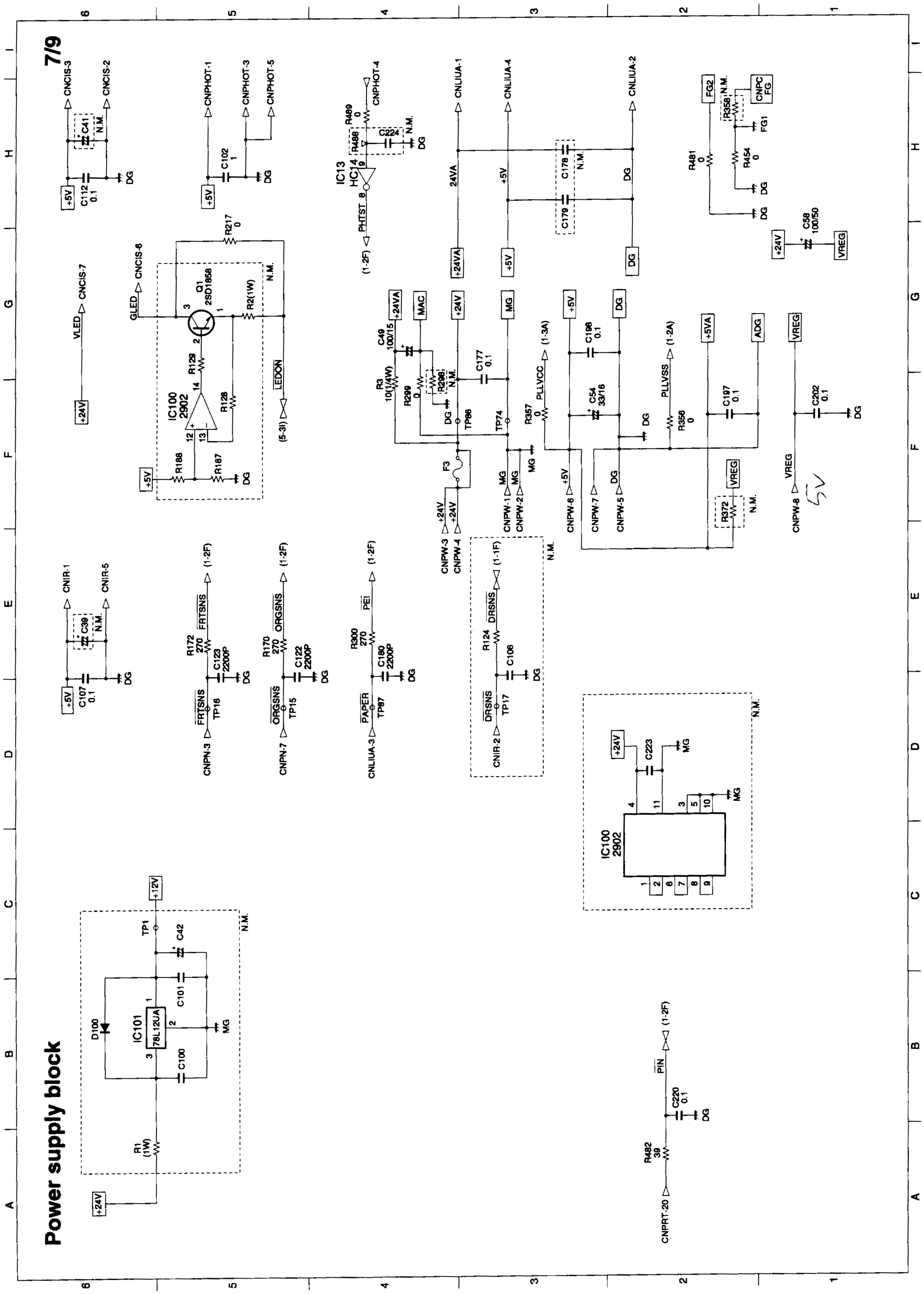

2/9
Memory block
IC17
SRM2B257SLM70
IC24
SRM2B257SLM70
IC19
M27C4001-10F1
IC18
M27C4001-10F1
IC16
MSM514800C-70JS
IC23
MSM514800C-70JS
WRH
WRL
SRAMCS
TCS1
C50
RD
+5V
DG
A19-1
D15-0
A10-1
D15-8
D7-0
RAS
CASH
CASL
OE1
WE1


3/9
Reading block
IC8
LC82103
IC4
MC14577
IC1
AD8051
LM318
IC3
4066
IC7
HCU04
X1
20MHz
Q104
A1037K
D102
DA204K
D101
DA204K
+5V
+5VA
+12V
DG
ADG
AIN
AOQ
GAIM1
CNCIS-1
CNCIS-4
CNCIS-5
LCCS2
LCRD
LCWR
RESET2
LCINT
N.M.

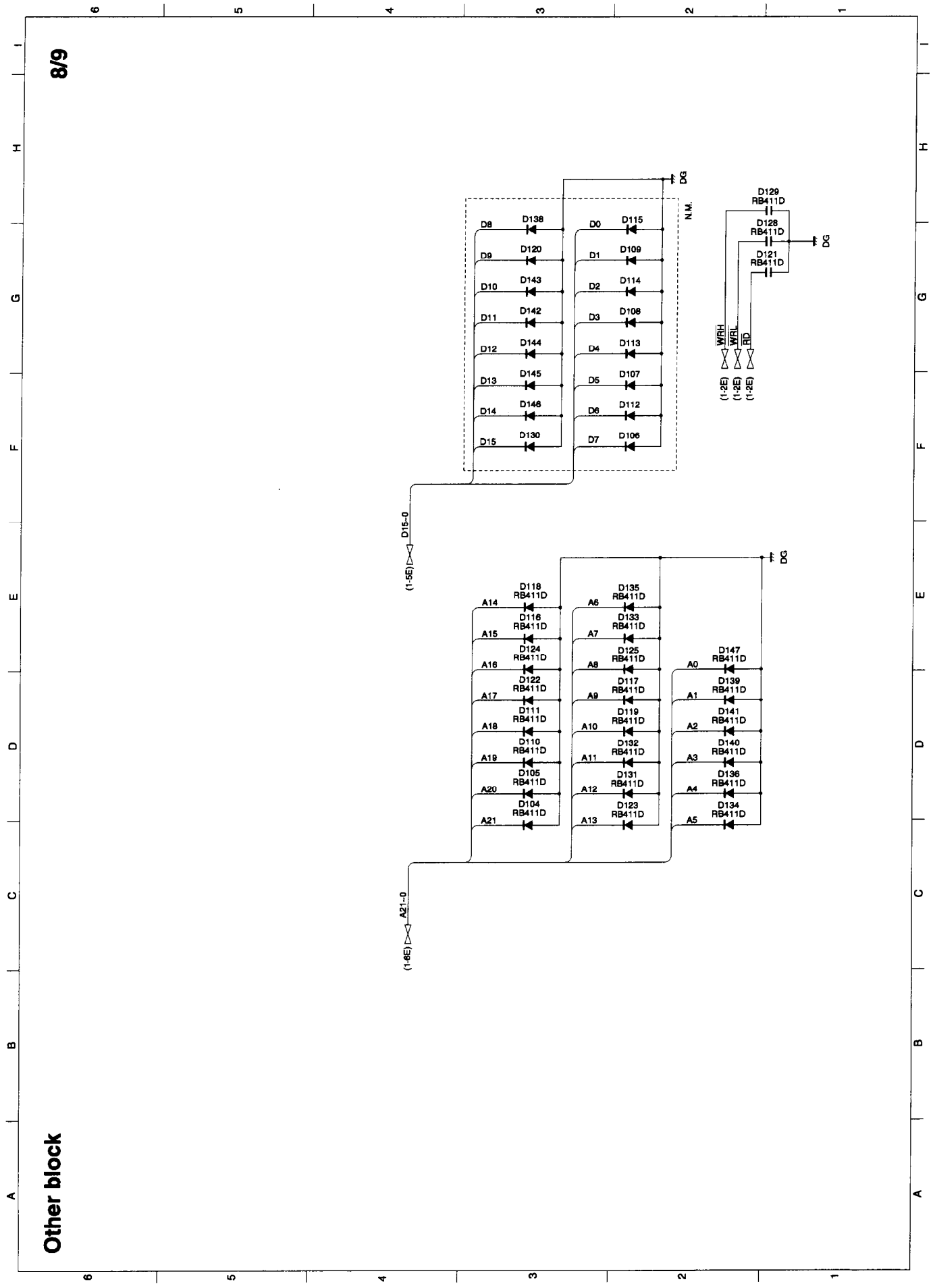

4/9
PC output block
IC20
74LS245
IC22
74LS244
IC21
74LS244
R455 1.2K
R456 1.2K
R457 1.2K
R458 1.2K
R459 1.2K
R460 1.2K
R461 1.2K
R462 1.2K
R469 1.2K
R470 1.2K
R468 1.2K
R466 1.2K
R467 1.2K
R463 1.2K
R465 1.2K
R464 1.2K
R471 1.2K
R472 1.2K
C212 1000
C213 1
C209 21
C211 0.1
C210 0.1
+5V
DG
DATA8
DATA7
DATA6
DATA5
DATA4
DATA3
DATA2
DATA1
CNPC-9
CNPC-8
CNPC-7
CNPC-6
CNPC-5
CNPC-4
CNPC-3
CNPC-2
NINIT
NSELECTIN
NAUTOFD
NSTROBE
CNPC-31
CNPC-36
CNPC-14
CNPC-1
PERROR
NACK
BUSY
NFAULT
SELECT
CNPC-12
CNPC-10
CNPC-11
CNPC-32
CNPC-13
CNPC-18
CNPC-15,16, 17,19-30
BPBD7
BPBD6
BPBD5
BPBD4
BPBD3
BPBD2
BPBD1
BPBD0
BPBD7-0
DIR
BPIINI
BPISET
BPIAF
BPISTB
BPOPE
BPOACK
BPOBY
BPOFT
BPOSE
N.C.


5/9
Gate array block
IC10
LZ9FJ49
IC2
ULN2003
IC13
HC14
IC11
HCU04

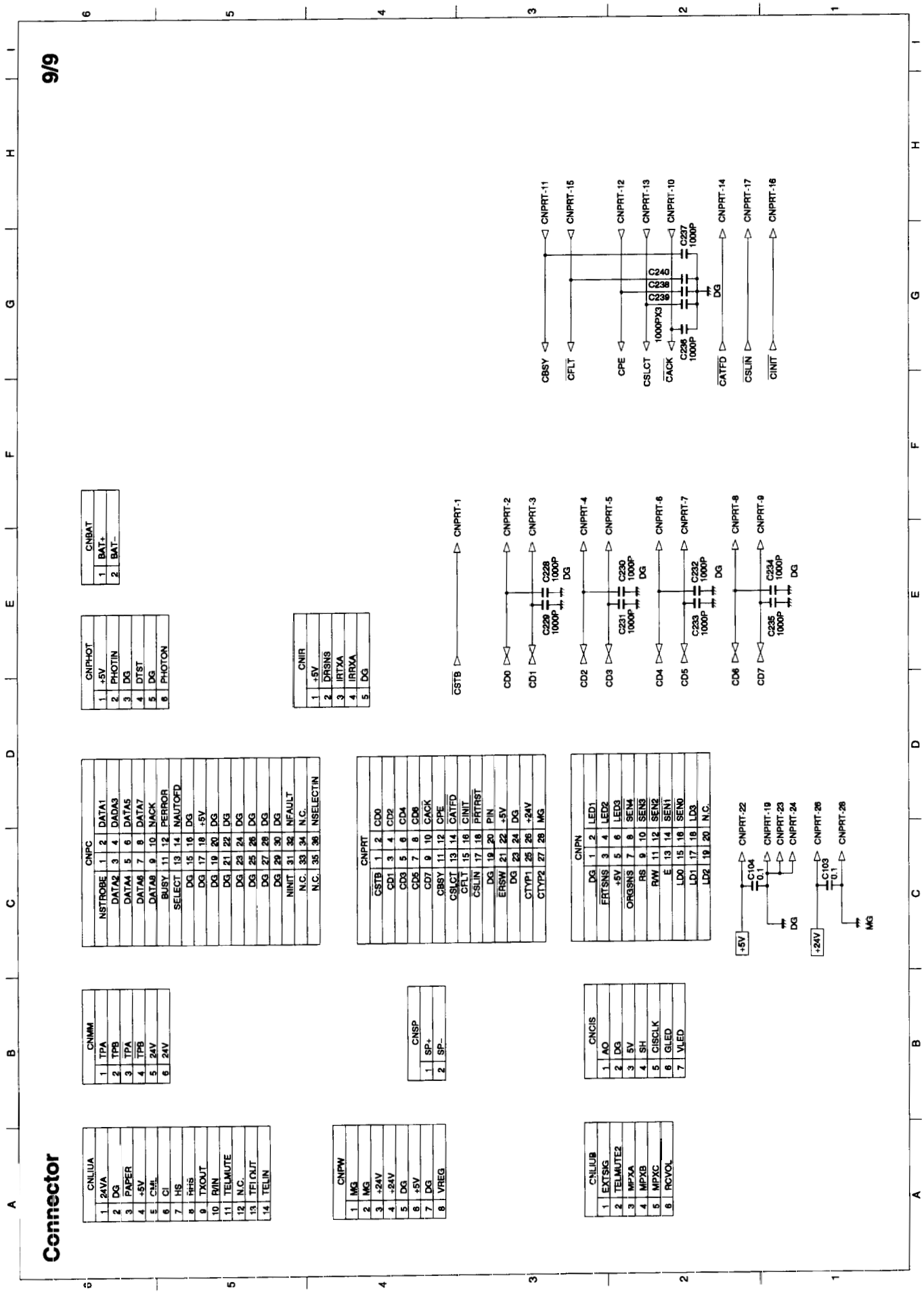

Modem block
6/9
IC15
R144EFXL
IC5
HC4053
IC14
2902
IC9
4066
IC28
NJM2113
X5
38.00053MHz
D103
1SS355
Q101
Q102
Q103
DTC114EK


Power supply block
7/9
IC101
78L12UA
D100
C100
C101
C42
TP1
R1
(1W)
+24V
+12V
N.M.
MG
IC100
2902
Q1
2SD1858
R129
R128
R2(1W)
R217
0
R188
R187
GLED
VLED
CNCIS-6
CNCIS-7
CNCIS-3
CNCIS-2
C41
C112
0.1
+5V
DG
LEDON
(5-31)
CNIR-1
CNIR-5
C39
C107
0.1
CNPHOT-1
CNPHOT-3
CNPHOT-5
C102
1
FRTSNS
R172
270
C123
2200P
TP16
CNPN-3
(1-2F)
ORGSNS
R170
270
C122
2200P
TP15
CNPN-7
PEI
R300
270
C180
2200P
PAPER
TP87
CNLIUA-3
IC13
HC14
PHTST
R489
0
R488
C224
CNPHOT-4
C49
100/15
R3
10(1/4W)
R299
0
R298
C177
0.1
TP86
TP74
F3
+24VA
MAC
24VA
CNPW-3
CNPW-4
CNPW-1
CNPW-2
CNPW-6
CNPW-7
CNPW-5
CNPW-8
DRSNS
R124
C106
TP17
CNIR-2
(1-1F)
CNLIUA-1
CNLIUA-4
CNLIUA-2
C178
C179
R357
0
PLLVCC
(1-3A)
C198
0.1
C54
33/16
PLLVSS
(1-2A)
R356
0
+5VA
C197
0.1
ADG
VREG
C202
0.1
R372
R481
0
R454
0
R358
FG2
CNPC
FG
FG1
C58
100/50
C223
PIN
C220
0.1
R482
39
CNPRT-20

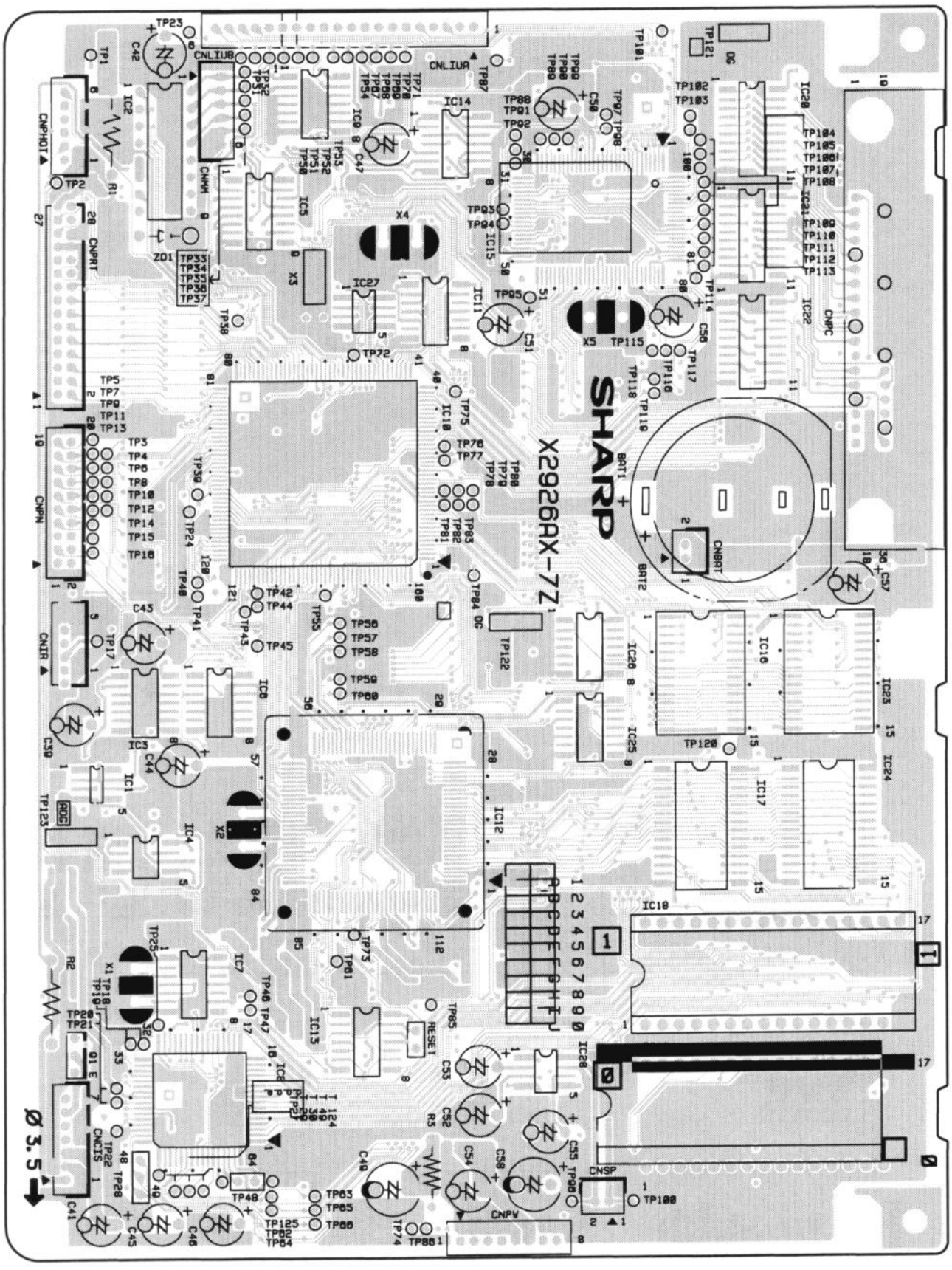
8/9



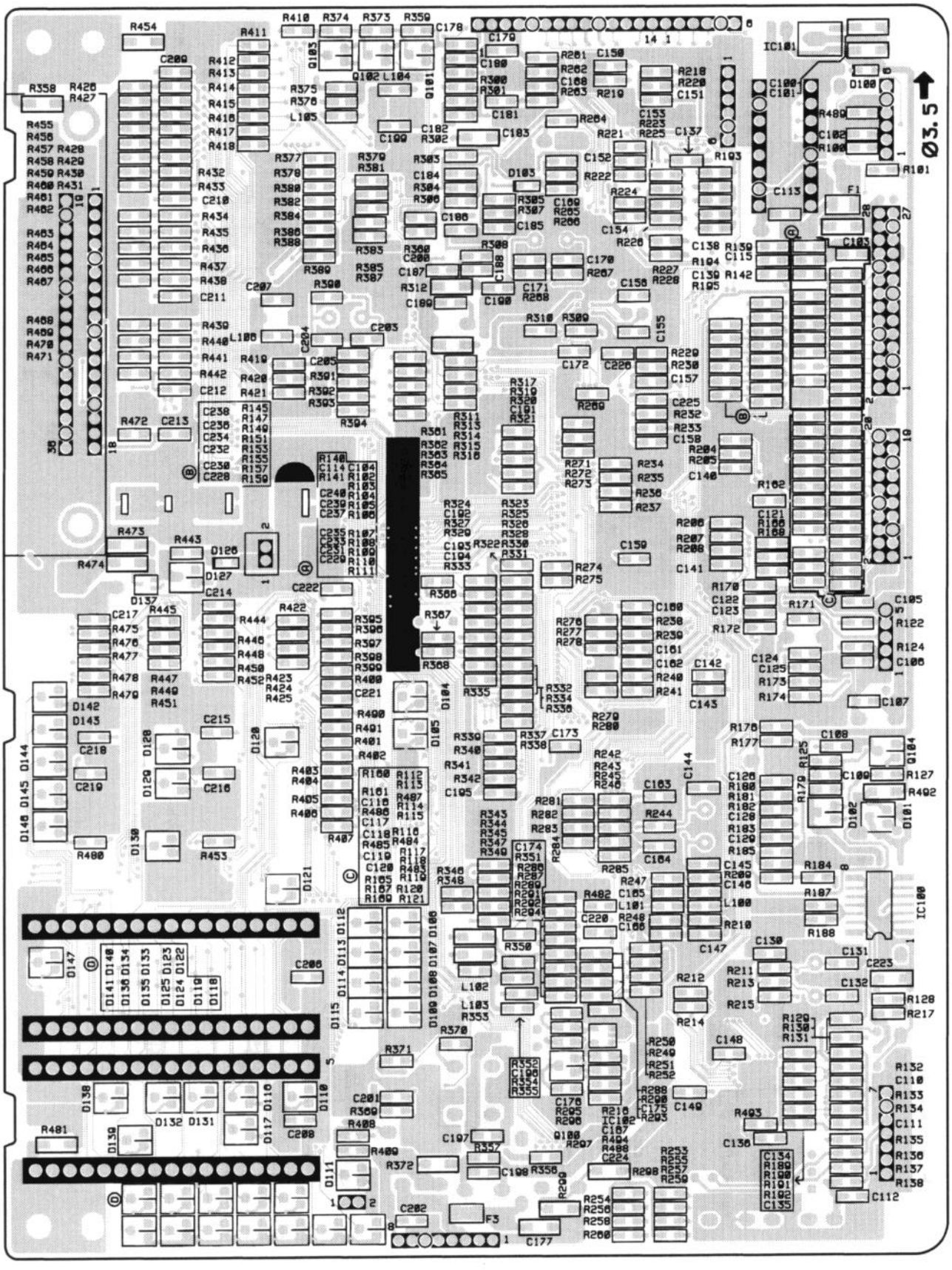
Other block


Connector
9/9
CNLIUA
1 24VA
2 DG
3 PAPER
4 +5V
5 CI
6 CI
7 HS
8 HS
9 TXOUT
10 R/IN
11 TELMUTE
12 N.C.
13 TFI OUT
14 TELIN
CNMM
1 TPA
2 TPB
3 TPA
4 TPB
5 24V
6 24V
CNPW
1 MG
2 MG
3 +24V
4 +24V
5 DG
6 +5V
7 DG
8 VREG
CNSP
1 SP+
2 SP-
CNLIUB
1 EXTSIG
2 TELMUTE2
3 MPXA
4 MPXB
5 MPXC
6 RCVOL
CNCIS
1 AO
2 DG
3 5V
4 SH
5 CISCLK
6 GLED
7 VLED
CNPC
NSTROBE 1 2 DATA1
DATA2 3 4 DADA3
DATA4 5 6 DATA5
DATA6 7 8 DATA7
DATA8 9 10 NACK
BUSY 11 12 PERROR
SELECT 13 14 NAUTOFD
DG 15 16 DG
DG 17 18 +5V
DG 19 20 DG
DG 21 22 DG
DG 23 24 DG
DG 25 26 DG
DG 27 28 DG
DG 29 30 DG
NINIT 31 32 NFAULT
N.C. 33 34 N.C.
N.C. 35 36 NSELECTIN
CNPRT
CSTB 1 2 CD0
CD1 3 4 CD2
CD3 5 6 CD4
CD5 7 8 CD6
CD7 9 10 CACK
CBSY 11 12 CPE
CSLCT 13 14 CATFD
CFLT 15 16 CINIT
CSLIN 17 18 PRTRST
DG 19 20 PIN
ERSW 21 22 +5V
DG 23 24 DG
CTYP1 25 26 +24V
CTYP2 27 28 MG
CNPN
DG 1 2 LED1
ERTSNS 3 4 LED2
+5V 5 6 LED3
ORGSNS 7 8 SEN4
RS 9 10 SEN3
R/W 11 12 SEN2
E 13 14 SEN1
LD0 15 16 SEN0
LD1 17 18 LD3
LD2 19 20 N.C.
CNPHOT
1 +5V
2 PHOTIN
3 DG
4 DTST
5 DG
6 PHOTON
CNIR
1 +5V
2 DRSNS
3 IRTXA
4 IRRXA
5 DG
CNBAT
1 BAT+
2 BAT-
CSTB
CD0
CD1
CD2
CD3
CD4
CD5
CD6
CD7
CBSY
CFLT
CPE
CSLCT
CACK
CATFD
CSLIN
CINIT
CNPRT-1
CNPRT-2
CNPRT-3
CNPRT-4
CNPRT-5
CNPRT-6
CNPRT-7
CNPRT-8
CNPRT-9
CNPRT-10
CNPRT-11
CNPRT-12
CNPRT-13
CNPRT-14
CNPRT-15
CNPRT-16
CNPRT-17
C228 1000P
C229 1000P
C230 1000P
C231 1000P
C232 1000P
C233 1000P
C234 1000P
C235 1000P
C236 1000P
C237 1000P
C238
C239
C240
1000PX3
DG
+5V
+24V
C104 0.1
C103 0.1
CNPRT-22
CNPRT-19
CNPRT-23
CNPRT-24
CNPRT-25
CNPRT-26
MG

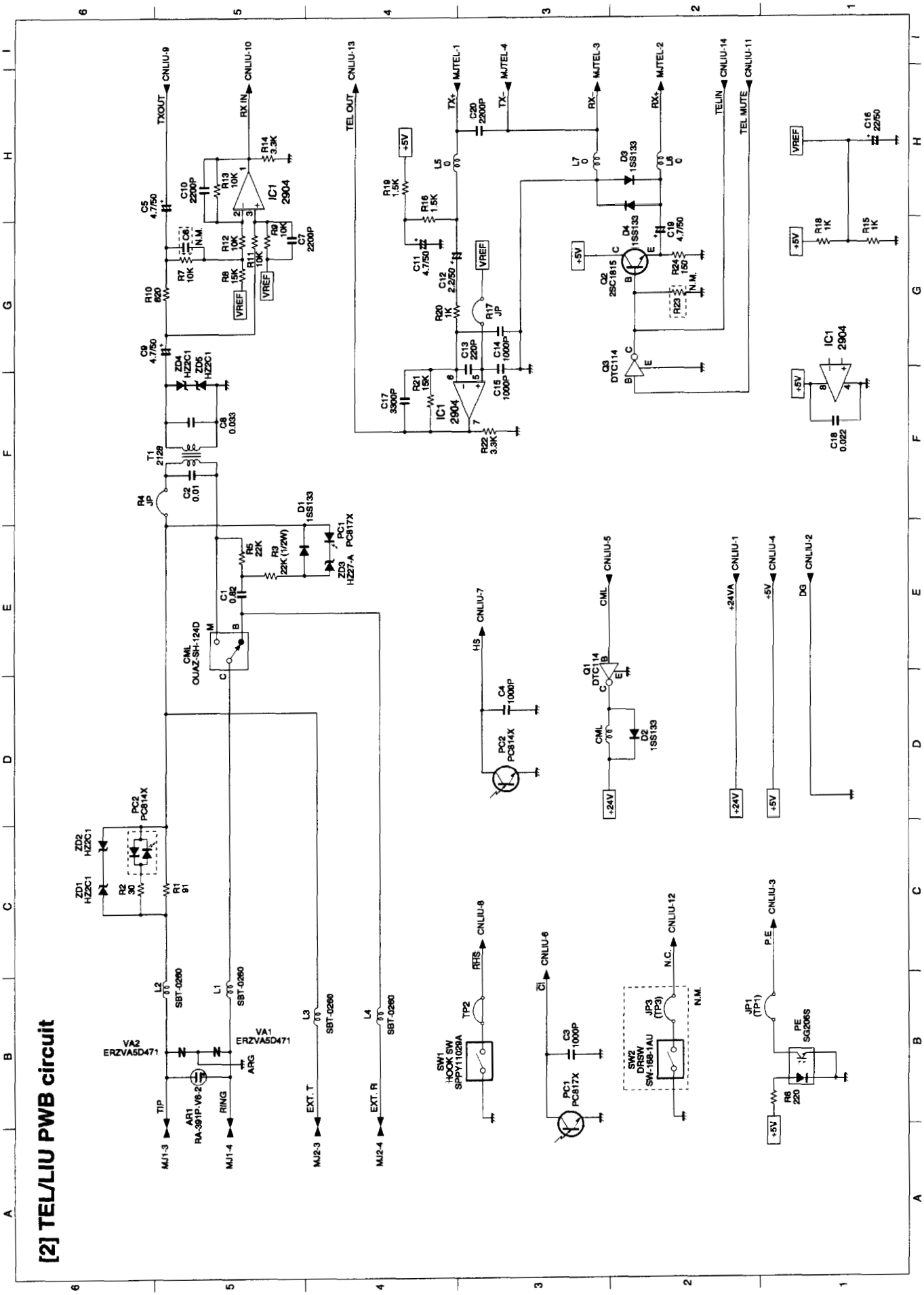
Control PWB parts layout (Top side)



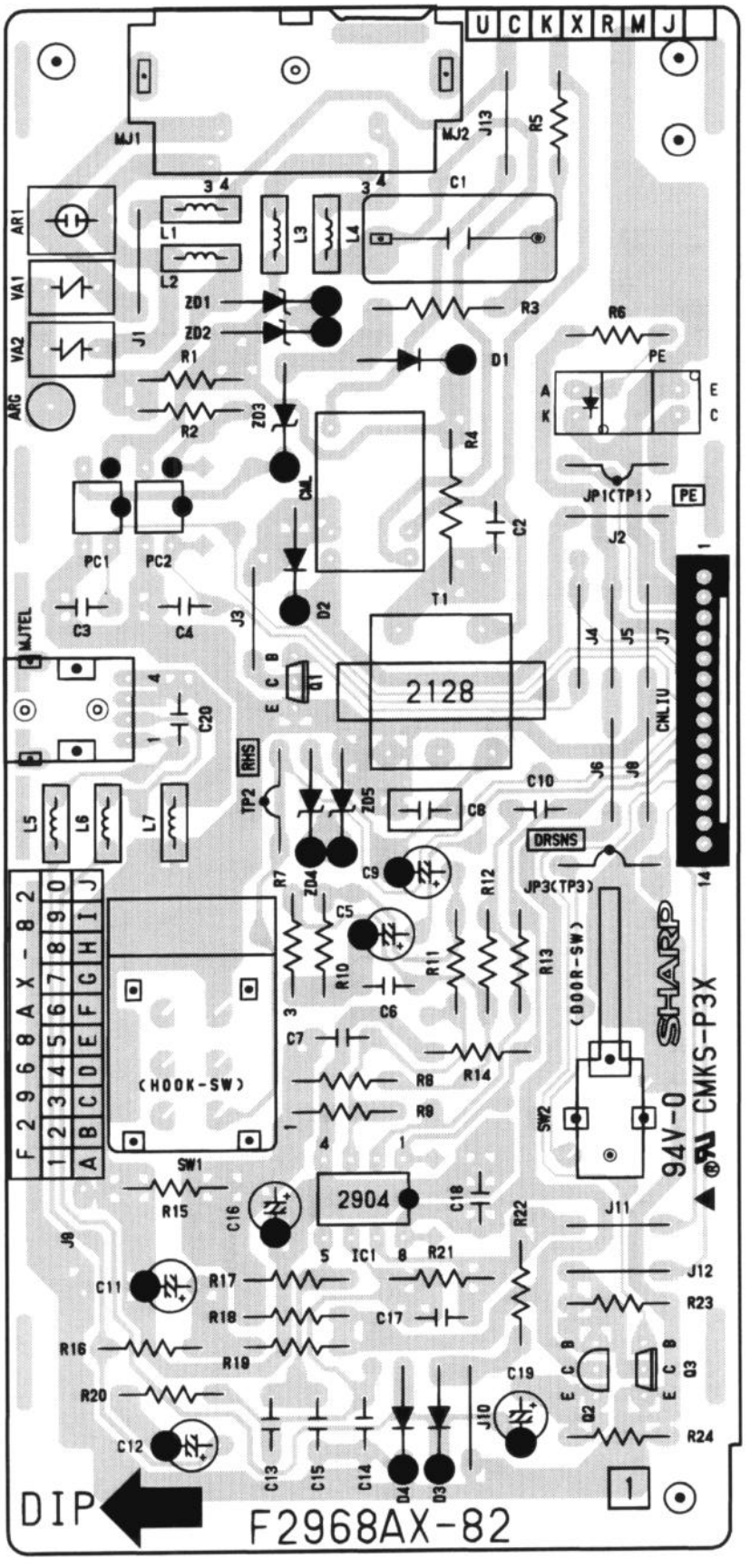
Control PWB parts layout (Bottom side)



