

SANYO

SERVICE MANUAL

Facsimile Transceiver

FILE NO.

SFX-30

PRODUCT CODE NO.

GERMANY

1 145 653 25



MAIN SPECIFICATIONS

Type	Desk-top type transceiver
Line connected	Public switched telephone network
Size of recording paper	216mm (8.5") × 30m (98')/25m (82')
Effective scanning width	208mm (8.2")
Effective recording width	212mm (8.3")
Transmission speed	9600/7200/4800/2400 BPS
Transmission time	Approx. 15 sec. (Transmission mode: standard)
Main scanning density	Fine mode: 8 pels Standard: 8 pels
Sub scanning density	3.85 lines/mm (Standard mode) 7.7 lines/mm (Fine mode) 15.4 lines/mm (Super fine mode)
Compression mode	MH (Modified Huffman) and Sanyo original
Reading method	CIS (Contact image sensor)
Recording method	Thermal printing
Power supply	AC 230V, 50/60Hz
Power consumption	Stand-by: 5W, Transmission: 15W, Reception: 150W, Copy: 160W
Overall dimensions	381(W) × 90(H) × 263(D) mm 15" (W) × 3.5" (H) × 10.4" (D)
Weight	Approx. 4.3 kg (9.5 lb)
Ambient temperature	5°C ~ 35°C (41°F ~ 95°F)

* High-grade thermal paper is 25m (82').

REFERENCE NO. SM 620011

1. INSTALLATION

(1) Unpacking

To unpack the SFX-30:

1. Open the carton.
2. Remove the accessories (handset, recording paper roll, etc.) from the carton.
3. Remove the fax machine along with the foam braces on both sides.
4. Remove the polyethylene wrapping around the fax machine.
5. Remove the transportation tapes.
6. Save the carton and the foam braces for later storage and/or shipping.
7. Place the machine where there is access to an AC outlet and a modular phone jack. (Be sure to observe the precautions below.)

Placement precautions

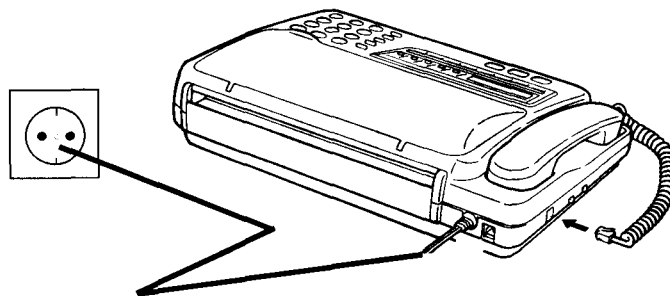
- Avoid placing the SFX-30 in humid or dusty places, or in places where it will be exposed to excessive heat (direct sunlight, heaters, etc.).
- Do not step on or set anything on the AC cord. **DAMAGE TO THE AC CORD IS A SAFETY RISK AND CAN CAUSE A FIRE.**
- Install the unit only on a stable surface.
- Do not connect the SFX-30 to the same AC outlet as appliances that generate large amounts of interference (heaters with thermostats, appliances with motors, etc.). It is best to use a completely separate electrical outlet.
- Keep the SFX-30 away from water. If water accidentally enters the unit, unplug the AC power cord immediately. **DO NOT SWITCH THE UNIT ON AGAIN.** Contact an authorized Sanyo service center or dealer.

Handling precautions

- Do not remove any parts that are held in place with screws. (The SFX-30 does not contain any user-serviceable items).
- Maintain standard room temperature 5°C – 35°C (41°F – 95°F) during use. Do not subject the unit to shock or vibration. Do not move the unit while it is in use.
- A rapid increase in room temperature in cool weather can cause condensation to form inside the unit. If this happens, wait at least 15 minutes after turning the unit on before attempting to operate it. Failure to do so may result in paper jams and/or poor print quality.
- When cleaning the cover or operation panel of the unit, wipe gently using a damp cloth to which a small amount of a neutral detergent has been added. **NEVER USE SOLVENTS OR CHEMICALLY TREATED CLOTHS.**

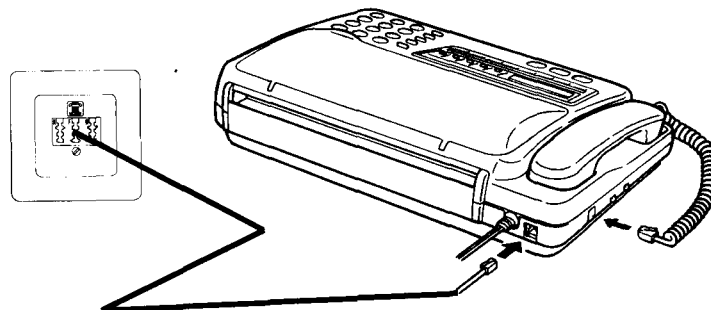
(2) Telephone line and AC connections

Connecting to AC



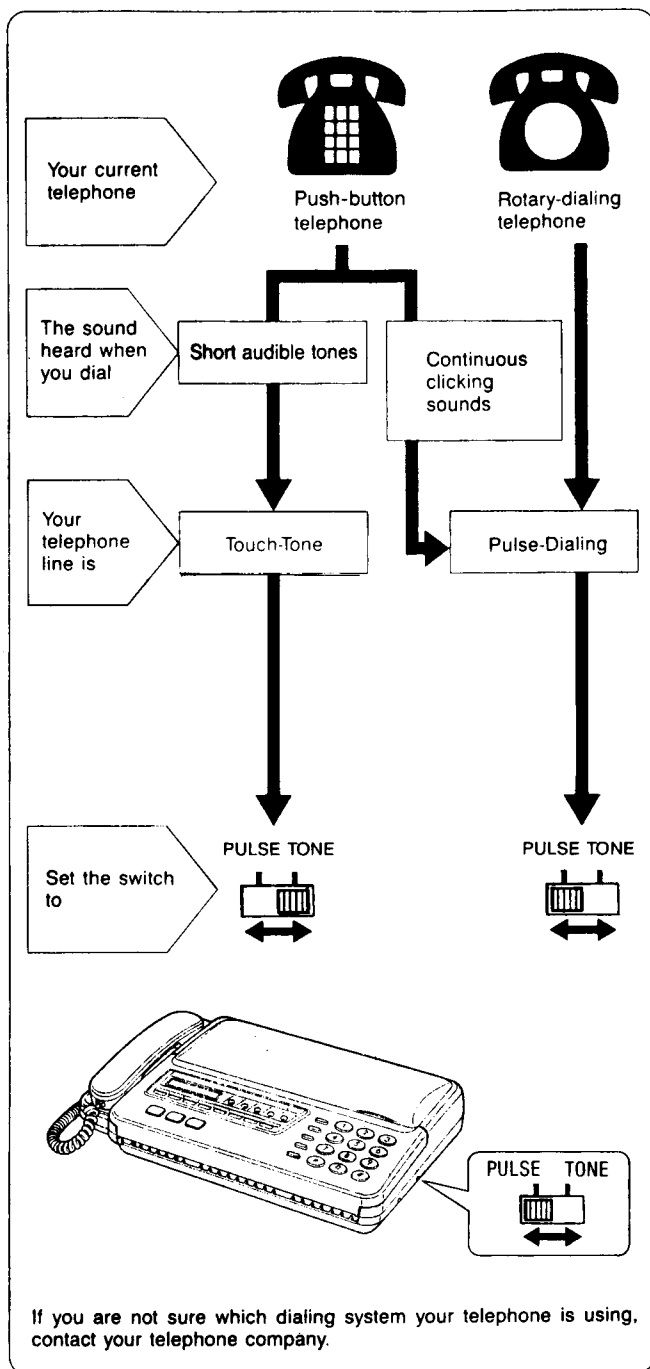
Connecting to telephone line

- The SFX-30 should not share a modular jack with other communication equipment, as this may obstruct the proper functioning of the unit.



(3) Setting the dialing mode switch

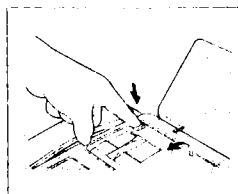
Set the dialing mode switch (DIAL) to the correct position for your telephone line.



(4) Installing recording paper

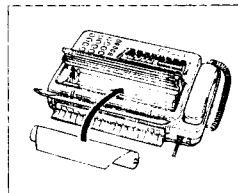
How to install the recording paper roll:

1



Open the protective cover and rear cover. Press the **OPEN** button to open the recording paper cover.

2

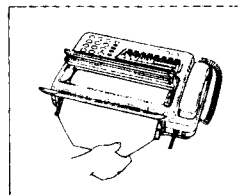


Place the supplied roll, in the direction shown in the diagram, in the paper holder with both sides seated securely.

- Remove any slack from the roll.
- Insert the end of the roll into the recording paper exit slot.

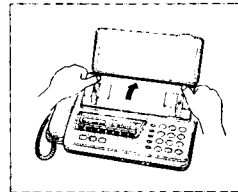


3



Pull out the end of the roll from the recording paper exit until it extends 4 inches.

4



Close the recording paper cover by pressing both left and right corners of the far end of the cover firmly. The SFX-30 cuts the extra recording paper automatically.

- Use only the recording paper specified for the SFX-30.
- The rear cover must be left open while the SFX-30 is in standby mode.

High-grade thermal paper

The SFX-30 is compatible with the high-grade thermal paper, a new type fax recording paper with plain-paper quality. Unlike regular thermal paper, the high-grade thermal paper does not fade with time, can be written on with pencil and can be erased.

SANYO Type: 632 673 1727, 216 mm (8.5") wide and 25 m (82') long. A 12-meter (39') long roll is supplied with your SFX-30.

Thermal paper

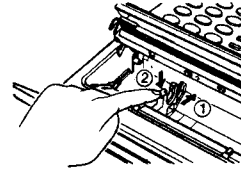
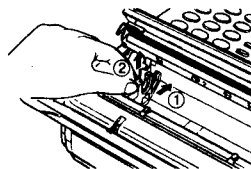
SANYO Type: 632 325 0047, 216 mm (8.5") wide and 30 m (98') long. To purchase, contact your dealer.

Anti-curl system

The SFX-30 has a built-in anti-curl system that prevents thermal recording paper (high-grade or regular) from curling.

When Setting the A4 Recording Paper

- 1. Remove the recording paper guide**
Push the guide to ① direction and lift it to ② as shown in the figure.
- 2. Replace the recording paper guide in A4 position**
Push the guide to ① and then to ② direction as shown in the figure.



(5) MACHINE INITIAL

1. Connect AC plug into AC outlet.
2. Press **MENU** key while **SET** key is being pressed and keep this condition at least one second.
3. Press **SET**.
4. Press **SET** or **MENU**.
SET: Clear all items then return to STAND-BY display.
At the same time S-RAM check is also carried out.
MENU: Individual items.
5. Press **SET** or **MENU**.
SET: Initialize RAM CODE and goes to the next item.
MENU: Just goes to the next item.
6. Press **SET** or **MENU**.
SET: Clear one-touch and speed dial memory and goes to the next item.
MENU: Just goes to the next item.
7. Press **SET** or **MENU**.
SET: Clear Activity report data and return to STAND-BY display.
MENU: Just return to STAND-BY display.

REMARKS

In case of S-RAM Error at step 4, alarm sounds continuously and the machine goes into "DEAD LOCK" condition → Repairing is required.

(6) MACHINE PROGRAMMING

<SETTING YOUR STATION NAME AND FAX NUMBER>

1. Press **MENU** 5 times.
2. Press **SET**.
3. Press **MENU** twice.
4. Press **SET**.
5. Enter your station name.
A maximum of 24 characters can be entered.
(See page 4)
6. Press **SET**.
7. Enter your fax number.
Your fax number can be entered up to 20 digits in length.
Example: 0123456
8. Press **SET**.
9. Print an activity report (see page 34) to make sure that your station name and fax number have been programmed correctly.

Jun. 26 '93 12:00

INITIAL SET ?

ALL CLEAR ?

Jun. 26 '93 12:00

RAM CODE CLEAR ?

O.T & S.D CLEAR?

REPORT DATA CLR?

Jun. 26 '93 12:00

SRAM CHECK ERROR

SET MODE ?

O.T DIAL SET ?

STATION CODE SET

■

ABCDE■

■

0123456

Jun. 26 '93 12:00

- To print programming, press **STOP/C**.
- If you make a mistake in entering a character, press **STOP/C** and then re-enter the letter or number.
- To enter a hyphen (-) between two digits, press **SPEED DIAL**.
- To enter a plus sign (+) preceding your fax number, press **HOLD**.
- The header can be printed either outside the original document (in the top margin) or inside the document itself. You can select the desired setting using feature switch No. 20. Default setting is printing outside of the original.
NOTE: If you choose to print the header inside the document, the top of the original document (about 1 cm/0.4") may not be reproduced.

Printing outside of the original.

Jun. 26 '93 12:00	SANYO	FAX 012345	P.1
-------------------	-------	------------	-----

Printing inside of the original.

Jun. 26 '93 12:00	SANYO	FAX 012345	P.1
-------------------	-------	------------	-----

Entering names

Before programming the one-touch and speed-dial memory, you need to know how to enter names using number keys. Each alphabetical letter and symbol are assigned to a 2-digit code as shown on the next page.

Entering letters

Example: To enter SFX

1. Press **3** · **6** to enter S.

S ■

2. Press **2** · **3** to enter F.

SF ■

3. Press **4** · **1** to enter X.

SFX ■

4. Press **0** · **0** to enter space.

SFX ■

Entering numbers

Example: To enter 67

1. Press **6** to enter 6 and then press **#** key to move the cursor to the right.

SFX 6 ■

2. Press **7** to enter 7.

SFX 67 ■

Table of letter and symbol codes

Character Code No.	Character Code No.	Character Code No.	Character Code No.	Character Code No.
space..... 00	(..... 14	K 28	Y 42	m 56
. 01	) 15	L 29	Z 43	n 57
, 02	< 16	M 30	a 44	o 58
: 03	> 17	N 31	b 45	p 59
; 04	A 18	O 32	c 46	q 60
- 05	B 19	P 33	d 47	r 61
+ 06	C 20	Q 34	e 48	s 62
— 07	D 21	R 35	f 49	t 63
/ 08	E 22	S 36	g 50	u 64
& 09	F 23	T 37	h 51	v 65
* 10	G 24	U 38	i 52	w 66
# 11	H 25	V 39	j 53	x 67
! 12	I 26	W 40	k 54	y 68
' 13	J 27	X 41	l 55	z 69

- To enter number:
 0 — 6 Enter the number and press **#** to move corsor right.
 7 — 9 Enter the number. The cursor moves to the right automatically.
- If you make a mistake in entering a letter or a number, simply press **#** to move right or ***** to move left to the appropriate space and then enter the correct letter or number.
- To clear a name or a number, press **STOP/C** and re-enter.

<ONE-TOUCH DIAL MEMORY PROGRAMMING>

1. Press **MENU** 5 times.
2. Press **SET**.
3. Press **SET** again.
4. Press one-touch dialing key (1-8).
 Example: To program a number in the one-touch key 2,
 press one-touch key **2**.
5. Press **SET**.
6. Enter the party's name (to a maximum of 16 characters).
 (See page 4 for detailed instructions)
7. Press **SET**.
8. Enter the fax (or telephone) number.
 (A maximum of 32 digits can be entered including pauses
 and hyphens.)
 Example: 0123456
9. Press **SET**.
 To program other one-touch keys, repeat steps 4-9 above.

SET MODE ?

O.T DIAL SET ?

O.T No. = 1 ?

O.T No. = 2 ?

■

ABCDE ■

■

0 1 2 3 4 5 6

O.T No. = 3 ?

10. Press **STOP/C** to finish one-touch number programming.

Jun. 26 '93 12:00

- For instructions on printing out a numerical list of programmed names and numbers, see page 4.
- To interrupt programming, press **STOP/C**.
- To enter a hyphen (-), press **SPEED DIAL**.
- To enter a three-second pause between two digits of a number, press **REDIAL/PAUSE** in the appropriate place. A semicolon (;) indicates a pause.

<SPEED-DIAL MEMORY PROGRAMMING>

1. Press **MENU** 5 times.
2. Press **SET**.
3. Press **MENU**.
4. Press **SET**.
5. Enter a speed-dial number using the number keys.
Example: To store a fax number in the speed-dial number 10, press **1**, then **0**.
6. Press **SET**.
7. Enter the party's name (to a maximum of 16 characters).
(See page 4 for detailed instructions.)
8. Press **SET**.
9. Enter the fax (telephone) number to be stored.
A maximum of 32 digits can be entered, including pauses and hyphens.
Example: 0123456
10. Press **SET**.
Repeat steps 5-10 to program other numbers.
11. Press **STOP/C** to finish speed-dial number programming.

SET MODE ?

O.T DIAL SET ?

SPEED DIAL SET ?

S.D No. = 0 ?

S.D No. = 1 ?

■

ABCDE ■

■

0 1 2 3 4 5 6

S.D No. = 1 ?

Jun. 26 '93 12:00

- For instructions on printing out a list of programmed names and numbers, see page 4.
- To interrupt programming, press **STOP/C**.
- To enter a hyphen (-), press **SPEED DIAL**.
- To enter three-second pause between two digits of a number, press **REDIAL/PAUSE** in the appropriate place. A semicolon (;) indicates a pause.

Canceling programmed one-touch dialing numbers

1. Press **MENU** five times.
2. Press **SET** twice.
3. Press the one-touch dialing key of the number you want to cancel.

Example: One-touch 2

O.T No. = 2 ?

4. Press **SET**.

DEALER A

5. Press **STOP/C**.

■

6. Press **SET**.

Repeat steps 3—6 to cancel other one-touch key.

O.T No. = 8 ?

7. Press **STOP/C** to finish canceling.

Canceling programmed speed-dialing numbers

1. Press **MENU** five times.

2. Press **SET**.

3. Press **MENU**.

4. Press **SET**.

5. Press the number to be canceled.

Example: Speed-dial number 10

S.D No. = 10 ?

6. Press **SET**.

DEALER A

7. Press **STOP/C**.

■

8. Press **SET**.

Repeat steps 5—8 to cancel other speed-dial numbers.

S.D No. = 11 ?

9. Press **STOP/C**.

<CALENDAR AND CLOCK>

1. Press **MENU** 5 times.

SET MODE ?

2. Press **SET**.

O.T DIAL SET ?

3. Press **MENU** 3 times.

TIME SET ?

4. Press **SET**.

04 . 10 '93 10:00

5. Enter the month, day, year and time using the number keys.

- The time must be entered using 24-hour system.
- The month, day and year should be entered in 2 digits each.

Example: to enter June 26, 1993, 12:00, press **0**, **6**, **2**, **6**, **9**, **3**, **1**, **2**, **0** and **0**.

06 . 26 '93 12:00

6. Press **SET**.

Jun . 26 '93 12:00

■ If you make a mistake, move the cursor to the appropriate place, then enter the correct number.

Press **#** to move the cursor right.

Press ***** to move the cursor left.

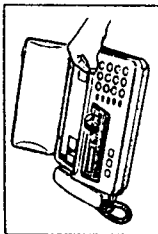
Cleaning the housing (exterior plastic parts)

Gently wipe the housing with a soft, clean cloth dampened with a small amount of a neutral detergent.

- Do not use a cleaning agent such as alcohol or benzene.

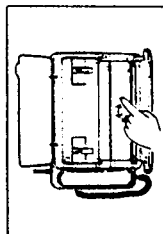
Cleaning the document feed roller-2

If a streak or dirty pattern appears on a copy or a fax you have sent, clean the document feed roller-2 with a soft, clean cloth dampened with a small amount of neutral detergent.



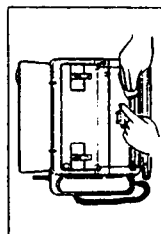
Open the operation panel.

1



In order to rotate the document feed roller-2, press the document sensor as shown in the figure.

2

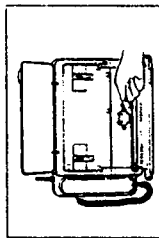


Clean the document feed roller-2, then dry it thoroughly to prevent the document from jamming.

3

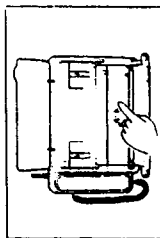
Cleaning the document feed roller-1

If the document jamming or overlapping frequently occurs, clean the document feed roller-1 with a cotton swab dampened with a small amount of a neutral detergent.



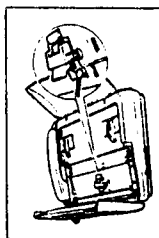
1

Open the operation panel then pull the document release lever as shown in the figure.



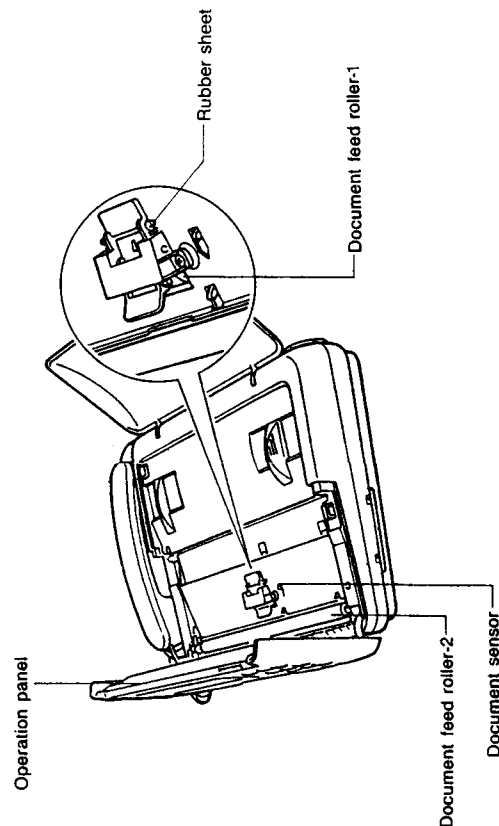
2

In order to rotate the document feed roller-1, press the document sensor as shown in the figure.



3

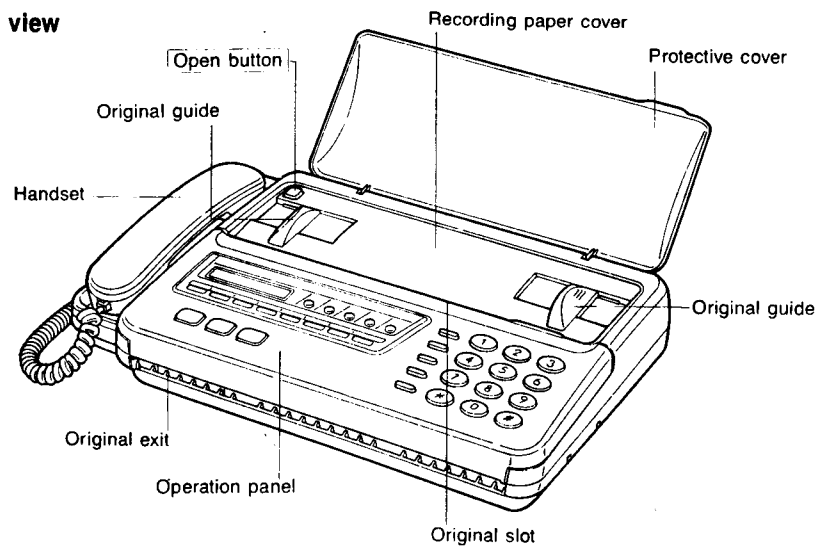
Clean the document feed roller-1, then dry them thoroughly to prevent the document from jamming.



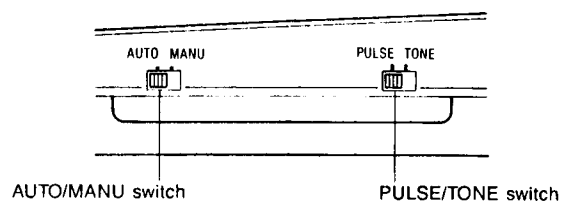
3. OUTLINE

(1) Part name and functions

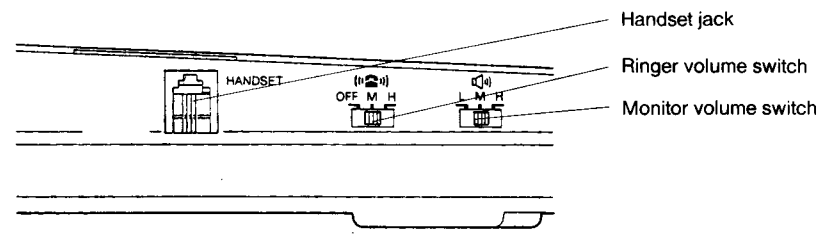
Front view



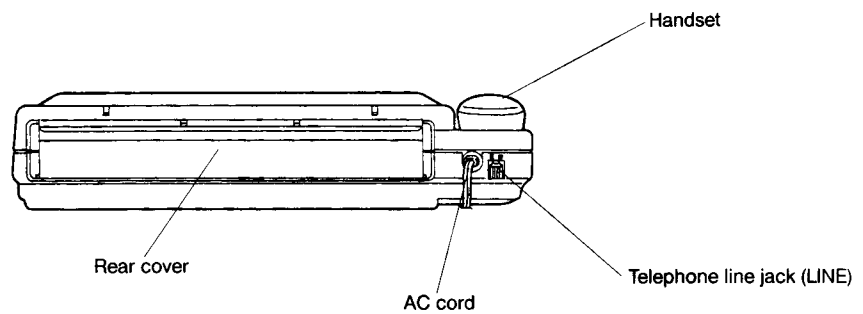
Right side



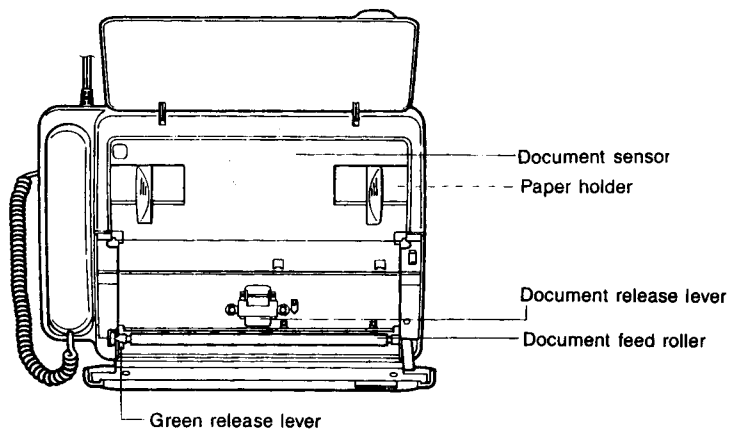
Left side

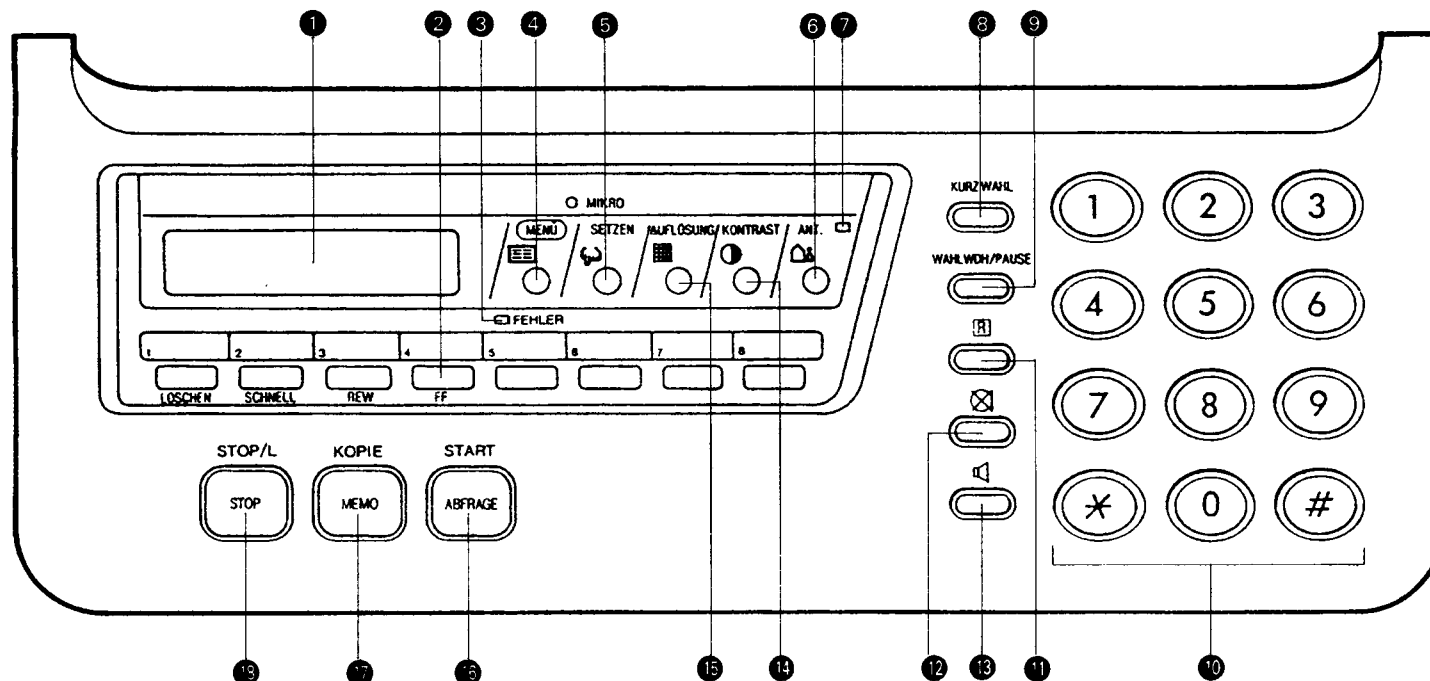


Rear view



Inner view



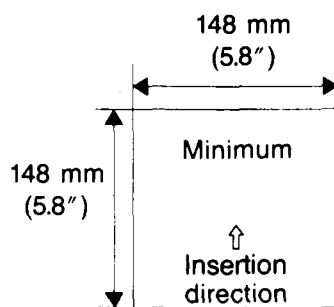
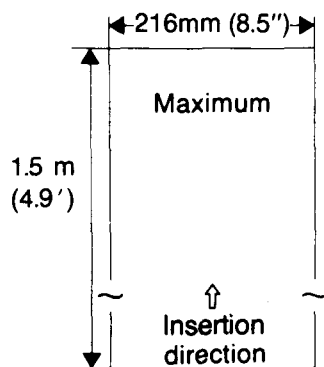


● Display	• Shows calendar and clock functions, operation guidance, machine status, etc.
● One-Touch Keys	• Frequently dialed numbers can be stored in memory using these 8 keys. The one-touch keys are also used when entering names in memory.
● ERROR Lamp (FEHLER)	• Lights if a communication error occurs.
● MENU Key	• Press this key when selecting various functions.
● SET Key	• Press this key to confirm selections.
● ANSWER Key	• Press this key to set to answer mode.
● ANSWER Lamp	• Lights when the unit is set to answer mode.
● SPEED DIAL Key (KURZWahl)	• Press this key when using speed dial.
● REDIAL/PAUSE Key (WAHLWDH/PAUSE)	• Press this key to redial the last number dialed. • Press this key to insert a pause between two digits in a number being dialed.

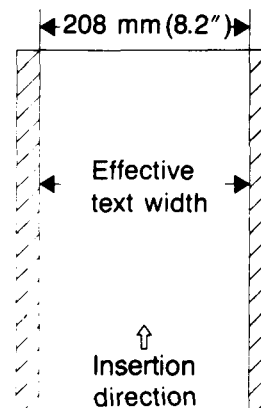
10 Number Keys 0 – 9 # *	• These keys are used to dial fax and phone numbers and to change various functions.
11 TONE Key ([R])	• Press this key to switch from pulse dialing to Touch-Tone dialing.
12 HOLD Key ([X])	• Temporarily places a call on hold.
13 SPEAKER Key ([A])	• Allows you to monitor a call without using the handset.
14 CONTRAST Key	• Press this key to select contrast settings.
15 RESOLUTION Key (AUFLÖSUNG)	• Press this key to select resolution settings.
16 START Key	• Press to start transmission or manual reception.
17 COPY Key	• Press to make a copy.
18 STOP/C Key	• Press to interrupt transmission/reception/copying or to stop the ERROR indicator lighting. • Press to cancel various setting and dialing functions and to remove an original document that has been placed in the unit.

(3) Original documents precautions

■ Transmittable original size



■ Effective text width



Note: An original other than specified should be reduced or enlarged by the photo copier then the copy can be used as an original document.

■ Effective thickness

	1 original sheet	multi sheets
thickness (per sheet)	0.05 – 0.15 mm (0.002" – 0.006")	0.08 – 0.13 mm (0.003" – 0.005")

4. MECHANICAL OUTLINE

①. Transmission Mechanism

When, in Fig. 4-1, the document is inserted, the first sensor detects the document and the transmission motor starts to rotate.

Subsequently, the automatic document feed roller also rotates and the document is fed to the position of the platen roller and is stopped. (the automatic document feed roller also works for the separation of the document when multiple documents are inserted)

When the START or COPY button is pressed here, the transmission motor rotates again and the document is fed forward.

②. Reception Mechanism

As shown in Fig. 4-1, the recording paper is pressed by the platen roller and the thermal head. The platen roller is rotated by the reception motor and feeds the recording paper forward. When the printing is finished, the recording paper is fed to the cutter until its cutting position and it's cut.

There are two sensors for the recording paper, one is for detecting the recording paper itself and the other is for detecting its jamming. It is noted that it will be a cause of recording paper jam when the recording paper is not inserted straight or is not rolled tightly.

