

GP160F/160DF/160

SERVICE HANDBOOK

REVISION 0

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CHAPTER 1 MAINTENANCE AND SERVICING

A. Main Unit

1. Periodic replacement parts

There are no parts in the unit that need to be periodically replaced.

2. Estimated lifespan of consumable parts

It may be necessary to replace parts due to wear or damage more than once during the warranty period. The expected life (number of pages) of parts that do not need to be replaced until they fail is indicated below.

As of January, 1999

no.	Part Name	Part No.	Number of parts	Estimated Number of Pages Copied	Remarks
1	Fixing assembly	FG6-1259-000	1	150,000	
2	Transfer corona assembly roller	RG5-3527-000	1	150,000	
3	Paper feed roller	RB2-1821-000	2* ¹	200,000	
4	Separation roller, transport roller	RF5-2490-000	1 each * ²	200,000	
5	Multi-feeder paper feed roller	RB2-1820-000	1	200,000	
6	Multi-feeder separation pad	RF5-2400-000	1	200,000	
7	Exhaust fan	RH7-1354-000	1	25,000 hours	25,000 hours is 3 years of 24-hour continuous power supply

*1 A total of 4, including the main unit and a single level cassette feeder

A total of 8, including the main unit and a three-level cassette feeder

*2 A total of 4, including the main unit and a single level cassette feeder (2 separation rollers and 2 transport rollers)

A total of 8, including the main unit and a three-level cassette feeder (4 separation rollers and 4 transport rollers)

Table 1-1

Caution:

The information in the table above is only an estimate, and may be revised in the light of empirical data.

B. ADF

1. Periodic replacement parts

There are no parts in the unit that need to be periodically replaced.

2. Consumables replacement targets

These parts may require replacement once or more during the warranty period due to deterioration or damage. The expected life (number of pages) of parts that do not need to be replaced until they fail is indicated below.

As of January, 1999

No.	Part Name	Part No.	Quantity	Expected life span	Remarks
1	Pick-up roller/ separation roller	HG5-1652-000	1	50,000 sheets	
2	Friction bar	FG6-1303-000	1	50,000 sheets	
3	Stamp unit	HH7-2206-000	1	100,000 sheets	

Table 1-2

Caution:

The information in the table above is not unit counter data but the actual number of sheets. It is only an estimate, and may be revised in the light of empirical data.

C. Basic servicing procedures

This product has no areas which require periodic service. However, in order to extend the life of the product and parts, we recommend the following procedures be carried out when carrying out service to replace consumable parts.

No.	Procedure	Inspection Items	Remarks
1	Greet the customer	Consult about the machine's condition	
2	Test copy	a. Image density b. Soiled background c. Character clarity d. Leading edge margin e. Fixing, faulty synchronization, soiled reverse side	
3	Clean the optical unit		Clean with a blower brush. When very soiled, use an alcohol cleaner. Wipe the white reference plate with a dry cloth.
4	Clean the transfer guide		Remove the cartridge before servicing.
5	Clean the separation and transport parts <ul style="list-style-type: none"> • Separation static charge eliminator • Transport belt 		
6	Clean the fixing and delivery assemblies <ul style="list-style-type: none"> • Fixing assembly inlet guide 		
7	Clean the copy board glass		
8	Make a test copy		
9	Tidy up around the unit		

Table 1-3

D. Cartridge storage and handling

Cartridges are constantly influenced by the surrounding environment whether the packaging is sealed or opened, or the cartridge is installed in the main unit. The cartridge will deteriorate over time regardless of the number of pages copied. The pace of this deterioration over time depends on the installed and storage environments. Please take sufficient care when storing and handling the cartridge.

1. Storage when the packing seal is intact

When cartridges are stored in a warehouse or workshop, do not place them in locations other than those listed in Table 1-4. Also, take heed of the following points.

- Do not store in direct sunlight.
- Do not store in a location subject to strong vibrations.
- Do not handle roughly or drop.

Temperature	Normal (90% of the total storage period)		0 to 35°C
	Extreme (10% of the total storage period)	Maximum temp.	35 to 40°C
		Minimum temp.	-20 to 0°C
Temperature variation (within a 3-minute span)			40°C to 15°C -20°C to 25°C
Humidity	Normal (90% of the total storage period)		35 to 85% relative humidity (RH)
	Extreme (10% of the total storage period)	Maximum humidity	85 to 95% RH
		Minimum humidity	10 to 35% RH
Atmospheric pressure			460 to760mmHg (0.1 to 1 atmospheric pressure)
Total warranty period			About 2.5 years

Table 1-4 Temperature and humidity conditions for storage

Caution:

The total warranty period is the period effective from the date of manufacture printed on the cartridge packing box.

2. Storage and handling when the packing seal has been opened

The photosensitive drum uses an organic photoconductor (OPC). The photosensitive drum will deteriorate if exposed to strong light. Also, the cartridge contains toner, so please provide customers with adequate explanations of storage and handling methods, and advise them to always store the cartridge in a storage bag.

a. Storage environment after the packing seal has been opened

- a) Always store in the storage bag.
- b) Do not store in direct sunlight, near a window or other bright places. Do not store in an automobile for long periods of time.
Even when the cartridge is in the storage bag, do not leave it for long periods in direct sunlight or in an automobile.
- c) Do not store in extremely high or low temperatures or humidity, or in a location which experiences dramatic changes in temperature or humidity. (For example, next to a heater or air conditioner.)
- d) Do not store in a location exposed to corrosive gases (insecticides, etc.) or in a location with air that has a high salt content.
- e) Do not store in a location that is very dusty or filled with ammonia or organic solvent fumes.
- f) Do not store near computer monitors, disk drives or floppy disks. (The magnetism of the cartridge may damage the data stored in these devices.)
- g) Store out of reach of children and infants.
- h) Store the cartridge between 0 to 35°C.

b. Cartridge shelf life

The shelf life of a cartridge is 2.5 years from the date of manufacture. The production date is displayed in abbreviated form on the cartridge. Also, for customer use, the expiration date, 2.5 years from the date of manufacture, is displayed on the cartridge packing box and on the main packing box. It is preferable to use up the cartridge before the expiration date, because after that date the cartridge image quality deteriorates.

c. Handling

- a) When setting the cartridge in the copier, or when blank areas occur in the copy image because toner runs out during copying, hold the cartridge level, as shown in figure 1-1, and shake it several times at about 90° in both directions. After the toner inside the cartridge has been leveled evenly, set the cartridge in the copier. If the cartridge is shaken in a manner other than that described above, there is the danger that toner may leak from the developing assembly and cleaning assembly.

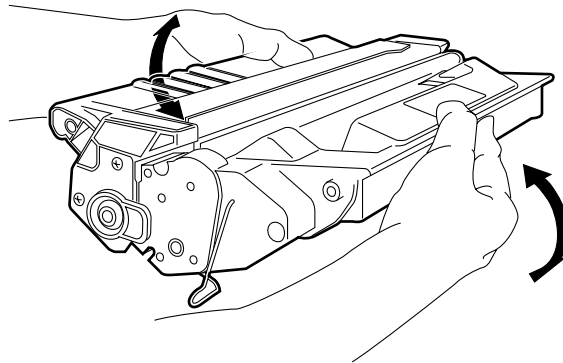


Figure 1-1

In order to completely prevent output image stains due to toner leakage, be sure to make 3-5 test copies after setting the cartridge in the copier.

- b) As shown in Figure 1-2, do not hold the cartridge vertically or upside down. Also, do not wave it about.

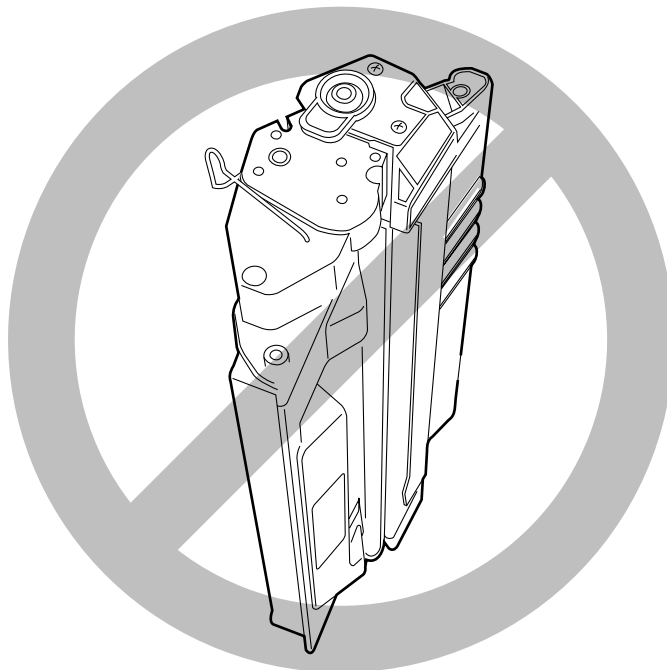


Figure 1-2

- c) Do not manually open the shutter of the photosensitive drum on the bottom of the cartridge. Do not touch the surface of the photosensitive drum.

Caution:

If the surface of the photosensitive drum is accidentally soiled, wipe with a polishing cloth dampened with toner. Do not wipe with a dry cloth or clean with solvents.

- d) Do not disassemble the cartridge.
- e) Do not subject to unnecessary vibration or shock.
Particularly, do not subject the photosensitive drum to pressure from the top of the photosensitive drum cover shutter.
- f) When transporting the copier, remove the cartridge from the main unit. Place the cartridge in the protective bag or wrap in a thick cloth and keep out of direct light.
- g) Do not store near computer monitors, disk drives or floppy disks. (The magnetism of the cartridge may damage the data stored in these devices.)
- h) Store out of reach of children and infants.
- i) The photosensitive drum is sensitive to strong light, so the cartridge is equipped with a light-blocking shutter. However, if subjected to strong light for an extended period of time, white spots and vertical bands may appear on the images. In that case, refraining from use of the machine for as long as possible will result in almost complete recovery. However, in some cases the traces (white spots, vertical bands) may not disappear.

Please note the following items.

Caution:

1. Perform jam removal and cartridge replacement promptly.
2. When the cartridge is removed from the copier and stored, or when using a color cartridge, be sure to place the cartridge in a storage box or cover it with a cloth. Do not leave the cartridge exposed, once removed from the main unit.

- j) Instruct the user to return used cartridges to a designated collection center.

Caution:

Do not incinerate used cartridges as there is a risk of bursting or explosion.
When a used cartridge must be disposed of, dispose of it as nonflammable trash.

Reference:

The cartridge will perfectly fit for use for copying if placed in darkness for 5 minutes after exposure to 1,500lux intensity light (normal light) for 5 minutes,. However, do not expose the cartridge to direct sunlight. The sun's rays have a light intensity ranging from approximately 10,000lux to 30,000lux.

CHAPTER 2 STANDARDS AND ADJUSTMENTS

A. Mechanical system

2

1. Right and left registration adjustment

Check that the front edge image margin of paper fed from each cassette is $2.5 \pm 2.0\text{mm}$.

If the standards are off, adjust according to the procedure described below.

- 1) Remove the cassette from the cassette level that needs adjustment.
- 2) Loosen the hex screw and move the adjusting plate back and forth. Adjust by lining up with the 1mm interval scale marks.

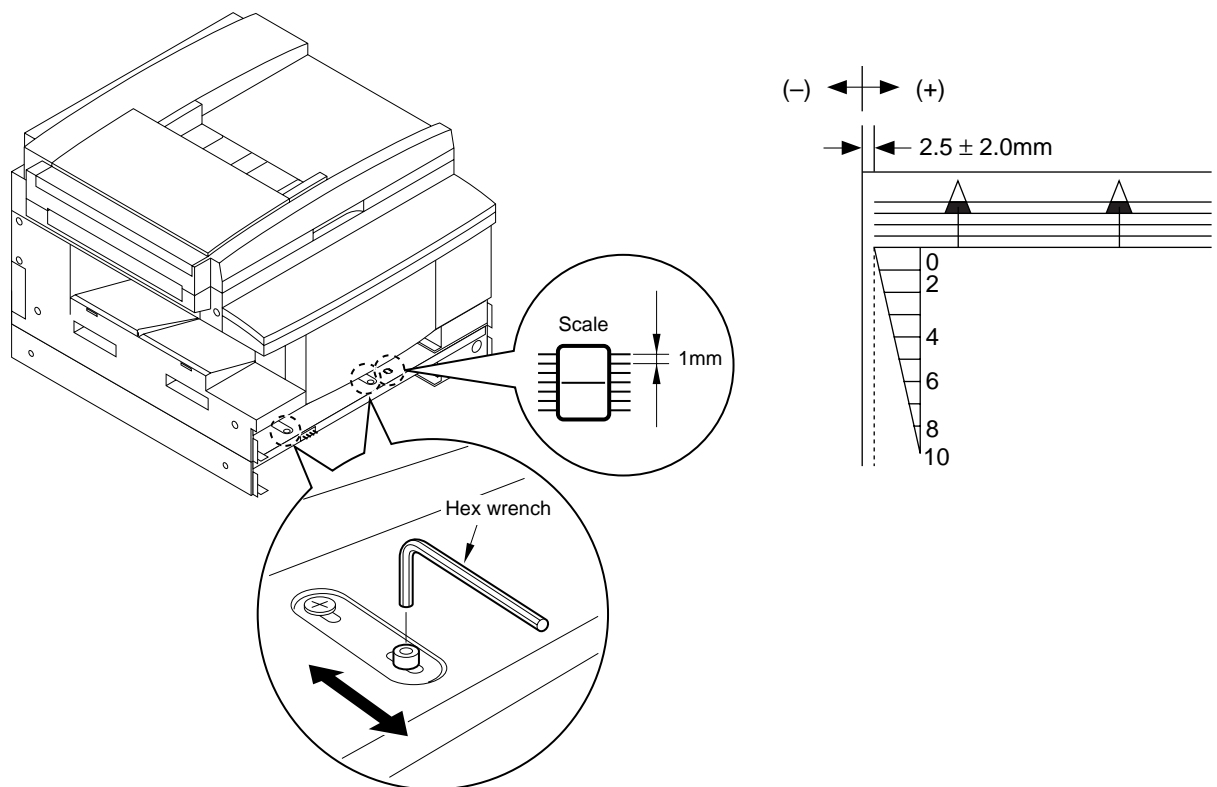


Figure 2-1

2. Image leading edge margin adjustment

Adjustment when the leading edge of the printed image is out of alignment.

- Use a precision screwdriver to press down on SW401 and output a test print.
- Turn VR401 and adjust the leading edge margin of the test print to $4.0 \pm 2.0\text{mm}$.

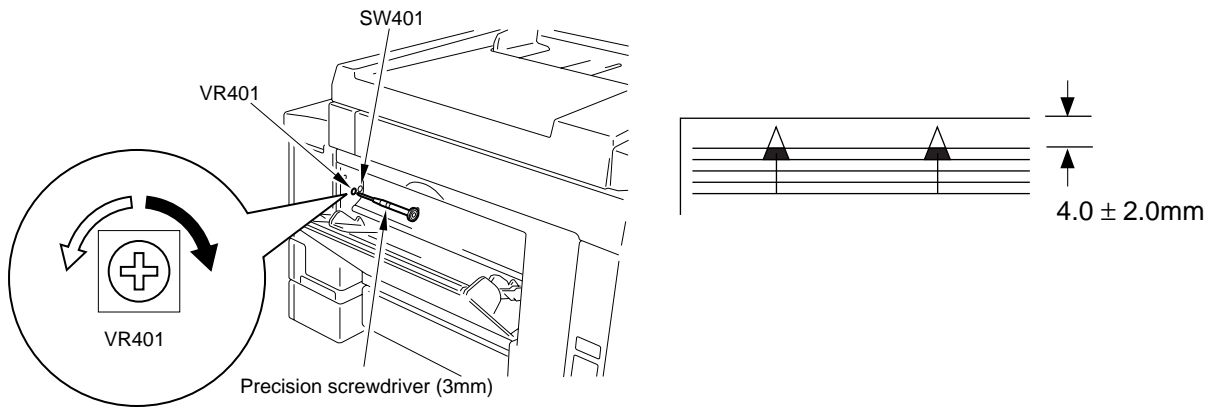


Figure 2-2

3. Attaching the scanner wire

Attach the wire, following steps 1 to 9. Then perform the mirror positioning adjustment described on the next page.

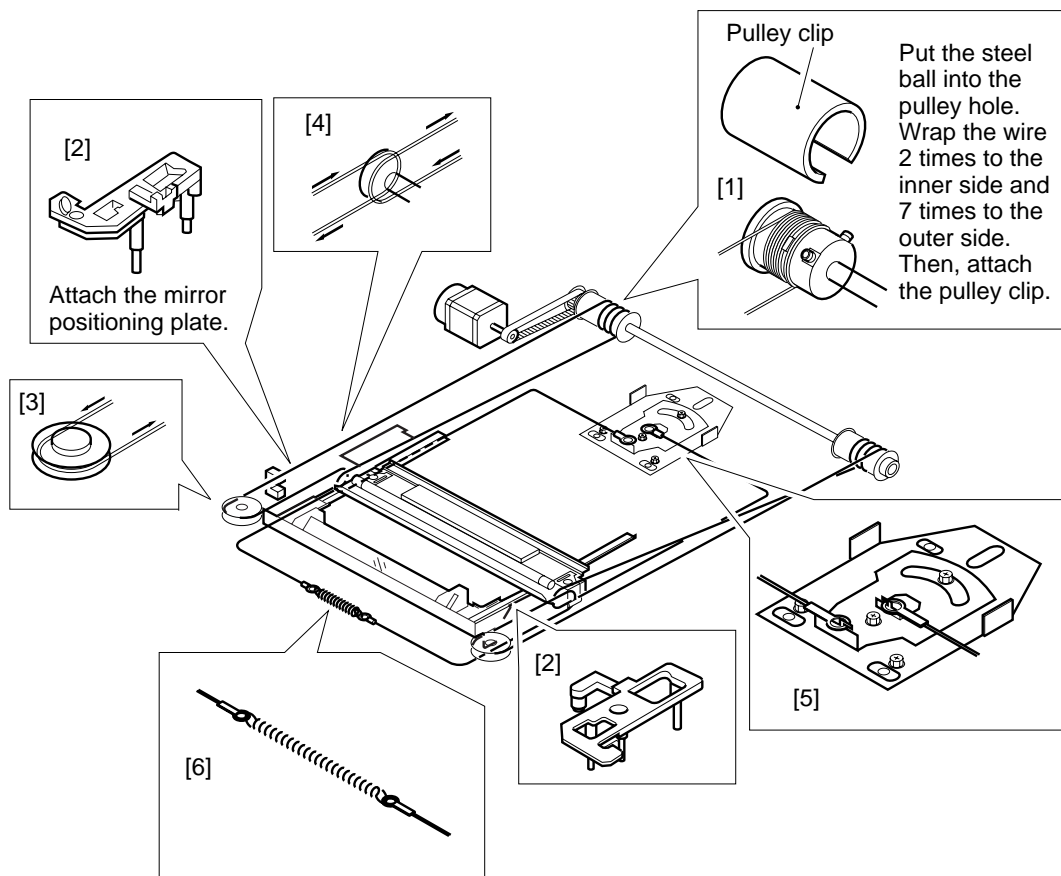


Figure 2-3

4. Mirror positioning adjustment

a) Adjusting position of No. 2 mirror mount

If the optical section wire pulley's hexagonal fixing nut has been loosened, follow the procedures described below to adjust the position of the No. 2 mirror mount, and then tighten the hexagonal nut.

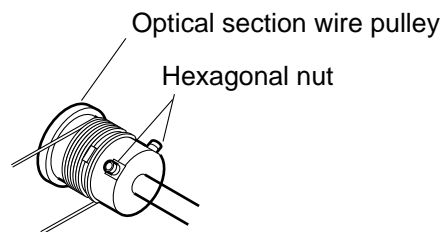


Figure 2-4

The mirror positioning tool used in the positioning of the No. 2 mirror mount is illustrated below.

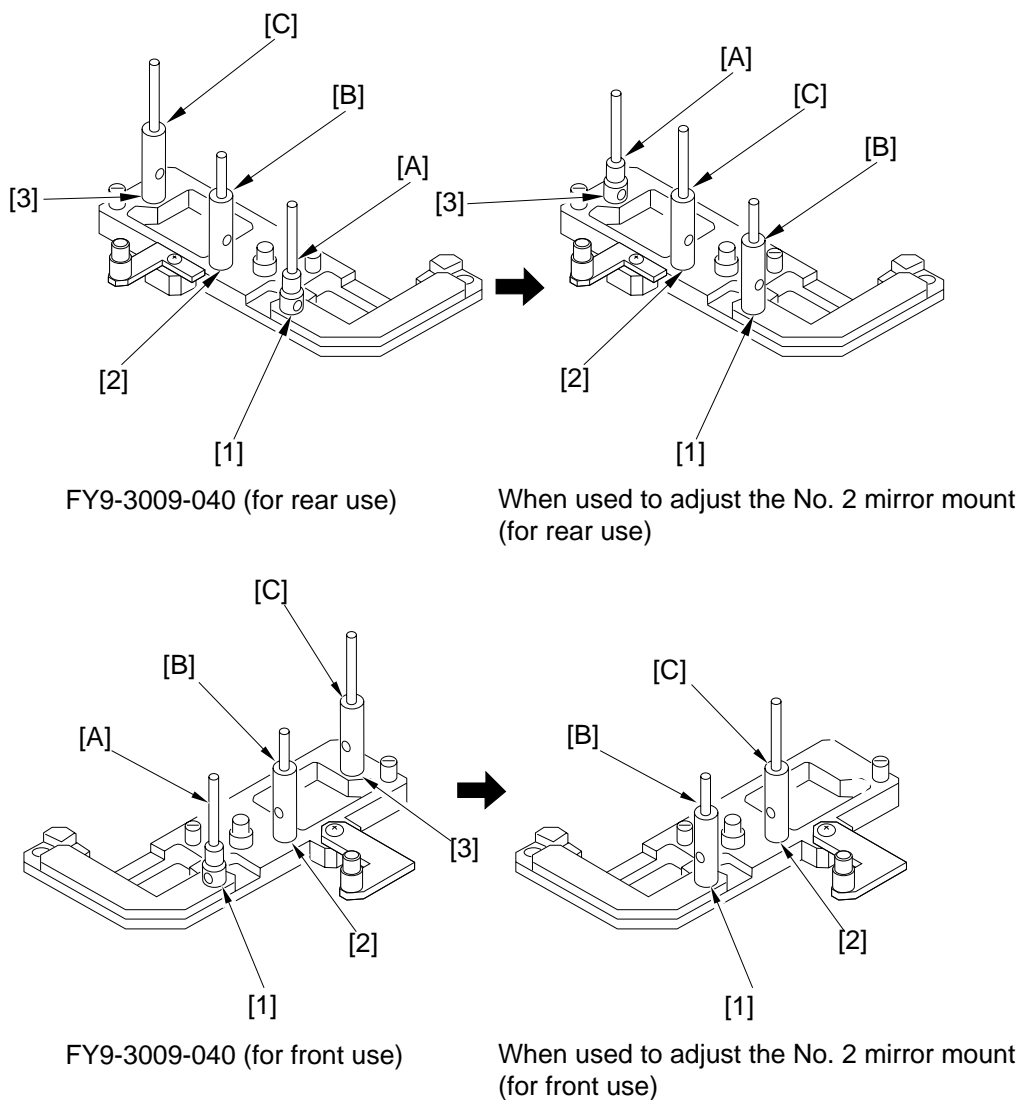


Figure 2-5

With the mirror positioning tool fitted in the holes shown below, tighten the optical unit wire pulley's hexagonal fixing nut.

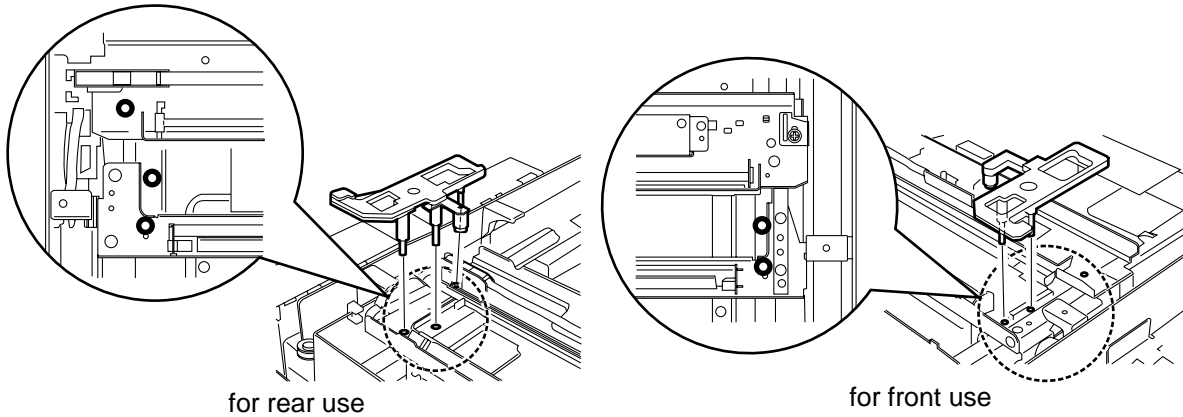


Figure 2-6

b) Adjustment of distance between No. 1 and No. 2 mirror mounts

With the optical system wire fixing tool for No. 1 mirror mount loosened, follow the procedures described below to adjust the distance between No. 1 and No. 2 mirror mounts, and then tighten the fixing tool.

This adjustment should be performed after the operation to adjust the position of No. 2 mirror mount, as described above.

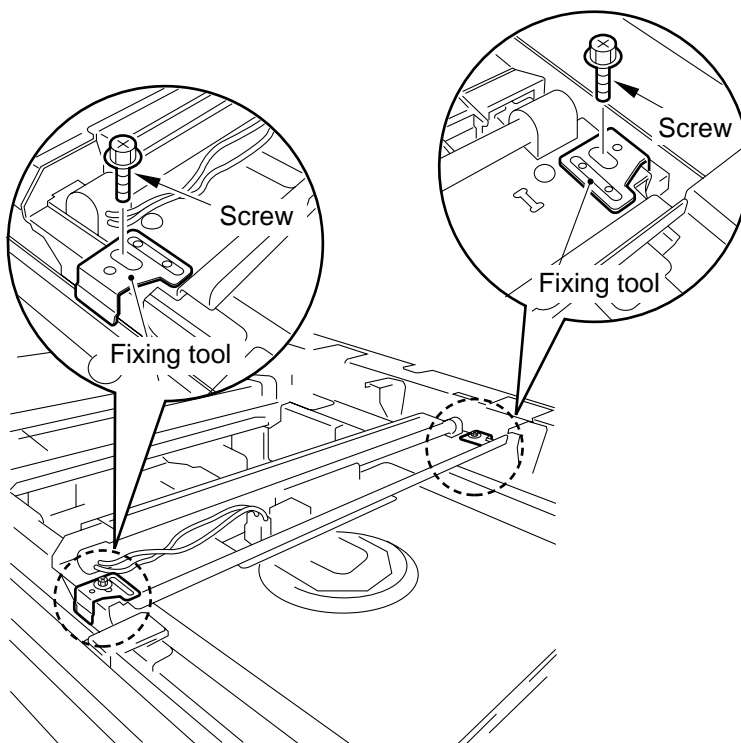


Figure 2-7

The mirror positioning tool used in the adjustment of the distance between No. 1 and No. 2 mirror mounts is illustrated below.

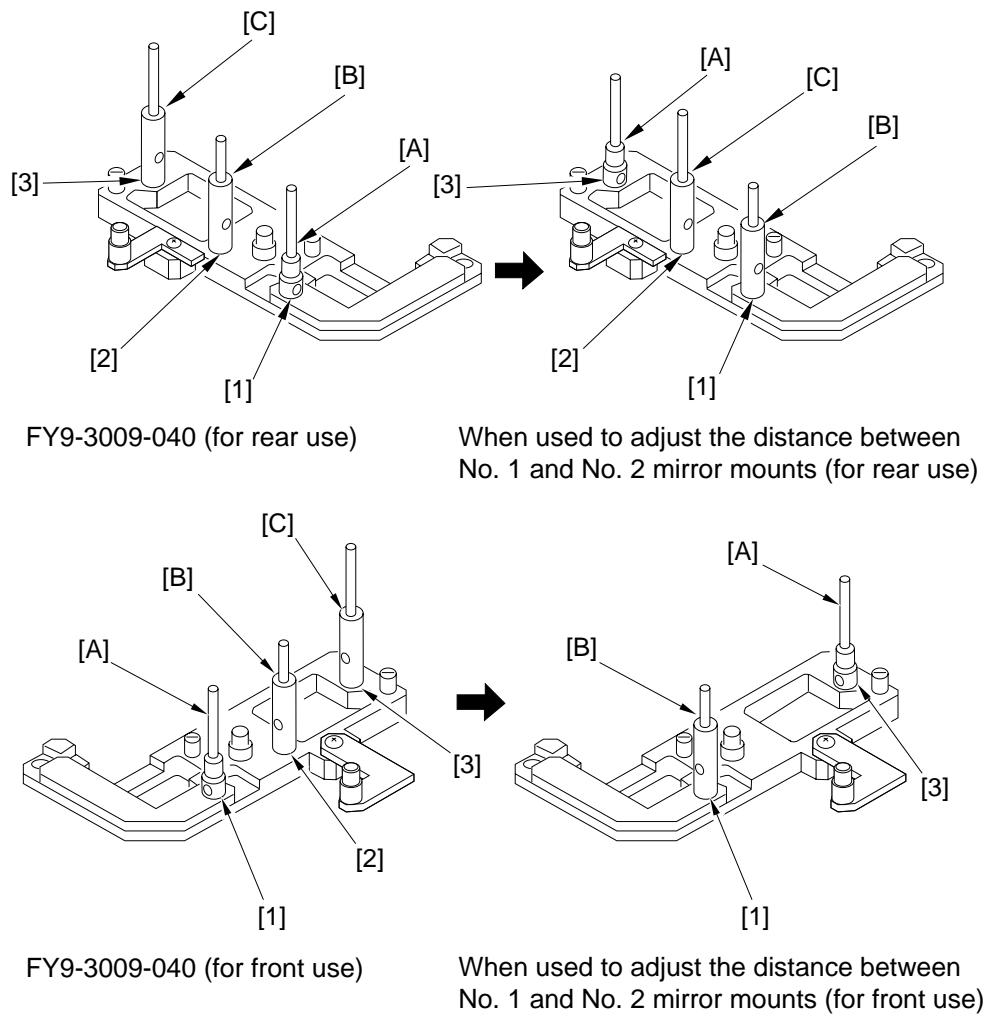


Figure 2-8

With the mirror positioning tool fitted in the holes shown below, attach the optical unit wire hexagonal fixing tool.

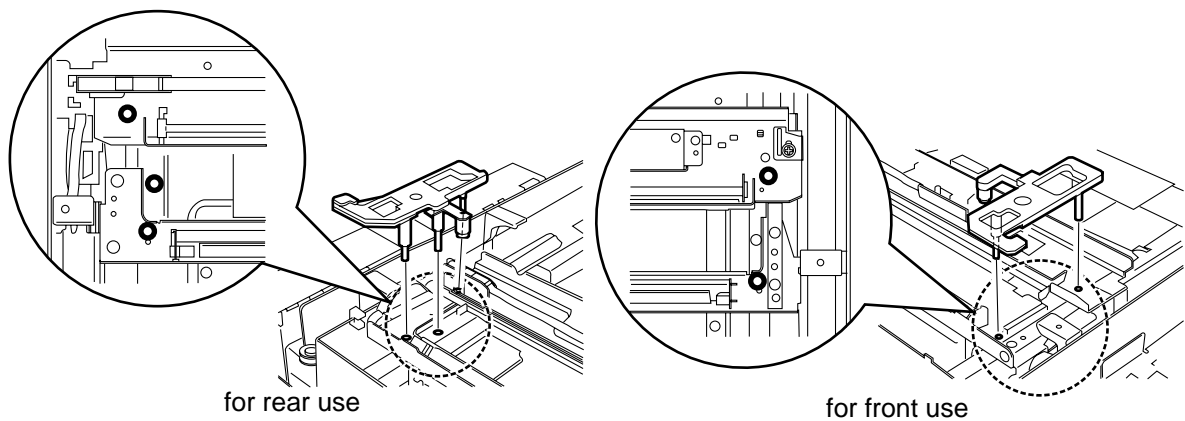


Figure 2-9

5. Printer unit receptacle connector mount positioning adjustment

When the printer unit receptacle connector is removed or attached, adjust the mount position, following the procedure described below.

- 1) Loosen the 3 receptacle connector screws.
- 2) Adjust so that the interval between the printer unit frame and the receptacle connector is $3.5 \pm 0.5\text{mm}$.

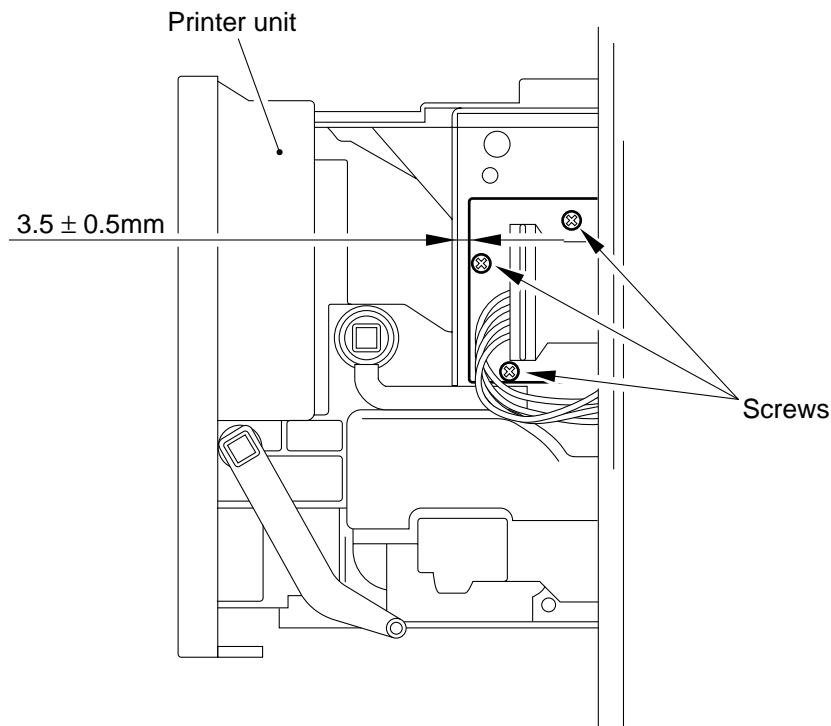


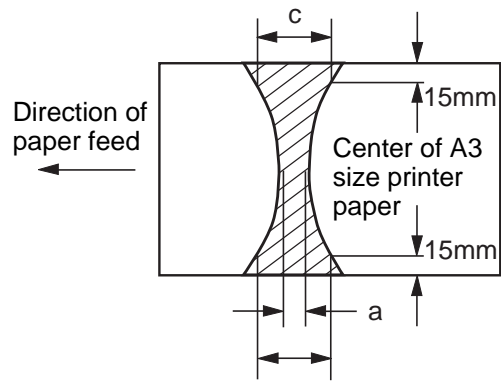
Figure 2-10

6. Check the pressure (nip width) of the fixing pressure roller

This machine has no adjustment mechanism for the fixing assembly nip width. However, if the nip width is not correct, faulty fixing may occur.

Therefore, check the fixing assembly nip width by following the procedures described below. If the nip width is outside the standards, replace the fixing assembly.

- 1) Make one solid black copy on size A3 paper.
- 2) Place the black side of the paper face down and set the solid black copy in the multi-feeder.
- 3) When the leading edge of the paper comes out into the copy tray, quickly switch off the power source and leave it as is for about 10 seconds.
- 4) Remove the paper as you would to clear a paper jam from the printer unit.
- 5) Measure the width of the part of the removed paper that is wet and shiny with toner. Check that the width is within the range displayed in Table 2-1.

**Figure 2-11**

	Dimensions
a	5.5 ± 1.0 (mm)
c - a	1.0 (mm) or less
b - a	1.0 (mm) or less
b - c	1.0 (mm) or less

Table 2-1

B. Electrical System

Adjustment items for the electrical system include automatic shading correction and image positioning adjustment. When the main parts listed for each below are replaced, perform adjustments.

- When the scanning lamp is replaced: automatic shading adjustment
- When the CCD unit is replaced: automatic shading adjustment
- When the image processor circuit board is replaced: image positioning adjustment, automatic shading adjustment

1. Automatic shading adjustment

- 1) Open the 3 covers of the control panel's one-touch panel. Set the slide switch ON
- 2) Enter the service mode and select TEST MODE. (See page 4-56)
- 3) Press 2 on the control panel's numeric keypad. (TEST MODE": CCD will be selected.)
- 4) When you press 8 on the numeric keypad, automatic shading adjustment will start.
- 5) When OK is displayed on the display, the adjustment is finished.
- 6) After pressing the control panel stop key, press the clear key. (To exit TEST MODE.)
- 7) Turn the control panel slide switch OFF.

2. Image positioning adjustment

- 1) Make a test chart with marks every 1cm from the leading and left edges of the page, as shown in the figure below.

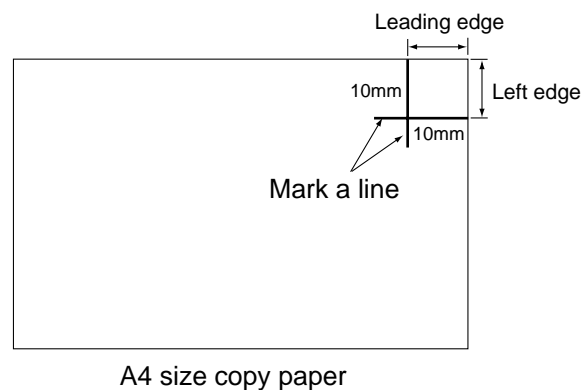


Figure 2-12



- 4) Copy the image enlarged to 400%.
- 5) Measure the length of the leading and left edges of the copied image (see the figure below).



- 2-9

Feed direction (leading edge)	
Actual measurement	Input measurement
30.0	41
31.0	40
32.0	39
33.0	38
34.0	37
35.0	36
36.0	35
37.0	34
38.0	33
39.0	32
40.0	31
41.0	30
42.0	29
43.0	28
44.0	27
45.0	26
46.0	25
47.0	24
48.0	23
49.0	22
50.0	21

Main scanning direction (left edge)			
Actual measurement	Input measurement	Actual measurement	Input measurement
30.0	118	40.2	158
30.3	119	40.4	159
30.5	120	40.7	160
30.8	121	40.9	161
31.0	122	41.2	162
31.3	123	41.4	163
31.5	124	41.7	164
31.8	125	41.9	165
32.0	126	42.2	166
32.3	127	42.4	167
32.5	128	42.7	168
32.8	129	43.0	169
33.0	130	43.2	170
33.3	131	43.5	171
33.6	132	43.7	172
33.8	133	44.0	173
34.1	134	44.2	174
34.3	135	44.5	175
34.6	136	44.7	176
34.8	137	45.0	177
35.1	138	45.2	178
35.3	139	45.5	179
35.6	140	45.7	180
35.8	141	46.0	181
36.1	142	46.3	182
36.4	143	46.5	183
36.6	144	46.8	184
36.9	145	47.0	185
37.1	146	47.3	186
37.4	147	47.5	187
37.6	148	47.8	188
37.9	149	48.0	189
38.1	150	48.3	190
38.4	151	48.5	191
38.6	152	48.8	192
38.9	153	49.1	193
39.1	154	49.3	194
39.4	155	49.6	195
39.7	156	49.8	196
39.9	157	50.0	197

Actual measurement: value of markings on image enlarged to 400%
Input measurement: value input in service mode.

Table 2-2

3. Sensor check

Assessment of the status of the photo-interrupter is performed by the SENSOR test in the TEST MODE. The procedure is as described below.

- 1) On the control panel, press the Entry/Setting key, then the # key to enter the service mode.
- 2) Press the shift keys (up arrow, down arrow) to select TEST MODE.
- 3) Press 6 on the numeric keypad to select FACULTY TEST.
- 4) Press 3 on the numeric keypad to enter sensor check mode. The image below will be displayed.

6-3 : SENSOR
[1] --- [7]

Figure 2-15

- 5) When the display shown in Figure 2-15 is displayed, push 1,2,3 and 4 on the numeric keypad. The status of each sensor will be displayed. The following is an example and explanation of what happens when you push 1 on the numeric keypad.

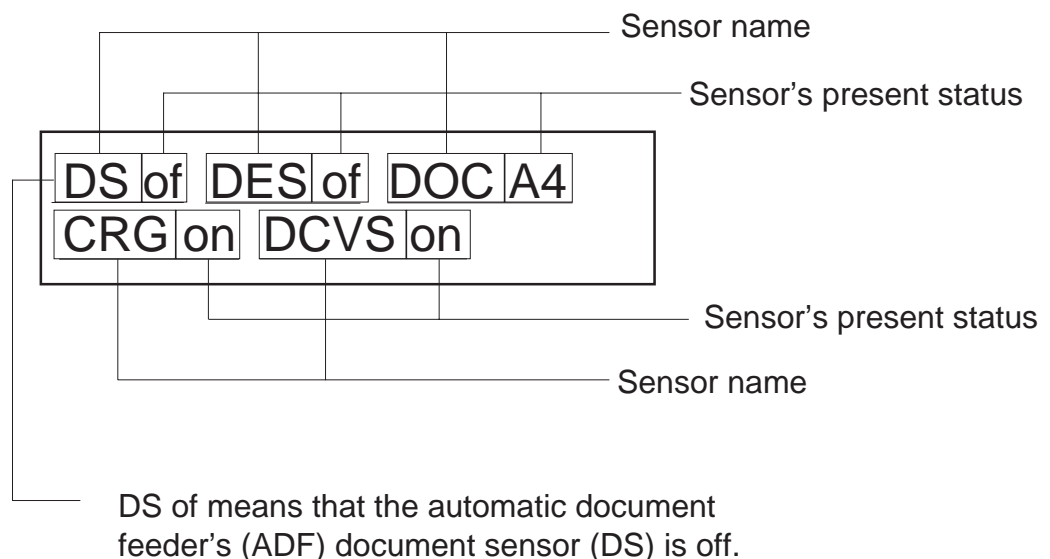


Figure 2-16

- 6) Move each sensor's flag and verify that the display shows of (OFF)/on (ON) repeatedly. The following page shows the display and sensor name, and the status of each sensor when the main unit is in stand-by when keys 1-4 of the numeric keypad are pressed.