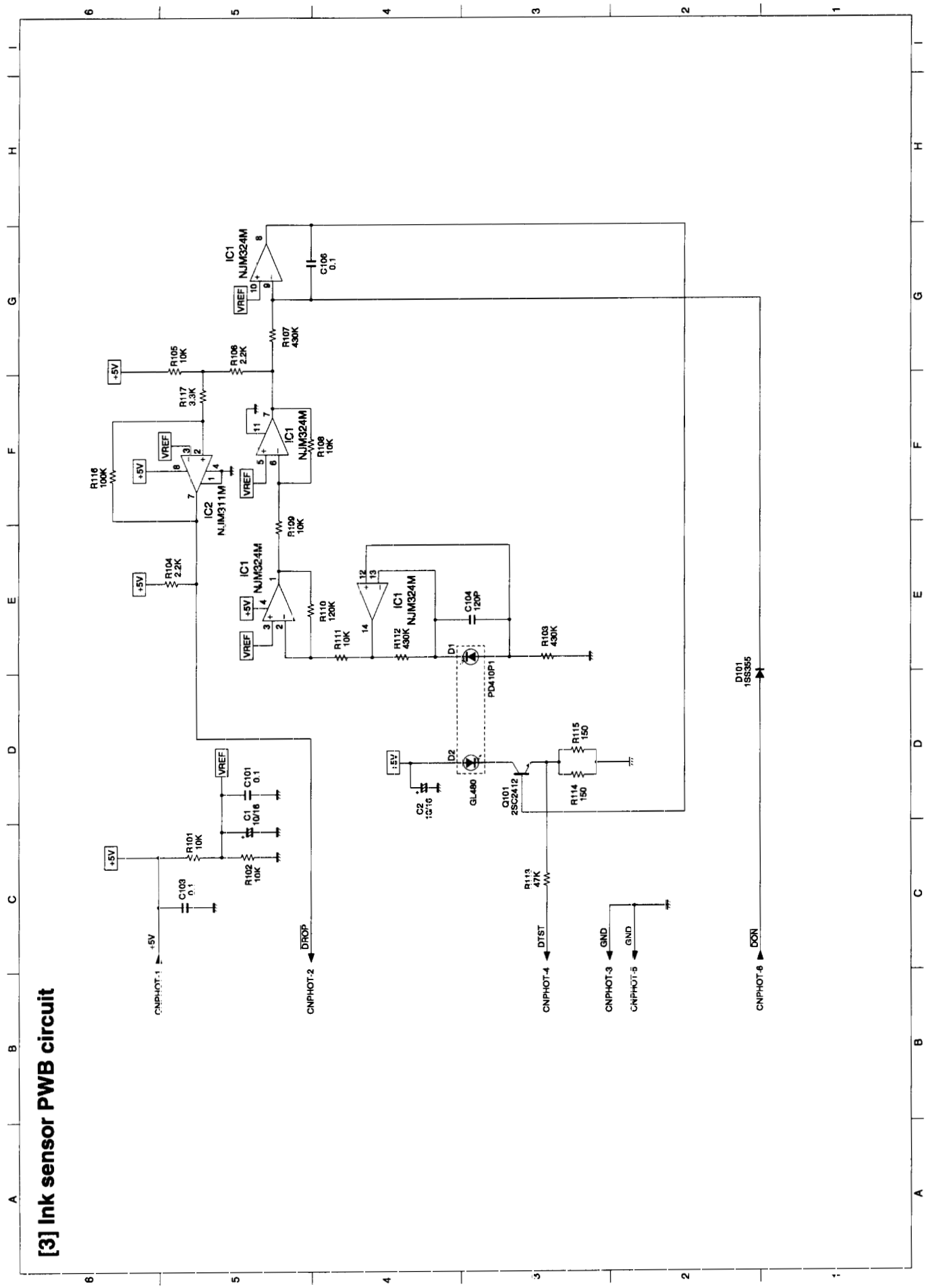
[2] TEL/LIU PWB circuit



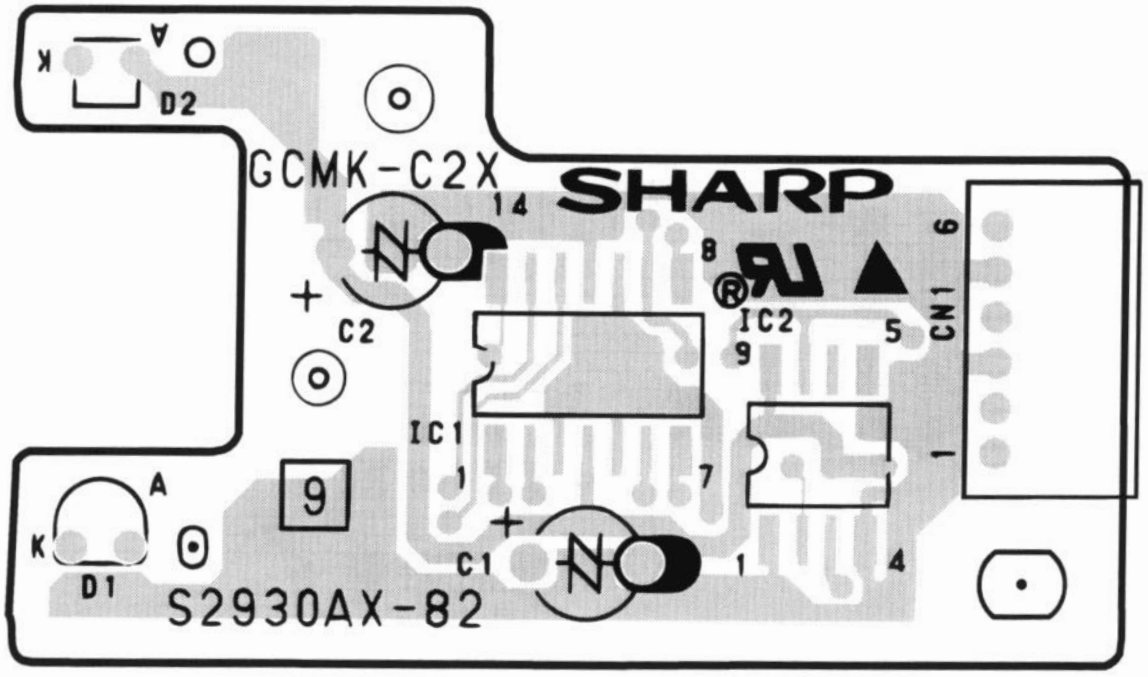
TEL/LIU PWB parts layout



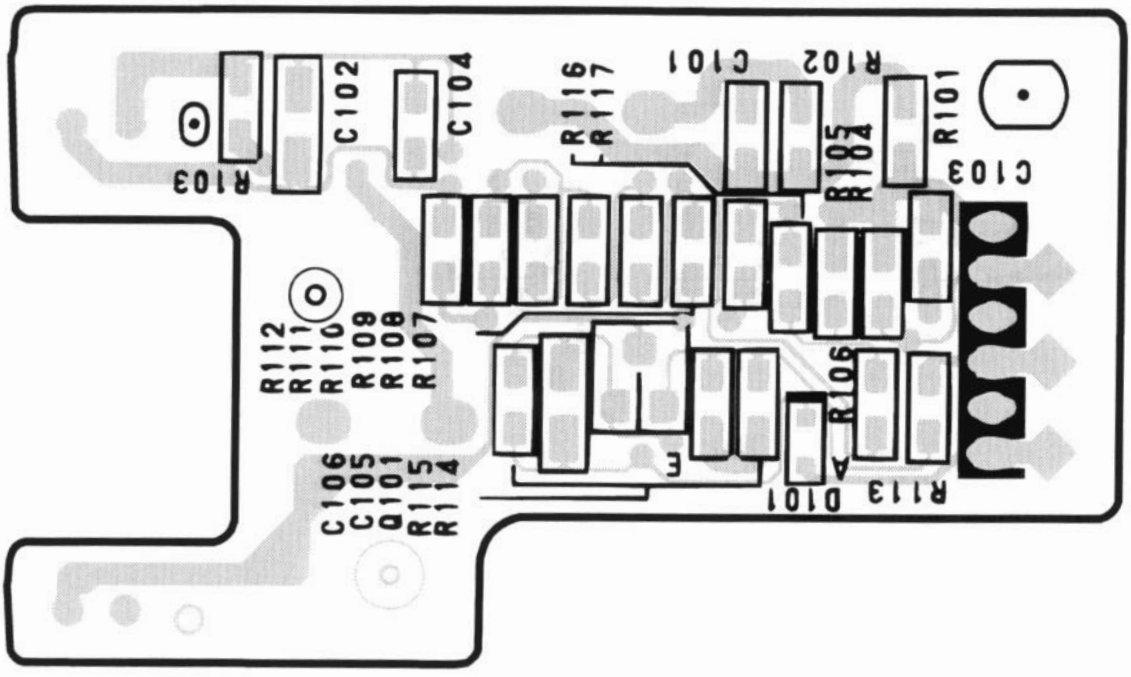
[3] Ink sensor PWB circuit

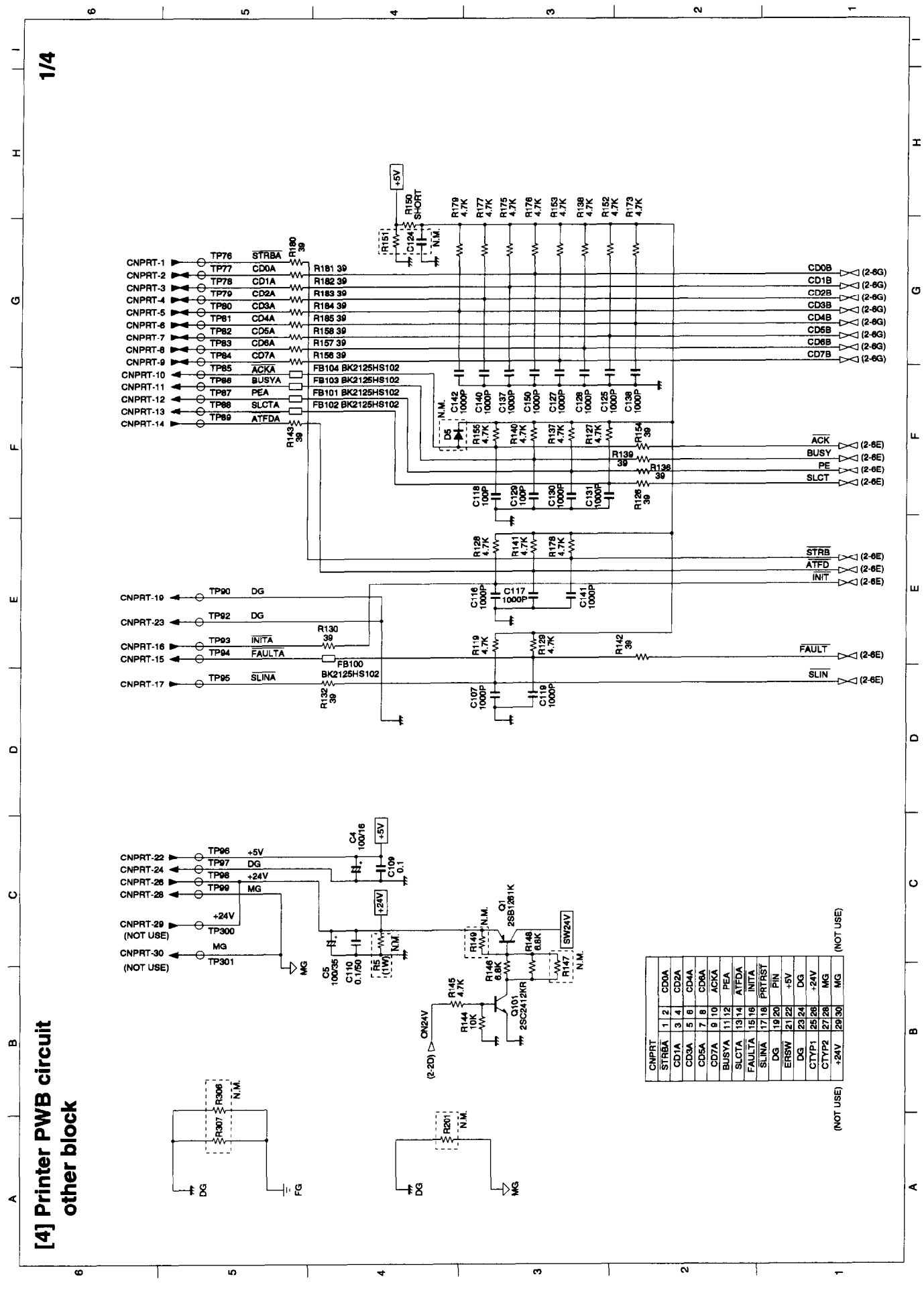


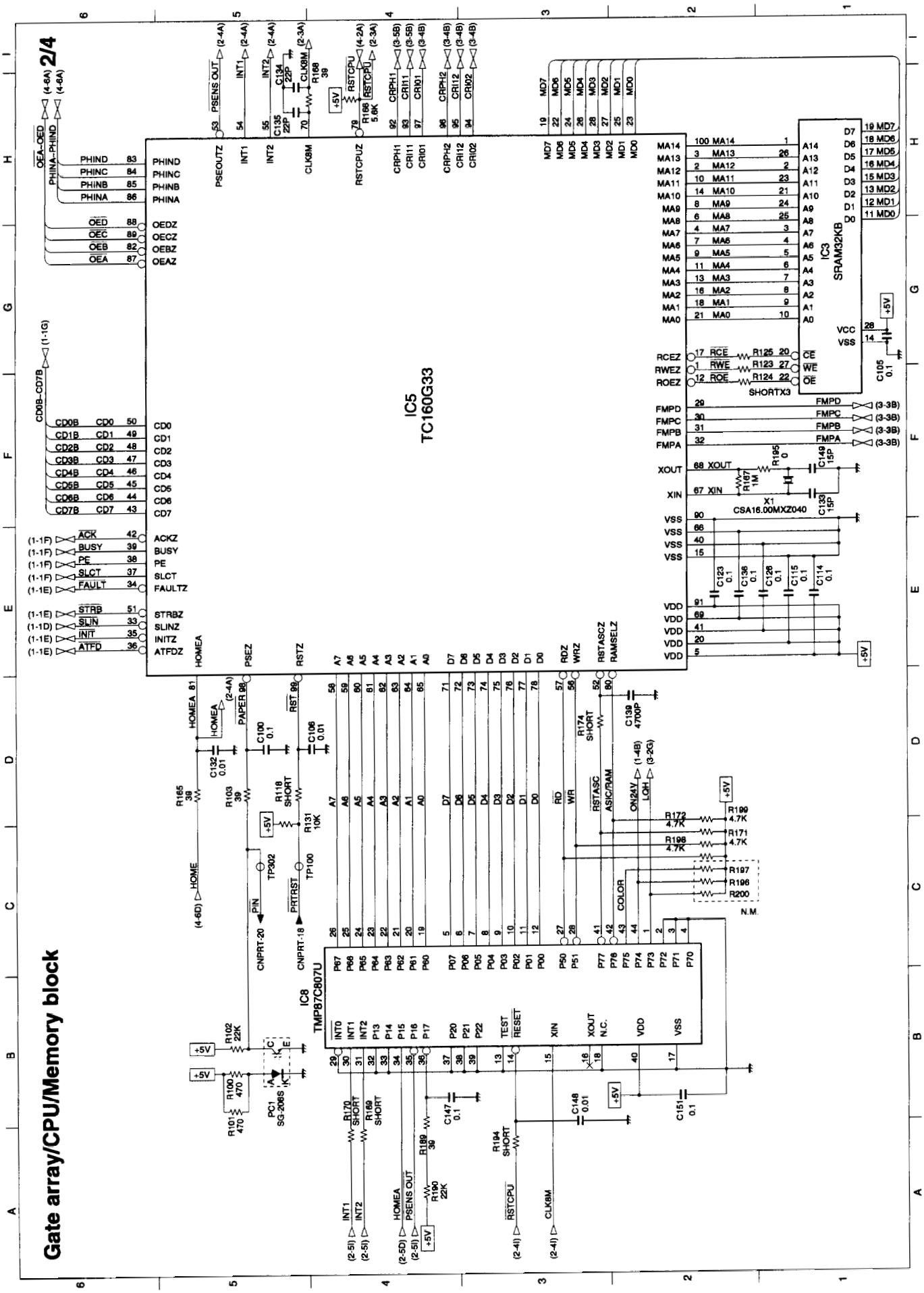
Ink sensor PWB parts layout (Top side)



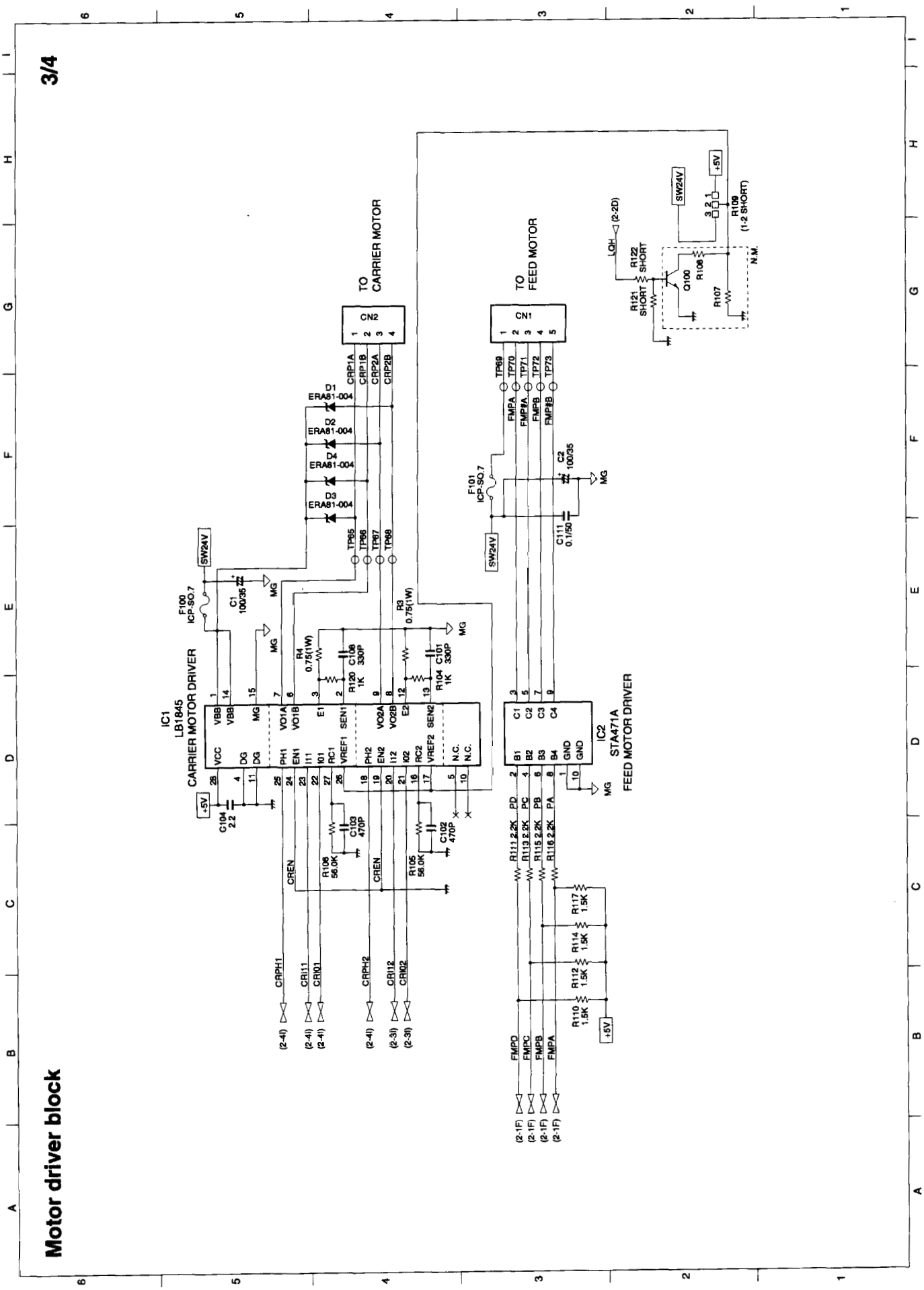
Ink sensor PWB parts layout (Bottom side)

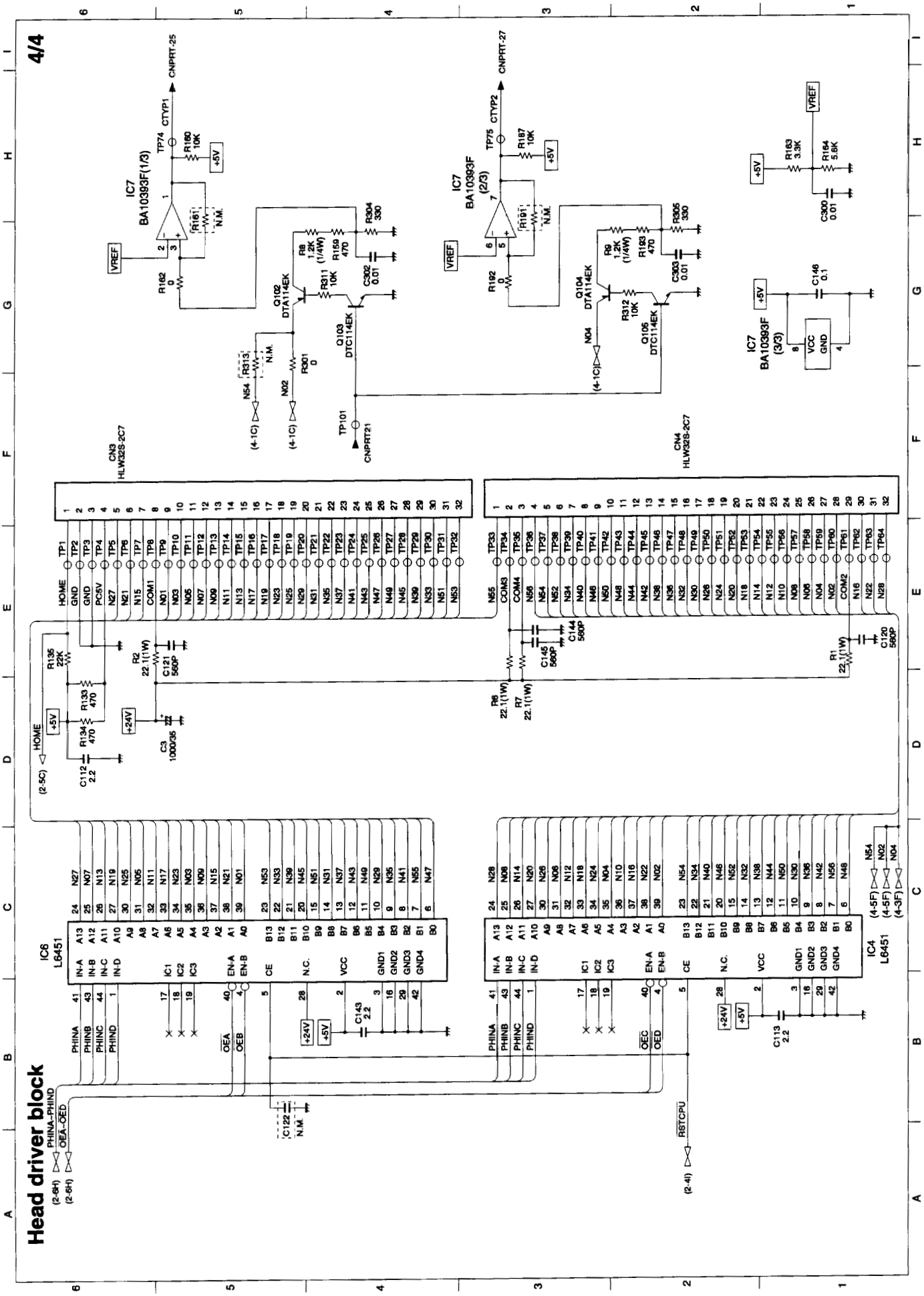



1/4
[4] Printer PWB circuit other block
CNPRT-1
CNPRT-2
CNPRT-3
CNPRT-4
CNPRT-5
CNPRT-6
CNPRT-7
CNPRT-8
CNPRT-9
CNPRT-10
CNPRT-11
CNPRT-12
CNPRT-13
CNPRT-14
CNPRT-19
CNPRT-23
CNPRT-16
CNPRT-15
CNPRT-17
CNPRT-22
CNPRT-24
CNPRT-26
CNPRT-28
CNPRT-29 (NOT USE)
CNPRT-30 (NOT USE)
TP76 STRBA
TP77 CD0A
TP78 CD1A
TP79 CD2A
TP80 CD3A
TP81 CD4A
TP82 CD5A
TP83 CD6A
TP84 CD7A
TP85 ACKA
TP86 BUSYA
TP87 PEA
TP88 SLCTA
TP89 ATFDA
TP90 DG
TP92 DG
TP93 INITA
TP94 FAULTA
TP95 SLINA
TP96 +5V
TP97 DG
TP98 +24V
TP99 MG
TP300
TP301
FB104 BK2125HS102
FB103 BK2125HS102
FB101 BK2125HS102
FB102 BK2125HS102
FB100
CD0B (2-6G)
CD1B (2-6G)
CD2B (2-6G)
CD3B (2-6G)
CD4B (2-6G)
CD5B (2-6G)
CD6B (2-6G)
CD7B (2-6G)
ACK (2-6E)
BUSY (2-6E)
PE (2-6E)
SLCT (2-6E)
STRB (2-6E)
ATFD (2-6E)
INIT (2-6E)
FAULT (2-6E)
SLIN (2-6E)
+5V
+24V
SW24V
CN24V (2-2D)
Q1 2SB1261K
Q101 2SC2412KR
CNPRT
STRBA 1 2 CD0A
CD1A 3 4 CD2A
CD3A 5 6 CD4A
CD5A 7 8 CD6A
CD7A 9 10 ACKA
BUSYA 11 12 PEA
SLCTA 13 14 ATFDA
FAULTA 15 16 INITA
SLINA 17 18 PRTRST
DG 19 20 PIN
ERSW 21 22 +5V
DG 23 24 DG
CTYP1 25 26 +24V
CTYP2 27 28 MG
+24V 29 30 MG (NOT USE)
(NOT USE)
DG
FG
MG

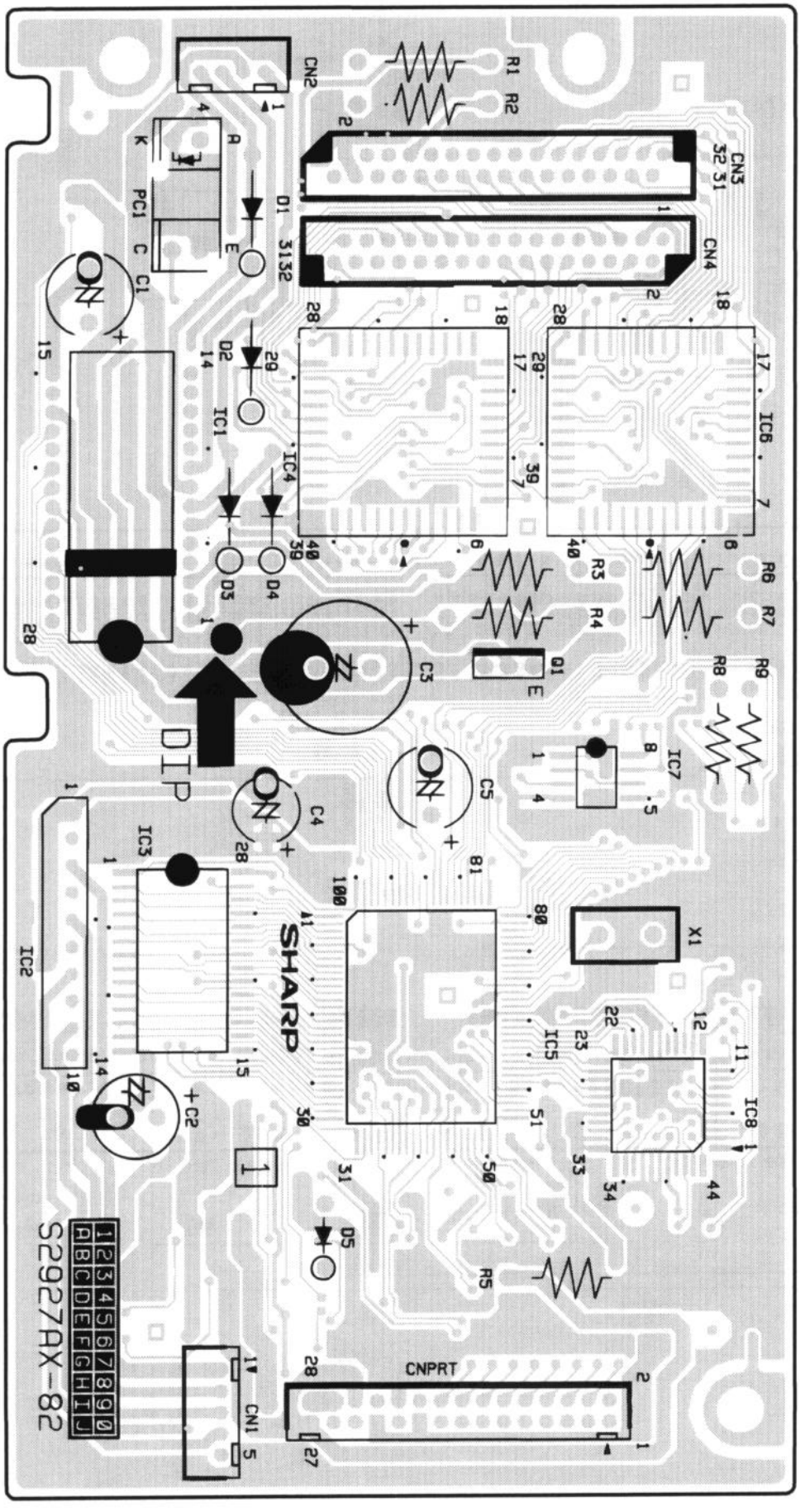

Gate array/CPU/Memory block
2/4
IC5
TC160G33
IC8
TMP87C807U
IC3
SRAM32KB
X1
CSA16.00MXZ040
SHORTX3
N.M.

Motor driver block

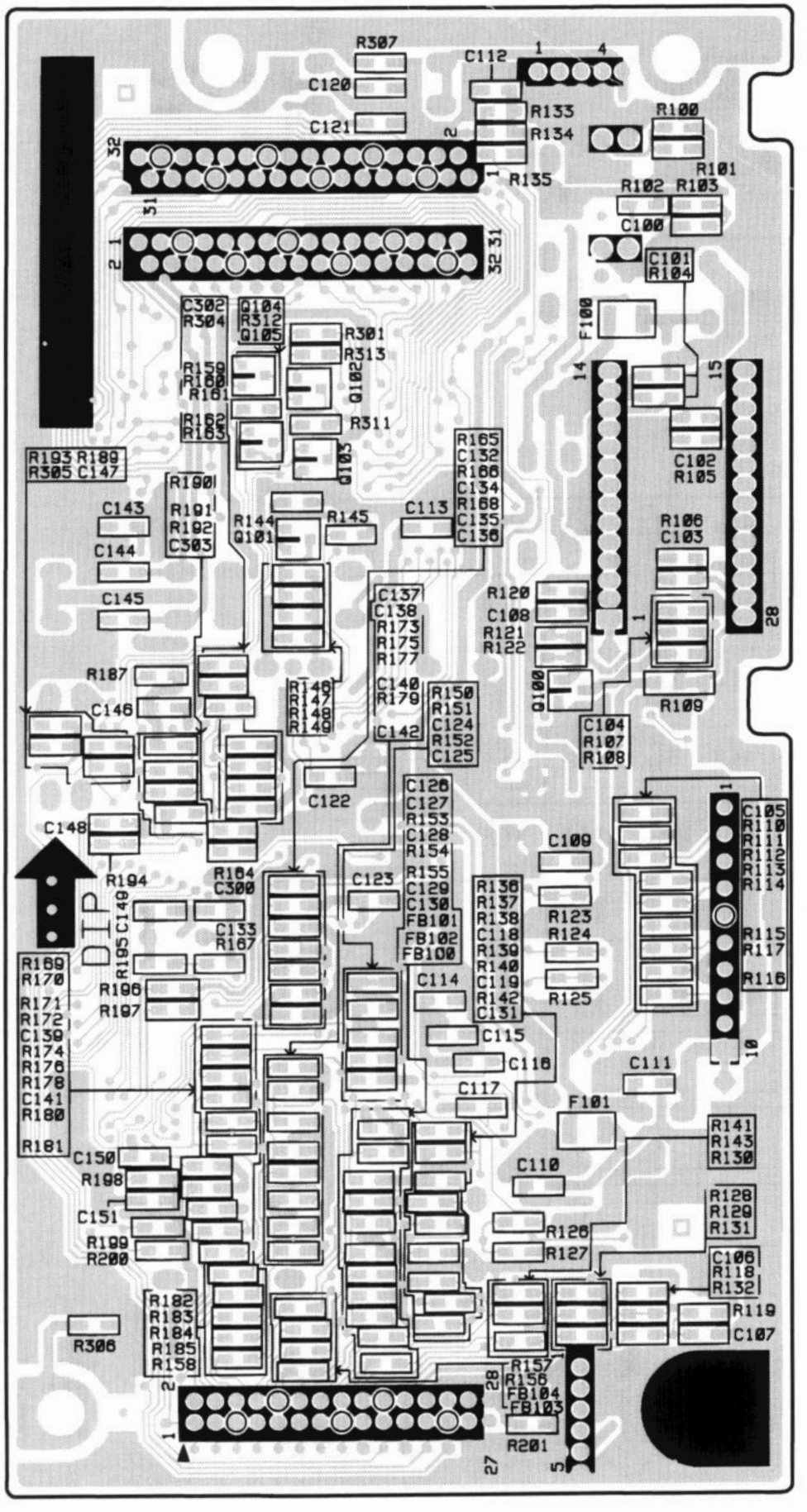



4/4
Head driver block
PHINA-PHIND
OEA-OED
IC6
L6451
IC4
L6451
IC7
BA10393F(1/3)
IC7
BA10393F
(2/3)
IC7
BA10393F
(3/3)
CN3
HLW328-2C7
CN4
HLW328-2C7
CNPRT-25
CNPRT-27
CNPRT21
CTYP1
CTYP2
VREF
HOME
+5V
+24V
RSTCPU
Q102
DTA114EK
Q103
DTC114EK
Q104
DTA114EK
Q105
DTC114EK
R8
1.2K
(1/4W)
R9
1.2K
(1/4W)
R159
470
R183
470
R304
330
R305
330
R311
10K
R312
10K
R160
10K
R187
10K
R161
N.M.
R191
N.M.
R313
N.M.
R162
0
R192
0
R901
0
R163
3.3K
R164
5.8K
C300
0.01
C302
0.01
C303
0.01
C146
0.1
C112
2.2
C113
2.2
C122
N.M.
C143
2.2
C3
1000/35
C120
560P
C121
560P
C144
560P
C145
560P
R1
22.1(1W)
R2
22.1(1W)
R6
22.1(1W)
R7
22.1(1W)
R133
470
R134
470
R135
22K
(2-5C)
(2-6H)
(2-4I)
(4-1C)
(4-5F)
(4-3F)

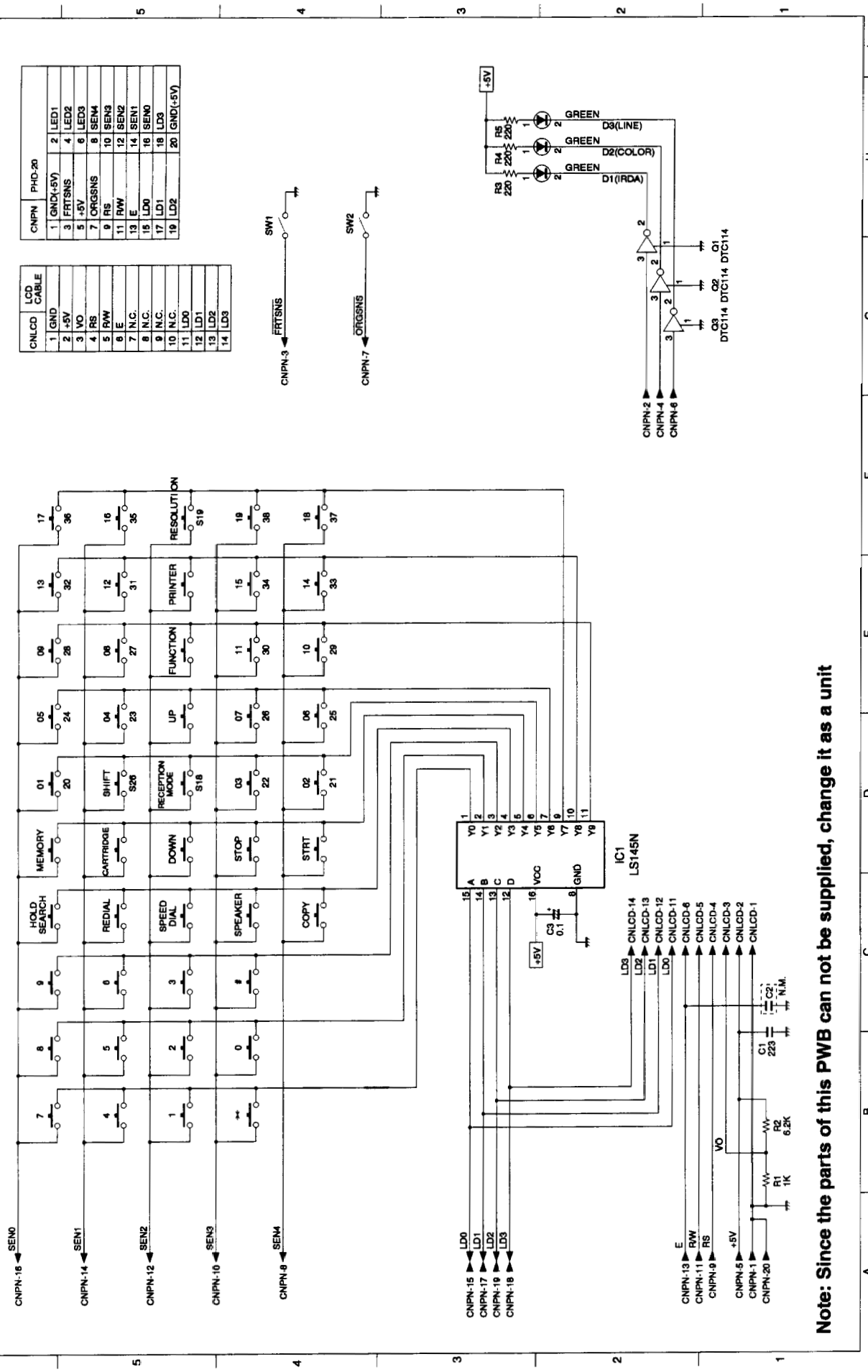
Printer PWB parts layout (Top side)



Printer PWB parts layout (Bottom side)