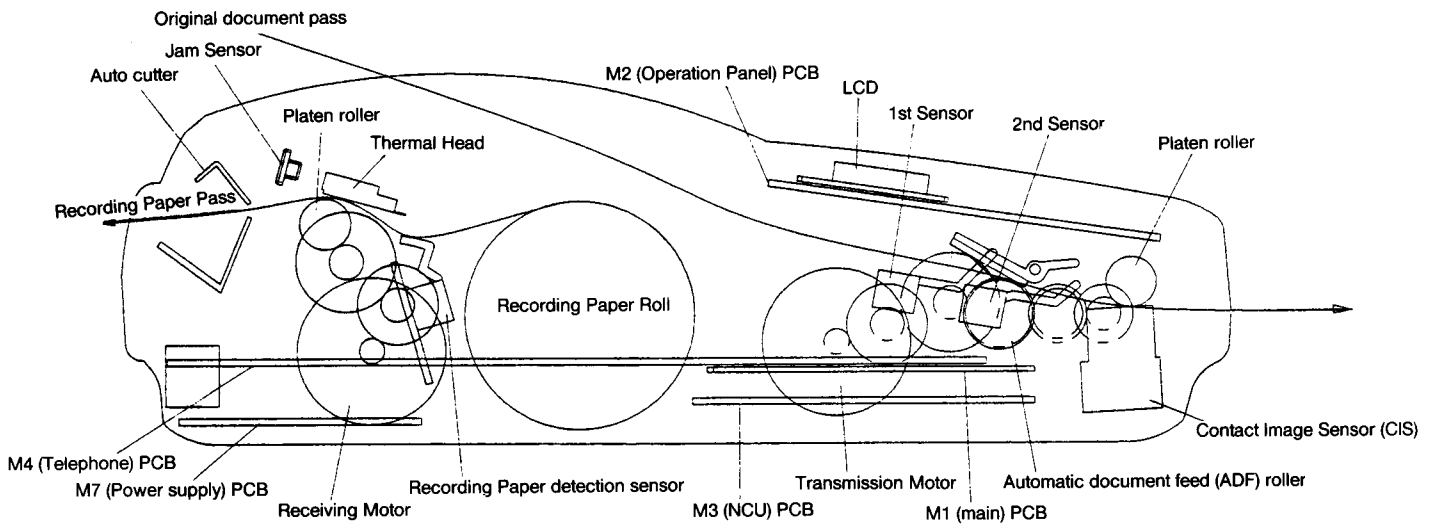


Fig. 4-1

5. TROUBLE SHOOTING

5-1. Function description of each PCB

1. M-1 PCB(Main PCB)

This PCB contains CPU and all of the control circuit.
The following functions are included.

1) LSI so called FAX ENGINE(TC35168F)

① 8-bit CPU

② MODEM

- Modulation and Demodulation
- Tone signal generation and detection
- DTMF signal generation
- Pre-recorded voice prompt generation
- Hold on melody generation

③ CODEC

- Coding and decoding of image signals

④ Image signal processor

- Driving of CIS(Contact Image Sensor)
- Convert analog signal to digital signal(two or multi value)
- Reduction of image(if reading width is B4)

⑤ DMA(Direct Memory Access)controller

- It is used when transferring the data from image signal processor to line memory, from line memory to MODEM , thermal head and CODEC.

⑥ Real time clock

⑦ Stepping motor control

⑧ I/O ports

- Mechanism
- Operation panel
- LCD control

2) Gate Arrey(μ PD65622)

① Thermal head Control Circuit

② I/O ports

- NCU/TEL control

3) 1MBit EP-ROM

- This EPROM contains the program to control CPU

4) 128KBit SRAM

- This is used for a temporary memory for image signal and various data memory such as Activity report one touch/speed dial list, Ram Code Data, etc.

5) Back up control

It is used to keep the stored data of SRAM and Clock.

6) NCU I/F Circuit

This is a interface circuit for connecting NCU and MODEM

2. M-2 PCB(Operation Panel)

This PCB contains key matrix circuit controlled by ROW and COL signals and LED circuit.

3. M-3 PCB(NCU PCB)

This is a Network Control Unit connecting the telephone line and this facsimile.

The following functions are included.

- ① Hook up detection
- ② Ringing signal detection
- ③ Dial pulse generation
- ④ Relay drivers
- ⑤ Tx/Rx separation circuit

4. M-4 PCB(TELEPHONE PCB)

This PCB contains telephone circuit.

The following functions are included.

- ① Speech Network circuit
- ② Line monitor function
- ③ Ringer circuit

5. M-5 PCB(Rx. Mechanism Control)

This PCB contains the driving circuit for Rx. stepping motor and cutter motor, and sensors for recording paper detection and its jamming.

6. M-6 PCB(Tx. Mechanism Control)

This PCB contains the driving circuit for Tx. stepping motor and sensors for detecting the original document.

7. M-7 PCB(Power Supply)

This is a power Supply using the switching regulation techniques.
It supplies +5V, $\pm 12V$, and +24V.

8. LCD Display

This contains 16 x 1 LCD and segment/common driver.

9. Thermal Head

This contains 1728dots (8dots/mm) of heat generating elements and driver circuit.

10. Contact Image Sensor(CIS).

This CIS converts scanned image to electrical signal.

11. Monitor Speaker.

This is a speaker used for monitoring the line.

A switch for monitor control volume is mounted on the Telephone PCB (M-4).

12. Ringer Buzzer

This is a buzzer for ringing.

A switch for ringer control volume is mounted on the Telephone PCB (M-4).

13. Handset

This contains a microphone and a speaker.

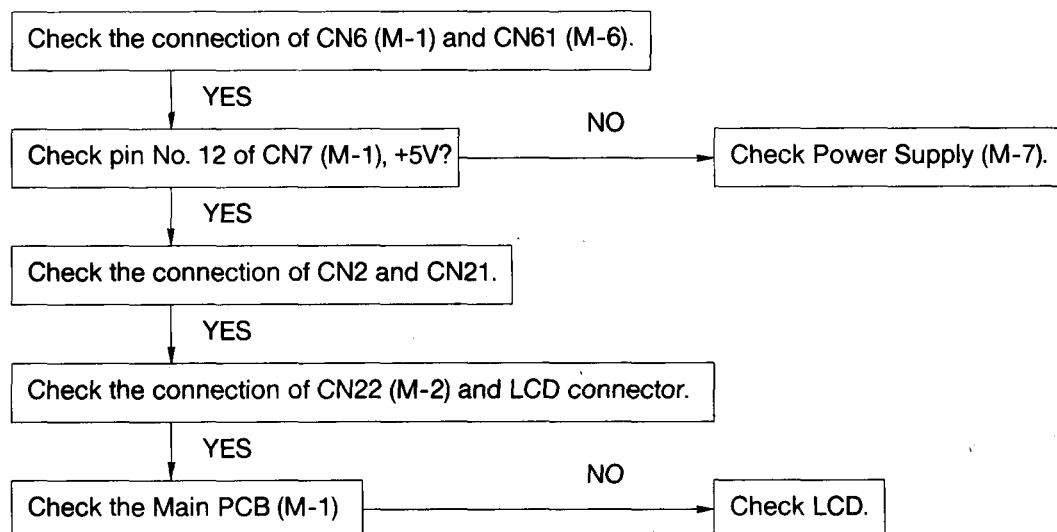
5-2. Trouble shooting for mechanical Parts

When trouble occurs, thoroughly confirm the cause of the trouble and carry out appropriate repair.

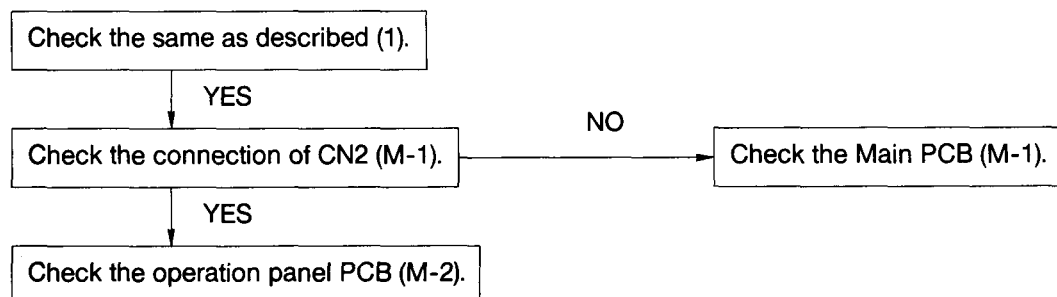
SYMPTOMS	CAUSE	COUNTERMEASURE
The document, even when inserted, is not fed.	1. The platen roller is not rotating properly. 2. Dirt on the ADF roller. (roller 1) 3. The sensor 1 is not adjusted properly or out of operation.	1. Press the green release lever, then insert the document again. 2. Clean the ADF roller. (See page 8) 3. Adjust the level of the sensor 1. Confirm the operation of the sensor 1. (See page 12)
The documents are fed overlapping. (More than one sheet are fed at a time.)	Dirt on the rubber sheet.	Clean the rubber sheet. (See page 24 Fig. 6-16)
The document is not fed straight.	1. The original guide is not adjusted along by the original. 2. Dirt on the platen roller. (roller 2) 3. Pressure for the Contact Image Sensor is not equal in the both sides.	1. Adjust the original guide along by the original. 2. Clean the platen roller. (See page 8) 3. Adjust the pressure repositioning the Contact Image Sensor. (See page 23)
When copying or transmitting the exceeding part of the original is printed as blurred black if less than A4 or letter size of original is used.	The exceeding part of the original on the platen roller is dirty.	Clean the platen roller. (roller 2) (See page 8)
When copying, white vertical line appears that is not on the original.	1. There is dirt sticking to the thermal head. 2. The heating element of the thermal head is broken.	1. Clean the thermal head. (See page 24) 2. Replace the thermal head. (See page 24)
Although the recording paper is in the position, "CHECK PAPER ROLL" is indicated on the LCD.	1. The recording paper sensor is not adjusted properly or out of operation. 2. The recording paper is not placed in the proper position.	1. Adjust the level of the 1st Sensor. (See page 12) 2. Place the recording paper properly.
No cutting the recording paper.	The copy cut previously still remains in the cutter position.	Remove the copy remained in the cutter position, then confirm the performance. (Still same situation, Replace the cutter.) (See page 24)
When copying with High grade thermal paper, the copy is shrank.	The recording paper is placed slackly.	Place the recording paper without slackness.

5-3. Trouble shooting for circuitry

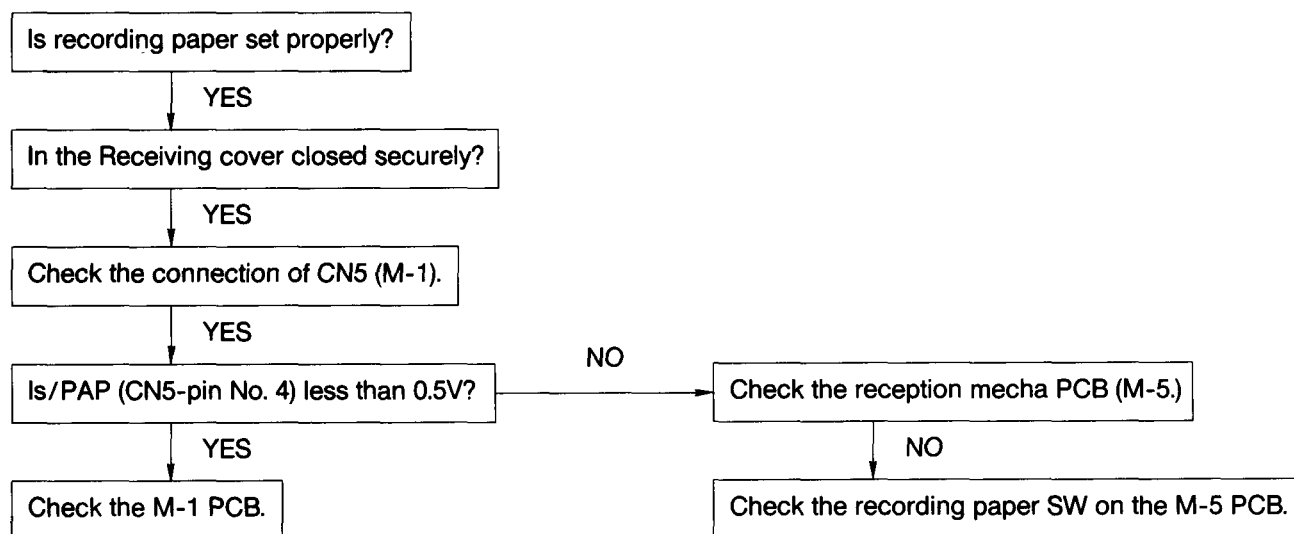
(1) No display on LCD light when Power is turned ON.



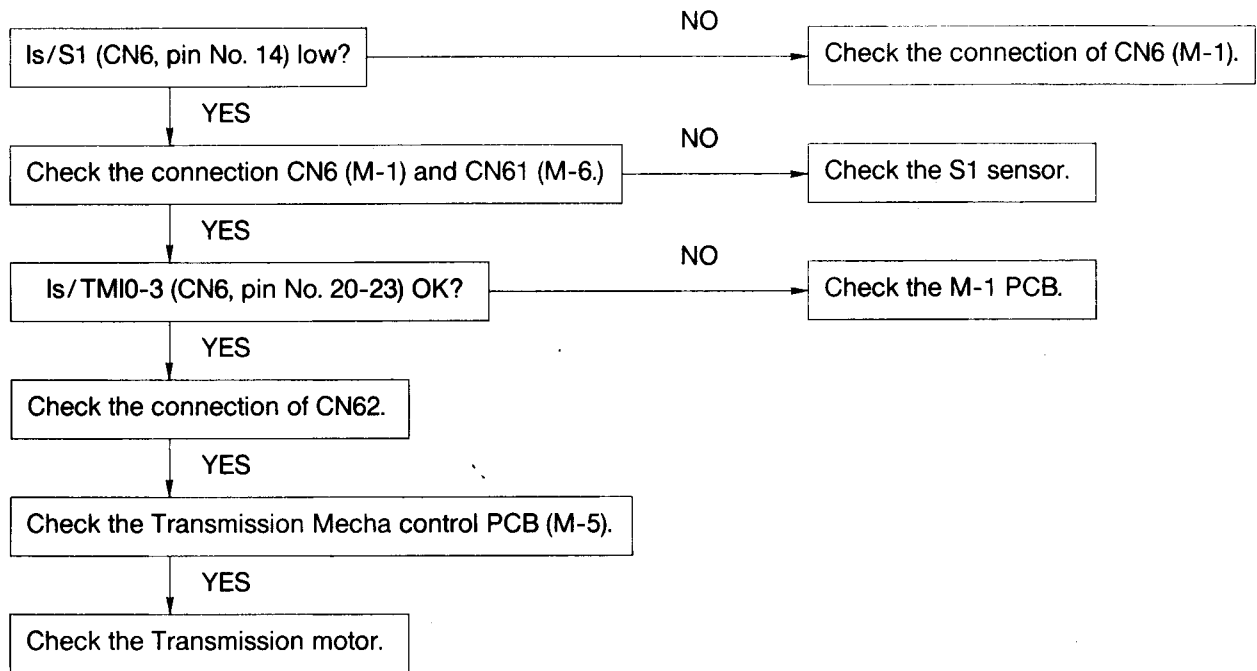
(2) Key-in is impossible from the operation panel.



(3) LCD indicates "CHECK PAPER ROLL".



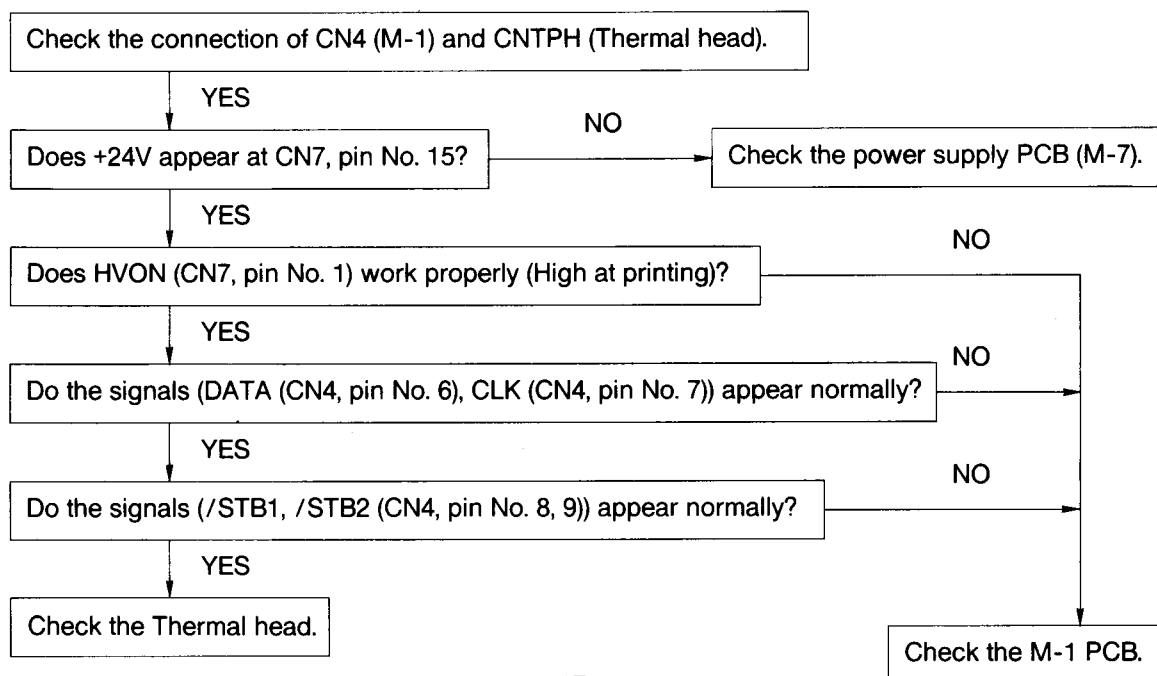
(4) No motor rotates when the original is inserted.



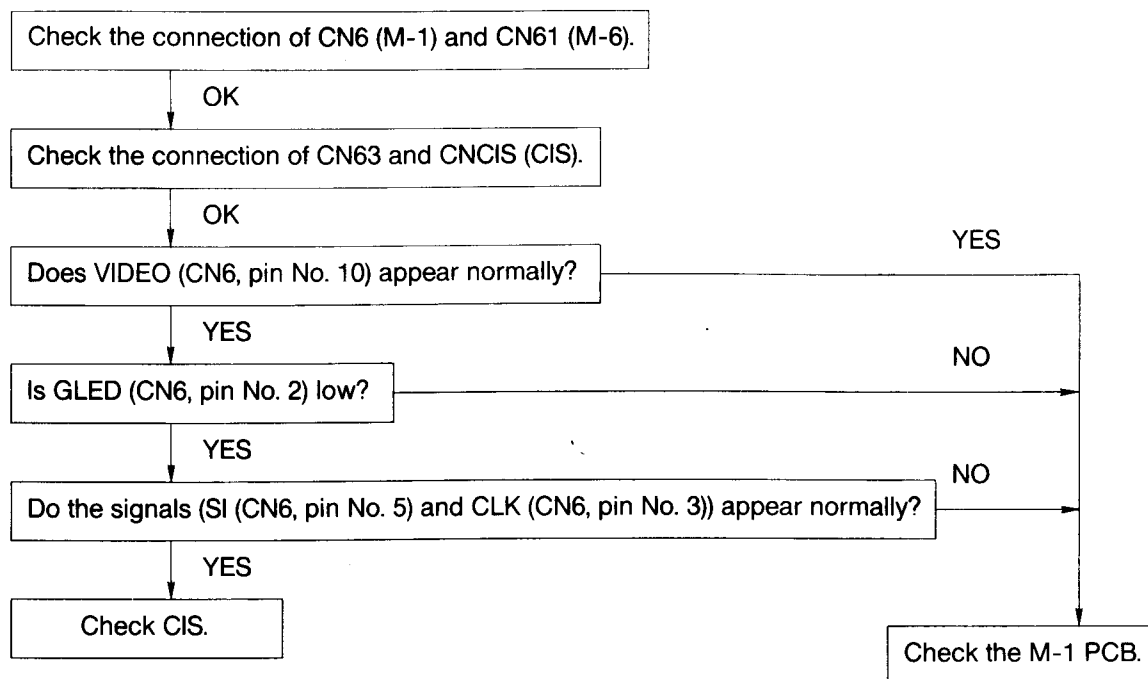
(5) No copy is made.



(a) Printing Circuit (To be confirmed by the Head test)

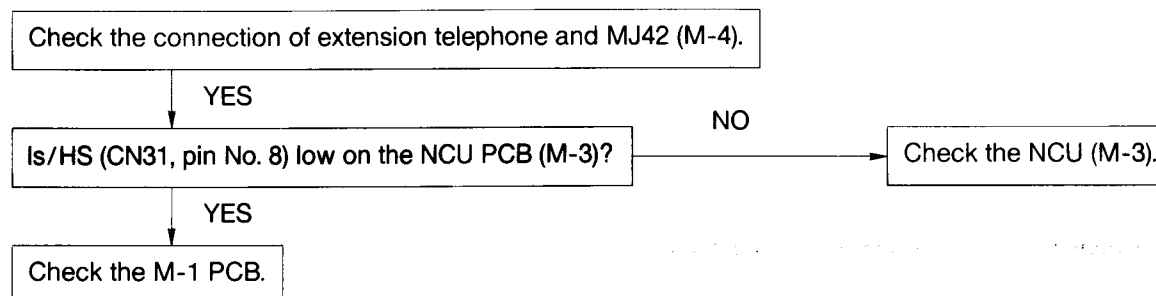


(b) Reading Circuit (To be checked by Scanning test)

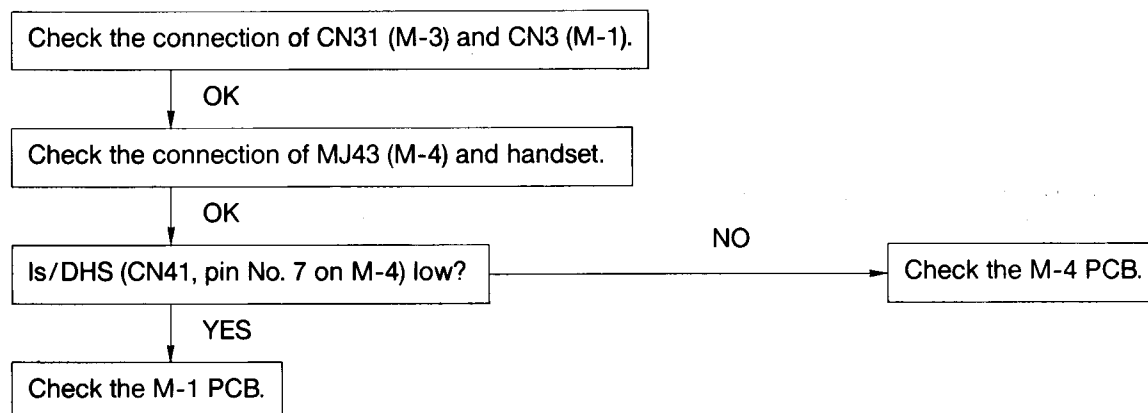


(6) Can not enter the Tx./Rx. mode by pressing **START switch under OFF-HOOK condition**

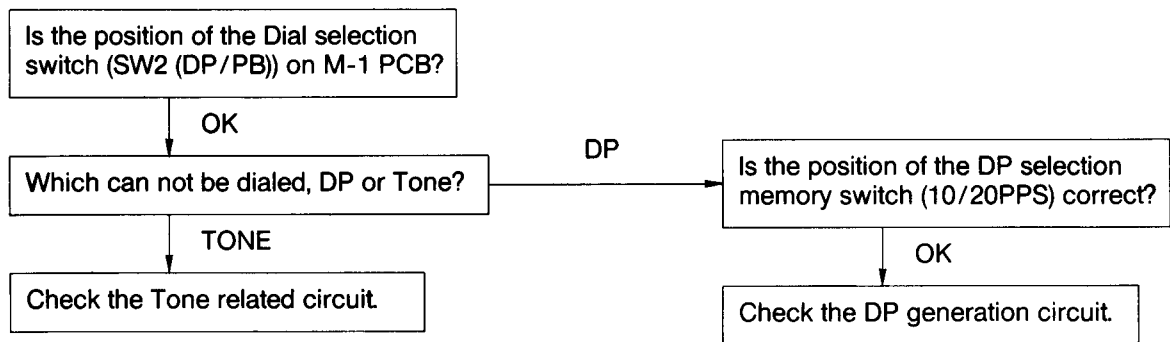
(a) In case of the extension telephone connected to the SFX-30



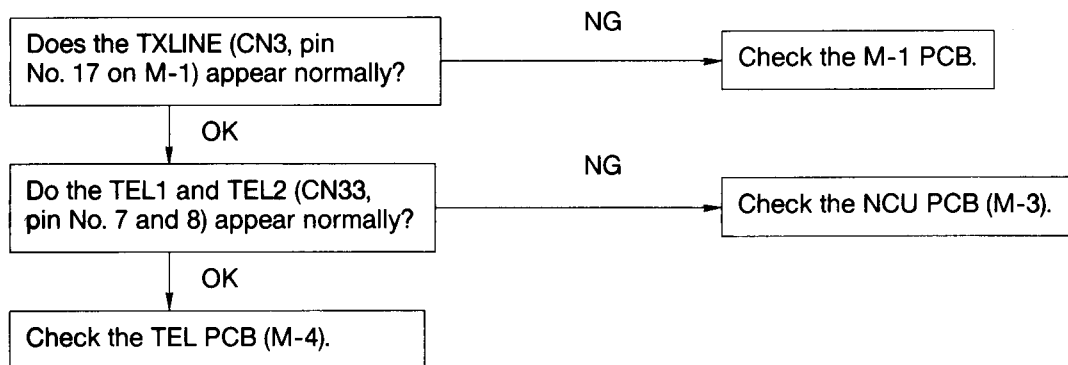
(b) In case of the Built-in telephone



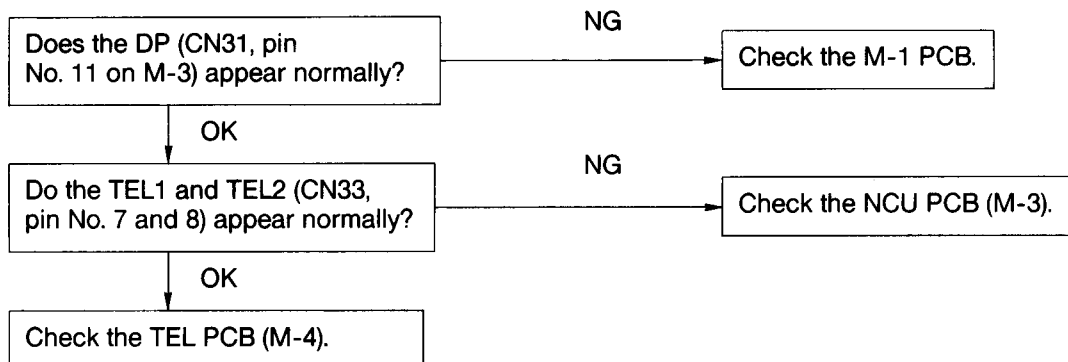
(7) No Dial out



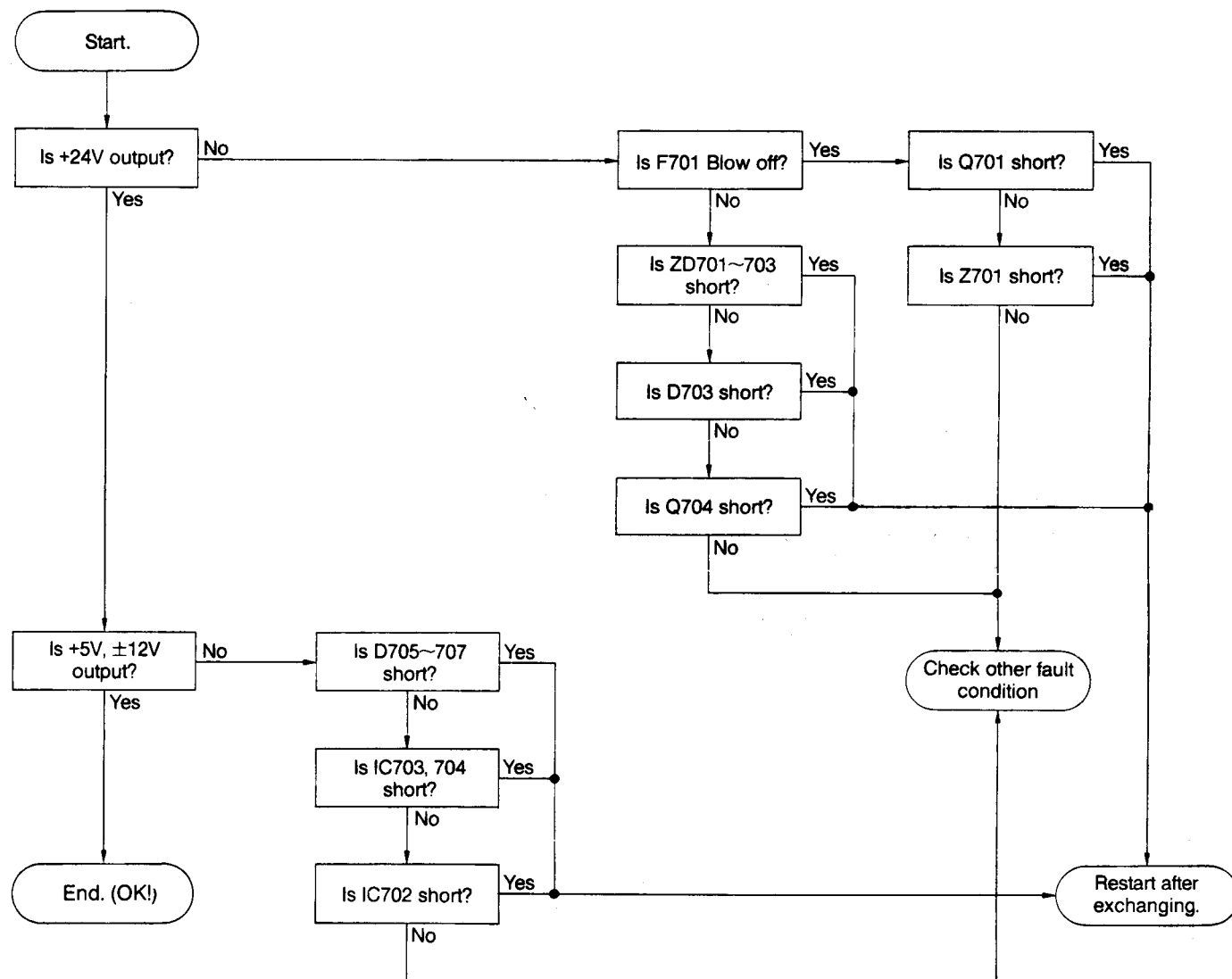
(a) In case of the TONE dialing



(b) In case of the DP dialing



(8) Power supply check (M7)



5-4. Error code list

E10, E12 The other party does not respond

CODE	CONTENTS	CLASSIFICATION	SYMPTOM and NOTES
10	T1 time over	T, R	Even 35 +/- 5 seconds passed after starting communication, no signal received from the party.
12	No response on redial	T,P-T	No response from the party even redialing of the timer transmission is carried out.

E20 - E27 Own machine troubles

CODE	CONTENTS	CLASSIFICATION	SYMPTOM and NOTES
20	Stop switch is ON	ALL	Transmission is stopped caused by pressing the [STOP] key.
21	Original jam	T	Timer is cancelled by manual operation.
23	No recording paper	R	
26	No original for timer transmission	T	
27	Timer operation is cancelled	TIMER	

E30 - E33 Image deficiency

CODE	CONTENTS	CLASSIFICATION	SYMPTOM and NOTES
30	Exceed the error line limitation	R	These errors may be caused by the S/N or deflection on the line. Check the disturbance and verify the incoming signal level using the level meter. Test the setting of the appropriate equalizer to compensate the line loss.
31	RTN transmission	R	
32	RTN reception	T	
33	Over 5 seconds per line	R	

E40, E41 Error in the other party

CODE	CONTENTS	CLASSIFICATION	SYMPTOM and NOTES
40	No recording paper in the other party	T	
41	No polling original in the other party	P-R	

E50 - E59 Cut-off other party

CODE	CONTENTS	CLASSIFICATION	SYMPTOM and NOTES
50	DCN reception or unknown command	T, R	Check the communication status between the parties. When STOP key is pressed by the transmitter, DCN signal comes after PIX. (PIX: picture signal)
51	Triple trial of DCS, DTC or NSS signal	T	Check the communication status between the parties. If the other party could not receive DCS signal, DIS signal would be retransmitted. In other cases, it is possible that the other party disconnected the line by some reasons.
52	T6 time over	R	Although MCF signal to respond MPS or CFR signal was transmitted, no carrier signal received within 6 seconds.
53	Carrier drop during Phase C	R	
54	Q, PRI-Q triple trial	T	Q: EOP, MPS, EOP General terms
59	Multi page(mode change) T1 time over	T	

E60 - E62 Incomplete transmissions due to deficient line.