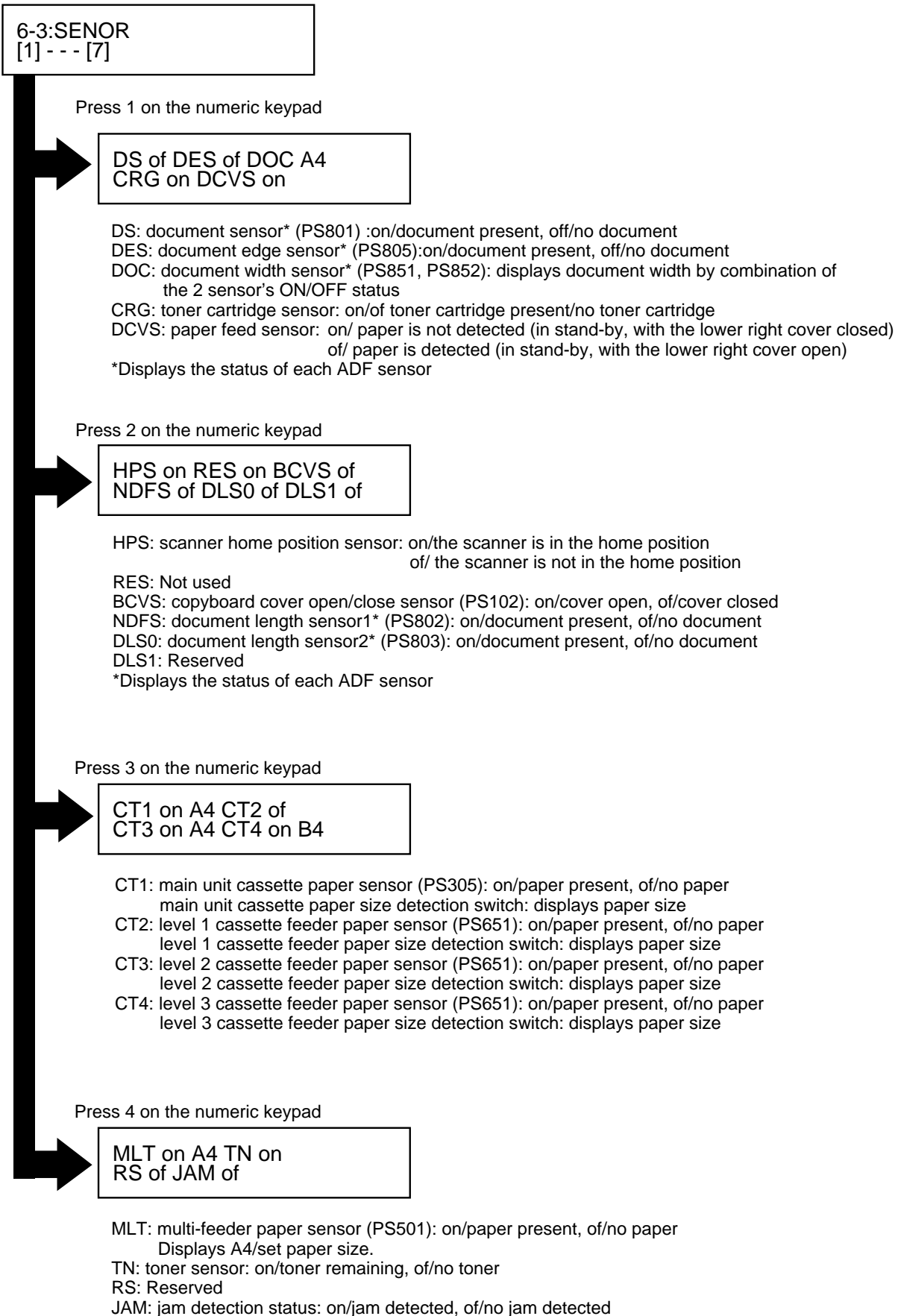


Figure 2-17

4. Image processor PCB replacement procedures

The procedures which must be performed when replacing the image processor PCB are described below.

■ Procedures performed at the time of replacement

- For machines with a FAX function, output system data list, one-touch/speed dial/group dialing list, user data list, activity management report and system dump list.
- For machines with a FAX function, output all transmitted and received images.
- Turn off the power switch and remove jumper plug (JP3) before replacing the PCB.
- If additional memory has been added, remove the memory after removing jumper plug JP1 from the image processor PCB.
- Remove the ROM DIMM.

Caution:

When the jumper plug (JP3) is removed, all the data recorded in the control memory are erased. Accordingly, when the jumper plug (JP3) is to be removed, make sure the control data have been printed out.

- User data: data that are set when the user presses the control panel's entry/setting key
- Service mode data: setting data for the service mode
- Management data: activity management record (the previous 40 transactions), system dump record

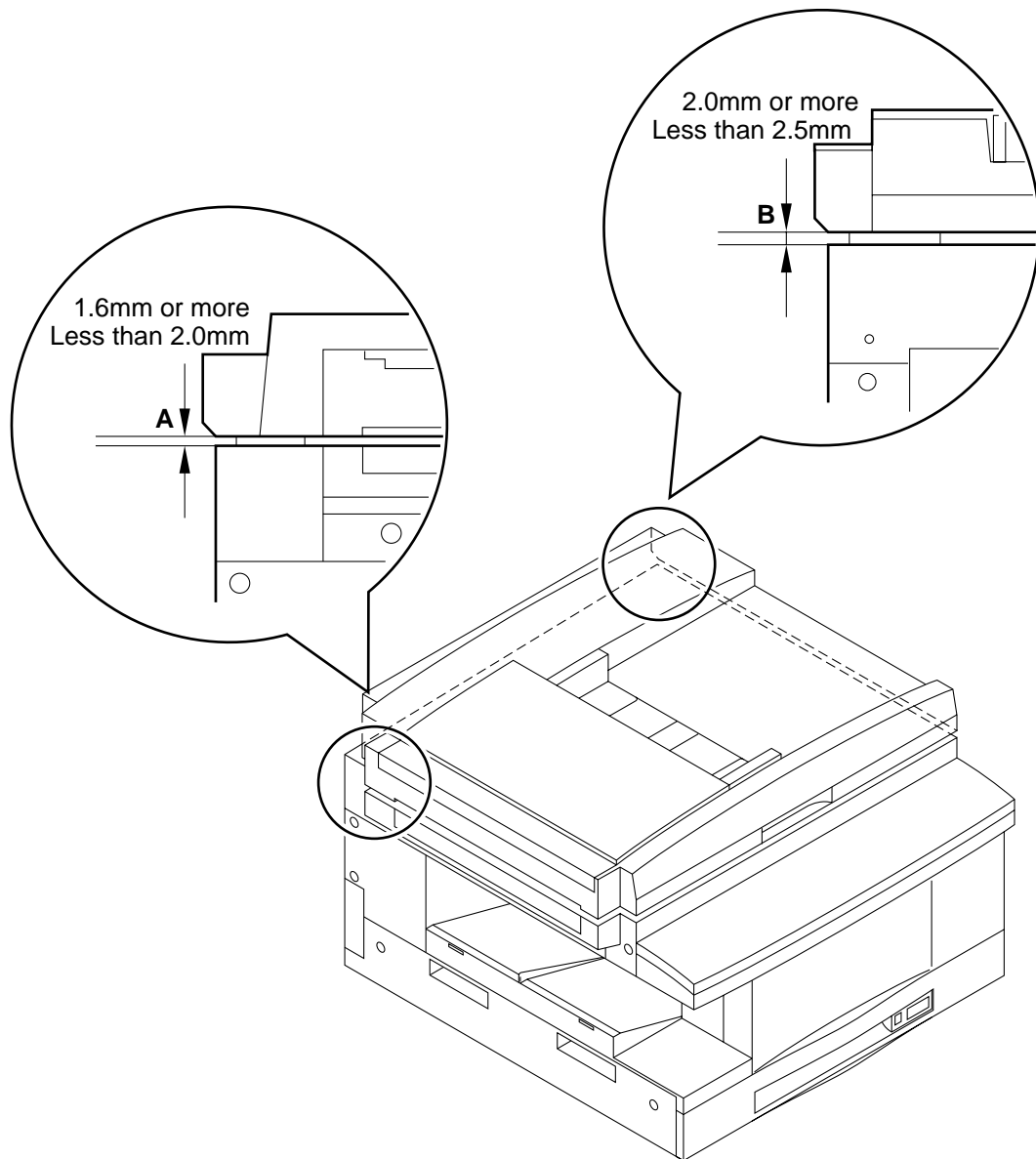
■ Procedures performed after replacement

- Install ROM DIMM.
- Install additional memory. When installing additional memory, do it when the jumper plug (JP1) is removed from the image processor PCB, or when it is in the OFF position.
- Set jumper plug JP1 to the ON position.
- Attach the jumper plug (JP3) that was removed prior to replacement of the PCB.
- Turn on the main unit power switch. If DATA ERROR is displayed, press the set key on the control panel.
- Input the user data and service mode data.
- See page 2-8. Perform automatic shading correction and image positioning adjustment.

C. ADF height adjustment

1. Height check

Measure the clearance at the locations indicated in the diagram to check that they meet the standard value. If the clearance length is outside the standard value, adjust the height.



Clearance A standard: 1.6 mm or more to less than 2.0 mm.
Clearance B standard: 2.0 mm or more to less than 2.5 mm.

Figure 2-18

2. Height adjustment

If the clearance is outside the standard, loosen the nut on the ADF hinge unit and adjust with the adjusting screw.

When clearance A is outside the standard value, turn the adjusting screw on the left hinge unit.

When clearance B is outside the standard value, turn the adjusting screw on the right hinge unit.

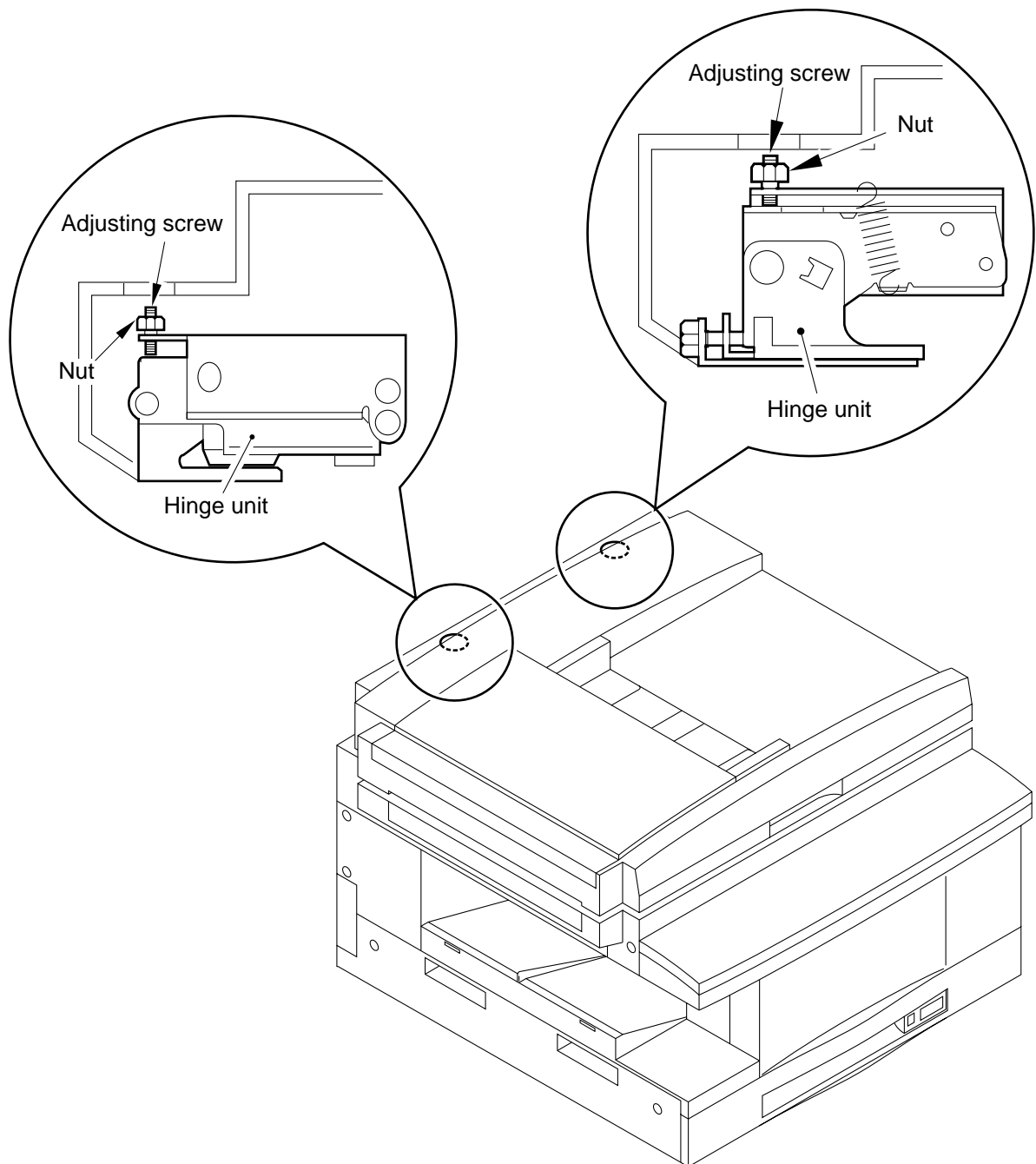


Figure 2-19

D. Skew feed adjustment

1. Checking ADF skew feed

Compare the surface position of the DF cover and DF delivery cover to make sure that the surface positions are correctly aligned.

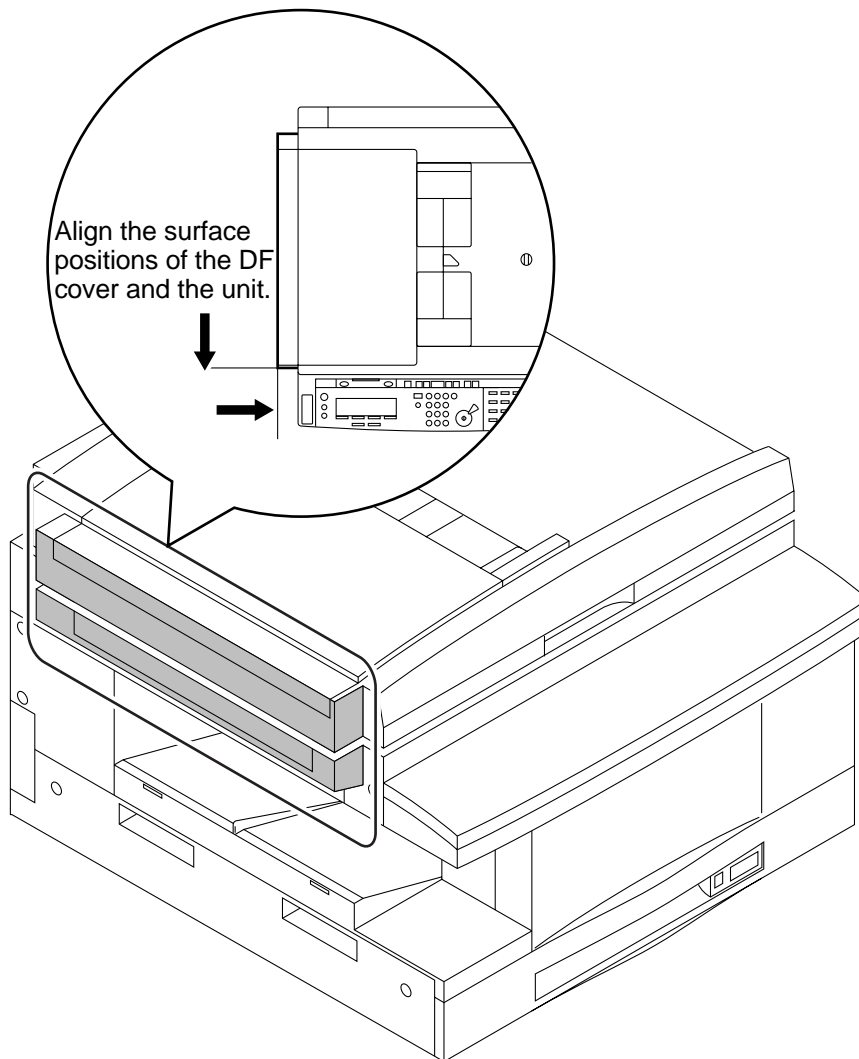


Figure 2-20

2. Adjusting skew feed

- 1) Loosen the right ADF hinge nut.
- 2) Use an Allen wrench to turn the adjusting screw and adjust ADF position.
- 3) After adjusting skew feed, tighten the nut to secure the adjusting screw.

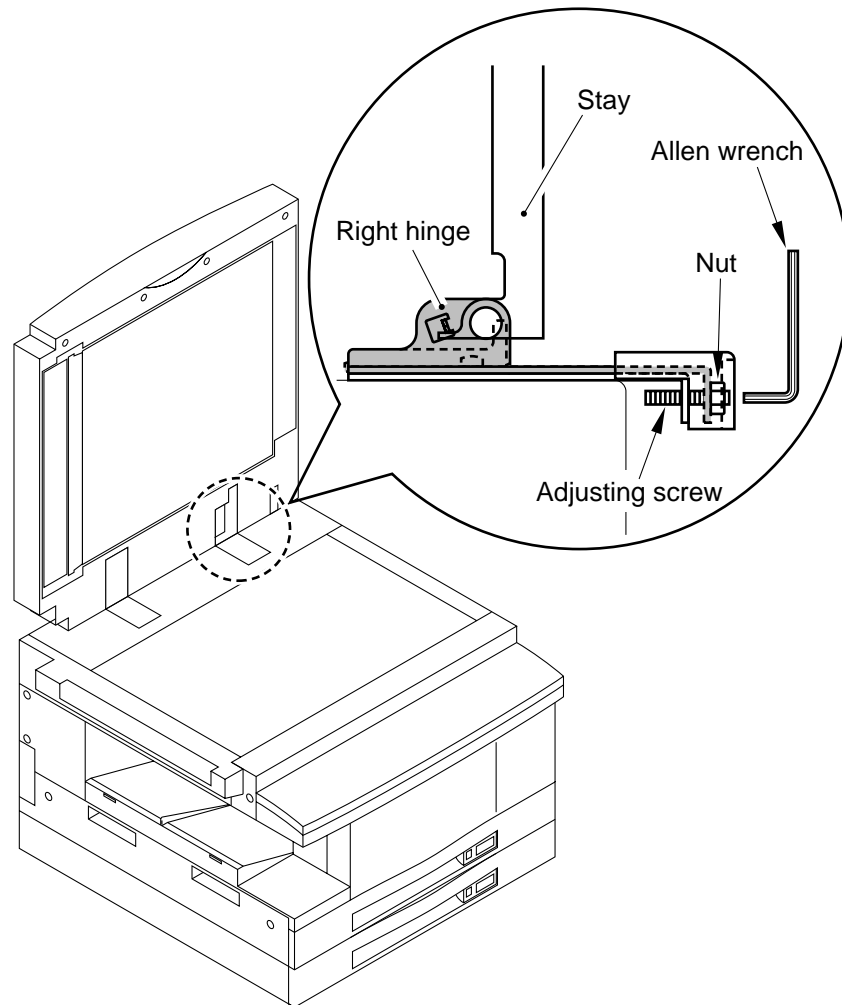


Figure 2-21

E. Adjusting image position

1. Checking image position

Check for image displacement of ADF copy and pressure plate mode copy.

- 1) Use A3 (297 × 420 mm) size plain paper (64 to 80 g/m²) and draw a straight line 10 mm from the paper edge on three sides of the paper to create a simple chart.

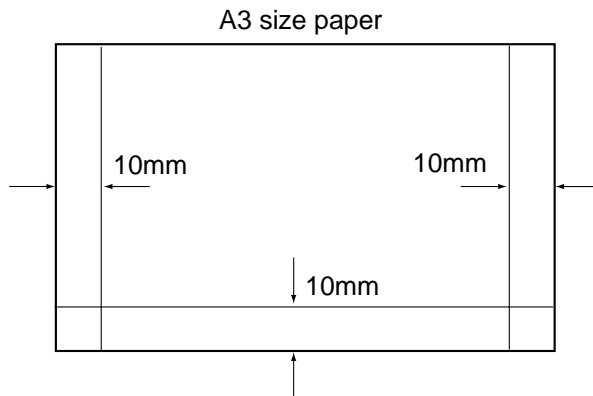


Figure 2-22

- 2) Place the chart on the copyboard glass and make a direct copy to A3 (297 × 420 mm) size paper. The delivered copy is sample A.

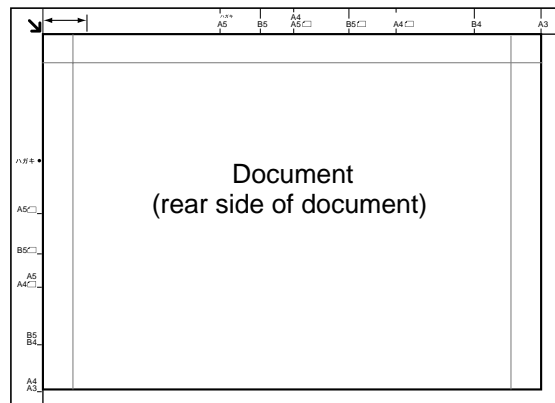


Figure 2-23

- 3) Place the chart in the ADF and make a direct copy to A3 (297 × 420 mm) size paper. The delivered copy is sample B. Make sure that the chart is correctly oriented.

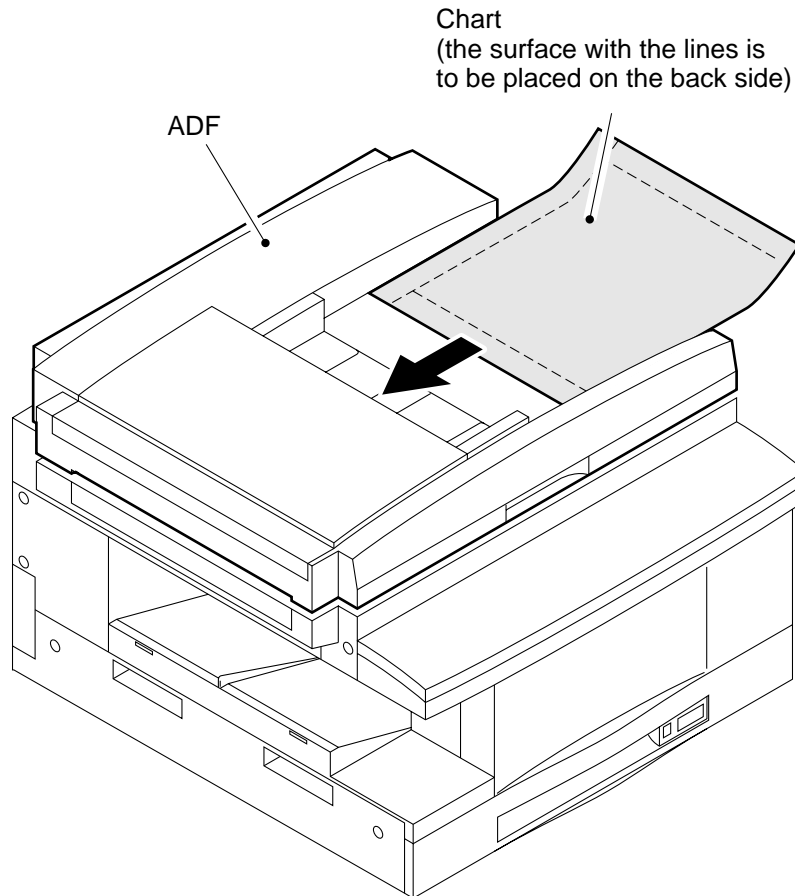


Figure 2-24

- 4) Measure the distance from the ruled line on sample A and sample B to the edge of the paper. The distances to be measured are a_1 , a_2 , a_3 , b_1 , b_2 and b_3 .

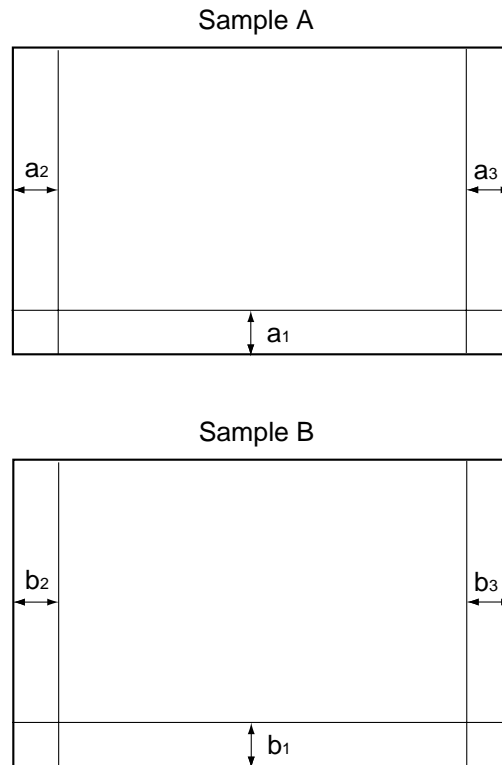


Figure 2-25

- 5) Make sure that the following values conform to the standard. If the values are outside the standard values, adjust the image position.

Right and left registration: $a_1 - b_1 = 0 \pm 1 \text{ mm}$

Leading edge registration: $a_2 - b_2 = 0 \pm 1 \text{ mm}$

Sub-scanning direction magnification: $(a_2 + a_3) - (b_2 + b_3) = 0 \pm 1 \text{ mm}$

2. Adjusting image position

Image position displacement can be corrected in the service mode.

a) Adjusting right-left registration

Determine the difference between a_1 and b_1 in sample A and sample B to adjust displacement.

- 1) Press the Data Registration/Set key, then press the # key to enter the service mode.
- 2) Use the ▲ ▼ shift keys to select #6 SCANNER and press the Set key.
- 3) Use the ▲ ▼ shift keys to select 8.CCD.
- 4) Use the ▲ ▼ shift keys to select 014.

The 014 parameter is now displayed.

- 5) If $a_1 > b_1$,

Decrease the 014 parameter value.

If $a_1 < b_1$,

Increase the 014 parameter value.

(Use the numeric keys for input.)

An increase (decrease) of 16 in the parameter value yields a displacement of approximately 1 mm.

Reference:

An increase (decrease) of 1 in the parameter value yields a displacement of approximately 0.0635 mm.

- 6) Press the Set key.

b) Adjusting leading edge registration

Determine the difference between a_2 and b_2 in sample A and sample B to adjust displacement.

- 1) Press the Register/Set key, then press the # key to enter the service mode.
- 2) Use the ▲ ▼ shift keys to select #6 SCANNER and press the Set key.
- 3) Use the ▲ ▼ shift keys to select 8.CCD.
- 4) Use the ▲ ▼ shift keys to select 015.
The 015 parameter is now displayed.
- 5) If $a_2 > b_2$,
Decrease the 015 parameter value.
If $a_2 < b_2$,
Increase the 015 parameter value.
(Use the numeric keys for input.)
An increase (decrease) of 10 in the parameter value yields a displacement of approximately 1 mm.

Reference:

An increase (decrease) of 1 in the parameter value yields a displacement of approximately 0.1 mm.

- 6) Press the Set key.

c) Adjusting sub-scanning direction magnification

Determine the difference between $a_2 + a_3$ and $b_2 + b_3$ in sample A and sample B to adjust displacement.

1) Press the Register/Set key, then press the # key to enter the service mode.

2) Use the $\blacktriangle \blacktriangledown$ shift keys to select #6 SCANNER and press the Set key.

3) Use the $\blacktriangle \blacktriangledown$ shift keys to select 8.CCD.

4) Use the $\blacktriangle \blacktriangledown$ shift keys to select 016.

The 016 parameter is now displayed.

5) If $a_2 + a_3 > b_2 + b_3$,

Decrease the 016 parameter value.

If $a_2 + a_3 < b_2 + b_3$,

Increase the 016 parameter value.

(Use the numeric keys for input.)

An increase (decrease) of 3 in the parameter value yields a displacement of approximately 1 mm.

Reference:

An increase (decrease) of 1 in the parameter value yields a displacement of approximately 0.33 mm.

6) Press the Set key.

After the message "Registered" has appeared on the display, the value of parameter 017 is shown.

7) Add (subtract) 1/3 of the value added (subtracted) in step 5) to the 017 parameter value.

If $a_2 + a_3 > b_2 + b_3$,

Subtract from the 017 parameter value.

If $a_2 + a_3 < b_2 + b_3$,

Add to the 017 parameter value.

(Use the numeric keys for input.)

8) Press the Set key.

Example:

When $a_2 = 10 \text{ mm}$ $a_3 = 11 \text{ mm}$ $b_2 = 12 \text{ mm}$ $b_3 = 12 \text{ mm}$,

$a_2 + a_3 = 21$ $b_2 + b_3 = 24$

Since the difference is 3 mm, add 9 to the 016 parameter value and add to the 017 parameter value.

CHAPTER 3 ARRANGEMENT AND FUNCTIONS OF THE ELECTRICAL PARTS

A. Clutches, solenoids

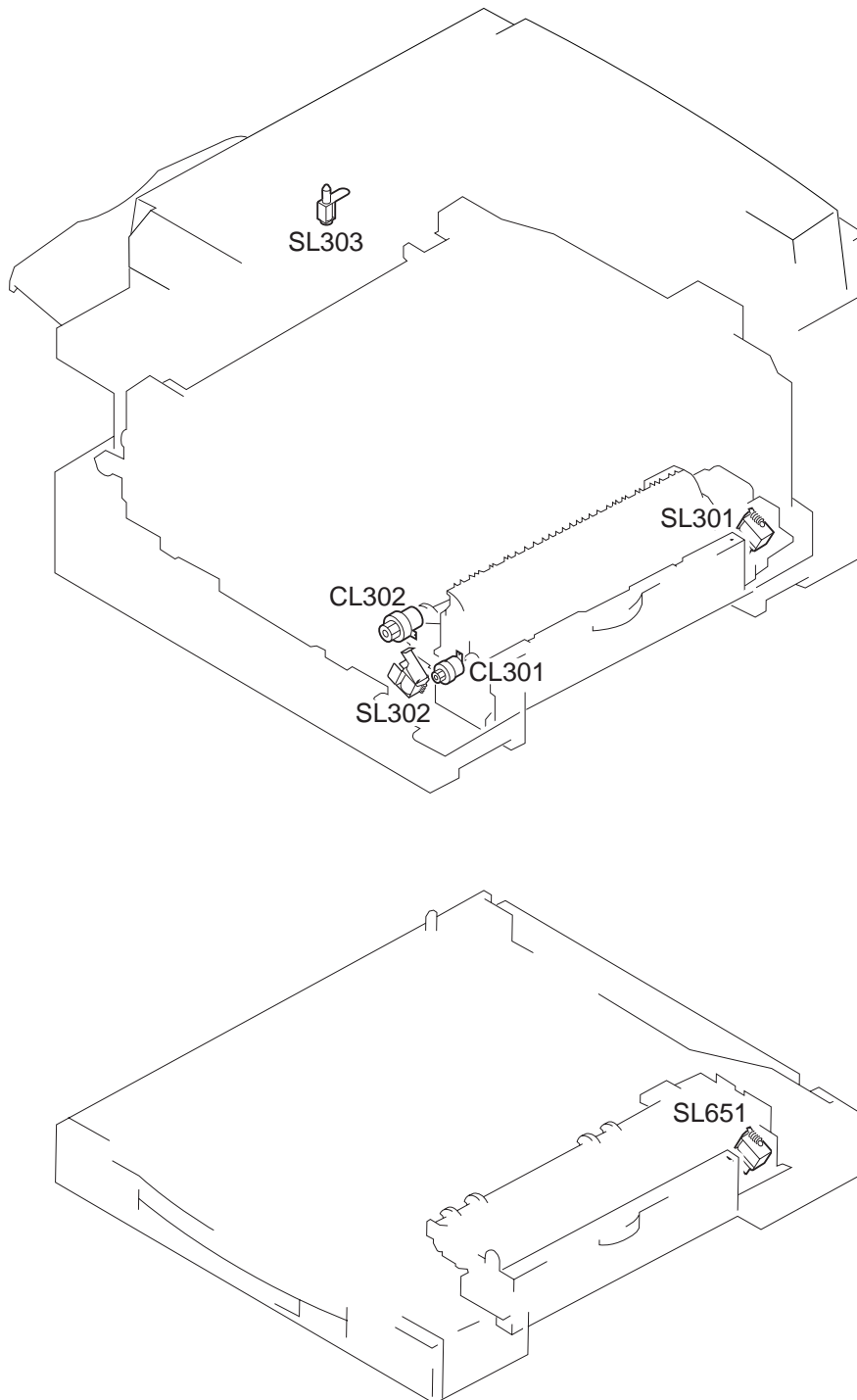


Figure 3-1

Clutch, solenoid types

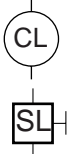
Symbol	Name	Code	Function
	Clutch	CL301	Pick-up/feeder roller drive
		CL302	Registration roller drive
	Solenoid	SL301	Main unit pick-up roller drive
		SL302	Multifeeder pick-up roller drive
		SL303	Completion stamp drive
		SL651	Cassette feeder pick-up roller drive

Table 3-1

B. Motor, fan

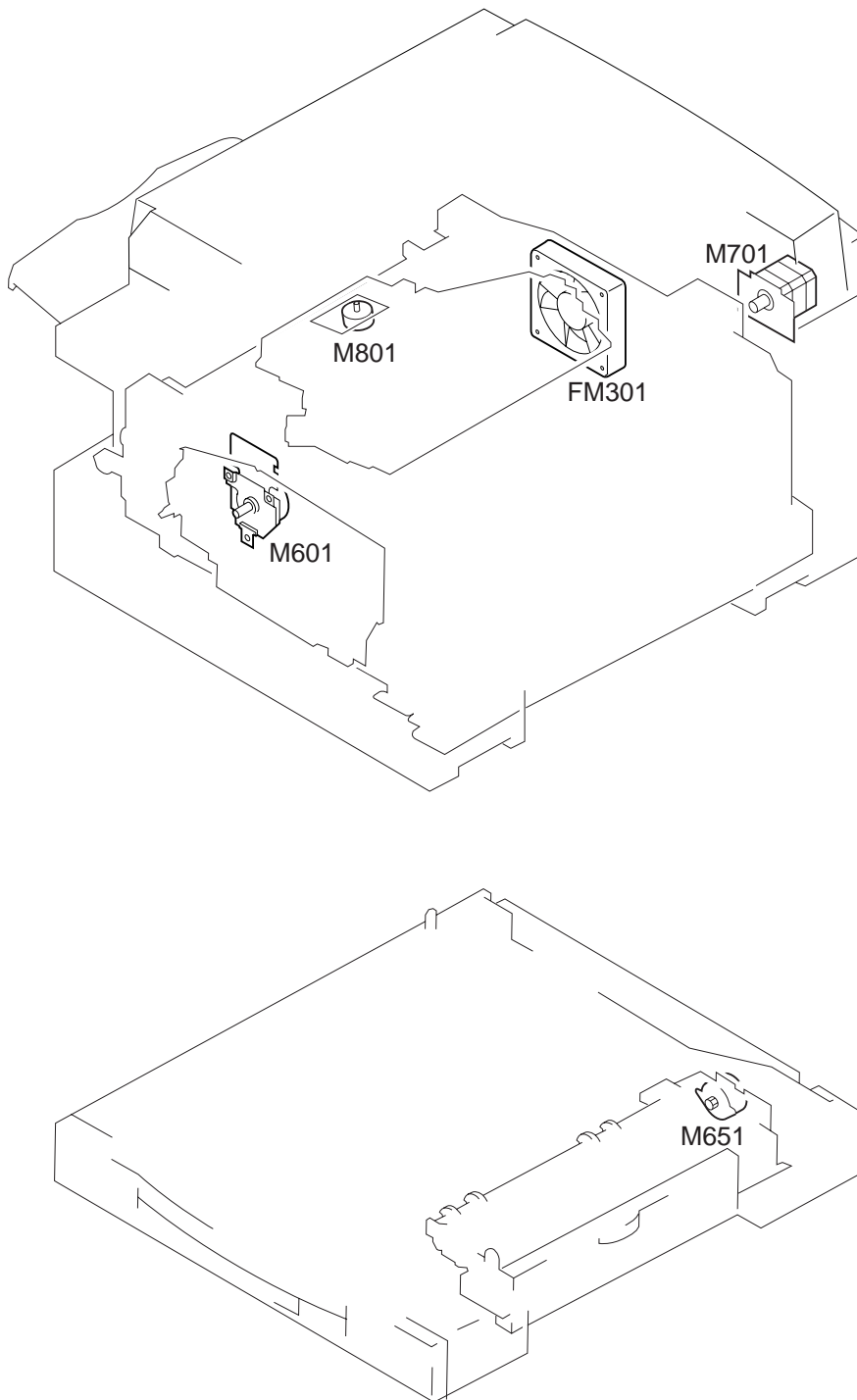


Figure 3-2

Motors, fans



Symbol	Name	Code	Function
	Motor	M601	Main motor
		M701	Scanner motor
		M651	Feeder motor (cassette feeder)
		M801	Laser scanner motor
	Fan	FM301	Exhaust fan

Table 3-2

C. Sensors

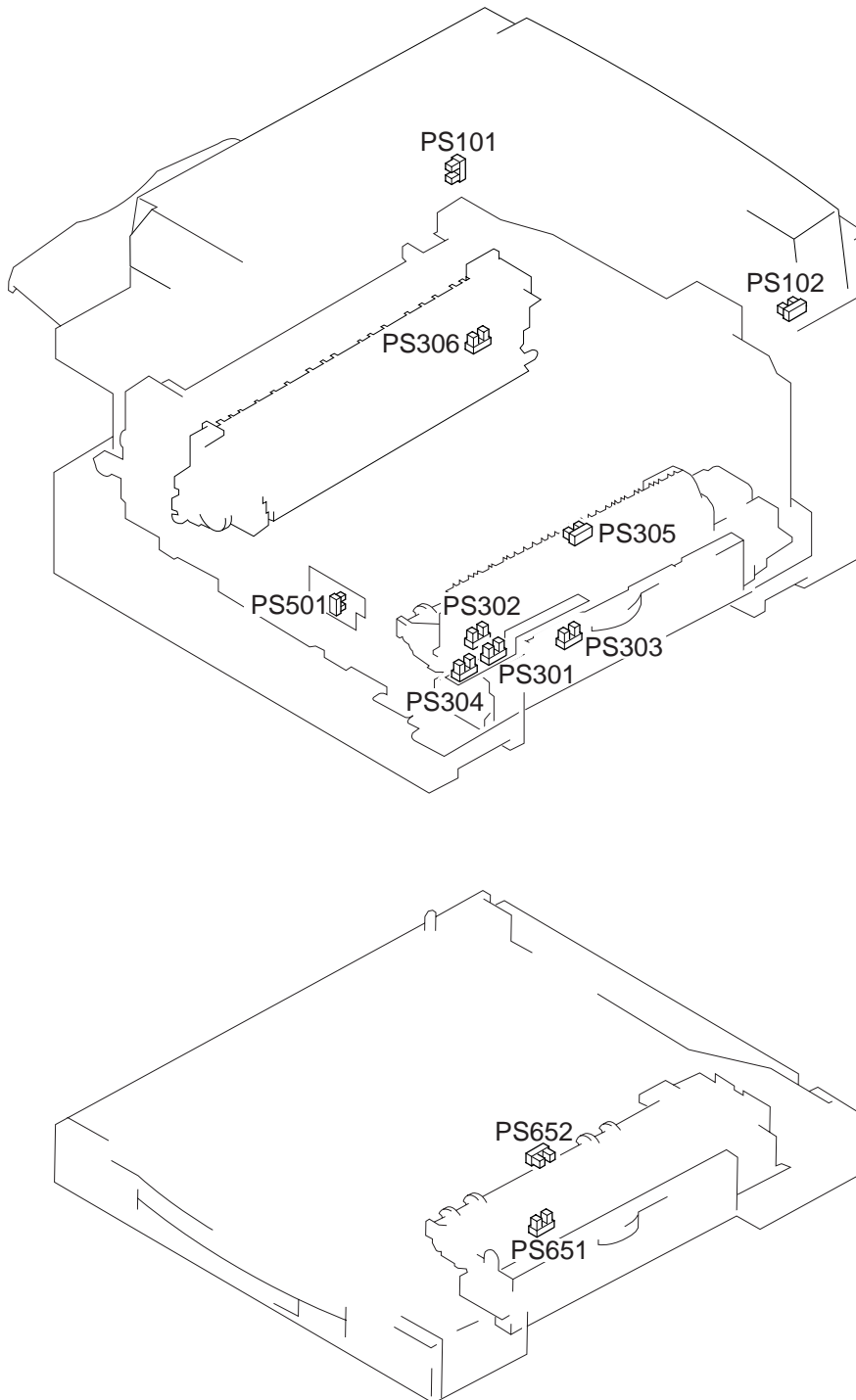


Figure 3-3

Sensors


Symbol	Name	Code	Function
	Photo-interuppter	PS101	Scanner home position sensor
		PS102	Copyboard cover open/close sensor
		PS301	Paper leading edge sensor
		PS302	Registration paper sensor
		PS303	Pick-up sensor
		PS304	Paper width sensor
		PS305	Cassette paper supply sensor
		PS306	Delivery sensor
		PS501	Multifeeder paper supply sensor
		PS651	Cassette feeder pick-up sensor
		PS652	Cassette paper supply sensor (cassette feeder)

Table 3-3

D. Switches, lamps, miscellaneous

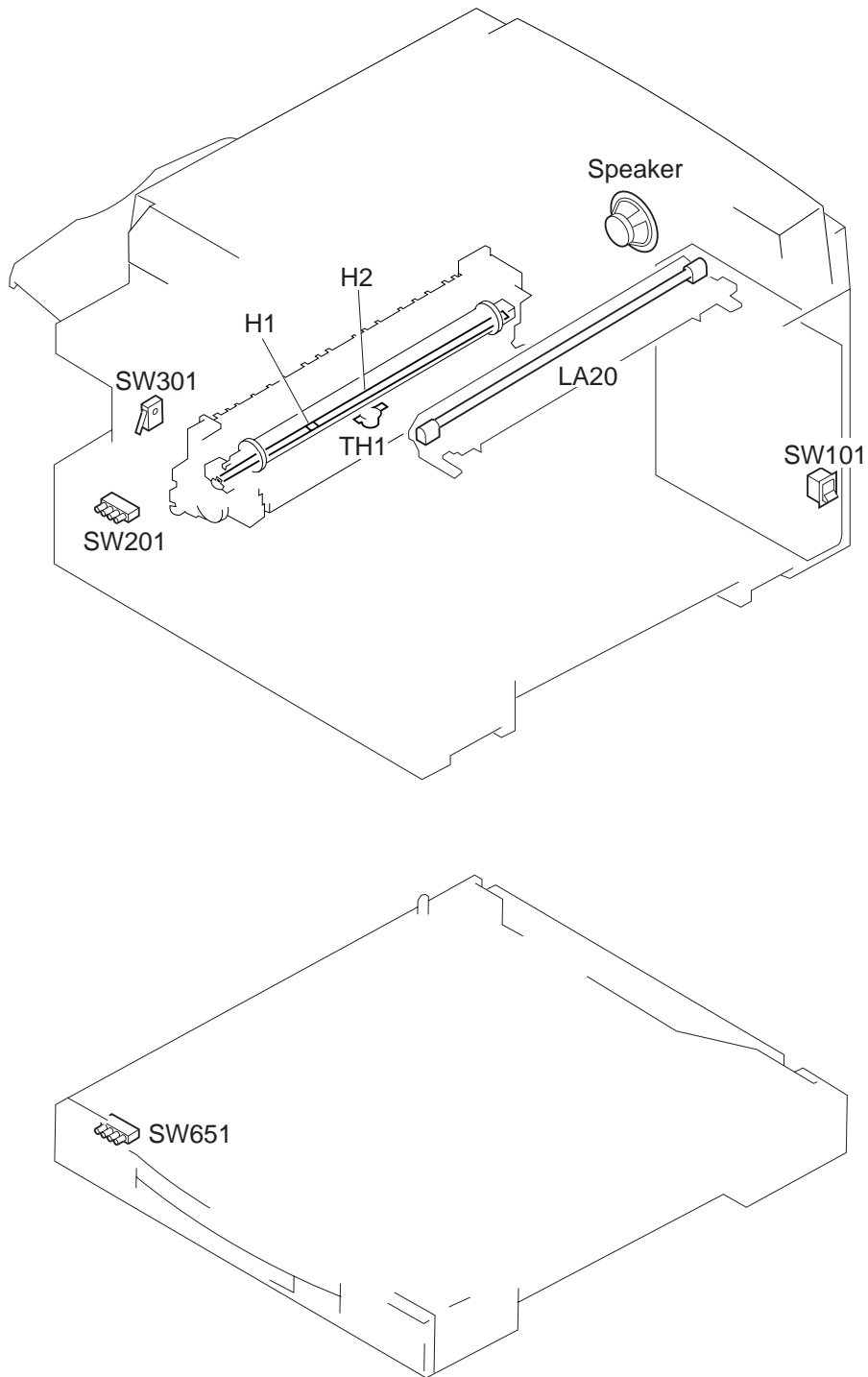


Figure 3-4

Switches, lamps, miscellaneous



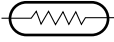
Symbol	Name	Code	Function
	Switch	SW101	Power supply switch
		SW201	Cassette size sensor switch (Main unit)
		SW301	Front cover open/close sensor switch
		SW651	Cassette size sensor switch (cassette feeder)
	Lamp	LA20	Scanning lamp
	Heater	H1	Heater 1
		H2	Heater2
	Thermistor	TH1	Thermistor
	Speaker		Speaker

Table 3-4

E. PCBs

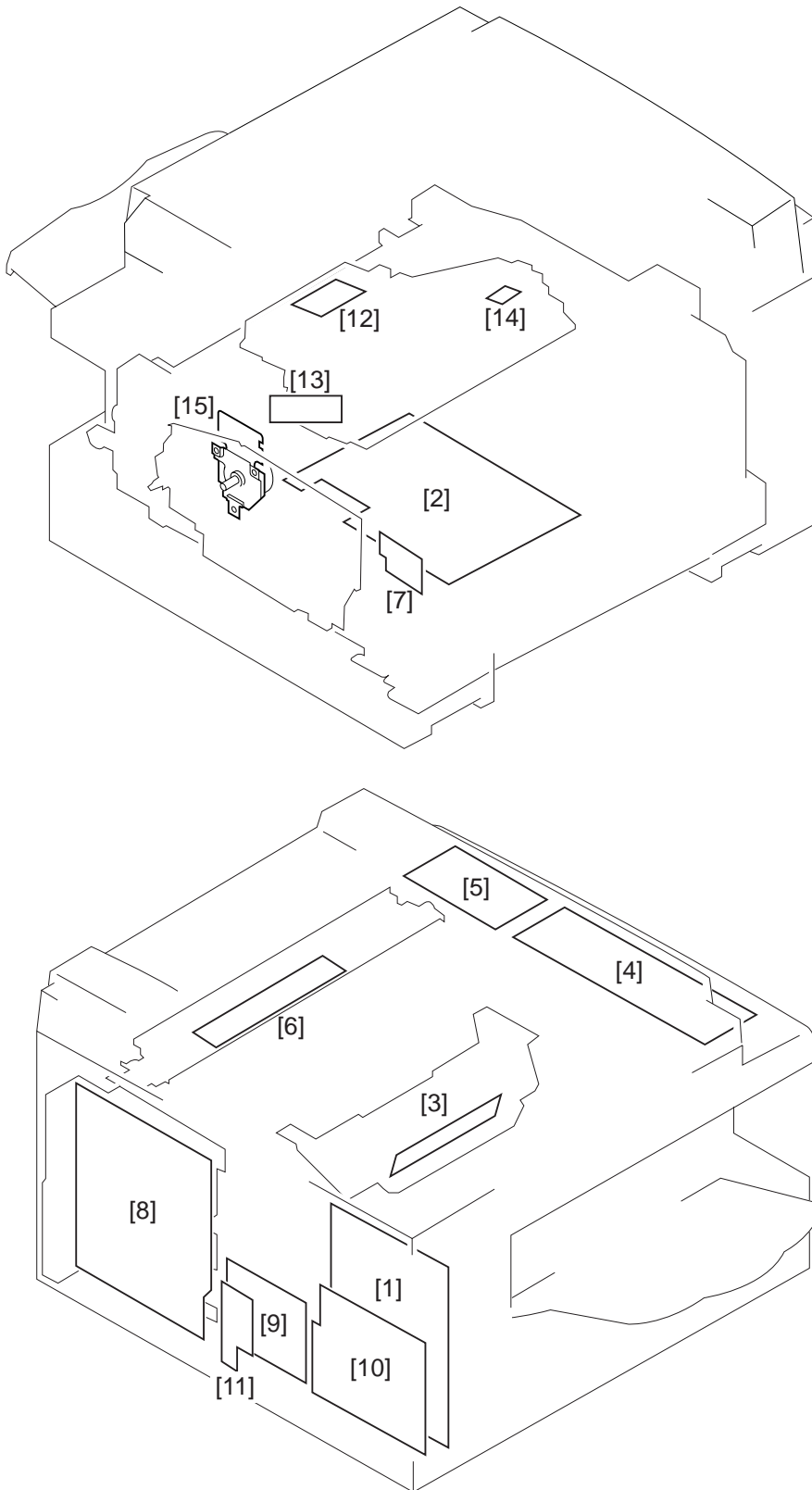


Figure 3-5

PCBs

Symbol	Name	Function
[1]	Image processor PCB	Image processing
[2]	DC controller PCB	DC load control
[3]	Analog processor PCB	CCD drive/analog image processing
[4]	Control panel PCB	Control panel control
[5]	Control panel sub-PCB	Control panel control
[6]	Inverter PCB	Scanning lamp illumination control
[7]	Sensor PCB	Test print switch/leading edge margin adjustment VR
[8]	DC power supply PCB	DC power source
[9]	NCU PCB*	Fax transmission control
[10]	Modem PCB*	Fax transmission signal modulation/demodulation
[11]	Modular PCB*	Telephone line connection
[12]	Laser scanner motor driver	Laser scanner motor drive
[13]	Laser driver PCB	Laser drive
[14]	BD PCB	Laser beam sensor
[15]	Main motor driver	Main motor drive



* Mounted only in machines with fax function installed.