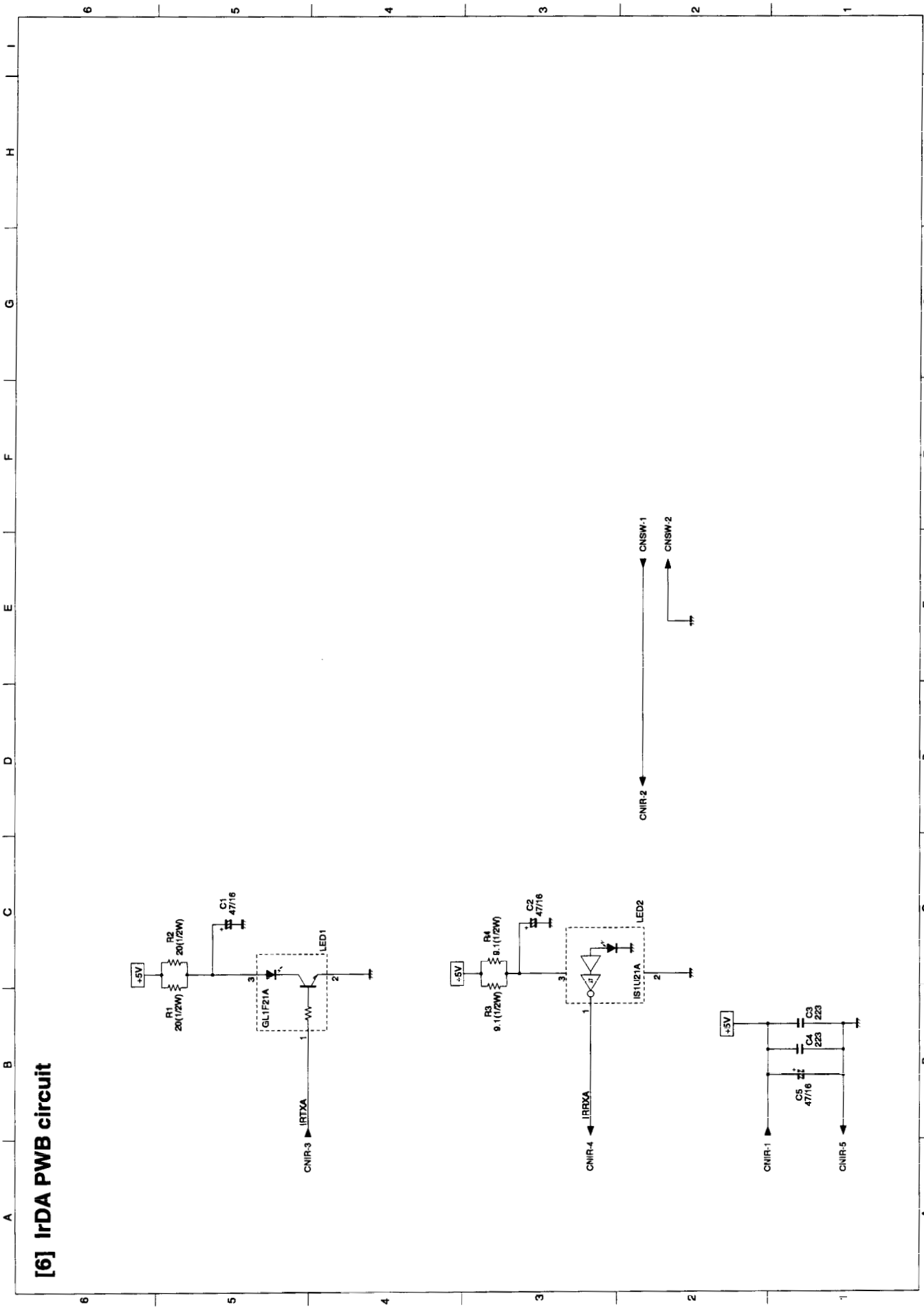


[5] Operation panel PWB circuit

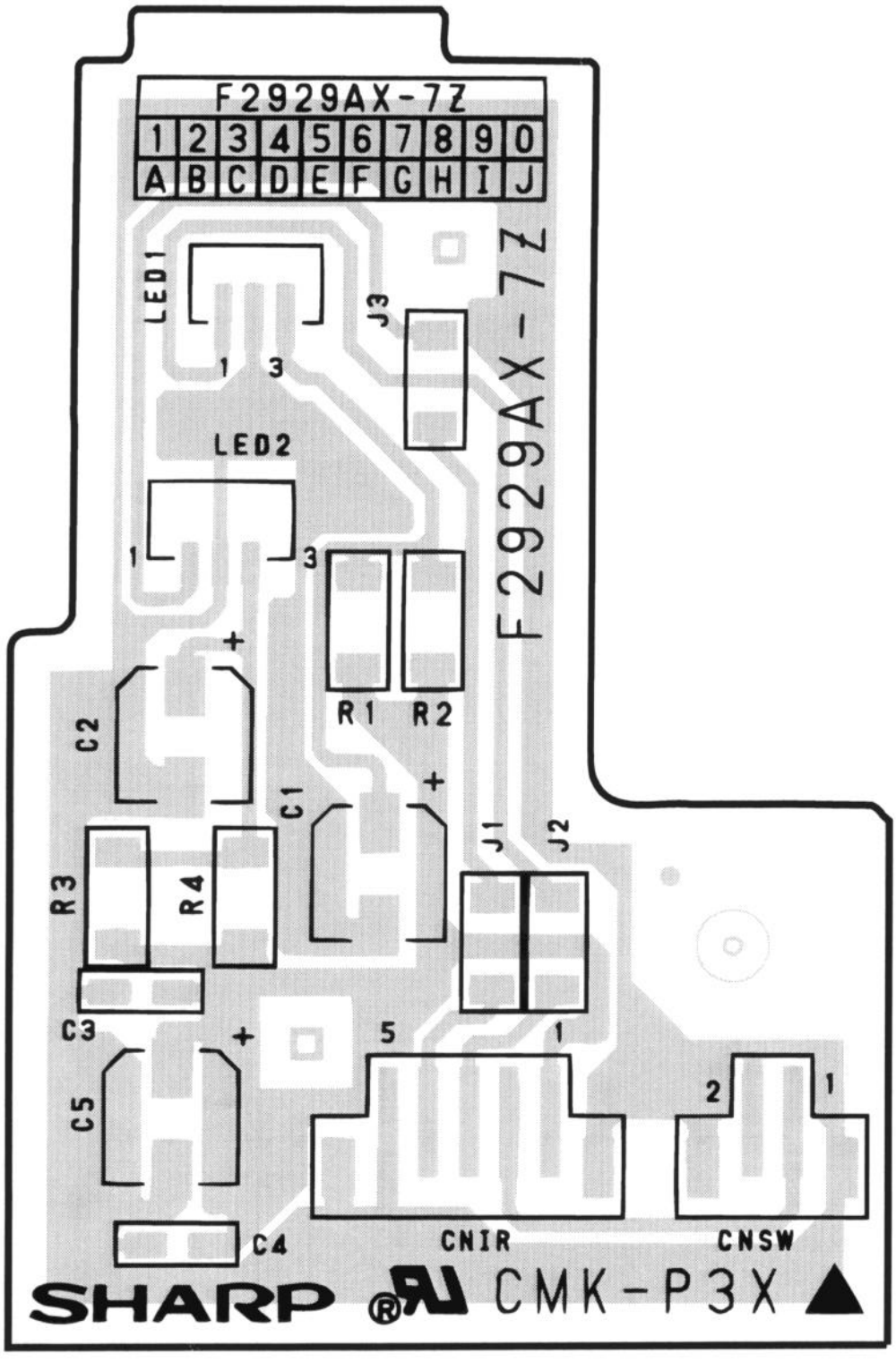


Note: Since the parts of this PWB can not be supplied, change it as a unit

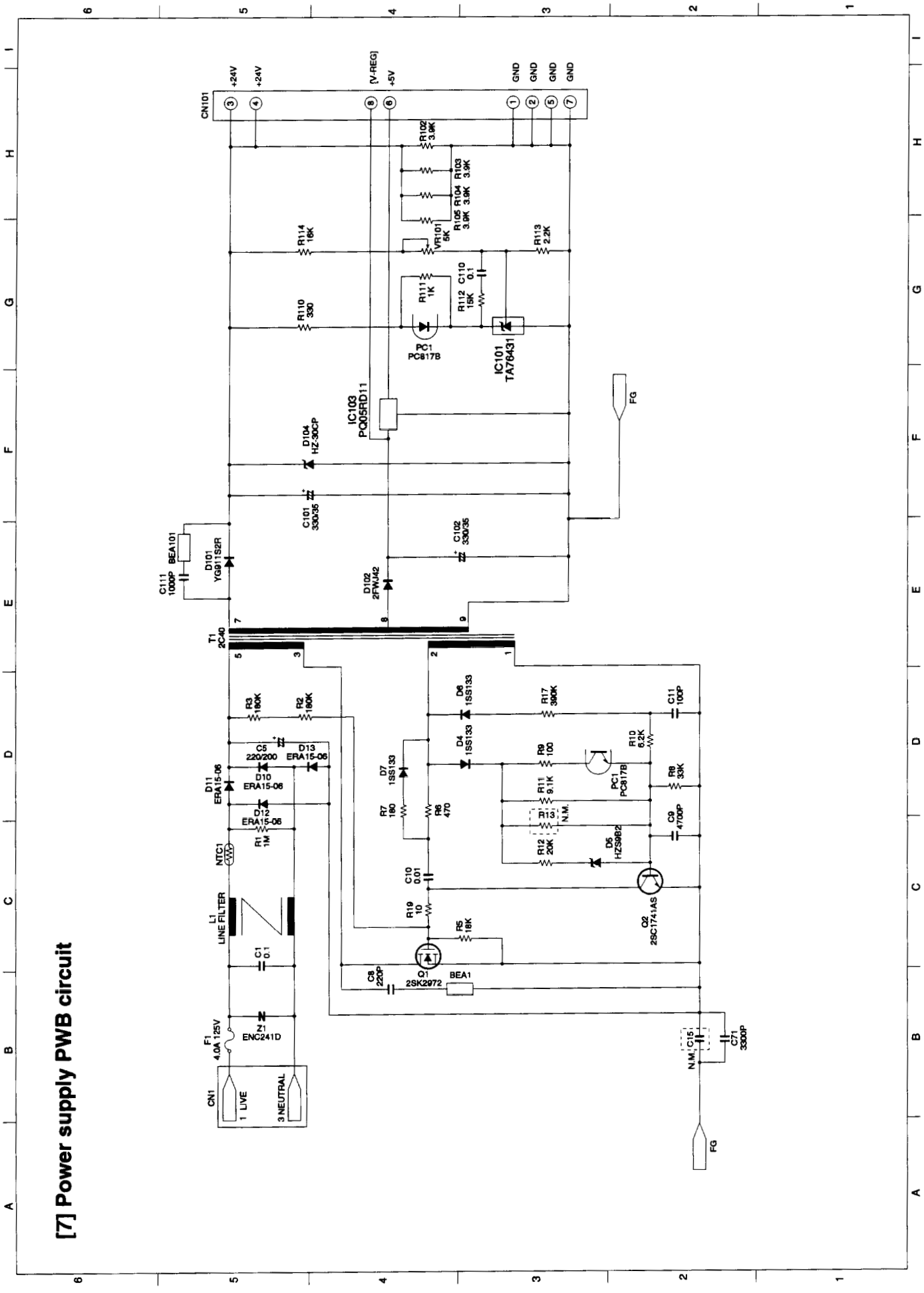
[6] IrDA PWB circuit



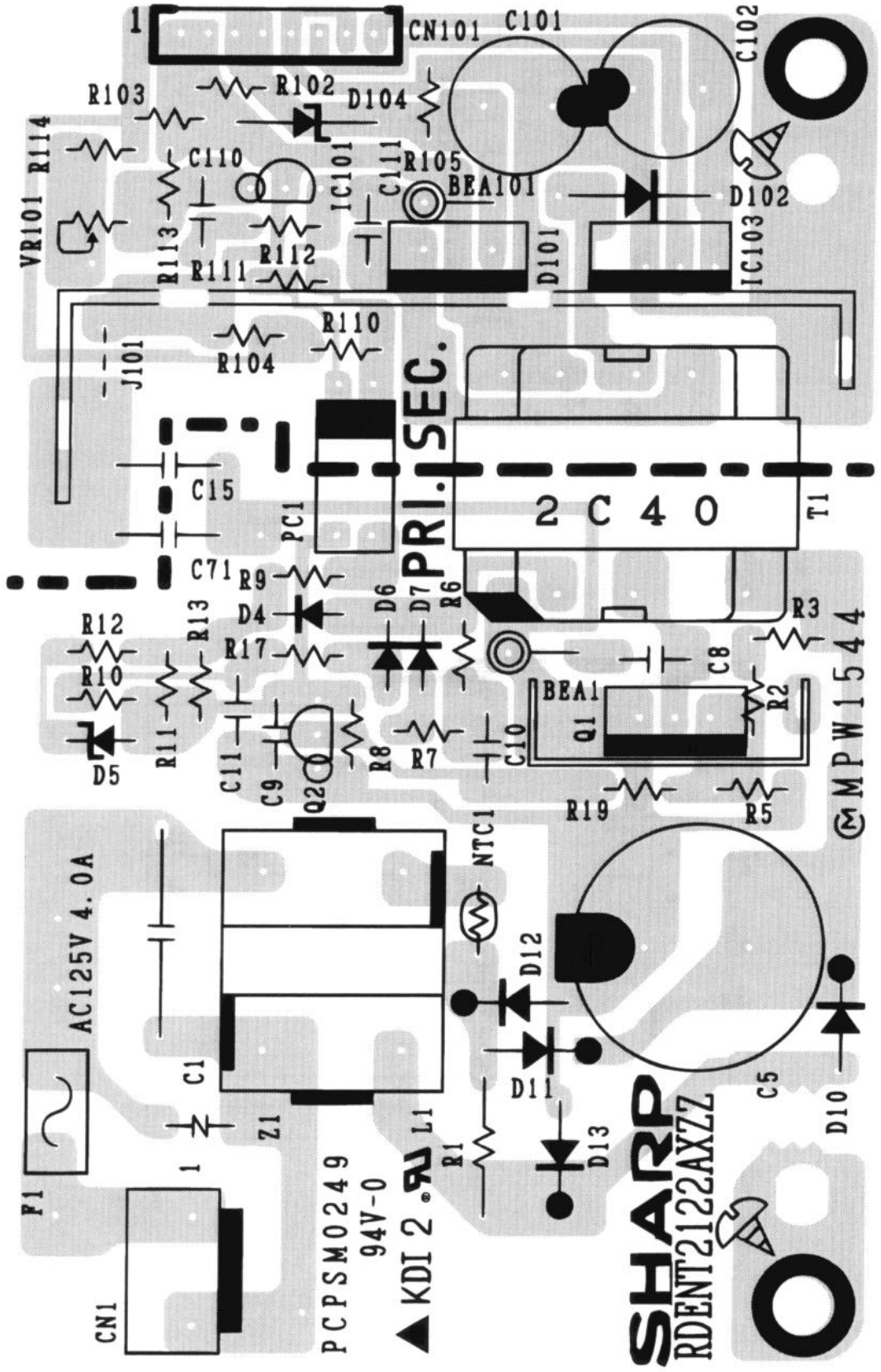
IrDA PWB parts layout



[7] Power supply PWB circuit

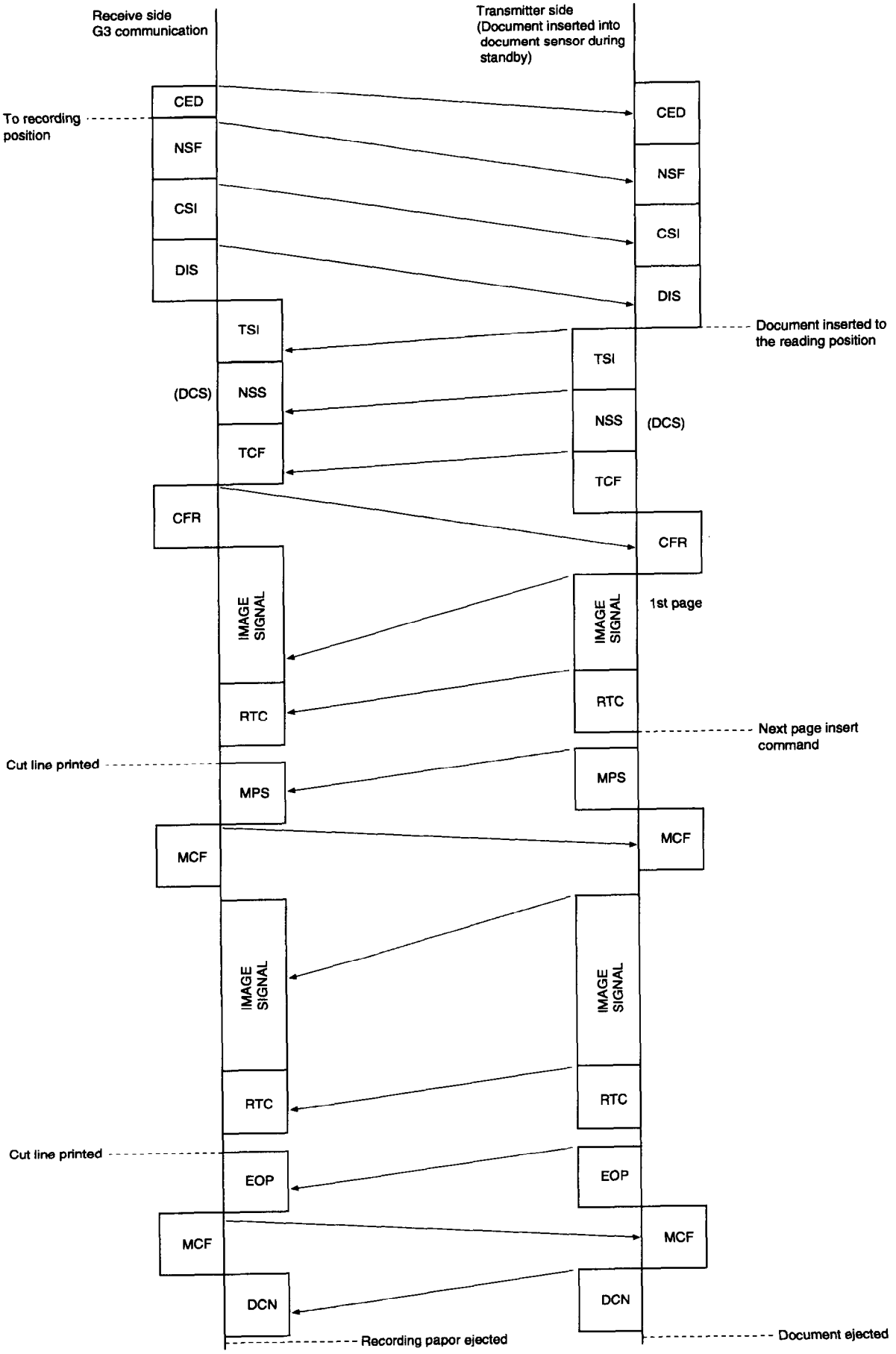


Power supply PWB parts layout

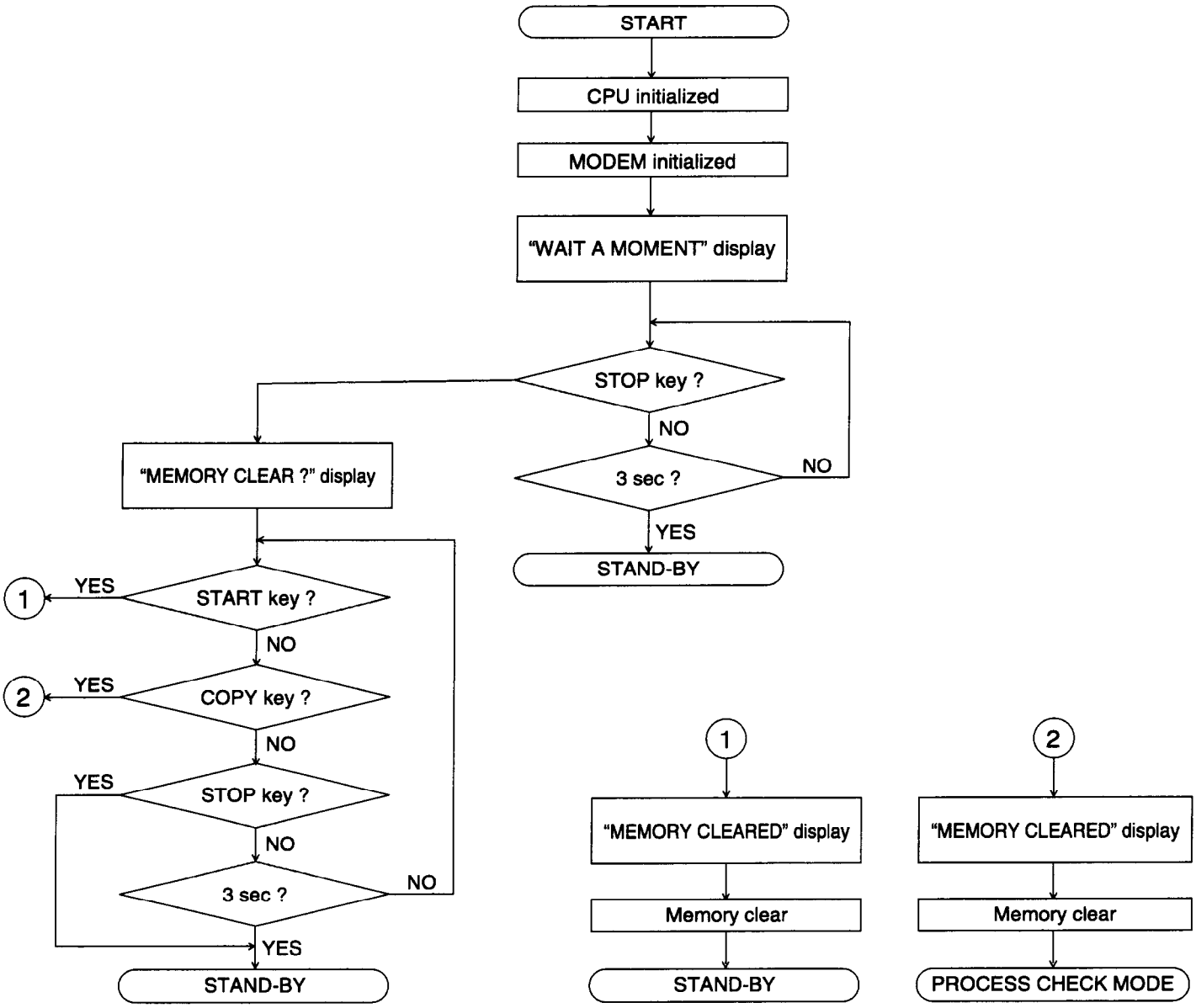


CHAPTER 7. OPERATION FLOWCHART

[1] Protocol



[2] Power on sequence



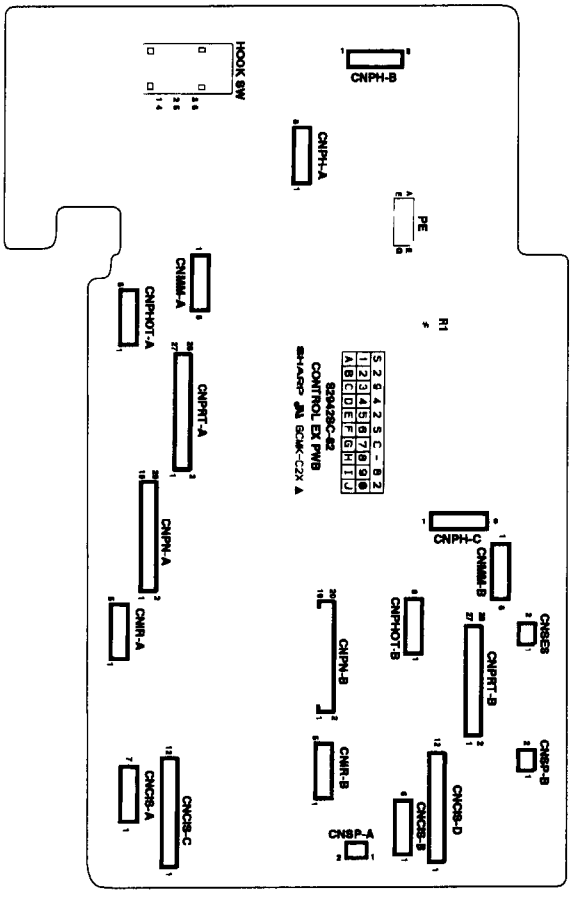
CHAPTER 8. OTHERS

[1] Service tools

1. List

NO.	PARTS CODE	DESCRIPTION	Q'TY	PRICE RANK
1	CPWBS2942SC01	Extension board unit	1	CE
2	PSHEZ3354SCZZ	Shading wave memory standard paper	1	AD

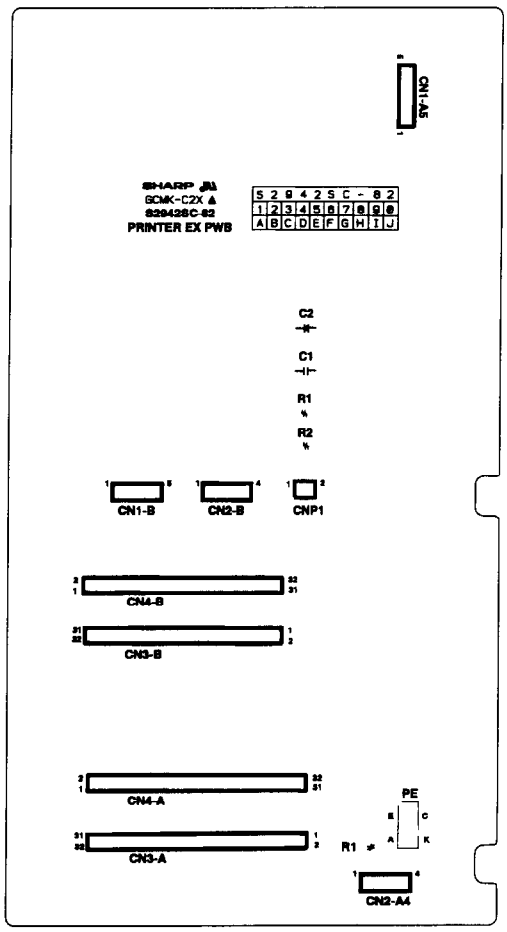
Extension control board unit



EXTENSION CONTROL PWB

NO.	PARTS CODE	DESCRIPTION	Q'TY	PRICE RANK
1	QCNW-4794SCZZ	CABLE [CNSPB]	1	AK
2	QCNW-4795SCZZ	CABLE [CNIRB]	1	AM
3	QCNW-4796SCZZ	CABLE [CNMMB]	1	AN
4	QCNW-4797SCZZ	CABLE [CNPHOTB]	1	AN
5	QCNW-4798SCZZ	CABLE [CNCISB]	1	AP
6	QCNW-4799SCZZ	CABLE [CNPNB]	1	AX
7	QCNW-4800SCZZ	CABLE [CNPRTB]	1	AZ
8	QCNW-4801SCZZ	CABLE [CNSES]	1	AU
9	QCNCM2401SC0B	CONNECTOR [CNSES]	1	AA
10	QCNCM2401SC0F	CONNECTOR [CNPHOTA,CNPHOTB]	2	AB
11	QCNCM2482SC2J	CONNECTOR [CNPNA,CNPNB]	2	AE
12	QCNCM2482SC2H	CONNECTOR [CNPRTA,CNPRTB]	2	AG
13	QCNCM7014SC0B	CONNECTOR [CNSPA,CNSPB]	2	AD
14	QCNCM7014SC0E	CONNECTOR [CNIRA,CNIRB]	2	AB
15	QCNCM7014SC0F	CONNECTOR [CNMMA,CNMMB]	2	AB
16	QCNCM7014SC0G	CONNECTOR [CNCISA,CNCISB]	2	AB
17	VHPSG206S//-1	PHOTO TRANSISTOR [PE]	1	AG
18	VRD-HT2EY221J	RESISTOR (1/4W 220Ω ±5%) [R1]	1	AA
19	QSW-Z2206SCZZ	HOOK SWITCH [HOOKSW]	1	AH

Extension printer board unit



EXTENSION PRINTER PWB

NO.	PARTS CODE	DESCRIPTION	Q'TY	PRICE RANK
1	QCNW-4802SCZZ	CABLE [CNP1]	1	AU
2	QCNW-4803SCZZ	CABLE [CN1-B]	1	AM
3	QCNW-4804SCZZ	CABLE [CN2-B]	1	AM
4	QCNW-4805SCZZ	CABLE [CN3-B],[CN4-B]	2	AW
5	QCNCM7014SC0B	CONNECTOR [CNPI]	1	AD
6	QCNCM7014SC0D	CONNECTOR [CN2-A],[CN2-B]	2	AB
7	QCNCM7014SC0E	CONNECTOR [CN1-A],[CN1-B]	2	AB
8	QCNCW2556SC3B	CONNECTOR [CN3-A],[CN3-B],[CN4-A],[CN4-B]	4	AG
9	VHPSG206S//-1	PHOT INTERRUPTER [PC1]	1	AG
10	VRD-HT2EY471J	RESISTOR (1/4W 470Ω ±5%) [R1],[R2]	2	AA

2. Description

2-1. Extension board unit

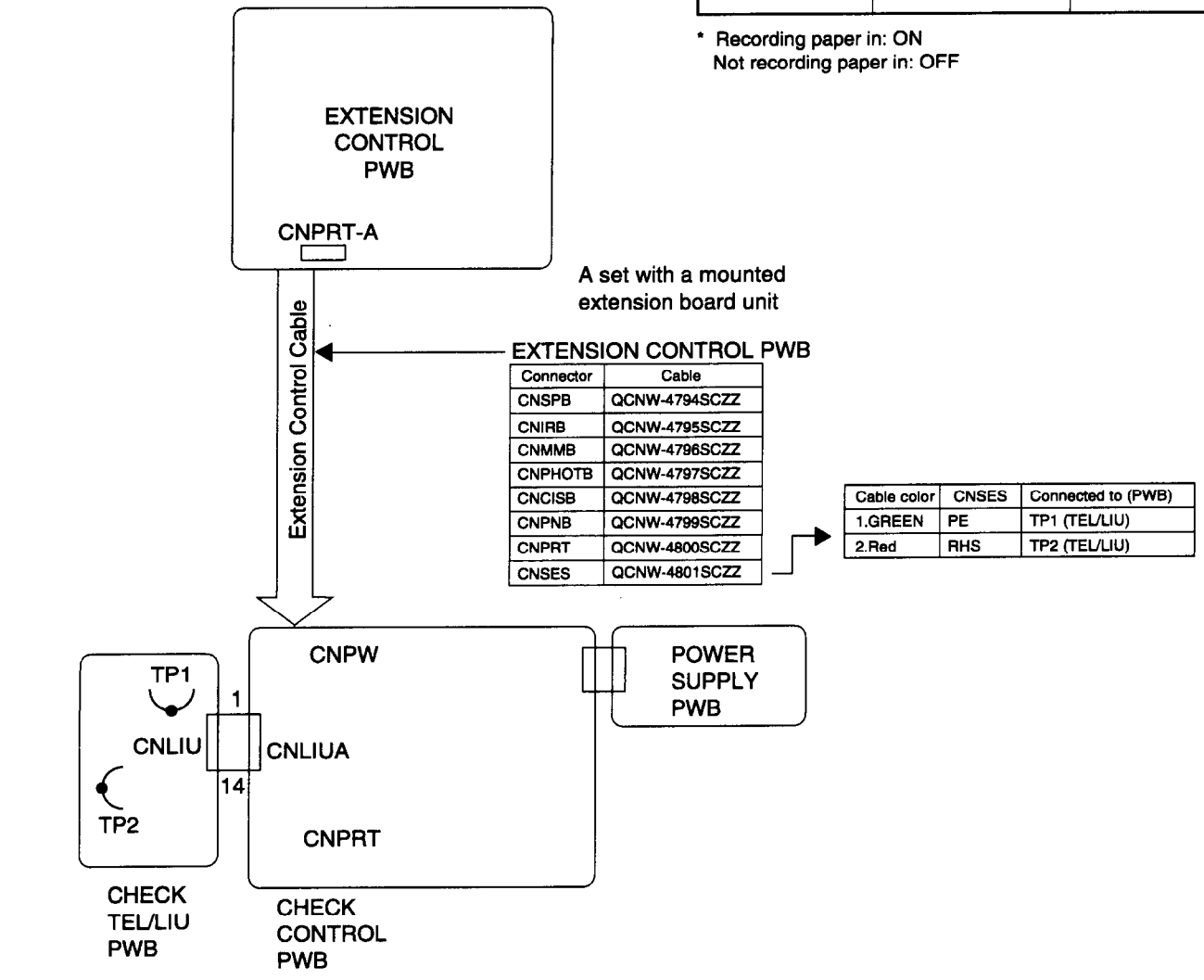
1. Remove the TEL/LIU PWB, control PWB and Power Supply PWB from this unit, and mount the extension board unit instead.
   - Before connecting the wiring to the extension board unit, set the test PWB switches to the fixed position.
2. The setting is as follows.

(1). Check Control PWB only

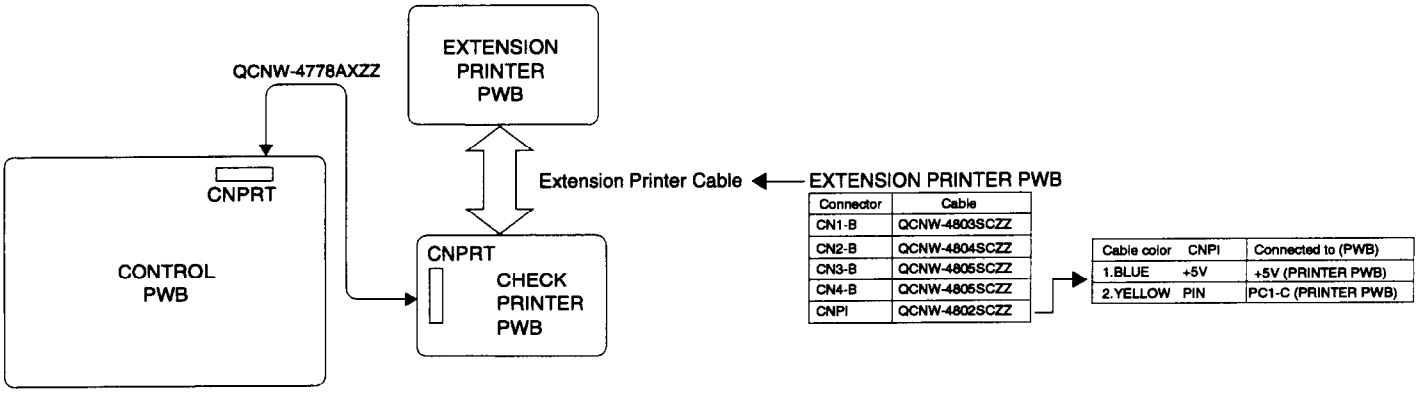
The paper-in sensor (PCI) is operated by OR of the mechanical unit switch and the test PWB switch.
When performing installation in the machine unit, set the test PWB switch to the fixed position.

	Mechanical unit	PWB to be tested
	Actual operation with mechanical unit	
Paper in sensor	ON/OFF operation	OFF (Photo interrupter is interrupted.)
	PWB sensor check	
Paper in sensor	OFF	ON/OFF operation

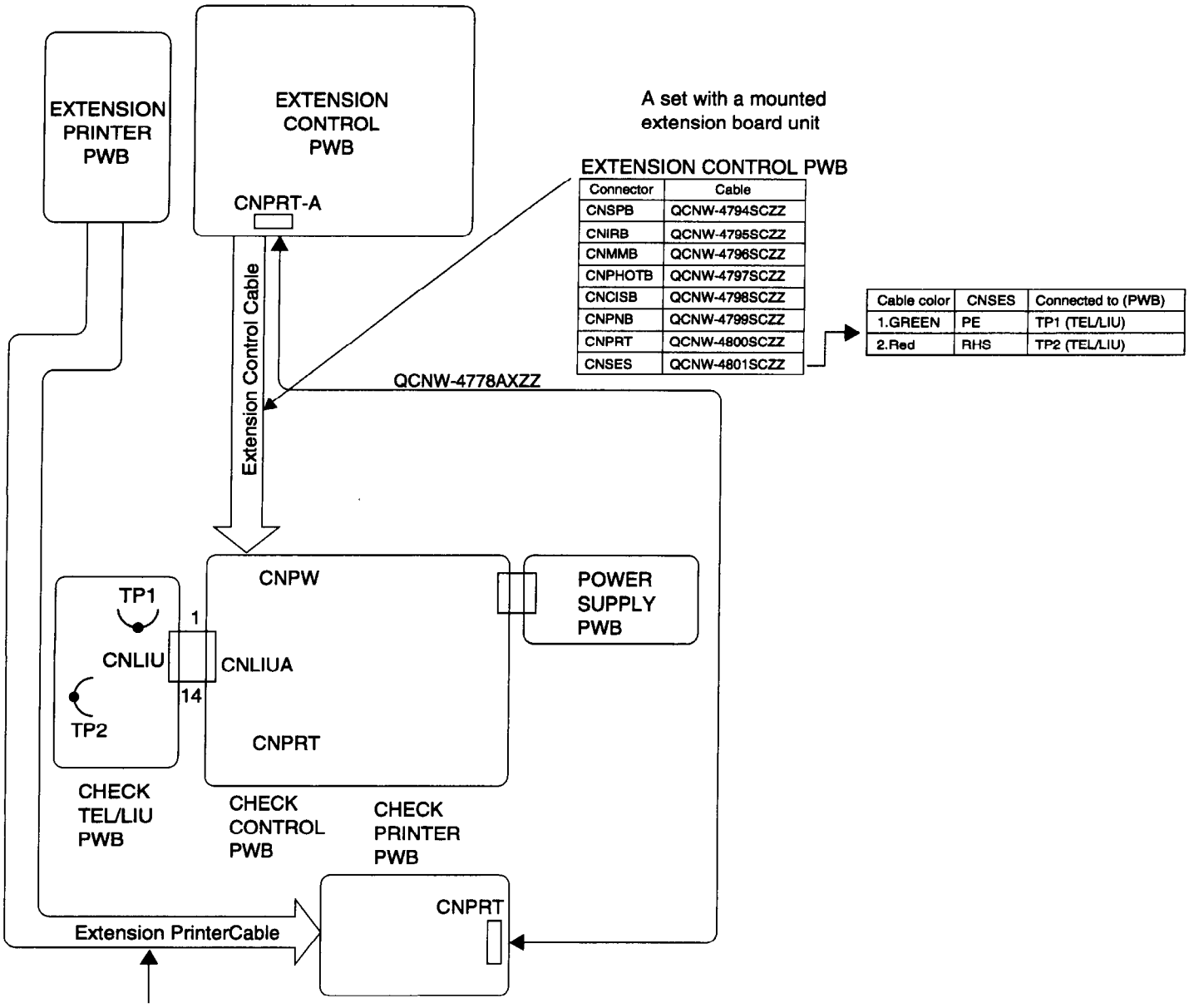
* Recording paper in: ON
Not recording paper in: OFF



(2). Check Printer PWB only



(3).Check Printer PWB and Control PWB



Connector	Cable
CNSPB	QCNW-4794SCZZ
CNIRB	QCNW-4795SCZZ
CNMMB	QCNW-4796SCZZ
CNPHOTB	QCNW-4797SCZZ
CNCISB	QCNW-4798SCZZ
CNPNB	QCNW-4799SCZZ
CNPRT	QCNW-4800SCZZ
CNSES	QCNW-4801SCZZ

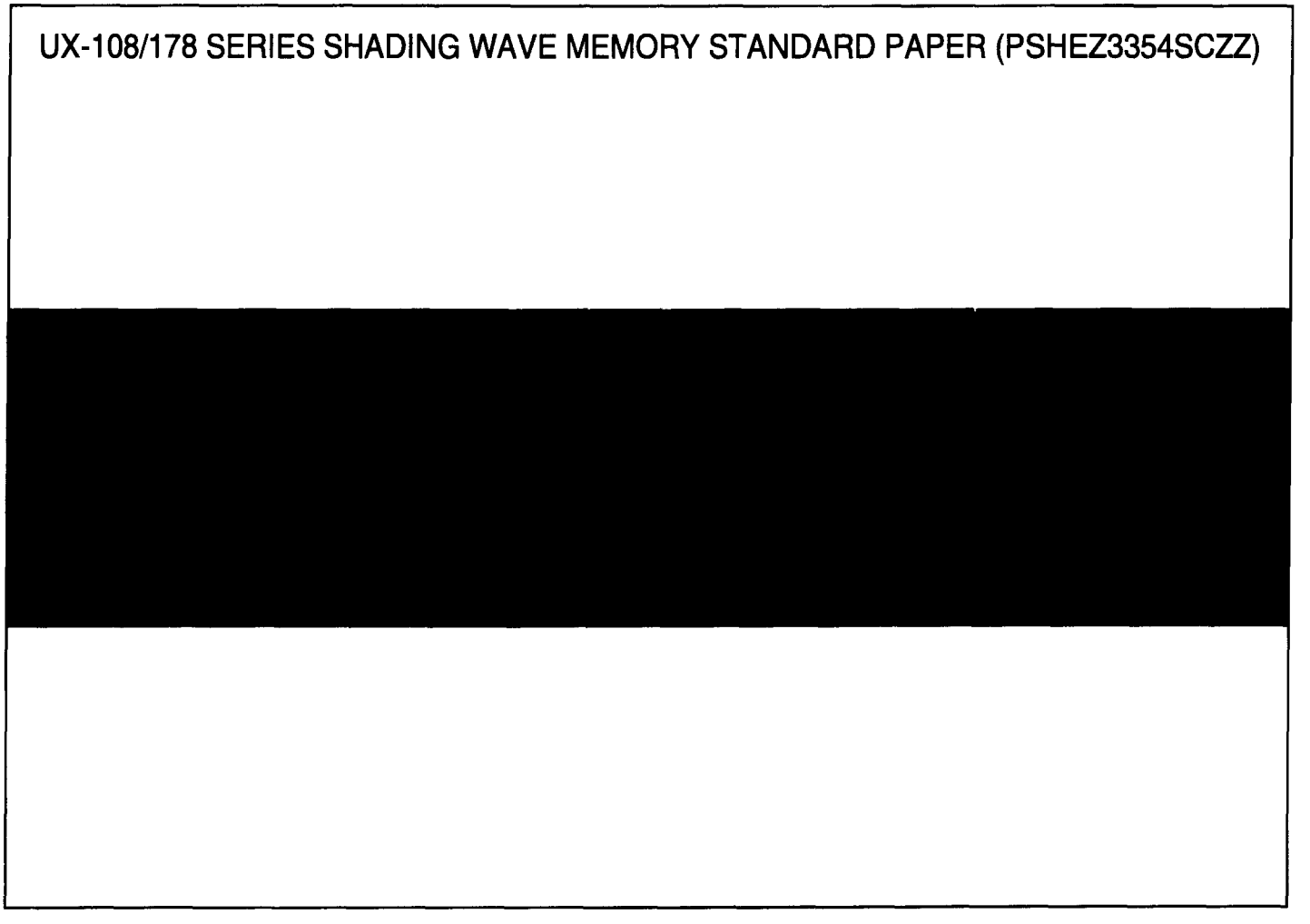
Cable color	CNSES	Connected to (PWB)
1.GREEN	PE	TP1 (TEL/LIU)
2.Red	RHS	TP2 (TEL/LIU)

Connector	Cable
CN1-B	QCNW-4803SCZZ
CN2-B	QCNW-4804SCZZ
CN3-B	QCNW-4805SCZZ
CN4-B	QCNW-4805SCZZ
CNPI	QCNW-4802SCZZ

Cable color	CNPI	Connected to (PWB)
1.BLUE	+5V	+5V (PRINTER PWB)
2.YELLOW	PIN	PC1-C (PRINTER PWB)

3. Shading paper

The white and black basis is applied to remember the shading waveform. Be sure to perform this operation when replacing the battery or replacing the control PWB.Execute in the shading mode of DIAG mode.