CODE	CONTENTS	CLASSIFICATION	SYMPTOM and NOTES
60	Fall-down Out	T	Training failure even with fall-down to 2400 bps.
62	Continuous 300 BPS	T, R	This error may be caused by the line noise.
71	Unmatching of key code	R	Telephone number does not match when the select reception is set.
77	40 ms of 9600 BPS only	T	

E80 - E85 DCS, NSS command error

CODE	CONTENTS	CLASSIFICATION	SYMPTOM and NOTES
80	Other company's NSS	R	
81	No R command (Receive command)	R	
82	Original size A3	R	
83	B4 command for A4 machine	R	
85	Minimum transmission timer error	R	

6. REPAIRS

6-1. Removal of the main parts

(1) Removal of the cabinet

- Turn over the machine and remove three screws securing the cabinet. (See figure 6-1)
- Open the original tray and the operation panel, then remove three screws securing the cabinet. (See figure 6-2)
- Press the open button to open the receiving cover, then remove the cabinet. (See figure 6-2)
- Disconnect the CN 43 on the M-4 (TEL) PCB. (See figure 6-3)

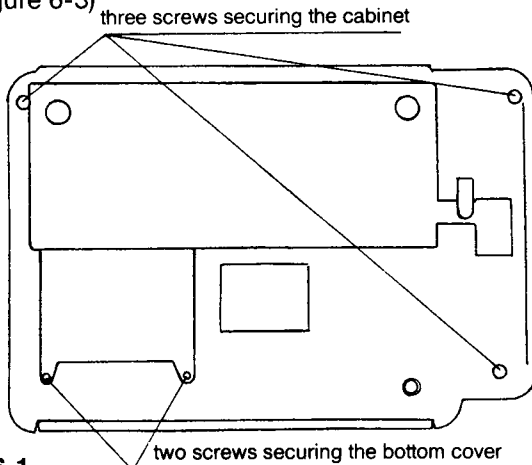


FIGURE 6-1

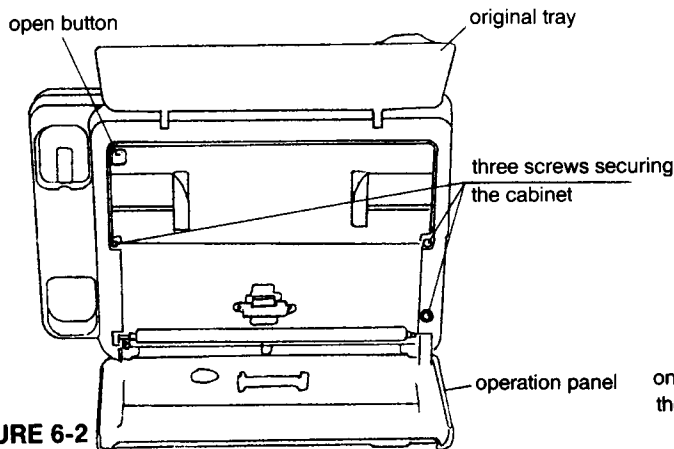


FIGURE 6-2

(2) Removal of the transmission mechanical unit

- Remove two screws securing the bottom cover. (See figure 6-1)
- Remove the cabinet (Refer to the procedure 6-1-(1))
- Remove two screws securing transmission mechanical unit. (See figure 6-3)

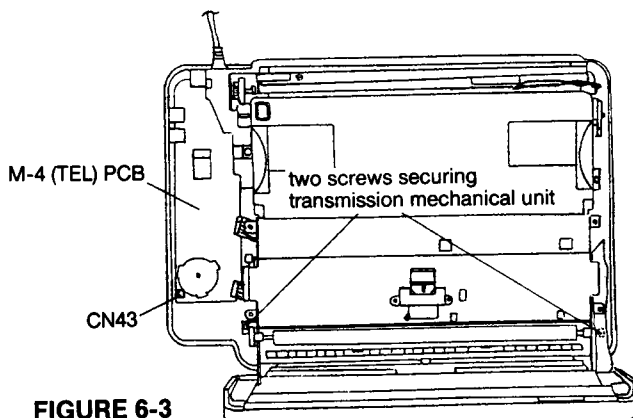


FIGURE 6-3

- Disconnect the connectors CN2 and CN6 on the main PCB (M-1) while lifting up the transmission mechanical unit. (See figure 6-5)

(3) Removal of the receiving mechanical unit

- Remove the cabinet. (Refer to the procedure 6-1-(1))
- Remove the transmission mechanical unit. (Refer to the procedure 6-1-(2))
- Remove two screws securing the receiving mechanical unit. (See figure 6-4)

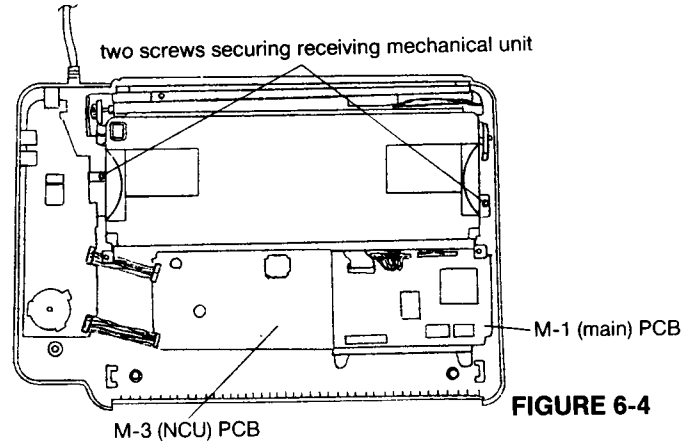


FIGURE 6-4

- Disconnect the connector CN5 and CN7 on the main PCB (M-1). (See figure 6-5)

(4) Removal of the main PCB (M-1).

- Remove the cabinet and the transmission mechanical unit. (Refer to the procedure 6-1-(1) and 6-1-(2))
- Disconnect the connectors CN4, CN5 and CN7 on the main PCB (M-1). (See figure 6-5)
- Remove two screws securing the main PCB (M-1). (See figure 6-5)
- Remove the main PCB (M-1) while pressing down M-3 (NCU). M-3 and M-1 are directly connected through the connector.

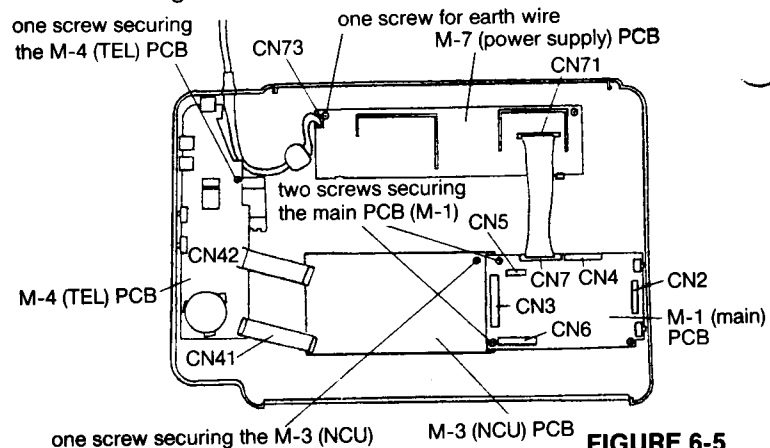


FIGURE 6-5

(5) Removal of the M-3 (NCU) PCB.

- Remove the cabinet and the transmission mechanical unit. (Refer to the procedure 6-1-(1) and 6-1-(2))
- Remove the main PCB (M-1). (Refer to the procedure 6-1-(4))
- Remove one screw securing the M-3 (NCU). (See figure 6-5)
- Disconnect the connectors CN41 and CN42. (See figure 6-5)

- (6) Removal of the M-7 (Power Supply) PCB.
- Remove the cabinet, transmission mechanical unit and receiving mechanical unit. (Refer to the procedure 6-1-(1), 6-1-(2) and 6-1-(3))
 - Disconnect the connectors CN71 and CN73. (See figure 6-5)
 - Remove the M-4 (TEL)PCB and one screw for earth wire coming from the M-7 (Power Supply) PCB. (See figure 6-5)

- (7) Removal of M-4 (TEL) PCB.
- Remove the cabinet. (Refer to the procedure 6-1-(1))
 - Disconnect the connectors CN41 and CN42 on the M-4 (TEL) PCB. (See figure 6-5)
 - Remove one screw securing the M-4 (TEL) PCB. (See figure 6-5)

- (8) Removal of M-2 (Operation Panel) PCB and LCD.
- Remove the cabinet and Transmission mechanical unit. (Refer to the procedure 6-1-(1) and 6-1-(2))
 - Remove two screws securing the M-2 (Operation Panel) PCB. (See figure 6-6)
 - Remove five screws securing the reverse side cover. (See figure 6-6)
 - Disconnect the connector CN22 on M-2 (Operation Panel) PCB. (See figure 6-7)
 - Remove eleven screws securing the M-2 (Operation Panel) PCB. (See figure 6-7)
 - Remove LCD by removing two screws. (See figure 6-7)

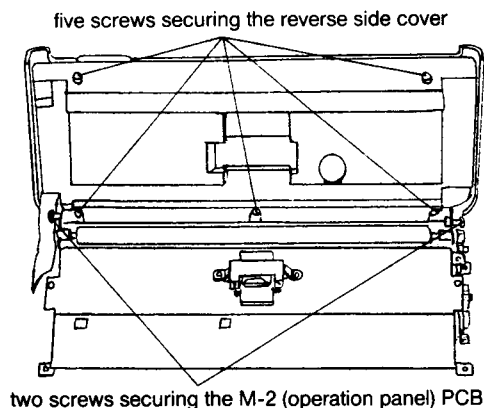


FIGURE 6-6

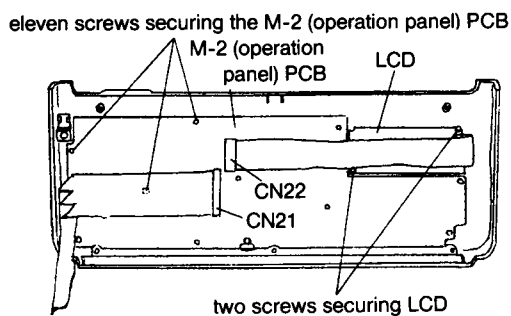


FIGURE 6-7

- (9) Removal of M-5 (Rx. Mechanical Control) PCB.
- Remove the receiving mechanical unit. (Refer to the 6-1-(3))
 - Remove two screws securing the M-5 (Rx. mechanical control) PCB. (See figure 6-8)

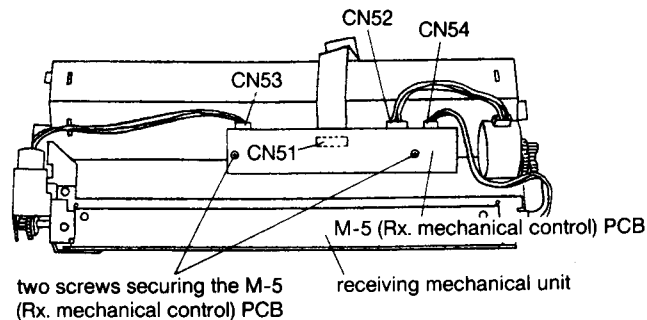


FIGURE 6-8

- Disconnect the connectors CN51, CN52, CN53 and CN54. (See figure 6-8)
- (10) Removal of M-6 (Tx. Mechanical Control) PCB.
- Remove the transmission mechanical unit. (Refer to the 6-1-(2))
 - Remove the hooks (two places) fixing the M-6 (Tx. mechanical control) PCB. (See figure 6-9)

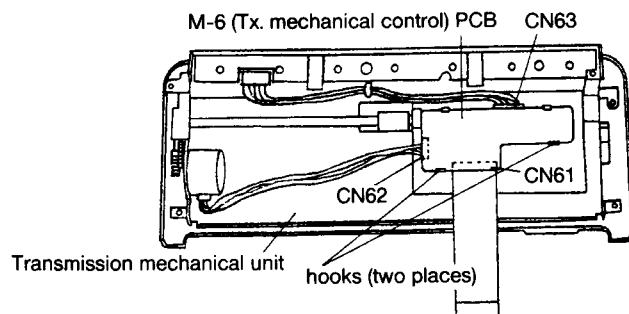


FIGURE 6-9

- Disconnect the connectors CN61, CN62 and CN63. (See figure 6-9)

6-2. Replacement of the main parts

- (1) Replacement of the Contact Image Sensor (CIS).
- Remove the transmission mechanical unit. (Refer to the 6-1-(2))
 - Remove the operation panel. (Refer to the 6-1-(8))
 - Remove the platen sensor. (See figure 6-10, 6-11)

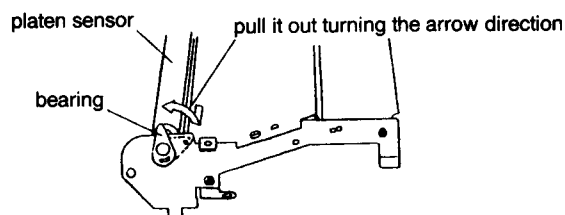


FIGURE 6-10

- d) Remove the CIS assembly. (See figure 6-11)
 * CIS should be replaced with CIS assembly.

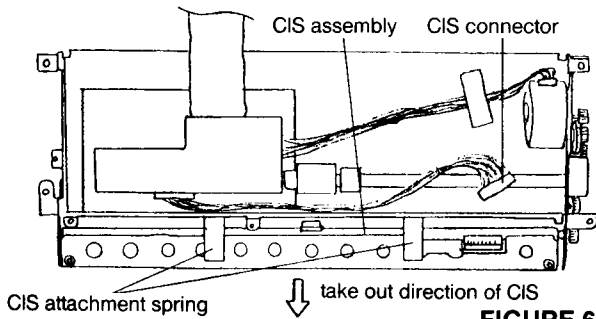


FIGURE 6-11

(2) Replacement of the Thermal Head

- Gather the original guide to the center and remove two screws securing the receiving cover.
- Press the Open button and remove two screws securing the cover located under the thermal head. (See figure 6-12)
- Disconnect the connector of the thermal head.
- Remove two screws securing the thermal head.

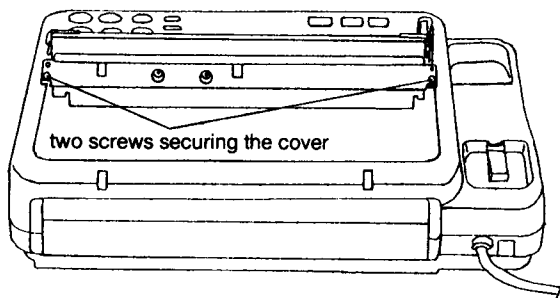


FIGURE 6-12

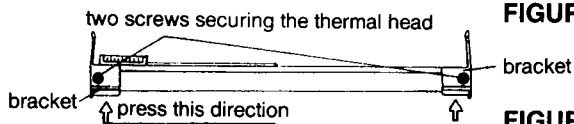


FIGURE 6-13

When attaching the thermal head to the bracket head, the thermal head should be pressed the arrow direction. (See figure 6-13)

(3) Replacement of the Auto Cutter

- Remove the receiving mechanical unit. (Refer to the 6-1-(3))
- Remove one screw securing the cutter unit. (See figure 6-14)

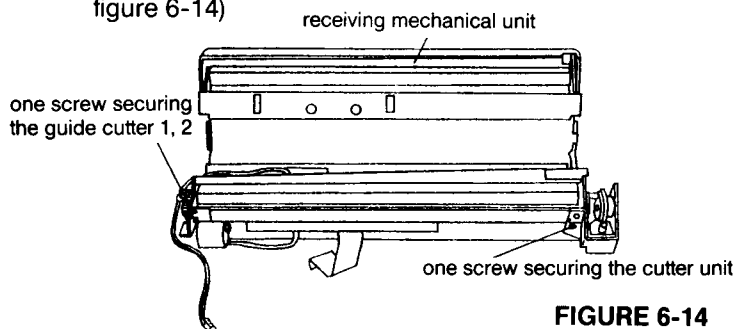


FIGURE 6-14

- Disconnect the connector of the cutter unit.
- Remove three screws securing the black guide cutter (three pieces) from the cutter unit. (See figure 6-15)

Please note that two wire fixers are fixed together with screws.

When re-assembling, put them to the same position.

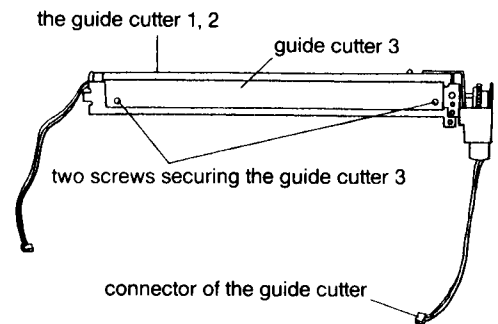


FIGURE 6-15

(4) Replacement of the ADF (Automatic Document Feeder) unit.

- Open the operation panel.
- Remove two screws securing the ADF unit. (See figure 6-16)

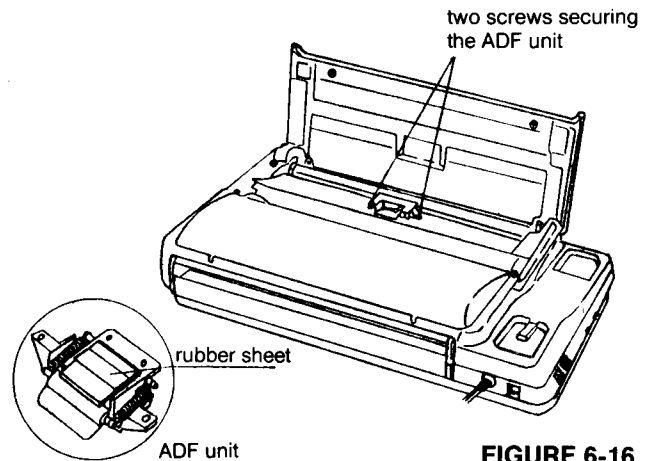


FIGURE 6-16

- Replace new ADF unit and check the performance.

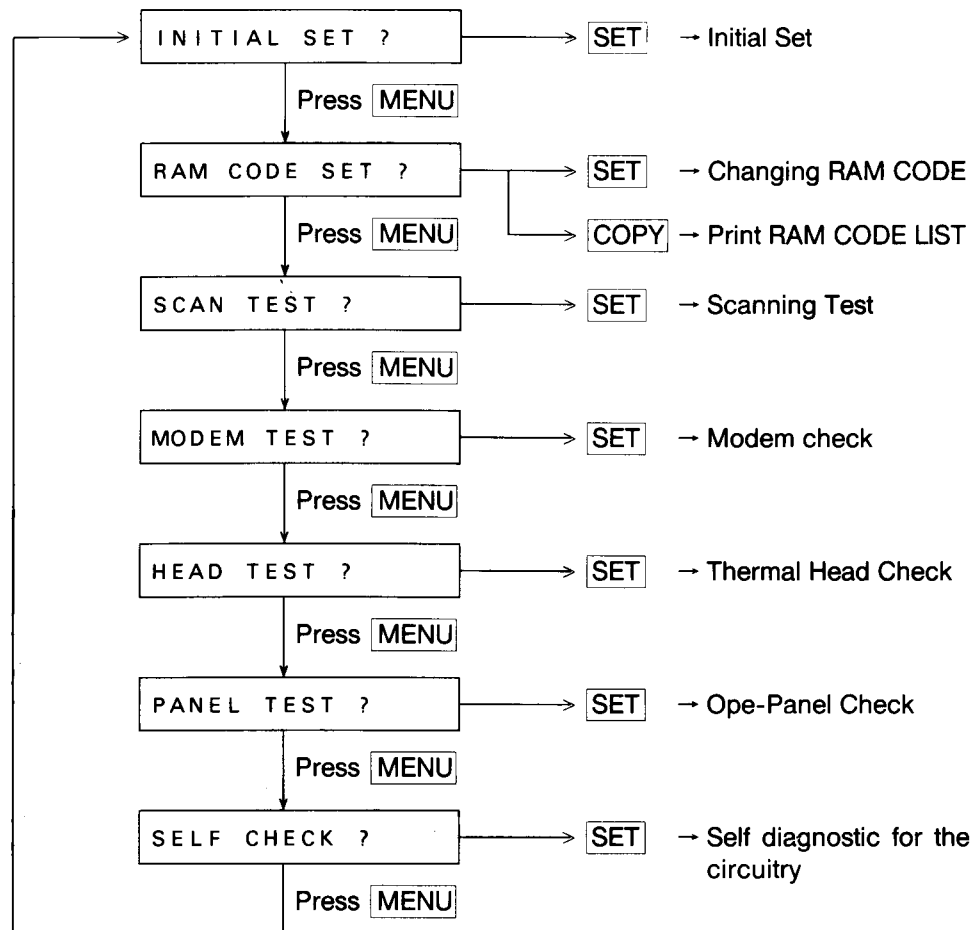
6-3. Test Mode

(1) Setting up to the TEST MODE

Press **MENU** key while **SET** key is being pressed and keep this condition at least 1sec.

INITIAL SET ?

EACH TEST MODE



(2) Explanation of each test modes

a) INITIAL SETTING

1) Press **SET** + **MENU**. (over 1sec.)

(→ Refer to Page 6-3-(1).)

2) Press **SET**

3) Press **SET** or **MENU**

SET : Clear all items then return to STAND-BY.

Note) At the same time of this operation, S-RAM check is also carried out.
In case of error, refer to (7).

MENU : Individual item (RAM CODE)

INITIAL SET ?

ALL CLEAR ?

Apr. 20 '93 12:00

OR

RAM CODE CLEAR ?

4) Press **SET** or **MENU**

SET : Initialize RAM CODE and goes to next menu.

MENU : Next menu (One touch and speed dial)

O.T & S.D CLEAR?

5) Press **SET** or **MENU**

SET : Clear one touch and speed dial memory and goes to next menu.

MENU : Next menu (Report Data)

REPORT DATA CLR?

6) Press **SET** or **MENU**

SET : Clear activity report data and return to stand-by display

MENU : Return to stand-by display

Apr. 20 '93 12:00

7) In case of S-RAM error

Alarm sounds continuously and the machine goes into "dead lock" condition. → Repairing is required.

MEMORY ERR (STOP)

b) RAM CODE SETTING

1) Press **SET** + **MENU** (over 1sec.)
(Refer to Page 25.)

INITIAL SET ?

2) Press **MENU**

RAM CODE SET ?

3) Press **SET** or **COPY**

SET : Change the contents.

COPY : Issue RAM CODE LIST and return to STAND-BY.

SW. CODE

4) Input the SW. No. using numeric or **MENU** key and press **SET**.

SW. 01 CODE

5) Input the SET CODE using numeric or **MENU** key and press **SET**.

(Next SW. No. is automatically displayed.)

SW. 01 CODE 03

6) Repeat the steps (4) and (5) on demands.

7) Press **STOP/C** to finish.

The SFX-30 returns to STAND-BY.

c) SCAN TEST

1) Press **SET** + **MENU** .(over 1sec.)
(Refer to Page 25)

INITIAL SET ?

2) Press **MENU** twice.

SCAN TEST ?

3) Press **SET** .

** SCAN TEST **

4) Press **COPY** to complete.

A shading signal waveform is memorized then, return to
STAND-BY.

d) MODEM TEST

1) Press **SET** + **MENU** . (over 1sec.)
(Refer to Page 25)

INITIAL SET ?

2) Press **MENU** 3-times.

MODEM TEST ?

3) Press **SET** .

9600BPS (0)

* Press **START** to call for the next signal.

* Press **COPY** to call for the previous signal.

SIGNAL ORDER:

9600BPS(0) → 7200BPS(0) → 4800BPS(0) → 2400BPS(0) → 300BPS(0)

→ 2100HZ → 1100HZ → PB8 → NO SIGNAL → RETURN TO THE 1ST STAGE (9600BPS)

The signals of 9600, 7200, 4800, 2400 and 300BPS can be changed its carrier frequency pattern as shown below.

Press **ANSWER** to change its pattern at each stage.

(0) : 1850HZ continuously

(1) : 1650HZ continuously

(1:1) : 1650/1850HZ alternately (3.3ms/3.3ms)

(1:4) : 1650/1850HZ alternately (3.3ms/13.2ms)

(4:1) : 1650/1850HZ alternately (13.2ms/3.3ms)

time is a case of 300BPS

* Press **ON-HOOK** . → MONITOR SPEAKER is activated.

* Press **ANSWER** at NO SIGNAL stage. → Voice prompt can be heard.

4) Press **STOP/C** to finish.

e) HEAD TEST

1) Press **SET** + **MENU** . (over 1sec.)
(Refer to Page 25)

INITIAL SET ?

2) Press **MENU** 4-times.

HEAD TEST ?

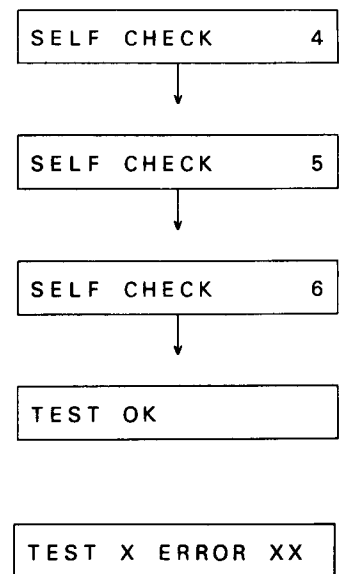
3) Press **SET** .

** HEAD TEST **

A pattern of the head test starts to print on the recording paper. Press **STOP/C** to interrupt printing.

After the print has been completed, the machine returns to STAND BY.

4. RTC Check
 - *Check INT cycle.
 - (Check OSC. of XTAL3)
5. MR. Accelerator check.
 - *Transfer certain data from RLEX to RAM.
 - (Check the connection of INT3)
6. TPH I/F Check
 - *Check the pulse width of strobe signal generated on test purpose.
 - (Check the operation of STBON, STBINT and the connection)
 - *Data Transfer (Check the connection of INT2)



IN CASE OF ERROR

(1) DISPLAY

X : TEST No.

XX : ERROR CODE

(2) ERROR CODE

1. GATE ARREY I/O
 - 01: R/W ERROR
2. MODEM CHECK
 - 01 : No clock detection possible
 - 02 : 300BPS clock failure
 - 03 : 9600BPS clock failure
 - 04 : No DREQ detection possible
 - 05 : DREQ cycle failure
 - 06 : No 1100Hz detection possible
3. MUSIP CHECK
 - 01 : Cycle failure
 - 02 : Transfer failure
4. RTC CHECK
 - 01 : Cycle failure
5. MR ACCELERATOR CHECK
 - 01 : No data request
 - 02 : Data error
6. TPH I/F CHECK
 - 01 : Cycle failure of STBINT
 - 02 : Cycle failure of STBON
 - 03 : DATA transfer error (No transfer request)

6-4. RAM CODE LIST and its explanation

SW No. 01-57 are opened to the users.

SW No.	Setting items	Setting No.	Contents	Fact. set	Explanation
01	Pause time	02 12	2 sec. 12 sec.	03	Setting No. x 1 sec. = Pause time to be set. The initial factory-preset of a pause is 3 sec.
02	Hook-up alarm	00 01	OFF ON	01	
05	Number of redial for Time Tx.	00 01 02 03	No redial 1 time 2 times 3 times	03	This is to set the number of repeat call attempts when the called party is busy or no response. (3-4 min. interval between each call.)
06	Number of redial for immediate Tx. using O.T/Speed/Num. key	00 01 02 03	No redial 1 time 2 times 3 times	02	This is to set the number of repeat call attempts when the called party is busy or no response. (2-3 min. interval between each call. This is also effective for Polling Rx.)
08	Remote reception	00 01 02	OFF DP DTMF	00	→ No remote reception └ Dialing method of the extension telephone for the remote reception.
09	Number of rings that sounds after the line is connected	00 01 02 03 04 05	No ringing 3 times 5 times 7 times 9 times 11 times	03	→ No Tel/Fax switchover └ Number of rings that sounds before the SFX-30 switches from telephone mode to fax reception mode when a manual fax transmission or voice call is received in the AUTO mode.
10	Hold melody	00 01 02	Silence (No melody) MINUET GREEN SLEEVES	02	This is to set the melody released to the telephone line when the conversation is put on hold.
16	Voice announcement	00 01	OFF ON	01	This is to set whether the voice announcement is released or not.
17	Key operation sound	00 01	OFF ON	01	This is to set whether the key operation sound generates or not.
20	Header print	00 01 02	OFF ON (outside original) ON (inside original)	01	Determines whether your station name, fax number and date/time are printed on the header.
23	Print Density	00 01	Normal Darker	00	Set print density.
26	Closed network communication (Receiving)	00 01	OFF checking telephone number	00	Determines whether reception is restricted to programmed fax number.
27	Transmission mode initial	00 01 02 03	Standard Fine Super fine No initial	03	└ Return to the position after Tx. or copy. → No initial is executed.

SW No.	Setting items	Setting No.	Contents	Fact. set	Explanation
28	Original contrast initial	00 01 02 03	Normal Light Half tone No initial	03	Same explanation on the previous explanation.
31	Transmission report	00 01 02	OFF ON (after each transmission) ON (when error condition occur)	00	→ No Tx. report is issued. → Tx. report is issued after each Tx. → Tx. report is issued only when Tx. error occurs.
32	Timer transmission report	00 01	OFF ON	01	Determines whether Tx. report issues or not after the timer Tx.
36	Halftone quality	00 01	Faster transmission Better halftone quality at slower speed.	01	Determines the Dither pattern used for a Halftone transmission and copy.
37	Character edge enhancement level for halftone	00 01 02 03	Enhancement level can be set by 4-steps.	00	To enhance character edge, set a higher number.
48	Display language	00 01	French English	00	For display, list, report and T.T.I.
49	Time for checking CNG and silence in ANSWER mode.	00 01 20	No limit 10 sec. 200 sec.	00	Time length during which SFX-30 (in the ANSWER mode) is allowed to detect whether the incoming signal is a automatic fax transmission or manual fax transmission.
50	Enlargement/Reduction/Reform copy	00 01	OFF ON	01	Determine whether enlargement/reduction/reform copy is performed or not.
54	Auto progress transmission	00 01	OFF ON	01	→ Need to pressing START for manual Tx. → No Need to pressing START for manual Tx.
55	Paper save reduction rate	00 01	50% 75%	00	Set paper save rate for receiving. In case 50%, received copy will be a half of original.

SW No. 60-93 are only for service engineer.

SW No.	Setting items	Setting No.	Contents	Fact. set	Explanation
60	Communication mode	00 01	AUTO G3	00	This RAM SW. fixes the communication mode and is normally set on AUTO.
61	Manual hook up	00 01	OFF ON	00	START is effective without lifting the handset when the setting is ON (SETTING No. 00). Used for hooking up 2 facsimiles without connecting telephone line.
62	Communication speed display	00 01	OFF ON	00	Set communication speed display ON or OFF.
63	Circuit monitor	00 01	OFF ON	00	Set circuit monitor ON or OFF.
64	Dial tone Busy tone Check	00 01 02 03	Dial tone/Busy ON ON ON OFF OFF ON OFF OFF	03	

SW No.	Setting items	Setting No.	Contents		Fact. set	Explanation
66	CED check time	00	35 sec.		06	Set the waiting time for the CED signal after transmitting the dial signal. 3.5 sec. step.
		01	38.5 sec.			
		02	42 sec.			
		03	45.5 sec.			
		04	49 sec.			
		05	52.5 sec.			
		06	56 sec.			
		.	.			
67	Receiving start speed	00	4800BPS		01	At 4800BPS, this facsimile has more tolerance against the line noise but the receiving start speed is a half of 9600BPS. When the receiving error occurs frequently, set to 4800BPS.
		01	9600BPS			
68	CED frequency	00	2100Hz		00	When transmitting overseas, this work to guard against interchange echoes, if set to 1100HZ (SETTING No. 01).
		01	1100Hz			
69	TCF check interval		V29	V27	00	Set the time from the recognition of the training by the Modem to starting the training check (TCF). Set to correct the mismatching of between SANYO and other manufacture's machine.
		00	5ms	115ms		
		01	60ms	170ms		
		02	100ms	210ms		
70	FSK check before phase-C	00	OFF		01	When this unit can not receive the high speed training signal by the echo of CFR (E-52), set to off (SETTING No. 00).
		01	ON			
71	Allowance of Error lines	00	32 lines		00	When receiving consecutive error lines exceeding the setting number, the nit moves to the sequence of bad copy quality and send RTN to transmitter. When the E-30 occurs frequently, set the number to higher value but printing quality is getting worse.
		01	64 lines			
		02	96 lines			
		03	128 lines			
		04	160 lines			
		05	192 lines			
		06	224 lines			
		07	256 lines			
72	Continuous Error line (Standard)	00	3 lines		03	
		01	4 lines			
		02	5 lines			
		03~20	6~23 lines			
73	Continuous Error line (Fine)	00	6 lines		06	
		01	7 lines			
		02	8 lines			
		03~20	9~26 lines			
74	Carrier OFF detection duration	00	0 sec.		06	This is to set the allowance of the carrier off duration. If the carrier off duration is less than the setting value, reception is continued. 0.5 sec. step.
		01	0.5 sec.			
		02	1.0 sec.			
		03	1.5 sec.			
		04	2.0 sec.			
		05	2.5 sec.			
		06	3.0 sec.			
		.	.			
		.	.			
		.	.			
		12	6.0 sec.			

SW No.	Setting items	Setting No.	Contents	Fact. set	Explanation
75	Transmission start speed	00 01 02 03	2400 BPS 4800 BPS 7200 BPS 9600 BPS	03	This is to set the training start speed of the MODEM. It is recommended that if Tx. error occurs frequently set to 4800BPS.
76	TSI	00 01 02	None Transmit in anycase Transmit only when CSI receives	01	This is to set the condition of transmitting TSI.
77	DCS timing	00 01	Response to the first DIS Response to the second DIS	00	This is to set the response of DCS corresponding to DIS. In order to consider the influence of the echo while transmitting to overseas fax. 2nd DIS (SETTING No. 01) might be effective.
78	Interval between DCS and Training	00 01 02	75 msec. 0.3 sec. 0.5 sec.	00	This is to set the interval between DCS and training for the purpose of correcting the mismatching of between Sanyo and other manufacture's machine. OCITT recommendation is 75 ± 20 ms.
79	Interval between RTC and Q	00 01 02	75 ms 0.3 sec. 0.5 sec.	00	This is to set the interval between RTC and Q for the purpose of correcting the mismatching of between Sanyo and other manufacture's machine. OCITT recommendation is 75 ± 20 ms.
81	FSK release delay	00 01 02 03 04	0 ms 100 ms 200 ms 300 ms 400 ms	02	This is to set the delay for correcting the mismatching of between Sanyo and other manufacture's machine.
82	Transmission attenuator	00 15	0 dB 15 dB	10	This is to set the transmission level attenuation for control and video signals.
83	DTMF attenuator	00 15	0 dB 15 dB	04	This is to set the transmission level attenuation for Dual Tone Modulated Frequency (DTMF) dial.
84	Cable equalizer	00 01 02 03	0Km 1.8Km 3.6Km 5.6Km	01	An equalizer which adjust the characteristics of the non-loaded cable between fax and exchange station. Set in response to the distance to the exchange.
88	Closed network communication Free pass Sanyo unit	00 01	OFF ON	00	Even when select Reception is set, reception is free from any Sanyo fax machines at On. (SETTING No. 01).
93	Paper precut	00 01	OFF ON	00	In case of ON, SFX-30 precut the recording paper along the fold for reception and copy.