Table 3-5

F. Variable resistor (VR)/LED/check pin listed by PCB plate

Only the varistors, LEDs and check pins that need to be checked during field service are listed below.

Note:

1. Some LEDs leak a small amount of current even when normal, and therefore glow faintly even when they are off. Do not mistake this phenomenon for their being ON.
2. VRs which may be adjusted in the field: 
VRs which must not be adjusted in the field: 

Note:

Check pins not listed below are only for factory use, and their adjustment and check requires special tools and measurement instruments. Their adjustments require a greater degree of accuracy and must not be touched during field service.

1. Image processor PCB

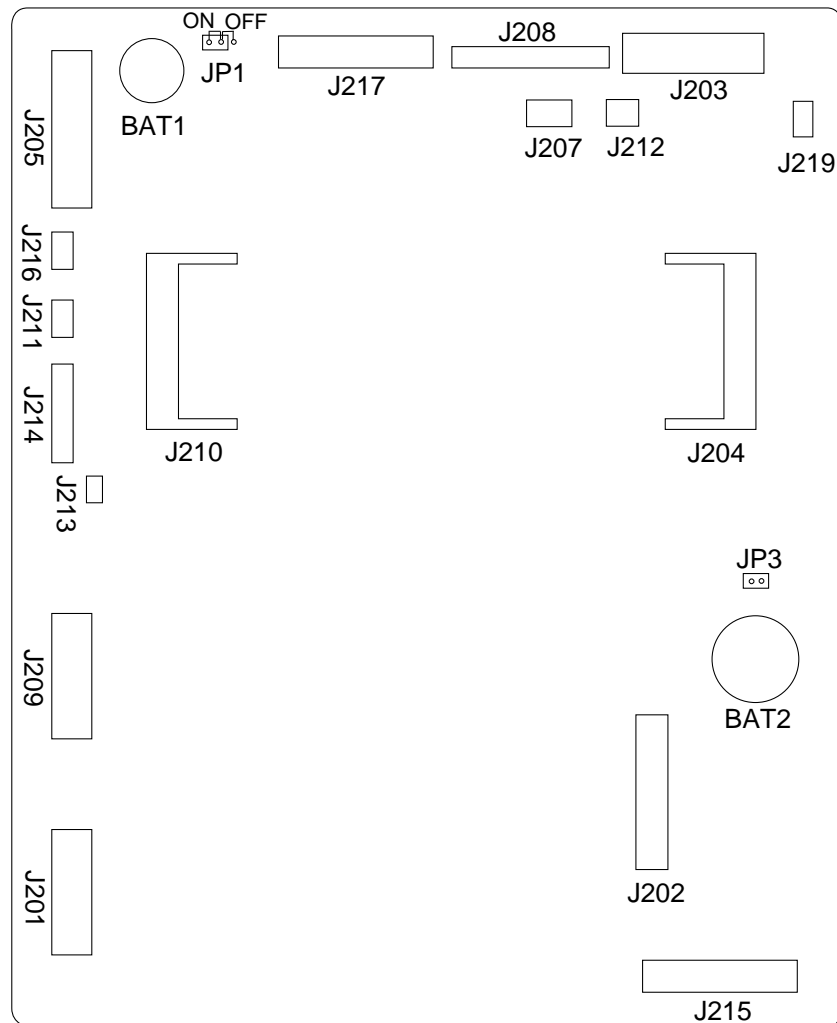


Figure 3-6

- **JP1** : Image memory backup battery (BAT1) electrification jumper plug
- **JP3** : Data control (user data, service mode data) memory backup battery (BAT2) electrification jumper plug
- **BAT1** : Fax transmission image memory backup battery
- **BAT2** : Control data (service mode data, user mode data) memory backup battery

2. DC controller PCB/ Sensor PCB

■ DC controller PCB

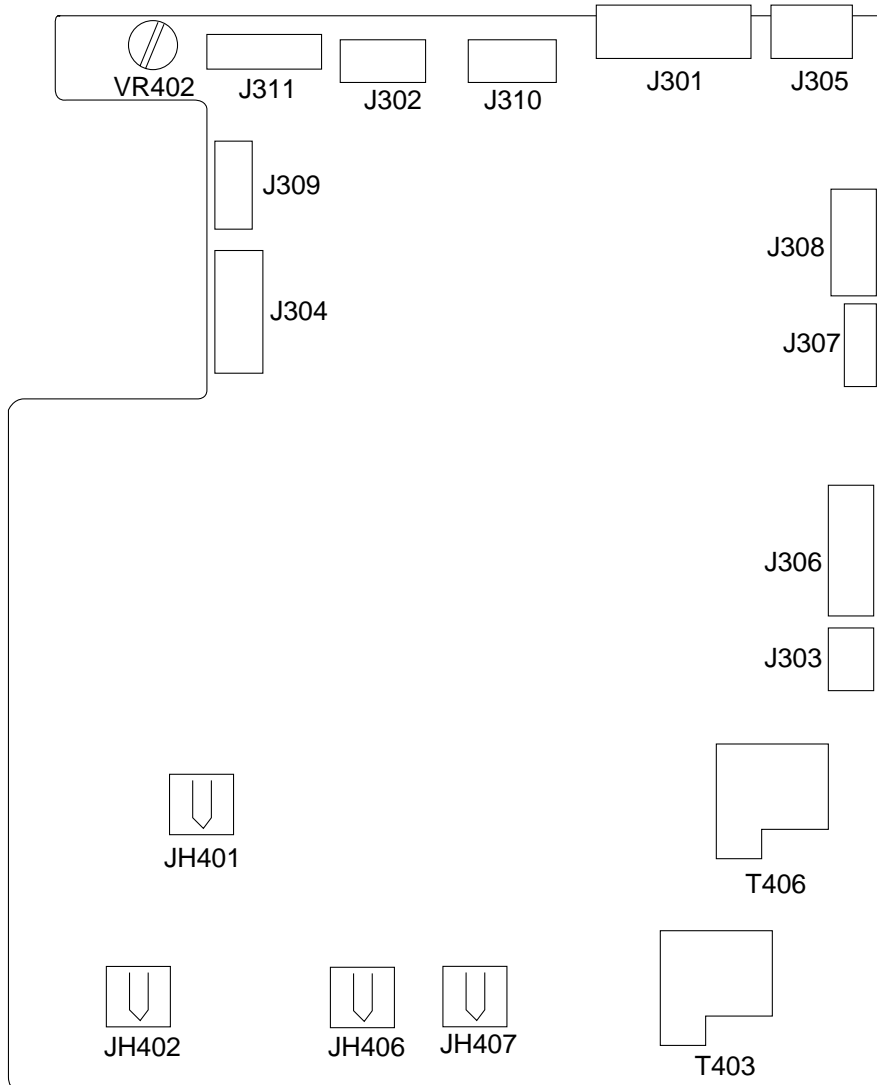


Figure 3-7

VR402: For factory adjustment

■ Sensor PCB

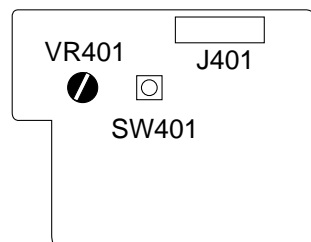


Figure 3-8

VR401 : VR for image leading edge margin adjustment
 SW401 : Push switch for test print output

■ DC power supply PCB

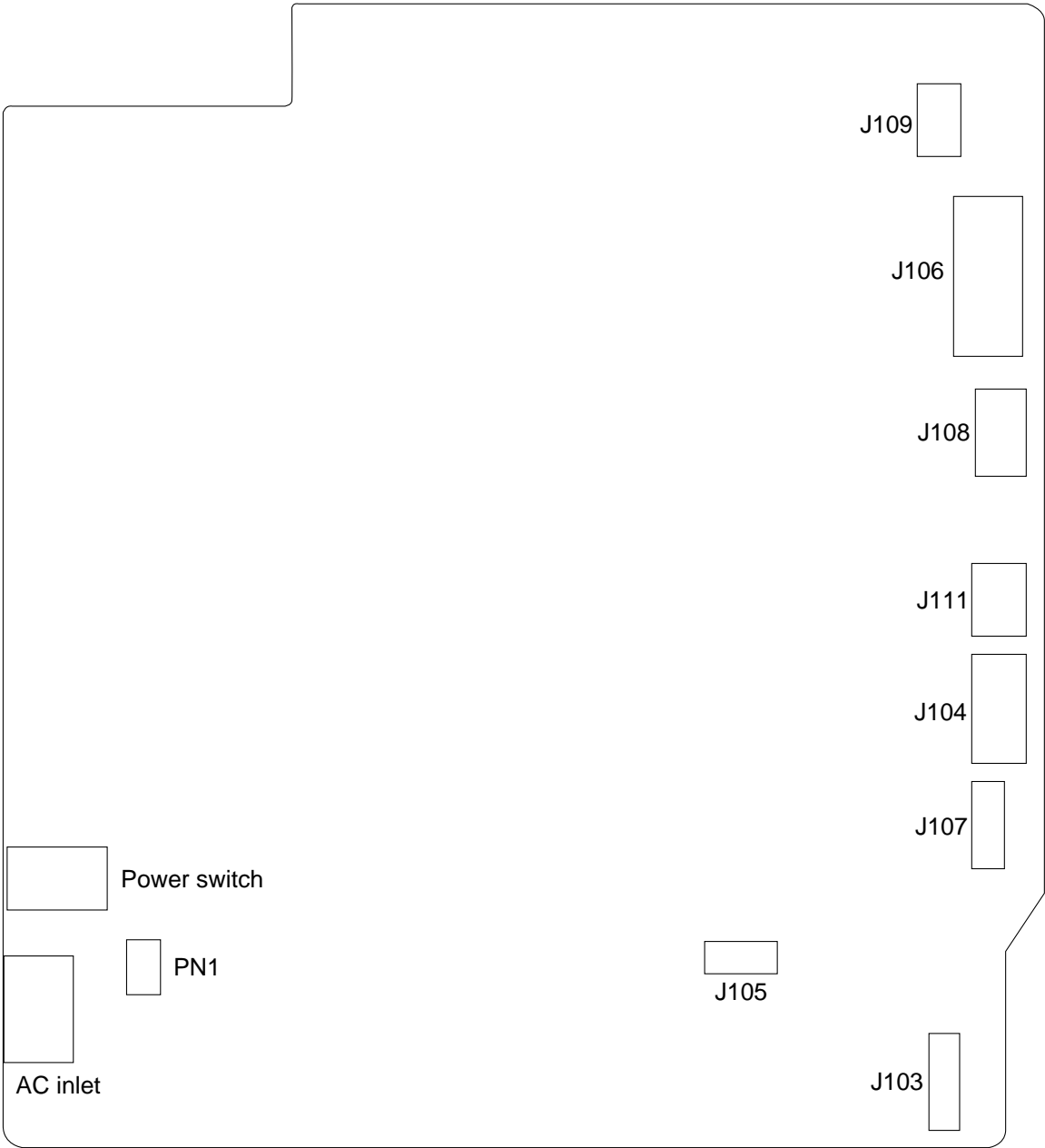


Figure 3-9

3. Feeder controller PCB (Cassette feeder)

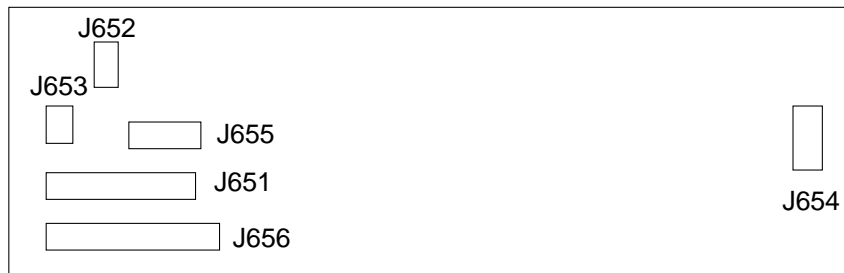


Figure 3-10

4. Modem board

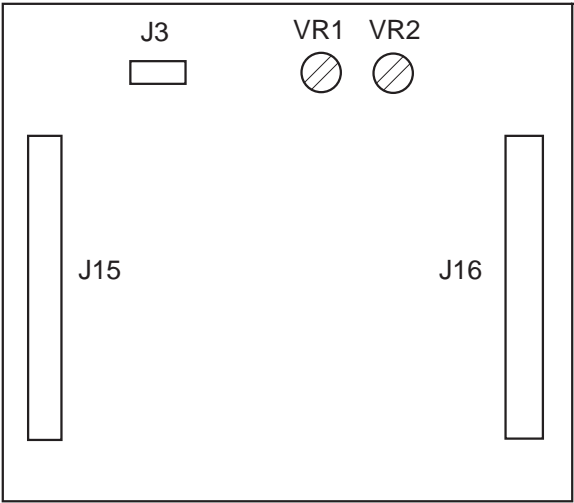


Figure 3-11

No.	Role
J3	Connector for future expansion
J15	NCU interface connector
J16	Image processor PCB interface connector

5. NCU board

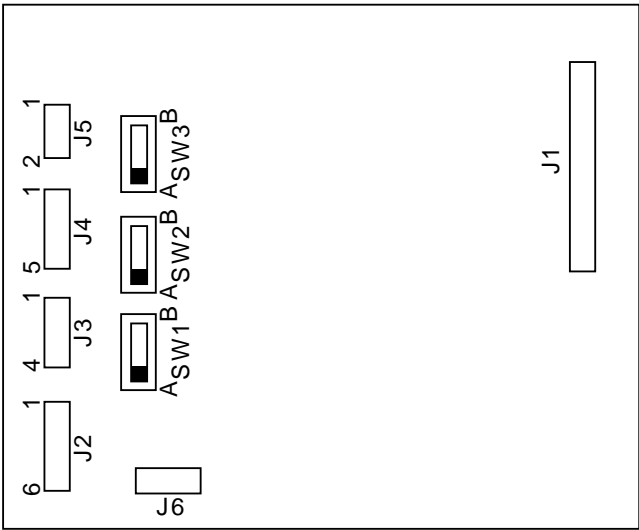


Figure 3-12

Note: The NCU in the French model donot have SW1 through SW3.

Notation	Role
J1	Modem Board interface connector
J2	Connector for telephone line jack
J3	Connector for modular board
J4	Connector for modular board
J5	Connector for DC power supply PCB
J6	ARG cable terminal

■ Switch Settings

	SW1	SW2	SW3
EC (general)	A	A	A
Sweden	A	B	A
UK/Australia/Asia/Oceania	B	A	B
France	—	—	—

6. ADF

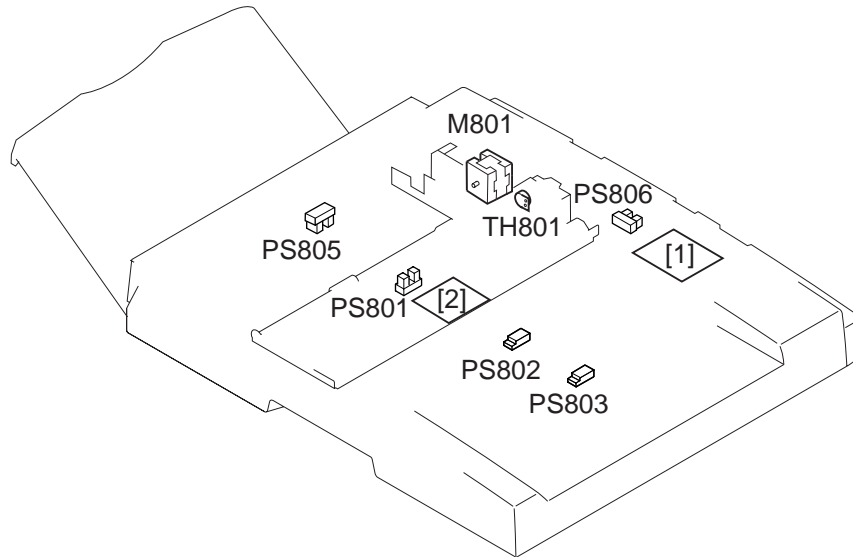


Figure 3-13

Electric load

Symbol	Name	Code	Role
	Photo-interrupter	PS801	Paper detection
		PS805	Document leading edge sensor
	Reflective sensor	PS802	Document length sensor 1
		PS803	Document length sensor 2
	Motor	M801	ADF motor
	Thermoswitch	TH801	ADF motor thermoswitch

PCBs

Symbol	Name	Role
[1]	ADF relay PCB	Communication signal interface between ADF and main unit
[2]	Document width sensor PCB	Document width detection

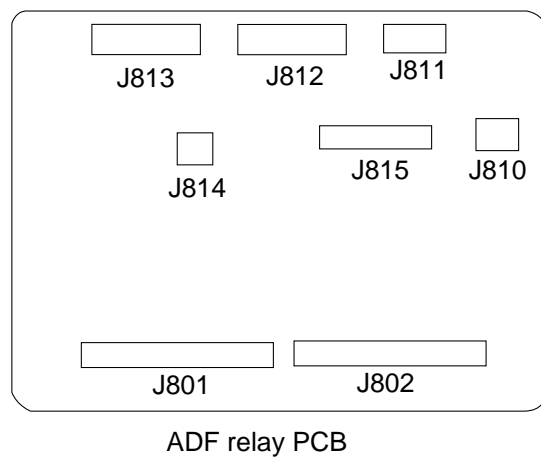


Figure 3-14

CHAPTER 4 SERVICE MODE

A. Overview

The items which may be checked or set in the service mode are described below.

The service mode in this machine is structured along the lines of the conventional facsimile service mode, and its contents and operation methods comply with that mode. The service mode is divided into the following 13 blocks.

The service mode is divided into the 10 items (#1-#10) cited below. The test mode (TEST MODE) is also included as a service mode item.

#1 SSSW: service software switch

Registration and settings for basic fax service functions such as error management, echo countermeasures, communications trouble countermeasures, etc.

#2 MENU: menu switch settings

Registration and settings for functions required at installation, such as NL equalizer and output levels.

#3 NUMERIC Param: numeric parameter settings

Numeric Parameters for various conditions for the T1 Timer setting function, etc., can be input.

#4A SPECIAL: special settings (some settings can be adjusted at the time of servicing)

#4B NCU: special settings (Do not change the settings)

#4C ISDN: Not adjustable

#5 TYPE: Country version settings

When the country version settings are programmed, the standard values for each country are entered in the parameters for #1 SSSW-#4 NCU at one time.

#6 SCANNER: (some settings can be adjusted at the time of servicing)

When setting this item in the field, do not change the settings for items other than 8: CCD, when adjusting image positioning, as this may result in a deterioration of scanned image quality.

#7 PRINTER: printer function settings

Registration and setting items for basic service functions, such as conditions for reducing reception images.

#8 CLEAR: data initialization mode settings

Initializes data to initial setting values.

#9 ROM: ROM management

Displays the version number of ROM DIMM on the image processor PCB.

#10 CS SET: mirror 1 mount initial setting

Moves the mirror 1 mount to the position set at the time of shipping from the factory.

TEST MODE: Runs tests. (See page 4-56 for details)

B. Operating Procedures

The service mode operates according to the flow displayed in the chart below.

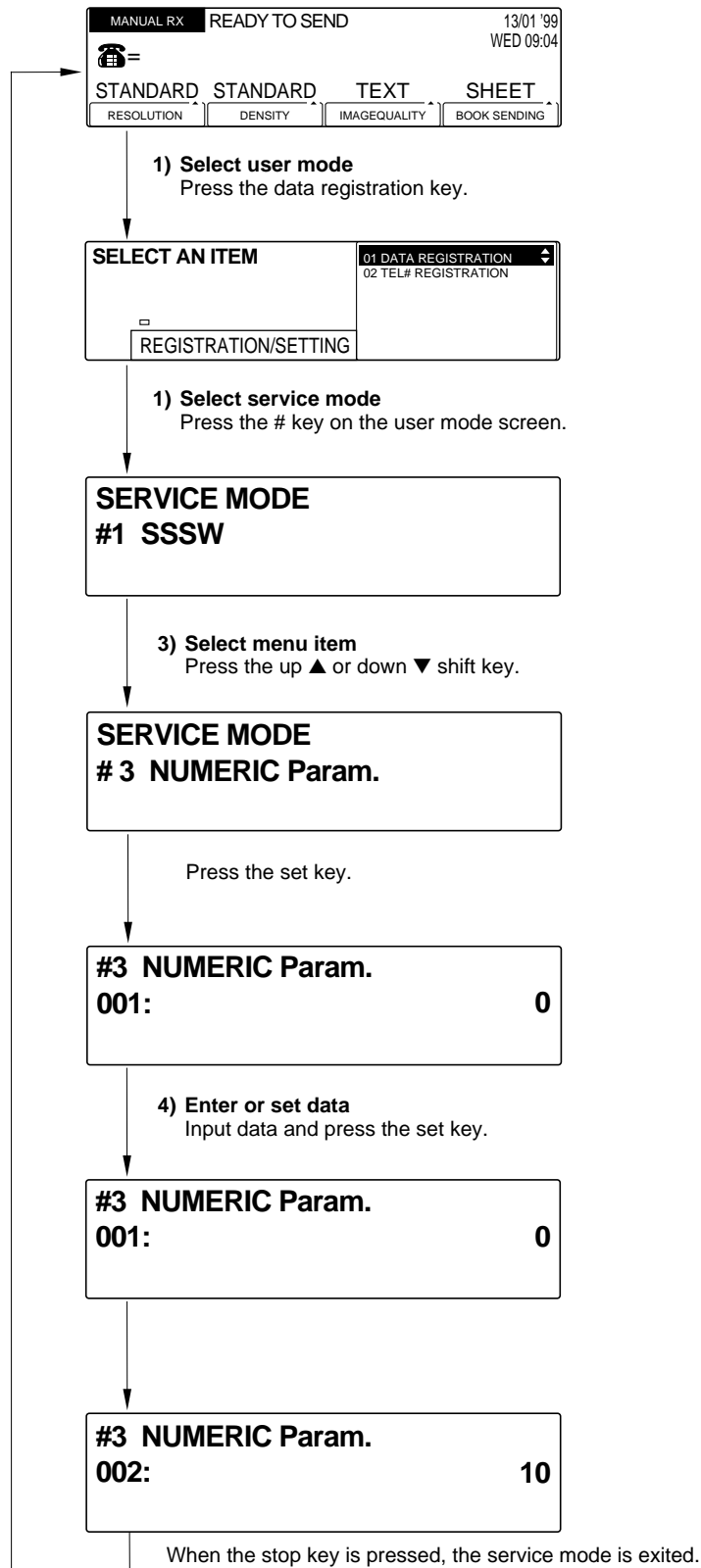


Figure 4-1

C. Service mode menu list

Characters in bold face show initial setting values.



Figure 4-2

Note:

SW10, 11, 13, 15, 17-24, 27 and 29-50 are Reserved. Do not change these settings.

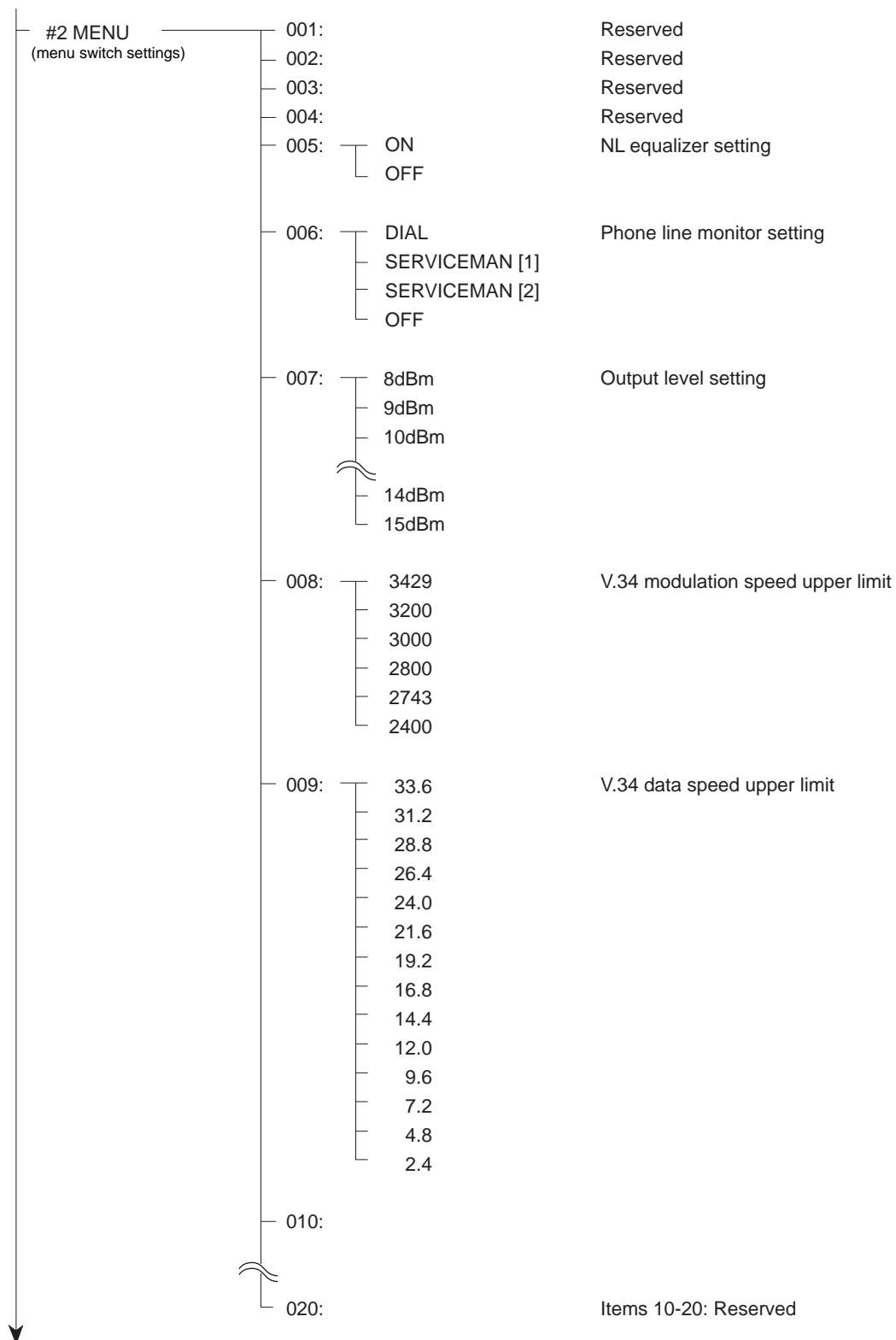


Figure 4-3

Note:

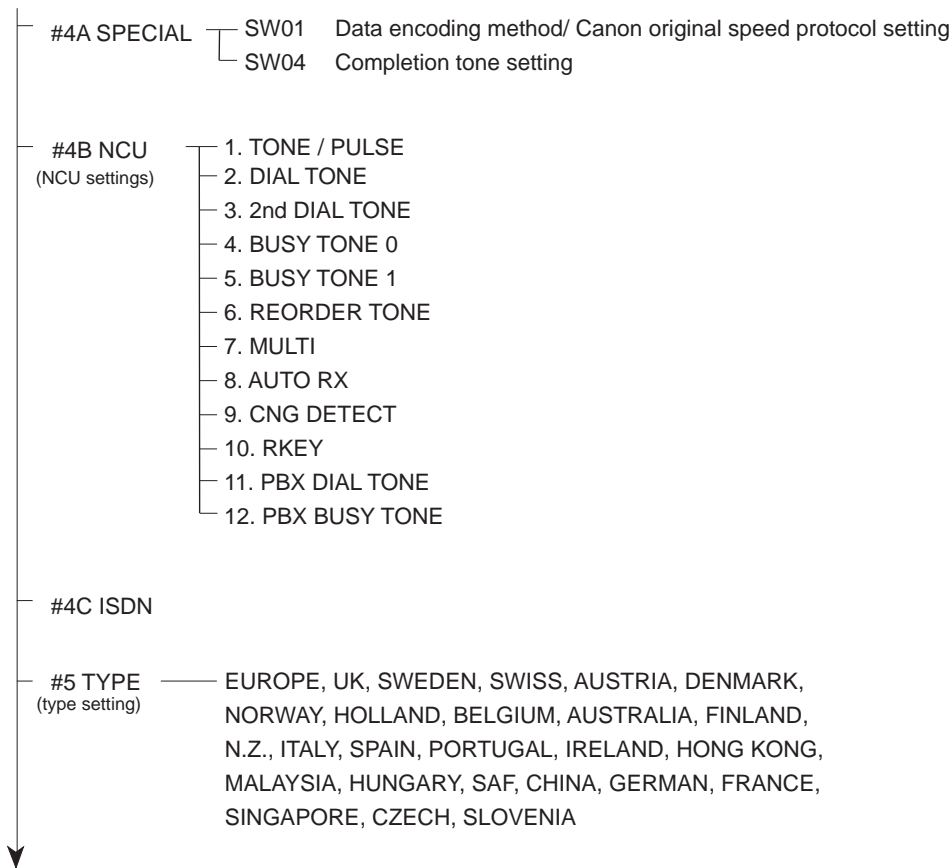
No. 001-004, 010-020 are Reserved. Do not change these settings.

#3 NUMERIC Param. (numeric parameter settings)	Range setting	
	001:	Reserved
	002: — 1 to 99	RTN signal output condition (1) setting
	003: — 2 to 9	RTN signal output condition (2) setting
	004: — 1 to 99	RTN signal output condition (3) setting
	005: — 1 to 60	NCC pause time setting (before ID code)
	006: — 1 to 60	NCC pause time setting (after ID code)
	007:	Reserved
	008:	Reserved
	009: — 0 to 20	Direct mail prevention function: set number of digits of telephone number to be checked
	010: — 0 to 9999	T0 timer
	011: — 0 to 9999	T1 timer
	012:	Reserved
	013: — 500 to 3000	T30 EOL timer
	014:	Reserved
	015: — 0 to 999	Hooking Detection time setting
	016:	Reserved
	}	}
	026:	Reserved
	027: — (15 to 25) x 10	V.21 low-speed command preamble detection time
	028:	Reserved
	}	}
	080:	Reserved

Figure 4-4

Caution:

No. 001, 007, 008, 012, 014, 016-026 and 028-080 are Reserved. Do not change the settings.

**Figure 4-5****#4A SPECIAL**

Do not change settings for items other than SW01 and SW04.

#4B NCU (NCU setting)

Do not change the settings.

#4C ISDN

Do not change the settings.

#5 TYPE

When the country version settings are programmed, the standard values for each country are entered in the parameters for #1 SSSW – #4 NCU at one time.

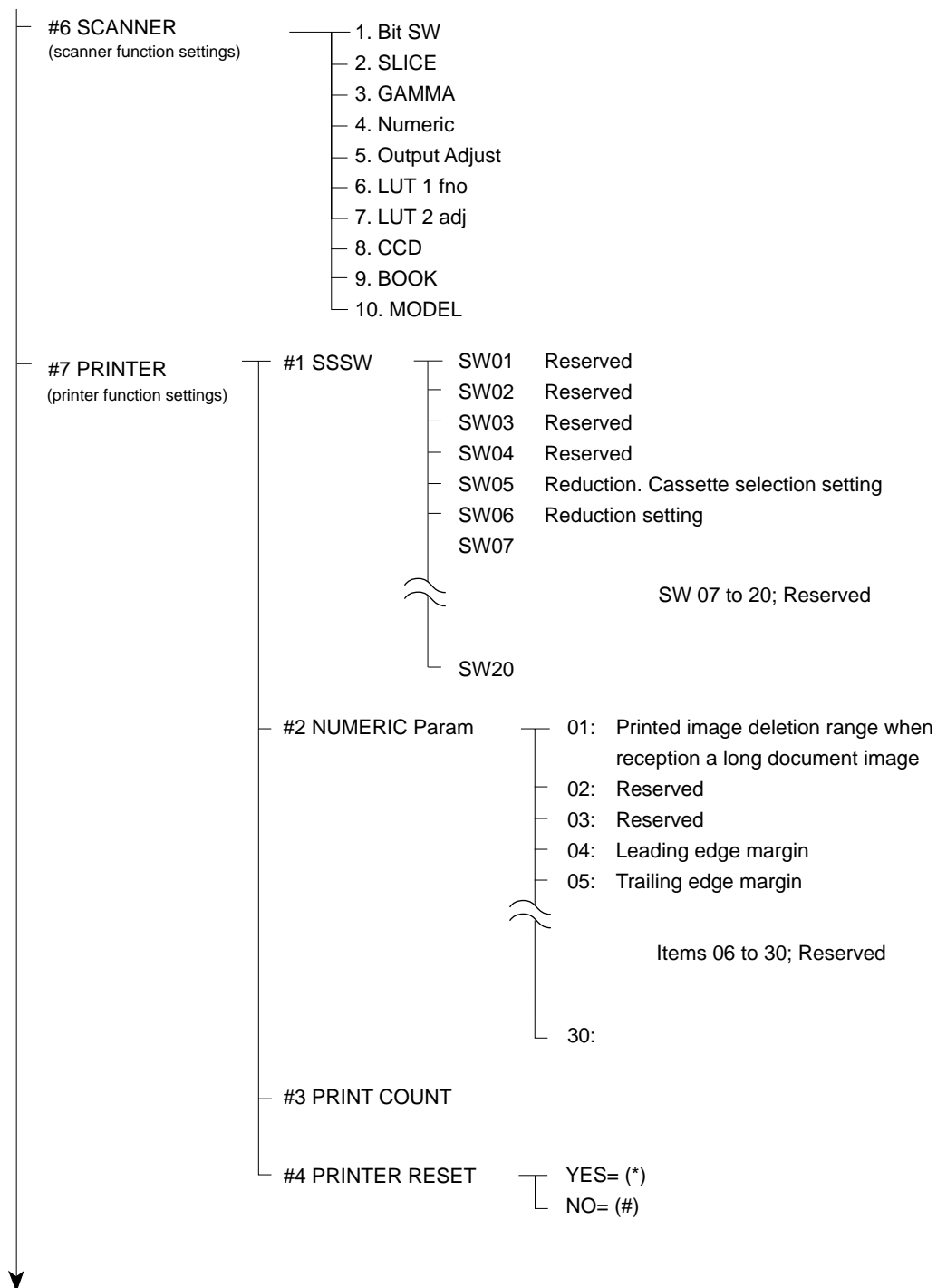


Figure 4-6

Note:**#6 SCANNER (Scanner function settings)**

The quality of scanned images may be adversely affected, depending on this setting. 8.CCD may be changed when adjusting the image position, but do not adjust any other item settings.

#7 PRINTER (Printer function settings)

SW01-04, 07-20, No. 02, 03, and 06-30 are Reserved. Do not change the settings.