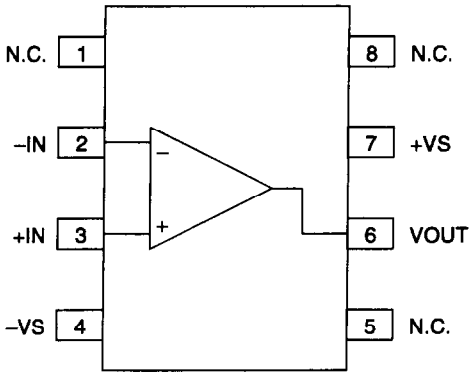


[2] IC signal name

CONTROL PWB UNIT

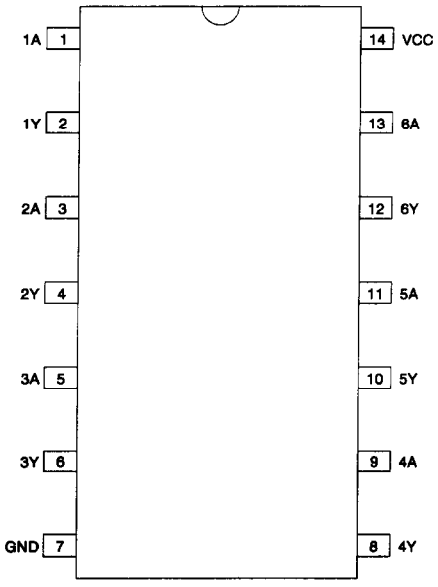
IC100: VHIAD8051//-1 (AD8051)

TOP VIEW



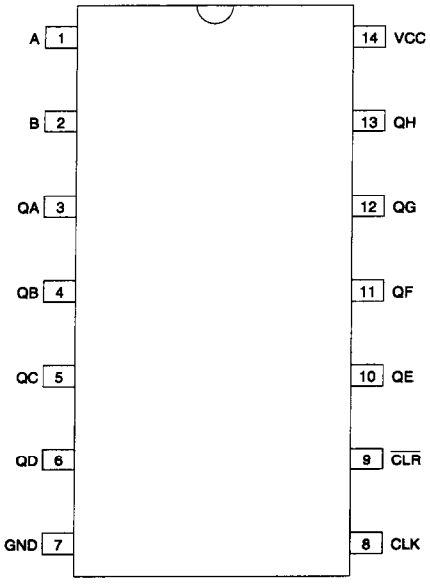
IC7, IC11: VHi74HCU04S-1 (74HCU04)
IC13: VHiSN74HC14NSR (74HC14)
IC25: VHiSN74HCO4NSR (HC04)

TOP VIEW

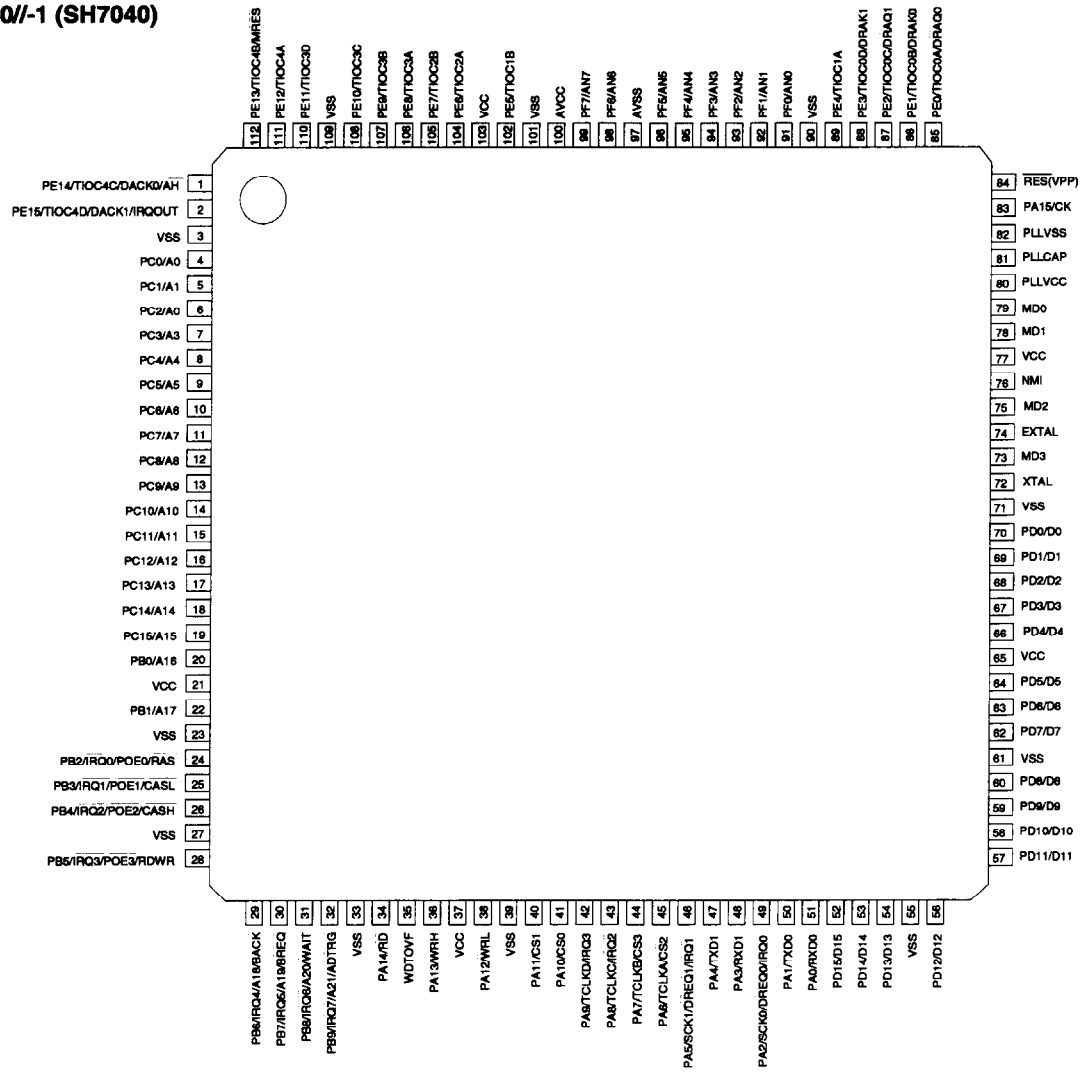


IC26: VHiSN74HC164NR (HC164)

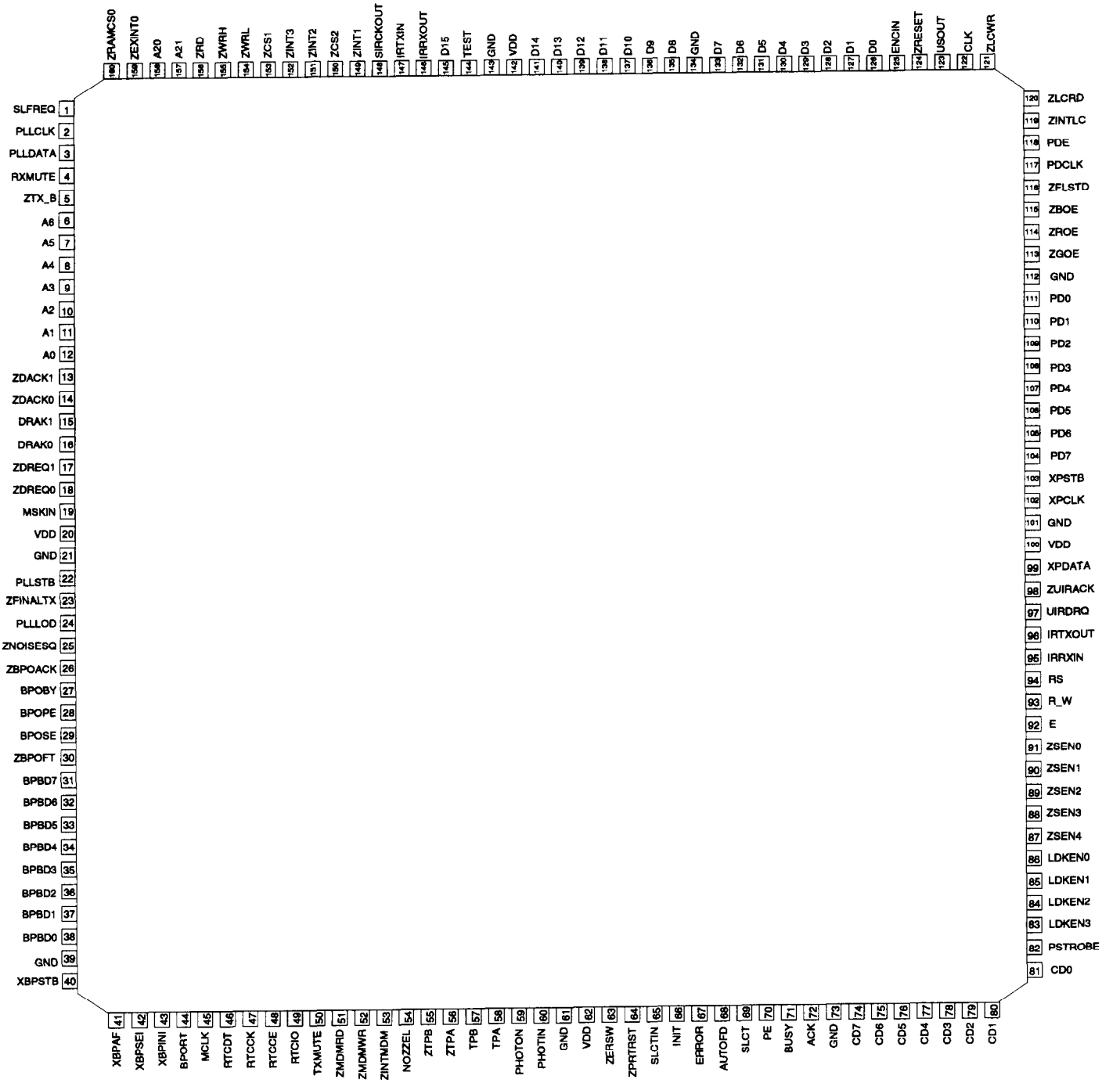
TOP VIEW



IC12: VHiSH7040//-1 (SH7040)



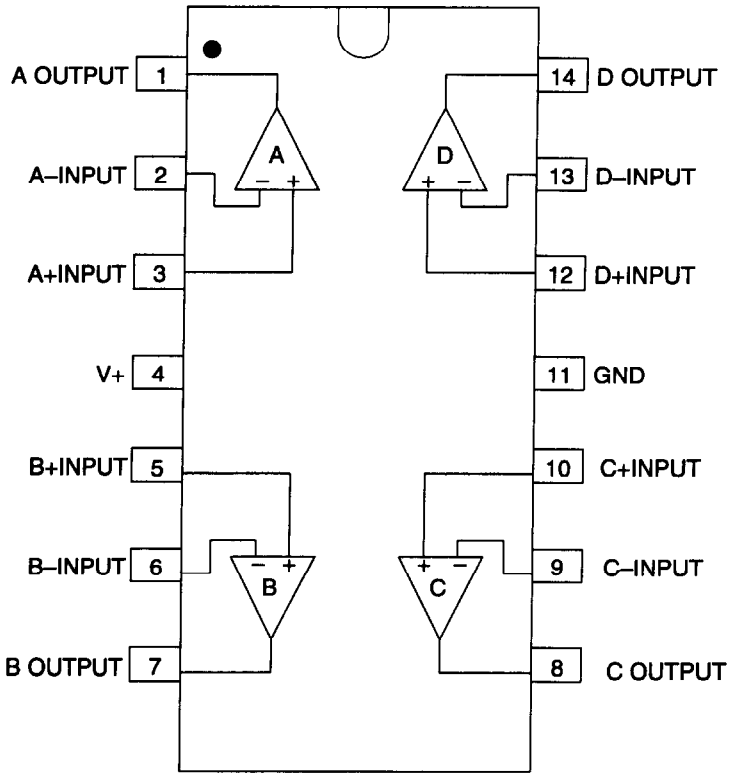
IC10: VHiLZ9FJ49/-1 (LZ9FJ49)



INK SENSOR PWB UNIT

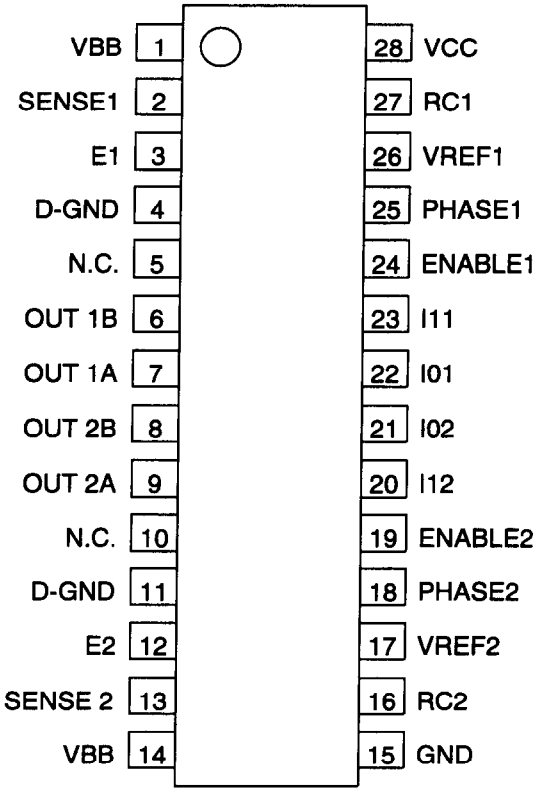
IC1: VHiNJM324M/-1 (LM324M)

TOP VIEW



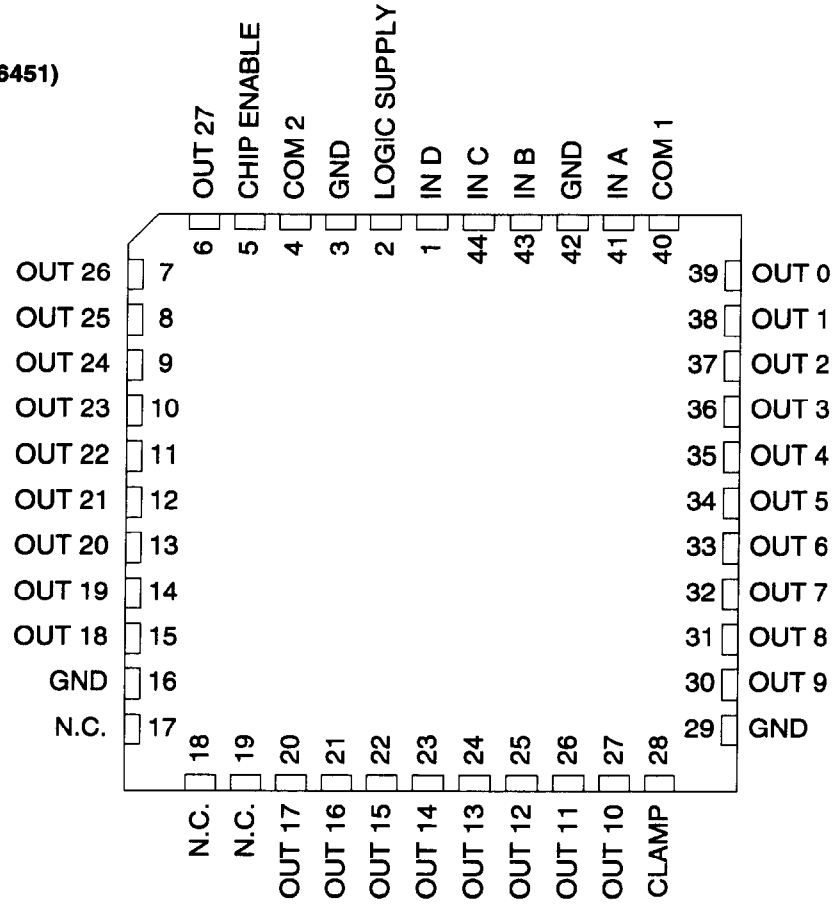
PRINTER PWB UNIT

IC1: VHiLB1845//-1 (LB1845)

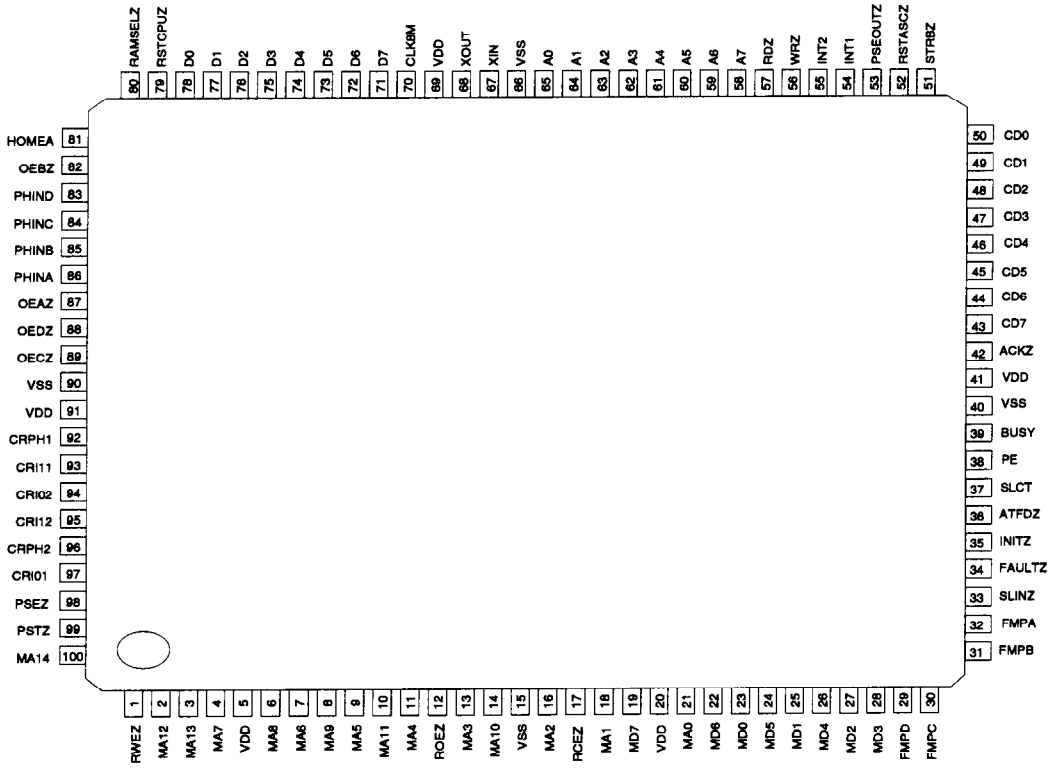


PRINTER PWB UNIT

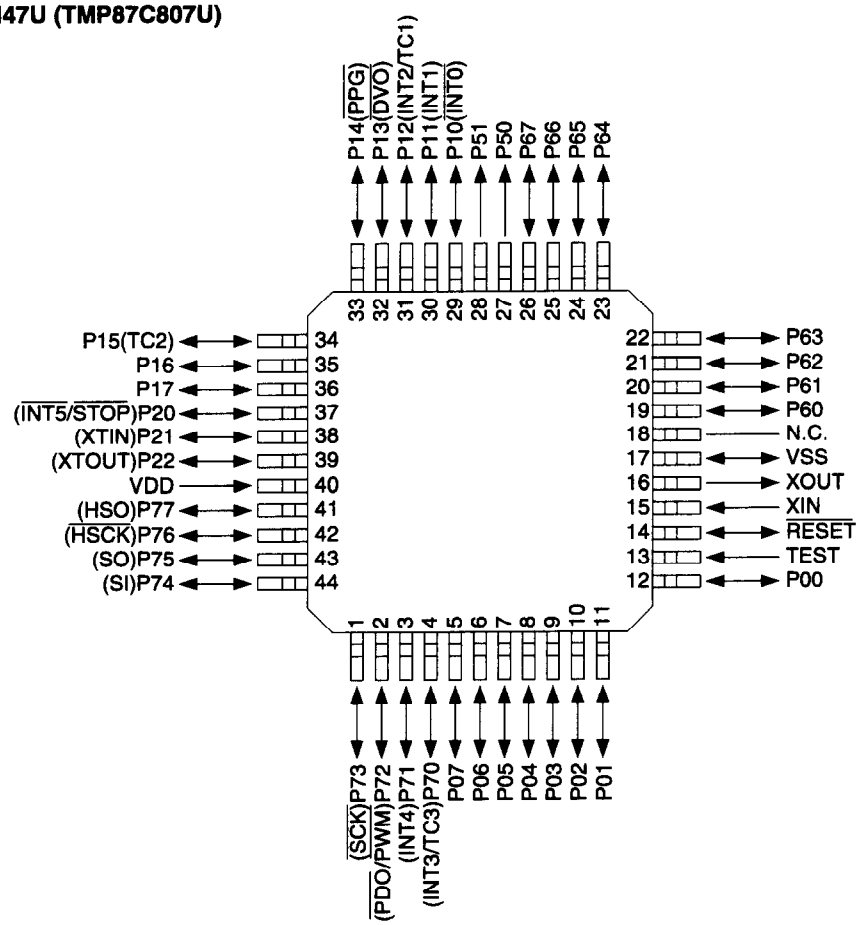
IC4, IC6: VHiL6451///-1 (L6451)



IC5: VHiTC16G331AF (TC160G331AF)



IC8: VHiTMP87PH47U (TMP87C807U)



MEMO

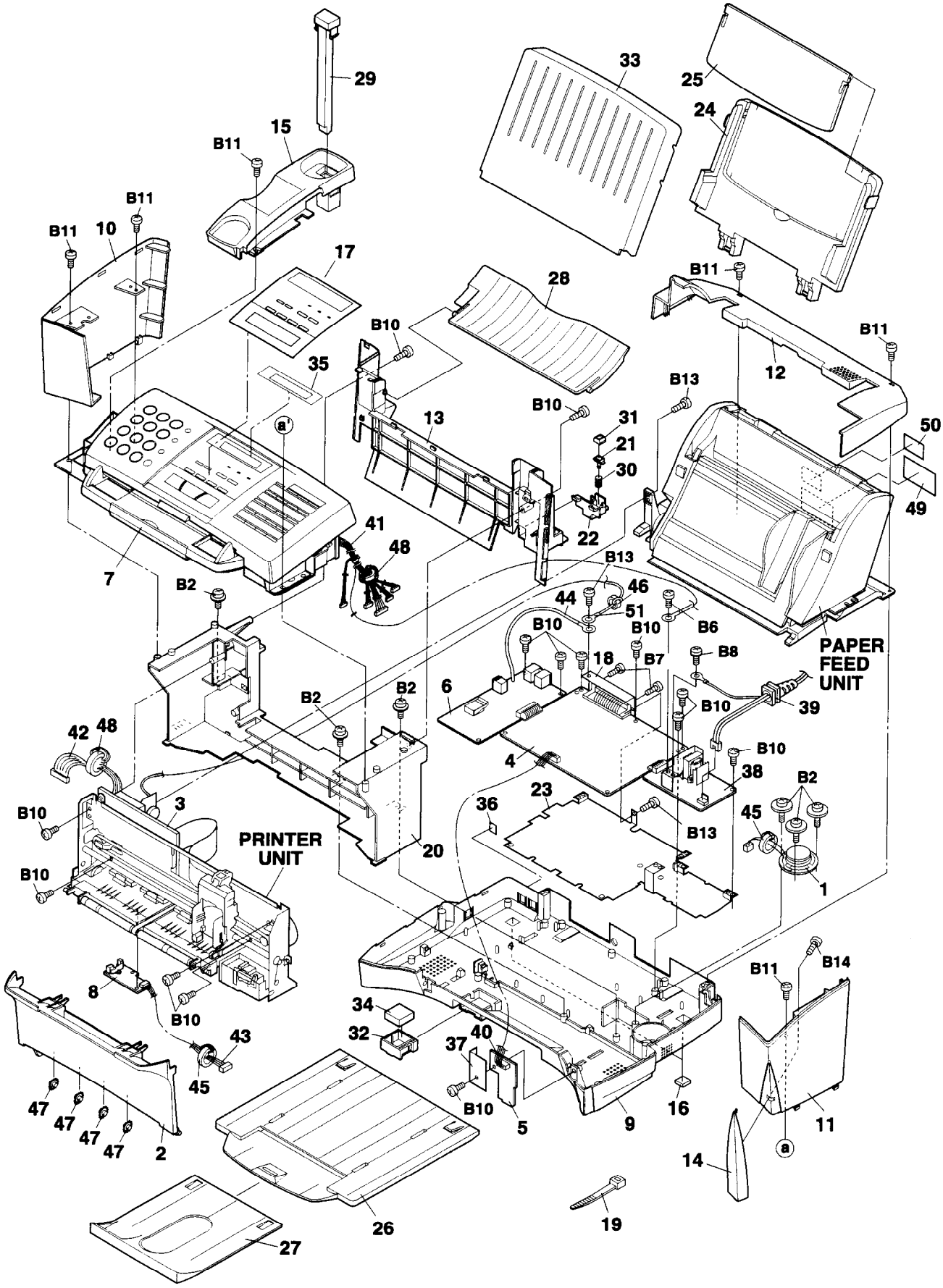
SHARP PARTS GUIDE

UX-2200CM
MODEL FO-2150CM

CONTENTS

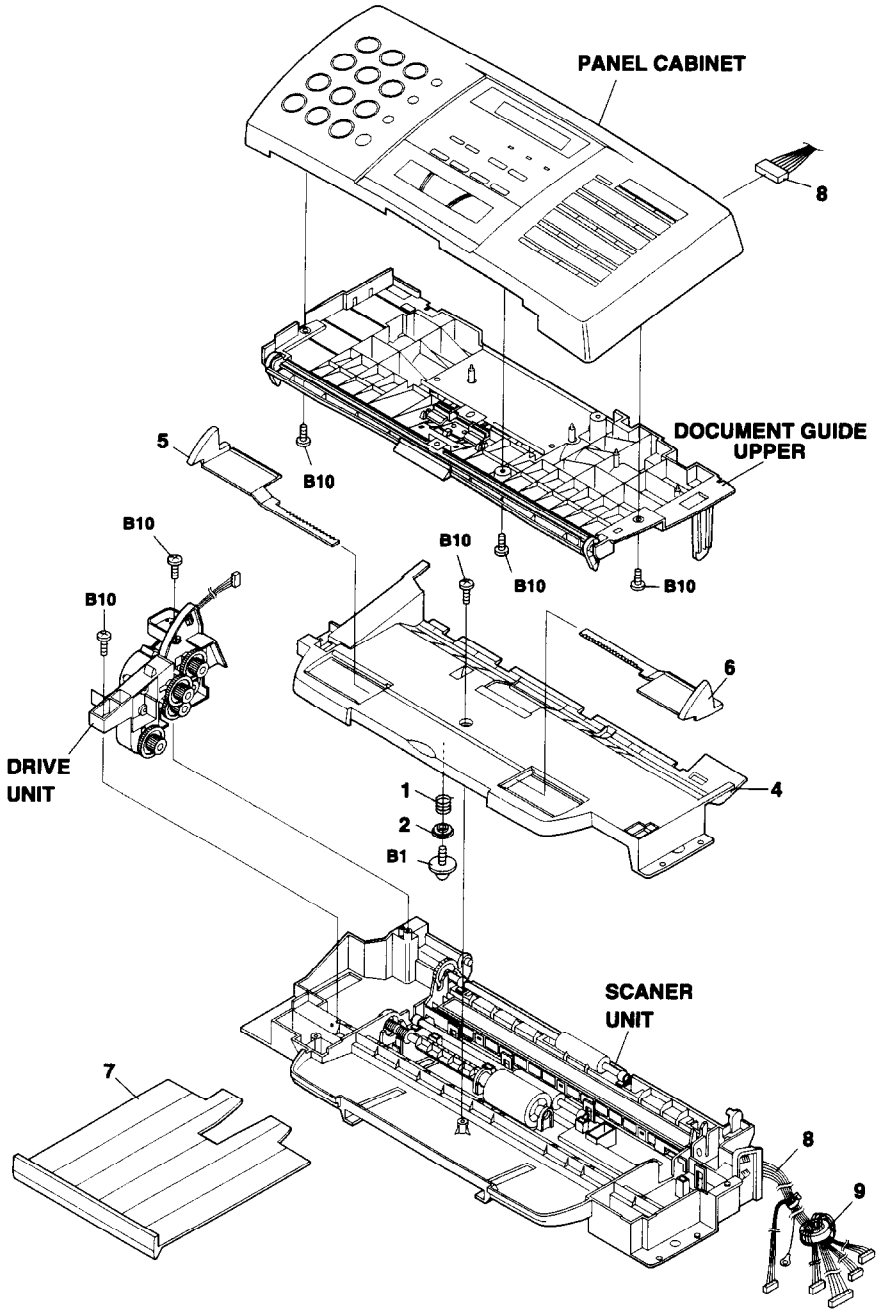
Because parts marked with "⚠" is indispensable for the machine safety maintenance and operation, it must be replaced with the parts specifi to the product specification.

1 Cabinet, etc.



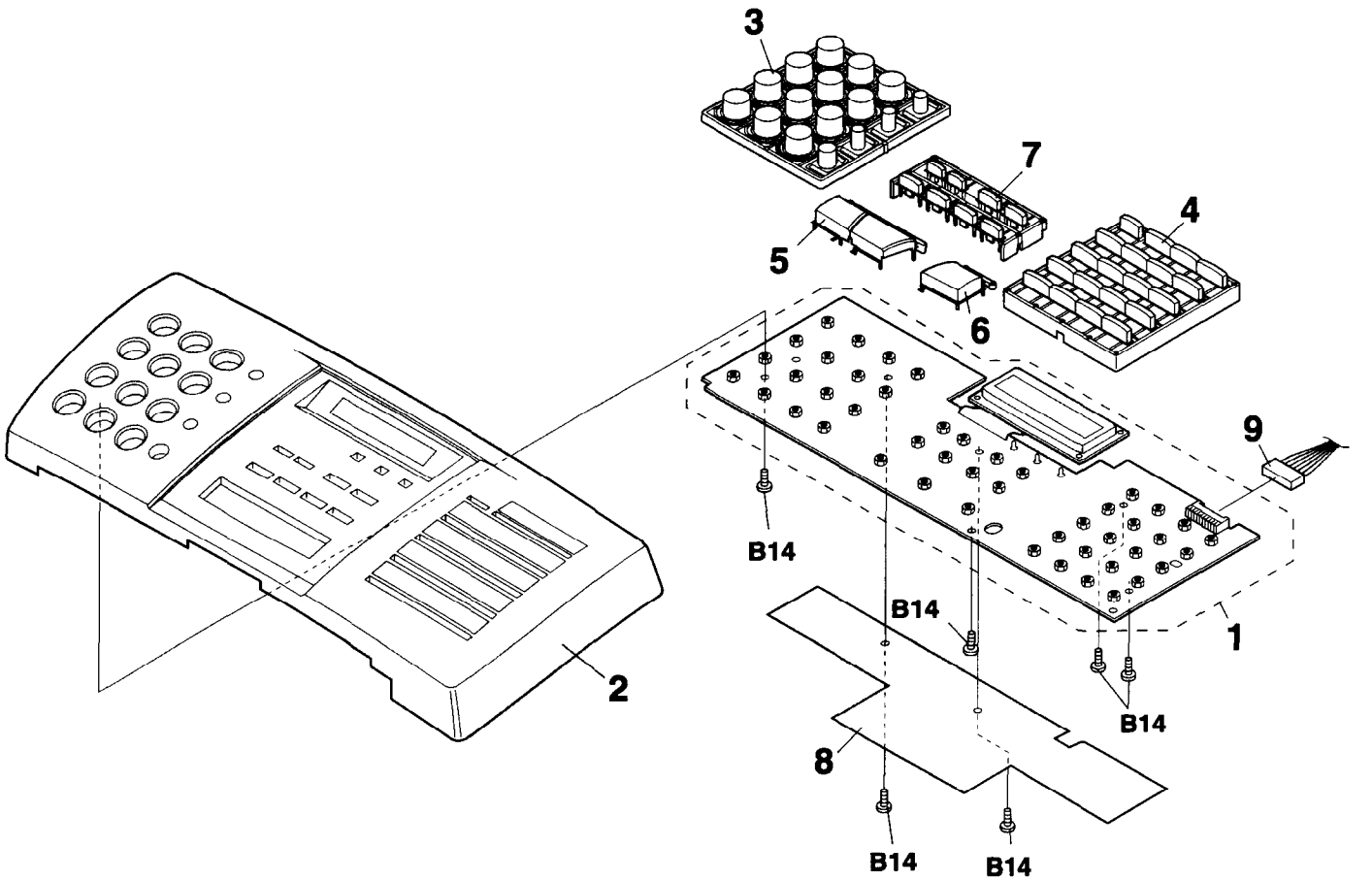
NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION	
[1] Cabinet,etc.						
1	CCNW-4772AX01	AL	N	C	Speaker ass'y	
2	GCOVA2381AXSA	BD	N	D	Front cover	[2200CMU/CMC]
	GCOVA2381AXSC	BD	N	D	Front cover	[2150CMU/CMC]
3	DCEKC395BAX01	BV	N	E	Printer PWB unit	
4	DCEKC781JAXZZ	CM	N	E	Control PWB unit	[2200CMU/CMC]
	DCEKC887JAXZZ	CM	N	E	Control PWB unit	[2150CMU/CMC]
5	DCEKI394BAX01	BB	N	E	IrDA PWB unit	
6	DCEKL391BAX01	BE	N	E	TEL/Liu PWB unit	
7	DCEKP390BAX01	BP	N	E	Operation panel unit	[2200CMU/CMC]
	DCEKP390BAX02	BP	N	E	Operation panel unit	[2150CMU/CMC]
8	DCEKS396BAX01	AZ	N	E	Ink sensor PWB	
9	GCABC2301AXSA	AX	N	D	Bottom cabinet	[2200CMU/CMC]
	GCABC2301AXSC	AZ	N	D	Bottom cabinet	[2150CMU/CMC]
10	GCABD2302AXSA	AM	N	D	Left cabinet	[2200CMU/CMC]
	GCABD2302AXSC	AM	N	D	Left cabinet	[2150CMU/CMC]
11	GCABE2303AXSA	AL	N	D	Right cabinet	[2200CMU/CMC]
	GCABE2303AXSC	AL	N	D	Right cabinet	[2150CMU/CMC]
12	GCABF2304AXSA	AP	N	D	Rear cabinet	[2200CMU/CMC]
	GCABF2304AXSC	AP	N	D	Rear cabinet	[2150CMU/CMC]
13	GCABG2305AXSA	AS	N	D	Printer back cabinet	[2200CMU/CMC]
	GCABG2305AXSC	AR	N	D	Printer back cabinet	[2150CMU/CMC]
14	GCOVA2382AXSA	AH	N	C	IRDA cover	
15	GDAI-2079AXSA	AL	N	C	Handset holder	[2200CMU/CMC]
	GDAI-2079AXSC	AN	N	C	Handset holder	[2150CMU/CMC]
16	GLEGG2063AXZZ	AC		C	Rubber leg	
17	HPNLH2385AXSA	AU	N	D	Decoration panel	
18	LANGF2812AXZZ	AG	N	C	232C Bracket	
19	LBNDJ2008SCZZ	AA		C	Band(GT-100M)	
20	LFRM-2190AXZZ	AX	N	C	Frame	
21	LHLDZ2166AXZZ	AD	N	C	Cap holder	
22	LHLDZ2171AXSA	AE	N	C	Back cabinet piece	[2200CMU/CMC]
	LHLDZ2171AXSC	AE	N	C	Back cabinet piece	[2150CMU/CMC]
23	LPLTM2923AXZA		N	C	Shild plate	
24	LPLTP2889AXSD	AN	N	C	Paper tray A	[2200CMU/CMC]
	LPLTP2889AXSC	AK	N	C	Paper tray A	[2150CMU/CMC]
25	LPLTP2890AXSD	AG	N	C	Paper tray B	[2200CMU/CMC]
	LPLTP2890AXSC	AZ	N	C	Paper tray B	[2150CMU/CMC]
26	LPLTP2925AXSA	AQ	N	C	Paper out tray	[2200CMU/CMC]
	LPLTP2925AXSC	AQ	N	C	Paper out tray	[2150CMU/CMC]
27	LPLTP2926AXSA	AM	N	C	Extension paper out tray	[2200CMU/CMC]
	LPLTP2926AXSC	AM	N	C	Extension paperout tray	[2150CMU/CMC]
28	LPLTP2932AXSA	AK	N	C	Document tray	
29	MLEVP2278AXSA	AF	N	C	Hook switch lever	
30	MSPRC2973AXZZ	AC	N	C	Cap spring	
31	PCAPH2021AXZZ	AD	N	C	Cap gum	
32	PCASZ2034AXSA	AE	N	C	OOI-Case	[2200CMU/CMC]
	PCASZ2034AXSC	AE	N	C	OOI-case	[2150CMU/CMC]
33	PCOVA2115AXSA	AL	N	C	Paper cover	
34	PFLT-2015AXZZ	AG	N	C	Felt	
35	PSHEZ3345AXSA	AG	N	C	LCD sheet	
36	PSHEZ3356AXZZ	AC	N	C	Jack sheet	
37	PSHEZ3368AXZZ	AD	N	C	IrDA sheet	
⚠ 38	RDENT2122AXZZ	BN	N	E	Power supply PWB unit	
⚠ 39	QACCZ2012XHZZ	AT	N	B	AC cord ass'y	
40	QCNW-4773AXZZ	AG	N	D	IRDA cable	
41	QCNW-4777AXZZ	AU	N	C	Panel cable	
42	QCNW-4778AXZZ	AZ	N	C	Printer cable	
43	QCNW-4775AXZZ	AH	N	C	Ink out cable	
44	QCNW-4806AXZZ	AD	N	C	ARG cable	
45	RCORF2063XHZZ	AF		B	Core	
46	RCORF2096FFZZ	AD	N	B	Core	
47	NROLM2389AXZZ	AD	N	C	Star roller	
48	RCORF2064XHZZ	AF		B	Core	
49	TLABG4602AXZZ	AB	N	D	Noise label	[2200CMC/2150CMC]
50	TLABS4534SCZZ	AB	N	D	IC label	[2200CMC/2150CMC]
51	QCNW4807AXZZ	AE	N	C	Ground cable	

[2] Upper cabinet



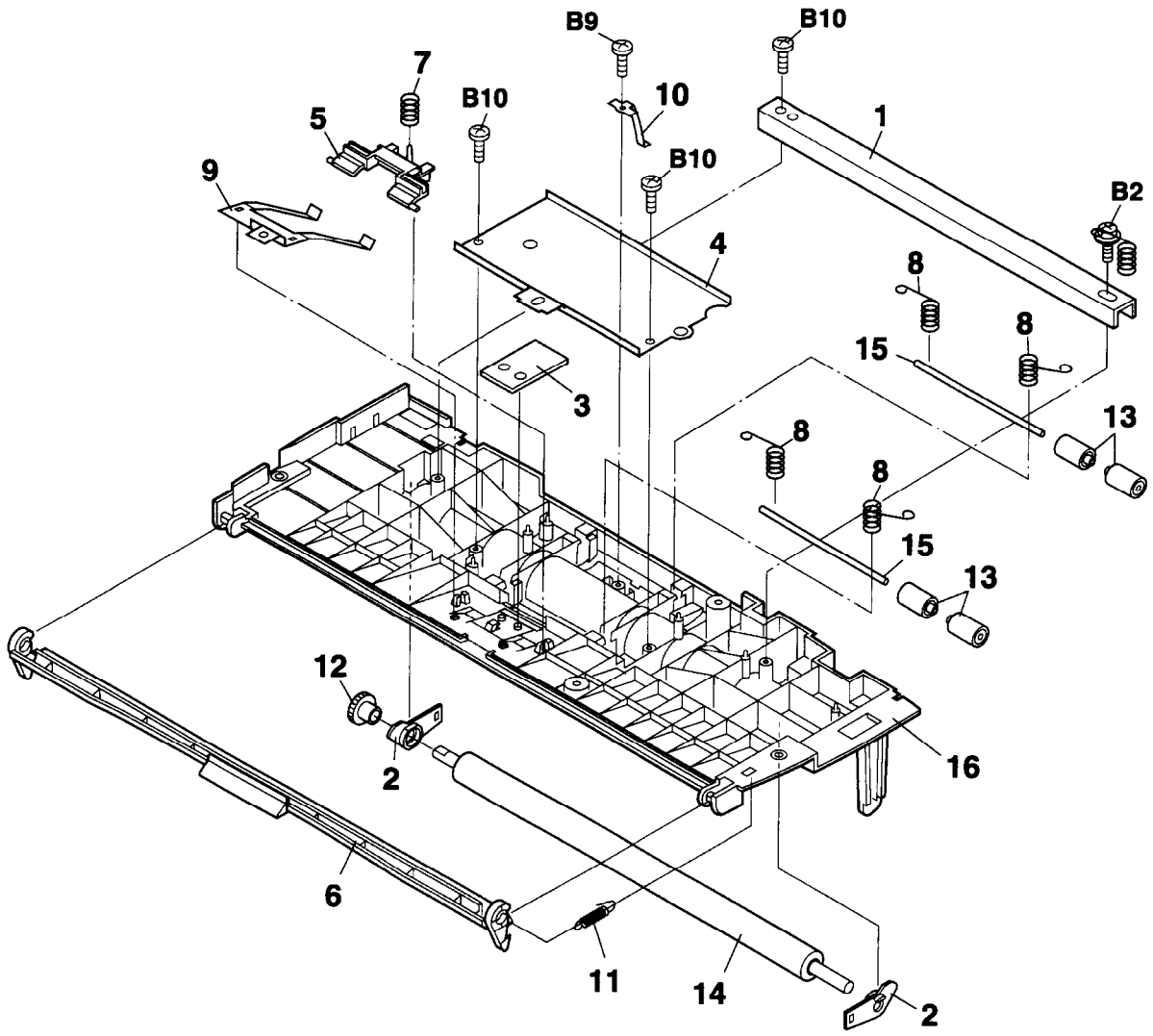
NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION	
[2] Upper cabinet						
1	MSPRC2832AXZZ	AC	N	C	Hopper spring	
2	NGERP2318XHZZ	AD		C	Pinion gear	
4	PGIDM2509AXSA	AR	N	C	Lower document guide	[2200CMU/CMC]
	PGIDM2509AXSC	AR	N	C	Lower document guide	[2150CMU/CMC]
5	PGIDM2510AXSA	AE	N	C	Hopper guide,left	[2200CMU/CMC]
	PGIDM2510AXSC	AE	N	C	Hopper guide,left	[2150CMU/CMC]
6	PGIDM2511AXSA	AE	N	C	Hopper guide,right	[2200CMU/CMC]
	PGIDM2511AXSC	AE	N	C	Hopper guide,right	[2150CMU/CMC]
7	PHOP-2097AXSA	AK	N	C	Extension hopper	[2200CMU/CMC]
	PHOP-2097AXSC	AK	N	C	Extension hopper	[2150CMU/CMC]
8	QCNW-4777AXZZ	AU	N	C	Panel cable	
9	RCORF2064XHZZ	AF		B	Core	