* In case of fixing the overseas transmission mode, set to SW No. 71 to 01, SW No. 78 and 79 to 01 or 02.

* The SW No. 60 - 93 are classified as follows.

60 and 61 : For testing purpose

66 : For checking the party's response

67 - 74 : Countermeasure for the reception problem

75 - 81 : Countermeasure for the transmission problem

82 - 84 : Countermeasure for the problem caused by line characteristics

88 and 93 : Others

7. PRINTING OF THE REPORT AND LISTS

7-1. Activity report

1. Press **MENU** 4 times.
2. Press **SET** .
3. Activity report is issued.

ACTIVITY REPORT?

ACTIVITY REPORT

Sample of activity report

*** ACTIVITY REPORT ***						
Jun. 26 '93 12:00						
TRNS. TOTAL PAGE 000003						
RECV. TOTAL PAGE 000002						
TRNS.						
No.	DATE	START	TIME	PARTNER	PAGE	RESULT ERROR CODE
1	Jun. 26	9:00	1'23	AAA	2	OK
2	Jun. 26	10:00	0'45	BBB	1	OK
RECV.						
No.	DATE	START	TIME	PARTNER	PAGE	RESULT ERROR CODE
1	Jun. 26	9:30	1'02	CCC	1	OK
2	Jun. 26	10:30	0'38	DDD	1	OK

7-2. One-touch dial list

1. Press **MENU** 5 times.
2. Press **SET** .
3. Press **COPY** .
4. One-touch dial list is issued.

SET MODE?

O.T DIAL SET ?

O.T DIAL LIST

Sample of one-touch dial list

*** ONETOUCH DIAL LIST ***		
Jun. 26 '93 12:00		
No.	PARTY'S NAME	NUMBER
1	AAA	000222333
2	BBB	444555666
3	CCC	777888999

7-3. Speed dial list

1. Press **MENU** 5 times.
2. Press **SET** .
3. Press **MENU** .
4. Press **COPY** .
5. Speed dial list is issued.

SET MODE ?

O.T DIAL SET ?

SPEED DIAL SET ?

S.D DIAL LIST

Sample of speed-dial list

*** SPEED DIAL LIST ***		
Jun. 26 '93 12:00		
No.	PARTY'S NAME	NUMBER
1	AAA	000222333
2	BBB	444555666
3	CCC	777888999

7-4. Feature switch list

1. Press **MENU** 5 times.
2. Press **SET** .
3. Press **MENU** 4 times.
4. Press **COPY** .
5. Feature switch list is issued.

SET MODE ?

O.T DIAL SET ?

FEATURE SW. SET ?

FEATURE SW. LIST

Sample of feature switch list

*** FEATURE SW. LIST ***			
Jun. 26 '93 12:00			
SWITCH NAME	SW No.	SET CODE	INITIAL SET
PAUSE TIME	01	03	03
REPEAT CALL(TIMER)	05	03	03
REPEAT CALL(REDIAL)	06	02	02
NUMBER OF RINGS	07	02	02
REMOTE RECEIVE	08	00	00
FAX/PHONE CHANGE	09	03	03
HOLD BUTTON MELODY	10	02	02
VOICE RESPONSE	16	01	01
KEY SOUND	17	01	01
HEADER PRINT	20	01	01
PRINT DENSITY	23	00	00
CLOSED NETWORK (RX.)	26	00	00
INITIAL (RESOLUTION)	27	03	03
INITIAL (CONTRAST)	28	03	03
REPORT (TX.)	31	00	00
REPORT (TIMER TX.)	32	01	01
HALFTONE QUALITY	36	01	01
EDGE ENHANCEMENT	37	00	00
LANGUAGE	48	01	01
TAS CHECK TIME	49	00	00
ZOOM COPY	50	01	01
AUTO TX.	54	01	01
PAPER SAVE RATE	55	00	00
FAX/TEL PARALLEL CONN.	57	00	00

7-5. RAM CODE LIST

1. Press **SET** and **MENU** (over 1 sec.)
2. Press **MENU**.
3. Press **COPY**.
4. RAM CODE list is issued.

INITIAL SET ?

RAM CODE SET ?

RAM CODE LIST

Sample of RAM CODE LIST

* * * RAM CODE LISTE * * *			
4 Aug. '93 8:33			
FUNKTION	SCHALTER	STELLUNG	GRUNDSTELLUNG
PAUSEDAUER	01	03	03
HOERER ALARM	02	01	01
WAHLWDH. ZEITVERSETZT	05	03	03
WAHLWDH. SOFORT	06	02	02
FERNSTART	08	00	00
FAX/TEL UMSCHALTER	09	03	03
MELODIE	10	02	02
VOICE RESPONSE	16	01	01
TASTATURTON	17	01	01
KOPFZEILE	20	01	01
PAPIERAUSWAHL	23	00	00
GESCHLOSSENE BENUTZERGRUPPE	26	00	00
INITIALISIEREN	27	03	03
KONTRAST GRUNDST.	28	03	03
SENDEBERICHT	31	00	00
SENDEBERICHT ZEITVERSETZT	32	01	01
HALBTON-MUSTER	36	01	01
KONTURENSCHAEFERE	37	00	00
SPRACHE	48	00	00
ANT-PRUEFZEIT	49	00	00
ZOOM KOPIE	50	01	01
AUTO. START	54	00	01
SPARDRUCK-RATE	55	00	00
COM. MODUS	60	00	00
STANDLEITUNG	61	00	00
GESCHW. ANZEIGE	62	00	00
T. 30 MONITOR	63	00	00
WAHLT./BSTZT	64	03	03
WARTEN AUF ANTWORT	66	06	06
EMPF. RATE	67	01	01
CED FREQU.	68	00	00
TCF PRUEF. INTERV.	69	00	00
FSK PRUEFEN	70	01	01
FEHLER-RATE	71	00	00
FOLGEFEHLER (NRML)	72	03	03
FOLGEFEHLER (FEIN)	73	06	06
TRAEGER AUS PRUEFEN	74	06	06
UET RATE	75	03	03
KENNUNG SENDEN	76	01	01
DCS SENDEN	77	00	00
DCS-TR INTERVALL	78	00	00
RTC-Q INTERVALL	79	00	00
FSK INTERVALL	81	02	02
SENDEPEGEL	82	10	10
DTMF-PEGEL	83	04	04
KABEL EQUALIZER	84	01	01
GESCHL. GRUPPE	88	00	00
PAPER PRECUT	93	00	00
ROM VERSION	980. 1A		

7-6. Transmission report

It can be set to issue or non-issue according to the setting of the RAM CODE SW No. 31.

The initial factory preset is the non-issue position (SET CODE: 00).

SW. No. 31 : 00 (Non issue)

: 01 (Issue)

: 02 (Issue only when the communication error occurs.)

Once the SW No. 31 is set to 01 or 02, the transmission report is issued accordingly.

* * * TRANSMISSION REPORT * * *					
Jun. 26 '93 12:31					
DATE	START	TIME	PARTNER	PAGE	RESULT ERROR CODE
Jun. 26	12:30	0'45	DEALER A	1	OK

7-7. Timer transmission report

It can be set to issue or non-issue according to the setting of the RAM CODE SW No. 32.

The initial factory-preset is the issue position (SET CODE: 01).

SW. No. 32 : 00 (Non issue)

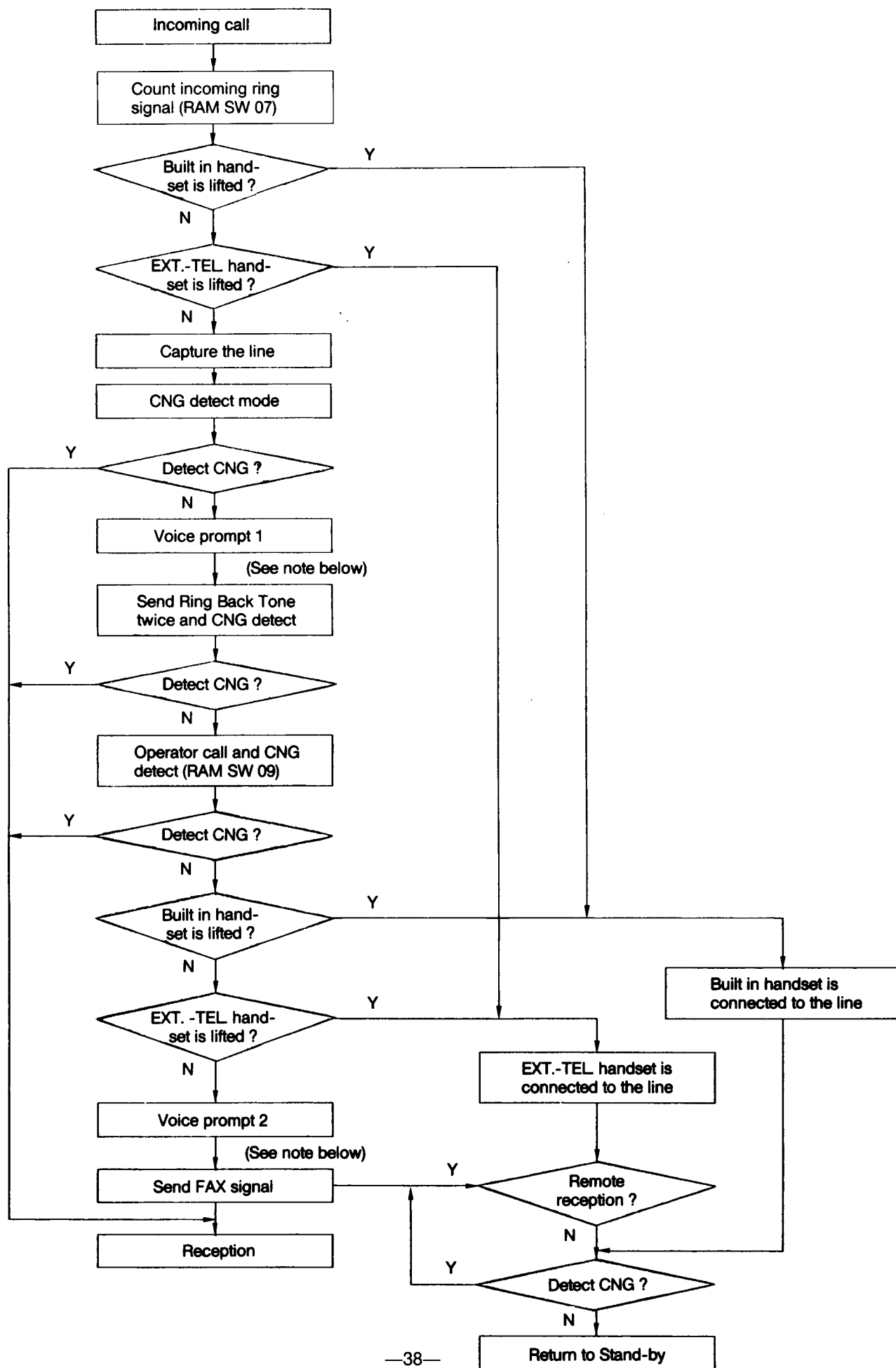
: 01 (Issue)

Once the SW. No. 32 is set to 00, timer transmission report is not issued.

* * * TIMER TRANS. REPORT * * *				
Jun. 26 '93 12:31				
No.	START	PARTNER	SET TIME PAGE	12:30 RESULT ERROR CODE
1	12:30	DEALER A	1	OK

8. FLOW CHART OF AUTO RECEPTION MODE

(1) Auto reception with FAX-TEL switchover function is ON



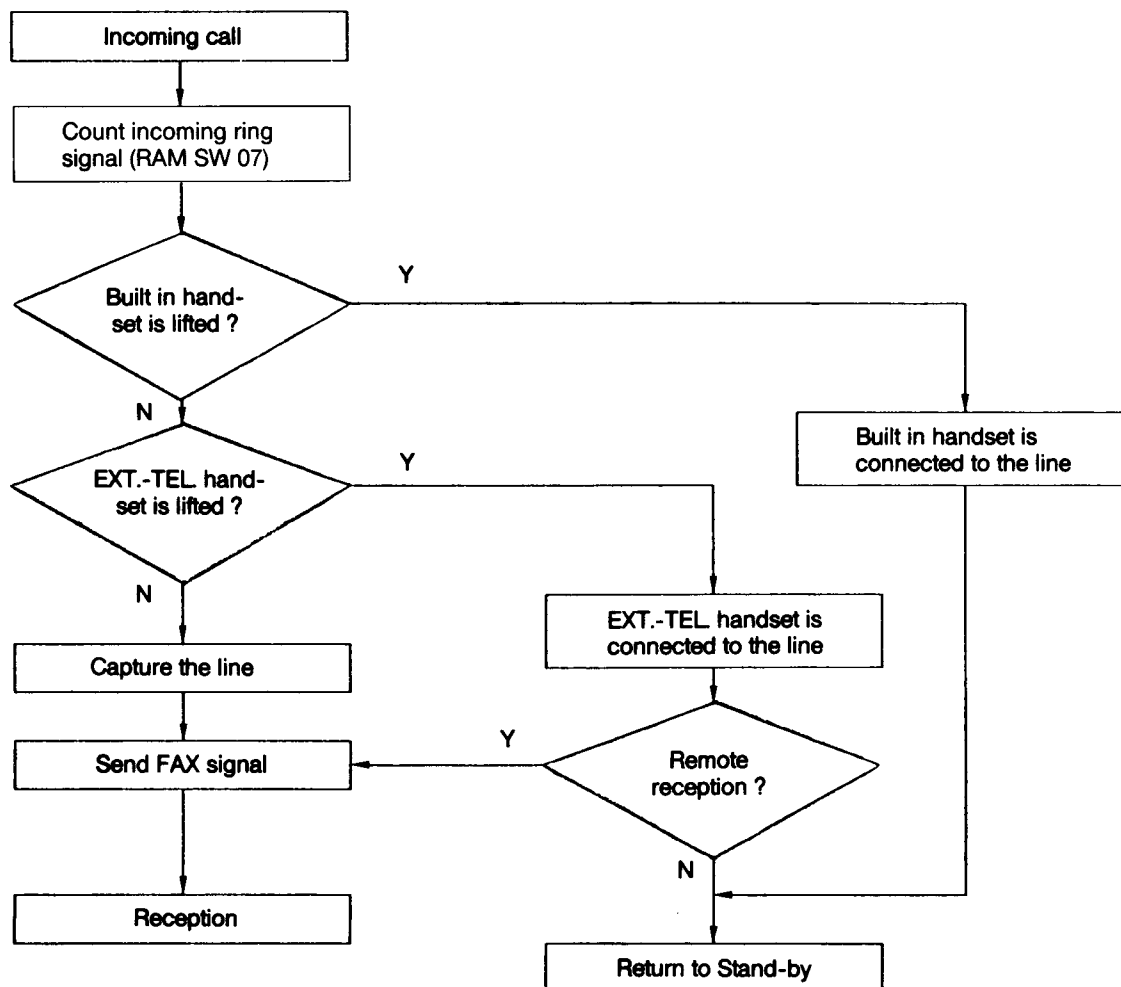
Note: ① The following messages are released to the line as Voice prompt.

- Voice prompt 1: Please wait for a moment.

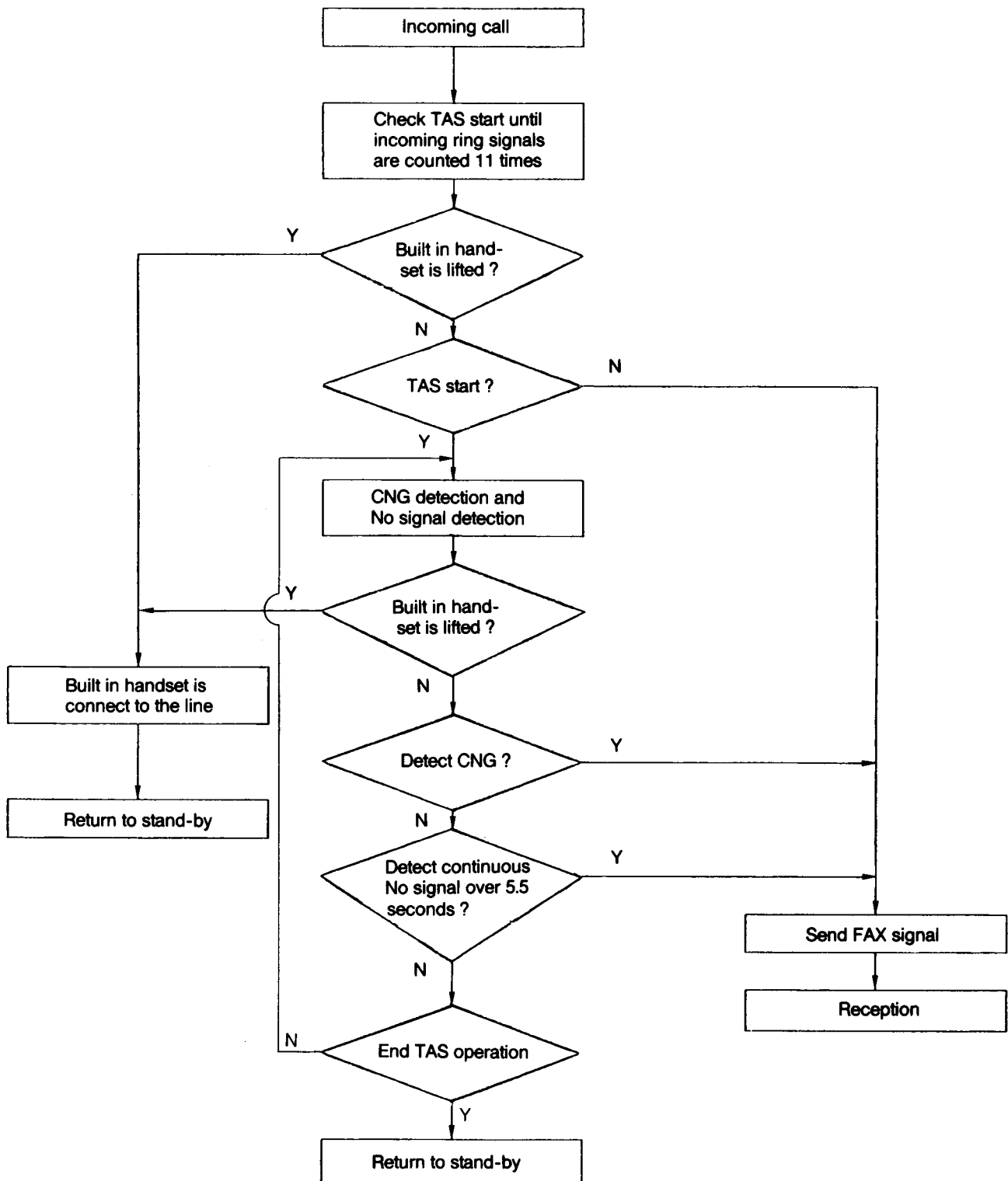
- Voice prompt 2: No one is here now, however if you wish to send a fax, please transmit at the tone.

② Voice prompt is deleted by feature SW. No. 16.

(2) Auto reception with FAX-TEL switchover function is OFF

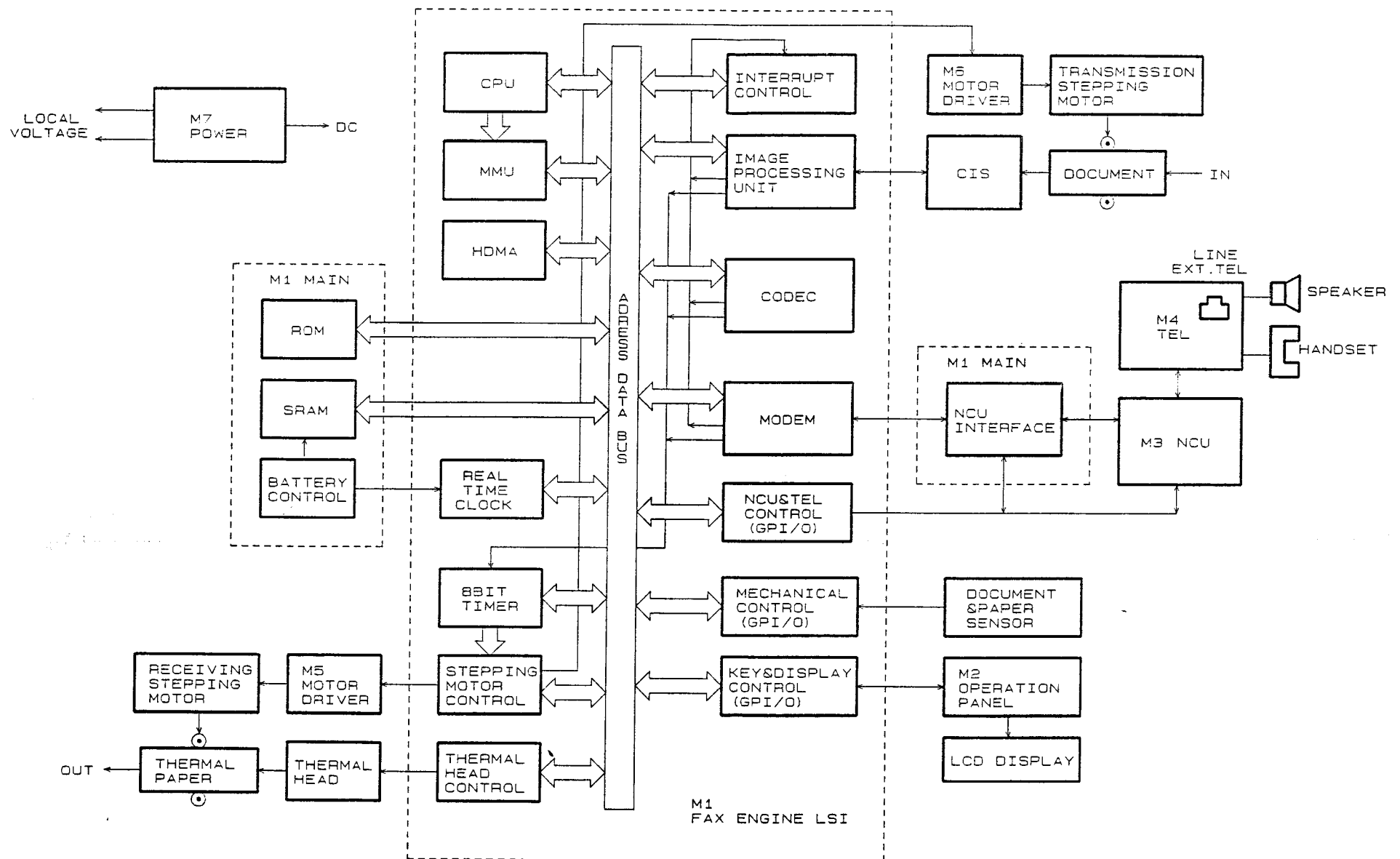


(3) Answer reception mode



9. BLOCK DIAGRAM AND THE SIGNAL FLOW

9-1. Block Diagram



9-2. Signal flow

(a) Transmission

- ① The image data of the original conveyed through the reading mechanism is read by the Contact Image Sensor (CIS) and this data is transferred to M1 PCB.
- ② In the M1 PCB, the data is amplified, rectified and turned into two values (black and white) or halftone signal through the image processing, then this data is written into one line memory (SRAM).
- ③ The CPU reads out and encodes the data written in line memory, then stores the data into the FIFO (SRAM). At the same time, the CPU transfers one byte data in the FIFO to the MODEM with an interruption signal requested by the MODEM.
- ④ Through repetition of above operations, the image data for each line is encoded, modulated through the MODEM, and transmitted over the line through the NCU.

(b) Reception

- ① The signals received from the line enter the MODEM through the NCU.
- ② In the same manner as in transmission, the coded data which is demodulated by the MODEM is stored into the FIFO as one byte data with an interruption signal requested by the MODEM.
- ③ The CPU reads out and decodes each one bit of the data from the FIFO, and outputs to the thermal head when each one bit portion of decoded data is aligned as one line data.
- ④ Through repetition of above operation, the received data is printed to the recording paper.

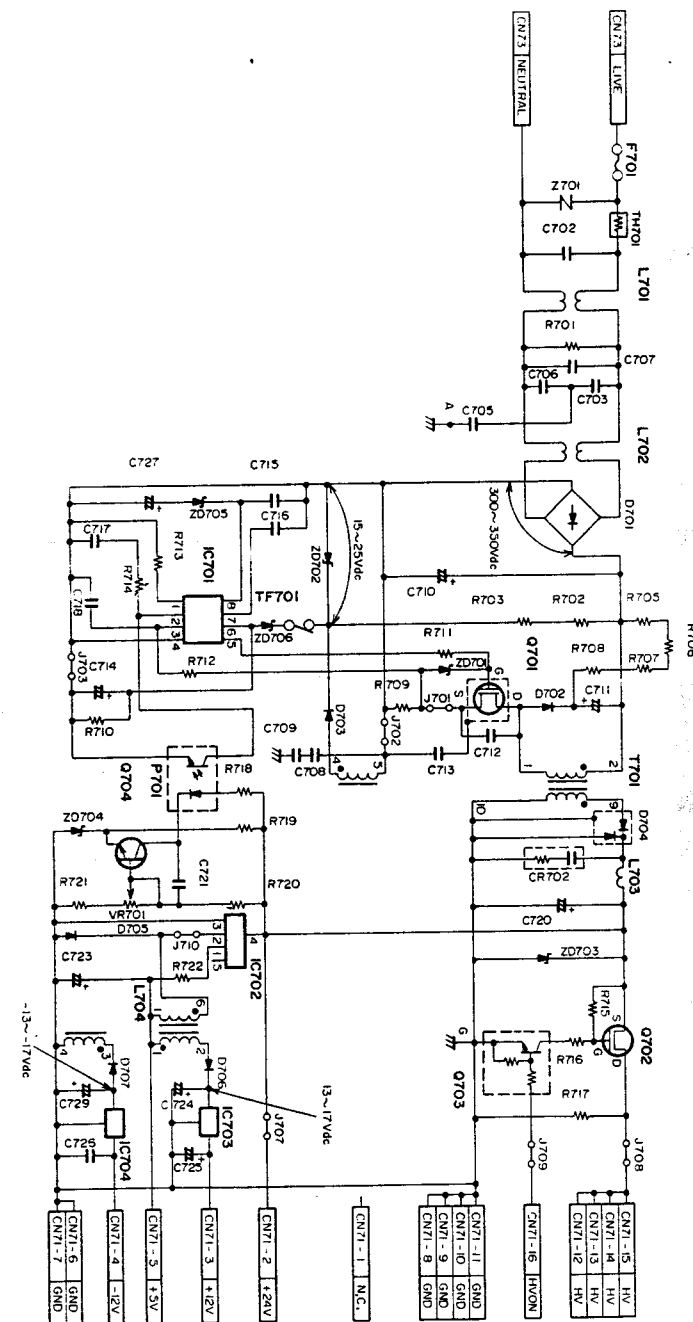
(c) COPY

- ① In the same manner as image reading in transmission, the image data read by the CIS is turned into two values (black and white) or halftone signal, then it is stored into one line memory (SRAM).
- ② The CPU reads out the data of one line memory, and outputs the data of each line to the thermal head.

Circuit Description

Power Supply Circuit (M7)

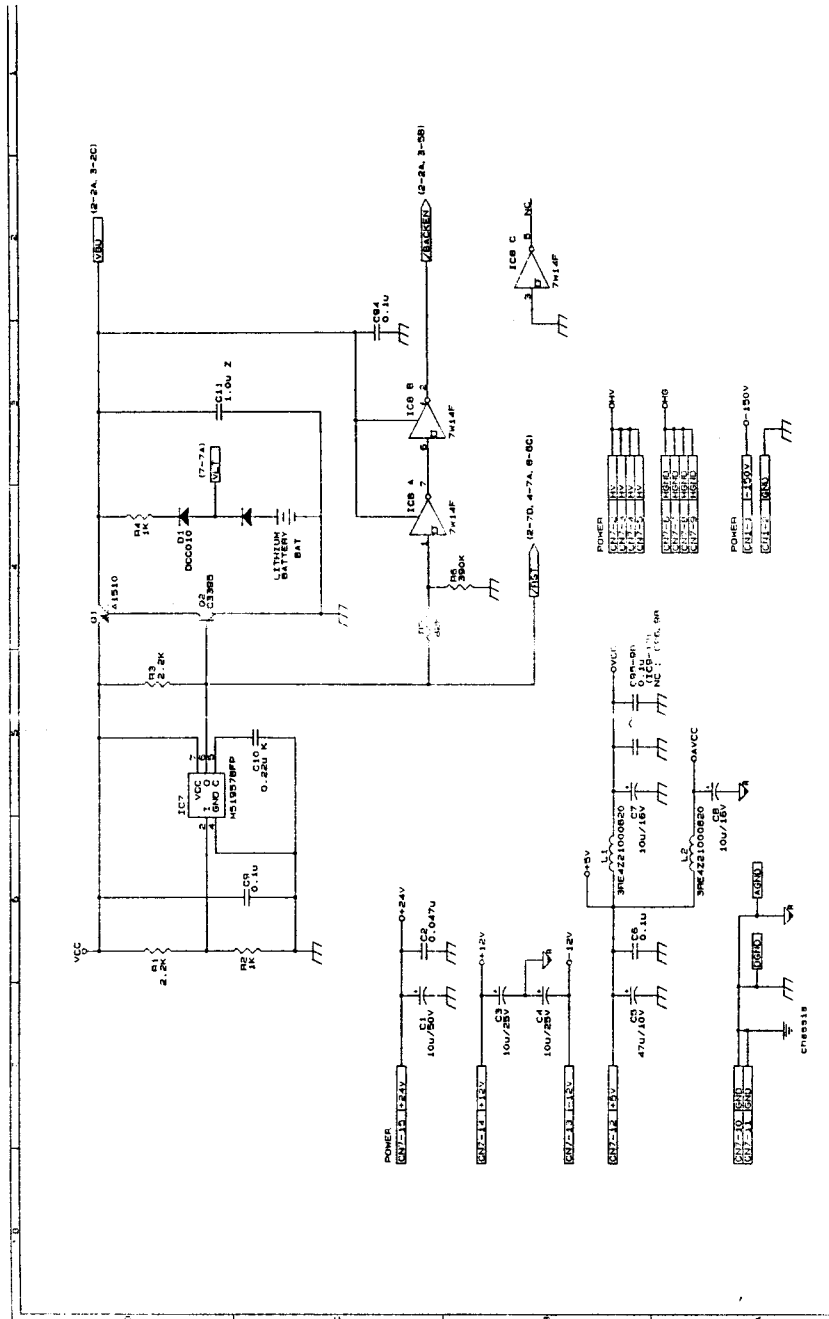
- Forward type switching regulator.
 - Output
 - +24V NCU (Network control unit).
 - Pulse motor (Transmit & Receive)
 - LED Array.
 - +12V Main Board (CPU).
 - 12V Main Board (CPU).
 - +5V Main Board (CPU).
 - HV (+24V)..... Thermal head.
1. Noise Filter Block
 - L701, L702 Line Filter.
 - C702, C707 Across the line capacitor.
 - C703, C705, C706, C708, C709 Line-by-path capacitor.
 2. AC-DC converter Block (Primary)
 - D701 Full wave rectifying diode.
 - C701 Smoothing capacitor.
 3. Switching circuit Block
 - Q701 Main power transistor.
 - T701 Switching power transformer.
 4. Switching control Block
 - IC701
 - Pulse wide modulation (PWM).
 - Over current limitation (OCP).
 - Stabilize the output (+24V) and protect against electric hazards.
 5. AC-DC Converter Block (Secondary)
 - D704 Rectifying diode (3 pin type).
 - L703 Smoothing choke coil.
 - C720 Smoothing capacitor.
 6. Comparator Block
 - Q704 Comparative transistor.
 - ZD704 Reference Voltage: 506V
 - VR701 Variable resistor (adjust the +24V)
 7. DC-DC Converter Block
 - V_{IN} (+24V) → V_{OUT} (+5V, ±12V)
 - IC702 Step-down chopper control IC.
 - IC703 3 pin type voltage regulator (+12V).
 - IC704 3 pin type voltage regulator (-12V).
 - D705 Fly-wheel diode.
 - D706, D707 Rectifying diode.
 - L704 Smoothing choke coil (Triple output inductor).
 - C724, 725, 726, 729 Smoothing capacitor.
 8. Semiconductor Switch Block
 - Q702 Supply +24V for thermal head.
 - Q703 ON/OFF controlled the signal (HVON) from CPU.