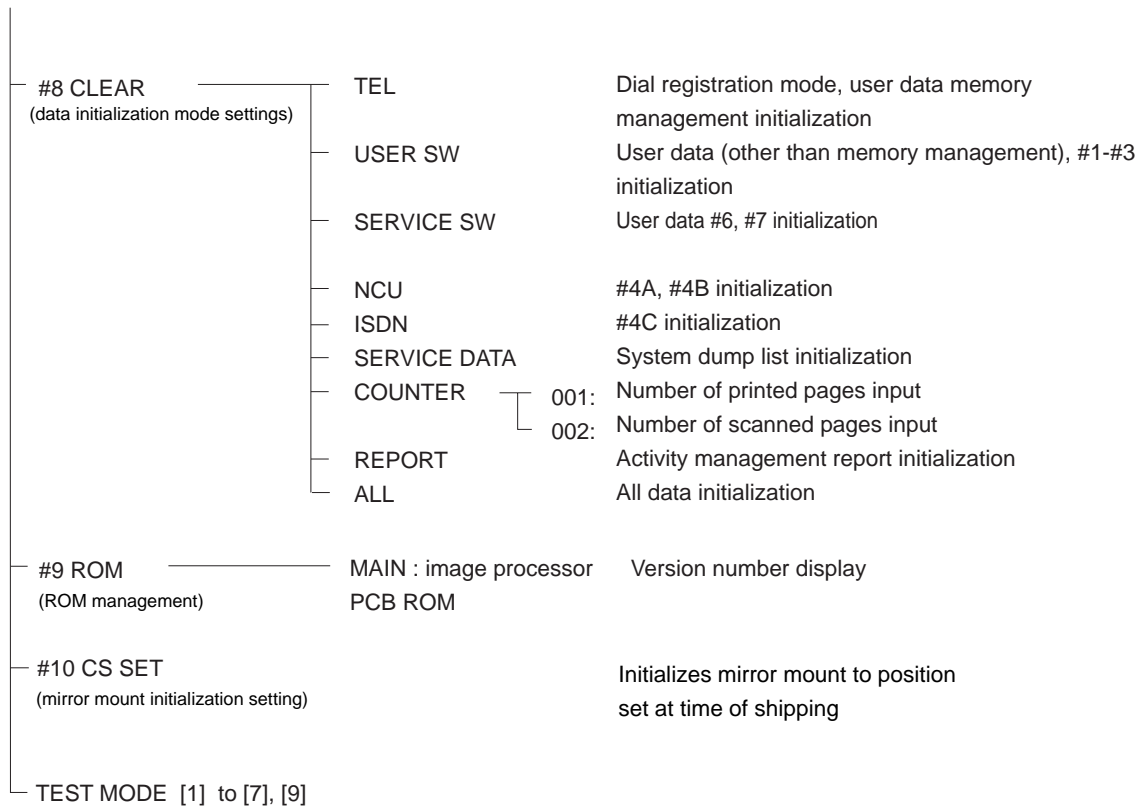


Figure 4-7

D. SSSW Default Setting

SSSW Default Setting

TYPE	EUROPE	U.K.	SWEDEN	SWISS	AUSTRIA	DENMARK
#1 SSSW						
SW01	00010000	00010000	00010000	00010000	00010000	00010000
SW02	00000000	10000000	10000000	10000000	10000000	10000000
SW03	00000000	00000000	00000000	00000000	00000000	00000000
SW04	10000000	10000000	10000010	10000010	10000010	10000000
SW05	00000000	00000000	00000000	00000000	00000000	00000000
SW06	10000000	10000000	10000000	10000000	10000000	10000000
SW07	00000000	00000000	00000000	00000000	00000000	00000000
SW08	00000000	00000001	00000001	00000001	00000001	00000001
SW09	00000000	00000000	00000000	00000000	00000000	00000000
SW10	00000000	00000000	00000000	00000000	00000000	00000000
SW11	00000000	00000000	00000000	00000000	00000000	00000000
SW12	00000010	00000010	00000010	00000010	00000010	00000010
SW13	00000000	00000000	00000000	00000000	00000000	00000000
SW14	00000010	00000000	00000000	00000000	00000000	00000000
SW15	00000000	00000000	00000000	00000000	00000000	00000000
SW16	00000011	00000011	00000011	00000011	00000011	00000011
SW17	00000000	00000000	00000000	00000000	00000000	00000000
SW18	00000000	00000000	00000000	00000000	00000000	00000000
SW19	00000000	00000000	00000000	00000000	00000000	00000000
SW20	00000000	00000000	00000000	00000000	00000000	00000000
SW21	00000000	00000000	00000000	00000000	00000000	00000000
SW22	00000000	00000000	00000000	00000000	00000000	00000000
SW23	00000000	00000000	00000000	00000000	00000000	00000000
SW24	00000000	00000000	00000000	00000000	00000000	00000000
SW25	00000000	00000000	00000000	00000000	00000000	00000000
SW26	00000000	00000000	00000000	00000000	00000000	00000000
SW27	00000000	00000000	00000000	00000000	00000000	00000000
SW28	00000000	00000000	00000000	00000000	00000000	00000000
SW29	00000000	00000000	00000000	00000000	00000000	00000000
⌋	⌋	⌋	⌋	⌋	⌋	⌋
SW50	00000000	00000000	00000000	00000000	00000000	00000000
#2 MENU						
005:	OFF	OFF	OFF	OFF	OFF	OFF
006:	DIAL	DIAL	DIAL	DIAL	DIAL	DIAL
007:	10	10	10	10	6	10
008:	3429	3429	3429	3429	3429	3429
009:	33.6	33.6	33.6	33.6	33.6	33.6
010:	25Hz	25Hz	25Hz	25Hz	25Hz	25Hz

SSSW Default Setting

TYPE	NORWAY	HOLLAND	BELGIUM	AUSTRALIA	FINLAND	N.Z.
#1 SSSW						
SW01	00010000	00010000	00010000	00010000	00010000	00010000
SW02	10000000	10000000	10000000	10000000	10000000	10000000
SW03	00000000	00000000	00000000	00000000	00000000	00000000
SW04	10000010	10000010	10000000	10000000	10000000	10000000
SW05	00000000	00000000	00000000	00000000	00000000	00000000
SW06	10000000	10000000	10000000	10000000	10000000	10000000
SW07	00000000	00000000	00000000	00000000	00000000	00000000
SW08	00000001	00000001	00000001	00000001	00000001	00000001
SW09	00000000	00000000	00000000	00000000	00000000	00000000
SW10	00000000	00000000	00000000	00000000	00000000	00000000
SW11	00000000	00000000	00000000	00000000	00000000	00000000
SW12	00000010	00000010	00000010	00000010	00000010	00000010
SW13	00000000	00000000	00000000	00000000	00000000	00000000
SW14	00000000	00000000	00000000	00000000	00000000	00000000
SW15	00000000	00000000	00000000	00000000	00000000	00000000
SW16	00000011	00000011	00000011	00000011	00000011	00000011
SW17	00000000	00000000	00000000	00000000	00000000	00000000
SW18	00000000	00000000	00000000	00000000	00000000	00000000
SW19	00000000	00000000	00000000	00000000	00000000	00000000
SW20	00000000	00000000	00000000	00000000	00000000	00000000
SW21	00000000	00000000	00000000	00000000	00000000	00000000
SW22	00000000	00000000	00000000	00000000	00000000	00000000
SW23	00000000	00000000	00000000	00000000	00000000	00000000
SW24	00000000	00000000	00000000	00000000	00000000	00000000
SW25	00000000	00000000	00000000	00000000	00000000	00000000
SW26	00000000	00000000	00000000	00000000	00000000	00000000
SW27	00000000	00000000	00000000	00000000	00000000	00000000
SW28	00000000	00000000	00000000	00000000	00000000	00000000
SW29	00000000	00000000	00000000	00000000	00000000	00000000
SW30	00000000	00000000	00000000	00000000	00000000	00000000
└	└	└	└	└	└	└
SW50	00000000	00000000	00000000	00000000	00000000	00000000
#2 MENU						
005:	OFF	OFF	OFF	OFF	OFF	OFF
006:	DIAL	DIAL	DIAL	DIAL	DIAL	DIAL
007:	10	10	10	12	10	13
008:	3429	3429	3429	3429	3429	3429
009:	33.6	33.6	33.6	33.6	33.6	33.6
010:	25Hz	25Hz	25Hz	25Hz	25Hz	25Hz

SSSW Default Setting

TYPE	ITALY	SPAIN	PORTUGAL	IRELAND	HONG KONG	MALAYSIA
#1 SSSW						
SW01	00010000	00010000	00010000	00010000	00010000	00010000
SW02	10000000	10000000	10000000	10000000	00000000	00000000
SW03	00000000	00000000	00000000	00000000	00000000	00000000
SW04	10000010	10000010	10000000	10000000	10000000	10000000
SW05	00000000	00000000	00000000	00000000	00000000	00000000
SW06	10000000	10000000	10000000	10000000	10000000	10000000
SW07	00000000	00000000	00000000	00000000	00000000	00000000
SW08	00000001	00000001	00000001	00000001	00000000	00000000
SW09	00000000	00000000	00000000	00000000	00000000	00000000
SW10	00000000	00000000	00000000	00000000	00000000	00000000
SW11	00000000	00000000	00000000	00000000	00000000	00000000
SW12	00000010	00000010	00000010	00000010	00000010	00000010
SW13	00000000	00000000	00000000	00000000	00000000	00000000
SW14	00000000	00000000	00000000	00000000	00000010	00000010
SW15	00000000	00000000	00000000	00000000	00000000	00000000
SW16	00000011	00000011	00000011	00000011	00000011	00000011
SW17	00000000	00000000	00000000	00000000	00000000	00000000
SW18	00000000	00000000	00000000	00000000	00000000	00000000
SW19	00000000	00000000	00000000	00000000	00000000	00000000
SW20	01000000	01000000	01000000	01000000	01000000	01000000
SW21	00000000	00000000	00000000	00000000	00000000	00000000
SW22	00000000	00000000	00000000	00000000	00000000	00000000
SW23	00000000	00000000	00000000	00000000	00000000	00000000
SW24	00000000	00000000	00000000	00000000	00000000	00000000
SW25	00000000	00000000	00000000	00000000	00000000	00000000
SW26	10000000	00000000	00000000	00000000	00000000	00000000
SW27	00000000	00000000	00000000	00000000	00000000	00000000
SW28	00000000	00000000	00000000	00000000	00000000	00000000
SW29	00000000	00000000	00000000	00000000	00000000	00000000
}	}	}	}	}	}	}
SW50	00000000	00000000	00000000	00000000	00000000	00000000
#2 MENU						
005:	OFF	OFF	OFF	OFF	OFF	OFF
006:	DIAL	DIAL	DIAL	DIAL	DIAL	DIAL
007:	6	10	10	10	10	10
008:	3429	3429	3429	3429	3429	3429
009:	33.6	33.6	33.6	33.6	33.6	33.6
010:	25Hz	25Hz	25Hz	25Hz	25Hz	25Hz

SSSW Default Setting

TYPE	HUNGARY	SAF	CHINA	GERMAN	FRANCE	SINGAPORE
#1 SSSW						
SW01	00010000	00010000	00010000	00010000	00010000	00010000
SW02	10000000	10000000	00000000	10000000	10000000	00000000
SW03	00000000	00000000	00000000	00000000	00000000	00000000
SW04	10000000	10000000	10000000	00000010	00000010	10000000
SW05	00000000	00000000	00000000	00000000	00000000	00000000
SW06	10000000	10000000	10000000	10000000	10000000	10000000
SW07	00000000	00000000	00000000	00000000	00000000	00000000
SW08	00000001	00000001	00000000	00000001	00000001	00000000
SW09	00000000	00000000	00000000	00000000	00000000	00000000
SW10	00000000	00000000	00000000	00000000	00000000	00000000
SW11	00000000	00000000	00000000	00000000	00000000	00000000
SW12	00000010	00000010	00000010	00000100	00000010	00000010
SW13	00000000	00000000	00000000	00000000	00000000	00000000
SW14	00000000	00000000	00000010	00000000	00000000	00000010
SW15	00000000	00000000	00000000	00000000	00000000	00000000
SW16	00000011	00000011	00000011	00000011	00000011	00000011
SW17	00000000	00000000	00000000	00000000	00000000	00000000
SW18	00000000	00000000	00000000	00000000	00000000	00000000
SW19	00000000	00000000	00000000	00000000	00000000	00000000
SW20	00000000	00000000	00000000	00000000	00000000	00000000
SW21	00000000	00000000	00000000	00000000	00000000	00000000
SW22	00000000	00000000	00000000	00000000	00000000	00000000
SW23	00000000	00000000	00000000	00000000	00000000	00000000
SW24	00000000	00000000	00000000	00000000	00000000	00000000
SW25	00000000	00000000	00000000	00000001	00000001	00000000
SW26	00000000	00000000	00000000	00000000	00000000	00000000
SW27	00000000	00000000	00000000	00000000	00000000	00000000
SW28	00000000	00000000	00000000	00000000	00000000	00000000
SW29	00000000	00000000	00000000	00000000	00000000	00000000
}	}	}	}	}	}	}
SW50	00000000	00000000	00000000	00000000	00000000	00000000
#2 MENU						
005:	OFF	OFF	OFF	OFF	OFF	OFF
006:	DIAL	DIAL	DIAL	DIAL	DIAL	DIAL
007:	10	10	13	10	10	12
008:	3429	3429	3429	3429	3429	3429
009:	33.6	33.6	33.6	33.6	33.6	33.6
010:	25Hz	25Hz	25Hz	25Hz	25Hz	25Hz

SSSW Default Setting

TYPE	CZECH	SLOVENIA
#1 SSSW		
SW01	00010000	00010000
SW02	10000000	10000000
SW03	00000000	00000000
SW04	10000000	10000000
SW05	00000000	00000000
SW06	10000000	10000000
SW07	00000000	00000000
SW08	00000001	00000001
SW09	00000000	00000000
SW10	00000000	00000000
SW11	00000000	00000000
SW12	00000010	00000010
SW13	00000000	00000000
SW14	00000000	00000000
SW15	00000000	00000000
SW16	00000011	00000011
SW17	00000000	00000000
SW18	00000000	00000000
SW19	00000000	00000000
SW20	00000000	00000000
SW21	00000000	00000000
SW22	00000000	00000000
SW23	00000000	00000000
SW24	00000000	00000000
SW25	00000000	00000000
SW26	00000000	00000000
SW27	00000000	00000000
SW28	00000000	00000000
SW29	00000000	00000000
}	}	}
SW50	00000000	00000000
#2 MENU		
005:	OFF	OFF
006:	DIAL	DIAL
007:	10	10
008:	3429	3429
009:	33.6	33.6
010:	25Hz	25Hz

SSSW Default Setting

TYPE	EUROPE	U.K.	SWEDEN	SWISS	AUSTRIA	DENMARK
#3 NUMERIC Param						
002:	10	10	10	10	10	10
003:	15	15	15	15	15	15
004:	12	12	12	12	12	12
005:	4	4	4	4	4	4
006:	4	1	4	4	4	4
009:	6	6	6	6	6	6
010:	5500	5500	6000	8500	5500	5500
011:	3500	3500	3500	3500	3500	3500
015:	120	120	120	120	120	120
016:	4	2	4	2	4	4
017:	100	40	100	100	100	75
018:	0	20	0	0	0	0
019:	400	200	400	400	400	250
020:	100	40	100	100	100	100
021:	0	20	0	0	0	0
022:	400	200	400	400	400	400
023:	4	4	4	4	4	4
024:	10	10	10	10	10	10
025:	60	60	60	60	60	60
026:	4	4	4	4	4	4
030:	20	20	20	20	20	20
051:	0	0	0	0	0	0
052:	0	0	0	0	0	0
053:	0	0	0	0	0	0
054:	0	0	0	0	0	0
055:	0	0	0	0	0	0
#4A SPECIAL						
SW01	00000000	00000000	00000000	00000000	00000000	00000000
SW04	00000000	00000000	00000000	00000000	00000000	00000000
#5 TYPE	EUROPE	U.K.	SWEDEN	SWISS	AUSTRIA	DENMARK

SSSW Default Setting

TYPE	NORWAY	HOLLAND	BELGIUM	AUSTRALIA	FINLAND	N.Z.
#3 NUMERIC Param						
002:	10	10	10	10	10	10
003:	15	15	15	15	15	15
004:	12	12	12	12	12	12
005:	4	4	4	4	4	4
006:	4	4	4	4	4	4
009:	6	6	6	6	6	6
010:	5500	6000	5500	5500	5500	5500
011:	3500	3500	3500	3500	3500	3500
015:	120	120	120	120	120	120
016:	2	4	2	4	4	2
017:	30	100	100	100	100	40
018:	30	0	0	0	0	20
019:	400	400	300	400	400	200
020:	30	100	100	100	100	40
021:	30	0	0	0	0	20
022:	400	400	300	400	400	200
023:	4	4	4	4	4	4
024:	10	10	10	10	12	10
025:	60	60	60	60	60	60
026:	4	4	4	4	4	4
030:	20	20	20	20	20	20
#4A SPECIAL						
SW01	00000000	00000000	00000000	00000000	00000000	00000000
SW04	00000000	00000000	00000000	00000000	00000000	00000000
#5 TYPE	NORWAY	HOLLAND	BELGIUM	AUSTRALIA	FINLAND	N.Z.

SSSW Default Setting

TYPE	ITALY	SPAIN	PORTUGAL	IRELAND	HONG KONG	MALAYSIA
#3 NUMERIC Param						
002:	10	10	10	10	10	10
003:	15	15	15	15	15	15
004:	12	12	12	12	12	12
005:	4	15	4	4	4	4
006:	4	3	4	4	1	4
009:	6	6	6	6	6	6
010:	5500	5500	5500	5500	5500	5500
011:	3500	3500	3500	3500	3500	3500
015:	120	120	120	120	120	120
016:	4	4	4	4	4	4
017:	30	150	40	40	40	100
018:	30	0	20	20	20	0
019:	400	300	200	200	200	400
020:	30	40	40	40	40	100
021:	30	10	20	20	20	0
022:	400	400	200	200	200	400
023:	4	4	4	4	4	4
024:	10	10	10	10	10	10
025:	60	60	60	60	60	60
026:	4	4	4	4	4	4
030:	20	20	20	20	20	20
#4A SPECIAL						
SW01	00000000	00000000	00000000	00000000	00000000	00000000
SW04	00000000	00000000	00000000	00000000	00000000	00000000
#5 TYPE	ITALY	SPAIN	PORTUGAL	IRELAND	HONG KONG	MALAYSIA

SSSW Default Setting

TYPE	HUNGARY	SAF	CHINA	GERMAN	FRANCE	SINGAPORE
#3 NUMERIC Param						
002:	10	10	10	8	8	10
003:	15	15	15	15	15	15
004:	12	12	12	6	12	12
005:	4	4	4	4	4	4
006:	4	4	4	4	4	4
009:	6	6	6	6	6	6
010:	5500	3500	4500	5500	4000	5500
011:	3500	3500	3500	3500	3800	3500
015:	120	120	120	120	120	120
016:	4	4	4	4	4	4
017:	100	40	100	40	30	100
018:	0	20	0	20	30	0
019:	400	200	400	200	400	400
020:	100	40	100	100	150	100
021:	0	20	0	0	0	0
022:	400	200	400	200	300	400
023:	4	4	4	9	6	4
024:	10	10	10	10	10	10
025:	60	60	60	60	60	60
026:	5	5	5	5	5	5
030:	20	20	20	20	20	20
#4A SPECIAL						
SW01	00000000	00000000	00000000	00000000	00000000	00000000
SW04	00000000	00000000	00000000	00000000	00000000	00000000
#5 TYPE	HUNGARY	SAF	CHINA	GERMAN	FRANCE	SINGAPORE

SSSW Default Setting

TYPE	CZECH	SLOVENIA
#3 NUMERIC		
Param		
002:	10	10
003:	15	15
004:	12	12
005:	4	4
006:	4	4
009:	6	6
010:	5500	5500
011:	3500	3500
015:	120	120
016:	4	4
017:	100	100
018:	0	0
019:	400	400
020:	100	100
021:	0	0
022:	400	400
023:	4	4
024:	10	10
025:	60	60
026:	4	4
030:	20	20
#4A SPECIAL		
SW01	00000000	00000000
SW04	00000000	00000000
#5 TYPE	CZECH	SLOVENIA

SSSW Default Setting

TYPE	EUROPE	U.K.	SWEDEN	SWISS	AUSTRIA	DENMARK
#7 PRINTER						
SW01	00000000	00000000	00000000	00000000	00000000	00000000
SW02	00000000	00000000	00000000	00000000	00000000	00000000
SW03	00000101	00000000	00000000	00000000	00000000	00000000
SW04	00000000	00000000	00000000	00000000	00000000	00000000
SW05	10000000	10000000	10000000	10000000	10000000	10000000
SW06	00000100	00000100	00000100	00000100	00000100	00000100
SW07	00000000	00000000	00000000	00000000	00000000	00000000
SW08	00000000	00000000	00000000	00000000	00000000	00000000
SW09	00000000	00000000	00000000	00000000	00000000	00000000
SW10	00000000	00000000	00000000	00000000	00000000	00000000
SW11	00000000	00000000	00000000	00000000	00000000	00000000
SW12	00000000	00000000	00000000	00000000	00000000	00000000
SW13	00000000	00000000	00000000	00000000	00000000	00000000
SW14	00000000	00000000	00000000	00000000	00000000	00000000
SW15	00000000	00000000	00000000	00000000	00000000	00000000
SW16	00000000	00000000	00000000	00000000	00000000	00000000
SW17	00000000	00000000	00000000	00000000	00000000	00000000
SW18	00000000	00000000	00000000	00000000	00000000	00000000
SW19	00000000	00000000	00000000	00000000	00000000	00000000
SW20	00000000	00000000	00000000	00000000	00000000	00000000
001:	15	15	15	15	15	15
002:	0	0	0	0	0	0
003:	0	0	0	0	0	0
004:	4	4	4	4	4	4
005:	7	7	7	7	7	7
006:	0	0	0	0	0	0
007:	0	0	0	0	0	0
008:	0	0	0	0	0	0
009:	0	0	0	0	0	0
010:	0	0	0	0	0	0
011:	0	0	0	0	0	0
012:	0	0	0	0	0	0
013:	0	0	0	0	0	0
014:	0	0	0	0	0	0
015:	11	11	11	11	11	11
016:	10	10	10	10	10	10
017:	10	10	10	10	10	10
018:	1	1	1	1	1	1
019:	1	1	1	1	1	1
020:	0	0	0	0	0	0
021:	0	0	0	0	0	0
022:	0	0	0	0	0	0
023:	0	0	0	0	0	0
024:	0	0	0	0	0	0
025:	0	0	0	0	0	0
026:	0	0	0	0	0	0
027:	0	0	0	0	0	0
028:	0	0	0	0	0	0
029:	0	0	0	0	0	0
030:	0	0	0	0	0	0

SSSW Default Setting

TYPE	NORWAY	HOLLAND	BELGIN	AUSTRALIA	FINLAND	N.Z.
#7 PRINTER						
SW01	00000000	00000000	00000000	00000000	00000000	00000000
SW02	00000000	00000000	00000000	00000000	00000000	00000000
SW03	00000000	00000000	00000000	00000000	00000000	00000000
SW04	00000000	00000000	00000000	00000000	00000000	00000000
SW05	10000000	10000000	10000000	10000000	10000000	10000000
SW06	00000100	00000100	00000100	00000100	00000100	00000100
SW07	00000000	00000000	00000000	00000000	00000000	00000000
SW08	00000000	00000000	00000000	00000000	00000000	00000000
SW09	00000000	00000000	00000000	00000000	00000000	00000000
SW10	00000000	00000000	00000000	00000000	00000000	00000000
SW11	00000000	00000000	00000000	00000000	00000000	00000000
SW12	00000000	00000000	00000000	00000000	00000000	00000000
SW13	00000000	00000000	00000000	00000000	00000000	00000000
SW14	00000000	00000000	00000000	00000000	00000000	00000000
SW15	00000000	00000000	00000000	00000000	00000000	00000000
SW16	00000000	00000000	00000000	00000000	00000000	00000000
SW17	00000000	00000000	00000000	00000000	00000000	00000000
SW18	00000000	00000000	00000000	00000000	00000000	00000000
SW19	00000000	00000000	00000000	00000000	00000000	00000000
SW20	00000000	00000000	00000000	00000000	00000000	00000000
001:	15	15	15	15	15	15
002:	0	0	0	0	0	0
003:	0	0	0	0	0	0
004:	4	4	4	4	4	4
005:	7	7	7	7	7	7
006:	0	0	0	0	0	0
007:	0	0	0	0	0	0
008:	0	0	0	0	0	0
009:	0	0	0	0	0	0
010:	0	0	0	0	0	0
011:	0	0	0	0	0	0
012:	0	0	0	0	0	0
013:	0	0	0	0	0	0
014:	0	0	0	0	0	0
015:	11	11	11	11	11	11
016:	10	10	10	10	10	10
017:	10	10	10	10	10	10
018:	1	1	1	1	1	1
019:	1	1	1	1	1	1
020:	0	0	0	0	0	0
021:	0	0	0	0	0	0
022:	0	0	0	0	0	0
023:	0	0	0	0	0	0
024:	0	0	0	0	0	0
025:	0	0	0	0	0	0
026:	0	0	0	0	0	0
027:	0	0	0	0	0	0
028:	0	0	0	0	0	0
029:	0	0	0	0	0	0
030:	0	0	0	0	0	0

SSSW Default Setting

TYPE	ITALY	SPAIN	PORTUGAL	IRELAND	HONGKONG	MALAYSIA
#7 PRINTER						
SW01	00000000	00000000	00000000	00000000	00000000	00000000
SW02	00000000	00000000	00000000	00000000	00000000	00000000
SW03	00000000	00000000	00000000	00000000	00000101	00000101
SW04	00000000	00000000	00000000	00000000	00000000	00000000
SW05	10000000	10000000	10000000	10000000	10000000	10000000
SW06	00000100	00000100	00000100	00000100	00000100	00000100
SW07	00000000	00000000	00000000	00000000	00000000	00000000
SW08	00000000	00000000	00000000	00000000	00000000	00000000
SW09	00000000	00000000	00000000	00000000	00000000	00000000
SW10	00000000	00000000	00000000	00000000	00000000	00000000
SW11	00000000	00000000	00000000	00000000	00000000	00000000
SW12	00000000	00000000	00000000	00000000	00000000	00000000
SW13	00000000	00000000	00000000	00000000	00000000	00000000
SW14	00000000	00000000	00000000	00000000	00000000	00000000
SW15	00000000	00000000	00000000	00000000	00000000	00000000
SW16	00000000	00000000	00000000	00000000	00000000	00000000
SW17	00000000	00000000	00000000	00000000	00000000	00000000
SW18	00000000	00000000	00000000	00000000	00000000	00000000
SW19	00000000	00000000	00000000	00000000	00000000	00000000
SW20	00000000	00000000	00000000	00000000	00000000	00000000
001:	15	15	15	15	15	15
002:	0	0	0	0	0	0
003:	0	0	0	0	0	0
004:	4	4	4	4	4	4
005:	7	7	7	7	7	7
006:	0	0	0	0	0	0
007:	0	0	0	0	0	0
008:	0	0	0	0	0	0
009:	0	0	0	0	0	0
010:	0	0	0	0	0	0
011:	0	0	0	0	0	0
012:	0	0	0	0	0	0
013:	0	0	0	0	0	0
014:	0	0	0	0	0	0
015:	11	11	11	11	11	11
016:	10	10	10	10	10	10
017:	10	10	10	10	10	10
018:	1	1	1	1	1	1
019:	1	1	1	1	1	1
020:	0	0	0	0	0	0
021:	0	0	0	0	0	0
022:	0	0	0	0	0	0
023:	0	0	0	0	0	0
024:	0	0	0	0	0	0
025:	0	0	0	0	0	0
026:	0	0	0	0	0	0
027:	0	0	0	0	0	0
028:	0	0	0	0	0	0
029:	0	0	0	0	0	0
030:	0	0	0	0	0	0

SSSW Default Setting

TYPE	HUNGARY	SAF	CHINA	GERMAN	FRANCE	SINGAPORE
#7 PRINTER						
SW01	00000000	00000000	00000000	00000000	00000000	00000000
SW02	00000000	00000000	00000000	00000000	00000000	00000000
SW03	00000000	00000000	00000101	00000000	00000000	00000101
SW04	00000000	00000000	00000000	00000000	00000000	00000000
SW05	10000000	10000000	10000000	10000000	10000000	10000000
SW06	00000100	00000100	00000100	00000100	00000100	00000100
SW07	00000000	00000000	00000000	00000000	00000000	00000000
SW08	00000000	00000000	00000000	00000000	00000000	00000000
SW09	00000000	00000000	00000000	00000000	00000000	00000000
SW10	00000000	00000000	00000000	00000000	00000000	00000000
SW11	00000000	00000000	00000000	00000000	00000000	00000000
SW12	00000000	00000000	00000000	00000000	00000000	00000000
SW13	00000000	00000000	00000000	00000000	00000000	00000000
SW14	00000000	00000000	00000000	00000000	00000000	00000000
SW15	00000000	00000000	00000000	00000000	00000000	00000000
SW16	00000000	00000000	00000000	00000000	00000000	00000000
SW17	00000000	00000000	00000000	00000000	00000000	00000000
SW18	00000000	00000000	00000000	00000000	00000000	00000000
SW19	00000000	00000000	00000000	00000000	00000000	00000000
SW20	00000000	00000000	00000000	00000000	00000000	00000000
001:	15	15	15	15	15	15
002:	0	0	0	0	0	0
003:	0	0	0	0	0	0
004:	4	4	4	4	4	4
005:	7	7	7	7	7	7
006:	0	0	0	0	0	0
007:	0	0	0	0	0	0
008:	0	0	0	0	0	0
009:	0	0	0	0	0	0
010:	0	0	0	0	0	0
011:	0	0	0	0	0	0
012:	0	0	0	0	0	0
013:	0	0	0	0	0	0
014:	0	0	0	0	0	0
015:	11	11	11	11	11	11
016:	10	10	10	10	10	10
017:	10	10	10	10	10	10
018:	1	1	1	1	1	1
019:	1	1	1	1	1	1
020:	0	0	0	0	0	0
021:	0	0	0	0	0	0
022:	0	0	0	0	0	0
023:	0	0	0	0	0	0
024:	0	0	0	0	0	0
025:	0	0	0	0	0	0
026:	0	0	0	0	0	0
027:	0	0	0	0	0	0
028:	0	0	0	0	0	0
029:	0	0	0	0	0	0
030:	0	0	0	0	0	0

SSSW Default Setting

TYPE	CZECH	SLOVENIA
#7 PRINTER		
SW01	00000000	00000000
SW02	00000000	00000000
SW03	00000000	00000000
SW04	00000000	00000000
SW05	10000000	10000000
SW06	00000100	00000100
SW07	00000000	00000000
SW08	00000000	00000000
SW09	00000000	00000000
SW10	00000000	00000000
SW11	00000000	00000000
SW12	00000000	00000000
SW13	00000000	00000000
SW14	00000000	00000000
SW15	00000000	00000000
SW16	00000000	00000000
SW17	00000000	00000000
SW18	00000000	00000000
SW19	00000000	00000000
SW20	00000000	00000000
001:	15	15
002:	0	0
003:	0	0
004:	4	4
005:	7	7
006:	0	0
007:	0	0
008:	0	0
009:	0	0
010:	0	0
011:	0	0
012:	0	0
013:	0	0
014:	0	0
015:	11	11
016:	10	10
017:	10	10
018:	1	1
019:	1	1
020:	0	0
021:	0	0
022:	0	0
023:	0	0
024:	0	0
025:	0	0
026:	0	0
027:	0	0
028:	0	0
029:	0	0
030:	0	0

E. Parameter settings

1. SSSW settings

The registration and setting items on this switch are composed of 8 bit switches.
The bit switches indicated on the display are as shown below. Each bit is set to 0 or 1.

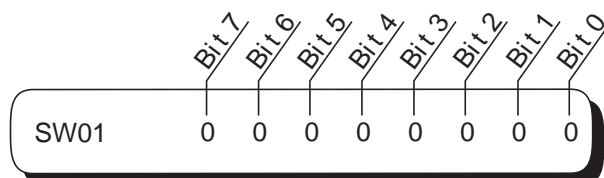


Figure 4-8

Information about the bit switches is displayed in the table below.

Bit	Function	1	0
0	Service error code	Output	Not output
1	Error dump list	Output	Not output
2	Secret ID number when confidential reception image is forwarded according to confirmation of memory contents	Do not input	Input
3	Reserved		
4	Reserved		
5	Reserved		
6	Date & Time setting restriction	Setting restricted	Setting possible
7	Restrict user settings	Setting possible	Setting restricted

Table 4-1

#1 SSSW-SW01: Error, copy management

SW No.	Bit No.	Function	Bit setting	
			1	0
01	0	Error code for service engineer	Output	Do not output
	1	Error dump list	Output	Do not output
	2	Secret code function when confidential reception image is forwarded by to the memory management function	Do not input	Input
	3	Reserved		
	4	Reserved		
	5	Reserved		
	6	Date & Time setting restriction	Setting restricted	Setting possible
	7	Restrict user settings	Setting possible	Setting restricted

Table 4-2**[Bit 0]**

Service error code output selection. When “output” is selected, the service error code is indicated on the display and in the report.

[Bit 1]

Error dump list output selection. When “output” is selected, an error dump list is attached to the error transmission report and the reception results report at the time of the error, and output.

[Bit 2]

Selects whether or not to input the secret code when confidential reception images are forwarded by using the memory reference button, or when the images are deleted or printed. When “do not input” is selected, the confidential reception image will be forwarded, deleted or printed, without the secret code being input.

[Bit 6]

When “Setting restricted” is selected, certain items can not be set by the user, depending on the country setting.

When “Setting possible” is selected, all items are user selectable, regardless of the country type setting.

[Bit 7]

When “setting restricted” is selected, certain items can not be set by the user, depending on the country setting.

When “setting possible” is selected, all items are user selectable, regardless of the country type setting.

#1 SSSW-SW02: Network connection condition settings

SW No.	Bit No.	Function	Bit setting	
			1	0
02	0	Startup when there is faulty memory clear report output	Restrict	Do not restrict
	1	Reserved		
	2	Reserved		
	3	Reserved		
	4	Reserved		
	5	Reserved		
	6	Reserved		
	7	Reserved		

Table 4-3

[Bit 0]

Selects whether or not to go into standby when the memory clear list is not output when the machine is powered on, after an error occurs. After the screen data are cleared by selecting "Prohibit", turn on the power and clear the error. Then the machine will go into standby after the memory clear report is output.

Reference:

Actions when "Prohibit" is selected

- a) Error occurrence: will not receive at this time even if a transmission arrives.
- b) After error clearing: memory clear report is output automatically. When an error occurs during output, return to action a).

#1 SSSW-SW03: Echo correction settings

SW No.	Bit No.	Function	Bit setting	
			1	0
03	0	Reserved		
	1	High-speed transmission echo protect tone	Send	Do not send
	2	Reserved		
	3	Reserved		
	4	Transmission mode: international transmission (1)	Yes	No
	5	Transmission mode: international transmission (2), or international transmission (3)	Yes	No
	6	Transmission mode	International transmission (3)	International transmission (2)
	7	Tonal signal before CED signal transmission	Send	Do not respond

Table 4-4

[Bit 1]

Selects whether or not to transmit a echo protect tone with the high-speed V.29 (baud rate is 9600bps or 7200 bps) modem signal.

When errors occur frequently during transmission due to telephone line conditions, select echo protect tone “send”. When “send” is selected, an unmodulated carrier is transmitted as a synchronising signal before sending the image at 200ms intervals.

MEMO:

Error codes for errors which occur at transmission due to telephone line conditions:
##100, ##104, ##281, ##283, ##750, ##755, ##760, ##765

[Bit 4,5,6]

Selects transmission mode; international transmission (1), international transmission (2) or international transmission (3).

When errors occur frequently due to echo when sending transmissions overseas, set the transmission mode by dial registration or service software switch.

MEMO:

Error codes for errors which occur at transmission due to echo

##005, ##100, ##101, ##102, ##104, ##210, ##280, ##281, ##283, ##284, ##750, ##760, ##765, ##774, ##779, ##784, ##794

Settings at dial registration (user level):

When registering the 1-touch dial or coded speed dial transmission mode, set to international transmission (1). If the error is not resolved, set to international transmission (2) and international transmission (3), in that order. Transmission modes set for 1-touch dial or coded speed dial override service software switch settings.

When transmission modes are selected by these switches, international transmission mode can also be set using transmission via the numeric key pad. Refer to the chart below for settings for transmission modes.

Transmission mode \ Bit	7	6	5	4	3	2	1	0
International transmission (1)	*	0	0	1	0	0	*	0
International transmission (2)	*	0	1	0	0	0	*	0
International transmission (3)	*	1	1	0	0	0	*	0

International transmission (1): ignores the first DIS signal sent by the reception machine.

International transmission (2): Sends a 1850Hz tonal signal at the time of DIS signal transmission.

International transmission (2): Sends a 1650Hz tonal signal at the time of DIS signal transmission.

Table 4-5

[Bit 7]

Selects whether or not to send a 1080Hz tonal signal before sending the CED signal.

MEMO:

Error codes for errors which occur at reception

#005, ##101, ##106, ##107, ##114, ##200, ##201, ##790

#1 SSSW-SW04 communications trouble remedy setting

SW No.	Bit No.	Function	Bit setting	
			1	0
04	0	Reserved		
	1	CI signal frequency check	Check	Do not check
	2	Number of protocol signal's final flag sequences	2	1
	3	Reception mode after CFR signal transmission	High-speed	High-speed / low-speed
	4	Time for which low-speed signal is ignored after CFR signal transmission	1500ms	700ms
	5	CI signal frequency check when PBX is set	Check	Do not check
	6	CNG signal at manual transmission	Do not send	Send
	7	CED signal at manual reception	Do not send	Send

Table 4-6

[Bit 1]

Select whether or not to check the CI signal frequency upon automatic reception.

If "check" is selected, the upper and lower limits of the CI signal frequency will be checked when a transmission arrives. The fax will switch to automatic reception only when both signals are within the standard range.

[Bit2]

You can select the number of final flag sequences for the protocol signal (transmission speed is 300 bps).

When the procedure signal sent out by this unit is not properly received by the destination machine, set the number to 2.

MEMO:

Error codes for errors which occur upon transmission

##100, ##280, ##281, ##282, ##283, ##750, ##754, ##755, ##758, ##759, ##760, ##763, ##764, ##765, ##768, ##769, ##770, ##773, ##775, ##778, ##780, ##783, ##785, ##788

[Bit 3]

Selects the reception mode after CFR signal transmission.

When errors due to the telephone line condition occur frequently in reception, select “high-speed” reception mode and set the user data ECM reception setting off.

MEMO:

Error codes for errors which occur in reception due to telephone line trouble

##107, ##114, ##201

Change Bit 4 before changing this bit. If errors continue to occur, change this bit.

When “high-speed” is selected, only high-speed (image) signals will be received after CFR signal transmission.

[Bit 4]

Selects the length of time to ignore a low-speed signals after CFR signal transmission.

When the condition of the telephone line is not good and it is difficult to receive image signals, set to 1500 ms.

[Bit 5]

Selects whether or not to perform CI signal frequency check during PSTN/PBX in user data set to PBX.

[Bit 6]

Selects whether or not to transmit a CNG signal in manual transmission.

When errors occur frequently, check whether “send” CNG signal is selected.

[Bit7]

Selects whether or not to transmit a CED signal in manual reception.

When the other party’s machine does not start transmission when manual reception is being performed, select “send”.

#1 SSSW-SW05 Standard function (DIS signal) setting

SW No.	Bit No.	Function	Bit setting	
			1	0
05	0	Reserved		
	1	Reserved		
	2	Reserved		
	3	Bit transmission of DIS signal bit 33 and later	Prohibit	Do not prohibit
	4	Cut paper declaration by DIS signal	A4/B4 size	Any size
	5	Reserved		
	6	Reserved		
	7	Reserved		

Table 4-7

[Bit 3]

Bit transmission of DIS signal bit 33 and later.

Note:

When "prohibit" is selected, it becomes impossible to use superfine reception and the memory box function of other companies' machines.

[Bit 4]

Selects that the paper declared by the DIS signal is cut paper. When receiving long documents, select A4/B4 size to have the document divided by the transmitting machine.

MEMO:

There are cases in which long documents are not divided, depending on the type of machine which is transmitting.

#1 SSSW-SW06: Reading condition settings

SW No.	Bit No.	Function	Bit setting	
			1	0
06	0	Reserved		
	1	Reserved		
	2	Document length restriction	Do not restriction	1 meter or less
	3	Reserved		
	4	Document scanning width	Letter	A4 Prohibit
	5	Reserved		
	6	Reserved		
	7	Halftone and superfine	Allow	Prohibit

Table 4-8

[Bit 2]

Selects the document length limit.

[Bit 4]

Selects the document scanning width. When “letter” is selected, letter size documents are read at letter width (214 mm).

[Bit 7]

Selects whether or not superfine mode can be set when an image quality mode other than TEXT mode is selected.

#1 SSSW-SW07: closed connection function setting

SW No.	Bit No.	Function	Bit setting	
			1	0
07	0	Setting prohibited		
	1	Setting prohibited		
	2	Setting prohibited		
	3	Setting prohibited		
	4	Setting prohibited		
	5	Setting prohibited		
	6	Closed network connection reception	Yes	No
	7	Closed network connection transmission	Yes	No

Table 4-9

The closed network connection function is a function for communication only with specified faxes. This function is only available for specified faxes with machines that have the closed network connection function.

[Bit 6]

Selects whether or not to use closed network connection reception function reception. When you wish to receive a fax only from a specified machine, select “yes” and set the same ID as the transmitting machine. The ID setting is set by the SW08 bit switch 8.

[Bit 7]

Selects whether or not to use closed network connection transmission function transmission.

When you wish to send a fax only to a specified machine, select “yes” and set the same ID as the reception machine.

The ID setting is set by the SW08 bit switch 8.

If the ID does not match that of the reception machine, an error code (#039) will be displayed.

#1 SSSW-SW08: closed connection ID settingClosed network connection ID bit 7

SW No.	Bit No.	Function	Bit setting	
			1	0
08	0	Closed network connection ID bit 0		
	1	Closed network connection ID bit 1		
	2	Closed network connection ID bit 2		
	3	Closed network connection ID bit 3		
	4	Closed network connection ID bit 4		
	5	Closed network connection ID bit 5		
	6	Closed network connection ID bit 6		
	7	Closed network connection ID bit 7		

Table 4-10

When using closed network connection function, set these switches to the same ID as the other party's machine.

#1 SSSW-SW09: Display indicator settings

SW No.	Bit No.	Function	Bit setting	
			1	0
09	0	Reserved		
	1	Reserved		
	2	Reserved		
	3	Reserved		
	4	Reserved		
	5	Consecutive polling reception	Yes	No
	6	Reserved		
	7	Reserved		

Table 4-11

[Bit 5]

Selects whether or not to perform consecutive polling reception.

Yes: calls until the stop key is pressed.

No: consecutive polling reception is not performed.

#1 SSSW-SW12: Page timer settings

SW No.	Bit No.	Function	Bit setting	
			1	0
12	0	Page time out interval when transmitting (none when set to image mode)	1	0
	1		1	0
	2	Page time out interval when transmitting (when set to image mode and A4 document mode)	1	0
	3		1	0
	4	Page time out interval when receiving	1	0
	5		1	0
	6	Reserved		
	7	Separate transmission and reception page timer settings	Set	Do not set

Table 4-12

These switches can set the page timer. When transmission or reception takes more than 32 minutes on this machine, communications are stopped. When the timer is set to other than 32 minutes, refer to the following page and set the appropriate time.

When “do not set” is selected for Bit 7, the one page time out interval is controlled by Bit 0 and Bit 0, regardless of the communication mode.

Transmission/reception time out interval

Time out interval \ Bit	7	6	5	4	3	2	1	0
8 minutes	0	*	*	*	*	*	0	0
16 minutes	0	*	*	*	*	*	0	0
32 minutes	0	*	*	*	*	*	1	0
64 minutes	0	*	*	*	*	*	1	1

Time out interval when transmitting (no image mode setting)

Time out interval \ Bit	7	6	5	4	3	2	1	0
8 minutes	1	*	*	*	*	*	0	0
16 minutes	1	*	*	*	*	*	0	1
32 minutes	1	*	*	*	*	*	1	0
64 minutes	1	*	*	*	*	*	1	1

Time out interval when transmitting (image mode AA)

Time out interval \ Bit	7	6	5	4	3	2	1	0
8 minutes	1	*	*	*	0	0	*	*
16 minutes	1	*	*	*	0	1	*	*
32 minutes	1	*	*	*	1	0	*	*
64 minutes	1	*	*	*	1	1	*	*

Time out interval when receiving

Time out interval \ Bit	7	6	5	4	3	2	1	0
8 minutes	1	*	0	0	*	*	*	*
16 minutes	1	*	0	1	*	*	*	*
32 minutes	1	*	1	0	*	*	*	*
64 minutes	1	*	1	1	*	*	*	*

Table 4-13

#1 SSSW-SW16: Add paper indicator setting

SW No.	Bit No.	Function	Bit setting	
			1	0
25	0	Add paper indicator judgment conditions	No paper in one location	No paper of the same size
	1	Multi-feeder at time of add paper judgment	Do not include in judgment conditions	Include in judgment conditions
	2	Reserved		
	3	Reserved		
	4	Reserved		
	5	Reserved		
	6	Reserved		
	7	Reserved		

Table 4-14

[Bit 0]

Selects add paper judgment conditions.

No paper in one location: all cassettes are subject to judgment

No paper of same size: When there is paper remaining of the same size as the paper that was used up, the add paper indicator does not display.

[Bit 1]

Selects user mode>01 data registration>05 printer settings>06 name stack size>02 on.

Selects whether or not to include the multi-feeder in the add paper judgment conditions when set to the size of paper used in the multi-feeder.

Effective when SW16 Bit 0 is 0.

#1 SSSW-SW25: Report display function settings

SW No.	Bit No.	Function	Bit setting	
			1	0
25	0	Transmission telephone numbers displayed in the report	Other party's number	Calling party's number
	1	Other party abbreviations displayed in the report	Leave	Clear
	2	Reserved		
	3	Message language switch	Display	Do not display
	4	Reserved		
	5	Reserved		
	6	Reserved		
	7	Reserved		

Table 4-15

[Bit 0]

Selects transmitting telephone numbers displayed in the report after transmission has ended.

Calling party's number: displays the Calling side's telephone number in the report.

Destination party's telephone number: displays the telephone number (CSI signal data) sent from the destination party's machine in the report.

MEMO:

Even if calling party's number is selected, when the call is not dialed by one-touch dialling or speed dialling, the telephone number (CSI data signal) sent by the other party's machine is displayed in the report.

[Bit 1]

Selects other party's abbreviation displayed in the report after transmission has ended.

Registration abbreviation: displays the other party's abbreviation entered in 1-touch dialling and coded speed dialling in the report.

Other party's machine's abbreviation: displays the abbreviation (NSF signal data) sent from the other party's machine in the report.

MEMO:

Even if "Registration abbreviation" is selected, when the other party's abbreviation is not entered in the Calling side's 1-touch or coded speed dialling, the abbreviation (NSF signal data) sent from the other party's machine is displayed in the report.

[Bit 3]

When "display" is selected, "06 message language" is displayed in the user mode's system settings.

#1 SSSW-SW26: Transmission function settings

SW No.	Bit No.	Function	Bit setting	
			1	0
26	0	Forced direct transmission function	Set	Do not set
	1	Reserved		
	2	Reserved		
	3	Reserved		
	4	Reserved		
	5	Reserved		
	6	Destination at the time broadcast transmission is interrupted	One destination	All destinations
	7	Error report for time of transmission interruption	Do not output	Output

Table 4-16**[Bit 0]**

Selects whether or not to set the forced direct transmission function.