[3] Panel cabinet



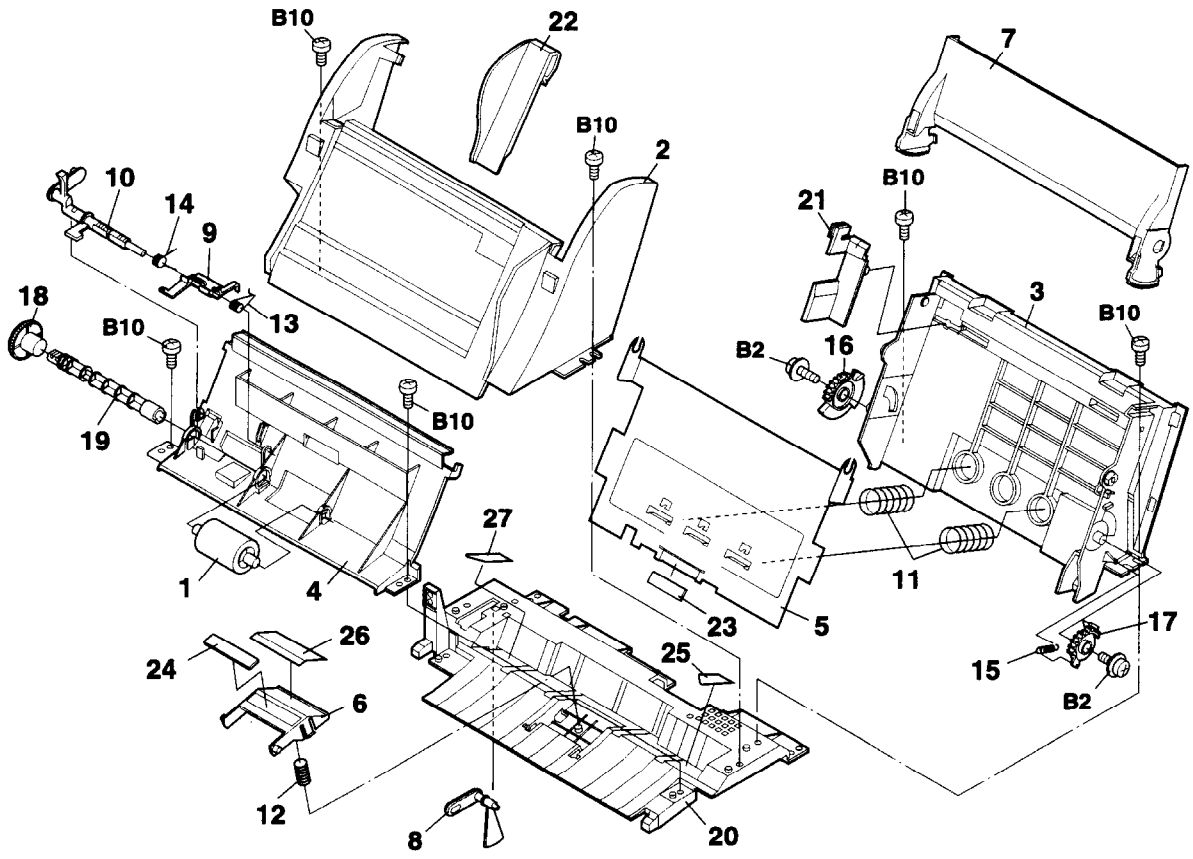
NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION	
[3] Panel cabinet						
1	DCEKP392BAX01	BL	N	E	Panel PWB unit	
2	GCABA2299AXSA	AS	N	D	Upper cabinet	[2200CMU/CMC]
	GCABA2299AXSC	AS	N	D	Upper cabinet	[2150CMU/CMC]
3	JBTN-2202AXSA	AG		C	12 key	[2200CMU/CMC]
	JBTN-2202AXSC	AG		C	12 key	[2150CMU/CMC]
4	JBTN-2203AXSA	AF		C	Direct key	[2200CMU/CMC]
	JBTN-2203AXSC	AF		C	Direct key	[2150CMU/CMC]
5	JBTN-2204AXSA	AD		C	Start key	[2200CMU/CMC]
	JBTN-2204AXSB	AD		C	Start key	[2150CMU/CMC]
6	JBTN-2205AXSA	AD		C	Stop key	[2200CMU/CMC]
	JBTN-2205AXSB	AD		C	Stop key	[2150CMU/CMC]
7	JBTN-2222AXSA	AE	N	C	Mode key	
8	PSHEZ3367AXZZ	AE	N	C	Insulation sheet	
9	QCNW-4777AXZZ	AU	N	C	Panel cable	
	(Unit)					
901	DCEKP390BAX01	BP	N	E	Operation panel unit	

[4] Document guide upper



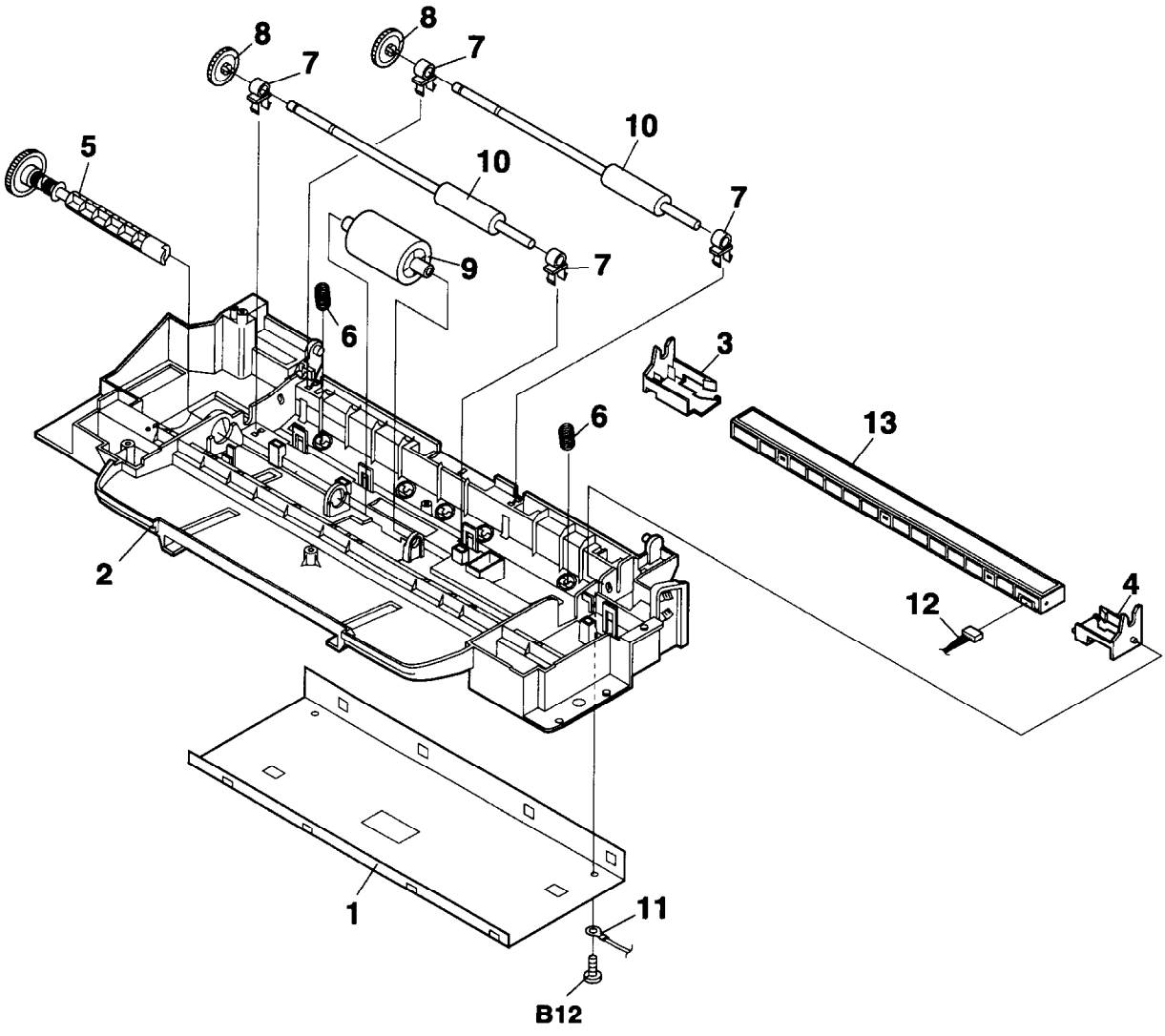
NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION	
[4] Document guide upper						
1	LANGF2815AXZZ	AE	N	C	Strength angle	
2	LBSHP2096AXZZ	AK	N	C	BR bearing	
3	LPLTG2707XHZZ	AE		C	Separation rubber	
4	LPLTM2917AXZZ	AH	N	C	Streng then plate	
5	LPLTP2916AXZZ	AE	N	C	Separate plate	
6	MLEVP2271AXSA	AH	N	C	Panel lock lever	[2200CMU/CMC]
	MLEVP2271AXSC	AH	N	C	Panel lock lever	[2150CMU/CMC]
7	MSPRC3010AXZZ	AE	N	C	Separate spring	
8	MSPRC3009AXZZ	AB	N	C	Pinch p spring	
9	MSPRP2812SCZZ	AE		C	Paper feed spring	
10	MSPRP3003AXZZ	AB	N	C	Document out spring	
11	MSPRT2923AXFJ	AC		C	Panel lock lever spring	
12	NGERH2403AXZZ	AD	N	C	Back roller gear	
13	NROLP2334AXZZ	AE		C	Pinch roller	
14	NROLR2379AXZZ	AZ	N	C	Back roller	
15	NSFTZ2257AXZZ	AE		C	Pinch roller shaft	
16	PGIDM2508AXZZ	AU	N	C	Upper document guide	

[5] Paper feed unit



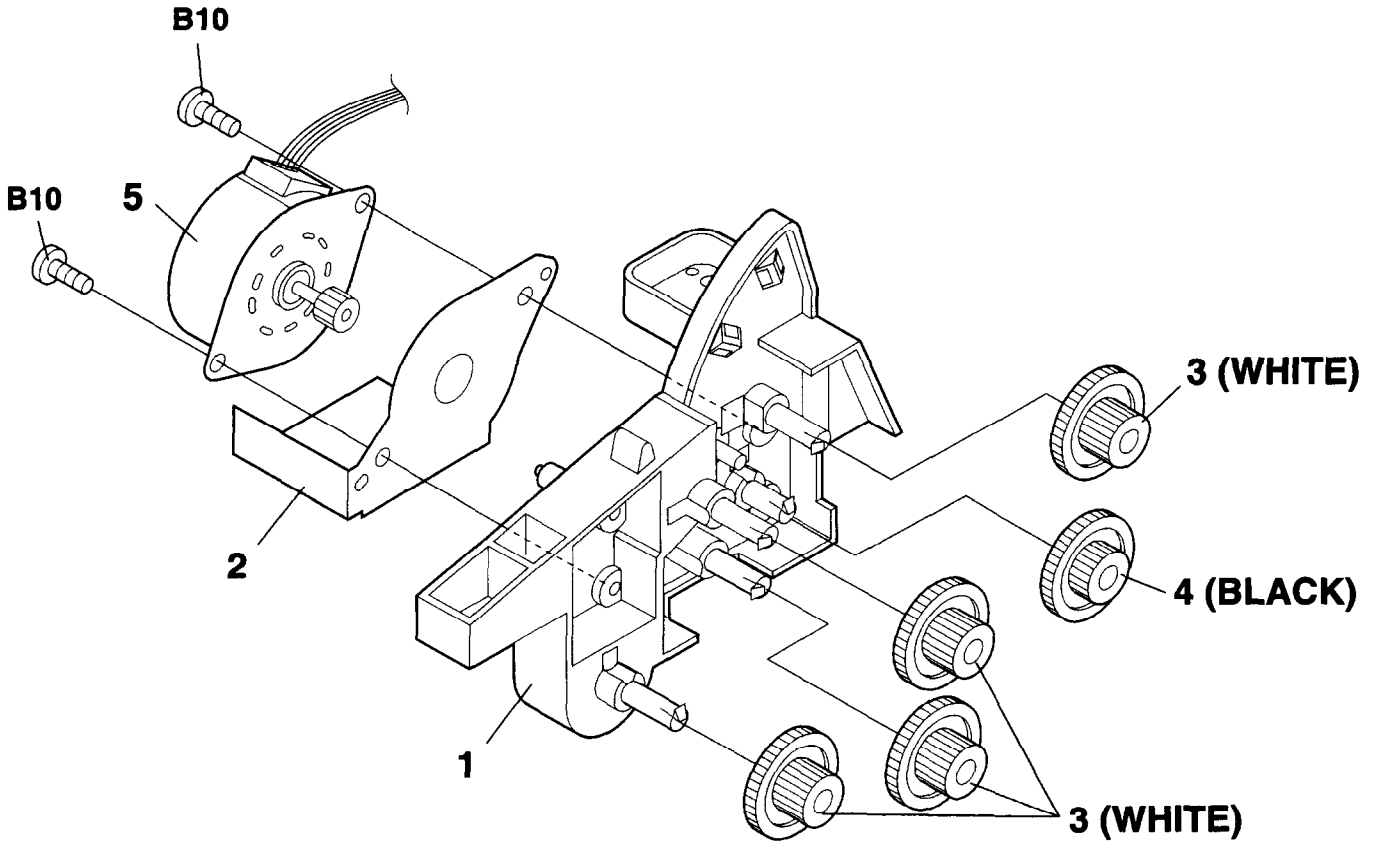
NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION	
[5] Paper feed unit						
1	CROLR2362AX01	AN		C	PU roller ass'y	
2	GCABB2300AXSA	AQ	N	D	Paper feed cabinet	[2200CMU/CMC]
	GCABB2300AXSC	AQ	N	D	Paper feed cabinet	[2150CMU/CMC]
3	LFRM-2189AXSA	AR	N	C	Paper feed frame	[2200CMU/CMC]
	LFRM-2189AXSC	AR	N	C	Paper feed frame	[2150CMU/CMC]
4	LHLDZ2165AXZZ	AN	N	C	Paper feed roller holder	
5	LPLTM2924AXZZ	AQ	N	C	Paper up plate	
6	LPLTP2884AXZZ	AP		C	Separate plate	
7	LPLTP2888AXSG	AL	N	C	RP release plate	[2200CMU/CMC]
	LPLTP2888AXSC	AP		C	RP release plate	[2150CMU/CMC]
8	MLEVP2275AXZZ	AE	N	C	PE sensor lever 3	
9	MLEVP2276AXZZ	AE	N	C	PE sensor lever 1	
10	MLEVP2277AXZZ	AE	N	C	PE sensor lever 2	
11	MSPRC3007AXZZ	AC	N	C	Cassette spring	
12	MSPRC2995AXFJ	AC		C	Separate plate spring	
13	MSPRD2998AXZZ	AC	N	C	Pe sensor lever spring 1	
14	MSPRD3004AXZZ	AB	N	C	Pe sensor lever spring 2	
15	MSPRT2932AXFJ	AC		C	RP release spring	
16	NGERH2365AXZZ	AD		C	RP release gear,left	
17	NGERH2366AXZZ	AD		C	RP release gear,right	
18	NGERH2401AXZZ	AF	N	C	Paper feed gear	
19	NSFTM2268AXZZ	AE		C	Paper up roller shaft	
20	PGIDM2512AXZZ	AS	N	C	Paper feed lower guide	
21	PHOP-2098AXSA	AG	N	C	Paper guide hopper	[2200CMU/CMC]
	PHOP-2098AXSC	AG	N	C	Paper guide hopper	[2150CMU/CMC]
22	PHOP-2099AXSA	AG	N	C	Bypath paper guide	[2200CMU/CMC]
	PHOP-2099AXSC	AG	N	C	Bypath paper guide	[2150CMU/CMC]
23	PSEL-2015SCZZ	AB		C	RP pad	
24	PSHEZ3293AXZZ	AH		C	Separate plate sheet	
25	PSHEZ3342AXZZ	AC		C	Guide sheet,right	
26	PSHEZ3344AXZZ	AD		C	Separate sheet	
27	PSHEZ3357AXZZ	AC	N	C	Guide sheet,Left	

[6] Scaner unit



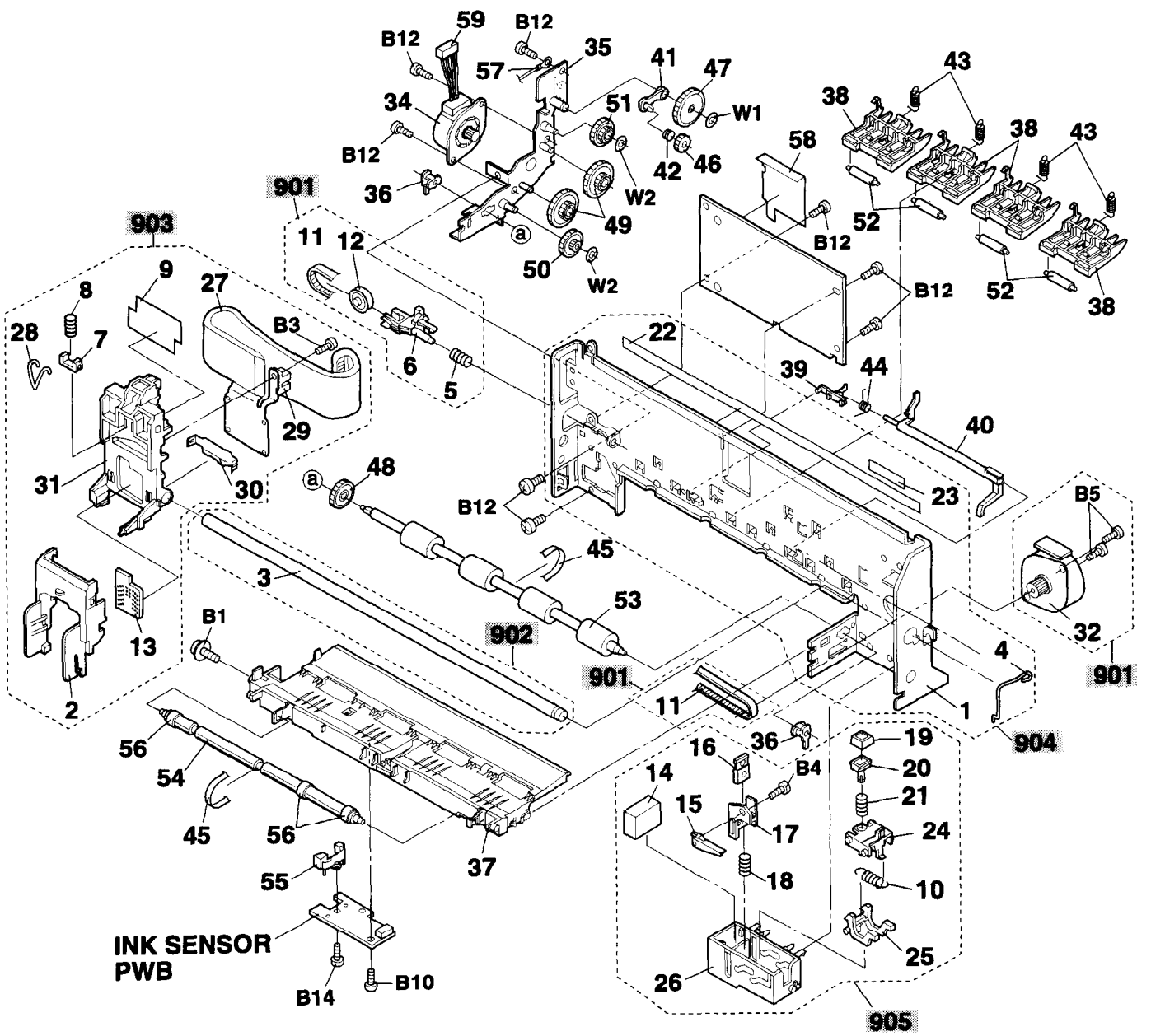
NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
[6] Scaner unit					
1	LPLTM2919AXZZ	AN	N	C	Sub base plate
2	LPLTP2918AXZZ	AW	N	C	Scaner base
3	LPLTP2920AXZZ	AE	N	C	CIS holder Left
4	LPLTP2921AXZZ	AE	N	C	CIS holder Right
5	CGERH2363AX01	AK		B	Feed gear ass'y
6	MSPRC2969AXZZ	AD	N	C	CIS spring
7	NBRGP2141AXZZ	AC		C	Transfer bearing
8	NGERH2275XHZZ	AC		C	Transfer gear 2
9	NROLR2333XHZZ	AP		C	Feed roller
10	NROLR2365AXZZ	AV		C	Transfer roller
11	QCNW-4855AXZZ	AD	N	C	Ground cable 2
12	QCNW-4776AXZZ	AR	N	C	CIS cable
13	RUNTZ2021SCZZ	BF		B	CIS unit ass'y

[7] Drive unit



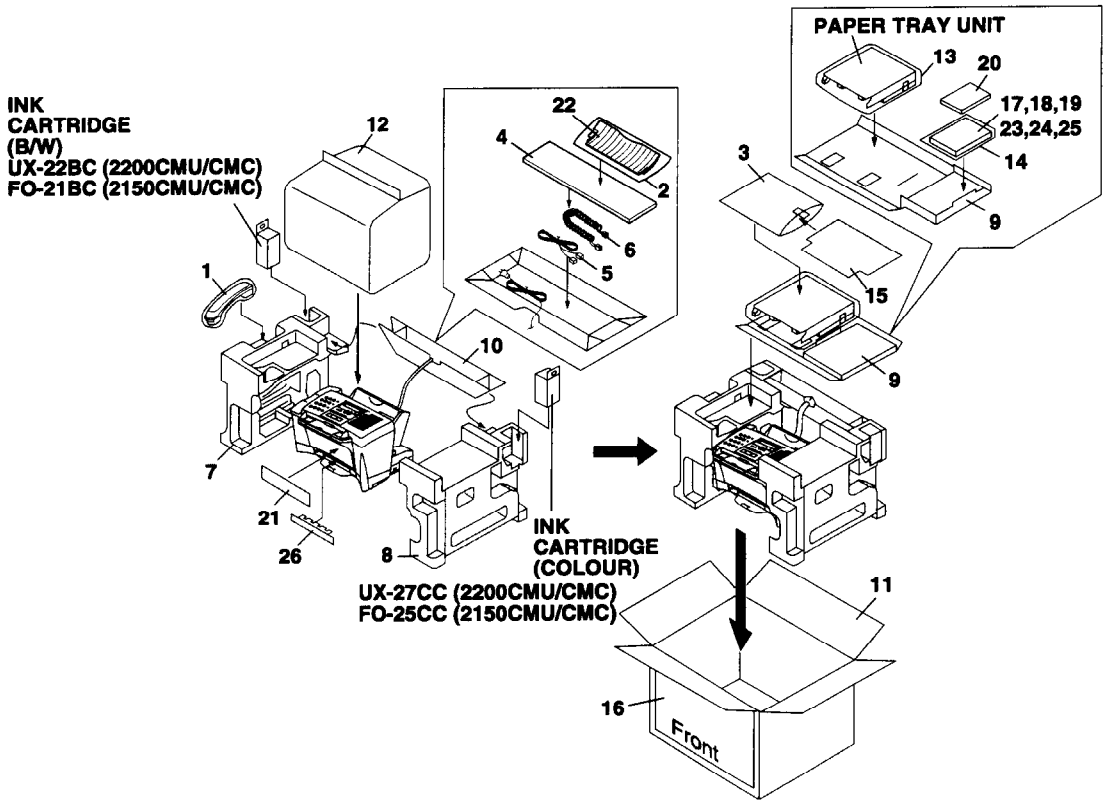
NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
[7] Drive unit					
1	LFRM-2188AXZZ	AP	N	C	Drive frame
2	LPLTM2922AXZZ	AF	N	C	Radiation plate
3	NGERH2393AXZZ	AD	N	C	Gear,White(18/36Z)
4	NGERH2394AXZZ	AD	N	C	Gear,Black(18/35Z)
5	RMOTZ2135AXZZ	AZ	N	B	Motor ass'y

8 Printer unit



NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
[8] Printer unit					
1	————		N	C	Frame chassis
2	————		N	C	Carrier cover(K)
3	————		N	C	Main shaft
4	————		N	C	Main shaft holder
5	————		N	C	Belt tension spring
6	————		N	C	Idler pulley holder
7	————		N	C	Carrier latch
8	————		N	C	Carrier latch SP
9	————		N	C	FFC plate
10	————		N	C	Main spring B
11	————		N	C	Timing belt
12	————		N	C	Idler pulley
13	————		N	C	Contct pad
14	————		N	C	Ink felt
15	————		N	C	Wiper lever
16	————		N	C	Wiper
17	————		N	C	Wiper holder
18	————		N	C	Main spring A
19	————		N	C	Cap
20	————		N	C	Cap holder
21	————		N	C	Casp spring
22	————		N	D	Guide seal
23	————		N	D	Barcode label
24	————		N	C	Capslider
25	————		N	C	Maintenance lever
26	————		N	C	Maintenance base
27	————		N	C	Printer head cable
28	————		N	C	Main shaft stoper
29	————		N	B	Photo interrupter
30	————		N	C	Deflector A
31	————		N	C	Ink carrier
32	————		N	B	Steping CR motor
34	RMOTZ2137AXZZ	AZ	N	B	Paper feed motor
35	LBRC-2006AXZZ	AK	N	C	Motor braket
36	LBSHP2095AXZZ	AD	N	C	Bearing
37	LFRM-2192AXZZ	AL	N	C	Base frame
38	LHLDZ2168AXZZ	AS	N	C	Pinch roller holder
39	LHLDZ2169AXZZ	AD	N	C	Sensor lever holder
40	MLEVP2273AXZZ	AH	N	C	P-in sensor lever
41	MLEVP2274AXZZ	AD	N	C	Planet lever
42	MSPRC2735XHZZ	AC		C	Planet gear spring
43	MSPRC3008AXZZ	AC	N	C	Feed spring
44	MSPRD2975AXZZ	AC	N	C	Lever spring
45	NBLTK2056AXZZ	AF	N	C	Feed belt
46	NGERH2278XHZZ	AC		C	Planet gear
47	NGERH2279XHZZ	AC		C	Idler gear A
48	NGERH2396AXZZ	AD	N	C	PRT feed gear
49	NGERH2398AXZZ	AD	N	C	Secondry gear A
50	NGERH2399AXZZ	AD	N	C	Secondry gear B
51	NGERH2400AXZZ	AD	N	C	Secondry gear C
52	NROLP2382AXZZ	AC	N	C	Pinch roller
53	NROLR2380AXZZ	AX	N	C	PRT feed roller
54	NROLR2381AXZZ	AH	N	C	Exit roller
55	PCOVP2118AXZZ	AE	N	C	Sensor cover
56	PGUMM2152AXZZ	AD	N	C	Exit rubber
57	QCNW-4807AXZZ	AE	N	C	Ground cable
58	PSLDM2045AXZZ	AF		C	Print shield plate
59	QCNW-4778AXZZ	AZ	N	C	Printer cable
901	0MIMMM7E24MM0	BK	N	E	Carrier stepping motor with pulley ass'y
902	0MIOPM300356/	AY	N	C	Carrier shaft
903	0MIOPSA00195/	BS	N	E	Carrier asm, key "K" ass'y
904	0MIOPM100090/	AY	N	E	Frame chasis ass'y
905	0MIOPSA00100/	AV	N	E	Maintenance group ass'y

[9] Packing material & Accessories



NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION	
[9] Packing material & Accessories						
1	DUNTK307BAXOW	AZ		E	Handset unit	[2200CMU/CMC]
	DUNTK307BAXOG	AZ		E	Handset unit	[2150CMU/CMC]
2	SSAKA3001CCZZ	AA		D	Polyethylene bag,Document tray	
3	SSAKA3340QCZZ	AB		D	Polyethylene bag,Pop card	
4	SPAKA393AAXZZ	AC	N	C	Spacer	
5	QCNW-3975AXGY	AH		C	Telephone line cord	[2200CMU/2150CMU]
	QCNW-3247SCZZ	AH		C	Telephone line cord	[2200CMC/2150CMC]
6	QCNW-3976XHOW	AK		C	Handset cord	[2200CMU/CMC]
	QCNW-3976XHOG	AT		C	Handset cord	[2150CMU/CMC]
7	SPAKA220AAXZZ	AF	N	D	Add.,Left	
8	SPAKA221AAXZZ	AF	N	D	Add.,Right	
9	SPAKA222AAXZZ	AG	N	D	PLT-AD1	
10	SPAKA223AAXZZ	AF	N	D	PLT-AD2	
11	SPAKC225AAXZZ	AV	N	D	Packing case	[2200CMU]
	SPAKC249AAXZZ	AL	N	D	Packing case	[2150CMU]
	SPAKC324AAXZZ	AL	N	D	Packing case	[2200CMC]
	SPAKC367AAXZZ	AL	N	D	Packing case	[2150CMC]
12	SPAKP4381AXZZ	AG		D	Vinyl cover	
13	SSAKA2008AXZZ	AA	N	D	Vinyl bag	
14	SSAKA2344QCZZ	AB		D	Operation manual vinyl bag	
15	TCADZ2550AXZZ	AK	N	D	Pop card	[2200CMU]
	TCADZ2606AXZZ	AK	N	D	Pop card	[2200CMC]
16	TLABM4316AXZZ	AG	N	D	Box label	[2200CMU]
	TLABM4537AXZZ	AG	N	D	Box label	[2200CMC]
17	TCADZ2588AXZZ	AB	N	D	Quick reference guide	[2200CMU/2150CMU]
	TCADZ2603AXZZ	AC	N	D	Quick reference guide	[2200CMC/2150CMC]
18	TINSE3773AXZZ	AF	N	D	Operation manual	[2200CMU]
	TINSE3796AXZZ	AF	N	D	Operation manual	[2150CMU]
	TINSK3853AXZZ	AF	N	D	Operation manual	[2200CMC]
	TINSK3865AXZZ	AE	N	D	Operation manual	[2150CMC]
19	TLABH4496AXSA	AC	N	D	Rapid key label	[2200CMU/CMC]
	TLABH4496AXSC	AC	N	D	Rapid key label	[2150CMU/CMC]
20	UDSKA2003SCZZ	AP	N	E	CD-ROM	[2200CMU/2150CMU]
	UDSKA2008SCZZ	AQ	N	E	CD-ROM	[2200CMC/2150CMC]
21	TLABM4604AXZZ	AE	N	D	Pop label	[2200CMC]
22	LPLTP2932AXSA	AK	N	C	Document tray	
23	TCADZ2631AXZZ	AC	N	D	Up grade coupon	
24	TLABH4238AXZG	AC	N	D	Document set label	[2200CMC]
	TLABH4496AXSC	AC		D	Document set label	[2150CMC]
25	TCADZ2561AXZZ	AF	N	D	Registration card	[2200CMU]
26	SPAKA417AAXZZ		N	D	Roller protector	

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION	
[10] Control PWB unit						
1	UBATL0011FCZZ	AM		B	Lithium battery	[BAT]
2	VCEAGA1CW476M	AB		C	Capacitor(16WV 47μF)	[C45]
3	VCEAGA1CW476M	AB		C	Capacitor(16WV 47μF)	[C46]
4	VCEAGA1HW107M	AA		C	Capacitor(50WV 100μF)	[C47]
5	VCEAGA1HW107M	AA		C	Capacitor(50WV 100μF)	[C49]
6	VCEAGA1EW226M	AB		C	Capacitor(25WV 22μF)	[C51]
7	VCEAGA1HW105M	AB		C	Capacitor(50WV 1μF)	[C52]
8	VCEAGA1HW475M	AA		C	Capacitor(50WV 4.7μF)	[C53]
9	VCEAGA1CW336M	AA		C	Capacitor(16WV 33μF)	[C54]
10	VCEAGA1HW476M	AB		C	Capacitor(50WV 47μF)	[C55]
11	VCEAGA1HW336M	AB		C	Capacitor(50WV 33μF)	[C57]
12	VCEAGA1HW107M	AA		C	Capacitor(50WV 100μF)	[C58]
13	VCKYTV1CF105Z	AB		C	Capacitor(16WV 1μF)	[C102]
14	VCKYTQ1HF104Z	AA		C	Capacitor(50WV 0.1μF)	[C103]
15	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C104]
16	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C105]
17	VCKYTV1CF105Z	AB		C	Capacitor(16WV 1μF)	[C107]
18	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C108]
19	VCCCTV1HH330J	AA		C	Capacitor(50WV 33PF)	[C109]
20	VCKYTV1HB103K	AB		C	Capacitor(50WV 0.01μF)	[C110]
21	VCKYTV1HB103K	AB		C	Capacitor(50WV 0.01μF)	[C111]
22	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C112]
23	VCKYTV1HB472K	AA		C	Capacitor(50WV 4700PF)	[C114]
24	VCKYTV1HB103K	AB		C	Capacitor(50WV 0.01μF)	[C115]
25	VCKYTV1HB102K	AA		C	Capacitor(50WV 0.001μF)	[C116]
26	VCKYTV1HB102K	AA		C	Capacitor(50WV 0.001μF)	[C117]
27	VCKYTV1HB102K	AA		C	Capacitor(50WV 0.001μF)	[C118]
28	VCKYTV1HB102K	AA		C	Capacitor(50WV 0.001μF)	[C119]
29	VCKYTV1HB102K	AA		C	Capacitor(50WV 0.001μF)	[C120]
30	VCKYTV1HB222K	AA		C	Capacitor(50WV 2200PF)	[C122]
31	VCKYTV1HB222K	AA		C	Capacitor(50WV 2200PF)	[C123]
32	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C125]
33	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C130]
34	VCCCTV1HH150J	AA		C	Capacitor(50WV 15PF)	[C131]
35	VCCCTV1HH150J	AA		C	Capacitor(50WV 15PF)	[C132]
36	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C135]
37	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C136]
38	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C137]
39	VCKYTV1CF105Z	AB		C	Capacitor(16WV 1μF)	[C138]
40	VCKYTV1CF105Z	AB		C	Capacitor(16WV 1μF)	[C139]
41	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C140]
42	VCKYTV1HB222K	AA		C	Capacitor(50WV 2200PF)	[C141]
43	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C142]
44	VCKYTV1HB222K	AA		C	Capacitor(50WV 2200PF)	[C143]
45	VCCCTV1HH180J	AA		C	Capacitor(50WV 18PF)	[C144]
46	VCCCTV1HH180J	AA		C	Capacitor(50WV 18PF)	[C145]
47	VCKYTV1HB222K	AA		C	Capacitor(50WV 2200PF)	[C146]
48	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C147]
49	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C148]
50	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C149]
51	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C150]
52	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C151]
53	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C152]
54	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C153]
55	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C154]
56	VCCCTV1HH100D	AA		C	Capacitor(50WV 10PF)	[C155]
57	VCCCTV1HH100D	AA		C	Capacitor(50WV 10PF)	[C156]
58	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C157]
59	VCKYTV1HB222K	AA		C	Capacitor(50WV 2200PF)	[C158]
60	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C159]
61	VCKYTV1HB222K	AA		C	Capacitor(50WV 2200PF)	[C160]
62	VCKYTV1HB103K	AB		C	Capacitor(25WV 0.01μF)	[C163]
63	VCKYTV1HB103K	AB		C	Capacitor(25WV 0.01μF)	[C164]
64	VCCCTV1HH330J	AA		C	Capacitor(50WV 330F)	[C165]
65	VCCSTV1HL471J	AC		C	Capacitor(50WV 470PF)	[C166]
66	VCKYTV1CF105Z	AB		C	Capacitor(16WV 1μF)	[C167]
67	VCKYTV1CF105Z	AB		C	Capacitor(16WV 1μF)	[C168]
68	VCCSTV1HL102J	AA		C	Capacitor(50WV 1000PF)	[C169]
69	VCCCTV1HH150J	AA		C	Capacitor(50WV 15PF)	[C170]
70	VCCCTV1HH150J	AA		C	Capacitor(50WV 15PF)	[C171]
71	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C172]
72	VCKYTV1HB103K	AB		C	Capacitor(25WV 0.01μF)	[C173]
73	VCKYTV1HB103K	AB		C	Capacitor(25WV 0.01μF)	[C174]
74	VCKYTV1HB102K	AA		C	Capacitor(50WV 1000PF)	[C175]
75	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C176]
76	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C177]
77	VCKYTV1HB222K	AA		C	Capacitor(50WV 2200PF)	[C180]
78	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C181]
79	VCCSTV1HL102J	AA		C	Capacitor(50WV 1000PF)	[C182]
80	VCKYTQ1HF104Z	AA		C	Capacitor(50WV 0.1μF)	[C183]

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION	
[10] Control PWB unit						
81	VCCSTV1HL681J	AB		C	Capacitor(50WV 680PF)	[C184]
82	VCKYTV1CF225Z	AD		C	Capacitor(16WV 2.2μF)	[C185]
83	VCKYTV1CF105Z	AB		C	Capacitor(16WV 1μF)	[C186]
84	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C187]
85	VCCSTV1HL391J	AA		C	Capacitor(50WV 390PF)	[C188]
86	VCKYTV1CF225Z	AD		C	Capacitor(16WV 2.2μF)	[C189]
87	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C190]
88	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C191]
89	VCKYTV1HB222K	AA		C	Capacitor(50WV 2200PF)	[C192]
90	VCKYTV1HB222K	AA		C	Capacitor(50WV 2200PF)	[C193]
91	VCKYTV1HB222K	AA		C	Capacitor(50WV 2200PF)	[C194]
92	VCKYTV1HB103K	AB		C	Capacitor(25WV 0.01μF)	[C195]
93	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C197]
94	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C198]
95	VCKYTV1CF105Z	AB		C	Capacitor(16WV 1μF)	[C199]
96	VCKYTV1CF105Z	AB		C	Capacitor(16WV 1μF)	[C200]
97	VCCSTV1HL331J	AA		C	Capacitor(50WV 330PF)	[C201]
98	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C202]
99	VCCCTV1HH100D	AA		C	Capacitor(50WV 10PF)	[C203]
100	VCCCTV1HH100D	AA		C	Capacitor(50WV 10PF)	[C204]
101	VCKYTV1HB222K	AA		C	Capacitor(50WV 2200PF)	[C205]
102	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C206]
103	VCKYTV1CF105Z	AB		C	Capacitor(16WV 1μF)	[C207]
104	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C208]
105	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C209]
106	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C210]
107	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C211]
108	VCKYTV1HB102K	AA		C	Capacitor(50WV 1000PF)	[C212]
109	VCKYTV1CF105Z	AB		C	Capacitor(16WV 1μF)	[C213]
110	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C214]
111	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C215]
112	VCKYTV1CF105Z	AB		C	Capacitor(25WV 1μF)	[C216]
113	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C217]
114	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C218]
115	VCKYTV1CF105Z	AB		C	Capacitor(25WV 1μF)	[C219]
116	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C220]
117	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C221]
118	VCKYTV1CF105Z	AB		C	Capacitor(25WV 1μF)	[C222]
119	VCCSTV1HL331J	AA		C	Capacitor(50WV 330PF)	[C226]
120	VCKYTV1HB102K	AA		C	Capacitor(50WV 1000PF)	[C228]
121	VCKYTV1HB102K	AA		C	Capacitor(50WV 1000PF)	[C229]
122	VCKYTV1HB102K	AA		C	Capacitor(50WV 1000PF)	[C230]
123	VCKYTV1HB102K	AA		C	Capacitor(50WV 1000PF)	[C231]
124	VCKYTV1HB102K	AA		C	Capacitor(50WV 1000PF)	[C232]
125	VCKYTV1HB102K	AA		C	Capacitor(50WV 1000PF)	[C233]
126	VCKYTV1HB102K	AA		C	Capacitor(50WV 1000PF)	[C234]
127	VCKYTV1HB102K	AA		C	Capacitor(50WV 1000PF)	[C235]
128	VCKYTV1HB102K	AA		C	Capacitor(50WV 1000PF)	[C236]
129	VCKYTV1HB102K	AA		C	Capacitor(50WV 1000PF)	[C237]
130	VCKYTV1HB102K	AA		C	Capacitor(50WV 1000PF)	[C238]
131	VCKYTV1HB102K	AA		C	Capacitor(50WV 1000PF)	[C239]
132	VCKYTV1HB102K	AA		C	Capacitor(50WV 1000PF)	[C240]
133	QCNCM7014SC0G	AB		C	Connector(7pin)	[CNCIS]
134	QCNCM7014SC0E	AB		C	Connector(5pin)	[CNIR]
135	QCNCM2499SC1D	AG		C	Connector(14pin)	[CNLIUA]
136	QCNCM7014SC0F	AB		C	Connector(6pin)	[CNMM]
137	QCNCW0946FCZZ	AH		C	Connector(36pin)	[CNPC]
138	QCNCM2401SC0F	AB		C	Connector(6pin)	[CNPHOT]
139	QCNCM2482SC2J	AE		C	Connector(20pin)	[CNPN]
140	QCNCM2482SC2H	AG	N	C	Connector(28pin)	[CNPRT]
141	QCNCM2499SC0H	AE		C	Connector(8pin)	[CNPW]
142	QCNCM7014SC0B	AD		C	Connector(2pin)	[CNSP]
143	VHDDA204K//-1	AC		B	Diode(DA204K)	[D101]
144	VHDDA204K//-1	AC		B	Diode(DA204K)	[D102]
145	VHD1SS355//-1	AB		B	Diode(1SS355)	[D103]
146	VHDRB411D//-1	AD		B	Diode(RB411D)	[D104]
147	VHDRB411D//-1	AD		B	Diode(RB411D)	[D105]
148	VHDRB411D//-1	AD		B	Diode(RB411D)	[D110]
149	VHDRB411D//-1	AD		B	Diode(RB411D)	[D111]
150	VHDRB411D//-1	AD		B	Diode(RB411D)	[D116]
151	VHDRB411D//-1	AD		B	Diode(RB411D)	[D117]
152	VHDRB411D//-1	AD		B	Diode(RB411D)	[D118]
153	VHDRB411D//-1	AD		B	Diode(RB411D)	[D119]
154	VHDRB411D//-1	AD		B	Diode(RB411D)	[D121]
155	VHDRB411D//-1	AD		B	Diode(RB411D)	[D122]
156	VHDRB411D//-1	AD		B	Diode(RB411D)	[D123]
157	VHDRB411D//-1	AD		B	Diode(RB411D)	[D124]
158	VHDRB411D//-1	AD		B	Diode(RB411D)	[D125]
159	VHD1SS355//-1	AB		B	Diode(1SS355)	[D126]
160	VHDRB411D//-1	AD		B	Diode(RB411D)	[D127]