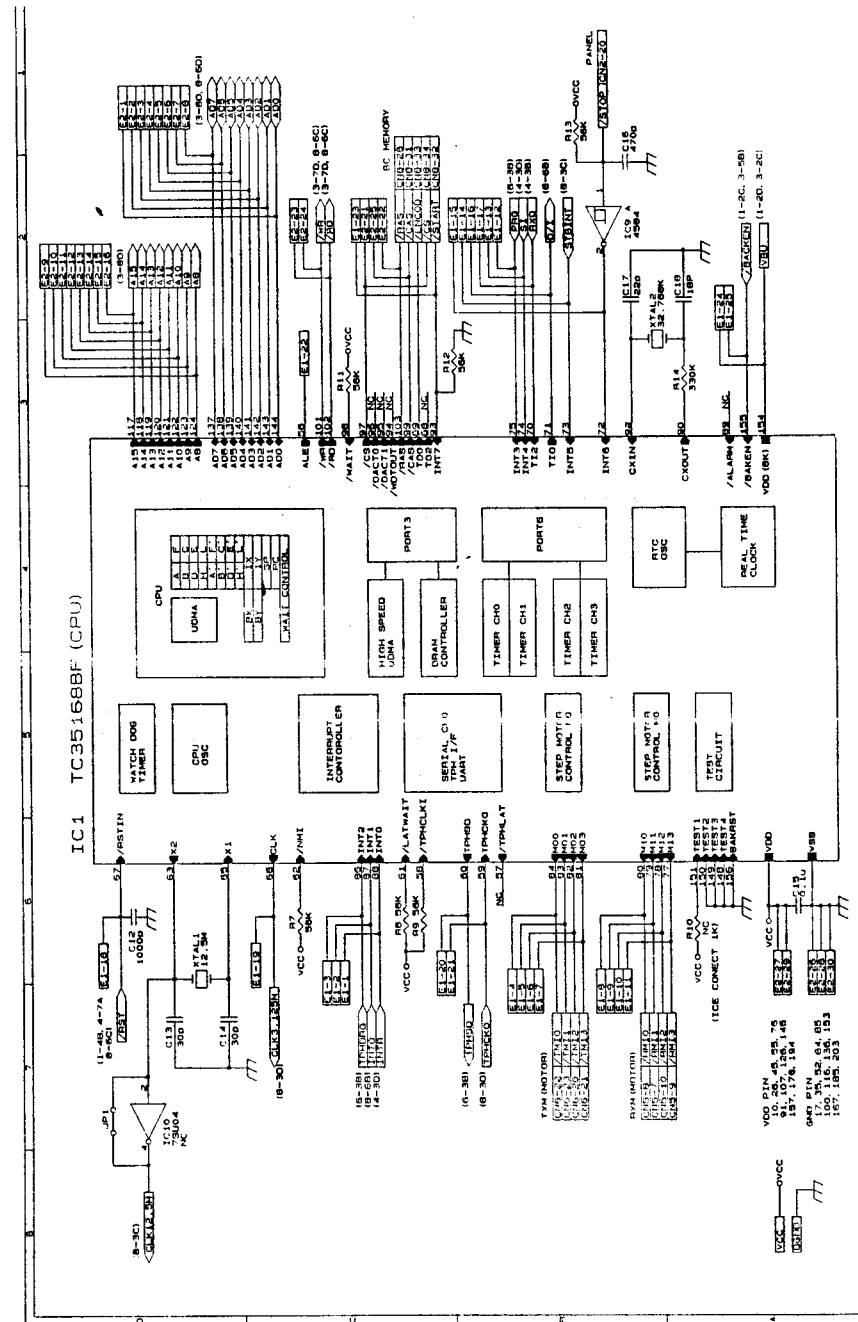
(1) All Connection Diagram



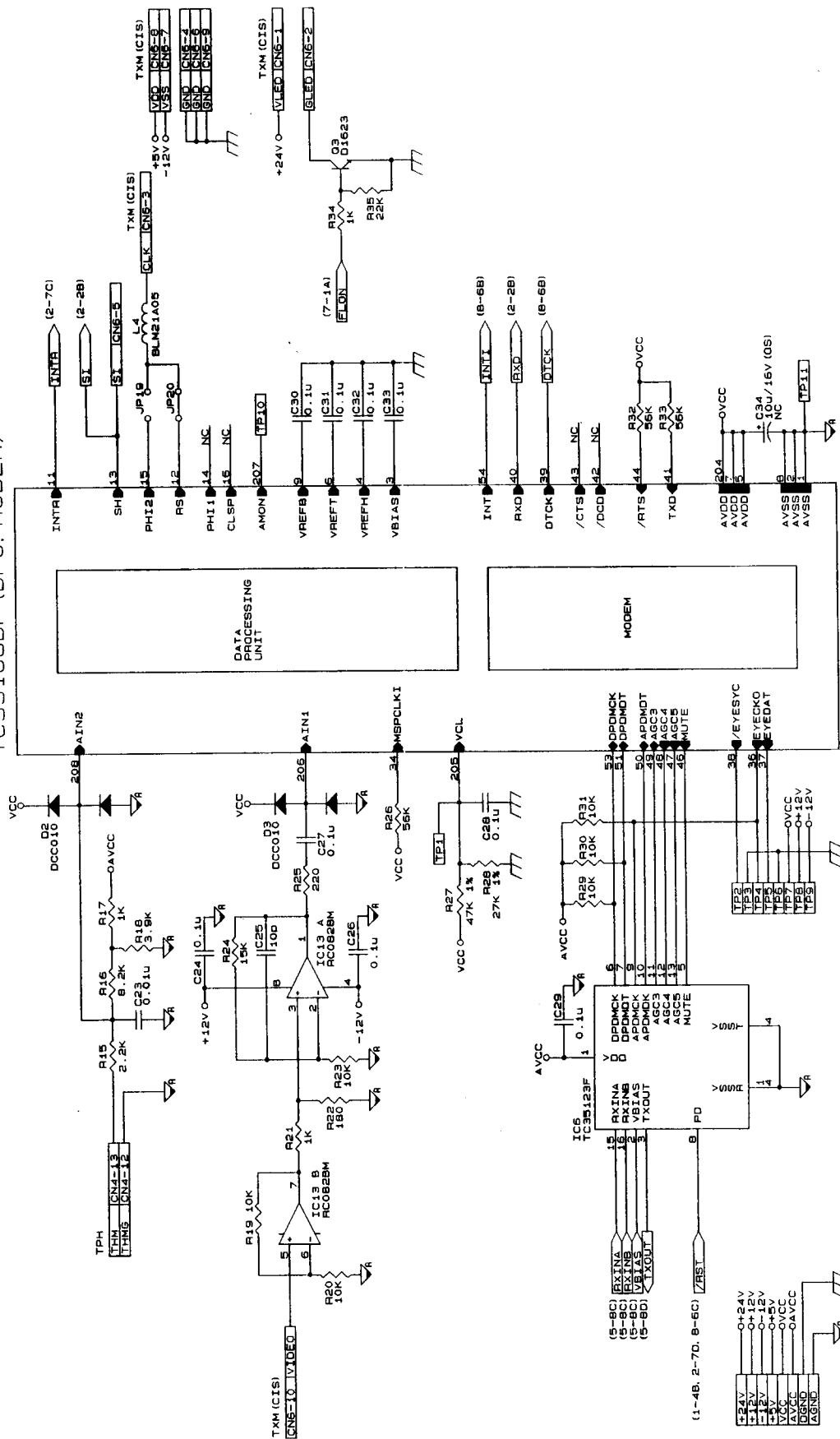
(2) Each Circuit Diagram
M1 (Main) P.W.B. (1/8)

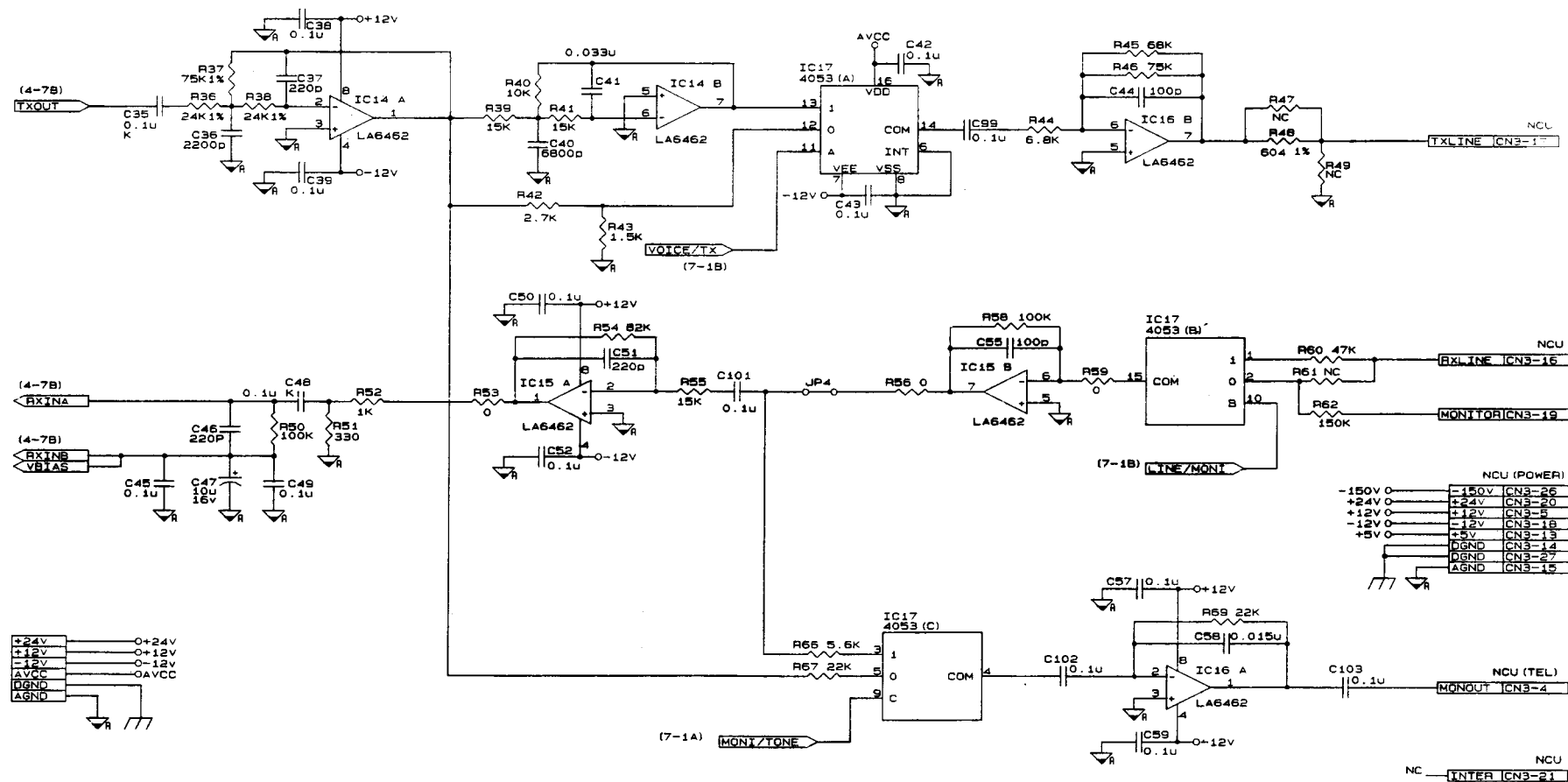


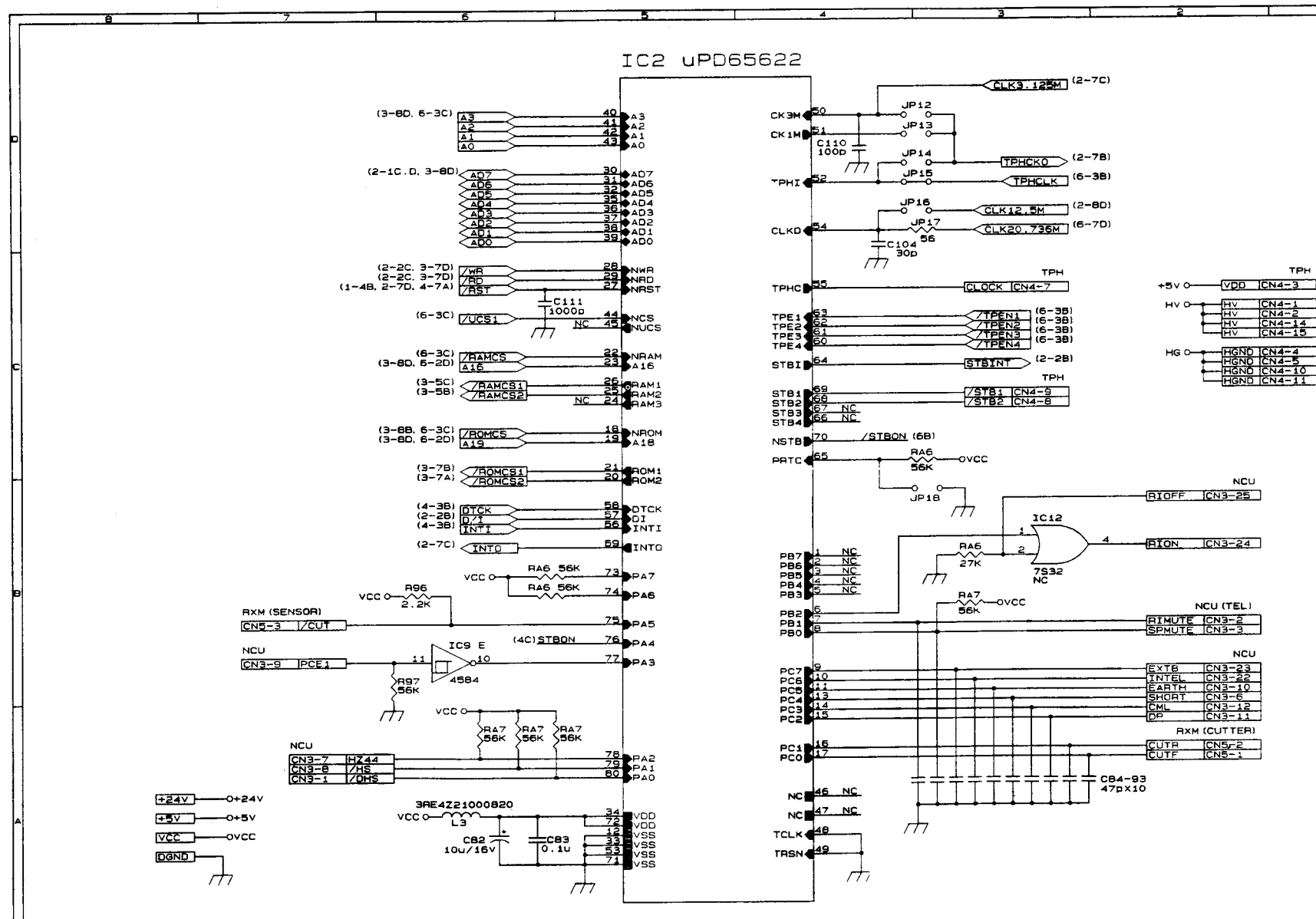
M1 (Main) P.W.B. (2/8)

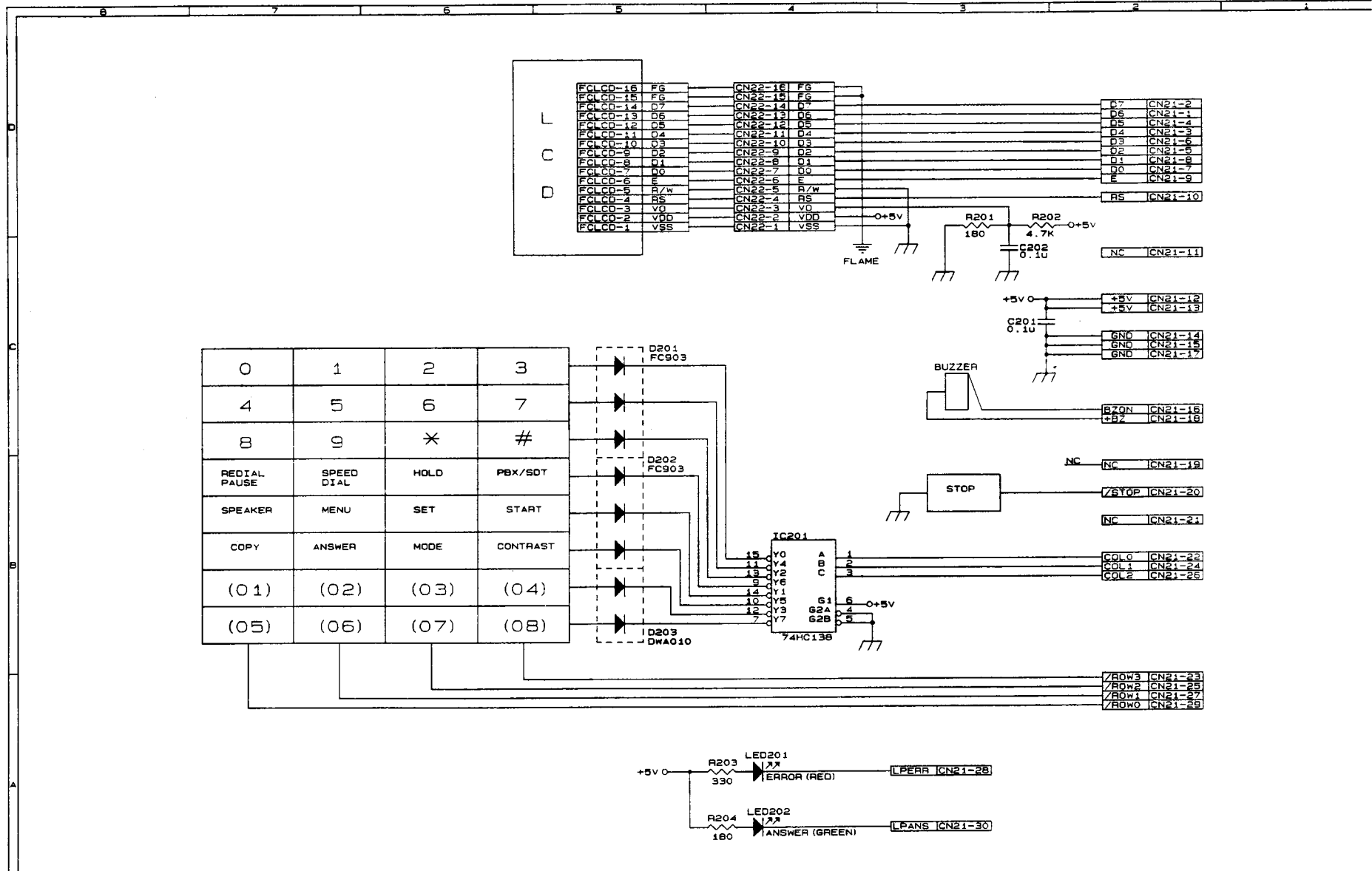


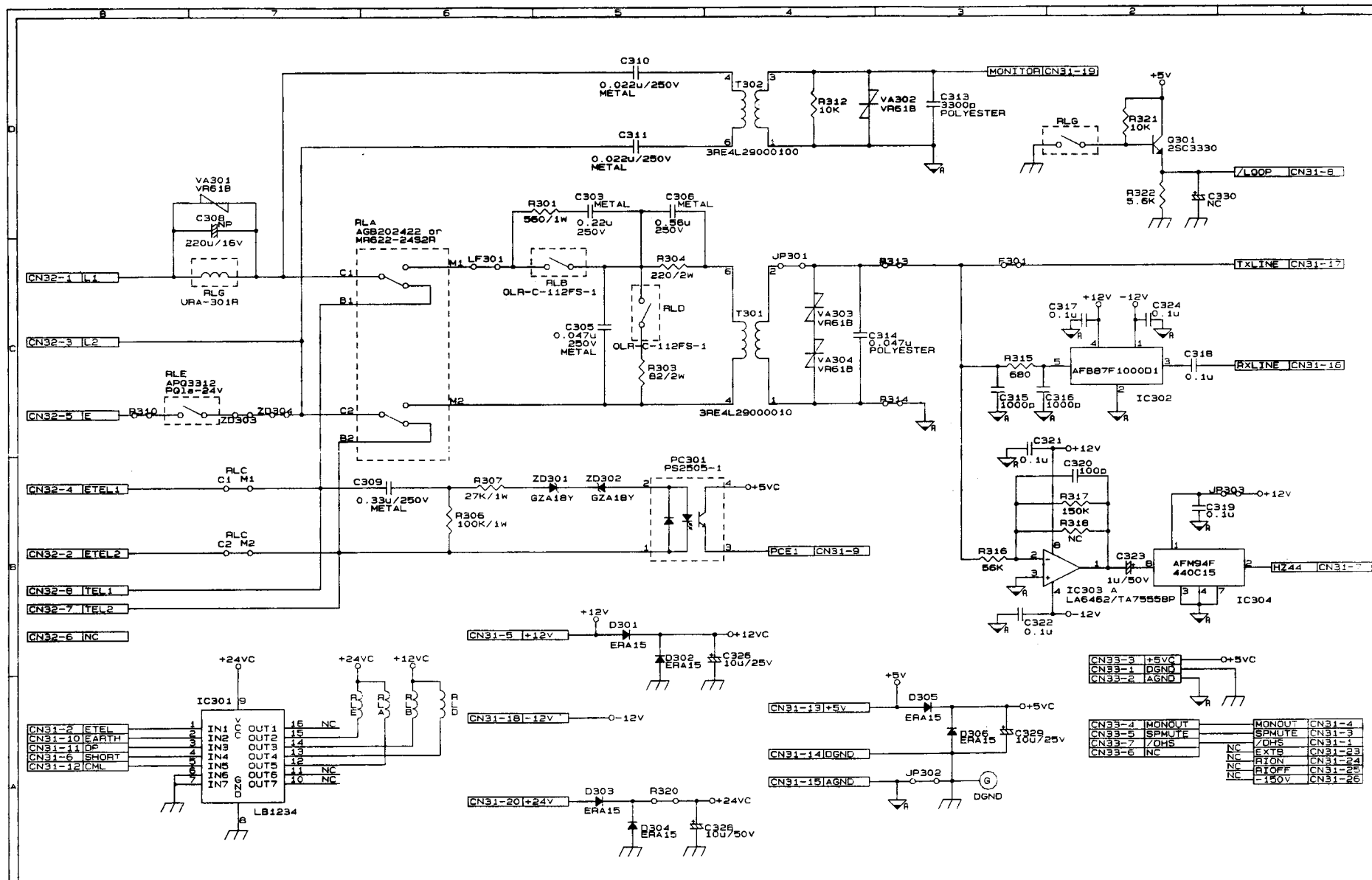
IC1
TC35168BF (DPU, MODEM)