Set: All transmissions other than broadcast transmissions are sent directly.

[Bit 6]

Selects whether or not to interrupt communications to all destinations when broadcast transmission is interrupted.

[Bit 7]

Selects whether or not to output an error report when the stop key is pressed to interrupt transmission.

#1 SSSW-SW28: V.8/V.34 protocol settings

SW No.	Bit No.	Function	Bit setting	
			1	0
28	0	Calling side's V.8 protocol	No	Yes
	1	Called side's V.8 protocol	No	Yes
	2	Calling side's V.8 late start	No	Yes
	3	Called side's V.8 late start	No	Yes
	4	Fall back from V.34 receiving side	Prohibit	Do not prohibit
	5	Reserved		
	6	Reserved		
	7	Reserved		

Table 4-17**[Bit 0]**

Selects whether or not to use V.8 protocol.

“No”: Even when V.8 protocol is received from receiving side, V.8 protocol is disabled, protocol starts from V.21.

[Bit 1]

Selects whether or not to use V.8 protocol in reception.

“No”: V.8 protocol is disabled. Starts from V.21 protocol.

[Bit 2]

Selects whether or not to use V.8 protocol when an ANSam signal cannot be recognized from the reception side and V.8 protocol is declared by the reception side in the DIS signal.

“Yes”: sends a CI signal in response to the called side's DIS signal, then uses V.8 protocol.

“No”: does not send a CI signal in response to the called side's DIS signal. Uses V.21 protocol.

When sending a manual transmission, V.8 late start is disabled regardless of this setting.

[Bit 3]

Selects whether or not to declare V.8 in the DIS signal when the ANSam signal can not be detected by the transmitting machine.

“Yes”: declares V.8 protocol in the DIS signal. Uses V.8 protocol after a CI signal is sent by the transmitting machine.

“No”: does not declare V.8 protocol in the DIS signal. Uses V.21 protocol.

When sending a manual transmission, V.8 late start is disabled regardless of this setting.

[Bit 4]

Selects whether or not to prohibit fall back from a V.34 reception machine.

Prohibit: Do not fall back from the receiving side.

2. Menu switch settings (#2 MENU)

No.	Function	Selection range
005	NL equalizer	ON/OFF
006	Telephone line monitor	DIAL/ SERVICEMAN [1],[2]/OFF
007	Transmission level (ATT)	8 to 15
008	V.43 modulation speed upper limit	2400 to 3429baud
009	V.34 data speed upper limit	2.4 to 33.6Kbps

Table 4-18

[Bit 005]

Selects NL equalizer ON/OFF.

Select NL equalizer ON when errors occur frequently due to telephone line conditions during communications.

MEMO:

Error codes for errors which occur during transmission due to telephone line conditions

##100, ##101, ##102, ##104, ##201, ##281 ##282, ##283, ##750, ##755, ##760, ##765, ##774, ##779, ##784, ##789

Error codes for errors which occur during reception due to telephone line conditions

##103, ##107, ##114, ##201, ##790, ##793

[Bit 006]

Selects telephone line monitor setting.

DIAL: telephone line monitoring sound is output from the speaker from initiation of communications until DIS signal.

SERVICEMAN [1]/[2]: telephone line monitoring sound is output from the speaker from initiation of communications until end of communications.

OFF: Monitor sound is not output.

[Bit 007]

Sets the transmission level (ATT).

When errors occur frequently due to telephone line conditions during communications, raise the transmission level.

MEMO:

Error codes for errors which occur during transmission, due to telephone line conditions

##100, ##101, ##102, ##104, ##201, ##280, ##281 ##282, ##283, ## 284, ##750, ##752, ##754, ##755, ##757, ##759, ##760, ##762, ##764, ##765, ##767, ##769, ##770, ##772, ##774, ##775, ##777, ##779, ##780, ##782, ##784, ##785, ##787, ##789

Error codes for errors which occur during receiving, due to telephone line conditions

##103, ##106, ##107, ##201, ##793

[Bit 008]

Selects the modulation speed (baud rate) occurring in the V.34 primary channel.

[Bit 009]

Selects the data transmission speed upper limit occurring in the V.34 primary channel from the 2.4K-33.6Kbps range, at 2400bps intervals.

3. Numeric settings by type (#3 NUMERIC Param.)

No.	Function	Selection range
002	RTN signal transmission condition (1)	1 to 99 (%)
003	RTN signal transmission condition (2)	2 to 99 (times)
004	RTN signal transmission condition (3)	1 to 99 (lines)
005	NCC pause time setting (before ID CODE)	1 to 60 seconds
006	NCC pause time setting (after ID CODE)	1 to 60 seconds
009	Compare number of digits in transmitter telephone number and receiver telephone number	1 to 20 (digits)
010	T0 timer	1 to 9999 (10ms)
011	T1 timer	1 to 9999 (10ms)
015	Hooking detection interval	1 to 999 (\times 10ms)
027	V.21 low-speed/command preamble detection time	15 \times 25 (\times 10ms)

Table 4-19

[No.02, 03, 04]

Sets RTN signal transmission conditions. When errors occur frequently in receiving due to RTN signal output errors, raise these parameters and ease the RTN signal transmission conditions.

MEMO:

Error codes for errors which occur in reception due to RTN signal output error: ##104, ##107, ##114, ##201

RTN signal output condition (1) : the proportion of number of error lines compared to the total number of lines per one page of received images.

RTN signal output condition (2) : the burst error* reference value**

RTN signal output condition (3) : the number of errors not meeting the burst error reference value

* burst error : transmission error occurring over consecutive lines

** Reference value : When set to 15, this will recognize a burst error-when a transmission error occurs for 15 consecutive lines.

When one of these conditions are detected during receiving of an image signal, a RTN signal is sent out after the transmitting machine's procedure signal has been received. When these parameters are raised, the RTN signal becomes difficult to send out.

[No. 05]

Sets the pause time that is automatically entered between the access code and ID code when dialing on a NCC (New Common Carrier) line.

[No. 06]

Sets the pause time that is automatically entered between the ID code and other party's telephone number when dialing on a NCC (New Common Carrier) line.

[No. 09]

Selects the number of digits to compare when comparing telephone numbers entered into this machine's one-touch and speed dialing functions and the other party's TSI, when the designated telephone number is restricted by the memory box function, or direct mail prevention function setting.

Change this parameter before entering telephone numbers.

[No. 10]

Sets the line connection identifier time. When errors occur frequently during communications due to telephone line conditions, raise this parameter.

MEMO:

“The waiting time from the end of transmission of the selection signal to detection of a significant signal at time of transmission” which was previously set by parameter 10 as T1 timer, has, by the recommendation of ITU-T, become T0 timer. Therefore for this machine, parameter 10 has been changed to T0 timer and the default time out interval has been changed from 35 seconds to 55 seconds.

Furthermore, the transmitting party's T1 timer (the waiting time from when CED, V21 flag or ANSam's significant signal is detected until the next significant signal is detected) is fixed at 35 seconds.

[No. 11]

Sets the receiver's T1 timer (the waiting time from the start of DIS transmission to the receipt of a significant signal).

When errors occur frequently during receiving due to telephone line connection conditions, raise this parameter.

[No. 13]

Sets the maximum time allowed for receiving per one line of image data when receiving image data. When the image data receiving time per line is long, increase this parameter's setting and increase the maximum time allowed for receiving.

[No. 15]

Sets hooking detection time. When changing the hooking timing, adjust this parameter. When it is set to 50, it recognizes hooking longer than 500ms as being “on hook”.

[No. 27]

Use it to change the period of time spent to detect the header flag of a V.21 low-speed command. Decrease it so that it is as close to 15 (150ms) as possible if detection fails because of such effects (as echoes as when communicating with an overseas party). On the other hand, increase it so that it is as close to 25 (250ms) as possible is a tone signal or the like is wrongly identified as the header flag of a low-speed command.

4. Special settings (#4A SPECIAL)

#4A SPECIAL-SW01: Data encoding methods/Canon original abbreviated protocol settings

SW No.	Bit No.	Function	Bit setting	
			1	0
01	0	MR, MMR encoding methods	Prohibit	Do not prohibit
	1	MMR encoding method	Prohibit	Do not prohibit
	2	Hyper control	No	Yes
	3	Setting prohibited		
	4	Setting prohibited		
	5	Setting prohibited		
	6	Setting prohibited		
	7	Setting prohibited		

Table 4-20

[Bit 0]

Sets the data encoding method for communication. When “prohibit” is selected, encoding is limited to MH encoding.

[Bit 1]

Sets the data encoding method for communication. When “prohibit” is selected, encoding is limited to MH or MR encoding. When faulty images result from MMR encoding, select “prohibit.” This bit is effective when Bit 0 is set to “do not prohibit.”

MEMO:

The encoding methods are as shown below, depending on the combination of Bit 0 and Bit 1 settings.

Bit1	Bit0	Selected encoding method
0	0	MMR, MR or MH
0	1	MR or MH
1	0	MH
1	1	MH

Table 4-21

[Bit 2]

Selects whether or not to perform hyper control at time of communications.

#4A SPECIAL-SW04: Completion tone settings

SW No.	Bit No.	Function	Bit setting	
			1	0
04	0	Setting prohibited		
	1	Completion tone when receiving from memory	Ring	Do not ring
	2	Receiving print completion tone	Ring	Do not ring
	3	Setting prohibited		
	4	Setting prohibited		
	5	Setting prohibited		
	6	Setting prohibited		
	7	Setting prohibited		

Table 4-22

[Bit 1]

Sets whether or not to ring the completion tone when receiving is finished when receiving from memory.

[Bit 2]

Sets whether or not to ring the completion tone when received image printing is finished.

5. Country type setting (#5 TYPE)

When country type setting is performed, the standard values for each item's parameters in #1 SSSW to #4 NCU are entered at one time.

6. Document scanning function setting (#6 SCANNER)

When this item's setting is changed, the quality of scanned images may deteriorate. Do not change this setting other than to adjust "8 CCD" when adjusting image positioning.

7. Printer parameter settings (#7 PRINTER)

a. #1 SSSW setting

#7 PRINTER- #1 SSSW-SW05 (reduction, cassette selection setting)

SW No.	Bit No.	Function	Bit setting	
			1	0
05	0	Priority on LTR	Yes	No
	1	Priority on LGL	Yes	No
	2	Report output when report paper has run out	Do not output	Cassette output from other than the specified cassette
	3	Reserved		
	4	Reserved	No	Yes
	5	Reduction and printing on LTR		
	6	Cassette when report cassette is specified	Set	Do not set
	7	Sub-scanning priority record	Set	Do not set

Table 4-23

[Bit 0]

Use it to specify whether to give priority to LTRR over LTRR or LGL when data which may be printed on either by division is received

[Bit 1]

Use it to specify whether to give priority to LGL over A4R or LTRR when data which may be printed on either by division is received

The order of priority will be as follows according to the bit 0 and 1 settings:

Bit 1	Bit 0	Order of priority
0	0	A4R → LTRR → LGL
0	1	LTRR → A4R → LGL
1	0	LGL → LTRR → A4R
1	1	LTRR → LGL → A4R

If sub scanning is given priority, the order will be LTRR → A4R → LGL even when bit 1 and 0 are set to 0.

[Bit 2]

Selects whether or not to output a report in a cassette other than the one selected when a cassette is specified for report output by user data but there is no paper in the specified cassette.

[Bit 5]

Use it to specify whether to reduce and print on LTRR paper.

If printing on non-LTRR paper without reduction is desired for a long-size page, be sure to select "No."

[Bit 6]

When a report cassette has been specified, a report can only be output from the specified cassette.

[Bit 7]

Selects whether or not to set sub-scanning priority record.

"Set": When B4 and A4R size paper are set and an A4 length* image is received, use B4 paper to print.

"Do not set": When B5 horizontal and A4R paper are set and a B4 sized image is received, divide the image to B5 horizontal paper size and print.

* An image whose length is less than B4 size, an image which cannot be reduced and printed on A4R paper.

#7 PRINTER-#1 SSSW-SW06 (reduction setting)

SW No.	Bit No.	Function	Bit setting	
			1	0
06	0	Reduction when image is divided	Prohibit	Do not prohibit
	1	Reserved		
	2	Reserved		
	3	Reserved		
	4	Reserved		
	5	Reserved		
	6	Reserved		
	7	Reserved		

Table 4-24

[Bit 0]

Selects whether or not to reduce the received image when it is possible to make a divided print when the length of the document received has been reduced to the maximum reduction rate (70%).

Prohibit: Divide the document and print on the following page. (original size)
For example, when a document the length of 2.5 A4R pages is received, the document will be divided onto three A4R pages and printed. At that time, the image will be output at the original size.

Do not prohibit: Reduce the image and print within the page when a divided print is made.
For example, when a document the length of 2.5 A4R pages is received, the image is reduced 70% and the document is printed out on two A4R size pages.

b. #2 NUMERIC Param. (Numeric parameter settings)

No.	Function	Selection range
01	Deletion range of printed image when a long length image is received	0 to 9999
04	Leading edge margin	0 to 9999
05	Trailing edge margin 1	0 to 9999
14	Trailing edge margin 2	0 to 9999

Table 4-25

[No. 1]

Sets the deleted image range when a long length image is received.

When you wish to keep the received image's trailing edge even when receiving images of a length that is over the effective record length, lower this parameter and reduce the deletion range.

MEMO:

When a document whose length exceeds the effective recording length is received, if the image length is within a range of 14 mm* of the effective recording length, this range will be deleted and the image printed. When the image length is more the 14mm beyond the effective recording length, the received image will be reduced to a maximum of 75%** and printed on one page. However, when the document exceeds the effective recording length even after reduction, the image will not be reduced, but will be divided and printed.

* Initial setting value

** When the user mode's image reduction mode is set to automatic.

[No. 4]

Sets the effective recording length's leading edge margin.

[No. 5]

Sets the effective recording length's trailing edge margin.

[No. 14]

Sets the trailing edge margin. The length of the margin changes according to the paper length.

A5 Setting value $\times (148.5/297)$

A3 Setting value $\times (420/297)$

A4R Setting value $\times (297/210)$

The combined value of Bit 5 and Bit 14's settings become the trailing edge margin.

c. #3 PRINT COUNT

Displays the number of pages printed.

d. #4 PRINT RESET

Resets the printer.

8. Initialization of setting values (#8 CLEAR)

Selecting the setting items below initializes the data by each item..

Clearing setting items and numeric for the parameters will set the items to values set at factory shipping.

Item	Data that are initialized
TEL	Data entered by TEL Entry. One-touch dial, speed dial, group dial entries. Data in user data memory management.
USER SW	Data entered in user data and in SSSW#1-#3. Data in the user data memory management will not be cleared. Accumulated image data in the memory are cleared.
SERVICE SW	User data and data in SSSW#1-#3, #6, #7
NCU	SSSW#4 data
SERVICE DATA	System dump list data
COUNTER	Number of pages read/activity management numbers
REPORT	Activity management report data
ALL	All setting and registration data

Table 4-26

Warning:

When replacing the image processor PCB, check the counter before replacing. Input the counter value after replacing.

Control memory data are deleted or initialized according to the items listed below by using Service Mode #8 CLEAR.

Before performing this procedure, be sure to print a backup data list.

Operation name	Contents
TEL	Data entered in User data 2. TEL # REGISTRATION
USER SW	Data that are entered in User data 1. DATA REGISTRATION and data entered in Service mode settings #1-#3. However, the data in the FILE SETTINGS of User data 1. DATA REGISTRATION are not deleted or initialized.
SERVICE SW	User data, data in service mode items #6, #7
NCU	Data in service mode settings #4A, #4B
ISDN	Data in service mode setting #4C
SERVICE DATA	Management data system dump list data
REPORT	Management data activity management report data
COUNTER	Print counter data from management data system dump
ALL	All user data, service mode setting items, management data and image data except service mode setting #5 and the print counter from management data system dump

Table 4-27

9. ROM information display (#9 ROM)

Shows the image processor PCB's ROM DIMM management information (version no., checksum, etc.) on the display.

10. CS SET (mirror mount initialization setting)

When this item is set, the mirror mount moves to the position set when shipped.

E. Test Mode (TEST MODE)

1. Overview

The test mode runs according to the menu items shown on the display.
The test mode items are divided into 8 blocks.

D-RAM test <1:DRAM>

Checks if data reading and writing to the D-RAM is operating normally.

CCD test <2: CCD TEST>

Used when correcting the variations in sensitivity of the CCD's photosensitive cells.

PRINT test <3:PRINT>

Prints 8 patterns within the printing area.

MODEM NCU test <4:MODEM NCU>

Performs relay operations test, modem DTMF, tonal signal transmission and receiving tests.

AGING test <5:AGING TEST>

Illuminates the scanning lamp and drives the ADF document transport motor in fine mode. The printer continuously prints a diagonal line pattern in fine mode and characters in normal density.

FACULTY test <6:FACULTY TEST>

Used when checking operations of the microswitcher, sensor, speaker and ADF functions.

DATA SET <7:DATA SET>

Do not touch. This mode is for factory use only.

BOOK test <8:BOOK TEST>

Operates at the speed for the scanning transmission image quality LED.

Warning:

Do not use the DATA SET mode. If you enter the DATA SET mode, the registration data will be changed automatically.

2. Test Mode menu

To operate the test mode, press the enter/set key then the # key and select the SERVICE MODE. Then use the up/down shift keys to select TEST MODE and depress the set key.

After finishing the TEST MODE, press the stop key, then the clear key.

TEST MODE [1] - [7], [9]
E40 :

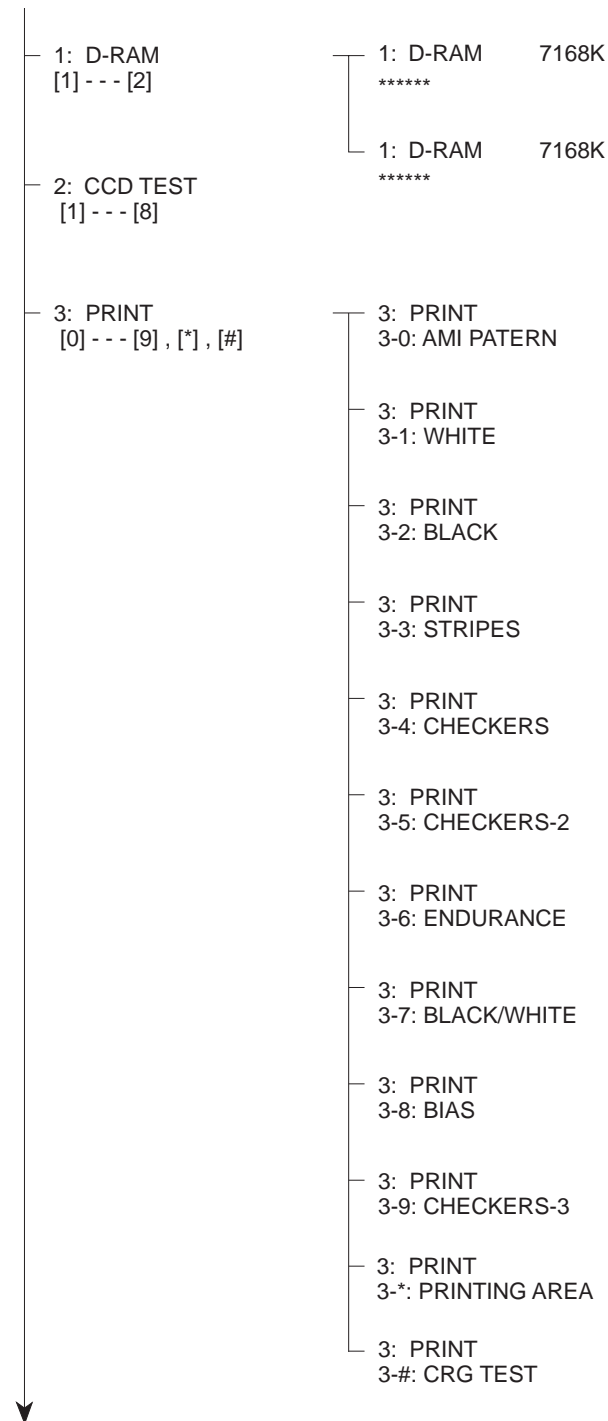


Figure 4-9

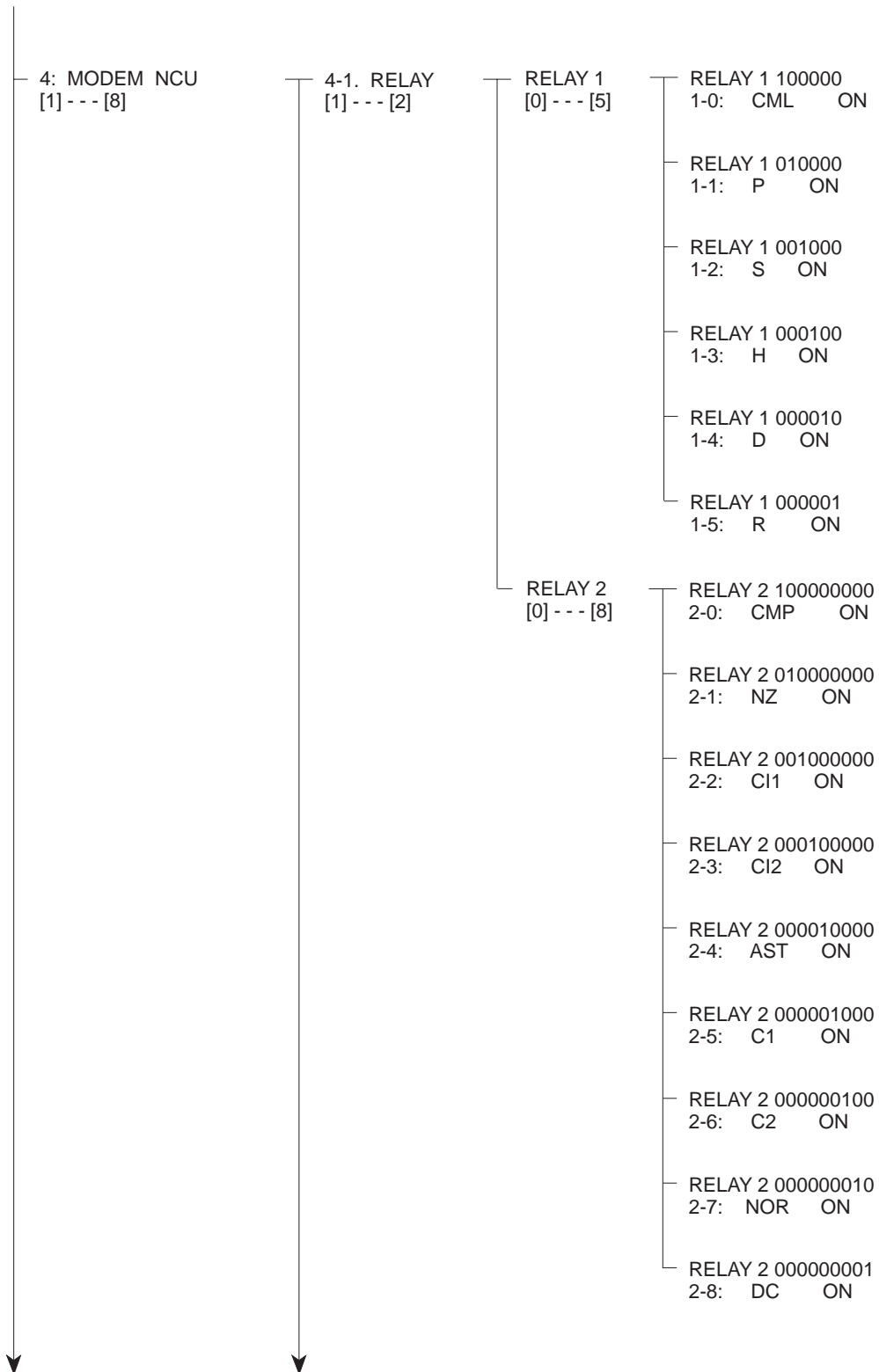


Figure 4-10

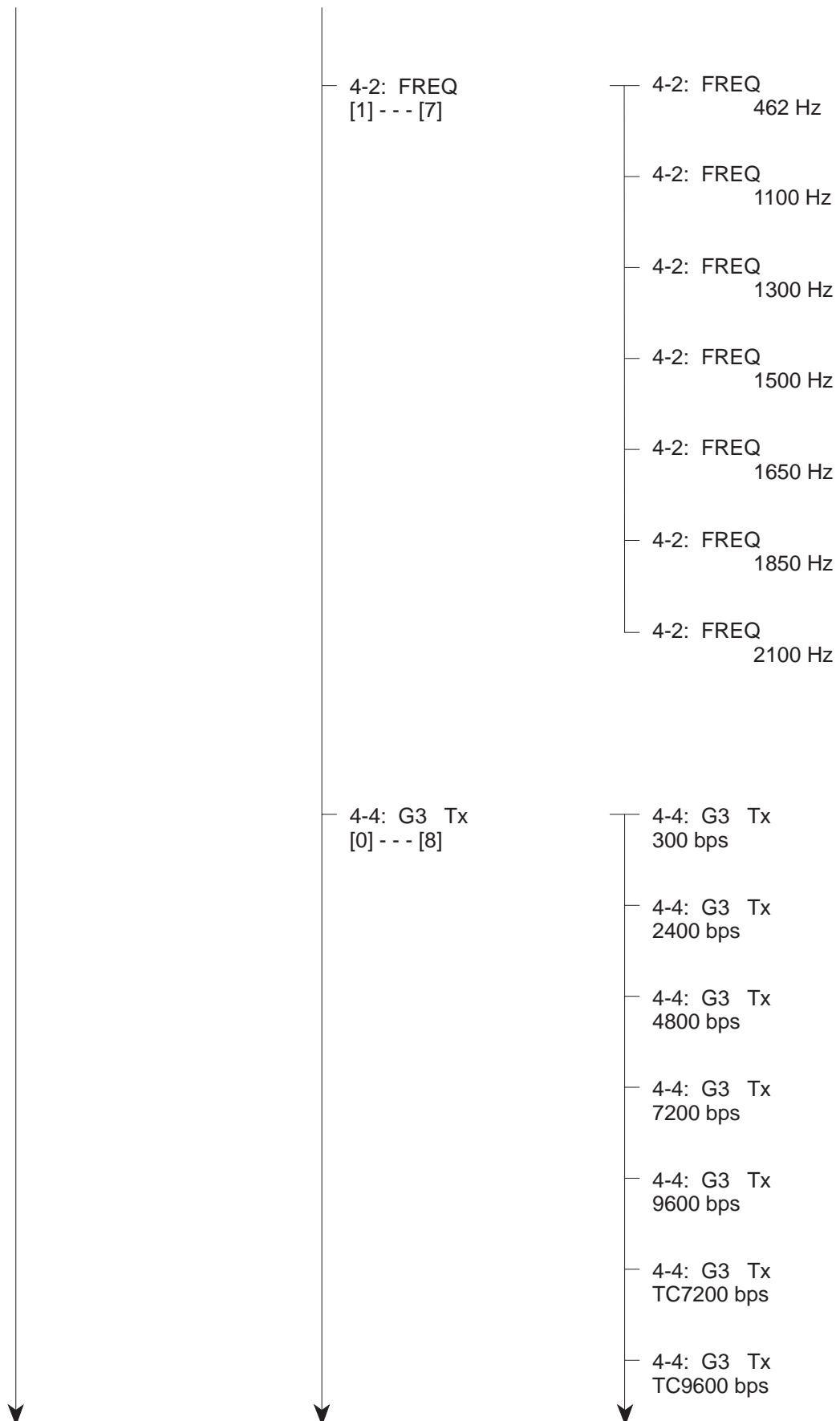


Figure 4-11

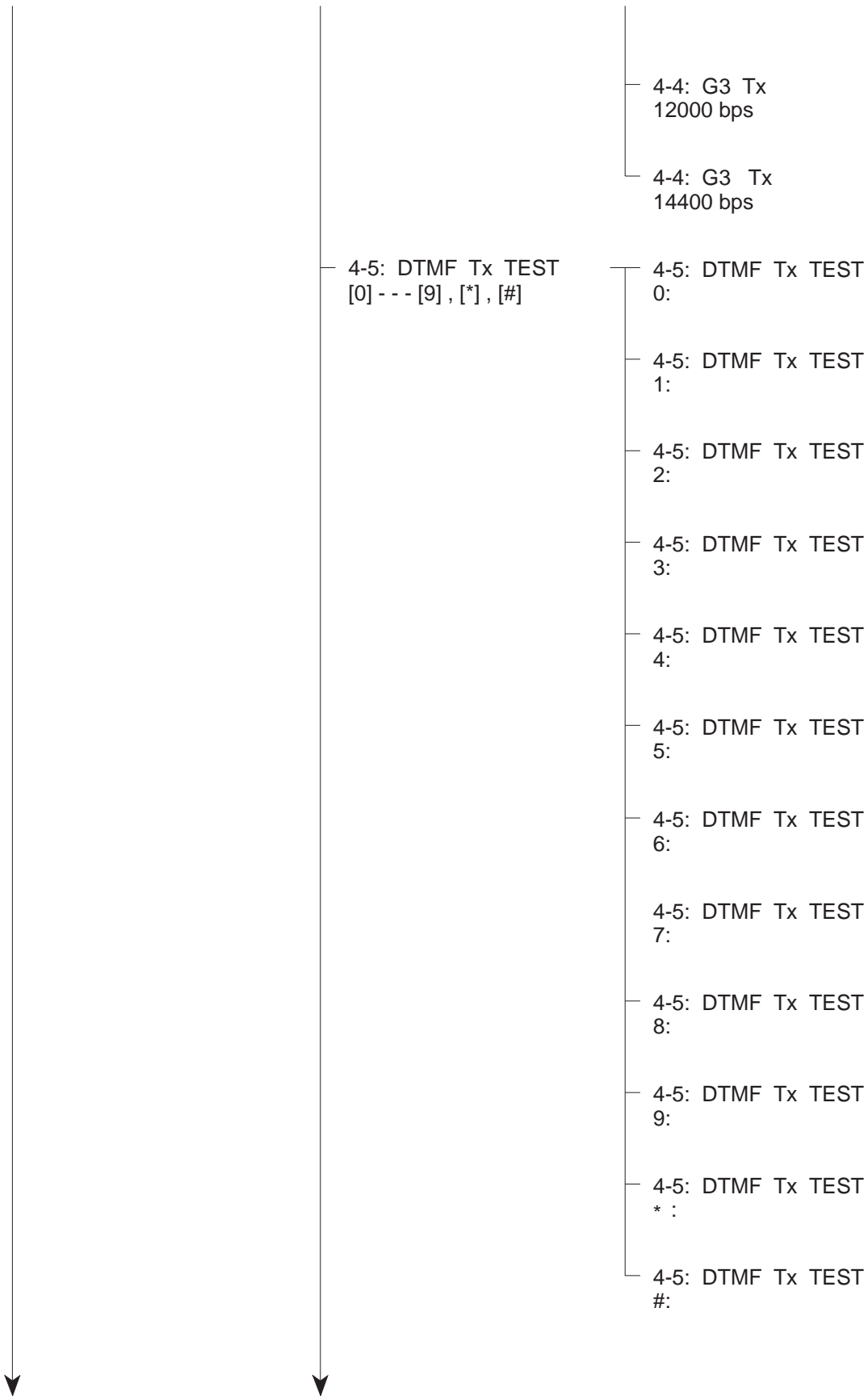
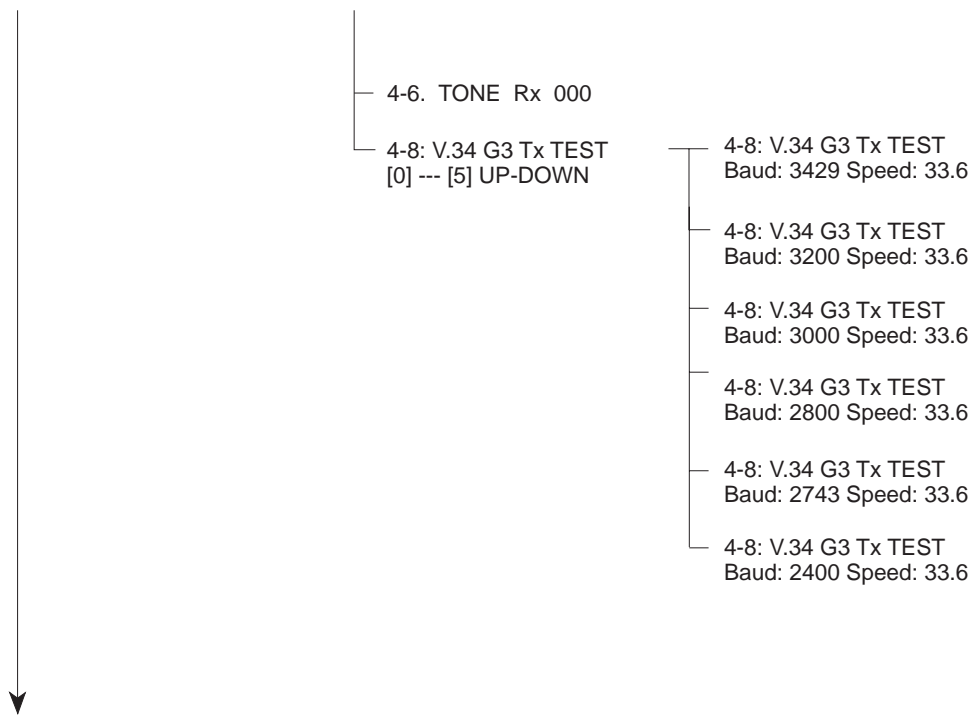


Figure 4-12

**Figure 4-13**

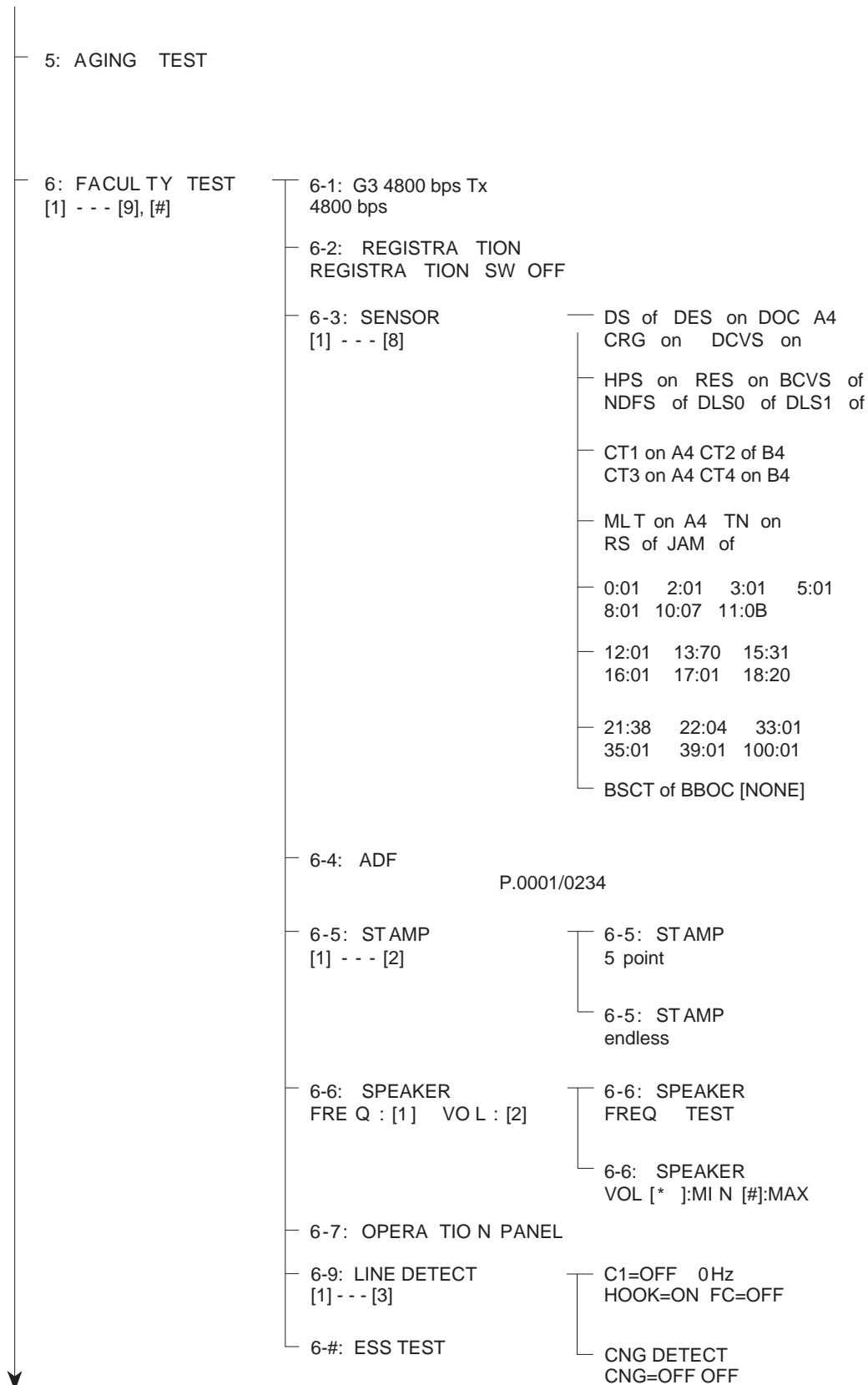
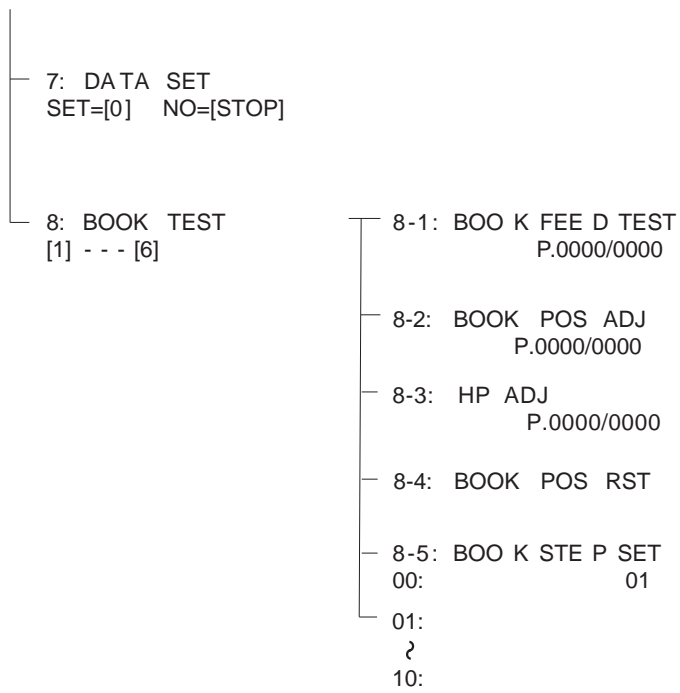


Figure 4-14

**Figure 4-15**

3. D-RAM test <1: DRAM>

Performs a write/read check on data in all areas of the D-RAM. When optional expansion memory has been installed, also checks the expansion memory area.

When an error occurs during checking, the test will be aborted and an error message will be indicated on the display.

Caution:
When a D-RAM test is performed, the image data saved in the image memory are cleared. Therefore, output the images before performing the test when there are saved images.

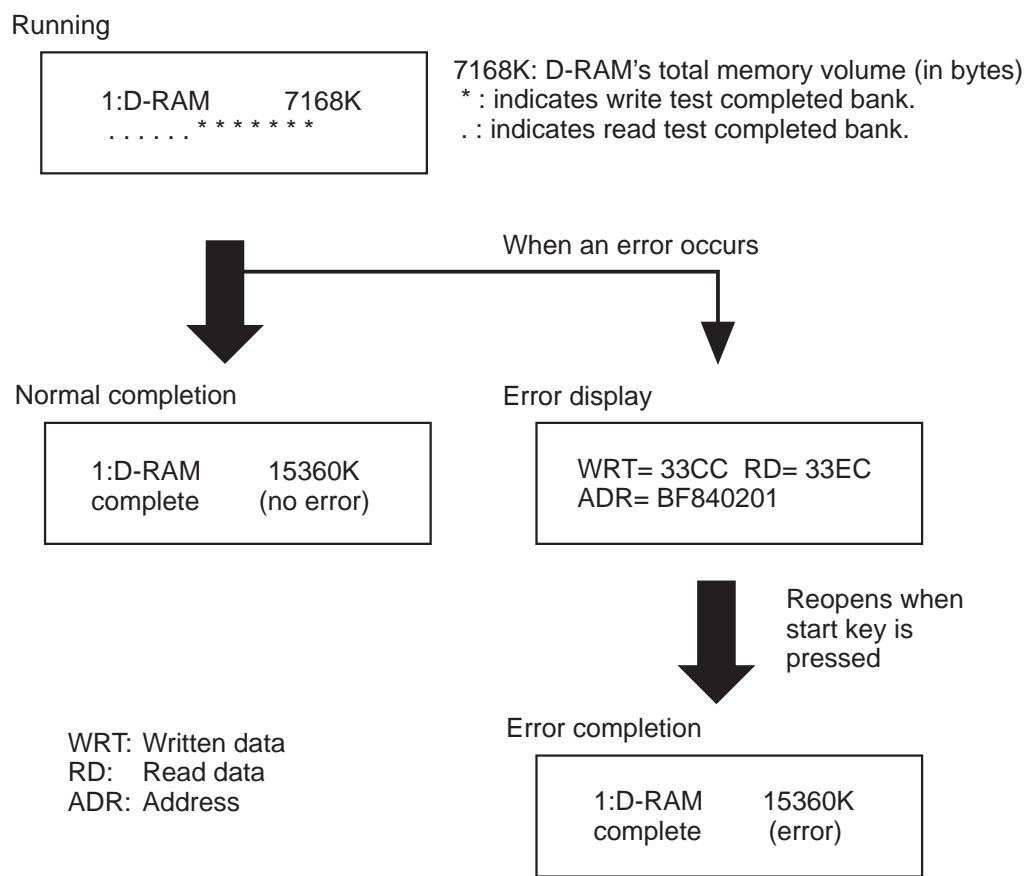


Figure 4-16

4. CCD test <2: CCD TEST>

When you press 2 on the numeric key pad in the TEST MODE menu, the CCD TEST is selected. When 8 on the numeric key pad is pressed during the running of this test, shading adjustment is performed.

(See page 2-8.)

5. PRINT test <3: PRINT>

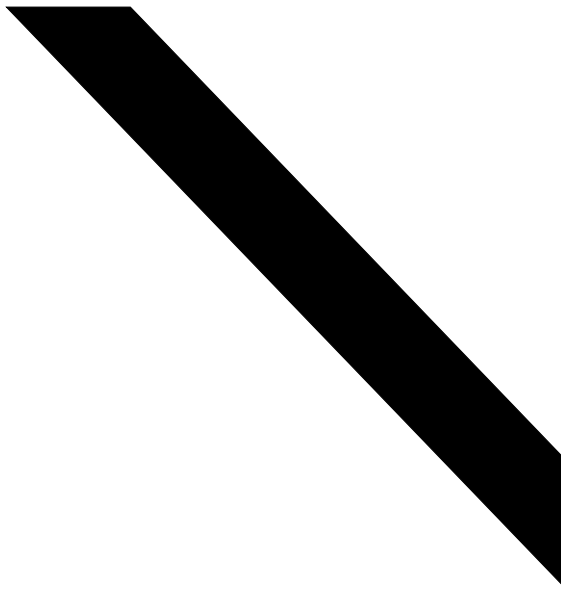
a) Test pattern printing mode

When you press 3 on the numeric key pad, the PRINT TEST is selected.