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION	
[10] Control PWB unit						
161	VHDRB411D//-1	AD		B	Diode(RB411D)	[D128]
162	VHDRB411D//-1	AD		B	Diode(RB411D)	[D129]
163	VHDRB411D//-1	AD		B	Diode(RB411D)	[D131]
164	VHDRB411D//-1	AD		B	Diode(RB411D)	[D132]
165	VHDRB411D//-1	AD		B	Diode(RB411D)	[D133]
166	VHDRB411D//-1	AD		B	Diode(RB411D)	[D134]
167	VHDRB411D//-1	AD		B	Diode(RB411D)	[D135]
168	VHDRB411D//-1	AD		B	Diode(RB411D)	[D136]
169	VHDDAP202U/-1	AB		B	Diode(DAP202U)	[D137]
170	VHDRB411D//-1	AD		B	Diode(RB411D)	[D139]
171	VHDRB411D//-1	AD		B	Diode(RB411D)	[D140]
172	VHDRB411D//-1	AD		B	Diode(RB411D)	[D141]
173	VHDRB411D//-1	AD		B	Diode(RB411D)	[D147]
174	VHVICPS07//-1	AA		B	Varistor(ICP-S07)	[F1]
175	VHIAD8051//-1	AN	N	B	IC(AD8051)	[IC1]
176	VHIULN2003AN/	AE		B	IC(ULN2003ANS)	[IC2]
177	VHIHECF4066BF	AF		B	IC(HECF4066)	[IC3]
178	VHIMC14053DR2	AG		B	IC(MC14053DR2)	[IC5]
179	VHIHD74LS08-1	AD		B	IC(HD74LS08)	[IC6]
180	VHI74HCU04S-1	AF	N	B	IC(74HCU04)	[IC7]
181	VHILC82103/-1	BA		B	IC(LC82103)	[IC8]
182	VHIHECF4066BF	AF		B	IC(HECF4066)	[IC9]
183	VHILZ9FJ49/-1	AV	N	B	IC(LZ9FJ49)	[IC10]
184	VHI74HCU04S-1	AF	N	B	IC(74HCU04)	[IC11]
185	VHISH7040//-1	BD	N	B	IC(SH7040)	[IC12]
186	VHISN74HC14NSR	AE	N	B	IC(74HC14)	[IC13]
187	VHINJM2902M-1	AF		B	IC(NJM2902M)	[IC14]
188	VHIR144AFXL/1	BM		B	IC(R144EFXL)	[IC15]
189	RH-IX2129SCZZ	AY		B	IC(IX2129)	[IC16]
190	VHIS2B257SL70	AL		B	IC(S2B257SL70)	[IC17]
191	QSOCZ2051SC32	AC		C	IC socket(32pin)	[IC18]
192	VHI27040FBS0H	AZ		B	IC,EP ROM(4Mbit)	[IC18]
193	QSOCZ2051SC32	AC		C	IC socket(32pin)	[IC19]
194	VHI27040FBS1H	AZ		B	IC,EP ROM(4Mbit)	[IC19]
195	VHISN74LS245N	AR		B	IC(74LS245)	[IC20]
196	VHISN74LS244NR	AG		B	IC(SN74LS244)	[IC21]
197	VHISN74LS244NR	AG		B	IC(SN74LS244)	[IC22]
198	RH-IX2129SCZZ	AY		B	IC(IX2129)	[IC23]
199	VHIS2B257SL70	AL		B	IC(S2B257SL70)	[IC24]
200	VHISN74HC04NSR	AE	N	B	IC(HC04)	[IC25]
201	VHISN74HC164NR	AF	N	B	IC(HC164)	[IC26]
202	VHINJU6355E-1	AM		B	IC(NJU6355M)	[IC27]
203	VHINJM2113M-1	AG		B	IC(NJM2113M)	[IC28]
204	VHIPST596CMT1	AF		B	IC(PST596CNR)	[IC102]
205	VRS-TV2AB680J	AA		C	Resistor(1/10W 68 ±5%)	[L100]
206	VRS-TV2AB680J	AA		C	Resistor(1/10W 68 ±5%)	[L101]
207	VRS-TQ2BB000J	AA		C	Resistor(1/8W 0 ±5%)	[L102]
208	VRS-TQ2BB000J	AA		C	Resistor(1/8W 0 ±5%)	[L103]
209	VRS-TV2AB000J	AA		C	Resistor(1/10W 0 ±5%)	[L104]
210	VRS-TV2AB000J	AA		C	Resistor(1/10W 0 ±5%)	[L105]
211	VRS-TV2AB000J	AA		C	Resistor(1/10W 0 ±5%)	[L106]
212	VSDTA114EK/-1	AB		B	Transistor(DTA114EK)	[Q100]
213	VSDTC114EK/-1	AB		B	Transistor(DTC114EK)	[Q101]
214	VSDTC114EK/-1	AB		B	Transistor(DTC114EK)	[Q102]
215	VSDTC114EK/-1	AB		B	Transistor(DTC114EK)	[Q103]
216	VS2SA1037KR-1	AB		B	Transistor	[Q104]
217	VRD-HT2EY100J	AA		C	Resistor(1/4W 10 ±5%)	[R3]
218	VRS-TV2AB330J	AD		C	Resistor(1/10W 33 ±5%)	[R102]
219	VRS-TV2AB101J	AA		C	Resistor(1/10W 100 ±5%)	[R103]
220	VRS-TV2AB101J	AA		C	Resistor(1/10W 100 ±5%)	[R104]
221	VRS-TV2AB101J	AA		C	Resistor(1/10W 100 ±5%)	[R105]
222	VRS-TV2AB101J	AA		C	Resistor(1/10W 100 ±5%)	[R106]
223	VRS-TV2AB101J	AA		C	Resistor(1/10W 100 ±5%)	[R107]
224	VRS-TV2AB101J	AA		C	Resistor(1/10W 100 ±5%)	[R108]
225	VRS-TV2AB101J	AA		C	Resistor(1/10W 100 ±5%)	[R109]
226	VRS-TV2AB101J	AA		C	Resistor(1/10W 100 ±5%)	[R110]
227	VRS-TV2AB101J	AA		C	Resistor(1/10W 100 ±5%)	[R111]
228	VRS-TV2AB271J	AA		C	Resistor(1/10W 270 ±5%)	[R112]
229	VRS-TV2AB271J	AA		C	Resistor(1/10W 270 ±5%)	[R113]
230	VRS-TV2AB471J	AA		C	Resistor(1/10W 470 ±5%)	[R114]
231	VRS-TV2AB471J	AA		C	Resistor(1/10W 470 ±5%)	[R115]
232	VRS-TV2AB471J	AA		C	Resistor(1/10W 470 ±5%)	[R116]
233	VRS-TV2AB471J	AA		C	Resistor(1/10W 470 ±5%)	[R117]
234	VRS-TV2AB471J	AA		C	Resistor(1/10W 470 ±5%)	[R118]
235	VCKYTV1CF105Z	AB		C	Capacitor(25WV 1μF)	[R119]
236	VCKYTV1CF105Z	AB		C	Capacitor(25WV 1μF)	[R120]
237	VCKYTV1CF105Z	AB		C	Capacitor(25WV 1μF)	[R121]
238	VRS-TV2AB103J	AA		C	Resistor(1/10W 10K ±5%)	[R122]
239	VRS-TV2AB102J	AA		C	Resistor(1/10W 1K ±5%)	[R125]
240	VRS-TV2AB000J	AA		C	Resistor(1/10W 0 ±5%)	[R127]

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION	
[10] Control PWB unit						
241	VRS-TV2AB000J	AA		C	Resistor(1/10W 0 ±5%)	[R130]
242	VRS-TV2AB000J	AA		C	Resistor(1/10W 0 ±5%)	[R131]
243	VRS-TV2AB000J	AA		C	Resistor(1/10W 0 ±5%)	[R132]
244	VRS-TV2AB103J	AA		C	Resistor(1/10W 10K ±5%)	[R135]
245	VRS-TV2AB330J	AD		C	Resistor(1/10W 33 ±5%)	[R136]
246	VRS-TV2AB330J	AD		C	Resistor(1/10W 33 ±5%)	[R137]
247	VRS-TV2AB103J	AA		C	Resistor(1/10W 10K ±5%)	[R138]
248	VRS-TV2AB203J	AA		C	Resistor(1/10W 20K ±5%)	[R139]
249	VRS-TV2AB102J	AA		C	Resistor(1/10W 1K ±5%)	[R140]
250	VRS-TV2AB103J	AA		C	Resistor(1/10W 10K ±5%)	[R141]
251	VRS-TV2AB203J	AA		C	Resistor(1/10W 20K ±5%)	[R142]
252	VRS-TV2AB101J	AA		C	Resistor(1/10W 100 ±5%)	[R145]
253	VRS-TV2AB101J	AA		C	Resistor(1/10W 100 ±5%)	[R147]
254	VRS-TV2AB101J	AA		C	Resistor(1/10W 100 ±5%)	[R149]
255	VRS-TV2AB101J	AA		C	Resistor(1/10W 100 ±5%)	[R151]
256	VRS-TV2AB101J	AA		C	Resistor(1/10W 100 ±5%)	[R153]
257	VRS-TV2AB101J	AA		C	Resistor(1/10W 100 ±5%)	[R155]
258	VRS-TV2AB101J	AA		C	Resistor(1/10W 100 ±5%)	[R157]
259	VRS-TV2AB101J	AA		C	Resistor(1/10W 100 ±5%)	[R159]
260	VRS-TV2AB271J	AA		C	Resistor(1/10W 270 ±5%)	[R160]
261	VRS-TV2AB271J	AA		C	Resistor(1/10W 270 ±5%)	[R161]
262	VRS-TV2AB103J	AA		C	Resistor(1/10W 10K ±5%)	[R162]
263	VRS-TV2AB271J	AA		C	Resistor(1/10W 270 ±5%)	[R165]
264	VRS-TV2AB302J	AA		C	Resistor(1/10W 3K ±5%)	[R166]
265	VRS-TV2AB271J	AA		C	Resistor(1/10W 270 ±5%)	[R167]
266	VRS-TV2AB271J	AA		C	Resistor(1/10W 270 ±5%)	[R169]
267	VRS-TV2AB271J	AA		C	Resistor(1/10W 270 ±5%)	[R170]
268	VRS-TV2AB000J	AA		C	Resistor(1/10W 0 ±5%)	[R171]
269	VRS-TV2AB271J	AA		C	Resistor(1/10W 270 ±5%)	[R172]
270	VRS-TV2AB302J	AA		C	Resistor(1/10W 3K ±5%)	[R173]
271	VRS-TV2AB302J	AA		C	Resistor(1/10W 3K ±5%)	[R174]
272	VRS-TV2AB000J	AA		C	Resistor(1/10W 0 ±5%)	[R179]
273	VRS-TV2AB000J	AA		C	Resistor(1/10W 0 ±5%)	[R184]
274	VRS-TV2AB000J	AA		C	Resistor(1/10W 0 ±5%)	[R191]
275	VRS-TV2AB000J	AA		C	Resistor(1/10W 0 ±5%)	[R192]
276	VRS-TV2AB203J	AA		C	Resistor(1/10W 20K ±5%)	[R193]
277	VRS-TV2AB102J	AA		C	Resistor(1/10W 1K ±5%)	[R194]
278	VRS-TV2AB102J	AA		C	Resistor(1/10W 1K ±5%)	[R195]
279	VRS-TV2AB103J	AA		C	Resistor(1/10W 10K ±5%)	[R204]
280	VRS-TV2AB103J	AA		C	Resistor(1/10W 10K ±5%)	[R205]
281	VRS-TV2AB103J	AA		C	Resistor(1/10W 10K ±5%)	[R206]
282	VRS-TV2AB103J	AA		C	Resistor(1/10W 10K ±5%)	[R207]
283	VRS-TV2AB103J	AA		C	Resistor(1/10W 10K ±5%)	[R208]
284	VRS-TV2AB101J	AA		C	Resistor(1/10W 100 ±5%)	[R209]
285	VRS-TV2AB201J	AA		C	Resistor(1/10W 200 ±5%)	[R210]
286	VRS-TV2AB105J	AA		C	Resistor(1/10W 1.0M ±5%)	[R211]
287	VRS-TV2AB101J	AA		C	Resistor(1/10W 100 ±5%)	[R212]
288	VRS-TV2AB102J	AA		C	Resistor(1/10W 1K ±5%)	[R213]
289	VRS-TV2AB101J	AA		C	Resistor(1/10W 100 ±5%)	[R214]
290	VRS-TV2AB271J	AA		C	Resistor(1/10W 270 ±5%)	[R215]
291	VRS-TV2AB103J	AA		C	Resistor(1/10W 10K ±5%)	[R216]
292	VRS-TV2AB000J	AA		C	Resistor(1/10W 0 ±5%)	[R217]
293	VRS-TV2AB562J	AA		C	Resistor(1/10W 5.6K ±5%)	[R218]
294	VRS-TV2AB333J	AD		C	Resistor(1/10W 33K ±5%)	[R219]
295	VRS-TV2AB183J	AD		C	Resistor(1/10W 18K ±5%)	[R220]
296	VRS-TV2AB302J	AA		C	Resistor(1/10W 3K ±5%)	[R221]
297	VRS-TV2AB103J	AA		C	Resistor(1/10W 10K ±5%)	[R222]
298	VRS-TV2AB623J	AA		C	Resistor(1/10W 62K ±5%)	[R223]
299	VRS-TV2AB000J	AA		C	Resistor(1/10W 0 ±5%)	[R225]
300	VRS-TV2AB302J	AA		C	Resistor(1/10W 3K ±5%)	[R226]
301	VRS-TV2AB103J	AA		C	Resistor(1/10W 10K ±5%)	[R227]
302	VRS-TV2AB103J	AA		C	Resistor(1/10W 10K ±5%)	[R228]
303	VRS-TV2AB101J	AA		C	Resistor(1/10W 100 ±5%)	[R229]
304	VRS-TV2AB103J	AA		C	Resistor(1/10W 10K ±5%)	[R230]
305	VRS-TV2AB103J	AA		C	Resistor(1/10W 10K ±5%)	[R232]
306	VRS-TV2AB103J	AA		C	Resistor(1/10W 10K ±5%)	[R233]
307	VRS-TV2AB103J	AA		C	Resistor(1/10W 10K ±5%)	[R234]
308	VRS-TV2AB103J	AA		C	Resistor(1/10W 10K ±5%)	[R235]
309	RCILZ2133SCZZ	AC		C	Coil,Inductor	[R236]
310	RCILZ2133SCZZ	AC		C	Coil,Inductor	[R237]
311	VRS-TV2AB101J	AA		C	Resistor(1/10W 100 ±5%)	[R238]
312	VRS-TV2AB101J	AA		C	Resistor(1/10W 100 ±5%)	[R239]
313	VRS-TV2AB471J	AA		C	Resistor(1/10W 470 ±5%)	[R240]
314	VRS-TV2AB101J	AA		C	Resistor(1/10W 100 ±5%)	[R241]
315	VRS-TV2AB000J	AA		C	Resistor(1/10W 0 ±5%)	[R242]
316	VRS-TV2AB332J	AA		C	Resistor(1/10W 3.3K ±5%)	[R244]
317	VRS-TV2AB000J	AA		C	Resistor(1/10W 0 ±5%)	[R245]
318	VRS-TV2AB103J	AA		C	Resistor(1/10W 10K ±5%)	[R247]
319	VRS-TV2AB302J	AA		C	Resistor(1/10W 3K ±5%)	[R248]
320	VRS-TV2AB103J	AA		C	Resistor(1/10W 10K ±5%)	[R249]

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION	
[10] Control PWB unit						
321	VRS-TV2AB103J	AA		C	Resistor(1/10W 10K ±5%)	[R250]
322	VRS-TV2AB103J	AA		C	Resistor(1/10W 10K ±5%)	[R251]
323	VRS-TV2AB103J	AA		C	Resistor(1/10W 10K ±5%)	[R252]
324	VRS-TV2AB333J	AD		C	Resistor(1/10W 33K ±5%)	[R261]
325	VRS-TV2AB333J	AD		C	Resistor(1/10W 33K ±5%)	[R262]
326	VRS-TV2AB103J	AA		C	Resistor(1/10W 10K ±5%)	[R263]
327	VRS-TV2AB000J	AA		C	Resistor(1/10W 0 ±5%)	[R264]
328	VRSTS2AD8662F	AA		C	Resistor(1/10W 86.6K ±1%)	[R265]
329	VRS-TV2AB302J	AA		C	Resistor(1/10W 3K ±5%)	[R266]
330	VRS-TV2AB105J	AA		C	Resistor(1/10W 1.0M ±5%)	[R267]
331	VRS-TV2AB102J	AA		C	Resistor(1/10W 1K ±5%)	[R268]
332	VRS-TV2AB103J	AA		C	Resistor(1/10W 10K ±5%)	[R271]
333	VRS-TV2AB103J	AA		C	Resistor(1/10W 10K ±5%)	[R272]
334	VRS-TV2AB103J	AA		C	Resistor(1/10W 10K ±5%)	[R273]
335	VRS-TV2AB000J	AA		C	Resistor(1/10W 0 ±5%)	[R274]
336	VRS-TV2AB000J	AA		C	Resistor(1/10W 0 ±5%)	[R275]
337	VRS-TV2AB103J	AA		C	Resistor(1/10W 10K ±5%)	[R276]
338	VRS-TV2AB103J	AA		C	Resistor(1/10W 10K ±5%)	[R277]
339	VRS-TV2AB101J	AA		C	Resistor(1/10W 100 ±5%)	[R278]
340	VRS-TV2AB333J	AD		C	Resistor(1/10W 33K ±5%)	[R279]
341	VRS-TV2AB103J	AA		C	Resistor(1/10W 10K ±5%)	[R280]
342	VRS-TV2AB000J	AA		C	Resistor(1/10W 0 ±5%)	[R282]
343	VRS-TV2AB000J	AA		C	Resistor(1/10W 0 ±5%)	[R284]
344	VRS-TV2AB103J	AA		C	Resistor(1/10W 10K ±5%)	[R286]
345	VRS-TV2AB103J	AA		C	Resistor(1/10W 10K ±5%)	[R287]
346	VRS-TV2AB471J	AA		C	Resistor(1/10W 470 ±5%)	[R288]
347	VRS-TV2AB103J	AA		C	Resistor(1/10W 10K ±5%)	[R289]
348	VRS-TV2AB271J	AA		C	Resistor(1/10W 270 ±5%)	[R290]
349	VRS-TV2AB103J	AA		C	Resistor(1/10W 10K ±5%)	[R291]
350	VRS-TV2AB333J	AD		C	Resistor(1/10W 33K ±5%)	[R292]
351	VRS-TV2AB471J	AA		C	Resistor(1/10W 470 ±5%)	[R293]
352	VRS-TV2AB103J	AA		C	Resistor(1/10W 10K ±5%)	[R294]
353	VRS-TV2AB102J	AA		C	Resistor(1/10W 1K ±5%)	[R295]
354	VRS-TV2AB103J	AA		C	Resistor(1/10W 10K ±5%)	[R296]
355	VRS-TV2AB472J	AA		C	Resistor(1/10W 4.7K ±5%)	[R297]
356	VRS-TQ2BB000J	AA		C	Resistor(1/8W 0 ±5%)	[R299]
357	VRS-TV2AB271J	AA		C	Resistor(1/10W 270 ±5%)	[R300]
358	VRS-TV2AB152J	AB		C	Resistor(1/10W 1.5K ±5%)	[R301]
359	VRS-TV2AB473J	AA		C	Resistor(1/10W 47K ±5%)	[R302]
360	VRS-TV2AB133J	AA		C	Resistor(1/10W 13K ±5%)	[R303]
361	VRSTS2AD8662F	AA		C	Resistor(1/10W 86.6K ±1%)	[R304]
362	VRS-TV2AB103J	AA		C	Resistor(1/10W 10K ±5%)	[R305]
363	VRS-TV2AB332J	AA		C	Resistor(1/10W 3.3K ±5%)	[R306]
364	VRSTS2AD4752F	AA		C	Resistor(1/10W 47.5K ±1%)	[R308]
365	VRS-TV2AB103J	AA		C	Resistor(1/10W 10K ±5%)	[R309]
366	VRS-TV2AB472J	AA		C	Resistor(1/10W 4.7K ±5%)	[R310]
367	VRS-TQ2BB200J	AA		C	Resistor(1/8W 20 ±5%)	[R311]
368	VRS-TV2AB100J	AD		C	Resistor(1/10W 10 ±5%)	[R313]
369	VRS-TV2AB470J	AA		C	Resistor(1/10W 47 ±5%)	[R314]
370	VRS-TV2AB470J	AA		C	Resistor(1/10W 47 ±5%)	[R315]
371	VRS-TV2AB100J	AD		C	Resistor(1/10W 10 ±5%)	[R316]
372	VRS-TV2AB103J	AA		C	Resistor(1/10W 10K ±5%)	[R317]
373	VRS-TV2AB103J	AA		C	Resistor(1/10W 10K ±5%)	[R319]
374	VRS-TV2AB103J	AA		C	Resistor(1/10W 10K ±5%)	[R320]
375	VRS-TV2AB103J	AA		C	Resistor(1/10W 10K ±5%)	[R321]
376	VRS-TV2AB000J	AA		C	Resistor(1/10W 0 ±5%)	[R322]
377	VRS-TV2AB103J	AA		C	Resistor(1/10W 10K ±5%)	[R324]
378	VRS-TV2AB103J	AA		C	Resistor(1/10W 10K ±5%)	[R325]
379	VRS-TV2AB103J	AA		C	Resistor(1/10W 10K ±5%)	[R326]
380	VRS-TV2AB101J	AA		C	Resistor(1/10W 100 ±5%)	[R327]
381	VRS-TV2AB103J	AA		C	Resistor(1/10W 10K ±5%)	[R330]
382	VRS-TV2AB103J	AA		C	Resistor(1/10W 10K ±5%)	[R331]
383	VRS-TV2AB103J	AA		C	Resistor(1/10W 10K ±5%)	[R332]
384	VRS-TV2AB101J	AA		C	Resistor(1/10W 100 ±5%)	[R333]
385	VRS-TV2AB103J	AA		C	Resistor(1/10W 10K ±5%)	[R334]
386	VRS-TV2AB101J	AA		C	Resistor(1/10W 100 ±5%)	[R335]
387	VRS-TV2AB000J	AA		C	Resistor(1/10W 0 ±5%)	[R336]
388	VRS-TV2AB000J	AA		C	Resistor(1/10W 0 ±5%)	[R337]
389	VRS-TV2AB000J	AA		C	Resistor(1/10W 0 ±5%)	[R338]
390	VRS-TV2AB103J	AA		C	Resistor(1/10W 10K ±5%)	[R339]
391	VRS-TV2AB103J	AA		C	Resistor(1/10W 10K ±5%)	[R340]
392	VRS-TV2AB103J	AA		C	Resistor(1/10W 10K ±5%)	[R341]
393	VRS-TV2AB103J	AA		C	Resistor(1/10W 10K ±5%)	[R342]
394	VRS-TV2AB103J	AA		C	Resistor(1/10W 10K ±5%)	[R343]
395	VRS-TV2AB103J	AA		C	Resistor(1/10W 10K ±5%)	[R344]
396	VRS-TV2AB102J	AA		C	Resistor(1/10W 1K ±5%)	[R345]
397	VRS-TV2AB103J	AA		C	Resistor(1/10W 10K ±5%)	[R346]
398	VRS-TV2AB471J	AA		C	Resistor(1/10W 470 ±5%)	[R347]
399	VRS-TV2AB103J	AA		C	Resistor(1/10W 10K ±5%)	[R348]
400	VRS-TV2AB102J	AA		C	Resistor(1/10W 1K ±5%)	[R349]

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION	
[10] Control PWB unit						
401	VRS-TV2AB271J	AA		C	Resistor(1/10W 270 ±5%)	[R350]
402	VRS-TV2AB271J	AA		C	Resistor(1/10W 270 ±5%)	[R351]
403	VRS-TV2AB000J	AA		C	Resistor(1/10W 0 ±5%)	[R354]
404	VRS-TV2AB000J	AA		C	Resistor(1/10W 0 ±5%)	[R355]
405	VRS-TV2AB000J	AA		C	Resistor(1/10W 0 ±5%)	[R356]
406	VRS-TV2AB000J	AA		C	Resistor(1/10W 0 ±5%)	[R357]
407	VRS-TV2AB333J	AD		C	Resistor(1/10W 33K ±5%)	[R359]
408	VRSTS2AD1742F	AA		C	Resistor(1/10W 17.4K ±1%)	[R360]
409	VRS-TV2AB100J	AD		C	Resistor(1/10W 10 ±5%)	[R361]
410	VRS-TV2AB100J	AD		C	Resistor(1/10W 10 ±5%)	[R362]
411	VRS-TV2AB100J	AD		C	Resistor(1/10W 10 ±5%)	[R363]
412	VRS-TV2AB100J	AD		C	Resistor(1/10W 10 ±5%)	[R364]
413	VRS-TV2AB100J	AD		C	Resistor(1/10W 10 ±5%)	[R365]
414	VRS-TV2AB103J	AA		C	Resistor(1/10W 10K ±5%)	[R366]
415	VRS-TV2AB103J	AA		C	Resistor(1/10W 10K ±5%)	[R367]
416	VRS-TV2AB103J	AA		C	Resistor(1/10W 10K ±5%)	[R368]
417	VRS-TV2AB154J	AB		C	Resistor(1/10W 150K ±5%)	[R369]
418	VRS-TV2AB104J	AA		C	Resistor(1/10W 100K ±5%)	[R370]
419	VRS-TV2AB103J	AA		C	Resistor(1/10W 10K ±5%)	[R371]
420	VRS-TV2AB102J	AA		C	Resistor(1/10W 1K ±5%)	[R373]
421	VRS-TV2AB102J	AA		C	Resistor(1/10W 1K ±5%)	[R374]
422	VRS-TV2AB000J	AA		C	Resistor(1/10W 0 ±5%)	[R376]
423	VRS-TV2AB271J	AA		C	Resistor(1/10W 270 ±5%)	[R377]
424	VRS-TV2AB271J	AA		C	Resistor(1/10W 270 ±5%)	[R378]
425	VRS-TV2AB103J	AA		C	Resistor(1/10W 10K ±5%)	[R379]
426	VRS-TV2AB471J	AA		C	Resistor(1/10W 470 ±5%)	[R380]
427	VRS-TV2AB100J	AD		C	Resistor(1/10W 10 ±5%)	[R381]
428	VRS-TV2AB100J	AD		C	Resistor(1/10W 10 ±5%)	[R383]
429	VRS-TV2AB100J	AD		C	Resistor(1/10W 10 ±5%)	[R385]
430	VRS-TV2AB100J	AD		C	Resistor(1/10W 10 ±5%)	[R387]
431	VRS-TV2AB681J	AA		C	Resistor(1/10W 680 ±5%)	[R390]
432	VRS-TV2AB473J	AA		C	Resistor(1/10W 47K ±5%)	[R391]
433	VRS-TV2AB103J	AA		C	Resistor(1/10W 10K ±5%)	[R392]
434	VRS-TV2AB271J	AA		C	Resistor(1/10W 270 ±5%)	[R393]
435	VRS-TV2AB271J	AA		C	Resistor(1/10W 270 ±5%)	[R394]
436	VRS-TV2AB330J	AD		C	Resistor(1/10W 33 ±5%)	[R395]
437	VRS-TV2AB330J	AD		C	Resistor(1/10W 33 ±5%)	[R396]
438	VRS-TV2AB101J	AA		C	Resistor(1/10W 100 ±5%)	[R397]
439	VRS-TV2AB330J	AD		C	Resistor(1/10W 33 ±5%)	[R398]
440	VRS-TV2AB330J	AD		C	Resistor(1/10W 33 ±5%)	[R399]
441	VRS-TV2AB330J	AD		C	Resistor(1/10W 33 ±5%)	[R400]
442	VRS-TV2AB330J	AD		C	Resistor(1/10W 33 ±5%)	[R401]
443	VRS-TV2AB330J	AD		C	Resistor(1/10W 33 ±5%)	[R402]
444	VRS-TV2AB330J	AD		C	Resistor(1/10W 33 ±5%)	[R403]
445	VRS-TV2AB330J	AD		C	Resistor(1/10W 33 ±5%)	[R404]
446	VRS-TV2AB330J	AD		C	Resistor(1/10W 33 ±5%)	[R405]
447	VRS-TV2AB330J	AD		C	Resistor(1/10W 33 ±5%)	[R406]
448	VRS-TV2AB330J	AD		C	Resistor(1/10W 33 ±5%)	[R407]
449	VRS-TV2AB000J	AA		C	Resistor(1/10W 0 ±5%)	[R409]
450	VRS-TV2AB471J	AA		C	Resistor(1/10W 470 ±5%)	[R410]
451	VRS-TV2AB100J	AD		C	Resistor(1/10W 10 ±5%)	[R411]
452	VRS-TV2AB100J	AD		C	Resistor(1/10W 10 ±5%)	[R412]
453	VRS-TV2AB100J	AD		C	Resistor(1/10W 10 ±5%)	[R413]
454	VRS-TV2AB100J	AD		C	Resistor(1/10W 10 ±5%)	[R414]
455	VRS-TV2AB100J	AD		C	Resistor(1/10W 10 ±5%)	[R415]
456	VRS-TV2AB100J	AD		C	Resistor(1/10W 10 ±5%)	[R416]
457	VRS-TV2AB100J	AD		C	Resistor(1/10W 10 ±5%)	[R417]
458	VRS-TV2AB100J	AD		C	Resistor(1/10W 10 ±5%)	[R418]
459	VRS-TV2AB103J	AA		C	Resistor(1/10W 10K ±5%)	[R419]
460	VRS-TV2AB100J	AD		C	Resistor(1/10W 10 ±5%)	[R420]
461	VRS-TV2AB100J	AD		C	Resistor(1/10W 10 ±5%)	[R421]
462	VRS-TV2AB330J	AD		C	Resistor(1/10W 33 ±5%)	[R422]
463	VRS-TV2AB330J	AD		C	Resistor(1/10W 33 ±5%)	[R423]
464	VRS-TV2AB330J	AD		C	Resistor(1/10W 33 ±5%)	[R424]
465	VRS-TV2AB330J	AD		C	Resistor(1/10W 33 ±5%)	[R425]
466	VRS-TV2AB470J	AA		C	Resistor(1/10W 47 ±5%)	[R426]
467	VRS-TV2AB470J	AA		C	Resistor(1/10W 47 ±5%)	[R427]
468	VRS-TV2AB470J	AA		C	Resistor(1/10W 47 ±5%)	[R428]
469	VRS-TV2AB470J	AA		C	Resistor(1/10W 47 ±5%)	[R429]
470	VRS-TV2AB470J	AA		C	Resistor(1/10W 47 ±5%)	[R430]
471	VRS-TV2AB470J	AA		C	Resistor(1/10W 47 ±5%)	[R431]
472	VRS-TV2AB470J	AA		C	Resistor(1/10W 47 ±5%)	[R432]
473	VRS-TV2AB470J	AA		C	Resistor(1/10W 47 ±5%)	[R433]
474	VRS-TV2AB470J	AA		C	Resistor(1/10W 47 ±5%)	[R434]
475	VRS-TV2AB470J	AA		C	Resistor(1/10W 47 ±5%)	[R435]
476	VRS-TV2AB470J	AA		C	Resistor(1/10W 47 ±5%)	[R436]
477	VRS-TV2AB470J	AA		C	Resistor(1/10W 47 ±5%)	[R437]
478	VRS-TV2AB470J	AA		C	Resistor(1/10W 47 ±5%)	[R438]
479	VRS-TV2AB470J	AA		C	Resistor(1/10W 47 ±5%)	[R439]
480	VRS-TV2AB470J	AA		C	Resistor(1/10W 47 ±5%)	[R440]

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION	
[10] Control PWB unit						
481	VRS-TV2AB470J	AA		C	Resistor(1/10W 47 ±5%)	[R441]
482	VRS-TV2AB470J	AA		C	Resistor(1/10W 47 ±5%)	[R442]
483	VRS-TV2AB562J	AA		C	Resistor(1/10W 5.6K ±5%)	[R443]
484	VRS-TV2AB330J	AD		C	Resistor(1/10W 33 ±5%)	[R444]
485	VRS-TV2AB330J	AD		C	Resistor(1/10W 33 ±5%)	[R445]
486	VRS-TV2AB330J	AD		C	Resistor(1/10W 33 ±5%)	[R446]
487	VRS-TV2AB330J	AD		C	Resistor(1/10W 33 ±5%)	[R447]
488	VRS-TV2AB330J	AD		C	Resistor(1/10W 33 ±5%)	[R448]
489	VRS-TV2AB330J	AD		C	Resistor(1/10W 33 ±5%)	[R449]
490	VRS-TV2AB330J	AD		C	Resistor(1/10W 33 ±5%)	[R450]
491	VRS-TV2AB330J	AD		C	Resistor(1/10W 33 ±5%)	[R451]
492	VRS-TV2AB101J	AA		C	Resistor(1/10W 100 ±5%)	[R452]
493	VRS-TV2AB101J	AA		C	Resistor(1/10W 100 ±5%)	[R453]
494	VRS-TQ2BB000J	AA		C	Resistor(1/8W 0 ±5%)	[R454]
495	VRS-TV2AB122J	AA		C	Resistor(1/10W 1.2K ±5%)	[R455]
496	VRS-TV2AB122J	AA		C	Resistor(1/10W 1.2K ±5%)	[R456]
497	VRS-TV2AB122J	AA		C	Resistor(1/10W 1.2K ±5%)	[R457]
498	VRS-TV2AB122J	AA		C	Resistor(1/10W 1.2K ±5%)	[R458]
499	VRS-TV2AB122J	AA		C	Resistor(1/10W 1.2K ±5%)	[R459]
500	VRS-TV2AB122J	AA		C	Resistor(1/10W 1.2K ±5%)	[R460]
501	VRS-TV2AB122J	AA		C	Resistor(1/10W 1.2K ±5%)	[R461]
502	VRS-TV2AB122J	AA		C	Resistor(1/10W 1.2K ±5%)	[R462]
503	VRS-TV2AB122J	AA		C	Resistor(1/10W 1.2K ±5%)	[R463]
504	VRS-TV2AB122J	AA		C	Resistor(1/10W 1.2K ±5%)	[R464]
505	VRS-TV2AB122J	AA		C	Resistor(1/10W 1.2K ±5%)	[R465]
506	VRS-TV2AB122J	AA		C	Resistor(1/10W 1.2K ±5%)	[R466]
507	VRS-TV2AB122J	AA		C	Resistor(1/10W 1.2K ±5%)	[R467]
508	VRS-TV2AB122J	AA		C	Resistor(1/10W 1.2K ±5%)	[R468]
509	VRS-TV2AB122J	AA		C	Resistor(1/10W 1.2K ±5%)	[R469]
510	VRS-TV2AB122J	AA		C	Resistor(1/10W 1.2K ±5%)	[R470]
511	VRS-TV2AB122J	AA		C	Resistor(1/10W 1.2K ±5%)	[R471]
512	VRS-TV2AB122J	AA		C	Resistor(1/10W 1.2K ±5%)	[R472]
513	VRS-TQ2BB561J	AA		C	Resistor(1/8W 560 ±5%)	[R474]
514	VRS-TV2AB330J	AD		C	Resistor(1/10W 33 ±5%)	[R475]
515	VRS-TV2AB330J	AD		C	Resistor(1/10W 33 ±5%)	[R476]
516	VRS-TV2AB330J	AD		C	Resistor(1/10W 33 ±5%)	[R477]
517	VRS-TV2AB330J	AD		C	Resistor(1/10W 33 ±5%)	[R478]
518	VRS-TV2AB101J	AA		C	Resistor(1/10W 100 ±5%)	[R479]
519	VRS-TV2AB101J	AA		C	Resistor(1/10W 100 ±5%)	[R480]
520	VRS-TQ2BB000J	AA		C	Resistor(1/8W 0 ±5%)	[R481]
521	VRS-TV2AB390J	AB		C	Resistor(1/10W 39 ±5%)	[R482]
522	VRS-TV2AB103J	AA		C	Resistor(1/10W 10K ±5%)	[R483]
523	VRS-TV2AB103J	AA		C	Resistor(1/10W 10K ±5%)	[R484]
524	VRS-TV2AB103J	AA		C	Resistor(1/10W 10K ±5%)	[R485]
525	VRS-TV2AB103J	AA		C	Resistor(1/10W 10K ±5%)	[R486]
526	VRS-TV2AB103J	AA		C	Resistor(1/10W 10K ±5%)	[R487]
527	VRS-TV2AB000J	AA		C	Resistor(1/10W 0 ±5%)	[R489]
528	VRS-TV2AB101J	AA		C	Resistor(1/10W 100 ±5%)	[R490]
529	VRS-TQ2BB222J	AA		C	Resistor(1/8W 2.2K ±5%)	[R492]
530	VRS-TV2AB000J	AA		C	Resistor(1/10W 0 ±5%)	[R494]
531	RCRSQ2125AXZZ	AL	N	B	Crystal(20MHZ)	[X1]
532	RCRSQ2123AXZZ	AL	N	B	Crystal(6.912MHZ)	[X2]
533	RCRSB0297AFZZ	AD		B	Crystal(32.768KHz)	[X3]
534	RCRSQ2124AXZZ	AL	N	B	Crystal(16MHZ)	[X4]
535	RCRSQ2109SCZZ	AL		B	Crystal(38.00053MHz)	[X5]
536	VHERD22FB3/-1	AC		B	Zener diode(RD22FB3)	[ZD1]
537	TLABN1235CCZZ	AA		D	EPROM label	
	(Unit)					
901	DCEKC781JAXZZ	CM	N	E	Control PWB unit	[2200CMU/CMC]
	DCEKC887JAXZZ	CM	N	E	Control PWB unit	[2150CMU/CMC]
[11] TEL-Liu PWB unit						
1	VHVRA391PV6-1	AE		B	Varistor(RA-391P-V6-2)	[AR1]
2	QCNW-4806AXZZ	AD	N	C	ARG cable	[ARG]
3	RC-FZ3024SCZZ	AG		C	Capacitor(250WV 0.82µF)	[C1]
4	VCKYPU1HB103K	AA		C	Capacitor(50WV 0.01µF)	[C2]
5	VCKYPU1HB102K	AA		C	Capacitor(50WV 1000PF)	[C3]
6	VCKYPU1HB102K	AA		C	Capacitor(50WV 1000PF)	[C4]
7	VCEAGA1HW475M	AA		C	Capacitor(50WV 4.7µF)	[C5]
8	VCKYPU1HB222K	AA		C	Capacitor(50WV 2200PF)	[C7]
9	VCQYNA1HM333K	AA		C	Capacitor(50WV 0.033µF)	[C8]
10	VCEAGA1HW475M	AA		C	Capacitor(50WV 4.7µF)	[C9]
11	VCKYPU1HB222K	AA		C	Capacitor(50WV 2200PF)	[C10]
12	VCEAGA1HW475M	AA		C	Capacitor(50WV 4.7µF)	[C11]
13	VCEAGA1HW225M	AA		C	Capacitor(50WV 2.2µF)	[C12]
14	VCKYPU1HB221K	AB		C	Capacitor(50WV 220PF)	[C13]