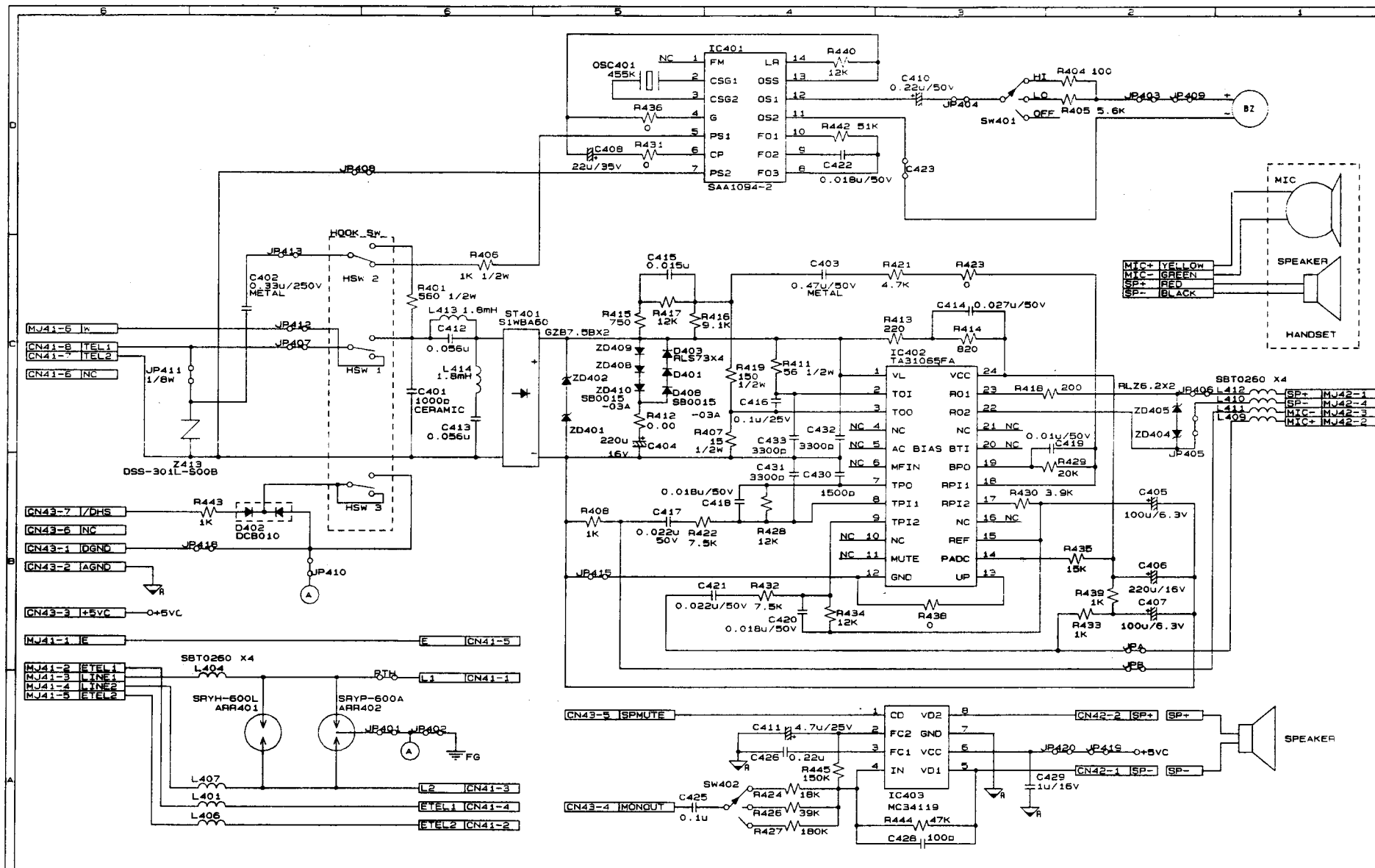


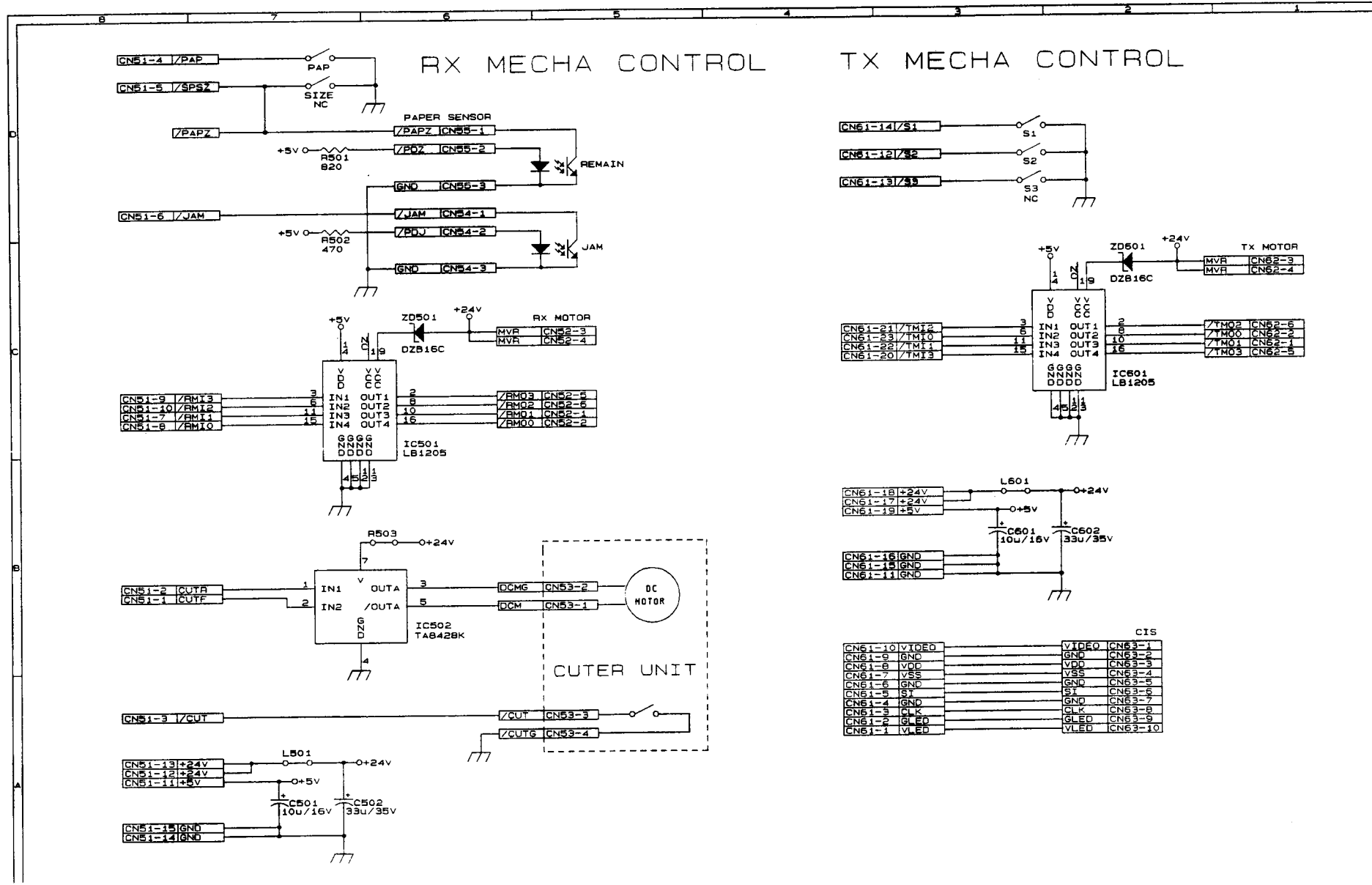


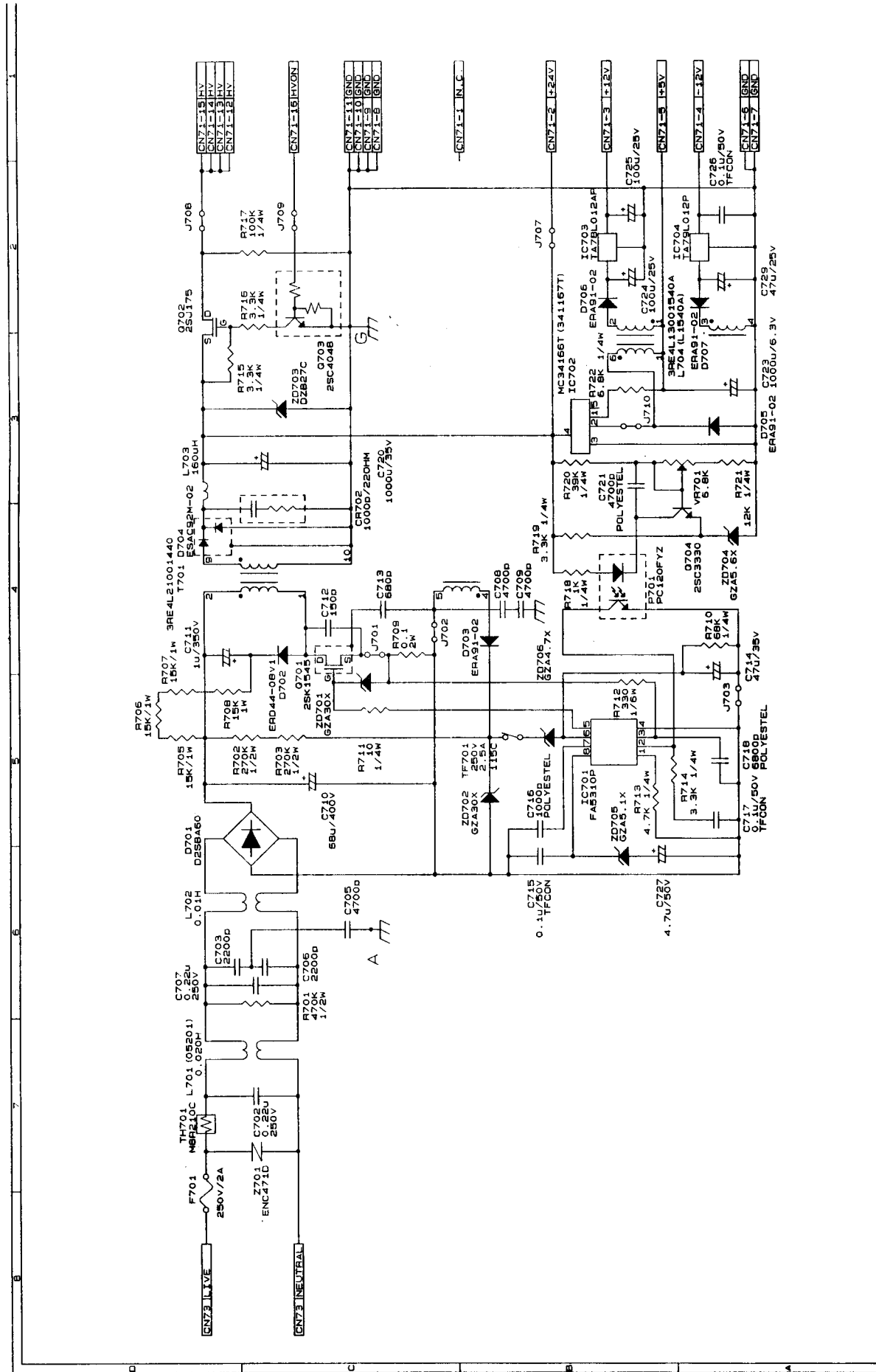




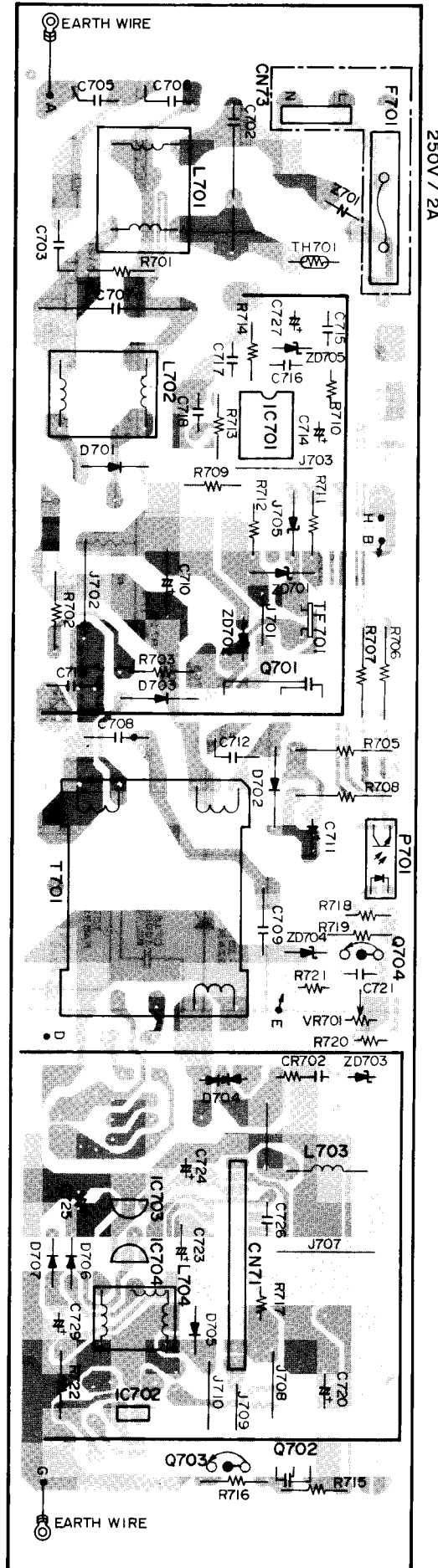


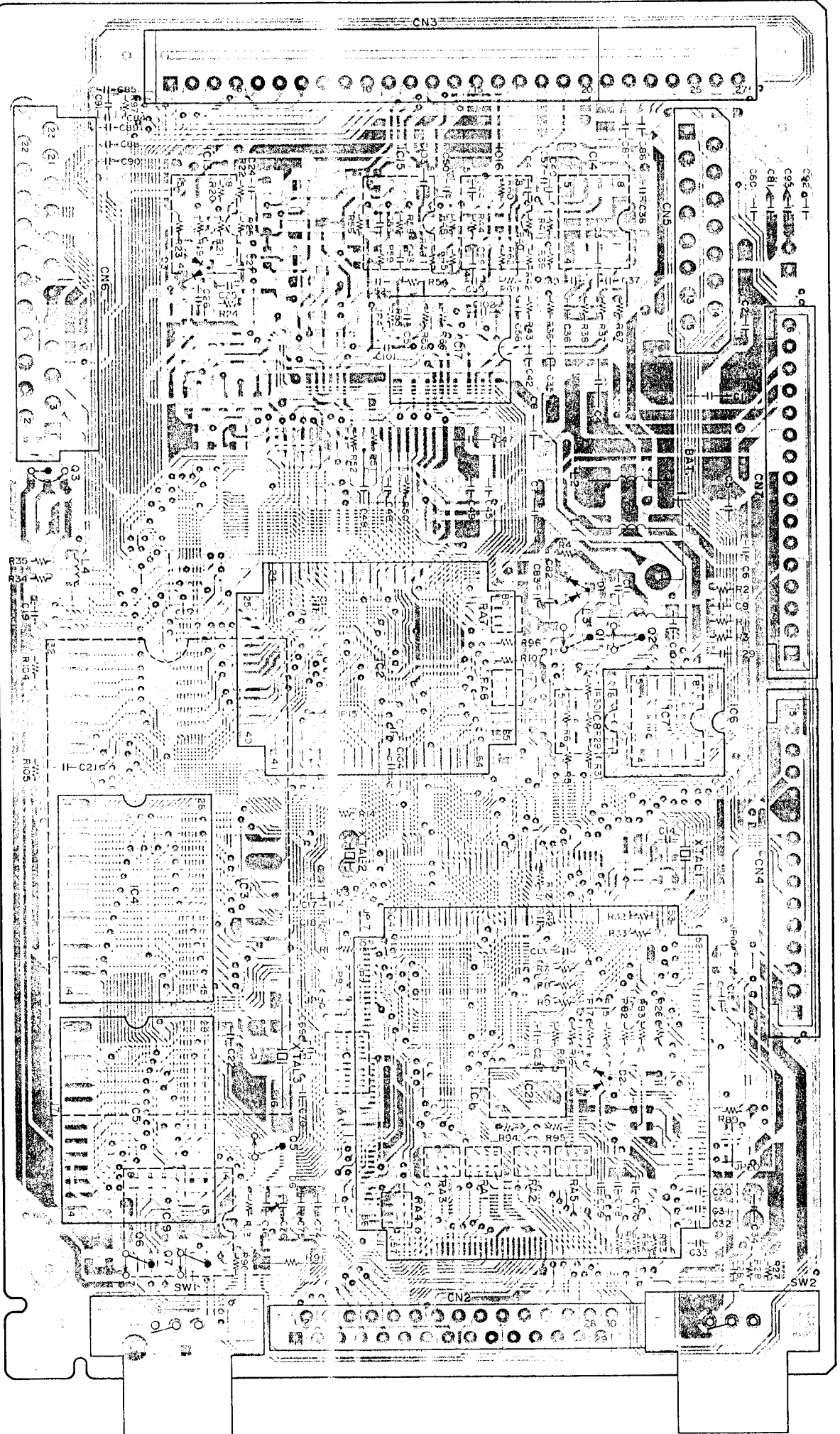






(3) PWB Wiring Diagram
M7 (Power Supply) P.W.B.





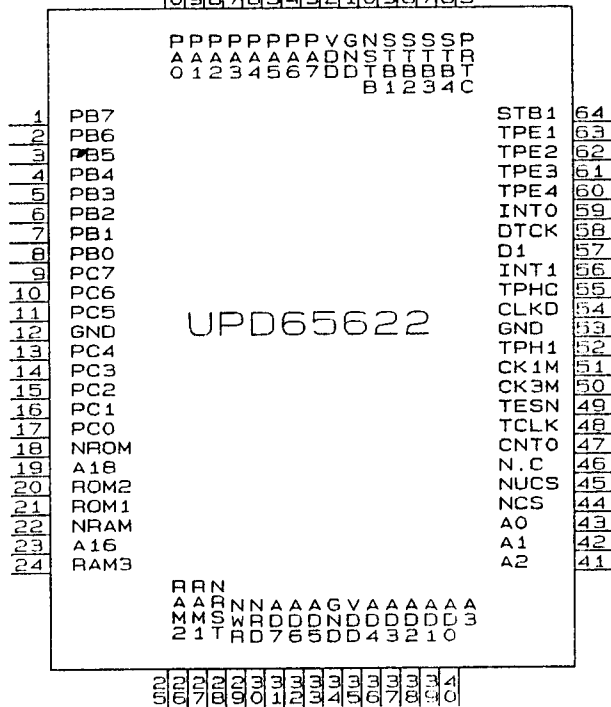
(4) Abbreviated signal explanation

SIGNAL NAME	FUNCTION	CONNECTION	NOTES
D0~D7	LCD data bus	CN2~CN21 (CN22~LCD)	
E	LCD data enable	CN2~CN21 (CN22~LCD)	
RS	LCD register selector	CN2~CN21 (CN22~LCD)	
BZON	Buzzer signal	CN2~CN21	ON: Low
BZ	Buzzer power supply	CN2~CN21	
/STOP	Stop switch	CN2~CN21	Key ON: Low
COL0~2	Key scan column	CN2~CN21	Key ON: Low
/ROW0~3	Key scan row	CN2~CN21	Key ON: Low
LPERR	Error LED	CN2~CN21	LED ON: Low
LPANS	Answer mode LED	CN2~CN21	LED ON: Low
/DHS	Internal handset hook up detection	CN3~CN31 (CN32~CN41)	HOOK UP: Low
RIMUTE	Ringer signal mute	CN3~CN31 (CN32~CN41)	Mute: High
SPMUTE	Monitor mute	CN3~CN31 (CN32~CN41)	Mute: High
MONOUT	Line monitor	CN3~CN31 (CN32~CN41)	Analog signal
SHORT	Circuit short signal	CN3~CN31	ON: High
HZ44	Daial tone/Busy tone detection	CN3~CN31	Detect: High
/HS	External TEL hook up detection	CN3~CN31	HOOK UP: Low
PCE1	Ringing signal detection	CN3~CN31	Detect: AC signal
EARTH	Circuit earth signal	CN3~CN31	ON: High
DP	Dial pulse signal	CN3~CN31	ON: High
CML	Connect modem to line signal	CN3~CN31	ON: High
RXLINE	Reception signal	CN3~CN31	Analog signal
TXLINE	Transmission signal	CN3~CN31	Analog signal
MONITOR	Monitor signal	CN3~CN31	Analog signal
HV	TPH. power supply	CN4~TPH (CN7~CN71)	
DATA	TPH. serial data	CN4~TPH	
CLOCK	TPH. serial clock	CN4~TPH	
/STB1~2	TPH. strobe signal	CN4~TPH	
THM	TPH. thermistor output	CN4~TPH	
THMG	TPH. thermistor GND	CN4~TPH	
CUTF	Cutter motor forward	CN5~CN51	ON: Low
CUTR	Cutter motor reverse	CN5~CN51	ON: Low
/CUT	Cutter wait position	CN5~CN51 (CN53~CUTTER)	ON: High
/PAP	Recording paper stock detection	CN5~CN51	ON: Low
/SPSZ	Recording paper size detection	CN5~CN51	ON: Low
/JAM	Recording paper jam detection	CN5~CN51 (CN54~JAM SENSOR)	ON: Low
/RMI0~3 (RMO0~3)	Reception motor pulse signal (Reception motor drive signal)	CN5~CN51 (CN52~RX MOTOR)	
VLED	LED drive voltage for CIS	CN6~CN61 (CN63~CIS)	ON: Low
GLD	LED GND for CIS	CN6~CN61 (CN63~CIS)	
CLK	Clock for CIS drive	CN6~CN61 (CN63~CIS)	
SI	Scan signal for CIS drive	CN6~CN61 (CN63~CIS)	
VIDEO	Video image signal	CN6~CN61 (CN63~CIS)	Analog signal
/S1	Document stock detection	CN6~CN61	ON: Low
/S2	Document read position detection	CN6~CN61	ON: Low
/S3	Document size detection	CN6~CN61	ON: Low
/TMI0~3 (TMO0~3)	Transmission motor pulse signal (Transmission motor drive signal)	CN6~CN61 (CN62~TX MOTOR)	
HVON	Thermal head power ON signal	CN7~CN71	ON: High
HGND	Thermal head power GND	CN7~CN71	
SP+	Speaker drive signal +	CN43~SPEAKER	Analog signal
SP-	Speaker drive signal -	CN43~SPEAKER	Analog signal

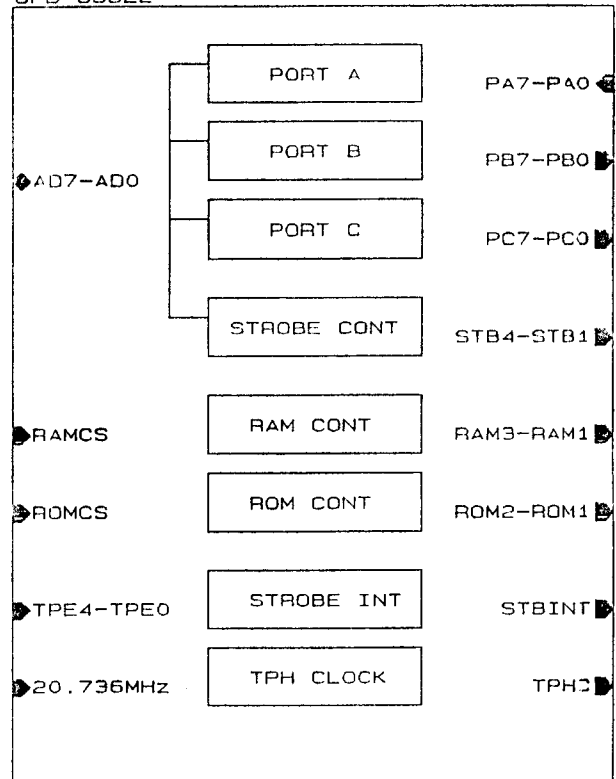
11. PARTS SPECIFICATIONS

(1) IC configuration

UPD65622

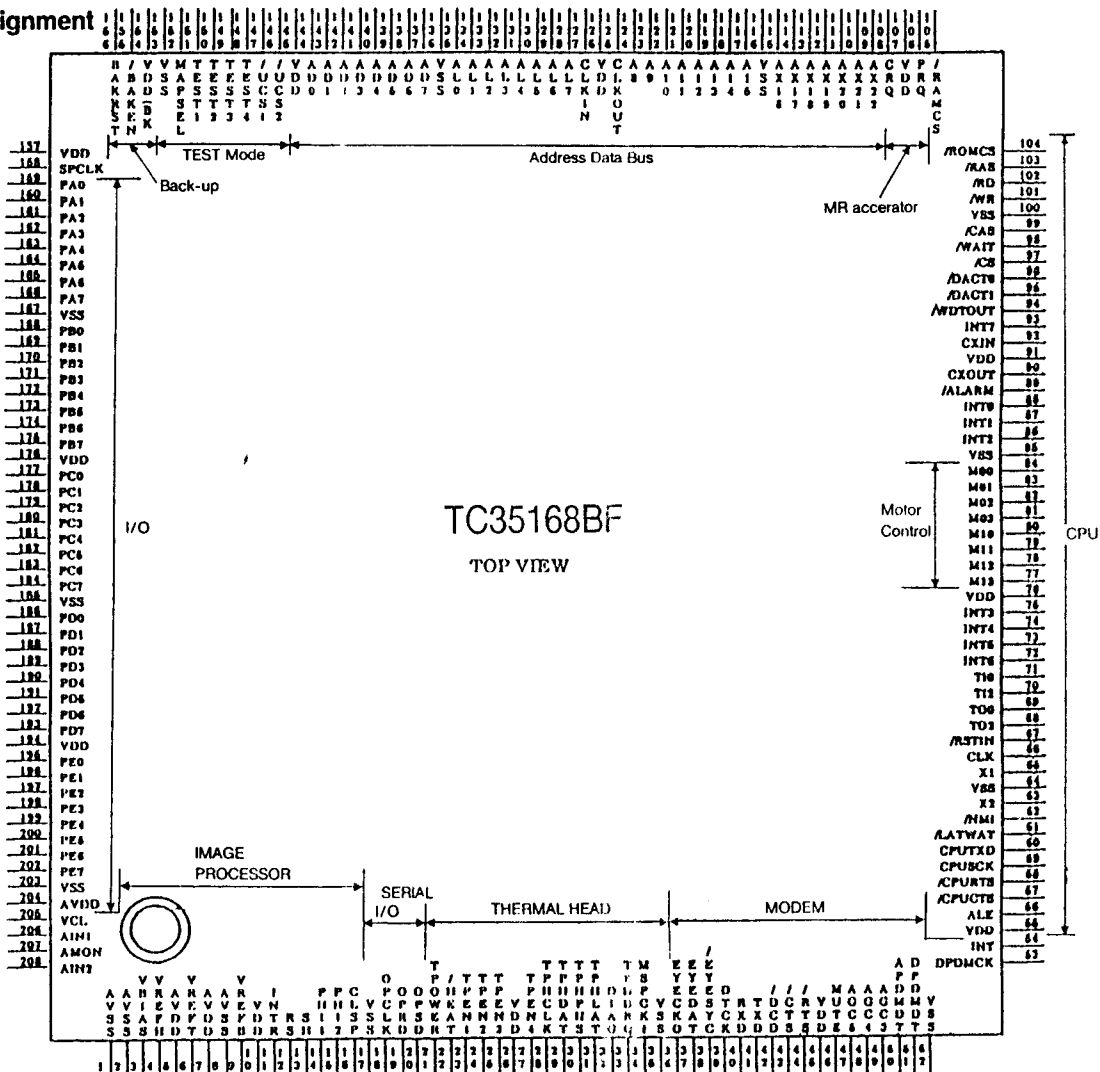


UPD 65622

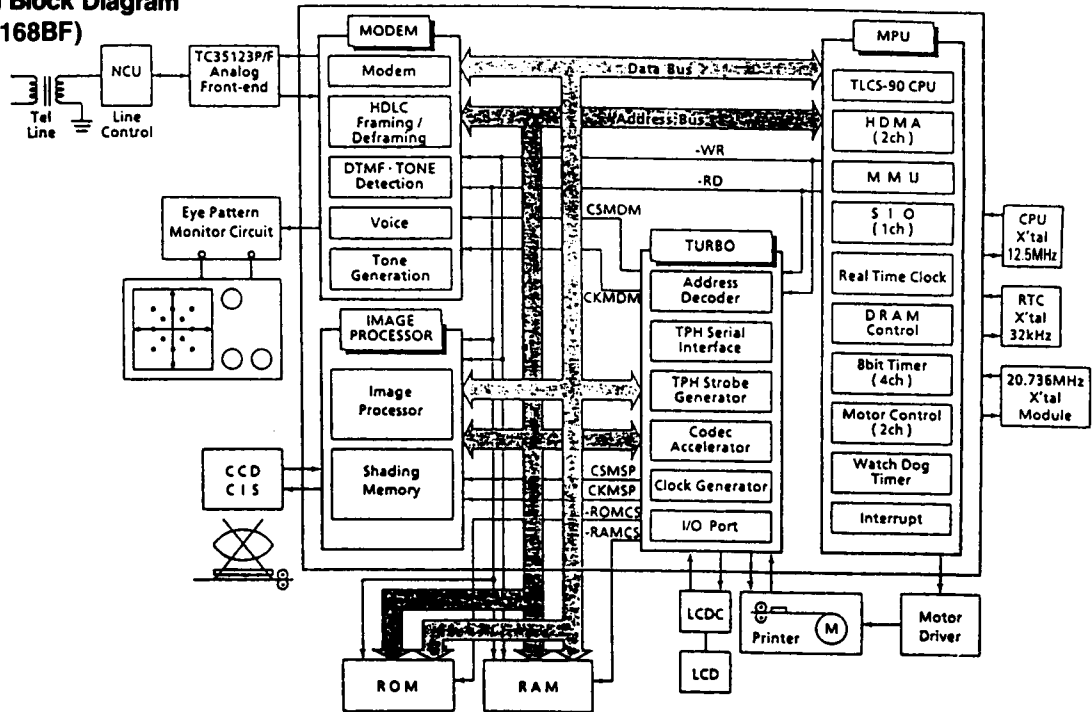


TC35168BF

Pin Assignment

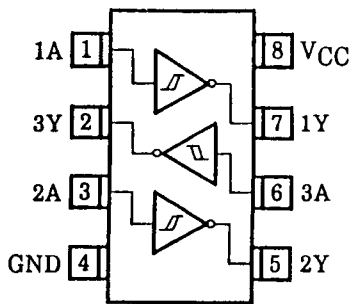


System Block Diagram (TC35168BF)



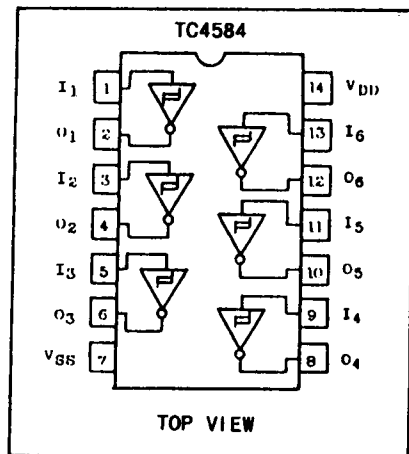
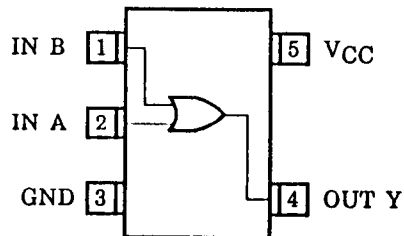
7W14

TOP VIEW

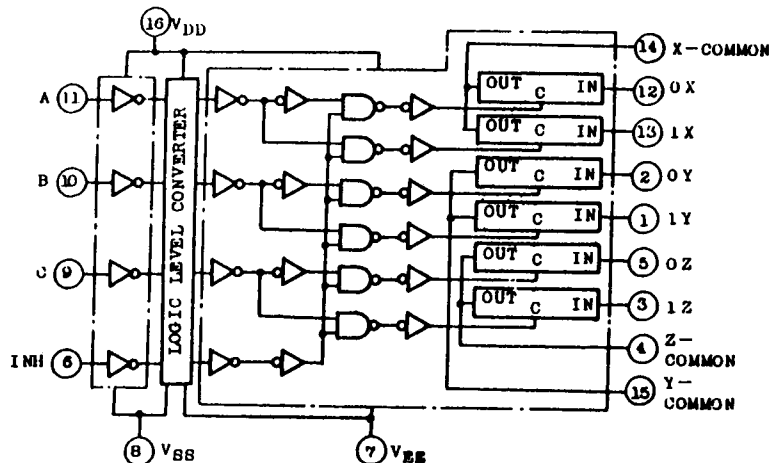
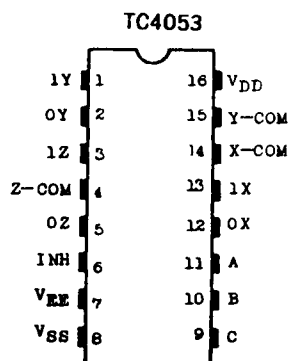


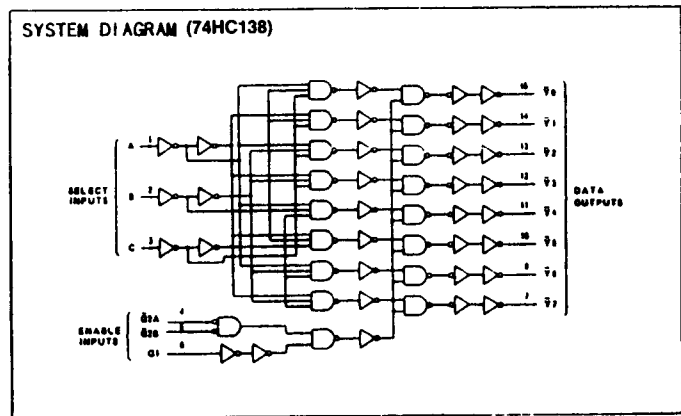
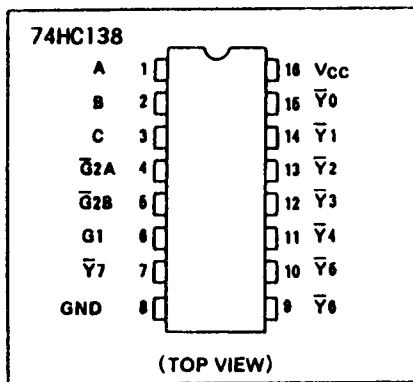
7S32

TOP VIEW

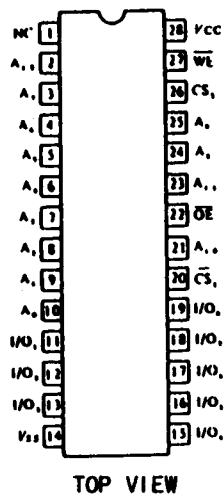


TC4053BF/BF

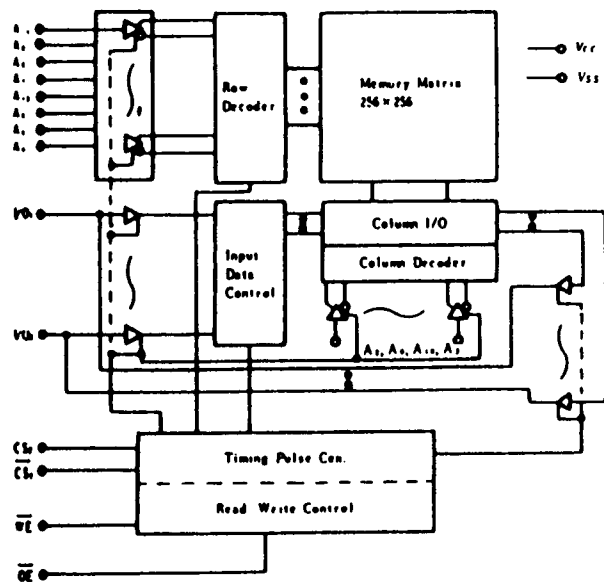




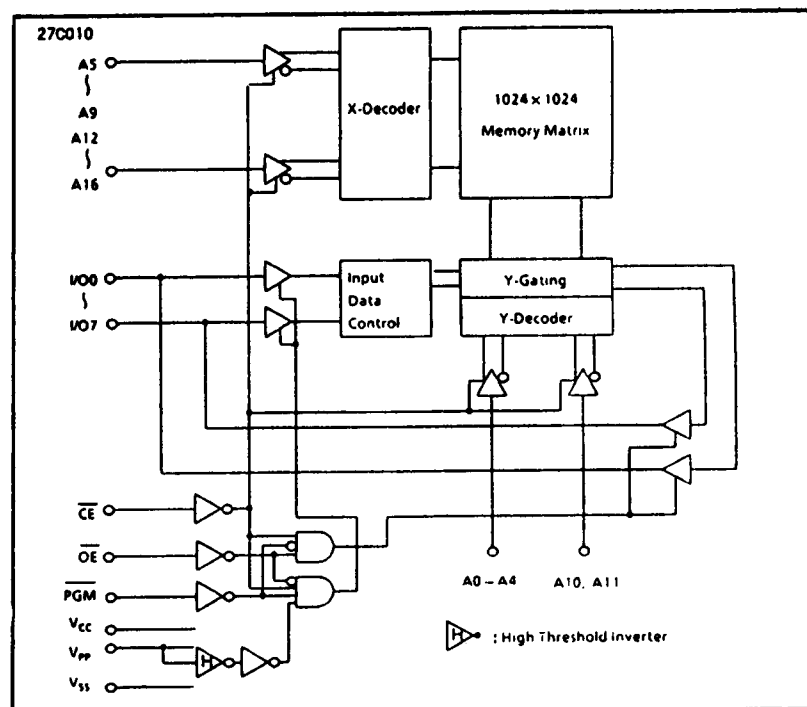
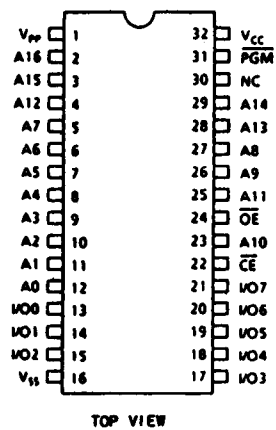
LC3564



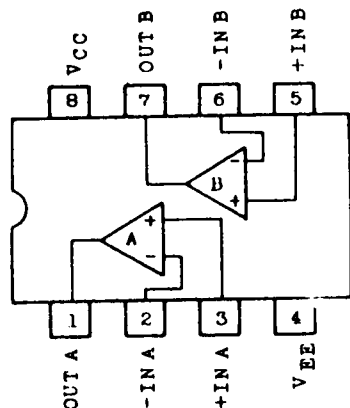
BLOCK DIAGRAM (LC3564)



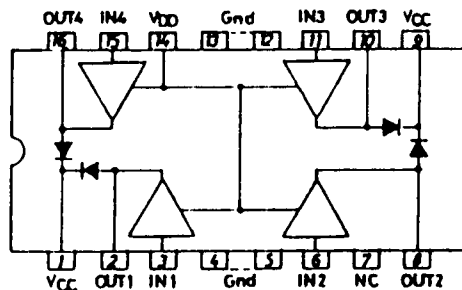
27C010



TA75558
LA6462
RC082BM

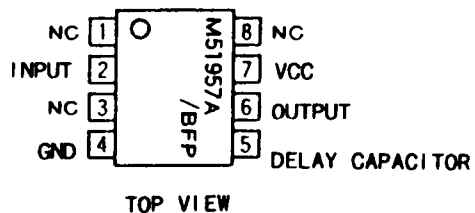


LB1205

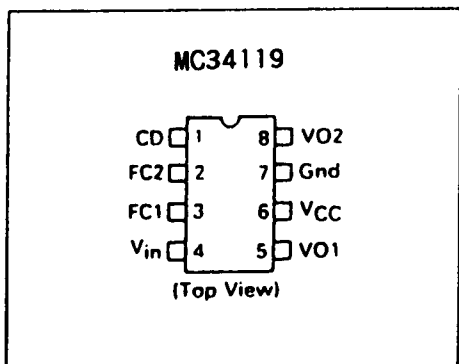
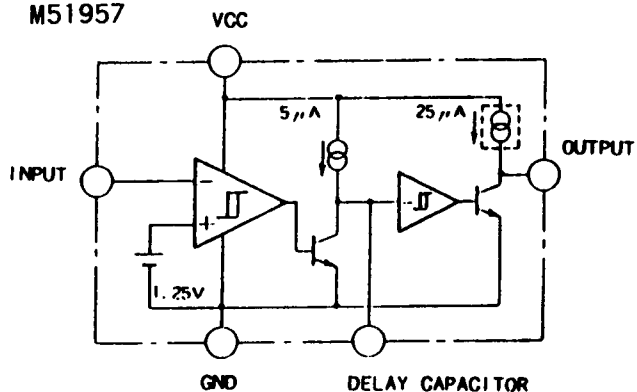


Remark: Vcc line of pin No. 1 and No. 9 are shorted internally.