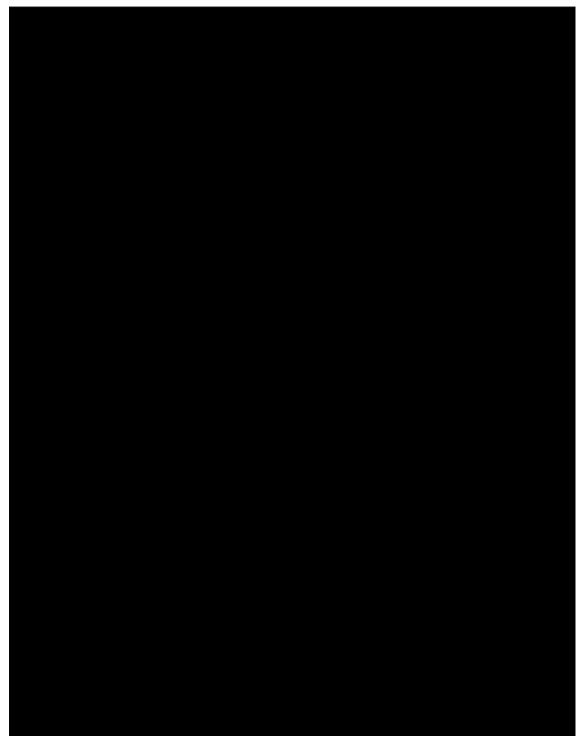
There are two service-use print patterns. They are shown below. Do not use the other print patterns, as they are for factory and development use.

- 3-2: BLACK: output when 2 on the numeric key pad is pressed.
- 3-6: ENDURANCE: output when 6 on the numeric key pad is pressed.

To cancel the test print, press the stop key.



Check the print pattern to make sure there is no image reduction, stretching, soiling or black stripes.



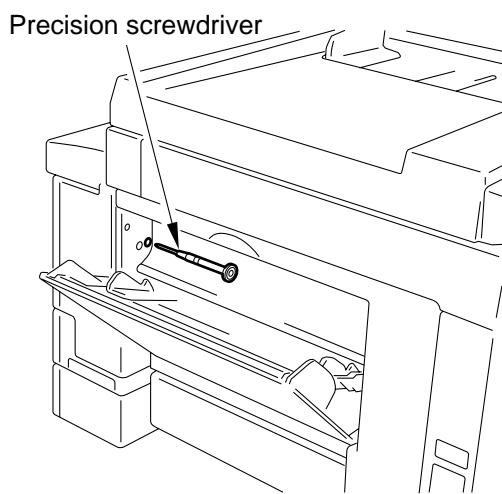
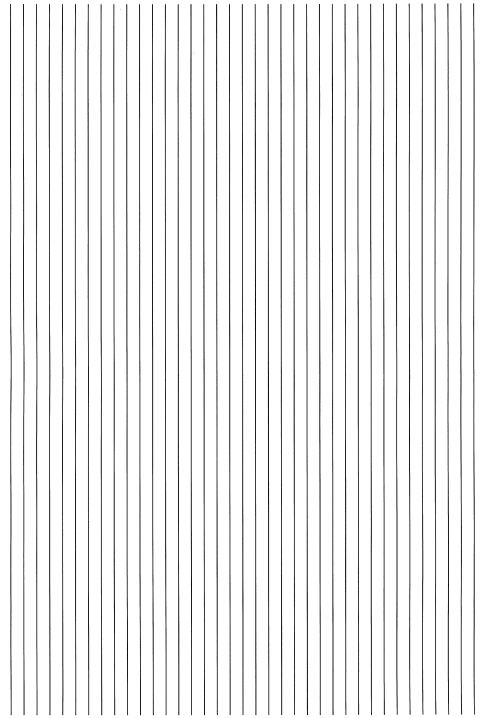
Check the print pattern to make sure there are no white stripes or unevenness.

Figure 4-17

Remarks:

When the test print switch (SW401) on the sensor PCB is pressed, the print patterns shown below are output.

By outputting these test prints, you can conduct a print check with the scanning assembly Operation panel assembly installed.

**Figure 4-18**

Print pattern

Figure 4-19

6. MODEM NCU test <4: MODEM NCU>

Runs transmission and reception tests for the MODEM and NCU. For the modem test, checks whether the modem's transmission signal is being properly transmitted by checking the signal sound from the speaker. Also checks whether the received tonal signal and DTMF signal were properly detected by the modem. The test ends when the stop key is pressed.

Type	Outline
Relay test key pad.	Turn the selected relay on and off using the numeric
Frequency test	Output the tonal signal from the modem through the telephone line connection terminal and the speaker.
G3 signal transmission test	Output the G3 signal from the modem through the telephone line connection terminal and the speaker.
DTMF signal reception test	Output the DTMF signal from the modem through the telephone line connection terminal and the speaker.
Tonal signal reception test	Put the specific frequency received from the telephone line connection terminal and the DTMF signal through the modem and display whether or not they are detected. The received signal is output from the speaker.
V.34 G3 signal transmission test	Output the V.34G3 signal from the modem through the telephone line connection terminal and the speaker.

a) Relay test

When 1 on the numeric key pad in the MODEM NCU TEST menu is pressed, the relay test is selected.

The NCU relays are operated by the numeric key pad.

Caution:

ON/OFF on the display indicator is displayed for the relay operation signal transmission by operation of the numeric key pad. Therefore, it is not possible to verify that a single relay unit is damaged by looking at the display.

RELAY 1		010000					1: RELAY ON 2: RELAY OFF
1-1 : P		ON					
		0	1	0	0	0	0
RELAY	CML	P	S	H	D	R	
Numeric key	0	1	2	3	4	5	

Figure 4-20

b) Frequency test

When 2 on the numeric key pad in the MODEM NCU TEST menu is pressed, the frequency test is selected.

This test uses the telephone line connection terminal and the speaker to output the frequency signals shown below from the modem. Changes in frequency are made using the numeric key pad.

Numeric key pad	Frequency
1	462Hz
2	1100Hz
3	1300Hz
4	1500Hz
5	1650Hz
6	1850Hz
7	2100Hz

Remarks:

Frequency and each frequency's output level conform to the service mode's output level setting.

c) G3 signal transmission test

When 4 on the numeric key pad in the MODEM NCU TEST menu is pressed, the G3 signal transmission test is selected. This test uses the telephone line connection terminal and the speaker to output the G3 signals shown below from the modem. Change the output speed using the numeric key pad and then check the signals.

Numeric key pad	Output speed
0	300bps
1	2400bps
2	4800bps
3	7200bps
4	9600bps
5	TC7200bps
6	TC9600bps
7	12000bps
8	14400bps

Remarks:

The output level of each signal conforms to the service mode settings.

d) DTMF signal output test

When 5 on the numeric key pad in the MODEM NCU TEST menu is pressed, the DTMF signal transmission test is selected. This test uses the telephone line connection terminal and the speaker to output the DTMF signals from the modem shown below. The DTMF signal corresponds to the key pressed on the numeric key pad.

Remarks:

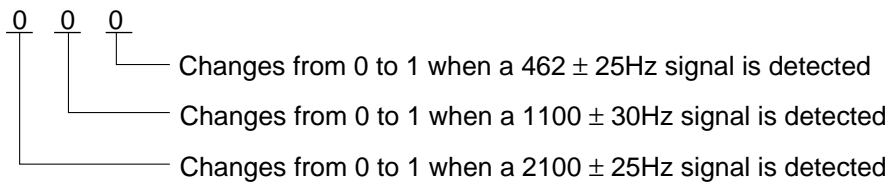
The output level of each signal conforms to the service mode settings.

e) Tonal, DTMF signal reception test

When 6 on the numeric key pad in the MODEM NCU TEST menu is pressed, the tonal signal and DTMF signal reception 0 test is selected. This test checks whether the tonal signal and DTMF signal received from the telephone line connection terminal was detected.

Tonal signal reception test

4-6 : TONE Rx 000



Tonal signal reception test

4-6 : TONE Rx 000
1 2 3 4 5 6 7 8 9 0



The DTMF signals received on the display's second line are displayed in order from the right.

Figure 4-21

f) V.34 G3 signal transmission test

When 8 on the numeric key pad in the MODEM NCU TEST menu is pressed, the v.34 G3 transmission test is selected. In this test, when the start key is pressed, the V.24 G3 transmission signal from the modem, shown below, is output using the telephone line connection terminal and the speaker. The modulation rate (baud rate) is changed using the numeric key pad and the output speed is changed using the shift keys (up and down arrows?).

Numeric key pad	Modulation rate
0	3429baud
1	3200baud
2	3000baud
3	2800baud
4	2743baud
5	2400baud

Shift key	Output speed
	2400bps
	4800bps
	7200bps
	9600bps
	12000bps
	14400bps
	16800bps
	19200bps
	21600bps
	24000bps
	26400bps
	28800bps
	31200bps
	33600bps

7. AGING test <5: AGING TEST>

When 5 on the numeric key pad in the TEST MODE menu is pressed, the AGING TEST is selected.

This test illuminates the scanning lamp and drives the ADF's document feed motor at the speed used for fine mode. Also, the printer prints out a vertical stripe pattern in fine mode.

The AGING TEST stops when the stop key is pressed.

8. FACULTY test <6: FACULTY TEST>

When 6 on the numeric key pad in the TEST MODE menu is pressed, the FACULTY TEST is selected.

This test tests the following functions.

- a) G3 signal transmission test: Outputs a 4800bps G3 signal to the telephone line and speaker.
- b) Slide switch test: Tests operation of the Operation panel's slide switches.
- c) Sensor test: Tests operation of each sensor.
- d) ADF test: Tests ADF operation
- e) Stamp test: Completion stamp operation test
- f) Speaker test: Speaker operation test
- g) Operation panel test: Operation panel key operation test
- h) Line signal reception test: NCU board's signal sensor and frequency counter operation test
- i) ESS test: ESS (energy saver function) operation verification test

a) G3 signal transmission test <6-1: G3 4800 bps Tx>

When 1 on the numeric key pad in the FACULTY TEST menu is pressed, the G3 signal transmission test is selected.

This test outputs a 4800bps G3 signal to the telephone line connection terminal and the speaker.

b) Slide switch test <6-2: REGISTRATION>

When 2 on the numeric key pad in the FACULTY TEST menu is pressed, the slide switch test is selected.

When the slide switches on the Operation panel are turned on and off, ON and OFF are displayed on the display.

The slide switches are shown as REGISTRATION SW on the display.

c) Sensor test <6-3: SENSOR>

c-1) Sensor test

This is a mode which uses the display to check the condition of this machine's sensors.

When 3 on the numeric key pad is pressed in the FACULTY TEST menu, the sensor test is selected.

The display indicator indicates when the sensor being tested is turned on and off.

Also, the LBP status is shown on the display to check printer error information.

Refer to page 2-11 for details concerning the sensor test.

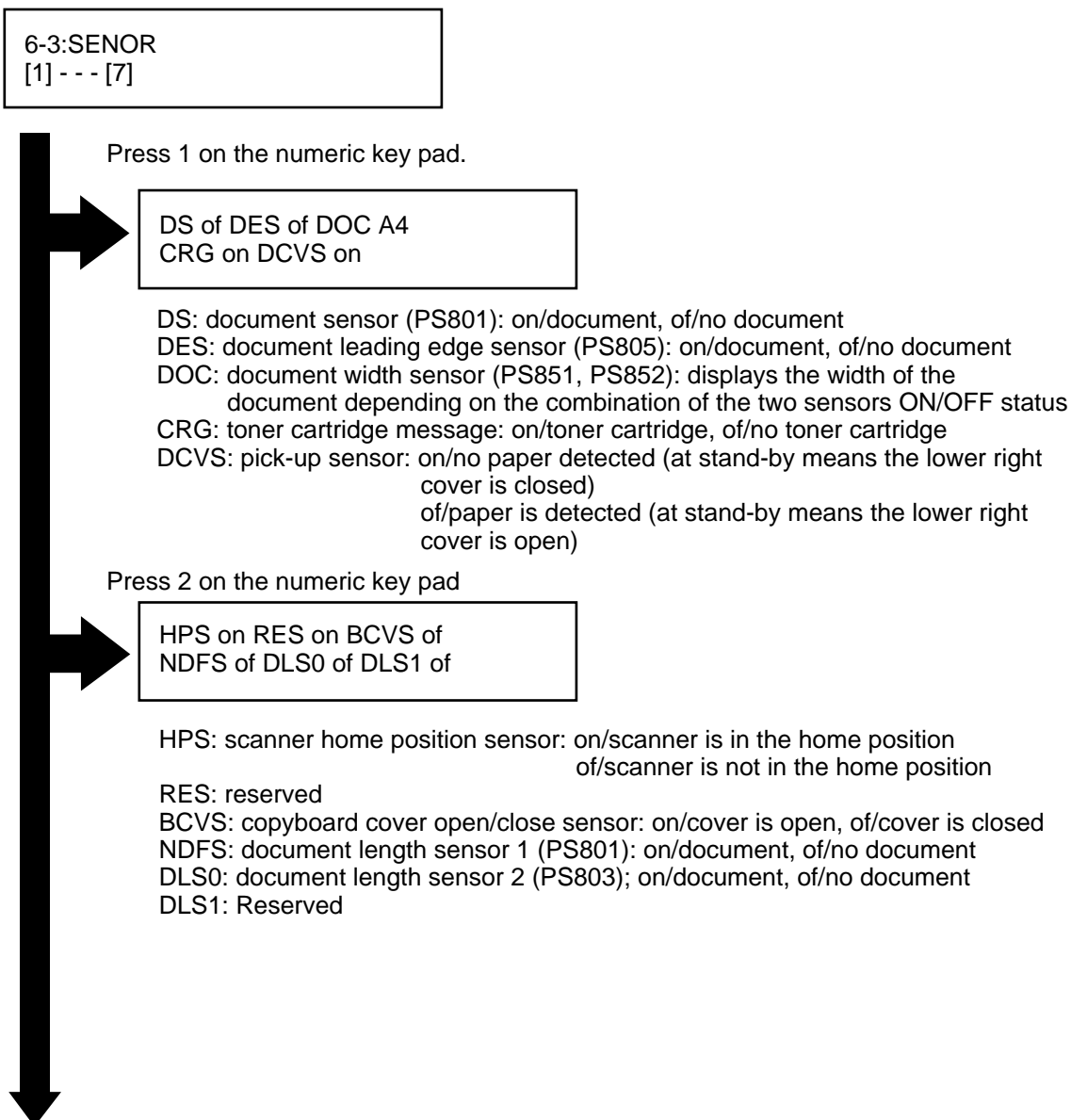


Figure 4-22

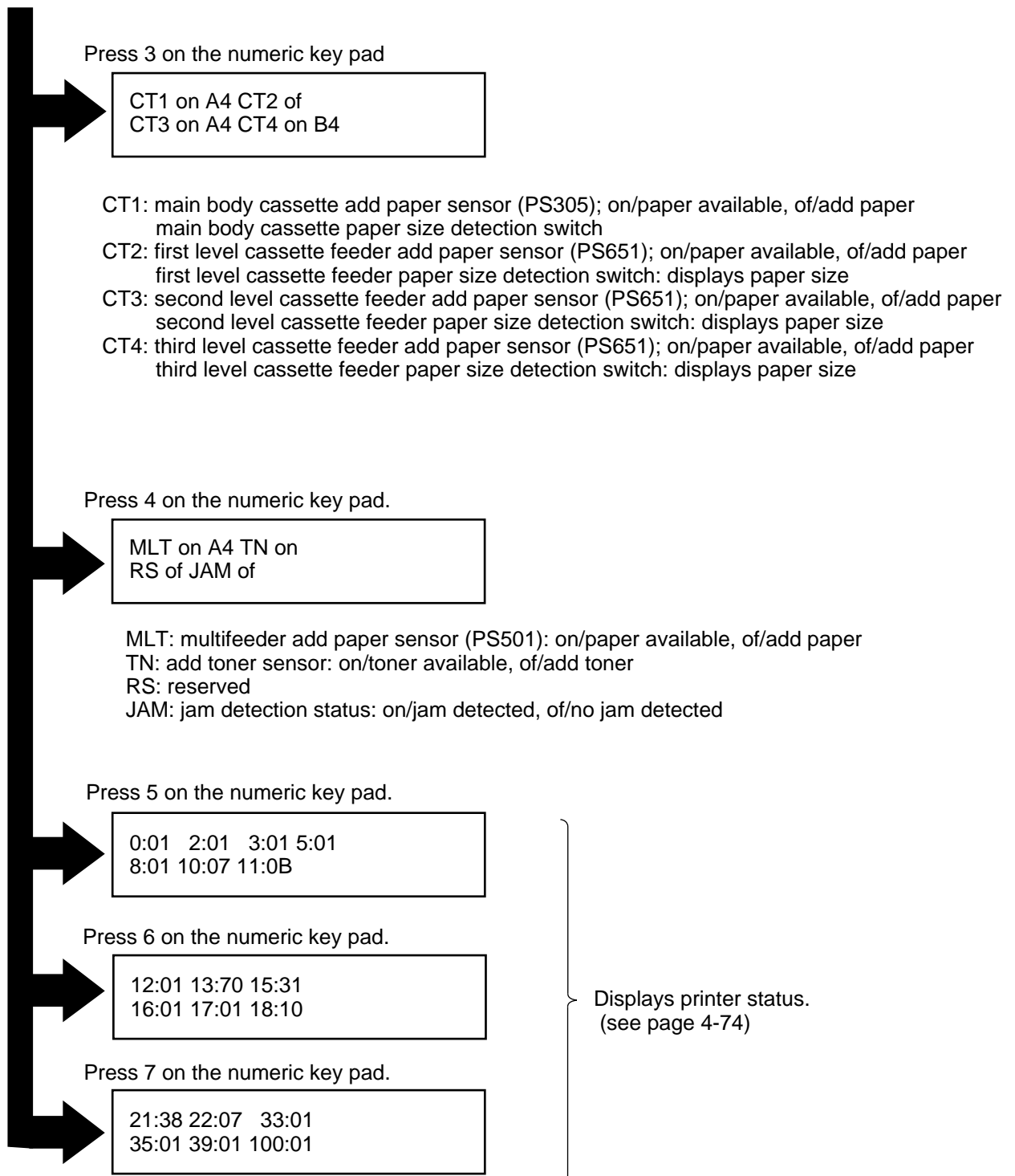


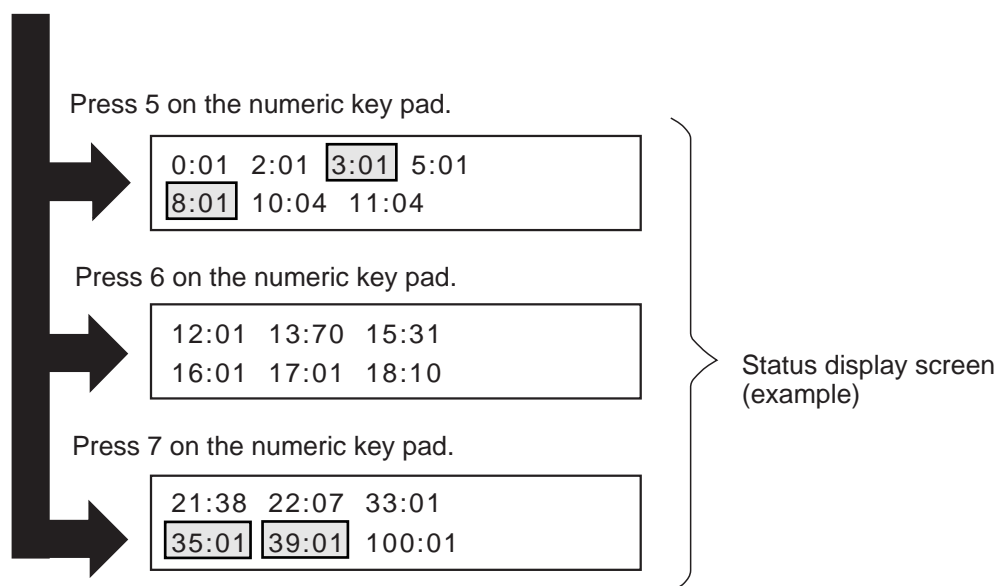
Figure 4-23

c-2) Printer status

This mode is used to identify the area which is out of order when a printer malfunction indicator is displayed.

To display the status, press 5,6,7 on the numeric key pad when the sensor test screen displays shown below are displayed. An example of the screen display is shown below and the meaning of the display is described.

6-3 : SENSOR
 [1] - - - [7]



The status used by this machine are status no. 8, 35, and 39, only.
 (Displayed in the shaded boxes above.)

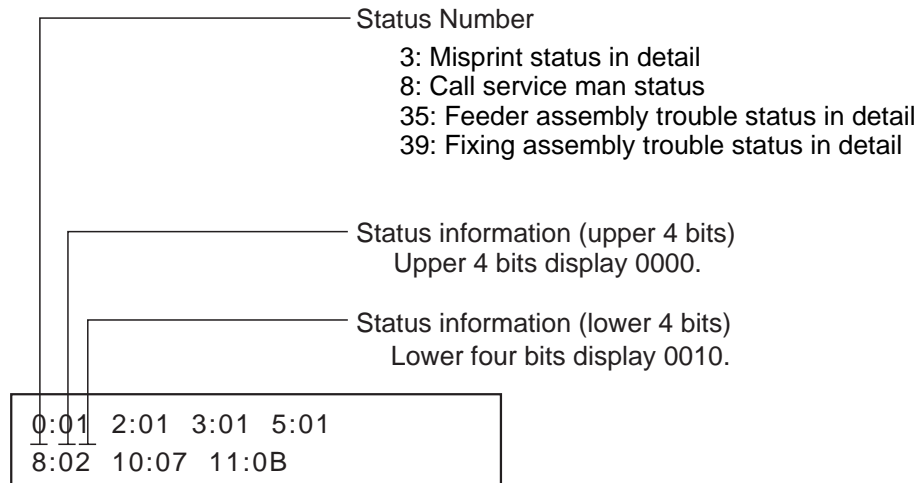
Figure 4-24

How to read the printer status screen

Printer status is displayed as a hexadecimal number.

This is converted to a binary number and then the area which is out of order is detected.

Below is an explanation of how to read the screen.



When status 8's status information (upper four bits) displays 0 and (lower 4 bits) 2, as shown above, if the bit pattern is fixed according to the conversion chart below, at 0000 0010, bit 1 becomes 1.

Status 8's bit 1 is a status which indicates a fixing assembly problem, and indicates the cause of the printer's poor condition is the fixing assembly.

(Upper 4 bits)					(Lower 4 bits)						
Display indicator		Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0		Display indicator
0	=	0	0	0	0	0	0	0	0	=	0
1	=	0	0	0	1	0	0	0	1	=	1
2	=	0	0	1	0	0	0	1	0	=	2
3	=	0	0	1	1	0	0	1	1	=	3
4	=	0	1	0	0	0	1	0	0	=	4
5	=	0	1	0	1	0	1	0	1	=	5
6	=	0	1	1	0	0	1	1	0	=	6
7	=	0	1	1	1	0	1	1	1	=	7
						1	0	0	0	=	8
						1	0	0	1	=	9
						1	0	1	0	=	A
						1	0	1	1	=	B
						1	1	0	0	=	C
						1	1	0	1	=	D
						1	1	1	0	=	E
						1	1	1	1	=	F

Figure 4-25

Printer status information list

The details of each status number (3,8,25,29) are displayed in charts from the next page. Read the charts as shown below.

Bit	Meaning	Shows the status when each status bit is 1.		Shows the status when each status bit is 0.	
		1		0	
0	Parity bit (odd number)				
1	Fixing assembly trouble	Out of order		Normal	
2	Scanner unit trouble	Out of order		Normal	
3	Fan motor trouble	Out of order		Normal	
4	Reserved				
5	Feeder assembly trouble	Out of order		Normal	
6	Reserved				
7	Reserved				

Figure 4-26

Status 3 (misprint status in detail)

Bit	Meaning	1	0
0	Parity bit (odd number)		
1	Reserved		
2	Reserved		
3	Paper size error	Abnormal	Normal
4	Paper feeding fault	Abnormal	Normal
5	Reserved		
6	BD signal trouble	Out of order	Normal
7	Reserved		

Table 4-28**[Bit 3]**

When the registration clutch is turned off then on again and the recording paper leading edge sensor is ON, this becomes 1.

[Bit 4]

When the set or specified paper size is judged to be different from the paper feeding into the printer, this becomes 1.

[Bit 6]

When there is a fault in the laser scanning mechanism and the BD signal is not output at the prescribed timing (cycle and signal width), this becomes 1.

Status 8 (call service man status)

Bit	Meaning	1	0
0	Parity bit (odd size)		
1	Fixing assembly trouble	Out of order	Normal
2	Scanner unit trouble	Out of order	Normal
3	Fan motor trouble	Out of order	Normal
4	Reserved		
5	Feeder assembly trouble	Out of order	Normal
6	Reserved		
7	Reserved		

Table 4-29**[Bit 1]**

When trouble is detected in the fixing assembly's fixing heater and temperature control thermistor, this becomes 1.

[Bit2]

When trouble is detected in the laser scanner motor, laser unit or BD, this becomes 1.

[Bit 3]

When a fan trouble signal is detected more than 60 times within 200ms, this becomes 1.

[Bit 5]

When the main motor is out of order, this becomes 1.

Status 35 (feeding assembly trouble status in detail)

Bit	Meaning	1	0
0	Parity bit (odd number)		
1	Reserved		
2	Reserved		
3	Reserved		
4	Reserved		
5	Reserved		
6	Main motor trouble	Out of order	Normal
7	0		

Table 4-30**[Bit 6]**

When the ready signal does not come continuously at 0.1 seconds after the main motor drive starts, this becomes 1.

When the ready signal is continuous at 0.1 seconds after the main motor drive has stopped, this becomes 1.

Status 39 (fixing assembly trouble status in detail)

Bit	Meaning	1	0
0	Parity bit (odd number)		
1	Reserved		
2	Drive circuit trouble	Out of order	Normal
3	0		
4	Abnormally high temperature detected	Abnormal	Normal
5	Abnormally low temperature detected	Abnormal	Normal
6	Faulty startup detected	Abnormal	Normal
7	0		

Table 4-31**[Bit 2]**

When power is not supplied to the fixing assembly, this becomes 1.

[Bit 4]

When the temperature of the fixing assembly is more than 20(C higher than the standard temperature for more than 30 seconds continuously, this becomes 1.

[Bit 5]

When the temperature of the fixing assembly is more than 10(C lower than the standard temperature for more than 30 seconds continuously, this becomes 1.

[Bit 6]

When the thermistor is down, this becomes 1.

d) ADF test <6-4: ADF>

This is the ADF operation checking mode.

When 4 on the numeric key pad in the FACULTY TEST menu is pressed, the ADF test is selected.

When the document is set in the document inlet guide and the start key is pressed, the document is fed at a speed matching the selected resolution. The number on the display counter advances with each page.

It is possible to set up to 50 sheets of A4 paper, 20 sheets of A3/B4 paper.

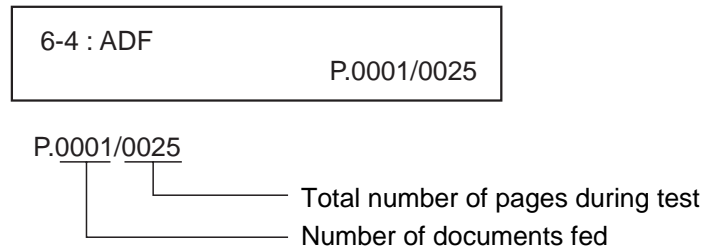


Figure 4-27

e) Stamp test <6-5: STAMP>

This is the stamp operation checking mode.

When 5 on the numeric key pad in the FACULTY TEST menu is pressed, the stamp test is selected.

The stamp test has the following two menus.

- Test menu 1

When 1 on the numeric key pad in the Stamp TEST menu is pressed, test menu 1 is selected. When a document is set in the ADF in this condition, the document is fed 20mm past the scanning position and is stamped 5 times at 10mm intervals from that position, then delivered.

- Test menu 2

When 2 on the numeric key pad in the Stamp TEST menu is pressed, test menu 2 is selected. When a document is set in the ADF in this condition, the document is fed 20mm past the scanning position and is stamped continuously at 10mm intervals from that position until the document edge sensor (DES) goes off.

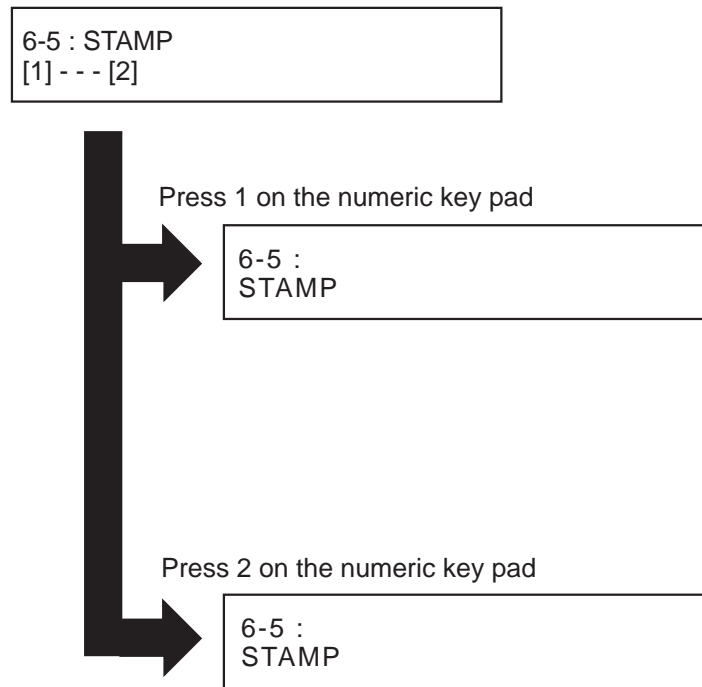


Figure 4-28

f) Speaker test <6-6: SPEAKER>

This mode is for checking the speaker operation.

When 6 on the numeric keypad in the FACULTY TEST menu is pressed, the speaker test is selected. In this test, a tonal signal is output from the speaker from 200Hz to 5kHz at 100Hz intervals. The sound volume is also switched. Check that the signal sound is coming out of the speaker.

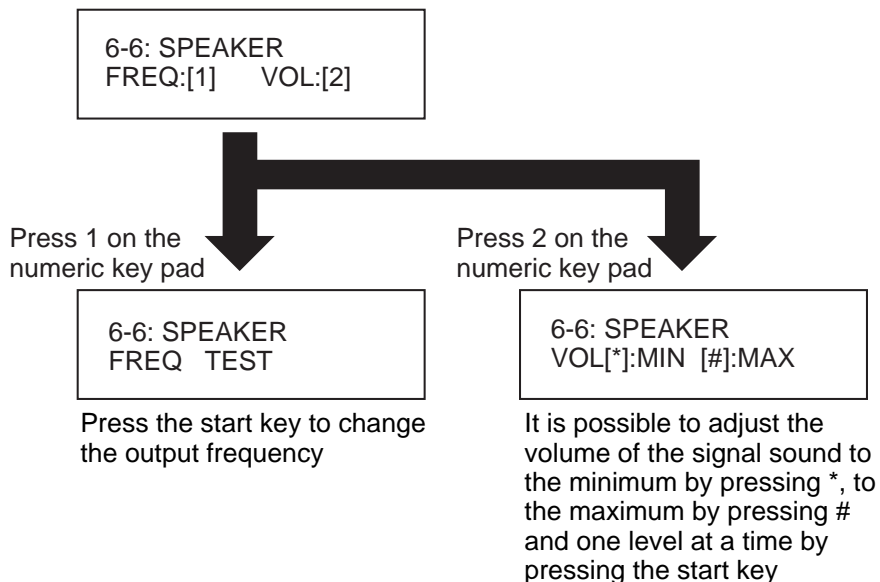


Figure 4-29

g) Operation panel test <6-7: OPERATION PANEL>

This is a mode for checking the Operation panel operation.

When 7 on the numeric key pad in the FACULTY TEST menu is pressed, the OPERATION PANEL test menu is selected. The functions that can be checked in this mode are described below.

• Display test

When the start key on the OPERATION PANEL test menu is pressed, the display test is selected. In this test, "Perform LCD density adjustment" is shown on the display.

When the start key is pressed again, all black, all white, border and checker patterns are displayed in order.

• LED lamp test

When the start key is pressed after the display test has finished, the LED lamp test is selected.

When the start key is pressed, all the lamps on the Operation panel are illuminated.

Operation button test

When the start key is pressed after the LED lamp test has finished, the key test is selected.

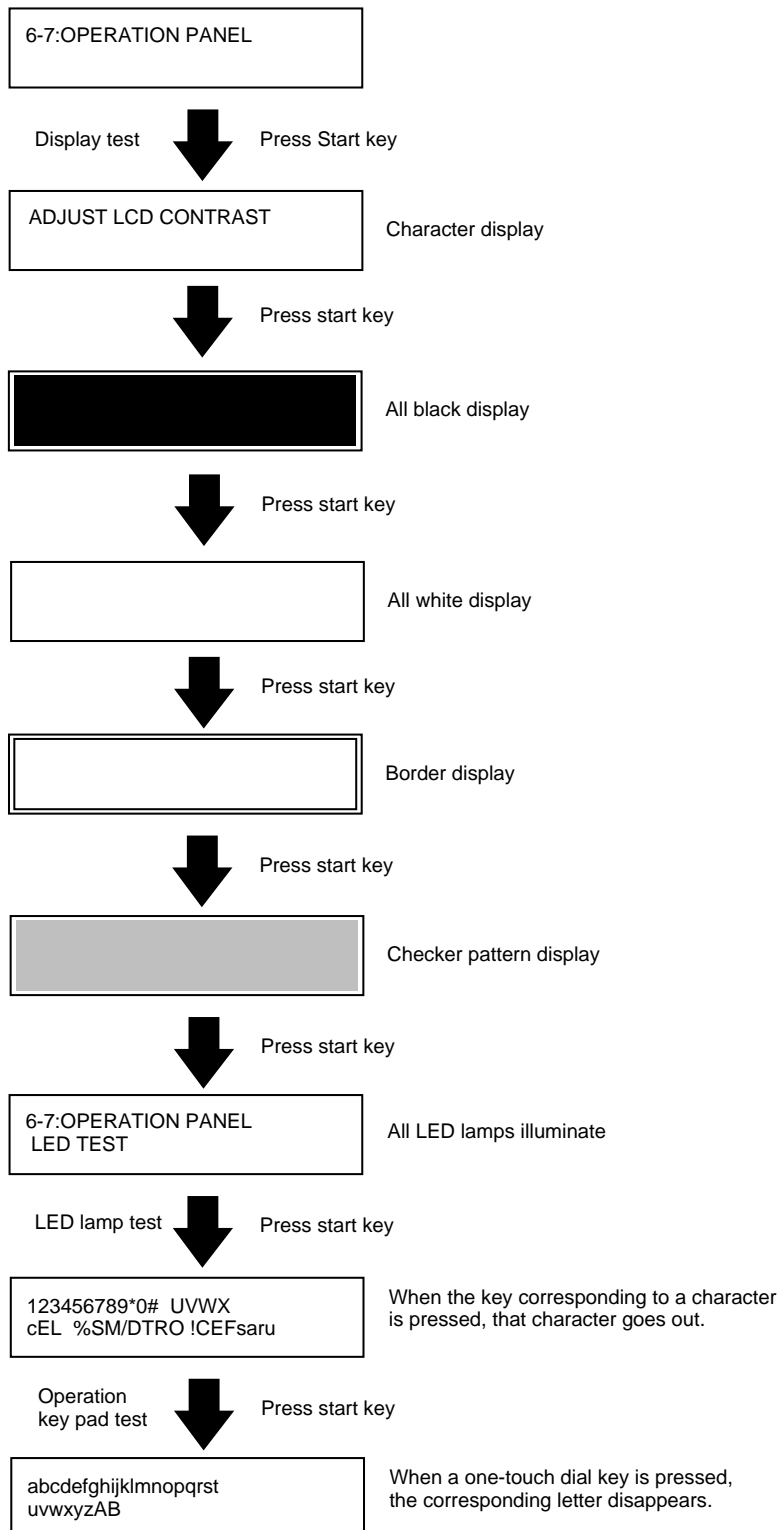
Press the keys for the characters shown on the display, if the display goes out they are normal. The correspondence between the characters and buttons are shown in the table below.

When all the LEDs of both the completion stamp key and the direct transmission key characters have been illuminated, the display will go out.

Characters	Operation key	Characters	Operation key
1 to #	Numeric key pad	u	Data registration key
R	Redial key	%	Direct Tx key
C	Copy key	S	Stamp key
O	Hook key	c	Return key
D	Coded dial key	U	Screen selection key F1
E (Right)	PRINT/SCAN key	V	Screen selection key F2
E (Left)	Set key	W	Screen selection key F3
L	Clear key	X	Screen selection key F4
M	Fax monitor key	s	Collate key
/	Program key	r	Reset key
F	FAX key	P	Pause key
a	Copy special features key	!	Energy saver key

Table 4-32

When all the characters displayed have disappeared, then the one-touch dial key test starts. Characters from a-z and A-Z are displayed. The display from characters a-B corresponds to the one-touch dial keys 01-28. When the one-touch dial keys are pressed, the characters corresponding to them disappear from the display.



The test ends when the stop key is pressed.

Figure 4-30

h) Line signal reception test <6-9: LINE DETECT>

When 9 on the numeric key pad in the FACULTY TEST menu is pressed, the LINE DETECT test is selected. In test menu 1, the C1, FC and external telephone's fax are detected, and if signals are being properly detected by the NCU board, that is also detected.

h-1) Test menu 1

When 1 on the numeric key pad in the LINE DETECT menu is pressed, the Test menu 1 is selected. In this test the display will go from ON to OFF when C1, FC and external telephone OFF HOOK are detected from the telephone line connection terminal.

h-2) Test menu 3

When 3 on the numeric key pad in the LINE DETECT menu is pressed, test menu 3 is selected. In this test the display will go from OFF to ON when CNG is detected from the telephone line connection terminal.

h-3) Test menu 4

When 4 on the numeric key pad in the LINE DETECT menu is pressed, test menu 4 is selected. In this test the outgoing message can be checked. By selecting 0 or 1 on the numeric key pad, 2 types of outgoing messages are output from the telephone line and the speaker.

i) ESS test <6-#: ESS TEST>

When the # key on the numeric key pad in the FACULTY TEST menu is pressed, the ESS (energy saver function) test is run. Running this test puts this machine into the ESS mode and turns off all the LEDs except for the ESS key on the operation panel. The ESS mode is canceled by the following operations.

- When the ESS key is pressed
- When a document is set in the ADF
- When a fax arrives
- When the machine is off the hook
- When it is time to output a report
- When it becomes time to send a delayed call

9. BOOK scanning test <8: BOOK TEST>

When 8 on the numeric key pad in the TEST MODE menu is pressed, the BOOK test is selected.

In this test the scanning lamp is illuminated and it is checked whether the scanning lamp moves at the speed corresponding to the scanning transmission image quality setting.

Caution:

This test is for factory use.

CHAPTER 5 SELF DIAGNOSIS

A. User errors

#0001 [TX] Document jam	
Cause	Countermeasure
<ul style="list-style-type: none"> Document became jammed. Document's size or thickness is outside the standards. Internal mechanism fault. 	<ul style="list-style-type: none"> Remove the document and try sending again. (1) Send after making a copy by book scanning or use book scanning transmission? (2) Send thin documents by book scanning transmission. <p>Refer to "Document jam detection" in the ADF service manual.</p>

#0003 [TX/RX] 1 page copy/send receive time over	
Cause	Countermeasure
<ul style="list-style-type: none"> 1 page document length is more than 1 m or takes more than the prescribed time (32 minutes) to send/copy. Takes more than the prescribed time (32 minutes) to receive. Internal mechanism fault. 	<ul style="list-style-type: none"> (1) Make a copy by book scanning. Divide the document and send/copy. (2) Increase the page timer value using #1 SSSW-SW12 Bit 0 and Bit 1. (1) Have the sender divide the document and send in parts. (2) Contact the sender and have the cause investigated. (3) Increase the page timer value using #1 SSSW-SW12 Bit 0 and Bit 1. <p>See "Document jam detection" in the ADF service manual.</p>

#0005 [TX/RX] Initial identifier (T0/T1) time over	
Cause	Countermeasure
<ul style="list-style-type: none"> • TEL LINE TYPE setting mistake. • Time until connection with the other party's machine is long. • Other party's machine does not respond. • A significant signal cannot be detected after DIS signal transmission is completed. • Other party's machine's communication mode does not match. <p>(1) Other party's machine mis-operates due to echo at transmission.</p> <p>(2) Mis-operation due to echo at reception.</p>	<ul style="list-style-type: none"> • Set TEL LINE TYPE correctly. <p>(1) Add a long pause when registering an autodial entry and delay the timer start.</p> <p>(2) Increase the T0 timer by #3 NUMERIC Param. 010 so it won't time out.</p> <ul style="list-style-type: none"> • Contact the other party and have the cause investigated. • Increase the T1 timer by #3 NUMERIC Param. 011 so it won't time out. • No countermeasure possible because the communications mode is a specification of the machine. • See #1 SSSW SW03 for echo countermeasures.

#0008 [TX] Password rejected at polling transmission	
Cause	Countermeasure
<ul style="list-style-type: none"> • Other party's password and your machine's password do not match. 	<p>(1) Contact the other party and synchronize the passwords.</p> <p>(2) Make a DAT recording of the communication protocol and analyze it.</p>

#0009 [RX] Jam/Add paper	
Cause	Countermeasure
<ul style="list-style-type: none"> • Paper is jammed. • Paper has run out. • Internal mechanism fault. 	<ul style="list-style-type: none"> • Remove the paper jam. • Set more paper. <p>(1) Check the Add paper sensor, pick-up sensor, registration sensor, leading edge sensor and delivery sensor flags.</p> <p>(2) Check by TEST MODE/FACULTY TEST/[3]SENSOR TEST.</p> <p>(3) Check according to this manual's Feeding fault countermeasures.</p> <p>(4) Replace the DC controller circuit.</p>

#0011 [RX] Polling reception error	
Cause	Countermeasure
<ul style="list-style-type: none"> • No document is set in the other party's machine. • The document was not set properly at the time of transmission, so polling reception occurred. 	<ul style="list-style-type: none"> • Have the other party set the document properly. • Set the document properly and send it.

#0012 [TX] Other party's machine is out of paper	
Cause	Countermeasure
<ul style="list-style-type: none"> • Other party's machine is out of paper. 	<ul style="list-style-type: none"> • Have the other party set paper.

#0018 [TX/RX] Automatic calling error	
Cause	Countermeasure
<ul style="list-style-type: none"> • TEL LINE TYPE set incorrectly. • Telephone line connection time is long. • Time limit expires due to other party's machine's busy signal. • Time limit expires due to other party's machine's not being connected or not having power. • Time limit expires due to other party's machine having no recording paper. 	<ul style="list-style-type: none"> • Set TEL LINE TYPE correctly. (1) Add a long pause when registering an autodial entry and delay the timer start. (2) Increase the T0 timer by #3 NUMERIC Param. 010 so it won't time out. • Call again. • Contact the operator of the other party's machine and have the cause investigated. • Have the other party set recording paper in the machine.

#0021 [RX] DCN received at time of reception	
Cause	Countermeasure
<ul style="list-style-type: none"> • Password does not match. 	<ul style="list-style-type: none"> • Contact the other party and synchronize the passwords.

#0022 [TX] Can not call	
Cause	Countermeasure
<ul style="list-style-type: none"> • The other party's machine's telephone number is not registered in autodial at the time of broadcast transmission or multi-polling reception. 	<ul style="list-style-type: none"> • Enter the other party's telephone number in autodial.

#0025 [TX/RX] Autodial is set incorrectly	
Cause	Countermeasure
<ul style="list-style-type: none"> • At the time of autodialing, confidential and relay directives are set. 	<ul style="list-style-type: none"> • Set autodial correctly.

#0033 [TX] Confidential transmission not possible	
Cause	Countermeasure
<ul style="list-style-type: none"> • The other party's machine does not have a confidential mailbox function. 	<ul style="list-style-type: none"> • Perform regular transmission since confidential transmission is not possible.