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION	
[11] TEL-Liu PWB unit						
15	VCKYPU1HB102K	AA		C	Capacitor(50WV 1000PF)	[C14]
16	VCKYPU1HB102K	AA		C	Capacitor(50WV 1000PF)	[C15]
17	VCEAGA1HW226M	AB		C	Capacitor(50WV 22μF)	[C16]
18	VCKYPU1HB332K	AA		C	Capacitor(50WV 3300PF)	[C17]
19	VCKYPU1HF223Z	AA		C	Capacitor(50WV 0.022μF)	[C18]
20	VCEAGA1HW475M	AA		C	Capacitor(50WV 4.7μF)	[C19]
21	VCKYPU1HB222K	AA		C	Capacitor(50WV 2200PF)	[C20]
22	RRLYD3221SCZZ	AN		B	Relay(OUAZ-SH-124D)	[CML]
23	QCNCW2500SC1D	AG		C	Connector(14Pin)	[CNLIU]
24	VHD1SS133//-1	AA		B	Diode(1SS133)	[D1]
25	VHD1SS133//-1	AA		B	Diode(1SS133)	[D2]
26	VHD1SS133//-1	AA		B	Diode(1SS133)	[D3]
27	VHD1SS133//-1	AA		B	Diode(1SS133)	[D4]
28	VHINJM2904D-1	AG		B	IC(NJM2904D)	[IC1]
29	RFILN2011SCZZ	AC		C	Coil(SBT-0260)	[L1]
30	RFILN2011SCZZ	AC		C	Coil(SBT-0260)	[L2]
31	RFILN2011SCZZ	AC		C	Coil(SBT-0260)	[L3]
32	RFILN2011SCZZ	AC		C	Coil(SBT-0260)	[L4]
33	VRD-HT2EY000J	AA		C	Resistor(1/4W 0 ±5%)	[L5]
34	VRD-HT2EY000J	AA		C	Resistor(1/4W 0 ±5%)	[L6]
35	VRD-HT2EY000J	AA		C	Resistor(1/4W 0 ±5%)	[L7]
36	QJAKZ2046SCBB	AH		C	Line-jack(2pin)	[MJ1-2]
37	QJAKZ2065SC0D	AG		C	Tell-jack(40-218A0-04BKA)	[MJTEL]
38	VHPPC817X7/-1	AD		B	Photo coupler(PC817X7)	[PC1]
39	VHPPC814X//-1	AE		B	Photo transistor(PC814X)	[PC2]
40	VHPSG206S//-1	AG		B	Photo transistor(SG206S)	[PE]
41	VSDTC114ES/-1	AB		B	Transistor(DTC114ES)	[Q1]
42	VS2SC1815GR-1	AB		B	Transistor(2SC1815GR)	[Q2]
43	VSDTC114ES/-1	AB		B	Transistor(DTC114ES)	[Q3]
44	VRD-HT2EY910J	AA		C	Resistor(1/4W 91 ±5%)	[R1]
45	VRD-HT2EY300J	AA		C	Resistor(1/4W 30 ±5%)	[R2]
46	VRD-HT2HY223J	AA		C	Resistor(1/2W 22K ±5%)	[R3]
47	VRD-HT2EY223J	AA		C	Resistor(1/4W 22K ±5%)	[R5]
48	VRD-HT2EY221J	AA		C	Resistor(1/4W 220 ±5%)	[R6]
49	VRD-HT2EY103J	AA		C	Resistor(1/4W 10K ±5%)	[R7]
50	VRD-HT2EY153J	AA		C	Resistor(1/4W 15K ±5%)	[R8]
51	VRD-HT2EY621J	AA		C	Resistor(1/4W 620 ±5%)	[R10]
52	VRD-HT2EY103J	AA		C	Resistor(1/4W 10K ±5%)	[R11]
53	VRD-HT2EY103J	AA		C	Resistor(1/4W 10K ±5%)	[R12]
54	VRD-HT2EY103J	AA		C	Resistor(1/4W 10K ±5%)	[R13]
55	VRD-HT2EY332J	AA		C	Resistor(1/4W 3.3K ±5%)	[R14]
56	VRD-HT2EY102J	AA		C	Resistor(1/4W 1.0K ±5%)	[R15]
57	VRD-HT2EY152J	AA		C	Resistor(1/4W 1.5K ±5%)	[R16]
58	VRD-HT2EY102J	AA		C	Resistor(1/4W 1.0K ±5%)	[R18]
59	VRD-HT2EY152J	AA		C	Resistor(1/4W 1.5K ±5%)	[R19]
60	VRD-HT2EY102J	AA		C	Resistor(1/4W 1.0K ±5%)	[R20]
61	VRD-HT2EY153J	AA		C	Resistor(1/4W 15K ±5%)	[R21]
62	VRD-HT2EY332J	AA		C	Resistor(1/4W 3.3K ±5%)	[R22]
63	VRD-HT2EY151J	AA		C	Resistor(1/4W 150 ±5%)	[R24]
64	QSW-Z2206SCZZ	AH		B	Hook switch(SPPY11-BM)	[SW1]
65	RTRNZ2128XH01	AP		B	Transformer(Z2128)	[T1]
66	VHVERZV5D471/	AC		B	Varistor(ERZV5D471)	[VA1]
67	VHVERZV5D471/	AC		B	Varistor(ERZV5D471)	[VA2]
68	VHEHZ2C1///-1	AA		B	Zener diode(HZ2C1)	[ZD1]
69	VHEHZ2C1///-1	AA		B	Zener diode(HZ2C1)	[ZD2]
70	VHEHZ27-1//-1	AB		B	Zener diode(HZ27)	[ZD3]
71	VHEHZ2C1///-1	AA		B	Zener diode(HZ2C1)	[ZD4]
72	VHEHZ2C1///-1	AA		B	Zener diode(HZ2C1)	[ZD5]
	(Unit)					
901	DCEKL391BAX01	BE	N	E	TEL/Liu PWB unit	
[12] Ink sensor PWB unit						
1	VCEAEA1CW106M	AC		C	Capacitor(16WV 10μF)	[C1]
2	VCEAEA1CW106M	AC		C	Capacitor(16WV 10μF)	[C2]
3	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C101]
4	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C103]
5	VCKYTV1HB121K	AA		C	Capacitor(50WV 120PF)	[C104]
6	VCKYTV1EB104K	AA		C	Capacitor(25WV 0.1μF)	[C106]
7	QCNCM704FAF02	AC		C	Connector(6pin)	[CNPHOTO]
8	VHPPD410PI/-1	AE		B	Photo transistor(PD410PI)	[D1]
9	VHPGL480///-1	AD		B	Photo transistor(GL480)	[D2]
10	VHD1SS355//-1	AB		B	Diode(1SS355)	[D101]
11	VHINJM324M/-1	AH	N	B	IC(NJM324M)	[IC1]
12	VHINJM311M/-1	AL		B	IC(NJM311M)	[IC2]
13	VS2SC2412KR-1	AD		B	Transistor(2SC2412K)	[Q101]
14	VRS-TV2AB103J	AA		C	Resistor(1/10W 10K ±5%)	[R101]

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION	
[12] Ink sensor PWB unit						
15	VRS-TV2AB103J	AA		C	Resistor(1/10W 10K ±5%)	[R102]
16	VRS-TV2AB434J	AA		C	Resistor(1/10W 430K ±5%)	[R103]
17	VRS-TV2AB222J	AA		C	Resistor(1/10W 2.2K ±5%)	[R104]
18	VRS-TV2AB103J	AA		C	Resistor(1/10W 10K ±5%)	[R105]
19	VRS-TV2AB222J	AA		C	Resistor(1/10W 2.2K ±5%)	[R106]
20	VRS-TV2AB434J	AA		C	Resistor(1/10W 430K ±5%)	[R107]
21	VRS-TV2AB103J	AA		C	Resistor(1/10W 10K ±5%)	[R108]
22	VRS-TV2AB103J	AA		C	Resistor(1/10W 10K ±5%)	[R109]
23	VRS-TV2AB124J	AA		C	Resistor(1/10W 120K ±5%)	[R110]
24	VRS-TV2AB103J	AA		C	Resistor(1/10W 10K ±5%)	[R111]
25	VRS-TV2AB434J	AA		C	Resistor(1/10W 430K ±5%)	[R112]
26	VRS-TV2AB473J	AA		C	Resistor(1/10W 47K ±5%)	[R113]
27	VRS-TV2AB151J	AA		C	Resistor(1/10W 150 ±5%)	[R114]
28	VRS-TV2AB151J	AA		C	Resistor(1/10W 150 ±5%)	[R115]
29	VRS-TV2AB104J	AA		C	Resistor(1/10W 100K ±5%)	[R116]
30	VRS-TV2AB332J	AA		C	Resistor(1/10W 3.3K ±5%)	[R117]
	(Unit)					
901	DCEKS396BAX01	AZ	N	E	Ink sensor PWB	
[13] Printer PWB unit						
1	VCEAGU1VW107M	AB		C	Capacitor(35WV 100µF)	[C2]
2	VCEAZU1VJ108M	AG	N	C	Capacitor(35WV 1000µF)	[C3]
3	VCEAGA1CW107M	AC		C	Capacitor(16WV 100µF)	[C4]
4	VCKYTV1HF104Z	AA		C	Capacitor(50WV 0.1µF)	[C100]
5	VCCCTV1HH331J	AA		C	Capacitor(50WV 330PF)	[C101]
6	VCCCTV1HH471J	AA		C	Capacitor(50WV 470PF)	[C102]
7	VCCCTV1HH471J	AA		C	Capacitor(50WV 470PF)	[C103]
8	VCKYTV1CF225Z	AD		C	Capacitor(16WV 2.2µF)	[C104]
9	VCKYTV1HF104Z	AA		C	Capacitor(50WV 0.1µF)	[C105]
10	VCKYTV1HB103K	AB		C	Capacitor(50WV 0.01µF)	[C106]
11	VCCCTV1HH102J	AA		C	Capacitor(50WV 1000PF)	[C107]
12	VCCCTV1HH331J	AA		C	Capacitor(50WV 330PF)	[C108]
13	VCKYTV1HF104Z	AA		C	Capacitor(50WV 0.1µF)	[C109]
14	VCKYTV1HF104Z	AA		C	Capacitor(50WV 0.1µF)	[C110]
15	VCKYTV1HF104Z	AA		C	Capacitor(50WV 0.1µF)	[C111]
16	VCKYTV1CF225Z	AD		C	Capacitor(16WV 2.2µF)	[C112]
17	VCKYTV1CF225Z	AD		C	Capacitor(16WV 2.2µF)	[C113]
18	VCKYTV1HF104Z	AA		C	Capacitor(50WV 0.1µF)	[C114]
19	VCKYTV1HF104Z	AA		C	Capacitor(50WV 0.1µF)	[C115]
20	VCCCTV1HH102J	AA		C	Capacitor(50WV 1000PF)	[C116]
21	VCCCTV1HH102J	AA		C	Capacitor(50WV 1000PF)	[C117]
22	VCCCTV1HH101J	AA		C	Capacitor(50WV 100PF)	[C118]
23	VCCCTV1HH102J	AA		C	Capacitor(50WV 1000PF)	[C119]
24	VCCCTV1HH561J	AA		C	Capacitor(50WV 560PF)	[C120]
25	VCCCTV1HH561J	AA		C	Capacitor(50WV 560PF)	[C121]
26	VCKYTV1HF104Z	AA		C	Capacitor(50WV 0.1µF)	[C123]
27	VCCCTV1HH102J	AA		C	Capacitor(50WV 1000PF)	[C125]
28	VCKYTV1HF104Z	AA		C	Capacitor(50WV 0.1µF)	[C126]
29	VCCCTV1HH102J	AA		C	Capacitor(50WV 1000PF)	[C127]
30	VCCCTV1HH102J	AA		C	Capacitor(50WV 1000PF)	[C128]
31	VCCCTV1HH101J	AA		C	Capacitor(50WV 100PF)	[C129]
32	VCCCTV1HH102J	AA		C	Capacitor(50WV 1000PF)	[C130]
33	VCCCTV1HH102J	AA		C	Capacitor(50WV 1000PF)	[C131]
34	VCKYTV1HF103Z	AA		C	Capacitor(50WV 0.010µF)	[C132]
35	VCCCTV1HH150J	AA		C	Capacitor(50WV 15PF)	[C133]
36	VCCCTV1HH220J	AA		C	Capacitor(50WV 22PF)	[C134]
37	VCCCTV1HH220J	AA		C	Capacitor(50WV 22PF)	[C135]
38	VCKYTV1HF104Z	AA		C	Capacitor(50WV 0.1µF)	[C136]
39	VCCCTV1HH102J	AA		C	Capacitor(50WV 1000PF)	[C137]
40	VCCCTV1HH102J	AA		C	Capacitor(50WV 1000PF)	[C138]
41	VCKYTV1HB472K	AA		C	Capacitor(50WV 4700PF)	[C139]
42	VCCCTV1HH102J	AA		C	Capacitor(50WV 1000PF)	[C140]
43	VCCCTV1HH102J	AA		C	Capacitor(50WV 1000PF)	[C141]
44	VCCCTV1HH102J	AA		C	Capacitor(50WV 1000PF)	[C142]
45	VCKYTV1CF225Z	AD		C	Capacitor(16WV 2.2µF)	[C143]
46	VCCCTV1HH561J	AA		C	Capacitor(50WV 560PF)	[C144]
47	VCCCTV1HH561J	AA		C	Capacitor(50WV 560PF)	[C145]
48	VCKYTV1HF104Z	AA		C	Capacitor(50WV 0.1µF)	[C146]
49	VCKYTV1HF104Z	AA		C	Capacitor(50WV 0.1µF)	[C147]
50	VCKYTV1HF103Z	AA		C	Capacitor(50WV 0.010µF)	[C148]
51	VCCCTV1HH150J	AA		C	Capacitor(50WV 15PF)	[C149]
52	VCCCTV1HH102J	AA		C	Capacitor(50WV 1000PF)	[C150]
53	VCKYTV1HF104Z	AA		C	Capacitor(50WV 0.1µF)	[C151]
54	VCKYTV1HB103K	AB		C	Capacitor(50WV 0.01µF)	[C300]
55	VCKYTV1HB103K	AB		C	Capacitor(50WV 0.01µF)	[C302]
56	VCKYTV1HB103K	AB		C	Capacitor(50WV 0.01µF)	[C303]

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION	
[13] Printer PWB unit						
57	QCNCM7014SC0E	AB		C	Connector(5pin)	[CN1]
58	QCNCM7014SC0D	AB		C	Connector(4pin)	[CN2]
59	QCNCW2556SC3B	AG	N	C	Connector(32pin)	[CN3]
60	QCNCW2556SC3B	AG	N	C	Connector(32pin)	[CN4]
61	QCNCM2482SC2H	AG	N	C	Connector(28pin)	[CNPRT]
62	VHDERA81004-1	AE	N	B	Diode(ERA81-004)	[D1]
63	VHDERA81004-1	AE	N	B	Diode(ERA81-004)	[D2]
64	VHDERA81004-1	AE	N	B	Diode(ERA81-004)	[D3]
65	VHDERA81004-1	AE	N	B	Diode(ERA81-004)	[D4]
66	VHVICPS07//-1	AA		B	Varistor(ICP-S07)	[F100]
67	VHVICPS07//-1	AA		B	Varistor(ICP-S07)	[F101]
68	RCILZ2141AXZZ	AD	N	C	Bead coil	[FB100]
69	RCILZ2141AXZZ	AD	N	C	Bead coil	[FB101]
70	RCILZ2141AXZZ	AD	N	C	Bead coil	[FB102]
71	RCILZ2141AXZZ	AD	N	C	Bead coil	[FB103]
72	RCILZ2141AXZZ	AD	N	C	Bead coil	[FB104]
73	VHILB1845//-1	AY	N	B	IC(LB1845)	[IC1]
74	VHISTA471A/-1	AK		B	IC(STA471A)	[IC2]
75	VHIW24257S7LL	AP		B	IC(W24257)	[IC3]
76	VHIL6451///-1	AX	N	B	IC(L6451)	[IC4]
77	VHITC16G331AF	BG	N	B	IC(TC160G331AF)	[IC5]
78	VHIL6451///-1	AX	N	B	IC(L6451)	[IC6]
79	VHIBA10393F-1	AC		B	IC(BA10393F)	[IC7]
80	VHITMP87PH47U	AZ	N	B	IC(TMP87C807U)	[IC8]
81	VHPSG206S//-1	AG		B	Photo transistor(SG206S)	[PC1]
82	PSLDM2045AXZZ	AF	N	C	Printer shield plate	[PLT]
83	VS2SB1261K/-1	AE		B	Transistor(2SB1261(K))	[Q1]
84	VS2SC2412KR-1	AD		B	Transistor(2SC2412K)	[Q101]
85	VSDTA114EK/-1	AB		B	Transistor(DTA114EKA)	[Q102]
86	VSDTA114EK/-1	AB		B	Transistor(DTA114EKA)	[Q103]
87	VSDTA114EK/-1	AB		B	Transistor(DTA114EKA)	[Q104]
88	VSDTA114EK/-1	AB		B	Transistor(DTA114EKA)	[Q105]
89	RR-SZ3013SCZZ	AC	N	C	Resistor(1W 22.1 ±1%)	[R1]
90	RR-SZ3013SCZZ	AC	N	C	Resistor(1W 22.1 ±1%)	[R2]
91	VRS-HT3AAR75J	AC	N	C	Resistor(1W 0.75 ±5%)	[R3]
92	VRS-HT3AAR75J	AC	N	C	Resistor(1W 0.75 ±5%)	[R4]
93	RR-SZ3013SCZZ	AC	N	C	Resistor(1W 22.1 ±1%)	[R6]
94	RR-SZ3013SCZZ	AC	N	C	Resistor(1W 22.1 ±1%)	[R7]
95	VRD-HT2EY122J	AA		C	Resistor(1/4W 1.2K ±5%)	[R8]
96	VRD-HT2EY122J	AA		C	Resistor(1/4W 1.2K ±5%)	[R9]
97	VRS-TV2AB471J	AA		C	Resistor(1/10W 470 ±5%)	[R100]
98	VRS-TV2AB471J	AA		C	Resistor(1/10W 470 ±5%)	[R101]
99	VRS-TV2AB223J	AA		C	Resistor(1/10W 22K ±5%)	[R102]
100	VRS-TV2AB390J	AB		C	Resistor(1/10W 39 ±5%)	[R103]
101	VRS-TV2AB102J	AA		C	Resistor(1/10W 1K ±5%)	[R104]
102	VRS-TV2AB563F	AB	N	C	Resistor(1/10W 56K ±1%)	[R105]
103	VRS-TV2AB563F	AB	N	C	Resistor(1/10W 56K ±1%)	[R106]
104	VRS-TV2AB152J	AB		C	Resistor(1/10W 1.5K ±5%)	[R110]
105	VRS-TV2AB222J	AA		C	Resistor(1/10W 2.2K ±5%)	[R111]
106	VRS-TV2AB152J	AB		C	Resistor(1/10W 1.5K ±5%)	[R112]
107	VRS-TV2AB222J	AA		C	Resistor(1/10W 2.2K ±5%)	[R113]
108	VRS-TV2AB152J	AB		C	Resistor(1/10W 1.5K ±5%)	[R114]
109	VRS-TV2AB222J	AA		C	Resistor(1/10W 2.2K ±5%)	[R115]
110	VRS-TV2AB222J	AA		C	Resistor(1/10W 2.2K ±5%)	[R116]
111	VRS-TV2AB152J	AB		C	Resistor(1/10W 1.5K ±5%)	[R117]
112	VRS-TV2AB472J	AA		C	Resistor(1/10W 4.7K ±5%)	[R119]
113	VRS-TV2AB102J	AA		C	Resistor(1/10W 1K ±5%)	[R120]
114	VRS-TV2AB390J	AB		C	Resistor(1/10W 39 ±5%)	[R126]
115	VRS-TV2AB472J	AA		C	Resistor(1/10W 4.7K ±5%)	[R127]
116	VRS-TV2AB472J	AA		C	Resistor(1/10W 4.7K ±5%)	[R128]
117	VRS-TV2AB472J	AA		C	Resistor(1/10W 4.7K ±5%)	[R129]
118	VRS-TV2AB390J	AB		C	Resistor(1/10W 39 ±5%)	[R130]
119	VRS-TV2AB103J	AA		C	Resistor(1/10W 10K ±5%)	[R131]
120	VRS-TV2AB390J	AB		C	Resistor(1/10W 39 ±5%)	[R132]
121	VRS-TV2AB471J	AA		C	Resistor(1/10W 470 ±5%)	[R133]
122	VRS-TV2AB471J	AA		C	Resistor(1/10W 470 ±5%)	[R134]
123	VRS-TV2AB223J	AA		C	Resistor(1/10W 22K ±5%)	[R135]
124	VRS-TV2AB390J	AB		C	Resistor(1/10W 39 ±5%)	[R136]
125	VRS-TV2AB472J	AA		C	Resistor(1/10W 4.7K ±5%)	[R137]
126	VRS-TV2AB472J	AA		C	Resistor(1/10W 4.7K ±5%)	[R138]
127	VRS-TV2AB390J	AB		C	Resistor(1/10W 39 ±5%)	[R139]
128	VRS-TV2AB472J	AA		C	Resistor(1/10W 4.7K ±5%)	[R140]
129	VRS-TV2AB472J	AA		C	Resistor(1/10W 4.7K ±5%)	[R141]
130	VRS-TV2AB390J	AB		C	Resistor(1/10W 39 ±5%)	[R142]
131	VRS-TV2AB390J	AB		C	Resistor(1/10W 39 ±5%)	[R143]
132	VRS-TV2AB103J	AA		C	Resistor(1/10W 10K ±5%)	[R144]
133	VRS-TV2AB472J	AA		C	Resistor(1/10W 4.7K ±5%)	[R145]
134	VRS-TV2AB682J	AB		C	(1/10W 6.8K ±5%)	[R146]
135	VRS-TV2AB682J	AB		C	(1/10W 6.8K ±5%)	[R148]
136	VRS-TV2AB472J	AA		C	Resistor(1/10W 4.7K ±5%)	[R152]

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION	
[13] Printer PWB unit						
137	VRS-TV2AB472J	AA		C	Resistor(1/10W 4.7K ±5%)	[R153]
138	VRS-TV2AB390J	AB		C	Resistor(1/10W 39 ±5%)	[R154]
139	VRS-TV2AB472J	AA		C	Resistor(1/10W 4.7K ±5%)	[R155]
140	VRS-TV2AB390J	AB		C	Resistor(1/10W 39 ±5%)	[R156]
141	VRS-TV2AB390J	AB		C	Resistor(1/10W 39 ±5%)	[R157]
142	VRS-TV2AB390J	AB		C	Resistor(1/10W 39 ±5%)	[R158]
143	VRS-TV2AB471J	AA		C	Resistor(1/10W 470 ±5%)	[R159]
144	VRS-TV2AB103J	AA		C	Resistor(1/10W 10K ±5%)	[R160]
145	VRS-TV2AB000J	AA		C	Resistor(1/10W 0 ±5%)	[R162]
146	VRS-TV2AB332J	AA		C	Resistor(1/10W 3.3K ±5%)	[R163]
147	VRS-TV2AB562J	AA		C	Resistor(1/10W 5.6K ±5%)	[R164]
148	VRS-TV2AB390J	AB		C	Resistor(1/10W 39 ±5%)	[R165]
149	VRS-TV2AB562J	AA		C	Resistor(1/10W 5.6K ±5%)	[R166]
150	VRS-TV2AB105J	AA		C	Resistor(1/10W 1.0M ±5%)	[R167]
151	VRS-TV2AB390J	AB		C	Resistor(1/10W 39 ±5%)	[R168]
152	VRS-TV2AB472J	AA		C	Resistor(1/10W 4.7K ±5%)	[R171]
153	VRS-TV2AB472J	AA		C	Resistor(1/10W 4.7K ±5%)	[R172]
154	VRS-TV2AB472J	AA		C	Resistor(1/10W 4.7K ±5%)	[R173]
155	VRS-TV2AB102J	AA		C	Resistor(1/10W 1K ±5%)	[R175]
156	VRS-TV2AB472J	AA		C	Resistor(1/10W 4.7K ±5%)	[R175]
157	VRS-TV2AB472J	AA		C	Resistor(1/10W 4.7K ±5%)	[R176]
158	VRS-TV2AB472J	AA		C	Resistor(1/10W 4.7K ±5%)	[R177]
159	VRS-TV2AB472J	AA		C	Resistor(1/10W 4.7K ±5%)	[R178]
160	VRS-TV2AB472J	AA		C	Resistor(1/10W 4.7K ±5%)	[R179]
161	VRS-TV2AB390J	AB		C	Resistor(1/10W 39 ±5%)	[R180]
162	VRS-TV2AB390J	AB		C	Resistor(1/10W 39 ±5%)	[R181]
163	VRS-TV2AB390J	AB		C	Resistor(1/10W 39 ±5%)	[R182]
164	VRS-TV2AB390J	AB		C	Resistor(1/10W 39 ±5%)	[R183]
165	VRS-TV2AB390J	AB		C	Resistor(1/10W 39 ±5%)	[R184]
166	VRS-TV2AB390J	AB		C	Resistor(1/10W 39 ±5%)	[R185]
167	VRS-TV2AB103J	AA		C	Resistor(1/10W 10K ±5%)	[R187]
168	VRS-TV2AB390J	AB		C	Resistor(1/10W 39 ±5%)	[R189]
169	VRS-TV2AB223J	AA		C	Resistor(1/10W 22K ±5%)	[R190]
170	VRS-TV2AB000J	AA		C	Resistor(1/10W 0 ±5%)	[R192]
171	VRS-TV2AB471J	AA		C	Resistor(1/10W 470 ±5%)	[R193]
172	VRS-TV2AB000J	AA		C	Resistor(1/10W 0 ±5%)	[R195]
173	VRS-TV2AB472J	AA		C	Resistor(1/10W 4.7K ±5%)	[R198]
174	VRS-TV2AB472J	AA		C	Resistor(1/10W 4.7K ±5%)	[R199]
175	VRS-TV2AB000J	AA		C	Resistor(1/10W 0 ±5%)	[R301]
176	VRS-TV2AB331J	AD		C	Resistor(1/10W 330 ±5%)	[R304]
177	VRS-TV2AB331J	AD		C	Resistor(1/10W 330 ±5%)	[R305]
178	VRS-TV2AB103J	AA		C	Resistor(1/10W 10K ±5%)	[R311]
179	VRS-TV2AB103J	AA		C	Resistor(1/10W 10K ±5%)	[R312]
180	RCRSZ7008SCZZ	AD		B	Crystal(16.0MHz)	[X1]
	(Unit)					
901	DCEKC395BAX01	BV	N	E	Printer PWB unit	
[14] Operation panel PWB unit						
901	DCEKP392BAX01	BL	N	E	Panel PWB unit	
[15] IrDA PWB unit						
1	VCEAPS476AF1C	AC		C	Capacitor(16WV 47µF)	[C1]
2	VCEAPS476AF1C	AC		C	Capacitor(16WV 47µF)	[C2]
3	VCKYTV1HF223Z	AA		C	Capacitor(50WV 0.022µF)	[C3]
4	VCKYTV1HF223Z	AA		C	Capacitor(50WV 0.022µF)	[C4]
5	VCEAPS476AF1C	AC		C	Capacitor(16WV 47µF)	[C5]
6	QCNCM2557SC0E	AE	N	C	Connector	[CNIR]
7	VRS-TW2HF000J	AC	N	C	Resistor(1/2W 0 ±5%)	[J1]
8	VRS-TW2HF000J	AC	N	C	Resistor(1/2W 0 ±5%)	[J2]
9	VRS-TW2HF000J	AC	N	C	Resistor(1/2W 0 ±5%)	[J3]
10	VHPGL1F21A/-1	AN	N	B	Photo transistor(GL1F21A)	[LED1]
11	VHPIS1U21A/-1	AP	N	B	Photo transistor(IS1U21A)	[LED2]
12	VRS-TW2HF200J	AC	N	C	Resistor(1/2W 20 ±5%)	[R1]
13	VRS-TW2HF200J	AC	N	C	Resistor(1/2W 20 ±5%)	[R2]
14	VRS-TW2HF910J	AC	N	C	Resistor(1/2W 91 ±5%)	[R3]
15	VRS-TW2HF910J	AC	N	C	Resistor(1/2W 91 ±5%)	[R4]
	(Unit)					
901	DCEKI394BAX01	BB	N	E	IrDA PWB unit	

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION	
[16] Power supply PWB unit						
1	0KY0L551A0010	AE		C	Beads inductor(BL02RN1)	[BEA1]
2	0KY0L551A0010	AE		C	Beads inductor(BL02RN1)	[BEA101]
3	0KY0C245Q1040	AM		C	Film capacitor(250WV 0.1μF)	[C1]
4	0KY0C3M1K2210	BA		C	Electrolytic capacitor(200WV 220μF)	[C5]
5	0KY0C1A9R2210	AG		C	Ceramic capacitor(1KWV 220PF)	[C8]
6	0KY0C251E4720	AE		C	Film capacitor(50WV 4700PF)	[C9]
7	0KY0C251E1030	AE		C	Film capacitor(50WV 0.01μF)	[C10]
8	0KY0C151E1010	AE		C	Ceramic capacitor(50WV 100PF)	[C11]
9	0KY0C176Q3320	AL		C	Ceramic capacitor(250WV 3300PF)	[C71]
10	0KY0C374D3310	AN		C	Electrolytic capacitor(35WV 330μF)	[C101]
11	0KY0C374D3310	AN		C	Electrolytic capacitor(35WV 330μF)	[C102]
12	0KY0C162E1040	AF		C	Ceramic capacitor(50WV 0.1μF)	[C110]
13	0KY0C1A9Y1020	AG		C	Ceramic capacitor(500WV 1000PF)	[C111]
14	0KY0K251A0020	AK		C	Connector(B2P3-VH)	[CN1]
15	0KY0K221B0080	AP		C	Connector(08R-FJ)	[CN101]
16	0KY0D251A0020	AD		B	Diode(1SS133)	[D4]
17	0KY0D466A0600	AE		B	Zener diode(HZS9B2)	[D5]
18	0KY0D251A0020	AD		B	Diode(1SS133)	[D6]
19	0KY0D251A0020	AD		B	Diode(1SS133)	[D7]
20	0KY0D157A0060	AG		B	Diode(ERA15-06)	[D10]
21	0KY0D157A0060	AG		B	Diode(ERA15-06)	[D11]
22	0KY0D157A0060	AG		B	Diode(ERA15-06)	[D12]
23	0KY0D157A0060	AG		B	Diode(ERA15-06)	[D13]
24	0KY0D221B0020	AT		B	Diode(YG911S2R)	[D101]
25	0KY0D272A0060	AP		B	Diode(2FWJ42)	[D102]
26	0KY0D461A3200	AL		B	Zener diode(HZ-30CP)	[D104]
27	0KY0K758A4R00	AT		A	Fuse(4.0A 125V)	[F1]
28	0KY0MPS029600	AP		C	Heat sink	[HS1]
29	0KY0MPH006900	AF		C	Heat sink	[HS2]
30	0KY1H153A0010	AP		B	IC(TA76431)	[IC101]
31	0KY0H135A5R00	AV		B	IC(PQ05RD11)	[IC103]
32	0KY0L113J1830	AQ		B	Line filter	[L1]
33	0KY0D763A4R00	AN		B	Thermistor	[NTC1]
34	0KY0H719A0010	AP		B	Photo coupler(PC817B)	[PC1]
35	0KY0T644A0010	AV		B	FET(2SK2972)	[Q1]
36	0KY0T358A0040	AG		B	Transistor(2SC1741AS)	[Q2]
37	0KY0R153U1050	AC		C	Resistor(1/4W 1M ±5%)	[R1]
38	0KY0R153U1840	AC		C	Resistor(1/4W 180K ±5%)	[R2]
39	0KY0R153U1840	AC		C	Resistor(1/4W 180K ±5%)	[R3]
40	0KY0R153U1830	AC		C	Resistor(1/4W 18K ±5%)	[R5]
41	0KY0R153U4710	AC		C	Resistor(1/4W 470 ±5%)	[R6]
42	0KY0R153U1810	AC		C	Resistor(1/4W 180 ±5%)	[R7]
43	0KY0R153U3330	AB		C	Resistor(1/4W 33K ±5%)	[R8]
44	0KY0R153U1010	AC		C	Resistor(1/4W 100 ±5%)	[R9]
45	0KY0R153U6220	AC		C	Resistor(1/4W 6.2K ±5%)	[R10]
46	0KY0R153U9120	AC		C	Resistor(1/4W 9.1K ±5%)	[R11]
47	0KY0R153U2030	AC		C	Resistor(1/4W 20K ±5%)	[R12]
48	0KY0R153U3910	AC		C	Resistor(1/4W 390 ±5%)	[R17]
49	0KY0R153U1000	AC		C	Resistor(1/4W 10 ±5%)	[R19]
50	0KY0R153U3920	AC		C	Resistor(1/4W 3.9K ±5%)	[R102]
51	0KY0R153U3920	AC		C	Resistor(1/4W 3.9K ±5%)	[R103]
52	0KY0R153U3920	AC		C	Resistor(1/4W 3.9K ±5%)	[R104]
53	0KY0R153U3920	AC		C	Resistor(1/4W 3.9K ±5%)	[R105]
54	0KY0R153U3310	AC		C	Resistor(1/4W 330 ±5%)	[R110]
55	0KY0R153U1020	AB		C	Resistor(1/4W 1K ±5%)	[R111]
56	0KY0R153U1530	AC		C	Resistor(1/4W 15K ±5%)	[R112]
57	0KY0R153U2220	AC		C	Resistor(1/4W 2.2K ±5%)	[R113]
58	0KY0R353U1630	AD		C	Resistor(1/4W 16K ±1%)	[R114]
59	0KY0M135A0050	AE		C	Screw(2x6)	
60	0KY0L200C0402	BA		B	Transformer	[T1]
61	0KY0R854E5020	AK		B	Trimmer potentiometer(1/10W 5K)	[VR101]
62	0KY0D754A2410	AL		B	Varistor(ENC241D)	[Z1]
	(Unit)					
⚠ 901	RDENT2122AXZZ	BN	N	E	Power supply PWB unit	
[50] Hardware parts						
B1	LX-BZ2138XHZZ	AB		C	Screw(2x6)	
B2	LX-BZ2222AXZZ	AC		C	Screw(3x10)	
B3	————		N	C	Screw P-Tight(2x5)	
B4	————		N	C	Screw(1x6)	
B5	————		N	C	Screw(2x5)	
B6	XBPSD30P06K00	AA		C	Screw(3x6)	
B7	XBPSE30P06K00	AA		C	Screw(3x6)	
B8	XBPSN40P06K00	AA		C	Screw(4x6)	
B9	XEBSD30P06000	AA		C	Screw(3x6)	
B10	XEBSD30P10000	AA		C	Screw(3x10)	

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
[50] Hardware parts					
B11	XEBSE30P12000	AA		C	Screw(3x12)
B12	XHBSD30P04000	AA		C	Screw(3x4)
B13	XHBSE30P06000	AA		C	Screw(3x6)
B14	XUBSD20P06000	AA		C	Screw(2x6)
W1	LX-WZ2229AXZZ	AC	N	C	Washer
W2	LX-WZ2230AXZZ	AC	N	C	Washer

■Index

PARTS CODE	No.	PRICE RANK	NEW MARK	PART RANK
[C]				
CCNW-4772AX01	1-1	AL	N	C
CGERH2363AX01	6-5	AK		B
CROLR2362AX01	5-1	AN		C
[D]				
DCEKC395BAX01	1-3	BV	N	E
"	13-901	BV	N	E
DCEKC781JAXZZ	1-4	CM	N	E
"	10-901	CM	N	E
DCEKC887JAXZZ	1-4	CM	N	E
"	10-901	CM	N	E
DCEKI394BAX01	1-5	BB	N	E
"	15-901	BB	N	E
DCEKL391BAX01	1-6	BE	N	E
"	11-901	BE	N	E
DCEKP390BAX01	1-7	BP	N	E
"	3-901	BP	N	E
DCEKP390BAX02	1-7	BP	N	E
DCEKP392BAX01	3-1	BL	N	E
"	14-901	BL	N	E
DCEKS396BAX01	1-8	AZ	N	E
"	12-901	AZ	N	E
DUNTK307BAXOG	9-1	AZ		E
DUNTK307BAXOW	9-1	AZ		E
[G]				
GCABA2299AXSA	3-2	AS	N	D
GCABA2299AXSC	3-2	AS	N	D
GCABB2300AXSA	5-2	AQ	N	D
GCABB2300AXSC	5-2	AQ	N	D
GCABC2301AXSA	1-9	AX	N	D
GCABC2301AXSC	1-9	AZ	N	D
GCABD2302AXSA	1-10	AM	N	D
GCABD2302AXSC	1-10	AM	N	D
GCABE2303AXSA	1-11	AL	N	D
GCABE2303AXSC	1-11	AL	N	D
GCABF2304AXSA	1-12	AP	N	D
GCABF2304AXSC	1-12	AP	N	D
GCABG2305AXSA	1-13	AS	N	D
GCABG2305AXSC	1-13	AR	N	D
GCOVA2381AXSA	1-2	BD	N	D
GCOVA2381AXSC	1-2	BD	N	D
GCOVA2382AXSA	1-14	AH	N	C
GDAI-2079AXSA	1-15	AL	N	C
GDAI-2079AXSC	1-15	AN	N	C
GLEGG2063AXZZ	1-16	AC		C
[H]				
HPNLH2385AXSA	1-17	AU	N	D
[J]				
JBTN-2202AXSA	3-3	AG		C
JBTN-2202AXSC	3-3	AG		C
JBTN-2203AXSA	3-4	AF		C
JBTN-2203AXSC	3-4	AF		C
JBTN-2204AXSA	3-5	AD		C
JBTN-2204AXSB	3-5	AD		C
JBTN-2205AXSA	3-6	AD		C
JBTN-2205AXSB	3-6	AD		C
JBTN-2222AXSA	3-7	AE	N	C
[L]				
LANGF2812AXZZ	1-18	AG	N	C
LANGF2815AXZZ	4-1	AE	N	C
LBNDJ2008SCZZ	1-19	AA		C
LBRC-2006AXZZ	8-35	AK	N	C
LBSHP2095AXZZ	8-36	AD	N	C
LBSHP2096AXZZ	4-2	AK	N	C
LFRM-2188AXZZ	7-1	AP	N	C
LFRM-2189AXSA	5-3	AR	N	C
LFRM-2189AXSC	5-3	AR	N	C
LFRM-2190AXZZ	1-20	AX	N	C
LFRM-2192AXZZ	8-37	AL	N	C
LHLDZ2165AXZZ	5-4	AN	N	C
LHLDZ2166AXZZ	1-21	AD	N	C
LHLDZ2168AXZZ	8-38	AS	N	C
LHLDZ2169AXZZ	8-39	AD	N	C
LHLDZ2171AXSA	1-22	AE	N	C
LHLDZ2171AXSC	1-22	AE	N	C
LPLTG2707XHZZ	4-3	AE		C
LPLTM2917AXZZ	4-4	AH	N	C
LPLTM2919AXZZ	6-1	AN	N	C
LPLTM2922AXZZ	7-2	AF	N	C
LPLTM2923AXZA	1-23		N	C