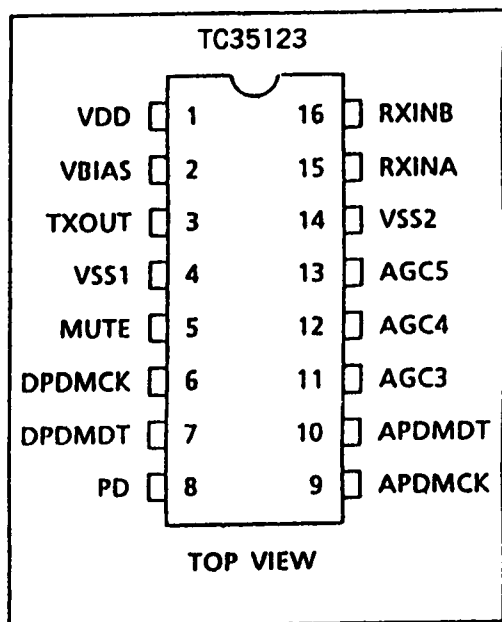
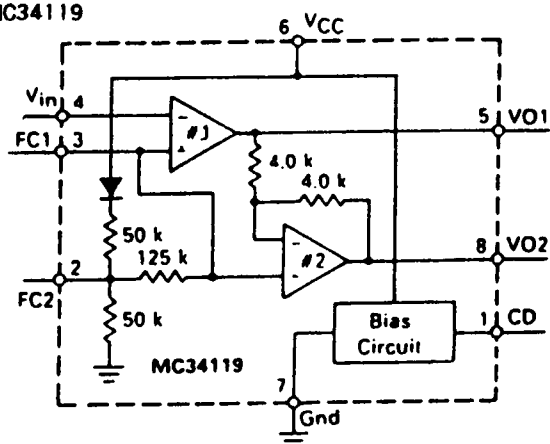
M51957



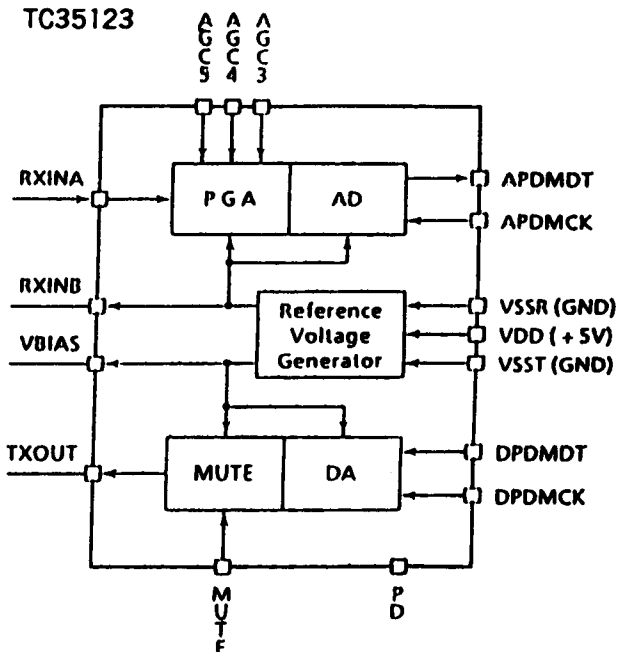
M51957



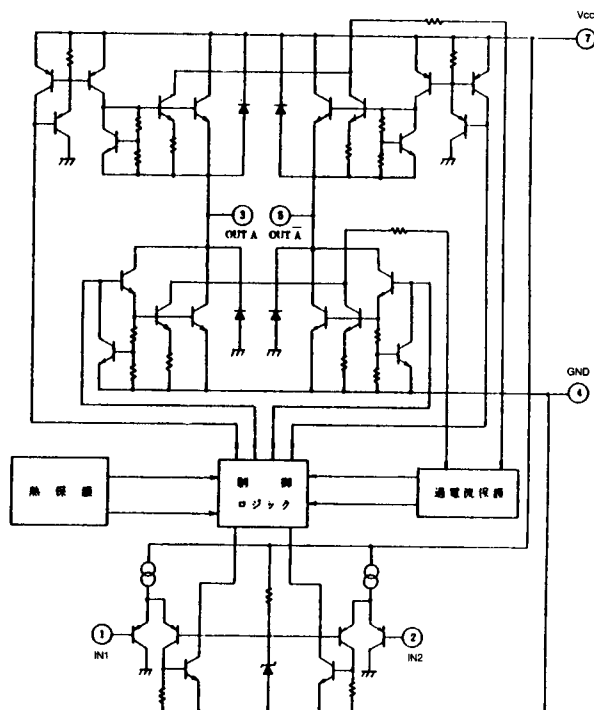
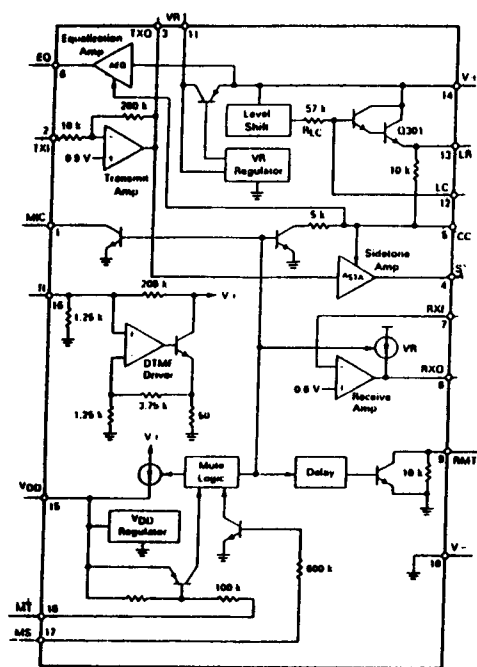
MC34119



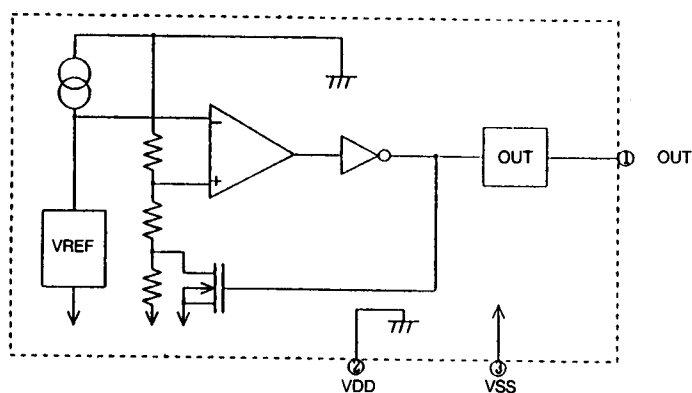
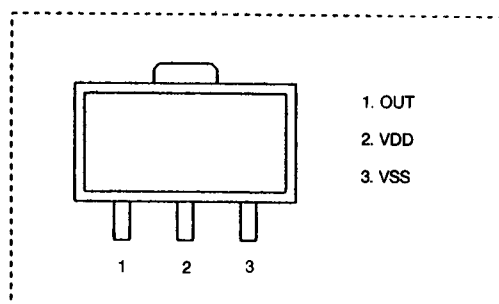
TC35123



**BLOCK DIAGRAM
(MC34012)**

TA8428K

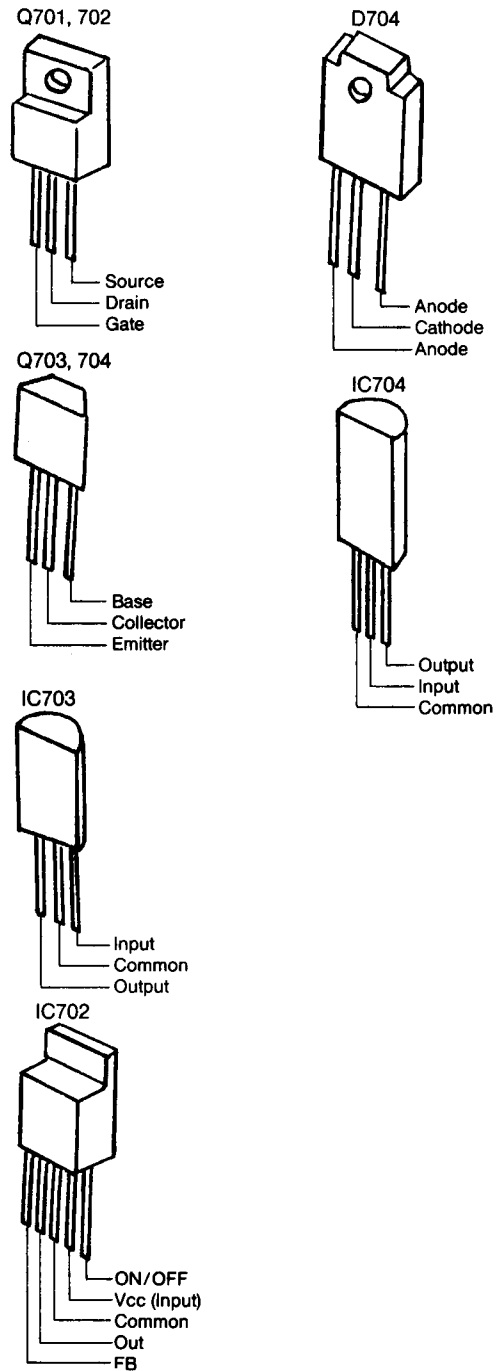
BLOCK DIAGRAM (S-8051ANR)



(2) Parts specification for power supply

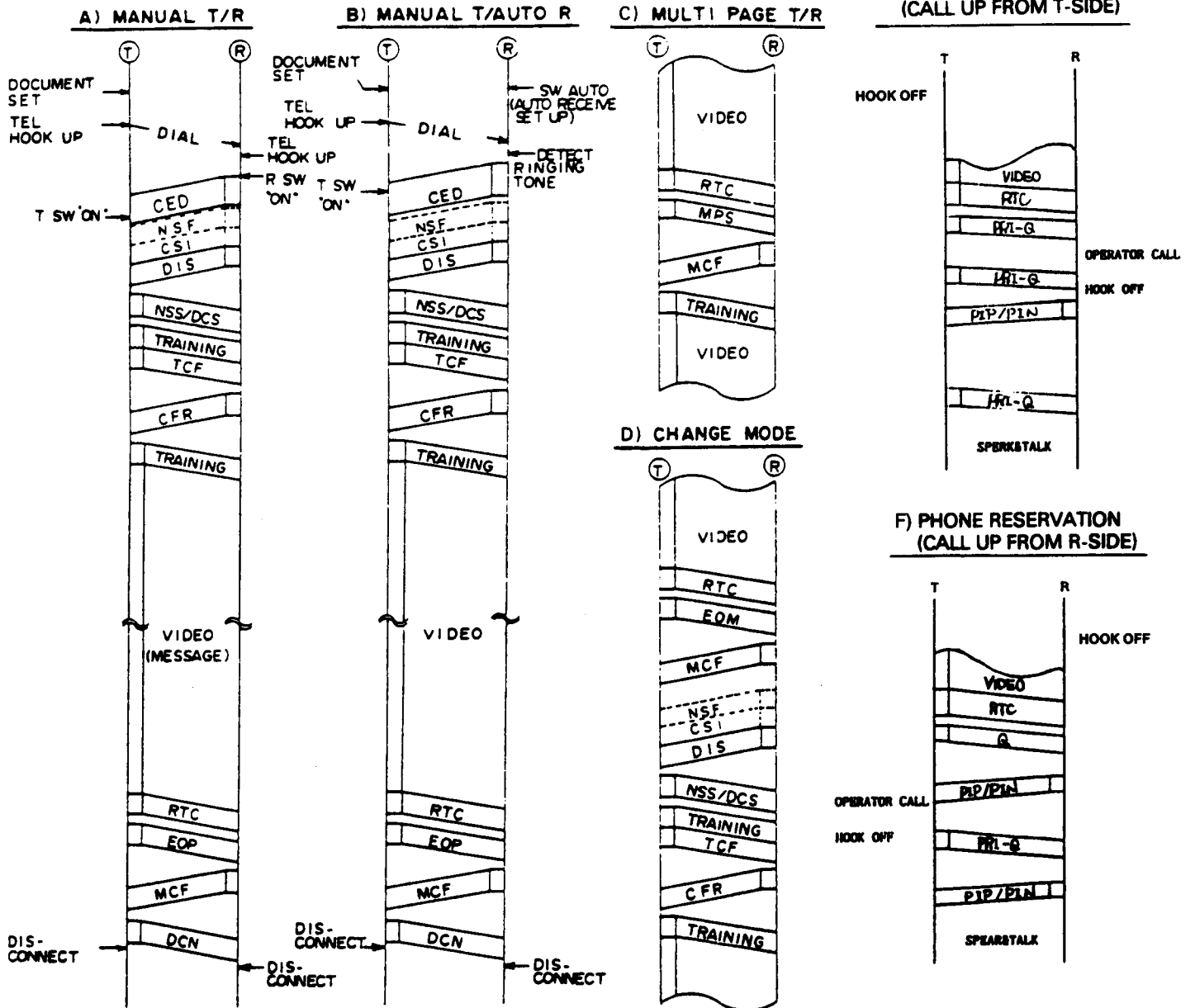
Ref. No.	Kinds	Names	Ratings
Transistor			
Q701	Power MOS FET	2SK1545	V _{DSS} : 800V I _D : 3A
Q704		2SC3330T	V _{ceo} : 50V I _c : 0.2A
Q702		2SJ175	V _{DSS} : 60V I _D : 10A
Q703		2SC4048	V _{ceo} : 50V I _c : 0.1A
Diode			
D701	Rectifier Stack	D2SBA60	V _{rm} : 600V I _o : 1.5A
D702	High speed	ERB44-08	V _{rm} : 800V I _o : 1A
D704	Low loss	ESAC92M-02	V _{rm} : 200V I _o : 10A
D703, 705, '06, 707		ERA91-02	V _{rm} : 200V I _o : 0.5A
Zener diode			
ZD701, 702		GZA30X	V _z : 30V P _c : 0.5W
ZD703		DZB27C	V _z : 27V P _c : 1W
ZD704		GZA5.6X	V _z : 5.6V P _c : 0.5W
ZD705		GZA5.1X	V _z : 5.1V P _c : 0.5W
ZD706		GZA4.7X	V _z : 4.7V P _c : 0.5W
IC			
IC701	IC	FA5310P	
IC702	Down chopper regulator control IC	MC34166T	V _{out} : 5V I _{out} : 3A
IC703	Voltage regulator	TA78L012AP	V _{out} : 12V I _{out} : 150mA
'C704	Voltage regulator	TA79L012P	V _{out} : -12V I _{out} : 150mA
Photo Coupler			
P701		PC120	Isolation Voltage : 4kV

(3) Figure of main parts for power supply



13. SIGNAL FLOW CHART

(1) HIGH SPEED MODE



14. EXPLODED VIEW

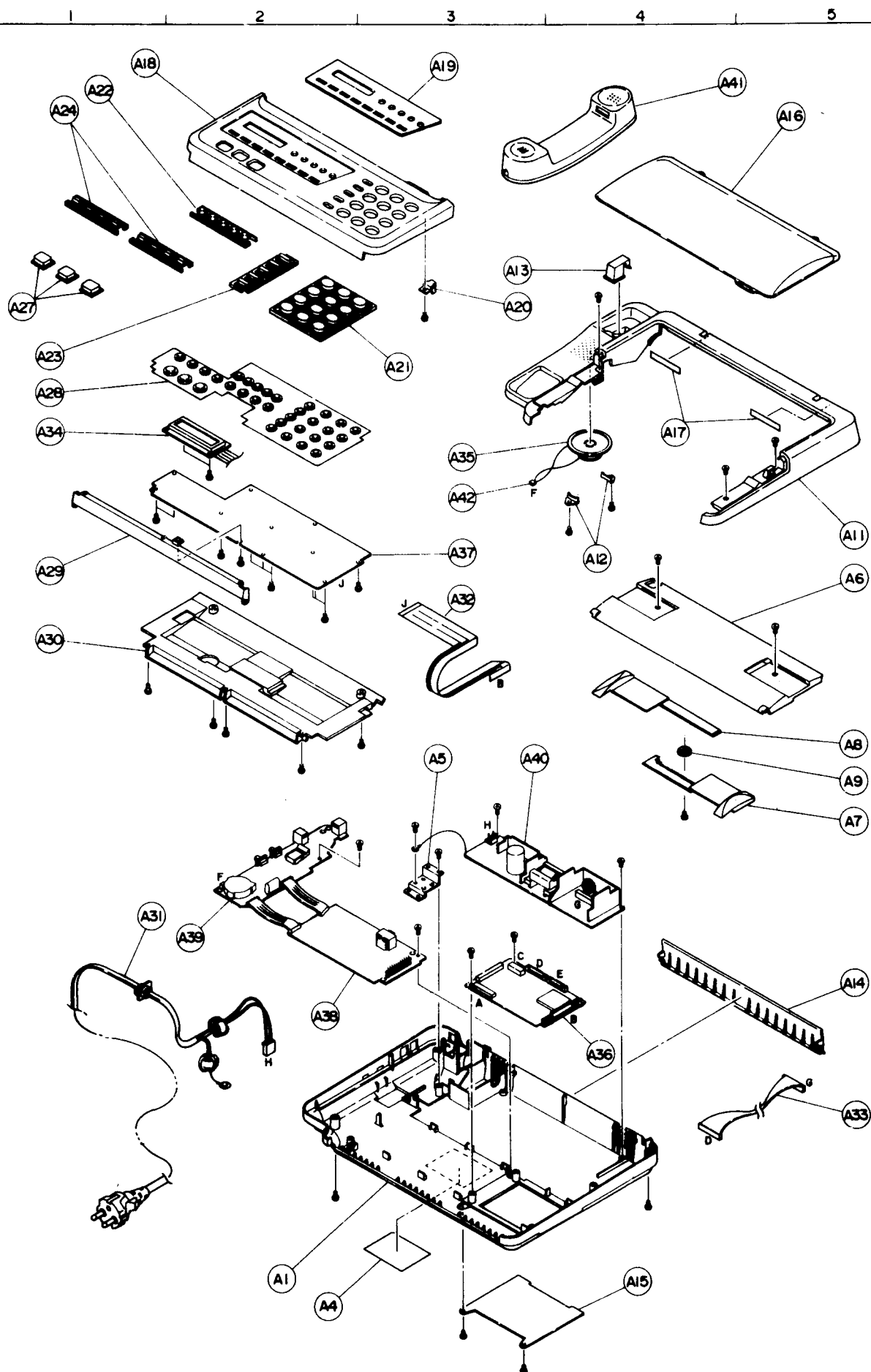


FIGURE A

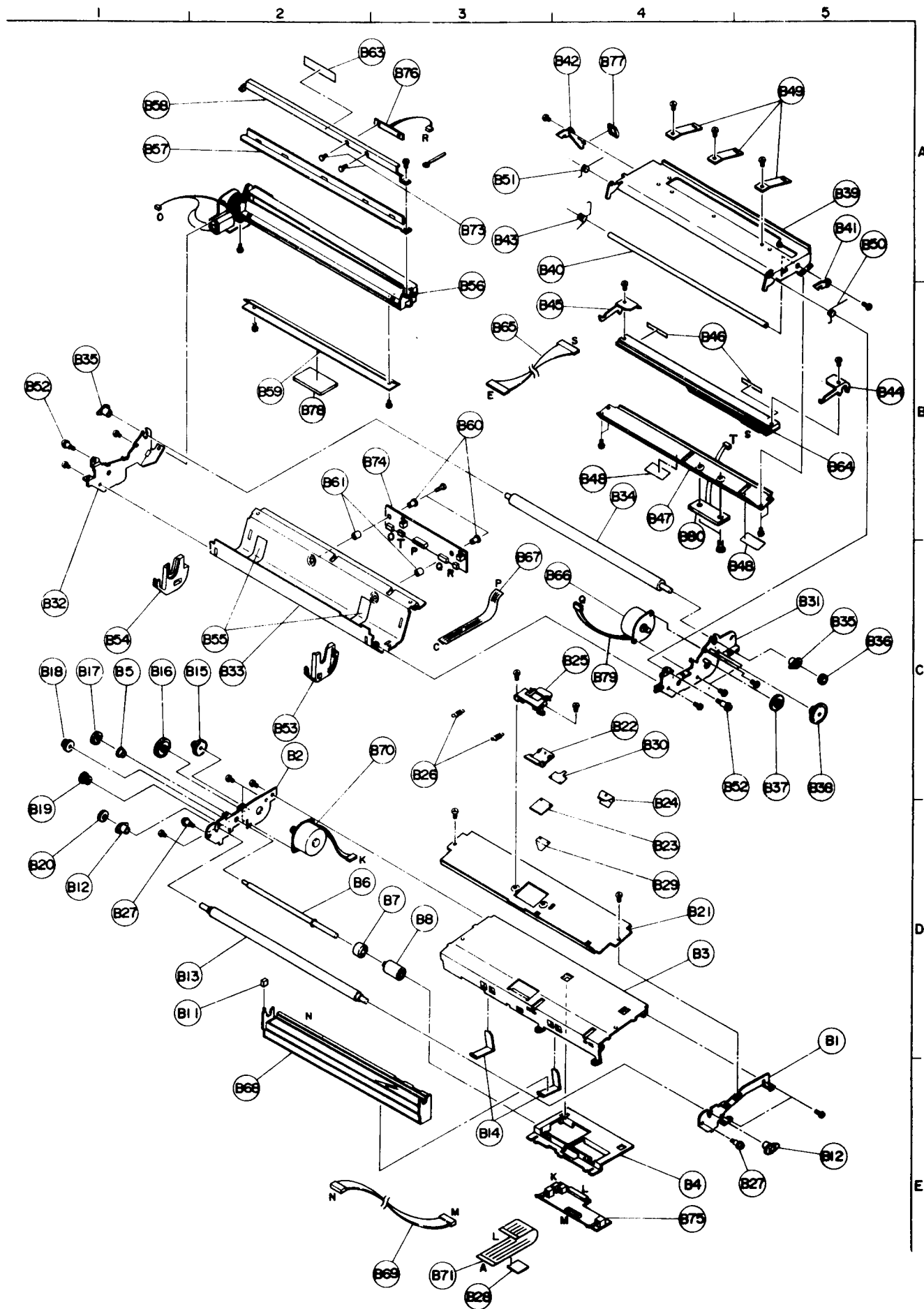


FIGURE B

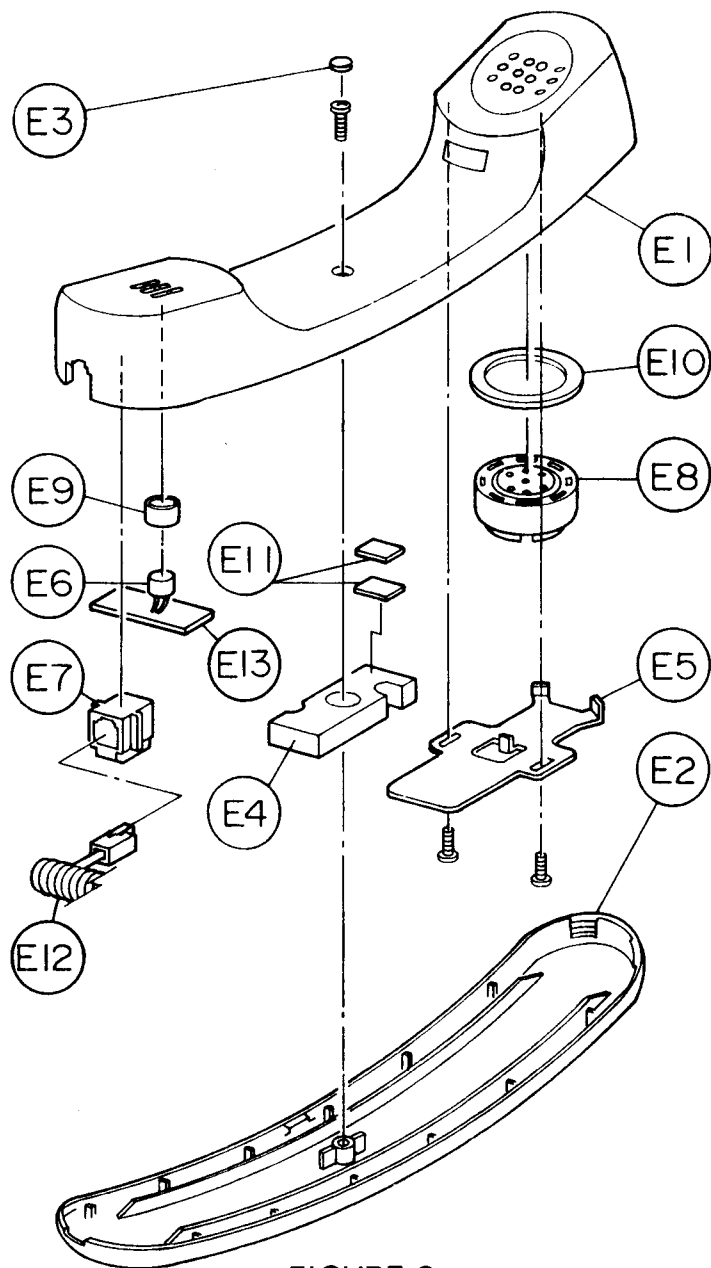


FIGURE C

15. PARTS LIST

PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol Δ in the parts list and the schematic diagram designate components in which safety can be of special significance. When replacing a component identified with Δ , use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual. Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

Ref.No.	PART No.	DESCRIPTION	Q'ty	Ref.No.	PART No.	DESCRIPTION	Q'ty
INDIVIDUAL							
E12	632 668 1800	INDIVIDUAL CARTON CASE	1	A13	632 653 8463	KNOB, TEL	1
	632 664 5581	STYRO-FOAM CUSHION, RIGHT	1		411 001 2106	SCR S-TPG BIN 3X6, CABINET-MECHANISM	3
	632 664 5598	STYRO-FOAM CUSHION, LEFT	1		411 025 6609	SCR S-TPG BIN 3X8, CABINET-BOTTOM LID	3
	632 301 1808	HANDLE	1	A14	632 673 5268	GUIDE, PAPER	1
	632 606 9240	PAD, HANDLE	1	A15	632 664 3921	BACK LID	1
	632 637 4115	POLYETHYLENE BAG, 570X550 ,UNIT	1		411 027 2203	SCR S-TPG BIN 3X4, BACK LID	2
	632 637 4160	POLYETHYLENE BAG, 285X410 ,HAND SET	1	A16	632 674 1603	COVER,CABINET	1
	632 673 4445	BAG,POLYETHY-FOAM 310X340 ,CASE 3	1	A17	632 671 1965	SHEET, B	2
	632 635 6685	LABEL, RECYCLE CORRUGATE	2	A18	632 669 1878	PANEL	1
	632 662 7174	LABEL, GREEN POINT	1	A19	632 669 1885	SIGN WINDOW	1
	632 657 3204	WIRE HARNESS, CURL 280MM	1	A20	632 639 6544	PLATE SPRING	1
	632 644 8939	WIRE HARNESS, 3000MM,LINE } OR	1		411 025 6104	SCR S-TPG BIN 3X6	1
	632 661 7663	CORD, LINE 3000MM,LINE } OR	1	A21	632 673 5275	KNOB, TENKEY	1
	632 673 4315	INSTRUCTION MANUAL,GERMAN	1	A22	632 664 2436	KNOB, MODE,SHORTENING KEY	1
	632 637 4160	POLYETHYLENE BAG, 285X410 ,INSTRUCTION MANUAL	1	A23	632 673 5329	KNOB, FUNCTION	1
	632 651 7833	ROLL PAPER, A4 15M	1	A24	632 664 2450	KNOB, ONE TOUCH	2
	632 664 5635	LABEL, ONE TOUCH	1	A27	632 653 9415	KNOB, COPY	3
	632 673 4322	INDICATION LABEL,REC PPR1	1	A28	632 669 3179	SHEET, FPC } OR	1
	632 673 4339	INDICATION LABEL,REC PPR3	1	A28	632 664 2375	SHEET, FPC } OR	1
	632 673 4346	INDICATION LABEL,ORGI.JAM	1		411 025 4209	SCR S-TPG BIN 2X6	10
	632 646 2607	LEAFLET	1		411 025 4209	SCR S-TPG BIN 2X6	2
	632 673 4452	INDICATION LABEL,REAR CVR	1	A29	632 664 2405	BRACKET, PANEL	1
	632 673 4469	INDICATION LABEL,REARCVR2	1	A30	632 676 9577	COVER, PANEL	1
	632 671 9480	CASE, 3	1		411 025 6500	SCR S-TPG BIN 3X8	3
	632 673 0119	PROTECTOR SHEET	1		411 027 1503	SCR S-TPG BIN 2.6X5, PANEL BRACKET-M2 PCB	1
	632 677 0498	PROTECTOR SHEET, 2	2		411 025 6203	SCR S-TPG BIN 3X6, PANEL COVER	2
CABINET				MECHANISM 1			
A1	632 680 5862	BOTTOM LID ASS'Y	1	B1	632 664 3938	CHASSIS, T RIGHT	1
A4	632 668 1824	RATING LABEL	1	B2	632 664 3945	CHASSIS ASS'Y, T LEFT	1
A5	632 664 3891	BRACKET, EARTH	1		411 027 2203	SCR S-TPG BIN 3X4,MOTOR	2
	411 025 6104	SCR S-TPG BIN 3X6, BRACKET-BOTTOM LID	1	B3	632 664 3976	GUIDE, PAPER 1	1
	411 125 6707	SCR BIN 4X5,EARTH	1		411 028 5609	SCR S-TPG PAN 2.6X4, GUIDE-CHASSIS	4
	411 046 1003	SCR PAN+SW 4X6, POWER-AC CORD-EARTH	2	B4	632 664 4003	BRACKET, SENSOR	1
	411 008 0501	WASHER OUT TW 4, AC CORD-EARTH	1	B5	632 636 1146	BRACKET, SHAFT, 1	1
	411 008 0402	WASHER OUT TW 3	2	B6	632 636 1153	SHAFT, ADF	1
	411 027 2203	SCR S-TPG BIN 3X4	1		411 101 1207	RING E 5,ADF SHAFT	1
	411 025 6104	SCR S-TPG BIN 3X6, POWER PCB	2	B7	632 636 1160	BRACKET, SHAFT	1
	411 025 6104	SCR S-TPG BIN 3X6,M1 PCB	2	B8	632 636 1177	ROLLER, ADF	1
	411 025 6104	SCR S-TPG BIN 3X6,M3 PCB	1		411 025 6104	SCR S-TPG BIN 3X6	2
	411 027 2203	SCR S-TPG BIN 3X4,M4 PCB	1	B11	632 636 1207	KNOB	1
	411 025 6500	SCR S-TPG BIN 3X8, MECHANISM 2	2	B12	632 664 4034	BRACKET, SHAFT	2
	411 025 6500	SCR S-TPG BIN 3X8, MECHANISM 1	2	B13	632 664 4041	PLATEN, SENSOR	1
A6	632 673 5299	COVER, ROLL PAPER	1	B14	632 664 4058	PLATE SPRING, CIS	2
A7	632 673 5305	GUIDE, R	1		632 250 2802	WIRE BAND,	1
A8	632 673 5244	GUIDE, L	1	B15	632 636 1245	GEAR, 1	1
A9	632 636 8886	GEAR, GUIDE	1	B16	632 636 1252	GEAR, 2	1
	411 124 2809	SCR S-TPG PAN+W 2X5,GEAR	1	B17	632 636 1269	GEAR, 3	1
	411 027 2302	SCR S-TPG BIN 3X4, ROLL PAPER COVER	2	B18	632 636 1276	GEAR, 4	1
B77	632 673 5312	KNOB	1	B19	632 636 1283	GEAR, 5	1
A11	632 673 5251	CABINET	1	B20	632 625 2635	GEAR, 1	1
A12	632 276 9229	BRACKET, SPEAKER	2	B21	632 664 4065	GUIDE, PAPER 2	1
	411 025 6104	SCR S-TPG BIN 3X6	2		411 027 1305	SCR S-TPG BIN 2.6X4, CHASSIS-GUIDE PAPER 2	2
				B22	632 636 2662	BRACKET, BRAKE, 1	1
				B23	632 636 2679	BRAKE, ADF	1
				B24	632 670 9818	PLATE SPRING, ADF	1
				B25	632 648 6573	BRACKET, BRAKE, 2	1
				B26	632 644 9400	COIL SPRING	2
					411 152 0907	SCR S-TPG BIN 2X4	2

- NOTES: 1. Part orders must contain Model Number, Part Number and Description.
2. Ordering quantity of screws and resistors must be multiple of 10 pcs.

Ref.No.	PART No.	DESCRIPTION	Q'ty
B27	632 561 1624	SHAFT, MECHANISM 1-PANEL	2
B28	632 670 9399	INSULATOR, FFC	1
B29	632 671 1941	SHEET, BRAKE 2	1
	411 027 2203	SCR S-TPG BIN 3X4,	1
		MECHANISM 2 PCB-EARTH	
B30	632 644 5174	SHEET, BRAKE 1	1
MECHANISM 2			
B31	632 664 4096	CHASSIS ASS'Y, RIGHT	1
	411 027 2203	SCR S-TPG BIN 3X4, MOTOR	2
B32	632 664 4119	CHASSIS, REC LEFT	1
B33	632 668 2081	BRACKET, PAPER 2	1
	411 027 1305	SCR S-TPG BIN 2.6X4,	4
		BRACKET-CHASSIS	
B34	632 664 4133	PLATEN, HEAD	1
B35	632 664 4034	BRACKET, SHAFT	2
B36	632 625 2635	GEAR, 1	1
B37	632 636 1245	GEAR, 1	1
B38	632 636 1252	GEAR, 2	1
B39	632 664 4140	BRACKET, HEAD HOLDER	1
B40	632 664 4157	SHAFT, OPEN	1
B41	632 671 1972	LEVER, OPEN R	1
B42	632 664 4164	LEVER, OPEN L	1
B43	632 664 4171	TORSION SPRING, LEVER	1
	411 047 4508	SCR PAN+FLG 2.6X4	2
B44	632 664 4188	BRACKET, HEAD R	1
B45	632 664 4195	BRACKET, HEAD L	1
	411 047 6809	SCR PAN+FLG 3X4	2
B46	632 671 1903	SPACER, THERMAL HEAD	2
B47	632 664 4201	GUIDE, PAPER	1
B48	632 669 8549	INSULATOR	2
	411 027 1305	SCR S-TPG BIN 2.6X4	2
B49	632 636 3508	PLATE SPRING, HEAD 2	3
	411 027 2203	SCR S-TPG BIN 3X4	3
B50	632 664 4218	TORSION SPRING, R	1
B51	632 664 4225	TORSION SPRING, L	1
B52	632 561 1624	SHAFT	2
B53	632 646 0580	GUIDE, PAPER R	1
B54	632 646 0597	GUIDE, PAPER L	1
B55	632 664 4232	SHEET, PAPER,	2
		BRACKET PAPER 1	
B56	632 673 0508	PAPER CUTTER ASS'Y	1
B57	632 664 4256	GUIDE, CUTTER 1	1
	411 090 4104	WASHER Y 3X8X0.5	1
B58	632 664 4263	GUIDE, CUTTER 2	1
	411 027 1305	SCR S-TPG BIN 2.6X4,	1
		GUIDE-CUTTER	
	632 250 0655	WIRE FIXTURE	2
B59	632 664 4270	GUIDE, CUTTER 3	1
	411 027 1305	SCR S-TPG BIN 2.6X4,	2
		GUIDE-CUTTER	
	411 027 1305	SCR S-TPG BIN 2.6X4,	1
		PAPER CUTTER-CHASSIS	
B60	632 308 1825	SPACER	2
B61	632 308 6585	SPACER	2
	411 028 7801	SCR S-TPG PAN 3X14, M5 PCB	2
B73	632 261 6592	FIXTURE, JAM SENSOR	2
B63	632 671 1958	SHEET, A	1
	632 250 2802	WIRE BAND,	2
	411 027 2203	SCR S-TPG BIN 3X4	2
B78	632 676 2783	SHEET, C	1
CHASSIS ELC.			
B64	632 674 8176	THERMAL HEAD	1
B65	632 666 8054	WIRE HARNESS, 105MM, CN4	1
B66	632 675 2203	PULSE MOTOR	1
B79	632 666 8061	WIRE HARNESS, 65MM,	1
		CN5-CN51	
B67	632 666 8108	JUMPER LEAD, 15P 140MM,	1
		CN5-CN51	
B68	632 676 6958	SENSOR ASS'Y, IMAGE	1
B69	632 675 8472	WIRE HARNESS, 10P 180MM	1
B70	632 668 0933	PULSE MOTOR	1
	632 254 3409	LUG, CIS-CHASSIS	2
B71	632 666 8115	JUMPER LEAD, 23P 115MM,	1
		CN6-CN61	

Ref.No.	PART No.	DESCRIPTION	Q'ty
A31	632 676 6972	AC CORD ASS'Y, 2100MM	1
A32	632 666 8092	JUMPER LEAD, 28P 255MM,	1
		CN2-CN21	
A33	632 666 8047	WIRE HARNESS, 160MM,	1
		CN7-CN71	
	632 301 2324	HOUSING, 8P, CN32-CN41	2
	632 287 6408	TERMINAL, CN32-CN41	16
	632 582 7483	CORE, CN32-CN41	1
A34	632 667 5502	LIQUID CRYSTAL DISPLAY	1
A35	632 249 6729	SPEAKER, 16OHM	1
A42	632 666 6098	SOCKET, 2P 90MM	1
	632 637 0629	TERMINAL, EARTH	2
PC BOARD 1			
A36	632 673 6500	PW BOARD ASS'Y, M 1 MAIN	1
IC1	409 306 1108	IC TC35168BF	1
IC6	409 281 0400	IC TC35123F	1
IC2	410 167 8304	IC UPD65622GF-043-3B9	1
(IC3)	632 636 6530	SOCKET, IC 32P	1
IC3	410 174 8007	IC TMS27C010A-15JL/9801A	1
IC4,5	409 137 0608	IC LC3564PML-12 } OR	2
IC4,5	409 146 4703	IC LC3564PML-15 } OR	2
IC8	409 297 7301	IC TC7W14F	1
IC11	409 155 8105	IC TC7SU04F	1
IC17	409 051 2900	IC TC4053BF } OR	1
IC17	409 155 4206	IC BU4053BF } OR	1
IC9	409 074 6909	IC TC4584BF } OR	1
IC9	409 176 1901	IC BU4584BF } OR	1
IC13	409 039 4704	IC NJM082BM } OR	1
IC13	409 241 8200	IC RC082BM } OR	1
IC14	409 018 5302	IC LA6462M } OR	1
IC14	409 049 4602	IC TA75558F } OR	1
IC15	409 018 5302	IC LA6462M } OR	1
IC15	409 049 4602	IC TA75558F } OR	1
IC16	409 018 5302	IC LA6462M } OR	1
IC16	409 049 4602	IC TA75558F } OR	1
IC7	409 074 9603	IC M51957BFP	1
IC21	409 307 6706	IC S-8051ANR-NB	1
CN2	632 666 1468	CONNECTOR, 30P	1
CN3	632 666 1512	SOCKET, 20P	1
CN4	632 253 9969	PLUG, 15P	1
CN5	632 666 6036	CONNECTOR, 15P	1
CN6	632 666 1475	CONNECTOR, 23P	1
CN7	632 642 2571	PLUG, 16P	1
SW1,2	632 636 8268	SLIDE SWITCH	2
L1,2,3	632 588 9528	CORE	3
XTAL1	632 637 0766	CERAMIC OSC., 12.5 MHZ	1
XTAL2	632 250 7579	CRYSTAL OSC., 32.768KHZ	1
XTAL3	632 648 0533	CRYSTAL OSC., 20.736 MHZ	1
BAT	632 636 6547	LITHIUM CELL } OR	1
BAT	632 674 1269	LITHIUM CELL } OR	1
Q1	405 044 13*01	TR 2SA1510	1
Q2	405 018 1900	TR 2SC3395-TA	1
Q3	405 047 6402	TR 2SD1623-T	1
Q5,6,7	405 018 2402	TR 2SC3398	3
D1,2,3	407 004 1000	DIODE DCC010	3
D6	407 069 4909	DIODE DSB010	1
C34	403 154 2904	OS-SOLID 10U M 10V	1
C7,8	404 049 7707	ELECT 10U M 16V	2
C47,82	404 049 7707	ELECT 10U M 16V	2
C3,4	403 184 8204	ELECT 10U M 25V	2
C1	403 204 4407	ELECT 10U M 50V	1
C5	403 184 8006	ELECT 47U M 6.3V	1
C25	403 157 1904	CERAMIC 10P D 50V	1
C70	403 155 4204	CERAMIC 15P J 50V	1
C18	403 139 7306	CERAMIC 18P J 50V	1
C17,69	403 145 9905	CERAMIC 22P J 50V	2
C13,14	403 157 2604	CERAMIC 30P J 50V	2
C104	403 157 2604	CERAMIC 30P J 50V	1
C73-76	403 157 2901	CERAMIC 47P J 50V	4
C77-81	403 157 2901	CERAMIC 47P J 50V	5
C84-93	403 157 2901	CERAMIC 47P J 50V	10
C44,55	403 112 9303	CERAMIC 100P J 50V	2
C37,46	403 113 0507	CERAMIC 220P J 50V	2
C51	403 113 0507	CERAMIC 220P J 50V	1
C16	403 157 6602	CERAMIC 470P K 50V	1
C12	403 113 3805	CERAMIC 1000P K 50V	1

NOTES: 1. Part orders must contain Model Number, Part Number and Description.
2. Ordering quantity of screws and resistors must be multiple of 10 pcs.