#0034 [TX] Cannot transmit to other party's machine's confidential box	
Cause	Countermeasure
<ul style="list-style-type: none"> • The designated confidential mail box does not exist in the other party's machine. • The other party's machine's memory is full. 	<ul style="list-style-type: none"> • Confirm the other party's machine's confidential box number and send a confidential transmission. • Check the amount of free memory in the other party's machine and have them output any memory reception documents.

#0035 [TX] Relay originating transmission not possible	
Cause	Countermeasure
<ul style="list-style-type: none"> No relay function in the other party's machine. 	<ul style="list-style-type: none"> Transmit direct by sequential broadcast transmission since relay transmission is not possible.

#0036 [TX] Relay directive transmission not possible	
Cause	Countermeasure
<ul style="list-style-type: none"> The specified relay box does not exist in the other party's machine. The relay originating user's telephone number is not entered in the relaying machine's one-touch dial or speed dial. The relaying machine's memory is full. 	<ul style="list-style-type: none"> Confirm the other party's machine's relay box and send a relay originating transmission. Have the relay originating user's telephone number entered in the relaying machine's one-touch dial or coded dial. Contact the relay station and have them clear unnecessary image data.

#0037 [RX] Image memory exceeded at time of reception	
Cause	Countermeasure
<ul style="list-style-type: none"> Excessive document information at time of reception. 	<ul style="list-style-type: none"> Have the other party clear unnecessary image data, and resend.

#0059 [TX] The number dialed and the number connected to (CSI) do not match	
Cause	Countermeasure
<ul style="list-style-type: none"> The user's telephone number on the receiving side is not registered. 	<ul style="list-style-type: none"> Contact the other party and have them register the user's telephone number. Set so that the user data's destination is not checked.

#0080 [TX] The other party's machine has no ITU-T recommended sub-address reception function

Cause	Countermeasure
<ul style="list-style-type: none"> DIS bit 49 received from the other party's machine becomes 0. 	<ul style="list-style-type: none"> Send to another fax machine which has that function. When the other party's machine is of a different type, use normal G3 transmission.

#0081 [TX] Other party's machine has no ITU-T recommended password reception function

Cause	Countermeasure
<ul style="list-style-type: none"> DIS bit 50 received from the other party's machine becomes 0. 	<ul style="list-style-type: none"> Send to another fax machine which has that function. When the other party's machine is of a different type, use normal G3 transmission.

#0082 [TX] Other party's machine has no ITU-T recommended selective polling reception function

Cause	Countermeasure
<ul style="list-style-type: none"> DIS bit 47 received from the other party's machine becomes 0. 	<ul style="list-style-type: none"> Send to another fax machine which has that function. When the other party's machine is of a different type, have the destination set their machine so it can send polling transmissions, then perform polling reception.

#0102 [TX] Password/sub-address sent at time of transmission, but DCN received

Cause	Countermeasure
<ul style="list-style-type: none"> Password/sub-address not set in the other party's machine. The other party's machine's memory is full. 	<ul style="list-style-type: none"> Contact the other party and have them set the password/sub-address. Contact the other party and have them clear some memory.

#0995 [TX] Memory transmission reservation canceled	
Cause	Countermeasure
<ul style="list-style-type: none"> The user intentionally canceled the memory transmission reservation. 	<ul style="list-style-type: none"> Resend.

[TX] DATA ERROR displayed	
Cause	Countermeasure
<ul style="list-style-type: none"> Checksum error. Displayed upon image processor PCB replacement, SRAM fault, and back up battery replacement. 	<ul style="list-style-type: none"> Press the set key.

Caution:

When DATA ERROR is displayed, the set key must be pressed for recovery to take place.

However, when the set key is pressed, the user data will be erased. Therefore, before pressing the set key, check with the user.

B. Service errors

• G3 mode error codes

## 0100 [TX] Limit for the number of protocol signal re-transmissions is exceeded at time of transmission	
Cause	Countermeasure
<ul style="list-style-type: none"> • (After Q signal is output after the image signal) The line condition is poor and the other party's machine can not properly receive the image signal or Q signal. 	<ul style="list-style-type: none"> • (After Q signal is output after the image signal) <ol style="list-style-type: none"> (1) Raise the modem output level in #2 MENU parameter 007, so the other party's machine can properly receive the image signal or Q signal. (2) Lower the Tx start speed in user mode system settings. (3) Adjust the NL equalizer in #2 MENU parameter 005, so the other party's machine can properly receive the image signal or Q signal. (4) Add an echo protect tone to the V29 modem signal using #1 SSSW-SW03 Bit 1.
<ul style="list-style-type: none"> • (After TCF is before after the image signal) The output level is low and the other party's machine can not properly receive the signal. 	<ul style="list-style-type: none"> • (After TCF is output before the image signal) Raise the modem output level in #2 MENU parameter 007, so the other party's machine can properly receive the image signal or Q signal.
<ul style="list-style-type: none"> • (After TCF is output before the image signal) The other party's machine malfunctions due to echo. 	<ul style="list-style-type: none"> • (After TCF is output before the image signal) <ol style="list-style-type: none"> (1) Refer to #1 SSSW-SW03 for echo countermeasures. (2) When registering in autodial, add a long pause after the telephone number so there will be no response to the other party's first DIS. (3) When calling manually, press the start button after you have heard the other party's first DIS.

##0101 [TX/RX] Modem speed does not match other party's machine	
Cause	Countermeasure
<ul style="list-style-type: none"> • (At time of transmission) Modem speed does not match that of the other party's machine. • (At time of transmission) Speed does not the other party's machine in fall back. • (At time of reception) Modem speed does not match that of the other party's machine. 	<ul style="list-style-type: none"> • (At time of transmission) No countermeasure is possible because modem speed is a specification of the machine. • (At time of transmission) <ol style="list-style-type: none"> (1) Raise the modem output level in #2 MENU parameter 007, so the other party's machine can properly receive TCF. (2) Adjust the NL equalizer in #2 MENU parameter 005, so the other party's machine can properly receive TCF. (3) When registering in autodial, add a long pause after the telephone number so there will be no response to the other party's first DIS. (4) When calling manually, press the start button after you have heard the other party's first DIS. • (At time of reception) No countermeasure is possible because modem speed is a specification of the machine.

##0102 [TX] Fall back not possible at time of transmission	
Cause	Countermeasure
<ul style="list-style-type: none"> • The line condition is poor and TCF is not properly transmitted. • The other party's machine malfunctions due to echo. 	<ol style="list-style-type: none"> (1) Raise the modem output level in #2 MENU parameter 007, so the other party's machine can properly receive TCF. (2) Adjust the NL equalizer in #2 MENU parameter 005, so the other party's machine can properly receive TCF. (1) Refer to #1 SSSW-SW03 for echo countermeasures. (2) When registering in autodial, add a long pause after the telephone number so there will be no response to the other party's first DIS. (3) When calling manually, press the start button after you have heard the other party's first DIS. (4) Have the other party lower the output level so the other party's machine will not receive echoes.

##0103 [RX] EOL can not be detected for 5 seconds during reception	
Cause	Countermeasure
<ul style="list-style-type: none"> The line condition is poor and the image signal can not be properly received. 	<ol style="list-style-type: none"> Raise the modem output level in #2 MENU parameter 007, so the other party's machine can properly receive the image signal. Have the other party lower the other machine's transmission start speed. Adjust the NL equalizer in #2 MENU parameter 005, so the other party's machine can properly receive the image signal.
<ul style="list-style-type: none"> Malfunction due to CFR echo. 	<ol style="list-style-type: none"> Refer to #1 SSSW-SW03 for echo countermeasures. Lower the modem output level in #2 MENU parameter 007, so the transmitted CFR echo is not received.

##0104 [TX] RTN or PIN received at time of transmission	
Cause	Countermeasure
<ul style="list-style-type: none"> The line condition is poor and the image signal can not be properly received by the other party's machine. 	<ol style="list-style-type: none"> Raise the modem output level in #2 MENU parameter 007, so the other party's machine can properly receive the image signal. Lower the Tx start speed in user mode system settings. Add an echo protect tone to the V29 modem signal in #1 SSSW-SW03 Bit 1. Have the other party ease the RTN transmission conditions for their machine so that RTN will not be transmitted by the other party's machine. Adjust the NL equalizer in #2 MENU parameter 005, so the other party's machine can properly receive the image signal.
<ul style="list-style-type: none"> The other party's machine malfunctions due to echo. 	<ol style="list-style-type: none"> Refer to #1 SSSW-SW03 for echo countermeasures When registering in autodial, add a long pause after the telephone number so there will be no response to the other party's first DIS. When calling manually, press the start button after you have heard the other party's first DIS. Have the other party lower the output level so the other party's machine will not receive echoes.

##0106 [RX] Protocol signal can not be received for 6 seconds in protocol signal standby during reception	
Cause	Countermeasure
<ul style="list-style-type: none"> • The line condition is poor and the protocol signal can not be properly received by other party's machine. • The line condition is poor and the image signal can not be properly received by the other party's machine. • Malfunction due to echo. 	<ul style="list-style-type: none"> • Have the other party raise the output level so the protocol signal can be properly received. • Raise the modem output level in #2 MENU parameter 007, so the other party's machine can properly receive the signal. <ol style="list-style-type: none"> (1) Refer to #1 SSSW-SW03 for echo countermeasures (2) Lower the modem output level in #2 MENU parameter 007, so the transmitted CFR echo is not received.

##0107 [RX] Fall back not possible for the transmitting machine during reception	
Cause	Countermeasure
<ul style="list-style-type: none"> • The line condition is poor. After a 2400 bit/s signal is received, the signal from the other party's machine is not properly received. • Malfunction due to echo. 	<ol style="list-style-type: none"> (1) Have the other party's machine's output level raised so the other party's machine's signal is properly received. (2) Adjust the NL equalizer in #2 MENU parameter 005, so the other party's machine can properly receive the TCF. (3) Ease the RTN transmission conditions by #3 NUMERIC Param. 002-004, so RTN is not output. <ol style="list-style-type: none"> (1) Refer to #1 SSSW-SW03 for echo countermeasures. (2) Lower the modem output level in #2 MENU parameter 007, so the transmitted signal's echo is not received.

##0109 [TX] Signals other than DIS, DTC, FTT, CFR and CRP are received and the limit for the number of protocol signal re-transmissions is exceeded after DCS output during transmission	
Cause	Countermeasure
<ul style="list-style-type: none"> • Protocol signal abnormality. 	<ul style="list-style-type: none"> • Record the Communication protocol on DAT and request it to be analyzed by the Technical Center.

##0111 [TX/RX] Memory error	
Cause	Countermeasure
<ul style="list-style-type: none"> • Data error occurs due to noise during printing output of data stored in image memory. • Mis-dialing was attempted due to noise. (The telephone number pointer for printing/display does not match the pointer for dialing.) 	<ul style="list-style-type: none"> • Output all data, then clear all data and reregister the data. • Replace the modem board.

##0114 [RX] RTN is output at time of reception	
Cause	Countermeasure
<ul style="list-style-type: none"> • The line condition is poor and the image signal can not be properly received from the other party's machine. • Malfunction due to CFR echo. 	<ol style="list-style-type: none"> (1) Have the other party's machine's output level raised so the image signal can be properly received. (2) Have the other party's machine's transmission start speed lowered. (3) Adjust the NL equalizer in #2 MENU parameter 005, so the other party's machine can properly receive the image signal. (4) Ease the RTN transmission conditions by #3 NUMERIC Param. 002-004, so RTN is not output. <ol style="list-style-type: none"> (1) Refer to #1 SSSW-SW03 for echo countermeasures. (2) Lower the modem output level in #2 MENU parameter 007, so the output CFR echo is not received.

##0200 [RX] Carrier can not be detected for 5 seconds during image reception during reception	
Cause	Countermeasure
<ul style="list-style-type: none"> • The line condition is poor and the image signal can not be properly received. • Time limit is exceeded because the training signal can not be received due to CFR echo. 	<ol style="list-style-type: none"> (1) Have the other party's machine's output level raised so the image signal can be properly received. (2) Have the other party's machine's transmission start speed lowered. <ol style="list-style-type: none"> (1) Refer to #1 SSSW-SW03 for echo countermeasures. (2) Lower the modem output level in #2 MENU parameter 007, so the output CFR echo is not received.

##0201 [TX/RX] DCN reception by other than normal binary protocol	
Cause	Countermeasure
<ul style="list-style-type: none"> • The other party's machine is not capable of reception. (No paper) • User's telephone number is not registered. (When the other party's machine is a Ricoh 3000L) • Password does not match for polling reception. • Document is not set for polling transmission. • Reception was attempted but there is no paper. • The line condition is poor and the other party's machine can not properly receive the protocol signal. • Malfunction due to echo. • Image signal or Q signal can not be received. The other party's machine has exceeded the limit for number of protocol signal re-transmissions. • The line condition is poor and the other party's transmitting machine can not fall back. 	<ul style="list-style-type: none"> • Have the other party's machine set so that it can receive. (Set paper) • Register the user's telephone number. • When the other party's machine is the same model, contact the other party and synchronize the passwords. When the other party's machine is made by another manufacturer, contact the other party and have them set the machine so that it can perform polling transmission. • Set the document and have the other party's machine call again. • Set paper. • Raise the modem output level in #2 MENU parameter 007, so the other party's machine can properly receive the protocol signal. <ol style="list-style-type: none"> (1) Refer to #1 SSSW-SW03 for echo countermeasures (2) Lower the modem output level in #2 MENU parameter 007, so the output echo is not received. • Have the other party's machine's output level raised so the other party's machine's signal is properly received. <ol style="list-style-type: none"> (1) Have the other party's machine's output level raised so the other party's machine's signal is properly received. (2) Adjust the NL equalizer in #2 MENU parameter 005, so the other party's machine can properly receive the signal. (3) Have the other party's machine's transmission start speed lowered. • Ease the RTN transmission conditions by #3 NUMERIC Param. 002-004, so RTN is not output. <ol style="list-style-type: none"> (1) Ease the RTN transmission conditions by #3 NUMERIC Param. 002-004, so RTN is not output. (2) Adjust the NL equalizer in #2 MENU parameter 005, so the signal is properly received.

##0224 [TX/RX] Trouble occurs in the protocol signal during G3 communications	
Cause	Countermeasure
<ul style="list-style-type: none"> • Protocol signal fault. 	<ul style="list-style-type: none"> • Record the communication protocol on DAT and analyze it.

##226 [TX/RX] System error (main program error)	
Cause	Countermeasure
<ul style="list-style-type: none"> • CPU malfunctioned due to noise. 	<ul style="list-style-type: none"> • Turn the power off then on.

##229 [RX] Memory reception due to recording system lock	
Cause	Countermeasure
<ul style="list-style-type: none"> • Unknown. 	<ul style="list-style-type: none"> • Press the start key and print the image.

##0232 [TX] ENCODE control unit malfunction	
Cause	Countermeasure
<ul style="list-style-type: none"> • ENCODE control's UPI operation did not end normally. 	<ul style="list-style-type: none"> • Replace the image processor PCB.

##0237 [RX] DECODE control unit malfunction	
Cause	Countermeasure
<ul style="list-style-type: none"> • DECODE control's UPI operation did not end normally. 	<ul style="list-style-type: none"> • Replace image processor PCB.

##0238 [RX] PRINT control unit malfunction	
Cause	Countermeasure
<ul style="list-style-type: none"> • PRINT control's UPI operation did not end normally. 	<ul style="list-style-type: none"> • Replace the DC controller PCB.

##0261 [TX/RX] System error occurred between modem and gate array	
Cause	Countermeasure
<ul style="list-style-type: none"> Internal unit fault (When RS became 1, CS did not become 1.) 	<ul style="list-style-type: none"> Replace the modem PCB.

##0280 [TX] Limit for the number of protocol signal re-transmissions is exceeded during transmission	
Cause	Countermeasure
<ul style="list-style-type: none"> Output level is low. After TCF output the other party's machine can not properly receive the appropriate signal. Other party's machine malfunctioned due to echo. 	<ul style="list-style-type: none"> Raise the modem output level in #2 MENU parameter 007, so the other party's machine can properly receive the appropriate signal. (1) Refer to #1 SSSW-SW03 for echo countermeasures. (2) When registering in autodial, add a long pause after the telephone number so there will be no response to the other party's first DIS. (3) When calling manually, press the start button after you have heard the other party's first DIS. (4) Have the other party lower the output level so the other party's machine will not receive echoes.

##0281 [TX] Limit for the number of protocol signal re-transmissions is exceeded during transmission	
Cause	Countermeasure
<ul style="list-style-type: none"> The line condition is poor. After EOP output the appropriate signal can not be received because the image signal or EOP signal is not being properly transmitted. 	<ul style="list-style-type: none"> (1) Raise the modem output level in #2 MENU parameter 007, so the other party's machine can properly receive the image signal or EOP signal. (2) Lower the Tx start speed in user mode system settings. (3) Adjust the NL equalizer in #2 MENU parameter 005, so the other party's machine can properly receive the image signal or EOP signal. (4) Add an echo protect tone to the V29 modem signal in #1 SSSW-SW03 Bit 1.

0282 [TX] Limit for the number of protocol signal re-transmissions is exceeded during transmission

Cause	Countermeasure
<ul style="list-style-type: none"> The line condition is poor. After EOM output the appropriate signal can not be received because the image signal or EOM signal is not being properly transmitted. 	<ol style="list-style-type: none"> Raise the modem output level in #2 MENU parameter 007, so the other party's machine can properly receive the image signal or EOM signal. Lower the Tx start speed in user mode system settings. Adjust the NL equalizer in #2 MENU parameter 005, so the other party's machine can properly receive the image signal or EOM signal. Add an echo protect tone to the V29 modem signal in #1 SSSW-SW03 Bit 1.

##0283 [TX] Limit for the number of protocol signal re-transmissions is exceeded during transmission

Cause	Countermeasure
<ul style="list-style-type: none"> The line condition is poor. After MPS output the appropriate signal can not be received because the image signal or MPS signal is not being properly transmitted. 	<ol style="list-style-type: none"> Raise the modem output level in #2 MENU parameter 007, so the other party's machine can properly receive the image signal or MPS signal. Lower the Tx start speed in user mode system settings. Adjust the NL equalizer in #2 MENU parameter 005, so the other party's machine can properly receive the image signal or MPS signal. Add an echo protect tone to the V29 modem signal in #1 SSSW-SW03 Bit 1.

##0284 [TX] TCF output malfunction, DCN received during transmission	
Cause	Countermeasure
<ul style="list-style-type: none"> • The other party's machine can not receive. (no paper) • User's telephone number is not registered. (When the other party's machine is a Ricoh 3000L) • The other party's machine can not receive. • The other party's machine malfunctions due to echo. • A relay origination was issued to the other party's machine, but the other party's machine is in the midst of a relay broadcast. 	<ul style="list-style-type: none"> • Contact the other party and have the machine set so it can receive. • Register the user's telephone number. • Raise the modem output level in #2 MENU parameter 007, so the other party's machine can receive. (1) Refer to #1 SSSW-SW03 for echo countermeasures. (2) When registering in autodial, add a long pause after the telephone number so there will be no response to the other party's first DIS. (3) When calling from the numeric key pad, press the start button after you have heard the other party's first DIS. (4) Have the other party raise the output level so the other party's machine will not receive echoes. • Wait and resend at another time.

##0285 [TX] DCN received after EOP output at time of transmission	
Cause	Countermeasure
<ul style="list-style-type: none"> • Stop key is pressed during communications. 	<ul style="list-style-type: none"> • Resend.

##0286 [TX] DCN received after EOM output at time of transmission	
Cause	Countermeasure
<ul style="list-style-type: none"> • Stop key is pressed during communications. 	<ul style="list-style-type: none"> • Resend.

##0287 [TX] DCN received after MPS output at time of transmission	
Cause	Countermeasure
<ul style="list-style-type: none"> • Stop key is pressed during communications. 	<ul style="list-style-type: none"> • Resend.

##0288 [TX] Signal other than PIN, PIP, MCF, RTP, RTN received after EOP output at time of transmission

Cause	Countermeasure
<ul style="list-style-type: none"> • Protocol signal abnormality. 	<ul style="list-style-type: none"> • Record the communication procedure sound on DAT and analyze it.

##0289 [TX] Signal other than PIN, PIP, MCF, RTP, RTN received after EOM output at time of transmission

Cause	Countermeasure
<ul style="list-style-type: none"> • Protocol signal abnormality. 	<ul style="list-style-type: none"> • Record the communication procedure sound on DAT and analyze it.

##0290 [TX] Signal other than PIN, PIP, MCF, RTP, RTN received after MPS output at time of transmission

Cause	Countermeasure
<ul style="list-style-type: none"> • Protocol signal abnormality. 	<ul style="list-style-type: none"> • Record the communication procedure sound on DAT and analyze it.

##0322 [RX] Fixing assembly failure

Cause	Countermeasure
<ul style="list-style-type: none"> • Internal unit fault. 	<ol style="list-style-type: none"> (1) Check if the fixing assembly is properly installed in the printer unit. (2) Remove the fixing assembly and check the resistance values in the fixing assembly connector terminals. When room temperature is 20°C J161 (AC side) between 1P and 3P: $18\Omega \pm 7\%$ between 2P and 3P: $18\Omega \pm 7\%$ J161 (DC side) between 1P and 2P: approx. 1755Ω When the resistance values are off, replace the fixing assembly. (3) Replace the DC controller PCB.

##0323 [RX] Abnormal nBD signal output in the laser scanner unit	
Cause	Countermeasure
<ul style="list-style-type: none"> Internal unit fault. (laser light intensity does not meet the specification) 	<ol style="list-style-type: none"> Check the connection of the cable between the laser scanner unit and the DC controller PCB. Replace the laser scanner unit. Replace the DC controller PCB.
<ul style="list-style-type: none"> Internal unit fault. (abnormal nBD signal timing) 	<ol style="list-style-type: none"> Check the connection of the cable between the laser scanner unit and the DC controller PCB. Replace the laser scanner unit. Replace the DC controller PCB.

##0324 [RX] Abnormal number of laser scanner motor revolutions	
Cause	Countermeasure
<ul style="list-style-type: none"> Internal unit fault. 	<ol style="list-style-type: none"> Check the connection of the cable between the laser scanner unit and the DC controller PCB. Replace the laser scanner unit. Replace the DC controller PCB.

##0325 [RX] Main motor/exhaust fan trouble	
Cause	Countermeasure
<ul style="list-style-type: none"> Internal unit fault. (main motor does not turn) 	<ol style="list-style-type: none"> Check the connection between the main motor and the DC controller PCB. Check that the main motor is not over-loaded. Replace the main motor. Replace the DC controller PCB.
<ul style="list-style-type: none"> Internal unit fault. (exhaust fan does not turn) 	<ol style="list-style-type: none"> Check the connection between the fan and the DC controller PCB. Replace the fan Replace the DC controller PCB.

##0671 [RX] Line is released due to T1 time-out when the procedure does not proceed beyond phase 2 after detection of CM signal on the calling side at the time a V.8 call is received

Cause	Countermeasure
<ul style="list-style-type: none"> The caller's line is cut at phase 1 or the caller's signal is not detected. 	<ul style="list-style-type: none"> Prohibit the caller's V.8/V.34 protocol with #1 SSSW-SW28 Bit 1. Adjust the output level to a range of -8 to -15dBm.

##0672 [TX] Line is released due to T1 time-out when the procedure does not proceed from phase 2 to beyond phase 3 during V.34 transmission

Cause	Countermeasure
<ul style="list-style-type: none"> The recipient's line is cut at phase 1 or the recipient's signal is not detected. 	<ul style="list-style-type: none"> Prohibit the caller's V.8/V.34 protocol with #1 SSSW-SW28 Bit 0. Adjust the output level to a range of -8 to -15dBm.

##0673 [RX] Line is released due to T1 time-out when the procedure does not proceed from phase 2 to beyond phase 3 during V.34 reception

Cause	Countermeasure
<ul style="list-style-type: none"> The transmitter's line is cut at phase 2 or the transmitter's signal is not detected. 	<ul style="list-style-type: none"> Prohibit the caller's V.8/V.34 protocol with #1 SSSW-SW28 Bit 1. Adjust the output level to a range of -8 to -15dBm.

##0674 [TX] Line is released due to T1 time-out when the procedure does not proceed from phase 3 and phase 4 to beyond the control channel during V.34 transmission

Cause	Countermeasure
<ul style="list-style-type: none"> The transmitter's line is cut at phase 3 or phase 4, or the recipient's signal is not detected. 	<ul style="list-style-type: none"> Prohibit the caller's V.8/V.34 protocol with #1 SSSW-SW28 Bit 0. Adjust the output level to a range of -8 to -15dBm.

##0675 [RX] Line is released due to T1 time-out when the procedure does not proceed from phase 3 and phase 4 to beyond the control channel during V.34 transmission	
Cause	Countermeasure
<ul style="list-style-type: none"> The transmitter's line is cut at phase 3 or phase 4, or the transmitter's signal is not detected 	<ul style="list-style-type: none"> Prohibit the caller's V.8/V.34 protocol with #1 SSSW-SW28 Bit 1. Adjust the output level to a range of -8 to -15dBm.

##0750 [TX] A significant signal is not received and the number of protocol signal re-transmissions is exceeded after PPS-NULL output	
Cause	Countermeasure
<ul style="list-style-type: none"> The line condition is poor and PPS-NULL is not properly transmitted. The line is poor and the signal can not be received properly. 	<ul style="list-style-type: none"> (1) Raise the modem output level in #2 MENU parameter 007, so the other party's machine can properly receive PPS-NULL. (2) Adjust the NL equalizer in #2 MENU parameter 005, so the other party's machine can properly receive PPS-NULL. (3) Add an echo protect tone to the V29 modem signal in #1 SSSW-SW03 Bit 1. Have the other party's machine's output level raised so the signal can be received properly.

##0752 [TX] DCN received after PPS-NULL transmission	
Cause	Countermeasure
<ul style="list-style-type: none"> The line condition is poor and PPS-NULL can not be properly received. The stop button was pressed during communications. 	<ul style="list-style-type: none"> Raise the modem output level in #2 MENU parameter 007, so the other party's machine can properly receive PPS-NULL. Resend.

##0753 [TX] Limit for the number of protocol signal re-transmissions is exceeded or T5 time limit (60 seconds) is exceeded after PPS-NULL output

Cause	Countermeasure
<ul style="list-style-type: none"> The other party's machine's page buffer is full, or RNR was received after output of PPS-NULL because the machine was in use, and after RR output a significant signal could not be properly received. 	<ol style="list-style-type: none"> Set ECM Tx to "OFF" in the user mode data entry's Tx settings function settings Lower the Tx speed setting in the user mode.

##0754 [TX] Limit for number of protocol signal re-transmissions is exceeded after PPS-NULL output

Cause	Countermeasure
<ul style="list-style-type: none"> The line condition is poor. After PPS-NULL output, PPR was received 4 times and CTC was output, but the other party's machine can not receive properly. The line condition is poor. After PPS-NULL output, PPR was received 4 times and CTC was output, but a significant signal can not be properly received. 	<ul style="list-style-type: none"> Raise the modem output level in #2 MENU parameter 007, so the other party's machine can properly receive CTC. Have the other party raise the output level so the signal can be received properly.

##0755 [TX] A significant signal can not be detected and the limit for number of protocol signal re-transmissions is exceeded after PPS-MPS output

Cause	Countermeasure
<ul style="list-style-type: none"> The line condition is poor and PPS-MPS is not transmitted properly. The line condition is poor and the signal can not be received properly. 	<ol style="list-style-type: none"> Raise the modem output level in #2 MENU parameter 007, so the other party's machine can properly receive PPS-MPS. Adjust the NL equalizer in #2 MENU parameter 005, so the other party's machine can properly receive PPS-MPS. Add an echo protect tone to the V29 modem signal in #1 SSSW-SW03 Bit 1. <ul style="list-style-type: none"> Have the other party's machine's output level raised so the signal can be received properly.

##0757 [TX] DCN received after PPS-MPS output	
Cause	Countermeasure
<ul style="list-style-type: none"> • The line condition is poor and PPS-MPS can not be properly received. • The stop button was pressed during communications. 	<ul style="list-style-type: none"> • Raise the modem output level in #2 MENU parameter 007, so the other party's machine can properly receive PPS-MPS. • Resend.

##0758 [TX] Limit for the number of protocol signal re-transmissions is exceeded or T5 time limit (60 seconds) is exceeded after PPS-MPS output	
Cause	Countermeasure
<ul style="list-style-type: none"> • The other party's machine's page buffer is full, or RNR was received after output of PPS-MPS because the machine was in use, and after RR output a significant signal could not be properly received. 	<ol style="list-style-type: none"> (1) Set ECM Tx to "OFF" in the user mode data entry's Tx settings. (2) After registering one-touch or coded dialing in the user mode, lower Tx speed setting using detailed settings.

##0759 [TX] Limit for number of protocol signal re-transmissions is exceeded after PPS-MPS output	
Cause	Countermeasure
<ul style="list-style-type: none"> • The line condition is poor. After PPS-MPS output, PPR was received 4 times and CTC was output, but the other party's machine can not receive properly. • The line condition is poor. After PPS-MPS output, PPR was received 4 times and CTC was output, but a significant signal can not be properly received. 	<ul style="list-style-type: none"> • Raise the modem output level in #2 MENU parameter 007, so the other party's machine can properly receive CTC. • Have the other party raise the output level so the signal can be received properly.

##0760 [TX] A significant signal can not be detected and the limit for number of protocol signal re-transmissions is exceeded after PPS-EOM output

Cause	Countermeasure
<ul style="list-style-type: none"> The line condition is poor and the other party's machine can not receive PPS-EOM properly. 	<ol style="list-style-type: none"> Raise the modem output level in #2 MENU parameter 007, so the other party's machine can properly receive PPS-EOM. Adjust the NL equalizer in #2 MENU parameter 005, so the other party's machine can properly receive PPS-EOM. Add an echo protect tone to the V29 modem signal in #1 SSSW-SW03 Bit 1.
<ul style="list-style-type: none"> The line condition is poor and the signal can not be received properly. 	<ul style="list-style-type: none"> Have the other party's machine's output level raised so the signal can be received properly.

##0762 [TX] DCN received after PPS-EOM output

Cause	Countermeasure
<ul style="list-style-type: none"> The line condition is poor and PPS-EOM can not be properly received. 	<ul style="list-style-type: none"> Raise the modem output level in #2 MENU parameter 007, so the other party's machine can properly receive PPS-EOM.
<ul style="list-style-type: none"> The stop button was pressed during communications. 	<ul style="list-style-type: none"> Resend.

##0763 [TX] Limit for the number of protocol signal re-transmissions is exceeded or T5 time limit (60 seconds) is exceeded after PPS-EOM output

Cause	Countermeasure
<ul style="list-style-type: none"> The other party's machine's page buffer is full, or RNR was received after output of PPS-EOM because the machine was in use, and after RR output a significant signal could not be properly received. 	<ol style="list-style-type: none"> Set ECM Tx to "OFF" in the user mode data entry's Tx settings. After registering one-touch or coded dialing in the user mode, lower Tx speed setting using detailed settings.

##0764 [TX] Limit for number of protocol signal re-transmissions is exceeded after PPS-EOM output	
Cause	Countermeasure
<ul style="list-style-type: none"> • The line condition is poor. After PPS-EOM output, PPR was received 4 times and CTC was output, but the other party's machine can not receive properly. • The line condition is poor. After PPS-EOM output, PPR was received 4 times and CTC was output, but a significant signal can not be properly received. 	<ul style="list-style-type: none"> • Raise the modem output level in #2 MENU parameter 007, so the other party's machine can properly receive CTC. • Have the other party raise the output level so the signal can be received properly.

##0765 [TX] A significant signal can not be detected and the limit for number of protocol signal re-transmissions is exceeded after PPS-EOP output	
Cause	Countermeasure
<ul style="list-style-type: none"> • The line condition is poor and the other party's machine can not receive PPS-EOP properly. • The line condition is poor and the signal can not be received properly. 	<ol style="list-style-type: none"> (1) Raise the modem output level in #2 MENU parameter 007, so the other party's machine can properly receive PPS-EOP. (2) Adjust the NL equalizer in #2 MENU parameter 005, so the other party's machine can properly receive PPS-EOP. (3) Add an echo protect tone to the V29 modem signal in #1 SSSW-SW03 Bit 1. <ul style="list-style-type: none"> • Have the other party's machine's output level raised so the signal can be received properly.

##0767 [TX] DCN received after PPS-EOP output	
Cause	Countermeasure
<ul style="list-style-type: none"> • The line condition is poor and PPS-EOP can not be properly received. • The stop button was pressed during communications. 	<ul style="list-style-type: none"> • Raise the modem output level in #2 MENU parameter 007, so the other party's machine can properly receive PPS-EOP. • Resend.

##0768 [TX] Limit for the number of protocol signal re-transmissions is exceeded or T5 time limit (60 seconds) is exceeded after PPS-EOP output

Cause	Countermeasure
<ul style="list-style-type: none"> The other party's machine's page buffer is full, or RNR was received after output of PPS-EOP because the machine was in use, and after RR output a significant signal could not be properly received. 	<ol style="list-style-type: none"> Set ECM Tx to "OFF" in the user mode data entry's Tx settings. After registering one-touch or coded dialing in the user mode, lower Tx speed setting using detailed settings.

##0769 [TX] Limit for number of protocol signal re-transmissions is exceeded after PPS-EOP output

Cause	Countermeasure
<ul style="list-style-type: none"> The line condition is poor. After PPS-EOP output, PPR was received 4 times and CTC was output, but the other party's machine can not receive properly. The line condition is poor. After PPS-EOP output, PPR was received 4 times and CTC was output, but a significant signal can not be properly received. 	<ul style="list-style-type: none"> Raise the modem output level in #2 MENU parameter 007, so the other party's machine can properly receive CTC. Have the other party raise the output level so the signal can be received properly.

##0770 [TX] A significant signal can not be detected and the limit for number of protocol signal re-transmissions is exceeded after EOR-NULL output

Cause	Countermeasure
<ul style="list-style-type: none"> The line condition is poor and the other party's machine can not receive EOR-NULL properly. The line condition is poor and the signal can not be received properly. 	<ul style="list-style-type: none"> Raise the modem output level in #2 MENU parameter 007, so the other party's machine can properly receive EOR-NULL. Have the other party's machine's output level raised so the signal can be received properly.

##0772 [TX] DCN received after EOR-NULL output	
Cause	Countermeasure
<ul style="list-style-type: none"> The line condition is poor and EOR-NULL can not be properly received. The line condition is poor and the signal can not be properly received. 	<ul style="list-style-type: none"> Raise the modem output level in #2 MENU parameter 007, so the other party's machine can properly receive EOR-NULL. Resend.

##0773 [TX] Limit for the number of protocol signal re-transmissions is exceeded or T5 time limit (60 seconds) is exceeded after EOR-NULL output	
Cause	Countermeasure
<ul style="list-style-type: none"> The other party's machine's page buffer is full, or RNR was received after output of EOR-NULL because the machine was in use, and after RR output a significant signal could. 	<ol style="list-style-type: none"> Set ECM Tx to "OFF" in the user mode data entry's Tx settings. After registering one-touch or coded dialing in the user mode, lower Tx speed setting using detailed settings.

##0774 [TX] ERR received after EOR-NULL output	
Cause	Countermeasure
<ul style="list-style-type: none"> The line condition is poor and frequently the other party's machine can not properly receive the image signal. The other party's machine malfunctions due to echo. 	<ol style="list-style-type: none"> Raise the modem output level in #2 MENU parameter 007, so the other party's machine can properly receive the image signal. Adjust the NL equalizer in #2 MENU parameter 005, so the other party's machine can properly receive the image signal. Refer to #1 SSSW-SW03 for echo countermeasures. When registering in autodial, add a long pause after the telephone number so there will be no response to the other party's first DIS. When calling using the dial button, manually press the start button after you have heard the other party's first DIS. Have the other party lower the output level so the other party's machine will not receive echoes.

##0775 [TX] A significant signal can not be detected and the limit for number of protocol signal re-transmissions is exceeded after EOR-MPS output

Cause	Countermeasure
<ul style="list-style-type: none"> • The line condition is poor and the other party's machine can not properly receive EOR-MPS. • The line condition is poor and the signal can not be received properly. 	<ul style="list-style-type: none"> • Raise the modem output level in #2 MENU parameter 007, so the other party's machine can properly receive EOR-MPS. • Have the other party's machine's output level raised so the signal can be received properly.

##0777 [TX] DCN received after EOR-MPS output

Cause	Countermeasure
<ul style="list-style-type: none"> • The line condition is poor and the other party's machine can not properly receive EOR-MPS. • The stop button was pressed during communications. 	<ul style="list-style-type: none"> • Raise the modem output level in #2 MENU parameter 007, so the other party's machine can properly receive EOR-MPS. • Resend.

##0778 [TX] Limit for the number of protocol signal re-transmissions is exceeded or T5 time limit (60 seconds) is exceeded after PPS-MPS output

Cause	Countermeasure
<ul style="list-style-type: none"> • The other party's machine's page buffer is full, or RNR was received after output of PPS-MPS because the machine was in use, and after RR output a significant signal could not be properly received. 	<ol style="list-style-type: none"> (1) Set ECM Tx to "OFF" in the user mode data registration's Tx settings. (2) After registering one-touch or coded dialing in the user mode, lower Tx speed setting using detailed settings.

##0779 [TX] ERR received after EOR-MPS output	
Cause	Countermeasure
<ul style="list-style-type: none"> The line condition is poor and frequently the other party's machine can not properly receive the image signal. 	<ol style="list-style-type: none"> Raise the modem output level in #2 MENU parameter 007, so the other party's machine can properly receive the image signal. Adjust the NL equalizer in #2 MENU parameter 005, so the other party's machine can properly receive the image signal.
<ul style="list-style-type: none"> The other party's machine malfunctions due to echo. 	<ol style="list-style-type: none"> Refer to #1 SSSW-SW03 for echo countermeasures. When registering in autodial, add a long pause after the telephone number so there will be no response to the other party's first DIS. When calling manually, press the start button after you have heard the other party's first DIS. Have the other party lower the output level so the other party's machine will not receive echoes.

##0780 [TX] A significant signal can not be detected and the limit for number of protocol signal re-transmissions is exceeded after EOR-EOM output	
Cause	Countermeasure
<ul style="list-style-type: none"> The line condition is poor and the other party's machine can not properly receive EOR-EOM. The line condition is poor and the signal can not be received properly. 	<ul style="list-style-type: none"> Raise the modem output level in #2 MENU parameter 007, so the other party's machine can properly receive EOR-EOM. Have the other party's machine's output level raised so the signal can be received properly.

##0782 [TX] DCN received after EOR-EOM output	
Cause	Countermeasure
<ul style="list-style-type: none"> The line condition is poor and the other party's machine can not properly receive EOR-EOM. The stop button was pressed during communications. 	<ul style="list-style-type: none"> Raise the modem output level in #2 MENU parameter 007, so the other party's machine can properly receive EOR-EOM. Resend.

##0783 [TX] Limit for the number of protocol signal re-transmissions is exceeded or T5 time limit (60 seconds) is exceeded after PPS-EOM output

Cause	Countermeasure
<ul style="list-style-type: none"> The other party's machine's page buffer is full, or RNR was received after output of PPS-EOM because the machine was in use, and after RR output a significant signal could not be properly received. 	<ol style="list-style-type: none"> Set ECM Tx to "OFF" in the user mode data registration's Tx settings. After registering one-touch or coded dialing in the user mode, lower Tx speed setting using detailed settings.

##0784 [TX] ERR received after EOR-EOM output

Cause	Countermeasure
<ul style="list-style-type: none"> The line condition is poor and frequently the other party's machine can not properly receive the image signal. The other party's machine malfunctions due to echo. 	<ol style="list-style-type: none"> Raise the modem output level in #2 MENU parameter 007, so the other party's machine can properly receive the image signal. Adjust the NL equalizer in #2 MENU parameter 005, so the other party's machine can properly receive the image signal. Refer to #1 SSSW-SW03 for echo countermeasures. When registering in autodial, add a long pause after the telephone number so there will be no response to the other party's first DIS. When calling manually, press the start button after you have heard the other party's first DIS. Have the other party lower the output level so the other party's machine will not receive echoes.

##0785 [TX] A significant signal can not be detected and the limit for number of protocol signal re-transmissions is exceeded after EOR-EOP output

Cause	Countermeasure
<ul style="list-style-type: none"> The line condition is poor and the other party's machine can not properly receive EOR-EOP. The line condition is poor and the signal can not be received properly. 	<ul style="list-style-type: none"> Raise the modem output level in #2 MENU parameter 007, so the other party's machine can properly receive EOR-EOP. Have the other party's machine's output level raised so the signal can be received properly.

##0787 [TX] DCN received after EOR-EOP output	
Cause	Countermeasure
<ul style="list-style-type: none"> • The line condition is poor and the other party's machine can not properly receive EOR-EOP. • The stop button was pressed during communications. 	<ul style="list-style-type: none"> • Raise the modem output level in #2 MENU parameter 007, so the other party's machine can properly receive EOR-EOP. • Resend.

##0788 [TX] Limit for the number of protocol signal re-transmissions is exceeded or T5 time limit (60 seconds) is exceeded after EOR-EOP output	
Cause	Countermeasure
<ul style="list-style-type: none"> • The other party's machine's page buffer is full, or RNR was received after output of EOR-EOP because the machine was in use, and after RR output a significant signal could not be properly received. 	<ol style="list-style-type: none"> (1) Set ECM Tx to "OFF" in the user mode data registration's Tx settings. (2) After registering one-touch or coded dialing in the user mode, lower Tx speed setting using detailed settings.

##0789 [TX] ERR received after EOR-EOP output	
Cause	Countermeasure
<ul style="list-style-type: none"> • The line condition is poor and frequently the other party's machine can not properly receive the image signal. • The other party's machine malfunctions due to echo. 	<ol style="list-style-type: none"> (1) Raise the modem output level in #2 MENU parameter 007, so the other party's machine can properly receive the image signal. (2) Adjust the NL equalizer in #2 MENU parameter 005, so the other party's machine can properly receive the image signal. (1) Refer to #1 SSSW-SW03 for echo countermeasures. (2) When registering in autodial, add a long pause after the telephone number so there will be no response to the other party's first DIS. (3) When calling manually, press the start button after you have heard the other party's first DIS. (4) Have the other party lower the output level so the other party's machine will not receive echoes.

##0790 [RX] ERR output after EOR-Q reception	
Cause	Countermeasure
<ul style="list-style-type: none"> The line condition is poor and frequently the other party's machine can not properly receive the image signal. The other party's machine malfunctions due to echo. 	<ul style="list-style-type: none"> (1) Have the other party's machine's output level raised so the signal can be received properly. (2) Adjust the NL equalizer in #2 MENU parameter 005, so the other party's machine can properly receive the image signal. Refer to #1 SSSW-SW03 for echo counter-measures.

##0791 [TX/RX] Signal other than a significant signal received during ECM mode procedure	
Cause	Countermeasure
<ul style="list-style-type: none"> Protocol signal abnormality 	<ul style="list-style-type: none"> (1) Record the communication signal on DAT and analyze it.

##0793 [RX] Valid frame can not be detected and the time limit is exceeded during high-speed signal reception	
Cause	Countermeasure
<ul style="list-style-type: none"> The line condition is poor and the other party's machine can not receive the signal properly. The line condition is poor and the signal can not be received properly. The communication codec is busy. 	<ul style="list-style-type: none"> (1) Raise the modem output level in #2 MENU parameter 007, so the other party's machine can properly receive the signal. (2) Adjust the NL equalizer in #2 MENU parameter 005, so the other party's machine can properly receive the signal. (1) Have the other party's machine's status speed lowered. (2) Have the other party's machine's output level raised so the signal can be received properly. (1) Turn the power off then on. (2) Replace the FAX PCB.