PARTS CODE	No.	PRICE RANK	NEW MARK	PART RANK
LPLTM2924AXZZ	5-5	AQ	N	C
LPLTP2884AXZZ	5-6	AP		C
LPLTP2888AXSC	5-7	AP		C
LPLTP2888AXSG	5-7	AL	N	C
LPLTP2889AXSC	1-24	AK	N	C
LPLTP2889AXSD	1-24	AN	N	C
LPLTP2890AXSC	1-25	AZ	N	C
LPLTP2890AXSD	1-25	AG	N	C
LPLTP2916AXZZ	4-5	AE	N	C
LPLTP2918AXZZ	6-2	AW	N	C
LPLTP2920AXZZ	6-3	AE	N	C
LPLTP2921AXZZ	6-4	AE	N	C
LPLTP2925AXSA	1-26	AQ	N	C
LPLTP2925AXSC	1-26	AQ	N	C
LPLTP2926AXSA	1-27	AM	N	C
LPLTP2926AXSC	1-27	AM	N	C
LPLTP2932AXSA	1-28	AK	N	C
"	9-22	AK	N	C
LX-BZ2138XHZZ	50-B1	AB		C
LX-BZ2222AXZZ	50-B2	AC		C
LX-WZ2229AXZZ	50-W1	AC	N	C
LX-WZ2230AXZZ	50-W2	AC	N	C
[M]				
MLEVP2271AXSA	4-6	AH	N	C
MLEVP2271AXSC	4-6	AH	N	C
MLEVP2273AXZZ	8-40	AH	N	C
MLEVP2274AXZZ	8-41	AD	N	C
MLEVP2275AXZZ	5-8	AE	N	C
MLEVP2276AXZZ	5-9	AE	N	C
MLEVP2277AXZZ	5-10	AE	N	C
MLEVP2278AXSA	1-29	AF	N	C
MSPRC2735XHZZ	8-42	AC		C
MSPRC2832AXZZ	2-1	AC	N	C
MSPRC2969AXZZ	6-6	AD	N	C
MSPRC2973AXZZ	1-30	AC	N	C
MSPRC2995AXFJ	5-12	AC		C
MSPRC3007AXZZ	5-11	AC	N	C
MSPRC3008AXZZ	8-43	AC	N	C
MSPRC3009AXZZ	4-8	AB	N	C
MSPRC3010AXZZ	4-7	AE	N	C
MSPRD2975AXZZ	8-44	AC	N	C
MSPRD2998AXZZ	5-13	AC	N	C
MSPRD3004AXZZ	5-14	AB	N	C
MSPRP2812SCZZ	4-9	AE		C
MSPRP3003AXZZ	4-10	AB	N	C
MSPRT2923AXFJ	4-11	AC		C
MSPRT2932AXFJ	5-15	AC		C
[N]				
NBLTK2056AXZZ	8-45	AF	N	C
NBRGP2141AXZZ	6-7	AC		C
NGERH2275XHZZ	6-8	AC		C
NGERH2278XHZZ	8-46	AC		C
NGERH2279XHZZ	8-47	AC		C
NGERH2365AXZZ	5-16	AD		C
NGERH2366AXZZ	5-17	AD		C
NGERH2393AXZZ	7-3	AD	N	C
NGERH2394AXZZ	7-4	AD	N	C
NGERH2396AXZZ	8-48	AD	N	C
NGERH2398AXZZ	8-49	AD	N	C
NGERH2399AXZZ	8-50	AD	N	C
NGERH2400AXZZ	8-51	AD	N	C
NGERH2401AXZZ	5-18	AF	N	C
NGERH2403AXZZ	4-12	AD	N	C
NGERP2318XHZZ	2-2	AD		C
NROLM2389AXZZ	1-47	AD	N	C
NROLP2334AXZZ	4-13	AE		C
NROLP2382AXZZ	8-52	AC	N	C
NROLR2333XHZZ	6-9	AP		C
NROLR2365AXZZ	6-10	AV		C
NROLR2379AXZZ	4-14	AZ	N	C
NROLR2380AXZZ	8-53	AX	N	C
NROLR2381AXZZ	8-54	AH	N	C
NSFTM2268AXZZ	5-19	AE		C
NSFTZ2257AXZZ	4-15	AE		C
[P]				
PCAPH2021AXZZ	1-31	AD	N	C
PCASZ2034AXSA	1-32	AE	N	C
PCASZ2034AXSC	1-32	AE	N	C
PCOVA2115AXSA	1-33	AL	N	C
PCOVP2118AXZZ	8-55	AE	N	C

PARTS CODE	No.	PRICE RANK	NEW MARK	PART RANK
PFLT-2015AXZZ	1-34	AG	N	C
PGIDM2508AXZZ	4-16	AU	N	C
PGIDM2509AXSA	2-4	AR	N	C
PGIDM2509AXSC	2-4	AR	N	C
PGIDM2510AXSA	2-5	AE	N	C
PGIDM2510AXSC	2-5	AE	N	C
PGIDM2511AXSA	2-6	AE	N	C
PGIDM2511AXSC	2-6	AE	N	C
PGIDM2512AXZZ	5-20	AS	N	C
PGUMM2152AXZZ	8-56	AD	N	C
PHOP-2097AXSA	2-7	AK	N	C
PHOP-2097AXSC	2-7	AK	N	C
PHOP-2098AXSA	5-21	AG	N	C
PHOP-2098AXSC	5-21	AG	N	C
PHOP-2099AXSA	5-22	AG	N	C
PHOP-2099AXSC	5-22	AG	N	C
PSEL-2015SCZZ	5-23	AB		C
PSHEZ3293AXZZ	5-24	AH		C
PSHEZ3342AXZZ	5-25	AC		C
PSHEZ3344AXZZ	5-26	AD		C
PSHEZ3345AXSA	1-35	AG	N	C
PSHEZ3356AXZZ	1-36	AC	N	C
PSHEZ3357AXZZ	5-27	AC	N	C
PSHEZ3367AXZZ	3-8	AE	N	C
PSHEZ3368AXZZ	1-37	AD	N	C
PSLDM2045AXZZ	8-58	AF		C
"	13-82	AF	N	C
[Q]				
QACCZ2012XHZZ	1-39	AT	N	B
QCNCM2401SC0F	10-138	AB		C
QCNCM2482SC2H	10-140	AG	N	C
"	13-61	AG	N	C
QCNCM2482SC2J	10-139	AE		C
QCNCM2499SC0H	10-141	AE		C
QCNCM2499SC1D	10-135	AG		C
QCNCM2557SC0E	15-6	AE	N	C
QCNCM7014SC0B	10-142	AD		C
QCNCM7014SC0D	13-58	AB		C
QCNCM7014SC0E	10-134	AB		C
"	13-57	AB		C
QCNCM7014SC0F	10-136	AB		C
QCNCM7014SC0G	10-133	AB		C
QCNCM704FAF02	12-7	AC		C
QCNCW0946FCZZ	10-137	AH		C
QCNCW2500SC1D	11-23	AG		C
QCNCW2556SC3B	13-59	AG	N	C
"	13-60	AG	N	C
QCNW-3247SCZZ	9-5	AH		C
QCNW-3975AXGY	9-5	AH		C
QCNW-3976XHOG	9-6	AT		C
QCNW-3976XHOW	9-6	AK		C
QCNW-4773AXZZ	1-40	AG	N	D
QCNW-4775AXZZ	1-43	AH	N	C
QCNW-4776AXZZ	6-12	AR	N	C
QCNW-4777AXZZ	1-41	AU	N	C
"	2-8	AU	N	C
"	3-9	AU	N	C
QCNW-4778AXZZ	1-42	AZ	N	C
"	8-59	AZ	N	C
QCNW-4806AXZZ	1-44	AD	N	C
"	11-2	AD	N	C
QCNW-4807AXZZ	1-51	AE	N	C
"	8-57	AE	N	C
QCNW-4855AXZZ	6-11	AD	N	C
QJAKZ2046SCBB	11-36	AH		C
QJAKZ2065SC0D	11-37	AG		C
QSOCZ2051SC32	10-191	AC		C
"	10-193	AC		C
QSW-Z2206SCZZ	11-64	AH		B
[R]				
RC-FZ3024SCZZ	11-3	AG		C
RCILZ2133SCZZ	10-309	AC		C
"	10-310	AC		C
RCILZ2141AXZZ	13-68	AD	N	C
"	13-69	AD	N	C
"	13-70	AD	N	C
"	13-71	AD	N	C
"	13-72	AD	N	C
RCORF2063XHZZ	1-45	AF		B
RCORF2064XHZZ	1-48	AF		B

PARTS CODE	No.	PRICE RANK	NEW MARK	PART RANK
RCORF2064XHZZ	2-9	AF		B
RCORF2096FFZZ	1-46	AD	N	B
RCRSB0297AFZZ	10-533	AD		B
RCRSQ2109SCZZ	10-535	AL		B
RCRSQ2123AXZZ	10-532	AL	N	B
RCRSQ2124AXZZ	10-534	AL	N	B
RCRSQ2125AXZZ	10-531	AL	N	B
RCRSZ7006SCZZ	13-180	AD		B
RDENT2122AXZZ	1-38	BN	N	E
"	16-901	BN	N	E
RFILN2011SCZZ	11-29	AC		C
"	11-30	AC		C
"	11-31	AC		C
"	11-32	AC		C
RH-IX2129SCZZ	10-189	AY		B
"	10-198	AY		B
RMOTZ2135AXZZ	7-5	AZ	N	B
RMOTZ2137AXZZ	8-34	AZ	N	B
RR-SZ3013SCZZ	13-89	AC	N	C
"	13-90	AC	N	C
"	13-93	AC	N	C
"	13-94	AC	N	C
RRLYD3221SCZZ	11-22	AN		B
RTRNZ2128XH01	11-65	AP		B
RUNTZ2021SCZZ	6-13	BF		B
[S]				
SPAKA220AAXZZ	9-7	AF	N	D
SPAKA221AAXZZ	9-8	AF	N	D
SPAKA222AAXZZ	9-9	AG	N	D
SPAKA223AAXZZ	9-10	AF	N	D
SPAKA393AAXZZ	9-4	AC	N	C
SPAKC225AAXZZ	9-11	AV	N	D
SPAKC249AAXZZ	9-11	AL	N	D
SPAKC324AAXZZ	9-11	AL	N	D
SPAKC367AAXZZ	9-11	AL	N	D
SPAKP4381AXZZ	9-12	AG		D
SSAKA2008AXZZ	9-13	AA	N	D
SSAKA2344QCZZ	9-14	AB		D
SSAKA3001CCZZ	9-2	AA		D
SSAKA3340QCZZ	9-3	AB		D
[T]				
TCADZ2550AXZZ	9-15	AK	N	D
TCADZ2561AXZZ	9-25	AF	N	D
TCADZ2588AXZZ	9-17	AB	N	D
TCADZ2603AXZZ	9-17	AC	N	D
TCADZ2606AXZZ	9-15	AK	N	D
TCADZ2631AXZZ	9-23	AC	N	D
TINSE3773AXZZ	9-18	AF	N	D
TINSE3796AXZZ	9-18	AF	N	D
TINSK3853AXZZ	9-18	AF	N	D
TINSK3865AXZZ	9-18	AE	N	D
TLABG4602AXZZ	1-49	AB	N	D
TLABH4238AXZG	9-24	AC	N	D
TLABH4496AXSA	9-19	AC	N	D
TLABH4496AXSC	9-19	AC	N	D
"	9-24	AC		D
TLABM4316AXZZ	9-16	AG	N	D
TLABM4537AXZZ	9-16	AG	N	D
TLABM4604AXZZ	9-21	AE	N	D
TLABN1235CCZZ	10-537	AA		D
TLABS4534SCZZ	1-50	AB	N	D
[U]				
UBATL0011FCZZ	10-1	AM		B
UDSKA2003SCZZ	9-20	AP	N	E
UDSKA2008SCZZ	9-20	AQ	N	E
[V]				
VCCCTV1HH100D	10-56	AA		C
"	10-57	AA		C
"	10-99	AA		C
"	10-100	AA		C
VCCCTV1HH101J	13-22	AA		C
"	13-31	AA		C
VCCCTV1HH102J	13-11	AA		C
"	13-20	AA		C
"	13-21	AA		C
"	13-23	AA		C
"	13-27	AA		C
"	13-29	AA		C
"	13-30	AA		C
"	13-32	AA		C

PARTS CODE	No.	PRICE RANK	NEW MARK	PART RANK
VCCCTV1HH102J	13-33	AA		C
"	13-39	AA		C
"	13-40	AA		C
"	13-42	AA		C
"	13-43	AA		C
"	13-44	AA		C
"	13-52	AA		C
VCCCTV1HH150J	10-34	AA		C
"	10-35	AA		C
"	10-69	AA		C
"	10-70	AA		C
"	13-35	AA		C
"	13-51	AA		C
VCCCTV1HH180J	10-45	AA		C
"	10-46	AA		C
VCCCTV1HH220J	13-36	AA		C
"	13-37	AA		C
VCCCTV1HH330J	10-19	AA		C
"	10-64	AA		C
VCCCTV1HH331J	13-5	AA		C
"	13-12	AA		C
VCCCTV1HH471J	13-6	AA		C
"	13-7	AA		C
VCCCTV1HH561J	13-24	AA		C
"	13-25	AA		C
"	13-46	AA		C
"	13-47	AA		C
VCCSTV1HL102J	10-68	AA		C
"	10-79	AA		C
VCCSTV1HL331J	10-97	AA		C
"	10-119	AA		C
VCCSTV1HL391J	10-85	AA		C
VCCSTV1HL471J	10-65	AC		C
VCCSTV1HL681J	10-81	AB		C
VCEAEA1CW106M	12-1	AC		C
"	12-2	AC		C
VCEAGA1CW107M	13-3	AC		C
VCEAGA1CW336M	10-9	AA		C
VCEAGA1CW476M	10-2	AB		C
"	10-3	AB		C
VCEAGA1EW226M	10-6	AB		C
VCEAGA1HW105M	10-7	AB		C
VCEAGA1HW107M	10-4	AA		C
"	10-5	AA		C
"	10-12	AA		C
VCEAGA1HW225M	11-13	AA		C
VCEAGA1HW226M	11-17	AB		C
VCEAGA1HW336M	10-11	AB		C
VCEAGA1HW475M	10-8	AA		C
"	11-7	AA		C
"	11-10	AA		C
"	11-12	AA		C
"	11-20	AA		C
VCEAGA1HW476M	10-10	AB		C
VCEAGU1VW107M	13-1	AB		C
VCEAPS476AF1C	15-1	AC		C
"	15-2	AC		C
"	15-5	AC		C
VCEAZU1VJ108M	13-2	AG	N	C
VCKYPU1HB102K	11-5	AA		C
"	11-6	AA		C
"	11-15	AA		C
"	11-16	AA		C
VCKYPU1HB103K	11-4	AA		C
VCKYPU1HB221K	11-14	AB		C
VCKYPU1HB222K	11-8	AA		C
"	11-11	AA		C
"	11-21	AA		C
VCKYPU1HB332K	11-18	AA		C
VCKYPU1HF223Z	11-19	AA		C
VCKYTQ1HF104Z	10-14	AA		C
"	10-80	AA		C
VCKYTV1CF105Z	10-13	AB		C
"	10-17	AB		C
"	10-39	AB		C
"	10-40	AB		C
"	10-66	AB		C
"	10-67	AB		C
"	10-83	AB		C
"	10-95	AB		C

PARTS CODE	No.	PRICE RANK	NEW MARK	PART RANK
VCKYTV1CF105Z	10-96	AB		C
"	10-103	AB		C
"	10-109	AB		C
"	10-112	AB		C
"	10-115	AB		C
"	10-118	AB		C
"	10-235	AB		C
"	10-236	AB		C
"	10-237	AB		C
VCKYTV1CF225Z	10-82	AD		C
"	10-86	AD		C
"	13-8	AD		C
"	13-16	AD		C
"	13-17	AD		C
"	13-45	AD		C
VCKYTV1EB104K	12-6	AA		C
VCKYTV1EF104Z	10-15	AA		C
"	10-16	AA		C
"	10-18	AA		C
"	10-22	AA		C
"	10-32	AA		C
"	10-33	AA		C
"	10-36	AA		C
"	10-37	AA		C
"	10-38	AA		C
"	10-41	AA		C
"	10-43	AA		C
"	10-48	AA		C
"	10-49	AA		C
"	10-50	AA		C
"	10-51	AA		C
"	10-52	AA		C
"	10-53	AA		C
"	10-54	AA		C
"	10-55	AA		C
"	10-58	AA		C
"	10-60	AA		C
"	10-71	AA		C
"	10-75	AA		C
"	10-76	AA		C
"	10-78	AA		C
"	10-84	AA		C
"	10-87	AA		C
"	10-88	AA		C
"	10-93	AA		C
"	10-94	AA		C
"	10-98	AA		C
"	10-102	AA		C
"	10-104	AA		C
"	10-105	AA		C
"	10-106	AA		C
"	10-107	AA		C
"	10-110	AA		C
"	10-111	AA		C
"	10-113	AA		C
"	10-114	AA		C
"	10-116	AA		C
"	10-117	AA		C
"	12-3	AA		C
"	12-4	AA		C
VCKYTV1HB102K	10-25	AA		C
"	10-26	AA		C
"	10-27	AA		C
"	10-28	AA		C
"	10-29	AA		C
"	10-74	AA		C
"	10-108	AA		C
"	10-120	AA		C
"	10-121	AA		C
"	10-122	AA		C
"	10-123	AA		C
"	10-124	AA		C
"	10-125	AA		C
"	10-126	AA		C
"	10-127	AA		C
"	10-128	AA		C
"	10-129	AA		C
"	10-130	AA		C
"	10-131	AA		C
"	10-132	AA		C

PARTS CODE	No.	PRICE RANK	NEW MARK	PART RANK
VCKYTV1HB103K	10-20	AB		C
"	10-21	AB		C
"	10-24	AB		C
"	10-62	AB		C
"	10-63	AB		C
"	10-72	AB		C
"	10-73	AB		C
"	10-92	AB		C
"	13-10	AB		C
"	13-54	AB		C
"	13-55	AB		C
"	13-56	AB		C
VCKYTV1HB121K	12-5	AA		C
VCKYTV1HB222K	10-30	AA		C
"	10-31	AA		C
"	10-42	AA		C
"	10-44	AA		C
"	10-47	AA		C
"	10-59	AA		C
"	10-61	AA		C
"	10-77	AA		C
"	10-89	AA		C
"	10-90	AA		C
"	10-91	AA		C
"	10-101	AA		C
VCKYTV1HB472K	10-23	AA		C
"	13-41	AA		C
VCKYTV1HF103Z	13-34	AA		C
"	13-50	AA		C
VCKYTV1HF104Z	13-4	AA		C
"	13-9	AA		C
"	13-13	AA		C
"	13-14	AA		C
"	13-15	AA		C
"	13-18	AA		C
"	13-19	AA		C
"	13-26	AA		C
"	13-28	AA		C
"	13-38	AA		C
"	13-48	AA		C
"	13-49	AA		C
"	13-53	AA		C
VCKYTV1HF223Z	15-3	AA		C
"	15-4	AA		C
VCQYNA1HM333K	11-9	AA		C
VHDDAP202U/-1	10-169	AB		B
VHDDA204K//-1	10-143	AC		B
"	10-144	AC		B
VHDERA81004-1	13-62	AE	N	B
"	13-63	AE	N	B
"	13-64	AE	N	B
"	13-65	AE	N	B
VHDRB411D//-1	10-146	AD		B
"	10-147	AD		B
"	10-148	AD		B
"	10-149	AD		B
"	10-150	AD		B
"	10-151	AD		B
"	10-152	AD		B
"	10-153	AD		B
"	10-154	AD		B
"	10-155	AD		B
"	10-156	AD		B
"	10-157	AD		B
"	10-158	AD		B
"	10-160	AD		B
"	10-161	AD		B
"	10-162	AD		B
"	10-163	AD		B
"	10-164	AD		B
"	10-165	AD		B
"	10-166	AD		B
"	10-167	AD		B
"	10-168	AD		B
"	10-170	AD		B
"	10-171	AD		B
"	10-172	AD		B
"	10-173	AD		B
VHD1SS133//-1	11-24	AA		B
"	11-25	AA		B

PARTS CODE	No.	PRICE RANK	NEW MARK	PART RANK
VHD1SS133//-1	11-26	AA		B
"	11-27	AA		B
VHD1SS355//-1	10-145	AB		B
"	10-159	AB		B
"	12-10	AB		B
VHEHZ2C1///-1	11-68	AA		B
"	11-69	AA		B
"	11-71	AA		B
"	11-72	AA		B
VHEHZ27-1//-1	11-70	AB		B
VHERD22FB3/-1	10-536	AC		B
VHIAD8051//-1	10-175	AN	N	B
VHIBA10393F-1	13-79	AC		B
VHIHD74LS08-1	10-179	AD		B
VHIHECF4066BF	10-177	AF		B
"	10-182	AF		B
VHILB1845//-1	13-73	AY	N	B
VHILC82103/-1	10-181	BA		B
VHILZ9FJ49/-1	10-183	AV	N	B
VHIL6451///-1	13-76	AX	N	B
"	13-78	AX	N	B
VHIMC14053DR2	10-178	AG		B
VHINJM2113M-1	10-203	AG		B
VHINJM2902M-1	10-187	AF		B
VHINJM2904D-1	11-28	AG		B
VHINJM311M/-1	12-12	AL		B
VHINJM324M/-1	12-11	AH	N	B
VHINJU6355E-1	10-202	AM		B
VHIPST596CMT1	10-204	AF		B
VHIR144AFXL/1	10-188	BM		B
VHISH7040//-1	10-185	BD	N	B
VHISN74HC04NSR	10-200	AE	N	B
VHISN74HC14NSR	10-186	AE	N	B
VHISN74HC164NR	10-201	AF	N	B
VHISN74LS244NR	10-196	AG		B
"	10-197	AG		B
VHISN74LS245N	10-195	AR		B
VHISTA471A/-1	13-74	AK		B
VHIS2B257SL70	10-190	AL		B
"	10-199	AL		B
VHITC16G331AF	13-77	BG	N	B
VHITMP87PH47U	13-80	AZ	N	B
VHIULN2003AN/	10-176	AE		B
VHIW24257S7LL	13-75	AP		B
VHI27040FBS0H	10-192	AZ		B
VHI27040FBS1H	10-194	AZ		B
VHI74HCU04S-1	10-180	AF	N	B
"	10-184	AF	N	B
VHPGL1F21A/-1	15-10	AN	N	B
VHPGL480///-1	12-9	AD		B
VHPIS1U21A/-1	15-11	AP	N	B
VHPPC814X//-1	11-39	AE		B
VHPPC817X7/-1	11-38	AD		B
VHPPD410PI/-1	12-8	AE		B
VHPSG206S//-1	11-40	AG		B
"	13-81	AG		B
VHVERZV5D471/	11-66	AC		B
"	11-67	AC		B
VHVICPS07//-1	10-174	AA		B
"	13-66	AA		B
"	13-67	AA		B
VHVRA391PV6-1	11-1	AE		B
VRD-HT2EY000J	11-33	AA		C
"	11-34	AA		C
"	11-35	AA		C
VRD-HT2EY100J	10-217	AA		C
VRD-HT2EY102J	11-56	AA		C
"	11-58	AA		C
"	11-60	AA		C
VRD-HT2EY103J	11-49	AA		C
"	11-52	AA		C
"	11-53	AA		C
"	11-54	AA		C
VRD-HT2EY122J	13-95	AA		C
"	13-96	AA		C
VRD-HT2EY151J	11-63	AA		C
VRD-HT2EY152J	11-57	AA		C
"	11-59	AA		C
VRD-HT2EY153J	11-50	AA		C
"	11-61	AA		C

PARTS CODE	No.	PRICE RANK	NEW MARK	PART RANK
VRD-HT2EY221J	11-48	AA		C
VRD-HT2EY223J	11-47	AA		C
VRD-HT2EY300J	11-45	AA		C
VRD-HT2EY332J	11-55	AA		C
"	11-62	AA		C
VRD-HT2EY621J	11-51	AA		C
VRD-HT2EY910J	11-44	AA		C
VRD-HT2HY223J	11-46	AA		C
VRS-HT3AAR75J	13-91	AC	N	C
"	13-92	AC	N	C
VRS-TQ2BB000J	10-207	AA		C
"	10-208	AA		C
"	10-356	AA		C
"	10-494	AA		C
"	10-520	AA		C
VRS-TQ2BB200J	10-367	AA		C
VRS-TQ2BB222J	10-529	AA		C
VRS-TQ2BB561J	10-513	AA		C
VRS-TV2AB000J	10-209	AA		C
"	10-210	AA		C
"	10-211	AA		C
"	10-240	AA		C
"	10-241	AA		C
"	10-242	AA		C
"	10-243	AA		C
"	10-268	AA		C
"	10-272	AA		C
"	10-273	AA		C
"	10-274	AA		C
"	10-275	AA		C
"	10-292	AA		C
"	10-299	AA		C
"	10-315	AA		C
"	10-317	AA		C
"	10-327	AA		C
"	10-335	AA		C
"	10-336	AA		C
"	10-342	AA		C
"	10-343	AA		C
"	10-376	AA		C
"	10-387	AA		C
"	10-388	AA		C
"	10-389	AA		C
"	10-403	AA		C
"	10-404	AA		C
"	10-405	AA		C
"	10-406	AA		C
"	10-422	AA		C
"	10-449	AA		C
"	10-527	AA		C
"	10-530	AA		C
"	13-145	AA		C
"	13-170	AA		C
"	13-172	AA		C
"	13-175	AA		C
VRS-TV2AB100J	10-368	AD		C
"	10-371	AD		C
"	10-409	AD		C
"	10-410	AD		C
"	10-411	AD		C
"	10-412	AD		C
"	10-413	AD		C
"	10-427	AD		C
"	10-428	AD		C
"	10-429	AD		C
"	10-430	AD		C
"	10-451	AD		C
"	10-452	AD		C
"	10-453	AD		C
"	10-454	AD		C
"	10-455	AD		C
"	10-456	AD		C
"	10-457	AD		C
"	10-458	AD		C
"	10-460	AD		C
"	10-461	AD		C
VRS-TV2AB101J	10-219	AA		C
"	10-220	AA		C
"	10-221	AA		C
"	10-222	AA		C

PARTS CODE	No.	PRICE RANK	NEW MARK	PART RANK
VRS-TV2AB101J	10-223	AA		C
"	10-224	AA		C
"	10-225	AA		C
"	10-226	AA		C
"	10-227	AA		C
"	10-252	AA		C
"	10-253	AA		C
"	10-254	AA		C
"	10-255	AA		C
"	10-256	AA		C
"	10-257	AA		C
"	10-258	AA		C
"	10-259	AA		C
"	10-284	AA		C
"	10-287	AA		C
"	10-289	AA		C
"	10-303	AA		C
"	10-311	AA		C
"	10-312	AA		C
"	10-314	AA		C
"	10-339	AA		C
"	10-380	AA		C
"	10-384	AA		C
"	10-386	AA		C
"	10-438	AA		C
"	10-492	AA		C
"	10-493	AA		C
"	10-518	AA		C
"	10-519	AA		C
"	10-528	AA		C
VRS-TV2AB102J	10-239	AA		C
"	10-249	AA		C
"	10-277	AA		C
"	10-278	AA		C
"	10-288	AA		C
"	10-331	AA		C
"	10-353	AA		C
"	10-396	AA		C
"	10-400	AA		C
"	10-420	AA		C
"	10-421	AA		C
"	13-101	AA		C
"	13-113	AA		C
"	13-155	AA		C
VRS-TV2AB103J	10-238	AA		C
"	10-244	AA		C
"	10-247	AA		C
"	10-250	AA		C
"	10-262	AA		C
"	10-279	AA		C
"	10-280	AA		C
"	10-281	AA		C
"	10-282	AA		C
"	10-283	AA		C
"	10-291	AA		C
"	10-297	AA		C
"	10-301	AA		C
"	10-302	AA		C
"	10-304	AA		C
"	10-305	AA		C
"	10-306	AA		C
"	10-307	AA		C
"	10-308	AA		C
"	10-318	AA		C
"	10-320	AA		C
"	10-321	AA		C
"	10-322	AA		C
"	10-323	AA		C
"	10-326	AA		C
"	10-332	AA		C
"	10-333	AA		C
"	10-334	AA		C
"	10-337	AA		C
"	10-338	AA		C
"	10-341	AA		C
"	10-344	AA		C
"	10-345	AA		C
"	10-347	AA		C
"	10-349	AA		C
"	10-352	AA		C

PARTS CODE	No.	PRICE RANK	NEW MARK	PART RANK
VRS-TV2AB103J	10-354	AA		C
"	10-362	AA		C
"	10-365	AA		C
"	10-372	AA		C
"	10-373	AA		C
"	10-374	AA		C
"	10-375	AA		C
"	10-377	AA		C
"	10-378	AA		C
"	10-379	AA		C
"	10-381	AA		C
"	10-382	AA		C
"	10-383	AA		C
"	10-385	AA		C
"	10-390	AA		C
"	10-391	AA		C
"	10-392	AA		C
"	10-393	AA		C
"	10-394	AA		C
"	10-395	AA		C
"	10-397	AA		C
"	10-399	AA		C
"	10-414	AA		C
"	10-415	AA		C
"	10-416	AA		C
"	10-419	AA		C
"	10-425	AA		C
"	10-433	AA		C
"	10-459	AA		C
"	10-522	AA		C
"	10-523	AA		C
"	10-524	AA		C
"	10-525	AA		C
"	10-526	AA		C
"	12-14	AA		C
"	12-15	AA		C
"	12-18	AA		C
"	12-21	AA		C
"	12-22	AA		C
"	12-24	AA		C
"	13-119	AA		C
"	13-132	AA		C
"	13-144	AA		C
"	13-167	AA		C
"	13-178	AA		C
"	13-179	AA		C
VRS-TV2AB104J	10-418	AA		C
"	12-29	AA		C
VRS-TV2AB105J	10-286	AA		C
"	10-330	AA		C
"	13-150	AA		C
VRS-TV2AB122J	10-495	AA		C
"	10-496	AA		C
"	10-497	AA		C
"	10-498	AA		C
"	10-499	AA		C
"	10-500	AA		C
"	10-501	AA		C
"	10-502	AA		C
"	10-503	AA		C
"	10-504	AA		C
"	10-505	AA		C
"	10-506	AA		C
"	10-507	AA		C
"	10-508	AA		C
"	10-509	AA		C
"	10-510	AA		C
"	10-511	AA		C
"	10-512	AA		C
VRS-TV2AB124J	12-23	AA		C
VRS-TV2AB133J	10-360	AA		C
VRS-TV2AB151J	12-27	AA		C
"	12-28	AA		C
VRS-TV2AB152J	10-358	AB		C
"	13-104	AB		C
"	13-106	AB		C
"	13-108	AB		C
"	13-111	AB		C
VRS-TV2AB154J	10-417	AB		C
VRS-TV2AB183J	10-295	AD		C

PARTS CODE	No.	PRICE RANK	NEW MARK	PART RANK
VRS-TV2AB201J	10-285	AA		C
VRS-TV2AB203J	10-248	AA		C
"	10-251	AA		C
"	10-276	AA		C
VRS-TV2AB222J	12-17	AA		C
"	12-19	AA		C
"	13-105	AA		C
"	13-107	AA		C
"	13-109	AA		C
"	13-110	AA		C
VRS-TV2AB223J	13-99	AA		C
"	13-123	AA		C
"	13-169	AA		C
VRS-TV2AB271J	10-228	AA		C
"	10-229	AA		C
"	10-260	AA		C
"	10-261	AA		C
"	10-263	AA		C
"	10-265	AA		C
"	10-266	AA		C
"	10-267	AA		C
"	10-269	AA		C
"	10-290	AA		C
"	10-348	AA		C
"	10-357	AA		C
"	10-401	AA		C
"	10-402	AA		C
"	10-423	AA		C
"	10-424	AA		C
"	10-434	AA		C
"	10-435	AA		C
VRS-TV2AB302J	10-264	AA		C
"	10-270	AA		C
"	10-271	AA		C
"	10-296	AA		C
"	10-300	AA		C
"	10-319	AA		C
"	10-329	AA		C
VRS-TV2AB330J	10-218	AD		C
"	10-245	AD		C
"	10-246	AD		C
"	10-436	AD		C
"	10-437	AD		C
"	10-439	AD		C
"	10-440	AD		C
"	10-441	AD		C
"	10-442	AD		C
"	10-443	AD		C
"	10-444	AD		C
"	10-445	AD		C
"	10-446	AD		C
"	10-447	AD		C
"	10-448	AD		C
"	10-462	AD		C
"	10-463	AD		C
"	10-464	AD		C
"	10-465	AD		C
"	10-484	AD		C
"	10-485	AD		C
"	10-486	AD		C
"	10-487	AD		C
"	10-488	AD		C
"	10-489	AD		C
"	10-490	AD		C
"	10-491	AD		C
"	10-514	AD		C
"	10-515	AD		C
"	10-516	AD		C
"	10-517	AD		C
VRS-TV2AB331J	13-176	AD		C
"	13-177	AD		C
VRS-TV2AB332J	10-316	AA		C
"	10-363	AA		C
"	12-30	AA		C
"	13-146	AA		C
VRS-TV2AB333J	10-294	AD		C
"	10-324	AD		C
"	10-325	AD		C
"	10-340	AD		C
"	10-350	AD		C

PARTS CODE	No.	PRICE RANK	NEW MARK	PART RANK
VRS-TV2AB333J	10-407	AD		C
VRS-TV2AB390J	10-521	AB		C
"	13-100	AB		C
"	13-114	AB		C
"	13-118	AB		C
"	13-120	AB		C
"	13-124	AB		C
"	13-127	AB		C
"	13-130	AB		C
"	13-131	AB		C
"	13-138	AB		C
"	13-140	AB		C
"	13-141	AB		C
"	13-142	AB		C
"	13-148	AB		C
"	13-151	AB		C
"	13-161	AB		C
"	13-162	AB		C
"	13-163	AB		C
"	13-164	AB		C
"	13-165	AB		C
"	13-166	AB		C
"	13-168	AB		C
VRS-TV2AB434J	12-16	AA		C
"	12-20	AA		C
"	12-25	AA		C
VRS-TV2AB470J	10-369	AA		C
"	10-370	AA		C
"	10-466	AA		C
"	10-467	AA		C
"	10-468	AA		C
"	10-469	AA		C
"	10-470	AA		C
"	10-471	AA		C
"	10-472	AA		C
"	10-473	AA		C
"	10-474	AA		C
"	10-475	AA		C
"	10-476	AA		C
"	10-477	AA		C
"	10-478	AA		C
"	10-479	AA		C
"	10-480	AA		C
"	10-481	AA		C
"	10-482	AA		C
VRS-TV2AB471J	10-230	AA		C
"	10-231	AA		C
"	10-232	AA		C
"	10-233	AA		C
"	10-234	AA		C
"	10-313	AA		C
"	10-346	AA		C
"	10-351	AA		C
"	10-398	AA		C
"	10-426	AA		C
"	10-450	AA		C
"	13-97	AA		C
"	13-98	AA		C
"	13-121	AA		C
"	13-122	AA		C
"	13-143	AA		C
"	13-171	AA		C
VRS-TV2AB472J	10-355	AA		C
"	10-366	AA		C
"	13-112	AA		C
"	13-115	AA		C
"	13-116	AA		C
"	13-117	AA		C
"	13-125	AA		C
"	13-126	AA		C
"	13-128	AA		C
"	13-129	AA		C
"	13-133	AA		C
"	13-136	AA		C
"	13-137	AA		C
"	13-139	AA		C
"	13-152	AA		C
"	13-153	AA		C
"	13-154	AA		C
"	13-156	AA		C

PARTS CODE	No.	PRICE RANK	NEW MARK	PART RANK
VRS-TV2AB472J	13-157	AA		C
"	13-158	AA		C
"	13-159	AA		C
"	13-160	AA		C
"	13-173	AA		C
"	13-174	AA		C
VRS-TV2AB473J	10-359	AA		C
"	10-432	AA		C
"	12-26	AA		C
VRS-TV2AB562J	10-293	AA		C
"	10-483	AA		C
"	13-147	AA		C
"	13-149	AA		C
VRS-TV2AB563F	13-102	AB	N	C
"	13-103	AB	N	C
VRS-TV2AB623J	10-298	AA		C
VRS-TV2AB680J	10-205	AA		C
"	10-206	AA		C
VRS-TV2AB681J	10-431	AA		C
VRS-TV2AB682J	13-134	AB		C
"	13-135	AB		C
VRS-TW2HF000J	15-7	AC	N	C
"	15-8	AC	N	C
"	15-9	AC	N	C
VRS-TW2HF200J	15-12	AC	N	C
"	15-13	AC	N	C
VRS-TW2HF910J	15-14	AC	N	C
"	15-15	AC	N	C
VRSTS2AD1742F	10-408	AA		C
VRSTS2AD4752F	10-364	AA		C
VRSTS2AD8662F	10-328	AA		C
"	10-361	AA		C
VSDTA114EK/-1	10-212	AB		B
"	13-85	AB		B
"	13-86	AB		B
"	13-87	AB		B
"	13-88	AB		B
VSDTC114EK/-1	10-213	AB		B
"	10-214	AB		B
"	10-215	AB		B
VSDTC114ES/-1	11-41	AB		B
"	11-43	AB		B
VS2SA1037KR-1	10-216	AB		B
VS2SB1261K/-1	13-83	AE		B
VS2SC1815GR-1	11-42	AB		B
VS2SC2412KR-1	12-13	AD		B
"	13-84	AD		B
[X]				
XBPSD30P06K00	50-B6	AA		C
XBPSE30P06K00	50-B7	AA		C
XBPSN40P06K00	50-B8	AA		C
XEBSD30P06000	50-B9	AA		C
XEBSD30P10000	50-B10	AA		C
XEBSE30P12000	50-B11	AA		C
XHBSD30P04000	50-B12	AA		C
XHBSE30P06000	50-B13	AA		C
XUBSD20P06000	50-B14	AA		C
[0]				
0KY0C1A9R2210	16-5	AG		C
0KY0C1A9Y1020	16-13	AG		C
0KY0C151E1010	16-8	AE		C
0KY0C162E1040	16-12	AF		C
0KY0C176Q3320	16-9	AL		C
0KY0C245Q1040	16-3	AM		C
0KY0C251E1030	16-7	AE		C
0KY0C251E4720	16-6	AE		C
0KY0C3M1K2210	16-4	BA		C
0KY0C374D3310	16-10	AN		C
"	16-11	AN		C
0KY0D157A0060	16-20	AG		B
"	16-21	AG		B
"	16-22	AG		B
"	16-23	AG		B
0KY0D221B0020	16-24	AT		B
0KY0D251A0020	16-16	AD		B
"	16-18	AD		B
"	16-19	AD		B
0KY0D272A0060	16-25	AP		B
0KY0D461A3200	16-26	AL		B
0KY0D466A0600	16-17	AE		B

PARTS CODE	No.	PRICE RANK	NEW MARK	PART RANK
0KY0D754A2410	16-62	AL		B
0KY0D763A4R00	16-33	AN		B
0KY0H135A5R00	16-31	AV		B
0KY0H719A0010	16-34	AP		B
0KY0K221B0080	16-15	AP		C
0KY0K251A0020	16-14	AK		C
0KY0K758A4R00	16-27	AT		A
0KY0L113J1830	16-32	AQ		B
0KY0L200C0402	16-60	BA		B
0KY0L551A0010	16-1	AE		C
"	16-2	AE		C
0KY0MPH006900	16-29	AF		C
0KY0MPS029600	16-28	AP		C
0KY0M135A0050	16-59	AE		C
0KY0R153U1000	16-49	AC		C
0KY0R153U1010	16-44	AC		C
0KY0R153U1020	16-55	AB		C
0KY0R153U1050	16-37	AC		C
0KY0R153U1530	16-56	AC		C
0KY0R153U1810	16-42	AC		C
0KY0R153U1830	16-40	AC		C
0KY0R153U1840	16-38	AC		C
"	16-39	AC		C
0KY0R153U2030	16-47	AC		C
0KY0R153U2220	16-57	AC		C
0KY0R153U3310	16-54	AC		C
0KY0R153U3330	16-43	AB		C
0KY0R153U3910	16-48	AC		C
0KY0R153U3920	16-50	AC		C
"	16-51	AC		C
"	16-52	AC		C
"	16-53	AC		C
0KY0R153U4710	16-41	AC		C
0KY0R153U6220	16-45	AC		C
0KY0R153U9120	16-46	AC		C
0KY0R353U1630	16-58	AD		C
0KY0R854E5020	16-61	AK		B
0KY0T358A0040	16-36	AG		B
0KY0T644A0010	16-35	AV		B
0KY1H153A0010	16-30	AP		B
0MIMMM7E24MM0	8-901		N	E
0MIOPM300356/	8-902		N	C
0MIOPSA00195/	8-903		N	E
0MIOPM100090/	8-904		N	E
0MIOPSA00100/	8-905		N	E

MEMO

SHARP

SHARP CORPORATION
Communication Systems Group
Quality & Reliability Control Center
Higashihiroshima, Hiroshima 739-0192, Japan
Printed in U.S.A.

A9805-2256SS•IS•M