Ref.No.	PART No.	DESCRIPTION	Q'ty
C36	403 113 4109	CERAMIC 2200P K 50V	1
C40	403 157 7302	CERAMIC 6800P K 50V	1
C23	403 155 1807	CERAMIC 0.01U K 25V	1
C58	403 194 2803	CERAMIC 0.015U K 25V	1
C41	403 262 0502	CERAMIC 0.033U K 16V	1
C2	403 224 7006	CERAMIC 0.047U Z 50V	1
C6,9	403 164 0204	CERAMIC 0.1U Z 25V	2
C15,19	403 164 0204	CERAMIC 0.1U Z 25V	2
C21,22	403 164 0204	CERAMIC 0.1U Z 25V	2
C24,28	403 164 0204	CERAMIC 0.1U Z 25V	2
C32,33	403 164 0204	CERAMIC 0.1U Z 25V	2
C39,42	403 164 0204	CERAMIC 0.1U Z 25V	2
C43,45	403 1640 204	CERAMIC 0.1U Z 25V	2
C49,50	403 164 0204	CERAMIC 0.1U Z 25V	2
C52,57	403 164 0204	CERAMIC 0.1U Z 25V	2
C59,83	403 164 0204	CERAMIC 0.1U Z 25V	2
C29-31	403 164 0204	CERAMIC 0.1U Z 25V	3
C38	403 164 0204	CERAMIC 0.1U Z 25V	1
C10	403 222 0306	CERAMIC 0.22U K 16V	1
C35,48	403 192 5905	CERAMIC 0.1U K 25V	2
C26,27	403 192 5905	CERAMIC 0.1U K 25V	2
C101	403 192 5905	CERAMIC 0.1U K 25V	1
102	403 192 5905	CERAMIC 0.1U K 25V	1
39	403 192 5905	CERAMIC 0.1U K 25V	1
C11	403 185 8708	CERAMIC 1U Z 16V	1
JP3,4	401 105 7909	MT-GLAZE 0.000 ZA 1/16W	2
JP7,8	401 105 7909	MT-GLAZE 0.000 ZA 1/16W	2
JP9,10	401 105 7909	MT-GLAZE 0.000 ZA 1/16W	2
JP15	401 105 7909	MT-GLAZE 0.000 ZA 1/16W	1
JP20	401 105 7909	MT-GLAZE 0.000 ZA 1/16W	1
R53,59	401 105 7909	MT-GLAZE 0.000 ZA 1/16W	2
R56,90	401 105 7909	MT-GLAZE 0.000 ZA 1/16W	2
C103	401 037 5004	MT-GLAZE 0.000 ZA 1/10W	1
JP17	401 105 5806	MT-GLAZE 56 JA 1/16W	1
R22	401 105 1907	MT-GLAZE 180 JA 1/16W	1
R25	401 105 2706	MT-GLAZE 220 JA 1/16W	1
R51	401 105 4007	MT-GLAZE 330 JA 1/16W	1
R2,4	401 105 0504	MT-GLAZE 1K JA 1/16W	2
R17,21	401 105 0504	MT-GLAZE 1K JA 1/16W	2
R34,52	401 105 0504	MT-GLAZE 1K JA 1/16W	2
R94	401 105 0504	MT-GLAZE 1K JA 1/16W	1
R43	401 105 1501	MT-GLAZE 1.5K JA 1/16W	1
R1,3	401 105 2805	MT-GLAZE 2.2K JA 1/16W	2
R15,96	401 105 2805	MT-GLAZE 2.2K JA 1/16W	2
R103	401 105 2805	MT-GLAZE 2.2K JA 1/16W	1
R92	401 105 2805	MT-GLAZE 2.2K JA 1/16W	1
R42	401 105 3307	MT-GLAZE 2.7K JA 1/16W	1
R66	401 105 6001	MT-GLAZE 5.6K JA 1/16W	1
R18	401 105 4601	MT-GLAZE 3.9K JA 1/16W	1
R24	401 105 1600	MT-GLAZE 15K JA 1/16W	1
R44	401 105 6605	MT-GLAZE 6.8K JA 1/16W	1
6	401 105 7404	MT-GLAZE 8.2K JA 1/16W	1
19,20	401 105 0603	MT-GLAZE 10K JA 1/16W	2
R23,29	401 105 0603	MT-GLAZE 10K JA 1/16W	2
R30,31	401 105 0603	MT-GLAZE 10K JA 1/16W	1
R40	401 105 0603	MT-GLAZE 10K JA 1/16W	1
R39,41	401 105 1600	MT-GLAZE 15K JA 1/16W	2
R55	401 105 1600	MT-GLAZE 15K JA 1/16W	1
R45	401 105 8203	MT-GLAZE 68K JA 1/16W	1
R46	401 113 8400	MT-GLAZE 75K JA 1/16W	1
R35,93	401 105 2904	MT-GLAZE 22K JA 1/16W	2
R67,69	401 105 2904	MT-GLAZE 22K JA 1/16W	2
R7,8,9	401 105 8104	MT-GLAZE 56K JA 1/16W	3
R11,12	401 105 8104	MT-GLAZE 56K JA 1/16W	2
R13,26	401 105 8104	MT-GLAZE 56K JA 1/16W	2
R32,33	401 105 8104	MT-GLAZE 56K JA 1/16W	2
R82,83	401 105 8104	MT-GLAZE 56K JA 1/16W	2
R89,97	401 105 8104	MT-GLAZE 56K JA 1/16W	2
R104	401 105 8104	MT-GLAZE 56K JA 1/16W	1
R105	401 105 8104	MT-GLAZE 56K JA 1/16W	1
R60	401 105 5400	MT-GLAZE 47K JA 1/16W	1
R5,54	401 105 7503	MT-GLAZE 82K JA 1/16W	2
R50,58	401 105 0702	MT-GLAZE 100K JA 1/16W	2
R95	401 105 0702	MT-GLAZE 100K JA 1/16W	1
R62	401 105 1709	MT-GLAZE 150K JA 1/16W	1
R14	401 105 4304	MT-GLAZE 330K JA 1/16W	1
R6	401 105 4809	MT-GLAZE 390K JA 1/16W	1
R36,38	401 212 1708	MT-GLAZE 24K FA 1/16W	2

Ref.No.	PART No.	DESCRIPTION	Q'ty
R37	401 212 1807	MT-GLAZE 75K FA 1/16W	1
R48	401 203 7009	MT-GLAZE 604 FA 1/16W	1
R28	401 217 3806	MT-GLAZE 27K FA 1/16W	1
R27	401 217 5404	MT-GLAZE 47K FA 1/16W	1
R91	401 185 3600	MT-GLAZE 2.2K JA 1/2W	1
RA1-4	632 665 7751	RESISTOR BLOCK, 56KX4	4
RA1-4	632 665 7478	RESISTOR BLOCK, 56KX4	4
RA1-4	632 638 6538	RESISTOR BLOCK, 56KX4	4
RA6,7	632 665 7751	RESISTOR BLOCK, 56KX4	2
RA6,7	632 665 7478	RESISTOR BLOCK, 56KX4	2
RA6,7	632 638 6538	RESISTOR BLOCK, 56KX4	2
RA5	632 602 0821	RESISTOR BLOCK, 22KX4	1
RA5	632 656 4745	RESISTOR BLOCK, 22KX4	1
L4	632 631 5835	CORE, 80 OHM	1
C110	403 009 3100	CERAMIC 100P J 50V	1
C111	403 069 0705	CERAMIC 1000P K 50V	1
PC BOARD 2			
A37	632 678 9483	PW BOARD ASS'Y, M 2 OPERATION PANEL	1
IC201	409 175 1308	IC SN74HC138NS	1
IC201	409 175 1605	IC TC74HC138AF	1
BUZZER	420 001 1408	PZ BZR PKM22EPP-2001	1
CN21	632 666 1451	CONNECTOR, 30P	1
CN22	632 643 0255	CONNECTOR, 16P	1
D201	407 139 5904	DIODE FC903	1
D202	407 139 5904	DIODE FC903	1
D203	407 065 2909	DIODE DWA010	1
LED201	407 159 7100	LED SML-010VT, RED	1
LED202	407 159 7209	LED SML-010MT, GREEN	1
JP201	401 035 4108	MT-GLAZE 0.000 ZA 1/8W	6
-206			
R204	401 035 9202	MT-GLAZE 180 JA 1/8W	1
R201	401 035 9202	MT-GLAZE 180 JA 1/8W	1
R203	401 036 4701	MT-GLAZE 330 JA 1/8W	1
R202	401 036 8303	MT-GLAZE 4.7K JA 1/8W	1
C201	403 070 2705	CERAMIC 0.1U Z 50V	1
C202	403 070 2705	CERAMIC 0.1U Z 50V	1
	632 637 0629	TERMINAL, EARTH, M2-CHASSIS(90MM/50MM)	2
PC BOARD 3			
A38	632 673 6517	PW BOARD ASS'Y, M 3 NCU	1
T301	632 519 8453	TRANSFORMER, MODULATION	1
T302	632 683 3087	TRANSFORMER	1
RLA	632 673 6937	RELAY, CML	1
RLA	632 673 7903	RELAY, CML	1
RLB	632 257 3116	RELAY, DP	1
RLD	632 257 3116	RELAY, SRL	1
RLG	632 552 9950	RELAY, LOOP	1
RLE	632 673 7996	RELAY, EARTH	1
PC301	407 162 9801	PHOTO COUPLE PS2565-1-V	1
IC301	409 019 8005	IC LB1234	1
IC301	409 257 6504	IC LB1234ST	1
IC302	410 178 2407	IC AFB87F1000D1	1
IC303	409 049 4701	IC TA75558P	1
IC303	409 018 5203	IC LA6462D	1
IC304	410 104 5007	IC AFM94F440C15	1
Q301	405 017 9501	TR 2SC3330-S	1
CN31	632 666 1536	PLUG, 20P	1
CN32	632 254 0033	PLUG, 8P	1
CN33	632 669 0734	WIRE HARNESS, 7P 100MM	1
VA301	407 045 9607	VARIATOR VR-61SS	4
-304			
VA301	407 045 9409	VARIATOR VR-61B	4
-304			
ZD301	407 049 7807	ZENER DIODE GZA18Y	1
ZD302	407 049 7807	ZENER DIODE GZA18Y	1
D301	407 005 9203	DIODE ERA15-04	6
-306			
C303	403 161 9200	MT-POLYEST 0.22U K 250V	1
C306	403 167 3509	MT-POLYEST 0.56U K 250V	1
C305	403 161 9101	MT-POLYEST 0.047U K 250V	1
C309	403 173 3005	MT-POLYEST 0.33U K 250V	1
C310	403 149 7006	MT-POLYEST 0.022U K 250V	1
C311	403 149 7006	MT-POLYEST 0.022U K 250V	1

NOTES: 1. Part orders must contain Model Number, Part Number and Description.
2. Ordering quantity of screws and resistors must be multiple of 10 pcs.

Ref.No.	PART No.	DESCRIPTION	Q'ty
C314	403 062 0405	POLYESTER 0.047U K 50V	1
C320	403 009 3100	CERAMIC 100P J 50V	1
C315	403 002 0502	CERAMIC 1000P K 25V	1
C316	403 002 0502	CERAMIC 1000P K 25V	1
C313	403 060 6201	POLYESTER 3300P K 50V	1
C318	403 002 3602	CERAMIC 0.1U K 25V	1
C317	403 001 3009	CERAMIC 0.1U M 16V	1
C319	403 001 3009	CERAMIC 0.1U M 16V	1
C321	403 001 3009	CERAMIC 0.1U M 16V	1
C322	403 001 3009	CERAMIC 0.1U M 16V	1
C324	403 001 3009	CERAMIC 0.1U M 16V	1
C308	403 188 6008	NP-ELECT 220U M 16V	1
C326	403 139 1908	ELECT 10U M 25V	1
C329	403 044 6609	ELECT 10U M 25V	1
C328	403 109 6407	ELECT 10U M 50V	1
C323	403 109 6308	ELECT 1U M 50V	1
R303	401 094 6006	OXIDE-MT 82 JB 2W	1
R304	401 066 6607	OXIDE-MT 220 JB 2W	1
R301	401 094 6709	OXIDE-MT 560 JB 1W	1
R307	401 099 3307	OXIDE-MT 27K JB 1W	1
R306	401 093 5703	CARBON 100K JB 1W	1
R315	401 027 5205	CARBON 680 JA 1/6W	1
R316	401 027 3003	CARBON 56K JA 1/6W	1
R317	401 025 2305	CARBON 150K JA 1/6W	1
R321	401 024 7400	CARBON 10K JA 1/6W	1
R312	401 024 7400	CARBON 10K JA 1/6W	1
R322	401 027 2600	CARBON 5.6K JA 1/6W	1
	632 637 0629	TERMINAL, EARTH, M3-CHASSIS(150MM)	1
PC BOARD 4			
A39	632 673 6524	PW BOARD ASS'Y, M 4 TELEPHONE	1
IC401	409 279 6902	IC SAA1094-2	1
IC402	409 294 7007	IC TA31065FA	1
IC403	409 203 2802	IC MC34119M	1
D401	407 009 6109	DIODE RLS-73	1
D404	407 009 6109	DIODE RLS-73	1
ZD408	407 009 6109	DIODE RLS-73	1
ZD410	407 009 6109	DIODE RLS-73	1
D402	407 004 0607	DIODE DCB010	1
D403	407 077 3109	DIODE SB0015-03A	1
ZD409	407 077 3109	DIODE SB0015-03A	1
ZD401	407 051 3507	ZENER DIODE GZB7.5B	1
ZD402	407 051 3507	ZENER DIODE GZB7.5B	1
ZD404	407 156 1606	ZENER DIODE RL26.2B	1
ZD405	407 156 1606	ZENER DIODE RL26.2B	1
ST401	407 010 9403	DIODE S1WBA60	1
ARR401	632 660 1501	DISCHARGE TUBE } OR	1
ARR401	632 660 8234	DISCHARGE TUBE } OR	1
ARR402	632 617 2292	DISCHARGE TUBE } OR	1
ARR402	632 654 3900	DISCHARGE TUBE } OR	1
Z404	632 635 7699	DISCHARGE TUBE	1
HS	632 651 9950	PUSH SWITCH, HOOK	1
SW401	632 636 8275	SLIDE SWITCH	1
SW402	632 636 8275	SLIDE SWITCH	1
BZ	420 001 0906	PIEZO BUZZER PKM33EP-1001	1
MJ42	632 251 5949	SOCKET, 4P	1
MJ41	632 251 5963	SOCKET, 6P	1
CN42	632 253 9976	PLUG, 2P	1
CN43	632 669 0758	PLUG, 7P	1
CN41	632 254 0033	PLUG, 8P	1
L413	632 637 5204	COIL	1
L414	632 637 5204	COIL	1
L401	632 549 9291	CHOKE COIL, 60UH	1
L404	632 549 9291	CHOKE COIL, 60UH	1
L406	632 549 9291	CHOKE COIL, 60UH	1
L407	632 549 9291	CHOKE COIL, 60UH	1
L409	632 549 9291	CHOKE COIL, 60UH	4
-412			
OSC401	632 635 6364	CERAMIC OSC., 455 KHZ } OR	1
OSC401	632 638 6460	CERAMIC OSC., 455 KHZ } OR	1
C402	403 173 3005	MT-POLYEST 0.33U K 250V	1
C403	403 067 7805	MT-COMPO 0.47U J 50V	1
C411	403 139 2202	ELECT 4.7U M 25V	1
C408	403 129 5800	ELECT 22U M 35V	1
C405	403 134 8100	ELECT 100U M 6.3V	1

Ref.No.	PART No.	DESCRIPTION	Q'ty
C407	403 134 8100	ELECT 100U M 6.3V	1
C404	403 208 6308	ELECT 220U M 16V	1
C406	403 121 2609	ELECT 220U M 16V	1
C410	403 108 0000	ELECT 0.22U M 50V	1
C401	403 075 7101	CERAMIC 1000P K 500V	1
C428	403 009 5807	CERAMIC 100P J 50V	1
C419	403 069 5601	CERAMIC 0.01U K 50V	1
C415	403 070 9803	CERAMIC 0.015U K 50V	1
C418	403 071 3503	CERAMIC 0.018U K 50V	1
C420	403 071 3503	CERAMIC 0.018U K 50V	1
C422	403 071 3503	CERAMIC 0.018U K 50V	1
C417	403 068 2007	CERAMIC 0.022U K 25V	1
C421	403 068 2007	CERAMIC 0.022U K 25V	1
C414	403 072 5902	CERAMIC 0.027U K 50V	1
C412	403 130 3802	CERAMIC 0.056U K 25V	1
C413	403 130 3802	CERAMIC 0.056U K 25V	1
C416	403 192 5905	CERAMIC 0.1U K 25V	1
C425	403 192 5905	CERAMIC 0.1U K 25V	1
C426	403 222 0306	CERAMIC 0.22U K 16V	1
C427	403 185 8708	CERAMIC 1U Z 16V	1
C429	403 185 8708	CERAMIC 1U Z 16V	1
R407	401 113 1906	MT-GLAZE 15 JA 1/2W	1
R411	401 181 9408	MT-GLAZE 56 JA 1/2W	1
R419	401 151 1807	MT-GLAZE 150 JA 1/2W	1
R401	401 183 7501	MT-GLAZE 560 JA 1/2W	1
JP411	401 035 4108	MT-GLAZE 0.000 ZA 1/8W	1
C423	401 037 5004	MT-GLAZE 0.000 ZA 1/10W	1
R412	401 037 5004	MT-GLAZE 0.000 ZA 1/10W	1
R423	401 037 5004	MT-GLAZE 0.000 ZA 1/10W	1
R431	401 037 5004	MT-GLAZE 0.000 ZA 1/10W	1
R436	401 037 5004	MT-GLAZE 0.000 ZA 1/10W	1
R438	401 037 5004	MT-GLAZE 0.000 ZA 1/10W	1
JP410	401 037 5004	MT-GLAZE 0.000 ZA 1/10W	1
JP412	401 037 5004	MT-GLAZE 0.000 ZA 1/10W	1
JP413	401 037 5004	MT-GLAZE 0.000 ZA 1/10W	1
JP415	401 037 5004	MT-GLAZE 0.000 ZA 1/10W	1
JP418	401 037 5004	MT-GLAZE 0.000 ZA 1/10W	1
JP419	401 037 5004	MT-GLAZE 0.000 ZA 1/10W	1
JP420	401 037 5004	MT-GLAZE 0.000 ZA 1/10W	1
R406	401 105 0009	MT-GLAZE 1K JA 1/2W	1
R404	401 037 5202	MT-GLAZE 100 JA 1/10W	1
R418	401 038 0008	MT-GLAZE 200 JA 1/10W	1
R413	401 038 0602	MT-GLAZE 220 JA 1/10W	1
R415	401 038 9605	MT-GLAZE 750 JA 1/10W	1
R414	401 039 0304	MT-GLAZE 820 JA 1/10W	1
R408	401 037 5400	MT-GLAZE 1K JA 1/10W	1
R433	401 037 5400	MT-GLAZE 1K JA 1/10W	1
R439	401 037 5400	MT-GLAZE 1K JA 1/10W	1
R443	401 037 5400	MT-GLAZE 1K JA 1/10W	1
R430	401 038 5102	MT-GLAZE 3.9K JA 1/10W	1
R421	401 038 6406	MT-GLAZE 4.7K JA 1/10W	1
R405	401 038 7700	MT-GLAZE 5.6K JA 1/10W	1
R422	401 038 9704	MT-GLAZE 7.5K JA 1/10W	1
R432	401 038 9704	MT-GLAZE 7.5K JA 1/10W	1
R416	401 039 1004	MT-GLAZE 9.1K JA 1/10W	1
R428	401 037 6803	MT-GLAZE 12K JA 1/10W	1
R434	401 037 6803	MT-GLAZE 12K JA 1/10W	1
R417	401 037 6803	MT-GLAZE 12K JA 1/10W	1
R440	401 037 6803	MT-GLAZE 12K JA 1/10W	1
R435	401 037 8005	MT-GLAZE 15K JA 1/10W	1
R424	401 037 9309	MT-GLAZE 18K JA 1/10W	1
R426	401 038 5300	MT-GLAZE 39K JA 1/10W	1
R429	401 038 0206	MT-GLAZE 20K JA 1/10W	1
R444	401 038 6505	MT-GLAZE 47K JA 1/10W	1
R442	401 038 7304	MT-GLAZE 51K JA 1/10W	1
R445	401 037 8104	MT-GLAZE 150K JA 1/10W	1
R427	401 037 9408	MT-GLAZE 180K JA 1/10W	1
JP	632 678 1937	JUMPER LEAD, 114MM	1
PC BOARD 5			
B74	632 673 8658	PW BOARD ASS'Y, M 5 RX. MECHANISM CONTROL	1
	632 666 6005	PUSH SWITCH, PAPER SWITCH	1
CN54	632 254 0088	PLUG, 3P	1
CN55	632 254 0088	PLUG, 3P	1
CN53	632 254 0095	PLUG, 4P, CUTTER	1
CN52	632 254 0118	PLUG, 6P, MOTOR	1

NOTES: 1. Part orders must contain Model Number, Part Number and Description.
2. Ordering quantity of screws and resistors must be multiple of 10 pcs.

Ref.No.	PART No.	DESCRIPTION	Q'ty
CN51	632 666 1499	CONNECTOR, 15P	1
IC501	409 124 0604	IC LB1205-L	1
IC502	409 234 4004	IC TA8428K	1
ZD501	407 047 1104	ZENER DIODE DZB16C	1
R502	401 026 9600	CARBON 470 JA 1/6W	1
R501	401 027 8305	CARBON 820 JA 1/6W	1
C501	403 139 1502	ELECT 10U M 16V	1
C502	403 135 9007	ELECT 33U M 35V	1
	632 637 0629	TERMINAL, EARTH, M5-CHASSIS(110MM)	1
PC BOARD 6			
B75	632 669 7580	PW BOARD ASS'Y, M 6 TX.MECHANISM CONTROL	1
S2	632 666 6234	PUSH SWITCH	1
S1	632 666 6012	PUSH SWITCH	1
CN62	632 254 0118	PLUG, 6P	1
CN63	632 254 0057	PLUG, 10P	1
CN61	632 666 1505	CONNECTOR, 23P	1
IC601	409 124 0604	IC LB1205-L	1
ZD601	407 047 1104	ZENER DIODE DZB16C	1
C601	403 139 1502	ELECT 10U M 16V	1
C602	403 135 9007	ELECT 33U M 35V	1
	632 637 0629	TERMINAL, EARTH, M6-CHASSIS(60MM)	1
PC BOARD 7			
A40	632 673 4278	PW BOARD ASS'Y, M 7 230V POWER SUPPLY	1
T701	632 669 8051	INVERTER TRANSFORMER	1
L701	632 673 6289	CHOKE COIL, 0.020H	1
L702	632 650 9104	CHOKE COIL, 0.01H	1
L703	632 661 8608	CHOKE COIL, 160UH	1
F701	423 005 9500	FUSE 250V 2A	1
	632 563 0984	CAUTION LABEL, CAUTION, HEAT SINK P	1
(F701)	632 621 2363	HOLDER, FUSE	2
Z701	407 152 7008	VARIATOR ENC471D-05A	1
Q701	405 119 2608	TR 2SK1545	1
	632 620 7154	CORE, Q701(G,S)	2
Q702	405 110 6209	TR 2SJ175	1
Q703	405 037 0809	TR 2SC4048	1
Q704	405 017 9600	TR 2SC3330-T	1
D701	408 016 4607	DIODE D2SBA60(4004)	1
D702	407 115 5003	DIODE ERB44-08	1
D703	407 006 0100	DIODE ERA91-02	1
D704	407 007 1403	DIODE ESAC92M-02	1
	632 620 7154	CORE, D704(1,3)	2
ZD701	407 050 2105	ZENER DIODE GZA30X	1
ZD702	407 050 2105	ZENER DIODE GZA30X	1
ZD703	407 047 2002	ZENER DIODE DZB27C	1
ZD704	407 050 5403	ZENER DIODE GZA5.6X	1
ZD705	407 050 4703	ZENER DIODE GZA5.1X	1
JP705	407 050 3607	ZENER DIODE GZA4.7X	1
IC701	409 306 7209	IC FA5310P	1
P701	407 161 3404	PHOTO COUPLE PC120FY2	1
TH701	407 160 7007	THERMISTOR M8R210D } OR	1
TH701	407 161 3305	THERMISTOR M8R210C } OR	1
VR701	632 246 9365	PRESET RESISTOR, 6.8K	1
TF701	424 002 5007	FUSE THRM 250V 2.5A 115C	1
	632 643 7315	BRACKET, HOLDER, TF701	1
C702	404 054 9703	MT-POLYEST 0.22U M 250V	1
C707	404 054 9703	MT-POLYEST 0.22U M 250V	1
C703	404 026 8901	CERAMIC 2200P M -	1
C706	404 026 8901	CERAMIC 2200P M -	1
C705	404 026 9106	CERAMIC 4700P M -	1
C708	404 026 9106	CERAMIC 4700P M -	1
C709	404 026 9106	CERAMIC 4700P M -	1
	632 592 1402	CORE, C705(A),C709(E)	2
C712	403 183 7604	CERAMIC 150P J 2K	1
C710	404 060 1401	ELECT 68U M 400V	1
C711	403 268 4009	ELECT 1U M 350V	1
C714	403 205 3805	ELECT 47U M 35V	1
C720	403 218 1508	ELECT 1000U M 35V	1
C715	403 237 8007	MT-COMPO 0.1U J 50V	1
C717	403 237 8007	MT-COMPO 0.1U J 50V	1

Ref.No.	PART No.	DESCRIPTION	Q'ty
C716	403 056 7106	POLYESTER 1000P J 50V	1
C718	403 062 9101	POLYESTER 6800P J 50V	1
C721	403 061 7306	POLYESTER 4700P J 50V	1
C713	403 265 9809	CERAMIC 680P K 2K	1
CR702	632 575 8244	COMPOSITE,C&R,1000P,22OHM	1
C727	403 243 9708	ELECT 4.7U M 50V	1
R701	401 020 3901	CARBON 470K JA 1/4W	1
R702	401 087 9601	CARBON 270K JA 1/2W	1
R703	401 087 9601	CARBON 270K JA 1/2W	1
R705	401 093 7707	OXIDE-MT 15K JB 1W	4
-708			
R709	402 063 7703	MT-GLAZE 0.1 J- 2W	1
R717	401 012 8006	CARBON 100K JA 1/4W	1
R710	401 022 4005	CARBON 68K JA 1/4W	1
R711	401 012 3407	CARBON 10 JA 1/4W	1
R714	401 018 3708	CARBON 3.3K JA 1/4W	1
R713	401 020 1907	CARBON 4.7K JA 1/4W	1
R715	401 018 3807	CARBON 3.3K JA 1/4W	1
R716	401 018 3807	CARBON 3.3K JA 1/4W	1
R719	401 018 3807	CARBON 3.3K JA 1/4W	1
R718	401 012 5609	CARBON 1K JA 1/4W	1
R720	401 019 2908	CARBON 39K JA 1/4W	1
R721	401 013 6308	CARBON 12K JA 1/4W	1
R712	401 026 3905	CARBON 330 JA 1/6W	1
CN71	632 642 2571	PLUG, 16P	1
CN73	632 253 7880	PLUG, 2P	1
	632 664 2511	HEAT SINK, P, Q701	1
	632 664 2504	HEAT SINK, S, D704,IC702	1
	632 570 6788	TERMINAL, EARTH, A	1
	632 287 5722	TERMINAL, A, G	2
	632 637 0629	TERMINAL, EARTH, G	1
	411 001 4506	SCR S-TPG PAN 3X8, D704,Q701	2
L704	632 664 8674	CHOKE COIL	1
IC702	409 308 8907	IC MC34166T } OR	1
IC702	409 309 1600	IC MC34167T } OR	1
IC703	409 050 0709	IC TA78L012AP	1
D705	407 006 0100	DIODE ERA91-02	3
-707			
C723	403 213 7208	ELECT 1000U M 6.3V	1
C724	403 216 8301	ELECT 100U M 25V	1
C725	403 216 8301	ELECT 100U M 25V	1
C726	403 237 8007	MT-COMPO 0.1U J 50V	1
R722	401 022 3008	CARBON 6.8K JA 1/4W	1
IC704	409 111 6800	IC TA79L012P	1
C729	403 225 1805	ELECT 47U M 25V	1
PC BOARD 14			
B76	632 664 0296	PW BOARD ASS'Y,JAM SENSOR	1
	407 126 4101	PHOTO COUPLE GP2L22B	1
	632 666 6081	SOCKET, 3P 225MM	1
PC BOARD 15			
B80	632 674 5670	PW BOARD ASS'Y, REMAIN	1
	407 126 4101	PHOTO COUPLE GP2L22B, PAPER REST SENSOR	1
CN55	632 301 2270	HOUSING, 3P	1
(CN55)	632 287 6408	TERMINAL	3
HAND SET			
A41	632 673 3325	HAND SET ASS'Y	1
E1	632 653 8494	CABINET ASS'Y	(1)
E2	632 653 9460	BOTTOM LID	(1)
E3	632 609 5393	COVER	(1)
E4	632 293 4221	WEIGHT	(1)
E5	632 634 8734	BRACKET, SPEAKER	(1)
	411 026 0507	SCR S-TPG PAN 2.6X10	(2)
	411 026 2303	SCR S-TPG PAN 3X10	(1)
E6	632 646 6834	MICROPHONE	(1)
	407 050 7605	ZENER DIODE GZA9.1X } OR	(1)
	407 053 8807	ZENER DIODE MTZ9.1B } OR	(1)
E7	632 501 1004	JACK } OR	(1)
E7	632 537 7056	JACK } OR	(1)
E8	632 639 2355	SPEAKER	(1)
E9	632 634 8741	COVER, MICROPHONE	(1)

NOTES: 1. Part orders must contain Model Number, Part Number and Description.
2. Ordering quantity of screws and resistors must be multiple of 10 pcs.

Ref.No.	PART No.	DESCRIPTION	Q'ty
E10	632 634 8758	CUSHION, RUBBER, SPEAKER	(1)
E11	632 341 3244	CUSHION	(2)
E13	632 663 2468	FIXER, MICROPHONE	(1)

NOTES: 1. Part orders must contain Model Number, Part Number and Description.
2. Ordering quantity of screws and resistors must be multiple of 10 pcs.

SANYO

SANYO Electric Co., Ltd.
OSAKA, JAPAN