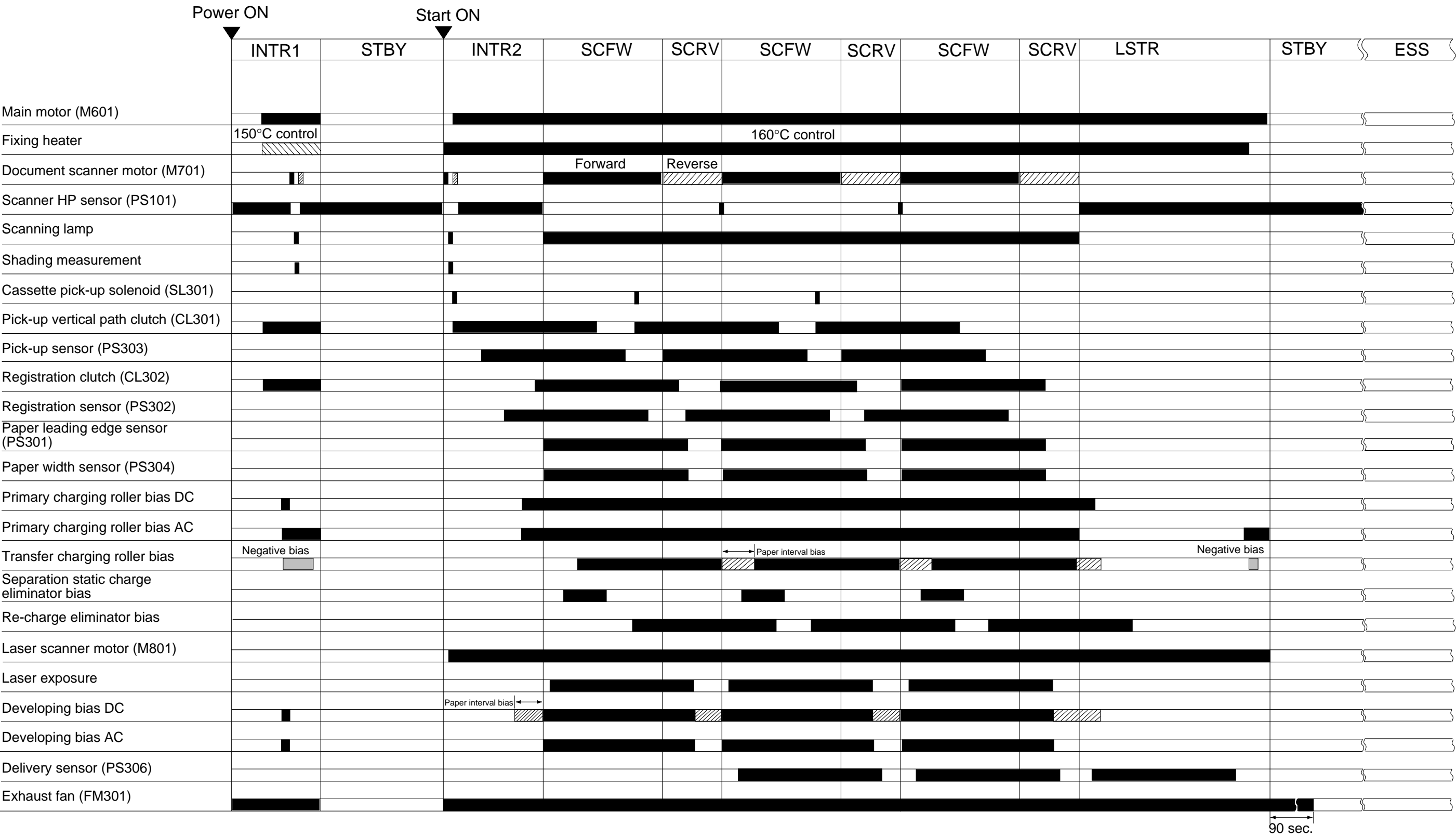
##0795 [TX/RX] Problem occurred in the ?communications? decoding processing	
Cause	Countermeasure
<ul style="list-style-type: none">• The communication codec is busy.	(1) Turn the power off then on. (2) Replace the FAX PCB.

##0799 [TX] System error	
Cause	Countermeasure
<ul style="list-style-type: none">• EOR output attempted during speed dial procedure.	(1) Turn the power off then on. (2) Replace the FAX PCB.

APPENDIX

A. GENERAL TIMING CHART

- Conditions: Copy / A4 paper / main unit cassette pick-up / 3 sheets



B. SIGNALS AND ABBREVIATIONS

600	LASER INTENSITY SWITCH signal
1200DPI	BIAS SWITCH signal
ACC	LASER SCANNER MOTOR ACCELERATE command
BDI	BEAM DETECTION INPUT signal
CVROPN	FRONT COVER OPEN signal
CL301D	VERTICAL PATH ROLLER CLUTCH DRIVE command
CL302D	REGISTRATION CLUTCH DRIVE command
DCPWM	PRIMARY BIAS DC CONTROL signal
DCSON	STATIC ELIMINATOR BIAS DRIVE signal
DEC	LASER SCANNER MOTOR DECELERATE command
DVACON	DEVELOPING BIAS AC ON command
DVDUP	DEVELOPING BIAS DC ON command
ENBL	IMAGE FORMATION ACKNOWLEDGE signal
FSRDRV1	FIXING HEATER 1 DRIVE command
FSRDRV2	FIXING HEATER 2 DRIVE command
LMPON	SCANNING LAMP DRIVE command
LON	LASER ON command
MMD	MAIN MOTOR DRIVE command
MRDY	MAIN MOTOR READY signal
PRACON	PRIMARY BIAS AC CONTROL signal
PS101S	SCANNER HOME POSITION signal
PS102S	COPYBOARD COVER OPEN signal
PS301S	PAPER LEADING EDGE DETECTION signal
PS302S	REGISTRATION PAPER DETECTION signal
PS303S	PICK-UP PAPER DETECTION signal
PS304S	PAPER WIDTH DETECTION signal
PS305S	CASSETTE PAPER DETECTION signal
PS306S	DELIVERY DETECTION signal
PS501S	MULTIFEEDER PAPER signal
PSIZ0	CASSETTE PAPER SIZE DETECTION signal 0
PSIZ1	CASSETTE PAPER SIZE DETECTION signal 1
PSIZ2	CASSETTE PAPER SIZE DETECTION signal 2
PSIZ3	CASSETTE PAPER SIZE DETECTION signal 3
STMP	STAMP SOLENOID DRIVE command
TNRCHKD	CARTRIDGE CHECK DEVELOPING BIAS AC signal
TNRCHKT	CARTRIDGE ANTENNA OUTPUT signal
TRNFOT	TRANSFER NEGATIVE BIAS DRIVE command
TRPWM	TRANSFER POSITIVE BIAS DRIVE command
TSTON	
VDO	VIDEO signal

C. GENERAL CIRCUIT DIAGRAM

1. Image processor PCB

Image processor PCB (1/3)

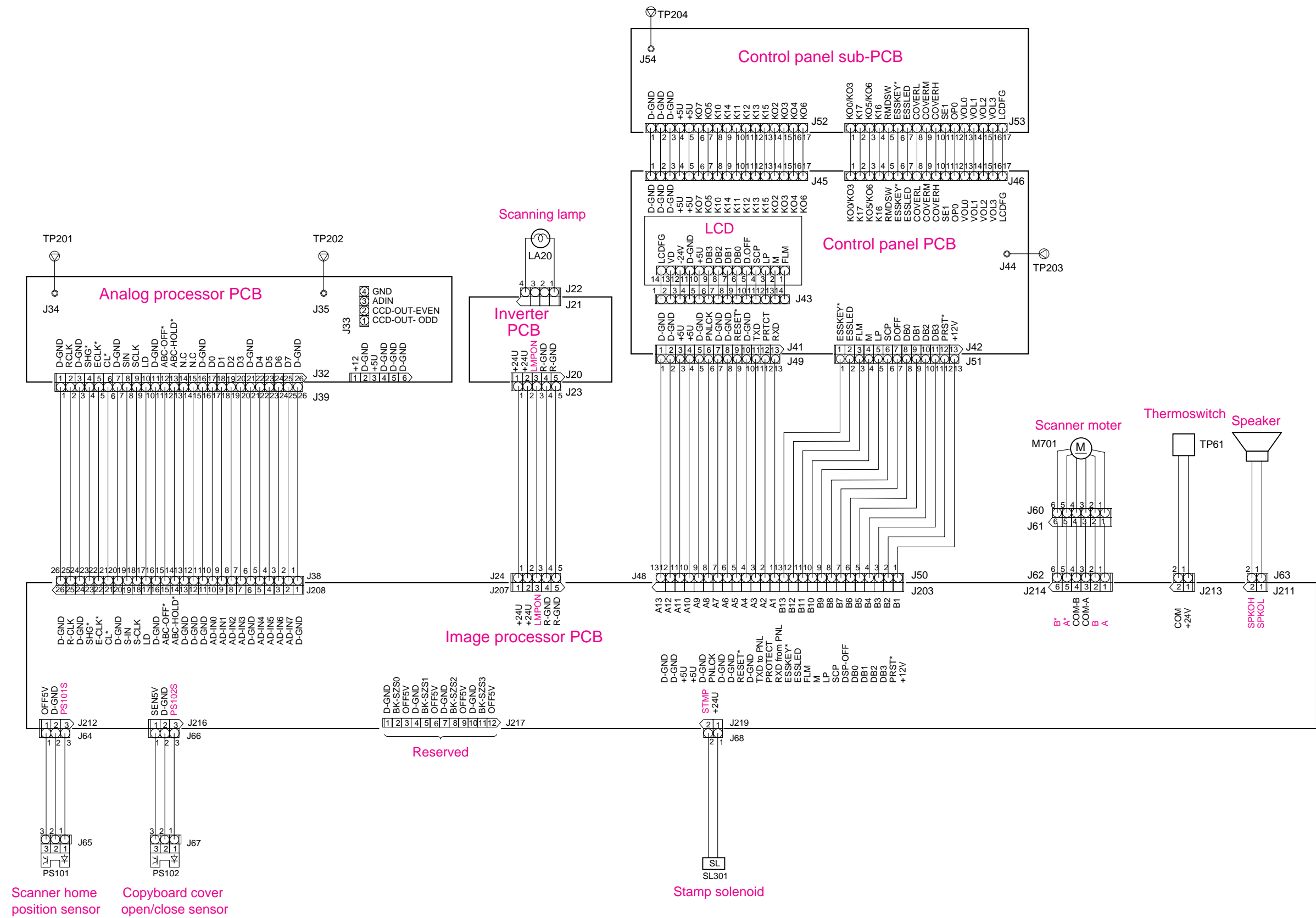
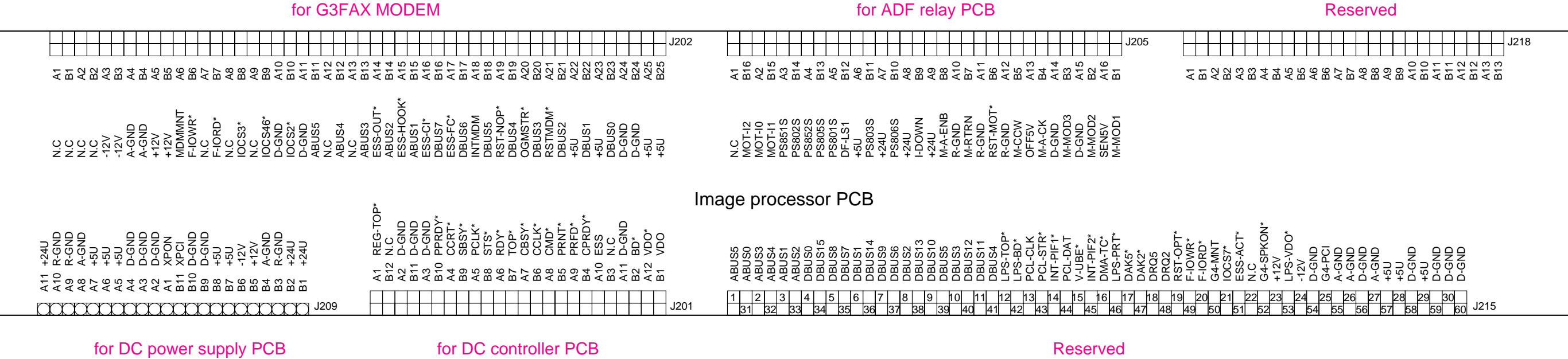
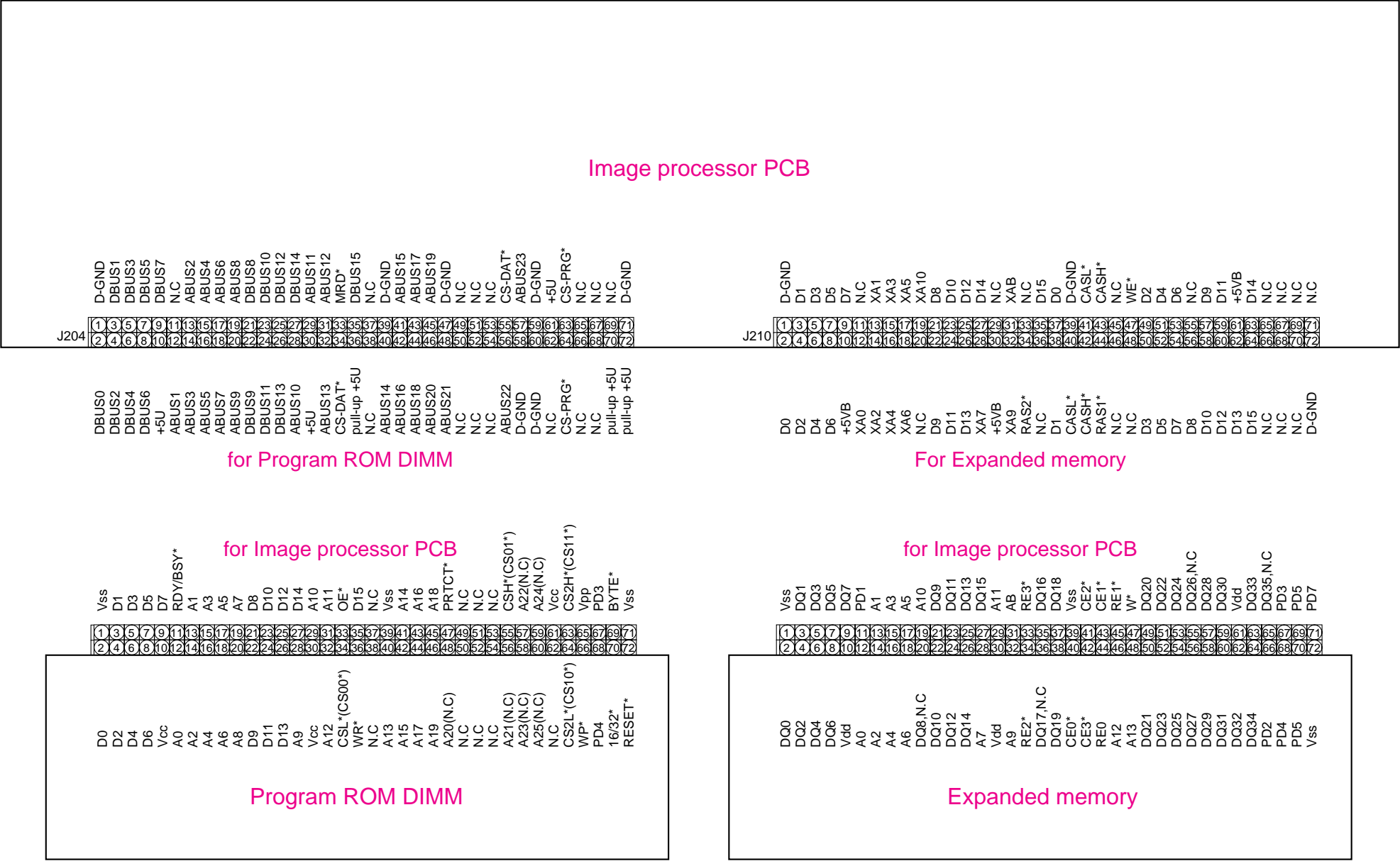
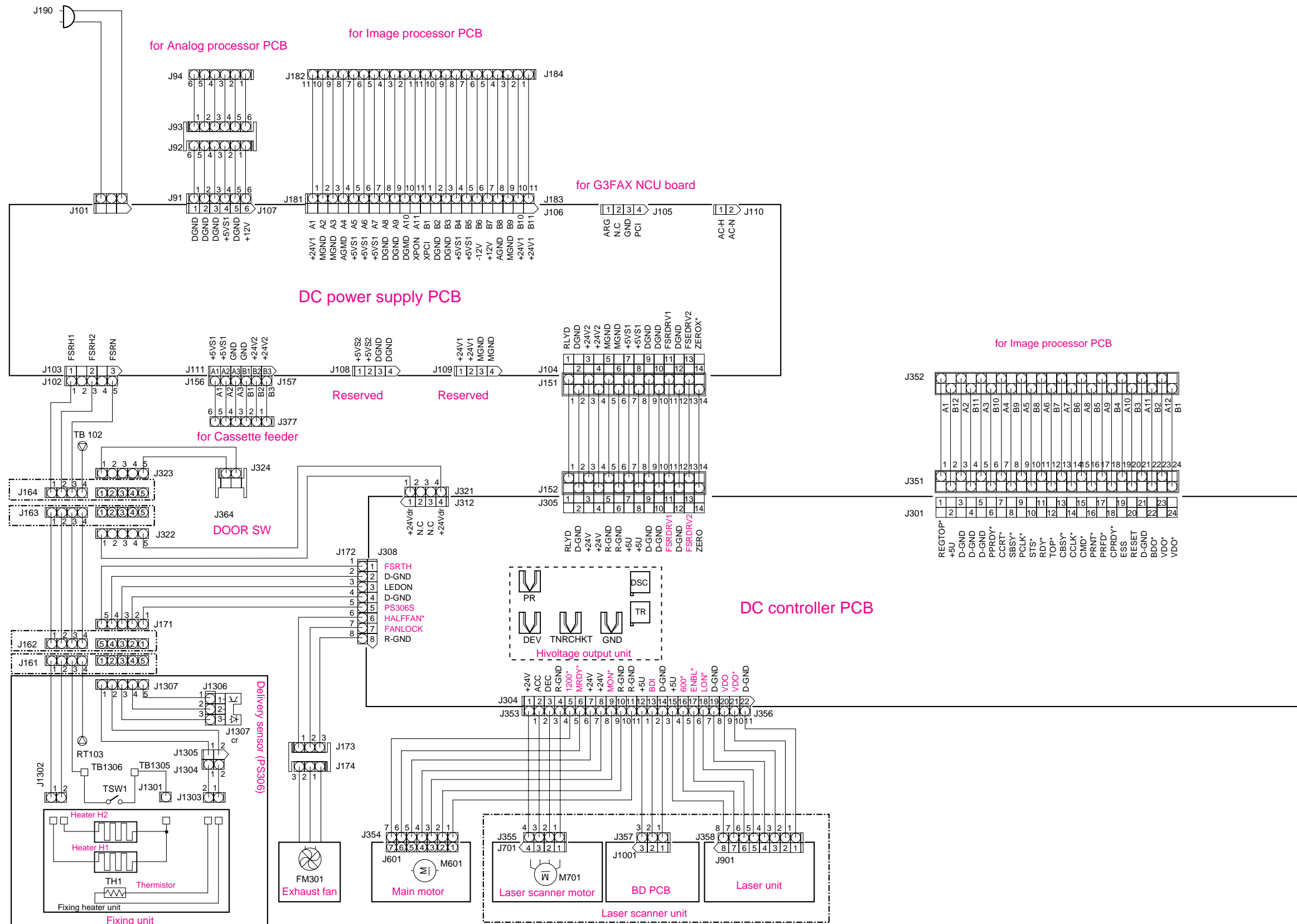


Image processor PCB (2/3)

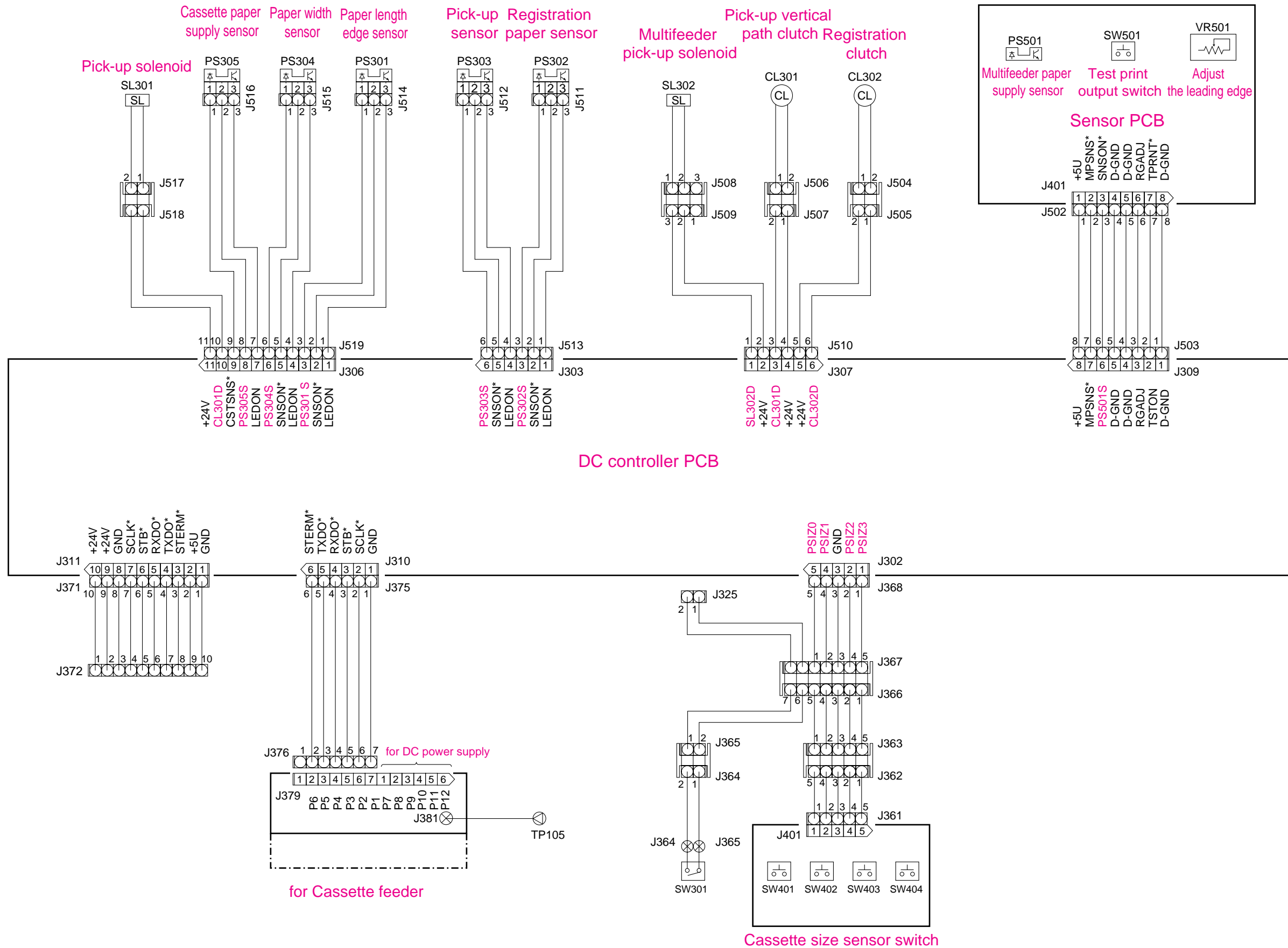




DC controller PCB (1/2)

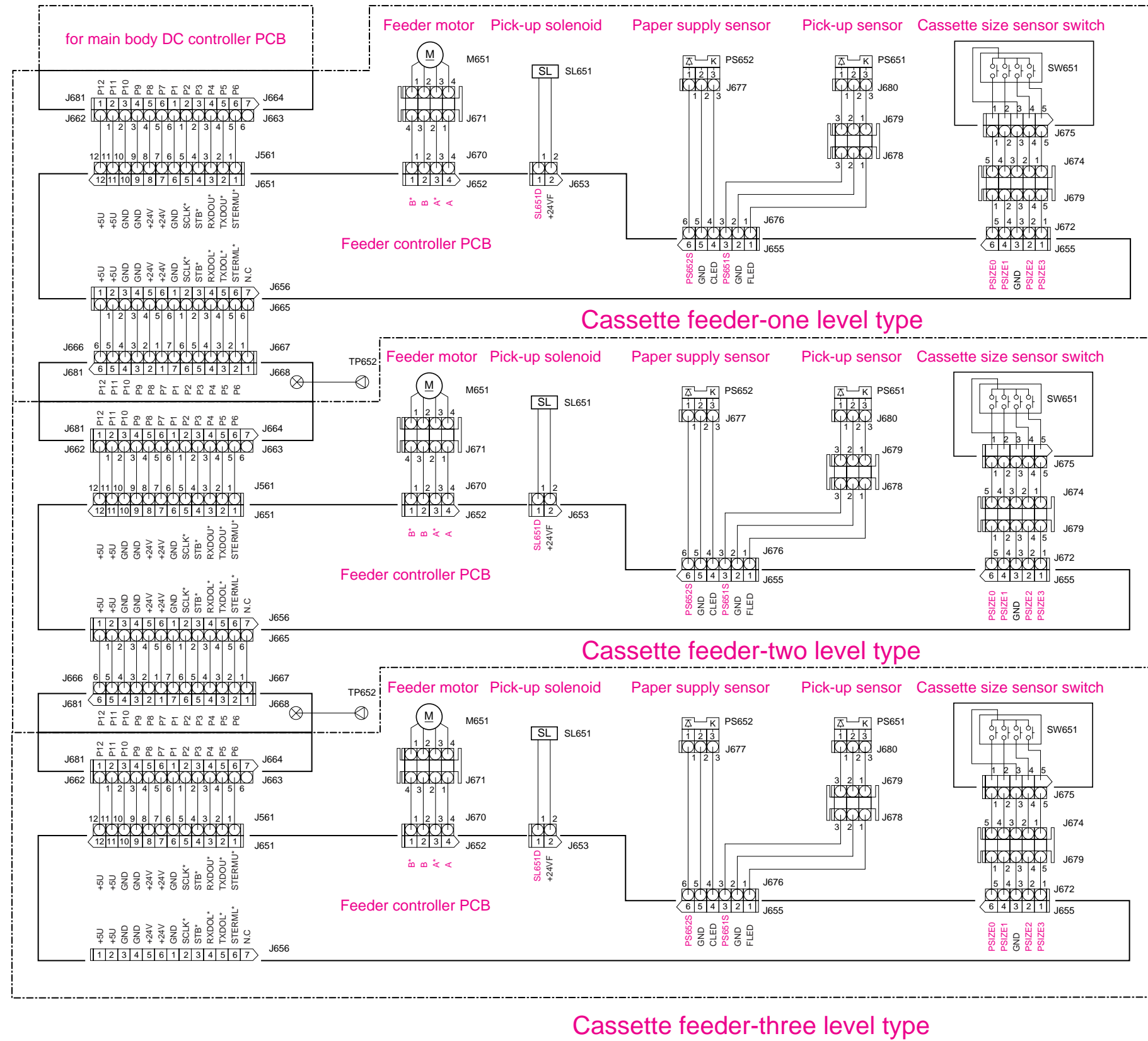


DC controller PCB (2/2)

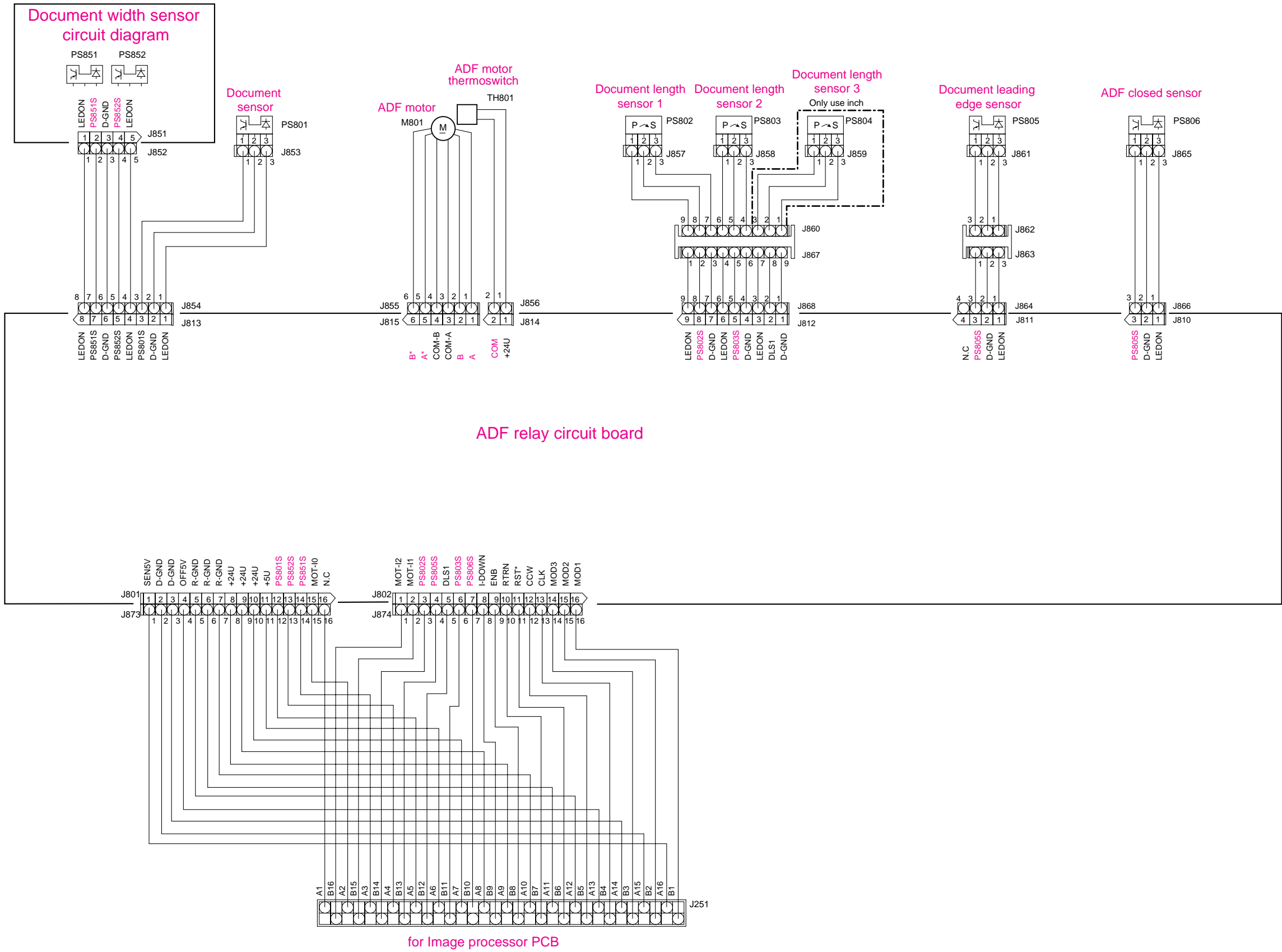


3. Cassette Feeder

Feeder controller PCB



4. ADF
ADF relay PCB



D. SPECIFICATIONS

1. Type

Item	Specifications
Main unit	Desk top
Copyboard	Fixed
Light source	Xenon lamp
Lens	Fixed focal lens
Photosensitive medium	OPC (ϕ 30)

2. Method

Item		Specifications
Copying		Indirect electrostatic copying method
Charging		AC roller charging method
Exposure		Semiconductor laser
Copy density adjustment		Automatic or manual
Developing		Dry single component jumping method (single unit drum cartridge)
Pick-up	Automatic	Cassette
	Manual	Multi-feeder
Transfer		Roller charging method
Separation		Electrostatic separation (static charge elimination) + curvature separation
Cleaning		Rubber blade
Fixing		SURF Fixing

3. Functions

Item		Specifications
Types of document		Sheet, book, three dimensional objects (up to max. 2kg)
Max. document size		A3 / 11 × 17
Wait time		15 seconds or less from power ON (20°C)
		7 seconds or less from the energy saver mode being cancelled
First copy time		12 seconds or less (main unit cassette pick-up, 1-to-1 copy, A4, no AE)
Continuous copying		1 to 99 sheets
Pick-up capacity		Each cassette 250 sheets *1, multi-feeder 100 sheets (80g/m ²)
Delivery tray capacity		100 sheets *2
Copy size	Cassette pick-up	Max. : A3 / 11 × 17 Min. : A5
	Multi-feeder pick-up	Max. : A3 Min. : A5
Types of copy paper	Cassette pick-up	Plain paper 64 to 90g/m ² , recycled paper 64 to 90g/m ² , tracing paper (GNT-80) *1
	Multi-feeder pick-up	Plain paper 64 to 128g/m ² , tracing paper (SM-1) labels, recycled paper 64 to 128g/m ² , OHP *2, tracing paper (GNT-80)*3
Cassette specifications		With tab, universal
Non image width	Leading edge	4.0 ± 2.0mm
	Trailing edge	2.5 ± 2.0mm
	Front	2.5 ± 2.0mm
	Rear	2.5 ± 2.0mm
Auto clear		Yes (Standard 2 min., possible to change in units of 1 min. between 0 to 9 min)
Energy saver		Yes (Standard 3 min., possible to change in units of 1 min. between 3 to 30 min)
Option *4		Cassette feeder (1 step type / 3 step type), 8MB expanded memory, ADF, FAX board

*1: 50 or less sheets of tracing paper (GNT-80) by cassette.

*2: 50 or less sheets of OHP sheets by cassette (designated paper).

*3: 1 or less sheets of tracing paper (GNT-80) by multi-feeder.

*4: Differs depending on the main unit configuration.

4. Other

Item		Specifications
Operating environment	Temperature range	5 to 35°C
	Humidity range	10 to 90% RH
	Atmospheric pressure range	709 to 1013hpa
Power supply	Main unit	
	GP160	GP160DF
	• 230V(ITA): PNSxxxxx	• 230V(ITA): PHLxxxxx
	• 230V(UK): QCTxxxxx	• 230V(UK): QCLxxxxx
	• 230V(FRN): SBTxxxxx	• 230V(FRN): SBRxxxxx
	• 230V(GER): TBTxxxxx	• 230V(GER): TBQxxxxx
	• 230V(AMS): UEHxxxxx	• 230V(AMS): UEFxxxxx
	• 230V(CA): RCXxxxxx	
	• 230V(Others): PHXxxxxx	
	GP160F	
	• 230V(ITA): PHTxxxxx	
	• 230V(UK): QCMxxxxx	
	• 230V(FRN): SBSxxxxx	
	• 230V(GER): TBRxxxxx	
	• 230V(AMS): UEGxxxxx	
	• 230V(CA): RCWxxxxx	
	• 230V(Others): PHMxxxxx	
	Cassette Feeding Module-D1	Supplied by main unit : ZCRxxxxx
	Cassette Feeding Module-E1	Supplied by main unit : ZHRxxxxx
Power consumption	Maximum	Approx. 800W
	Standby	Approx. 20W
	Energy saving mode	Approx. 14W
Operating noise	When in operation	66dB or less
	Standby	40dB or less
Dimensions	Width	616 (mm) / 24.25"
	Depth	640 (mm) / 25.20"
	Height	427 (mm) / 16.81" (Including ADF)
Mass		48.8kg 107.59 lb
Storage of consumable items	Copy paper	Store with the package closed and avoid humidity

5. Copy speed

Reproduction mode	Size	Copy paper size	No. of copies / minute
Direct copy	A4 (210 × 297mm)	A4	16
	A3 (297 × 420mm)	A3	9
	B4 (257 × 364mm)	B4	10
	A4R (297 × 210mm)	A4R	9
	B5 (182 × 257mm)	B5	16
	B5R (257 × 182mm)	B5R	12
	A4 (148.5 × 210mm)	A5	12
	LTR (216 × 279mm)	LTR	16
	LTRR (279 × 216mm)	LTRR	9
	LGL (216 × 356mm)	LGL	9
	11 × 17 (279 × 432mm)	11 × 17	9

Specifications are subject to change for the sake of product improvements.

6. Communication section

Item	Description
Applicable line	PSTN
Number of access lines	PSTN: 1 line
Communication method	Half-duplex, full duplex (V.34)
Transmission rate (bps)	33.6 k, 31.2 k, 28.8 k, 26.4 k, 24.0 k, 21.6 k, 19.2 k, 16.8 k, 14.4 k, 12.0 k, 9.6 k, 7.2 k, 4.8 k, 2.4 k (bps)
Modulation system (image transmission)	ITU-T V.34 (33.6 kbps to 2.4 kbps), ITU-T V.33 (14.4 k/12.0 kbps) ITU-T V.17 (14.4 k/12.0 kbps/TC 9.6 k/TC 7.2 kbps) ITU-T V.29 (9.6 k/7.2 kbps), ITU-T V.27 ter (4.8 k/2.4 kbps)
Modulation rate (Baud rate)	2.400, 3.000, 2.743, 2.800, 3.429 (only in V.34 mode)
G3 protocol signal	ITU-T V.21 (300 bps) ITU-T V.34 (1200 bps)
Encoding system	MMR, MR, MH
Transmission control protocol	ITU-T T.30 binary protocol/ECM method ITU-T V.8 protocol /ECM method
Canon original compression system	Hyper control 1
Transmission output level	-8 to -15 dBm
Minimum reception sensitivity level	-43 dBm
Modem IC	Rockwell R288F
Compatibility	G3 (G2/G1/MF are not supported)
Error correction function	ITU-T ECM method
Transmission time*	ECM-MMR/33.6 kbps: within the 2 sec range ECM-MMR/14.4 kbps: approx. 6 sec ECM-MMR/9.6 kbps: approx. 9 sec G3 MH/14.4 kbps: approx. 9 sec G3 MH/9.6 kbps: approx. 13 sec G3 MR/9.6 kbps: approx. 12 sec G3 MR/14.4 kbps: 8 sec

*: When standard Canon Fax chart no. 1 is used.

7. Scanning system

Item	Description
Transmission document size	A3, A4, A4R, A5, A5R, B4, B5, B5R LTR, LTRR, LGL, 11 × 17 ADF: document width 297 mm/length 1 m book scanning: document width 297 mm/length × 420 mm
Scanning density	Standard 200 × 100 dpi (8 dot/mm × 3.85 lines/mm) Fine 200 × 200 dpi (8 dot/mm × 7.7 lines/mm) Super fine 200 × 400 dpi (8 dot/mm × 15.4 lines/mm) Ultra fine 400 × 400 dpi (16 dot/mm × 15.4 lines/mm)
Scanning density adjustment	3-levels (user mode density adjustment: 9 levels)
Half tone	Photo mode (256 gradations) text/photo mode (Auto adjust)

8. Recording system

Item	Description
Transmission document size	A3, A4, A4R, A5, A5R, B4, B5, B5R LTR, LTRR, LGL, 11 × 17
Maximum reception size	A3 (297 × 420 mm)
Scanning density (recording)	during reception: 600 dpi × 600 dpi

9. Memory

Item	Description
Image memory (for 230 V model)	Standard 1 MB (approx. 64 pages: when standard Canon Fax chart no. 1 is used) Expanded memory (accessory): 8 MB (max. 9 MB; approx. 576 pages)
Power outage backup memory	Method: Vanadium-lithium secondary battery Backup life: approx. 3 hours (after 1 day continuous power) Data backed up: image data memory, work area

10. Transmission functions

Item	Description
Memory transmission	Yes (approx. 64 pages/with expanded memory: 576 pages)
Direct (manual) transmission	Yes
Batch transmission	Up to 210 addresses (one-touch: 84, speed dialing: 116, numeric key dialing: 10)
Memory polling transmission	Yes, memory box function
Confidential mailbox function (specific address transmission)	Confidential mailbox function with specific address transmission (ITU-T standard)
Delayed transmission	Yes
Batch transmission by address	Yes
Mail post transmission	Delayed batch transmission by address, up to 200 (one-touch and speed dialing)
Delayed transmission	Up to 210 addresses (maximum 70 transactions)
Completion stamp	Yes Scanning completion stamp
Dual access	Yes
Error re-transmission	Yes (memory reference)

11. Dialing

Item	Description
One-touch dialing	84 addresses consisting of up to 120 digits (telephone numbers) 16 characters (other party ID)
Speed dialing	116 addresses consisting of up to 120 digits (telephone numbers) 16 characters (other party ID)
Group dialing	119 group (one-touch, speed dialing possible)
Numeric key dialing	On hook/off hook
Automatic redialing	2 min (programmable within a range of 2 minutes to 99 minutes) 2 times (programmable within a range of 1 to 15 times)

12. Reception functions

Item	Description
Manual reception	Yes
Confidential reception	Yes, confidential mailbox function using memory mailbox
Memory reception	Yes, approx. 64 pages (with standard 1 MB memory)/approx. 576 pages (with 8 MB expanded memory)
Forced memory reception	Yes
Rotation reception	Yes
Number of reception copies	1 (programmable between 1 to 99)
Reception image reduction	Yes, reduction ratio: 97%, 95%, 90%, 75% Automatic/fixed selectable Reduction orientation: both vertical and horizontal/vertical selectable
Cassette switches (A, B, C, D)	A: split recording (same series) B: margin recording (same series) C: reduction recording (different series) D: margin recording (printed on paper larger than reception document)
Reception sort print	Yes
N on one reception?	A5+A5 → A4, B5+B5 → B4, A4+A4 → A3, LTR+LTR → 11×17 (N is up to 5 when short length documents are used)?
Transfer	Yes, time programmable, destination restriction available
Remote reception	Yes
Memory box function	Confidential mailbox, relay broadcast, fixed time polling, polling, memory mailbox, ?transfer?
Linear reproduction output	Yes, reduces long length documents between the range of 75% to 100%.
Multi-polling reception	Up to 210 addresses
Fixed time multi-polling reception	5 time settings only

13. Activity management function

Item		Description
Reports	User data	Activity report (40 transactions) Tx report Rx report Memory clear report Document memory list 1-touch list 1 Coded dial list 1 Group dial list User data Confidential Rx report Memory box report
	Service data	System data list System dump list Key input history report (used by Design dept.)
Memory reference		The following functions are available: <ul style="list-style-type: none"> • List of documents in memory • Re-transmission • Reservation transmission list (reservation transmissions deletable) • Memory clear
Department management		Department code, subaddress (4 digit number)

Specifications are subject to change for the sake of product improvements.

ADF

Item	Specifications
Document pick-up system	Omatic pick-up/delivery system
Document types	One-sided sheet documents (50 to 200 g/m ²)
Document size	A3, B4, A4, A4R, B5, B5R, A5, A5R, 11 × 17, LGL, LTR, LTRR (paper feed up to 1 m is possible during fax transmission)
Document set orientation	<ul style="list-style-type: none"> • Place documents face down. • Place the first document page at the bottom.
Document set position	Center reference.
Document processing mode	One-sided original → one-sided scanning.
AutoNumber of stackable documents	<ul style="list-style-type: none"> • A3, B4, 11 × 17, LGL: 20 pages or less. • A4, A4R, B5, B5R, A5, A5R, LTR, LTRR: 50 pages or less.
Mix originals	No
Document size recognition	Yes (regular size only)
Stamp function	Yes (yellow)
Power supply	Supplied by unit (5 or 24 V DC)
Serial number	Eur: ZSSxxxxx Asia: ZSXxxxxx
Operating environment Ambient temperature Ambient humidity range	As per copier specifications.

The following type of documents will not provide guaranteed operation

- OHP film
- Documents with holes for file storage
- Stapled documents, documents containing paper clips or with glue on them
- Documents to which paper clippings have been attached.
- Documents with carbon paper attached on the back
- Excessively curled, folded or wrinkled documents

Tell users that if they have to use curled documents to make them as straight as possible and to place the most deformed part of the document to the rear.

Specifications are subject to change for the sake of product improvements.

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